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## 1. Correspondence and Communications

### 1.1 Mailing information

Corporate name and address to appear on Certificates of Conformity/Executive Orders

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Person and address to whom the Executive Orders should be mailed

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## 1.2 Responsible official

Names and title of persons authorized to communicate with EPA and CARB

Toyota Motor North America, Inc.

Jordan Choby --- Group Vice President, Powertrain Function

Tom Stricker --- Group Vice President, Carbon Neutrality & Regulatory Affairs

Brian Schneidewind --- Vice President, Powertrain Design

Kevin Webber --- General Manager, Carbon Neutrality & Regulatory Affairs

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| William Meschievitz | Group Manager           | (734) 995-6831 | william.meschievitz@toyota.com |
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## 2. Durability Group Description

### 2.1 Grouping statistics of durability groups

|                                                    |                              |                                     |                             |                              |                              |
|----------------------------------------------------|------------------------------|-------------------------------------|-----------------------------|------------------------------|------------------------------|
| .01 Durability Group Name                          | TTYXHHGNNB22                 | TTYXHHGNNB2D<br>TTKXT02.5CDC(Mazda) | TTYXHHGNNB26                | TTYXGPGNN626                 | TTYXHHGNNB27                 |
| .02 Combustion Cycle                               | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke              | Otto Cycle<br>4 stroke      | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke       |
| .03 Engine Type                                    | Hybrid Electric<br>(Piston)  | Hybrid Electric<br>(Piston)         | Hybrid Electric<br>(Piston) | Piston                       | Hybrid Electric<br>(Piston)  |
| .04 Fuel Used                                      | Gasoline                     | Gasoline                            | Gasoline                    | Gasoline                     | Gasoline                     |
| .05 Basic Fuel Metering<br>System                  | Port & Chamber<br>Injections | Port & Chamber<br>Injections        | Port Injection              | Port & Chamber<br>Injections | Port & Chamber<br>Injections |
| .06 Catalyst Construction                          | Monolith                     | Monolith                            | Monolith                    | Monolith                     | Monolith                     |
| .07 Precious Metals in<br>Catalyst                 | Confidential Information     |                                     |                             |                              |                              |
| .08 Range of Catalyst<br>Grouping Statistics (g/l) |                              |                                     |                             |                              |                              |
| .09 Catalyst Code                                  | 3-IIr1+3-IIr2                | 3-IIZ50+3-IIr4                      | 3-IIZ55+3-IIS44             | 3-IIp7+3-IIJ6                | 3-IIp6+3-IIr5                |

|                                                    |                              |                              |                                   |                              |                              |
|----------------------------------------------------|------------------------------|------------------------------|-----------------------------------|------------------------------|------------------------------|
| .01 Durability Group Name                          | TTYXHHGNNE28                 | TTYXHHGNNB2H                 | TTYXGPGNN621                      | TTYXGPGNN62Q                 | TTYXHHGNNB28                 |
| .02 Combustion Cycle                               | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke            | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke       |
| .03 Engine Type                                    | Hybrid Electric<br>(Piston)  | Hybrid Electric<br>(Piston)  | Piston                            | Piston                       | Hybrid Electric<br>(Piston)  |
| .04 Fuel Used                                      | Gasoline                     | Gasoline                     | Gasoline                          | Gasoline                     | Gasoline                     |
| .05 Basic Fuel Metering<br>System                  | Port & Chamber<br>Injections | Port & Chamber<br>Injections | Port & Chamber<br>Injections      | Port & Chamber<br>Injections | Port & Chamber<br>Injections |
| .06 Catalyst Construction                          | Monolith                     | Monolith                     | Monolith                          | Monolith                     | Monolith                     |
| .07 Precious Metals in<br>Catalyst                 | Confidential Information     |                              |                                   |                              |                              |
| .08 Range of Catalyst<br>Grouping Statistics (g/l) |                              |                              |                                   |                              |                              |
| .09 Catalyst Code                                  | 3-IIp6+3-IIr5                | 3-IIZ59+3-IIJ7               | 3-IIS17+3-IIS17<br>+3-IIJ1+3-IIJ1 | 3-IIp7+3-IIJ6                | 3-IIp6+3-IIr5                |

|                                                    |                              |                              |                              |                              |                              |
|----------------------------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| .01 Durability Group Name                          | TTYXGPGNN62X                 | TTYXHHGNNB23                 | TTYXHHGNNB2B                 | TTYXHHGNNB2C                 | TTYXHHGNNB2E                 |
| .02 Combustion Cycle                               | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke       |
| .03 Engine Type                                    | Piston                       | Hybrid Electric<br>(Piston)  | Hybrid Electric<br>(Piston)  | Hybrid Electric<br>(Piston)  | Hybrid Electric<br>(Piston)  |
| .04 Fuel Used                                      | Gasoline                     | Gasoline                     | Gasoline                     | Gasoline                     | Gasoline                     |
| .05 Basic Fuel Metering<br>System                  | Port & Chamber<br>Injections | Port & Chamber<br>Injections | Port & Chamber<br>Injections | Port & Chamber<br>Injections | Port & Chamber<br>Injections |
| .06 Catalyst Construction                          | Monolith                     | Monolith                     | Monolith                     | Monolith                     | Monolith                     |
| .07 Precious Metals in<br>Catalyst                 | Confidential Information     |                              |                              |                              |                              |
| .08 Range of Catalyst<br>Grouping Statistics (g/l) |                              |                              |                              |                              |                              |
| .09 Catalyst Code                                  | 3-IIr7+3-IIr8                | 3-IIr7+3-IIr8                | 3-IIZ58+3-IIr10              | 3-IIZ58+3-IIZ7               | 3-IIZ54+3-IIZ2               |

|                                                    |                              |                              |                                  |                                    |                                  |
|----------------------------------------------------|------------------------------|------------------------------|----------------------------------|------------------------------------|----------------------------------|
| .01 Durability Group Name                          | TTYXHHGNNB2E                 | TTYXHHGNNB2J                 | TTYXHHGNNNE22                    | TTYXGPGNN62F                       | TTYXGPGNN62G                     |
| .02 Combustion Cycle                               | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke           | Otto Cycle<br>4 stroke             | Otto Cycle<br>4 stroke           |
| .03 Engine Type                                    | Hybrid Electric<br>(Piston)  | Hybrid Electric<br>(Piston)  | Hybrid Electric<br>(Piston)      | Piston                             | Piston                           |
| .04 Fuel Used                                      | Gasoline                     | Gasoline                     | Gasoline                         | Gasoline                           | Gasoline                         |
| .05 Basic Fuel Metering<br>System                  | Port & Chamber<br>Injections | Port & Chamber<br>Injections | Port & Chamber<br>Injections     | Port & Chamber<br>Injections       | Port & Chamber<br>Injections     |
| .06 Catalyst Construction                          | Monolith                     | Monolith                     | Monolith                         | Monolith                           | Monolith                         |
| .07 Precious Metals in<br>Catalyst                 | Confidential Information     |                              |                                  |                                    |                                  |
| .08 Range of Catalyst<br>Grouping Statistics (g/l) |                              |                              |                                  |                                    |                                  |
| .09 Catalyst Code                                  | 3-IIZ54+3-IIq2               | 3-IIr9+3-IIs1                | 3-IIZ52+3-IIZ52<br>3-IIr4+3-IIr4 | 3-IIZ53+3-IIZ53<br>3-IIh14+3-IIh14 | 3-IIr3+3-IIr3<br>3-IIh13+3-IIh13 |

|                                                    |                                  |                                |                              |                                        |                              |
|----------------------------------------------------|----------------------------------|--------------------------------|------------------------------|----------------------------------------|------------------------------|
| .01 Durability Group Name                          | TTYXHHGNNB21                     | TTYXGPGNN625                   | TTYXGPGNN62J                 | TTYXGPGNN62S                           | TTYXHHGNNE25                 |
| .02 Combustion Cycle                               | Otto Cycle<br>4 stroke           | Otto Cycle<br>4 stroke         | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke                 | Otto Cycle<br>4 stroke       |
| .03 Engine Type                                    | Hybrid Electric<br>(Piston)      | Piston                         | Piston                       | Piston                                 | Hybrid Electric<br>(Piston)  |
| .04 Fuel Used                                      | Gasoline                         | Gasoline                       | Gasoline                     | Gasoline                               | Gasoline                     |
| .05 Basic Fuel Metering<br>System                  | Port & Chamber<br>Injections     | Port & Chamber<br>Injections   | Port & Chamber<br>Injections | Port & Chamber<br>Injections           | Port & Chamber<br>Injections |
| .06 Catalyst Construction                          | Monolith                         | Monolith                       | Monolith                     | Monolith                               | Monolith                     |
| .07 Precious Metals in<br>Catalyst                 | Confidential Information         |                                |                              |                                        |                              |
| .08 Range of Catalyst<br>Grouping Statistics (g/l) |                                  |                                |                              |                                        |                              |
| .09 Catalyst Code                                  | 3-IIr3+3-IIr3<br>3-IIh13+3-IIh13 | 3-IIp1+3-IIp1<br>3-IIJ3+3-IIJ3 | 3-IIm3+3-IIm2                | 3-IIZ56 + 3-IIZ56<br>3-IIZ57 + 3-IIZ57 | 3-IIZ58+3-IIq2               |

|                                                    |                              |                              |                              |
|----------------------------------------------------|------------------------------|------------------------------|------------------------------|
| .01 Durability Group Name                          | TTYXGPGNN62D                 | TTYXGPGNN62C                 | TTYXHHGNNB2F                 |
| .02 Combustion Cycle                               | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke       | Otto Cycle<br>4 stroke       |
| .03 Engine Type                                    | Piston                       | Piston                       | Hybrid Electric<br>(Piston)  |
| .04 Fuel Used                                      | Gasoline                     | Gasoline                     | Gasoline                     |
| .05 Basic Fuel Metering<br>System                  | Port & Chamber<br>Injections | Port & Chamber<br>Injections | Port & Chamber<br>Injections |
| .06 Catalyst Construction                          | Monolith                     | Monolith                     | Monolith                     |
| .07 Precious Metals in<br>Catalyst                 | Confidential Information     |                              |                              |
| .08 Range of Catalyst<br>Grouping Statistics (g/l) |                              |                              |                              |
| .09 Catalyst Code                                  | 3-IIr9+3-IIIs1               | 3-IIr9+3-IIIs1               | 3-IIr9+3-IIIs1               |

## 2.2 Catalytic converter/Adsorber information

Confidential Information

## 2.3 Structure of catalyst / adsorber code

Confidential Information

### 3. Evaporative/Refueling Family Description

| Evap. Family | Test Group                           | Carline                               | Type of vapor storage device | Basic canister design   |      |           |          |                               |               |               |                                |                                |         | Vapor hose material |
|--------------|--------------------------------------|---------------------------------------|------------------------------|-------------------------|------|-----------|----------|-------------------------------|---------------|---------------|--------------------------------|--------------------------------|---------|---------------------|
|              |                                      |                                       |                              | Working capacity (gram) |      | Size (cc) |          | Number / Method of connection | Geometry      | Construction  | Material                       | Fuel system                    |         |                     |
|              |                                      |                                       |                              | Main                    | Sub  | Main      | Sub      |                               |               |               |                                |                                |         |                     |
| TTYXR0165J42 | TTYXV02.4H3A                         | TOYOTA CROWN AWD                      | Canister                     | 165                     | /    | 3500      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              | TTYXV02.5H3B                         | TOYOTA CROWN AWD                      | Canister                     | 165                     | /    | 3500      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              | TTYXV02.5V2A                         | CAMRY HEV AWD LE                      | Canister                     | 165                     | /    | 3500      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | CAMRY HEV AWD SE/XLE                  | Canister                     | 165                     | /    | 3500      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | CAMRY HEV AWD XSE                     | Canister                     | 165                     | /    | 3500      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | CAMRY HEV FF LE                       | Canister                     | 165                     | /    | 3500      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | CAMRY HEV FF SE/XLE/XSE               | Canister                     | 165                     | /    | 3500      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              | TTYXJ02.5H3X                         | RAV4 PHEV AWD                         | Canister                     | 165                     | /    | 3500      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
| TTYXJ02.5H3A | TOYOTA CROWN SIGNIA AWD              | Canister                              | 165                          | /                       | 3500 | /         | 1/-      | Box                           | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |         |                     |
| TTYXR0130J42 | TTYXV01.8H3A                         | COROLLA HYBRID                        | Canister                     | 130                     | /    | 2670      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port fuel injection            | Plastic |                     |
|              |                                      | COROLLA HYBRID AWD                    | Canister                     | 130                     | /    | 2670      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port fuel injection            | Plastic |                     |
|              | TTYXV02.0H3B                         | PRIUS                                 | Canister                     | 130                     | /    | 2670      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | PRIUS XLE/LTD                         | Canister                     | 130                     | /    | 2670      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | PRIUS AWD                             | Canister                     | 130                     | /    | 2670      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | PRIUS AWD XLE/LTD                     | Canister                     | 130                     | /    | 2670      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              | TTYXT02.0H3A                         | COROLLA CROSS HYBRID AWD              | Canister                     | 130                     | /    | 2670      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              | TTYXV02.0H3A                         | UX 300h                               | Canister                     | 130                     | /    | 2670      | /        | 1/-                           | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
| UX 300h AWD  |                                      | Canister                              | 130                          | /                       | 2670 | /         | 1/-      | Box                           | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |         |                     |
| TTYXR0130P42 | TTYXV02.0E4A                         | COROLLA                               | Canister                     | 128                     | 2    | 2465      | 30       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | COROLLA HATCHBACK                     | Canister                     | 128                     | 2    | 2465      | 30       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | COROLLA HATCHBACK XSE                 | Canister                     | 128                     | 2    | 2465      | 30       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | COROLLA HATCHBACK FX                  | Canister                     | 128                     | 2    | 2465      | 30       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              | TTYXT02.0E4A                         | COROLLA CROSS                         | Canister                     | 128                     | 2    | 2465      | 30       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | COROLLA CROSS AWD                     | Canister                     | 128                     | 2    | 2465      | 30       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              | TTYXJ02.4H3B                         | NX 350 AWD                            | Canister                     | 128                     | 2    | 2465      | 30       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | NX 350 AWD F SPORT                    | Canister                     | 128                     | 2    | 2465      | 30       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
| TTYXV01.6B5A | GR COROLLA                           | Canister                              | 128                          | 2                       | 2465 | 30        | 2/Series | Box                           | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |         |                     |
|              | TTYXR0180A42                         | TTYXV05.0B5A                          | Canister                     | 178                     | 2    | 2915      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | LC 500 CONVERTIBLE                    | Canister                     | 178                     | 2    | 2915      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | LS 500                                | Canister                     | 178                     | 2    | 2915      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
| TTYXR0165P52 | TTYXJ02.4H3B                         | LS 500 AWD                            | Canister                     | 178                     | 2    | 2915      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | RX 350                                | Canister                     | 163                     | 2    | 2995      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | RX 350 AWD                            | Canister                     | 163                     | 2    | 2995      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | GRAND HIGHLANDER AWD LE/XLE           | Canister                     | 163                     | 2    | 2995      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | GRAND HIGHLANDER AWD LIMITED/PLATINUM | Canister                     | 163                     | 2    | 2995      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | GRAND HIGHLANDER LE/XLE               | Canister                     | 163                     | 2    | 2995      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | GRAND HIGHLANDER LIMITED              | Canister                     | 163                     | 2    | 2995      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | TX 350                                | Canister                     | 163                     | 2    | 2995      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              | TTYXT02.4B5M                         | TX 350 AWD                            | Canister                     | 163                     | 2    | 2995      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | HIGHLANDER AWD                        | Canister                     | 163                     | 2    | 2995      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | TACOMA 4WD MT                         | Canister                     | 163                     | 2    | 2995      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
|              |                                      | TACOMA 2WD                            | Canister                     | 163                     | 2    | 2995      | 35       | 2/Series                      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic |                     |
| TTYXT02.4H3A | TACOMA 4WD                           | Canister                              | 163                          | 2                       | 2995 | 35        | 2/Series | Box                           | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |         |                     |
|              | TACOMA SR5/SPORT/OFFROAD/LIMITED 4WD | Canister                              | 163                          | 2                       | 2995 | 35        | 2/Series | Box                           | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |         |                     |
|              | TACOMA SR5/SPORT/PRERUNNER 2WD       | Canister                              | 163                          | 2                       | 2995 | 35        | 2/Series | Box                           | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |         |                     |
|              |                                      |                                       |                              |                         |      |           |          |                               |               |               |                                |                                |         |                     |

### 3. Evaporative/Refueling Family Description

| Evap. Family | Test Group              | Carline                               | Fuel tank Material | Type of refueling emission control system | Vapor control system         | Fill pipe seal mechanism | Purge control system | Carbon filter in the air cleaner box | Key-off monitor system |
|--------------|-------------------------|---------------------------------------|--------------------|-------------------------------------------|------------------------------|--------------------------|----------------------|--------------------------------------|------------------------|
| TTYXR0165J42 | TTYXV02.4H3A            | TOYOTA CROWN AWD                      | Plastic            | Non-Integrated                            | Fuel vapor-containment valve | Liquid seal              | Purge control valve  | NO                                   | YES*1                  |
|              | TTYXV02.5H3B            | TOYOTA CROWN AWD                      | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              | TTYXV02.5V2A            | CAMRY HEV AWD LE                      | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |                         | CAMRY HEV AWD SE/XLE                  | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |                         | CAMRY HEV AWD XSE                     | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |                         | CAMRY HEV FF LE                       | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |                         | CAMRY HEV FF SE/XLE/XSE               | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              | TTYXJ02.5H3X            | RAV4 PHEV AWD                         | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
| TTYXJ02.5H3A | TOYOTA CROWN SIGNIA AWD | Plastic                               | Non-Integrated     | Fuel vapor-containment valve              |                              |                          |                      |                                      |                        |
| TTYXR0130J42 | TTYXV01.8H3A            | COROLLA HYBRID                        | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |                         | COROLLA HYBRID AWD                    | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              | TTYXV02.0H3B            | PRIUS                                 | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |                         | PRIUS XLE/LTD                         | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |                         | PRIUS AWD                             | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |                         | PRIUS AWD XLE/LTD                     | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              | TTYXT02.0H3A            | COROLLA CROSS HYBRID AWD              | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
| TTYXV02.0H3A | UX 300h                 | Plastic                               | Non-Integrated     | Fuel vapor-containment valve              |                              |                          |                      |                                      |                        |
|              | UX 300h AWD             | Plastic                               | Non-Integrated     | Fuel vapor-containment valve              |                              |                          |                      |                                      |                        |
| TTYXR0130P42 | TTYXV02.0E4A            | COROLLA                               | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | COROLLA HATCHBACK                     | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | COROLLA HATCHBACK XSE                 | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | COROLLA HATCHBACK FX                  | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              | TTYXT02.0E4A            | COROLLA CROSS                         | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | COROLLA CROSS AWD                     | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              | TTYXJ02.4H3B            | NX 350 AWD                            | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | NX 350 AWD F SPORT                    | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              | TTYXV01.6B5A            | GR COROLLA                            | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
| TTYXR0180A42 | TTYXV05.0B5A            | LC 500                                | Steel              | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | LC 500 CONVERTIBLE                    | Steel              | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              | TTYXV03.5B5C            | LS 500                                | Steel              | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | LS 500 AWD                            | Steel              | Integrated                                | N/A                          |                          |                      |                                      |                        |
| TTYXR0165P52 | TTYXJ02.4H3B            | RX 350                                | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | RX 350 AWD                            | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | GRAND HIGHLANDER AWD LE/XLE           | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | GRAND HIGHLANDER AWD LIMITED/PLATINUM | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | GRAND HIGHLANDER LE/XLE               | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | GRAND HIGHLANDER LIMITED              | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | TX 350                                | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | TX 350 AWD                            | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | HIGHLANDER AWD                        | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              | TTYXT02.4B5M            | TACOMA 4WD MT                         | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              | TTYXT02.4H3A            | TACOMA 2WD                            | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | TACOMA 4WD                            | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | TACOMA SR5/SPORT/OFFROAD/LIMITED 4WD  | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         | TACOMA SR5/SPORT/PRERUNNER 2WD        | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |                         |                                       |                    |                                           |                              |                          |                      |                                      |                        |

\*1) 2DBL/3DBL result calculation in case adopting key-off monitor system.

According to the agreement with EPA and CARB at the meeting in March 2003 for CPM/CPP, evaporative emissions by key-off monitor is added to the first day of diurnal test of both 2DBL and 3DBL. It is because that the key-off monitor may work out of DBL test.

### 3. Evaporative/Refueling Family Description

| Evap. Family | Test Group      | Carline                         | Type of vapor storage device | Basic canister design   |     |           |      |                               |          |               |               |                                |                                | Vapor hose material |
|--------------|-----------------|---------------------------------|------------------------------|-------------------------|-----|-----------|------|-------------------------------|----------|---------------|---------------|--------------------------------|--------------------------------|---------------------|
|              |                 |                                 |                              | Working capacity (gram) |     | Size (cc) |      | Number / Method of connection | Geometry | Construction  | Material      | Fuel system                    |                                |                     |
|              |                 |                                 |                              | Main                    | Sub | Main      | Sub  |                               |          |               |               |                                |                                |                     |
| TTYXR0120J42 | TTYXV02.0H3W    | PRIUS PHEV                      | Canister                     | 120                     | /   | 2670      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | PRIUS PHEV SE                   | Canister                     | 120                     | /   | 2670      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
| TTYXR0165P42 | TTYXV03.5E4A    | IS 350                          | Canister                     | 163                     | 2   | 2995      | 35   | 2/Series                      | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | IS 350 AWD                      | Canister                     | 163                     | 2   | 2995      | 35   | 2/Series                      | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
| TTYXR0165J52 | TTYXT02.4H3L    | RX 500h AWD                     | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | GRAND HIGHLANDER HYBRID AWD     | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | TX 500h AWD                     | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | GRAND HIGHLANDER HYBRID         | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              | TTYXJ02.5H3A    | HIGHLANDER HYBRID               | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | HIGHLANDER HYBRID AWD           | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | HIGHLANDER HYBRID AWD LTD/PLAT  | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | GRAND HIGHLANDER HYBRID AWD     | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | GRAND HIGHLANDER HYBRID LIMITED | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | NX 350h                         | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | NX 350h AWD                     | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | RX 350h AWD                     | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | TTYXT02.5H3C                    | RAV4 HYBRID                  | Canister                | 165 | /         | 3500 | /                             | 1/-      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic             |
|              | RAV4 HYBRID AWD |                                 | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              | TTYXT02.5H3B    | RAV4 HYBRID AWD                 | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | TTYXT02.5H3Y                    | NX 450h+ AWD                 | Canister                | 165 | /         | 3500 | /                             | 1/-      | Box           | Closed bottom | Charcoal                       | Port and Direct fuel injection | Plastic             |
|              | RX 450h+ AWD    |                                 | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
| TTYXR0195J52 | TTYXJ02.5H3A    | SIENNA                          | Canister                     | 195                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | SIENNA AWD                      | Canister                     | 195                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
| TTYXR0170J62 | TTYXT02.4E4A    | LAND CRUISER                    | Canister                     | 170                     | /   | 2915      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              | TTYXT02.4H3H    | 4RUNNER 4WD                     | Canister                     | 170                     | /   | 2915      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | TACOMA 4WD                      | Canister                     | 170                     | /   | 2915      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              | TTYXT03.4B5C    | LX 700h                         | Canister                     | 170                     | /   | 2915      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
| TTYXR0165J62 | TTYXT03.5E4A    | TX 550h+ AWD                    | Canister                     | 165                     | /   | 3500      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
| TTYXR0165P62 | TTYXT03.4B5B    | GX 550                          | Canister                     | 163                     | 2   | 2995      | 35   | 2/Series                      | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              | TTYXT02.4H3C    | 4RUNNER 2WD                     | Canister                     | 163                     | 2   | 2995      | 35   | 2/Series                      | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | 4RUNNER 4WD                     | Canister                     | 163                     | 2   | 2995      | 35   | 2/Series                      | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              | TTYXT03.4B5A    | LX 600                          | Canister                     | 163                     | 2   | 2995      | 35   | 2/Series                      | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
| TTYXR0215P62 | TTYXT03.4B5A    | TUNDRA 2WD                      | Canister                     | 211                     | 4   | 3460      | 197  | 2/Series                      | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | TUNDRA 4WD                      | Canister                     | 211                     | 4   | 3460      | 197  | 2/Series                      | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
| TTYXR0325J62 | TTYXT03.4B5C    | TUNDRA 2WD                      | Canister                     | 325                     | /   | 4980      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | TUNDRA 4WD                      | Canister                     | 325                     | /   | 4980      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | TUNDRA 4WD PRO                  | Canister                     | 325                     | /   | 4980      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
| TTYXR0265J62 |                 | SEQUOIA 2WD                     | Canister                     | 265                     | /   | 4980      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |
|              |                 | SEQUOIA 4WD                     | Canister                     | 265                     | /   | 4980      | /    | 1/-                           | Box      | Closed bottom | Charcoal      | Port and Direct fuel injection | Plastic                        |                     |

### 3. Evaporative/Refueling Family Description

| Evap. Family | Test Group   | Carline                         | Fuel tank Material | Type of refueling emission control system | Vapor control system         | Fill pipe seal mechanism | Purge control system | Carbon filter in the air cleaner box | Key-off monitor system |
|--------------|--------------|---------------------------------|--------------------|-------------------------------------------|------------------------------|--------------------------|----------------------|--------------------------------------|------------------------|
| TTYXR0120J42 | TTYXV02.0H3W | PRIUS PHEV                      | Plastic            | Non-Integrated                            | Fuel vapor-containment valve | Liquid seal              | Purge control valve  | NO                                   | YES*1                  |
|              |              | PRIUS PHEV SE                   | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
| TTYXR0165P42 | TTYXV03.5E4A | IS 350                          | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |              | IS 350 AWD                      | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
| TTYXR0165J52 | TTYXT02.4H3L | RX 500h AWD                     | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | GRAND HIGHLANDER HYBRID AWD     | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | TX 500h AWD                     | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              | TTYXJ02.5H3A | GRAND HIGHLANDER HYBRID         | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | HIGHLANDER HYBRID               | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | HIGHLANDER HYBRID AWD           | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | HIGHLANDER HYBRID AWD LTD/PLAT  | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | GRAND HIGHLANDER HYBRID AWD     | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | GRAND HIGHLANDER HYBRID LIMITED | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | NX 350h                         | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | NX 350h AWD                     | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | RX 350h AWD                     | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              | TTYXT02.5H3C | RAV4 HYBRID                     | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | RAV4 HYBRID AWD                 | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              | TTYXT02.5H3B | RAV4 HYBRID AWD                 | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              | TTYXT02.5H3Y | NX 450h+ AWD                    | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | RX 450h+ AWD                    | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
| TTYXR0195J52 | TTYXJ02.5H3A | SIENNA                          | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | SIENNA AWD                      | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
| TTYXR0170J62 | TTYXT02.4E4A | LAND CRUISER                    | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              | TTYXT02.4H3H | 4RUNNER 4WD                     | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | TACOMA 4WD                      | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              | TTYXT03.4B5C | LX 700h                         | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
| TTYXR0165J62 | TTYXT03.5E4A | TX 550h+ AWD                    | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
| TTYXR0165P62 | TTYXT03.4B5B | GX 550                          | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              | TTYXT02.4H3C | 4RUNNER 2WD                     | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |              | 4RUNNER 4WD                     | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              | TTYXT03.4B5A | LX 600                          | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
| TTYXR0215P62 | TTYXT03.4B5A | TUNDRA 2WD                      | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
|              |              | TUNDRA 4WD                      | Plastic            | Integrated                                | N/A                          |                          |                      |                                      |                        |
| TTYXR0325J62 | TTYXT03.4B5C | TUNDRA 2WD                      | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | TUNDRA 4WD                      | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | TUNDRA 4WD PRO                  | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
| TTYXR0265J62 |              | SEQUOIA 2WD                     | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |
|              |              | SEQUOIA 4WD                     | Plastic            | Non-Integrated                            | Fuel vapor-containment valve |                          |                      |                                      |                        |

\*1) 2DBL/3DBL result calculation in case adopting key-off monitor system.

According to the agreement with EPA and CARB at the meeting in March 2003 for CPM/CPP, evaporative emissions by key-off monitor is added to the first day of diurnal test of both 2DBL and 3DBL. It is because that the key-off monitor may work out of DBL test.

#### 4. **Durability Procedure Description**

##### 4.1 Exhaust durability test procedure

Confidential Information

## 4.2 Durability Showing

### Confidential Information

### 4.3 Evap/refueling durability test procedure

Confidential Information

#### 4.4 Exhaust emission deterioration factors

| Durability Group | Useful Life | FTP/SFTP |      |        |           |        | FTP  | HWY |           | GHG   |        |        |       |        |        |       | DF Type  | Veh. ID.<br>NO. | Conf NO. | Note |
|------------------|-------------|----------|------|--------|-----------|--------|------|-----|-----------|-------|--------|--------|-------|--------|--------|-------|----------|-----------------|----------|------|
|                  |             | NMOG     | CO   | NOx    | NMOG +NOx | PM*    | HCHO | NOx | NMOG +NOx | THC   | CH4    | N2O    | CH3OH | C2H5OH | H3C2HO | CREE  |          |                 |          |      |
| TTYXHHGNNB2D     | 50K         | -        | 0.02 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 23D-AA1H        | 00       |      |
|                  | 120K        | 0.0050   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0063   | 0.08 | 0.0010 | 0.0073    | 0.0000 | -    | -   | 0.0073    | 0.009 | 0.0034 | 0.0000 | -     | -      | -      | 0.089 |          |                 |          |      |
| TTYXHHGNNB22     | 50K         | -        | 0.00 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 23D-TL1H        | 00       |      |
|                  | 120K        | 0.0019   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0023   | 0.01 | 0.0049 | 0.0072    | 0.0000 | -    | -   | 0.0072    | 0.007 | 0.0053 | 0.0014 | -     | -      | -      | 0.017 |          |                 |          |      |
| TTYXHHGNNB26     | 50K         | -        | 0.00 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 25D-ZE1H        | 00       |      |
|                  | 120K        | 0.0051   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0064   | 0.02 | 0.0002 | 0.0066    | 0.0000 | -    | -   | 0.0066    | 0.008 | 0.0022 | 0.0001 | -     | -      | -      | 0.028 |          |                 |          |      |
| TTYXGPGNN626     | 50K         | -        | 0.02 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 23D-MA1C        | 00       |      |
|                  | 120K        | 0.0038   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0047   | 0.07 | 0.0038 | 0.0085    | 0.0000 | -    | -   | 0.0085    | 0.017 | 0.0125 | 0.0008 | -     | -      | -      | 0.087 |          |                 |          |      |
| TTYXHHGNNNE28    | 50k         | -        | 0.00 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 23D-MG1H        | 00       |      |
|                  | 120k        | 0.0011   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150k        | 0.0014   | 0.00 | 0.0004 | 0.0018    | 0.0004 | -    | -   | 0.0018    | 0.002 | 0.0012 | 0.0001 | -     | -      | -      | 5     |          |                 |          |      |
| TTYXHHGNNB27     | 50K         | -        | 0.00 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 23D-MG1H        | 01       |      |
|                  | 120K        | 0.0016   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0020   | 0.01 | 0.0004 | 0.0024    | 0.0002 | -    | -   | 0.0024    | 0.003 | 0.0021 | 0.0002 | -     | -      | -      | 0.013 |          |                 |          |      |
| TTYXHHGNNB2H     | 50K         | -        | 0.00 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 26D-AV1H        | 00       |      |
|                  | 120K        | 0.0014   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0018   | 0.02 | 0.0006 | 0.0024    | 0.0000 | -    | -   | 0.0024    | 0.003 | 0.0016 | 0.0003 | -     | -      | -      | 0.023 |          |                 |          |      |
| TTYXGPGNN621     | 50K         | -        | 0.00 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 21D-UZ1A        | 00       |      |
|                  | 120K        | 0.0000   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0006   | 0.01 | 0.0000 | 0.0006    | 0.0000 | -    | -   | 0.0006    | 0.002 | 0.0005 | 0.0001 | -     | -      | -      | 0.012 |          |                 |          |      |
| TTYXGPGNN62Q     | 50K         | -        | 0.03 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 24D-MG1C        | 00       |      |
|                  | 120K        | 0.0054   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0068   | 0.11 | 0.0015 | 0.0083    | 0.0000 | -    | -   | 0.0083    | 0.016 | 0.0105 | 0.0000 | -     | -      | -      | 0.126 |          |                 |          |      |
| TTYXHHGNNNE21    | 50K         | -        | 0.01 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 24-AS2H         | 01       |      |
|                  | 120K        | 0.0025   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0032   | 0.05 | 0.0008 | 0.0040    | 0.0000 | -    | -   | 0.0040    | 0.007 | 0.0038 | 0.0004 | -     | -      | -      | 0.057 |          |                 |          |      |
| TTYXHHGNNB2E     | 50K         | -        | 0.01 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 24-AS2H         | 01       |      |
|                  | 120K        | 0.0025   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0032   | 0.05 | 0.0008 | 0.0040    | 0.0000 | -    | -   | 0.0040    | 0.007 | 0.0038 | 0.0004 | -     | -      | -      | 0.057 |          |                 |          |      |
| TTYXGPGNN62X     | 50K         | -        | 0.00 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 24D-TS1A        | 00       |      |
|                  | 120K        | 0.0029   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0036   | 0.00 | 0.0023 | 0.0059    | 0.0000 | -    | -   | 0.0059    | 0.015 | 0.0122 | 0.0008 | -     | -      | -      | 0.015 |          |                 |          |      |
| TTYXHHGNNB23     | 50K         | -        | 0.01 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 25D-TS1H        | 00       |      |
|                  | 120K        | 0.0030   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0038   | 0.02 | 0.0021 | 0.0059    | 0.0000 | -    | -   | 0.0059    | 0.009 | 0.0063 | 0.0009 | -     | -      | -      | 0.029 |          |                 |          |      |

\*: Since PM deterioration have not been seen in the actual vehicle durability evaluation of applicable or similar model, we consider the same bench durability procedure as the other pollutants to be appropriate.

#### 4.4 Exhaust emission deterioration factors

| Durability Group | Useful Life | FTP/SFTP |      |        |           |        | FTP  | HWY |           | GHG   |        |        |       |        |        |       | DF Type  | Veh. ID.<br>NO. | Conf NO. | Note |
|------------------|-------------|----------|------|--------|-----------|--------|------|-----|-----------|-------|--------|--------|-------|--------|--------|-------|----------|-----------------|----------|------|
|                  |             | NMOG     | CO   | NOx    | NMOG +NOx | PM*    | HCHO | NOx | NMOG +NOx | THC   | CH4    | N2O    | CH3OH | C2H5OH | H3C2HO | CREE  |          |                 |          |      |
| TTYXHHGNB2J      | 50k         | -        | 0.00 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 24D-TH1H        | 00       |      |
|                  | 120k        | 0.0085   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150k        | 0.0107   | 0.02 | 0.0066 | 0.0173    | 0.0000 | -    | -   | 0.0173    | 0.021 | 0.0113 | 0.0008 | -     | -      | -      | 0.041 |          |                 |          |      |
| TTYXHHGNE22      | 50k         | -        | 0.01 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 24D-GU1H        | 00       |      |
|                  | 120k        | 0.0028   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150k        | 0.0035   | 0.03 | 0.0000 | 0.0035    | 0.0002 | -    | -   | 0.0035    | 0.006 | 0.0034 | 0.0002 | -     | -      | -      | 14    |          |                 |          |      |
| TTYXGPGNN62F     | 50K         | -        | 0.03 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 24D-VJ1A        | 00       |      |
|                  | 120K        | 0.0062   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0078   | 0.10 | 0.0059 | 0.0137    | 0.0000 | -    | -   | 0.0137    | 0.012 | 0.0061 | 0.0019 | -     | -      | -      | 0.112 |          |                 |          |      |
| TTYXGPGNN62G     | 50K         | -        | 0.08 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 22D-VK1A        | 00       |      |
|                  | 120K        | 0.0128   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150k        | 0.0161   | 0.25 | 0.0100 | 0.0261    | 0.0000 | -    | -   | 0.0261    | 0.028 | 0.0142 | 0.0024 | -     | -      | -      | 0.278 |          |                 |          |      |
| TTYXHHGNB21      | 50K         | -        | 0.01 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 22D-VK1H        | 00       |      |
|                  | 120k        | 0.0069   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150k        | 0.0087   | 0.03 | 0.0051 | 0.0138    | 0.0000 | -    | -   | 0.0138    | 0.011 | 0.0033 | 0.0029 | -     | -      | -      | 0.041 |          |                 |          |      |
| TTYXHHGNB28      | 50K         | -        | 0.00 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 26D-MG1H        | 00       |      |
|                  | 120K        | 0.0027   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150k        | 0.0034   | 0.01 | 0.0003 | 0.0037    | 0.0000 | -    | -   | 0.0037    | 0.005 | 0.0017 | 0.0000 | -     | -      | -      | 0.015 |          |                 |          |      |
| TTYXGPGNN625     | 50k         | -        | 0.09 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 18B-VF1A        | 00       |      |
|                  | 120k        | 0.0146   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150k        | 0.0184   | 0.29 | 0.0064 | 0.0248    | 0.0001 | -    | -   | 0.0248    | 0.029 | 0.0144 | 0.0031 | -     | -      | -      | 0.319 |          |                 |          |      |
| TTYXGPGNN62J     | 50K         | -        | 0.03 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 23D-GE1M        | 00       |      |
|                  | 120K        | 0.006    | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150K        | 0.0076   | 0.08 | 0.0052 | 0.0128    | 0.0000 | -    | -   | 0.0128    | 0.018 | 0.0126 | 0.0008 | -     | -      | -      | 0.098 |          |                 |          |      |
| TTYXGPGNN62D     | 50k         | -        | 0.08 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 24D-TN1A        | 00       |      |
|                  | 120k        | 0.0075   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150k        | 0.0124   | 0.26 | 0.0082 | 0.0206    | 0.0003 | -    | -   | 0.0206    | 0.031 | 0.0200 | 0.0019 | -     | -      | -      | 0.291 |          |                 |          |      |
| TTYXGPGNN62C     | 50k         | -        | 0.05 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 24D-TN1A        | 01       |      |
|                  | 120k        | 0.0052   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150k        | 0.0061   | 0.15 | 0.0011 | 0.0072    | 0.0001 | -    | -   | 0.0072    | 0.019 | 0.0130 | 0.0015 | -     | -      | -      | 0.169 |          |                 |          |      |
| TTYXHHGNB2F      | 50k         | -        | 0.03 | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     | Additive | 24D-TN1H        | 00       |      |
|                  | 120k        | 0.0047   | -    | -      | -         | -      | -    | -   | -         | -     | -      | -      | -     | -      | -      | -     |          |                 |          |      |
|                  | 150k        | 0.0055   | 0.09 | 0.0015 | 0.0070    | 0.0000 | -    | -   | 0.0070    | 0.011 | 0.0060 | 0.0015 | -     | -      | -      | 0.101 |          |                 |          |      |

\*: Since PM deterioration have not been seen in the actual vehicle durability evaluation of applicable or similar model, we consider the same bench durability procedure as the other pollutants to be appropriate.

#### 4.4 Exhaust emission deterioration factors Durability data

| Vehicle ID | Conf | Test Date  | Test Point Mile | MFR Test ID#   | Test Fuel               | Test Type | THC   | NMHC   | NMOG   | NOX    | CO   | HCHO | PM     | CO2   | CH4    | N2O    |
|------------|------|------------|-----------------|----------------|-------------------------|-----------|-------|--------|--------|--------|------|------|--------|-------|--------|--------|
| 23D-AA1H   | 00   | 2022/03/04 | 4000            | 23D-AA1H4KN1   | GASOLINE-TIER3 E10      | FTP       | 0.013 | 0.0098 | 0.0107 | 0.0016 | 0.08 | -    | 0.0001 | 167   | 0.0032 | 0.0005 |
| 23D-AA1H   | 00   | 2022/03/09 | 4000            | 23D-AA1H4KN2   | GASOLINE-TIER3 E10      | FTP       | 0.014 | 0.0107 | 0.0118 | 0.0020 | 0.07 | -    | 0.0002 | 168   | 0.0036 | 0.0004 |
| 23D-AA1H   | 00   | 2022/03/16 | 4000            | 23D-AA1H4KN3   | GASOLINE-TIER3 E10      | FTP       | 0.015 | 0.0110 | 0.0122 | 0.0025 | 0.08 | -    | 0.0001 | 167   | 0.0039 | 0.0006 |
| 23D-AA1H   | 00   | 2022/06/07 | 150000          | 23D-AA1H150KN1 | GASOLINE-TIER3 E10      | FTP       | 0.021 | 0.0150 | 0.0165 | 0.0037 | 0.11 | -    | 0.0001 | 160   | 0.0064 | 0.0003 |
| 23D-AA1H   | 00   | 2022/06/08 | 150000          | 23D-AA1H150KN2 | GASOLINE-TIER3 E10      | FTP       | 0.023 | 0.0165 | 0.0182 | 0.0030 | 0.18 | -    | 0.0001 | 162   | 0.0073 | 0.0005 |
| 23D-AA1H   | 00   | 2022/06/09 | 150000          | 23D-AA1H150KN3 | GASOLINE-TIER3 E10      | FTP       | 0.024 | 0.0170 | 0.0187 | 0.0024 | 0.18 | -    | 0.0001 | 165   | 0.0073 | 0.0007 |
| 23D-TL1H   | 00   | 2022/02/25 | 4000            | 23D-TL1H4KN1   | GASOLINE-TIER3 E10 PREM | FTP       | 0.009 | 0.0050 | 0.0055 | 0.0071 | 0.13 | -    | 0.0001 | 377   | 0.0042 | 0.0004 |
| 23D-TL1H   | 00   | 2022/03/02 | 4000            | 23D-TL1H4KN2   | GASOLINE-TIER3 E10 PREM | FTP       | 0.009 | 0.0051 | 0.0056 | 0.0079 | 0.13 | -    | 0.0000 | 375   | 0.0045 | 0.0007 |
| 23D-TL1H   | 00   | 2022/03/04 | 4000            | 23D-TL1H4KN3   | GASOLINE-TIER3 E10 PREM | FTP       | 0.009 | 0.0052 | 0.0057 | 0.0087 | 0.13 | -    | 0.0001 | 379   | 0.0048 | 0.0009 |
| 23D-TL1H   | 00   | 2022/05/18 | 150000          | 23D-TL1H150KN1 | GASOLINE-TIER3 E10 PREM | FTP       | 0.015 | 0.0065 | 0.0072 | 0.0126 | 0.12 | -    | 0.0001 | 376   | 0.0096 | 0.0023 |
| 23D-TL1H   | 00   | 2022/05/19 | 150000          | 23D-TL1H150KN2 | GASOLINE-TIER3 E10 PREM | FTP       | 0.016 | 0.0075 | 0.0083 | 0.0143 | 0.14 | -    | 0.0001 | 377   | 0.0097 | 0.0027 |
| 23D-TL1H   | 00   | 2022/05/20 | 150000          | 23D-TL1H150KN3 | GASOLINE-TIER3 E10 PREM | FTP       | 0.017 | 0.0076 | 0.0083 | 0.0114 | 0.15 | -    | 0.0001 | 376   | 0.0101 | 0.0013 |
| 25D-ZE1H   | 00   | 2024/02/14 | 4000            | 25D-ZE1H4KN1   | GASOLINE-TIER3 E10      | FTP       | 0.012 | 0.0102 | 0.0112 | 0.0013 | 0.05 | -    | 0.0001 | 135.2 | 0.0019 | 0.0005 |
| 25D-ZE1H   | 00   | 2024/02/21 | 4000            | 25D-ZE1H4KN2   | GASOLINE-TIER3 E10      | FTP       | 0.014 | 0.0120 | 0.0133 | 0.001  | 0.05 | -    | 0.0001 | 131.9 | 0.0022 | 0.0002 |
| 25D-ZE1H   | 00   | 2024/02/23 | 4000            | 25D-ZE1H4KN3   | GASOLINE-TIER3 E10      | FTP       | 0.012 | 0.0100 | 0.0110 | 0.0015 | 0.04 | -    | 0.0001 | 132.7 | 0.0021 | 0.0004 |
| 25D-ZE1H   | 00   | 2024/02/29 | 150000          | 25D-ZE1H150KN1 | GASOLINE-TIER3 E10      | FTP       | 0.022 | 0.0180 | 0.0198 | 0.0015 | 0.07 | -    | 0.0001 | 131.6 | 0.0039 | 0.0003 |
| 25D-ZE1H   | 00   | 2024/03/05 | 150000          | 25D-ZE1H150KN2 | GASOLINE-TIER3 E10      | FTP       | 0.019 | 0.0155 | 0.0171 | 0.0015 | 0.07 | -    | 0.0001 | 131.1 | 0.0043 | 0.0006 |
| 25D-ZE1H   | 00   | 2024/03/06 | 150000          | 25D-ZE1H150KN3 | GASOLINE-TIER3 E10      | FTP       | 0.021 | 0.0162 | 0.0178 | 0.0016 | 0.07 | -    | 0.0001 | 132.9 | 0.0047 | 0.0006 |
| 23D-MA1C   | 00   | 2022/9/21  | 4000            | 23D-MA1C4KN1   | GASOLINE-TIER3 E10      | FTP       | 0.004 | 0.0021 | 0.0023 | 0.0051 | 0.06 | -    | 0.0003 | 265   | 0.0023 | 0.0006 |
| 23D-MA1C   | 00   | 2022/9/22  | 4000            | 23D-MA1C4KN2   | GASOLINE-TIER3 E10      | FTP       | 0.004 | 0.0019 | 0.0021 | 0.005  | 0.06 | -    | 0.0003 | 265   | 0.0027 | 0.0003 |
| 23D-MA1C   | 00   | 2022/9/23  | 4000            | 23D-MA1C4KN3   | GASOLINE-TIER3 E10      | FTP       | 0.005 | 0.0024 | 0.0026 | 0.0055 | 0.07 | -    | 0.0003 | 265   | 0.0035 | 0.0003 |
| 23D-MA1C   | 00   | 2022/9/14  | 150000          | 23D-MA1C150KN1 | GASOLINE-TIER3 E10      | FTP       | 0.020 | 0.0064 | 0.0070 | 0.0098 | 0.12 | -    | 0.0003 | 265   | 0.0149 | 0.0011 |
| 23D-MA1C   | 00   | 2022/9/15  | 150000          | 23D-MA1C150KN2 | GASOLINE-TIER3 E10      | FTP       | 0.021 | 0.0066 | 0.0073 | 0.0086 | 0.13 | -    | 0.0003 | 264   | 0.0154 | 0.0014 |
| 23D-MA1C   | 00   | 2022/9/20  | 150000          | 23D-MA1C150KN3 | GASOLINE-TIER3 E10      | FTP       | 0.021 | 0.0062 | 0.0068 | 0.0086 | 0.14 | -    | 0.0003 | 263   | 0.0155 | 0.0011 |
| 23D-MG1H   | 00   | 2022/06/10 | 4000            | 23D-MG1H4KN1   | GASOLINE-TIER3 E10      | FTP       | 0.011 | 0.0083 | 0.0091 | 0.0008 | 0.08 | -    | 0.0007 | 136   | 0.0028 | 0.0001 |
| 23D-MG1H   | 00   | 2022/06/14 | 4000            | 23D-MG1H4KN2   | GASOLINE-TIER3 E10      | FTP       | 0.012 | 0.0090 | 0.0099 | 0.0007 | 0.08 | -    | 0.0010 | 134   | 0.0030 | 0.0000 |
| 23D-MG1H   | 00   | 2022/06/15 | 4000            | 23D-MG1H4KN3   | GASOLINE-TIER3 E10      | FTP       | 0.012 | 0.0083 | 0.0092 | 0.0008 | 0.08 | -    | 0.0013 | 135   | 0.0036 | 0.0003 |
| 23D-MG1H   | 00   | 2022/06/24 | 150000          | 23D-MG1H150KN1 | GASOLINE-TIER3 E10      | FTP       | 0.014 | 0.0101 | 0.0111 | 0.0011 | 0.08 | -    | 0.0011 | 136   | 0.0040 | 0.0002 |
| 23D-MG1H   | 00   | 2022/06/28 | 150000          | 23D-MG1H150KN2 | GASOLINE-TIER3 E10      | FTP       | 0.014 | 0.0099 | 0.0109 | 0.0012 | 0.08 | -    | 0.0016 | 134   | 0.0043 | 0.0002 |
| 23D-MG1H   | 00   | 2022/06/29 | 150000          | 23D-MG1H150KN3 | GASOLINE-TIER3 E10      | FTP       | 0.014 | 0.0094 | 0.0104 | 0.0014 | 0.07 | -    | 0.0016 | 136   | 0.0047 | 0.0002 |

#### 4.4 Exhaust emission deterioration factors Durability data

| Vehicle ID | Conf | Test Date  | Test Point Mile | MFR Test ID#   | Test Fuel               | Test Type | THC   | NMHC   | NMOG   | NOX    | CO   | HCHO | PM     | CO2   | CH4    | N2O    |
|------------|------|------------|-----------------|----------------|-------------------------|-----------|-------|--------|--------|--------|------|------|--------|-------|--------|--------|
| 23D-MG1H   | 00   | 2022/06/10 | 4000            | 23D-MG1H4KN1   | GASOLINE-TIER3 E10      | FTP       | 0.011 | 0.0083 | 0.0091 | 0.0008 | 0.08 | -    | 0.0007 | 136   | 0.0028 | 0.0001 |
| 23D-MG1H   | 00   | 2022/06/14 | 4000            | 23D-MG1H4KN2   | GASOLINE-TIER3 E10      | FTP       | 0.012 | 0.0090 | 0.0099 | 0.0007 | 0.08 | -    | 0.0010 | 134   | 0.0030 | 0.0000 |
| 23D-MG1H   | 00   | 2022/06/15 | 4000            | 23D-MG1H4KN3   | GASOLINE-TIER3 E10      | FTP       | 0.012 | 0.0083 | 0.0092 | 0.0008 | 0.08 | -    | 0.0013 | 135   | 0.0036 | 0.0003 |
| 23D-MG1H   | 01   | 2023/06/28 | 150000          | 23D-MG1H150KN1 | GASOLINE-TIER3 E10      | FTP       | 0.015 | 0.0102 | 0.0112 | 0.0012 | 0.09 | -    | 0.0010 | 138   | 0.0049 | 0.0003 |
| 23D-MG1H   | 01   | 2023/06/29 | 150000          | 23D-MG1H150KN2 | GASOLINE-TIER3 E10      | FTP       | 0.015 | 0.0103 | 0.0114 | 0.0012 | 0.08 | -    | 0.0013 | 138   | 0.0053 | 0.0004 |
| 23D-MG1H   | 01   | 2023/06/30 | 150000          | 23D-MG1H150KN3 | GASOLINE-TIER3 E10      | FTP       | 0.016 | 0.0105 | 0.0116 | 0.0013 | 0.09 | -    | 0.0012 | 144   | 0.0054 | 0.0003 |
| 26D-AV1H   | 00   | 2025/02/25 | 4000            | 26D-AV1H4KN1   | GASOLINE - TIER3 E10    | FTP       | 0.010 | 0.0065 | 0.0072 | 0.0012 | 0.09 | -    | 0.0000 | 144   | 0.0039 | 0.0002 |
| 26D-AV1H   | 00   | 2025/02/26 | 4000            | 26D-AV1H4KN2   | GASOLINE - TIER3 E10    | FTP       | 0.012 | 0.0084 | 0.0092 | 0.0008 | 0.08 | -    | 0.0000 | 141.8 | 0.0036 | 0.0002 |
| 26D-AV1H   | 00   | 2025/02/27 | 4000            | 26D-AV1H4KN3   | GASOLINE - TIER3 E10    | FTP       | 0.011 | 0.0074 | 0.0082 | 0.0009 | 0.09 | -    | 0.0000 | 141.3 | 0.0039 | 0.0003 |
| 26D-AV1H   | 00   | 2025/03/14 | 150000          | 26D-AV1H150KN1 | GASOLINE - TIER3 E10    | FTP       | 0.014 | 0.0086 | 0.0095 | 0.0014 | 0.11 | -    | 0.0001 | 138.5 | 0.0053 | 0.0003 |
| 26D-AV1H   | 00   | 2025/03/19 | 150000          | 26D-AV1H150KN2 | GASOLINE - TIER3 E10    | FTP       | 0.014 | 0.0093 | 0.0102 | 0.0015 | 0.12 | -    | 0.0000 | 136.5 | 0.0053 | 0.0005 |
| 26D-AV1H   | 00   | 2025/03/21 | 150000          | 26D-AV1H150KN3 | GASOLINE - TIER3 E10    | FTP       | 0.015 | 0.0093 | 0.0103 | 0.0018 | 0.09 | -    | 0.0000 | 138.6 | 0.0057 | 0.0007 |
| 21D-UZ1A   | 00   | 2019/10/30 | 4000            | 21DUZ1A4K1     | GASOLINE-TIER3 E10 PREM | FTP       | 0.016 | 0.0144 | 0.0158 | 0.0098 | 0.06 | -    | 0.0012 | 492   | 0.0021 | 0.0007 |
| 21D-UZ1A   | 00   | 2019/10/31 | 4000            | 21DUZ1A4K2     | GASOLINE-TIER3 E10 PREM | FTP       | 0.016 | 0.0145 | 0.0159 | 0.0102 | 0.06 | -    | 0.0009 | 489   | 0.0020 | 0.0003 |
| 21D-UZ1A   | 00   | 2019/11/1  | 4000            | 21DUZ1A4K3     | GASOLINE-TIER3 E10 PREM | FTP       | 0.020 | 0.0182 | 0.0200 | 0.0103 | 0.08 | -    | 0.0009 | 489   | 0.0021 | 0.0004 |
| 21D-UZ1A   | 00   | 2019/11/6  | 150000          | 21DUZ1A150K1   | GASOLINE-TIER3 E10 PREM | FTP       | 0.018 | 0.0153 | 0.0168 | 0.0096 | 0.07 | -    | 0.0005 | 487   | 0.0027 | 0.0006 |
| 21D-UZ1A   | 00   | 2019/11/7  | 150000          | 21DUZ1A150K2   | GASOLINE-TIER3 E10 PREM | FTP       | 0.021 | 0.0181 | 0.0199 | 0.0099 | 0.10 | -    | 0.0004 | 491   | 0.0026 | 0.0006 |
| 21D-UZ1A   | 00   | 2019/11/8  | 150000          | 21DUZ1A150K3   | GASOLINE-TIER3 E10 PREM | FTP       | 0.017 | 0.0151 | 0.0167 | 0.0098 | 0.08 | -    | 0.0006 | 490   | 0.0024 | 0.0007 |
| 24D-MG1C   | 00   | 2023/07/11 | 4000            | 24D-MG1C4KN1   | GASOLINE-TIER3 E10      | FTP       | 0.006 | 0.0029 | 0.0032 | 0.0064 | 0.05 | -    | 0.0002 | 222   | 0.0037 | 0.0005 |
| 24D-MG1C   | 00   | 2023/07/14 | 4000            | 24D-MG1C4KN2   | GASOLINE-TIER3 E10      | FTP       | 0.007 | 0.0033 | 0.0036 | 0.0075 | 0.05 | -    | 0.0002 | 224   | 0.0039 | 0.0006 |
| 24D-MG1C   | 00   | 2023/07/19 | 4000            | 24D-MG1C4KN3   | GASOLINE-TIER3 E10      | FTP       | 0.007 | 0.0031 | 0.0034 | 0.0055 | 0.05 | -    | 0.0002 | 222   | 0.0041 | 0.0006 |
| 24D-MG1C   | 00   | 2023/07/27 | 150000          | 24D-MG1C150KN1 | GASOLINE-TIER3 E10      | FTP       | 0.023 | 0.0089 | 0.0098 | 0.007  | 0.15 | -    | 0.0002 | 222   | 0.0147 | 0.0006 |
| 24D-MG1C   | 00   | 2023/07/28 | 150000          | 24D-MG1C150KN2 | GASOLINE-TIER3 E10      | FTP       | 0.023 | 0.0098 | 0.0108 | 0.0087 | 0.17 | -    | 0.0002 | 222   | 0.0141 | 0.0006 |
| 24D-MG1C   | 00   | 2023/08/01 | 150000          | 24D-MG1C150KN2 | GASOLINE-TIER3 E10      | FTP       | 0.023 | 0.009  | 0.0099 | 0.0084 | 0.15 | -    | 0.0003 | 224   | 0.0144 | 0.0006 |

#### 4.4 Exhaust emission deterioration factors Durability data

| Vehicle ID | Conf | Test Date  | Test Point Mile | MFR Test ID#   | Test Fuel               | Test Type | THC   | NMHC   | NMOG   | NOX    | CO   | HCHO | PM     | CO2   | CH4    | N2O    |
|------------|------|------------|-----------------|----------------|-------------------------|-----------|-------|--------|--------|--------|------|------|--------|-------|--------|--------|
| 24-AS2H    | 01   | 2025/02/04 | 4000            | 24D-AS2H4KN1   | GASOLINE - TIER3 E10    | FTP       | 0.011 | 0.0078 | 0.0086 | 0.0020 | 0.06 | -    | 0.0001 | 178.4 | 0.0031 | 0.0002 |
| 24-AS2H    | 01   | 2025/02/05 | 4000            | 24D-AS2H4KN2   | GASOLINE - TIER3 E10    | FTP       | 0.012 | 0.0087 | 0.0095 | 0.0011 | 0.08 | -    | 0.0001 | 179.2 | 0.0038 | 0.0002 |
| 24-AS2H    | 01   | 2025/02/06 | 4000            | 24D-AS2H4KN3   | GASOLINE - TIER3 E10    | FTP       | 0.017 | 0.0132 | 0.0145 | 0.0018 | 0.09 | -    | 0.0001 | 175.8 | 0.0046 | 0.0002 |
| 24-AS2H    | 01   | 2025/02/18 | 150000          | 24D-AS2H150KN1 | GASOLINE - TIER3 E10    | FTP       | 0.018 | 0.0116 | 0.0127 | 0.0034 | 0.08 | -    | 0.0001 | 184.2 | 0.007  | 0.0007 |
| 24-AS2H    | 01   | 2025/02/26 | 150000          | 24D-AS2H150KN2 | GASOLINE - TIER3 E10    | FTP       | 0.020 | 0.0130 | 0.0144 | 0.0021 | 0.13 | -    | 0.0001 | 176.5 | 0.0076 | 0.0004 |
| 24-AS2H    | 01   | 2025/02/27 | 150000          | 24D-AS2H150KN3 | GASOLINE - TIER3 E10    | FTP       | 0.022 | 0.0139 | 0.0153 | 0.0018 | 0.17 | -    | 0.0001 | 176.1 | 0.0083 | 0.0008 |
| 24D-TS1A   | 00   | 2022/12/01 | 4000            | 24D-TS1A4KN1   | GASOLINE-TIER3 E10      | FTP       | 0.008 | 0.0042 | 0.0046 | 0.0058 | 0.13 | -    | 0.0002 | 371   | 0.0039 | 0.0006 |
| 24D-TS1A   | 00   | 2022/12/02 | 4000            | 24D-TS1A4KN2   | GASOLINE-TIER3 E10      | FTP       | 0.009 | 0.0056 | 0.0061 | 0.0053 | 0.13 | -    | 0.0002 | 369   | 0.0042 | 0.0003 |
| 24D-TS1A   | 00   | 2022/12/06 | 4000            | 24D-TS1A4KN3   | GASOLINE-TIER3 E10      | FTP       | 0.008 | 0.0044 | 0.0048 | 0.0053 | 0.13 | -    | 0.0003 | 369   | 0.0047 | 0.0003 |
| 24D-TS1A   | 00   | 2022/12/21 | 150000          | 24D-TS1A150KN1 | GASOLINE-TIER3 E10      | FTP       | 0.021 | 0.0070 | 0.0077 | 0.0082 | 0.11 | -    | 0.0002 | 368   | 0.0155 | 0.0007 |
| 24D-TS1A   | 00   | 2022/12/22 | 150000          | 24D-TS1A150KN2 | GASOLINE-TIER3 E10      | FTP       | 0.024 | 0.0092 | 0.0102 | 0.0074 | 0.12 | -    | 0.0003 | 365   | 0.0161 | 0.0008 |
| 24D-TS1A   | 00   | 2022/12/23 | 150000          | 24D-TS1A150KN3 | GASOLINE-TIER3 E10      | FTP       | 0.024 | 0.0079 | 0.0087 | 0.0078 | 0.11 | -    | 0.0002 | 366   | 0.0178 | 0.0022 |
| 25D-TS1H   | 00   | 2023/11/17 | 4000            | 25D-TS1H4KN1   | GASOLINE - TIER3 E10    | FTP       | 0.008 | 0.0043 | 0.0048 | 0.0026 | 0.13 | -    | 0.0001 | 386.3 | 0.0039 | 0.0002 |
| 25D-TS1H   | 00   | 2023/11/21 | 4000            | 25D-TS1H4KN2   | GASOLINE - TIER3 E10    | FTP       | 0.009 | 0.0047 | 0.0052 | 0.0027 | 0.13 | -    | 0.0001 | 387.5 | 0.0044 | 0.0003 |
| 25D-TS1H   | 00   | 2023/11/22 | 4000            | 25D-TS1H4KN3   | GASOLINE - TIER3 E10    | FTP       | 0.009 | 0.0049 | 0.0054 | 0.0026 | 0.14 | -    | 0.0001 | 389.6 | 0.0047 | 0.0002 |
| 25D-TS1H   | 00   | 2023/12/05 | 150000          | 25D-TS1H150KN1 | GASOLINE - TIER3 E10    | FTP       | 0.016 | 0.0068 | 0.0075 | 0.0039 | 0.15 | -    | 0.0001 | 388.3 | 0.0096 | 0.0011 |
| 25D-TS1H   | 00   | 2023/12/06 | 150000          | 25D-TS1H150KN2 | GASOLINE - TIER3 E10    | FTP       | 0.017 | 0.0066 | 0.0073 | 0.0056 | 0.13 | -    | 0.0001 | 387.3 | 0.0108 | 0.0012 |
| 25D-TS1H   | 00   | 2023/12/07 | 150000          | 25D-TS1H150KN3 | GASOLINE - TIER3 E10    | FTP       | 0.021 | 0.0107 | 0.0118 | 0.0045 | 0.17 | -    | 0.0001 | 387.4 | 0.0113 | 0.0011 |
| 24D-TH1H   | 00   | 2023/06/16 | 4000            | 24D-TH1H4KN1   | GASOLINE-TIER3 E10 PREM | FTP       | 0.013 | 0.0091 | 0.0100 | 0.0012 | 0.38 | -    | 0.0006 | 391   | 0.0044 | 0.0003 |
| 24D-TH1H   | 00   | 2023/06/28 | 4000            | 24D-TH1H4KN2   | GASOLINE-TIER3 E10 PREM | FTP       | 0.010 | 0.0071 | 0.0079 | 0.0022 | 0.33 | -    | 0.0016 | 393   | 0.0037 | 0.0002 |
| 24D-TH1H   | 00   | 2023/06/30 | 4000            | 24D-TH1H4KN3   | GASOLINE-TIER3 E10 PREM | FTP       | 0.013 | 0.0090 | 0.0099 | 0.0019 | 0.33 | -    | 0.0006 | 395   | 0.0042 | 0.0004 |
| 24D-TH1H   | 00   | 2023/10/03 | 150000          | 24D-TH1H150KN1 | GASOLINE-TIER3 E10 PREM | FTP       | 0.030 | 0.0168 | 0.0185 | 0.0066 | 0.37 | -    | 0.0007 | 386   | 0.0140 | 0.0011 |
| 24D-TH1H   | 00   | 2023/10/04 | 150000          | 24D-TH1H150KN2 | GASOLINE-TIER3 E10 PREM | FTP       | 0.036 | 0.0215 | 0.0237 | 0.0098 | 0.41 | -    | 0.0006 | 388   | 0.0157 | 0.0011 |
| 24D-TH1H   | 00   | 2023/10/05 | 150000          | 24D-TH1H150KN3 | GASOLINE-TIER3 E10 PREM | FTP       | 0.032 | 0.0162 | 0.0179 | 0.0087 | 0.33 | -    | 0.0006 | 387   | 0.0164 | 0.0011 |

#### 4.4 Exhaust emission deterioration factors Durability data

| Vehicle ID | Conf | Test Date  | Test Point Mile | MFR Test ID#   | Test Fuel               | Test Type | THC   | NMHC   | NMOG   | NOX    | CO   | HCHO | PM     | CO2 | CH4    | N2O    |
|------------|------|------------|-----------------|----------------|-------------------------|-----------|-------|--------|--------|--------|------|------|--------|-----|--------|--------|
| 24D-GU1H   | 00   | 2023/07/06 | 4000            | 24D-GU1H4KN1   | GASOLINE-TIER3 E10 PREM | FTP       | 0.011 | 0.0066 | 0.0073 | 0.0029 | 0.06 | -    | 0.0001 | 229 | 0.0042 | 0.0001 |
| 24D-GU1H   | 00   | 2023/07/13 | 4000            | 24D-GU1H4KN2   | GASOLINE-TIER3 E10 PREM | FTP       | 0.016 | 0.0109 | 0.0120 | 0.0043 | 0.11 | -    | 0.0001 | 225 | 0.0053 | 0.0001 |
| 24D-GU1H   | 00   | 2023/07/17 | 4000            | 24D-GU1H4KN3   | GASOLINE-TIER3 E10 PREM | FTP       | 0.012 | 0.0078 | 0.0086 | 0.0020 | 0.09 | -    | 0.0001 | 229 | 0.0048 | 0.0001 |
| 24D-GU1H   | 00   | 2023/07/22 | 150000          | 24D-GU1H150KN1 | GASOLINE-TIER3 E10 PREM | FTP       | 0.020 | 0.0122 | 0.0134 | 0.0029 | 0.13 | -    | 0.0003 | 230 | 0.0082 | 0.0004 |
| 24D-GU1H   | 00   | 2023/07/25 | 150000          | 24D-GU1H150KN2 | GASOLINE-TIER3 E10 PREM | FTP       | 0.019 | 0.0111 | 0.0122 | 0.0021 | 0.12 | -    | 0.0003 | 224 | 0.0082 | 0.0004 |
| 24D-GU1H   | 00   | 2023/07/28 | 150000          | 24D-GU1H150KN3 | GASOLINE-TIER3 E10 PREM | FTP       | 0.019 | 0.0116 | 0.0128 | 0.0015 | 0.12 | -    | 0.0002 | 228 | 0.0082 | 0.0002 |
| 24D-VJ1A   | 00   | 2023/06/09 | 4000            | 24D-VJ1A4KN1   | GASOLINE-TIER3 E10 PREM | FTP       | 0.011 | 0.0078 | 0.0086 | 0.0125 | 0.08 | -    | 0.0016 | 470 | 0.0044 | 0.0007 |
| 24D-VJ1A   | 00   | 2023/06/13 | 4000            | 24D-VJ1A4KN2   | GASOLINE-TIER3 E10 PREM | FTP       | 0.011 | 0.0068 | 0.0075 | 0.0120 | 0.08 | -    | 0.0014 | 466 | 0.0047 | 0.0010 |
| 24D-VJ1A   | 00   | 2023/06/14 | 4000            | 24D-VJ1A4KN3   | GASOLINE-TIER3 E10 PREM | FTP       | 0.010 | 0.0064 | 0.0070 | 0.0124 | 0.09 | -    | 0.0014 | 470 | 0.0047 | 0.0009 |
| 24D-VJ1A   | 00   | 2023/07/28 | 150000          | 24D-VJ1A150KN1 | GASOLINE-TIER3 E10 PREM | FTP       | 0.022 | 0.0130 | 0.0143 | 0.0198 | 0.17 | -    | 0.0013 | 465 | 0.0102 | 0.0043 |
| 24D-VJ1A   | 00   | 2023/08/04 | 150000          | 24D-VJ1A150KN2 | GASOLINE-TIER3 E10 PREM | FTP       | 0.022 | 0.0126 | 0.0139 | 0.0162 | 0.17 | -    | 0.0015 | 468 | 0.0109 | 0.0021 |
| 24D-VJ1A   | 00   | 2023/08/09 | 150000          | 24D-VJ1A150KN3 | GASOLINE-TIER3 E10 PREM | FTP       | 0.026 | 0.0166 | 0.0183 | 0.0187 | 0.21 | -    | 0.0016 | 473 | 0.0110 | 0.0021 |
| 22D-VK1A   | 00   | 2020/09/20 | 4000            | 22D-VK1A4K1    | GASOLINE-TIER3 E10      | FTP       | 0.015 | 0.0103 | 0.0113 | 0.0161 | 0.10 | -    | 0.0019 | 438 | 0.0048 | 0.0012 |
| 22D-VK1A   | 00   | 2020/09/22 | 4000            | 22D-VK1A4K2    | GASOLINE-TIER3 E10      | FTP       | 0.016 | 0.0102 | 0.0112 | 0.0152 | 0.12 | -    | 0.0020 | 438 | 0.0055 | 0.0013 |
| 22D-VK1A   | 00   | 2020/09/23 | 4000            | 22D-VK1A4K3    | GASOLINE-TIER3 E10      | FTP       | 0.016 | 0.0099 | 0.0109 | 0.0136 | 0.15 | -    | 0.0021 | 435 | 0.0062 | 0.0010 |
| 22D-VK1A   | 00   | 2020/09/16 | 150000          | 22D-VK1A150K1  | GASOLINE-TIER3 E10      | FTP       | 0.041 | 0.0232 | 0.0255 | 0.0245 | 0.35 | -    | 0.0015 | 436 | 0.0178 | 0.0036 |
| 22D-VK1A   | 00   | 2020/09/17 | 150000          | 22D-VK1A150K2  | GASOLINE-TIER3 E10      | FTP       | 0.047 | 0.0265 | 0.0292 | 0.0210 | 0.42 | -    | 0.0018 | 447 | 0.0207 | 0.0029 |
| 22D-VK1A   | 00   | 2020/09/18 | 150000          | 22D-VK1A150K3  | GASOLINE-TIER3 E10      | FTP       | 0.045 | 0.0245 | 0.0270 | 0.0296 | 0.33 | -    | 0.0018 | 447 | 0.0207 | 0.0042 |
| 22D-VK1H   | 00   | 2021/10/06 | 4000            | 22D-VK1H4KN1   | GASOLINE-TIER3 E10      | FTP       | 0.014 | 0.0100 | 0.0110 | 0.0044 | 0.16 | -    | 0.0022 | 506 | 0.0040 | 0.0012 |
| 22D-VK1H   | 00   | 2021/10/14 | 4000            | 22D-VK1H4KN2   | GASOLINE-TIER3 E10      | FTP       | 0.014 | 0.0104 | 0.0115 | 0.0044 | 0.14 | -    | 0.0025 | 496 | 0.0043 | 0.0010 |
| 22D-VK1H   | 00   | 2021/10/28 | 4000            | 22D-VK1H4KN3   | GASOLINE-TIER3 E10      | FTP       | 0.017 | 0.0123 | 0.0135 | 0.0043 | 0.21 | -    | 0.0022 | 493 | 0.0055 | 0.0010 |
| 22D-VK1H   | 00   | 2021/11/02 | 150000          | 22D-VK1H150KN1 | GASOLINE-TIER3 E10      | FTP       | 0.026 | 0.0188 | 0.0207 | 0.0097 | 0.22 | -    | 0.0017 | 494 | 0.0079 | 0.0047 |
| 22D-VK1H   | 00   | 2021/11/03 | 150000          | 22D-VK1H150KN2 | GASOLINE-TIER3 E10      | FTP       | 0.027 | 0.0198 | 0.0218 | 0.0098 | 0.20 | -    | 0.0017 | 492 | 0.0076 | 0.0037 |
| 22D-VK1H   | 00   | 2021/11/04 | 150000          | 22D-VK1H150KN3 | GASOLINE-TIER3 E10      | FTP       | 0.025 | 0.0179 | 0.0197 | 0.0090 | 0.19 | -    | 0.0020 | 490 | 0.0082 | 0.0036 |

#### 4.4 Exhaust emission deterioration factors Durability data

| Vehicle ID | Conf | Test Date  | Test Point<br>Mile | MFR Test ID#      | Test Fuel               | Test<br>Type | THC   | NMHC   | NMOG   | NOX    | CO   | HCHO | PM     | CO2   | CH4    | N2O    |
|------------|------|------------|--------------------|-------------------|-------------------------|--------------|-------|--------|--------|--------|------|------|--------|-------|--------|--------|
| 26D-MG1H   | 00   | 2025/01/15 | 4000               | 26D-MG1H150K4k    | GASOLINE-TIER3 E10      | FTP          | 0.010 | 0.0071 | 0.0078 | 0.0009 | 0.08 | -    | 0.0001 | 137.6 | 0.0026 | 0.0002 |
| 26D-MG1H   | 00   | 2025/01/16 | 4000               | 26D-MG1H150K4k    | GASOLINE-TIER3 E10      | FTP          | 0.009 | 0.0065 | 0.0072 | 0.0010 | 0.06 | -    | 0.0001 | 139.8 | 0.0027 | 0.0002 |
| 26D-MG1H   | 00   | 2025/01/17 | 4000               | 26D-MG1H150K4k    | GASOLINE-TIER3 E10      | FTP          | 0.009 | 0.0065 | 0.0072 | 0.0010 | 0.06 | -    | 0.0001 | 138.3 | 0.003  | 0.0005 |
| 26D-MG1H   | 00   | 2025/01/23 | 150000             | 26D-MG1H150K0k    | GASOLINE-TIER3 E10      | FTP          | 0.013 | 0.0094 | 0.0104 | 0.0013 | 0.08 | -    | 0.0001 | 139.6 | 0.0042 | 0.0000 |
| 26D-MG1H   | 00   | 2025/01/24 | 150000             | 26D-MG1H150K0k    | GASOLINE-TIER3 E10      | FTP          | 0.014 | 0.0098 | 0.0108 | 0.0012 | 0.08 | -    | 0.0000 | 137.5 | 0.0044 | 0.0002 |
| 26D-MG1H   | 00   | 2025/01/30 | 150000             | 26D-MG1H150K0k    | GASOLINE-TIER3 E10      | FTP          | 0.015 | 0.0102 | 0.0112 | 0.0014 | 0.08 | -    | 0.0001 | 137.7 | 0.0048 | 0.0001 |
| 18B-VF1A   | 00   | 2017/7/27  | 4000               | 18BVF1A4K1        | GASOLINE-TIER3 E10 PREM | FTP          | 0.026 | 0.0186 | 0.0205 | 0.0022 | 0.26 | -    | 0.0010 | 394   | 0.0077 | 0.0012 |
| 18B-VF1A   | 00   | 2017/7/28  | 4000               | 18BVF1A4K2        | GASOLINE-TIER3 E10 PREM | FTP          | 0.026 | 0.0186 | 0.0205 | 0.0018 | 0.27 | -    | 0.0006 | 394   | 0.0079 | 0.0012 |
| 18B-VF1A   | 00   | 2017/8/2   | 4000               | 18BVF1A4K3        | GASOLINE-TIER3 E10 PREM | FTP          | 0.029 | 0.0204 | 0.0225 | 0.0017 | 0.28 | -    | 0.0007 | 393   | 0.0088 | 0.0014 |
| 18B-VF1A   | 00   | 2017/8/9   | 150000             | 18BVF1A150K1      | GASOLINE-TIER3 E10 PREM | FTP          | 0.055 | 0.0372 | 0.0410 | 0.0104 | 0.52 | -    | 0.0007 | 393   | 0.0221 | 0.0039 |
| 18B-VF1A   | 00   | 2017/8/10  | 150000             | 18BVF1A150K2      | GASOLINE-TIER3 E10 PREM | FTP          | 0.059 | 0.0376 | 0.0413 | 0.0067 | 0.65 | -    | 0.0013 | 392   | 0.0231 | 0.0048 |
| 18B-VF1A   | 00   | 2017/8/11  | 150000             | 18BVF1A150K3      | GASOLINE-TIER3 E10 PREM | FTP          | 0.054 | 0.0331 | 0.0364 | 0.0078 | 0.51 | -    | 0.0006 | 393   | 0.0224 | 0.0044 |
| 23D-TL1H   | 00   | 2022/05/20 | 150000             | 23D-TL1H150KN3    | GASOLINE-TIER3 E10 PREM | FTP          | 0.017 | 0.0076 | 0.0083 | 0.0114 | 0.15 | -    | 0.0001 | 376   | 0.0101 | 0.0013 |
| 23D-GE1M   | 00   | 2022/04/07 | 4000               | 23D-GE1M4KN1      | GASOLINE-TIER3 E10 PREM | FTP          | 0.013 | 0.0103 | 0.0113 | 0.0109 | 0.21 | -    | 0.0006 | 337   | 0.0035 | 0.0001 |
| 23D-GE1M   | 00   | 2022/04/08 | 4000               | 23D-GE1M4KN2      | GASOLINE-TIER3 E10 PREM | FTP          | 0.014 | 0.0103 | 0.0114 | 0.0062 | 0.31 | -    | 0.0009 | 338   | 0.0042 | 0.0006 |
| 23D-GE1M   | 00   | 2022/04/14 | 4000               | 23D-GE1M4KN3      | GASOLINE-TIER3 E10 PREM | FTP          | 0.012 | 0.0086 | 0.0095 | 0.0072 | 0.23 | -    | 0.0007 | 337   | 0.0036 | 0.0005 |
| 23D-GE1M   | 00   | 2022/05/13 | 150000             | 23D-GE1M150KN1    | GASOLINE-TIER3 E10 PREM | FTP          | 0.032 | 0.0181 | 0.0199 | 0.0133 | 0.30 | -    | 0.0006 | 332   | 0.0156 | 0.0014 |
| 23D-GE1M   | 00   | 2022/05/18 | 150000             | 23D-GE1M150KN2    | GASOLINE-TIER3 E10 PREM | FTP          | 0.031 | 0.0173 | 0.0191 | 0.0126 | 0.38 | -    | 0.0007 | 332   | 0.0155 | 0.0012 |
| 23D-GE1M   | 00   | 2022/05/20 | 150000             | 23D-GE1M150KN3    | GASOLINE-TIER3 E10 PREM | FTP          | 0.031 | 0.0145 | 0.0160 | 0.0140 | 0.31 | -    | 0.0006 | 332   | 0.0182 | 0.0011 |
| 24D-TN1A   | 00   | 2023/9/20  | 4000               | CHDY1_20230920_01 | GASOLINE-TIER3 E10      | FTP          | 0.008 | 0.0046 | 0.0050 | 0.0081 | 0.09 | -    | 0.0014 | 384   | 0.0042 | 0.0003 |
| 24D-TN1A   | 00   | 2023/9/21  | 4000               | CHDY1_20230921_01 | GASOLINE-TIER3 E10      | FTP          | 0.008 | 0.0049 | 0.0054 | 0.0090 | 0.09 | -    | 0.0016 | 388   | 0.0044 | 0.0004 |
| 24D-TN1A   | 00   | 2023/9/26  | 4000               | CHDY1_20230926_02 | GASOLINE-TIER3 E10      | FTP          | 0.008 | 0.0041 | 0.0046 | 0.0087 | 0.09 | -    | 0.0013 | 385   | 0.0042 | 0.0002 |
| 24D-TN1A   | 00   | 2023/10/18 | 150000             | CHDY1_20231018_02 | GASOLINE-TIER3 E10      | FTP          | 0.033 | 0.0121 | 0.0144 | 0.0180 | 0.33 | -    | 0.0012 | 382   | 0.0211 | 0.0017 |
| 24D-TN1A   | 00   | 2023/11/2  | 150000             | CHDY1_20231102_02 | GASOLINE-TIER3 E10      | FTP          | 0.040 | 0.0176 | 0.0193 | 0.0146 | 0.36 | -    | 0.0026 | 382   | 0.0240 | 0.0021 |
| 24D-TN1A   | 00   | 2023/11/4  | 150000             | CHDY1_20231104_01 | GASOLINE-TIER3 E10      | FTP          | 0.043 | 0.0168 | 0.0185 | 0.0178 | 0.37 | -    | 0.0013 | 381   | 0.0278 | 0.0029 |
| 24D-TN1A   | 01   | 2024/1/25  | 150000             | CHDY1_20240125_01 | GASOLINE-TIER3 E10      | FTP          | 0.025 | 0.0105 | 0.0116 | 0.0090 | 0.26 | -    | 0.0013 | 382   | 0.0154 | 0.0012 |
| 24D-TN1A   | 01   | 2024/1/29  | 150000             | CHDY1_20240129_01 | GASOLINE-TIER3 E10      | FTP          | 0.027 | 0.0098 | 0.0108 | 0.0101 | 0.21 | -    | 0.0014 | 382   | 0.0179 | 0.0020 |
| 24D-TN1A   | 01   | 2024/1/30  | 150000             | CHDY1_20240130_02 | GASOLINE-TIER3 E10      | FTP          | 0.028 | 0.0101 | 0.0111 | 0.0099 | 0.24 | -    | 0.0018 | 381   | 0.0187 | 0.0022 |

4.4 Exhaust emission deterioration factors  
Durability data

| Vehicle ID | Conf | Test Date  | Test Point<br>Mile | MFR Test ID#      | Test Fuel          | Test<br>Type | THC   | NMHC   | NMOG   | NOX    | CO   | HCHO | PM     | CO2 | CH4    | N2O    |
|------------|------|------------|--------------------|-------------------|--------------------|--------------|-------|--------|--------|--------|------|------|--------|-----|--------|--------|
| 24D-TN1H   | 00   | 2023/12/8  | 4000               | CHDY1_20231208_04 | GASOLINE-TIER3 E10 | FTP          | 0.008 | 0.0051 | 0.0056 | 0.0017 | 0.23 | -    | 0.0012 | 409 | 0.0033 | 0.0003 |
| 24D-TN1H   | 00   | 2023/12/14 | 4000               | CHDY1_20231214_01 | GASOLINE-TIER3 E10 | FTP          | 0.007 | 0.0045 | 0.0050 | 0.0017 | 0.19 | -    | 0.0008 | 405 | 0.0035 | 0.0002 |
| 24D-TN1H   | 00   | 2023/12/15 | 4000               | CHDY1_20231215_06 | GASOLINE-TIER3 E10 | FTP          | 0.008 | 0.0049 | 0.0054 | 0.0019 | 0.15 | -    | 0.0008 | 403 | 0.0035 | 0.0004 |
| 24D-TN1H   | 00   | 2024/1/29  | 150000             | CHDY1_20240129_02 | GASOLINE-TIER3 E10 | FTP          | 0.018 | 0.0102 | 0.0112 | 0.0031 | 0.29 | -    | 0.0010 | 395 | 0.0084 | 0.0011 |
| 24D-TN1H   | 00   | 2024/1/30  | 150000             | CHDY1_20240130_01 | GASOLINE-TIER3 E10 | FTP          | 0.017 | 0.0089 | 0.0098 | 0.0031 | 0.25 | -    | 0.0009 | 391 | 0.0087 | 0.0012 |
| 24D-TN1H   | 00   | 2024/1/31  | 150000             | CHDY1_20240131_01 | GASOLINE-TIER3 E10 | FTP          | 0.021 | 0.0104 | 0.0114 | 0.0036 | 0.31 | -    | 0.0009 | 391 | 0.0111 | 0.0031 |

#### 4.5 Evap/refueling emission deterioration factors

Aged Components are adopted to EDV for all evaporative/refueling families.

#### 4.6 Equivalency factor

| Durability Group | Model                                                                                                  | Test Group   | Equivalency factor |
|------------------|--------------------------------------------------------------------------------------------------------|--------------|--------------------|
| TTYXHHGNNB22     | TOYOTA CROWN AWD                                                                                       | TTYXV02.4H3A | 1.28*2             |
| TTYXHHGNNB2D     | TOYOTA CROWN AWD                                                                                       | TTYXV02.5H3B | 1.22*2             |
| TTYXHHGNNB26     | COROLLA HYBRID                                                                                         | TTYXV01.8H3A | 1.13*2             |
| TTYXGPGNN626     | COROLLA,<br>COROLLA HATCHBACK                                                                          | TTYXV02.0E4A | 0.60*1             |
| TTYXHHGNNB27     | PRIUS                                                                                                  | TTYXV02.0H3B | 0.86*2             |
|                  | UX 300h                                                                                                | TTYXV02.0H3A |                    |
| TTYXHHGNNE28     | PRIUS PHEV                                                                                             | TTYXV02.0H3W | 0.86*2             |
| TTYXHHGNNB2H     | CAMRY HYBRID                                                                                           | TTYXV02.5V2A | 1.20*2             |
| TTYXGPGNN62Q     | COROLLA CROSS                                                                                          | TTYXT02.0E4A | 0.81*1             |
| TTYXGPGNN62I     | LC 500, LC 500 CONVERTIBLE                                                                             | TTYXV05.0B5A | 0.84*1             |
| TTYXHHGNNB28     | COROLLA CROSS HYBRID                                                                                   | TTYXT02.0H3A | 0.86*2             |
| TTYXGPGNN62X     | NX 350, RX 350, TX 350,<br>GRAND HIGHLANDER,<br>HIGHLANDER                                             | TTYXJ02.4H3B | 0.95*1             |
| TTYXHHGNNB23     | GRAND HIGHLANDER HYBRID,<br>RX 500h, TX 500h                                                           | TTYXT02.4H3L | 1.07*2             |
| TTYXHHGNNB2B     | RAV4 HYBRID                                                                                            | TTYXT02.5H3C | TBD                |
| TTYXHHGNNB2C     | RAV4 HYBRID AWD                                                                                        | TTYXT02.5H3B | TBD                |
| TTYXHHGNNE21     | NX 450h+, RX 450h+                                                                                     | TTYXT02.5H3Y | 1.09*2             |
| TTYXHHGNNB2E     | SIENNA, RX 350h AWD, GRAND<br>HIGHLANDER HYBRID, NX 350h,<br>HIGHLANDER HYBRID, TOYOTA<br>CROWN SIGNIA | TTYXJ02.5H3A | 1.09*2             |
| TTYXGPGNN62D     | TACOMA (MT)                                                                                            | TTYXT02.4B5M | 1.23*1             |
| TTYXGPGNN62C     | TACOMA (AT)                                                                                            | TTYXT02.4H3A | 1.36*1             |
|                  | 4RUNNER                                                                                                | TTYXT02.4H3C | 1.36*1             |
| TTYXHHGNNB2F     | 4RUNNER HYBRID, TACOMA                                                                                 | TTYXT02.4H3H | 0.97*2             |
| TTYXHHGNNB2J     | LAND CRUISER                                                                                           | TTYXT02.4E4A | 0.91*2             |
| TTYXHHGNNE22     | TX 550h+                                                                                               | TTYXT03.5E4A | 1.07*2             |
| TTYXGPGNN62F     | GX 550                                                                                                 | TTYXT03.4B5B | 0.94*1             |
| TTYXGPGNN62G     | TUNDRA, LX 600                                                                                         | TTYXT03.4B5A | 1.07*1             |
| TTYXHHGNNB21     | TUNDRA HYBRID, SEQUOIA,<br>LX 700h                                                                     | TTYXT03.4B5C | 1.45*2             |
| TTYXGPGNN62J     | GR COROLLA                                                                                             | TTYXV01.6B5A | 1.04*1             |
| TTYXGPGNN62S     | IS 300, IS 350                                                                                         | TTYXV03.5E4A | TBD                |
| TTYXGPGNN625     | LS 500                                                                                                 | TTYXV03.5B5C | 1.04*1             |
| TTYXHHGNNE25     | RAV4 PHEV                                                                                              | TTYXJ02.5H3X | TBD                |

Note \*1: U02/SRC

Note \*2: 9LAP/SRC

## 5. **Test Group Description**

Please refer to each test group file.

**6. Test Vehicle Description**

Please refer to each test group file.

## 7. **Test Results**

Please refer to each test group file.

## 8. Emission testing waiver statements

### 8.1 Statement of Compliance

TOYOTA MOTOR CORPORATION states that:

A Pursuant to 40CFR§86.1810-17(a)(1), Toyota states;

Any element of design, system or emission control device installed on or incorporated in our new motor vehicles or new motor vehicle engines, for the purpose of complying with standards prescribed under section 202 of the Clean Air Act, will not, to the best of our information and belief, cause the emission into the ambient air of pollutants in the operation of its motor vehicles or motor vehicle engines which cause or contribute to an unreasonable risk to public health or welfare except as specifically permitted by the standards prescribed under section 202 of the Clean Air Act. We further state that any element of design, system or emission control device installed on or incorporated in our new motor vehicles or new motor vehicle engines, for the purpose of complying with standards prescribed under section 202 of the Clean Air Act, will not, to the best of our information and belief, cause or contribute to an unreasonable risk to public safety.

"The term pollutant means:

- a. Diesel particulates
- b. Nickel
- c. MMT combustion products
- d. Ammonia
- e. Sulfates
- f. Hydrogen sulfide
- g. Hydrogen cyanide
- h. Ruthenium combustion products
- i. Nitrosamines

or any other pollutant which we have identified which can reasonably be expected to be emitted from these vehicles."

B Pursuant to 40CFR§86.1810-17(a)(2), Toyota states;

Such system will not, in its operation, function or malfunction, result in any unsafe condition endangering the motor vehicle, its occupants, or persons or property in close proximity to the vehicle, except under the following reasonably foreseeable conditions of malfunction, abuse or misuse of the vehicle equipped with catalytic converter:

- (1) Certain engine malfunctions caused by vehicle abuse, misuse, tampering or significant failure to perform essential maintenance, particularly involving the electrical (or electronic), fuel injection or ignition system, must result in large amounts of unburned fuel reaching the catalytic converter, which could cause the converter to overheat. Such malfunction will cause engine misfires, noticeable loss of performance or other unusual operating conditions.  
In this event, occupants are cautioned in the Owner's Manual to discontinue operation of the vehicle and have the vehicle serviced.

## 8.1 Statement of Compliance

- (2) Parking or stopping the vehicle at the place where flammable materials, such as dry grass, waste paper or rags may come in contact with the exhaust system, may ignite such materials.  
A caution against such parking and stopping is given in the Owner's Manual.
- (3) Pushing or towing the vehicle to start the engine, running out of fuel so as to cause intermittent fuel supply to engine or coasting with the ignition key off could cause the catalytic converter to overheat.  
Cautions against such events are contained in the Owner's Manual.
- (4) Under the conditions described in B (1), (2) and (3) above, disregard of these cautions could result in damage to the converter, to the vehicle or to the property in close proximity to the vehicle.

C. Pursuant to 40CFR§86.1810-17(b), Toyota states;

Such system will provide safe vehicle driveability characteristics within the physically adjustable range of each adjustable parameter.

In our opinion, based on engineering tests and judgments, Toyota Vehicles meet the requirements of applicable emission regulations and will not represent a risk to motor vehicle safety.

D. Pursuant to 40CFR§86.1809-12(d)(2)(ii), Toyota states;

The applicable test group complies with CFR §86.1811-17 (g)(1) in regards to defeat devices for CO emissions at intermediate cold temperatures since the CO emissions at these intermediate points can be considered less than the line connecting the cold CO limit at 25°F and the FTP limit at 68°F. This is because the cold temperature CO emissions are determined by the temperature of the engine coolant when the engine is started and the amount of fuel enrichment. Generally, the colder the engine coolant temperature, the richer the air/fuel ratio and the greater the amount of fuel enrichment.

Therefore, the amount of CO emissions are greater for colder coolant temperatures since the amount of injected fuel is greater and the time between engine start and the activation of the air/fuel ratio feedback is longer;

The applicable test group complies with CFR §86.1811-17 (g)(2) in regards to defeat devices for NMHC emissions at intermediate cold temperatures since the NMHC emissions at these intermediate points can be considered less than the line connecting the NMHC FEL pass limit (e.g. 0.3499 g/mi for a 0.3 g/mi FEL) applicable at 20 °F and the Tier 3 NMOG standard to which the vehicle was certified at 68 °F. This is because the cold temperature NMHC emissions are determined by the temperature of the engine coolant when the engine is started and the amount of fuel enrichment. Generally, the colder the engine coolant temperature, the richer the air/fuel ratio and the greater the amount of fuel enrichment.

Therefore, the amount of NMHC emissions are greater for colder coolant temperatures since the amount of injected fuel is greater and the time between engine start and the activation of the air/fuel ratio feedback is longer.

E. Pursuant to 40CFR§86.1603(b), Toyota has determined that the vehicles within this test group are exempted from the requirements of submitting altitude performance adjustment instructions. All of vehicles within this test group have oxygen sensors which maintain a stoichiometric air-fuel ratio at all altitude conditions.

## 8.1 Statement of Compliance

- F. The vehicles and engines with respect to which data are being submitted, are in all material respects as described in the Application for Certification, have been tested in accordance with the applicable test procedures utilizing the fuels and equipment described in the Application; these vehicles and engines meet the requirements of such tests and on the basis of such tests, they conform to the requirements of the regulations.
- G. Pursuant to 40CFR §86.1844-01 (d)(16),  
Toyota has conducted an engineering analysis of the complete exhaust system to ensure that the exhaust system has been designed: (A) to facilitate leak-free assembly, installation and operation for the full useful life of the vehicles; and (B) to facilitate that such repairs as might be necessary on a properly maintained and used vehicle can be performed in such a manner as to maintain leak-free operation, using tools commonly available in a motor vehicle dealership or independent repair shop for the full useful life of the vehicle.
- H. Based on Toyota's good engineering judgement, all the vehicle described in this Application for Certification comply with all applicable intermediate and full useful life standards.
- I. Pursuant to 40CFR§86.1818-12(a)(2), and 86.1865-12(h)(3), for vehicles that comply with the cold temperature NMHC standards, and the CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub> exhaust emission standards, Toyota states that common calibration approaches and auxiliary emission control device (AECD) at low altitude for all light-duty vehicles and light-duty trucks are utilized at high altitude.
- J. Toyota has a responsibility to make sure that an emission control system will not cause or contribute to an unreasonable risk to public health, welfare or safety in its operation or function under sections 202(a)(4) and 206(a)(3) of the Clean Air Act.
- K. Toyota states, based on Toyota's good engineering judgment and available information, that the emission control devices on our vehicles or engines are durable and are designed and will be manufactured to operate properly and in compliance with all applicable requirements for the full useful life (or allowable maintenance interval) of the vehicles or engines.
- L. For previously certified or current carryover ORVR systems, pursuant to EPA Guidance CCD-05-03 Toyota states that no substantial changes have been made from the previously certified system.
- M. For Tier 3/LEV IV compliant vehicles, pursuant to 40 CFR §86.1811-17(d)(1), Toyota states that the air to fuel ratio is not be richer at any time than the leanest air to fuel mixture required to obtain maximum torque (lean best torque), plus a tolerance of four percent over the US06 cycle, except the additional enrichment needed to protect the engine or emissions control hardware.

## 8.1 Statement of Compliance

- N. For plug-in hybrid electric vehicles (PHEV), Toyota states that the vehicles remain in compliance with the emission standards during the charge depletion and charge sustaining transition modes.
- O. Pursuant to 40 CFR §86.1844-01(d)(9)(iv), Toyota states that diagnostic system is adequate for the performance warranty test described in 40 CFR Part85, subpart W.
- P. Based on CARB's questions, Toyota states as follows,
- The test and production vehicles have no defeat device.
  - All AECDs have been declared and described in the application.
  - The test and production vehicles do not have alternate maps.
  - The transmission is the part of AECD for greenhouse gas, but, not for criteria pollutants. Criteria emission spikes that might occur due to different transmission shifting or control is converted by the warmed-up catalyst. Please refer to the Section 11.1 "AECD Descriptions" for detailed information about purpose, entry/exit conditions, actuations, and justifications.
  - The transmission behaves and performs on a dynamometer the same as while on road, except for differences described in the Section 12.1.3.1 "Disabled control/features list".
- Q. Pursuant to 40CFR §86.129-94(d)(6), Toyota states that the fuel tank pressure of Toyota's non-integrated system, a kind of pressurized system, does not vent the vapor to the atmosphere upon fuel cap removal at least as same level as conventional fuel tank. Because the fuel cap cannot be removed until the tank pressure goes down enough less than the 10 inches based on Toyota design policy.
- R. Using good engineering judgement, Toyota declares that we do not have adjustable parameters.
- S. For LEV IV Partial Soak exhaust emission standards applicable vehicles, pursuant to 13 CCR § 1961.4(d)(2)(B)1, Toyota states that the vehicles meet the Partial Soak exhaust emission standards for the full useful life of the vehicle when operated at low altitude and tested in accordance with the "California 2026 and Subsequent Model Year Criteria Pollutant Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."
- T. Pursuant to 40CFR §86.1807-01, Toyota states that the label cannot be removed without destroying or defacing the label, and is not affixed to any equipment which is easily detached from such vehicle.

## 8.1 Statement of Compliance

AA. An engineering analysis for A/C system that use an improved condenser and oil separator

### 2. Greenhouse Gas (GHG) Compliance

#### 2b. GHG Confirmation Items

#### GHG Implementation Air Conditioning Efficiency Credits

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#### Background

Toyota proposed our approach to EPA regarding menu based credits for Improved Condenser / Oil Separator on April 14, 2011

At the meeting, EPA and Toyota agreed the following:

(1) Improved Condenser

COP should be annualized based on the amount of time vehicles are driven at various speeds and temperatures in the U.S. → Demonstrate > 10% improvement

(2) Oil Separator

Oil Circulation Ratio (OCR) should be verified on A/C system bench for all series of compressors that have an Oil Separator → Demonstrate oil circulation rates < 50% baseline

Toyota conducted evaluations for these two items accordingly.

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## 8.1 Statement of Compliance

### Results for (1) Improved Condenser

| Vehicle Name | COP (annualized)   |                     |             | Remark                                  |
|--------------|--------------------|---------------------|-------------|-----------------------------------------|
|              | present (Sub Cool) | previous (Baseline) | improvement |                                         |
| Camry        | 2.54               | 2.14                | +18.3%      | The largest selling vehicle             |
| Yaris        | 2.41               | 2.13                | +13.5%      | The smallest sized vehicle (worst case) |

COP's of the present condenser systems are *improved by more than 10% compared with previous condenser systems.*

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### Results for (2) Oil Separator

| Compressor                              |             | Oil Circulation Rate % (compared with Baseline) |               |
|-----------------------------------------|-------------|-------------------------------------------------|---------------|
| Specification                           | Type        | I45 (900rpm)                                    | M45 (2500rpm) |
| <u>Without</u> Oil Separator (Baseline) | 10S17C      | 6.2                                             | 6.5           |
| <u>With</u> Oil Separator               | 10SR series | 2.1 (34%)                                       | 3.1 (48%)     |
|                                         | TS series   | 1.2 (19%)                                       | 2.6 (40%)     |
|                                         | SES series  | 0.2 (3%)                                        | 0.6 (9%)      |
|                                         | ES series   | 0.3 (5%)                                        | 1.2 (18%)     |

All types of Oil Circulation Rate for Compressor *with Oil Separator* are less than 50% of Baseline Compressor.

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## 8.1 Statement of Compliance

### Conclusion

Based on the evaluation results, Toyota confirmed that the COP improvement and Oil Circulation Rate meet the requirements set forth in the Greenhouse Gas Final Rule.

As a result, Toyota is eligible for the following:

- (1) Improved condenser credit of 1.1g/mile for vehicles equipped with a "Sub Cool Condenser" and,
- (2) Oil separator credit of 0.6g/mile for vehicles equipped with a compressor utilizing an "Oil Separator"

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## 8.2 Emission Testing Waiver Statement

TOYOTA MOTOR CORPORATION states that:

- A. Pursuant to 40 CFR §86.1829-15(C), based on the engineering judgement, all vehicles in these test groups comply with applicable standards.
- B. Pursuant to VPCD-97-01, we attest, based on the engineering evaluation, the city and highway fuel economy test result differences between comparing 91 RON operation and 96 RON operation is within 3%, and there are no emissions increases (beyond normal test variability) using 91 RON fuel when tested on the FTP (or SFTP as applicable).
- C. Pursuant to 40 CFR §86.1829-15(d)(4), Toyota states that all gasoline vehicles comply with the applicable formaldehyde (HCHO) emissions standards based on our good engineering judgment.
- D. Pursuant to 40 CFR §86.1829-15(e)(6), we have conducted 2DBL Evap testing and, based on the engineering evaluation, all vehicles in this Evap group comply with the emission standards at 2DBL Evap.
- E. Pursuant to 40 CFR §86.1829-15(e)(5), Toyota states that, the vehicles certified to the refueling emission standards inherently comply with the fuel dispensing spitback standard based on our good engineering evaluation.
- F. For electric vehicles and fuel cell vehicles, pursuant to 40 CFR §86.1829-15(f), the vehicles comply with all the testing requirements of Part 86, subpart S.
- G. For Tier3 compliant vehicles and the vehicles complying with applicable PM standards after the minimum number of PM tests have been conducted, pursuant to 40 CFR §86.1829-15(d), Toyota states that all light-duty vehicles and light-duty trucks comply with the particulate emission standards based on our good engineering evaluation.
- H. For Tier3/LEV IV evaporative emission compliant test groups not selected for demonstration of the OBD system pursuant to 40 CFR §86.1806-17(b)(1)(vi), Toyota states that the vehicle meet leak-detection requirements based on previous OBD tests, development tests or other appropriate information.
- I. Pursuant to 40 CFR §86.1829-15(e)(4), Toyota states that, the vehicles meeting the Tier 3/LEV IV evaporative leak standard comply with the leak standard in §86.1813 based on our good engineering evaluation.
- J. For LEV IV compliant vehicles and the vehicles complying with applicable PM standards after the minimum number of PM tests have been conducted, pursuant to Part I, section G.3.4 in California 2026 and Subsequent Model year Criteria Pollutant Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, Toyota states that all Passenger Cars and light-duty trucks comply with the particulate emission standards based on our good engineering evaluation.

## 9. **OBD System Description**

Confidential Information

## **10. Description of Alternate-fueled Vehicles**

Dedicated alternate fuel vehicles

In 2026MY Toyota introduces Electric vehicle and Fuel cell vehicle.

## **11.    AECD Descriptions**

### **11.1   AECD and EI-AECD Descriptions Confidential Information**

## 11.2 SFTP / Lean Best Torque (LBT) Air fuel Ratio Information

Confidential Information

## 12. Descriptions of Vehicles Covered by Certificate and Test Parameters

### 12.1 Vehicle parameters

#### (i) Preparation

Manual transmission

Shift into neutral and hold down the clutch pedal until the engine starts.

Automatic transmission

Depress the brake pedal until driving off.

Put the gear selector in "P" or "N" range.

#### (ii) Engine start

In case of key type

Turn the “key” to start position

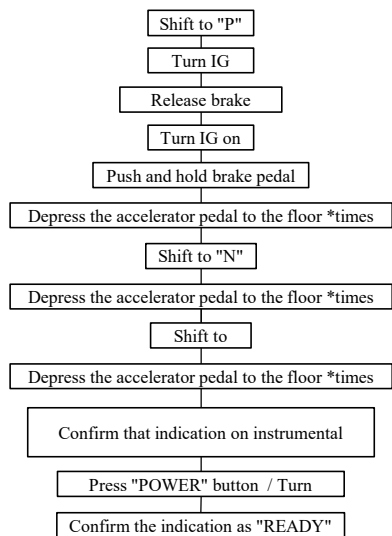
In case of push button type

Be equipped with “key” and push the “START STOP BUTTON” (=engine switch)

### 12.1.1 Preparation for Toyota tests on the 2WD/4WD dynamo with customer's vehicle (for HEV and PHEV)

|       |                        |                            |                           |                              | 2WD dynamo                |                                  |                                         |                                  | 4WD dynamo                            |                                  |                                         |                                  |
|-------|------------------------|----------------------------|---------------------------|------------------------------|---------------------------|----------------------------------|-----------------------------------------|----------------------------------|---------------------------------------|----------------------------------|-----------------------------------------|----------------------------------|
|       |                        |                            |                           |                              | for driving               |                                  | for road load investigation and setting |                                  | for driving                           |                                  | for road load investigation and setting |                                  |
| Drive | System start by        | Engine start at cold start | Engine start at hot start | Indication when system ready | How to set "Special Mode" | Indication on instrumental panel | (see *1)<br>How to set "Special Mode"   | Indication on instrumental panel | (see *1)<br>How to set "Special Mode" | Indication on instrumental panel | (see *1)<br>How to set "Special Mode"   | Indication on instrumental panel |
| FF,FR | Power Button or Rotary | No                         | No                        | READY                        | See *1                    | CDY-2                            | See *1                                  | CDY-2E                           | -                                     | -                                | -                                       | -                                |
| 4WD   | Power Button or Rotary | No                         | No                        | READY                        | See *1                    | CDY-2                            | See *1                                  | CDY-2E                           | See *1                                | CDY-4                            | See *1                                  | CDY-4E                           |

\*1) How to set "Special Mode" on the dynamo.

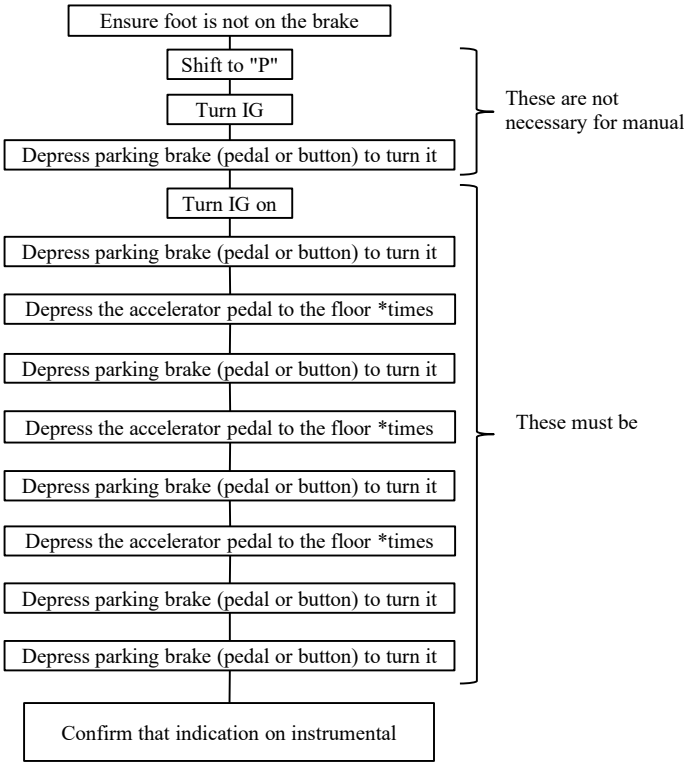


\*2) 2times for road load investigation and setting for 2WD dynamo, 3times for driving for 2WD dynamo

12.1.2 Preparation for Toyota tests on the 2WD/4WD dynamo with customer's vehicle (for Gasoline fueled vehicle, BEV and FCEV)

|       | 2WD dynamo                                          |                                      | 4WD dynamo                                          |                                      |
|-------|-----------------------------------------------------|--------------------------------------|-----------------------------------------------------|--------------------------------------|
|       | for driving and road load investigation and setting |                                      | for driving and road load investigation and setting |                                      |
| Drive | How to set "Special Mode"                           | Indication on instrumental panel     | How to set "Special Mode"                           | Indication on instrumental panel     |
| FF,FR | See *1                                              | CDY-2 or VSC=OFF lamp is illuminated | -                                                   | -                                    |
| 4WD   | See *1                                              | CDY-2 or VSC=OFF lamp is illuminated | See *1                                              | CDY-4 or VSC=OFF lamp is illuminated |

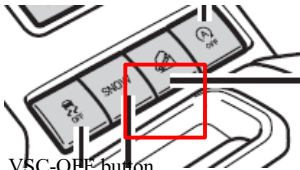
\*1) How to set "Special Mode" on the dynamo.



- \*2) 2times for 2WD dynamo, 4times for 4WD dynamo
- \*3) If instrumental panel changes cyclically before displaying the indication, please wait approximately 6 seconds.
- \*4) If below slip indicator in a display may not be illuminated though you activate CDY mode, please keep pressing the VSC-OFF button until the indicator is illuminated.



Slip indicator



VSC-OFF button

## 12.2 Test Parameters

### 1) Manual transmission

#### (a) Idling

Idle modes shall be run with transmission in gear and with clutch disengaged (except first idle).

#### (b) Acceleration

Acceleration modes shall be run in accordance with the upshift speeds on the Table in section 12.3.

#### (c) Deceleration

Deceleration modes shall be run with the clutch engaged and without shifting the gear from the previous mode.

For those modes which decelerate to zero, the clutch shall be depressed when the speed drops below 15 mph.

#### (d) Downshifting

The vehicle shall be shifted down during the transient from the speed less than the downshift speed on the Table in section 12.3 to the acceleration mode.

### 2) Automatic transmission

All test conditions shall be run with the transmission in "Drive".

Idle modes shall be run with the transmission in "Drive" and the wheels braked (except first idle).

1) Shift point for FTP

|      | Acceleration up-shift speed |      |      |      |      |     |     | Cruising up-shift speed |     |     |     |     |     |     | Special up-shift speed |     |     |     |     |     |     | Down shift time(sec.)-Gears |              |              |             |             |             |             |             |              |
|------|-----------------------------|------|------|------|------|-----|-----|-------------------------|-----|-----|-----|-----|-----|-----|------------------------|-----|-----|-----|-----|-----|-----|-----------------------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|--------------|
| No.  | 1-2                         | 2-3  | 3-4  | 4-5  | 5-6  | 6-7 | 7-8 | 1-2                     | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 1-2                    | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 |                             |              |              |             |             |             |             |             |              |
| FT5  | 15                          | 25   | 40   | 45   | N/A  | N/A | N/A | N/A                     | N/A | N/A | N/A | N/A | N/A | N/A | N/A                    | N/A | N/A | N/A | N/A | N/A | N/A | 187;<br>3-2                 | 840;<br>3-2  |              |             |             |             |             |             |              |
| FT6  | 15                          | 25   | 40   | 45   | 50   | N/A | N/A | N/A                     | N/A | N/A | N/A | N/A | N/A | N/A | N/A                    | N/A | N/A | N/A | N/A | N/A | N/A | 187;<br>3-2                 | 840;<br>3-2  |              |             |             |             |             |             |              |
| 0092 | 15                          | 25   | 40   | 45   | 50   | 55  | 60  | 15                      | 25  | 40  | 45  | 50  | 55  | 60  | N/A                    | N/A | N/A | N/A | N/A | N/A | N/A | 187;<br>3-2                 | 840;<br>3-2  |              |             |             |             |             |             |              |
| 0095 | 13                          | 22   | 31   | 40   | 48   | N/A | N/A | 7                       | 14  | 25  | 34  | 41  | N/A | N/A | 15                     | 25  | 40  | 45  | 50  | N/A | N/A | 43;<br>3-2                  | 55;<br>3-2   | 81;<br>4-3   | 187;<br>3-2 | 592;<br>3-2 | 840;<br>5-2 | 919;<br>4-3 | 990;<br>4-3 | 1089;<br>4-3 |
| 0098 | 13                          | 24   | 33   | 41   | 47   | N/A | N/A | 8                       | 14  | 25  | 34  | 41  | N/A | N/A | 15                     | 25  | 40  | 45  | 50  | N/A | N/A | 187;<br>3-2                 | 840;<br>5-2  | 1089;<br>4-3 |             |             |             |             |             |              |
| 0129 | 10*1,2                      | 19*2 | 31*2 | 40*2 | 47*2 | N/A | N/A | 6                       | 15  | 23  | 26  | 40  | N/A | N/A | 13,15                  | 25  | 40  | 45  | 50  | N/A | N/A | 39;<br>3-2                  | 54.1;<br>3-2 | 823.1<br>5-4 | 841<br>4-3  |             |             |             |             |              |
| 0131 | 15                          | 25   | 40   | 45   | 50   | N/A | N/A | 15                      | 25  | 40  | 45  | 50  | N/A | N/A | N/A                    | N/A | N/A | N/A | N/A | N/A | N/A | 187;<br>3-2                 | 840;<br>3-2  |              |             |             |             |             |             |              |
| 0135 | 15                          | 25   | 40   | 45   | 50   | N/A | N/A | 15                      | 25  | 40  | 45  | 50  | N/A | N/A | N/A                    | N/A | N/A | N/A | N/A | N/A | N/A | 187;<br>3-2                 | 840;<br>3-2  |              |             |             |             |             |             |              |
| 0139 | 14.4                        | 26.2 | 37.6 | 43   | 49.8 | N/A | N/A | 9                       | 17  | 30  | 40  | 49  | N/A | N/A | N/A                    | N/A | N/A | N/A | N/A | N/A | N/A | 187;<br>3-2                 | 840;<br>4-2  | 1556;<br>3-2 |             |             |             |             |             |              |

\*1: Under cold engine conditions (1st hill in FTP), up-shifts delay to match standard shift speed.  
\*2: During 2nd acceleration in 2nd hill of FTP, up-shifts delay to match speeds.  
\*3: Under cold engine conditions (1st and 2nd hill in FTP), up-shifts delay to match standard shift speed.

1) Shift point for FTP

| No  | Acceleration up-shift speed |     |     |     | Special up-shift<br>time(sec.)-Gears |       |        |       |        |       | Down shift time(sec.)-Gears |       |      |       |
|-----|-----------------------------|-----|-----|-----|--------------------------------------|-------|--------|-------|--------|-------|-----------------------------|-------|------|-------|
|     | 1-2                         | 2-3 | 3-4 | 4-5 | time                                 | shift | time   | shift | time   | shift | time                        | shift | time | shift |
| 129 | -                           | -   | -   | -   | 24.6                                 | 1-2   | 538.0  | 4-5   | 1111.5 | 2-3   | 39.0                        | 3-2   |      |       |
|     |                             |     |     |     | 28.4                                 | 2-3   | 571.1  | 1-2   | 1119.0 | 3-4   | 54.1                        | 3-2   |      |       |
|     |                             |     |     |     | 44.9                                 | 2-3   | 575.0  | 2-3   | 1171.5 | 1-2   | 120.2                       | 5-0   |      |       |
|     |                             |     |     |     | 56.6                                 | 2-3   | 649.0  | 1-2   | 1174.2 | 2-3   | 327.2                       | 6-0   |      |       |
|     |                             |     |     |     | 78.0                                 | 3-4   | 653.7  | 2-3   | 1201.2 | 1-2   | 391.9                       | 5-0   |      |       |
|     |                             |     |     |     | 86.7                                 | 4-5   | 659.0  | 3-4   | 1212.3 | 2-3   | 424.1                       | 5-0   |      |       |
|     |                             |     |     |     | 167.6                                | 1-2   | 698.5  | 1-2   | 1268.7 | 1-2   | 499.5                       | 6-0   |      |       |
|     |                             |     |     |     | 171.5                                | 2-3   | 702.0  | 2-3   | 1271.8 | 2-3   | 547.5                       | 5-0   |      |       |
|     |                             |     |     |     | 198.6                                | 3-4   | 713.5  | 3-4   | 1277.0 | 3-4   | 615.4                       | 3-0   |      |       |
|     |                             |     |     |     | 202.0                                | 4-5   | 731.3  | 1-2   | 1296.0 | 4-5   | 673.8                       | 4-0   |      |       |
|     |                             |     |     |     | 220.0                                | 5-6   | 735.6  | 2-3   | 1340.7 | 1-2   | 720.0                       | 4-0   |      |       |
|     |                             |     |     |     | 349.8                                | 1-2   | 742.0  | 3-4   | 1345.5 | 2-3   | 758.0                       | 5-0   |      |       |
|     |                             |     |     |     | 352.6                                | 2-3   | 745.0  | 4-5   | 1398.6 | 1-2   | 823.1                       | 5-4   |      |       |
|     |                             |     |     |     | 360.5                                | 3-4   | 769.2  | 1-2   |        |       | 841.0                       | 4-3   |      |       |
|     |                             |     |     |     | 365.0                                | 4-5   | 773.5  | 2-3   |        |       | 951.6                       | 5-0   |      |       |
|     |                             |     |     |     | 405.3                                | 1-2   | 780.0  | 3-4   |        |       | 1017.8                      | 4-0   |      |       |
|     |                             |     |     |     | 408.0                                | 2-3   | 783.0  | 4-5   |        |       | 1081.0                      | 4-0   |      |       |
|     |                             |     |     |     | 414.0                                | 3-4   | 851.0  | 3-4   |        |       | 1147.5                      | 4-0   |      |       |
|     |                             |     |     |     | 417.0                                | 4-5   | 854.0  | 4-5   |        |       | 1181.6                      | 3-0   |      |       |
|     |                             |     |     |     | 450.1                                | 1-2   | 962.5  | 1-2   |        |       | 1236.3                      | 3-0   |      |       |
|     |                             |     |     |     | 452.8                                | 2-3   | 966.3  | 2-3   |        |       | 1308.0                      | 5-0   |      |       |
|     |                             |     |     |     | 457.9                                | 3-4   | 974.0  | 3-4   |        |       | 1361.4                      | 3-0   |      |       |
|     |                             |     |     |     | 461.0                                | 4-5   | 1055.9 | 1-2   |        |       |                             |       |      |       |
|     |                             |     |     |     | 516.7                                | 1-2   | 1059.3 | 2-3   |        |       |                             |       |      |       |
|     |                             |     |     |     | 522.0                                | 2-3   | 1068.0 | 3-4   |        |       |                             |       |      |       |
|     |                             |     |     |     | 528.0                                | 3-4   | 1106.1 | 1-2   |        |       |                             |       |      |       |

## 2) Shift point for HWY

| No.  | Acceleration up-shift speed |      |      |     |      |     |     | Cruising up-shift speed |     |     |     |     |     |     | Down shift time(sec.)-Gears |             |             |              |  |
|------|-----------------------------|------|------|-----|------|-----|-----|-------------------------|-----|-----|-----|-----|-----|-----|-----------------------------|-------------|-------------|--------------|--|
|      | 1-2                         | 2-3  | 3-4  | 4-5 | 5-6  | 6-7 | 7-8 | 1-2                     | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 |                             |             |             |              |  |
| HW5  | 15                          | 25   | 40   | 45  | N/A  | N/A | N/A | N/A                     | N/A | N/A | N/A | N/A | N/A | N/A |                             |             |             |              |  |
| HW6  | 15                          | 25   | 40   | 45  | 50   | N/A | N/A | N/A                     | N/A | N/A | N/A | N/A | N/A | N/A |                             |             |             |              |  |
| 0093 | 15                          | 25   | 40   | 45  | 50   | 55  | 60  | N/A                     | N/A | N/A | N/A | N/A | N/A | N/A |                             |             |             |              |  |
| 0096 | 13                          | 22   | 31   | 40  | 48   | N/A | N/A | 7                       | 14  | 25  | 34  | 41  | N/A | N/A | 49;<br>5-4                  | 142;<br>6-5 | 215;<br>6-5 | 296;<br>6-3  |  |
| 0101 | 13                          | 24   | 33   | 41  | 47   | N/A | N/A | 8                       | 14  | 25  | 34  | 41  | N/A | N/A | 297;<br>6-3                 |             |             |              |  |
| 0130 | 10                          | 19   | 31   | 40  | 47   | N/A | N/A | 6                       | 15  | 23  | 26  | 40  | N/A | N/A | 297;<br>6-3                 |             |             |              |  |
| 0132 | 15                          | 25   | 40   | 45  | 50   | N/A | N/A | N/A                     | N/A | N/A | N/A | N/A | N/A | N/A |                             |             |             |              |  |
| 0136 | 15                          | 25   | 40   | 45  | 50   | N/A | N/A | N/A                     | N/A | N/A | N/A | N/A | N/A | N/A |                             |             |             |              |  |
| 0140 | 14.4                        | 26.2 | 37.6 | 43  | 49.8 | N/A | N/A | 9                       | 17  | 30  | 40  | 49  | N/A | N/A | 142;<br>6-5                 | 297;<br>6-3 | 922;<br>6-5 | 1077;<br>6-3 |  |

2) Shift point for HWY

| No   | Acceleration up-shift speed |     |     |     | Special up-shift<br>time(sec.)-Gears |       | Down shift<br>time(sec.)-Gears |       |
|------|-----------------------------|-----|-----|-----|--------------------------------------|-------|--------------------------------|-------|
|      | 1-2                         | 2-3 | 3-4 | 4-5 | time                                 | shift | time                           | shift |
| 0130 | -                           | -   | -   | -   | 5.7                                  | 1-2   | 297.0                          | 6-3   |
|      |                             |     |     |     | 8.7                                  | 2-3   | 756.8                          | 6-0   |
|      |                             |     |     |     | 17.6                                 | 3-4   |                                |       |
|      |                             |     |     |     | 22.0                                 | 4-5   |                                |       |
|      |                             |     |     |     | 57.0                                 | 5-6   |                                |       |
|      |                             |     |     |     | 300.0                                | 3-4   |                                |       |
|      |                             |     |     |     | 304.0                                | 4-5   |                                |       |
|      |                             |     |     |     | 307.0                                | 5-6   |                                |       |

3) Shift point for US06 mode

| No.  | Acceleration up-shift speed |      |      |     |      |     |     | Cruising up-shift speed |     |     |     |      |     |     | Down shift Gears |         |         |         |         |         |
|------|-----------------------------|------|------|-----|------|-----|-----|-------------------------|-----|-----|-----|------|-----|-----|------------------|---------|---------|---------|---------|---------|
|      | 1-2                         | 2-3  | 3-4  | 4-5 | 5-6  | 6-7 | 7-8 | 1-2                     | 2-3 | 3-4 | 4-5 | 5-6  | 6-7 | 7-8 |                  |         |         |         |         |         |
| 0062 | 15                          | 25   | 40   | 45  | N/A  | N/A | N/A | 15                      | 25  | 40  | 45  | N/A  | N/A | N/A | 514;3-2          | 530;3-1 | 546;3-1 |         |         |         |
| 0063 | 15                          | 25   | 40   | 45  | 50   | N/A | N/A | 15                      | 25  | 40  | 45  | 50   | N/A | N/A | 514;3-2          | 530;3-1 | 546;3-1 |         |         |         |
| 0066 | 22                          | 36   | 43   | 57  | 66   | N/A | N/A | 16                      | 27  | 37  | 50  | 57   | N/A | N/A | 81;5-4           | 185;5-4 | 514;2-1 | 530;2-1 | 546;2-1 |         |
| 0094 | 15                          | 25   | 40   | 45  | 50   | 55  | 60  | 15                      | 25  | 40  | 45  | 50   | 55  | 60  | 514;3-2          | 530;3-1 | 546;3-1 |         |         |         |
| 0097 | 21                          | 40   | 50   | 70  | 85   | N/A | N/A | 15                      | 26  | 39  | 56  | 73   | N/A | N/A | 82;5-4           | 188;5-4 | 348;6-5 | 514;2-1 | 530;2-1 | 546;2-1 |
| 0099 | 25                          | 33   | 45   | 60  | 75   | N/A | N/A | 25                      | 38  | 45  | 60  | 64.3 | N/A | N/A | 514;2-1          | 530;2-1 | 546;2-1 |         |         |         |
| 0134 | 15                          | 25   | 40   | 45  | 50   | N/A | N/A | 15                      | 25  | 40  | 45  | 50   | N/A | N/A | 514;3-2          | 530;3-1 | 546;3-1 |         |         |         |
| 0138 | 15                          | 25   | 40   | 45  | 50   | N/A | N/A | 15                      | 25  | 40  | 45  | 50   | N/A | N/A | 514;3-2          | 530;3-1 | 546;3-1 |         |         |         |
| 0142 | 14.4                        | 26.2 | 37.6 | 43  | 49.8 | N/A | N/A | 9                       | 17  | 30  | 40  | 49   | N/A | N/A | 82;6-5           | 514;3-2 | 530;3-1 | 546;3-1 |         |         |

3) Shift point for US06 mode

| No   | Acceleration up-shift speed |     |     |     | Special up-shift<br>time(sec.)-Gears |       |       |       | Down shift<br>time(sec.)-Gears |       |
|------|-----------------------------|-----|-----|-----|--------------------------------------|-------|-------|-------|--------------------------------|-------|
|      | 1-2                         | 2-3 | 3-4 | 4-5 | time                                 | shift | time  | shift | time                           | shift |
| 0128 | -                           | -   | -   | -   | 11.2                                 | 1-2   | 519.3 | 2-3   | 81.3                           | 7-5   |
|      |                             |     |     |     | 14.2                                 | 2-3   | 533.7 | 1-2   | 280.4                          | 7-6   |
|      |                             |     |     |     | 20.1                                 | 3-4   | 536.7 | 2-3   |                                |       |
|      |                             |     |     |     | 51.1                                 | 1-2   | 549.0 | 1-2   |                                |       |
|      |                             |     |     |     | 54.1                                 | 2-3   | 552.0 | 2-3   |                                |       |
|      |                             |     |     |     | 57.8                                 | 3-4   | 570.4 | 1-2   |                                |       |
|      |                             |     |     |     | 60.8                                 | 4-5   | 573.4 | 2-3   |                                |       |
|      |                             |     |     |     | 63.8                                 | 5-6   | 576.4 | 3-4   |                                |       |
|      |                             |     |     |     | 66.8                                 | 6-7   |       |       |                                |       |
|      |                             |     |     |     | 94.3                                 | 5-6   |       |       |                                |       |
|      |                             |     |     |     | 137.9                                | 1-2   |       |       |                                |       |
|      |                             |     |     |     | 141.6                                | 2-3   |       |       |                                |       |
|      |                             |     |     |     | 143.9                                | 3-4   |       |       |                                |       |
|      |                             |     |     |     | 146.9                                | 4-5   |       |       |                                |       |
|      |                             |     |     |     | 149.9                                | 5-6   |       |       |                                |       |
|      |                             |     |     |     | 156.3                                | 6-7   |       |       |                                |       |
|      |                             |     |     |     | 333.3                                | 6-7   |       |       |                                |       |
|      |                             |     |     |     | 503.9                                | 1-2   |       |       |                                |       |
|      |                             |     |     |     | 506.9                                | 2-3   |       |       |                                |       |
|      |                             |     |     |     | 516.9                                | 1-2   |       |       |                                |       |

## 12.3 Shift schedules

### 4) Shift point for SC03 mode

| No.  | Acceleration up-shift speed |      |      |     |      | Cruising up-shift speed |     |     |     |     | Down shift time(sec.)-Gears |  |  |
|------|-----------------------------|------|------|-----|------|-------------------------|-----|-----|-----|-----|-----------------------------|--|--|
|      | 1-2                         | 2-3  | 3-4  | 4-5 | 5-6  | 1-2                     | 2-3 | 3-4 | 4-5 | 5-6 |                             |  |  |
| 0052 | 15                          | 25   | 40   | 45  | N/A  | N/A                     | N/A | N/A | N/A | N/A | 121;3-2                     |  |  |
| 0054 | 15                          | 25   | 40   | 45  | 50   | 15                      | 25  | 40  | 45  | N/A | 121;3-2                     |  |  |
| 0056 | 15                          | 25   | 40   | 45  | N/A  | 15                      | 25  | 40  | 45  | N/A | 121;3-2                     |  |  |
| 0100 | 15                          | 25   | 40   | 45  | 50   | 15                      | 25  | 40  | 45  | 50  | 121;3-2                     |  |  |
| 0133 | 15                          | 25   | 40   | 45  | 50   | 15                      | 25  | 40  | 45  | 50  | 121;3-2                     |  |  |
| 0137 | 15                          | 25   | 40   | 45  | 50   | 15                      | 25  | 40  | 45  | 50  | 121;3-2                     |  |  |
| 0141 | 14.4                        | 26.2 | 37.6 | 43  | 49.8 | 9                       | 17  | 30  | 40  | 49  | 432;4-3                     |  |  |

## 4) Shift point for SC03 mode

| No   | Acceleration up-shift speed |     |     |     | Special up-shift<br>time(sec.)-Gears |       | Down shift<br>time(sec.)-Gears |       |
|------|-----------------------------|-----|-----|-----|--------------------------------------|-------|--------------------------------|-------|
|      | 1-2                         | 2-3 | 3-4 | 4-5 | time                                 | shift | time                           | shift |
| 0127 | -                           | -   | -   | -   | 42.2                                 | 1-2   | -                              | -     |
|      |                             |     |     |     | 70.6                                 | 1-2   | -                              | -     |
|      |                             |     |     |     | 88.7                                 | 1-2   | -                              | -     |
|      |                             |     |     |     | 92.3                                 | 2-3   | -                              | -     |
|      |                             |     |     |     | 124.5                                | 1-2   | -                              | -     |
|      |                             |     |     |     | 127.9                                | 2-3   | -                              | -     |
|      |                             |     |     |     | 209.8                                | 1-2   | -                              | -     |
|      |                             |     |     |     | 213.5                                | 2-3   | -                              | -     |
|      |                             |     |     |     | 221.9                                | 3-4   | -                              | -     |
|      |                             |     |     |     | 284.4                                | 1-2   | -                              | -     |
|      |                             |     |     |     | 287.4                                | 2-3   | -                              | -     |
|      |                             |     |     |     | 293.0                                | 3-4   | -                              | -     |
|      |                             |     |     |     | 302.7                                | 4-5   | -                              | -     |
|      |                             |     |     |     | 312.3                                | 5-6   | -                              | -     |
|      |                             |     |     |     | 373.6                                | 1-2   | -                              | -     |
|      |                             |     |     |     | 378.1                                | 2-3   | -                              | -     |
|      |                             |     |     |     | 550.5                                | 1-2   | -                              | -     |

## 12.3 Shift schedules

### Applicable Test Group

| Test Group   | Model                       | TM  | Low-altitude |               | High-altitude |         | Highway | SC03 | US06 |
|--------------|-----------------------------|-----|--------------|---------------|---------------|---------|---------|------|------|
|              |                             |     | FTP          | Cold CO /NMHC | FTP           | Cold CO |         |      |      |
| TTYXV02.4H3A | TOYOTA CROWN AWD            | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
| TTYXV02.0E4A | COROLLA                     | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0127 | 0128 |
|              | COROLLA HATCHBACK           | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0127 | 0128 |
| TTYXV02.5V2A | CAMRY HYBRID                | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | CAMRY HYBRID AWD            | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
| TTYXV05.0B5A | LC 500                      | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0100 | 0094 |
|              | LC 500 CONVERTIBLE          | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0100 | 0094 |
| TTYXT02.0E4A | COROLLA CROSS               | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0127 | 0128 |
|              | COROLLA CROSS AWD           | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0127 | 0128 |
| TTYXT02.0H3A | COROLLA CROSS HYBRID AWD    | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
| TTYXJ02.4H3B | NX 350 AWD                  | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
|              | RX 350                      | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
|              | RX 350 AWD                  | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
|              | GRAND HIGHLANDER            | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
|              | GRAND HIGHLANDER AWD        | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
|              | TX 350                      | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
|              | TX 350 AWD                  | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
|              | HIGHLANDER AWD              | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
| TTYXT02.4H3L | RX 500h AWD                 | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | GRAND HIGHLANDER HYBRID     | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | TX 500h AWD                 | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
| TTYXT02.5H3C | RAV4 HYBRID                 | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | RAV4 HYBRID AWD             | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
| TTYXT02.5H3B | RAV4 HYBRID AWD             | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
| TTYXT02.5H3Y | NX 450h+ AWD                | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | RX 450h+ AWD                | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
| TTYXJ02.5H3A | SIENNA                      | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | SIENNA AWD                  | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | RX 350h AWD                 | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | GRAND HIGHLANDER HYBRID     | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | GRAND HIGHLANDER HYBRID AWD | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | NX 350h                     | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | NX 350h AWD                 | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |

## 12.3 Shift schedules

### Applicable Test Group

| Test Group   | Model                   | TM  | Low-altitude |               | High-altitude |         | Highway | SC03 | US06 |
|--------------|-------------------------|-----|--------------|---------------|---------------|---------|---------|------|------|
|              |                         |     | FTP          | Cold CO /NMHC | FTP           | Cold CO |         |      |      |
| TTYXJ02.5H3A | HIGHLANDER HYBRID       | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | HIGHLANDER HYBRID AWD   | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | TOYOTA CROWN SIGNIA AWD | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
| TTYXT02.4E4A | LAND CRUISER            | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
| TTYXT03.4B5B | GX 550                  | S6  | 0092         | 0092          | 0092          | 0092    | 0093    | 0100 | 0094 |
| TTYXT03.5E4A | TX 550h+ AWD            | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
| TTYXT03.4B5A | TUNDRA 2WD              | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0100 | 0094 |
|              | TUNDRA 4WD              | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0100 | 0094 |
|              | LX 600                  | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0100 | 0094 |
| TTYXT03.4B5C | TUNDRA 2WD(Hybrid)      | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0100 | 0094 |
|              | TUNDRA 4WD(Hybrid)      | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0100 | 0094 |
|              | SEQUOIA 2WD             | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0100 | 0094 |
|              | SEQUOIA 4WD             | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0100 | 0094 |
|              | LX 700h                 | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0100 | 0094 |
| TTYXV01.6B5A | GR COROLLA              | M6  | 0131         | 0131          | 0131          | 0131    | 0132    | 0133 | 0134 |
|              | GR COROLLA              | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
| TTYXV02.0H3A | UX 300h                 | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
|              | UX 300h AWD             | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
| TTYXV03.5E4A | IS 350                  | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
|              | IS 350 AWD              | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
| TTYXV03.5B5C | LS 500                  | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0100 | 0094 |
|              | LS 500 AWD              | S10 | 0092         | 0092          | 0092          | 0092    | 0093    | 0100 | 0094 |
| TTYXT02.4B5M | TACOMA 4WD              | M6  | 0139         | 0139          | 0139          | 0139    | 0140    | 0141 | 0142 |
| TTYXT02.4H3A | TACOMA 2WD              | S6  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
|              | TACOMA 4WD              | S6  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
| TTYXJ02.5H3X | RAV4 PHEV AWD           | S6  | FT6          | FT6           | FT6           | FT6     | HW6     | 0054 | 0063 |
| TTYXT02.4H3C | 4RUNNER 2WD             | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
|              | 4RUNNER 4WD             | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
| TTYXT02.4H3H | TACOMA 4WD(HYBRID)      | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |
|              | 4RUNNER 4WD(HYBRID)     | S8  | 0092         | 0092          | 0092          | 0092    | 0093    | 0054 | 0094 |



12.4 Dynamometer loading information  
FTP, SFTP and Cold CO testing

| Carline                         | Vehicle Model  | Eng. Code | Eng. Disp. | T/M Code | GVWR (lbs) | Curb Weight (lbs) | LVW (lbs) | ETW (lbs) | Axle Ratio | N/V  | Tire <sup>*1</sup> | Tire Mfr. | CDT   | RLHP at 50 mph | Target Coeff for FTP & SFTP<br>F(lbf)=a+bv+cv <sup>2</sup> (v: mph) |          |          | Target Coeff for 20F<br>F(lbf)=a+bv+cv <sup>2</sup> (v: mph) |          |          | Determination Method |
|---------------------------------|----------------|-----------|------------|----------|------------|-------------------|-----------|-----------|------------|------|--------------------|-----------|-------|----------------|---------------------------------------------------------------------|----------|----------|--------------------------------------------------------------|----------|----------|----------------------|
|                                 |                |           |            |          |            |                   |           |           |            |      |                    |           |       |                | a                                                                   | b        | c        | a                                                            | b        | c        |                      |
| GRAND HIGHLANDER HYBRID         | AASH10L-AWXMBA | 08        | 2.5        | P810-G   | 6195       | 4475              | 4775      | 4750      | 3.64       | 22.8 | 255/65R18 AS       | ALL       | 20.36 | 14.4           | 33.817                                                              | -0.03780 | 0.030392 | 37.199                                                       | -0.04158 | 0.033431 | *3                   |
| GRAND HIGHLANDER HYBRID         | AASH10L-AWXNBA | 08        | 2.5        | P810-G   | 6030       | 4455              | 4755      | 4750      | 3.64       | 22.8 | 255/65R18 AS       | ALL       | 20.42 | 14.3           | 33.813                                                              | -0.03755 | 0.030269 | 37.194                                                       | -0.04131 | 0.033296 | *3                   |
| GRAND HIGHLANDER HYBRID AWD     | AASH15L-AWXGBA | 07        | 2.5        | P810-H   | 6270       | 4730              | 5030      | 5000      | 3.64       | 23.5 | 255/55R20 AS       | ALL       | 19.63 | 15.7           | 39.656                                                              | 0.01389  | 0.030997 | 43.622                                                       | 0.01528  | 0.034097 | *3                   |
| GRAND HIGHLANDER HYBRID AWD     | AASH15L-AWXMBA | 07        | 2.5        | P810-H   | 6230       | 4595              | 4895      | 5000      | 3.64       | 23.2 | 255/65R18 AS       | ALL       | 20.00 | 15.4           | 38.037                                                              | 0.01939  | 0.030654 | 41.841                                                       | 0.02133  | 0.033719 | *3                   |
| GRAND HIGHLANDER HYBRID AWD     | AASH15L-AWXNBA | 07        | 2.5        | P810-H   | 6140       | 4595              | 4895      | 5000      | 3.64       | 23.2 | 255/65R18 AS       | ALL       | 20.05 | 15.4           | 38.035                                                              | 0.01939  | 0.030531 | 41.839                                                       | 0.02133  | 0.033584 | *3                   |
| GRAND HIGHLANDER HYBRID LIMITED | AASH10L-AWXGBA | 08        | 2.5        | P810-G   | 6195       | 4610              | 4910      | 5000      | 3.64       | 23.2 | 255/55R20 AS       | ALL       | 20.72 | 14.9           | 37.261                                                              | -0.05505 | 0.030840 | 40.987                                                       | -0.06056 | 0.033924 | *3                   |
| NX 350h                         | AAZH20L-AWXLBA | 09        | 2.5        | P810-N   | 5115       | 3945              | 4245      | 4250      | 3.41       | 23.9 | 235/50R20 RF-AS    | ALL       | 19.12 | 13.7           | 31.151                                                              | 0.14628  | 0.025742 | 34.266                                                       | 0.16091  | 0.028316 | *3                   |
| NX 350h                         | AAZH20L-AWXLBA | 09        | 2.5        | P810-N   | 5115       | 3945              | 4245      | 4250      | 3.41       | 24.2 | 235/60R18 AS       | ALL       | 20.11 | 13.0           | 27.543                                                              | 0.14939  | 0.025096 | 30.297                                                       | 0.16433  | 0.027606 | *3                   |
| NX 350h                         | AAZH20L-AWXLBA | 09        | 2.5        | P810-N   | 5115       | 3945              | 4245      | 4250      | 3.41       | 24.2 | 235/60R18 RF-AS    | ALL       | 20.01 | 13.1           | 27.548                                                              | 0.14899  | 0.025305 | 30.303                                                       | 0.16389  | 0.027836 | *3                   |
| NX 350h                         | AAZH20L-CWXLBA | 09        | 2.5        | P810-N   | 5115       | 3945              | 4245      | 4250      | 3.41       | 23.9 | 235/50R20 RF-AS    | ALL       | 19.18 | 13.7           | 31.147                                                              | 0.14653  | 0.025602 | 34.262                                                       | 0.16118  | 0.028162 | *3                   |
| NX 350h                         | AAZH20L-CWXLBA | 09        | 2.5        | P810-N   | 5115       | 3945              | 4245      | 4250      | 3.41       | 24.2 | 235/60R18 AS       | ALL       | 20.11 | 13.0           | 27.543                                                              | 0.14939  | 0.025096 | 30.297                                                       | 0.16433  | 0.027606 | *3                   |
| NX 350h                         | AAZH20L-CWXLBA | 09        | 2.5        | P810-N   | 5115       | 3945              | 4245      | 4250      | 3.41       | 24.2 | 235/60R18 RF-AS    | ALL       | 20.01 | 13.1           | 27.548                                                              | 0.14899  | 0.025305 | 30.303                                                       | 0.16389  | 0.027836 | *3                   |
| NX 350h AWD                     | AAZH25L-AWXLBA | 05        | 2.5        | P810-F   | 5245       | 4080              | 4380      | 4500      | 3.41       | 23.9 | 235/50R20 RF-AS    | ALL       | 19.51 | 14.2           | 29.389                                                              | 0.27425  | 0.025439 | 32.328                                                       | 0.30168  | 0.027983 | *3                   |
| NX 350h AWD                     | AAZH25L-AWXLBA | 05        | 2.5        | P810-F   | 5245       | 4080              | 4380      | 4500      | 3.41       | 24.2 | 235/60R18 AS       | ALL       | 20.55 | 13.5           | 25.758                                                              | 0.26759  | 0.024857 | 28.334                                                       | 0.29435  | 0.027343 | *3                   |
| NX 350h AWD                     | AAZH25L-AWXLBA | 05        | 2.5        | P810-F   | 5245       | 4080              | 4380      | 4500      | 3.41       | 24.2 | 235/60R18 RF-AS    | ALL       | 20.44 | 13.6           | 25.756                                                              | 0.26738  | 0.025072 | 28.332                                                       | 0.29412  | 0.027579 | *3                   |
| NX 350h AWD                     | AAZH25L-CWXLBA | 05        | 2.5        | P810-F   | 5245       | 4080              | 4380      | 4500      | 3.41       | 23.9 | 235/50R20 RF-AS    | ALL       | 19.57 | 14.2           | 29.391                                                              | 0.27439  | 0.025293 | 32.330                                                       | 0.30183  | 0.027822 | *3                   |
| NX 350h AWD                     | AAZH25L-CWXLBA | 05        | 2.5        | P810-F   | 5245       | 4080              | 4380      | 4500      | 3.41       | 24.2 | 235/60R18 AS       | ALL       | 20.55 | 13.5           | 25.758                                                              | 0.26759  | 0.024857 | 28.334                                                       | 0.29435  | 0.027343 | *3                   |
| NX 350h AWD                     | AAZH25L-CWXLBA | 05        | 2.5        | P810-F   | 5245       | 4080              | 4380      | 4500      | 3.41       | 24.2 | 235/60R18 RF-AS    | ALL       | 20.44 | 13.6           | 25.756                                                              | 0.26738  | 0.025072 | 28.332                                                       | 0.29412  | 0.027579 | *3                   |
| RX 350h AWD                     | AALH15L-CWXGBA | 06        | 2.5        | P810-K   | 5750       | 4480              | 4780      | 4750      | 3.64       | 23.9 | 235/50R21 AS       | ALL       | 20.53 | 14.3           | 30.452                                                              | 0.32670  | 0.024089 | 33.497                                                       | 0.35937  | 0.026498 | *3                   |
| RX 350h AWD                     | AALH15L-CWXGBA | 06        | 2.5        | P810-K   | 5750       | 4480              | 4780      | 4750      | 3.64       | 24.2 | 235/60R19 AS       | ALL       | 20.55 | 14.3           | 30.097                                                              | 0.32612  | 0.024211 | 33.107                                                       | 0.35873  | 0.026632 | *3                   |
| SIENNA                          | AXLH40L-PNXLHA | 04        | 2.5        | P810-D   | 6170       | 4725              | 5025      | 5000      | 3.64       | 25.3 | P235/60R18 AS      | ALL       | 22.10 | 14.0           | 31.345                                                              | 0.35357  | 0.022244 | 34.480                                                       | 0.38893  | 0.024468 | *3                   |
| SIENNA                          | AXLH40L-PNXSHA | 04        | 2.5        | P810-D   | 6170       | 4625              | 4925      | 5000      | 3.64       | 25.0 | 235/50R20 AS       | ALL       | 20.76 | 14.9           | 32.023                                                              | 0.35455  | 0.024659 | 35.225                                                       | 0.39001  | 0.027125 | *3                   |
| SIENNA                          | AXLH40L-PNXXHA | 04        | 2.5        | P810-D   | 6170       | 4625              | 4925      | 5000      | 3.64       | 25.3 | P235/60R18 AS      | ALL       | 22.15 | 13.9           | 31.347                                                              | 0.35343  | 0.022162 | 34.482                                                       | 0.38877  | 0.024378 | *3                   |
| SIENNA                          | AXLH40L-PNXXHA | 04        | 2.5        | P810-D   | 6170       | 4625              | 4925      | 5000      | 3.64       | 25.6 | P235/65R17 AS      | ALL       | 21.81 | 14.1           | 33.269                                                              | 0.35907  | 0.021935 | 36.596                                                       | 0.39498  | 0.024129 | *3                   |
| SIENNA                          | AXLH40L-PPXEHA | 04        | 2.5        | P810-D   | 6170       | 4610              | 4910      | 5000      | 3.64       | 25.6 | P235/65R17 AS      | ALL       | 21.81 | 14.1           | 33.269                                                              | 0.35907  | 0.021935 | 36.596                                                       | 0.39498  | 0.024129 | *3                   |
| SIENNA                          | AXLH40L-PPXXHA | 04        | 2.5        | P810-D   | 6170       | 4645              | 4945      | 5000      | 3.64       | 25.6 | P235/65R17 AS      | ALL       | 21.81 | 14.1           | 33.269                                                              | 0.35907  | 0.021935 | 36.596                                                       | 0.39498  | 0.024129 | *3                   |
| SIENNA AWD                      | AXLH45L-PNXLHA | 03        | 2.5        | P810-E   | 6170       | 4860              | 5160      | 5250      | 3.64       | 25.3 | P235/60R18 AS      | ALL       | 22.23 | 14.6           | 38.772                                                              | 0.27620  | 0.022657 | 42.649                                                       | 0.30382  | 0.024923 | *3                   |
| SIENNA AWD                      | AXLH45L-PNXSHA | 03        | 2.5        | P810-E   | 6170       | 4780              | 5080      | 5000      | 3.64       | 25.3 | P235/60R18 AS      | ALL       | 20.47 | 15.1           | 36.882                                                              | 0.28539  | 0.024723 | 40.570                                                       | 0.31393  | 0.027195 | *3                   |
| SIENNA AWD                      | AXLH45L-PNXXHA | 03        | 2.5        | P810-E   | 6170       | 4775              | 5075      | 5000      | 3.64       | 25.3 | P235/60R18 AS      | ALL       | 21.25 | 14.5           | 36.922                                                              | 0.28065  | 0.023152 | 40.614                                                       | 0.30872  | 0.025467 | *3                   |
| SIENNA AWD                      | AXLH45L-PNXXHA | 03        | 2.5        | P810-E   | 6170       | 4775              | 5075      | 5000      | 3.64       | 25.6 | P235/65R17 AS      | ALL       | 21.22 | 14.5           | 38.956                                                              | 0.28554  | 0.022296 | 42.852                                                       | 0.31409  | 0.024526 | *3                   |
| SIENNA AWD                      | AXLH45L-PPXEHA | 03        | 2.5        | P810-E   | 6170       | 4740              | 5040      | 5000      | 3.64       | 25.6 | P235/65R17 AS      | ALL       | 21.22 | 14.5           | 38.956                                                              | 0.28554  | 0.022296 | 42.852                                                       | 0.31409  | 0.024526 | *3                   |

Note \*1: AS/AS#2: All-season tire  
SM/SM#2: Summer-season tire  
RF: Run-flat tire  
OFF: Off-road tire  
RF-AS: Run-flat all-season tire  
RF-SM: Run-flat summer tire  
F/D: F SPORT design  
\*2: Calculated  
\*3: Measured  
\*4: For Normal and Eco mode  
\*5: For Sport mode



12.4 Dynamometer loading information  
FTP, SFTP and Cold CO testing

| Carline      | Vehicle Model   | Eng. Code | Eng. Disp. | T/M Code | GVWR (lbs) | Curb Weight (lbs) | LVW (lbs) | ETW (lbs) | Axle Ratio | N/V  | Tire <sup>*1</sup> | Tire Mfr. | CDT   | RLHP at 50 mph | Target Coeff for FTP & SFTP<br>F(lbf)=a+bv+cv <sup>2</sup> (v: mph) |         |          | Target Coeff for 20F<br>F(lbf)=a+bv+cv <sup>2</sup> (v: mph) |         |          | Determination Method |
|--------------|-----------------|-----------|------------|----------|------------|-------------------|-----------|-----------|------------|------|--------------------|-----------|-------|----------------|---------------------------------------------------------------------|---------|----------|--------------------------------------------------------------|---------|----------|----------------------|
|              |                 |           |            |          |            |                   |           |           |            |      |                    |           |       |                | a                                                                   | b       | c        | a                                                            | b       | c        |                      |
| RX 350       | TALA10L-AWZGTA  | 05        | 2.4        | UA81E-A  | 5465       | 4155              | 4455      | 4500      | 3.33       | 25.8 | 235/50R21 AS       | ALL       | 20.46 | 13.6           | 28.908                                                              | 0.27555 | 0.023617 | 31.799                                                       | 0.30311 | 0.025979 | *3                   |
| RX 350       | TALA10L-AWZGTA  | 05        | 2.4        | UA81E-A  | 5465       | 4155              | 4455      | 4500      | 3.33       | 26.1 | 235/60R19 AS       | ALL       | 20.62 | 13.5           | 28.152                                                              | 0.27649 | 0.023588 | 30.967                                                       | 0.30414 | 0.025947 | *3                   |
| RX 350       | TALA10L-CWZGTA  | 05        | 2.4        | UA81E-A  | 5465       | 4190              | 4490      | 4500      | 3.33       | 25.8 | 235/50R21 AS       | ALL       | 20.55 | 13.5           | 28.517                                                              | 0.27429 | 0.023623 | 31.369                                                       | 0.30172 | 0.025985 | *3                   |
| RX 350       | TALA10L-CWZGTA  | 05        | 2.4        | UA81E-A  | 5465       | 4190              | 4490      | 4500      | 3.33       | 26.1 | 235/60R19 AS       | ALL       | 20.58 | 13.5           | 28.152                                                              | 0.27638 | 0.023658 | 30.967                                                       | 0.30402 | 0.026024 | *3                   |
| RX 350 AWD   | TALA15L-CWZGTA  | 04        | 2.4        | UA81F-B  | 5620       | 4310              | 4610      | 4500      | 3.33       | 25.8 | 235/50R21 AS       | ALL       | 19.43 | 14.3           | 37.853                                                              | 0.08829 | 0.025939 | 41.638                                                       | 0.09712 | 0.028533 | *3                   |
| RX 350 AWD   | TALA15L-CWZGTA  | 04        | 2.4        | UA81F-B  | 5620       | 4310              | 4610      | 4500      | 3.33       | 26.1 | 235/60R19 AS       | ALL       | 19.44 | 14.3           | 37.477                                                              | 0.09401 | 0.025951 | 41.225                                                       | 0.10341 | 0.028546 | *3                   |
| TX 350       | TAUA10L-BWZGTA  | 09        | 2.4        | UA81E-D  | 6010       | 4595              | 4895      | 5000      | 3.33       | 25.0 | 255/45R22 AS       | ALL       | 20.13 | 15.3           | 33.761                                                              | 0.27581 | 0.026940 | 37.137                                                       | 0.30339 | 0.029634 | *3                   |
| TX 350       | TAUA10L-BWZGTA  | 09        | 2.4        | UA81E-D  | 6010       | 4595              | 4895      | 5000      | 3.33       | 25.4 | 255/55R20 AS       | ALL       | 20.14 | 15.3           | 33.651                                                              | 0.27562 | 0.026970 | 37.016                                                       | 0.30318 | 0.029667 | *3                   |
| TX 350       | TAUA10L-BWZMTA  | 09        | 2.4        | UA81E-D  | 6010       | 4520              | 4820      | 4750      | 3.33       | 25.4 | 255/55R20 AS       | ALL       | 19.41 | 15.1           | 32.039                                                              | 0.27316 | 0.026987 | 35.243                                                       | 0.30048 | 0.029686 | *3                   |
| TX 350       | TAUA10L-BWZNNTA | 09        | 2.4        | UA81E-D  | 6010       | 4420              | 4720      | 4750      | 3.33       | 25.4 | 255/55R20 AS       | ALL       | 19.40 | 15.1           | 32.039                                                              | 0.27316 | 0.027016 | 35.243                                                       | 0.30048 | 0.029718 | *3                   |
| TX 350 AWD   | TAUA15L-BWZGTA  | 08        | 2.4        | UA81F-E  | 6130       | 4730              | 5030      | 5000      | 3.33       | 25.0 | 255/45R22 AS       | ALL       | 19.72 | 15.6           | 36.569                                                              | 0.20527 | 0.028186 | 40.226                                                       | 0.22580 | 0.031005 | *3                   |
| TX 350 AWD   | TAUA15L-BWZGTA  | 08        | 2.4        | UA81F-E  | 6130       | 4730              | 5030      | 5000      | 3.33       | 25.4 | 255/55R20 AS       | ALL       | 19.71 | 15.6           | 36.461                                                              | 0.20505 | 0.028244 | 40.107                                                       | 0.22556 | 0.031068 | *3                   |
| TX 350 AWD   | TAUA15L-BWZMTA  | 08        | 2.4        | UA81F-E  | 6130       | 4670              | 4970      | 5000      | 3.33       | 25.4 | 255/55R20 AS       | ALL       | 19.71 | 15.6           | 36.461                                                              | 0.20505 | 0.028244 | 40.107                                                       | 0.22556 | 0.031068 | *3                   |
| TX 350 AWD   | TAUA15L-BWZNNTA | 08        | 2.4        | UA81F-E  | 6010       | 4625              | 4925      | 5000      | 3.33       | 25.4 | 255/55R20 AS       | ALL       | 19.71 | 15.6           | 36.461                                                              | 0.20505 | 0.028244 | 40.107                                                       | 0.22556 | 0.031068 | *3                   |
| TX 350 AWD   | TAUA15L-BWZSTA  | 08        | 2.4        | UA81F-E  | 6010       | 4720              | 5020      | 5000      | 3.33       | 25.0 | 255/45R22 AS       | ALL       | 19.83 | 15.6           | 36.558                                                              | 0.20621 | 0.027907 | 40.214                                                       | 0.22683 | 0.030698 | *3                   |
| NX 450h+ AWD | AAZH26L-AWXLBA  | 02        | 2.5        | P810-F   | 5600       | 4475              | 4775      | 4750      | 3.41       | 24.3 | 235/50R20 RF-AS    | ALL       | 19.74 | 14.8           | 31.028                                                              | 0.31133 | 0.025881 | 34.131                                                       | 0.34246 | 0.028469 | *3                   |
| NX 450h+ AWD | AAZH26L-AWXLBA  | 02        | 2.5        | P810-F   | 5600       | 4475              | 4775      | 4750      | 3.41       | 24.7 | 235/60R18 AS       | ALL       | 21.01 | 13.9           | 27.361                                                              | 0.30084 | 0.024869 | 30.097                                                       | 0.33092 | 0.027356 | *3                   |
| NX 450h+ AWD | AAZH26L-AWXLBA  | 02        | 2.5        | P810-F   | 5600       | 4475              | 4775      | 4750      | 3.41       | 24.7 | 235/60R18 RF-AS    | ALL       | 20.94 | 14.0           | 27.361                                                              | 0.30065 | 0.025020 | 30.097                                                       | 0.33072 | 0.027522 | *3                   |
| RX 450h+ AWD | AALH16L-AWXGBA  | 03        | 2.5        | P810-J   | 5995       | 4810              | 5110      | 5000      | 3.64       | 22.6 | 235/50R21 AS       | ALL       | 21.20 | 14.5           | 32.140                                                              | 0.33787 | 0.024025 | 35.354                                                       | 0.37166 | 0.026428 | *3                   |
| TX 550h+ AWD | GYU15L-BWXGBA   | 01        | 3.5        | P810-I   | 6540       | 5400              | 5700      | 5500      | 3.64       | 21.6 | 255/45R22 AS       | ALL       | 21.33 | 15.9           | 35.065                                                              | 0.38974 | 0.025875 | 38.572                                                       | 0.42871 | 0.028463 | *3                   |

Note \*1: AS/AS#2: All-season tire  
SM/SM#2: Summer-season tire  
RF: Run-flat tire  
OFF: Off-road tire  
RF-AS: Run-flat all-season tire  
RF-SM: Run-flat summer tire  
F/D: F SPORT design  
\*2: Calculated  
\*3: Measured  
\*4: For Normal and Eco mode  
\*5: For Sport mode



12.4 Dynamometer loading information  
FTP, SFTP and Cold CO testing

| Carline        | Vehicle Model  | Eng.<br>Code | Eng.<br>Disp. | T/M<br>Code | GVWR<br>(lbs) | Curb<br>Weight<br>(lbs) | LVW<br>(lbs) | ETW<br>(lbs) | Axle<br>Ratio | N/V  | Tire <sup>*1</sup> | Tire<br>Mfr. | CDT   | RLHP<br>at<br>50 mph | Target Coeff for FTP & SFTP<br>F(lbf)=a+bv+cv <sup>2</sup> (v: mph) |         |          | Target Coeff for 20F<br>F(lbf)=a+bv+cv <sup>2</sup> (v: mph) |         |          | Deter-<br>mination<br>Method |
|----------------|----------------|--------------|---------------|-------------|---------------|-------------------------|--------------|--------------|---------------|------|--------------------|--------------|-------|----------------------|---------------------------------------------------------------------|---------|----------|--------------------------------------------------------------|---------|----------|------------------------------|
|                |                |              |               |             |               |                         |              |              |               |      |                    |              |       |                      | a                                                                   | b       | c        | a                                                            | b       | c        |                              |
| SEQUOIA 2WD    | VXKH80L-GKVLZA | 04           | 3.4           | L4A0E-B     | 7420          | 5915                    | 6215         | 6000         | 3.31          | 21.6 | 265/60R20 AS       | ALL          | 19.63 | 18.8                 | 38.930                                                              | 0.30814 | 0.034815 | 42.823                                                       | 0.33895 | 0.038297 | *3                           |
| SEQUOIA 2WD    | VXKH80L-GKVSZA | 04           | 3.4           | L4A0E-B     | 7350          | 5685                    | 5985         | 6000         | 3.31          | 21.6 | 265/60R20 OFF      | ALL          | 18.77 | 19.7                 | 41.306                                                              | 0.29957 | 0.036637 | 45.437                                                       | 0.32953 | 0.040301 | *3                           |
| SEQUOIA 2WD    | VXKH80L-GKVSZA | 04           | 3.4           | L4A0E-B     | 7350          | 5685                    | 5985         | 6000         | 3.31          | 21.5 | 265/70R18 AS       | ALL          | 19.67 | 18.8                 | 38.930                                                              | 0.30651 | 0.034733 | 42.823                                                       | 0.33716 | 0.038206 | *3                           |
| SEQUOIA 4WD    | VXKH85L-GKVLZA | 03           | 3.4           | L4A0F-B     | 7585          | 6205                    | 6505         | 6500         | 3.31          | 21.6 | 265/60R20 AS       | ALL          | 20.14 | 19.9                 | 42.347                                                              | 0.53609 | 0.032045 | 46.582                                                       | 0.58970 | 0.035250 | *3                           |
| SEQUOIA 4WD    | VXKH85L-GKVLZA | 03           | 3.4           | L4A0F-B     | 7585          | 6205                    | 6505         | 6500         | 3.31          | 21.6 | 265/60R20 OFF      | ALL          | 19.22 | 20.9                 | 44.781                                                              | 0.53381 | 0.033977 | 49.259                                                       | 0.58719 | 0.037375 | *3                           |
| SEQUOIA 4WD    | VXKH85L-GKVLZA | 03           | 3.4           | L4A0F-B     | 7585          | 6205                    | 6505         | 6500         | 3.31          | 21.5 | 265/70R18 OFF      | ALL          | 20.20 | 19.8                 | 41.751                                                              | 0.53269 | 0.032167 | 45.926                                                       | 0.58596 | 0.035384 | *3                           |
| SEQUOIA 4WD    | VXKH85L-GKVLZA | 03           | 3.4           | L4A0F-B     | 7585          | 6205                    | 6505         | 6500         | 3.31          | 21.6 | 285/65R18 OFF      | ALL          | 17.97 | 22.3                 | 45.858                                                              | 0.53078 | 0.037963 | 50.444                                                       | 0.58386 | 0.041759 | *3                           |
| SEQUOIA 4WD    | VXKH85L-GKVSZA | 03           | 3.4           | L4A0F-B     | 7585          | 6095                    | 6395         | 6500         | 3.31          | 21.6 | 265/60R20 OFF      | ALL          | 19.25 | 20.8                 | 44.779                                                              | 0.53407 | 0.033878 | 49.257                                                       | 0.58748 | 0.037266 | *3                           |
| SEQUOIA 4WD    | VXKH85L-GKVSZA | 03           | 3.4           | L4A0F-B     | 7585          | 6095                    | 6395         | 6500         | 3.31          | 21.5 | 265/70R18 AS       | ALL          | 20.15 | 19.9                 | 42.347                                                              | 0.53360 | 0.032068 | 46.582                                                       | 0.58696 | 0.035275 | *3                           |
| SEQUOIA 4WD    | VXKH85L-GKVSZA | 03           | 3.4           | L4A0F-B     | 7585          | 6095                    | 6395         | 6500         | 3.31          | 21.5 | 265/70R18 OFF      | ALL          | 20.17 | 19.9                 | 41.753                                                              | 0.53248 | 0.032266 | 45.928                                                       | 0.58573 | 0.035493 | *3                           |
| SEQUOIA 4WD    | VXKH85L-GKVZZA | 03           | 3.4           | L4A0F-B     | 7595          | 6180                    | 6480         | 6500         | 3.31          | 21.8 | 265/50R22 AS       | ALL          | 19.65 | 20.4                 | 44.325                                                              | 0.53906 | 0.032696 | 48.758                                                       | 0.59297 | 0.035966 | *3                           |
| SEQUOIA 4WD    | VXKH85L-GKVZZA | 03           | 3.4           | L4A0F-B     | 7595          | 6180                    | 6480         | 6500         | 3.31          | 21.6 | 265/60R20 AS       | ALL          | 20.14 | 19.9                 | 42.347                                                              | 0.53609 | 0.032045 | 46.582                                                       | 0.58970 | 0.035250 | *3                           |
| SEQUOIA 4WD    | VXKH85L-GKVZZA | 03           | 3.4           | L4A0F-B     | 7595          | 6180                    | 6480         | 6500         | 3.31          | 21.6 | 265/60R20 OFF      | ALL          | 19.11 | 21.0                 | 44.790                                                              | 0.53284 | 0.034361 | 49.269                                                       | 0.58612 | 0.037797 | *3                           |
| SEQUOIA 4WD    | VXKH85L-GKVZZA | 03           | 3.4           | L4A0F-B     | 7595          | 6180                    | 6480         | 6500         | 3.31          | 21.5 | 265/70R18 OFF      | ALL          | 20.08 | 20.0                 | 41.760                                                              | 0.53172 | 0.032557 | 45.936                                                       | 0.58489 | 0.035813 | *3                           |
| TUNDRA 2WD     | VXKH70L-PSVLZA | 02           | 3.4           | L4A0E-A     | 7375          | 5810                    | 6110         | 6000         | 3.31          | 21.6 | 265/60R20 AS       | ALL          | 19.38 | 19.1                 | 35.620                                                              | 0.48006 | 0.033430 | 39.182                                                       | 0.52807 | 0.036773 | *3                           |
| TUNDRA 2WD     | VXKH70L-PSVZZA | 02           | 3.4           | L4A0E-A     | 7430          | 5870                    | 6170         | 6000         | 3.31          | 21.6 | 265/60R20 AS       | ALL          | 19.70 | 18.8                 | 35.090                                                              | 0.48252 | 0.032661 | 38.599                                                       | 0.53077 | 0.035927 | *3                           |
| TUNDRA 2WD     | VXKH71L-PRVLZA | 02           | 3.4           | L4A0E-A     | 7465          | 5870                    | 6170         | 6000         | 3.31          | 21.6 | 265/60R20 AS       | ALL          | 19.35 | 19.1                 | 35.623                                                              | 0.47963 | 0.033523 | 39.185                                                       | 0.52759 | 0.036875 | *3                           |
| TUNDRA 4WD     | VXKH75L-PSVLZA | 01           | 3.4           | L4A0F-A     | 7630          | 6095                    | 6395         | 6500         | 3.31          | 21.6 | 265/60R20 AS       | ALL          | 19.62 | 20.4                 | 49.131                                                              | 0.38056 | 0.034029 | 54.044                                                       | 0.41862 | 0.037432 | *3                           |
| TUNDRA 4WD     | VXKH75L-PSVLZA | 01           | 3.4           | L4A0F-A     | 7630          | 6095                    | 6395         | 6500         | 3.31          | 21.6 | 265/60R20 OFF      | ALL          | 19.49 | 20.6                 | 51.737                                                              | 0.37321 | 0.033558 | 56.911                                                       | 0.41053 | 0.036914 | *3                           |
| TUNDRA 4WD     | VXKH75L-PSVLZA | 01           | 3.4           | L4A0F-A     | 7630          | 6095                    | 6395         | 6500         | 3.31          | 21.5 | 265/70R18 OFF      | ALL          | 19.97 | 20.1                 | 48.443                                                              | 0.38182 | 0.033197 | 53.287                                                       | 0.42000 | 0.036517 | *3                           |
| TUNDRA 4WD     | VXKH75L-PSVZZA | 01           | 3.4           | L4A0F-A     | 7650          | 6255                    | 6555         | 6500         | 3.31          | 21.8 | 265/50R22 AS       | ALL          | 19.39 | 20.7                 | 51.289                                                              | 0.37651 | 0.033977 | 56.418                                                       | 0.41416 | 0.037375 | *3                           |
| TUNDRA 4WD     | VXKH75L-PSVZZA | 01           | 3.4           | L4A0F-A     | 7630          | 6160                    | 6460         | 6500         | 3.31          | 21.6 | 265/60R20 AS       | ALL          | 19.93 | 20.1                 | 48.452                                                              | 0.38439 | 0.033261 | 53.297                                                       | 0.42283 | 0.036587 | *3                           |
| TUNDRA 4WD     | VXKH75L-PSVZZA | 01           | 3.4           | L4A0F-A     | 7630          | 6160                    | 6460         | 6500         | 3.31          | 21.6 | 265/60R20 OFF      | ALL          | 19.49 | 20.6                 | 51.737                                                              | 0.37321 | 0.033558 | 56.911                                                       | 0.41053 | 0.036914 | *3                           |
| TUNDRA 4WD     | VXKH75L-PSVZZA | 01           | 3.4           | L4A0F-A     | 7630          | 6160                    | 6460         | 6500         | 3.31          | 21.5 | 265/70R18 OFF      | ALL          | 20.00 | 20.0                 | 48.441                                                              | 0.38200 | 0.033104 | 53.285                                                       | 0.42020 | 0.036414 | *3                           |
| TUNDRA 4WD     | VXKH76L-PRVLZA | 01           | 3.4           | L4A0F-A     | 7750          | 6175                    | 6475         | 6500         | 3.31          | 21.6 | 265/60R20 AS       | ALL          | 19.65 | 20.4                 | 49.129                                                              | 0.38077 | 0.033936 | 54.042                                                       | 0.41885 | 0.037330 | *3                           |
| TUNDRA 4WD     | VXKH76L-PRVLZA | 01           | 3.4           | L4A0F-A     | 7750          | 6175                    | 6475         | 6500         | 3.31          | 21.6 | 265/60R20 OFF      | ALL          | 19.51 | 20.5                 | 51.734                                                              | 0.37339 | 0.033465 | 56.907                                                       | 0.41073 | 0.036812 | *3                           |
| TUNDRA 4WD     | VXKH76L-PRVLZA | 01           | 3.4           | L4A0F-A     | 7750          | 6175                    | 6475         | 6500         | 3.31          | 21.5 | 265/70R18 OFF      | ALL          | 20.00 | 20.0                 | 48.441                                                              | 0.38200 | 0.033104 | 53.285                                                       | 0.42020 | 0.036414 | *3                           |
| TUNDRA 4WD     | VXKH76L-PRVZZA | 01           | 3.4           | L4A0F-A     | 7780          | 6250                    | 6550         | 6500         | 3.31          | 21.6 | 265/60R20 AS       | ALL          | 19.96 | 20.1                 | 48.450                                                              | 0.38461 | 0.033168 | 53.295                                                       | 0.42307 | 0.036485 | *3                           |
| TUNDRA 4WD     | VXKH76L-PRVZZA | 01           | 3.4           | L4A0F-A     | 7780          | 6250                    | 6550         | 6500         | 3.31          | 21.6 | 265/60R20 OFF      | ALL          | 19.51 | 20.5                 | 51.734                                                              | 0.37339 | 0.033465 | 56.907                                                       | 0.41073 | 0.036812 | *3                           |
| TUNDRA 4WD     | VXKH76L-PRVZZA | 01           | 3.4           | L4A0F-A     | 7780          | 6250                    | 6550         | 6500         | 3.31          | 21.5 | 265/70R18 OFF      | ALL          | 19.94 | 20.1                 | 48.446                                                              | 0.38161 | 0.033290 | 53.291                                                       | 0.41977 | 0.036619 | *3                           |
| TUNDRA 4WD PRO | VXKH75L-PSVLZA | 01           | 3.4           | L4A0F-A     | 7630          | 6095                    | 6395         | 6500         | 3.31          | 21.6 | 285/65R18 OFF      | ALL          | 17.62 | 22.8                 | 52.964                                                              | 0.36359 | 0.039808 | 58.260                                                       | 0.39995 | 0.043789 | *3                           |

Note \*1: AS/AS#2: All-season tire  
SM/SM#2: Summer-season tire  
RF: Run-flat tire  
OFF: Off-road tire  
RF-AS: Run-flat all-season tire  
RF-SM: Run-flat summer tire  
F/D: F SPORT design  
\*2: Calculated  
\*3: Measured  
\*4: For Normal and Eco mode  
\*5: For Sport mode









12.4 Dynamometer loading information  
FTP, SFTP and Cold CO testing

| Carline           | Vehicle Model  | Eng. Code | Eng. Disp. | T/M Code | GVWR (lbs) | Curb Weight (lbs) | LVW (lbs) | ETW (lbs) | Axle Ratio | N/V  | Tire*1        | Tire Mfr. | CDT   | RLHP at 50 mph | Target Coeff for FTP & SFTP<br>F(lbf)=a+bv+cv <sup>2</sup> (v: mph) |         |          | Target Coeff for 20F<br>F(lbf)=a+bv+cv <sup>2</sup> (v: mph) |         |          | Deter-<br>mination<br>Method |
|-------------------|----------------|-----------|------------|----------|------------|-------------------|-----------|-----------|------------|------|---------------|-----------|-------|----------------|---------------------------------------------------------------------|---------|----------|--------------------------------------------------------------|---------|----------|------------------------------|
|                   |                |           |            |          |            |                   |           |           |            |      |               |           |       |                | a                                                                   | b       | c        | a                                                            | b       | c        |                              |
| TACOMA HYBRID 4WD | TZNH47L-PRVSZA | 01        | 2.4        | L580F-A  | 6735       | 5275              | 4585      | 5500      | 3.58       | 26.1 | 265/65R18 AS  | ALL       | 16.85 | 20.1           | 43.574                                                              | 0.46205 | 0.033732 | 47.931                                                       | 0.50826 | 0.037105 | *3                           |
| TACOMA HYBRID 4WD | TZNH47L-PRVSZA | 01        | 2.4        | L580F-A  | 6735       | 5275              | 4585      | 5500      | 3.58       | 26.1 | 265/65R18 AS  | ALL       | 16.59 | 20.4           | 43.095                                                              | 0.46541 | 0.034803 | -                                                            | -       | -        | *3                           |
| TACOMA HYBRID 4WD | TZNH47L-PRVSZA | 01        | 2.4        | L580F-A  | 6735       | 5275              | 4585      | 5500      | 3.58       | 26.1 | 265/65R18 AS  | ALL       | 16.98 | 20.0           | 43.720                                                              | 0.52361 | 0.031969 | 48.092                                                       | 0.57597 | 0.035166 | *3                           |
| TACOMA HYBRID 4WD | TZNH47L-PRVSZA | 01        | 2.4        | L580F-A  | 6735       | 5275              | 4585      | 5500      | 3.58       | 26.1 | 265/65R18 AS  | ALL       | 16.73 | 20.3           | 43.286                                                              | 0.52484 | 0.033028 | -                                                            | -       | -        | *3                           |
| TACOMA HYBRID 4WD | TZNH47L-PRVSZA | 01        | 2.4        | L580F-A  | 6735       | 5275              | 4585      | 5500      | 3.58       | 26.1 | 265/65R18 OFF | ALL       | 16.70 | 20.3           | 43.628                                                              | 0.52181 | 0.033051 | 47.991                                                       | 0.57399 | 0.036356 | *3                           |
| TACOMA HYBRID 4WD | TZNH47L-PRVSZA | 01        | 2.4        | L580F-A  | 6735       | 5275              | 4585      | 5500      | 3.58       | 26.1 | 265/65R18 OFF | ALL       | 16.45 | 20.6           | 43.194                                                              | 0.52303 | 0.034111 | -                                                            | -       | -        | *3                           |
| TACOMA HYBRID 4WD | TZNH47L-PRVSZA | 01        | 2.4        | L580F-A  | 6735       | 5275              | 4585      | 5500      | 3.58       | 24.7 | 265/70R18 OFF | ALL       | 16.48 | 20.6           | 47.090                                                              | 0.49399 | 0.033028 | 51.799                                                       | 0.54339 | 0.036331 | *3                           |
| TACOMA HYBRID 4WD | TZNH47L-PRVSZA | 01        | 2.4        | L580F-A  | 6735       | 5275              | 4585      | 5500      | 3.58       | 24.7 | 265/70R18 OFF | ALL       | 16.24 | 20.9           | 46.649                                                              | 0.49522 | 0.034099 | -                                                            | -       | -        | *3                           |

Note   \*1: AS/AS#2: All-season tire  
          SM/SM#2: Summer-season tire  
          RF:       Run-flat tire  
          OFF:     Off-road tire  
          RF-AS:   Run-flat all-season tire  
          RF-SM:   Run-flat summer tire  
          F/D:     F SPORT design  
          \*2: Calculated  
          \*3: Measured  
          \*4: For Normal and Eco mode  
          \*5: For Sport mode  
          \*6: For US06 test (Grille shutter fully open)

## 12.5 Method used to determine the road load forces other than SAE procedure J2263

Confidential Information

**13.     Projected Sales and Compliance Plans**

Confidential Information

**14.     Request for Certificate**

Please refer to the each test group file.

**15. Other Information**

**15.1 Fee filing form**

Please refer to the each test group file.

16. **Confidential Information**

Confidential Information

## 17. California ARB Information

### 17.1 Statement of Compliance

#### General statement

The production vehicles which are subject to registration or sale in the state of California will be, in all material respects, substantially the same in construction as the test vehicles which are certified by the California Air Resources Board, and will meet all the applicable vehicle emission standards which are set forth by the California Air Resources Board in accordance with Section 43101 of the Health and Safety Code.

#### Driveability Statement

In accordance with "California Exhaust Emission Standards and Test Procedures for 1988 And Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles, 11.e." as amended August 5, 1999, Toyota certifies that its production vehicles covered by the certificate for the applicable model year have driveability and performance characteristics which satisfy the manufacturer's specific driveability and performance requirements. This statement is based on driveability data and other evidence showing compliance with the manufacturer's in-house performance criteria which, we believe, assures elimination of one of the major causes of wide-spread tampering with the emission control systems.

#### Durability Warranty Statement

In accordance with "California Exhaust Emission Standards & Test Procedures for 2015 and Subsequent MY PC, LDT, and MDV" F.4.1, "California Evaporative Emission Standards & Test Procedures for 2001 & Subsequent Model Motor Vehicles" PART II.2 and "California Refueling Emission Standards & Test Procedures for 2001 & Subsequent Model Motor Vehicles" G, Toyota states, based on our good engineering judgment and available information, that the exhaust, evaporative and refueling emission control devices on our vehicles or engines are durable and are designed and will be manufactured to operate properly and in compliance with all applicable requirements for the full useful life (or allowable maintenance interval) of the vehicles or engines.

#### California Environmental Performance Labels

Toyota will use Federal Fuel Economy and Environment Labels in lieu of California Environmental Performance Labels.

#### PHEV canister purge capability requirement

Toyota plug-in hybrid vehicles (PHEV) and hybrid electric vehicles (HEV) equip non-integrated refueling canister-only system having enough purge by consumed 85% fuel according to CA Evap Test Procedures II A.5.4.2.1.

## 17.2 High-Altitude Test Requirements

### Demonstration for fuel injected engines

Fuel injection system which consists of electronic fuel injection and closed loop are using an air flow sensor to sense the air mass flow. Therefore, they can control the air-fuel ratio stoichiometrically to comply with California and Federal emission standards and to ensure vehicle driveability at high altitude.

### 17.3 Compliance with fuel fill pipe specifications

#### Statement

The fill pipes and openings for the models covered by this application are in compliance with the requirements specified by the Air Resources Board's "Specifications for Fill Pipes and Openings of 2015 and Subsequent Model Motor Vehicle Fuel Tanks" amended May 31, 2019, and are not obstructed in any manner by bumpers, body parts, body trims or accessories that are either factory or dealer installed.

#### Bench Leak Rate Specification

The fill pipes for the models covered by this application are in compliance with the maximum allowable bench leak rate requirements specified by the Air Resources Board's "Specifications for Fill Pipes and Openings of 2015 and Subsequent Model Motor Vehicle Fuel Tanks" amended May 31, 2019

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2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>                                        | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^{\circ} < \alpha < 20^{\circ}$                             | 2.8 & 3.4/Fig 2a & 3a                         | $-4^{\circ}$                                  |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^{\circ}$ (MIN)                                              | 3.5                                           | $30^{\circ}$                                  |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)                                         | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                                            | 2.9/Fig 2b & 3b                               | $-2^{\circ}$                                  |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                                                 |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)                                        | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup>                            | 3.1/Fig 1                                     | 6.01                                          | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)                                         | 3.1/Fig 1                                     | 5.95                                          |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)                                         | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)                                         | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^{\circ}$ (MIN)                                             | 3.2/Fig 2 and 3                               | $350^{\circ}$                                 |    |
|                                |                                                                                                             | $35^{\circ}$ (MIN) LS <sup>2</sup><br>each side RS <sup>2</sup> | 3.2/Fig 2 and 3                               | $301^{\circ}$                                 |    |
|                                |                                                                                                             |                                                                 | 3.2/Fig 2 and 3                               | $35^{\circ}$                                  |    |
| 4                              | Height of lip measured from fill pipe inside wall: or                                                       | 0.25 cm or 2.5 mm(MIN)                                          | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)                                          | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                                                 | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                                                 | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                                                 |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "f"                      | 0.33mm                                        |    |
|                                | Offset B                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)                                         | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth                                   | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                                                    | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                                                    | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                                                    | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum                                |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                                                 |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                                                 |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                                                 |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                                                 |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                                                 | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                                                 |                                               | TOYOTA CROWN AWD                              |    |
| 16                             | Total vehicle model year sales                                                                              |                                                                 |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                                                 |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                                                 |                                               | 20MY RAV4                                     |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

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2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <b>General Specification</b>                                                                                | <b>ARB Specification</b>             | <b>ISO-13331 Reference or Noted Otherwise</b> | <b>Manufacturer Specification<sup>1</sup></b> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^{\circ} < \alpha < 20^{\circ}$  | 2.8 & 3.4/Fig 2a & 3a                         | $-4^{\circ}$                                  |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^{\circ}$ (MIN)                   | 3.5                                           | $42^{\circ}$                                  |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^{\circ}$                                  |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | $5.98 \pm 0.03$                               | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^{\circ}$ (MIN)                  | 3.2/Fig 2 and 3                               | 345                                           | cm |
|                                |                                                                                                             | $35^{\circ}$ (MIN) LS <sup>2</sup>   | 3.2/Fig 2 and 3                               | 296                                           |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | 35                                            |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | YES                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | GRAND<br>HIGHLANDER                           |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17<br>phase-in page.     |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 22MY NX 250                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

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Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                                                                | <u>ARB Specification</u>                                        | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                                                                   | $-10^\circ < \alpha < 20^\circ$                                 | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane)                                                 | $30^\circ$ (MIN)                                                | 3.5                                           | $42^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                                                                       | 2.25 cm or 22.5 mm(MIN)                                         | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                                                                    | none                                                            | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                                                                             |                                                                 |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                                                                               | 0.025 cm or 0.25 mm(MAX)                                        | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                                                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup><br>5.20 cm or 52.0 mm(MIN) | 3.1/Fig 1<br>3.1/Fig 1                        | $5.98 \pm 0.03$                               | cm |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                                                                       | 5.79 cm or 57.9 mm(MAX)<br>5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1<br>CARB Fill Pipe Spec.             | -                                             |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                                                                 | $100^\circ$ (MIN)                                               | 3.2/Fig 2 and 3                               | 345                                           |    |
|                                | degrees extending each side of ref. plane                                                                                                                   | $35^\circ$ (MIN) LS <sup>2</sup><br>each side RS <sup>2</sup>   | 3.2/Fig 2 and 3<br>3.2/Fig 2 and 3            | 296<br>35                                     |    |
| 4                              | Height of lip measured from fill pipe inside wall; or<br>height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm. | 0.25 cm or 2.5 mm(MIN)<br>0.85 cm or 8.5 mm(MIN)                | 3.2<br>3.2                                    | 0.26<br>N/A                                   | cm |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                                                                         | $0.4 < D < 1.3$                                                 | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                                                                       | $0.4 < D < 1.1$                                                 | CARB Fill Pipe Spec.                          | -                                             |    |
|                                | <b>Offset</b>                                                                                                                                               |                                                                 |                                               |                                               |    |
|                                | Offset A                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                                                                        | 0.25 cm or 2.5 mm (MIN)                                         | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                                                                      | 40 degrees out to 12 mm depth                                   | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                                                                        | $\geq 40$ mm                                                    | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                                                                     | $\geq 43$ mm                                                    | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                                                                              | 49.8 mm(MAX)                                                    | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum                                |                                               | YES                                           |    |
| 10                             | Capped or Capless                                                                                                                                           |                                                                 |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                                                                 |                                                                 |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                                                                            |                                                                 |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                                                                              |                                                                 |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                                                                  |                                                                 | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                                                                           |                                                                 |                                               | TX 350<br>TX 350 AWD                          |    |
| 16                             | Total vehicle model year sales                                                                                                                              |                                                                 |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                                                                  |                                                                 |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                                                                              |                                                                 |                                               | 22MY NX 250                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

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Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $42^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98 $\pm$ 0.03                               | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference degrees extending each side of ref. plane       | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | 345                                           |    |
|                                |                                                                                                             | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | 296                                           |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | 35                                            |    |
| 4                              | Height of lip measured from fill pipe inside wall: or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | YES                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | GRAND HIGHLANDER HYBRID                       |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 22MY NX 250                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year** 2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                                                                | <u>ARB Specification</u>                                        | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                                                                   | $-10^\circ < \alpha < 20^\circ$                                 | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane)                                                 | 30° (MIN)                                                       | 3.5                                           | 42°                                           |    |
| 3                              | Test nozzle penetration of restrictor                                                                                                                       | 2.25 cm or 22.5 mm(MIN)                                         | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                                                                    | none                                                            | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                                                                             |                                                                 |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                                                                               | 0.025 cm or 0.25 mm(MAX)                                        | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                                                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup><br>5.20 cm or 52.0 mm(MIN) | 3.1/Fig 1<br>3.1/Fig 1                        | 5.98±0.03                                     | cm |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                                                                       | 5.79 cm or 57.9 mm(MAX)<br>5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1<br>CARB Fill Pipe Spec.             | -                                             |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                                                                 | 100° (MIN)                                                      | 3.2/Fig 2 and 3                               | 345                                           |    |
|                                | degrees extending each side of ref. plane                                                                                                                   | 35° (MIN) LS <sup>2</sup><br>each side RS <sup>2</sup>          | 3.2/Fig 2 and 3<br>3.2/Fig 2 and 3            | 296<br>35                                     |    |
| 4                              | Height of lip measured from fill pipe inside wall; or<br>height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm. | 0.25 cm or 2.5 mm(MIN)<br>0.85 cm or 8.5 mm(MIN)                | 3.2<br>3.2                                    | 0.26<br>N/A                                   | cm |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                                                                         | 0.4 < D < 1.3                                                   | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                                                                       | 0.4 < D < 1.1                                                   | CARB Fill Pipe Spec.                          | -                                             |    |
|                                | <b>Offset</b>                                                                                                                                               |                                                                 |                                               |                                               |    |
|                                | Offset A                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                                                                        | 0.25 cm or 2.5 mm (MIN)                                         | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                                                                      | 40 degrees out to 12 mm depth                                   | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                                                                        | ≥ 40 mm                                                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                                                                     | ≥ 43 mm                                                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                                                                              | 49.8 mm(MAX)                                                    | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum                                |                                               | YES                                           |    |
| 10                             | Capped or Capless                                                                                                                                           |                                                                 |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                                                                 |                                                                 |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                                                                            |                                                                 |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                                                                              |                                                                 |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                                                                  |                                                                 | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                                                                           |                                                                 |                                               | TX 500h AWD                                   |    |
| 16                             | Total vehicle model year sales                                                                                                                              |                                                                 |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                                                                  |                                                                 |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                                                                              |                                                                 |                                               | 22MY NX 250                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | -2                                            |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | 30° (MIN)                            | 3.5                                           | 46°                                           |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | 1                                             |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 6.00±0.05                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference degrees extending each side of ref. plane       | 100° (MIN)                           | 3.2/Fig 2 and 3                               | 320                                           |    |
|                                |                                                                                                             | 35° (MIN) LS <sup>2</sup>            | 3.2/Fig 2 and 3                               | 271                                           |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | 35                                            |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.28                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.26cm                                        |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | 0.04cm                                        |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 47.1                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | YES                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | TX 550h+ AWD                                  |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 23MY 4Runner                                  |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year** 2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1,1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^{\circ} < \alpha < 20^{\circ}$  | 2.8 & 3.4/Fig 2a & 3a                         | $-3.5^{\circ}$                                |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^{\circ}$ (MIN)                   | 3.5                                           | $32.1^{\circ}$                                |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^{\circ}$                                  |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | $5.98 \pm 0.03$                               | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^{\circ}$ (MIN)                  | 3.2/Fig 2 and 3                               | $345^{\circ}$                                 |    |
|                                |                                                                                                             | $35^{\circ}$ (MIN) LS <sup>2</sup>   | 3.2/Fig 2 and 3                               | $296^{\circ}$                                 |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^{\circ}$                                  |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | SIENNA                                        |    |
|                                |                                                                                                             |                                      |                                               | SIENNA AWD                                    |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 22MY SIENNA                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year** 2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                                                                | <u>ARB Specification</u>                                        | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                                                                   | $-10^\circ < \alpha < 20^\circ$                                 | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane)                                                 | $30^\circ$ (MIN)                                                | 3.5                                           | $33^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                                                                       | 2.25 cm or 22.5 mm(MIN)                                         | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                                                                    | none                                                            | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                                                                             |                                                                 |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                                                                               | 0.025 cm or 0.25 mm(MAX)                                        | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                                                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup><br>5.20 cm or 52.0 mm(MIN) | 3.1/Fig 1<br>3.1/Fig 1                        | 5.98±0.03                                     | cm |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                                                                       | 5.79 cm or 57.9 mm(MAX)<br>5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1<br>CARB Fill Pipe Spec.             | -                                             |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                                                                 | $100^\circ$ (MIN)                                               | 3.2/Fig 2 and 3                               | $345^\circ$                                   |    |
|                                | degrees extending each side of ref. plane                                                                                                                   | $35^\circ$ (MIN) LS <sup>2</sup><br>each side RS <sup>2</sup>   | 3.2/Fig 2 and 3<br>3.2/Fig 2 and 3            | $296^\circ$<br>$35^\circ$                     |    |
| 4                              | Height of lip measured from fill pipe inside wall; or<br>height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm. | 0.25 cm or 2.5 mm(MIN)<br>0.85 cm or 8.5 mm(MIN)                | 3.2<br>3.2                                    | 0.26<br>N/A                                   | cm |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                                                                         | $0.4 < D < 1.3$                                                 | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                                                                       | $0.4 < D < 1.1$                                                 | CARB Fill Pipe Spec.                          | -                                             |    |
|                                | <b>Offset</b>                                                                                                                                               |                                                                 |                                               |                                               |    |
|                                | Offset A                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                                                                        | 0.25 cm or 2.5 mm (MIN)                                         | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                                                                      | 40 degrees out to 12 mm depth                                   | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                                                                        | $\geq 40$ mm                                                    | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                                                                     | $\geq 43$ mm                                                    | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                                                                              | 49.8 mm(MAX)                                                    | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum                                |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                                                                           |                                                                 |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                                                                 |                                                                 |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                                                                            |                                                                 |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                                                                              |                                                                 |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                                                                  |                                                                 | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                                                                           |                                                                 |                                               | CAMRY HYBRID                                  |    |
| 16                             | Total vehicle model year sales                                                                                                                              |                                                                 |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                                                                  |                                                                 |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                                                                              |                                                                 |                                               | '23MY RX                                      |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year** 2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1,1995)

|                                | <u>General Specification</u>                                                                                                                                | <u>ARB Specification</u>                                        | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                                                                   | $-10^\circ < \alpha < 20^\circ$                                 | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane)                                                 | $30^\circ$ (MIN)                                                | 3.5                                           | $41^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                                                                       | 2.25 cm or 22.5 mm(MIN)                                         | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                                                                    | none                                                            | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                                                                             |                                                                 |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                                                                               | 0.025 cm or 0.25 mm(MAX)                                        | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                                                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup><br>5.20 cm or 52.0 mm(MIN) | 3.1/Fig 1<br>3.1/Fig 1                        | 5.98±0.03                                     | cm |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                                                                       | 5.79 cm or 57.9 mm(MAX)<br>5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1<br>CARB Fill Pipe Spec.             | -                                             |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                                                                 | $100^\circ$ (MIN)                                               | 3.2/Fig 2 and 3                               | 345                                           |    |
|                                | degrees extending each side of ref. plane                                                                                                                   | $35^\circ$ (MIN) LS <sup>2</sup><br>each side RS <sup>2</sup>   | 3.2/Fig 2 and 3<br>3.2/Fig 2 and 3            | 296<br>35                                     |    |
| 4                              | Height of lip measured from fill pipe inside wall; or<br>height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm. | 0.25 cm or 2.5 mm(MIN)<br>0.85 cm or 8.5 mm(MIN)                | 3.2<br>3.2                                    | 0.26<br>N/A                                   | cm |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                                                                         | $0.4 < D < 1.3$                                                 | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                                                                       | $0.4 < D < 1.1$                                                 | CARB Fill Pipe Spec.                          | -                                             |    |
|                                | <b>Offset</b>                                                                                                                                               |                                                                 |                                               |                                               |    |
|                                | Offset A                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          |    |
|                                | Offset B                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                                                                        | 0.25 cm or 2.5 mm (MIN)                                         | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                                                                      | 40 degrees out to 12 mm depth                                   | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                                                                        | $\geq 40$ mm                                                    | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                                                                     | $\geq 43$ mm                                                    | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                                                                              | 49.8 mm(MAX)                                                    | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum                                |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                                                                           |                                                                 |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                                                                 |                                                                 |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                                                                            |                                                                 |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                                                                              |                                                                 |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                                                                  |                                                                 | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                                                                           |                                                                 |                                               | NX 350 AWD                                    |    |
| 16                             | Total vehicle model year sales                                                                                                                              |                                                                 |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                                                                  |                                                                 |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                                                                              |                                                                 |                                               | 22MY NX 350 AWD                               |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                                                                | <u>ARB Specification</u>                                        | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                                                                   | $-10^\circ < \alpha < 20^\circ$                                 | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane)                                                 | $30^\circ$ (MIN)                                                | 3.5                                           | $41^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                                                                       | 2.25 cm or 22.5 mm(MIN)                                         | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                                                                    | none                                                            | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                                                                             |                                                                 |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                                                                               | 0.025 cm or 0.25 mm(MAX)                                        | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                                                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup><br>5.20 cm or 52.0 mm(MIN) | 3.1/Fig 1<br>3.1/Fig 1                        | 5.98±0.03                                     | cm |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                                                                       | 5.79 cm or 57.9 mm(MAX)<br>5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1<br>CARB Fill Pipe Spec.             | -                                             |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                                                                 | $100^\circ$ (MIN)                                               | 3.2/Fig 2 and 3                               | 345                                           |    |
|                                | degrees extending each side of ref. plane                                                                                                                   | $35^\circ$ (MIN) LS <sup>2</sup><br>each side RS <sup>2</sup>   | 3.2/Fig 2 and 3<br>3.2/Fig 2 and 3            | 296<br>35                                     |    |
| 4                              | Height of lip measured from fill pipe inside wall; or<br>height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm. | 0.25 cm or 2.5 mm(MIN)<br>0.85 cm or 8.5 mm(MIN)                | 3.2<br>3.2                                    | 0.26<br>N/A                                   | cm |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                                                                         | $0.4 < D < 1.3$                                                 | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                                                                       | $0.4 < D < 1.1$                                                 | CARB Fill Pipe Spec.                          | -                                             |    |
|                                | <b>Offset</b>                                                                                                                                               |                                                                 |                                               |                                               |    |
|                                | Offset A                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          |    |
|                                | Offset B                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                                                                        | 0.25 cm or 2.5 mm (MIN)                                         | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                                                                      | 40 degrees out to 12 mm depth                                   | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                                                                        | $\geq 40$ mm                                                    | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                                                                     | $\geq 43$ mm                                                    | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                                                                              | 49.8 mm(MAX)                                                    | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum                                |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                                                                           |                                                                 |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                                                                 |                                                                 |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                                                                            |                                                                 |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                                                                              |                                                                 |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                                                                  |                                                                 | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                                                                           |                                                                 |                                               | NX 350h AWD                                   |    |
| 16                             | Total vehicle model year sales                                                                                                                              |                                                                 |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                                                                  |                                                                 |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                                                                              |                                                                 |                                               | 22MY NX 350h AWD                              |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year** 2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                                                                | <u>ARB Specification</u>                                        | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                                                                   | $-10^\circ < \alpha < 20^\circ$                                 | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane)                                                 | 30° (MIN)                                                       | 3.5                                           | 41°                                           |    |
| 3                              | Test nozzle penetration of restrictor                                                                                                                       | 2.25 cm or 22.5 mm(MIN)                                         | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                                                                    | none                                                            | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                                                                             |                                                                 |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                                                                               | 0.025 cm or 0.25 mm(MAX)                                        | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                                                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup><br>5.20 cm or 52.0 mm(MIN) | 3.1/Fig 1<br>3.1/Fig 1                        | 5.98±0.03                                     | cm |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                                                                       | 5.79 cm or 57.9 mm(MAX)<br>5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1<br>CARB Fill Pipe Spec.             | -                                             |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                                                                 | 100° (MIN)                                                      | 3.2/Fig 2 and 3                               | 345                                           |    |
|                                | degrees extending each side of ref. plane                                                                                                                   | 35° (MIN) LS <sup>2</sup><br>each side RS <sup>2</sup>          | 3.2/Fig 2 and 3<br>3.2/Fig 2 and 3            | 296<br>35                                     |    |
| 4                              | Height of lip measured from fill pipe inside wall; or<br>height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm. | 0.25 cm or 2.5 mm(MIN)<br>0.85 cm or 8.5 mm(MIN)                | 3.2<br>3.2                                    | 0.26<br>N/A                                   | cm |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                                                                         | 0.4 < D < 1.3                                                   | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                                                                       | 0.4 < D < 1.1                                                   | CARB Fill Pipe Spec.                          | -                                             |    |
|                                | <b>Offset</b>                                                                                                                                               |                                                                 |                                               |                                               |    |
|                                | Offset A                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          |    |
|                                | Offset B                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                                                                        | 0.25 cm or 2.5 mm (MIN)                                         | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                                                                      | 40 degrees out to 12 mm depth                                   | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                                                                        | ≥ 40 mm                                                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                                                                     | ≥ 43 mm                                                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                                                                              | 49.8 mm(MAX)                                                    | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum                                |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                                                                           |                                                                 |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                                                                 |                                                                 |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                                                                            |                                                                 |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                                                                              |                                                                 |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                                                                  |                                                                 | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                                                                           |                                                                 |                                               | NX 450h+ AWD                                  |    |
| 16                             | Total vehicle model year sales                                                                                                                              |                                                                 |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                                                                  |                                                                 |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                                                                              |                                                                 |                                               | 22MY NX 450h+ AWD                             |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year** 2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                                                             | <u>ARB Specification</u>                                                           | <u>ISO-13331 Reference or Noted Otherwise</u>         | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                                                                | $-10^\circ < \alpha < 20^\circ$                                                    | 2.8 & 3.4/Fig 2a & 3a                                 | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane)                                              | $30^\circ$ (MIN)                                                                   | 3.5                                                   | $32^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                                                                    | 2.25 cm or 22.5 mm(MIN)                                                            | 3.4                                                   | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                                                                 | none                                                                               | 2.9/Fig 2b & 3b                                       | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                                                                          |                                                                                    |                                                       |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                                                                            | 0.025 cm or 0.25 mm(MAX)                                                           | 3.1/Fig 1                                             | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                                                                      | 5.75 cm or 57.5 mm(MAX) <sup>4</sup><br>5.20 cm or 52.0 mm(MIN)                    | 3.1/Fig 1<br>3.1/Fig 1                                | 5.98±0.03                                     | cm |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                                                                    | 5.79 cm or 57.9 mm(MAX)<br>5.20 cm or 52.0 mm(MIN)                                 | 3.1/Fig 1<br>CARB Fill Pipe Spec.                     | -                                             |    |
| 3                              | Internal locking lip in degrees of the inside circumference degrees extending each side of ref. plane                                                    | $100^\circ$ (MIN)<br>$35^\circ$ (MIN) LS <sup>2</sup><br>each side RS <sup>2</sup> | 3.2/Fig 2 and 3<br>3.2/Fig 2 and 3<br>3.2/Fig 2 and 3 | $345^\circ$<br>$296^\circ$<br>$35^\circ$      |    |
| 4                              | Height of lip measured from fill pipe inside wall: or height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm. | 0.25 cm or 2.5 mm(MIN)<br>0.85 cm or 8.5 mm(MIN)                                   | 3.2<br>3.2                                            | 0.26<br>N/A                                   | cm |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                                                                      | $0.4 < D < 1.3$                                                                    | 3.2                                                   | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                                                                    | $0.4 < D < 1.1$                                                                    | CARB Fill Pipe Spec.                                  | -                                             |    |
| <b>Offset</b>                  |                                                                                                                                                          |                                                                                    |                                                       |                                               |    |
|                                | Offset A                                                                                                                                                 | none                                                                               | 3.3.1/Fig 5 shown as "f"                              | 0.33                                          |    |
|                                | Offset B                                                                                                                                                 | none                                                                               | 3.3.1/Fig 5 shown as "g"                              | -0.08                                         |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                                                                     | 0.25 cm or 2.5 mm (MIN)                                                            | Fig 5 shown as "2.5"                                  | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                                                                   | 40 degrees out to 12 mm depth                                                      | CARB Fill Pipe Spec.                                  | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                                                                     | $\geq 40$ mm                                                                       | Fig 5 shown as "R40"                                  | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                                                                  | $\geq 43$ mm                                                                       | CARB Fill Pipe Spec.                                  | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                                                                           | 49.8 mm(MAX)                                                                       | Fig 1                                                 | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                                                               | 2.5 L/Min (MAX) at 500 Pa Vacuum                                                   |                                                       | Yes                                           |    |
| 10                             | Capped or Capless                                                                                                                                        |                                                                                    |                                                       | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                                                              |                                                                                    |                                                       | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                                                                         |                                                                                    |                                                       | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                                                                           |                                                                                    |                                                       | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                                                               |                                                                                    | Fig 1                                                 | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                                                                        |                                                                                    |                                                       | COROLLA CROSS                                 |    |
| 16                             | Total vehicle model year sales                                                                                                                           |                                                                                    |                                                       | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                                                               |                                                                                    |                                                       | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                                                                           |                                                                                    |                                                       | 22MY COROLLA                                  |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year** 2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-3^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $34^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $1^\circ$                                     |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 6.00±0.05                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference degrees extending each side of ref. plane       | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $320^\circ$                                   |    |
|                                |                                                                                                             | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $271^\circ$                                   |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.28                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.29                                          |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | 0.04                                          |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 47.1                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | COROLLA CROSS AWD                             |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 22MY COROLLA                                  |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year** 2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $32^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $345^\circ$                                   |    |
|                                |                                                                                                             | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $296^\circ$                                   |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | COROLLA CROSS HYBRID AWD                      |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 22MY COROLLA                                  |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year** 2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^{\circ} < \alpha < 20^{\circ}$  | 2.8 & 3.4/Fig 2a & 3a                         | $-4^{\circ}$                                  |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^{\circ}$ (MIN)                   | 3.5                                           | $31^{\circ}$                                  |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^{\circ}$                                  |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^{\circ}$ (MIN)                  | 3.2/Fig 2 and 3                               | $345^{\circ}$                                 |    |
|                                |                                                                                                             | $35^{\circ}$ (MIN) LS <sup>2</sup>   | 3.2/Fig 2 and 3                               | $296^{\circ}$                                 |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^{\circ}$                                  |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | COROLLA HYBRID                                |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 23MY COROLLA                                  |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year** 2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                                                                | <u>ARB Specification</u>                                        | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                                                                   | $-10^\circ < \alpha < 20^\circ$                                 | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane)                                                 | $30^\circ$ (MIN)                                                | 3.5                                           | $31^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                                                                       | 2.25 cm or 22.5 mm(MIN)                                         | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                                                                    | none                                                            | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                                                                             |                                                                 |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                                                                               | 0.025 cm or 0.25 mm(MAX)                                        | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                                                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup><br>5.20 cm or 52.0 mm(MIN) | 3.1/Fig 1<br>3.1/Fig 1                        | 5.98±0.03                                     | cm |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                                                                       | 5.79 cm or 57.9 mm(MAX)<br>5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1<br>CARB Fill Pipe Spec.             | -                                             |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                                                                 | $100^\circ$ (MIN)                                               | 3.2/Fig 2 and 3                               | $345^\circ$                                   |    |
|                                | degrees extending each side of ref. plane                                                                                                                   | $35^\circ$ (MIN) LS <sup>2</sup><br>each side RS <sup>2</sup>   | 3.2/Fig 2 and 3<br>3.2/Fig 2 and 3            | $296^\circ$<br>$35^\circ$                     |    |
| 4                              | Height of lip measured from fill pipe inside wall; or<br>height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm. | 0.25 cm or 2.5 mm(MIN)<br>0.85 cm or 8.5 mm(MIN)                | 3.2<br>3.2                                    | 0.26<br>N/A                                   | cm |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                                                                         | $0.4 < D < 1.3$                                                 | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                                                                       | $0.4 < D < 1.1$                                                 | CARB Fill Pipe Spec.                          | -                                             |    |
|                                | <b>Offset</b>                                                                                                                                               |                                                                 |                                               |                                               |    |
|                                | Offset A                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                                                                    | none                                                            | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                                                                        | 0.25 cm or 2.5 mm (MIN)                                         | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                                                                      | 40 degrees out to 12 mm depth                                   | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                                                                        | $\geq 40$ mm                                                    | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                                                                     | $\geq 43$ mm                                                    | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                                                                              | 49.8 mm(MAX)                                                    | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum                                |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                                                                           |                                                                 |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                                                                 |                                                                 |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                                                                            |                                                                 |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                                                                              |                                                                 |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                                                                  |                                                                 | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                                                                           |                                                                 |                                               | COROLLA                                       |    |
| 16                             | Total vehicle model year sales                                                                                                                              |                                                                 |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                                                                  |                                                                 |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                                                                              |                                                                 |                                               | 19MY COROLLA                                  |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $31^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $345^\circ$                                   | cm |
|                                |                                                                                                             | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $296^\circ$                                   |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | COROLLA HATCHBACK                             |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 19MY COROLLA                                  |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year** 2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                       | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                                     | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                                     | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $40^\circ$                                    |    |
| 3                                     | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                                     | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b><u>Fill Pipe Specification</u></b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                                     | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                                    | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                       |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                                    | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                       |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                                     | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $345^\circ$                                   |    |
|                                       |                                                                                                             | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $296^\circ$                                   |    |
|                                       |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                                     | Height of lip measured from fill pipe inside wall: or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                       | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                                    | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                                    | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b><u>Offset</u></b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                       | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                       | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                                    | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                                    | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                                    | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                                    | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                                     | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                                     | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                                    | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                                    | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                                    | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                                    | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                                    | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                                    | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | PRIUS<br>PRIUS AWD                            |    |
| 16                                    | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                                    | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                                    | Reference number for C/O model                                                                              |                                      |                                               | 23MY PRIUS                                    |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-2^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $42^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $1^\circ$                                     |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 6.00±0.05                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                 | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $320^\circ$                                   | cm |
|                                | degrees extending each side of ref. plane                                                                   | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $271^\circ$                                   |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall: or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.28                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.26cm                                        |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | 0.04cm                                        |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 47.1                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | PRIUS PHEV                                    |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 20MY LC 500                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

## 17.3 Compliance with fuel fill pipe specifications

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                                                                | <u>ARB Specification</u>                                      | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                                                                   | $-10^\circ < \alpha < 20^\circ$                               | 2.8 & 3.4/Fig 2a & 3a                         | $-2^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane)                                                 | $30^\circ$ (MIN)                                              | 3.5                                           | $39^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                                                                       | 2.25 cm or 22.5 mm(MIN)                                       | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                                                                    | none                                                          | 2.9/Fig 2b & 3b                               | $1^\circ$                                     |    |
| <b>Fill Pipe Specification</b> |                                                                                                                                                             |                                                               |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                                                                               | 0.025 cm or 0.25 mm(MAX)                                      | 3.1/Fig 1                                     | 0.025cm                                       | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                                                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup>                          | 3.1/Fig 1                                     | 6.00±0.05cm                                   | cm |
|                                |                                                                                                                                                             | 5.20 cm or 52.0 mm(MIN)                                       | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                                                                       | 5.79 cm or 57.9 mm(MAX)                                       | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                                                                             | 5.20 cm or 52.0 mm(MIN)                                       | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane                                                    | $100^\circ$ (MIN)                                             | 3.2/Fig 2 and 3                               | $320^\circ$                                   |    |
|                                |                                                                                                                                                             | $35^\circ$ (MIN) LS <sup>2</sup><br>each side RS <sup>2</sup> | 3.2/Fig 2 and 3                               | $271^\circ$                                   |    |
|                                |                                                                                                                                                             |                                                               | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall; or<br>height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm. | 0.25 cm or 2.5 mm(MIN)                                        | 3.2                                           | 0.28cm                                        | cm |
|                                |                                                                                                                                                             | 0.85 cm or 8.5 mm(MIN)                                        | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                                                                         | $0.4 < D < 1.3$                                               | 3.2                                           | 1.2 thru 1.3cm                                | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                                                                       | $0.4 < D < 1.1$                                               | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                                                                             |                                                               |                                               |                                               |    |
|                                | Offset A                                                                                                                                                    | none                                                          | 3.3.1/Fig 5 shown as "f"                      | 0.26cm                                        |    |
|                                | Offset B                                                                                                                                                    | none                                                          | 3.3.1/Fig 5 shown as "g"                      | 0.04cm                                        |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                                                                        | 0.25 cm or 2.5 mm (MIN)                                       | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                                                                      | 40 degrees out to 12 mm depth                                 | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                                                                        | $\geq 40$ mm                                                  | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                                                                     | $\geq 43$ mm                                                  | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                                                                              | 49.8 mm(MAX)                                                  | Fig 1                                         | 47.1mm                                        | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum                              |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                                                                           |                                                               |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                                                                 |                                                               |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                                                                            |                                                               |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                                                                              |                                                               |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                                                                  |                                                               | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                                                                           |                                                               |                                               | LC 500                                        |    |
| 16                             | Total vehicle model year sales                                                                                                                              |                                                               |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                                                                  |                                                               |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                                                                              |                                                               |                                               | 25MY LC 500                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                       | <u>General Specification</u>                                                                                | <u>ARB Specification</u>                                      | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                                     | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$                               | 2.8 & 3.4/Fig 2a & 3a                         | $-2^\circ$                                    |    |
| 2                                     | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                                              | 3.5                                           | $41^\circ$                                    |    |
| 3                                     | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)                                       | 3.4                                           | 3.5                                           | cm |
| 4                                     | Angle $\beta$ in degrees                                                                                    | none                                                          | 2.9/Fig 2b & 3b                               | $1^\circ$                                     |    |
| <b><u>Fill Pipe Specification</u></b> |                                                                                                             |                                                               |                                               |                                               |    |
| 1                                     | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)                                      | 3.1/Fig 1                                     | 0.025cm                                       | cm |
| 2a                                    | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup>                          | 3.1/Fig 1                                     | 6.00±0.05cm                                   | cm |
|                                       |                                                                                                             | 5.20 cm or 52.0 mm(MIN)                                       | 3.1/Fig 1                                     |                                               |    |
| 2b                                    | Fill Pipe face outside diameter. criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)                                       | 3.1/Fig 1                                     | -                                             |    |
|                                       |                                                                                                             | 5.20 cm or 52.0 mm(MIN)                                       | CARB Fill Pipe Spec.                          |                                               |    |
| 3                                     | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^\circ$ (MIN)                                             | 3.2/Fig 2 and 3                               | $320^\circ$                                   | cm |
|                                       |                                                                                                             | $35^\circ$ (MIN) LS <sup>2</sup><br>each side RS <sup>2</sup> | 3.2/Fig 2 and 3                               | $271^\circ$                                   |    |
|                                       |                                                                                                             |                                                               | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                                     | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)                                        | 3.2                                           | 0.28cm                                        | cm |
|                                       | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)                                        | 3.2                                           | N/A                                           |    |
| 5a                                    | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                                               | 3.2                                           | 1.2 thru 1.3cm                                | cm |
| 5b                                    | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                                               | CARB Fill Pipe Spec.                          | -                                             |    |
| <b><u>Offset</u></b>                  |                                                                                                             |                                                               |                                               |                                               |    |
|                                       | Offset A                                                                                                    | none                                                          | 3.3.1/Fig 5 shown as "f"                      | 0.26cm                                        |    |
|                                       | Offset B                                                                                                    | none                                                          | 3.3.1/Fig 5 shown as "g"                      | 0.04cm                                        |    |
| 6a                                    | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)                                       | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                                    | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth                                 | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                                    | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                                                  | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                                    | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                                                  | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                                     | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                                                  | Fig 1                                         | 47.1mm                                        | mm |
| 9                                     | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum                              |                                               | Yes                                           |    |
| 10                                    | Capped or Capless                                                                                           |                                                               |                                               | Capped                                        |    |
| 11                                    | Seal (Mechanical or Liquid)                                                                                 |                                                               |                                               | Liquid                                        |    |
| 12                                    | Disruption in the Fill Pipe Face                                                                            |                                                               |                                               | N                                             |    |
| 13                                    | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                                               |                                               | I                                             |    |
| 14                                    | Type (Threaded or Bayonet)                                                                                  |                                                               | Fig 1                                         | Threaded                                      |    |
| 15                                    | Usage of Design (Models or Evaporative Family(s))                                                           |                                                               |                                               | LC 500 CONVERTIBLE                            |    |
| 16                                    | Total vehicle model year sales                                                                              |                                                               |                                               | Please refer section 17 phase-in page.        |    |
| 17                                    | New or C/O                                                                                                  |                                                               |                                               | C/O                                           |    |
| 18                                    | Reference number for C/O model                                                                              |                                                               |                                               | 25MY LC 500 CONVERTIBLE                       |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent

| <b>General Specification</b>   |                                                                                                             | <b>ARB Specification</b>             | <b>ISO-13331 Reference or Noted Otherwise</b> | <b>Manufacturer Specification<sup>1</sup></b> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^{\circ} < \alpha < 20^{\circ}$  | 2.8 & 3.4/Fig 2a & 3a                         | $-4^{\circ}$                                  |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^{\circ}$ (MIN)                   | 3.5                                           | $34^{\circ}$                                  |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^{\circ}$                                  |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                 | $100^{\circ}$ (MIN)                  | 3.2/Fig 2 and 3                               | $345^{\circ}$                                 |    |
|                                | degrees extending each side of ref. plane                                                                   | $35^{\circ}$ (MIN) LS <sup>2</sup>   | 3.2/Fig 2 and 3                               | $296^{\circ}$                                 |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^{\circ}$                                  |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 41.5                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | LAND CRUISER                                  |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 23MY LX 600                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent

| <b>General Specification</b>   |                                                                                                             | <b>ARB Specification</b>             | <b>ISO-13331 Reference or Noted Otherwise</b> | <b>Manufacturer Specification<sup>1</sup></b> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^{\circ} < \alpha < 20^{\circ}$  | 2.8 & 3.4/Fig 2a & 3a                         | $-4^{\circ}$                                  |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^{\circ}$ (MIN)                   | 3.5                                           | $34^{\circ}$                                  |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^{\circ}$                                  |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^{\circ}$ (MIN)                  | 3.2/Fig 2 and 3                               | $345^{\circ}$                                 | cm |
|                                |                                                                                                             | $35^{\circ}$ (MIN) LS <sup>2</sup>   | 3.2/Fig 2 and 3                               | $296^{\circ}$                                 |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^{\circ}$                                  |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 41.5                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | GX 550                                        |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 23MY LX 600                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

## CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS

**Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor

| <b>General Specification</b>   |                                                                                                                                                          | <b>ARB Specification</b>                                        | <b>ISO-13331 Reference or Noted Otherwise</b> | <b>Manufacturer Specification<sup>1</sup></b> |    |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                                                                | $-10^{\circ} < \alpha < 20^{\circ}$                             | 2.8 & 3.4/Fig 2a & 3a                         | $-4^{\circ}$                                  |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane)                                              | $30^{\circ}$ (MIN)                                              | 3.5                                           | $50^{\circ}$                                  |    |
| 3                              | Test nozzle penetration of restrictor                                                                                                                    | 2.25 cm or 22.5 mm(MIN)                                         | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                                                                 | none                                                            | 2.9/Fig 2b & 3b                               | $-2^{\circ}$                                  |    |
| <b>Fill Pipe Specification</b> |                                                                                                                                                          |                                                                 |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                                                                            | 0.025 cm or 0.25 mm(MAX)                                        | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                                                                      | 5.75 cm or 57.5 mm(MAX) <sup>4</sup><br>5.20 cm or 52.0 mm(MIN) | 3.1/Fig 1<br>3.1/Fig 1                        | 5.98 $\pm$ 0.03                               | cm |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                                                                    | 5.79 cm or 57.9 mm(MAX)<br>5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1<br>CARB Fill Pipe Spec.             | -                                             |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                                                              | $100^{\circ}$ (MIN)                                             | 3.2/Fig 2 and 3                               | 345                                           |    |
|                                | degrees extending each side of ref. plane                                                                                                                | $35^{\circ}$ (MIN) LS <sup>2</sup><br>each side RS <sup>2</sup> | 3.2/Fig 2 and 3<br>3.2/Fig 2 and 3            | 35<br>296                                     |    |
| 4                              | Height of lip measured from fill pipe inside wall; or height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm. | 0.25 cm or 2.5 mm(MIN)<br>0.85 cm or 8.5 mm(MIN)                | 3.2<br>3.2                                    | 0.26<br>N/A                                   | cm |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                                                                      | $0.4 < D < 1.3$                                                 | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                                                                    | $0.4 < D < 1.1$                                                 | CARB Fill Pipe Spec.                          | -                                             |    |
|                                | <b>Offset</b>                                                                                                                                            |                                                                 |                                               |                                               |    |
|                                | Offset A                                                                                                                                                 | none                                                            | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          |    |
|                                | Offset B                                                                                                                                                 | none                                                            | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                                                                     | 0.25 cm or 2.5 mm (MIN)                                         | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                                                                   | 40 degrees out to 12 mm depth                                   | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                                                                     | $\geq 40$ mm                                                    | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                                                                  | $\geq 43$ mm                                                    | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                                                                           | 49.8 mm(MAX)                                                    | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                                                               | 2.5 L/Min (MAX) at 500 Pa Vacuum                                |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                                                                        |                                                                 |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                                                              |                                                                 |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                                                                         |                                                                 |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                                                                           |                                                                 |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                                                               |                                                                 | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                                                                        |                                                                 |                                               | TUNDRA 2WD (HYBRID)<br>TUNDRA 4WD (HYBRID)    |    |
| 16                             | Total vehicle model year sales                                                                                                                           |                                                                 |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                                                               |                                                                 |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                                                                           |                                                                 |                                               | 22MY TUNDRA                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^{\circ} < \alpha < 20^{\circ}$  | 2.8 & 3.4/Fig 2a & 3a                         | $-4^{\circ}$                                  |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^{\circ}$ (MIN)                   | 3.5                                           | $32^{\circ}$                                  |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^{\circ}$                                  |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                 | $100^{\circ}$ (MIN)                  | 3.2/Fig 2 and 3                               | 345                                           |    |
|                                | degrees extending each side of ref. plane                                                                   | $35^{\circ}$ (MIN) LS <sup>2</sup>   | 3.2/Fig 2 and 3                               | 35                                            |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | 296                                           |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | SEQUOIA 2WD<br>SEQUOIA 4WD                    |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 22MY TUNDRA                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <b>General Specification</b>                                                                                | <b>ARB Specification</b>             | <b>ISO-13331 Reference or Noted Otherwise</b> | <b>Manufacturer Specification<sup>1</sup></b> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $35^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $345^\circ$                                   | cm |
|                                |                                                                                                             | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $296^\circ$                                   |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          | cm |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         | cm |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | RX 350<br>RX 350 AWD                          |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 25MY                                          |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <b>General Specification</b>                                                                                | <b>ARB Specification</b>             | <b>ISO-13331 Reference or Noted Otherwise</b> | <b>Manufacturer Specification<sup>1</sup></b> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $35^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $345^\circ$                                   | cm |
|                                |                                                                                                             | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $296^\circ$                                   |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          | cm |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         | cm |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | RX 350h AWD<br>RX 500h AWD                    |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 25MY                                          |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

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2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $35^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $345^\circ$                                   |    |
|                                |                                                                                                             | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $296^\circ$                                   |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          | cm |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         | cm |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | RX 450h+ AWD                                  |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 25MY                                          |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

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2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor

| <b>General Specification</b>   |                                                                                                                                                          | <b>ARB Specification</b>             | <b>ISO-13331 Reference or Noted Otherwise</b> | <b>Manufacturer Specification<sup>1</sup></b> |    |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                                                                | $-10^{\circ} < \alpha < 20^{\circ}$  | 2.8 & 3.4/Fig 2a & 3a                         | $-4^{\circ}$                                  |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane)                                              | $30^{\circ}$ (MIN)                   | 3.5                                           | $50^{\circ}$                                  |    |
| 3                              | Test nozzle penetration of restrictor                                                                                                                    | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                                                                 | none                                 | 2.9/Fig 2b & 3b                               | $-2^{\circ}$                                  |    |
| <b>Fill Pipe Specification</b> |                                                                                                                                                          |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                                                                            | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                                                                      | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | $5.98 \pm 0.03$                               | cm |
|                                |                                                                                                                                                          | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                                                                    | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                                                                          | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                                                              | $100^{\circ}$ (MIN)                  | 3.2/Fig 2 and 3                               | 345                                           | cm |
|                                | degrees extending each side of ref. plane                                                                                                                | $35^{\circ}$ (MIN) LS <sup>2</sup>   | 3.2/Fig 2 and 3                               | 35                                            |    |
|                                |                                                                                                                                                          | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | 296                                           |    |
| 4                              | Height of lip measured from fill pipe inside wall; or height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm. | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                |                                                                                                                                                          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                                                                      | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                                                                    | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                                                                          |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                                                                 | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          | cm |
|                                | Offset B                                                                                                                                                 | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         | cm |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                                                                     | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           | mm |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY                                                                        | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                                                                     | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                                                                  | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                                                                           | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          |    |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                                                               | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                                                                        |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                                                              |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                                                                         |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                                                                           |                                      |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                                                               |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                                                                        |                                      |                                               | TUNDRA 2WD<br>TUNDRA 4WD                      |    |
| 16                             | Total vehicle model year sales                                                                                                                           |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                                                               |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                                                                           |                                      |                                               | 22MY TUNDRA                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                                                                | <u>ARB Specification</u>                                             | <u>ISO-13331 Reference or Noted Otherwise</u>         | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                                                                   | $-10^\circ < \alpha < 20^\circ$                                      | 2.8 & 3.4/Fig 2a & 3a                                 | -4                                            |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane)                                                 | 30° (MIN)                                                            | 3.5                                                   | 30                                            |    |
| 3                              | Test nozzle penetration of restrictor                                                                                                                       | 2.25 cm or 22.5 mm(MIN)                                              | 3.4                                                   | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                                                                    | none                                                                 | 2.9/Fig 2b & 3b                                       | 0                                             |    |
| <b>Fill Pipe Specification</b> |                                                                                                                                                             |                                                                      |                                                       |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                                                                               | 0.025 cm or 0.25 mm(MAX)                                             | 3.1/Fig 1                                             | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                                                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup><br>5.20 cm or 52.0 mm(MIN)      | 3.1/Fig 1<br>3.1/Fig 1                                | 6.00±0.05                                     | cm |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                                                                       | 5.79 cm or 57.9 mm(MAX)<br>5.20 cm or 52.0 mm(MIN)                   | 3.1/Fig 1<br>CARB Fill Pipe Spec.                     | -                                             |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane                                                    | 100° (MIN)<br>35° (MIN) LS <sup>2</sup><br>each side RS <sup>2</sup> | 3.2/Fig 2 and 3<br>3.2/Fig 2 and 3<br>3.2/Fig 2 and 3 | 320°<br>271°<br>35°                           |    |
| 4                              | Height of lip measured from fill pipe inside wall; or<br>height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm. | 0.25 cm or 2.5 mm(MIN)<br>0.85 cm or 8.5 mm(MIN)                     | 3.2<br>3.2                                            | 0.28<br>N/A                                   | cm |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                                                                         | 0.4 < D < 1.3                                                        | 3.2                                                   | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                                                                       | 0.4 < D < 1.1                                                        | CARB Fill Pipe Spec.                                  | -                                             |    |
| <b>Offset</b>                  |                                                                                                                                                             |                                                                      |                                                       |                                               |    |
|                                | Offset A                                                                                                                                                    | none                                                                 | 3.3.1/Fig 5 shown as "f"                              | 0.33                                          |    |
|                                | Offset B                                                                                                                                                    | none                                                                 | 3.3.1/Fig 5 shown as "g"                              | 0                                             |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                                                                        | 0.25 cm or 2.5 mm (MIN)                                              | Fig 5 shown as "2.5"                                  | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                                                                      | 40 degrees out to 12 mm depth                                        | CARB Fill Pipe Spec.                                  | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                                                                        | ≥ 40 mm                                                              | Fig 5 shown as "R40"                                  | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                                                                     | ≥ 43 mm                                                              | CARB Fill Pipe Spec.                                  | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                                                                              | 49.8 mm(MAX)                                                         | Fig 1                                                 | 47.1                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum                                     |                                                       | Yes                                           |    |
| 10                             | Capped or Capless                                                                                                                                           |                                                                      |                                                       | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                                                                 |                                                                      |                                                       | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                                                                            |                                                                      |                                                       | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                                                                              |                                                                      |                                                       | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                                                                  |                                                                      | Fig 1                                                 | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                                                                           |                                                                      |                                                       | GR COROLLA                                    |    |
| 16                             | Total vehicle model year sales                                                                                                                              |                                                                      |                                                       | Please refer section 17 phase-in page         |    |
| 17                             | New or C/O                                                                                                                                                  |                                                                      |                                                       | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                                                                              |                                                                      |                                                       | 24MY GR COROLLA                               |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

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Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <b>General Specification</b>                                                                                | <b>ARB Specification</b>             | <b>ISO-13331 Reference or Noted Otherwise</b> | <b>Manufacturer Specification<sup>1</sup></b> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $38^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.8                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | $5.98 \pm 0.03$                               | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $345^\circ$                                   | cm |
|                                |                                                                                                             | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $296^\circ$                                   |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall: or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | UX 300h<br>UX 300h AWD                        |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page         |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 21MY UX 250h                                  |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

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Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-2^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $41^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $1^\circ$                                     |    |
| <u>Fill Pipe Specification</u> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 6.00±0.05                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                 | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $320^\circ$                                   | cm |
|                                | degrees extending each side of ref. plane                                                                   | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $271^\circ$                                   |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.28                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <u>Offset</u>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.26                                          | cm |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | 0.04                                          | cm |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 47.1                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | IS 350                                        |    |
|                                |                                                                                                             |                                      |                                               | IS 350 AWD                                    |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 21MY IS                                       |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

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**Manufacturer** TOYOTA**Model Year**

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Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor

|                                | <b>General Specification</b>                                                                                | <b>ARB Specification</b>             | <b>ISO-13331 Reference or Noted Otherwise</b> | <b>Manufacturer Specification<sup>1</sup></b> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-2^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $33^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $1^\circ$                                     |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 6.00±0.05                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                 | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $320^\circ$                                   |    |
|                                | degrees extending each side of ref. plane                                                                   | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $271^\circ$                                   |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.28                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
|                                | <b>Offset</b>                                                                                               |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.26                                          | cm |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | 0.04                                          | cm |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 47.1                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | LS 500                                        |    |
|                                |                                                                                                             |                                      |                                               | LS 500 AWD                                    |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 20MY LS 500                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

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Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

| <u>General Specification</u>   |                                                                                                             | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^{\circ} < \alpha < 20^{\circ}$  | 2.8 & 3.4/Fig 2a & 3a                         | $-2^{\circ}$                                  |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^{\circ}$ (MIN)                   | 3.5                                           | $37^{\circ}$                                  |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $2^{\circ}$                                   |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 6.00±0.05                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^{\circ}$ (MIN)                  | 3.2/Fig 2 and 3                               | $320^{\circ}$                                 |    |
|                                |                                                                                                             | $35^{\circ}$ (MIN) LS <sup>2</sup>   | 3.2/Fig 2 and 3                               | $271^{\circ}$                                 |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^{\circ}$                                  |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.28                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
| Offset A                       |                                                                                                             | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.26                                          |    |
| Offset B                       |                                                                                                             | none                                 | 3.3.1/Fig 5 shown as "g"                      | 0.08                                          |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 47.1                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | HIGHLANDER AWD                                |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 20MY HIGHLANDER                               |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

## CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS

**Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1,1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^{\circ} < \alpha < 20^{\circ}$  | 2.8 & 3.4/Fig 2a & 3a                         | $-4^{\circ}$                                  |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^{\circ}$ (MIN)                   | 3.5                                           | $43^{\circ}$                                  |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^{\circ}$                                  |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                 | $100^{\circ}$ (MIN)                  | 3.2/Fig 2 and 3                               | $345^{\circ}$                                 |    |
|                                | degrees extending each side of ref. plane                                                                   | $35^{\circ}$ (MIN) LS <sup>2</sup>   | 3.2/Fig 2 and 3                               | $296^{\circ}$                                 |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^{\circ}$                                  |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 41.5                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | TACOMA 2WD                                    |    |
|                                |                                                                                                             |                                      |                                               | TACOMA 4WD                                    |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 23MY Tundra                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $48^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98 $\pm$ 0.03                               | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $345^\circ$                                   | cm |
|                                |                                                                                                             | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $296^\circ$                                   |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | RAV4 HYBRID,<br>RAV4 HYBRID AWD               |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               |                                               |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 20MY RAV4 HYBRID<br>AWD                       |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $48^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98 $\pm$ 0.03                               | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                 | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $345^\circ$                                   | cm |
|                                | degrees extending each side of ref. plane                                                                   | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $296^\circ$                                   |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | RAV4 PHEV AWD                                 |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               |                                               |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 21MY RAV4 PRIME AWD                           |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^{\circ} < \alpha < 20^{\circ}$  | 2.8 & 3.4/Fig 2a & 3a                         | $-2^{\circ}$                                  |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^{\circ}$ (MIN)                   | 3.5                                           | $37^{\circ}$                                  |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $2^{\circ}$                                   |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 6.00±0.05                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^{\circ}$ (MIN)                  | 3.2/Fig 2 and 3                               | $320^{\circ}$                                 | cm |
|                                |                                                                                                             | $35^{\circ}$ (MIN) LS <sup>2</sup>   | 3.2/Fig 2 and 3                               | $271^{\circ}$                                 |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^{\circ}$                                  |    |
| 4                              | Height of lip measured from fill pipe inside wall: or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.28                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.26                                          |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | 0.08                                          |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 47.1                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | HIGHLANDER HYBRID<br>HIGHLANDER HYBRID<br>AWD |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17<br>phase-in page      |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 20MY HIGHLANDER<br>HYBRID                     |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <b>General Specification</b>                                                                                | <b>ARB Specification</b>             | <b>ISO-13331 Reference or Noted Otherwise</b> | <b>Manufacturer Specification<sup>1</sup></b> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | -4                                            |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | 30° (MIN)                            | 3.5                                           | 33°                                           |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | -2°                                           |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 6.01                                          | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     | 5.95                                          | cm |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | 100° (MIN)                           | 3.2/Fig 2 and 3                               | 345                                           | cm |
|                                |                                                                                                             | 35° (MIN) LS <sup>2</sup>            | 3.2/Fig 2 and 3                               | 296                                           |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | 35                                            |    |
| 4                              | Height of lip measured from fill pipe inside wall: or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | 0.4 < D < 1.3                        | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | 0.4 < D < 1.1                        | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | ≥ 40 mm                              | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | ≥ 43 mm                              | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | YES                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | TOYOTA CROWN<br>SIGNIA AWD                    |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17<br>phase-in page.     |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | '23MY TOYOTA<br>CROWN AWD                     |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and

|                                | <b>General Specification</b>                                                                                | <b>ARB Specification</b>            | <b>ISO-13331 Reference<br/>or Noted Otherwise</b> | <b>Manufacturer<br/>Specification<sup>1</sup></b> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------------------|---------------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^{\circ} < \alpha < 20^{\circ}$ | 2.8 & 3.4/Fig 2a & 3a                             | $-4^{\circ}$                                      |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^{\circ}$ (MIN)                  | 3.5                                               | $34^{\circ}$                                      |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)             | 3.4                                               | 3.5                                               | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                | 2.9/Fig 2b & 3b                                   | $-2^{\circ}$                                      |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                     |                                                   |                                                   |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25                    | 3.1/Fig 1                                         | 0.025                                             | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5                     | 3.1/Fig 1                                         | 5.98±0.03                                         | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)             | 3.1/Fig 1                                         |                                                   |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)             | 3.1/Fig 1                                         | -                                                 |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)             | CARB Fill Pipe Spec.                              |                                                   |    |
| 3                              | Internal locking lip in degrees of the inside circumference<br>degrees extending each side of ref. plane    | $100^{\circ}$ (MIN)                 | 3.2/Fig 2 and 3                                   | $345^{\circ}$                                     | cm |
|                                |                                                                                                             | $35^{\circ}$ (MIN) LS <sup>2</sup>  | 3.2/Fig 2 and 3                                   | $296^{\circ}$                                     |    |
|                                |                                                                                                             | each side RS <sup>2</sup>           | 3.2/Fig 2 and 3                                   | $35^{\circ}$                                      |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)              | 3.2                                               | 0.26                                              | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)              | 3.2                                               | N/A                                               |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                     | 3.2                                               | 1.2 thru 1.3                                      | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                     | CARB Fill Pipe Spec.                              | -                                                 |    |
|                                | <b>Offset</b>                                                                                               |                                     |                                                   |                                                   |    |
|                                | Offset A                                                                                                    | none                                | 3.3.1/Fig 5 shown as "f"                          | 0.33cm                                            |    |
|                                | Offset B                                                                                                    | none                                | 3.3.1/Fig 5 shown as "g"                          | -0.08cm                                           |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)             | Fig 5 shown as "2.5"                              | Yes                                               |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth       | CARB Fill Pipe Spec.                              | -                                                 |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                        | Fig 5 shown as "R40"                              | Yes                                               |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                        | CARB Fill Pipe Spec.                              | -                                                 |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                        | Fig 1                                             | 46.7                                              | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum    |                                                   | Yes                                               |    |
| 10                             | Capped or Capless                                                                                           |                                     |                                                   | Capped                                            |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                     |                                                   | Liquid                                            |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                     |                                                   | N                                                 |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                     |                                                   | I                                                 |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                     | Fig 1                                             | Threaded                                          |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                     |                                                   | 4RUNNER 2WD<br>4RUNNER 4WD                        |    |
| 16                             | Total vehicle model year sales                                                                              |                                     |                                                   | Please refer section 17 phase-in page.            |    |
| 17                             | New or C/O                                                                                                  |                                     |                                                   | C/O                                               |    |
| 18                             | Reference number for C/O model                                                                              |                                     |                                                   | 23MY LX 600                                       |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated (NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in 17.14 of CARB Standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <u>General Specification</u>                                                                                | <u>ARB Specification</u>             | <u>ISO-13331 Reference or Noted Otherwise</u> | <u>Manufacturer Specification<sup>1</sup></u> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^{\circ} < \alpha < 20^{\circ}$  | 2.8 & 3.4/Fig 2a & 3a                         | $-4^{\circ}$                                  |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^{\circ}$ (MIN)                   | 3.5                                           | $43^{\circ}$                                  |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^{\circ}$                                  |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                 | $100^{\circ}$ (MIN)                  | 3.2/Fig 2 and 3                               | $345^{\circ}$                                 |    |
|                                | degrees extending each side of ref. plane                                                                   | $35^{\circ}$ (MIN) LS <sup>2</sup>   | 3.2/Fig 2 and 3                               | $296^{\circ}$                                 |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^{\circ}$                                  |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 41.5                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | TACOMA 4WD(HYBRID)                            |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17                       |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 23MY Tundra                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent

| <b>General Specification</b>   |                                                                                                             | <b>ARB Specification</b>             | <b>ISO-13331 Reference or Noted Otherwise</b> | <b>Manufacturer Specification<sup>1</sup></b> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $34^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                 | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | $345^\circ$                                   | cm |
|                                | degrees extending each side of ref. plane                                                                   | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | $296^\circ$                                   |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | $35^\circ$                                    |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33cm                                        |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08cm                                       |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | NIRCO                                         |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | 4RUNNER 4WD (HYBRID)                          |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 23MY LX 600                                   |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

**CARB APPLICATION FORM FOR COMPLIANCE WITH THE FILL PIPE REQUIREMENTS****Manufacturer** TOYOTA**Model Year**

2026

Terms and symbols used below are the same as those defined in "Specifications for Fill Pipes and Openings of 2015 and Subsequent Motor Vehicle Fuel Tanks", amended May 31, 2019 (CARB Fill Pipe Spec.) (Refer to ISO-13331-1995[E] as adopted June 1, 1995)

|                                | <b>General Specification</b>                                                                                | <b>ARB Specification</b>             | <b>ISO-13331 Reference or Noted Otherwise</b> | <b>Manufacturer Specification<sup>1</sup></b> |    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|----|
| 1                              | Angle $\alpha$ in degrees                                                                                   | $-10^\circ < \alpha < 20^\circ$      | 2.8 & 3.4/Fig 2a & 3a                         | $-4^\circ$                                    |    |
| 2                              | Spill Prevention in degrees (angle btwn. centerline of test spout in resting position and the horiz. plane) | $30^\circ$ (MIN)                     | 3.5                                           | $31^\circ$                                    |    |
| 3                              | Test nozzle penetration of restrictor                                                                       | 2.25 cm or 22.5 mm(MIN)              | 3.4                                           | 3.5                                           | cm |
| 4                              | Angle $\beta$ in degrees                                                                                    | none                                 | 2.9/Fig 2b & 3b                               | $-2^\circ$                                    |    |
| <b>Fill Pipe Specification</b> |                                                                                                             |                                      |                                               |                                               |    |
| 1                              | Fill Pipe face surface in TIR                                                                               | 0.025 cm or 0.25 mm(MAX)             | 3.1/Fig 1                                     | 0.025                                         | cm |
| 2a                             | Fill Pipe face outside diameter: unless meets criteria in 2b. Below                                         | 5.75 cm or 57.5 mm(MAX) <sup>4</sup> | 3.1/Fig 1                                     | 5.98±0.03                                     | cm |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | 3.1/Fig 1                                     |                                               |    |
| 2b                             | Fill Pipe face outside diameter: criteria: new fill pipe head design starting MY 2024                       | 5.79 cm or 57.9 mm(MAX)              | 3.1/Fig 1                                     | -                                             |    |
|                                |                                                                                                             | 5.20 cm or 52.0 mm(MIN)              | CARB Fill Pipe Spec.                          |                                               |    |
| 3                              | Internal locking lip in degrees of the inside circumference                                                 | $100^\circ$ (MIN)                    | 3.2/Fig 2 and 3                               | 345                                           |    |
|                                | degrees extending each side of ref. plane                                                                   | $35^\circ$ (MIN) LS <sup>2</sup>     | 3.2/Fig 2 and 3                               | 296                                           |    |
|                                |                                                                                                             | each side RS <sup>2</sup>            | 3.2/Fig 2 and 3                               | 35                                            |    |
| 4                              | Height of lip measured from fill pipe inside wall; or                                                       | 0.25 cm or 2.5 mm(MIN)               | 3.2                                           | 0.26                                          | cm |
|                                | height of lip measured from fill pipe outside wall for outside diameters between 5.20 and 5.75 cm.          | 0.85 cm or 8.5 mm(MIN)               | 3.2                                           | N/A                                           |    |
| 5a                             | Depth of lip (D) in centimeters: unless meets criteria in 5b. Below                                         | $0.4 < D < 1.3$                      | 3.2                                           | 1.2 thru 1.3                                  | cm |
| 5b                             | Depth of lip (D) in centimeters: criteria: new fill pipe head design starting MY 2024                       | $0.4 < D < 1.1$                      | CARB Fill Pipe Spec.                          | -                                             |    |
| <b>Offset</b>                  |                                                                                                             |                                      |                                               |                                               |    |
|                                | Offset A                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "f"                      | 0.33                                          |    |
|                                | Offset B                                                                                                    | none                                 | 3.3.1/Fig 5 shown as "g"                      | -0.08                                         |    |
| 6a                             | Fill Pipe Face Clearance (Axial): unless meets criteria in 6b. Below                                        | 0.25 cm or 2.5 mm (MIN)              | Fig 5 shown as "2.5"                          | Yes                                           |    |
| 6b                             | Fill Pipe Face Clearance (Axial): criteria: new fill pipe head design starting MY 2024                      | 40 degrees out to 12 mm depth        | CARB Fill Pipe Spec.                          | -                                             |    |
| 7a                             | Fill Pipe Face Clearance (Radial): unless meets criteria in 7b below                                        | $\geq 40$ mm                         | Fig 5 shown as "R40"                          | Yes                                           |    |
| 7b                             | Fill Pipe Face Clearance (Radial): criteria: new fill pipe head design starting MY 2024                     | $\geq 43$ mm                         | CARB Fill Pipe Spec.                          | -                                             |    |
| 8                              | Fill Pipe Face Inside Diameter                                                                              | 49.8 mm(MAX)                         | Fig 1                                         | 46.7                                          | mm |
| 9                              | Bench Leak Test: Phase in schedule in CARB Fill Pipe Spec.                                                  | 2.5 L/Min (MAX) at 500 Pa Vacuum     |                                               | Yes                                           |    |
| 10                             | Capped or Capless                                                                                           |                                      |                                               | Capped                                        |    |
| 11                             | Seal (Mechanical or Liquid)                                                                                 |                                      |                                               | Liquid                                        |    |
| 12                             | Disruption in the Fill Pipe Face                                                                            |                                      |                                               | N                                             |    |
| 13                             | ORVR Design (I / NI / NIRCO / NO) <sup>3</sup>                                                              |                                      |                                               | I                                             |    |
| 14                             | Type (Threaded or Bayonet)                                                                                  |                                      | Fig 1                                         | Threaded                                      |    |
| 15                             | Usage of Design (Models or Evaporative Family(s))                                                           |                                      |                                               | LX 600 .LX700h                                |    |
| 16                             | Total vehicle model year sales                                                                              |                                      |                                               | Please refer section 17 phase-in page.        |    |
| 17                             | New or C/O                                                                                                  |                                      |                                               | C/O                                           |    |
| 18                             | Reference number for C/O model                                                                              |                                      |                                               | 25MY LX                                       |    |

<sup>1</sup> dimension should include adverse tolerance condition<sup>2</sup> LS = Left side of reference plane, RS = Right side of reference plane<sup>3</sup> ORVR Design : Integrated (I)/Non-Integrated(NI)/Non-Integrated Refueling Canister Only (NIRCO)/Non-ORVR(NO)<sup>4</sup> Max value stated in J1114 of SAE standard

17.4 Compliance with the location requirement of the vent tube opening in the fill pipe

Not applicable

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

[Test vehicle]

Model name : TOYOTA CROWN AWD  
Data is representative for : TOYOTA CROWN AWD

[Test procedure] : CARB method

[Test conditions]

Date : 03/28/2022  
Ambient air temperature (at initiation) : 105.4 °F  
Ambient air temperature (at completion) : 110.1 °F  
Track surface temperature (at initiation) : 141.1 °F  
Track surface temperature (at completion) : 144.0° F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 03/29/2022  
Ambient air temperature (at initiation) : 105.1 °F  
Ambient air temperature (at completion) : 110.3 °F  
Track surface temperature (at initiation) : 142.2° F  
Track surface temperature (at completion) : 144.7 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

Measured temperature and pressure profiles

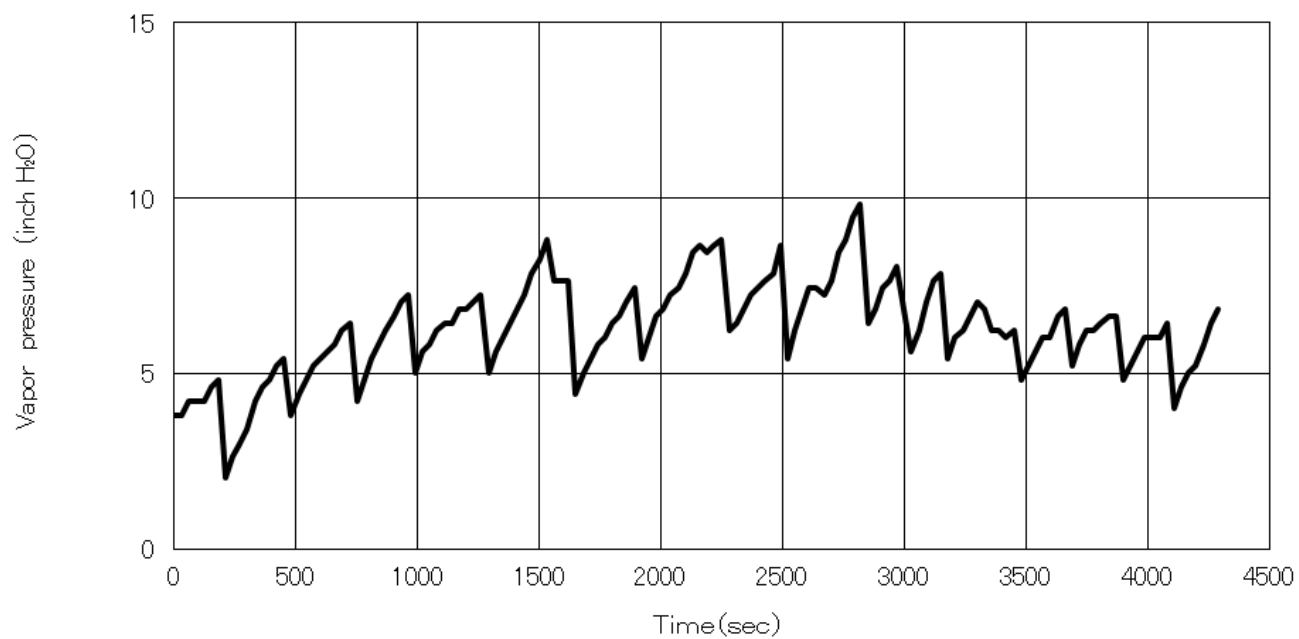
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.9      | 1200       | 109.6      | 2400       | 112.3      | 3600       | 115.3      |
| 30         | 107.1      | 1230       | 109.6      | 2430       | 112.3      | 3630       | 115.3      |
| 60         | 107.2      | 1260       | 109.8      | 2460       | 112.3      | 3660       | 115.5      |
| 90         | 107.4      | 1290       | 109.9      | 2490       | 112.3      | 3690       | 115.5      |
| 120        | 107.6      | 1320       | 109.8      | 2520       | 112.5      | 3720       | 115.5      |
| 150        | 107.8      | 1350       | 109.8      | 2550       | 112.5      | 3750       | 115.5      |
| 180        | 107.8      | 1380       | 109.9      | 2580       | 112.5      | 3780       | 115.7      |
| 210        | 108.0      | 1410       | 109.9      | 2610       | 112.5      | 3810       | 115.7      |
| 240        | 108.0      | 1440       | 109.9      | 2640       | 112.8      | 3840       | 115.7      |
| 270        | 108.0      | 1470       | 109.9      | 2670       | 112.8      | 3870       | 115.9      |
| 300        | 108.0      | 1500       | 110.1      | 2700       | 112.8      | 3900       | 115.9      |
| 330        | 108.1      | 1530       | 110.1      | 2730       | 113.0      | 3930       | 115.9      |
| 360        | 108.1      | 1560       | 110.3      | 2760       | 113.0      | 3960       | 115.9      |
| 390        | 108.3      | 1590       | 110.3      | 2790       | 113.0      | 3990       | 116.1      |
| 420        | 108.3      | 1620       | 110.5      | 2820       | 113.0      | 4020       | 116.1      |
| 450        | 108.5      | 1650       | 110.5      | 2850       | 113.2      | 4050       | 116.1      |
| 480        | 108.7      | 1680       | 110.7      | 2880       | 113.2      | 4080       | 116.4      |
| 510        | 108.7      | 1710       | 110.8      | 2910       | 113.4      | 4110       | 116.4      |
| 540        | 108.9      | 1740       | 110.7      | 2940       | 113.5      | 4140       | 116.4      |
| 570        | 108.9      | 1770       | 110.7      | 2970       | 113.5      | 4170       | 116.4      |
| 600        | 108.9      | 1800       | 110.8      | 3000       | 113.7      | 4200       | 116.6      |
| 630        | 108.9      | 1830       | 110.8      | 3030       | 113.7      | 4230       | 116.6      |
| 660        | 108.9      | 1860       | 110.8      | 3060       | 113.9      | 4260       | 116.6      |
| 690        | 108.9      | 1890       | 110.8      | 3090       | 113.9      | 4290       | 116.6      |
| 720        | 108.9      | 1920       | 111.0      | 3120       | 114.1      |            |            |
| 750        | 108.9      | 1950       | 111.0      | 3150       | 114.1      |            |            |
| 780        | 109.0      | 1980       | 111.2      | 3180       | 114.1      |            |            |
| 810        | 109.0      | 2010       | 111.2      | 3210       | 114.3      |            |            |
| 840        | 109.0      | 2040       | 111.4      | 3240       | 114.6      |            |            |
| 870        | 109.2      | 2070       | 111.4      | 3270       | 114.4      |            |            |
| 900        | 109.0      | 2100       | 111.4      | 3300       | 114.6      |            |            |
| 930        | 109.0      | 2130       | 111.4      | 3330       | 114.4      |            |            |
| 960        | 109.2      | 2160       | 111.6      | 3360       | 114.6      |            |            |
| 990        | 109.2      | 2190       | 111.6      | 3390       | 114.6      |            |            |
| 1020       | 109.2      | 2220       | 111.6      | 3420       | 114.8      |            |            |
| 1050       | 109.4      | 2250       | 111.9      | 3450       | 115.0      |            |            |
| 1080       | 109.6      | 2280       | 111.7      | 3480       | 115.2      |            |            |
| 1110       | 109.4      | 2310       | 111.9      | 3510       | 115.0      |            |            |
| 1140       | 109.6      | 2340       | 112.1      | 3540       | 115.2      |            |            |
| 1170       | 109.6      | 2370       | 112.1      | 3570       | 115.2      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

[Test vehicle]

Model name : TOYOTA CROWN AWD  
Data is representative for : TOYOTA CROWN AWD

[Test procedure] : EPA method

[Test conditions]

Date : 03/28/2022  
Ambient air temperature (at initiation) : 99.5 °F  
Ambient air temperature (at completion) : 99.9 °F  
Track surface temperature (at initiation) : 128.7 °F  
Track surface temperature (at completion) : 132.8° F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 03/29/2022  
Ambient air temperature (at initiation) : 96.8 °F  
Ambient air temperature (at completion) : 100.0 °F  
Track surface temperature (at initiation) : 129.9° F  
Track surface temperature (at completion) : 132.8 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

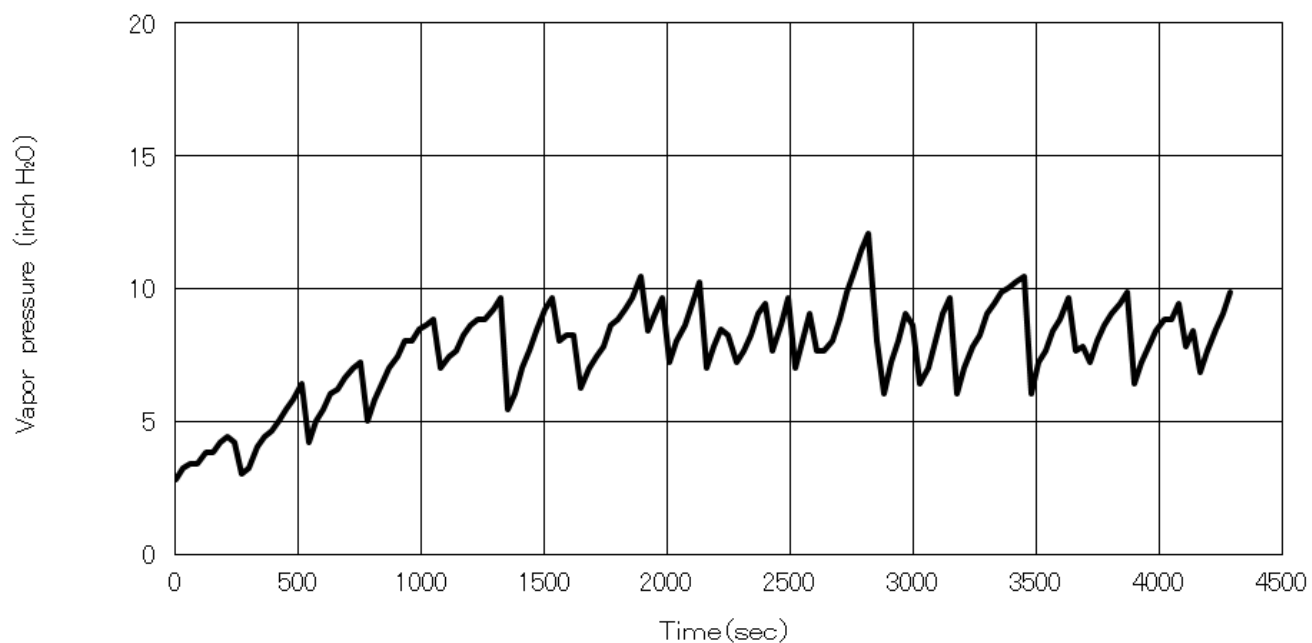
17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.  
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.3       | 1200       | 99.9       | 2400       | 101.7      | 3600       | 104.2      |
| 30         | 96.3       | 1230       | 99.9       | 2430       | 101.8      | 3630       | 104.2      |
| 60         | 96.3       | 1260       | 99.9       | 2460       | 101.8      | 3660       | 104.4      |
| 90         | 96.3       | 1290       | 100.0      | 2490       | 101.8      | 3690       | 104.4      |
| 120        | 96.4       | 1320       | 100.0      | 2520       | 101.8      | 3720       | 104.5      |
| 150        | 96.4       | 1350       | 100.2      | 2550       | 102.0      | 3750       | 104.5      |
| 180        | 96.6       | 1380       | 100.2      | 2580       | 101.8      | 3780       | 104.5      |
| 210        | 96.6       | 1410       | 100.2      | 2610       | 102.0      | 3810       | 104.5      |
| 240        | 96.6       | 1440       | 100.4      | 2640       | 102.2      | 3840       | 104.5      |
| 270        | 96.8       | 1470       | 100.4      | 2670       | 102.2      | 3870       | 104.7      |
| 300        | 96.6       | 1500       | 100.2      | 2700       | 102.0      | 3900       | 104.7      |
| 330        | 96.8       | 1530       | 100.2      | 2730       | 102.2      | 3930       | 104.7      |
| 360        | 97.0       | 1560       | 100.4      | 2760       | 102.0      | 3960       | 104.9      |
| 390        | 97.2       | 1590       | 100.4      | 2790       | 102.0      | 3990       | 104.9      |
| 420        | 97.2       | 1620       | 100.4      | 2820       | 102.0      | 4020       | 104.9      |
| 450        | 97.5       | 1650       | 100.6      | 2850       | 102.2      | 4050       | 104.9      |
| 480        | 97.7       | 1680       | 100.8      | 2880       | 102.2      | 4080       | 105.1      |
| 510        | 97.7       | 1710       | 100.8      | 2910       | 102.4      | 4110       | 105.1      |
| 540        | 97.9       | 1740       | 100.8      | 2940       | 102.6      | 4140       | 105.3      |
| 570        | 98.1       | 1770       | 100.9      | 2970       | 102.6      | 4170       | 105.3      |
| 600        | 98.2       | 1800       | 100.8      | 3000       | 102.6      | 4200       | 105.3      |
| 630        | 98.4       | 1830       | 100.9      | 3030       | 102.7      | 4230       | 105.3      |
| 660        | 98.4       | 1860       | 100.9      | 3060       | 102.9      | 4260       | 105.4      |
| 690        | 98.6       | 1890       | 100.9      | 3090       | 102.9      | 4290       | 105.4      |
| 720        | 98.6       | 1920       | 100.8      | 3120       | 103.1      |            |            |
| 750        | 98.8       | 1950       | 101.1      | 3150       | 103.1      |            |            |
| 780        | 99.0       | 1980       | 101.1      | 3180       | 103.1      |            |            |
| 810        | 99.0       | 2010       | 101.1      | 3210       | 103.3      |            |            |
| 840        | 99.1       | 2040       | 100.9      | 3240       | 103.3      |            |            |
| 870        | 99.3       | 2070       | 100.9      | 3270       | 103.3      |            |            |
| 900        | 99.1       | 2100       | 101.1      | 3300       | 103.6      |            |            |
| 930        | 99.1       | 2130       | 101.1      | 3330       | 103.5      |            |            |
| 960        | 99.3       | 2160       | 101.3      | 3360       | 103.6      |            |            |
| 990        | 99.3       | 2190       | 101.3      | 3390       | 103.6      |            |            |
| 1020       | 99.3       | 2220       | 101.5      | 3420       | 103.6      |            |            |
| 1050       | 99.5       | 2250       | 101.5      | 3450       | 103.8      |            |            |
| 1080       | 99.5       | 2280       | 101.7      | 3480       | 104.0      |            |            |
| 1110       | 99.5       | 2310       | 101.5      | 3510       | 103.8      |            |            |
| 1140       | 99.7       | 2340       | 101.7      | 3540       | 103.8      |            |            |
| 1170       | 99.9       | 2370       | 101.7      | 3570       | 104.0      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

[Test vehicle]

Model name : TOYOTA CROWN AWD  
Data is representative for : TOYOTA CROWN AWD

[Test procedure] : CARB method

[Test conditions]

Date : 03/15/2022  
Ambient air temperature (at initiation) : 106.3 °F  
Ambient air temperature (at completion) : 110.1 °F  
Track surface temperature (at initiation) : 138.2 °F  
Track surface temperature (at completion) : 140.5° F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 03/16/2022  
Ambient air temperature (at initiation) : 105.8 °F  
Ambient air temperature (at completion) : 110.1 °F  
Track surface temperature (at initiation) : 141.6° F  
Track surface temperature (at completion) : 144.7 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

Measured temperature and pressure profiles

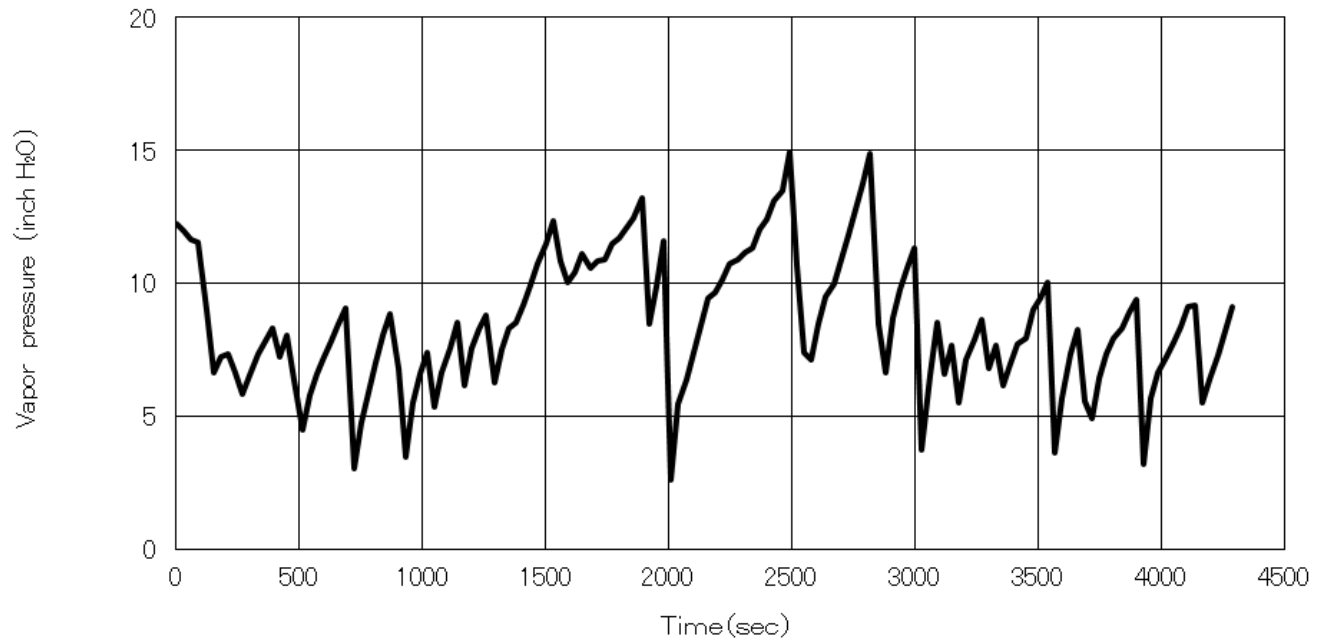
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.0      | 1200       | 109.8      | 2400       | 113.4      | 3600       | 117.1      |
| 30         | 106.0      | 1230       | 109.4      | 2430       | 113.7      | 3630       | 117.1      |
| 60         | 106.2      | 1260       | 109.8      | 2460       | 113.7      | 3660       | 117.9      |
| 90         | 106.2      | 1290       | 109.8      | 2490       | 113.9      | 3690       | 117.7      |
| 120        | 106.2      | 1320       | 109.8      | 2520       | 113.9      | 3720       | 117.3      |
| 150        | 106.3      | 1350       | 109.9      | 2550       | 113.7      | 3750       | 117.7      |
| 180        | 106.3      | 1380       | 110.1      | 2580       | 114.1      | 3780       | 117.9      |
| 210        | 106.3      | 1410       | 110.3      | 2610       | 113.7      | 3810       | 117.9      |
| 240        | 106.3      | 1440       | 110.5      | 2640       | 114.1      | 3840       | 118.2      |
| 270        | 106.3      | 1470       | 110.5      | 2670       | 114.3      | 3870       | 118.2      |
| 300        | 106.3      | 1500       | 110.7      | 2700       | 114.4      | 3900       | 118.2      |
| 330        | 106.5      | 1530       | 110.7      | 2730       | 114.6      | 3930       | 118.4      |
| 360        | 106.7      | 1560       | 110.7      | 2760       | 114.6      | 3960       | 118.2      |
| 390        | 106.5      | 1590       | 110.8      | 2790       | 114.6      | 3990       | 118.4      |
| 420        | 106.9      | 1620       | 111.0      | 2820       | 114.6      | 4020       | 118.6      |
| 450        | 107.1      | 1650       | 111.0      | 2850       | 114.6      | 4050       | 118.6      |
| 480        | 106.9      | 1680       | 111.2      | 2880       | 114.8      | 4080       | 118.8      |
| 510        | 106.9      | 1710       | 111.2      | 2910       | 115.0      | 4110       | 118.8      |
| 540        | 107.1      | 1740       | 111.4      | 2940       | 115.2      | 4140       | 118.9      |
| 570        | 107.2      | 1770       | 111.7      | 2970       | 115.3      | 4170       | 118.8      |
| 600        | 107.1      | 1800       | 111.6      | 3000       | 115.3      | 4200       | 119.1      |
| 630        | 107.2      | 1830       | 111.6      | 3030       | 115.0      | 4230       | 119.3      |
| 660        | 107.4      | 1860       | 111.9      | 3060       | 115.3      | 4260       | 119.3      |
| 690        | 107.4      | 1890       | 111.9      | 3090       | 115.3      | 4290       | 119.5      |
| 720        | 107.4      | 1920       | 111.9      | 3120       | 115.3      |            |            |
| 750        | 107.6      | 1950       | 111.9      | 3150       | 115.9      |            |            |
| 780        | 108.0      | 1980       | 112.3      | 3180       | 115.9      |            |            |
| 810        | 107.8      | 2010       | 111.9      | 3210       | 115.7      |            |            |
| 840        | 107.8      | 2040       | 112.3      | 3240       | 116.1      |            |            |
| 870        | 108.0      | 2070       | 112.3      | 3270       | 116.4      |            |            |
| 900        | 108.0      | 2100       | 112.5      | 3300       | 116.2      |            |            |
| 930        | 108.1      | 2130       | 112.5      | 3330       | 116.6      |            |            |
| 960        | 108.1      | 2160       | 112.5      | 3360       | 116.2      |            |            |
| 990        | 108.5      | 2190       | 112.8      | 3390       | 116.6      |            |            |
| 1020       | 108.5      | 2220       | 112.8      | 3420       | 116.6      |            |            |
| 1050       | 108.7      | 2250       | 113.0      | 3450       | 117.0      |            |            |
| 1080       | 108.7      | 2280       | 113.0      | 3480       | 117.0      |            |            |
| 1110       | 109.2      | 2310       | 113.0      | 3510       | 117.1      |            |            |
| 1140       | 109.0      | 2340       | 113.2      | 3540       | 117.1      |            |            |
| 1170       | 109.4      | 2370       | 113.4      | 3570       | 117.0      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

[Test vehicle]

Model name : TOYOTA CROWN AWD  
Data is representative for : TOYOTA CROWN AWD

[Test procedure] : EPA method

[Test conditions]

Date : 03/15/2022  
Ambient air temperature (at initiation) : 96.1 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 128.7 °F  
Track surface temperature (at completion) : 131.2° F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 03/16/2022  
Ambient air temperature (at initiation) : 97.0 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 131.5° F  
Track surface temperature (at completion) : 134.8 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

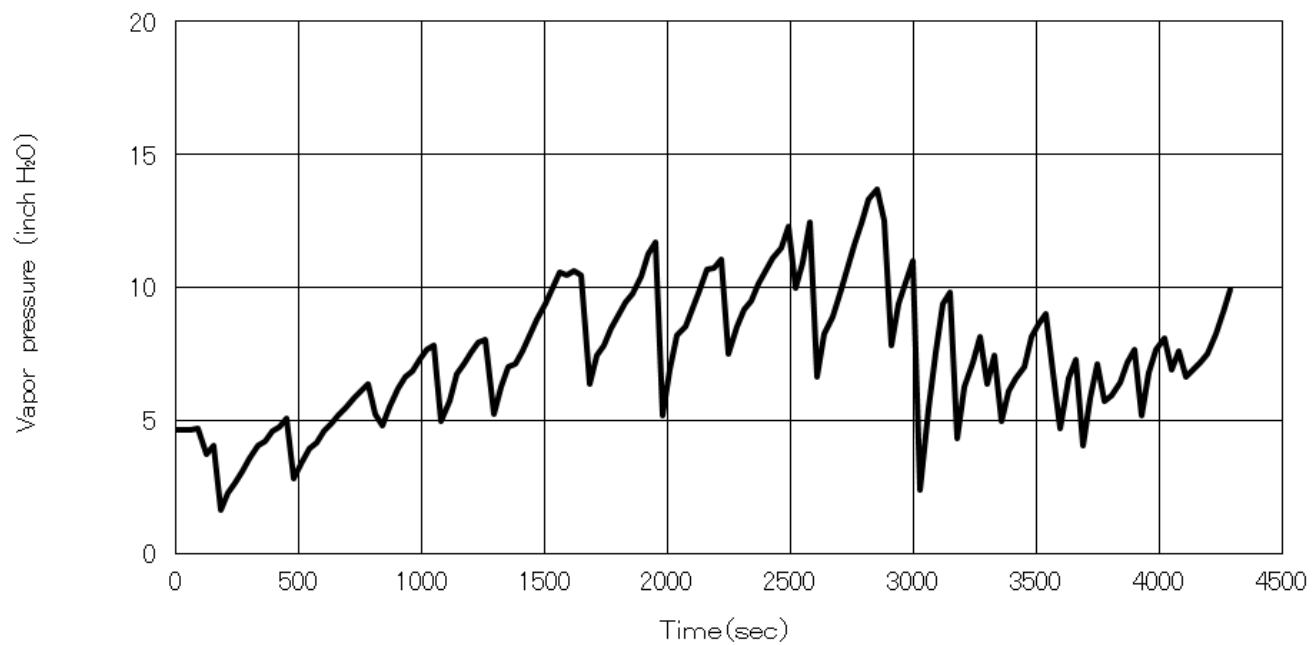
17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.  
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 95.9       | 1200       | 98.2       | 2400       | 101.1      | 3600       | 104.5      |
| 30         | 95.9       | 1230       | 98.2       | 2430       | 101.1      | 3630       | 104.5      |
| 60         | 95.9       | 1260       | 98.4       | 2460       | 101.5      | 3660       | 104.7      |
| 90         | 96.1       | 1290       | 98.4       | 2490       | 101.3      | 3690       | 104.7      |
| 120        | 96.1       | 1320       | 98.6       | 2520       | 101.3      | 3720       | 104.7      |
| 150        | 96.1       | 1350       | 98.4       | 2550       | 101.3      | 3750       | 104.7      |
| 180        | 96.3       | 1380       | 98.6       | 2580       | 101.5      | 3780       | 105.1      |
| 210        | 96.1       | 1410       | 98.8       | 2610       | 101.5      | 3810       | 105.1      |
| 240        | 95.9       | 1440       | 98.8       | 2640       | 101.7      | 3840       | 105.3      |
| 270        | 95.9       | 1470       | 99.0       | 2670       | 101.7      | 3870       | 105.3      |
| 300        | 95.9       | 1500       | 99.0       | 2700       | 101.8      | 3900       | 105.3      |
| 330        | 96.1       | 1530       | 99.0       | 2730       | 101.8      | 3930       | 105.4      |
| 360        | 96.1       | 1560       | 98.8       | 2760       | 102.0      | 3960       | 105.4      |
| 390        | 96.3       | 1590       | 99.1       | 2790       | 102.0      | 3990       | 105.6      |
| 420        | 96.4       | 1620       | 99.1       | 2820       | 102.0      | 4020       | 105.8      |
| 450        | 96.6       | 1650       | 99.3       | 2850       | 102.0      | 4050       | 105.8      |
| 480        | 96.4       | 1680       | 99.1       | 2880       | 102.2      | 4080       | 106.0      |
| 510        | 96.6       | 1710       | 99.3       | 2910       | 102.4      | 4110       | 106.0      |
| 540        | 96.6       | 1740       | 99.5       | 2940       | 102.6      | 4140       | 106.2      |
| 570        | 96.8       | 1770       | 99.7       | 2970       | 102.6      | 4170       | 106.0      |
| 600        | 96.6       | 1800       | 99.5       | 3000       | 102.6      | 4200       | 106.2      |
| 630        | 96.6       | 1830       | 99.7       | 3030       | 102.2      | 4230       | 106.3      |
| 660        | 96.8       | 1860       | 100.0      | 3060       | 102.4      | 4260       | 106.5      |
| 690        | 96.8       | 1890       | 99.9       | 3090       | 102.6      | 4290       | 106.5      |
| 720        | 96.8       | 1920       | 99.9       | 3120       | 102.6      |            |            |
| 750        | 97.0       | 1950       | 100.0      | 3150       | 102.7      |            |            |
| 780        | 97.2       | 1980       | 100.0      | 3180       | 103.1      |            |            |
| 810        | 97.0       | 2010       | 100.0      | 3210       | 103.1      |            |            |
| 840        | 97.0       | 2040       | 100.0      | 3240       | 103.5      |            |            |
| 870        | 97.2       | 2070       | 100.4      | 3270       | 103.6      |            |            |
| 900        | 97.2       | 2100       | 100.4      | 3300       | 103.5      |            |            |
| 930        | 97.2       | 2130       | 100.2      | 3330       | 103.6      |            |            |
| 960        | 97.3       | 2160       | 100.4      | 3360       | 103.5      |            |            |
| 990        | 97.5       | 2190       | 100.6      | 3390       | 103.8      |            |            |
| 1020       | 97.5       | 2220       | 100.6      | 3420       | 104.0      |            |            |
| 1050       | 97.9       | 2250       | 100.8      | 3450       | 104.4      |            |            |
| 1080       | 97.9       | 2280       | 100.6      | 3480       | 104.2      |            |            |
| 1110       | 98.1       | 2310       | 100.9      | 3510       | 104.4      |            |            |
| 1140       | 97.9       | 2340       | 100.9      | 3540       | 104.4      |            |            |
| 1170       | 98.2       | 2370       | 101.3      | 3570       | 104.2      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

[Test vehicle]

Model name : CAMRY HYBRID AWD  
Data is representative for : CAMRY HYBRID, CAMRY HYBRID AWD

[Test procedure] : CARB method

[Test conditions]

Date : 06/06/2023  
Ambient air temperature (at initiation) : 106.0 °F  
Ambient air temperature (at completion) : 106.7 °F  
Track surface temperature (at initiation) : 180.5 °F  
Track surface temperature (at completion) : 181.0 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 06/06/2023  
Ambient air temperature (at initiation) : 106.0 °F  
Ambient air temperature (at completion) : 106.7°F  
Track surface temperature (at initiation) : 180.7 °F  
Track surface temperature (at completion) : 181.8 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

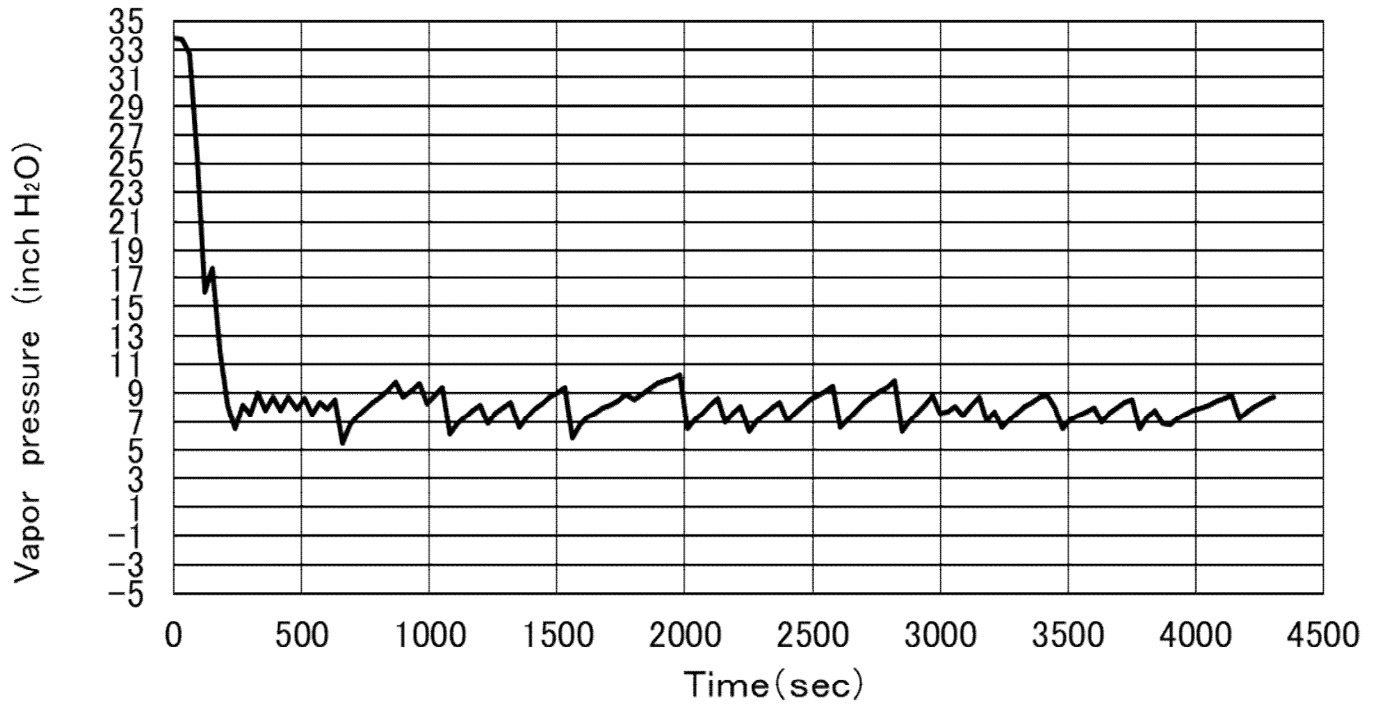
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 105.6      | 1200       | 107.1      | 2400       | 108.5      | 3600       | 110.3      |
| 30         | 105.6      | 1230       | 107.1      | 2430       | 108.5      | 3630       | 110.3      |
| 60         | 105.8      | 1260       | 107.1      | 2460       | 108.5      | 3660       | 110.5      |
| 90         | 106.0      | 1290       | 107.2      | 2490       | 108.5      | 3690       | 110.5      |
| 120        | 105.8      | 1320       | 107.2      | 2520       | 108.5      | 3720       | 110.5      |
| 150        | 106.0      | 1350       | 107.2      | 2550       | 108.7      | 3750       | 110.5      |
| 180        | 106.0      | 1380       | 107.2      | 2580       | 108.7      | 3780       | 110.5      |
| 210        | 106.0      | 1410       | 107.2      | 2610       | 108.7      | 3810       | 110.7      |
| 240        | 106.2      | 1440       | 107.2      | 2640       | 108.7      | 3840       | 110.7      |
| 270        | 106.2      | 1470       | 107.2      | 2670       | 108.7      | 3870       | 110.7      |
| 300        | 106.2      | 1500       | 107.2      | 2700       | 108.9      | 3900       | 110.7      |
| 330        | 106.3      | 1530       | 107.4      | 2730       | 108.9      | 3930       | 110.8      |
| 360        | 106.3      | 1560       | 107.2      | 2760       | 108.9      | 3960       | 110.8      |
| 390        | 106.3      | 1590       | 107.4      | 2790       | 108.9      | 3990       | 110.8      |
| 420        | 106.3      | 1620       | 107.4      | 2820       | 108.9      | 4020       | 110.8      |
| 450        | 106.3      | 1650       | 107.4      | 2850       | 108.9      | 4050       | 111.0      |
| 480        | 106.3      | 1680       | 107.6      | 2880       | 109.0      | 4080       | 110.8      |
| 510        | 106.3      | 1710       | 107.6      | 2910       | 109.2      | 4110       | 111.0      |
| 540        | 106.3      | 1740       | 107.6      | 2940       | 109.2      | 4140       | 111.0      |
| 570        | 106.3      | 1770       | 107.6      | 2970       | 109.2      | 4170       | 111.0      |
| 600        | 106.5      | 1800       | 107.8      | 3000       | 109.2      | 4200       | 111.0      |
| 630        | 106.5      | 1830       | 107.8      | 3030       | 109.4      | 4230       | 111.0      |
| 660        | 106.5      | 1860       | 107.8      | 3060       | 109.4      | 4260       | 111.0      |
| 690        | 106.5      | 1890       | 107.8      | 3090       | 109.6      | 4290       | 111.0      |
| 720        | 106.5      | 1920       | 107.8      | 3120       | 109.6      | 4303       | 111.0      |
| 750        | 106.7      | 1950       | 107.8      | 3150       | 109.8      |            |            |
| 780        | 106.7      | 1980       | 108.0      | 3180       | 109.8      |            |            |
| 810        | 106.7      | 2010       | 107.8      | 3210       | 109.8      |            |            |
| 840        | 106.7      | 2040       | 108.0      | 3240       | 109.9      |            |            |
| 870        | 106.7      | 2070       | 108.0      | 3270       | 109.8      |            |            |
| 900        | 106.7      | 2100       | 108.0      | 3300       | 109.9      |            |            |
| 930        | 106.9      | 2130       | 108.0      | 3330       | 109.9      |            |            |
| 960        | 106.9      | 2160       | 108.0      | 3360       | 109.9      |            |            |
| 990        | 106.9      | 2190       | 108.1      | 3390       | 109.9      |            |            |
| 1020       | 106.9      | 2220       | 108.1      | 3420       | 110.1      |            |            |
| 1050       | 106.9      | 2250       | 108.3      | 3450       | 110.1      |            |            |
| 1080       | 107.1      | 2280       | 108.3      | 3480       | 110.1      |            |            |
| 1110       | 107.1      | 2310       | 108.3      | 3510       | 110.1      |            |            |
| 1140       | 107.1      | 2340       | 108.5      | 3540       | 110.3      |            |            |
| 1170       | 107.1      | 2370       | 108.5      | 3570       | 110.3      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

[Test vehicle]

Model name : CAMRY HYBRID AWD  
Data is representative for : CAMRY HYBRID, CAMRY HYBRID AWD

[Test procedure] : EPA method

[Test conditions]

Date : 06/05/2023  
Ambient air temperature (at initiation) : 95.7 °F  
Ambient air temperature (at completion) : 96.1 °F  
Track surface temperature (at initiation) : 162.0 °F  
Track surface temperature (at completion) : 165.4 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 06/05/2023  
Ambient air temperature (at initiation) : 95.7 °F  
Ambient air temperature (at completion) : 96.1 °F  
Track surface temperature (at initiation) : 162.7 °F  
Track surface temperature (at completion) : 163.2 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

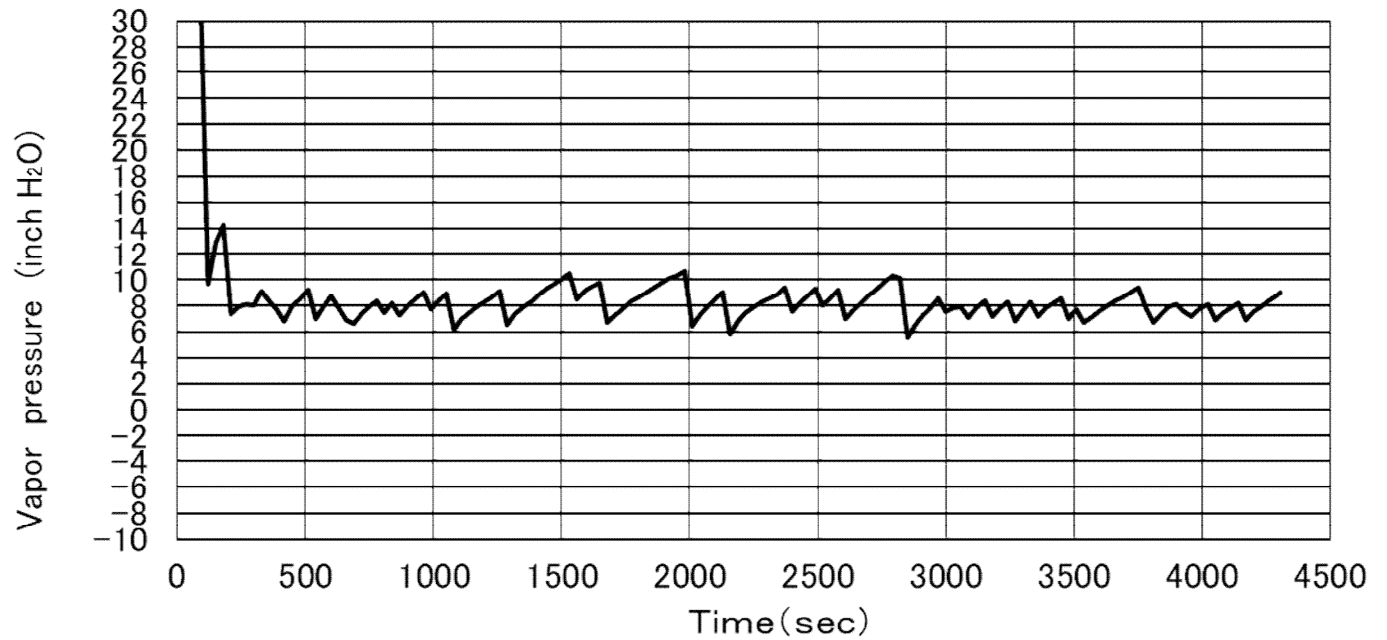
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 95.7       | 1200       | 97.2       | 2400       | 98.4       | 3600       | 100.4      |
| 30         | 95.9       | 1230       | 97.2       | 2430       | 98.4       | 3630       | 100.4      |
| 60         | 95.9       | 1260       | 97.2       | 2460       | 98.4       | 3660       | 100.6      |
| 90         | 95.9       | 1290       | 97.2       | 2490       | 98.6       | 3690       | 100.6      |
| 120        | 95.9       | 1320       | 97.2       | 2520       | 98.4       | 3720       | 100.6      |
| 150        | 96.1       | 1350       | 97.2       | 2550       | 98.6       | 3750       | 100.8      |
| 180        | 96.3       | 1380       | 97.3       | 2580       | 98.6       | 3780       | 100.8      |
| 210        | 96.3       | 1410       | 97.3       | 2610       | 98.6       | 3810       | 100.8      |
| 240        | 96.1       | 1440       | 97.3       | 2640       | 98.6       | 3840       | 100.9      |
| 270        | 96.3       | 1470       | 97.2       | 2670       | 98.8       | 3870       | 100.9      |
| 300        | 96.4       | 1500       | 97.2       | 2700       | 98.8       | 3900       | 100.9      |
| 330        | 96.3       | 1530       | 97.2       | 2730       | 98.8       | 3930       | 100.9      |
| 360        | 96.3       | 1560       | 97.3       | 2760       | 98.8       | 3960       | 100.9      |
| 390        | 96.4       | 1590       | 97.3       | 2790       | 98.8       | 3990       | 100.9      |
| 420        | 96.4       | 1620       | 97.3       | 2820       | 98.8       | 4020       | 100.9      |
| 450        | 96.4       | 1650       | 97.3       | 2850       | 99.0       | 4050       | 101.1      |
| 480        | 96.4       | 1680       | 97.5       | 2880       | 99.1       | 4080       | 101.1      |
| 510        | 96.4       | 1710       | 97.5       | 2910       | 99.1       | 4110       | 101.1      |
| 540        | 96.4       | 1740       | 97.7       | 2940       | 99.3       | 4140       | 101.1      |
| 570        | 96.4       | 1770       | 97.7       | 2970       | 99.3       | 4170       | 101.1      |
| 600        | 96.4       | 1800       | 97.7       | 3000       | 99.3       | 4200       | 101.3      |
| 630        | 96.6       | 1830       | 97.7       | 3030       | 99.5       | 4230       | 101.3      |
| 660        | 96.4       | 1860       | 97.7       | 3060       | 99.5       | 4260       | 101.3      |
| 690        | 96.6       | 1890       | 97.7       | 3090       | 99.7       | 4290       | 101.3      |
| 720        | 96.4       | 1920       | 97.7       | 3120       | 99.7       | 4303       | 101.3      |
| 750        | 96.6       | 1950       | 97.7       | 3150       | 99.9       |            |            |
| 780        | 96.6       | 1980       | 97.9       | 3180       | 99.9       |            |            |
| 810        | 96.8       | 2010       | 97.9       | 3210       | 99.9       |            |            |
| 840        | 96.8       | 2040       | 97.9       | 3240       | 99.9       |            |            |
| 870        | 96.8       | 2070       | 97.9       | 3270       | 99.9       |            |            |
| 900        | 96.8       | 2100       | 97.9       | 3300       | 100.0      |            |            |
| 930        | 96.8       | 2130       | 98.1       | 3330       | 100.0      |            |            |
| 960        | 96.8       | 2160       | 98.1       | 3360       | 100.0      |            |            |
| 990        | 96.8       | 2190       | 98.1       | 3390       | 100.2      |            |            |
| 1020       | 97.0       | 2220       | 98.1       | 3420       | 100.2      |            |            |
| 1050       | 97.0       | 2250       | 98.1       | 3450       | 100.2      |            |            |
| 1080       | 97.0       | 2280       | 98.2       | 3480       | 100.2      |            |            |
| 1110       | 97.0       | 2310       | 98.2       | 3510       | 100.2      |            |            |
| 1140       | 97.0       | 2340       | 98.4       | 3540       | 100.4      |            |            |
| 1170       | 97.0       | 2370       | 98.4       | 3570       | 100.4      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

[Test vehicle]

Model name : RAV4 PHEV AWD  
Data is representative for : RAV4 PHEV AWD

[Test procedure] : CARB method

[Test conditions]

Date : 05/21/2025  
Ambient air temperature (at initiation) : 106.9 °F  
Ambient air temperature (at completion) : 120.2 °F  
Track surface temperature (at initiation) : 180.1 °F  
Track surface temperature (at completion) : 180.7° F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 05/21/2025  
Ambient air temperature (at initiation) : 107.4 °F  
Ambient air temperature (at completion) : 119.1 °F  
Track surface temperature (at initiation) : 179.8° F  
Track surface temperature (at completion) : 180.7 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.  
Measured temperature and pressure profiles

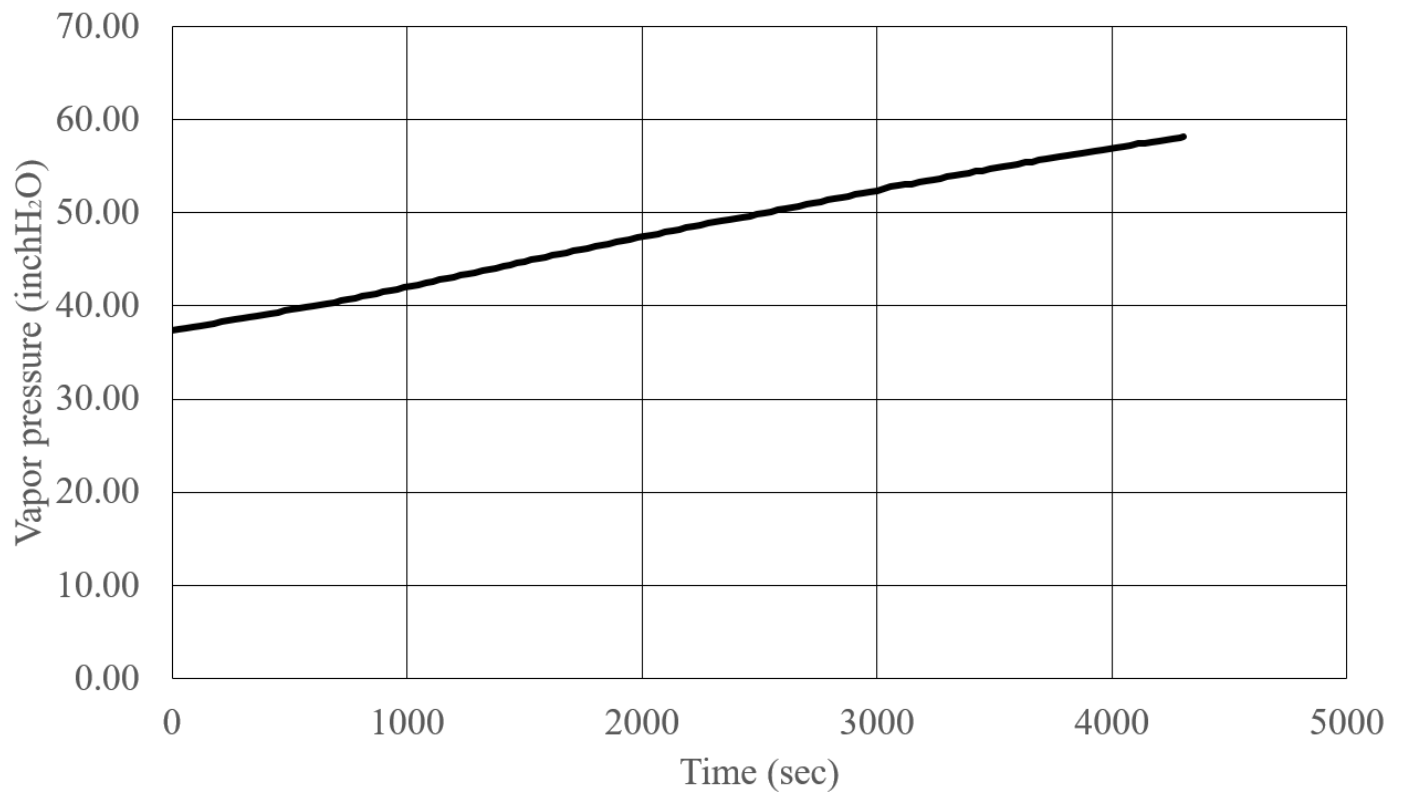
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 94.8       | 1200       | 95.7       | 2400       | 97.3       | 3600       | 98.6       |
| 30         | 94.8       | 1230       | 95.9       | 2430       | 97.3       | 3630       | 98.6       |
| 60         | 94.9       | 1260       | 95.9       | 2460       | 97.3       | 3660       | 98.8       |
| 90         | 95.0       | 1290       | 95.9       | 2490       | 97.3       | 3690       | 98.8       |
| 120        | 95.0       | 1320       | 95.9       | 2520       | 97.5       | 3720       | 98.8       |
| 150        | 95.0       | 1350       | 96.1       | 2550       | 97.5       | 3750       | 98.8       |
| 180        | 95.0       | 1380       | 96.1       | 2580       | 97.5       | 3780       | 98.8       |
| 210        | 95.0       | 1410       | 96.1       | 2610       | 97.5       | 3810       | 99.0       |
| 240        | 95.0       | 1440       | 96.1       | 2640       | 97.7       | 3840       | 99.0       |
| 270        | 95.0       | 1470       | 96.1       | 2670       | 97.7       | 3870       | 99.0       |
| 300        | 95.0       | 1500       | 96.1       | 2700       | 97.7       | 3900       | 99.0       |
| 330        | 95.0       | 1530       | 96.3       | 2730       | 97.7       | 3930       | 99.0       |
| 360        | 95.0       | 1560       | 96.3       | 2760       | 97.7       | 3960       | 99.0       |
| 390        | 95.2       | 1590       | 96.3       | 2790       | 97.7       | 3990       | 99.0       |
| 420        | 95.2       | 1620       | 96.3       | 2820       | 97.7       | 4020       | 99.1       |
| 450        | 95.2       | 1650       | 96.3       | 2850       | 97.9       | 4050       | 99.1       |
| 480        | 95.2       | 1680       | 96.4       | 2880       | 97.9       | 4080       | 99.1       |
| 510        | 95.2       | 1710       | 96.4       | 2910       | 97.9       | 4110       | 99.1       |
| 540        | 95.2       | 1740       | 96.4       | 2940       | 97.9       | 4140       | 99.1       |
| 570        | 95.2       | 1770       | 96.4       | 2970       | 97.9       | 4170       | 99.3       |
| 600        | 95.2       | 1800       | 96.4       | 3000       | 97.9       | 4200       | 99.3       |
| 630        | 95.4       | 1830       | 96.6       | 3030       | 98.1       | 4230       | 99.3       |
| 660        | 95.4       | 1860       | 96.6       | 3060       | 98.1       | 4260       | 99.3       |
| 690        | 95.4       | 1890       | 96.6       | 3090       | 98.1       | 4290       | 99.3       |
| 720        | 95.4       | 1920       | 96.6       | 3120       | 98.2       | 4304       | 99.3       |
| 750        | 95.4       | 1950       | 96.8       | 3150       | 98.2       |            |            |
| 780        | 95.4       | 1980       | 96.8       | 3180       | 98.2       |            |            |
| 810        | 95.4       | 2010       | 96.8       | 3210       | 98.2       |            |            |
| 840        | 95.4       | 2040       | 96.8       | 3240       | 98.2       |            |            |
| 870        | 95.5       | 2070       | 96.8       | 3270       | 98.2       |            |            |
| 900        | 95.5       | 2100       | 97.0       | 3300       | 98.4       |            |            |
| 930        | 95.5       | 2130       | 97.0       | 3330       | 98.2       |            |            |
| 960        | 95.5       | 2160       | 97.0       | 3360       | 98.4       |            |            |
| 990        | 95.7       | 2190       | 97.0       | 3390       | 98.4       |            |            |
| 1020       | 95.5       | 2220       | 97.0       | 3420       | 98.4       |            |            |
| 1050       | 95.7       | 2250       | 97.2       | 3450       | 98.4       |            |            |
| 1080       | 95.7       | 2280       | 97.2       | 3480       | 98.6       |            |            |
| 1110       | 95.7       | 2310       | 97.2       | 3510       | 98.6       |            |            |
| 1140       | 95.7       | 2340       | 97.2       | 3540       | 98.6       |            |            |
| 1170       | 95.7       | 2370       | 97.2       | 3570       | 98.6       |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

[Test vehicle]

Model name : RAV4 PHEV AWD  
Data is representative for : RAV4 PHEV AWD

[Test procedure] : EPA method

[Test conditions]

Date : 05/22/2025  
Ambient air temperature (at initiation) : 97.3 °F  
Ambient air temperature (at completion) : 108.5 °F  
Track surface temperature (at initiation) : 161.8 °F  
Track surface temperature (at completion) : 163.8° F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 05/22/2025  
Ambient air temperature (at initiation) : 97.7 °F  
Ambient air temperature (at completion) : 109.0 °F  
Track surface temperature (at initiation) : 162.7° F  
Track surface temperature (at completion) : 163.4 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

Measured temperature and pressure profiles

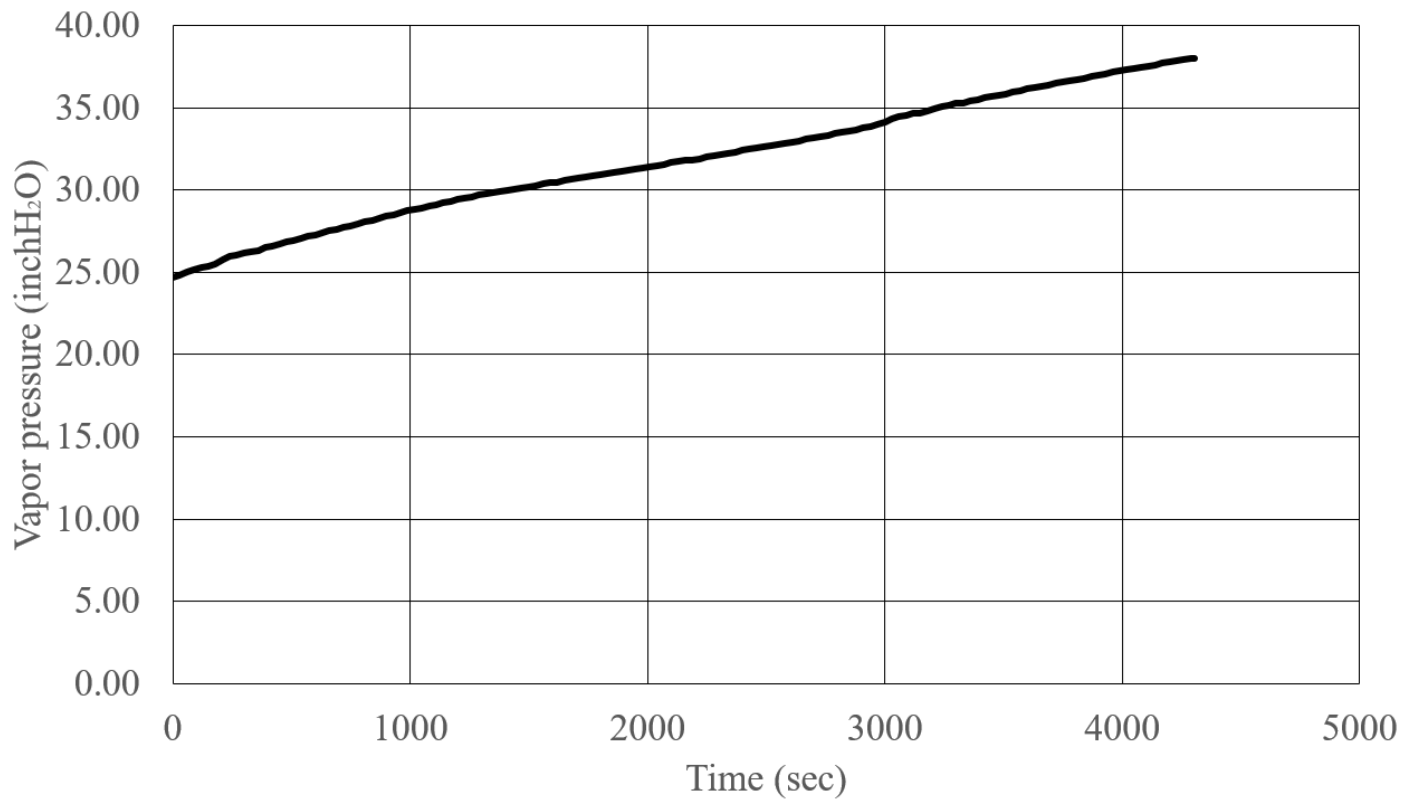
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 85.6       | 1200       | 86.5       | 2400       | 88.0       | 3600       | 89.1       |
| 30         | 85.7       | 1230       | 86.5       | 2430       | 88.0       | 3630       | 89.1       |
| 60         | 85.7       | 1260       | 86.7       | 2460       | 88.0       | 3660       | 89.1       |
| 90         | 85.7       | 1290       | 86.7       | 2490       | 88.0       | 3690       | 89.1       |
| 120        | 85.8       | 1320       | 86.7       | 2520       | 88.0       | 3720       | 89.2       |
| 150        | 85.8       | 1350       | 86.7       | 2550       | 88.2       | 3750       | 89.2       |
| 180        | 85.8       | 1380       | 86.7       | 2580       | 88.2       | 3780       | 89.2       |
| 210        | 85.8       | 1410       | 86.9       | 2610       | 88.2       | 3810       | 89.2       |
| 240        | 85.8       | 1440       | 86.7       | 2640       | 88.2       | 3840       | 89.2       |
| 270        | 85.8       | 1470       | 86.9       | 2670       | 88.2       | 3870       | 89.2       |
| 300        | 85.8       | 1500       | 86.9       | 2700       | 88.2       | 3900       | 89.2       |
| 330        | 85.8       | 1530       | 86.9       | 2730       | 88.3       | 3930       | 89.2       |
| 360        | 85.8       | 1560       | 87.1       | 2760       | 88.3       | 3960       | 89.2       |
| 390        | 85.8       | 1590       | 86.9       | 2790       | 88.3       | 3990       | 89.4       |
| 420        | 86.0       | 1620       | 87.1       | 2820       | 88.3       | 4020       | 89.4       |
| 450        | 86.0       | 1650       | 87.1       | 2850       | 88.3       | 4050       | 89.4       |
| 480        | 86.0       | 1680       | 87.1       | 2880       | 88.5       | 4080       | 89.4       |
| 510        | 86.0       | 1710       | 87.1       | 2910       | 88.5       | 4110       | 89.4       |
| 540        | 86.0       | 1740       | 87.3       | 2940       | 88.5       | 4140       | 89.4       |
| 570        | 86.0       | 1770       | 87.3       | 2970       | 88.5       | 4170       | 89.4       |
| 600        | 86.0       | 1800       | 87.3       | 3000       | 88.5       | 4200       | 89.6       |
| 630        | 86.2       | 1830       | 87.3       | 3030       | 88.5       | 4230       | 89.6       |
| 660        | 86.2       | 1860       | 87.3       | 3060       | 88.7       | 4260       | 89.6       |
| 690        | 86.2       | 1890       | 87.3       | 3090       | 88.7       | 4290       | 89.6       |
| 720        | 86.2       | 1920       | 87.4       | 3120       | 88.7       | 4304       | 89.6       |
| 750        | 86.2       | 1950       | 87.4       | 3150       | 88.7       |            |            |
| 780        | 86.2       | 1980       | 87.4       | 3180       | 88.7       |            |            |
| 810        | 86.2       | 2010       | 87.4       | 3210       | 88.7       |            |            |
| 840        | 86.2       | 2040       | 87.4       | 3240       | 88.7       |            |            |
| 870        | 86.4       | 2070       | 87.6       | 3270       | 88.7       |            |            |
| 900        | 86.4       | 2100       | 87.6       | 3300       | 88.9       |            |            |
| 930        | 86.4       | 2130       | 87.6       | 3330       | 88.9       |            |            |
| 960        | 86.4       | 2160       | 87.6       | 3360       | 88.9       |            |            |
| 990        | 86.4       | 2190       | 87.6       | 3390       | 88.9       |            |            |
| 1020       | 86.5       | 2220       | 87.6       | 3420       | 88.9       |            |            |
| 1050       | 86.4       | 2250       | 87.8       | 3450       | 88.9       |            |            |
| 1080       | 86.5       | 2280       | 87.8       | 3480       | 88.9       |            |            |
| 1110       | 86.5       | 2310       | 87.8       | 3510       | 89.1       |            |            |
| 1140       | 86.5       | 2340       | 87.8       | 3540       | 89.1       |            |            |
| 1170       | 86.5       | 2370       | 87.8       | 3570       | 89.1       |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

[Test vehicle]

Model name : TOYOTA CROWN SIGNIA AWD  
Data is representative for : TOYOTA CROWN SIGNIA AWD

[Test procedure] : CARB method

[Test conditions]

Date : 09/13/2023  
Ambient air temperature (at initiation) : 107.2 °F  
Ambient air temperature (at completion) : 106.3 °F  
Track surface temperature (at initiation) : 150.3 °F  
Track surface temperature (at completion) : 150.1 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 09/14/2023  
Ambient air temperature (at initiation) : 108.1°F  
Ambient air temperature (at completion) : 108.0°F  
Track surface temperature (at initiation) : 145.8 °F  
Track surface temperature (at completion) : 150.3 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

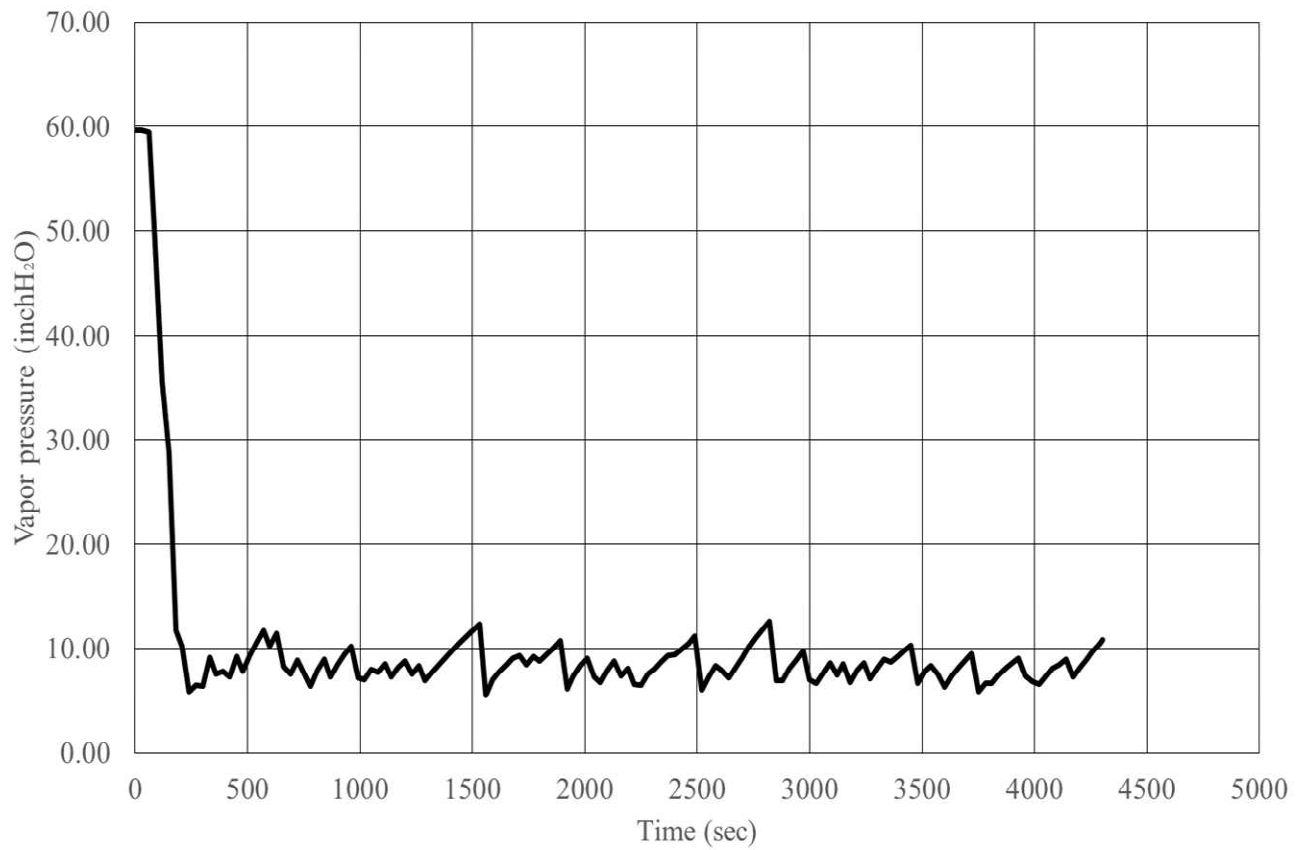
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 104.4      | 1200       | 106.2      | 2400       | 109.0      | 3600       | 111.9      |
| 30         | 104.4      | 1230       | 106.2      | 2430       | 109.0      | 3630       | 111.7      |
| 60         | 104.4      | 1260       | 106.2      | 2460       | 109.0      | 3660       | 111.9      |
| 90         | 104.4      | 1290       | 106.3      | 2490       | 109.2      | 3690       | 112.1      |
| 120        | 104.2      | 1320       | 106.3      | 2520       | 109.4      | 3720       | 112.1      |
| 150        | 104.2      | 1350       | 106.5      | 2550       | 109.4      | 3750       | 112.1      |
| 180        | 104.2      | 1380       | 106.5      | 2580       | 109.4      | 3780       | 112.1      |
| 210        | 104.2      | 1410       | 106.5      | 2610       | 109.4      | 3810       | 112.3      |
| 240        | 104.2      | 1440       | 106.7      | 2640       | 109.4      | 3840       | 112.5      |
| 270        | 104.4      | 1470       | 106.7      | 2670       | 109.6      | 3870       | 112.5      |
| 300        | 104.4      | 1500       | 106.7      | 2700       | 109.6      | 3900       | 112.6      |
| 330        | 104.4      | 1530       | 106.7      | 2730       | 109.6      | 3930       | 112.6      |
| 360        | 104.5      | 1560       | 106.7      | 2760       | 109.8      | 3960       | 112.6      |
| 390        | 104.5      | 1590       | 107.1      | 2790       | 109.8      | 3990       | 112.6      |
| 420        | 104.5      | 1620       | 107.1      | 2820       | 109.8      | 4020       | 112.8      |
| 450        | 104.7      | 1650       | 107.1      | 2850       | 109.8      | 4050       | 112.8      |
| 480        | 104.7      | 1680       | 107.2      | 2880       | 110.1      | 4080       | 112.8      |
| 510        | 104.5      | 1710       | 107.2      | 2910       | 110.1      | 4110       | 113.0      |
| 540        | 104.9      | 1740       | 107.4      | 2940       | 110.3      | 4140       | 113.0      |
| 570        | 104.9      | 1770       | 107.6      | 2970       | 110.3      | 4170       | 113.0      |
| 600        | 104.9      | 1800       | 107.4      | 3000       | 110.5      | 4200       | 113.2      |
| 630        | 104.9      | 1830       | 107.6      | 3030       | 110.5      | 4230       | 113.2      |
| 660        | 105.1      | 1860       | 107.8      | 3060       | 110.5      | 4260       | 113.2      |
| 690        | 105.1      | 1890       | 107.8      | 3090       | 110.5      | 4290       | 113.4      |
| 720        | 105.1      | 1920       | 107.8      | 3120       | 110.7      | 4304       | 113.4      |
| 750        | 105.3      | 1950       | 107.8      | 3150       | 110.8      |            |            |
| 780        | 105.3      | 1980       | 107.8      | 3180       | 110.8      |            |            |
| 810        | 105.3      | 2010       | 108.0      | 3210       | 110.8      |            |            |
| 840        | 105.3      | 2040       | 108.1      | 3240       | 111.0      |            |            |
| 870        | 105.6      | 2070       | 108.1      | 3270       | 111.2      |            |            |
| 900        | 105.6      | 2100       | 108.1      | 3300       | 111.0      |            |            |
| 930        | 105.6      | 2130       | 108.1      | 3330       | 111.2      |            |            |
| 960        | 105.6      | 2160       | 108.3      | 3360       | 111.2      |            |            |
| 990        | 105.8      | 2190       | 108.5      | 3390       | 111.4      |            |            |
| 1020       | 105.8      | 2220       | 108.5      | 3420       | 111.6      |            |            |
| 1050       | 106.0      | 2250       | 108.7      | 3450       | 111.4      |            |            |
| 1080       | 106.0      | 2280       | 108.7      | 3480       | 111.6      |            |            |
| 1110       | 106.0      | 2310       | 108.9      | 3510       | 111.6      |            |            |
| 1140       | 106.2      | 2340       | 108.9      | 3540       | 111.7      |            |            |
| 1170       | 106.2      | 2370       | 108.9      | 3570       | 111.7      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

[Test vehicle]

Model name : TOYOTA CROWN SIGNIA AWD  
Data is representative for : TOYOTA CROWN SIGNIA AWD

[Test procedure] : EPA method

[Test conditions]

Date : 09/12/2023  
Ambient air temperature (at initiation) : 99.0 °F  
Ambient air temperature (at completion) : 98.8 °F  
Track surface temperature (at initiation) : 140.9 °F  
Track surface temperature (at completion) : 141.3 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 09/13/2023  
Ambient air temperature (at initiation) : 99.3 °F  
Ambient air temperature (at completion) : 99.0 °F  
Track surface temperature (at initiation) : 140.7 °F  
Track surface temperature (at completion) : 141.1 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

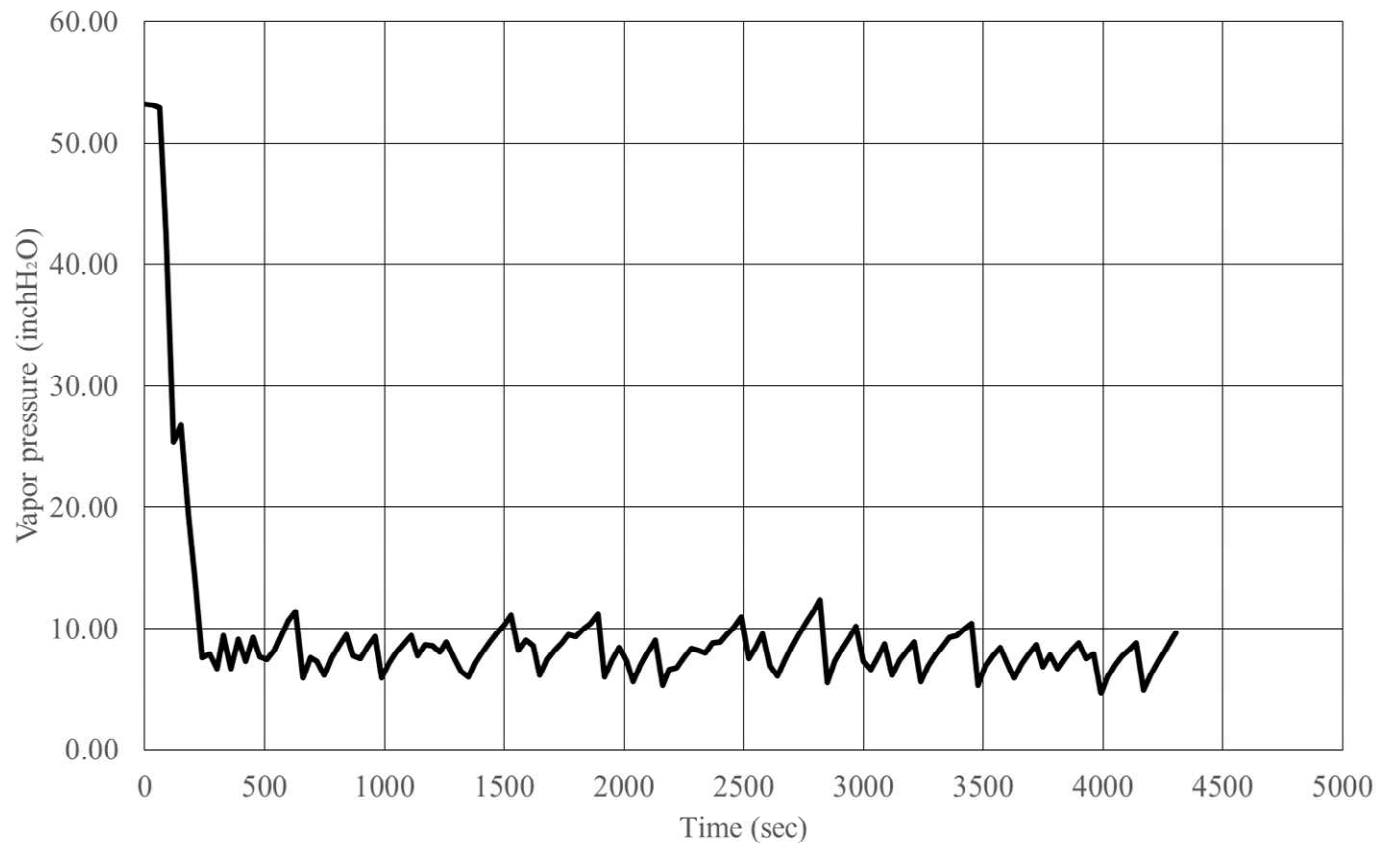
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 97.2       | 1200       | 98.8       | 2400       | 101.7      | 3600       | 104.7      |
| 30         | 97.2       | 1230       | 99.0       | 2430       | 101.8      | 3630       | 104.7      |
| 60         | 97.2       | 1260       | 99.0       | 2460       | 101.8      | 3660       | 104.7      |
| 90         | 97.1       | 1290       | 99.1       | 2490       | 101.8      | 3690       | 104.9      |
| 120        | 97.2       | 1320       | 99.0       | 2520       | 102.0      | 3720       | 104.9      |
| 150        | 97.2       | 1350       | 99.1       | 2550       | 102.0      | 3750       | 104.9      |
| 180        | 97.2       | 1380       | 99.3       | 2580       | 102.0      | 3780       | 105.1      |
| 210        | 97.2       | 1410       | 99.3       | 2610       | 102.0      | 3810       | 105.1      |
| 240        | 97.2       | 1440       | 99.3       | 2640       | 102.2      | 3840       | 105.3      |
| 270        | 97.3       | 1470       | 99.3       | 2670       | 102.4      | 3870       | 105.4      |
| 300        | 97.2       | 1500       | 99.3       | 2700       | 102.4      | 3900       | 105.4      |
| 330        | 97.3       | 1530       | 99.3       | 2730       | 102.4      | 3930       | 105.4      |
| 360        | 97.3       | 1560       | 99.5       | 2760       | 102.4      | 3960       | 105.4      |
| 390        | 97.3       | 1590       | 99.7       | 2790       | 102.4      | 3990       | 105.6      |
| 420        | 97.3       | 1620       | 99.7       | 2820       | 102.6      | 4020       | 105.6      |
| 450        | 97.5       | 1650       | 99.7       | 2850       | 102.6      | 4050       | 105.6      |
| 480        | 97.3       | 1680       | 99.9       | 2880       | 102.7      | 4080       | 105.6      |
| 510        | 97.5       | 1710       | 99.9       | 2910       | 102.7      | 4110       | 105.8      |
| 540        | 97.7       | 1740       | 100.0      | 2940       | 102.9      | 4140       | 106.0      |
| 570        | 97.7       | 1770       | 100.0      | 2970       | 102.9      | 4170       | 106.0      |
| 600        | 97.7       | 1800       | 100.2      | 3000       | 103.1      | 4200       | 106.0      |
| 630        | 97.7       | 1830       | 100.2      | 3030       | 103.1      | 4230       | 106.0      |
| 660        | 97.9       | 1860       | 100.2      | 3060       | 103.1      | 4260       | 106.0      |
| 690        | 97.9       | 1890       | 100.2      | 3090       | 103.3      | 4290       | 106.0      |
| 720        | 97.9       | 1920       | 100.4      | 3120       | 103.3      | 4304       | 106.2      |
| 750        | 98.1       | 1950       | 100.6      | 3150       | 103.5      |            |            |
| 780        | 98.1       | 1980       | 100.6      | 3180       | 103.6      |            |            |
| 810        | 98.1       | 2010       | 100.6      | 3210       | 103.6      |            |            |
| 840        | 98.1       | 2040       | 100.6      | 3240       | 103.8      |            |            |
| 870        | 98.2       | 2070       | 100.8      | 3270       | 103.8      |            |            |
| 900        | 98.2       | 2100       | 100.8      | 3300       | 103.8      |            |            |
| 930        | 98.2       | 2130       | 100.8      | 3330       | 104.0      |            |            |
| 960        | 98.4       | 2160       | 100.9      | 3360       | 104.0      |            |            |
| 990        | 98.4       | 2190       | 100.9      | 3390       | 104.2      |            |            |
| 1020       | 98.4       | 2220       | 101.3      | 3420       | 104.2      |            |            |
| 1050       | 98.6       | 2250       | 101.3      | 3450       | 104.4      |            |            |
| 1080       | 98.6       | 2280       | 101.3      | 3480       | 104.5      |            |            |
| 1110       | 98.8       | 2310       | 101.3      | 3510       | 104.5      |            |            |
| 1140       | 98.8       | 2340       | 101.5      | 3540       | 104.5      |            |            |
| 1170       | 98.8       | 2370       | 101.5      | 3570       | 104.7      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

(b) Measured vapor space pressure profile



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

Evaporative emission test log

Vehicle Description

|                     |                              |
|---------------------|------------------------------|
|                     | Evaporative emission vehicle |
| Test group          | : PTYXJ02.4P3L               |
| Vehicle ID          | : 23-TL1H                    |
| Rep. car/truck line | : RX 500h AWD                |
| Rep. vehicle model  | : TALH17L-CWTGTA             |
| Displacement        | : 146.0 CID                  |
| Transmission        | : PC60-A                     |
| Test weight         | : 5,000 lbs.                 |
| Road load           | : 15.4 HP                    |
| Evap. code          | : TL1G                       |

|                     |                            |
|---------------------|----------------------------|
|                     | Refueling emission vehicle |
| Test group          | : LTYXT02.5P34             |
| Vehicle ID          | : 20-AU1H                  |
| Rep. car/truck line | : HIGHLANDER HYBRID AWD    |
| Rep. vehicle model  | : AXUH78L-ARXGHA           |
| Displacement        | : 151.8 CID                |
| Transmission        | : P810-B                   |
| Test weight         | : 5,000 lbs.               |
| Road load           | : 15.4 HP                  |
| Evap. code          | : AU1G                     |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Running loss  | :       | 0.007      | (g/mile) |
| Hot soak loss | :       | 0.0433     | (g/test) |
| 3DBL          | 1st day | : 0.1116*1 | (g/test) |
|               | 2nd day | : 0.0695   | (g/test) |
|               | 3rd day | : 0.0589   | (g/test) |

2-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Hot soak loss | :       | 0.0292     | (g/mile) |
| 2DBL          | 1st day | : 0.1048*1 | (g/test) |
|               | 2nd day | : 0.0639   | (g/test) |

Refueling sequence test results

|                    |   |       |         |
|--------------------|---|-------|---------|
| Refueling emission | : | 0.003 | (g/gal) |
|--------------------|---|-------|---------|

\*1: DBL is added key off monitor loss (0.0002 gram).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J42.

Evaporative emission test log

Vehicle Description

|                     | Evaporative emission vehicle | Refueling emission vehicle |
|---------------------|------------------------------|----------------------------|
| Test group          | : PTYXV02.5P33               | JTYXV02.5P33               |
| Vehicle ID          | : 23-AZ1H                    | 18-AV3H                    |
| Rep. car/truck line | : ES 300h                    | CAMRY HYBRID               |
| Rep. vehicle model  | : AXZH11L-BEXGBA             | AXVH71L-CEXSBA             |
| Displacement        | : 151.8CID                   | 151.8CID                   |
| Transmission        | : P710-C                     | P710-A                     |
| Test weight         | : 4,000 lbs.                 | 3,875 lbs.                 |
| Road load           | : 10.8 HP                    | 10.2 HP                    |
| Evap. code          | : AZ1W                       | AV1W                       |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|               |         |          |          |
|---------------|---------|----------|----------|
| Running loss  | :       | 0.004    | (g/mile) |
| Hot soak loss | :       | 0.0328   | (g/test) |
| 3DBL          | 1st day | : 0.1014 | (g/test) |
|               | 2nd day | : 0.0523 | (g/test) |
|               | 3rd day | : 0.0356 | (g/test) |

2-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Hot soak loss | :       | 0.0258     | (g/mile) |
| 2DBL          | 1st day | : 0.1247*1 | (g/test) |
|               | 2nd day | : 0.0626   | (g/test) |

Refueling sequence test results

Refueling emission : 0.0005 (g/gal)

\*1: DBL is added key off monitor loss (0.0003 gram).

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

[Test vehicle]

Model name : COROLLA HYBRID AWD  
Data is representative for : COROLLA HYBRID,  
COROLLA HYBRID AWD

[Test procedure]

: CARB method

[Test conditions]

Date : 02/23/2024  
Ambient air temperature (at initiation) : 106.2 °F  
Ambient air temperature (at completion) : 110.1 °F  
Track surface temperature (at initiation) : 175.8 °F  
Track surface temperature (at completion) : 179.6 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 02/24/2024  
Ambient air temperature (at initiation) : 105.1 °F  
Ambient air temperature (at completion) : 110.3 °F  
Track surface temperature (at initiation) : 173.7 °F  
Track surface temperature (at completion) : 179.4 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

Measured temperature and pressure profiles

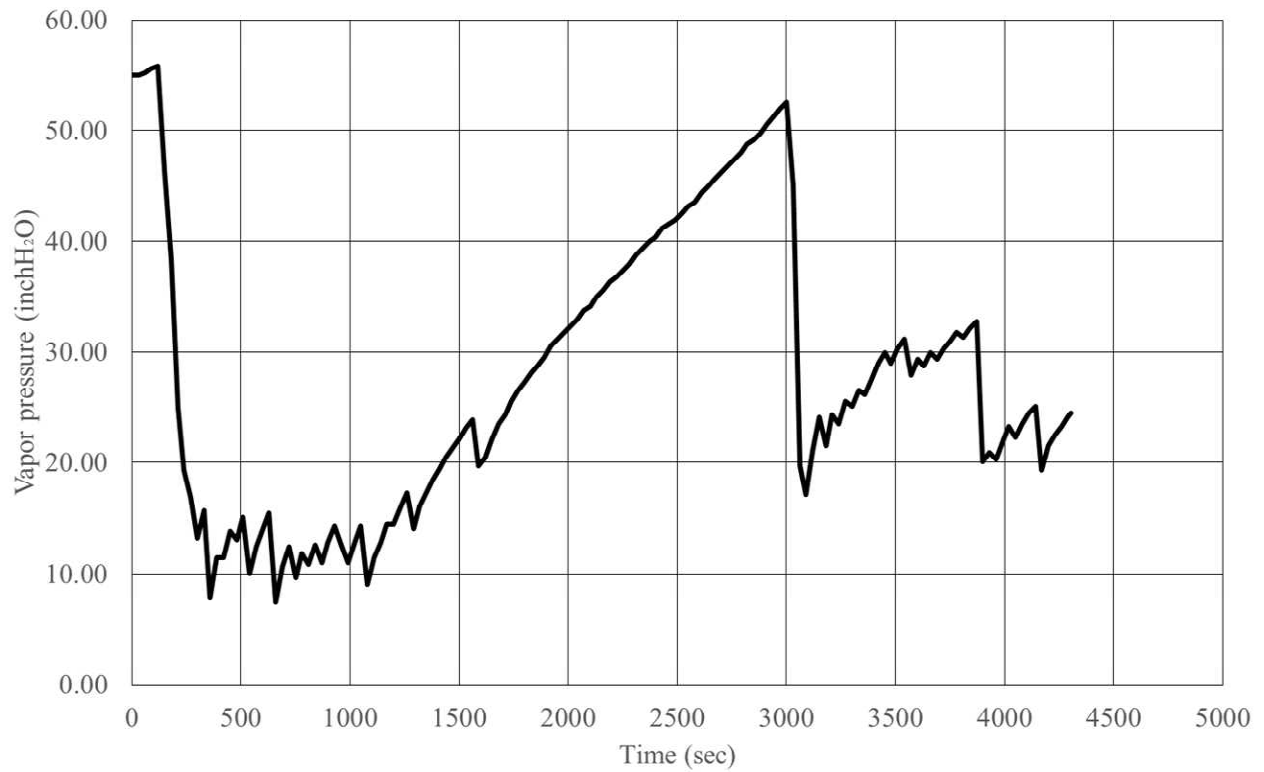
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 103.8      | 1200       | 110.5      | 2400       | 114.3      | 3600       | 118.4      |
| 30         | 103.9      | 1230       | 110.7      | 2430       | 114.4      | 3630       | 118.4      |
| 60         | 104.2      | 1260       | 110.7      | 2460       | 114.8      | 3660       | 118.4      |
| 90         | 104.6      | 1290       | 110.7      | 2490       | 114.8      | 3690       | 118.6      |
| 120        | 105.1      | 1320       | 110.8      | 2520       | 115.0      | 3720       | 118.6      |
| 150        | 105.1      | 1350       | 110.8      | 2550       | 115.0      | 3750       | 118.6      |
| 180        | 105.4      | 1380       | 111.0      | 2580       | 115.3      | 3780       | 118.9      |
| 210        | 105.8      | 1410       | 111.0      | 2610       | 115.2      | 3810       | 118.8      |
| 240        | 106.0      | 1440       | 111.2      | 2640       | 115.2      | 3840       | 118.9      |
| 270        | 106.2      | 1470       | 111.4      | 2670       | 115.5      | 3870       | 119.1      |
| 300        | 106.3      | 1500       | 111.4      | 2700       | 115.7      | 3900       | 119.1      |
| 330        | 106.7      | 1530       | 111.4      | 2730       | 115.9      | 3930       | 119.1      |
| 360        | 106.9      | 1560       | 111.4      | 2760       | 115.9      | 3960       | 119.1      |
| 390        | 107.1      | 1590       | 111.7      | 2790       | 115.9      | 3990       | 119.1      |
| 420        | 107.2      | 1620       | 111.7      | 2820       | 116.1      | 4020       | 119.3      |
| 450        | 107.6      | 1650       | 111.9      | 2850       | 115.9      | 4050       | 119.1      |
| 480        | 107.6      | 1680       | 111.9      | 2880       | 115.9      | 4080       | 119.3      |
| 510        | 107.8      | 1710       | 111.9      | 2910       | 115.5      | 4110       | 119.1      |
| 540        | 107.8      | 1740       | 112.1      | 2940       | 115.9      | 4140       | 119.3      |
| 570        | 108.0      | 1770       | 112.3      | 2970       | 116.4      | 4170       | 119.3      |
| 600        | 108.1      | 1800       | 112.3      | 3000       | 116.4      | 4200       | 119.5      |
| 630        | 108.3      | 1830       | 112.5      | 3030       | 116.1      | 4230       | 119.5      |
| 660        | 108.3      | 1860       | 112.6      | 3060       | 116.2      | 4260       | 119.7      |
| 690        | 108.5      | 1890       | 112.6      | 3090       | 116.6      | 4290       | 119.7      |
| 720        | 108.7      | 1920       | 112.6      | 3120       | 117.0      | 4304       | 119.7      |
| 750        | 108.7      | 1950       | 113.0      | 3150       | 117.3      |            |            |
| 780        | 108.7      | 1980       | 113.2      | 3180       | 117.5      |            |            |
| 810        | 108.9      | 2010       | 113.0      | 3210       | 117.7      |            |            |
| 840        | 108.9      | 2040       | 113.2      | 3240       | 117.7      |            |            |
| 870        | 109.0      | 2070       | 113.4      | 3270       | 117.9      |            |            |
| 900        | 109.2      | 2100       | 113.5      | 3300       | 117.9      |            |            |
| 930        | 109.4      | 2130       | 113.5      | 3330       | 117.9      |            |            |
| 960        | 109.6      | 2160       | 113.5      | 3360       | 118.0      |            |            |
| 990        | 109.8      | 2190       | 113.7      | 3390       | 118.2      |            |            |
| 1020       | 109.9      | 2220       | 113.9      | 3420       | 118.2      |            |            |
| 1050       | 110.1      | 2250       | 113.9      | 3450       | 118.2      |            |            |
| 1080       | 110.1      | 2280       | 113.9      | 3480       | 118.2      |            |            |
| 1110       | 110.3      | 2310       | 113.9      | 3510       | 118.2      |            |            |
| 1140       | 110.1      | 2340       | 114.1      | 3540       | 118.2      |            |            |
| 1170       | 110.3      | 2370       | 114.3      | 3570       | 118.4      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

[Test vehicle]

Model name : COROLLA HYBRID AWD  
Data is representative for : COROLLA HYBRID,  
COROLLA HYBRID AWD

[Test procedure]

: EPA method

[Test conditions]

Date : 02/23/2024  
Ambient air temperature (at initiation) : 95.5 °F  
Ambient air temperature (at completion) : 99.7 °F  
Track surface temperature (at initiation) : 153.0 °F  
Track surface temperature (at completion) : 158.0 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 02/24/2024  
Ambient air temperature (at initiation) : 96.6 °F  
Ambient air temperature (at completion) : 99.9 °F  
Track surface temperature (at initiation) : 153.3 °F  
Track surface temperature (at completion) : 157.5 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.  
Measured temperature and pressure profiles

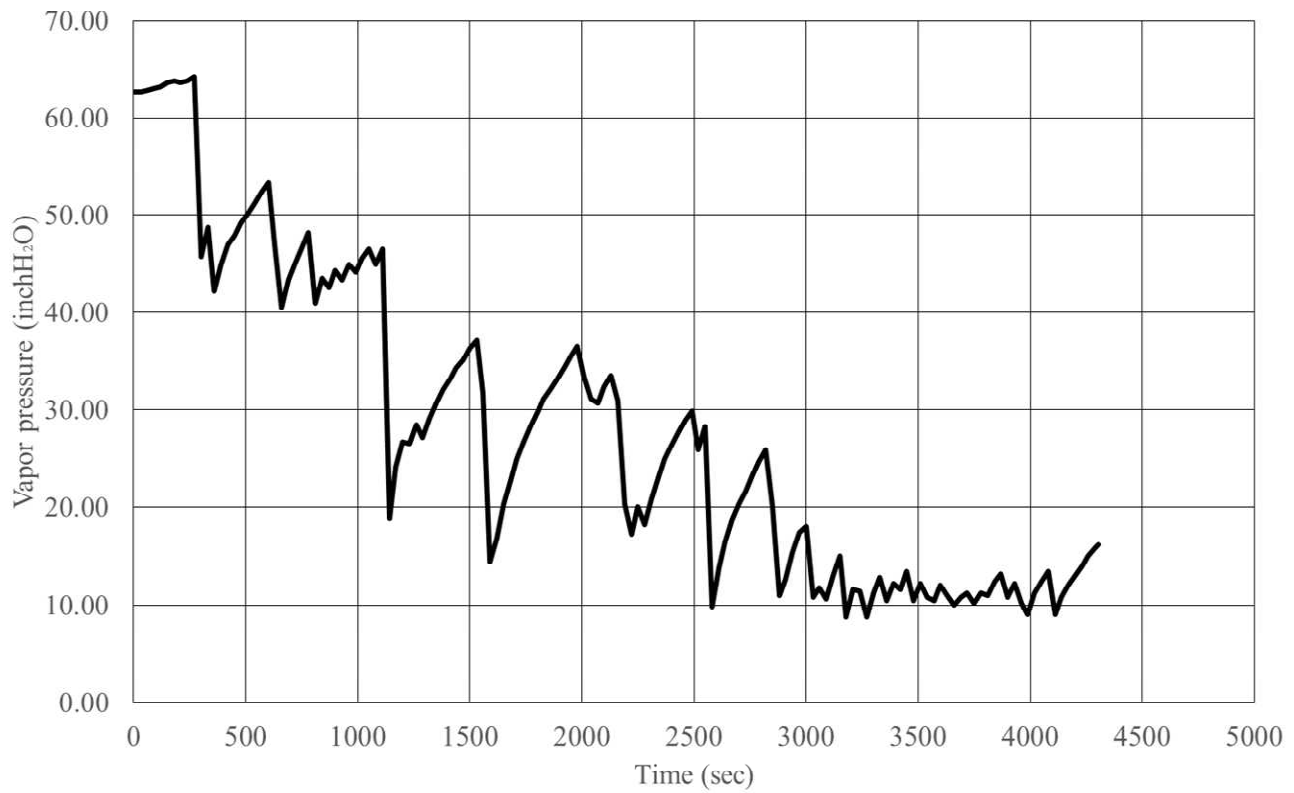
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 95.9       | 1200       | 101.3      | 2400       | 105.8      | 3600       | 110.1      |
| 30         | 95.9       | 1230       | 101.3      | 2430       | 106.0      | 3630       | 110.3      |
| 60         | 96.1       | 1260       | 101.5      | 2460       | 106.0      | 3660       | 110.5      |
| 90         | 96.3       | 1290       | 101.7      | 2490       | 106.2      | 3690       | 110.5      |
| 120        | 96.4       | 1320       | 101.5      | 2520       | 106.3      | 3720       | 110.5      |
| 150        | 96.6       | 1350       | 101.8      | 2550       | 106.3      | 3750       | 110.8      |
| 180        | 96.8       | 1380       | 101.8      | 2580       | 106.7      | 3780       | 110.8      |
| 210        | 97.0       | 1410       | 102.0      | 2610       | 106.7      | 3810       | 110.8      |
| 240        | 97.0       | 1440       | 102.2      | 2640       | 106.9      | 3840       | 111.0      |
| 270        | 97.3       | 1470       | 102.2      | 2670       | 106.9      | 3870       | 111.2      |
| 300        | 97.3       | 1500       | 102.4      | 2700       | 107.2      | 3900       | 111.0      |
| 330        | 97.7       | 1530       | 102.4      | 2730       | 107.2      | 3930       | 111.2      |
| 360        | 97.9       | 1560       | 102.4      | 2760       | 107.4      | 3960       | 111.2      |
| 390        | 98.1       | 1590       | 102.6      | 2790       | 107.4      | 3990       | 111.2      |
| 420        | 98.1       | 1620       | 102.9      | 2820       | 107.6      | 4020       | 111.4      |
| 450        | 98.2       | 1650       | 102.9      | 2850       | 107.4      | 4050       | 111.4      |
| 480        | 98.4       | 1680       | 102.9      | 2880       | 107.2      | 4080       | 111.6      |
| 510        | 98.4       | 1710       | 102.9      | 2910       | 107.2      | 4110       | 111.4      |
| 540        | 98.6       | 1740       | 103.1      | 2940       | 107.6      | 4140       | 111.7      |
| 570        | 98.8       | 1770       | 103.3      | 2970       | 108.1      | 4170       | 111.7      |
| 600        | 98.8       | 1800       | 103.5      | 3000       | 108.0      | 4200       | 111.7      |
| 630        | 99.0       | 1830       | 103.6      | 3030       | 107.6      | 4230       | 111.9      |
| 660        | 99.1       | 1860       | 103.6      | 3060       | 107.8      | 4260       | 111.9      |
| 690        | 99.1       | 1890       | 103.8      | 3090       | 108.1      | 4290       | 111.9      |
| 720        | 99.3       | 1920       | 104.0      | 3120       | 108.7      | 4304       | 111.9      |
| 750        | 99.3       | 1950       | 104.0      | 3150       | 108.9      |            |            |
| 780        | 99.5       | 1980       | 104.2      | 3180       | 109.2      |            |            |
| 810        | 99.5       | 2010       | 104.2      | 3210       | 109.4      |            |            |
| 840        | 99.7       | 2040       | 104.4      | 3240       | 109.4      |            |            |
| 870        | 99.9       | 2070       | 104.5      | 3270       | 109.6      |            |            |
| 900        | 99.9       | 2100       | 104.7      | 3300       | 109.6      |            |            |
| 930        | 100.0      | 2130       | 104.7      | 3330       | 109.8      |            |            |
| 960        | 100.0      | 2160       | 104.9      | 3360       | 109.8      |            |            |
| 990        | 100.2      | 2190       | 104.9      | 3390       | 109.9      |            |            |
| 1020       | 100.6      | 2220       | 105.1      | 3420       | 109.9      |            |            |
| 1050       | 100.8      | 2250       | 105.3      | 3450       | 110.1      |            |            |
| 1080       | 100.8      | 2280       | 105.3      | 3480       | 109.9      |            |            |
| 1110       | 100.8      | 2310       | 105.3      | 3510       | 110.1      |            |            |
| 1140       | 100.9      | 2340       | 105.4      | 3540       | 110.1      |            |            |
| 1170       | 101.1      | 2370       | 105.8      | 3570       | 110.1      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

[Test vehicle]

Model name : COROLLA CROSS HYBRID AWD  
Data is representative for : COROLLA CROSS HYBRID AWD

[Test procedure] : CARB method

[Test conditions]

Date : 02/24/2022  
Ambient air temperature (at initiation) : 106.2 °F  
Ambient air temperature (at completion) : 110.1 °F  
Track surface temperature (at initiation) : 137.7 °F  
Track surface temperature (at completion) : 140.5 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 02/24/2022  
Ambient air temperature (at initiation) : 105.6°F  
Ambient air temperature (at completion) : 110.3°F  
Track surface temperature (at initiation) : 137.8 °F  
Track surface temperature (at completion) : 140.7 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

Measured temperature and pressure profiles

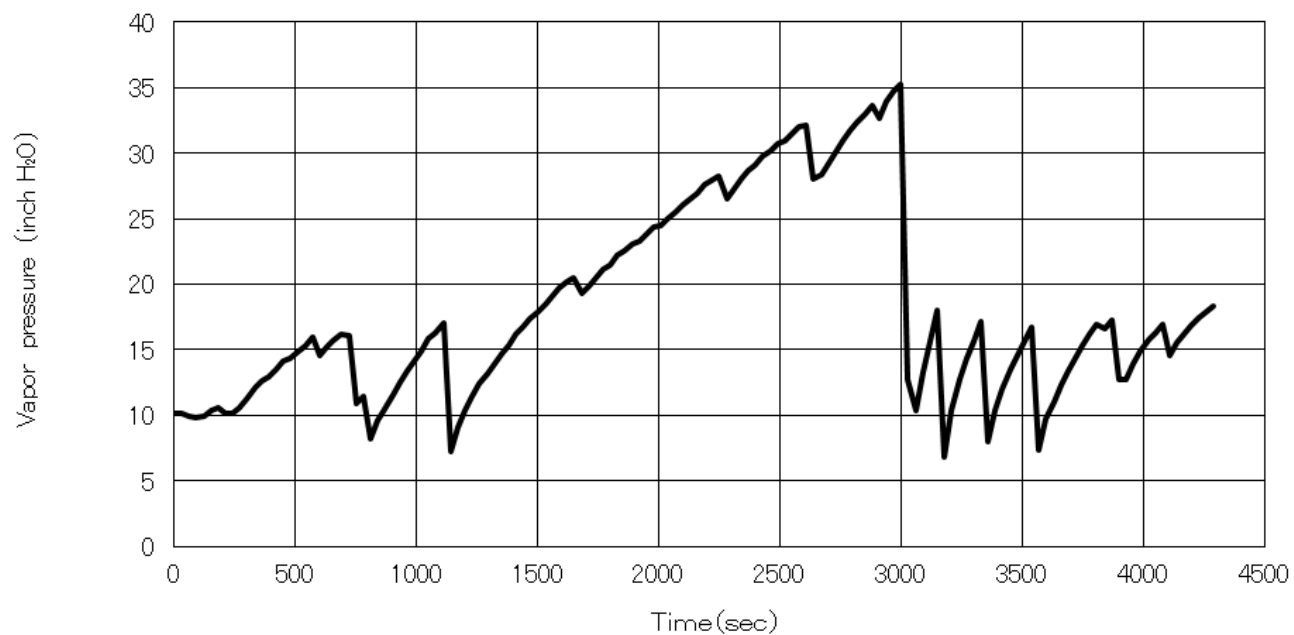
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.2      | 1200       | 110.3      | 2400       | 113.9      | 3600       | 117.9      |
| 30         | 106.2      | 1230       | 110.3      | 2430       | 114.1      | 3630       | 118.0      |
| 60         | 106.2      | 1260       | 110.5      | 2460       | 114.1      | 3660       | 118.0      |
| 90         | 106.2      | 1290       | 110.5      | 2490       | 114.3      | 3690       | 118.2      |
| 120        | 106.3      | 1320       | 110.7      | 2520       | 114.4      | 3720       | 118.2      |
| 150        | 106.5      | 1350       | 110.7      | 2550       | 114.4      | 3750       | 118.4      |
| 180        | 106.5      | 1380       | 110.8      | 2580       | 114.6      | 3780       | 118.4      |
| 210        | 106.5      | 1410       | 110.8      | 2610       | 114.6      | 3810       | 118.6      |
| 240        | 106.9      | 1440       | 111.2      | 2640       | 114.6      | 3840       | 118.6      |
| 270        | 107.1      | 1470       | 111.2      | 2670       | 114.8      | 3870       | 118.6      |
| 300        | 107.2      | 1500       | 111.2      | 2700       | 115.0      | 3900       | 118.6      |
| 330        | 107.4      | 1530       | 111.4      | 2730       | 115.2      | 3930       | 118.8      |
| 360        | 107.4      | 1560       | 111.4      | 2760       | 115.3      | 3960       | 118.8      |
| 390        | 107.4      | 1590       | 111.2      | 2790       | 115.5      | 3990       | 118.9      |
| 420        | 107.6      | 1620       | 111.4      | 2820       | 115.5      | 4020       | 118.9      |
| 450        | 107.8      | 1650       | 111.6      | 2850       | 115.7      | 4050       | 118.9      |
| 480        | 107.8      | 1680       | 111.6      | 2880       | 115.7      | 4080       | 119.1      |
| 510        | 108.0      | 1710       | 111.7      | 2910       | 115.9      | 4110       | 118.9      |
| 540        | 108.1      | 1740       | 111.9      | 2940       | 115.9      | 4140       | 119.1      |
| 570        | 108.1      | 1770       | 111.9      | 2970       | 115.9      | 4170       | 119.1      |
| 600        | 108.1      | 1800       | 111.9      | 3000       | 115.9      | 4200       | 119.3      |
| 630        | 108.3      | 1830       | 112.1      | 3030       | 116.1      | 4230       | 119.3      |
| 660        | 108.5      | 1860       | 112.1      | 3060       | 116.2      | 4260       | 119.5      |
| 690        | 108.5      | 1890       | 112.3      | 3090       | 116.4      | 4290       | 119.5      |
| 720        | 108.3      | 1920       | 112.5      | 3120       | 116.4      |            |            |
| 750        | 108.5      | 1950       | 112.5      | 3150       | 116.6      |            |            |
| 780        | 108.7      | 1980       | 112.6      | 3180       | 116.6      |            |            |
| 810        | 108.9      | 2010       | 112.6      | 3210       | 116.8      |            |            |
| 840        | 109.0      | 2040       | 112.6      | 3240       | 117.0      |            |            |
| 870        | 109.2      | 2070       | 112.8      | 3270       | 117.0      |            |            |
| 900        | 109.2      | 2100       | 113.0      | 3300       | 117.1      |            |            |
| 930        | 109.4      | 2130       | 113.2      | 3330       | 117.3      |            |            |
| 960        | 109.4      | 2160       | 113.2      | 3360       | 117.1      |            |            |
| 990        | 109.6      | 2190       | 113.2      | 3390       | 117.3      |            |            |
| 1020       | 109.6      | 2220       | 113.2      | 3420       | 117.3      |            |            |
| 1050       | 109.8      | 2250       | 113.4      | 3450       | 117.5      |            |            |
| 1080       | 109.8      | 2280       | 113.5      | 3480       | 117.5      |            |            |
| 1110       | 109.9      | 2310       | 113.5      | 3510       | 117.7      |            |            |
| 1140       | 109.9      | 2340       | 113.7      | 3540       | 117.7      |            |            |
| 1170       | 110.3      | 2370       | 113.9      | 3570       | 117.9      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

[Test vehicle]

Model name : COROLLA CROSS HYBRID AWD  
Data is representative for : COROLLA CROSS HYBRID AWD

[Test procedure] : EPA method

[Test conditions]

Date : 02/24/2022  
Ambient air temperature (at initiation) : 95.7 °F  
Ambient air temperature (at completion) : 100.0 °F  
Track surface temperature (at initiation) : 126.7 °F  
Track surface temperature (at completion) : 129.6 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 02/25/2022  
Ambient air temperature (at initiation) : 95.0 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 130.6 °F  
Track surface temperature (at completion) : 133.9 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

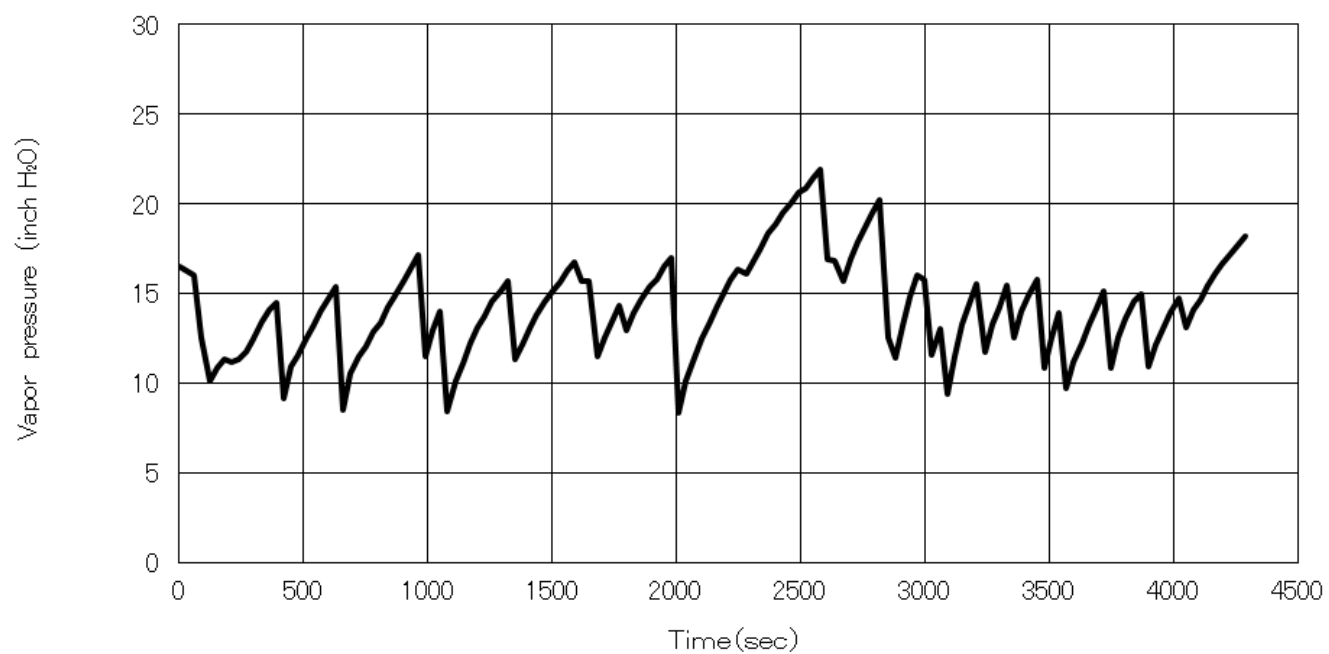
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.8       | 1200       | 100.6      | 2400       | 103.8      | 3600       | 107.6      |
| 30         | 96.8       | 1230       | 100.8      | 2430       | 104.0      | 3630       | 107.8      |
| 60         | 96.8       | 1260       | 100.8      | 2460       | 104.0      | 3660       | 108.0      |
| 90         | 96.8       | 1290       | 100.8      | 2490       | 104.0      | 3690       | 108.1      |
| 120        | 97.0       | 1320       | 100.9      | 2520       | 104.0      | 3720       | 108.3      |
| 150        | 97.2       | 1350       | 100.9      | 2550       | 104.2      | 3750       | 108.3      |
| 180        | 97.2       | 1380       | 101.1      | 2580       | 104.4      | 3780       | 108.3      |
| 210        | 97.2       | 1410       | 101.1      | 2610       | 104.4      | 3810       | 108.3      |
| 240        | 97.5       | 1440       | 101.1      | 2640       | 104.4      | 3840       | 108.5      |
| 270        | 97.7       | 1470       | 101.3      | 2670       | 104.7      | 3870       | 108.7      |
| 300        | 97.9       | 1500       | 101.3      | 2700       | 104.7      | 3900       | 108.5      |
| 330        | 98.1       | 1530       | 101.3      | 2730       | 104.9      | 3930       | 108.7      |
| 360        | 98.2       | 1560       | 101.3      | 2760       | 104.9      | 3960       | 108.7      |
| 390        | 98.2       | 1590       | 101.5      | 2790       | 104.9      | 3990       | 108.9      |
| 420        | 98.2       | 1620       | 101.5      | 2820       | 105.1      | 4020       | 108.9      |
| 450        | 98.4       | 1650       | 101.5      | 2850       | 105.1      | 4050       | 108.9      |
| 480        | 98.4       | 1680       | 101.7      | 2880       | 105.3      | 4080       | 109.0      |
| 510        | 98.6       | 1710       | 101.8      | 2910       | 105.4      | 4110       | 109.0      |
| 540        | 98.6       | 1740       | 101.8      | 2940       | 105.4      | 4140       | 109.2      |
| 570        | 98.8       | 1770       | 101.8      | 2970       | 105.4      | 4170       | 109.2      |
| 600        | 98.8       | 1800       | 102.0      | 3000       | 105.4      | 4200       | 109.4      |
| 630        | 98.8       | 1830       | 102.2      | 3030       | 105.8      | 4230       | 109.6      |
| 660        | 99.0       | 1860       | 102.2      | 3060       | 106.0      | 4260       | 109.4      |
| 690        | 99.0       | 1890       | 102.2      | 3090       | 106.2      | 4290       | 109.6      |
| 720        | 99.0       | 1920       | 102.2      | 3120       | 106.3      |            |            |
| 750        | 99.1       | 1950       | 102.4      | 3150       | 106.3      |            |            |
| 780        | 99.1       | 1980       | 102.6      | 3180       | 106.3      |            |            |
| 810        | 99.3       | 2010       | 102.6      | 3210       | 106.5      |            |            |
| 840        | 99.5       | 2040       | 102.6      | 3240       | 106.7      |            |            |
| 870        | 99.5       | 2070       | 102.9      | 3270       | 106.7      |            |            |
| 900        | 99.9       | 2100       | 102.9      | 3300       | 106.7      |            |            |
| 930        | 99.9       | 2130       | 103.1      | 3330       | 107.1      |            |            |
| 960        | 100.0      | 2160       | 103.1      | 3360       | 107.1      |            |            |
| 990        | 100.0      | 2190       | 103.1      | 3390       | 107.2      |            |            |
| 1020       | 100.0      | 2220       | 103.1      | 3420       | 107.2      |            |            |
| 1050       | 100.2      | 2250       | 103.3      | 3450       | 107.4      |            |            |
| 1080       | 100.0      | 2280       | 103.5      | 3480       | 107.2      |            |            |
| 1110       | 100.4      | 2310       | 103.5      | 3510       | 107.6      |            |            |
| 1140       | 100.4      | 2340       | 103.6      | 3540       | 107.4      |            |            |
| 1170       | 100.4      | 2370       | 103.8      | 3570       | 107.6      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

[Test vehicle]

Model name : PRIUS  
Data is representative for : PRIUS, PRIUS AWD

[Test procedure] : CARB method

[Test conditions]

Date : 05/24/2022  
Ambient air temperature (at initiation) : 105.3 °F  
Ambient air temperature (at completion) : 110.5 °F  
Track surface temperature (at initiation) : 142.0 °F  
Track surface temperature (at completion) : 145.6 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 05/25/2022  
Ambient air temperature (at initiation) : 105.3°F  
Ambient air temperature (at completion) : 110.3°F  
Track surface temperature (at initiation) : 139.6 °F  
Track surface temperature (at completion) : 145.4 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

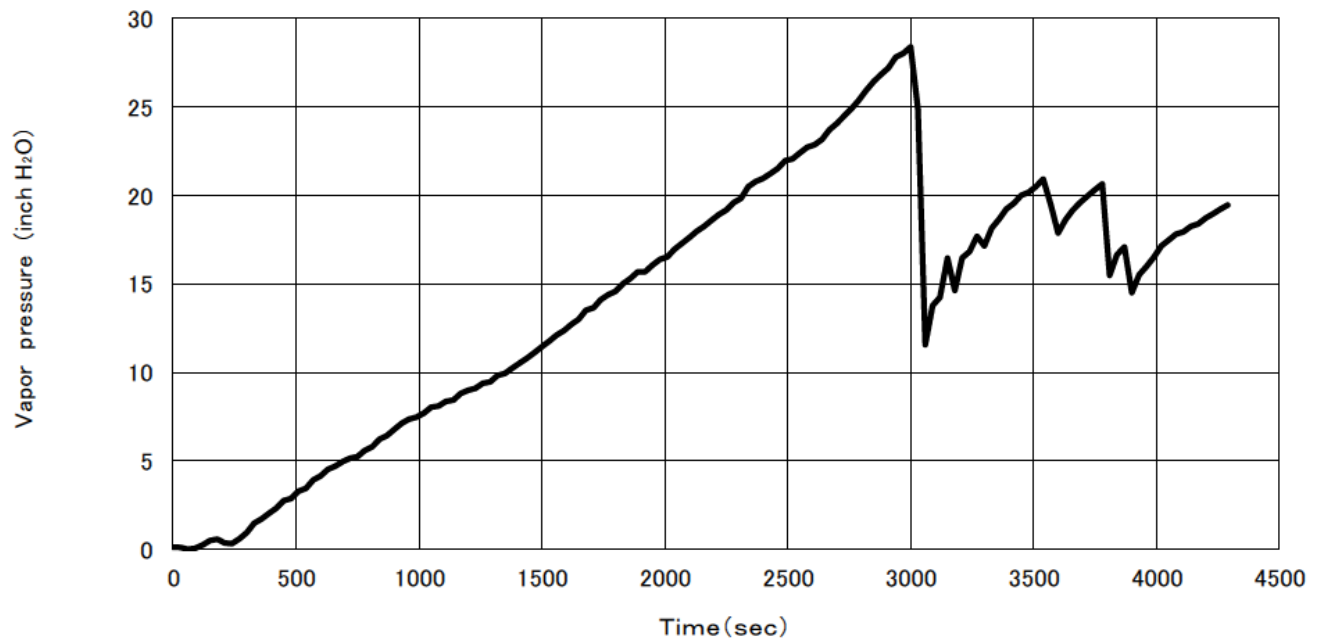
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.0      | 1200       | 111.0      | 2400       | 113.4      | 3600       | 116.1      |
| 30         | 106.2      | 1230       | 111.0      | 2430       | 113.5      | 3630       | 116.2      |
| 60         | 106.2      | 1260       | 111.0      | 2460       | 113.5      | 3660       | 116.2      |
| 90         | 106.3      | 1290       | 111.2      | 2490       | 113.5      | 3690       | 116.4      |
| 120        | 106.5      | 1320       | 111.2      | 2520       | 113.5      | 3720       | 116.4      |
| 150        | 106.9      | 1350       | 111.2      | 2550       | 113.7      | 3750       | 116.4      |
| 180        | 107.1      | 1380       | 111.2      | 2580       | 113.5      | 3780       | 116.4      |
| 210        | 107.2      | 1410       | 111.4      | 2610       | 113.7      | 3810       | 116.4      |
| 240        | 107.4      | 1440       | 111.4      | 2640       | 113.7      | 3840       | 116.6      |
| 270        | 107.6      | 1470       | 111.4      | 2670       | 113.9      | 3870       | 116.6      |
| 300        | 108.0      | 1500       | 111.4      | 2700       | 113.9      | 3900       | 116.6      |
| 330        | 108.1      | 1530       | 111.4      | 2730       | 114.1      | 3930       | 116.8      |
| 360        | 108.3      | 1560       | 111.4      | 2760       | 114.1      | 3960       | 116.8      |
| 390        | 108.5      | 1590       | 111.6      | 2790       | 114.1      | 3990       | 116.8      |
| 420        | 108.7      | 1620       | 111.6      | 2820       | 114.1      | 4020       | 116.8      |
| 450        | 108.9      | 1650       | 111.7      | 2850       | 114.1      | 4050       | 116.8      |
| 480        | 109.0      | 1680       | 111.7      | 2880       | 114.1      | 4080       | 116.8      |
| 510        | 109.2      | 1710       | 111.9      | 2910       | 114.3      | 4110       | 116.8      |
| 540        | 109.4      | 1740       | 111.9      | 2940       | 114.3      | 4140       | 116.8      |
| 570        | 109.4      | 1770       | 111.9      | 2970       | 114.4      | 4170       | 117.0      |
| 600        | 109.6      | 1800       | 111.9      | 3000       | 114.4      | 4200       | 117.0      |
| 630        | 109.8      | 1830       | 112.1      | 3030       | 114.6      | 4230       | 117.0      |
| 660        | 109.8      | 1860       | 112.1      | 3060       | 114.8      | 4260       | 117.0      |
| 690        | 109.9      | 1890       | 112.1      | 3090       | 115.0      | 4290       | 117.0      |
| 720        | 109.9      | 1920       | 112.3      | 3120       | 115.0      |            |            |
| 750        | 110.1      | 1950       | 112.3      | 3150       | 115.2      |            |            |
| 780        | 110.1      | 1980       | 112.3      | 3180       | 115.3      |            |            |
| 810        | 110.3      | 2010       | 112.5      | 3210       | 115.3      |            |            |
| 840        | 110.3      | 2040       | 112.5      | 3240       | 115.5      |            |            |
| 870        | 110.3      | 2070       | 112.5      | 3270       | 115.5      |            |            |
| 900        | 110.5      | 2100       | 112.6      | 3300       | 115.5      |            |            |
| 930        | 110.7      | 2130       | 112.6      | 3330       | 115.7      |            |            |
| 960        | 110.5      | 2160       | 112.6      | 3360       | 115.7      |            |            |
| 990        | 110.7      | 2190       | 112.6      | 3390       | 115.7      |            |            |
| 1020       | 110.8      | 2220       | 112.8      | 3420       | 115.7      |            |            |
| 1050       | 110.8      | 2250       | 113.0      | 3450       | 115.9      |            |            |
| 1080       | 111.0      | 2280       | 113.0      | 3480       | 115.9      |            |            |
| 1110       | 110.8      | 2310       | 113.0      | 3510       | 116.1      |            |            |
| 1140       | 111.0      | 2340       | 113.2      | 3540       | 116.1      |            |            |
| 1170       | 111.0      | 2370       | 113.4      | 3570       | 116.1      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

[Test vehicle]

Model name : PRIUS  
Data is representative for : PRIUS, PRIUS AWD

[Test procedure] : EPA method

[Test conditions]

Date : 05/24/2022  
Ambient air temperature (at initiation) : 95.7 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 134.2 °F  
Track surface temperature (at completion) : 134.1 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 05/25/2022  
Ambient air temperature (at initiation) : 95.4 °F  
Ambient air temperature (at completion) : 100.6 °F  
Track surface temperature (at initiation) : 135.0 °F  
Track surface temperature (at completion) : 136.8 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

Measured temperature and pressure profiles

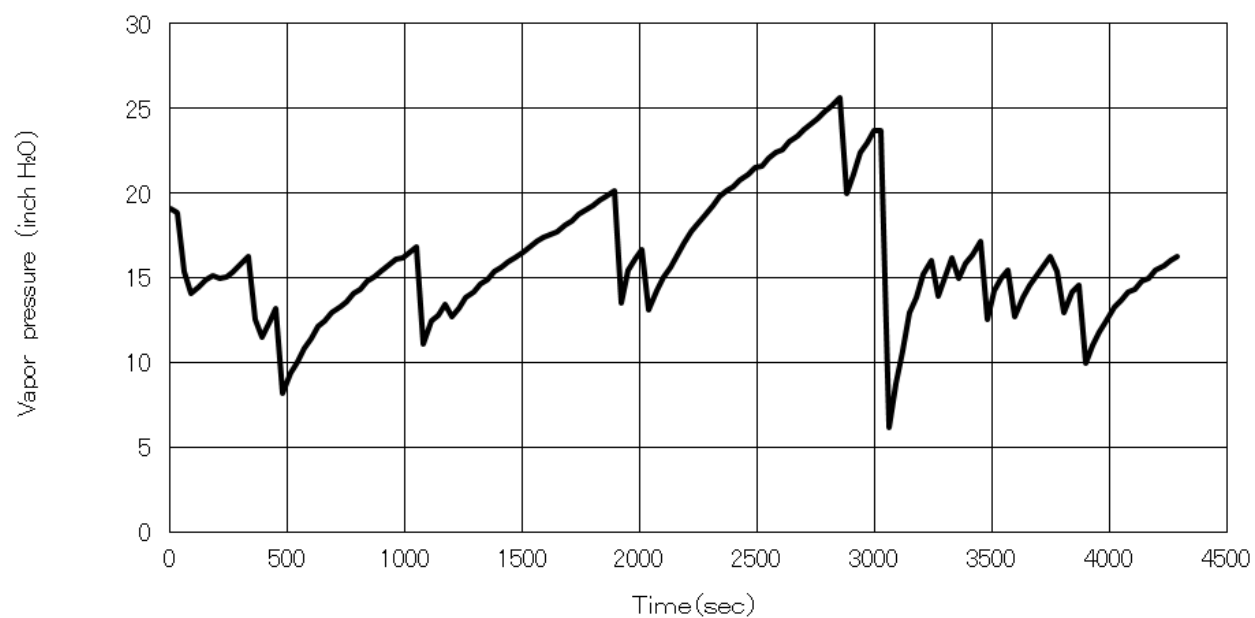
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 95.4       | 1200       | 99.5       | 2400       | 102.2      | 3600       | 105.6      |
| 30         | 95.5       | 1230       | 99.5       | 2430       | 102.2      | 3630       | 105.6      |
| 60         | 95.7       | 1260       | 99.7       | 2460       | 102.4      | 3660       | 105.8      |
| 90         | 95.9       | 1290       | 99.7       | 2490       | 102.4      | 3690       | 105.8      |
| 120        | 96.1       | 1320       | 99.7       | 2520       | 102.4      | 3720       | 105.8      |
| 150        | 96.4       | 1350       | 99.9       | 2550       | 102.6      | 3750       | 106.0      |
| 180        | 96.4       | 1380       | 99.9       | 2580       | 102.6      | 3780       | 106.0      |
| 210        | 96.6       | 1410       | 100.0      | 2610       | 102.6      | 3810       | 106.0      |
| 240        | 96.8       | 1440       | 100.0      | 2640       | 102.6      | 3840       | 106.2      |
| 270        | 97.0       | 1470       | 100.0      | 2670       | 102.9      | 3870       | 106.2      |
| 300        | 97.3       | 1500       | 100.0      | 2700       | 102.7      | 3900       | 106.3      |
| 330        | 97.3       | 1530       | 100.2      | 2730       | 102.7      | 3930       | 106.3      |
| 360        | 97.5       | 1560       | 100.2      | 2760       | 102.7      | 3960       | 106.3      |
| 390        | 97.5       | 1590       | 100.2      | 2790       | 102.7      | 3990       | 106.3      |
| 420        | 97.7       | 1620       | 100.4      | 2820       | 102.7      | 4020       | 106.3      |
| 450        | 97.7       | 1650       | 100.4      | 2850       | 103.1      | 4050       | 106.3      |
| 480        | 97.9       | 1680       | 100.4      | 2880       | 103.1      | 4080       | 106.5      |
| 510        | 97.9       | 1710       | 100.6      | 2910       | 103.3      | 4110       | 106.5      |
| 540        | 97.9       | 1740       | 100.8      | 2940       | 103.5      | 4140       | 106.7      |
| 570        | 98.1       | 1770       | 100.8      | 2970       | 103.6      | 4170       | 106.7      |
| 600        | 98.1       | 1800       | 100.8      | 3000       | 103.6      | 4200       | 106.7      |
| 630        | 97.9       | 1830       | 100.9      | 3030       | 103.8      | 4230       | 106.7      |
| 660        | 98.1       | 1860       | 101.1      | 3060       | 104.0      | 4260       | 106.7      |
| 690        | 98.1       | 1890       | 101.1      | 3090       | 104.2      | 4290       | 106.7      |
| 720        | 98.2       | 1920       | 101.1      | 3120       | 104.4      |            |            |
| 750        | 98.2       | 1950       | 101.1      | 3150       | 104.4      |            |            |
| 780        | 98.2       | 1980       | 101.3      | 3180       | 104.4      |            |            |
| 810        | 98.4       | 2010       | 101.1      | 3210       | 104.5      |            |            |
| 840        | 98.4       | 2040       | 101.3      | 3240       | 104.7      |            |            |
| 870        | 98.6       | 2070       | 101.3      | 3270       | 104.7      |            |            |
| 900        | 98.8       | 2100       | 101.5      | 3300       | 104.7      |            |            |
| 930        | 98.8       | 2130       | 101.3      | 3330       | 104.7      |            |            |
| 960        | 98.8       | 2160       | 101.5      | 3360       | 104.9      |            |            |
| 990        | 99.0       | 2190       | 101.7      | 3390       | 104.9      |            |            |
| 1020       | 99.0       | 2220       | 101.7      | 3420       | 105.1      |            |            |
| 1050       | 99.1       | 2250       | 101.8      | 3450       | 105.3      |            |            |
| 1080       | 99.3       | 2280       | 101.8      | 3480       | 105.3      |            |            |
| 1110       | 99.3       | 2310       | 101.8      | 3510       | 105.4      |            |            |
| 1140       | 99.3       | 2340       | 102.0      | 3540       | 105.4      |            |            |
| 1170       | 99.5       | 2370       | 102.0      | 3570       | 105.4      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

[Test vehicle]

Model name : UX 300h

[Test procedure]

: CARB method

[Test conditions]

Date : 06/27/2023

Ambient air temperature (at initiation) : 106.2 °F

Ambient air temperature (at completion) : 108.9 °F

Track surface temperature (at initiation) : 149.7 °F

Track surface temperature (at completion) : 149.9 °F

Wind speed : N/A

Test fuel RVP : 7.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

[Test conditions]

Date : 06/27/2023

Ambient air temperature (at initiation) : 105.4°F

Ambient air temperature (at completion) : 108.5°F

Track surface temperature (at initiation) : 149.7 °F

Track surface temperature (at completion) : 149.9 °F

Wind speed : N/A

Test fuel RVP : 7.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

Measured temperature and pressure profiles

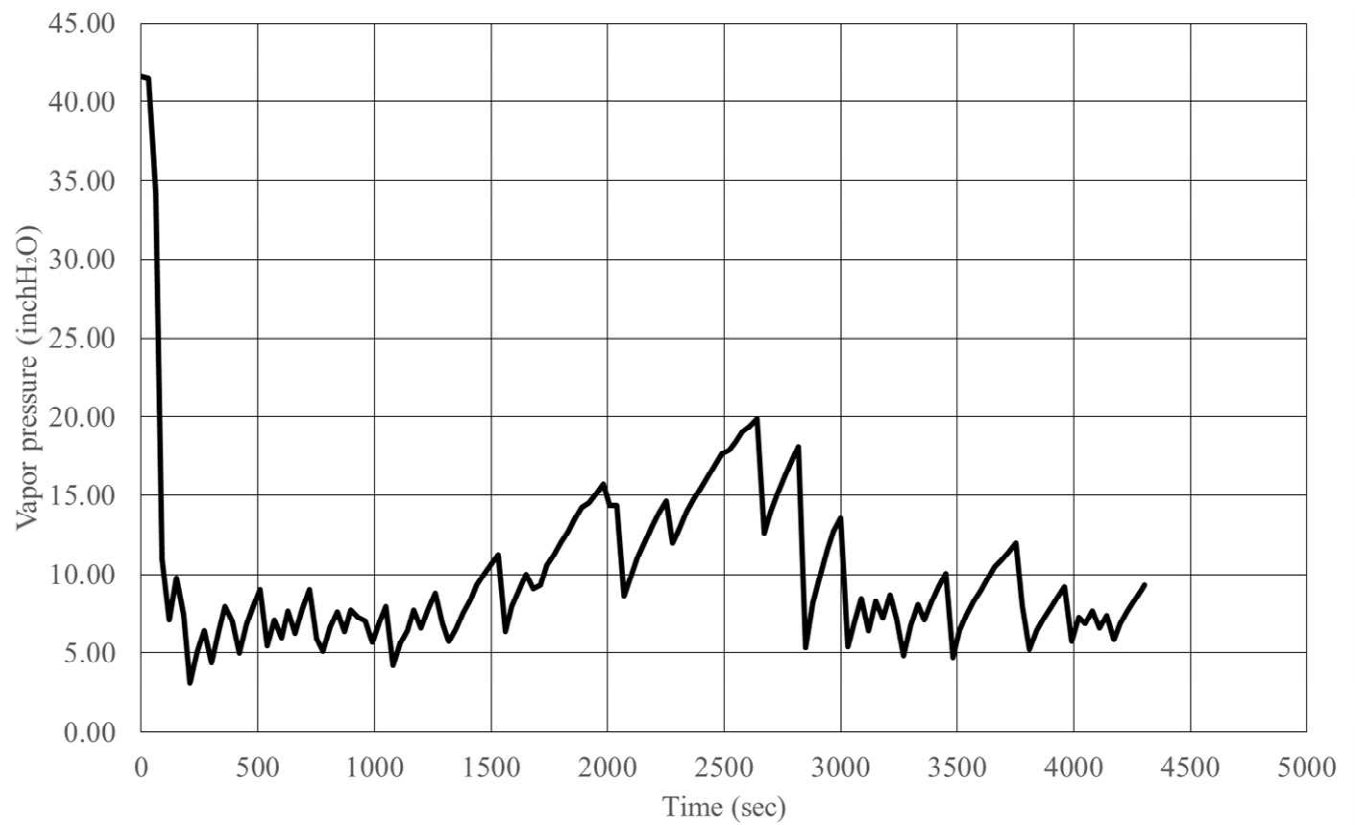
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.0      | 1200       | 108.1      | 2400       | 111.7      | 3600       | 115.3      |
| 30         | 105.9      | 1230       | 108.1      | 2430       | 111.9      | 3630       | 115.2      |
| 60         | 105.9      | 1260       | 108.7      | 2460       | 112.3      | 3660       | 115.0      |
| 90         | 105.8      | 1290       | 108.5      | 2490       | 112.5      | 3690       | 115.2      |
| 120        | 105.6      | 1320       | 108.3      | 2520       | 112.3      | 3720       | 115.2      |
| 150        | 105.6      | 1350       | 108.7      | 2550       | 112.6      | 3750       | 115.3      |
| 180        | 106.2      | 1380       | 108.7      | 2580       | 112.8      | 3780       | 115.3      |
| 210        | 105.8      | 1410       | 108.9      | 2610       | 112.6      | 3810       | 115.5      |
| 240        | 105.3      | 1440       | 109.0      | 2640       | 112.8      | 3840       | 115.3      |
| 270        | 105.1      | 1470       | 109.2      | 2670       | 112.8      | 3870       | 115.9      |
| 300        | 105.1      | 1500       | 109.2      | 2700       | 113.0      | 3900       | 115.7      |
| 330        | 105.4      | 1530       | 109.2      | 2730       | 113.2      | 3930       | 116.1      |
| 360        | 106.0      | 1560       | 109.2      | 2760       | 113.4      | 3960       | 115.9      |
| 390        | 105.8      | 1590       | 109.4      | 2790       | 113.4      | 3990       | 116.1      |
| 420        | 106.2      | 1620       | 109.4      | 2820       | 113.4      | 4020       | 116.2      |
| 450        | 106.2      | 1650       | 109.6      | 2850       | 113.4      | 4050       | 116.2      |
| 480        | 106.2      | 1680       | 109.4      | 2880       | 113.0      | 4080       | 116.4      |
| 510        | 106.2      | 1710       | 109.6      | 2910       | 112.6      | 4110       | 116.2      |
| 540        | 106.5      | 1740       | 109.4      | 2940       | 112.6      | 4140       | 116.2      |
| 570        | 106.5      | 1770       | 109.8      | 2970       | 113.4      | 4170       | 116.6      |
| 600        | 106.9      | 1800       | 109.9      | 3000       | 113.4      | 4200       | 116.6      |
| 630        | 106.5      | 1830       | 109.9      | 3030       | 112.5      | 4230       | 116.8      |
| 660        | 106.9      | 1860       | 110.5      | 3060       | 111.9      | 4260       | 116.8      |
| 690        | 106.9      | 1890       | 110.5      | 3090       | 112.1      | 4290       | 116.8      |
| 720        | 107.2      | 1920       | 110.7      | 3120       | 112.5      | 4304       | 116.8      |
| 750        | 107.2      | 1950       | 110.7      | 3150       | 113.4      |            |            |
| 780        | 107.1      | 1980       | 111.0      | 3180       | 113.9      |            |            |
| 810        | 107.1      | 2010       | 110.8      | 3210       | 113.7      |            |            |
| 840        | 106.9      | 2040       | 110.7      | 3240       | 114.3      |            |            |
| 870        | 107.1      | 2070       | 110.8      | 3270       | 114.4      |            |            |
| 900        | 107.1      | 2100       | 111.2      | 3300       | 114.3      |            |            |
| 930        | 107.2      | 2130       | 111.2      | 3330       | 114.3      |            |            |
| 960        | 107.2      | 2160       | 111.0      | 3360       | 114.6      |            |            |
| 990        | 107.6      | 2190       | 111.2      | 3390       | 114.6      |            |            |
| 1020       | 107.6      | 2220       | 111.4      | 3420       | 115.0      |            |            |
| 1050       | 107.8      | 2250       | 111.6      | 3450       | 115.0      |            |            |
| 1080       | 108.0      | 2280       | 111.4      | 3480       | 115.2      |            |            |
| 1110       | 108.0      | 2310       | 111.4      | 3510       | 115.2      |            |            |
| 1140       | 108.1      | 2340       | 111.4      | 3540       | 115.3      |            |            |
| 1170       | 108.0      | 2370       | 111.7      | 3570       | 115.2      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

[Test vehicle]

Model name : UX 300h

[Test procedure]

: EPA method

[Test conditions]

Date : 06/26/2023

Ambient air temperature (at initiation) : 95.5 °F

Ambient air temperature (at completion) : 99.7 °F

Track surface temperature (at initiation) : 140.7 °F

Track surface temperature (at completion) : 141.1 °F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

[Test conditions]

Date : 06/27/2023

Ambient air temperature (at initiation) : 95.5 °F

Ambient air temperature (at completion) : 101.3 °F

Track surface temperature (at initiation) : 140.7 °F

Track surface temperature (at completion) : 141.1 °F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

Measured temperature and pressure profiles

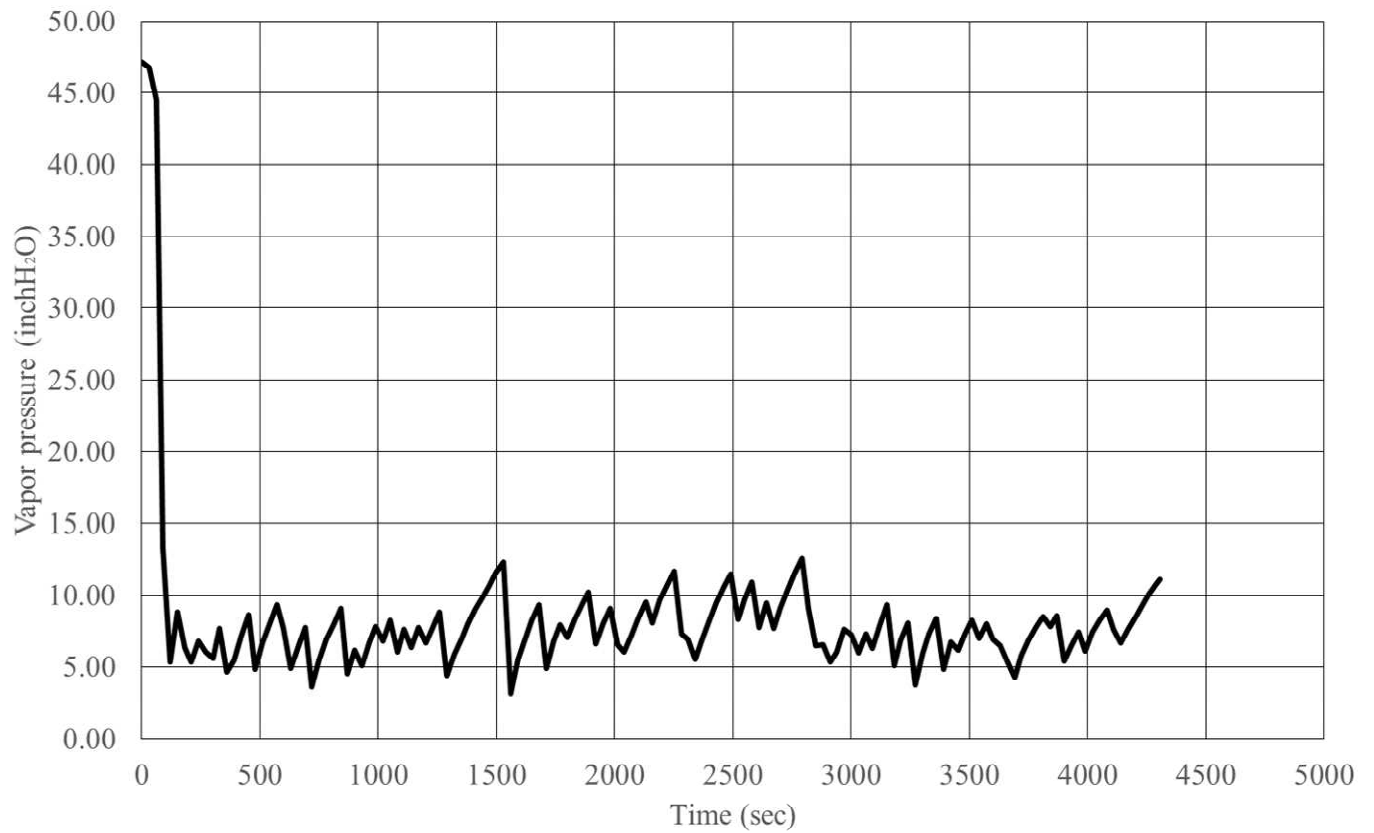
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.8       | 1200       | 99.0       | 2400       | 103.1      | 3600       | 107.1      |
| 30         | 96.8       | 1230       | 99.3       | 2430       | 103.1      | 3630       | 106.9      |
| 60         | 96.8       | 1260       | 99.3       | 2460       | 103.6      | 3660       | 106.9      |
| 90         | 96.5       | 1290       | 99.5       | 2490       | 103.6      | 3690       | 107.1      |
| 120        | 96.3       | 1320       | 99.3       | 2520       | 103.6      | 3720       | 107.2      |
| 150        | 96.6       | 1350       | 99.5       | 2550       | 104.0      | 3750       | 107.2      |
| 180        | 96.6       | 1380       | 99.7       | 2580       | 104.0      | 3780       | 107.2      |
| 210        | 96.4       | 1410       | 99.9       | 2610       | 104.0      | 3810       | 107.4      |
| 240        | 95.9       | 1440       | 100.0      | 2640       | 104.2      | 3840       | 107.4      |
| 270        | 95.5       | 1470       | 100.2      | 2670       | 104.2      | 3870       | 107.8      |
| 300        | 95.7       | 1500       | 100.2      | 2700       | 104.4      | 3900       | 107.6      |
| 330        | 96.1       | 1530       | 100.2      | 2730       | 104.5      | 3930       | 108.1      |
| 360        | 96.6       | 1560       | 100.4      | 2760       | 104.7      | 3960       | 108.0      |
| 390        | 96.6       | 1590       | 100.2      | 2790       | 104.9      | 3990       | 108.1      |
| 420        | 96.8       | 1620       | 100.4      | 2820       | 104.9      | 4020       | 108.1      |
| 450        | 97.0       | 1650       | 100.6      | 2850       | 104.9      | 4050       | 108.1      |
| 480        | 97.2       | 1680       | 100.4      | 2880       | 104.7      | 4080       | 108.3      |
| 510        | 97.0       | 1710       | 100.6      | 2910       | 104.5      | 4110       | 108.5      |
| 540        | 97.3       | 1740       | 100.4      | 2940       | 104.2      | 4140       | 108.3      |
| 570        | 97.3       | 1770       | 100.8      | 2970       | 105.1      | 4170       | 108.7      |
| 600        | 97.5       | 1800       | 100.8      | 3000       | 105.1      | 4200       | 108.7      |
| 630        | 97.5       | 1830       | 101.1      | 3030       | 104.4      | 4230       | 108.9      |
| 660        | 97.7       | 1860       | 101.5      | 3060       | 103.6      | 4260       | 109.0      |
| 690        | 97.7       | 1890       | 101.5      | 3090       | 103.6      | 4290       | 109.0      |
| 720        | 98.1       | 1920       | 101.7      | 3120       | 104.0      | 4304       | 109.2      |
| 750        | 98.1       | 1950       | 101.7      | 3150       | 104.7      |            |            |
| 780        | 97.9       | 1980       | 102.0      | 3180       | 105.4      |            |            |
| 810        | 98.1       | 2010       | 101.8      | 3210       | 105.4      |            |            |
| 840        | 97.9       | 2040       | 101.7      | 3240       | 105.8      |            |            |
| 870        | 97.9       | 2070       | 101.8      | 3270       | 106.0      |            |            |
| 900        | 97.9       | 2100       | 102.2      | 3300       | 105.8      |            |            |
| 930        | 98.1       | 2130       | 102.2      | 3330       | 106.0      |            |            |
| 960        | 98.1       | 2160       | 102.2      | 3360       | 106.2      |            |            |
| 990        | 98.4       | 2190       | 102.4      | 3390       | 106.3      |            |            |
| 1020       | 98.4       | 2220       | 102.4      | 3420       | 106.7      |            |            |
| 1050       | 98.6       | 2250       | 102.9      | 3450       | 106.7      |            |            |
| 1080       | 99.0       | 2280       | 102.6      | 3480       | 106.9      |            |            |
| 1110       | 98.8       | 2310       | 102.7      | 3510       | 107.1      |            |            |
| 1140       | 99.0       | 2340       | 102.7      | 3540       | 107.1      |            |            |
| 1170       | 98.8       | 2370       | 103.1      | 3570       | 107.1      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

(b) Measured vapor space pressure profile



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130J42.

Evaporative emission test log

Vehicle Description

|                     | Evaporative emission vehicle | Refueling emission vehicle |
|---------------------|------------------------------|----------------------------|
| Test group          | : PTYXV01.8P33               | HTYXV01.8P35               |
| Vehicle ID          | : 23-ZE2H                    | 17-ZW3H                    |
| Rep. car/truck line | : COROLLA HYBRID AWD         | PRIUS PRIME                |
| Rep. vehicle model  | : ZWE215L-AEXSBA             | ZVW52L-AHXEBA              |
| Displacement        | : 109.7 CID                  | 109.7 CID                  |
| Transmission        | : PA10-B                     | P610                       |
| Test weight         | : 3,625 lbs.                 | 3,625 lbs.                 |
| Road load           | : 11.4 HP                    | 9.3 HP                     |
| Evap. code          | : ZE1F                       | ZW2F                       |

Test results

Test procedure : CARB's procedure

3-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Running loss  | :       | 0.004      | (g/mile) |
| Hot soak loss | :       | 0.0319     | (g/test) |
| 3DBL          | 1st day | : 0.1289*1 | (g/test) |
|               | 2nd day | : 0.1066   | (g/test) |
|               | 3rd day | : 0.0938   | (g/test) |

2-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Hot soak loss | :       | 0.0150     | (g/mile) |
| 2DBL          | 1st day | : 0.1617*1 | (g/test) |
|               | 2nd day | : 0.1190   | (g/test) |

Refueling sequence test results

Refueling emission : 0.001 (g/gal)

\*1: DBL is added key off monitor loss (0.0018 gram).

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

[Test vehicle]

Model name : COROLLA  
Data is representative for : COROLLA, COROLLA HATCHBACK

[Test procedure] : CARB method

[Test conditions]

Date : 08/09/2017  
Ambient air temperature (at initiation) : 107.1 °F  
Ambient air temperature (at completion) : 107.2 °F  
Track surface temperature (at initiation) : 149.2 °F  
Track surface temperature (at completion) : 152.8 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Date : 08/09/2017  
Ambient air temperature (at initiation) : 107.8 °F  
Ambient air temperature (at completion) : 108.5 °F  
Track surface temperature (at initiation) : 152.2 °F  
Track surface temperature (at completion) : 154.6 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

Measured temperature and pressure profiles

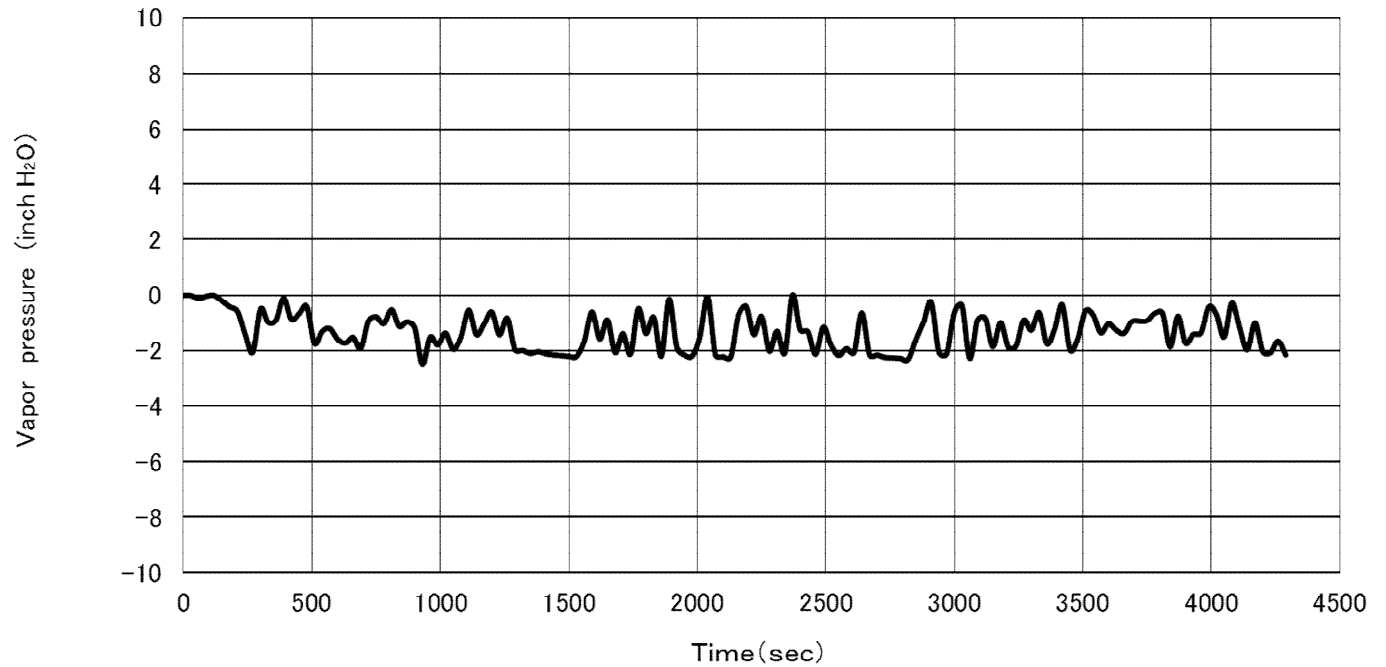
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 107.1      | 1200       | 112.3      | 2400       | 118.6      | 3600       | 125.4      |
| 30         | 107.2      | 1230       | 112.8      | 2430       | 118.6      | 3630       | 125.8      |
| 60         | 106.9      | 1260       | 112.5      | 2460       | 119.3      | 3660       | 126.0      |
| 90         | 107.4      | 1290       | 112.6      | 2490       | 119.1      | 3690       | 125.8      |
| 120        | 107.2      | 1320       | 113.0      | 2520       | 119.5      | 3720       | 126.5      |
| 150        | 107.8      | 1350       | 113.4      | 2550       | 119.3      | 3750       | 126.1      |
| 180        | 107.8      | 1380       | 113.0      | 2580       | 119.7      | 3780       | 126.1      |
| 210        | 107.8      | 1410       | 113.5      | 2610       | 120.0      | 3810       | 126.3      |
| 240        | 108.1      | 1440       | 113.4      | 2640       | 120.4      | 3840       | 126.3      |
| 270        | 108.1      | 1470       | 113.5      | 2670       | 120.2      | 3870       | 126.5      |
| 300        | 108.1      | 1500       | 114.1      | 2700       | 120.7      | 3900       | 126.7      |
| 330        | 108.7      | 1530       | 113.7      | 2730       | 120.9      | 3930       | 127.0      |
| 360        | 108.9      | 1560       | 114.3      | 2760       | 120.6      | 3960       | 126.5      |
| 390        | 108.9      | 1590       | 114.1      | 2790       | 121.3      | 3990       | 126.9      |
| 420        | 108.9      | 1620       | 114.4      | 2820       | 121.5      | 4020       | 127.4      |
| 450        | 109.2      | 1650       | 114.4      | 2850       | 121.5      | 4050       | 127.4      |
| 480        | 109.4      | 1680       | 114.6      | 2880       | 121.6      | 4080       | 127.0      |
| 510        | 109.6      | 1710       | 114.8      | 2910       | 122.2      | 4110       | 127.4      |
| 540        | 109.8      | 1740       | 115.0      | 2940       | 122.0      | 4140       | 127.8      |
| 570        | 109.6      | 1770       | 115.2      | 2970       | 122.0      | 4170       | 127.6      |
| 600        | 110.1      | 1800       | 115.2      | 3000       | 122.7      | 4200       | 127.6      |
| 630        | 109.8      | 1830       | 115.3      | 3030       | 122.5      | 4230       | 127.9      |
| 660        | 110.3      | 1860       | 115.7      | 3060       | 123.1      | 4260       | 127.6      |
| 690        | 110.5      | 1890       | 115.9      | 3090       | 123.3      | 4290       | 128.3      |
| 720        | 110.5      | 1920       | 115.7      | 3120       | 123.6      |            |            |
| 750        | 110.5      | 1950       | 116.2      | 3150       | 123.4      |            |            |
| 780        | 110.3      | 1980       | 116.2      | 3180       | 123.8      |            |            |
| 810        | 110.8      | 2010       | 116.1      | 3210       | 124.0      |            |            |
| 840        | 110.5      | 2040       | 116.8      | 3240       | 124.3      |            |            |
| 870        | 111.0      | 2070       | 116.6      | 3270       | 124.0      |            |            |
| 900        | 110.8      | 2100       | 117.0      | 3300       | 124.0      |            |            |
| 930        | 111.2      | 2130       | 117.3      | 3330       | 124.2      |            |            |
| 960        | 111.7      | 2160       | 117.3      | 3360       | 124.3      |            |            |
| 990        | 111.4      | 2190       | 117.5      | 3390       | 125.1      |            |            |
| 1020       | 112.1      | 2220       | 117.5      | 3420       | 124.9      |            |            |
| 1050       | 111.9      | 2250       | 117.9      | 3450       | 125.1      |            |            |
| 1080       | 111.7      | 2280       | 118.0      | 3480       | 125.1      |            |            |
| 1110       | 112.1      | 2310       | 118.2      | 3510       | 125.1      |            |            |
| 1140       | 112.1      | 2340       | 118.4      | 3540       | 125.2      |            |            |
| 1170       | 112.1      | 2370       | 118.6      | 3570       | 125.4      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

[Test vehicle]

Model name : COROLLA  
Data is representative for : COROLLA, COROLLA HATCHBACK

[Test procedure]

: EPA method

[Test conditions]

Date : 08/08/2017  
Ambient air temperature (at initiation) : 97.5 °F  
Ambient air temperature (at completion) : 98.4 °F  
Track surface temperature (at initiation) : 134.6 °F  
Track surface temperature (at completion) : 135.7 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Date : 08/09/2017  
Ambient air temperature (at initiation) : 98.1 °F  
Ambient air temperature (at completion) : 99.0 °F  
Track surface temperature (at initiation) : 130.5 °F  
Track surface temperature (at completion) : 137.8 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

Measured temperature and pressure profiles

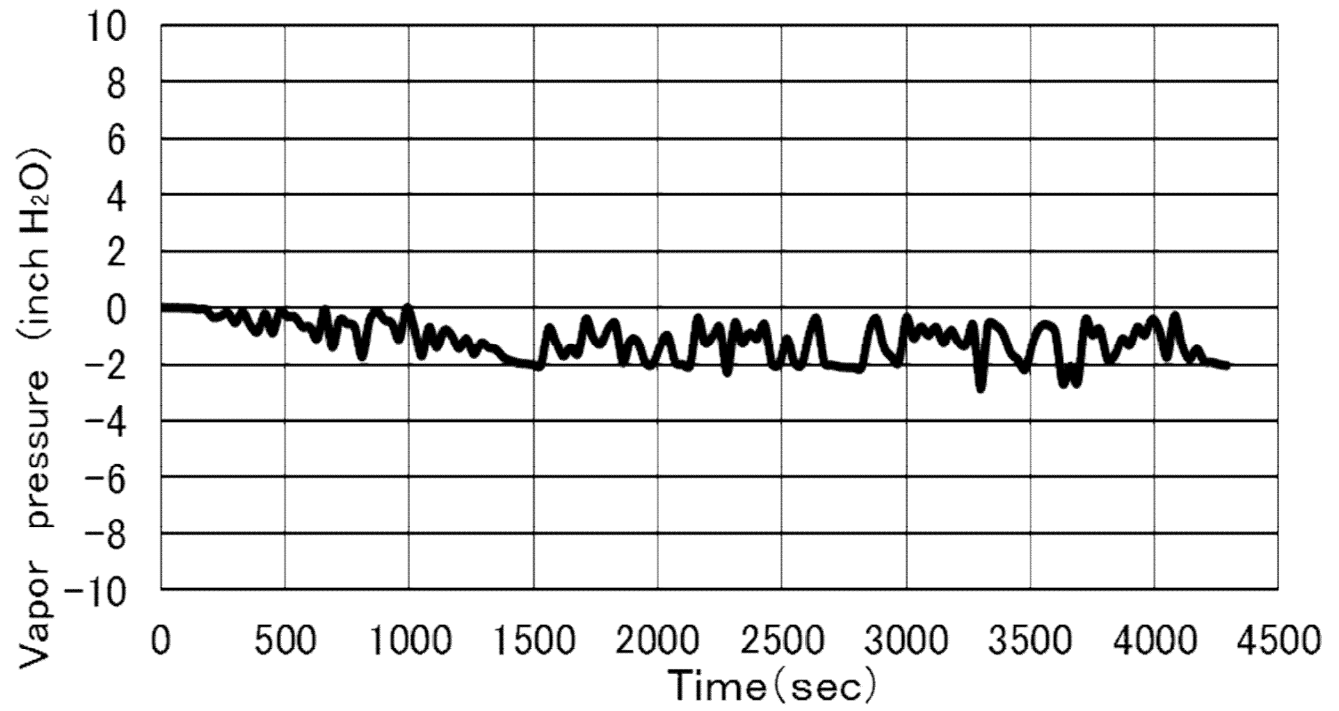
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 97.0       | 1200       | 101.7      | 2400       | 107.1      | 3600       | 113.7      |
| 30         | 96.6       | 1230       | 101.8      | 2430       | 107.2      | 3630       | 114.1      |
| 60         | 96.6       | 1260       | 102.0      | 2460       | 107.4      | 3660       | 113.7      |
| 90         | 96.8       | 1290       | 102.2      | 2490       | 107.2      | 3690       | 114.3      |
| 120        | 97.0       | 1320       | 102.2      | 2520       | 107.4      | 3720       | 114.3      |
| 150        | 97.2       | 1350       | 102.4      | 2550       | 107.8      | 3750       | 114.3      |
| 180        | 97.5       | 1380       | 102.0      | 2580       | 108.3      | 3780       | 114.4      |
| 210        | 97.7       | 1410       | 102.2      | 2610       | 108.5      | 3810       | 115.0      |
| 240        | 97.9       | 1440       | 102.4      | 2640       | 108.1      | 3840       | 114.6      |
| 270        | 98.2       | 1470       | 102.2      | 2670       | 108.3      | 3870       | 115.0      |
| 300        | 98.4       | 1500       | 102.4      | 2700       | 108.7      | 3900       | 115.2      |
| 330        | 98.4       | 1530       | 102.7      | 2730       | 108.9      | 3930       | 115.2      |
| 360        | 98.8       | 1560       | 102.6      | 2760       | 108.9      | 3960       | 115.3      |
| 390        | 99.1       | 1590       | 102.6      | 2790       | 109.4      | 3990       | 115.5      |
| 420        | 99.1       | 1620       | 103.1      | 2820       | 109.4      | 4020       | 115.7      |
| 450        | 99.0       | 1650       | 103.1      | 2850       | 109.6      | 4050       | 115.7      |
| 480        | 99.3       | 1680       | 102.9      | 2880       | 109.6      | 4080       | 115.7      |
| 510        | 99.7       | 1710       | 103.3      | 2910       | 110.1      | 4110       | 115.9      |
| 540        | 99.9       | 1740       | 103.3      | 2940       | 110.3      | 4140       | 116.1      |
| 570        | 99.9       | 1770       | 103.3      | 2970       | 110.8      | 4170       | 116.2      |
| 600        | 100.2      | 1800       | 103.5      | 3000       | 110.7      | 4200       | 116.2      |
| 630        | 99.9       | 1830       | 103.5      | 3030       | 111.0      | 4230       | 115.9      |
| 660        | 100.0      | 1860       | 104.0      | 3060       | 111.0      | 4260       | 116.2      |
| 690        | 100.4      | 1890       | 104.2      | 3090       | 111.4      | 4290       | 116.2      |
| 720        | 100.2      | 1920       | 104.2      | 3120       | 111.4      |            |            |
| 750        | 100.4      | 1950       | 104.4      | 3150       | 111.6      |            |            |
| 780        | 100.2      | 1980       | 104.5      | 3180       | 111.9      |            |            |
| 810        | 100.6      | 2010       | 104.7      | 3210       | 112.1      |            |            |
| 840        | 100.8      | 2040       | 104.5      | 3240       | 112.3      |            |            |
| 870        | 100.4      | 2070       | 105.3      | 3270       | 112.3      |            |            |
| 900        | 100.8      | 2100       | 105.3      | 3300       | 112.5      |            |            |
| 930        | 100.8      | 2130       | 105.4      | 3330       | 112.3      |            |            |
| 960        | 101.1      | 2160       | 105.6      | 3360       | 113.0      |            |            |
| 990        | 101.1      | 2190       | 105.8      | 3390       | 113.2      |            |            |
| 1020       | 101.3      | 2220       | 105.8      | 3420       | 112.8      |            |            |
| 1050       | 101.3      | 2250       | 106.3      | 3450       | 113.2      |            |            |
| 1080       | 101.3      | 2280       | 105.8      | 3480       | 113.2      |            |            |
| 1110       | 101.7      | 2310       | 106.5      | 3510       | 113.5      |            |            |
| 1140       | 101.5      | 2340       | 106.2      | 3540       | 113.4      |            |            |
| 1170       | 101.7      | 2370       | 106.9      | 3570       | 113.9      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

[Test vehicle]

Model name : COROLLA CROSS  
Data is representative for : COROLLA CROSS,  
COROLLA CROSS AWD

[Test procedure]

: CARB method

[Test conditions]

Date : 05/27/2020  
Ambient air temperature (at initiation) : 110.1 °F  
Ambient air temperature (at completion) : 111.0 °F  
Track surface temperature (at initiation) : 144.1 °F  
Track surface temperature (at completion) : 148.5 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Date : 05/28/2020  
Ambient air temperature (at initiation) : 106.0 °F  
Ambient air temperature (at completion) : 110.3°F  
Track surface temperature (at initiation) : 141.6 °F  
Track surface temperature (at completion) : 146.8 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

Measured temperature and pressure profiles

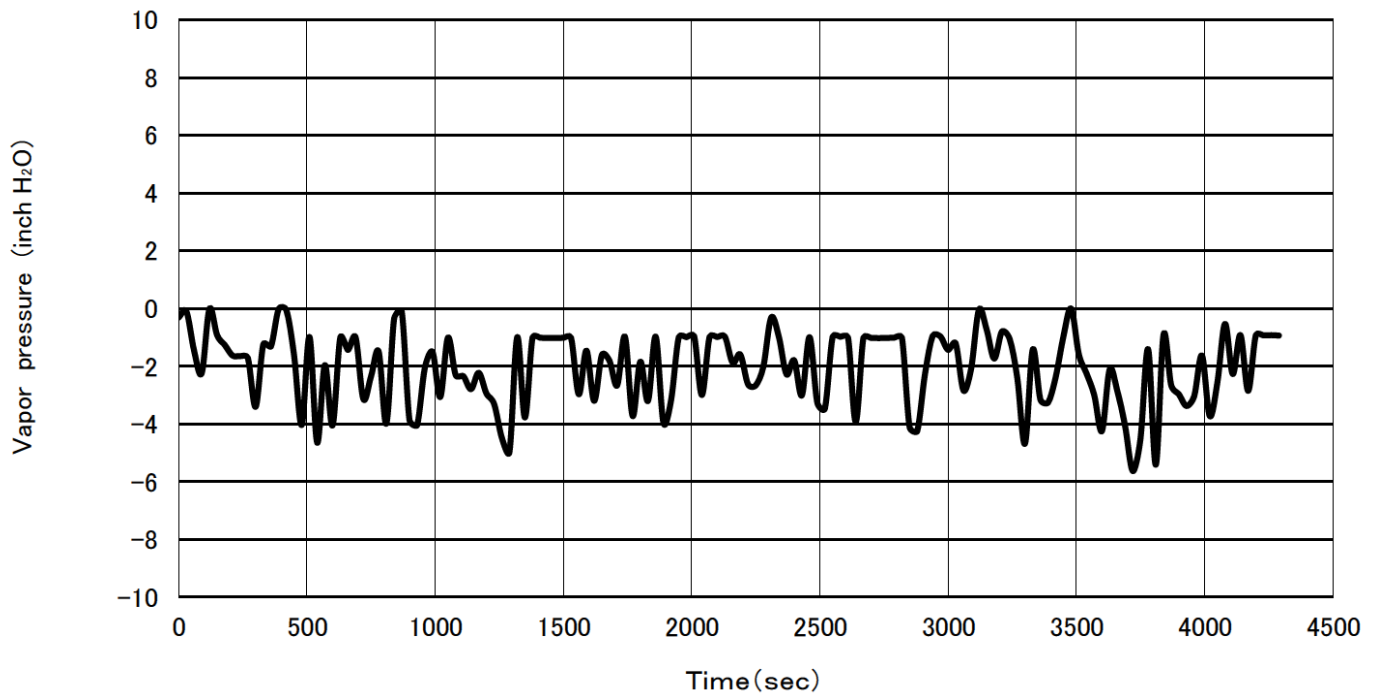
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 107.6      | 1200       | 112.8      | 2400       | 118.4      | 3600       | 124.3      |
| 30         | 107.6      | 1230       | 113.0      | 2430       | 118.6      | 3630       | 124.5      |
| 60         | 107.8      | 1260       | 113.0      | 2460       | 118.8      | 3660       | 124.5      |
| 90         | 108.0      | 1290       | 113.2      | 2490       | 118.9      | 3690       | 124.7      |
| 120        | 108.1      | 1320       | 113.4      | 2520       | 118.9      | 3720       | 124.7      |
| 150        | 108.1      | 1350       | 113.4      | 2550       | 119.1      | 3750       | 124.9      |
| 180        | 108.3      | 1380       | 113.5      | 2580       | 119.3      | 3780       | 125.1      |
| 210        | 108.5      | 1410       | 113.7      | 2610       | 119.5      | 3810       | 125.1      |
| 240        | 108.7      | 1440       | 113.7      | 2640       | 119.5      | 3840       | 125.1      |
| 270        | 108.9      | 1470       | 113.9      | 2670       | 119.8      | 3870       | 125.2      |
| 300        | 109.0      | 1500       | 114.1      | 2700       | 119.8      | 3900       | 125.2      |
| 330        | 109.2      | 1530       | 114.1      | 2730       | 120.0      | 3930       | 125.4      |
| 360        | 109.2      | 1560       | 114.3      | 2760       | 120.2      | 3960       | 125.4      |
| 390        | 109.4      | 1590       | 114.4      | 2790       | 120.4      | 3990       | 125.6      |
| 420        | 109.6      | 1620       | 114.6      | 2820       | 120.6      | 4020       | 125.6      |
| 450        | 109.6      | 1650       | 114.6      | 2850       | 120.7      | 4050       | 125.8      |
| 480        | 109.8      | 1680       | 114.8      | 2880       | 120.9      | 4080       | 125.8      |
| 510        | 109.9      | 1710       | 115.0      | 2910       | 121.1      | 4110       | 125.8      |
| 540        | 110.1      | 1740       | 115.2      | 2940       | 121.3      | 4140       | 126.0      |
| 570        | 110.1      | 1770       | 115.3      | 2970       | 121.5      | 4170       | 126.1      |
| 600        | 110.3      | 1800       | 115.5      | 3000       | 121.6      | 4200       | 126.1      |
| 630        | 110.5      | 1830       | 115.5      | 3030       | 121.8      | 4230       | 126.1      |
| 660        | 110.5      | 1860       | 115.7      | 3060       | 122.2      | 4260       | 126.3      |
| 690        | 110.7      | 1890       | 115.9      | 3090       | 122.4      | 4290       | 126.3      |
| 720        | 110.8      | 1920       | 115.9      | 3120       | 122.5      |            |            |
| 750        | 111.0      | 1950       | 116.2      | 3150       | 122.7      |            |            |
| 780        | 111.0      | 1980       | 116.2      | 3180       | 122.9      |            |            |
| 810        | 111.2      | 2010       | 116.4      | 3210       | 122.9      |            |            |
| 840        | 111.2      | 2040       | 116.6      | 3240       | 123.1      |            |            |
| 870        | 111.4      | 2070       | 116.8      | 3270       | 123.1      |            |            |
| 900        | 111.6      | 2100       | 117.0      | 3300       | 123.3      |            |            |
| 930        | 111.7      | 2130       | 117.1      | 3330       | 123.4      |            |            |
| 960        | 111.9      | 2160       | 117.1      | 3360       | 123.4      |            |            |
| 990        | 111.9      | 2190       | 117.3      | 3390       | 123.6      |            |            |
| 1020       | 112.1      | 2220       | 117.5      | 3420       | 123.6      |            |            |
| 1050       | 112.1      | 2250       | 117.7      | 3450       | 123.8      |            |            |
| 1080       | 112.3      | 2280       | 117.7      | 3480       | 123.8      |            |            |
| 1110       | 112.5      | 2310       | 118.0      | 3510       | 124.0      |            |            |
| 1140       | 112.6      | 2340       | 118.2      | 3540       | 124.0      |            |            |
| 1170       | 112.6      | 2370       | 118.2      | 3570       | 124.2      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

[Test vehicle]

Model name : COROLLA CROSS  
Data is representative for : COROLLA CROSS,  
COROLLA CROSS AWD

[Test procedure]

: EPA method

[Test conditions]

Date : 05/27/2020  
Ambient air temperature (at initiation) : 99.0 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 126.1 °F  
Track surface temperature (at completion) : 129.9 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Date : 05/28/2020  
Ambient air temperature (at initiation) : 95.9 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 126.0 °F  
Track surface temperature (at completion) : 131.0 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

Measured temperature and pressure profiles

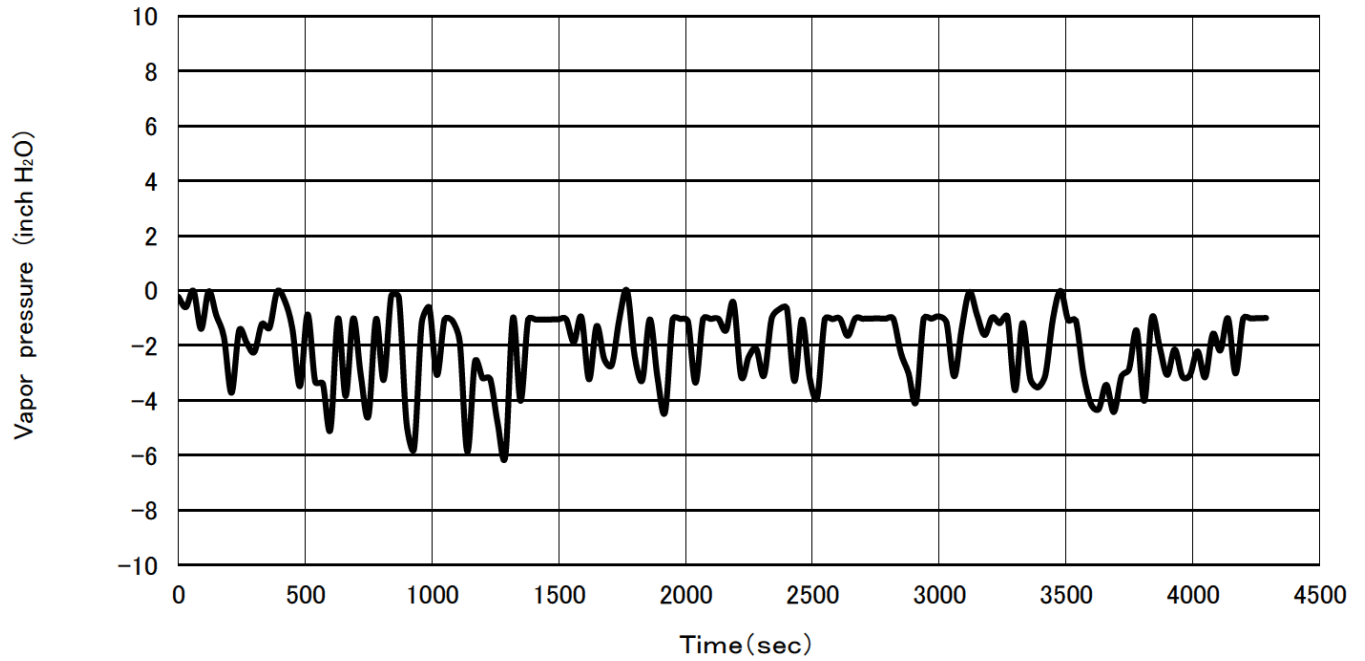
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.4       | 1200       | 101.5      | 2400       | 107.6      | 3600       | 114.4      |
| 30         | 96.4       | 1230       | 101.7      | 2430       | 107.8      | 3630       | 114.6      |
| 60         | 96.4       | 1260       | 101.8      | 2460       | 108.0      | 3660       | 114.6      |
| 90         | 96.6       | 1290       | 101.8      | 2490       | 108.1      | 3690       | 114.6      |
| 120        | 96.8       | 1320       | 102.0      | 2520       | 108.3      | 3720       | 114.8      |
| 150        | 96.8       | 1350       | 102.2      | 2550       | 108.5      | 3750       | 115.0      |
| 180        | 97.0       | 1380       | 102.4      | 2580       | 108.7      | 3780       | 115.0      |
| 210        | 97.0       | 1410       | 102.4      | 2610       | 108.9      | 3810       | 115.2      |
| 240        | 97.3       | 1440       | 102.6      | 2640       | 109.0      | 3840       | 115.2      |
| 270        | 97.3       | 1470       | 102.7      | 2670       | 109.2      | 3870       | 115.3      |
| 300        | 97.5       | 1500       | 102.9      | 2700       | 109.4      | 3900       | 115.5      |
| 330        | 97.7       | 1530       | 103.1      | 2730       | 109.6      | 3930       | 115.7      |
| 360        | 97.9       | 1560       | 103.3      | 2760       | 109.6      | 3960       | 115.7      |
| 390        | 97.9       | 1590       | 103.3      | 2790       | 109.9      | 3990       | 115.9      |
| 420        | 98.1       | 1620       | 103.5      | 2820       | 109.9      | 4020       | 116.1      |
| 450        | 98.2       | 1650       | 103.5      | 2850       | 110.1      | 4050       | 116.2      |
| 480        | 98.2       | 1680       | 103.6      | 2880       | 110.3      | 4080       | 116.2      |
| 510        | 98.6       | 1710       | 103.8      | 2910       | 110.7      | 4110       | 116.2      |
| 540        | 98.6       | 1740       | 104.0      | 2940       | 110.8      | 4140       | 116.2      |
| 570        | 98.8       | 1770       | 104.2      | 2970       | 111.0      | 4170       | 116.4      |
| 600        | 99.0       | 1800       | 104.4      | 3000       | 111.2      | 4200       | 116.6      |
| 630        | 99.0       | 1830       | 104.4      | 3030       | 111.4      | 4230       | 116.6      |
| 660        | 99.1       | 1860       | 104.5      | 3060       | 111.6      | 4260       | 116.8      |
| 690        | 99.1       | 1890       | 104.9      | 3090       | 111.7      | 4290       | 117.0      |
| 720        | 99.3       | 1920       | 104.9      | 3120       | 111.9      |            |            |
| 750        | 99.5       | 1950       | 105.1      | 3150       | 112.1      |            |            |
| 780        | 99.7       | 1980       | 105.3      | 3180       | 112.3      |            |            |
| 810        | 99.7       | 2010       | 105.3      | 3210       | 112.5      |            |            |
| 840        | 100.0      | 2040       | 105.4      | 3240       | 112.6      |            |            |
| 870        | 100.0      | 2070       | 105.6      | 3270       | 113.0      |            |            |
| 900        | 100.2      | 2100       | 105.8      | 3300       | 113.0      |            |            |
| 930        | 100.4      | 2130       | 106.0      | 3330       | 113.2      |            |            |
| 960        | 100.4      | 2160       | 106.2      | 3360       | 113.4      |            |            |
| 990        | 100.6      | 2190       | 106.3      | 3390       | 113.4      |            |            |
| 1020       | 100.8      | 2220       | 106.5      | 3420       | 113.7      |            |            |
| 1050       | 100.9      | 2250       | 106.7      | 3450       | 113.7      |            |            |
| 1080       | 101.1      | 2280       | 106.9      | 3480       | 113.9      |            |            |
| 1110       | 101.1      | 2310       | 107.1      | 3510       | 114.1      |            |            |
| 1140       | 101.3      | 2340       | 107.2      | 3540       | 114.3      |            |            |
| 1170       | 101.5      | 2370       | 107.4      | 3570       | 114.3      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

[Test vehicle]

Model name : NX 350 AWD  
Data is representative for : NX 350 AWD

[Test procedure] : CARB method

[Test conditions]

Date : 08/20/2024  
Ambient air temperature (at initiation) : 106.0 °F  
Ambient air temperature (at completion) : 110.8 °F  
Track surface temperature (at initiation) : 174.6 °F  
Track surface temperature (at completion) : 179.1 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Date : 08/20/2024  
Ambient air temperature (at initiation) : 106.3 °F  
Ambient air temperature (at completion) : 110.3 °F  
Track surface temperature (at initiation) : 173.8 °F  
Track surface temperature (at completion) : 179.1 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

Measured temperature and pressure profiles

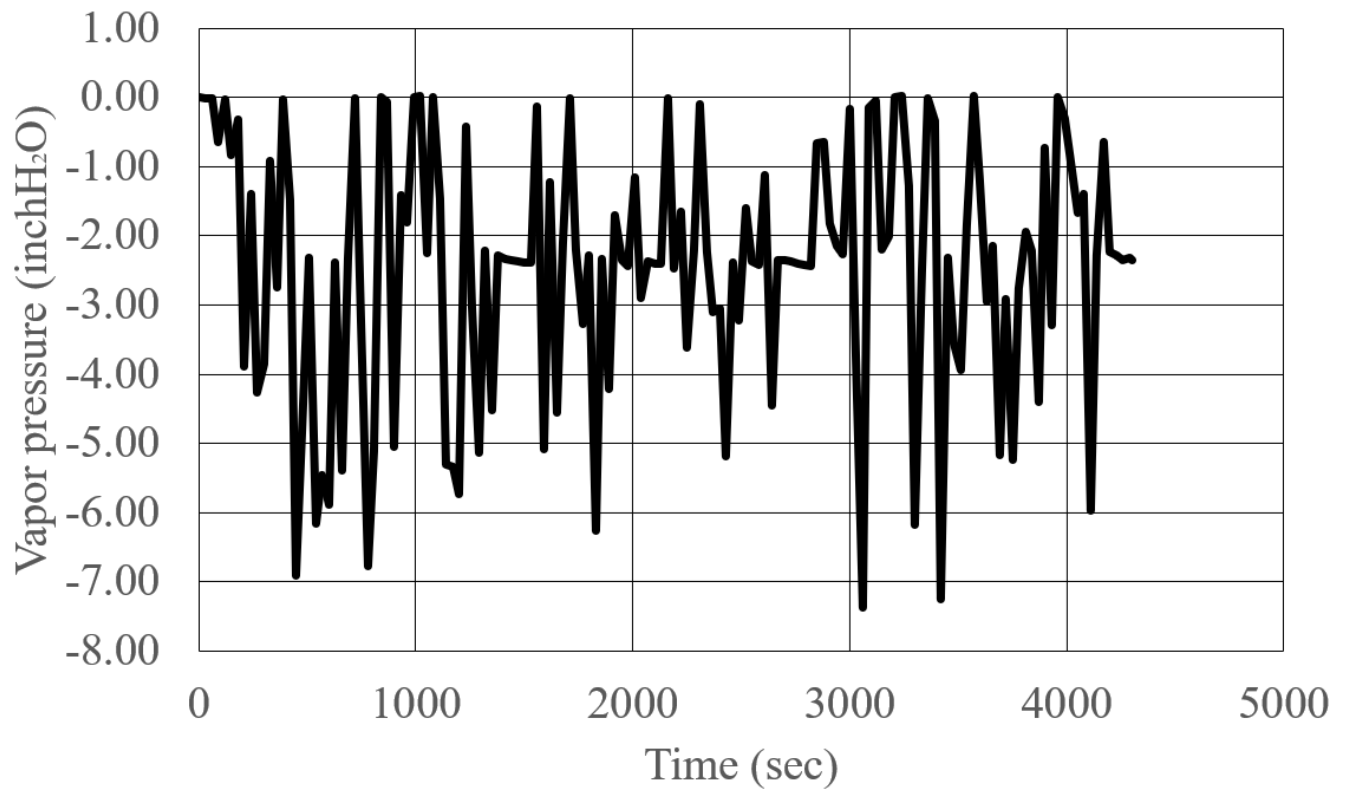
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 103.8      | 1200       | 108.9      | 2400       | 114.4      | 3600       | 121.1      |
| 30         | 103.6      | 1230       | 108.9      | 2430       | 114.6      | 3630       | 121.1      |
| 60         | 103.8      | 1260       | 109.0      | 2460       | 114.6      | 3660       | 121.3      |
| 90         | 104.0      | 1290       | 109.2      | 2490       | 114.6      | 3690       | 121.5      |
| 120        | 104.4      | 1320       | 109.2      | 2520       | 115.0      | 3720       | 121.6      |
| 150        | 104.5      | 1350       | 109.4      | 2550       | 115.2      | 3750       | 121.6      |
| 180        | 104.9      | 1380       | 109.6      | 2580       | 115.2      | 3780       | 121.8      |
| 210        | 105.1      | 1410       | 109.6      | 2610       | 115.5      | 3810       | 122.0      |
| 240        | 105.3      | 1440       | 109.6      | 2640       | 115.7      | 3840       | 122.2      |
| 270        | 105.6      | 1470       | 109.8      | 2670       | 115.9      | 3870       | 122.2      |
| 300        | 105.8      | 1500       | 109.9      | 2700       | 115.9      | 3900       | 122.4      |
| 330        | 106.0      | 1530       | 109.9      | 2730       | 116.1      | 3930       | 122.5      |
| 360        | 106.2      | 1560       | 110.1      | 2760       | 116.2      | 3960       | 122.5      |
| 390        | 106.3      | 1590       | 110.3      | 2790       | 116.4      | 3990       | 122.7      |
| 420        | 106.3      | 1620       | 110.5      | 2820       | 116.4      | 4020       | 122.9      |
| 450        | 106.7      | 1650       | 110.5      | 2850       | 116.8      | 4050       | 123.1      |
| 480        | 106.7      | 1680       | 110.7      | 2880       | 117.0      | 4080       | 123.1      |
| 510        | 106.9      | 1710       | 110.8      | 2910       | 117.1      | 4110       | 123.1      |
| 540        | 107.1      | 1740       | 111.0      | 2940       | 117.3      | 4140       | 123.3      |
| 570        | 107.1      | 1770       | 111.2      | 2970       | 117.5      | 4170       | 123.3      |
| 600        | 107.2      | 1800       | 111.2      | 3000       | 117.5      | 4200       | 123.4      |
| 630        | 107.4      | 1830       | 111.4      | 3030       | 117.9      | 4230       | 123.4      |
| 660        | 107.4      | 1860       | 111.6      | 3060       | 118.0      | 4260       | 123.6      |
| 690        | 107.4      | 1890       | 111.7      | 3090       | 118.2      | 4290       | 123.6      |
| 720        | 107.4      | 1920       | 111.7      | 3120       | 118.4      | 4304       | 123.8      |
| 750        | 107.6      | 1950       | 111.9      | 3150       | 118.6      |            |            |
| 780        | 107.6      | 1980       | 111.9      | 3180       | 118.9      |            |            |
| 810        | 107.6      | 2010       | 112.1      | 3210       | 119.1      |            |            |
| 840        | 107.8      | 2040       | 112.3      | 3240       | 119.3      |            |            |
| 870        | 107.8      | 2070       | 112.5      | 3270       | 119.5      |            |            |
| 900        | 108.0      | 2100       | 112.6      | 3300       | 119.7      |            |            |
| 930        | 108.0      | 2130       | 112.8      | 3330       | 119.7      |            |            |
| 960        | 108.0      | 2160       | 113.0      | 3360       | 120.0      |            |            |
| 990        | 108.1      | 2190       | 113.0      | 3390       | 120.0      |            |            |
| 1020       | 108.3      | 2220       | 113.4      | 3420       | 120.2      |            |            |
| 1050       | 108.5      | 2250       | 113.5      | 3450       | 120.6      |            |            |
| 1080       | 108.5      | 2280       | 113.5      | 3480       | 120.6      |            |            |
| 1110       | 108.7      | 2310       | 113.7      | 3510       | 120.7      |            |            |
| 1140       | 108.7      | 2340       | 114.1      | 3540       | 120.9      |            |            |
| 1170       | 108.7      | 2370       | 114.3      | 3570       | 120.9      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

[Test vehicle]

Model name : NX 350 AWD  
Data is representative for : NX 350 AWD

[Test procedure] : EPA method

[Test conditions]

Date : 08/19/2024  
Ambient air temperature (at initiation) : 96.1 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 154.6 °F  
Track surface temperature (at completion) : 158.0 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Date : 08/20/2024  
Ambient air temperature (at initiation) : 95.9 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 153.3 °F  
Track surface temperature (at completion) : 158.2 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

Measured temperature and pressure profiles

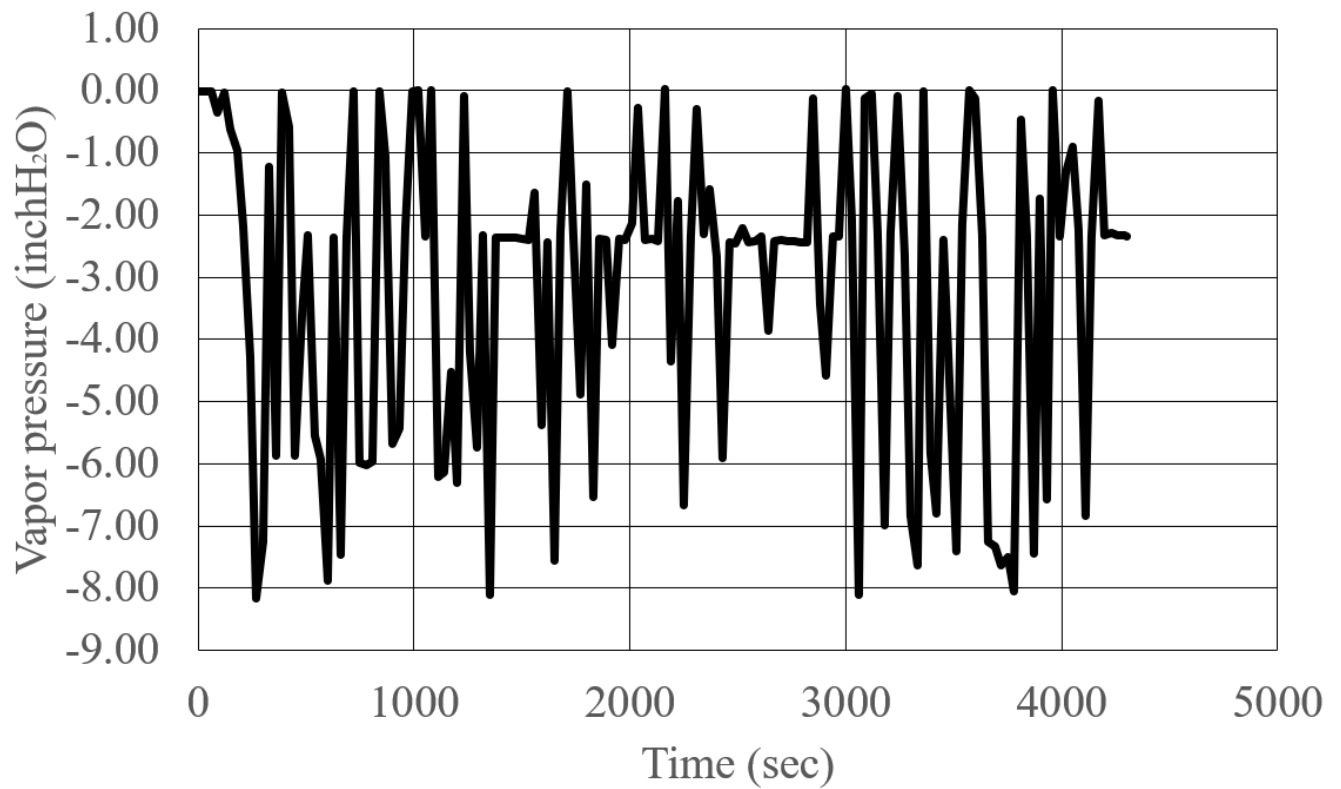
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 94.8       | 1200       | 99.1       | 2400       | 104.9      | 3600       | 112.1      |
| 30         | 94.7       | 1230       | 99.1       | 2430       | 105.1      | 3630       | 112.3      |
| 60         | 94.7       | 1260       | 99.3       | 2460       | 105.1      | 3660       | 112.5      |
| 90         | 94.9       | 1290       | 99.3       | 2490       | 105.3      | 3690       | 112.6      |
| 120        | 95.2       | 1320       | 99.5       | 2520       | 105.4      | 3720       | 112.6      |
| 150        | 95.2       | 1350       | 99.5       | 2550       | 105.8      | 3750       | 113.0      |
| 180        | 95.5       | 1380       | 99.7       | 2580       | 106.0      | 3780       | 113.0      |
| 210        | 95.7       | 1410       | 99.9       | 2610       | 106.0      | 3810       | 113.2      |
| 240        | 95.9       | 1440       | 99.9       | 2640       | 106.2      | 3840       | 113.2      |
| 270        | 95.9       | 1470       | 100.0      | 2670       | 106.3      | 3870       | 113.4      |
| 300        | 96.1       | 1500       | 100.2      | 2700       | 106.5      | 3900       | 113.5      |
| 330        | 96.3       | 1530       | 100.2      | 2730       | 106.7      | 3930       | 113.5      |
| 360        | 96.3       | 1560       | 100.4      | 2760       | 106.9      | 3960       | 113.7      |
| 390        | 96.4       | 1590       | 100.6      | 2790       | 107.1      | 3990       | 113.9      |
| 420        | 96.6       | 1620       | 100.8      | 2820       | 107.2      | 4020       | 113.9      |
| 450        | 96.8       | 1650       | 100.8      | 2850       | 107.2      | 4050       | 114.1      |
| 480        | 96.8       | 1680       | 101.1      | 2880       | 107.8      | 4080       | 114.3      |
| 510        | 97.0       | 1710       | 101.1      | 2910       | 107.8      | 4110       | 114.3      |
| 540        | 97.2       | 1740       | 101.3      | 2940       | 108.0      | 4140       | 114.4      |
| 570        | 97.2       | 1770       | 101.5      | 2970       | 108.3      | 4170       | 114.4      |
| 600        | 97.3       | 1800       | 101.7      | 3000       | 108.5      | 4200       | 114.6      |
| 630        | 97.3       | 1830       | 101.8      | 3030       | 108.7      | 4230       | 114.8      |
| 660        | 97.5       | 1860       | 101.8      | 3060       | 108.9      | 4260       | 114.8      |
| 690        | 97.5       | 1890       | 102.0      | 3090       | 109.0      | 4290       | 115.0      |
| 720        | 97.5       | 1920       | 102.2      | 3120       | 109.2      | 4304       | 115.0      |
| 750        | 97.7       | 1950       | 102.6      | 3150       | 109.6      |            |            |
| 780        | 97.7       | 1980       | 102.6      | 3180       | 109.8      |            |            |
| 810        | 97.9       | 2010       | 102.7      | 3210       | 109.9      |            |            |
| 840        | 97.9       | 2040       | 102.9      | 3240       | 110.1      |            |            |
| 870        | 98.1       | 2070       | 102.9      | 3270       | 110.3      |            |            |
| 900        | 98.1       | 2100       | 103.1      | 3300       | 110.5      |            |            |
| 930        | 98.1       | 2130       | 103.3      | 3330       | 110.7      |            |            |
| 960        | 98.2       | 2160       | 103.5      | 3360       | 110.8      |            |            |
| 990        | 98.4       | 2190       | 103.6      | 3390       | 111.2      |            |            |
| 1020       | 98.4       | 2220       | 103.8      | 3420       | 111.2      |            |            |
| 1050       | 98.6       | 2250       | 104.0      | 3450       | 111.4      |            |            |
| 1080       | 98.8       | 2280       | 104.2      | 3480       | 111.6      |            |            |
| 1110       | 98.8       | 2310       | 104.4      | 3510       | 111.6      |            |            |
| 1140       | 99.0       | 2340       | 104.5      | 3540       | 111.7      |            |            |
| 1170       | 99.0       | 2370       | 104.5      | 3570       | 111.9      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

[Test vehicle]

Model name : GR COROLLA  
Data is representative for : GR COROLLA

[Test procedure] : CARB method

[Test conditions]

Date : 02/21/2024  
Ambient air temperature (at initiation) : 106.0 °F  
Ambient air temperature (at completion) : 110.1 °F  
Track surface temperature (at initiation) : 175.8 °F  
Track surface temperature (at completion) : 179.8 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 02/22/2024  
Ambient air temperature (at initiation) : 105.4 °F  
Ambient air temperature (at completion) : 110.1 °F  
Track surface temperature (at initiation) : 176.5 °F  
Track surface temperature (at completion) : 180.0 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

Measured temperature and pressure profiles

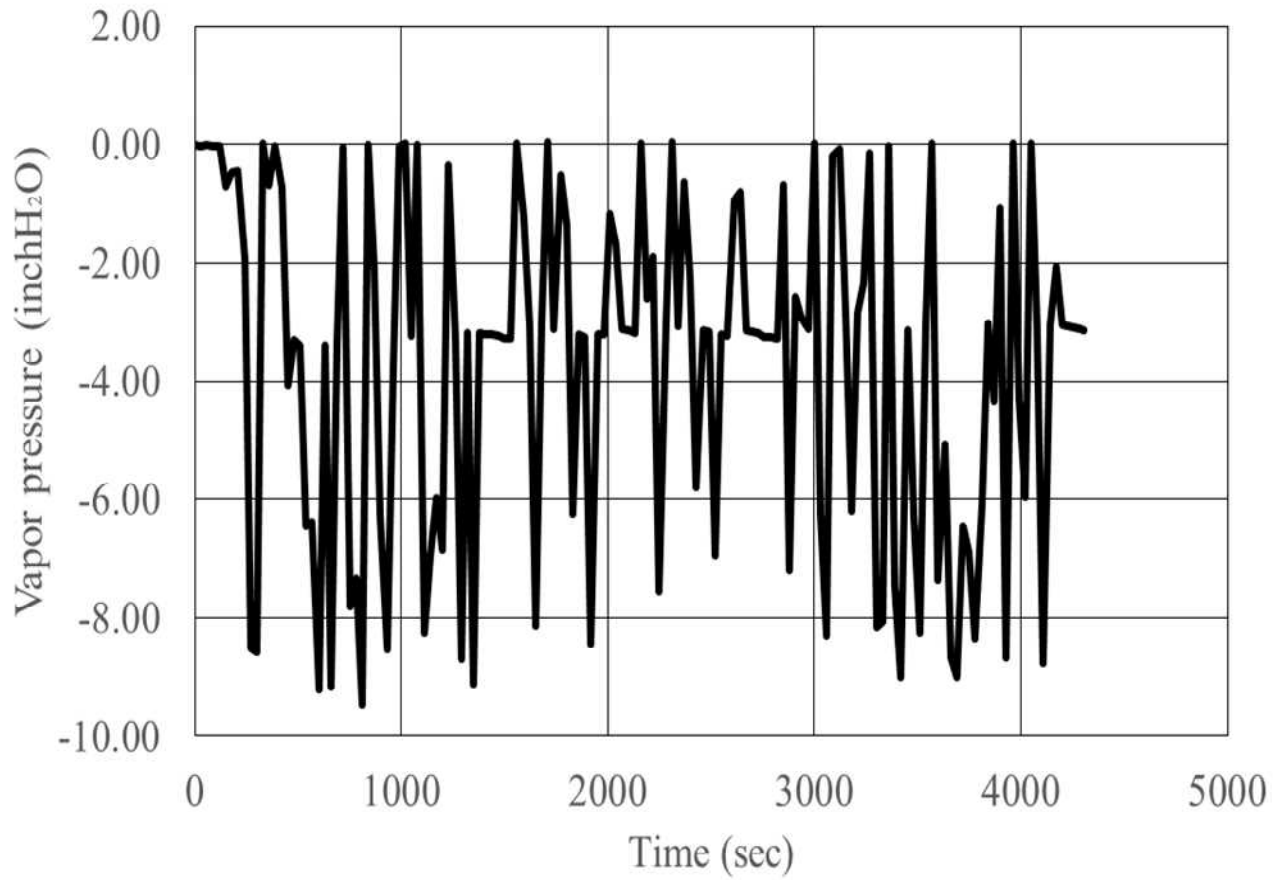
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 104.2      | 1200       | 108.5      | 2400       | 115.2      | 3600       | 122.2      |
| 30         | 104.3      | 1230       | 108.5      | 2430       | 115.0      | 3630       | 122.4      |
| 60         | 104.4      | 1260       | 108.5      | 2460       | 115.0      | 3660       | 122.5      |
| 90         | 104.6      | 1290       | 108.7      | 2490       | 115.2      | 3690       | 122.7      |
| 120        | 104.9      | 1320       | 108.9      | 2520       | 115.5      | 3720       | 122.9      |
| 150        | 105.1      | 1350       | 108.9      | 2550       | 115.7      | 3750       | 122.9      |
| 180        | 105.3      | 1380       | 109.0      | 2580       | 115.7      | 3780       | 123.1      |
| 210        | 105.4      | 1410       | 109.2      | 2610       | 116.1      | 3810       | 123.1      |
| 240        | 105.4      | 1440       | 109.0      | 2640       | 116.2      | 3840       | 123.3      |
| 270        | 105.6      | 1470       | 109.0      | 2670       | 116.4      | 3870       | 123.3      |
| 300        | 105.8      | 1500       | 109.0      | 2700       | 116.4      | 3900       | 123.4      |
| 330        | 105.8      | 1530       | 109.2      | 2730       | 116.4      | 3930       | 123.4      |
| 360        | 106.0      | 1560       | 109.6      | 2760       | 116.6      | 3960       | 123.6      |
| 390        | 106.0      | 1590       | 109.8      | 2790       | 116.8      | 3990       | 123.6      |
| 420        | 106.2      | 1620       | 110.1      | 2820       | 117.0      | 4020       | 123.6      |
| 450        | 106.2      | 1650       | 110.3      | 2850       | 117.5      | 4050       | 123.8      |
| 480        | 106.3      | 1680       | 110.7      | 2880       | 118.2      | 4080       | 123.8      |
| 510        | 106.3      | 1710       | 110.8      | 2910       | 118.6      | 4110       | 124.2      |
| 540        | 106.3      | 1740       | 111.0      | 2940       | 118.8      | 4140       | 124.2      |
| 570        | 106.5      | 1770       | 111.0      | 2970       | 118.6      | 4170       | 124.3      |
| 600        | 106.5      | 1800       | 111.4      | 3000       | 118.9      | 4200       | 124.2      |
| 630        | 106.7      | 1830       | 111.2      | 3030       | 119.5      | 4230       | 124.2      |
| 660        | 106.7      | 1860       | 111.4      | 3060       | 119.7      | 4260       | 124.3      |
| 690        | 106.9      | 1890       | 111.6      | 3090       | 120.0      | 4290       | 124.3      |
| 720        | 106.9      | 1920       | 111.9      | 3120       | 120.0      | 4304       | 124.3      |
| 750        | 106.9      | 1950       | 111.9      | 3150       | 120.0      |            |            |
| 780        | 107.1      | 1980       | 111.9      | 3180       | 120.2      |            |            |
| 810        | 107.2      | 2010       | 112.3      | 3210       | 120.4      |            |            |
| 840        | 107.4      | 2040       | 112.5      | 3240       | 120.6      |            |            |
| 870        | 107.4      | 2070       | 112.6      | 3270       | 120.4      |            |            |
| 900        | 107.4      | 2100       | 112.6      | 3300       | 120.9      |            |            |
| 930        | 107.6      | 2130       | 112.8      | 3330       | 120.9      |            |            |
| 960        | 107.6      | 2160       | 113.2      | 3360       | 121.1      |            |            |
| 990        | 107.8      | 2190       | 113.2      | 3390       | 120.9      |            |            |
| 1020       | 108.0      | 2220       | 113.5      | 3420       | 121.3      |            |            |
| 1050       | 107.8      | 2250       | 113.9      | 3450       | 121.3      |            |            |
| 1080       | 108.0      | 2280       | 114.3      | 3480       | 121.3      |            |            |
| 1110       | 108.1      | 2310       | 114.4      | 3510       | 121.5      |            |            |
| 1140       | 108.1      | 2340       | 114.8      | 3540       | 121.8      |            |            |
| 1170       | 108.3      | 2370       | 114.6      | 3570       | 122.0      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

[Test vehicle]

Model name : GR COROLLA  
Data is representative for : GR COROLLA

[Test procedure] : EPA method

[Test conditions]

Date : 02/21/2024  
Ambient air temperature (at initiation) : 97.2 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 157.5 °F  
Track surface temperature (at completion) : 159.6 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 02/22/2024  
Ambient air temperature (at initiation) : 95.7 °F  
Ambient air temperature (at completion) : 99.9 °F  
Track surface temperature (at initiation) : 151.3 °F  
Track surface temperature (at completion) : 159.3 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.  
Measured temperature and pressure profiles

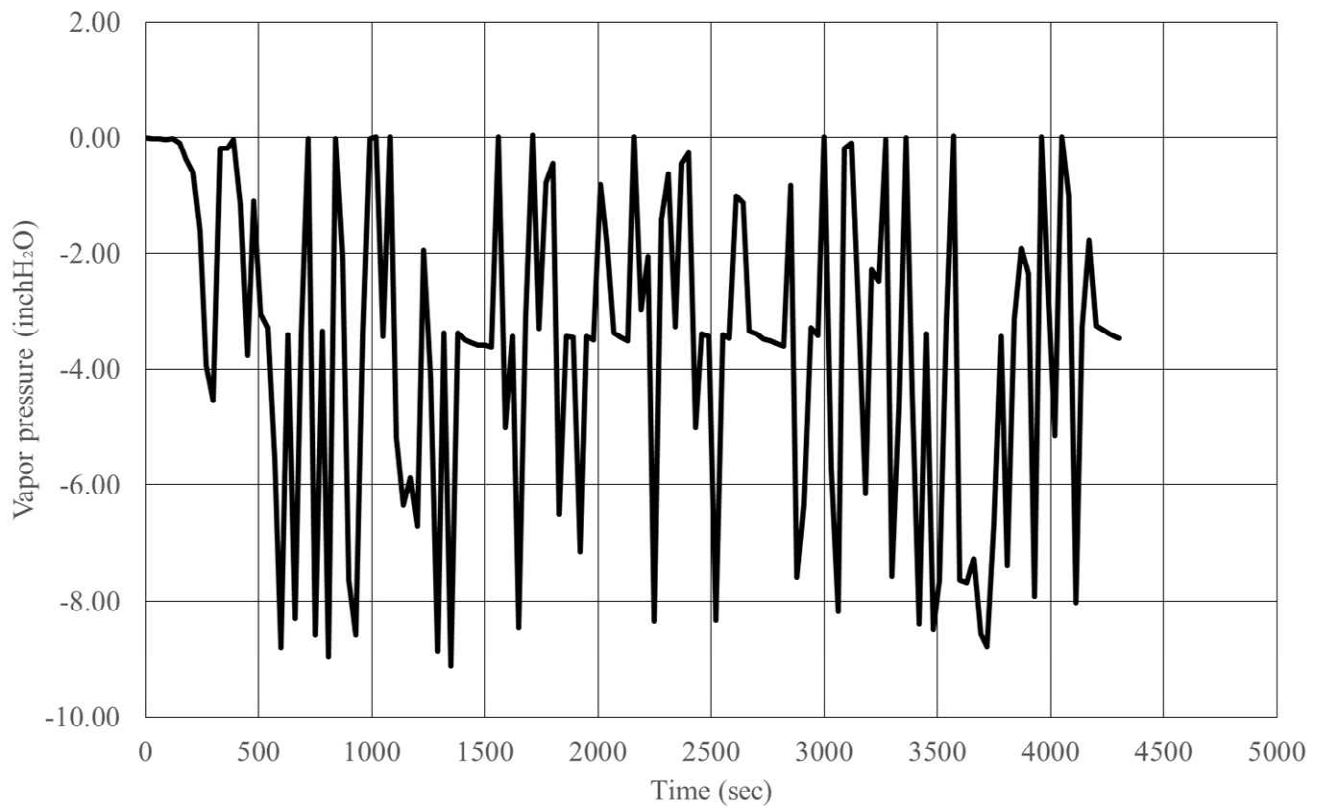
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 95.7       | 1200       | 100.0      | 2400       | 106.5      | 3600       | 113.7      |
| 30         | 95.8       | 1230       | 100.0      | 2430       | 106.7      | 3630       | 114.1      |
| 60         | 95.9       | 1260       | 100.2      | 2460       | 106.7      | 3660       | 114.1      |
| 90         | 96.2       | 1290       | 100.2      | 2490       | 107.1      | 3690       | 114.3      |
| 120        | 96.4       | 1320       | 100.4      | 2520       | 107.2      | 3720       | 114.3      |
| 150        | 96.6       | 1350       | 100.4      | 2550       | 107.4      | 3750       | 114.4      |
| 180        | 96.6       | 1380       | 100.6      | 2580       | 107.6      | 3780       | 114.4      |
| 210        | 96.8       | 1410       | 100.8      | 2610       | 107.6      | 3810       | 114.6      |
| 240        | 97.0       | 1440       | 100.8      | 2640       | 108.0      | 3840       | 114.8      |
| 270        | 97.0       | 1470       | 100.9      | 2670       | 108.1      | 3870       | 115.0      |
| 300        | 97.2       | 1500       | 100.9      | 2700       | 108.3      | 3900       | 115.0      |
| 330        | 97.2       | 1530       | 101.1      | 2730       | 108.5      | 3930       | 115.2      |
| 360        | 97.3       | 1560       | 101.3      | 2760       | 108.7      | 3960       | 115.3      |
| 390        | 97.3       | 1590       | 101.5      | 2790       | 108.9      | 3990       | 115.3      |
| 420        | 97.5       | 1620       | 101.7      | 2820       | 109.2      | 4020       | 115.5      |
| 450        | 97.7       | 1650       | 101.7      | 2850       | 109.2      | 4050       | 115.7      |
| 480        | 97.7       | 1680       | 102.0      | 2880       | 109.6      | 4080       | 115.7      |
| 510        | 97.7       | 1710       | 102.2      | 2910       | 109.8      | 4110       | 115.9      |
| 540        | 97.9       | 1740       | 102.4      | 2940       | 110.1      | 4140       | 116.1      |
| 570        | 98.1       | 1770       | 102.6      | 2970       | 110.1      | 4170       | 116.1      |
| 600        | 98.1       | 1800       | 102.7      | 3000       | 110.3      | 4200       | 116.2      |
| 630        | 98.2       | 1830       | 102.9      | 3030       | 110.7      | 4230       | 116.4      |
| 660        | 98.2       | 1860       | 102.9      | 3060       | 110.8      | 4260       | 116.4      |
| 690        | 98.4       | 1890       | 103.3      | 3090       | 111.2      | 4290       | 116.4      |
| 720        | 98.4       | 1920       | 103.3      | 3120       | 111.4      | 4304       | 116.6      |
| 750        | 98.4       | 1950       | 103.6      | 3150       | 111.6      |            |            |
| 780        | 98.6       | 1980       | 103.6      | 3180       | 111.6      |            |            |
| 810        | 98.6       | 2010       | 103.8      | 3210       | 111.9      |            |            |
| 840        | 98.8       | 2040       | 104.0      | 3240       | 111.9      |            |            |
| 870        | 98.8       | 2070       | 104.2      | 3270       | 112.1      |            |            |
| 900        | 99.0       | 2100       | 104.4      | 3300       | 112.3      |            |            |
| 930        | 99.0       | 2130       | 104.5      | 3330       | 112.5      |            |            |
| 960        | 99.1       | 2160       | 104.7      | 3360       | 112.6      |            |            |
| 990        | 99.3       | 2190       | 104.9      | 3390       | 112.6      |            |            |
| 1020       | 99.3       | 2220       | 105.1      | 3420       | 112.8      |            |            |
| 1050       | 99.5       | 2250       | 105.3      | 3450       | 113.0      |            |            |
| 1080       | 99.7       | 2280       | 105.6      | 3480       | 113.2      |            |            |
| 1110       | 99.9       | 2310       | 105.8      | 3510       | 113.4      |            |            |
| 1140       | 99.9       | 2340       | 106.0      | 3540       | 113.5      |            |            |
| 1170       | 100.0      | 2370       | 106.2      | 3570       | 113.7      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

(b) Measured vapor space pressure profile



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0130P42.

Evaporative emission test log

Vehicle Description

|                     | Evaporative emission vehicle | Refueling emission vehicle. |
|---------------------|------------------------------|-----------------------------|
| Test group          | : NTYXV02.5P3A               | JTYXV02.5P3A                |
| Vehicle ID          | : 18-AV1A                    | 18-AV1A                     |
| Rep. car/truck line | : Camry                      | Camry                       |
| Rep. vehicle model  | : AXVA70L-CEZPBA             | AXVA70L-CEZPBA              |
| Displacement        | : 151.8CID                   | 151.8CID                    |
| Transmission        | : UB80E-A                    | UB80E-A                     |
| Test weight         | : 3,750 lbs.                 | 3,750 lbs.                  |
| Road load           | : 11.3 HP                    | 11.5 HP                     |
| Evap. code          | : AV1Z                       | AV1Z                        |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|                  |         |             |          |
|------------------|---------|-------------|----------|
| Exhaust emission | NMOG    | : 0.0071    | (g/mile) |
|                  | CO      | : 0.10      | (g/mile) |
|                  | NOx     | : 0.0065    | (g/mile) |
| Running loss     |         | : 0.008     | (g/mile) |
| Hot soak loss    |         | : 0.0514    | (g/test) |
| 3DBL             | 1st day | : 0.2175 *1 | (g/test) |
|                  | 2nd day | : 0.1459    | (g/test) |
|                  | 3rd day | : 0.1372    | (g/test) |

2-day diurnal sequence test results\*2

|                  |         |       |          |
|------------------|---------|-------|----------|
| Exhaust emission | NMOG    | : N/A | (g/mile) |
|                  | CO      | : N/A | (g/mile) |
|                  | NOx     | : N/A | (g/mile) |
| Hot soak loss    |         | : N/A | (g/test) |
| 2DBL             | 1st day | : N/A | (g/test) |
|                  | 2nd day | : N/A | (g/test) |

Refueling sequence test results

|                    |      |          |          |
|--------------------|------|----------|----------|
| Exhaust emission   | NMOG | : 0.0073 | (g/mile) |
|                    | CO   | : 0.10   | (g/mile) |
|                    | NOx  | : 0.0047 | (g/mile) |
| Refueling emission |      | : 0.003  | (g/gal)  |

\*1: 1st DBL is added key off monitor loss (0.0002 gram).

\*2: In lieu of testing, Toyota is providing a compliance statement in §8.2

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0120J42.

[Test vehicle]

Model name : PRIUS PRIME  
Data is representative for : PRIUS PHEV

[Test procedure] : CARB method

[Test conditions]

Date : 10/11/2021  
Ambient air temperature (at initiation) : 109.9 °F  
Ambient air temperature (at completion) : 108.1 °F  
Track surface temperature (at initiation) : 151.7 °F  
Track surface temperature (at completion) : 150.4 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 10/12/2021  
Ambient air temperature (at initiation) : 112.1°F  
Ambient air temperature (at completion) : 110.3°F  
Track surface temperature (at initiation) : 148.6 °F  
Track surface temperature (at completion) : 150.4 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0120J42.

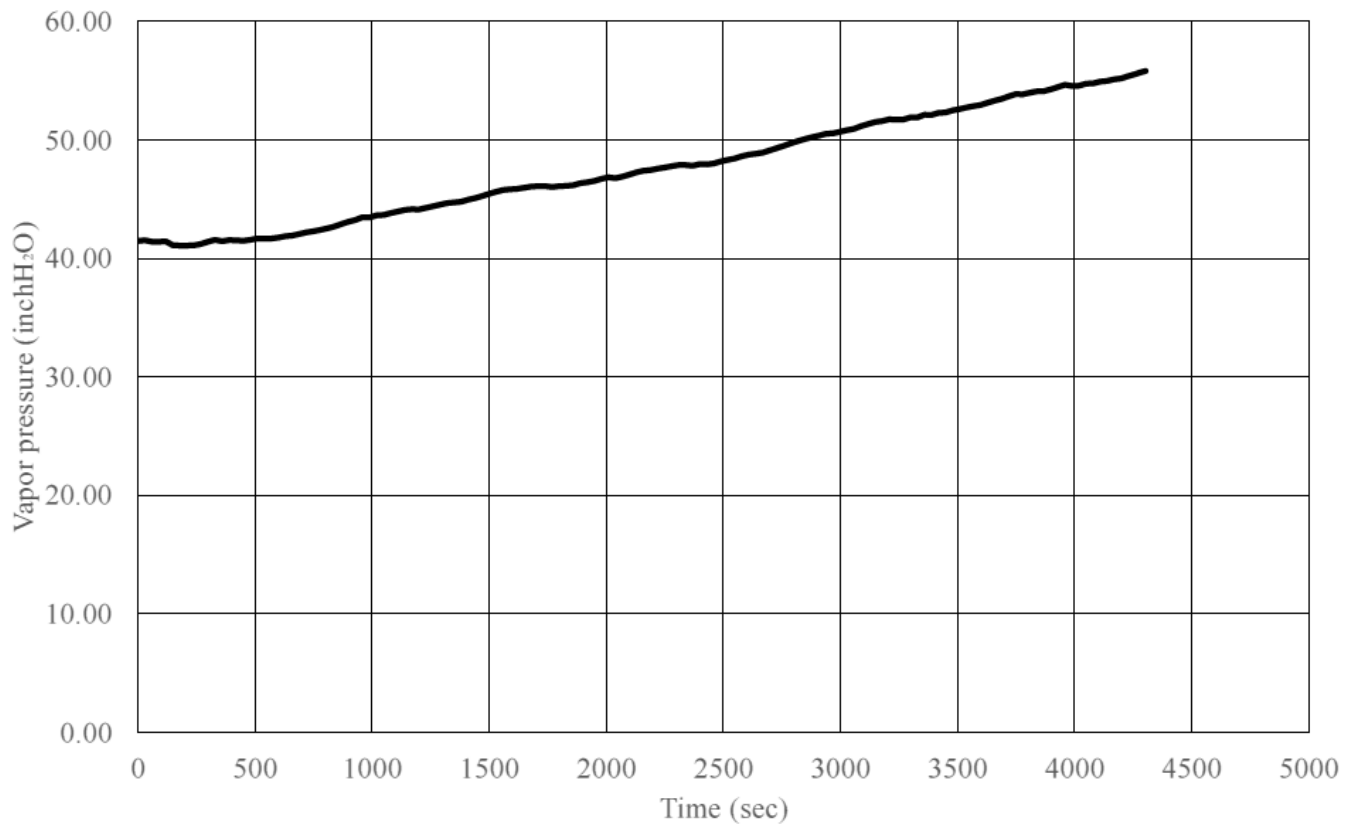
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 98.8       | 1200       | 100.0      | 2400       | 100.4      | 3600       | 101.7      |
| 30         | 98.6       | 1230       | 99.9       | 2430       | 100.6      | 3630       | 101.8      |
| 60         | 98.6       | 1260       | 99.9       | 2460       | 100.6      | 3660       | 101.7      |
| 90         | 98.9       | 1290       | 100.0      | 2490       | 100.6      | 3690       | 101.7      |
| 120        | 99.0       | 1320       | 99.9       | 2520       | 100.6      | 3720       | 101.8      |
| 150        | 98.8       | 1350       | 99.9       | 2550       | 100.4      | 3750       | 101.8      |
| 180        | 99.0       | 1380       | 100.0      | 2580       | 100.8      | 3780       | 102.0      |
| 210        | 99.0       | 1410       | 100.0      | 2610       | 100.6      | 3810       | 101.8      |
| 240        | 99.1       | 1440       | 100.0      | 2640       | 100.6      | 3840       | 102.0      |
| 270        | 99.3       | 1470       | 100.0      | 2670       | 100.6      | 3870       | 101.8      |
| 300        | 99.3       | 1500       | 100.0      | 2700       | 100.8      | 3900       | 101.8      |
| 330        | 99.1       | 1530       | 100.2      | 2730       | 100.9      | 3930       | 102.0      |
| 360        | 99.0       | 1560       | 100.0      | 2760       | 100.9      | 3960       | 101.8      |
| 390        | 99.3       | 1590       | 99.9       | 2790       | 100.9      | 3990       | 102.0      |
| 420        | 99.1       | 1620       | 99.9       | 2820       | 100.9      | 4020       | 102.0      |
| 450        | 99.3       | 1650       | 99.9       | 2850       | 100.8      | 4050       | 102.0      |
| 480        | 99.3       | 1680       | 99.9       | 2880       | 100.9      | 4080       | 102.0      |
| 510        | 99.3       | 1710       | 100.0      | 2910       | 100.9      | 4110       | 102.2      |
| 540        | 99.3       | 1740       | 100.4      | 2940       | 100.9      | 4140       | 102.2      |
| 570        | 99.5       | 1770       | 100.2      | 2970       | 100.9      | 4170       | 102.0      |
| 600        | 99.5       | 1800       | 100.0      | 3000       | 100.8      | 4200       | 102.0      |
| 630        | 99.7       | 1830       | 100.2      | 3030       | 100.9      | 4230       | 102.2      |
| 660        | 99.5       | 1860       | 100.2      | 3060       | 101.1      | 4260       | 102.4      |
| 690        | 99.5       | 1890       | 100.2      | 3090       | 101.1      | 4290       | 102.4      |
| 720        | 99.5       | 1920       | 100.2      | 3120       | 101.1      | 4304       | 102.4      |
| 750        | 99.5       | 1950       | 100.0      | 3150       | 101.1      |            |            |
| 780        | 99.5       | 1980       | 100.4      | 3180       | 101.1      |            |            |
| 810        | 99.7       | 2010       | 100.2      | 3210       | 101.1      |            |            |
| 840        | 99.7       | 2040       | 100.0      | 3240       | 101.1      |            |            |
| 870        | 99.7       | 2070       | 100.2      | 3270       | 101.1      |            |            |
| 900        | 99.7       | 2100       | 100.4      | 3300       | 101.3      |            |            |
| 930        | 99.9       | 2130       | 100.4      | 3330       | 101.5      |            |            |
| 960        | 99.7       | 2160       | 100.4      | 3360       | 101.3      |            |            |
| 990        | 99.7       | 2190       | 100.4      | 3390       | 101.1      |            |            |
| 1020       | 99.9       | 2220       | 100.4      | 3420       | 101.5      |            |            |
| 1050       | 99.7       | 2250       | 100.4      | 3450       | 101.5      |            |            |
| 1080       | 99.9       | 2280       | 100.4      | 3480       | 101.5      |            |            |
| 1110       | 99.7       | 2310       | 100.2      | 3510       | 101.5      |            |            |
| 1140       | 100.0      | 2340       | 100.6      | 3540       | 101.5      |            |            |
| 1170       | 100.0      | 2370       | 100.4      | 3570       | 101.7      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0120J42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0120J42.

[Test vehicle]

Model name : PRIUS PRIME

Data is representative for : PRIUS PHEV

[Test procedure]

: EPA method

[Test conditions]

Date : 10/11/2021

Ambient air temperature (at initiation) : 99.3 °F

Ambient air temperature (at completion) : 98.2 °F

Track surface temperature (at initiation) : 132.6 °F

Track surface temperature (at completion) : 132.3 °F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0120J42.

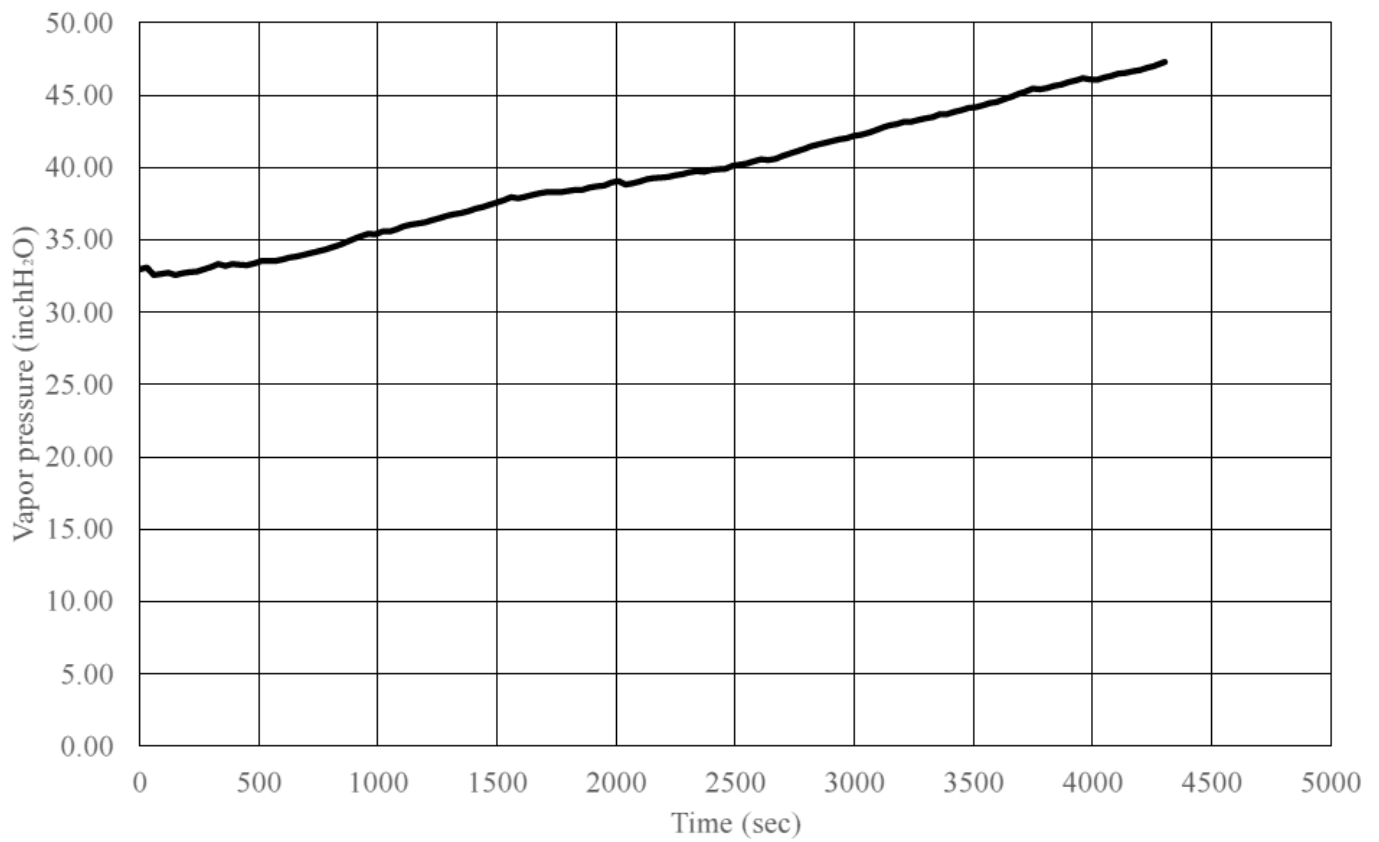
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 88.3       | 1200       | 89.4       | 2400       | 89.6       | 3600       | 90.5       |
| 30         | 88.3       | 1230       | 89.4       | 2430       | 89.6       | 3630       | 90.5       |
| 60         | 88.0       | 1260       | 89.2       | 2460       | 89.6       | 3660       | 90.3       |
| 90         | 88.2       | 1290       | 89.2       | 2490       | 89.6       | 3690       | 90.5       |
| 120        | 88.2       | 1320       | 89.4       | 2520       | 89.6       | 3720       | 90.7       |
| 150        | 88.0       | 1350       | 89.2       | 2550       | 89.6       | 3750       | 90.5       |
| 180        | 88.2       | 1380       | 89.4       | 2580       | 89.8       | 3780       | 90.9       |
| 210        | 88.2       | 1410       | 89.4       | 2610       | 89.6       | 3810       | 90.7       |
| 240        | 88.3       | 1440       | 89.6       | 2640       | 89.6       | 3840       | 90.7       |
| 270        | 88.3       | 1470       | 89.6       | 2670       | 90.0       | 3870       | 90.5       |
| 300        | 88.3       | 1500       | 89.6       | 2700       | 89.8       | 3900       | 90.5       |
| 330        | 88.2       | 1530       | 89.6       | 2730       | 89.8       | 3930       | 90.5       |
| 360        | 88.2       | 1560       | 89.4       | 2760       | 89.8       | 3960       | 90.7       |
| 390        | 88.3       | 1590       | 89.4       | 2790       | 89.8       | 3990       | 90.5       |
| 420        | 88.3       | 1620       | 89.4       | 2820       | 90.0       | 4020       | 90.9       |
| 450        | 88.5       | 1650       | 89.4       | 2850       | 89.8       | 4050       | 90.9       |
| 480        | 88.3       | 1680       | 89.4       | 2880       | 89.8       | 4080       | 90.9       |
| 510        | 88.3       | 1710       | 89.4       | 2910       | 90.0       | 4110       | 90.9       |
| 540        | 88.5       | 1740       | 90.0       | 2940       | 90.0       | 4140       | 91.2       |
| 570        | 88.7       | 1770       | 89.6       | 2970       | 89.8       | 4170       | 91.0       |
| 600        | 88.5       | 1800       | 89.6       | 3000       | 89.6       | 4200       | 91.0       |
| 630        | 88.7       | 1830       | 89.6       | 3030       | 90.0       | 4230       | 91.0       |
| 660        | 88.7       | 1860       | 89.6       | 3060       | 90.0       | 4260       | 91.0       |
| 690        | 88.9       | 1890       | 89.4       | 3090       | 90.0       | 4290       | 91.0       |
| 720        | 88.7       | 1920       | 89.6       | 3120       | 90.0       | 4304       | 91.0       |
| 750        | 88.9       | 1950       | 89.4       | 3150       | 90.1       |            |            |
| 780        | 88.9       | 1980       | 89.6       | 3180       | 90.0       |            |            |
| 810        | 88.9       | 2010       | 89.6       | 3210       | 90.0       |            |            |
| 840        | 89.1       | 2040       | 89.6       | 3240       | 90.0       |            |            |
| 870        | 89.1       | 2070       | 89.6       | 3270       | 90.0       |            |            |
| 900        | 89.1       | 2100       | 89.6       | 3300       | 90.3       |            |            |
| 930        | 89.1       | 2130       | 89.8       | 3330       | 90.5       |            |            |
| 960        | 89.1       | 2160       | 89.6       | 3360       | 90.3       |            |            |
| 990        | 88.7       | 2190       | 89.6       | 3390       | 90.1       |            |            |
| 1020       | 89.1       | 2220       | 89.8       | 3420       | 90.3       |            |            |
| 1050       | 89.1       | 2250       | 89.6       | 3450       | 90.3       |            |            |
| 1080       | 89.1       | 2280       | 89.6       | 3480       | 90.3       |            |            |
| 1110       | 89.1       | 2310       | 89.6       | 3510       | 90.5       |            |            |
| 1140       | 89.2       | 2340       | 89.8       | 3540       | 90.3       |            |            |
| 1170       | 89.4       | 2370       | 89.8       | 3570       | 90.1       |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0120J42.

(b) Measured vapor space pressure profile



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0120J42.

Evaporative emission test log

Vehicle Description

|                     |                                         |
|---------------------|-----------------------------------------|
|                     | Evaporative/ Refueling emission vehicle |
| Test group          | : PTYXR0120J72                          |
| Vehicle ID          | : 23-MX2H                               |
| Rep. car/truck line | : PRIUS PRIME                           |
| Rep. vehicle model  | : MXWH61L-AHXGBA                        |
| Displacement        | : 121.3 CID                             |
| Transmission        | : PB12-A                                |
| Test weight         | : 3,545 lbs.                            |
| Road load           | : 10.3 HP                               |
| Evap. code          | : MW2F                                  |

Test results

Test procedure : CARB's procedure

3-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Running loss  | :       | 0.002      | (g/mile) |
| Hot soak loss | :       | 0.0265     | (g/test) |
| 3DBL          | 1st day | : 0.1528*1 | (g/test) |
|               | 2nd day | : 0.1184   | (g/test) |
|               | 3rd day | : 0.1126   | (g/test) |

2-day diurnal sequence test results

|               |         |             |          |
|---------------|---------|-------------|----------|
| Hot soak loss | :       | 0.0110      | (g/mile) |
| 2DBL          | 1st day | : 0.1830 *1 | (g/test) |
|               | 2nd day | : 0.1884    | (g/test) |

Refueling sequence test results

|                    |   |       |         |
|--------------------|---|-------|---------|
| Refueling emission | : | 0.007 | (g/gal) |
|--------------------|---|-------|---------|

\*1: 1st DBL is added key off monitor loss (0.0222 gram).

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0180A42.

[Test vehicle]

Model name : LC 500  
Data is representative for : LC 500, LC 500 CONVERTIBLE

[Test procedure] : CARB method

[Test conditions]

Date : 09/04/2024  
Ambient air temperature (at initiation) : 105.8 °F  
Ambient air temperature (at completion) : 110.7 °F  
Track surface temperature (at initiation) : 173.8 °F  
Track surface temperature (at completion) : 178.9 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 09/05/2024  
Ambient air temperature (at initiation) : 105.6 °F  
Ambient air temperature (at completion) : 110.3°F  
Track surface temperature (at initiation) : 173.7 °F  
Track surface temperature (at completion) : 179.2 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0180A42.

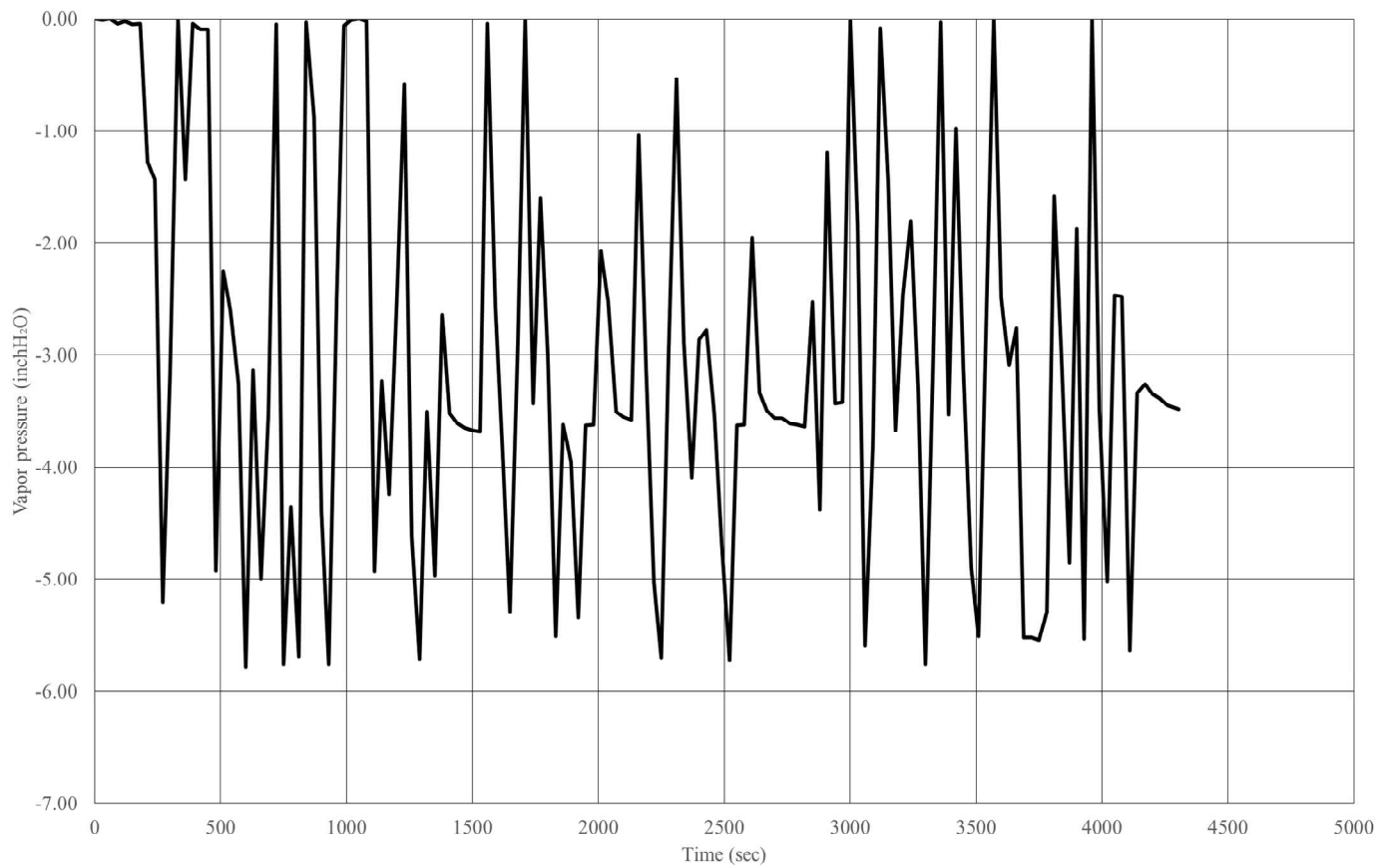
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid(°F) | Time(sec.) | Liquid(°F) | Time(sec.) | Liquid(°F) | Time(sec.) | Liquid(°F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 104.2      | 1200       | 109.6      | 2400       | 113.4      | 3600       | 118.4      |
| 30         | 104.5      | 1230       | 109.6      | 2430       | 113.7      | 3630       | 118.4      |
| 60         | 104.7      | 1260       | 109.6      | 2460       | 113.9      | 3660       | 118.8      |
| 90         | 104.8      | 1290       | 109.8      | 2490       | 114.1      | 3690       | 118.8      |
| 120        | 105.1      | 1320       | 109.8      | 2520       | 113.9      | 3720       | 118.9      |
| 150        | 105.4      | 1350       | 109.9      | 2550       | 114.1      | 3750       | 118.9      |
| 180        | 105.6      | 1380       | 110.1      | 2580       | 114.3      | 3780       | 119.3      |
| 210        | 105.8      | 1410       | 110.3      | 2610       | 114.3      | 3810       | 119.3      |
| 240        | 106.0      | 1440       | 110.5      | 2640       | 114.4      | 3840       | 119.5      |
| 270        | 106.0      | 1470       | 110.5      | 2670       | 114.6      | 3870       | 119.8      |
| 300        | 106.2      | 1500       | 110.5      | 2700       | 114.6      | 3900       | 119.8      |
| 330        | 106.5      | 1530       | 110.7      | 2730       | 114.8      | 3930       | 119.8      |
| 360        | 106.7      | 1560       | 110.5      | 2760       | 115.0      | 3960       | 119.8      |
| 390        | 106.7      | 1590       | 110.7      | 2790       | 115.2      | 3990       | 120.0      |
| 420        | 106.9      | 1620       | 110.8      | 2820       | 115.2      | 4020       | 120.2      |
| 450        | 107.2      | 1650       | 110.7      | 2850       | 115.0      | 4050       | 120.2      |
| 480        | 107.2      | 1680       | 110.7      | 2880       | 115.2      | 4080       | 120.6      |
| 510        | 107.2      | 1710       | 110.8      | 2910       | 115.2      | 4110       | 120.4      |
| 540        | 107.2      | 1740       | 110.8      | 2940       | 115.3      | 4140       | 120.6      |
| 570        | 107.6      | 1770       | 111.2      | 2970       | 115.7      | 4170       | 120.6      |
| 600        | 107.4      | 1800       | 111.2      | 3000       | 115.7      | 4200       | 120.7      |
| 630        | 107.8      | 1830       | 111.4      | 3030       | 115.7      | 4230       | 120.9      |
| 660        | 107.8      | 1860       | 111.6      | 3060       | 115.7      | 4260       | 121.1      |
| 690        | 107.8      | 1890       | 111.7      | 3090       | 115.9      | 4290       | 121.1      |
| 720        | 107.8      | 1920       | 111.6      | 3120       | 116.1      | 4304       | 121.1      |
| 750        | 107.8      | 1950       | 111.7      | 3150       | 116.6      |            |            |
| 780        | 108.0      | 1980       | 111.9      | 3180       | 116.6      |            |            |
| 810        | 108.0      | 2010       | 111.9      | 3210       | 116.8      |            |            |
| 840        | 108.1      | 2040       | 112.1      | 3240       | 117.0      |            |            |
| 870        | 108.1      | 2070       | 112.3      | 3270       | 117.1      |            |            |
| 900        | 108.1      | 2100       | 112.3      | 3300       | 117.1      |            |            |
| 930        | 108.3      | 2130       | 112.5      | 3330       | 117.5      |            |            |
| 960        | 108.5      | 2160       | 112.5      | 3360       | 117.3      |            |            |
| 990        | 108.7      | 2190       | 112.8      | 3390       | 117.7      |            |            |
| 1020       | 108.9      | 2220       | 112.8      | 3420       | 117.7      |            |            |
| 1050       | 109.0      | 2250       | 112.6      | 3450       | 118.0      |            |            |
| 1080       | 108.9      | 2280       | 112.8      | 3480       | 118.0      |            |            |
| 1110       | 109.2      | 2310       | 113.0      | 3510       | 118.2      |            |            |
| 1140       | 109.0      | 2340       | 113.2      | 3540       | 118.4      |            |            |
| 1170       | 109.4      | 2370       | 113.5      | 3570       | 118.4      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0180A42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0180A42.

[Test vehicle]

Model name : LC 500  
Data is representative for : LC 500 CONVERTIBLE

[Test procedure] : EPA method

[Test conditions]

Date : 09/04/2024  
Ambient air temperature (at initiation) : 96.3 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 153.7 °F  
Track surface temperature (at completion) : 158.5 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 09/04/2024  
Ambient air temperature (at initiation) : 96.1 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 153.1 °F  
Track surface temperature (at completion) : 158.2 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0180A42.

Measured temperature and pressure profiles

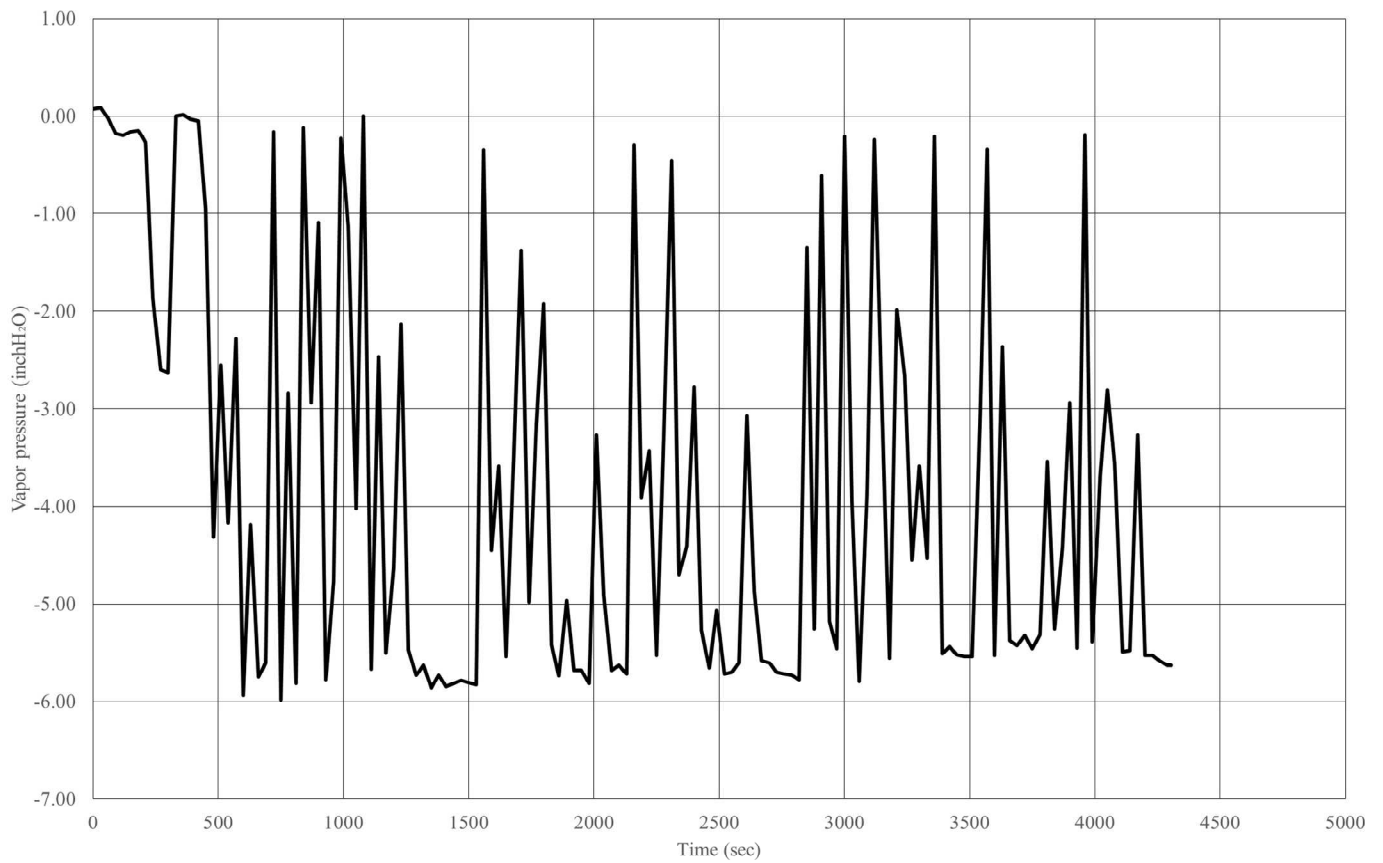
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 95.5       | 1200       | 100.9      | 2400       | 105.1      | 3600       | 110.5      |
| 30         | 95.5       | 1230       | 100.9      | 2430       | 105.3      | 3630       | 110.5      |
| 60         | 96.4       | 1260       | 101.1      | 2460       | 105.4      | 3660       | 110.7      |
| 90         | 97.0       | 1290       | 101.1      | 2490       | 105.6      | 3690       | 110.8      |
| 120        | 97.3       | 1320       | 101.1      | 2520       | 105.6      | 3720       | 110.8      |
| 150        | 97.5       | 1350       | 101.3      | 2550       | 105.6      | 3750       | 111.0      |
| 180        | 97.9       | 1380       | 101.3      | 2580       | 105.8      | 3780       | 111.2      |
| 210        | 98.1       | 1410       | 101.7      | 2610       | 105.8      | 3810       | 111.4      |
| 240        | 98.2       | 1440       | 101.5      | 2640       | 106.0      | 3840       | 111.6      |
| 270        | 98.2       | 1470       | 101.7      | 2670       | 106.2      | 3870       | 111.6      |
| 300        | 98.4       | 1500       | 101.7      | 2700       | 106.3      | 3900       | 111.6      |
| 330        | 98.4       | 1530       | 101.7      | 2730       | 106.5      | 3930       | 111.9      |
| 360        | 98.6       | 1560       | 101.7      | 2760       | 106.5      | 3960       | 111.7      |
| 390        | 98.8       | 1590       | 101.8      | 2790       | 106.7      | 3990       | 111.9      |
| 420        | 98.8       | 1620       | 102.0      | 2820       | 106.7      | 4020       | 112.1      |
| 450        | 99.0       | 1650       | 102.0      | 2850       | 106.7      | 4050       | 112.1      |
| 480        | 99.0       | 1680       | 102.0      | 2880       | 106.9      | 4080       | 112.3      |
| 510        | 99.0       | 1710       | 102.2      | 2910       | 107.1      | 4110       | 112.1      |
| 540        | 99.1       | 1740       | 102.4      | 2940       | 107.2      | 4140       | 112.3      |
| 570        | 99.1       | 1770       | 102.7      | 2970       | 107.6      | 4170       | 112.5      |
| 600        | 99.1       | 1800       | 102.6      | 3000       | 107.6      | 4200       | 112.5      |
| 630        | 99.3       | 1830       | 102.7      | 3030       | 107.8      | 4230       | 112.6      |
| 660        | 99.3       | 1860       | 102.9      | 3060       | 107.8      | 4260       | 112.6      |
| 690        | 99.5       | 1890       | 103.1      | 3090       | 108.0      | 4290       | 112.6      |
| 720        | 99.3       | 1920       | 103.1      | 3120       | 108.1      | 4304       | 112.6      |
| 750        | 99.5       | 1950       | 103.3      | 3150       | 108.3      |            |            |
| 780        | 99.5       | 1980       | 103.3      | 3180       | 108.5      |            |            |
| 810        | 99.7       | 2010       | 103.3      | 3210       | 108.7      |            |            |
| 840        | 99.7       | 2040       | 103.6      | 3240       | 109.0      |            |            |
| 870        | 99.9       | 2070       | 103.6      | 3270       | 109.0      |            |            |
| 900        | 99.9       | 2100       | 103.8      | 3300       | 109.2      |            |            |
| 930        | 100.0      | 2130       | 103.8      | 3330       | 109.4      |            |            |
| 960        | 100.2      | 2160       | 104.0      | 3360       | 109.4      |            |            |
| 990        | 100.2      | 2190       | 104.2      | 3390       | 109.6      |            |            |
| 1020       | 100.4      | 2220       | 104.4      | 3420       | 109.6      |            |            |
| 1050       | 100.4      | 2250       | 104.4      | 3450       | 109.9      |            |            |
| 1080       | 100.6      | 2280       | 104.4      | 3480       | 109.9      |            |            |
| 1110       | 100.6      | 2310       | 104.5      | 3510       | 110.1      |            |            |
| 1140       | 100.6      | 2340       | 104.7      | 3540       | 110.1      |            |            |
| 1170       | 100.8      | 2370       | 105.1      | 3570       | 110.3      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0180A42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0180A42.

[Test vehicle]

Model name : LS 500  
Data is representative for : LS 500, LS 500 AWD

[Test procedure] : CARB method

[Test conditions]

Date : 05/30/2017  
Ambient air temperature (at initiation) : 106.5 °F  
Ambient air temperature (at completion) : 107.6 °F  
Track surface temperature (at initiation) : 142.0 °F  
Track surface temperature (at completion) : 146.1 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Date : 05/30/2017  
Ambient air temperature (at initiation) : 107.4 °F  
Ambient air temperature (at completion) : 108.0 °F  
Track surface temperature (at initiation) : 143.6 °F  
Track surface temperature (at completion) : 149.0 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0180A42.

Measured temperature and pressure profiles

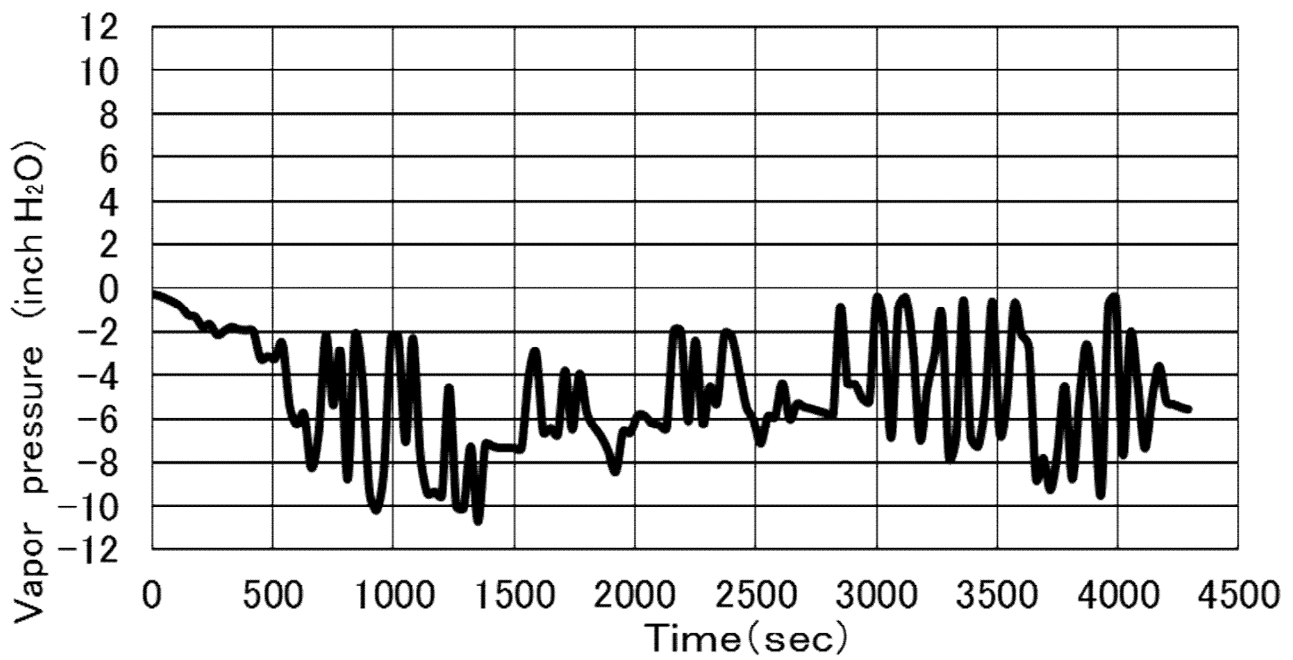
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.3      | 1200       | 111.7      | 2400       | 116.8      | 3600       | 121.5      |
| 30         | 106.7      | 1230       | 111.9      | 2430       | 117.0      | 3630       | 121.6      |
| 60         | 107.1      | 1260       | 112.1      | 2460       | 117.1      | 3660       | 121.6      |
| 90         | 107.2      | 1290       | 112.3      | 2490       | 117.1      | 3690       | 121.8      |
| 120        | 107.4      | 1320       | 112.3      | 2520       | 117.3      | 3720       | 121.8      |
| 150        | 107.8      | 1350       | 112.5      | 2550       | 117.3      | 3750       | 122.2      |
| 180        | 107.8      | 1380       | 112.6      | 2580       | 117.5      | 3780       | 122.2      |
| 210        | 107.8      | 1410       | 112.6      | 2610       | 117.7      | 3810       | 122.2      |
| 240        | 108.3      | 1440       | 112.5      | 2640       | 117.5      | 3840       | 122.4      |
| 270        | 108.3      | 1470       | 112.8      | 2670       | 117.9      | 3870       | 122.4      |
| 300        | 108.3      | 1500       | 112.8      | 2700       | 118.0      | 3900       | 122.5      |
| 330        | 108.3      | 1530       | 113.0      | 2730       | 118.0      | 3930       | 122.5      |
| 360        | 108.5      | 1560       | 113.2      | 2760       | 118.2      | 3960       | 122.7      |
| 390        | 108.7      | 1590       | 113.2      | 2790       | 118.4      | 3990       | 122.9      |
| 420        | 108.7      | 1620       | 113.4      | 2820       | 118.4      | 4020       | 122.9      |
| 450        | 109.0      | 1650       | 113.5      | 2850       | 118.8      | 4050       | 122.9      |
| 480        | 109.0      | 1680       | 113.7      | 2880       | 118.9      | 4080       | 123.1      |
| 510        | 109.2      | 1710       | 113.9      | 2910       | 118.8      | 4110       | 123.1      |
| 540        | 109.2      | 1740       | 114.1      | 2940       | 118.9      | 4140       | 123.3      |
| 570        | 109.4      | 1770       | 114.3      | 2970       | 118.9      | 4170       | 123.3      |
| 600        | 109.6      | 1800       | 114.3      | 3000       | 119.1      | 4200       | 123.3      |
| 630        | 109.6      | 1830       | 114.4      | 3030       | 119.3      | 4230       | 123.4      |
| 660        | 109.6      | 1860       | 114.4      | 3060       | 119.3      | 4260       | 123.6      |
| 690        | 109.8      | 1890       | 114.8      | 3090       | 119.5      | 4290       | 123.8      |
| 720        | 109.8      | 1920       | 114.8      | 3120       | 119.8      |            |            |
| 750        | 109.9      | 1950       | 115.0      | 3150       | 120.0      |            |            |
| 780        | 109.9      | 1980       | 115.0      | 3180       | 120.0      |            |            |
| 810        | 110.3      | 2010       | 115.0      | 3210       | 120.2      |            |            |
| 840        | 110.3      | 2040       | 115.0      | 3240       | 120.4      |            |            |
| 870        | 110.5      | 2070       | 115.2      | 3270       | 120.4      |            |            |
| 900        | 110.7      | 2100       | 115.3      | 3300       | 120.4      |            |            |
| 930        | 110.8      | 2130       | 115.5      | 3330       | 120.7      |            |            |
| 960        | 110.8      | 2160       | 115.7      | 3360       | 120.7      |            |            |
| 990        | 111.2      | 2190       | 115.9      | 3390       | 120.7      |            |            |
| 1020       | 111.2      | 2220       | 115.9      | 3420       | 120.9      |            |            |
| 1050       | 111.4      | 2250       | 116.1      | 3450       | 120.9      |            |            |
| 1080       | 111.4      | 2280       | 116.2      | 3480       | 121.1      |            |            |
| 1110       | 111.4      | 2310       | 116.4      | 3510       | 121.1      |            |            |
| 1140       | 111.6      | 2340       | 116.6      | 3540       | 121.3      |            |            |
| 1170       | 111.6      | 2370       | 116.4      | 3570       | 121.5      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0180A42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0180A42.

[Test vehicle]

Model name : LS 500

[Test procedure]

: EPA method

Data is representative for : LS 500, LS 500 AWD

[Test conditions]

Date : 05/29/2017

Ambient air temperature (at initiation) : 97.7 °F

Ambient air temperature (at completion) : 97.3 °F

Track surface temperature (at initiation) : 136.6 °F

Track surface temperature (at completion) : 137.8 °F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Date : 05/29/2017

Ambient air temperature (at initiation) : 98.2 °F

Ambient air temperature (at completion) : 96.8 °F

Track surface temperature (at initiation) : 135.7 °F

Track surface temperature (at completion) : 137.5 °F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0180A42.

Measured temperature and pressure profiles

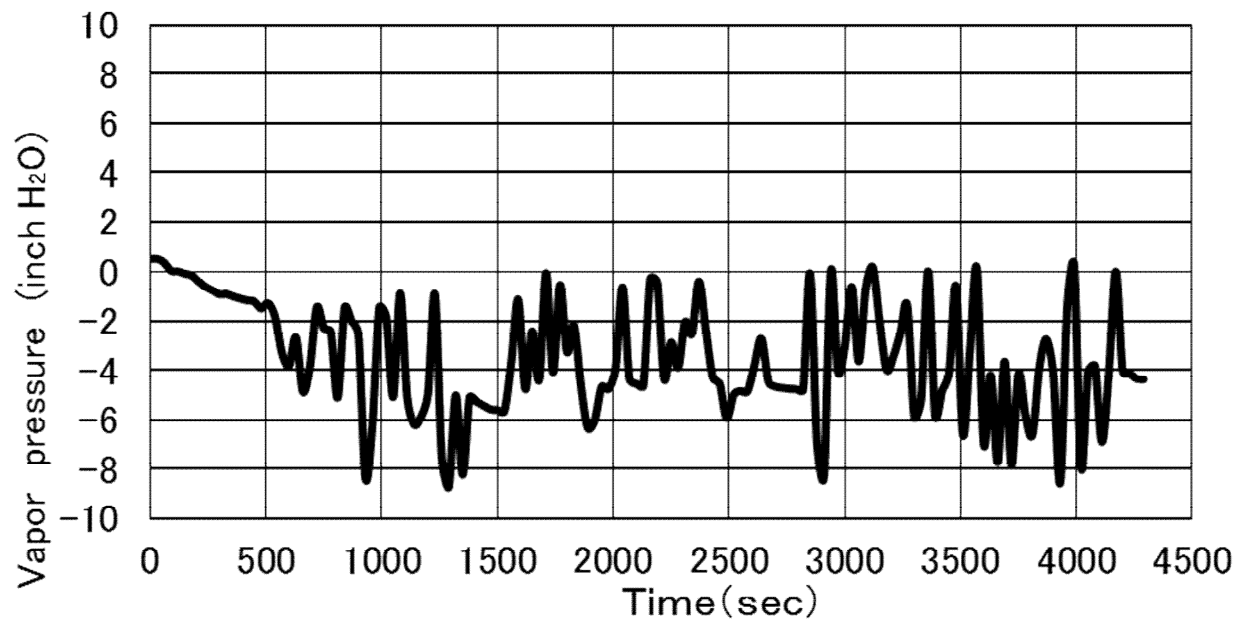
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.1       | 1200       | 100.6      | 2400       | 105.8      | 3600       | 111.4      |
| 30         | 96.4       | 1230       | 100.8      | 2430       | 106.0      | 3630       | 111.6      |
| 60         | 96.4       | 1260       | 100.9      | 2460       | 106.0      | 3660       | 111.7      |
| 90         | 97.0       | 1290       | 100.9      | 2490       | 106.0      | 3690       | 111.7      |
| 120        | 97.0       | 1320       | 100.9      | 2520       | 106.3      | 3720       | 111.9      |
| 150        | 97.2       | 1350       | 101.1      | 2550       | 106.3      | 3750       | 112.1      |
| 180        | 97.3       | 1380       | 101.3      | 2580       | 106.5      | 3780       | 112.3      |
| 210        | 97.3       | 1410       | 101.3      | 2610       | 106.5      | 3810       | 112.3      |
| 240        | 97.7       | 1440       | 101.5      | 2640       | 106.7      | 3840       | 112.3      |
| 270        | 97.5       | 1470       | 101.5      | 2670       | 107.1      | 3870       | 112.6      |
| 300        | 97.7       | 1500       | 101.7      | 2700       | 107.1      | 3900       | 112.6      |
| 330        | 97.7       | 1530       | 101.7      | 2730       | 107.2      | 3930       | 112.6      |
| 360        | 97.9       | 1560       | 102.0      | 2760       | 107.4      | 3960       | 112.8      |
| 390        | 98.1       | 1590       | 102.2      | 2790       | 107.6      | 3990       | 112.8      |
| 420        | 98.1       | 1620       | 102.2      | 2820       | 107.8      | 4020       | 112.8      |
| 450        | 98.2       | 1650       | 102.4      | 2850       | 108.0      | 4050       | 113.0      |
| 480        | 98.2       | 1680       | 102.6      | 2880       | 108.3      | 4080       | 113.0      |
| 510        | 98.4       | 1710       | 102.6      | 2910       | 108.3      | 4110       | 113.2      |
| 540        | 98.4       | 1740       | 102.7      | 2940       | 108.5      | 4140       | 113.2      |
| 570        | 98.6       | 1770       | 102.9      | 2970       | 108.7      | 4170       | 113.4      |
| 600        | 98.6       | 1800       | 103.1      | 3000       | 108.9      | 4200       | 113.5      |
| 630        | 99.0       | 1830       | 103.3      | 3030       | 108.9      | 4230       | 113.5      |
| 660        | 99.0       | 1860       | 103.5      | 3060       | 109.0      | 4260       | 113.7      |
| 690        | 99.0       | 1890       | 103.5      | 3090       | 109.2      | 4290       | 113.7      |
| 720        | 99.1       | 1920       | 103.6      | 3120       | 109.4      |            |            |
| 750        | 99.1       | 1950       | 103.8      | 3150       | 109.6      |            |            |
| 780        | 99.1       | 1980       | 104.0      | 3180       | 109.8      |            |            |
| 810        | 99.3       | 2010       | 104.0      | 3210       | 109.8      |            |            |
| 840        | 99.5       | 2040       | 104.2      | 3240       | 109.9      |            |            |
| 870        | 99.5       | 2070       | 104.4      | 3270       | 110.1      |            |            |
| 900        | 99.5       | 2100       | 104.4      | 3300       | 110.3      |            |            |
| 930        | 99.7       | 2130       | 104.5      | 3330       | 110.5      |            |            |
| 960        | 99.9       | 2160       | 104.7      | 3360       | 110.5      |            |            |
| 990        | 99.9       | 2190       | 104.7      | 3390       | 110.5      |            |            |
| 1020       | 100.0      | 2220       | 104.7      | 3420       | 110.7      |            |            |
| 1050       | 100.2      | 2250       | 105.1      | 3450       | 110.8      |            |            |
| 1080       | 100.2      | 2280       | 105.1      | 3480       | 110.8      |            |            |
| 1110       | 100.4      | 2310       | 105.4      | 3510       | 111.0      |            |            |
| 1140       | 100.4      | 2340       | 105.6      | 3540       | 111.2      |            |            |
| 1170       | 100.6      | 2370       | 105.8      | 3570       | 111.2      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0180A42.

(b) Measured vapor space pressure profile



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0180A42.

Evaporative emission test log

Vehicle Description

|                     |                                          |
|---------------------|------------------------------------------|
|                     | Evaporative / Refueling emission vehicle |
| Test group          | : JTYXV05.0M5A                           |
| Vehicle ID          | : 18-UZ2A                                |
| Rep. car/truck line | : LC 500                                 |
| Rep. vehicle model  | : URZ100L-ACUBHA                         |
| Displacement        | : 303.2CID                               |
| Transmission        | : AGA0E-A                                |
| Test weight         | : 4,500 lbs.                             |
| Road load           | : 14.1 HP                                |
| Evap. code          | : UZ16                                   |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|                  |         |            |          |
|------------------|---------|------------|----------|
| Exhaust emission | NMOG    | : 0.0147   | (g/mile) |
|                  | CO      | : 0.06     | (g/mile) |
|                  | NOx     | : 0.0076   | (g/mile) |
| Running loss     |         | : 0.007    | (g/mile) |
| Hot soak loss    |         | : 0.0589   | (g/test) |
| 3DBL             | 1st day | : 0.1329*1 | (g/test) |
|                  | 2nd day | : 0.0906   | (g/test) |
|                  | 3rd day | : 0.0772   | (g/test) |

2-day diurnal sequence test results\*2

|                  |         |       |          |
|------------------|---------|-------|----------|
| Exhaust emission | NMOG    | : N/A | (g/mile) |
|                  | CO      | : N/A | (g/mile) |
|                  | NOx     | : N/A | (g/mile) |
| Hot soak loss    |         | : N/A | (g/test) |
| 2DBL             | 1st day | : N/A | (g/test) |
|                  | 2nd day | : N/A | (g/test) |

Refueling sequence test results

|                    |      |          |          |
|--------------------|------|----------|----------|
| Exhaust emission   | NMOG | : 0.0132 | (g/mile) |
|                    | CO   | : 0.05   | (g/mile) |
|                    | NOx  | : 0.0083 | (g/mile) |
| Refueling emission |      | : 0.005  | (g/gal)  |

\*1: 1st DBL is added key off monitor loss (0.0002 gram).

\*2: In lieu of testing, Toyota is providing a compliance statement in §8.2.

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

[Test vehicle]

Model name : RX 350  
Data is representative for : RX 350, RX 350 AWD

[Test procedure] : CARB method

[Test conditions]

Date : 11/06/2021  
Ambient air temperature (at initiation) : 106.3°F  
Ambient air temperature (at completion) : 108.5°F  
Track surface temperature (at initiation) : 138.0°F  
Track surface temperature (at completion) : 144.9°F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 11/06/2021  
Ambient air temperature (at initiation) : 106.5°F  
Ambient air temperature (at completion) : 108.5°F  
Track surface temperature (at initiation) : 136.6°F  
Track surface temperature (at completion) : 144.3°F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

Measured temperature and pressure profiles

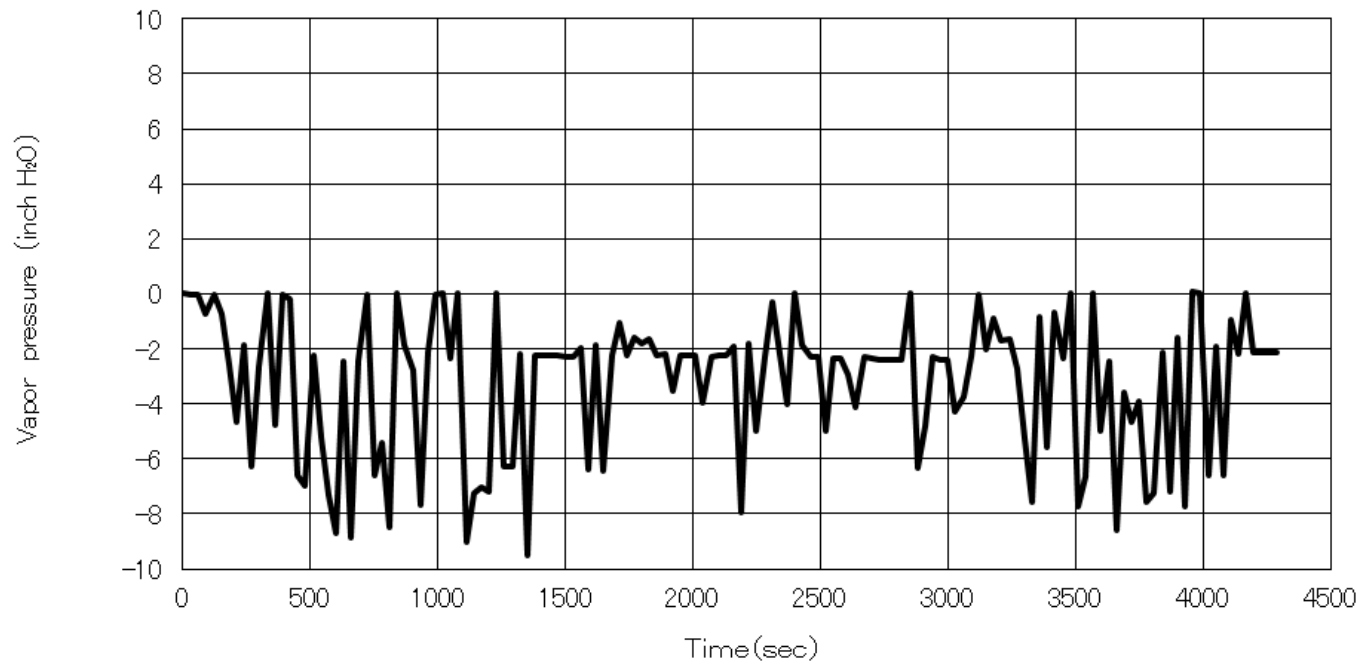
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 105.6      | 1200       | 111.4      | 2400       | 116.6      | 3600       | 123.1      |
| 30         | 105.6      | 1230       | 111.6      | 2430       | 116.8      | 3630       | 123.3      |
| 60         | 105.8      | 1260       | 111.6      | 2460       | 117.0      | 3660       | 123.4      |
| 90         | 105.8      | 1290       | 111.7      | 2490       | 117.1      | 3690       | 123.4      |
| 120        | 106.2      | 1320       | 111.9      | 2520       | 117.3      | 3720       | 123.8      |
| 150        | 106.3      | 1350       | 112.1      | 2550       | 117.5      | 3750       | 123.8      |
| 180        | 106.7      | 1380       | 112.1      | 2580       | 117.7      | 3780       | 124.0      |
| 210        | 106.9      | 1410       | 112.3      | 2610       | 117.7      | 3810       | 124.0      |
| 240        | 107.1      | 1440       | 112.5      | 2640       | 117.9      | 3840       | 124.0      |
| 270        | 107.2      | 1470       | 112.6      | 2670       | 118.0      | 3870       | 124.3      |
| 300        | 107.4      | 1500       | 112.8      | 2700       | 118.2      | 3900       | 124.5      |
| 330        | 107.6      | 1530       | 112.8      | 2730       | 118.4      | 3930       | 124.5      |
| 360        | 107.8      | 1560       | 112.8      | 2760       | 118.6      | 3960       | 124.7      |
| 390        | 108.1      | 1590       | 113.0      | 2790       | 118.8      | 3990       | 124.9      |
| 420        | 108.1      | 1620       | 113.2      | 2820       | 118.9      | 4020       | 124.9      |
| 450        | 108.3      | 1650       | 113.2      | 2850       | 118.9      | 4050       | 124.9      |
| 480        | 108.5      | 1680       | 113.4      | 2880       | 118.9      | 4080       | 125.2      |
| 510        | 108.5      | 1710       | 113.5      | 2910       | 119.1      | 4110       | 125.1      |
| 540        | 108.7      | 1740       | 113.5      | 2940       | 119.3      | 4140       | 125.2      |
| 570        | 108.9      | 1770       | 113.7      | 2970       | 119.7      | 4170       | 125.2      |
| 600        | 108.9      | 1800       | 113.9      | 3000       | 119.7      | 4200       | 125.6      |
| 630        | 109.0      | 1830       | 114.1      | 3030       | 119.8      | 4230       | 125.6      |
| 660        | 109.0      | 1860       | 114.1      | 3060       | 120.0      | 4260       | 125.6      |
| 690        | 109.2      | 1890       | 114.4      | 3090       | 120.2      | 4290       | 125.8      |
| 720        | 109.4      | 1920       | 114.4      | 3120       | 120.4      |            |            |
| 750        | 109.4      | 1950       | 114.6      | 3150       | 120.7      |            |            |
| 780        | 109.6      | 1980       | 114.8      | 3180       | 120.9      |            |            |
| 810        | 109.6      | 2010       | 114.8      | 3210       | 121.1      |            |            |
| 840        | 109.6      | 2040       | 115.0      | 3240       | 121.3      |            |            |
| 870        | 109.9      | 2070       | 115.2      | 3270       | 121.5      |            |            |
| 900        | 109.9      | 2100       | 115.3      | 3300       | 121.6      |            |            |
| 930        | 110.1      | 2130       | 115.5      | 3330       | 121.8      |            |            |
| 960        | 110.1      | 2160       | 115.3      | 3360       | 121.8      |            |            |
| 990        | 110.3      | 2190       | 115.5      | 3390       | 122.0      |            |            |
| 1020       | 110.5      | 2220       | 115.7      | 3420       | 122.2      |            |            |
| 1050       | 110.7      | 2250       | 115.9      | 3450       | 122.7      |            |            |
| 1080       | 110.8      | 2280       | 116.1      | 3480       | 122.5      |            |            |
| 1110       | 111.0      | 2310       | 116.1      | 3510       | 122.7      |            |            |
| 1140       | 111.0      | 2340       | 116.2      | 3540       | 122.9      |            |            |
| 1170       | 111.2      | 2370       | 116.4      | 3570       | 122.9      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

[Test vehicle]

Model name : RX 350  
Data is representative for : RX 350, RX 350 AWD

[Test procedure] : EPA method

[Test conditions]

Date : 11/08/2021  
Ambient air temperature (at initiation) : 96.4°F  
Ambient air temperature (at completion) : 98.2°F  
Track surface temperature (at initiation) : 134.1°F  
Track surface temperature (at completion) : 140.2°F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 11/08/2021  
Ambient air temperature (at initiation) : 96.4°F  
Ambient air temperature (at completion) : 100.2°F  
Track surface temperature (at initiation) : 129.4°F  
Track surface temperature (at completion) : 128.8°F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

Measured temperature and pressure profiles

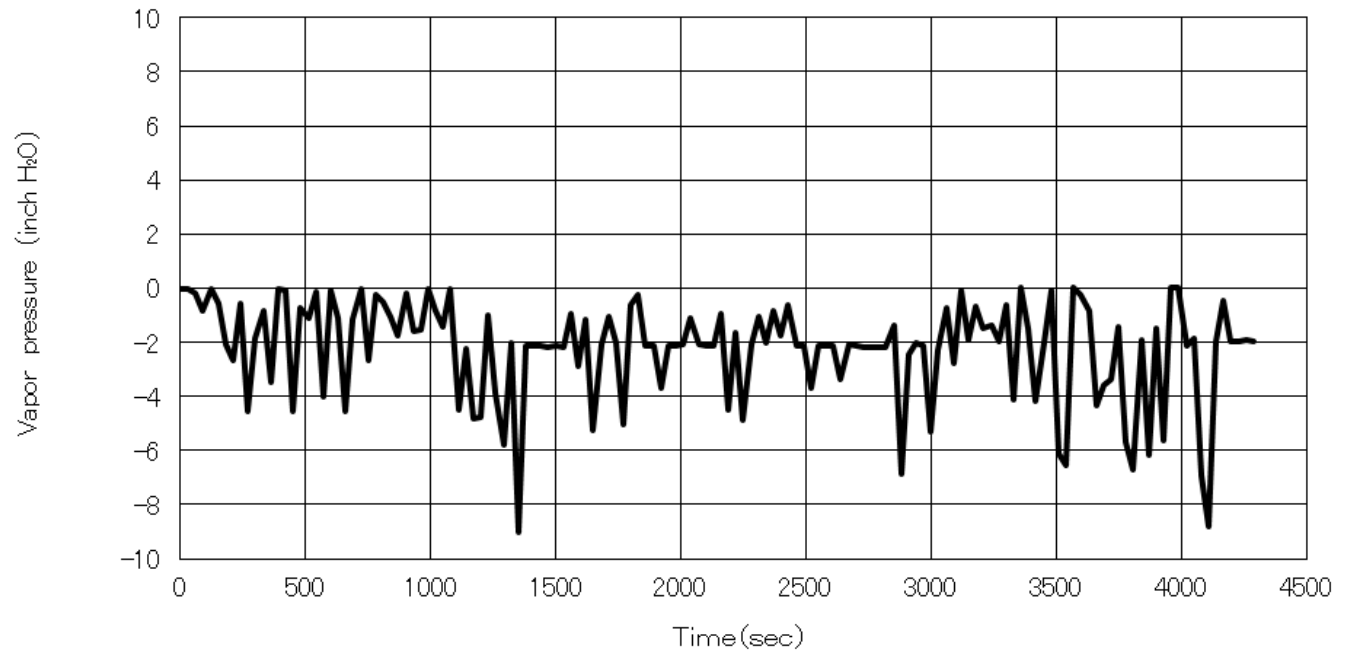
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 97.0       | 1200       | 102.4      | 2400       | 107.8      | 3600       | 114.3      |
| 30         | 97.0       | 1230       | 102.4      | 2430       | 107.8      | 3630       | 114.4      |
| 60         | 97.0       | 1260       | 102.6      | 2460       | 108.1      | 3660       | 114.6      |
| 90         | 97.2       | 1290       | 102.7      | 2490       | 108.3      | 3690       | 114.6      |
| 120        | 97.3       | 1320       | 102.7      | 2520       | 108.3      | 3720       | 114.8      |
| 150        | 97.5       | 1350       | 103.1      | 2550       | 108.5      | 3750       | 115.0      |
| 180        | 97.9       | 1380       | 103.1      | 2580       | 108.9      | 3780       | 115.0      |
| 210        | 97.9       | 1410       | 103.3      | 2610       | 108.7      | 3810       | 115.2      |
| 240        | 98.1       | 1440       | 103.6      | 2640       | 109.0      | 3840       | 115.2      |
| 270        | 98.2       | 1470       | 103.6      | 2670       | 109.2      | 3870       | 115.5      |
| 300        | 98.6       | 1500       | 103.8      | 2700       | 109.4      | 3900       | 115.5      |
| 330        | 98.8       | 1530       | 104.0      | 2730       | 109.6      | 3930       | 115.5      |
| 360        | 99.0       | 1560       | 104.0      | 2760       | 109.8      | 3960       | 115.5      |
| 390        | 99.1       | 1590       | 104.0      | 2790       | 109.8      | 3990       | 115.9      |
| 420        | 99.3       | 1620       | 104.4      | 2820       | 109.9      | 4020       | 115.9      |
| 450        | 99.5       | 1650       | 104.5      | 2850       | 109.9      | 4050       | 115.9      |
| 480        | 99.5       | 1680       | 104.5      | 2880       | 110.1      | 4080       | 116.2      |
| 510        | 99.7       | 1710       | 104.7      | 2910       | 110.3      | 4110       | 116.2      |
| 540        | 99.9       | 1740       | 104.9      | 2940       | 110.3      | 4140       | 116.4      |
| 570        | 99.9       | 1770       | 105.1      | 2970       | 110.5      | 4170       | 116.4      |
| 600        | 100.0      | 1800       | 105.3      | 3000       | 110.7      | 4200       | 116.6      |
| 630        | 100.2      | 1830       | 105.4      | 3030       | 111.0      | 4230       | 116.8      |
| 660        | 100.2      | 1860       | 105.6      | 3060       | 111.2      | 4260       | 116.8      |
| 690        | 100.2      | 1890       | 105.8      | 3090       | 111.4      | 4290       | 116.8      |
| 720        | 100.4      | 1920       | 105.8      | 3120       | 111.6      |            |            |
| 750        | 100.4      | 1950       | 105.8      | 3150       | 111.9      |            |            |
| 780        | 100.6      | 1980       | 106.2      | 3180       | 112.1      |            |            |
| 810        | 100.6      | 2010       | 106.0      | 3210       | 112.3      |            |            |
| 840        | 100.8      | 2040       | 106.3      | 3240       | 112.5      |            |            |
| 870        | 100.9      | 2070       | 106.3      | 3270       | 112.6      |            |            |
| 900        | 101.1      | 2100       | 106.5      | 3300       | 112.8      |            |            |
| 930        | 101.1      | 2130       | 106.7      | 3330       | 113.0      |            |            |
| 960        | 101.3      | 2160       | 106.7      | 3360       | 113.0      |            |            |
| 990        | 101.5      | 2190       | 106.9      | 3390       | 113.2      |            |            |
| 1020       | 101.7      | 2220       | 107.1      | 3420       | 113.5      |            |            |
| 1050       | 101.8      | 2250       | 107.1      | 3450       | 113.7      |            |            |
| 1080       | 101.8      | 2280       | 107.2      | 3480       | 113.7      |            |            |
| 1110       | 102.0      | 2310       | 107.4      | 3510       | 113.9      |            |            |
| 1140       | 102.0      | 2340       | 107.6      | 3540       | 114.1      |            |            |
| 1170       | 102.2      | 2370       | 107.6      | 3570       | 114.1      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

[Test vehicle]

Model name : GRAND HIGHLANDER  
Data is representative for : GRAND HIGHLANDER,  
GRAND HIGHLANDER AWD,  
TX 350, TX 350 AWD

[Test procedure]

: CARB method

[Test conditions]

Date : 03/09/2022  
Ambient air temperature (at initiation) : 108.5°F  
Ambient air temperature (at completion) : 110.3°F  
Track surface temperature (at initiation) : 138.2°F  
Track surface temperature (at completion) : 139.1°F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 3/16/2022  
Ambient air temperature (at initiation) : 105.4°F  
Ambient air temperature (at completion) : 107.6°F  
Track surface temperature (at initiation) : 149.0°F  
Track surface temperature (at completion) : 151.0°F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

Measured temperature and pressure profiles

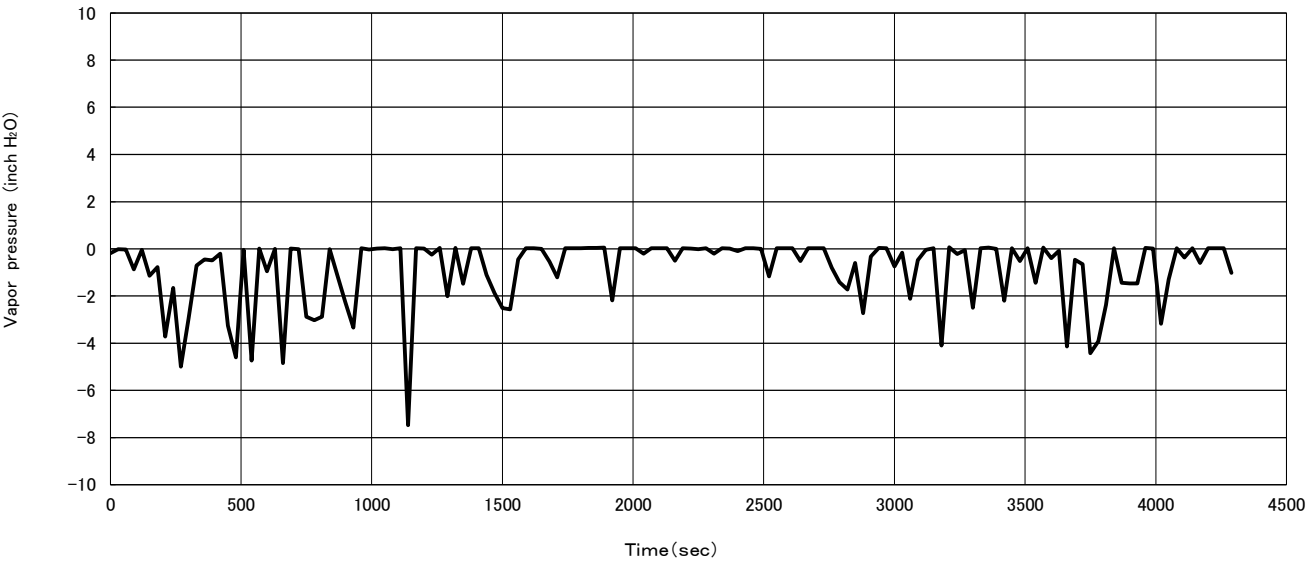
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.3      | 1200       | 111.2      | 2400       | 117.5      | 3600       | 124.2      |
| 30         | 106.3      | 1230       | 111.2      | 2430       | 117.9      | 3630       | 124.3      |
| 60         | 106.5      | 1260       | 111.4      | 2460       | 118.0      | 3660       | 124.5      |
| 90         | 106.5      | 1290       | 111.6      | 2490       | 118.2      | 3690       | 124.7      |
| 120        | 106.5      | 1320       | 111.7      | 2520       | 118.4      | 3720       | 124.9      |
| 150        | 106.5      | 1350       | 112.1      | 2550       | 118.4      | 3750       | 124.9      |
| 180        | 106.7      | 1380       | 112.1      | 2580       | 118.6      | 3780       | 125.1      |
| 210        | 106.7      | 1410       | 112.3      | 2610       | 118.8      | 3810       | 125.1      |
| 240        | 106.7      | 1440       | 112.6      | 2640       | 118.9      | 3840       | 125.4      |
| 270        | 106.7      | 1470       | 112.8      | 2670       | 118.9      | 3870       | 125.4      |
| 300        | 106.9      | 1500       | 113.0      | 2700       | 119.3      | 3900       | 125.6      |
| 330        | 106.9      | 1530       | 113.0      | 2730       | 119.7      | 3930       | 125.8      |
| 360        | 107.2      | 1560       | 113.2      | 2760       | 119.8      | 3960       | 125.8      |
| 390        | 107.2      | 1590       | 113.4      | 2790       | 120.0      | 3990       | 126.1      |
| 420        | 107.4      | 1620       | 113.4      | 2820       | 120.0      | 4020       | 126.1      |
| 450        | 107.4      | 1650       | 113.5      | 2850       | 120.0      | 4050       | 126.3      |
| 480        | 107.6      | 1680       | 113.5      | 2880       | 119.8      | 4080       | 126.5      |
| 510        | 107.8      | 1710       | 113.7      | 2910       | 120.0      | 4110       | 126.5      |
| 540        | 108.0      | 1740       | 114.1      | 2940       | 120.2      | 4140       | 126.7      |
| 570        | 108.0      | 1770       | 114.4      | 2970       | 120.6      | 4170       | 126.9      |
| 600        | 108.3      | 1800       | 114.4      | 3000       | 120.6      | 4200       | 127.0      |
| 630        | 108.3      | 1830       | 114.6      | 3030       | 120.6      | 4230       | 127.0      |
| 660        | 108.5      | 1860       | 114.8      | 3060       | 120.6      | 4260       | 127.2      |
| 690        | 108.5      | 1890       | 115.2      | 3090       | 120.9      | 4290       | 127.4      |
| 720        | 108.5      | 1920       | 115.2      | 3120       | 120.9      |            |            |
| 750        | 108.7      | 1950       | 115.3      | 3150       | 121.6      |            |            |
| 780        | 108.9      | 1980       | 115.5      | 3180       | 121.6      |            |            |
| 810        | 108.9      | 2010       | 115.5      | 3210       | 122.0      |            |            |
| 840        | 108.9      | 2040       | 115.7      | 3240       | 122.2      |            |            |
| 870        | 109.0      | 2070       | 115.7      | 3270       | 122.5      |            |            |
| 900        | 109.2      | 2100       | 116.1      | 3300       | 122.5      |            |            |
| 930        | 109.4      | 2130       | 116.2      | 3330       | 122.9      |            |            |
| 960        | 109.6      | 2160       | 116.2      | 3360       | 123.1      |            |            |
| 990        | 109.8      | 2190       | 116.4      | 3390       | 123.3      |            |            |
| 1020       | 110.1      | 2220       | 116.6      | 3420       | 123.4      |            |            |
| 1050       | 110.3      | 2250       | 116.8      | 3450       | 123.4      |            |            |
| 1080       | 110.3      | 2280       | 117.0      | 3480       | 123.6      |            |            |
| 1110       | 110.7      | 2310       | 117.0      | 3510       | 123.8      |            |            |
| 1140       | 110.8      | 2340       | 117.3      | 3540       | 124.0      |            |            |
| 1170       | 111.0      | 2370       | 117.5      | 3570       | 124.0      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

[Test vehicle]

Model name : GRAND HIGHLANDER  
Data is representative for : GRAND HIGHLANDER,  
GRAND HIGHLANDER AWD,  
TX 350, TX 350 AWD

[Test procedure]

: EPA method

[Test conditions]

Date : 3/9/2022  
Ambient air temperature (at initiation) : 95.9°F  
Ambient air temperature (at completion) : 100.2°F  
Track surface temperature (at initiation) : 126.3°F  
Track surface temperature (at completion) : 129.7°F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 3/16/2022  
Ambient air temperature (at initiation) : 96.1°F  
Ambient air temperature (at completion) : 97.3°F  
Track surface temperature (at initiation) : 131.5°F  
Track surface temperature (at completion) : 132.8°F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

Measured temperature and pressure profiles

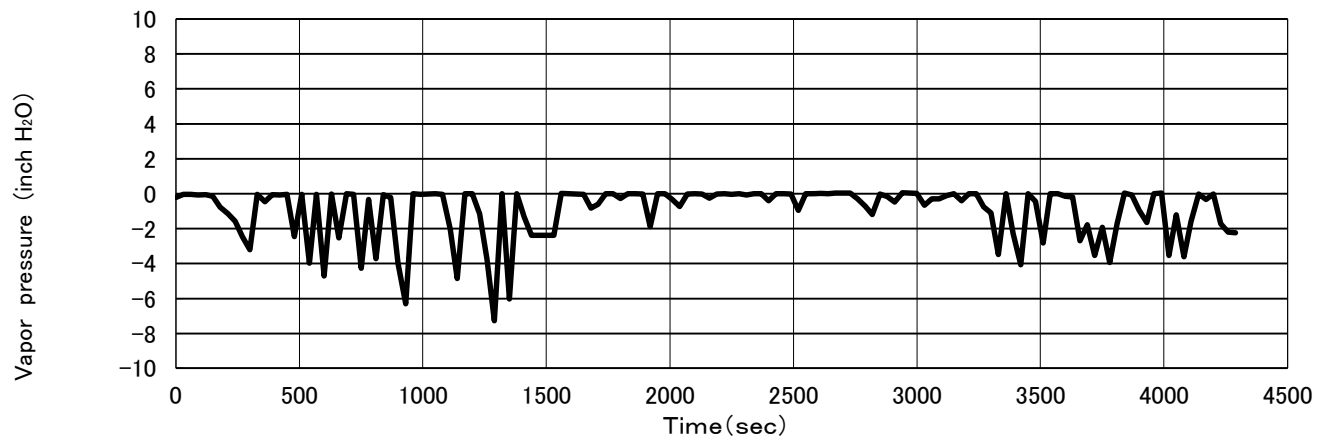
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.3       | 1200       | 99.7       | 2400       | 104.9      | 3600       | 111.7      |
| 30         | 96.4       | 1230       | 99.9       | 2430       | 105.4      | 3630       | 111.7      |
| 60         | 96.4       | 1260       | 99.9       | 2460       | 105.8      | 3660       | 111.7      |
| 90         | 96.4       | 1290       | 100.0      | 2490       | 106.0      | 3690       | 111.9      |
| 120        | 96.4       | 1320       | 100.2      | 2520       | 105.8      | 3720       | 112.3      |
| 150        | 96.4       | 1350       | 100.4      | 2550       | 106.0      | 3750       | 112.5      |
| 180        | 96.4       | 1380       | 100.6      | 2580       | 106.3      | 3780       | 112.8      |
| 210        | 96.4       | 1410       | 100.8      | 2610       | 106.2      | 3810       | 113.0      |
| 240        | 96.4       | 1440       | 100.9      | 2640       | 106.3      | 3840       | 113.2      |
| 270        | 96.4       | 1470       | 100.9      | 2670       | 106.3      | 3870       | 113.4      |
| 300        | 96.3       | 1500       | 101.3      | 2700       | 106.9      | 3900       | 113.2      |
| 330        | 96.4       | 1530       | 101.3      | 2730       | 107.1      | 3930       | 113.5      |
| 360        | 96.4       | 1560       | 101.5      | 2760       | 107.2      | 3960       | 113.5      |
| 390        | 96.6       | 1590       | 101.5      | 2790       | 107.4      | 3990       | 113.7      |
| 420        | 96.6       | 1620       | 101.7      | 2820       | 107.8      | 4020       | 114.1      |
| 450        | 96.8       | 1650       | 101.8      | 2850       | 107.4      | 4050       | 113.9      |
| 480        | 96.8       | 1680       | 101.8      | 2880       | 107.4      | 4080       | 114.4      |
| 510        | 97.0       | 1710       | 102.0      | 2910       | 107.4      | 4110       | 114.3      |
| 540        | 97.0       | 1740       | 102.4      | 2940       | 107.8      | 4140       | 114.4      |
| 570        | 97.2       | 1770       | 102.4      | 2970       | 108.0      | 4170       | 114.6      |
| 600        | 97.2       | 1800       | 102.6      | 3000       | 108.0      | 4200       | 114.6      |
| 630        | 97.5       | 1830       | 102.7      | 3030       | 108.1      | 4230       | 115.0      |
| 660        | 97.5       | 1860       | 102.9      | 3060       | 108.3      | 4260       | 115.0      |
| 690        | 97.7       | 1890       | 103.1      | 3090       | 108.5      | 4290       | 115.2      |
| 720        | 97.7       | 1920       | 103.1      | 3120       | 108.9      |            |            |
| 750        | 97.7       | 1950       | 103.3      | 3150       | 109.0      |            |            |
| 780        | 97.9       | 1980       | 103.5      | 3180       | 109.2      |            |            |
| 810        | 97.9       | 2010       | 103.5      | 3210       | 109.6      |            |            |
| 840        | 97.9       | 2040       | 103.6      | 3240       | 109.8      |            |            |
| 870        | 98.1       | 2070       | 103.6      | 3270       | 110.1      |            |            |
| 900        | 98.1       | 2100       | 104.0      | 3300       | 110.1      |            |            |
| 930        | 98.2       | 2130       | 104.2      | 3330       | 110.5      |            |            |
| 960        | 98.4       | 2160       | 104.2      | 3360       | 110.5      |            |            |
| 990        | 98.4       | 2190       | 104.0      | 3390       | 110.8      |            |            |
| 1020       | 98.6       | 2220       | 104.2      | 3420       | 111.0      |            |            |
| 1050       | 98.8       | 2250       | 104.4      | 3450       | 111.2      |            |            |
| 1080       | 99.0       | 2280       | 104.4      | 3480       | 111.2      |            |            |
| 1110       | 99.1       | 2310       | 104.5      | 3510       | 111.4      |            |            |
| 1140       | 99.3       | 2340       | 104.7      | 3540       | 111.4      |            |            |
| 1170       | 99.5       | 2370       | 105.1      | 3570       | 111.6      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

[Test vehicle]

Model name : TACOMA 2WD  
Data is representative for : TACOMA 2WD, TACOMA 4WD

[Test procedure] : CARB method

[Test conditions]

Date : 02/14/2023  
Ambient air temperature (at initiation) : 106.0°F  
Ambient air temperature (at completion) : 106.5°F  
Track surface temperature (at initiation) : 177.6°F  
Track surface temperature (at completion) : 177.8°F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 02/15/2023  
Ambient air temperature (at initiation) : 106.0°F  
Ambient air temperature (at completion) : 106.3°F  
Track surface temperature (at initiation) : 178.0°F  
Track surface temperature (at completion) : 178.5°F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

Measured temperature and pressure profiles

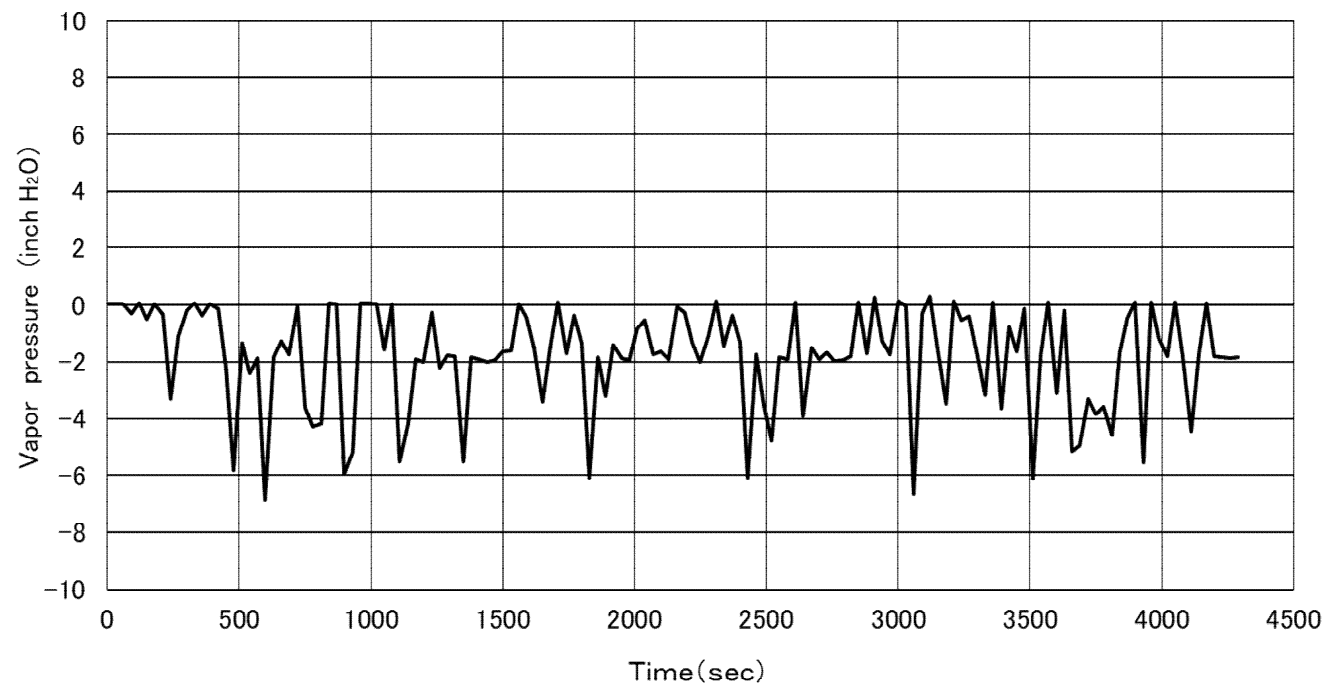
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.2      | 1200       | 112.1      | 2400       | 119.3      | 3600       | 125.2      |
| 30         | 106.3      | 1230       | 112.1      | 2430       | 119.5      | 3630       | 125.2      |
| 60         | 106.5      | 1260       | 112.5      | 2460       | 119.7      | 3660       | 125.4      |
| 90         | 106.5      | 1290       | 112.6      | 2490       | 119.8      | 3690       | 125.4      |
| 120        | 106.7      | 1320       | 112.8      | 2520       | 120.0      | 3720       | 125.6      |
| 150        | 106.9      | 1350       | 113.0      | 2550       | 120.2      | 3750       | 125.8      |
| 180        | 106.9      | 1380       | 113.2      | 2580       | 120.4      | 3780       | 125.8      |
| 210        | 107.1      | 1410       | 113.4      | 2610       | 120.6      | 3810       | 125.8      |
| 240        | 107.1      | 1440       | 113.5      | 2640       | 120.7      | 3840       | 126.0      |
| 270        | 107.2      | 1470       | 113.5      | 2670       | 120.7      | 3870       | 126.1      |
| 300        | 107.2      | 1500       | 113.7      | 2700       | 120.9      | 3900       | 126.1      |
| 330        | 107.4      | 1530       | 114.1      | 2730       | 121.3      | 3930       | 126.3      |
| 360        | 107.6      | 1560       | 114.3      | 2760       | 121.3      | 3960       | 126.3      |
| 390        | 107.6      | 1590       | 114.3      | 2790       | 121.5      | 3990       | 126.3      |
| 420        | 107.8      | 1620       | 114.4      | 2820       | 121.6      | 4020       | 126.5      |
| 450        | 108.0      | 1650       | 114.6      | 2850       | 121.8      | 4050       | 126.7      |
| 480        | 108.0      | 1680       | 115.0      | 2880       | 122.0      | 4080       | 126.7      |
| 510        | 108.1      | 1710       | 115.2      | 2910       | 122.2      | 4110       | 126.7      |
| 540        | 108.3      | 1740       | 115.2      | 2940       | 122.4      | 4140       | 126.9      |
| 570        | 108.5      | 1770       | 115.5      | 2970       | 122.5      | 4170       | 127.0      |
| 600        | 108.7      | 1800       | 115.5      | 3000       | 122.7      | 4200       | 127.0      |
| 630        | 108.7      | 1830       | 115.9      | 3030       | 122.9      | 4230       | 127.0      |
| 660        | 108.9      | 1860       | 115.9      | 3060       | 123.1      | 4260       | 127.2      |
| 690        | 109.0      | 1890       | 116.2      | 3090       | 123.3      | 4290       | 127.4      |
| 720        | 109.2      | 1920       | 116.2      | 3120       | 123.4      |            |            |
| 750        | 109.2      | 1950       | 116.6      | 3150       | 123.4      |            |            |
| 780        | 109.6      | 1980       | 116.8      | 3180       | 123.6      |            |            |
| 810        | 109.6      | 2010       | 116.8      | 3210       | 123.8      |            |            |
| 840        | 109.9      | 2040       | 117.1      | 3240       | 123.8      |            |            |
| 870        | 110.1      | 2070       | 117.1      | 3270       | 124.0      |            |            |
| 900        | 110.1      | 2100       | 117.3      | 3300       | 124.2      |            |            |
| 930        | 110.3      | 2130       | 117.7      | 3330       | 124.2      |            |            |
| 960        | 110.5      | 2160       | 117.7      | 3360       | 124.3      |            |            |
| 990        | 110.7      | 2190       | 118.0      | 3390       | 124.3      |            |            |
| 1020       | 110.8      | 2220       | 118.2      | 3420       | 124.5      |            |            |
| 1050       | 111.2      | 2250       | 118.4      | 3450       | 124.7      |            |            |
| 1080       | 111.2      | 2280       | 118.6      | 3480       | 124.7      |            |            |
| 1110       | 111.4      | 2310       | 118.8      | 3510       | 124.9      |            |            |
| 1140       | 111.7      | 2340       | 119.1      | 3540       | 125.1      |            |            |
| 1170       | 111.9      | 2370       | 119.1      | 3570       | 125.1      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

[Test vehicle]

Model name : TACOMA 2WD  
Data is representative for : TACOMA 2WD, TACOMA 4WD

[Test procedure] : EPA method

[Test conditions]

Date : 02/13/2023  
Ambient air temperature (at initiation) : 95.7°F  
Ambient air temperature (at completion) : 96.4°F  
Track surface temperature (at initiation) : 159.8°F  
Track surface temperature (at completion) : 160.2°F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 02/14/2023  
Ambient air temperature (at initiation) : 95.9°F  
Ambient air temperature (at completion) : 96.4°F  
Track surface temperature (at initiation) : 159.4°F  
Track surface temperature (at completion) : 160.3°F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

Measured temperature and pressure profiles

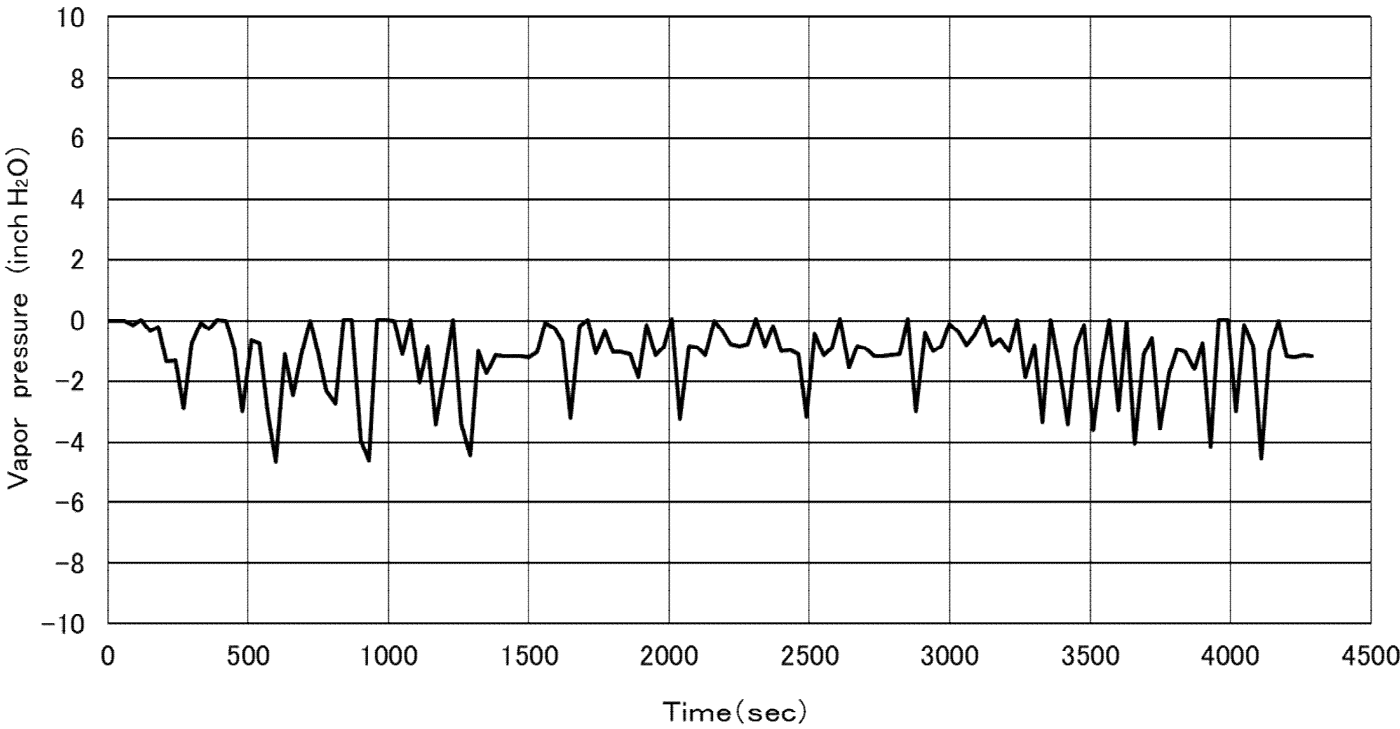
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.3       | 1200       | 101.5      | 2400       | 108.0      | 3600       | 113.5      |
| 30         | 96.4       | 1230       | 101.5      | 2430       | 108.1      | 3630       | 113.5      |
| 60         | 96.4       | 1260       | 101.7      | 2460       | 108.3      | 3660       | 113.9      |
| 90         | 96.6       | 1290       | 101.8      | 2490       | 108.5      | 3690       | 113.9      |
| 120        | 96.6       | 1320       | 101.8      | 2520       | 108.7      | 3720       | 113.9      |
| 150        | 96.6       | 1350       | 102.2      | 2550       | 108.9      | 3750       | 114.1      |
| 180        | 96.8       | 1380       | 102.2      | 2580       | 109.0      | 3780       | 114.1      |
| 210        | 96.8       | 1410       | 102.4      | 2610       | 109.2      | 3810       | 114.3      |
| 240        | 97.0       | 1440       | 102.6      | 2640       | 109.4      | 3840       | 114.4      |
| 270        | 97.0       | 1470       | 102.7      | 2670       | 109.6      | 3870       | 114.4      |
| 300        | 97.2       | 1500       | 102.9      | 2700       | 109.6      | 3900       | 114.4      |
| 330        | 97.3       | 1530       | 103.1      | 2730       | 109.8      | 3930       | 114.6      |
| 360        | 97.3       | 1560       | 103.3      | 2760       | 109.9      | 3960       | 114.8      |
| 390        | 97.5       | 1590       | 103.5      | 2790       | 110.1      | 3990       | 114.8      |
| 420        | 97.5       | 1620       | 103.6      | 2820       | 110.3      | 4020       | 114.8      |
| 450        | 97.7       | 1650       | 103.8      | 2850       | 110.5      | 4050       | 115.0      |
| 480        | 97.9       | 1680       | 104.0      | 2880       | 110.7      | 4080       | 115.2      |
| 510        | 98.1       | 1710       | 104.2      | 2910       | 110.8      | 4110       | 115.2      |
| 540        | 98.1       | 1740       | 104.4      | 2940       | 111.0      | 4140       | 115.3      |
| 570        | 98.2       | 1770       | 104.5      | 2970       | 111.0      | 4170       | 115.3      |
| 600        | 98.4       | 1800       | 104.7      | 3000       | 111.2      | 4200       | 115.3      |
| 630        | 98.6       | 1830       | 104.9      | 3030       | 111.4      | 4230       | 115.5      |
| 660        | 98.6       | 1860       | 105.1      | 3060       | 111.6      | 4260       | 115.7      |
| 690        | 98.8       | 1890       | 105.1      | 3090       | 111.7      | 4290       | 115.7      |
| 720        | 99.0       | 1920       | 105.4      | 3120       | 111.7      |            |            |
| 750        | 99.1       | 1950       | 105.4      | 3150       | 111.9      |            |            |
| 780        | 99.1       | 1980       | 105.6      | 3180       | 112.1      |            |            |
| 810        | 99.3       | 2010       | 105.8      | 3210       | 112.1      |            |            |
| 840        | 99.5       | 2040       | 106.0      | 3240       | 112.3      |            |            |
| 870        | 99.7       | 2070       | 106.2      | 3270       | 112.5      |            |            |
| 900        | 99.9       | 2100       | 106.3      | 3300       | 112.5      |            |            |
| 930        | 100.0      | 2130       | 106.5      | 3330       | 112.5      |            |            |
| 960        | 100.2      | 2160       | 106.7      | 3360       | 112.8      |            |            |
| 990        | 100.2      | 2190       | 106.7      | 3390       | 112.8      |            |            |
| 1020       | 100.4      | 2220       | 106.9      | 3420       | 112.8      |            |            |
| 1050       | 100.6      | 2250       | 107.1      | 3450       | 113.0      |            |            |
| 1080       | 100.8      | 2280       | 107.2      | 3480       | 113.2      |            |            |
| 1110       | 100.9      | 2310       | 107.4      | 3510       | 113.2      |            |            |
| 1140       | 101.1      | 2340       | 107.6      | 3540       | 113.4      |            |            |
| 1170       | 101.3      | 2370       | 107.8      | 3570       | 113.4      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

[Test vehicle]

Model name : HIGHLANDER  
Data is representative for : HIGHLANDER, HIGHLANDER AWD

[Test procedure] : CARB method

[Test conditions]

Date : 05/14/2024  
Ambient air temperature (at initiation) : 106.2°F  
Ambient air temperature (at completion) : 107.4°F  
Track surface temperature (at initiation) : 151.7°F  
Track surface temperature (at completion) : 150.4°F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 05/15/2024  
Ambient air temperature (at initiation) : 105.8°F  
Ambient air temperature (at completion) : 108.5°F  
Track surface temperature (at initiation) : 152.2°F  
Track surface temperature (at completion) : 150.4°F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

Measured temperature and pressure profiles

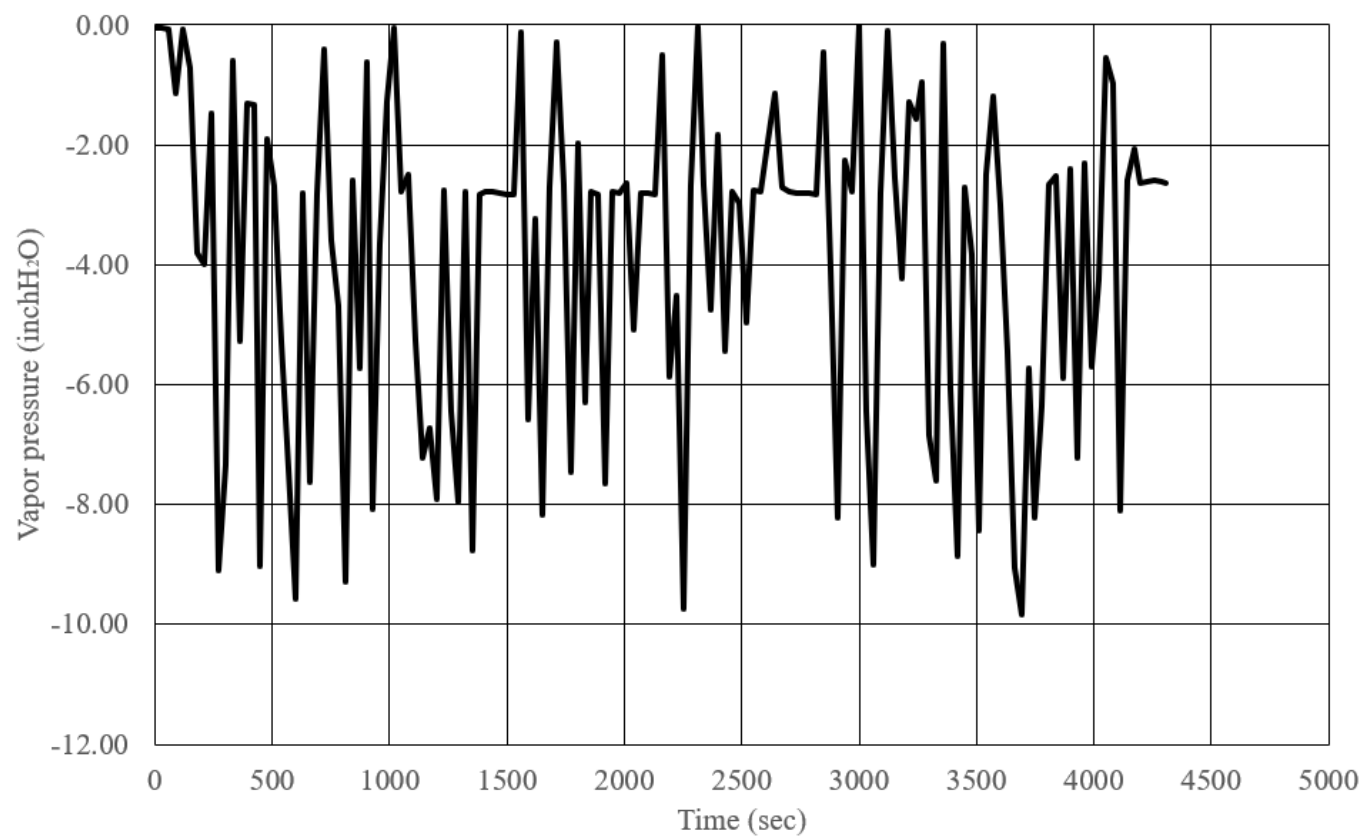
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 104.4      | 1200       | 108.7      | 2400       | 116.4      | 3600       | 123.8      |
| 30         | 104.2      | 1230       | 108.9      | 2430       | 116.8      | 3630       | 124.0      |
| 60         | 104.2      | 1260       | 109.0      | 2460       | 116.8      | 3660       | 124.2      |
| 90         | 104.1      | 1290       | 109.2      | 2490       | 117.0      | 3690       | 124.2      |
| 120        | 104.2      | 1320       | 109.4      | 2520       | 117.1      | 3720       | 124.5      |
| 150        | 104.2      | 1350       | 109.6      | 2550       | 117.3      | 3750       | 124.5      |
| 180        | 104.2      | 1380       | 109.8      | 2580       | 117.7      | 3780       | 124.7      |
| 210        | 104.2      | 1410       | 109.9      | 2610       | 117.9      | 3810       | 124.9      |
| 240        | 104.2      | 1440       | 110.1      | 2640       | 118.0      | 3840       | 124.9      |
| 270        | 104.4      | 1470       | 110.3      | 2670       | 118.2      | 3870       | 125.1      |
| 300        | 104.4      | 1500       | 110.5      | 2700       | 118.4      | 3900       | 125.2      |
| 330        | 104.5      | 1530       | 110.7      | 2730       | 118.6      | 3930       | 125.4      |
| 360        | 104.5      | 1560       | 110.8      | 2760       | 118.8      | 3960       | 125.6      |
| 390        | 104.4      | 1590       | 111.0      | 2790       | 118.9      | 3990       | 125.8      |
| 420        | 104.5      | 1620       | 111.2      | 2820       | 119.1      | 4020       | 125.8      |
| 450        | 104.5      | 1650       | 111.4      | 2850       | 119.5      | 4050       | 126.0      |
| 480        | 104.7      | 1680       | 111.6      | 2880       | 119.5      | 4080       | 126.1      |
| 510        | 104.9      | 1710       | 111.9      | 2910       | 119.8      | 4110       | 126.3      |
| 540        | 105.1      | 1740       | 112.1      | 2940       | 120.0      | 4140       | 126.3      |
| 570        | 105.3      | 1770       | 112.3      | 2970       | 120.2      | 4170       | 126.5      |
| 600        | 105.4      | 1800       | 112.5      | 3000       | 120.4      | 4200       | 126.7      |
| 630        | 105.6      | 1830       | 112.6      | 3030       | 120.6      | 4230       | 126.7      |
| 660        | 105.6      | 1860       | 112.8      | 3060       | 120.7      | 4260       | 126.9      |
| 690        | 105.6      | 1890       | 113.0      | 3090       | 120.9      | 4290       | 127.0      |
| 720        | 106.2      | 1920       | 113.2      | 3120       | 121.1      | 4304       | 127.0      |
| 750        | 106.2      | 1950       | 113.4      | 3150       | 121.3      |            |            |
| 780        | 106.2      | 1980       | 113.5      | 3180       | 121.5      |            |            |
| 810        | 106.3      | 2010       | 113.7      | 3210       | 121.6      |            |            |
| 840        | 106.5      | 2040       | 113.9      | 3240       | 121.8      |            |            |
| 870        | 106.5      | 2070       | 114.3      | 3270       | 122.0      |            |            |
| 900        | 106.7      | 2100       | 114.4      | 3300       | 122.2      |            |            |
| 930        | 107.1      | 2130       | 114.6      | 3330       | 122.4      |            |            |
| 960        | 107.2      | 2160       | 114.8      | 3360       | 122.5      |            |            |
| 990        | 107.4      | 2190       | 115.0      | 3390       | 122.7      |            |            |
| 1020       | 107.6      | 2220       | 115.3      | 3420       | 122.9      |            |            |
| 1050       | 107.8      | 2250       | 115.3      | 3450       | 123.1      |            |            |
| 1080       | 108.0      | 2280       | 115.5      | 3480       | 123.3      |            |            |
| 1110       | 108.1      | 2310       | 115.9      | 3510       | 123.4      |            |            |
| 1140       | 108.1      | 2340       | 116.1      | 3540       | 123.4      |            |            |
| 1170       | 108.5      | 2370       | 116.2      | 3570       | 123.6      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

[Test vehicle]

Model name : HIGHLANDER  
Data is representative for : HIGHLANDER, HIGHLANDER AWD

[Test procedure] : EPA method

[Test conditions]

Date : 05/14/2024  
Ambient air temperature (at initiation) : 95.5°F  
Ambient air temperature (at completion) : 99.9°F  
Track surface temperature (at initiation) : 143.4°F  
Track surface temperature (at completion) : 141.4°F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 05/15/2024  
Ambient air temperature (at initiation) : 96.3°F  
Ambient air temperature (at completion) : 99.1°F  
Track surface temperature (at initiation) : 142.9°F  
Track surface temperature (at completion) : 141.4°F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

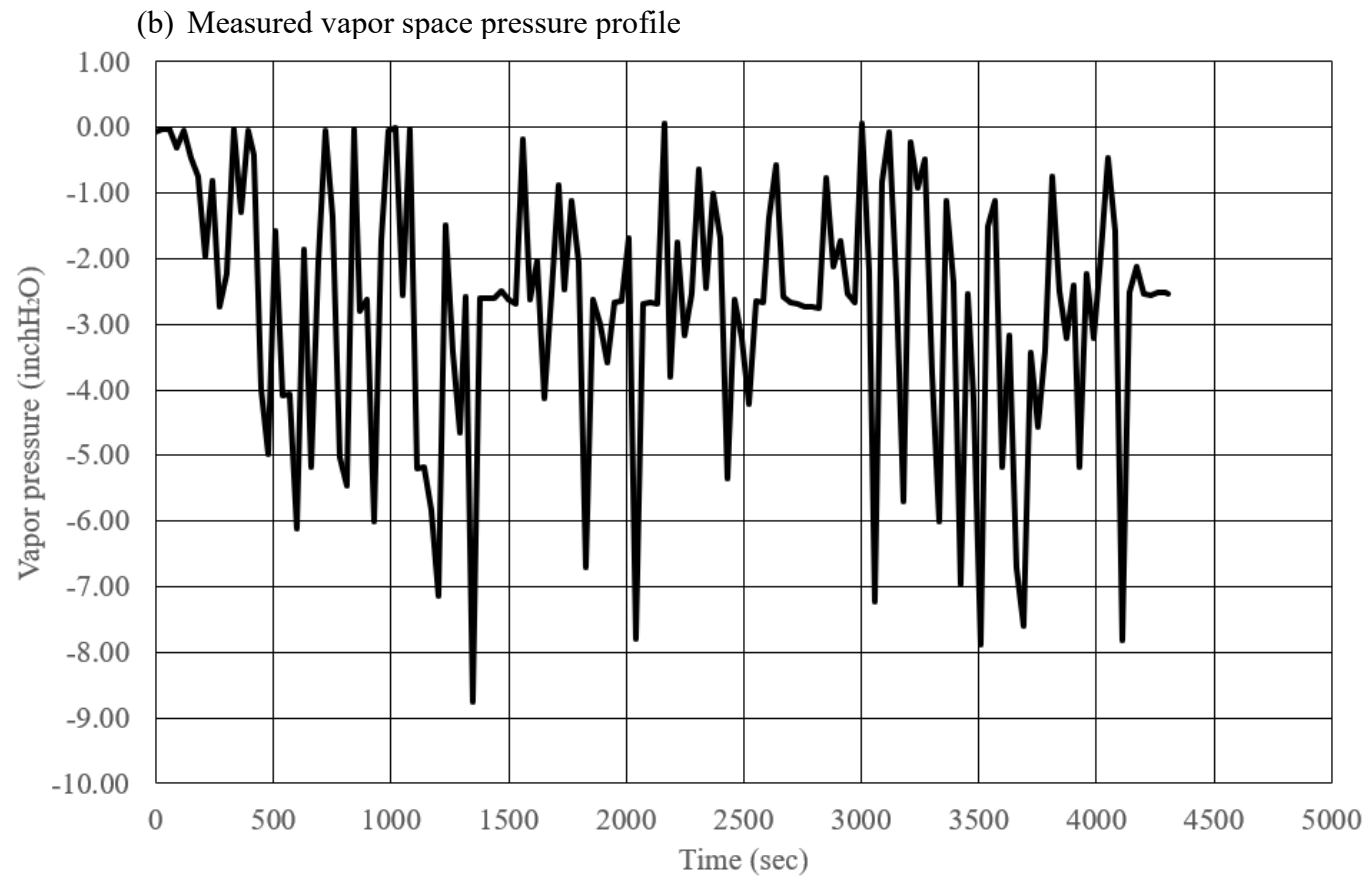
Measured temperature and pressure profiles

(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 95.9       | 1200       | 101.3      | 2400       | 109.8      | 3600       | 117.7      |
| 30         | 95.7       | 1230       | 101.5      | 2430       | 109.9      | 3630       | 117.9      |
| 60         | 95.6       | 1260       | 101.7      | 2460       | 110.1      | 3660       | 117.9      |
| 90         | 95.5       | 1290       | 101.8      | 2490       | 110.3      | 3690       | 118.0      |
| 120        | 95.5       | 1320       | 102.0      | 2520       | 110.5      | 3720       | 118.2      |
| 150        | 95.5       | 1350       | 102.4      | 2550       | 110.8      | 3750       | 118.4      |
| 180        | 95.5       | 1380       | 102.6      | 2580       | 111.0      | 3780       | 118.6      |
| 210        | 95.5       | 1410       | 102.7      | 2610       | 111.2      | 3810       | 118.6      |
| 240        | 95.7       | 1440       | 102.9      | 2640       | 111.4      | 3840       | 118.8      |
| 270        | 95.9       | 1470       | 103.1      | 2670       | 111.7      | 3870       | 119.1      |
| 300        | 95.9       | 1500       | 103.1      | 2700       | 111.9      | 3900       | 119.1      |
| 330        | 96.1       | 1530       | 103.5      | 2730       | 112.1      | 3930       | 119.3      |
| 360        | 96.3       | 1560       | 103.6      | 2760       | 112.3      | 3960       | 119.3      |
| 390        | 96.3       | 1590       | 103.8      | 2790       | 112.5      | 3990       | 119.7      |
| 420        | 96.4       | 1620       | 104.0      | 2820       | 112.6      | 4020       | 119.7      |
| 450        | 96.6       | 1650       | 104.4      | 2850       | 113.0      | 4050       | 119.8      |
| 480        | 96.8       | 1680       | 104.4      | 2880       | 113.2      | 4080       | 120.0      |
| 510        | 97.0       | 1710       | 104.7      | 2910       | 113.4      | 4110       | 120.2      |
| 540        | 97.2       | 1740       | 104.9      | 2940       | 113.5      | 4140       | 120.2      |
| 570        | 97.3       | 1770       | 105.3      | 2970       | 113.9      | 4170       | 120.4      |
| 600        | 97.3       | 1800       | 105.4      | 3000       | 114.1      | 4200       | 120.6      |
| 630        | 97.9       | 1830       | 105.6      | 3030       | 114.1      | 4230       | 120.7      |
| 660        | 97.9       | 1860       | 105.8      | 3060       | 114.3      | 4260       | 120.9      |
| 690        | 98.1       | 1890       | 106.0      | 3090       | 114.4      | 4290       | 121.1      |
| 720        | 98.4       | 1920       | 106.2      | 3120       | 114.8      | 4304       | 121.1      |
| 750        | 98.4       | 1950       | 106.3      | 3150       | 115.0      |            |            |
| 780        | 98.8       | 1980       | 106.7      | 3180       | 115.2      |            |            |
| 810        | 98.8       | 2010       | 106.7      | 3210       | 115.3      |            |            |
| 840        | 99.1       | 2040       | 107.1      | 3240       | 115.5      |            |            |
| 870        | 99.1       | 2070       | 107.2      | 3270       | 115.7      |            |            |
| 900        | 99.3       | 2100       | 107.4      | 3300       | 116.1      |            |            |
| 930        | 99.5       | 2130       | 107.8      | 3330       | 116.1      |            |            |
| 960        | 99.9       | 2160       | 108.0      | 3360       | 116.2      |            |            |
| 990        | 99.9       | 2190       | 108.1      | 3390       | 116.4      |            |            |
| 1020       | 100.2      | 2220       | 108.3      | 3420       | 116.6      |            |            |
| 1050       | 100.4      | 2250       | 108.5      | 3450       | 116.8      |            |            |
| 1080       | 100.6      | 2280       | 108.9      | 3480       | 117.0      |            |            |
| 1110       | 100.8      | 2310       | 109.0      | 3510       | 117.1      |            |            |
| 1140       | 100.9      | 2340       | 109.2      | 3540       | 117.3      |            |            |
| 1170       | 101.1      | 2370       | 109.4      | 3570       | 117.5      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P52.

Evaporative emission test log

Vehicle Description

|                      | Evaporative emission vehicle | Refueling emission vehicle |
|----------------------|------------------------------|----------------------------|
| Test group:          | RTYXT02.4P3P                 | HTYXT03.5M5M               |
| Vehicle ID:          | 24-TS1A                      | 17-GL4A                    |
| Rep. car/truck line: | GRAND HIGHLANDER             | SIENNA AWD                 |
| Rep. vehicle model:  | TASA15L-AWZGTA               | GSL35L-PFZQHA              |
| Displacement:        | 146.0CID                     | 210.9CID                   |
| Transmission:        | UA81F-D                      | L8/UA80F-A                 |
| Test weight:         | 5,000 lbs.                   | 5,000 lbs.                 |
| Road load:           | 15.6 HP                      | 17.3 HP                    |
| Evap. code:          | TS1L                         | GL2L                       |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|                  |         |   |           |          |
|------------------|---------|---|-----------|----------|
| Exhaust emission | NMOG    | : | 0.0048    | (g/mile) |
|                  | CO      | : | 0.11      | (g/mile) |
|                  | NOx     | : | 0.0072    | (g/mile) |
| Running loss     |         | : | 0.006     | (g/mile) |
| Hot soak loss    |         | : | 0.0547    | (g/test) |
| 3DBL             | 1st day | : | 0.1231 *1 | (g/test) |
|                  | 2nd day | : | 0.0948    | (g/test) |
|                  | 3rd day | : | 0.0850    | (g/test) |

2-day diurnal sequence test results\*2

|                  |         |   |     |          |
|------------------|---------|---|-----|----------|
| Exhaust emission | NMOG    | : | N/A | (g/mile) |
|                  | CO      | : | N/A | (g/mile) |
|                  | NOx     | : | N/A | (g/mile) |
| Hot soak loss    |         | : | N/A | (g/test) |
| 2DBL             | 1st day | : | N/A | (g/test) |
|                  | 2nd day | : | N/A | (g/test) |

Refueling sequence test results

|                    |      |   |        |          |
|--------------------|------|---|--------|----------|
| Exhaust emission   | NMOG | : | 0.0108 | (g/mile) |
|                    | CO   | : | 0.09   | (g/mile) |
|                    | NOx  | : | 0.0158 | (g/mile) |
| Refueling emission |      | : | 0.005  | (g/gal)  |

\*1: 1st DBL is added key off monitor loss (0.0008 gram).

\*2: in lieu of testing, Toyota is providing a compliance statement in §8.2.

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : RX 500h AWD  
Data is representative for : RX 500h AWD

[Test procedure] : CARB method

[Test conditions]

Date : 10/04/2021  
Ambient air temperature (at initiation) : 106.2°F  
Ambient air temperature (at completion) : 108.5°F  
Track surface temperature (at initiation) : 149.0°F  
Track surface temperature (at completion) : 150.8°F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 10/04/2021  
Ambient air temperature (at initiation) : 107.2°F  
Ambient air temperature (at completion) : 109.0°F  
Track surface temperature (at initiation) : 148.8°F  
Track surface temperature (at completion) : 150.8°F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

Measured temperature and pressure profiles

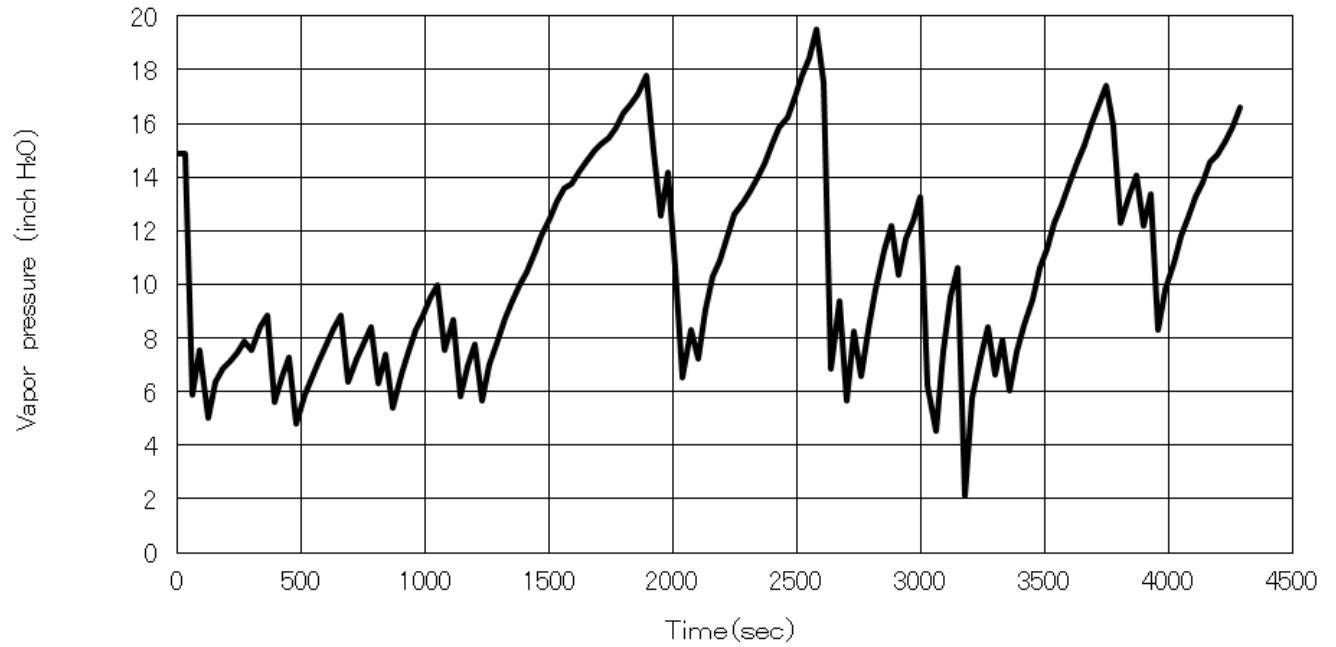
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 107.2      | 1200       | 110.1      | 2400       | 114.6      | 3600       | 120.0      |
| 30         | 107.4      | 1230       | 110.5      | 2430       | 115.2      | 3630       | 120.6      |
| 60         | 107.1      | 1260       | 110.5      | 2460       | 115.3      | 3660       | 120.0      |
| 90         | 107.1      | 1290       | 110.7      | 2490       | 115.5      | 3690       | 120.4      |
| 120        | 107.2      | 1320       | 110.8      | 2520       | 115.5      | 3720       | 120.6      |
| 150        | 107.1      | 1350       | 111.0      | 2550       | 115.7      | 3750       | 121.1      |
| 180        | 107.1      | 1380       | 110.8      | 2580       | 116.2      | 3780       | 120.4      |
| 210        | 107.2      | 1410       | 111.2      | 2610       | 116.2      | 3810       | 120.4      |
| 240        | 107.1      | 1440       | 111.2      | 2640       | 116.4      | 3840       | 120.4      |
| 270        | 107.1      | 1470       | 111.4      | 2670       | 116.2      | 3870       | 120.7      |
| 300        | 107.1      | 1500       | 111.6      | 2700       | 116.6      | 3900       | 120.7      |
| 330        | 107.1      | 1530       | 111.7      | 2730       | 117.0      | 3930       | 120.7      |
| 360        | 107.6      | 1560       | 111.9      | 2760       | 117.1      | 3960       | 120.7      |
| 390        | 107.4      | 1590       | 111.6      | 2790       | 117.0      | 3990       | 120.7      |
| 420        | 107.8      | 1620       | 111.7      | 2820       | 117.0      | 4020       | 120.9      |
| 450        | 107.8      | 1650       | 111.7      | 2850       | 117.9      | 4050       | 121.1      |
| 480        | 108.0      | 1680       | 111.9      | 2880       | 117.3      | 4080       | 121.1      |
| 510        | 107.8      | 1710       | 111.7      | 2910       | 117.5      | 4110       | 121.3      |
| 540        | 108.1      | 1740       | 111.9      | 2940       | 117.3      | 4140       | 121.3      |
| 570        | 108.1      | 1770       | 112.3      | 2970       | 117.5      | 4170       | 121.8      |
| 600        | 108.3      | 1800       | 112.5      | 3000       | 117.5      | 4200       | 121.6      |
| 630        | 108.3      | 1830       | 112.5      | 3030       | 117.9      | 4230       | 121.8      |
| 660        | 108.3      | 1860       | 112.8      | 3060       | 118.2      | 4260       | 122.0      |
| 690        | 108.5      | 1890       | 113.0      | 3090       | 118.4      | 4290       | 122.0      |
| 720        | 108.9      | 1920       | 112.8      | 3120       | 118.6      |            |            |
| 750        | 108.7      | 1950       | 113.0      | 3150       | 118.0      |            |            |
| 780        | 108.7      | 1980       | 113.5      | 3180       | 118.8      |            |            |
| 810        | 109.0      | 2010       | 113.4      | 3210       | 118.6      |            |            |
| 840        | 109.0      | 2040       | 113.5      | 3240       | 118.4      |            |            |
| 870        | 109.2      | 2070       | 113.9      | 3270       | 118.4      |            |            |
| 900        | 109.2      | 2100       | 114.1      | 3300       | 119.1      |            |            |
| 930        | 109.6      | 2130       | 114.3      | 3330       | 118.6      |            |            |
| 960        | 109.6      | 2160       | 114.1      | 3360       | 118.9      |            |            |
| 990        | 109.6      | 2190       | 114.3      | 3390       | 118.9      |            |            |
| 1020       | 109.8      | 2220       | 114.4      | 3420       | 119.1      |            |            |
| 1050       | 109.9      | 2250       | 114.6      | 3450       | 119.3      |            |            |
| 1080       | 109.9      | 2280       | 114.6      | 3480       | 119.7      |            |            |
| 1110       | 109.9      | 2310       | 114.3      | 3510       | 119.7      |            |            |
| 1140       | 110.1      | 2340       | 114.6      | 3540       | 119.5      |            |            |
| 1170       | 110.3      | 2370       | 114.8      | 3570       | 119.7      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : RX 500h AWD

Data is representative for : RX 500h AWD

[Test procedure]

: EPA method

[Test conditions]

Date : 10/06/2021

Ambient air temperature (at initiation) : 97.2°F

Ambient air temperature (at completion) : 98.6°F

Track surface temperature (at initiation) : 130.8°F

Track surface temperature (at completion) : 132.6°F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

[Test conditions]

Date : 10/06/2022

Ambient air temperature (at initiation) : 95.9°F

Ambient air temperature (at completion) : 99.5°F

Track surface temperature (at initiation) : 131.0°F

Track surface temperature (at completion) : 132.6°F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

Measured temperature and pressure profiles

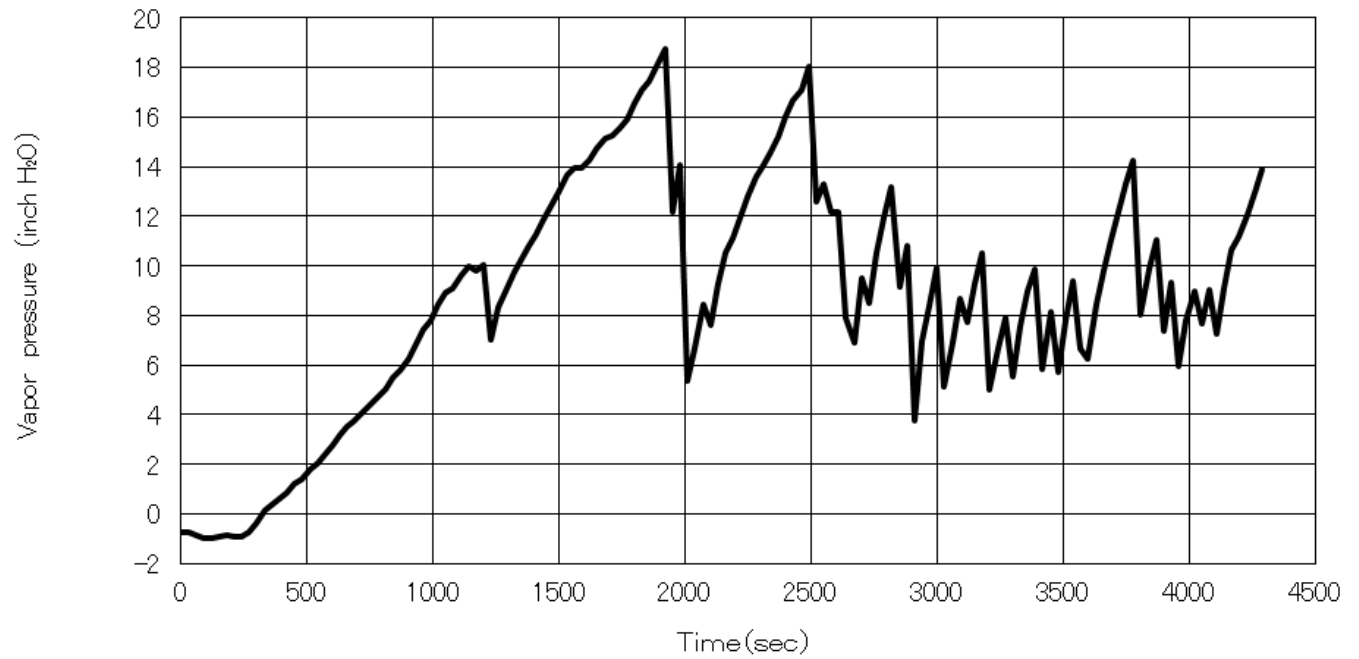
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.3       | 1200       | 99.3       | 2400       | 104.5      | 3600       | 109.4      |
| 30         | 96.3       | 1230       | 99.9       | 2430       | 104.5      | 3630       | 109.8      |
| 60         | 96.1       | 1260       | 99.7       | 2460       | 104.7      | 3660       | 109.6      |
| 90         | 96.1       | 1290       | 99.9       | 2490       | 105.3      | 3690       | 109.9      |
| 120        | 96.1       | 1320       | 100.0      | 2520       | 104.9      | 3720       | 110.1      |
| 150        | 96.1       | 1350       | 99.9       | 2550       | 105.3      | 3750       | 109.9      |
| 180        | 96.1       | 1380       | 99.9       | 2580       | 105.6      | 3780       | 109.9      |
| 210        | 96.1       | 1410       | 100.2      | 2610       | 105.6      | 3810       | 110.3      |
| 240        | 96.3       | 1440       | 100.6      | 2640       | 105.8      | 3840       | 109.9      |
| 270        | 95.9       | 1470       | 100.4      | 2670       | 105.6      | 3870       | 110.1      |
| 300        | 96.1       | 1500       | 100.6      | 2700       | 106.2      | 3900       | 110.3      |
| 330        | 96.4       | 1530       | 100.8      | 2730       | 105.8      | 3930       | 110.1      |
| 360        | 96.6       | 1560       | 100.8      | 2760       | 106.2      | 3960       | 110.3      |
| 390        | 96.4       | 1590       | 100.9      | 2790       | 106.3      | 3990       | 110.5      |
| 420        | 96.6       | 1620       | 100.8      | 2820       | 106.5      | 4020       | 110.5      |
| 450        | 96.6       | 1650       | 101.1      | 2850       | 107.1      | 4050       | 110.7      |
| 480        | 97.0       | 1680       | 101.3      | 2880       | 106.7      | 4080       | 110.8      |
| 510        | 96.8       | 1710       | 101.1      | 2910       | 106.9      | 4110       | 111.0      |
| 540        | 97.0       | 1740       | 101.3      | 2940       | 106.5      | 4140       | 111.0      |
| 570        | 97.0       | 1770       | 101.7      | 2970       | 106.5      | 4170       | 111.4      |
| 600        | 97.3       | 1800       | 101.8      | 3000       | 106.9      | 4200       | 111.2      |
| 630        | 97.2       | 1830       | 102.0      | 3030       | 107.1      | 4230       | 111.6      |
| 660        | 97.5       | 1860       | 102.0      | 3060       | 107.2      | 4260       | 111.6      |
| 690        | 97.5       | 1890       | 102.2      | 3090       | 107.4      | 4290       | 111.7      |
| 720        | 97.7       | 1920       | 102.4      | 3120       | 107.4      |            |            |
| 750        | 97.7       | 1950       | 102.6      | 3150       | 107.2      |            |            |
| 780        | 97.9       | 1980       | 102.7      | 3180       | 108.1      |            |            |
| 810        | 98.1       | 2010       | 102.7      | 3210       | 107.8      |            |            |
| 840        | 98.1       | 2040       | 103.1      | 3240       | 108.1      |            |            |
| 870        | 98.2       | 2070       | 103.1      | 3270       | 108.1      |            |            |
| 900        | 98.6       | 2100       | 103.5      | 3300       | 108.5      |            |            |
| 930        | 98.4       | 2130       | 103.5      | 3330       | 108.1      |            |            |
| 960        | 98.4       | 2160       | 103.3      | 3360       | 108.3      |            |            |
| 990        | 98.6       | 2190       | 103.8      | 3390       | 108.5      |            |            |
| 1020       | 98.8       | 2220       | 103.6      | 3420       | 108.7      |            |            |
| 1050       | 98.8       | 2250       | 103.8      | 3450       | 108.9      |            |            |
| 1080       | 99.3       | 2280       | 103.8      | 3480       | 108.9      |            |            |
| 1110       | 99.1       | 2310       | 103.8      | 3510       | 108.9      |            |            |
| 1140       | 99.5       | 2340       | 103.8      | 3540       | 108.9      |            |            |
| 1170       | 99.3       | 2370       | 104.4      | 3570       | 109.0      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

|                            |                                               |
|----------------------------|-----------------------------------------------|
| Model name                 | : GRAND HIGHLANDER HYBRID AWD                 |
| Data is representative for | : GRAND HIGHLANDER HYBIRD AWD,<br>TX 500h AWD |

[Test procedure]

: CARB method

[Test conditions]

|                                           |                       |
|-------------------------------------------|-----------------------|
| Date                                      | : 04/19/2022          |
| Ambient air temperature (at initiation)   | : 105.3 °F            |
| Ambient air temperature (at completion)   | : 110.1 °F            |
| Track surface temperature (at initiation) | : 141.3 °F            |
| Track surface temperature (at completion) | : 143.4 °F            |
| Wind speed                                | : N/A                 |
| Test fuel RVP                             | : 7.0 PSI             |
| Driving cycles                            | : LA#4+NYCC+NYCC+LA#4 |
| Percent cloud cover                       | : N/A                 |

[Test conditions]

|                                           |                       |
|-------------------------------------------|-----------------------|
| Date                                      | : 04/20/2022          |
| Ambient air temperature (at initiation)   | : 105.3 °F            |
| Ambient air temperature (at completion)   | : 110.3 °F            |
| Track surface temperature (at initiation) | : 139.1 °F            |
| Track surface temperature (at completion) | : 143.6 °F            |
| Wind speed                                | : N/A                 |
| Test fuel RVP                             | : 7.0 PSI             |
| Driving cycles                            | : LA#4+NYCC+NYCC+LA#4 |
| Percent cloud cover                       | : N/A                 |

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

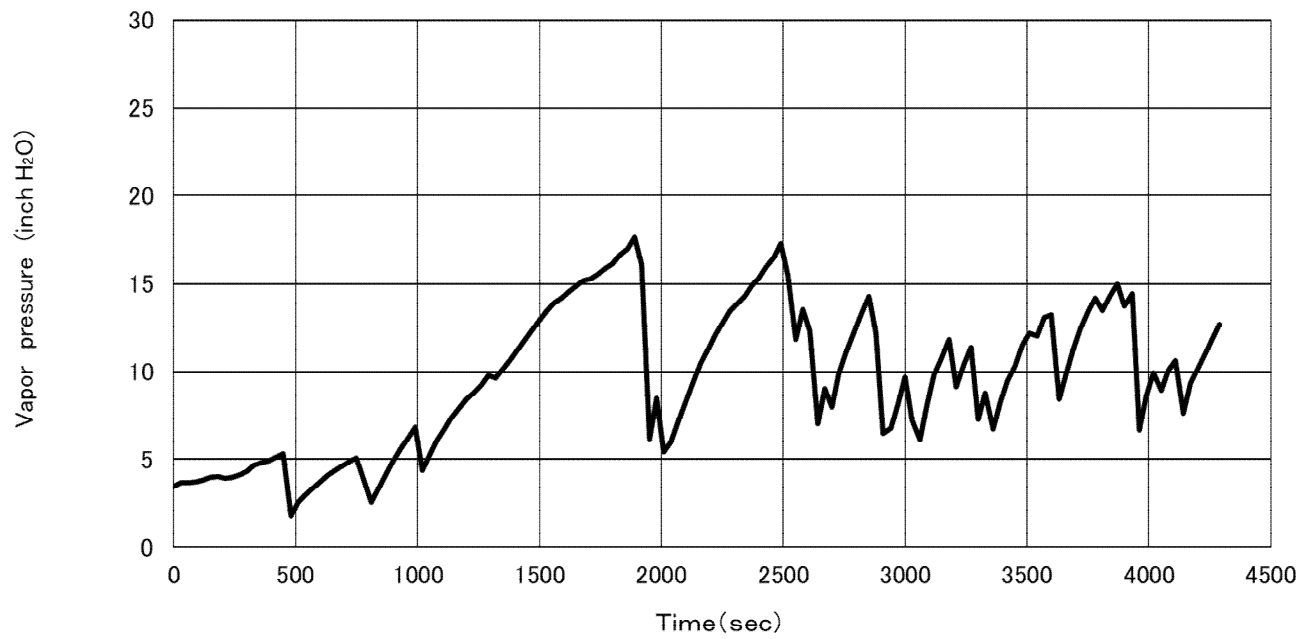
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.7      | 1200       | 111.9      | 2400       | 116.2      | 3600       | 121.5      |
| 30         | 106.9      | 1230       | 111.9      | 2430       | 116.6      | 3630       | 121.8      |
| 60         | 106.9      | 1260       | 112.3      | 2460       | 116.8      | 3660       | 121.6      |
| 90         | 107.1      | 1290       | 112.6      | 2490       | 117.1      | 3690       | 122.2      |
| 120        | 107.2      | 1320       | 112.6      | 2520       | 116.8      | 3720       | 122.5      |
| 150        | 107.6      | 1350       | 112.8      | 2550       | 117.0      | 3750       | 122.7      |
| 180        | 107.6      | 1380       | 113.0      | 2580       | 117.3      | 3780       | 122.4      |
| 210        | 108.0      | 1410       | 113.0      | 2610       | 117.3      | 3810       | 122.5      |
| 240        | 108.1      | 1440       | 113.2      | 2640       | 117.5      | 3840       | 122.4      |
| 270        | 108.1      | 1470       | 113.2      | 2670       | 117.7      | 3870       | 123.1      |
| 300        | 108.3      | 1500       | 113.2      | 2700       | 117.9      | 3900       | 122.9      |
| 330        | 108.5      | 1530       | 113.4      | 2730       | 118.0      | 3930       | 123.1      |
| 360        | 108.9      | 1560       | 113.5      | 2760       | 118.2      | 3960       | 122.9      |
| 390        | 109.0      | 1590       | 113.7      | 2790       | 118.2      | 3990       | 122.7      |
| 420        | 109.0      | 1620       | 113.7      | 2820       | 118.4      | 4020       | 122.7      |
| 450        | 109.0      | 1650       | 113.5      | 2850       | 118.4      | 4050       | 122.4      |
| 480        | 109.4      | 1680       | 113.5      | 2880       | 118.8      | 4080       | 122.5      |
| 510        | 109.4      | 1710       | 113.5      | 2910       | 119.1      | 4110       | 123.1      |
| 540        | 109.4      | 1740       | 113.5      | 2940       | 118.4      | 4140       | 122.7      |
| 570        | 109.8      | 1770       | 114.1      | 2970       | 118.4      | 4170       | 122.9      |
| 600        | 109.8      | 1800       | 113.9      | 3000       | 118.6      | 4200       | 122.7      |
| 630        | 109.9      | 1830       | 114.1      | 3030       | 119.3      | 4230       | 123.1      |
| 660        | 109.9      | 1860       | 114.4      | 3060       | 119.5      | 4260       | 123.4      |
| 690        | 110.1      | 1890       | 114.8      | 3090       | 119.7      | 4290       | 123.4      |
| 720        | 110.1      | 1920       | 114.3      | 3120       | 119.8      |            |            |
| 750        | 110.1      | 1950       | 114.3      | 3150       | 119.5      |            |            |
| 780        | 110.1      | 1980       | 114.8      | 3180       | 120.6      |            |            |
| 810        | 110.7      | 2010       | 114.8      | 3210       | 120.0      |            |            |
| 840        | 110.8      | 2040       | 115.2      | 3240       | 120.2      |            |            |
| 870        | 111.0      | 2070       | 115.3      | 3270       | 120.4      |            |            |
| 900        | 111.2      | 2100       | 115.3      | 3300       | 120.7      |            |            |
| 930        | 111.2      | 2130       | 115.3      | 3330       | 120.2      |            |            |
| 960        | 111.4      | 2160       | 115.9      | 3360       | 120.2      |            |            |
| 990        | 111.4      | 2190       | 116.1      | 3390       | 120.6      |            |            |
| 1020       | 111.6      | 2220       | 116.1      | 3420       | 120.7      |            |            |
| 1050       | 111.6      | 2250       | 116.1      | 3450       | 120.9      |            |            |
| 1080       | 111.9      | 2280       | 115.7      | 3480       | 121.6      |            |            |
| 1110       | 111.6      | 2310       | 115.5      | 3510       | 121.1      |            |            |
| 1140       | 111.9      | 2340       | 115.9      | 3540       | 121.3      |            |            |
| 1170       | 111.6      | 2370       | 116.4      | 3570       | 121.5      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : GRAND HIGHLANDER HYBRID AWD  
Data is representative for : GRAND HIGHLANDER HYBIRD AWD,  
TX 500h AWD

[Test procedure]

: EPA method

[Test conditions]

Date : 04/19/2022  
Ambient air temperature (at initiation) : 95.5 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 126.7 °F  
Track surface temperature (at completion) : 132.1 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 04/20/2022  
Ambient air temperature (at initiation) : 95.4 °F  
Ambient air temperature (at completion) : 99.9 °F  
Track surface temperature (at initiation) : 135.7 °F  
Track surface temperature (at completion) : 134.8 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

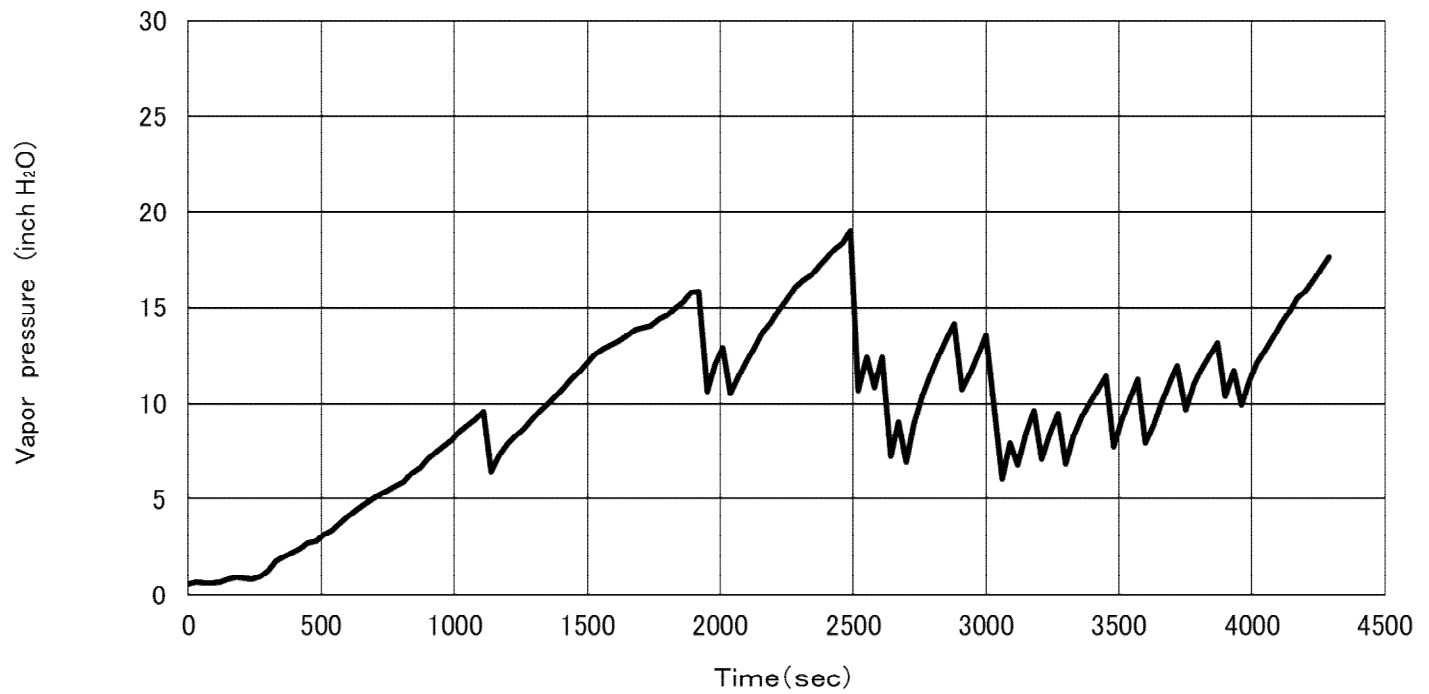
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.6       | 1200       | 100.9      | 2400       | 104.9      | 3600       | 109.8      |
| 30         | 96.8       | 1230       | 100.9      | 2430       | 105.3      | 3630       | 109.9      |
| 60         | 97.2       | 1260       | 101.3      | 2460       | 105.4      | 3660       | 109.9      |
| 90         | 97.2       | 1290       | 101.5      | 2490       | 105.6      | 3690       | 110.5      |
| 120        | 97.3       | 1320       | 101.7      | 2520       | 105.3      | 3720       | 110.5      |
| 150        | 97.3       | 1350       | 101.5      | 2550       | 105.4      | 3750       | 110.5      |
| 180        | 97.3       | 1380       | 101.8      | 2580       | 105.8      | 3780       | 110.3      |
| 210        | 97.9       | 1410       | 101.8      | 2610       | 105.8      | 3810       | 110.7      |
| 240        | 98.1       | 1440       | 102.0      | 2640       | 105.8      | 3840       | 110.5      |
| 270        | 98.1       | 1470       | 102.0      | 2670       | 106.2      | 3870       | 111.0      |
| 300        | 98.2       | 1500       | 102.2      | 2700       | 106.5      | 3900       | 110.7      |
| 330        | 98.2       | 1530       | 102.2      | 2730       | 106.3      | 3930       | 110.7      |
| 360        | 98.6       | 1560       | 102.2      | 2760       | 106.5      | 3960       | 110.8      |
| 390        | 98.6       | 1590       | 102.4      | 2790       | 106.7      | 3990       | 110.8      |
| 420        | 98.4       | 1620       | 102.4      | 2820       | 106.9      | 4020       | 110.8      |
| 450        | 98.6       | 1650       | 102.6      | 2850       | 107.1      | 4050       | 110.8      |
| 480        | 98.8       | 1680       | 102.4      | 2880       | 107.2      | 4080       | 111.0      |
| 510        | 98.8       | 1710       | 102.4      | 2910       | 107.6      | 4110       | 111.7      |
| 540        | 99.0       | 1740       | 102.4      | 2940       | 107.2      | 4140       | 111.7      |
| 570        | 99.1       | 1770       | 102.7      | 2970       | 107.1      | 4170       | 111.7      |
| 600        | 99.3       | 1800       | 102.7      | 3000       | 107.4      | 4200       | 111.9      |
| 630        | 99.3       | 1830       | 102.7      | 3030       | 108.0      | 4230       | 112.1      |
| 660        | 99.3       | 1860       | 103.1      | 3060       | 108.1      | 4260       | 112.3      |
| 690        | 99.5       | 1890       | 103.1      | 3090       | 108.0      | 4290       | 112.1      |
| 720        | 99.3       | 1920       | 103.1      | 3120       | 108.1      |            |            |
| 750        | 99.3       | 1950       | 103.1      | 3150       | 107.8      |            |            |
| 780        | 99.5       | 1980       | 103.6      | 3180       | 108.5      |            |            |
| 810        | 99.9       | 2010       | 103.6      | 3210       | 108.5      |            |            |
| 840        | 99.9       | 2040       | 103.8      | 3240       | 108.5      |            |            |
| 870        | 100.0      | 2070       | 103.8      | 3270       | 108.7      |            |            |
| 900        | 100.2      | 2100       | 104.0      | 3300       | 109.0      |            |            |
| 930        | 100.0      | 2130       | 104.0      | 3330       | 108.7      |            |            |
| 960        | 100.4      | 2160       | 104.4      | 3360       | 108.9      |            |            |
| 990        | 100.6      | 2190       | 104.5      | 3390       | 108.5      |            |            |
| 1020       | 100.8      | 2220       | 104.5      | 3420       | 108.9      |            |            |
| 1050       | 100.8      | 2250       | 104.5      | 3450       | 109.4      |            |            |
| 1080       | 100.9      | 2280       | 104.5      | 3480       | 109.2      |            |            |
| 1110       | 100.9      | 2310       | 104.7      | 3510       | 109.4      |            |            |
| 1140       | 101.1      | 2340       | 104.7      | 3540       | 109.2      |            |            |
| 1170       | 101.1      | 2370       | 105.1      | 3570       | 109.6      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : RAV4 PRIME AWD  
Data is representative for : NX 450h+ AWD

[Test procedure] : CARB method

[Test conditions]

Date : 10/02/2019  
Ambient air temperature (at initiation) : 108.7 °F  
Ambient air temperature (at completion) : 109.8 °F  
Track surface temperature (at initiation) : 144.0 °F  
Track surface temperature (at completion) : 147.9 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 10/02/2019  
Ambient air temperature (at initiation) : 106.0 °F  
Ambient air temperature (at completion) : 109.0 °F  
Track surface temperature (at initiation) : 139.3 °F  
Track surface temperature (at completion) : 144.7 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

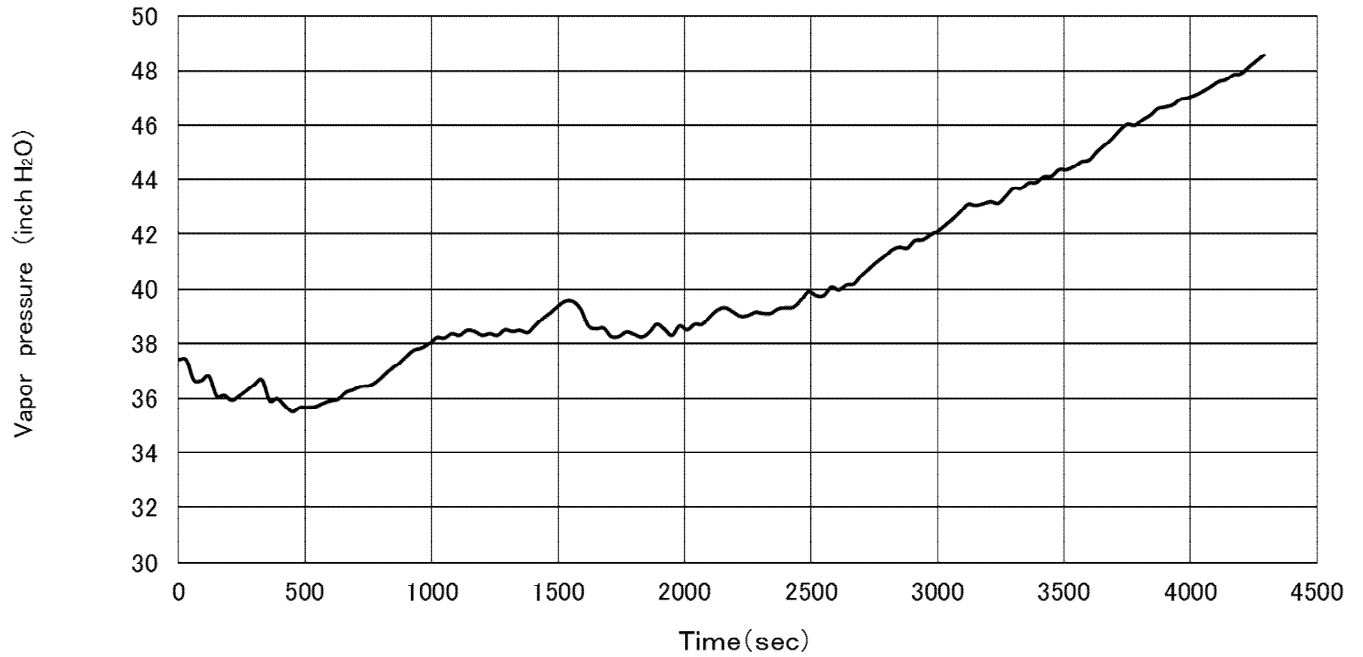
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 94.5       | 1200       | 97.7       | 2400       | 99.0       | 3600       | 100.2      |
| 30         | 94.5       | 1230       | 97.7       | 2430       | 99.0       | 3630       | 100.4      |
| 60         | 94.6       | 1260       | 97.7       | 2460       | 99.0       | 3660       | 100.4      |
| 90         | 94.8       | 1290       | 97.9       | 2490       | 99.0       | 3690       | 100.6      |
| 120        | 95.0       | 1320       | 97.9       | 2520       | 99.0       | 3720       | 100.6      |
| 150        | 95.2       | 1350       | 97.9       | 2550       | 99.0       | 3750       | 100.6      |
| 180        | 95.4       | 1380       | 97.9       | 2580       | 99.1       | 3780       | 100.6      |
| 210        | 95.5       | 1410       | 97.9       | 2610       | 99.0       | 3810       | 100.6      |
| 240        | 95.7       | 1440       | 98.1       | 2640       | 99.0       | 3840       | 100.6      |
| 270        | 95.7       | 1470       | 98.1       | 2670       | 99.1       | 3870       | 100.6      |
| 300        | 95.9       | 1500       | 98.1       | 2700       | 99.1       | 3900       | 100.8      |
| 330        | 96.1       | 1530       | 98.1       | 2730       | 99.1       | 3930       | 100.6      |
| 360        | 96.3       | 1560       | 97.9       | 2760       | 99.1       | 3960       | 100.6      |
| 390        | 96.4       | 1590       | 97.9       | 2790       | 99.1       | 3990       | 100.8      |
| 420        | 96.4       | 1620       | 97.9       | 2820       | 99.1       | 4020       | 100.8      |
| 450        | 96.6       | 1650       | 97.9       | 2850       | 99.1       | 4050       | 100.8      |
| 480        | 96.8       | 1680       | 97.9       | 2880       | 99.3       | 4080       | 100.8      |
| 510        | 96.8       | 1710       | 98.1       | 2910       | 99.3       | 4110       | 100.8      |
| 540        | 97.0       | 1740       | 97.9       | 2940       | 99.3       | 4140       | 100.8      |
| 570        | 97.0       | 1770       | 98.1       | 2970       | 99.5       | 4170       | 100.8      |
| 600        | 97.0       | 1800       | 98.1       | 3000       | 99.5       | 4200       | 100.8      |
| 630        | 97.2       | 1830       | 98.2       | 3030       | 99.5       | 4230       | 100.9      |
| 660        | 97.2       | 1860       | 98.2       | 3060       | 99.5       | 4260       | 100.9      |
| 690        | 97.2       | 1890       | 98.2       | 3090       | 99.5       | 4290       | 100.9      |
| 720        | 97.3       | 1920       | 98.2       | 3120       | 99.7       |            |            |
| 750        | 97.3       | 1950       | 98.4       | 3150       | 99.7       |            |            |
| 780        | 97.3       | 1980       | 98.4       | 3180       | 99.7       |            |            |
| 810        | 97.3       | 2010       | 98.4       | 3210       | 99.9       |            |            |
| 840        | 97.5       | 2040       | 98.4       | 3240       | 99.9       |            |            |
| 870        | 97.5       | 2070       | 98.4       | 3270       | 100.0      |            |            |
| 900        | 97.5       | 2100       | 98.4       | 3300       | 100.0      |            |            |
| 930        | 97.5       | 2130       | 98.6       | 3330       | 100.0      |            |            |
| 960        | 97.7       | 2160       | 98.6       | 3360       | 100.0      |            |            |
| 990        | 97.7       | 2190       | 98.6       | 3390       | 100.2      |            |            |
| 1020       | 97.7       | 2220       | 98.6       | 3420       | 100.2      |            |            |
| 1050       | 97.9       | 2250       | 98.6       | 3450       | 100.2      |            |            |
| 1080       | 97.7       | 2280       | 98.8       | 3480       | 100.2      |            |            |
| 1110       | 97.9       | 2310       | 98.8       | 3510       | 100.2      |            |            |
| 1140       | 97.7       | 2340       | 99.0       | 3540       | 100.2      |            |            |
| 1170       | 97.9       | 2370       | 99.0       | 3570       | 100.2      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : RAV4 PRIME AWD  
Data is representative for : NX 450h+ AWD

[Test procedure] : EPA method

[Test conditions]

Date : 10/01/2019  
Ambient air temperature (at initiation) : 99.1 °F  
Ambient air temperature (at completion) : 99.7 °F  
Track surface temperature (at initiation) : 127.6 °F  
Track surface temperature (at completion) : 131.9 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 10/01/2019  
Ambient air temperature (at initiation) : 99.3 °F  
Ambient air temperature (at completion) : 99.7 °F  
Track surface temperature (at initiation) : 127.9 °F  
Track surface temperature (at completion) : 132.6 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

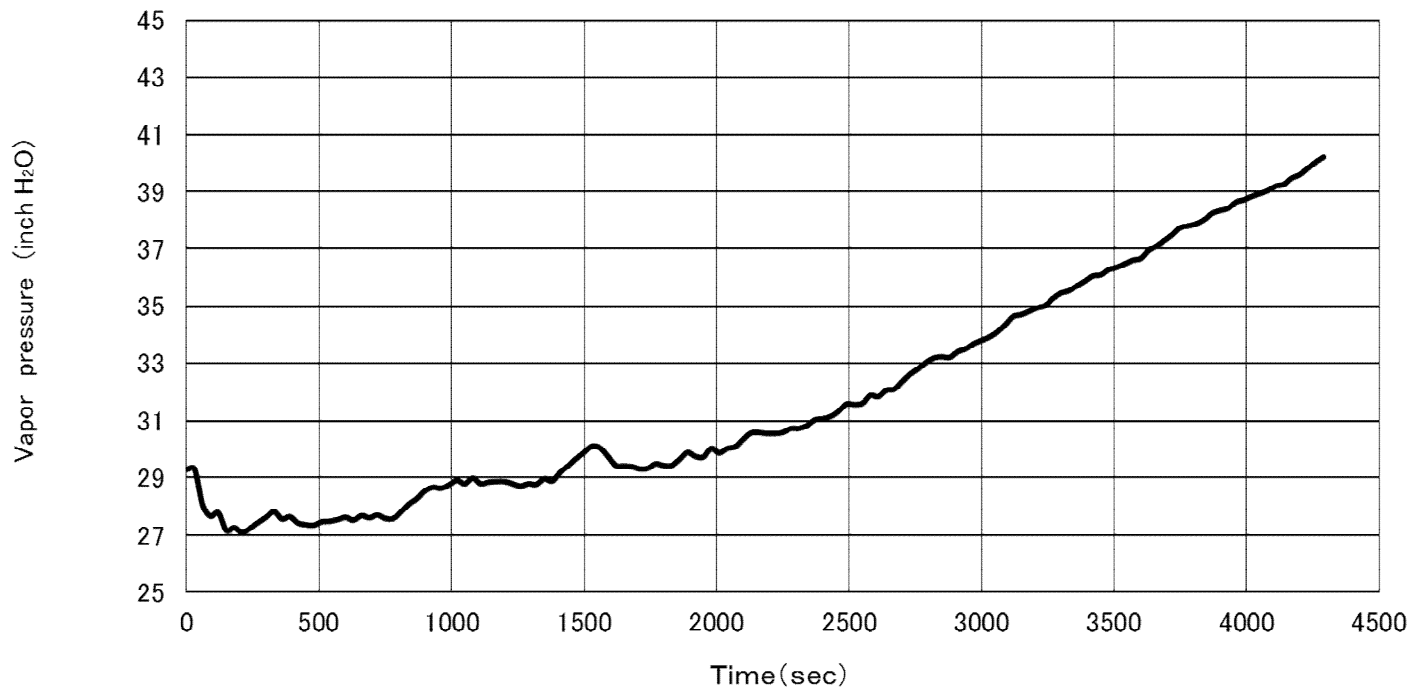
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 84.4       | 1200       | 87.1       | 2400       | 88.5       | 3600       | 89.8       |
| 30         | 84.4       | 1230       | 87.3       | 2430       | 88.7       | 3630       | 89.8       |
| 60         | 84.4       | 1260       | 87.3       | 2460       | 88.7       | 3660       | 89.8       |
| 90         | 84.6       | 1290       | 87.3       | 2490       | 88.7       | 3690       | 89.8       |
| 120        | 84.9       | 1320       | 87.3       | 2520       | 88.7       | 3720       | 90.0       |
| 150        | 85.1       | 1350       | 87.4       | 2550       | 88.7       | 3750       | 90.0       |
| 180        | 85.3       | 1380       | 87.4       | 2580       | 88.7       | 3780       | 90.0       |
| 210        | 85.3       | 1410       | 87.4       | 2610       | 88.9       | 3810       | 90.0       |
| 240        | 85.5       | 1440       | 87.4       | 2640       | 88.9       | 3840       | 90.0       |
| 270        | 85.5       | 1470       | 87.6       | 2670       | 88.9       | 3870       | 90.1       |
| 300        | 85.5       | 1500       | 87.4       | 2700       | 88.9       | 3900       | 90.1       |
| 330        | 85.6       | 1530       | 87.6       | 2730       | 88.9       | 3930       | 90.1       |
| 360        | 85.8       | 1560       | 87.6       | 2760       | 88.9       | 3960       | 90.1       |
| 390        | 86.0       | 1590       | 87.6       | 2790       | 88.9       | 3990       | 90.1       |
| 420        | 86.0       | 1620       | 87.6       | 2820       | 88.9       | 4020       | 90.1       |
| 450        | 86.2       | 1650       | 87.6       | 2850       | 88.9       | 4050       | 90.1       |
| 480        | 86.2       | 1680       | 87.6       | 2880       | 89.1       | 4080       | 90.3       |
| 510        | 86.2       | 1710       | 87.8       | 2910       | 89.1       | 4110       | 90.3       |
| 540        | 86.4       | 1740       | 87.8       | 2940       | 89.1       | 4140       | 90.3       |
| 570        | 86.4       | 1770       | 87.8       | 2970       | 89.1       | 4170       | 90.3       |
| 600        | 86.5       | 1800       | 87.8       | 3000       | 89.2       | 4200       | 90.3       |
| 630        | 86.5       | 1830       | 88.0       | 3030       | 89.1       | 4230       | 90.3       |
| 660        | 86.5       | 1860       | 88.0       | 3060       | 89.1       | 4260       | 90.5       |
| 690        | 86.5       | 1890       | 88.0       | 3090       | 89.1       | 4290       | 90.5       |
| 720        | 86.5       | 1920       | 88.0       | 3120       | 89.2       |            |            |
| 750        | 86.7       | 1950       | 88.2       | 3150       | 89.2       |            |            |
| 780        | 86.7       | 1980       | 88.2       | 3180       | 89.2       |            |            |
| 810        | 86.7       | 2010       | 88.2       | 3210       | 89.2       |            |            |
| 840        | 86.7       | 2040       | 88.2       | 3240       | 89.4       |            |            |
| 870        | 86.9       | 2070       | 88.2       | 3270       | 89.4       |            |            |
| 900        | 86.9       | 2100       | 88.2       | 3300       | 89.4       |            |            |
| 930        | 87.1       | 2130       | 88.2       | 3330       | 89.4       |            |            |
| 960        | 87.1       | 2160       | 88.3       | 3360       | 89.6       |            |            |
| 990        | 87.1       | 2190       | 88.3       | 3390       | 89.6       |            |            |
| 1020       | 87.1       | 2220       | 88.3       | 3420       | 89.6       |            |            |
| 1050       | 87.1       | 2250       | 88.3       | 3450       | 89.6       |            |            |
| 1080       | 87.1       | 2280       | 88.3       | 3480       | 89.6       |            |            |
| 1110       | 87.3       | 2310       | 88.5       | 3510       | 89.8       |            |            |
| 1140       | 87.3       | 2340       | 88.5       | 3540       | 89.8       |            |            |
| 1170       | 87.3       | 2370       | 88.5       | 3570       | 89.8       |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : RX 450h+ AWD

Data is representative for : RX 450h+ AWD

[Test procedure]

: CARB method

[Test conditions]

Date : 09/27/2022

Ambient air temperature (at initiation) : 107.4°F

Ambient air temperature (at completion) : 109.0°F

Track surface temperature (at initiation) : 148.6°F

Track surface temperature (at completion) : 150.3°F

Wind speed : N/A

Test fuel RVP : 7.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

[Test conditions]

Date : 09/28/2022

Ambient air temperature (at initiation) : 107.4°F

Ambient air temperature (at completion) : 109.0°F

Track surface temperature (at initiation) : 148.6°F

Track surface temperature (at completion) : 150.3°F

Wind speed : N/A

Test fuel RVP : 7.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

Measured temperature and pressure profiles

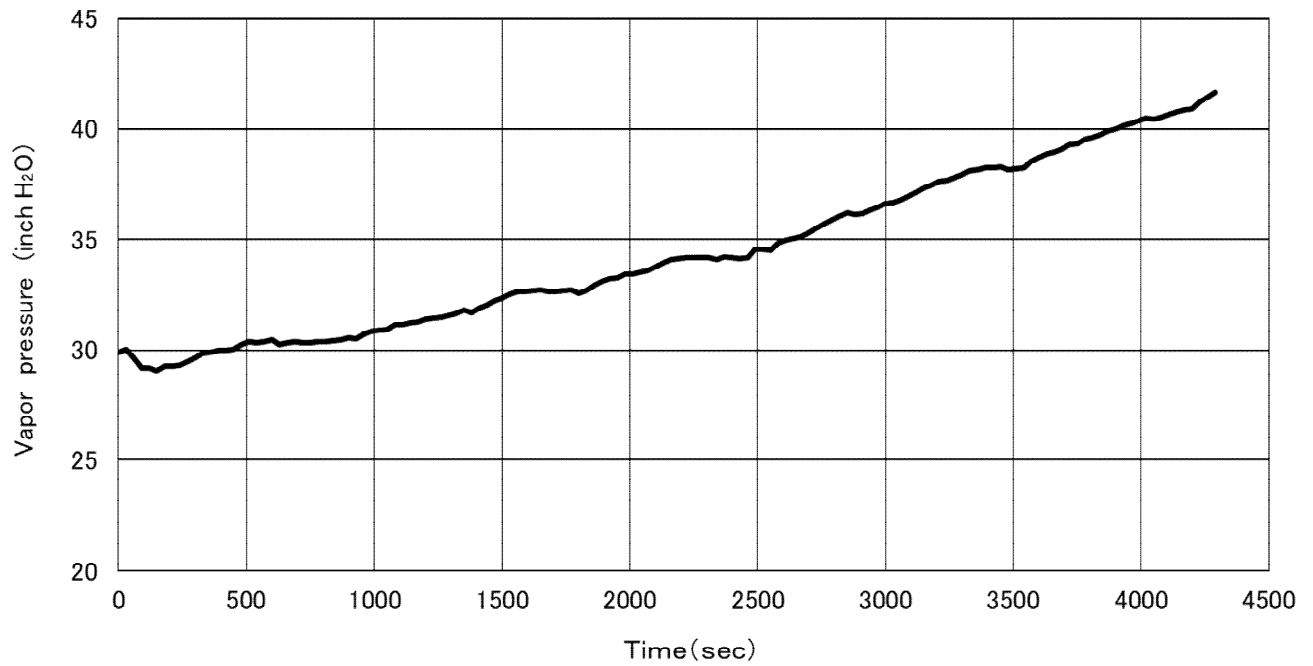
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 95.0       | 1200       | 96.4       | 2400       | 97.5       | 3600       | 98.6       |
| 30         | 95.2       | 1230       | 96.4       | 2430       | 97.7       | 3630       | 98.6       |
| 60         | 95.0       | 1260       | 96.6       | 2460       | 97.7       | 3660       | 98.6       |
| 90         | 95.2       | 1290       | 96.4       | 2490       | 97.7       | 3690       | 98.6       |
| 120        | 95.4       | 1320       | 96.4       | 2520       | 97.7       | 3720       | 98.6       |
| 150        | 95.2       | 1350       | 96.6       | 2550       | 97.7       | 3750       | 98.6       |
| 180        | 95.2       | 1380       | 96.6       | 2580       | 97.9       | 3780       | 98.6       |
| 210        | 95.2       | 1410       | 96.6       | 2610       | 97.7       | 3810       | 98.8       |
| 240        | 95.2       | 1440       | 96.6       | 2640       | 97.7       | 3840       | 98.8       |
| 270        | 95.4       | 1470       | 96.6       | 2670       | 97.7       | 3870       | 98.8       |
| 300        | 95.4       | 1500       | 96.8       | 2700       | 97.9       | 3900       | 98.8       |
| 330        | 95.4       | 1530       | 96.8       | 2730       | 97.9       | 3930       | 98.8       |
| 360        | 95.4       | 1560       | 96.8       | 2760       | 97.9       | 3960       | 98.8       |
| 390        | 95.4       | 1590       | 96.8       | 2790       | 97.9       | 3990       | 99.0       |
| 420        | 95.4       | 1620       | 96.8       | 2820       | 98.1       | 4020       | 98.8       |
| 450        | 95.5       | 1650       | 96.8       | 2850       | 98.1       | 4050       | 98.8       |
| 480        | 95.5       | 1680       | 96.8       | 2880       | 98.1       | 4080       | 99.0       |
| 510        | 95.5       | 1710       | 96.8       | 2910       | 98.1       | 4110       | 99.0       |
| 540        | 95.5       | 1740       | 97.0       | 2940       | 98.1       | 4140       | 99.0       |
| 570        | 95.7       | 1770       | 97.0       | 2970       | 98.2       | 4170       | 99.0       |
| 600        | 95.7       | 1800       | 97.0       | 3000       | 98.2       | 4200       | 99.0       |
| 630        | 95.7       | 1830       | 97.2       | 3030       | 98.1       | 4230       | 99.1       |
| 660        | 95.9       | 1860       | 97.0       | 3060       | 98.2       | 4260       | 99.0       |
| 690        | 95.9       | 1890       | 97.2       | 3090       | 98.2       | 4290       | 99.1       |
| 720        | 95.7       | 1920       | 97.0       | 3120       | 98.2       |            |            |
| 750        | 95.9       | 1950       | 97.2       | 3150       | 98.2       |            |            |
| 780        | 95.9       | 1980       | 97.2       | 3180       | 98.2       |            |            |
| 810        | 96.1       | 2010       | 97.2       | 3210       | 98.2       |            |            |
| 840        | 96.1       | 2040       | 97.2       | 3240       | 98.2       |            |            |
| 870        | 96.1       | 2070       | 97.2       | 3270       | 98.2       |            |            |
| 900        | 96.1       | 2100       | 97.3       | 3300       | 98.2       |            |            |
| 930        | 96.1       | 2130       | 97.3       | 3330       | 98.2       |            |            |
| 960        | 96.1       | 2160       | 97.3       | 3360       | 98.2       |            |            |
| 990        | 96.3       | 2190       | 97.3       | 3390       | 98.2       |            |            |
| 1020       | 96.3       | 2220       | 97.3       | 3420       | 98.4       |            |            |
| 1050       | 96.3       | 2250       | 97.5       | 3450       | 98.4       |            |            |
| 1080       | 96.3       | 2280       | 97.5       | 3480       | 98.4       |            |            |
| 1110       | 96.3       | 2310       | 97.5       | 3510       | 98.4       |            |            |
| 1140       | 96.4       | 2340       | 97.7       | 3540       | 98.4       |            |            |
| 1170       | 96.4       | 2370       | 97.5       | 3570       | 98.6       |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : RX 450h+ AWD  
Data is representative for : RX 450h+ AWD

[Test procedure] : EPA method

[Test conditions]

Date : 09/27/2022  
Ambient air temperature (at initiation) : 97.0°F  
Ambient air temperature (at completion) : 99.0°F  
Track surface temperature (at initiation) : 131.0°F  
Track surface temperature (at completion) : 132.1°F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 09/28/2022  
Ambient air temperature (at initiation) : 99.7°F  
Ambient air temperature (at completion) : 100.2°F  
Track surface temperature (at initiation) : 133.2°F  
Track surface temperature (at completion) : 130.6°F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

Measured temperature and pressure profiles

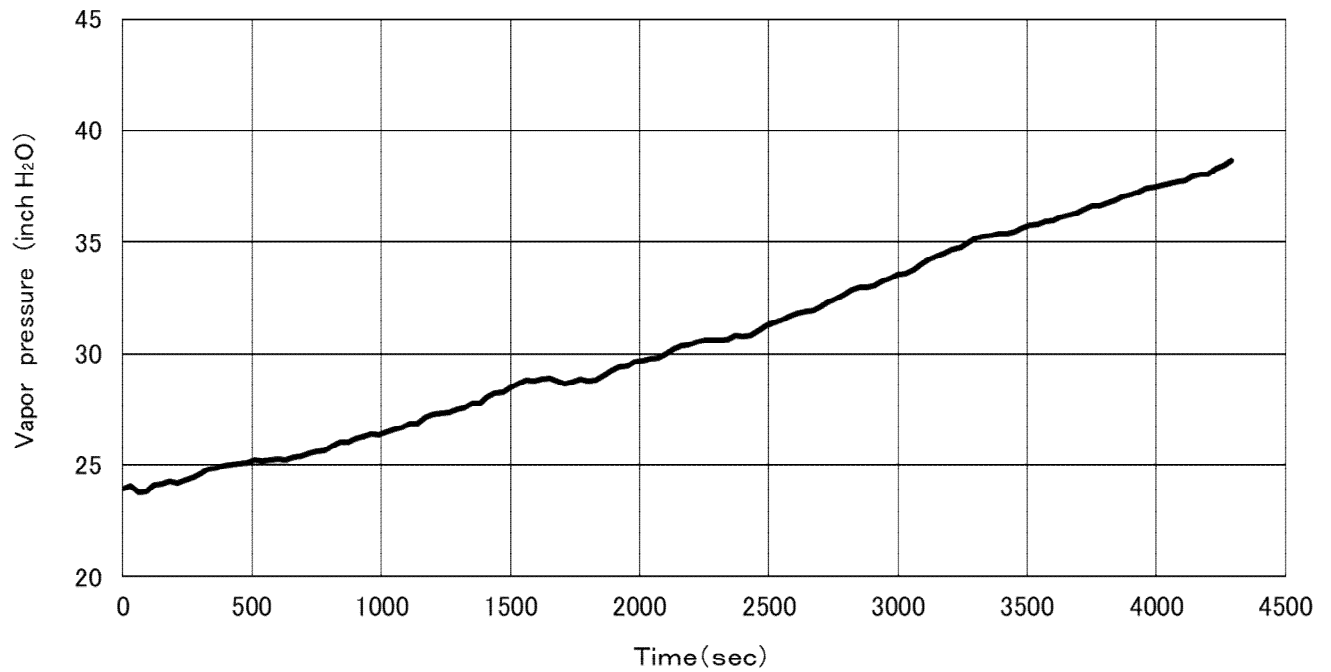
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 85.8       | 1200       | 87.1       | 2400       | 88.3       | 3600       | 89.8       |
| 30         | 85.6       | 1230       | 87.1       | 2430       | 88.3       | 3630       | 89.8       |
| 60         | 85.6       | 1260       | 87.1       | 2460       | 88.5       | 3660       | 89.8       |
| 90         | 85.8       | 1290       | 87.1       | 2490       | 88.5       | 3690       | 89.8       |
| 120        | 85.8       | 1320       | 87.1       | 2520       | 88.5       | 3720       | 90.0       |
| 150        | 85.8       | 1350       | 87.1       | 2550       | 88.5       | 3750       | 90.0       |
| 180        | 85.8       | 1380       | 87.1       | 2580       | 88.7       | 3780       | 89.8       |
| 210        | 85.8       | 1410       | 87.3       | 2610       | 88.5       | 3810       | 90.0       |
| 240        | 85.8       | 1440       | 87.3       | 2640       | 88.7       | 3840       | 90.0       |
| 270        | 85.8       | 1470       | 87.3       | 2670       | 88.7       | 3870       | 90.1       |
| 300        | 85.8       | 1500       | 87.4       | 2700       | 88.7       | 3900       | 90.0       |
| 330        | 86.0       | 1530       | 87.4       | 2730       | 88.7       | 3930       | 90.1       |
| 360        | 86.0       | 1560       | 87.3       | 2760       | 88.9       | 3960       | 90.1       |
| 390        | 86.0       | 1590       | 87.4       | 2790       | 88.9       | 3990       | 90.1       |
| 420        | 86.0       | 1620       | 87.4       | 2820       | 88.9       | 4020       | 90.1       |
| 450        | 86.2       | 1650       | 87.4       | 2850       | 88.9       | 4050       | 90.1       |
| 480        | 86.2       | 1680       | 87.4       | 2880       | 88.9       | 4080       | 90.1       |
| 510        | 86.2       | 1710       | 87.6       | 2910       | 88.9       | 4110       | 90.1       |
| 540        | 86.2       | 1740       | 87.6       | 2940       | 88.9       | 4140       | 90.1       |
| 570        | 86.4       | 1770       | 87.6       | 2970       | 89.1       | 4170       | 90.3       |
| 600        | 86.4       | 1800       | 87.6       | 3000       | 89.1       | 4200       | 90.3       |
| 630        | 86.2       | 1830       | 87.8       | 3030       | 89.1       | 4230       | 90.3       |
| 660        | 86.4       | 1860       | 87.8       | 3060       | 89.2       | 4260       | 90.5       |
| 690        | 86.4       | 1890       | 87.8       | 3090       | 89.2       | 4290       | 90.5       |
| 720        | 86.5       | 1920       | 87.8       | 3120       | 89.2       |            |            |
| 750        | 86.5       | 1950       | 88.0       | 3150       | 89.1       |            |            |
| 780        | 86.5       | 1980       | 87.8       | 3180       | 89.2       |            |            |
| 810        | 86.5       | 2010       | 88.0       | 3210       | 89.2       |            |            |
| 840        | 86.5       | 2040       | 88.0       | 3240       | 89.2       |            |            |
| 870        | 86.7       | 2070       | 88.0       | 3270       | 89.4       |            |            |
| 900        | 86.7       | 2100       | 88.0       | 3300       | 89.4       |            |            |
| 930        | 86.7       | 2130       | 88.0       | 3330       | 89.4       |            |            |
| 960        | 86.7       | 2160       | 88.0       | 3360       | 89.4       |            |            |
| 990        | 86.7       | 2190       | 88.2       | 3390       | 89.6       |            |            |
| 1020       | 86.7       | 2220       | 88.2       | 3420       | 89.4       |            |            |
| 1050       | 86.7       | 2250       | 88.2       | 3450       | 89.6       |            |            |
| 1080       | 86.7       | 2280       | 88.2       | 3480       | 89.6       |            |            |
| 1110       | 86.9       | 2310       | 88.2       | 3510       | 89.6       |            |            |
| 1140       | 86.9       | 2340       | 88.2       | 3540       | 89.6       |            |            |
| 1170       | 86.9       | 2370       | 88.3       | 3570       | 89.8       |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : RX 350h AWD  
Data is representative for : RX 350h AWD

[Test procedure] : CARB method

[Test conditions]

Date : 12/09/2021  
Ambient air temperature (at initiation) : 105.8 °F  
Ambient air temperature (at completion) : 108.5 °F  
Track surface temperature (at initiation) : 141.3 °F  
Track surface temperature (at completion) : 147.2 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 12/09/2021  
Ambient air temperature (at initiation) : 105.1 °F  
Ambient air temperature (at completion) : 110.1 °F  
Track surface temperature (at initiation) : 142.7 °F  
Track surface temperature (at completion) : 148.1 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

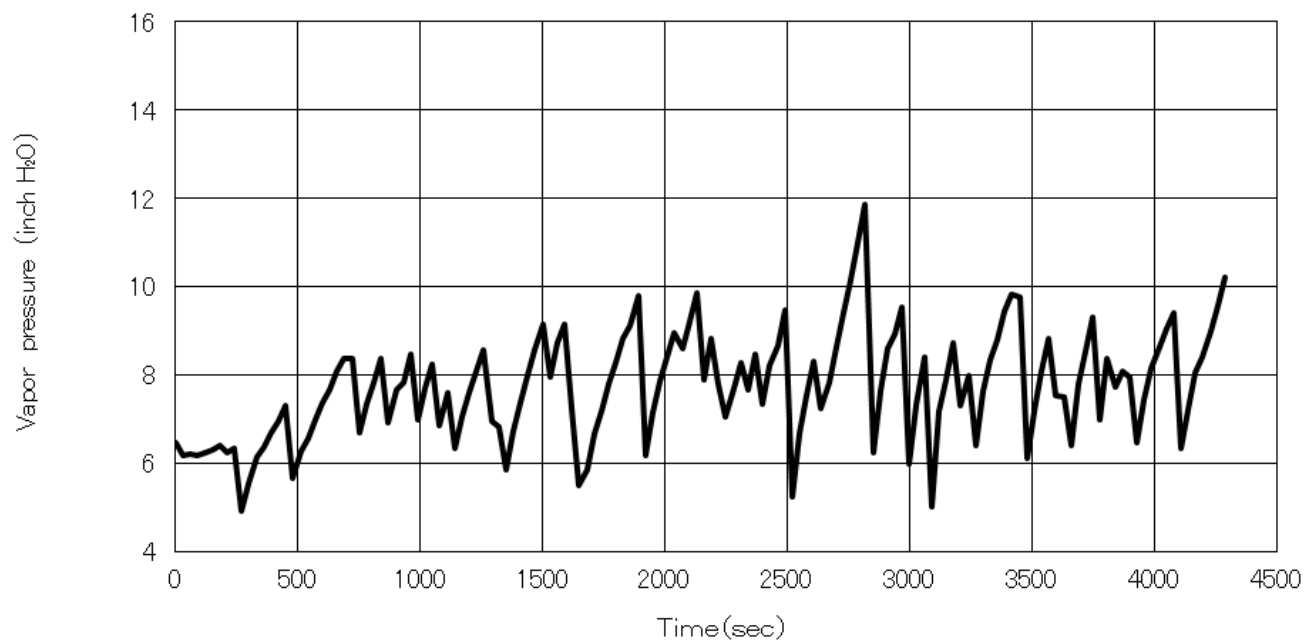
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 105.8      | 1200       | 109.8      | 2400       | 113.4      | 3600       | 117.3      |
| 30         | 105.8      | 1230       | 109.9      | 2430       | 113.7      | 3630       | 117.7      |
| 60         | 106.0      | 1260       | 109.9      | 2460       | 113.7      | 3660       | 117.3      |
| 90         | 106.3      | 1290       | 110.1      | 2490       | 113.9      | 3690       | 117.7      |
| 120        | 106.7      | 1320       | 110.3      | 2520       | 113.9      | 3720       | 117.7      |
| 150        | 106.5      | 1350       | 110.3      | 2550       | 114.1      | 3750       | 117.7      |
| 180        | 106.9      | 1380       | 110.3      | 2580       | 114.3      | 3780       | 117.3      |
| 210        | 107.6      | 1410       | 110.5      | 2610       | 114.3      | 3810       | 117.7      |
| 240        | 108.1      | 1440       | 110.5      | 2640       | 114.3      | 3840       | 117.5      |
| 270        | 108.5      | 1470       | 110.5      | 2670       | 114.4      | 3870       | 117.9      |
| 300        | 108.7      | 1500       | 110.7      | 2700       | 114.6      | 3900       | 117.9      |
| 330        | 108.1      | 1530       | 111.0      | 2730       | 114.8      | 3930       | 118.0      |
| 360        | 108.5      | 1560       | 110.7      | 2760       | 114.8      | 3960       | 118.0      |
| 390        | 108.7      | 1590       | 111.2      | 2790       | 115.0      | 3990       | 117.7      |
| 420        | 108.9      | 1620       | 111.0      | 2820       | 115.2      | 4020       | 118.0      |
| 450        | 108.9      | 1650       | 111.2      | 2850       | 115.0      | 4050       | 118.2      |
| 480        | 109.2      | 1680       | 111.2      | 2880       | 115.0      | 4080       | 118.2      |
| 510        | 108.7      | 1710       | 111.2      | 2910       | 115.7      | 4110       | 118.4      |
| 540        | 108.9      | 1740       | 111.4      | 2940       | 115.3      | 4140       | 118.4      |
| 570        | 108.9      | 1770       | 111.6      | 2970       | 115.7      | 4170       | 118.4      |
| 600        | 108.9      | 1800       | 111.6      | 3000       | 115.5      | 4200       | 118.6      |
| 630        | 108.5      | 1830       | 111.6      | 3030       | 115.9      | 4230       | 118.8      |
| 660        | 108.7      | 1860       | 111.7      | 3060       | 116.2      | 4260       | 118.9      |
| 690        | 108.9      | 1890       | 111.9      | 3090       | 116.6      | 4290       | 118.9      |
| 720        | 109.0      | 1920       | 111.9      | 3120       | 116.4      |            |            |
| 750        | 109.0      | 1950       | 112.1      | 3150       | 115.9      |            |            |
| 780        | 109.0      | 1980       | 112.3      | 3180       | 116.2      |            |            |
| 810        | 109.2      | 2010       | 112.1      | 3210       | 116.1      |            |            |
| 840        | 109.2      | 2040       | 112.5      | 3240       | 116.2      |            |            |
| 870        | 109.6      | 2070       | 112.5      | 3270       | 116.4      |            |            |
| 900        | 109.2      | 2100       | 112.8      | 3300       | 116.6      |            |            |
| 930        | 109.4      | 2130       | 112.8      | 3330       | 116.2      |            |            |
| 960        | 109.4      | 2160       | 112.5      | 3360       | 116.4      |            |            |
| 990        | 109.4      | 2190       | 113.0      | 3390       | 116.6      |            |            |
| 1020       | 109.4      | 2220       | 112.8      | 3420       | 116.6      |            |            |
| 1050       | 109.6      | 2250       | 113.2      | 3450       | 116.8      |            |            |
| 1080       | 109.9      | 2280       | 113.2      | 3480       | 117.0      |            |            |
| 1110       | 109.8      | 2310       | 113.0      | 3510       | 117.0      |            |            |
| 1140       | 109.9      | 2340       | 113.2      | 3540       | 116.8      |            |            |
| 1170       | 109.8      | 2370       | 113.5      | 3570       | 117.0      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : RX 350h AWD  
Data is representative for : RX 350h AWD

[Test procedure] : EPA method

[Test conditions]

Date : 12/19/2021  
Ambient air temperature (at initiation) : 96.4 °F  
Ambient air temperature (at completion) : 100.0 °F  
Track surface temperature (at initiation) : 136.4 °F  
Track surface temperature (at completion) : 136.0 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 12/19/2021  
Ambient air temperature (at initiation) : 95.0 °F  
Ambient air temperature (at completion) : 100.4 °F  
Track surface temperature (at initiation) : 137.7 °F  
Track surface temperature (at completion) : 143.4 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

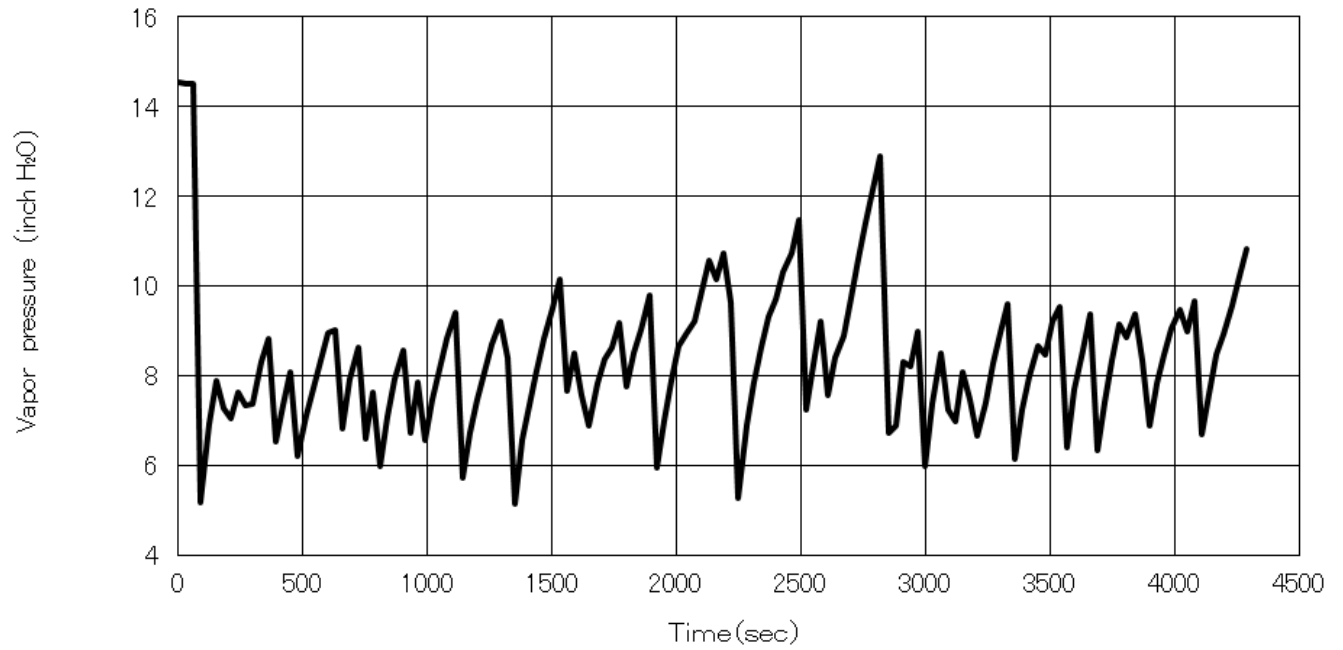
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.1       | 1200       | 99.0       | 2400       | 102.6      | 3600       | 106.3      |
| 30         | 96.1       | 1230       | 99.0       | 2430       | 102.6      | 3630       | 106.3      |
| 60         | 96.4       | 1260       | 99.0       | 2460       | 102.6      | 3660       | 106.2      |
| 90         | 96.6       | 1290       | 99.1       | 2490       | 102.9      | 3690       | 106.3      |
| 120        | 97.0       | 1320       | 99.1       | 2520       | 102.9      | 3720       | 106.5      |
| 150        | 97.0       | 1350       | 99.3       | 2550       | 103.1      | 3750       | 106.5      |
| 180        | 97.3       | 1380       | 99.5       | 2580       | 103.5      | 3780       | 106.5      |
| 210        | 97.9       | 1410       | 99.7       | 2610       | 103.3      | 3810       | 106.7      |
| 240        | 98.4       | 1440       | 99.7       | 2640       | 103.5      | 3840       | 106.5      |
| 270        | 98.2       | 1470       | 99.7       | 2670       | 103.5      | 3870       | 106.5      |
| 300        | 98.2       | 1500       | 99.9       | 2700       | 103.6      | 3900       | 106.7      |
| 330        | 97.9       | 1530       | 99.9       | 2730       | 103.8      | 3930       | 106.9      |
| 360        | 97.9       | 1560       | 99.5       | 2760       | 103.8      | 3960       | 106.9      |
| 390        | 97.9       | 1590       | 99.9       | 2790       | 104.0      | 3990       | 106.7      |
| 420        | 97.9       | 1620       | 99.9       | 2820       | 104.2      | 4020       | 106.9      |
| 450        | 97.7       | 1650       | 99.9       | 2850       | 104.2      | 4050       | 107.1      |
| 480        | 97.9       | 1680       | 100.0      | 2880       | 104.0      | 4080       | 107.2      |
| 510        | 97.5       | 1710       | 100.2      | 2910       | 104.5      | 4110       | 107.4      |
| 540        | 97.5       | 1740       | 100.2      | 2940       | 104.4      | 4140       | 107.4      |
| 570        | 97.3       | 1770       | 100.6      | 2970       | 104.5      | 4170       | 107.6      |
| 600        | 97.3       | 1800       | 100.4      | 3000       | 104.4      | 4200       | 107.4      |
| 630        | 97.2       | 1830       | 100.8      | 3030       | 104.9      | 4230       | 107.8      |
| 660        | 97.5       | 1860       | 100.8      | 3060       | 105.3      | 4260       | 107.8      |
| 690        | 97.5       | 1890       | 101.1      | 3090       | 105.3      | 4290       | 108.0      |
| 720        | 97.5       | 1920       | 100.9      | 3120       | 105.3      |            |            |
| 750        | 97.7       | 1950       | 101.1      | 3150       | 105.1      |            |            |
| 780        | 97.7       | 1980       | 101.5      | 3180       | 105.3      |            |            |
| 810        | 98.1       | 2010       | 101.3      | 3210       | 105.4      |            |            |
| 840        | 97.9       | 2040       | 101.5      | 3240       | 105.3      |            |            |
| 870        | 98.1       | 2070       | 101.7      | 3270       | 105.6      |            |            |
| 900        | 98.2       | 2100       | 101.8      | 3300       | 105.8      |            |            |
| 930        | 98.2       | 2130       | 101.8      | 3330       | 105.4      |            |            |
| 960        | 98.1       | 2160       | 101.7      | 3360       | 105.6      |            |            |
| 990        | 98.2       | 2190       | 102.0      | 3390       | 105.6      |            |            |
| 1020       | 98.2       | 2220       | 101.8      | 3420       | 105.4      |            |            |
| 1050       | 98.4       | 2250       | 102.0      | 3450       | 105.6      |            |            |
| 1080       | 98.8       | 2280       | 102.2      | 3480       | 105.8      |            |            |
| 1110       | 98.8       | 2310       | 102.2      | 3510       | 105.8      |            |            |
| 1140       | 98.8       | 2340       | 102.2      | 3540       | 105.8      |            |            |
| 1170       | 98.8       | 2370       | 102.6      | 3570       | 106.0      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : GRAND HIGHLANDER HYBRID  
Data is representative for : GRAND HIGHLANDER HYBRID,  
GRAND HIGHLANDER HYBRID AWD

[Test procedure]

: CARB method

[Test conditions]

Date : 06/10/2022  
Ambient air temperature (at initiation) : 105.1 °F  
Ambient air temperature (at completion) : 110.1 °F  
Track surface temperature (at initiation) : 138.6 °F  
Track surface temperature (at completion) : 142.0 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 06/13/2022  
Ambient air temperature (at initiation) : 105.4 °F  
Ambient air temperature (at completion) : 110.3 °F  
Track surface temperature (at initiation) : 138.0 °F  
Track surface temperature (at completion) : 141.4 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

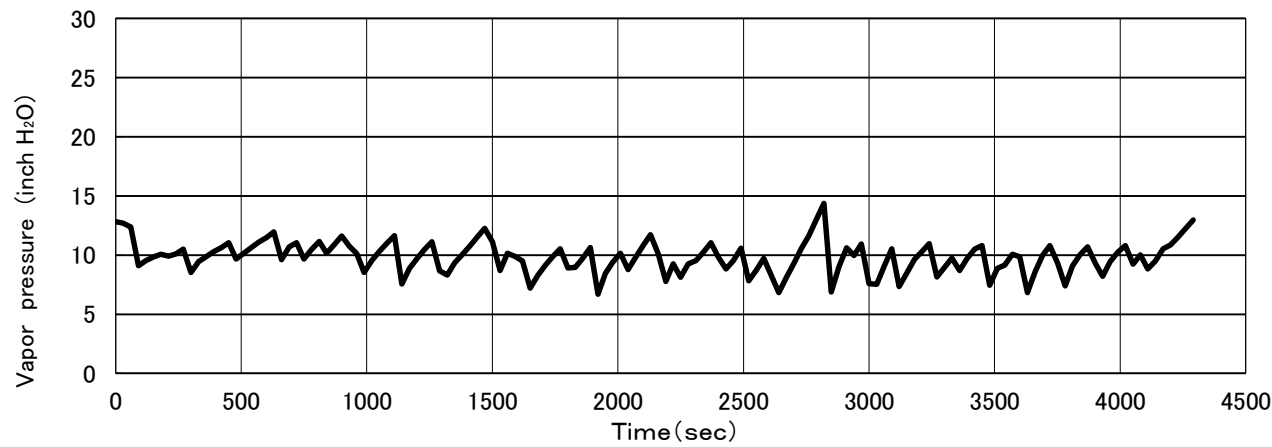
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 107.1      | 1200       | 112.8      | 2400       | 117.0      | 3600       | 121.5      |
| 30         | 107.1      | 1230       | 113.0      | 2430       | 117.1      | 3630       | 122.0      |
| 60         | 106.9      | 1260       | 113.0      | 2460       | 117.5      | 3660       | 121.6      |
| 90         | 107.1      | 1290       | 113.4      | 2490       | 118.0      | 3690       | 122.2      |
| 120        | 107.2      | 1320       | 113.2      | 2520       | 117.7      | 3720       | 122.7      |
| 150        | 107.6      | 1350       | 113.7      | 2550       | 117.9      | 3750       | 122.5      |
| 180        | 107.8      | 1380       | 113.5      | 2580       | 118.4      | 3780       | 122.4      |
| 210        | 108.0      | 1410       | 114.1      | 2610       | 117.7      | 3810       | 122.4      |
| 240        | 108.3      | 1440       | 114.3      | 2640       | 118.0      | 3840       | 122.0      |
| 270        | 108.9      | 1470       | 114.3      | 2670       | 118.2      | 3870       | 122.7      |
| 300        | 109.0      | 1500       | 114.4      | 2700       | 118.8      | 3900       | 122.4      |
| 330        | 108.9      | 1530       | 114.8      | 2730       | 118.9      | 3930       | 122.4      |
| 360        | 109.2      | 1560       | 113.9      | 2760       | 118.9      | 3960       | 122.2      |
| 390        | 109.6      | 1590       | 114.6      | 2790       | 119.8      | 3990       | 122.5      |
| 420        | 109.6      | 1620       | 114.4      | 2820       | 120.0      | 4020       | 122.4      |
| 450        | 109.8      | 1650       | 114.4      | 2850       | 119.1      | 4050       | 122.0      |
| 480        | 110.1      | 1680       | 114.4      | 2880       | 119.1      | 4080       | 122.7      |
| 510        | 109.9      | 1710       | 114.3      | 2910       | 119.7      | 4110       | 122.9      |
| 540        | 110.3      | 1740       | 114.3      | 2940       | 119.1      | 4140       | 122.9      |
| 570        | 110.3      | 1770       | 115.0      | 2970       | 119.5      | 4170       | 123.1      |
| 600        | 110.5      | 1800       | 114.6      | 3000       | 119.3      | 4200       | 123.1      |
| 630        | 110.7      | 1830       | 115.0      | 3030       | 119.8      | 4230       | 123.6      |
| 660        | 111.0      | 1860       | 115.2      | 3060       | 120.4      | 4260       | 124.0      |
| 690        | 111.0      | 1890       | 115.5      | 3090       | 120.7      | 4290       | 124.3      |
| 720        | 111.2      | 1920       | 115.2      | 3120       | 120.6      |            |            |
| 750        | 111.4      | 1950       | 115.5      | 3150       | 119.8      |            |            |
| 780        | 111.4      | 1980       | 116.1      | 3180       | 120.4      |            |            |
| 810        | 111.9      | 2010       | 115.5      | 3210       | 120.0      |            |            |
| 840        | 111.9      | 2040       | 115.7      | 3240       | 120.2      |            |            |
| 870        | 111.9      | 2070       | 115.7      | 3270       | 120.9      |            |            |
| 900        | 112.1      | 2100       | 116.2      | 3300       | 120.7      |            |            |
| 930        | 112.5      | 2130       | 116.6      | 3330       | 120.6      |            |            |
| 960        | 112.1      | 2160       | 115.9      | 3360       | 120.0      |            |            |
| 990        | 112.1      | 2190       | 116.4      | 3390       | 120.6      |            |            |
| 1020       | 112.3      | 2220       | 116.2      | 3420       | 121.1      |            |            |
| 1050       | 112.6      | 2250       | 116.6      | 3450       | 120.9      |            |            |
| 1080       | 112.8      | 2280       | 116.4      | 3480       | 121.1      |            |            |
| 1110       | 112.8      | 2310       | 116.2      | 3510       | 121.3      |            |            |
| 1140       | 112.6      | 2340       | 116.4      | 3540       | 120.7      |            |            |
| 1170       | 112.8      | 2370       | 117.3      | 3570       | 121.3      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : GRAND HIGHLANDER HYBRID  
Data is representative for : GRAND HIGHLANDER HYBRID,  
GRAND HIGHLANDER HYBRID AWD

[Test procedure] : EPA method

[Test conditions]

Date : 06/10/2022  
Ambient air temperature (at initiation) : 95.4 °F  
Ambient air temperature (at completion) : 100.0 °F  
Track surface temperature (at initiation) : 131.2 °F  
Track surface temperature (at completion) : 134.2 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 06/13/2022  
Ambient air temperature (at initiation) : 95.0 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 132.3 °F  
Track surface temperature (at completion) : 131.7 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

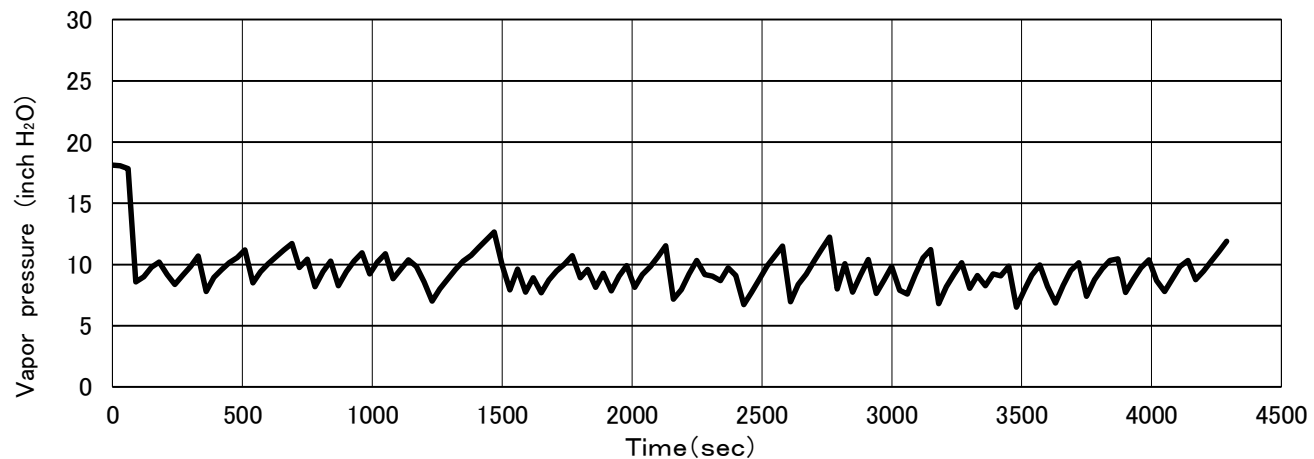
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.8       | 1200       | 102.2      | 2400       | 105.8      | 3600       | 110.8      |
| 30         | 97.0       | 1230       | 102.2      | 2430       | 106.0      | 3630       | 111.4      |
| 60         | 97.0       | 1260       | 102.4      | 2460       | 106.3      | 3660       | 111.0      |
| 90         | 97.0       | 1290       | 102.4      | 2490       | 107.1      | 3690       | 111.7      |
| 120        | 97.2       | 1320       | 102.6      | 2520       | 106.5      | 3720       | 112.1      |
| 150        | 97.3       | 1350       | 102.9      | 2550       | 106.9      | 3750       | 112.3      |
| 180        | 97.5       | 1380       | 102.6      | 2580       | 107.6      | 3780       | 111.4      |
| 210        | 97.5       | 1410       | 102.9      | 2610       | 106.5      | 3810       | 111.7      |
| 240        | 97.9       | 1440       | 103.1      | 2640       | 107.1      | 3840       | 111.6      |
| 270        | 98.2       | 1470       | 103.1      | 2670       | 107.1      | 3870       | 112.5      |
| 300        | 98.2       | 1500       | 103.3      | 2700       | 107.6      | 3900       | 111.7      |
| 330        | 98.4       | 1530       | 103.5      | 2730       | 108.0      | 3930       | 111.9      |
| 360        | 98.6       | 1560       | 102.4      | 2760       | 108.3      | 3960       | 112.1      |
| 390        | 98.6       | 1590       | 103.3      | 2790       | 108.5      | 3990       | 112.3      |
| 420        | 99.0       | 1620       | 103.1      | 2820       | 108.9      | 4020       | 112.1      |
| 450        | 99.0       | 1650       | 103.1      | 2850       | 108.1      | 4050       | 112.1      |
| 480        | 99.3       | 1680       | 103.1      | 2880       | 108.3      | 4080       | 112.5      |
| 510        | 99.3       | 1710       | 103.1      | 2910       | 109.2      | 4110       | 113.0      |
| 540        | 99.5       | 1740       | 103.5      | 2940       | 108.1      | 4140       | 112.5      |
| 570        | 99.5       | 1770       | 103.8      | 2970       | 108.7      | 4170       | 112.8      |
| 600        | 99.7       | 1800       | 103.3      | 3000       | 108.5      | 4200       | 112.8      |
| 630        | 99.7       | 1830       | 104.0      | 3030       | 109.4      | 4230       | 113.2      |
| 660        | 99.9       | 1860       | 104.2      | 3060       | 109.6      | 4260       | 113.4      |
| 690        | 100.0      | 1890       | 104.5      | 3090       | 110.1      | 4290       | 113.4      |
| 720        | 100.2      | 1920       | 104.2      | 3120       | 110.1      |            |            |
| 750        | 100.2      | 1950       | 104.5      | 3150       | 109.2      |            |            |
| 780        | 100.2      | 1980       | 104.9      | 3180       | 109.8      |            |            |
| 810        | 100.6      | 2010       | 104.4      | 3210       | 109.2      |            |            |
| 840        | 100.8      | 2040       | 104.7      | 3240       | 109.4      |            |            |
| 870        | 100.9      | 2070       | 104.9      | 3270       | 109.9      |            |            |
| 900        | 100.9      | 2100       | 105.3      | 3300       | 110.1      |            |            |
| 930        | 101.1      | 2130       | 105.4      | 3330       | 109.9      |            |            |
| 960        | 101.1      | 2160       | 104.7      | 3360       | 109.6      |            |            |
| 990        | 101.5      | 2190       | 105.4      | 3390       | 110.1      |            |            |
| 1020       | 101.5      | 2220       | 105.3      | 3420       | 110.5      |            |            |
| 1050       | 101.7      | 2250       | 105.6      | 3450       | 110.5      |            |            |
| 1080       | 101.8      | 2280       | 105.6      | 3480       | 110.8      |            |            |
| 1110       | 102.0      | 2310       | 105.4      | 3510       | 110.7      |            |            |
| 1140       | 102.0      | 2340       | 105.4      | 3540       | 110.5      |            |            |
| 1170       | 102.0      | 2370       | 106.2      | 3570       | 110.3      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : NX 350h AWD  
Data is representative for : NX 350h, NX 350h AWD

[Test procedure] : CARB method

[Test conditions]

Date : 07/26/2024  
Ambient air temperature (at initiation) : 109.6 °F  
Ambient air temperature (at completion) : 108.5 °F  
Track surface temperature (at initiation) : 151.3 °F  
Track surface temperature (at completion) : 150.1 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 07/28/2024  
Ambient air temperature (at initiation) : 106.0 °F  
Ambient air temperature (at completion) : 108.3 °F  
Track surface temperature (at initiation) : 151.5 °F  
Track surface temperature (at completion) : 150.1 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

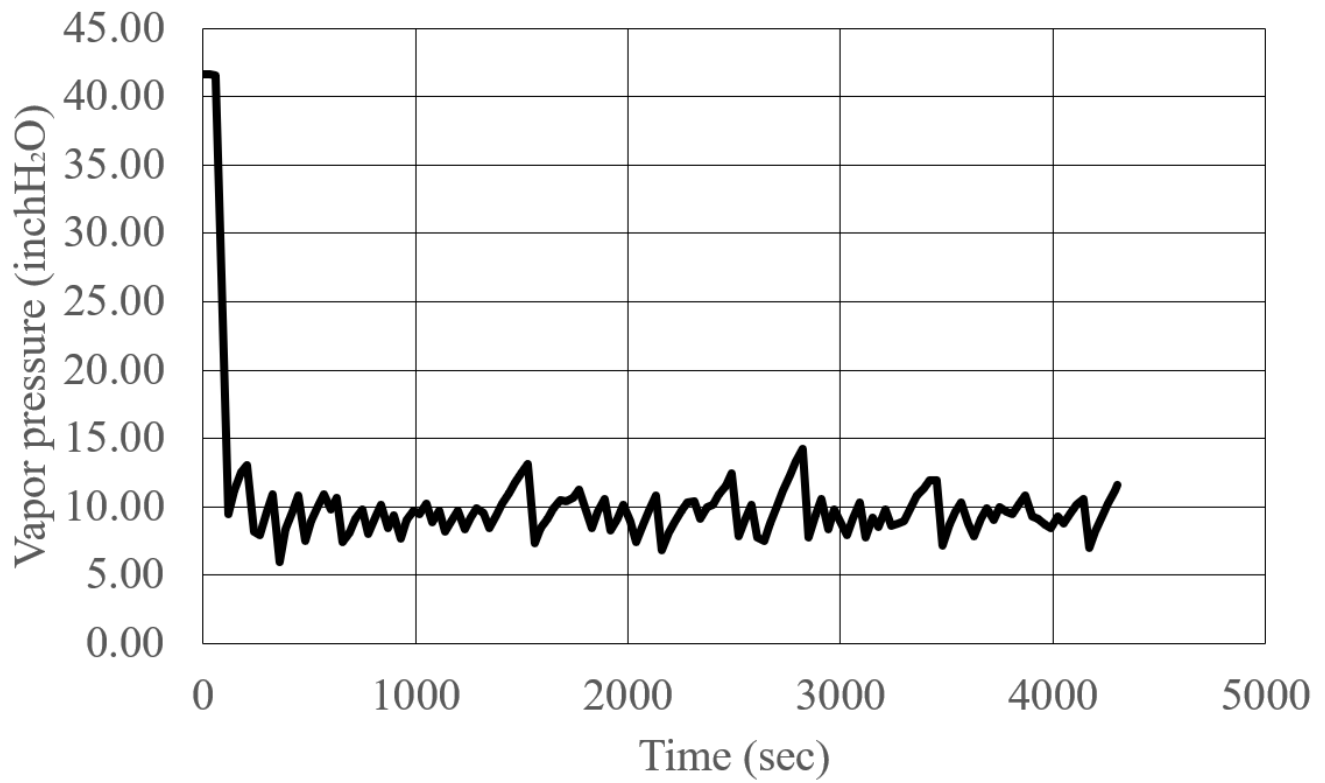
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 104.4      | 1200       | 105.4      | 2400       | 108.3      | 3600       | 111.6      |
| 30         | 104.3      | 1230       | 105.4      | 2430       | 108.5      | 3630       | 111.6      |
| 60         | 104.4      | 1260       | 105.6      | 2460       | 108.7      | 3660       | 111.7      |
| 90         | 104.3      | 1290       | 105.6      | 2490       | 108.5      | 3690       | 111.7      |
| 120        | 104.2      | 1320       | 105.6      | 2520       | 108.5      | 3720       | 111.9      |
| 150        | 104.4      | 1350       | 105.6      | 2550       | 108.7      | 3750       | 111.9      |
| 180        | 104.2      | 1380       | 105.6      | 2580       | 108.9      | 3780       | 112.1      |
| 210        | 104.2      | 1410       | 105.8      | 2610       | 108.9      | 3810       | 112.3      |
| 240        | 104.2      | 1440       | 105.8      | 2640       | 109.0      | 3840       | 112.5      |
| 270        | 104.0      | 1470       | 106.0      | 2670       | 109.0      | 3870       | 112.5      |
| 300        | 104.2      | 1500       | 106.0      | 2700       | 109.2      | 3900       | 112.5      |
| 330        | 104.2      | 1530       | 106.0      | 2730       | 109.2      | 3930       | 112.5      |
| 360        | 104.2      | 1560       | 106.0      | 2760       | 109.2      | 3960       | 112.6      |
| 390        | 104.2      | 1590       | 106.2      | 2790       | 109.4      | 3990       | 112.8      |
| 420        | 104.2      | 1620       | 106.3      | 2820       | 109.4      | 4020       | 112.8      |
| 450        | 104.4      | 1650       | 106.2      | 2850       | 109.4      | 4050       | 112.8      |
| 480        | 104.4      | 1680       | 106.2      | 2880       | 109.4      | 4080       | 113.0      |
| 510        | 104.2      | 1710       | 106.3      | 2910       | 109.4      | 4110       | 113.0      |
| 540        | 104.4      | 1740       | 106.5      | 2940       | 109.6      | 4140       | 113.2      |
| 570        | 104.4      | 1770       | 106.5      | 2970       | 109.8      | 4170       | 113.2      |
| 600        | 104.5      | 1800       | 106.5      | 3000       | 109.8      | 4200       | 113.4      |
| 630        | 104.4      | 1830       | 106.7      | 3030       | 109.9      | 4230       | 113.4      |
| 660        | 104.5      | 1860       | 106.9      | 3060       | 109.9      | 4260       | 113.4      |
| 690        | 104.5      | 1890       | 106.9      | 3090       | 110.1      | 4290       | 113.4      |
| 720        | 104.5      | 1920       | 106.9      | 3120       | 110.1      | 4304       | 113.5      |
| 750        | 104.5      | 1950       | 107.1      | 3150       | 110.3      |            |            |
| 780        | 104.7      | 1980       | 107.2      | 3180       | 110.5      |            |            |
| 810        | 104.7      | 2010       | 107.2      | 3210       | 110.5      |            |            |
| 840        | 104.7      | 2040       | 107.4      | 3240       | 110.7      |            |            |
| 870        | 104.9      | 2070       | 107.4      | 3270       | 110.8      |            |            |
| 900        | 104.9      | 2100       | 107.4      | 3300       | 110.8      |            |            |
| 930        | 104.9      | 2130       | 107.6      | 3330       | 111.0      |            |            |
| 960        | 105.1      | 2160       | 107.6      | 3360       | 111.0      |            |            |
| 990        | 105.1      | 2190       | 107.8      | 3390       | 111.2      |            |            |
| 1020       | 105.1      | 2220       | 107.8      | 3420       | 111.2      |            |            |
| 1050       | 105.3      | 2250       | 107.8      | 3450       | 111.4      |            |            |
| 1080       | 105.3      | 2280       | 108.0      | 3480       | 111.4      |            |            |
| 1110       | 105.3      | 2310       | 108.1      | 3510       | 111.4      |            |            |
| 1140       | 105.3      | 2340       | 108.1      | 3540       | 111.4      |            |            |
| 1170       | 105.4      | 2370       | 108.3      | 3570       | 111.6      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : NX 350h AWD  
Data is representative for : NX 350h, NX 350h AWD

[Test procedure] : EPA method

[Test conditions]

Date : 07/26/2024  
Ambient air temperature (at initiation) : 95.4 °F  
Ambient air temperature (at completion) : 99.1 °F  
Track surface temperature (at initiation) : 142.7 °F  
Track surface temperature (at completion) : 140.9 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 07/26/2024  
Ambient air temperature (at initiation) : 96.3 °F  
Ambient air temperature (at completion) : 99.3 °F  
Track surface temperature (at initiation) : 142.7 °F  
Track surface temperature (at completion) : 140.9 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

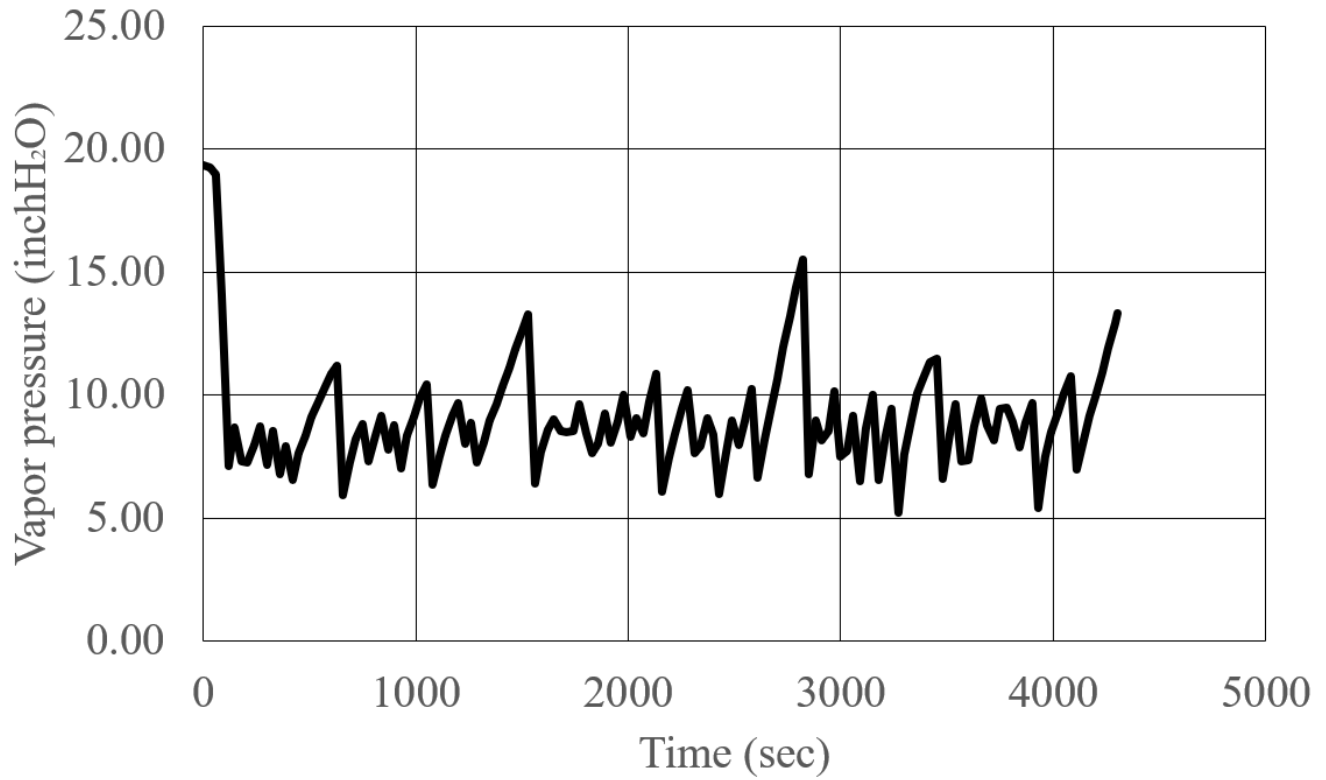
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.8       | 1200       | 97.9       | 2400       | 101.5      | 3600       | 105.3      |
| 30         | 96.7       | 1230       | 98.1       | 2430       | 101.5      | 3630       | 105.3      |
| 60         | 96.7       | 1260       | 98.1       | 2460       | 101.7      | 3660       | 105.4      |
| 90         | 96.7       | 1290       | 98.1       | 2490       | 101.7      | 3690       | 105.4      |
| 120        | 96.8       | 1320       | 98.2       | 2520       | 101.8      | 3720       | 105.8      |
| 150        | 96.6       | 1350       | 98.2       | 2550       | 101.8      | 3750       | 105.6      |
| 180        | 96.6       | 1380       | 98.4       | 2580       | 102.0      | 3780       | 105.6      |
| 210        | 96.6       | 1410       | 98.4       | 2610       | 102.0      | 3810       | 105.8      |
| 240        | 96.6       | 1440       | 98.4       | 2640       | 102.0      | 3840       | 106.0      |
| 270        | 96.6       | 1470       | 98.6       | 2670       | 102.2      | 3870       | 106.0      |
| 300        | 96.6       | 1500       | 98.6       | 2700       | 102.2      | 3900       | 106.0      |
| 330        | 96.6       | 1530       | 98.6       | 2730       | 102.4      | 3930       | 106.2      |
| 360        | 96.8       | 1560       | 98.6       | 2760       | 102.4      | 3960       | 106.3      |
| 390        | 96.6       | 1590       | 99.0       | 2790       | 102.6      | 3990       | 106.3      |
| 420        | 96.8       | 1620       | 99.0       | 2820       | 102.6      | 4020       | 106.3      |
| 450        | 96.8       | 1650       | 99.1       | 2850       | 102.4      | 4050       | 106.5      |
| 480        | 96.8       | 1680       | 99.1       | 2880       | 102.7      | 4080       | 106.7      |
| 510        | 96.8       | 1710       | 99.3       | 2910       | 102.7      | 4110       | 106.7      |
| 540        | 97.0       | 1740       | 99.3       | 2940       | 102.9      | 4140       | 106.9      |
| 570        | 97.0       | 1770       | 99.5       | 2970       | 103.1      | 4170       | 106.9      |
| 600        | 97.0       | 1800       | 99.5       | 3000       | 103.1      | 4200       | 106.9      |
| 630        | 97.0       | 1830       | 99.5       | 3030       | 103.3      | 4230       | 107.1      |
| 660        | 97.0       | 1860       | 99.7       | 3060       | 103.5      | 4260       | 107.1      |
| 690        | 97.2       | 1890       | 99.9       | 3090       | 103.5      | 4290       | 107.1      |
| 720        | 97.2       | 1920       | 99.7       | 3120       | 103.6      | 4304       | 107.1      |
| 750        | 97.2       | 1950       | 99.9       | 3150       | 103.6      |            |            |
| 780        | 97.2       | 1980       | 100.0      | 3180       | 103.8      |            |            |
| 810        | 97.2       | 2010       | 100.0      | 3210       | 104.0      |            |            |
| 840        | 97.3       | 2040       | 100.0      | 3240       | 104.0      |            |            |
| 870        | 97.3       | 2070       | 100.2      | 3270       | 104.2      |            |            |
| 900        | 97.3       | 2100       | 100.4      | 3300       | 104.2      |            |            |
| 930        | 97.3       | 2130       | 100.4      | 3330       | 104.4      |            |            |
| 960        | 97.5       | 2160       | 100.6      | 3360       | 104.5      |            |            |
| 990        | 97.5       | 2190       | 100.8      | 3390       | 104.5      |            |            |
| 1020       | 97.5       | 2220       | 100.8      | 3420       | 104.7      |            |            |
| 1050       | 97.7       | 2250       | 100.9      | 3450       | 104.9      |            |            |
| 1080       | 97.7       | 2280       | 100.9      | 3480       | 104.9      |            |            |
| 1110       | 97.7       | 2310       | 101.1      | 3510       | 105.1      |            |            |
| 1140       | 97.7       | 2340       | 101.1      | 3540       | 105.1      |            |            |
| 1170       | 97.9       | 2370       | 101.3      | 3570       | 105.3      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : RAV4 HYBRID  
Data is representative for : RAV4 HYBRID, RAV4 HYBRID AWD

[Test procedure] : CARB method

[Test conditions]

Date : 03/26/2025  
Ambient air temperature (at initiation) : 107.1 °F  
Ambient air temperature (at completion) : 123.6 °F  
Track surface temperature (at initiation) : 168.3 °F  
Track surface temperature (at completion) : 181.2° F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 03/26/2025  
Ambient air temperature (at initiation) : 109.4 °F  
Ambient air temperature (at completion) : 124.5 °F  
Track surface temperature (at initiation) : 170.4° F  
Track surface temperature (at completion) : 181.0 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

Measured temperature and pressure profiles

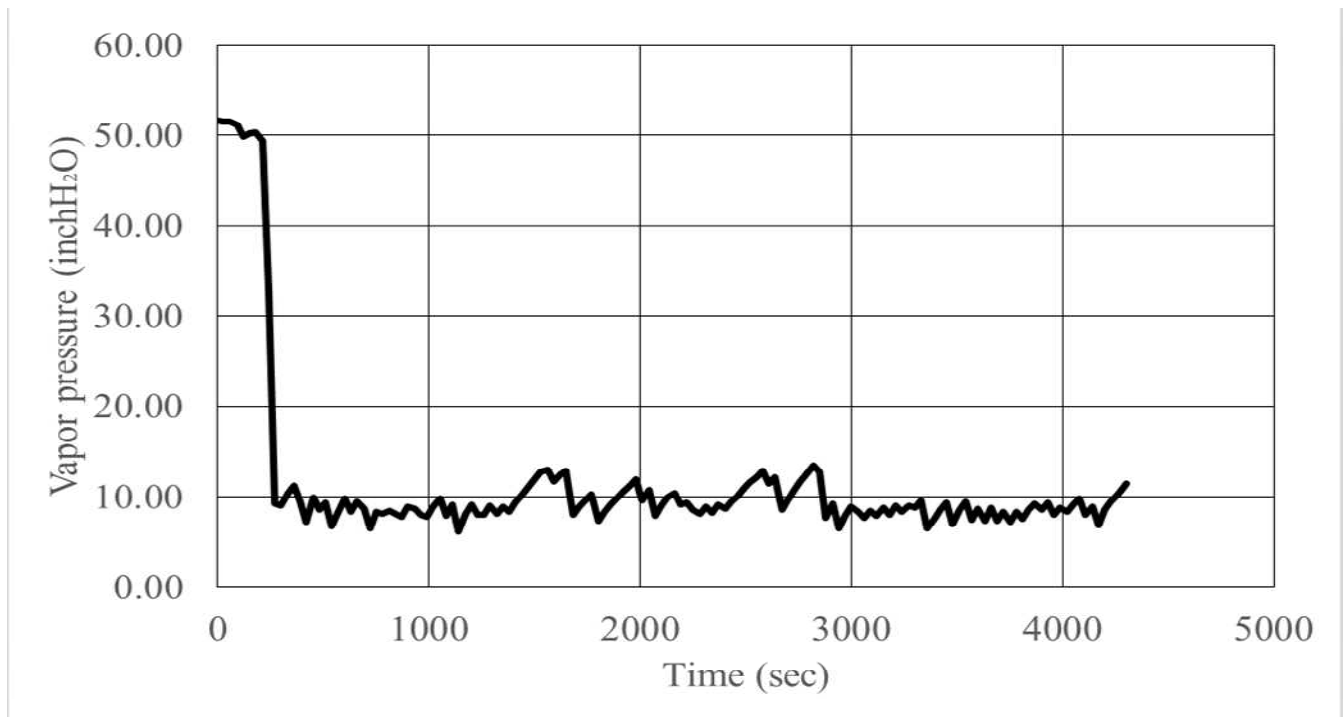
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid(F) | Time(sec.) | Liquid(F) | Time(sec.) | Liquid(F) | Time(sec.) | Liquid(F) |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 0          | 104.4     | 1200       | 105.6     | 2400       | 109.0     | 3600       | 112.3     |
| 30         | 104.4     | 1230       | 105.8     | 2430       | 109.0     | 3630       | 112.1     |
| 60         | 104.4     | 1260       | 105.8     | 2460       | 109.2     | 3660       | 112.3     |
| 90         | 104.4     | 1290       | 106.0     | 2490       | 109.0     | 3690       | 112.3     |
| 120        | 104.4     | 1320       | 106.0     | 2520       | 109.2     | 3720       | 112.5     |
| 150        | 104.4     | 1350       | 106.0     | 2550       | 109.2     | 3750       | 112.5     |
| 180        | 104.4     | 1380       | 106.0     | 2580       | 109.2     | 3780       | 112.6     |
| 210        | 104.4     | 1410       | 106.2     | 2610       | 109.4     | 3810       | 112.8     |
| 240        | 104.4     | 1440       | 106.2     | 2640       | 109.6     | 3840       | 113.0     |
| 270        | 104.4     | 1470       | 106.3     | 2670       | 109.6     | 3870       | 113.0     |
| 300        | 104.5     | 1500       | 106.3     | 2700       | 109.6     | 3900       | 113.2     |
| 330        | 104.7     | 1530       | 106.5     | 2730       | 109.8     | 3930       | 113.2     |
| 360        | 104.4     | 1560       | 106.5     | 2760       | 109.8     | 3960       | 113.0     |
| 390        | 104.4     | 1590       | 106.7     | 2790       | 109.8     | 3990       | 113.2     |
| 420        | 104.4     | 1620       | 106.7     | 2820       | 109.9     | 4020       | 113.4     |
| 450        | 104.4     | 1650       | 106.7     | 2850       | 109.9     | 4050       | 113.5     |
| 480        | 104.4     | 1680       | 106.9     | 2880       | 110.3     | 4080       | 113.5     |
| 510        | 104.4     | 1710       | 107.2     | 2910       | 110.1     | 4110       | 113.7     |
| 540        | 104.4     | 1740       | 107.2     | 2940       | 110.5     | 4140       | 113.5     |
| 570        | 104.5     | 1770       | 107.2     | 2970       | 110.3     | 4170       | 113.7     |
| 600        | 104.5     | 1800       | 107.4     | 3000       | 110.5     | 4200       | 113.9     |
| 630        | 104.5     | 1830       | 107.4     | 3030       | 110.5     | 4230       | 113.9     |
| 660        | 104.5     | 1860       | 107.4     | 3060       | 110.5     | 4260       | 113.9     |
| 690        | 104.7     | 1890       | 107.6     | 3090       | 110.7     | 4290       | 114.1     |
| 720        | 104.7     | 1920       | 107.6     | 3120       | 110.8     | 4304       | 114.1     |
| 750        | 104.7     | 1950       | 107.8     | 3150       | 111.0     |            |           |
| 780        | 104.7     | 1980       | 107.8     | 3180       | 111.0     |            |           |
| 810        | 104.9     | 2010       | 107.8     | 3210       | 111.2     |            |           |
| 840        | 104.9     | 2040       | 108.0     | 3240       | 111.2     |            |           |
| 870        | 105.1     | 2070       | 108.0     | 3270       | 111.2     |            |           |
| 900        | 105.1     | 2100       | 108.0     | 3300       | 111.2     |            |           |
| 930        | 105.1     | 2130       | 108.1     | 3330       | 111.4     |            |           |
| 960        | 105.1     | 2160       | 108.1     | 3360       | 111.7     |            |           |
| 990        | 105.3     | 2190       | 108.3     | 3390       | 111.6     |            |           |
| 1020       | 105.3     | 2220       | 108.3     | 3420       | 111.7     |            |           |
| 1050       | 105.4     | 2250       | 108.5     | 3450       | 111.7     |            |           |
| 1080       | 105.4     | 2280       | 108.5     | 3480       | 111.7     |            |           |
| 1110       | 105.4     | 2310       | 108.7     | 3510       | 111.9     |            |           |
| 1140       | 105.6     | 2340       | 108.9     | 3540       | 111.9     |            |           |
| 1170       | 105.6     | 2370       | 108.9     | 3570       | 111.9     |            |           |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : RAV4 HYBRID  
Data is representative for : RAV4 HYBRID, RAV4 HYBRID AWD

[Test procedure] : EPA method

[Test conditions]

Date : 03/25/2025  
Ambient air temperature (at initiation) : 98.1 °F  
Ambient air temperature (at completion) : 113.9 °F  
Track surface temperature (at initiation) : 161.4 °F  
Track surface temperature (at completion) : 163.2° F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 03/25/2025  
Ambient air temperature (at initiation) : 97.0 °F  
Ambient air temperature (at completion) : 113.2 °F  
Track surface temperature (at initiation) : 160.5° F  
Track surface temperature (at completion) : 162.7 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

Measured temperature and pressure profiles

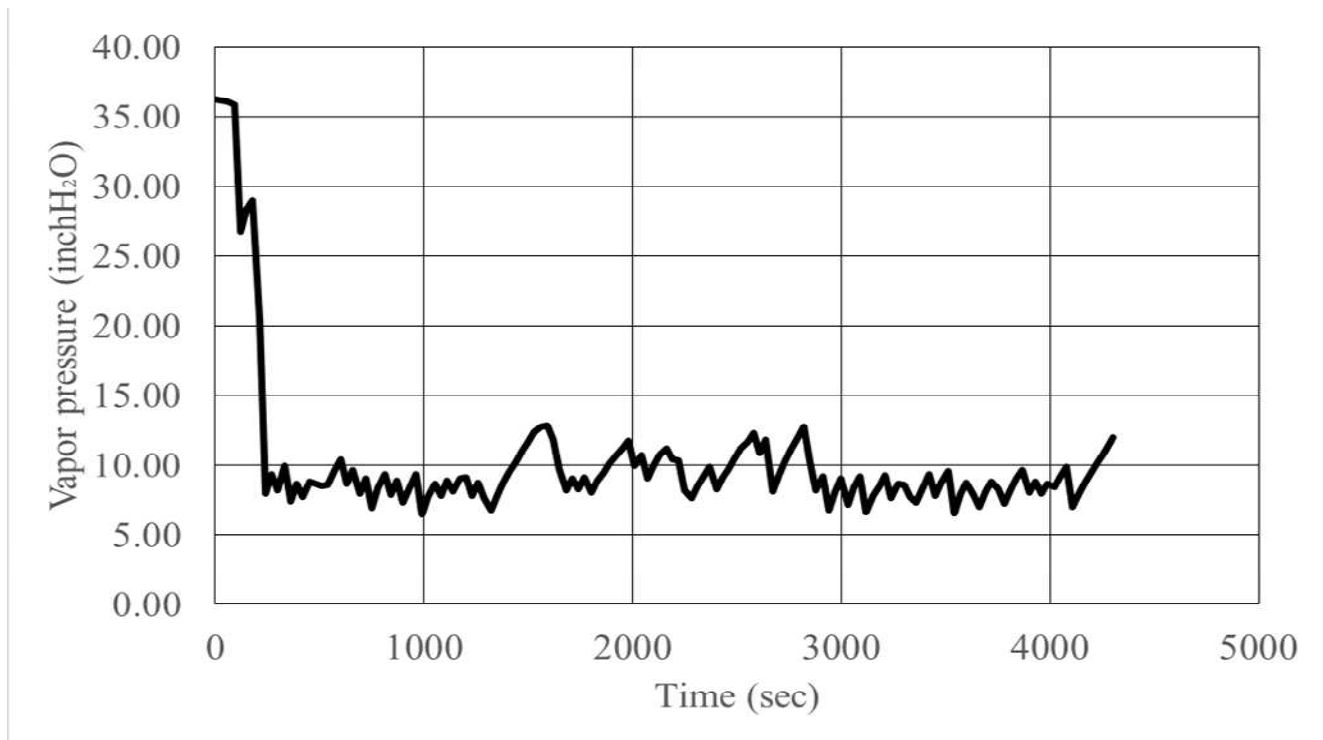
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 94.3       | 1200       | 95.7       | 2400       | 98.4       | 3600       | 101.3      |
| 30         | 94.3       | 1230       | 95.7       | 2430       | 98.6       | 3630       | 101.3      |
| 60         | 94.3       | 1260       | 95.7       | 2460       | 98.6       | 3660       | 101.5      |
| 90         | 94.3       | 1290       | 95.9       | 2490       | 98.6       | 3690       | 101.5      |
| 120        | 94.3       | 1320       | 95.9       | 2520       | 98.8       | 3720       | 101.7      |
| 150        | 94.3       | 1350       | 96.1       | 2550       | 99.0       | 3750       | 101.7      |
| 180        | 94.3       | 1380       | 96.1       | 2580       | 98.8       | 3780       | 101.8      |
| 210        | 94.3       | 1410       | 96.1       | 2610       | 99.0       | 3810       | 101.8      |
| 240        | 94.3       | 1440       | 96.3       | 2640       | 99.1       | 3840       | 102.0      |
| 270        | 94.3       | 1470       | 96.3       | 2670       | 99.0       | 3870       | 102.2      |
| 300        | 94.3       | 1500       | 96.3       | 2700       | 99.1       | 3900       | 102.0      |
| 330        | 94.3       | 1530       | 96.3       | 2730       | 99.1       | 3930       | 102.2      |
| 360        | 94.3       | 1560       | 96.3       | 2760       | 99.1       | 3960       | 102.2      |
| 390        | 94.3       | 1590       | 96.4       | 2790       | 99.3       | 3990       | 102.4      |
| 420        | 94.3       | 1620       | 96.6       | 2820       | 99.3       | 4020       | 102.4      |
| 450        | 94.5       | 1650       | 96.6       | 2850       | 99.3       | 4050       | 102.6      |
| 480        | 94.5       | 1680       | 96.8       | 2880       | 99.5       | 4080       | 102.6      |
| 510        | 94.5       | 1710       | 96.8       | 2910       | 99.5       | 4110       | 102.7      |
| 540        | 94.5       | 1740       | 96.8       | 2940       | 99.7       | 4140       | 102.6      |
| 570        | 94.5       | 1770       | 97.0       | 2970       | 99.7       | 4170       | 102.7      |
| 600        | 94.6       | 1800       | 97.2       | 3000       | 99.9       | 4200       | 102.9      |
| 630        | 94.6       | 1830       | 97.2       | 3030       | 99.9       | 4230       | 102.9      |
| 660        | 94.6       | 1860       | 97.2       | 3060       | 100.0      | 4260       | 102.9      |
| 690        | 94.6       | 1890       | 97.2       | 3090       | 100.0      | 4290       | 103.1      |
| 720        | 94.6       | 1920       | 97.3       | 3120       | 100.2      | 4304       | 103.1      |
| 750        | 94.8       | 1950       | 97.3       | 3150       | 100.2      |            |            |
| 780        | 94.8       | 1980       | 97.3       | 3180       | 100.4      |            |            |
| 810        | 94.8       | 2010       | 97.3       | 3210       | 100.4      |            |            |
| 840        | 94.8       | 2040       | 97.5       | 3240       | 100.6      |            |            |
| 870        | 95.0       | 2070       | 97.7       | 3270       | 100.6      |            |            |
| 900        | 95.0       | 2100       | 97.7       | 3300       | 100.4      |            |            |
| 930        | 95.2       | 2130       | 97.7       | 3330       | 100.6      |            |            |
| 960        | 95.2       | 2160       | 97.7       | 3360       | 100.8      |            |            |
| 990        | 95.4       | 2190       | 97.9       | 3390       | 100.9      |            |            |
| 1020       | 95.4       | 2220       | 97.9       | 3420       | 100.8      |            |            |
| 1050       | 95.4       | 2250       | 98.1       | 3450       | 100.9      |            |            |
| 1080       | 95.4       | 2280       | 98.1       | 3480       | 100.9      |            |            |
| 1110       | 95.5       | 2310       | 98.2       | 3510       | 101.1      |            |            |
| 1140       | 95.5       | 2340       | 98.2       | 3540       | 101.1      |            |            |
| 1170       | 95.5       | 2370       | 98.4       | 3570       | 101.1      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

|                            |                                               |
|----------------------------|-----------------------------------------------|
| Model name                 | : HIGHLANDER HYBRID                           |
| Data is representative for | : HIGHLANDER HYBRID,<br>HIGHLANDER HYBRID AWD |

[Test procedure]

: CARB method

[Test conditions]

|                                           |                       |
|-------------------------------------------|-----------------------|
| Date                                      | : 06/18/2018          |
| Ambient air temperature (at initiation)   | : 107.6 °F            |
| Ambient air temperature (at completion)   | : 109.6 °F            |
| Track surface temperature (at initiation) | : 148.8 °F            |
| Track surface temperature (at completion) | : 150.6 °F            |
| Wind speed                                | : N/A                 |
| Test fuel RVP                             | : 7.0 PSI             |
| Driving cycles                            | : LA#4+NYCC+NYCC+LA#4 |
| Percent cloud cover                       | : N/A                 |

[Test conditions]

|                                           |                       |
|-------------------------------------------|-----------------------|
| Date                                      | : 06/19/2018          |
| Ambient air temperature (at initiation)   | : 108.1 °F            |
| Ambient air temperature (at completion)   | : 107.8 °F            |
| Track surface temperature (at initiation) | : 152.4 °F            |
| Track surface temperature (at completion) | : 150.6 °F            |
| Wind speed                                | : N/A                 |
| Test fuel RVP                             | : 7.0 PSI             |
| Driving cycles                            | : LA#4+NYCC+NYCC+LA#4 |
| Percent cloud cover                       | : N/A                 |

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

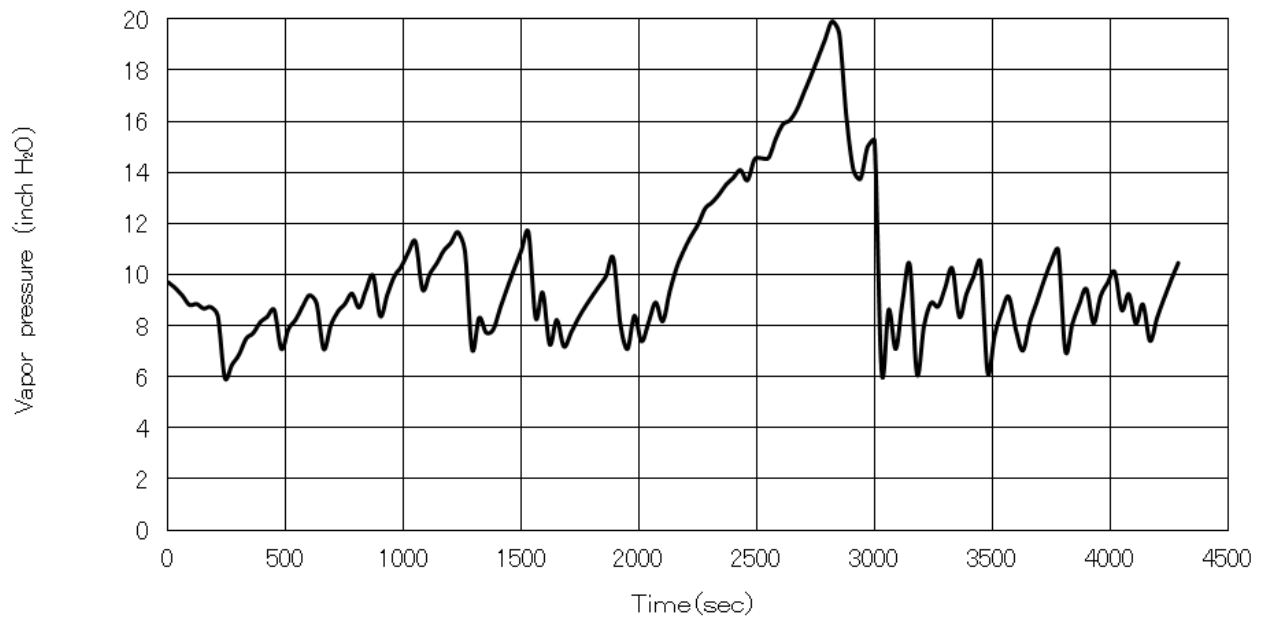
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid(°F) | Time(sec.) | Liquid(°F) | Time(sec.) | Liquid(°F) | Time(sec.) | Liquid(°F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 107.2      | 1200       | 110.5      | 2400       | 113.7      | 3600       | 117.1      |
| 30         | 107.2      | 1230       | 110.5      | 2430       | 113.9      | 3630       | 117.1      |
| 60         | 107.2      | 1260       | 110.5      | 2460       | 114.3      | 3660       | 117.1      |
| 90         | 107.4      | 1290       | 110.5      | 2490       | 114.1      | 3690       | 117.3      |
| 120        | 107.6      | 1320       | 110.5      | 2520       | 114.1      | 3720       | 117.3      |
| 150        | 107.8      | 1350       | 110.8      | 2550       | 114.3      | 3750       | 117.3      |
| 180        | 107.8      | 1380       | 110.7      | 2580       | 114.3      | 3780       | 117.5      |
| 210        | 108.0      | 1410       | 110.8      | 2610       | 114.3      | 3810       | 117.5      |
| 240        | 108.1      | 1440       | 111.0      | 2640       | 114.4      | 3840       | 117.3      |
| 270        | 108.1      | 1470       | 111.0      | 2670       | 114.6      | 3870       | 117.3      |
| 300        | 108.1      | 1500       | 111.0      | 2700       | 114.8      | 3900       | 117.5      |
| 330        | 108.1      | 1530       | 111.2      | 2730       | 114.8      | 3930       | 117.7      |
| 360        | 108.5      | 1560       | 111.4      | 2760       | 114.8      | 3960       | 117.7      |
| 390        | 108.3      | 1590       | 111.4      | 2790       | 114.8      | 3990       | 117.9      |
| 420        | 108.5      | 1620       | 111.4      | 2820       | 114.8      | 4020       | 118.0      |
| 450        | 108.5      | 1650       | 111.6      | 2850       | 114.8      | 4050       | 117.9      |
| 480        | 108.7      | 1680       | 111.6      | 2880       | 115.0      | 4080       | 118.0      |
| 510        | 108.7      | 1710       | 111.9      | 2910       | 115.2      | 4110       | 118.0      |
| 540        | 108.7      | 1740       | 111.7      | 2940       | 115.2      | 4140       | 118.2      |
| 570        | 109.0      | 1770       | 111.7      | 2970       | 115.3      | 4170       | 118.0      |
| 600        | 109.0      | 1800       | 112.1      | 3000       | 115.3      | 4200       | 118.2      |
| 630        | 108.9      | 1830       | 112.3      | 3030       | 115.3      | 4230       | 118.4      |
| 660        | 109.2      | 1860       | 112.3      | 3060       | 115.5      | 4260       | 118.4      |
| 690        | 109.2      | 1890       | 112.3      | 3090       | 115.5      | 4290       | 118.4      |
| 720        | 109.4      | 1920       | 112.3      | 3120       | 115.7      |            |            |
| 750        | 109.2      | 1950       | 112.5      | 3150       | 115.9      |            |            |
| 780        | 109.6      | 1980       | 112.5      | 3180       | 116.1      |            |            |
| 810        | 109.4      | 2010       | 112.5      | 3210       | 115.7      |            |            |
| 840        | 109.6      | 2040       | 112.6      | 3240       | 116.2      |            |            |
| 870        | 109.6      | 2070       | 112.8      | 3270       | 116.4      |            |            |
| 900        | 109.6      | 2100       | 112.8      | 3300       | 116.4      |            |            |
| 930        | 109.8      | 2130       | 112.8      | 3330       | 116.6      |            |            |
| 960        | 109.8      | 2160       | 112.8      | 3360       | 116.6      |            |            |
| 990        | 109.9      | 2190       | 113.2      | 3390       | 116.6      |            |            |
| 1020       | 109.9      | 2220       | 113.2      | 3420       | 116.8      |            |            |
| 1050       | 109.9      | 2250       | 113.2      | 3450       | 116.8      |            |            |
| 1080       | 110.1      | 2280       | 113.2      | 3480       | 116.8      |            |            |
| 1110       | 110.3      | 2310       | 113.4      | 3510       | 117.0      |            |            |
| 1140       | 110.3      | 2340       | 113.7      | 3540       | 116.8      |            |            |
| 1170       | 110.5      | 2370       | 113.5      | 3570       | 117.0      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

[Test vehicle]

Model name : HIGHLANDER HYBRID  
Data is representative for : HIGHLANDER HYBRID,  
HIGHLANDER HYBRID AWD

[Test procedure]

: EPA method

[Test conditions]

Date : 06/18/2018  
Ambient air temperature (at initiation) : 96.6 °F  
Ambient air temperature (at completion) : 98.1 °F  
Track surface temperature (at initiation) : 133.9 °F  
Track surface temperature (at completion) : 132.3 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 06/19/2018  
Ambient air temperature (at initiation) : 99.0 °F  
Ambient air temperature (at completion) : 99.1 °F  
Track surface temperature (at initiation) : 133.0 °F  
Track surface temperature (at completion) : 132.4 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

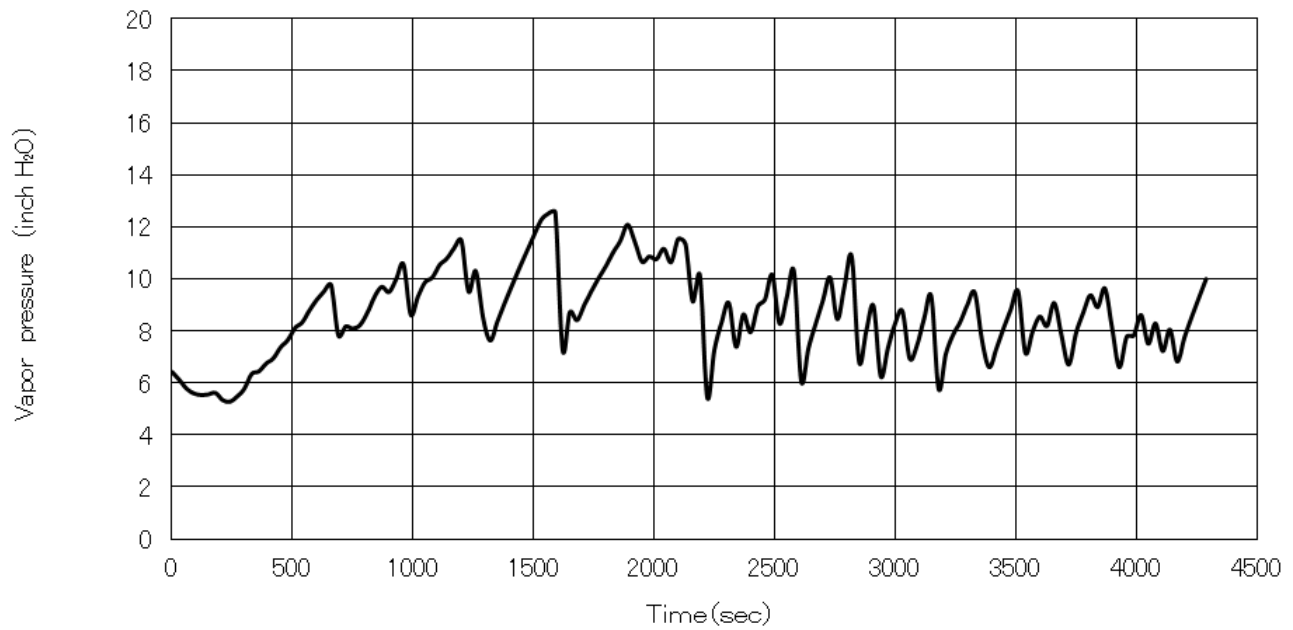
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.4       | 1200       | 99.0       | 2400       | 102.0      | 3600       | 105.6      |
| 30         | 96.4       | 1230       | 99.1       | 2430       | 102.0      | 3630       | 105.6      |
| 60         | 96.4       | 1260       | 99.0       | 2460       | 102.2      | 3660       | 105.4      |
| 90         | 96.6       | 1290       | 99.1       | 2490       | 102.2      | 3690       | 105.6      |
| 120        | 96.6       | 1320       | 99.1       | 2520       | 102.2      | 3720       | 105.8      |
| 150        | 96.8       | 1350       | 99.1       | 2550       | 102.4      | 3750       | 105.8      |
| 180        | 96.8       | 1380       | 99.1       | 2580       | 102.4      | 3780       | 106.0      |
| 210        | 96.8       | 1410       | 99.3       | 2610       | 102.2      | 3810       | 105.8      |
| 240        | 96.8       | 1440       | 99.5       | 2640       | 102.6      | 3840       | 105.8      |
| 270        | 97.0       | 1470       | 99.5       | 2670       | 102.7      | 3870       | 106.2      |
| 300        | 97.0       | 1500       | 99.5       | 2700       | 102.9      | 3900       | 106.2      |
| 330        | 97.0       | 1530       | 99.5       | 2730       | 102.7      | 3930       | 106.3      |
| 360        | 97.2       | 1560       | 99.7       | 2760       | 102.7      | 3960       | 106.3      |
| 390        | 97.2       | 1590       | 99.9       | 2790       | 102.9      | 3990       | 106.5      |
| 420        | 97.3       | 1620       | 99.9       | 2820       | 102.9      | 4020       | 106.7      |
| 450        | 97.2       | 1650       | 100.0      | 2850       | 102.9      | 4050       | 106.5      |
| 480        | 97.3       | 1680       | 100.0      | 2880       | 103.1      | 4080       | 106.5      |
| 510        | 97.3       | 1710       | 100.2      | 2910       | 103.3      | 4110       | 106.9      |
| 540        | 97.5       | 1740       | 100.2      | 2940       | 103.3      | 4140       | 106.9      |
| 570        | 97.5       | 1770       | 100.4      | 2970       | 103.6      | 4170       | 106.9      |
| 600        | 97.5       | 1800       | 100.4      | 3000       | 103.5      | 4200       | 106.9      |
| 630        | 97.5       | 1830       | 100.6      | 3030       | 103.5      | 4230       | 107.1      |
| 660        | 97.7       | 1860       | 100.6      | 3060       | 103.8      | 4260       | 106.9      |
| 690        | 97.7       | 1890       | 100.6      | 3090       | 103.8      | 4290       | 107.1      |
| 720        | 97.7       | 1920       | 100.6      | 3120       | 103.8      |            |            |
| 750        | 97.9       | 1950       | 100.8      | 3150       | 104.0      |            |            |
| 780        | 97.9       | 1980       | 100.9      | 3180       | 104.4      |            |            |
| 810        | 97.9       | 2010       | 100.8      | 3210       | 104.4      |            |            |
| 840        | 98.1       | 2040       | 101.1      | 3240       | 104.5      |            |            |
| 870        | 98.1       | 2070       | 101.1      | 3270       | 104.5      |            |            |
| 900        | 98.1       | 2100       | 101.1      | 3300       | 104.7      |            |            |
| 930        | 98.2       | 2130       | 101.1      | 3330       | 104.9      |            |            |
| 960        | 98.2       | 2160       | 101.1      | 3360       | 104.9      |            |            |
| 990        | 98.2       | 2190       | 101.5      | 3390       | 104.9      |            |            |
| 1020       | 98.2       | 2220       | 101.5      | 3420       | 105.1      |            |            |
| 1050       | 98.4       | 2250       | 101.7      | 3450       | 105.1      |            |            |
| 1080       | 98.6       | 2280       | 101.7      | 3480       | 105.1      |            |            |
| 1110       | 98.6       | 2310       | 101.7      | 3510       | 104.9      |            |            |
| 1140       | 99.0       | 2340       | 101.8      | 3540       | 105.1      |            |            |
| 1170       | 98.8       | 2370       | 102.0      | 3570       | 105.4      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

(b) Measured vapor space pressure profile



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

Evaporative emission test log

Vehicle Description

|                     |                              |
|---------------------|------------------------------|
|                     | Evaporative emission vehicle |
| Test group          | : RTYXT02.5P34               |
| Vehicle ID          | : 24-AS2H                    |
| Rep. car/truck line | : GRAND HIGHLANDER HYBRID    |
| Rep. vehicle model  | : AASH10L-AWXNBA             |
| Displacement        | : 151.8 CID                  |
| Transmission        | : P810-G                     |
| Test weight         | : 4,750 lbs.                 |
| Road load           | : 14.3 HP                    |
| Evap. code          | : AS1G                       |

|                     |                            |
|---------------------|----------------------------|
|                     | Refueling emission vehicle |
| Test group          | : LTYXT02.5P34             |
| Vehicle ID          | : 20-AU1H                  |
| Rep. car/truck line | : HIGHLANDER HYBRID AWD    |
| Rep. vehicle model  | : AXUH78L-ARXGHA           |
| Displacement        | : 151.8 CID                |
| Transmission        | : P810-B                   |
| Test weight         | : 5,000 lbs.               |
| Road load           | : 15.4 HP                  |
| Evap. code          | : AU1G                     |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Running loss  | :       | 0.000      | (g/mile) |
| Hot soak loss | :       | 0.0335     | (g/test) |
| 3DBL          | 1st day | : 0.1523*1 | (g/test) |
|               | 2nd day | : 0.1225   | (g/test) |
|               | 3rd day | : 0.1148   | (g/test) |

2-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Hot soak loss | :       | 0.0181     | (g/mile) |
| 2DBL          | 1st day | : 0.1741*1 | (g/test) |
|               | 2nd day | : 0.1354   | (g/test) |

Refueling sequence test results

|                    |   |       |         |
|--------------------|---|-------|---------|
| Refueling emission | : | 0.003 | (g/gal) |
|--------------------|---|-------|---------|

\*1: DBL is added key off monitor loss (0.0002 gram).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J52.

Evaporative emission test log

Vehicle Description

|                     |                              |
|---------------------|------------------------------|
|                     | Evaporative emission vehicle |
| Test group          | : RTYXT02.5P33               |
| Vehicle ID          | : 24-AL1H                    |
| Rep. car/truck line | : RX 450h+ AWD               |
| Rep. vehicle model  | : AALH16L-AWXGBA             |
| Displacement        | : 151.8 CID                  |
| Transmission        | : P810-J                     |
| Test weight         | : 5,000 lbs.                 |
| Road load           | : 14.8 HP                    |
| Evap. code          | : AL2G                       |

|                     |                            |
|---------------------|----------------------------|
|                     | Refueling emission vehicle |
| Test group          | : MTYXT02.5P33             |
| Vehicle ID          | : 21-AP2H                  |
| Rep. car/truck line | : RAV4 PRIME AWD           |
| Rep. vehicle model  | : AXAP54L-ANXGBA           |
| Displacement        | : 151.8 CID                |
| Transmission        | : P810-C                   |
| Test weight         | : 4,500 lbs.               |
| Road load           | : 13.2 HP                  |
| Evap. code          | : AA2G                     |

Test results

Test procedure : CARB's procedure

3-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Running loss  | :       | 0.035      | (g/mile) |
| Hot soak loss | :       | 0.0338     | (g/test) |
| 3DBL          | 1st day | : 0.1528*1 | (g/test) |
|               | 2nd day | : 0.0837   | (g/test) |
|               | 3rd day | : 0.0798   | (g/test) |

2-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Hot soak loss | :       | 0.0143     | (g/mile) |
| 2DBL          | 1st day | : 0.1238*1 | (g/test) |
|               | 2nd day | : 0.0842   | (g/test) |

Refueling sequence test results

|                    |   |       |         |
|--------------------|---|-------|---------|
| Refueling emission | : | 0.004 | (g/gal) |
|--------------------|---|-------|---------|

\*1: DBL is added key off monitor loss (0.0086 gram).

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0195J52.

[Test vehicle]

Model name : SIENNA  
Data is representative for : SIENNA, SIENNA AWD

[Test procedure] : CARB method

[Test conditions]

Date : 08/30/2019  
Ambient air temperature (at initiation) : 105.1 °F  
Ambient air temperature (at completion) : 106.5 °F  
Track surface temperature (at initiation) : 178.2 °F  
Track surface temperature (at completion) : 178.9 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 08/30/2019  
Ambient air temperature (at initiation) : 105.1 °F  
Ambient air temperature (at completion) : 106.3 °F  
Track surface temperature (at initiation) : 175.5 °F  
Track surface temperature (at completion) : 178.9 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0195J52.

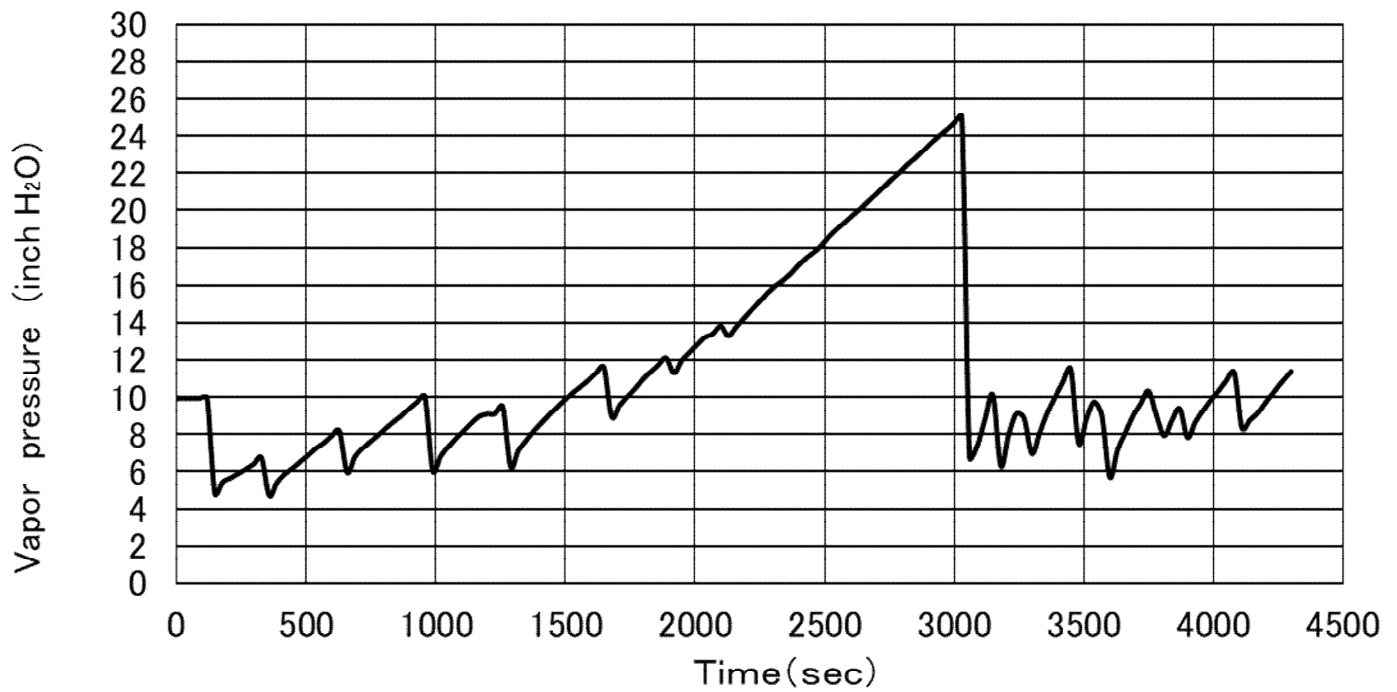
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 105.6      | 1200       | 107.2      | 2400       | 109.8      | 3600       | 112.6      |
| 30         | 105.6      | 1230       | 107.2      | 2430       | 109.8      | 3630       | 112.6      |
| 60         | 105.6      | 1260       | 107.4      | 2460       | 109.8      | 3660       | 112.6      |
| 90         | 105.6      | 1290       | 107.4      | 2490       | 110.1      | 3690       | 112.6      |
| 120        | 105.6      | 1320       | 107.4      | 2520       | 110.1      | 3720       | 112.8      |
| 150        | 105.6      | 1350       | 107.6      | 2550       | 110.1      | 3750       | 112.8      |
| 180        | 105.6      | 1380       | 107.6      | 2580       | 110.3      | 3780       | 113.0      |
| 210        | 105.6      | 1410       | 107.6      | 2610       | 110.3      | 3810       | 113.0      |
| 240        | 105.6      | 1440       | 107.6      | 2640       | 110.3      | 3840       | 113.0      |
| 270        | 105.6      | 1470       | 107.8      | 2670       | 110.5      | 3870       | 113.2      |
| 300        | 105.8      | 1500       | 107.8      | 2700       | 110.7      | 3900       | 113.0      |
| 330        | 105.8      | 1530       | 107.8      | 2730       | 110.7      | 3930       | 113.2      |
| 360        | 105.6      | 1560       | 108.0      | 2760       | 110.7      | 3960       | 113.4      |
| 390        | 105.8      | 1590       | 108.0      | 2790       | 110.8      | 3990       | 113.4      |
| 420        | 105.8      | 1620       | 108.0      | 2820       | 110.8      | 4020       | 113.4      |
| 450        | 105.8      | 1650       | 108.1      | 2850       | 111.0      | 4050       | 113.5      |
| 480        | 106.0      | 1680       | 108.1      | 2880       | 111.0      | 4080       | 113.5      |
| 510        | 106.0      | 1710       | 108.1      | 2910       | 111.2      | 4110       | 113.5      |
| 540        | 106.0      | 1740       | 108.1      | 2940       | 111.2      | 4140       | 113.5      |
| 570        | 106.2      | 1770       | 108.3      | 2970       | 111.4      | 4170       | 113.7      |
| 600        | 106.2      | 1800       | 108.5      | 3000       | 111.4      | 4200       | 113.7      |
| 630        | 106.2      | 1830       | 108.5      | 3030       | 111.6      | 4230       | 113.7      |
| 660        | 106.2      | 1860       | 108.5      | 3060       | 111.6      | 4260       | 113.7      |
| 690        | 106.2      | 1890       | 108.5      | 3090       | 111.6      | 4290       | 113.9      |
| 720        | 106.3      | 1920       | 108.7      | 3120       | 111.6      |            |            |
| 750        | 106.3      | 1950       | 108.7      | 3150       | 111.6      |            |            |
| 780        | 106.3      | 1980       | 108.9      | 3180       | 111.7      |            |            |
| 810        | 106.5      | 2010       | 108.9      | 3210       | 111.7      |            |            |
| 840        | 106.5      | 2040       | 108.9      | 3240       | 111.9      |            |            |
| 870        | 106.5      | 2070       | 109.0      | 3270       | 111.9      |            |            |
| 900        | 106.7      | 2100       | 109.0      | 3300       | 112.1      |            |            |
| 930        | 106.7      | 2130       | 109.0      | 3330       | 112.1      |            |            |
| 960        | 106.7      | 2160       | 109.2      | 3360       | 112.1      |            |            |
| 990        | 106.9      | 2190       | 109.2      | 3390       | 112.3      |            |            |
| 1020       | 106.9      | 2220       | 109.4      | 3420       | 112.3      |            |            |
| 1050       | 106.9      | 2250       | 109.4      | 3450       | 112.3      |            |            |
| 1080       | 107.1      | 2280       | 109.6      | 3480       | 112.3      |            |            |
| 1110       | 107.1      | 2310       | 109.4      | 3510       | 112.3      |            |            |
| 1140       | 107.1      | 2340       | 109.6      | 3540       | 112.5      |            |            |
| 1170       | 107.2      | 2370       | 109.6      | 3570       | 112.5      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0195J52.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0195J52.

[Test vehicle]

Model name : SIENNA  
Data is representative for : SIENNA, SIENNA AWD

[Test procedure] : EPA method

[Test conditions]

Date : 08/29/2019  
Ambient air temperature (at initiation) : 95.9 °F  
Ambient air temperature (at completion) : 96.3 °F  
Track surface temperature (at initiation) : 160.2 °F  
Track surface temperature (at completion) : 160.9 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 08/29/2019  
Ambient air temperature (at initiation) : 95.9 °F  
Ambient air temperature (at completion) : 96.3 °F  
Track surface temperature (at initiation) : 159.8 °F  
Track surface temperature (at completion) : 160.7 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note: Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0195J52.

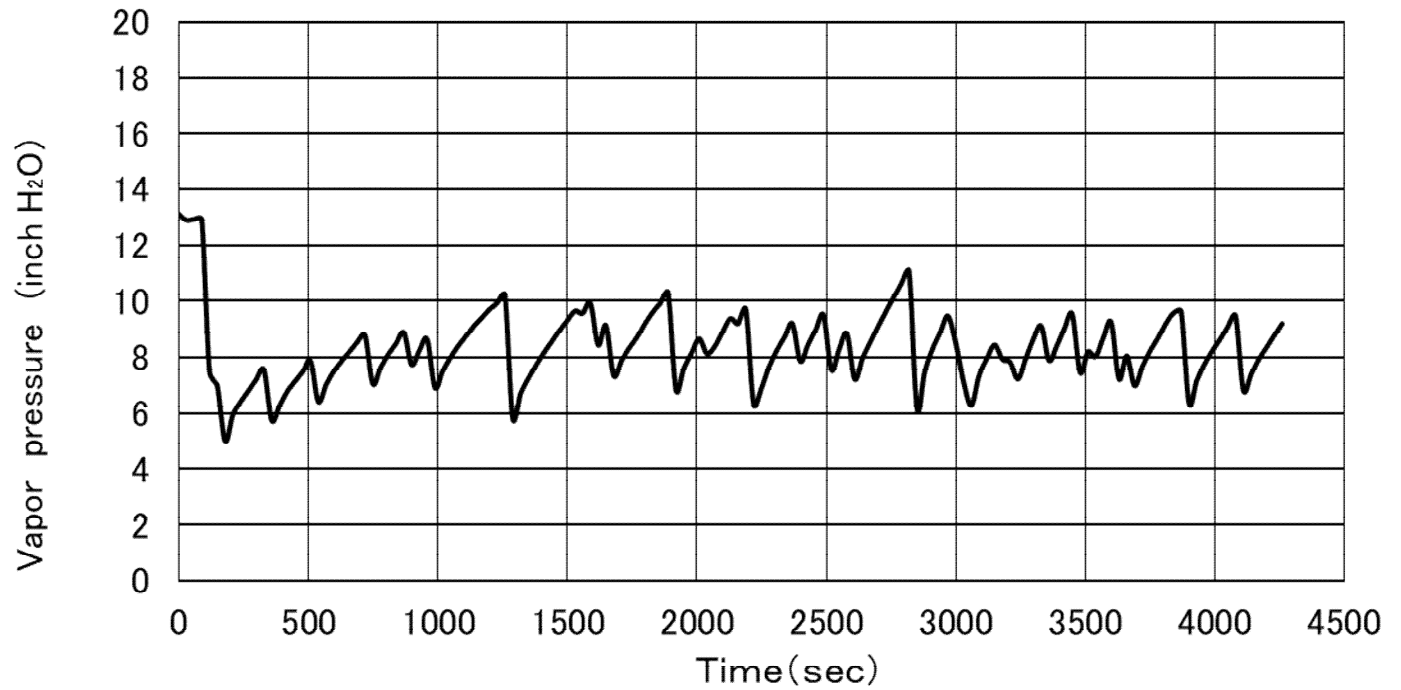
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.1       | 1200       | 97.3       | 2400       | 99.3       | 3600       | 101.5      |
| 30         | 96.1       | 1230       | 97.3       | 2430       | 99.3       | 3630       | 101.5      |
| 60         | 96.1       | 1260       | 97.3       | 2460       | 99.3       | 3660       | 101.7      |
| 90         | 96.3       | 1290       | 97.5       | 2490       | 99.3       | 3690       | 101.7      |
| 120        | 96.1       | 1320       | 97.3       | 2520       | 99.5       | 3720       | 101.7      |
| 150        | 96.1       | 1350       | 97.5       | 2550       | 99.5       | 3750       | 101.8      |
| 180        | 96.1       | 1380       | 97.5       | 2580       | 99.5       | 3780       | 101.8      |
| 210        | 96.1       | 1410       | 97.5       | 2610       | 99.5       | 3810       | 101.8      |
| 240        | 96.1       | 1440       | 97.7       | 2640       | 99.7       | 3840       | 101.8      |
| 270        | 96.1       | 1470       | 97.7       | 2670       | 99.7       | 3870       | 102.0      |
| 300        | 96.1       | 1500       | 97.9       | 2700       | 99.7       | 3900       | 102.0      |
| 330        | 96.3       | 1530       | 97.7       | 2730       | 99.9       | 3930       | 102.0      |
| 360        | 96.1       | 1560       | 97.7       | 2760       | 99.9       | 3960       | 102.2      |
| 390        | 96.3       | 1590       | 97.9       | 2790       | 99.9       | 3990       | 102.0      |
| 420        | 96.3       | 1620       | 97.9       | 2820       | 100.0      | 4020       | 102.2      |
| 450        | 96.3       | 1650       | 97.9       | 2850       | 100.0      | 4050       | 102.4      |
| 480        | 96.3       | 1680       | 98.1       | 2880       | 100.0      | 4080       | 102.4      |
| 510        | 96.4       | 1710       | 98.1       | 2910       | 100.2      | 4110       | 102.4      |
| 540        | 96.4       | 1740       | 98.1       | 2940       | 100.2      | 4140       | 102.4      |
| 570        | 96.6       | 1770       | 98.1       | 2970       | 100.2      | 4170       | 102.6      |
| 600        | 96.4       | 1800       | 98.2       | 3000       | 100.4      | 4200       | 102.6      |
| 630        | 96.4       | 1830       | 98.2       | 3030       | 100.4      | 4230       | 102.6      |
| 660        | 96.4       | 1860       | 98.2       | 3060       | 100.4      | 4260       | 102.6      |
| 690        | 96.6       | 1890       | 98.2       | 3090       | 100.6      | 4290       | 102.7      |
| 720        | 96.6       | 1920       | 98.4       | 3120       | 100.6      |            |            |
| 750        | 96.6       | 1950       | 98.8       | 3150       | 100.6      |            |            |
| 780        | 96.6       | 1980       | 98.6       | 3180       | 100.8      |            |            |
| 810        | 96.8       | 2010       | 98.6       | 3210       | 100.8      |            |            |
| 840        | 96.8       | 2040       | 98.6       | 3240       | 100.8      |            |            |
| 870        | 96.8       | 2070       | 98.6       | 3270       | 100.9      |            |            |
| 900        | 96.8       | 2100       | 98.8       | 3300       | 100.9      |            |            |
| 930        | 97.0       | 2130       | 98.8       | 3330       | 100.9      |            |            |
| 960        | 97.0       | 2160       | 98.8       | 3360       | 101.1      |            |            |
| 990        | 97.0       | 2190       | 98.8       | 3390       | 101.1      |            |            |
| 1020       | 97.0       | 2220       | 99.0       | 3420       | 101.1      |            |            |
| 1050       | 97.2       | 2250       | 99.0       | 3450       | 101.3      |            |            |
| 1080       | 97.2       | 2280       | 99.0       | 3480       | 101.3      |            |            |
| 1110       | 97.2       | 2310       | 99.1       | 3510       | 101.3      |            |            |
| 1140       | 97.3       | 2340       | 99.1       | 3540       | 101.3      |            |            |
| 1170       | 97.3       | 2370       | 99.1       | 3570       | 101.5      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0195J52.

(b) Measured vapor space pressure profile



### 17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0195J52.

#### Evaporative emission test log

##### Vehicle Description

|                     | Evaporative emission vehicle | Refueling emission vehicle |
|---------------------|------------------------------|----------------------------|
| Test group          | : NTYXT02.5P34               | : MTYXT02.5P34             |
| Vehicle ID          | : 21-AL1H                    | : 21-AL1H                  |
| Rep. car/truck line | : SIENNA AWD                 | : SIENNA AWD               |
| Rep. vehicle model  | : AXLH45L-PNXLHA             | : AXLH45L-PNXLHA           |
| Displacement        | : 151.8 CID                  | : 151.8 CID                |
| Transmission        | : P810-E                     | : P810-E                   |
| Test weight         | : 5,250 lbs.                 | : 5,250 lbs.               |
| Road load           | : 14.6 HP                    | : 14.6 HP                  |
| Evap. code          | : AL1Q                       | : AL1Q                     |

##### Test results

Test procedure : EPA's procedure

##### 3-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Running loss  | :       | 0.005      | (g/mile) |
| Hot soak loss | :       | 0.0327     | (g/test) |
| 3DBL          | 1st day | : 0.1203*1 | (g/test) |
|               | 2nd day | : 0.0990   | (g/test) |
|               | 3rd day | : 0.0906   | (g/test) |

##### 2-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Hot soak loss | :       | 0.0170     | (g/mile) |
| 2DBL          | 1st day | : 0.1160*1 | (g/test) |
|               | 2nd day | : 0.1034   | (g/test) |

##### Refueling sequence test results

Refueling emission : 0.006 (g/gal)

\*1: DBL is added key off monitor loss (0.0000 gram).

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

[Test vehicle]

Model name : LAND CRUISER  
Data is representative for : LAND CRUISER, 4RUNNER 4WD

[Test procedure] : CARB method

[Test conditions]

Date : 03/20/2023  
Ambient air temperature (at initiation) : 107.8 °F  
Ambient air temperature (at completion) : 110.1 °F  
Track surface temperature (at initiation) : 148.6 °F  
Track surface temperature (at completion) : 151.2 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 03/21/2023  
Ambient air temperature (at initiation) : 107.8 °F  
Ambient air temperature (at completion) : 108.9 °F  
Track surface temperature (at initiation) : 148.8 °F  
Track surface temperature (at completion) : 151.2 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

Measured temperature and pressure profiles

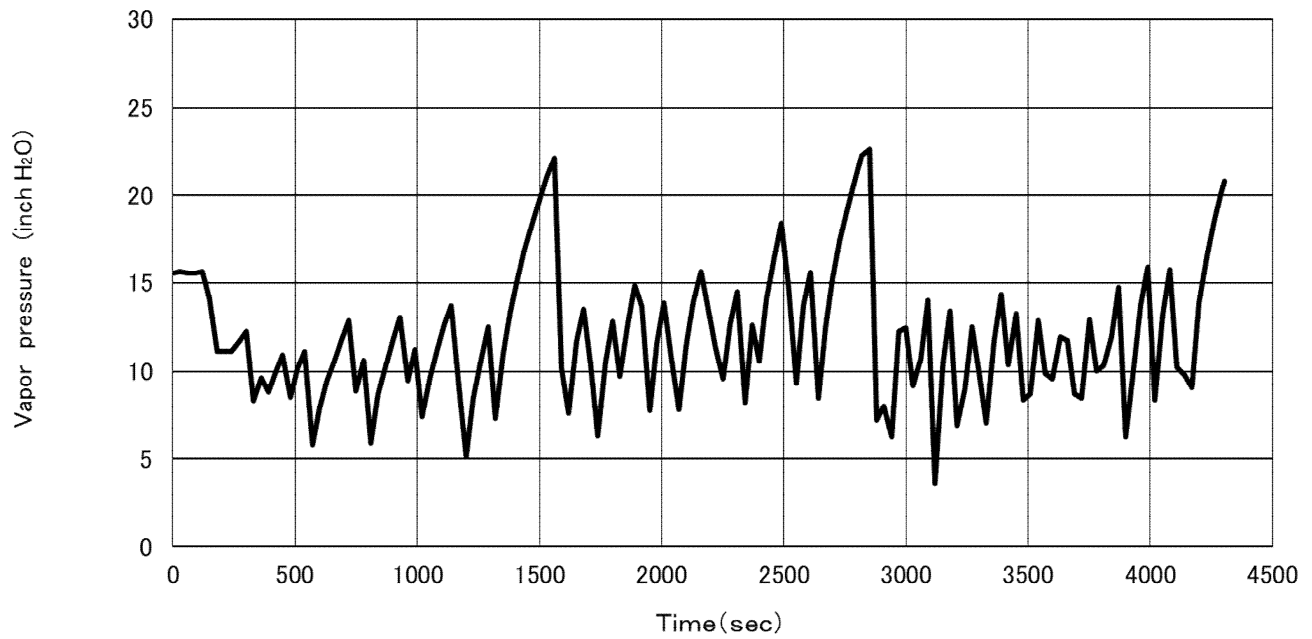
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.0      | 1200       | 111.0      | 2400       | 118.8      | 3600       | 126.0      |
| 30         | 106.2      | 1230       | 111.2      | 2430       | 118.8      | 3630       | 126.1      |
| 60         | 106.2      | 1260       | 111.4      | 2460       | 118.6      | 3660       | 126.3      |
| 90         | 106.2      | 1290       | 111.4      | 2490       | 118.4      | 3690       | 126.5      |
| 120        | 106.5      | 1320       | 112.1      | 2520       | 118.8      | 3720       | 126.7      |
| 150        | 106.5      | 1350       | 111.4      | 2550       | 118.9      | 3750       | 126.7      |
| 180        | 106.5      | 1380       | 112.1      | 2580       | 119.1      | 3780       | 126.9      |
| 210        | 106.7      | 1410       | 111.6      | 2610       | 119.5      | 3810       | 127.0      |
| 240        | 106.9      | 1440       | 111.4      | 2640       | 119.7      | 3840       | 127.2      |
| 270        | 107.1      | 1470       | 111.2      | 2670       | 120.0      | 3870       | 126.7      |
| 300        | 107.2      | 1500       | 111.2      | 2700       | 119.7      | 3900       | 127.4      |
| 330        | 107.2      | 1530       | 111.4      | 2730       | 119.5      | 3930       | 127.2      |
| 360        | 107.2      | 1560       | 111.9      | 2760       | 119.7      | 3960       | 127.6      |
| 390        | 107.6      | 1590       | 112.3      | 2790       | 119.8      | 3990       | 127.2      |
| 420        | 107.4      | 1620       | 112.8      | 2820       | 120.2      | 4020       | 127.4      |
| 450        | 107.2      | 1650       | 113.2      | 2850       | 120.6      | 4050       | 127.9      |
| 480        | 107.6      | 1680       | 113.7      | 2880       | 121.1      | 4080       | 127.6      |
| 510        | 107.8      | 1710       | 113.9      | 2910       | 121.5      | 4110       | 128.1      |
| 540        | 107.8      | 1740       | 114.3      | 2940       | 121.8      | 4140       | 128.1      |
| 570        | 107.6      | 1770       | 114.3      | 2970       | 121.6      | 4170       | 128.1      |
| 600        | 107.8      | 1800       | 114.8      | 3000       | 122.2      | 4200       | 127.9      |
| 630        | 108.1      | 1830       | 114.8      | 3030       | 122.4      | 4230       | 127.9      |
| 660        | 107.6      | 1860       | 114.4      | 3060       | 122.4      | 4260       | 127.6      |
| 690        | 108.3      | 1890       | 114.4      | 3090       | 122.9      | 4290       | 128.7      |
| 720        | 108.3      | 1920       | 114.8      | 3120       | 123.1      | 4304       | 128.7      |
| 750        | 108.7      | 1950       | 115.2      | 3150       | 123.4      |            |            |
| 780        | 108.7      | 1980       | 115.0      | 3180       | 123.4      |            |            |
| 810        | 109.2      | 2010       | 115.3      | 3210       | 123.8      |            |            |
| 840        | 109.4      | 2040       | 115.9      | 3240       | 123.8      |            |            |
| 870        | 109.6      | 2070       | 116.2      | 3270       | 123.6      |            |            |
| 900        | 109.9      | 2100       | 115.9      | 3300       | 124.3      |            |            |
| 930        | 110.1      | 2130       | 115.7      | 3330       | 124.3      |            |            |
| 960        | 110.3      | 2160       | 116.2      | 3360       | 124.5      |            |            |
| 990        | 110.5      | 2190       | 116.6      | 3390       | 124.3      |            |            |
| 1020       | 110.7      | 2220       | 117.0      | 3420       | 124.9      |            |            |
| 1050       | 110.1      | 2250       | 117.3      | 3450       | 124.7      |            |            |
| 1080       | 110.5      | 2280       | 117.7      | 3480       | 124.9      |            |            |
| 1110       | 110.7      | 2310       | 118.0      | 3510       | 124.7      |            |            |
| 1140       | 111.0      | 2340       | 118.4      | 3540       | 125.2      |            |            |
| 1170       | 110.8      | 2370       | 118.2      | 3570       | 125.6      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

[Test vehicle]

Model name : LAND CRUISER  
Data is representative for : LAND CRUISER, 4RUNNER 4WD

[Test procedure] : EPA method

[Test conditions]

Date : 03/20/2023  
Ambient air temperature (at initiation) : 96.4 °F  
Ambient air temperature (at completion) : 100.2 °F  
Track surface temperature (at initiation) : 130.8 °F  
Track surface temperature (at completion) : 132.6 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 03/21/2023  
Ambient air temperature (at initiation) : 99.0 °F  
Ambient air temperature (at completion) : 97.9 °F  
Track surface temperature (at initiation) : 131.4 °F  
Track surface temperature (at completion) : 132.3 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

Measured temperature and pressure profiles

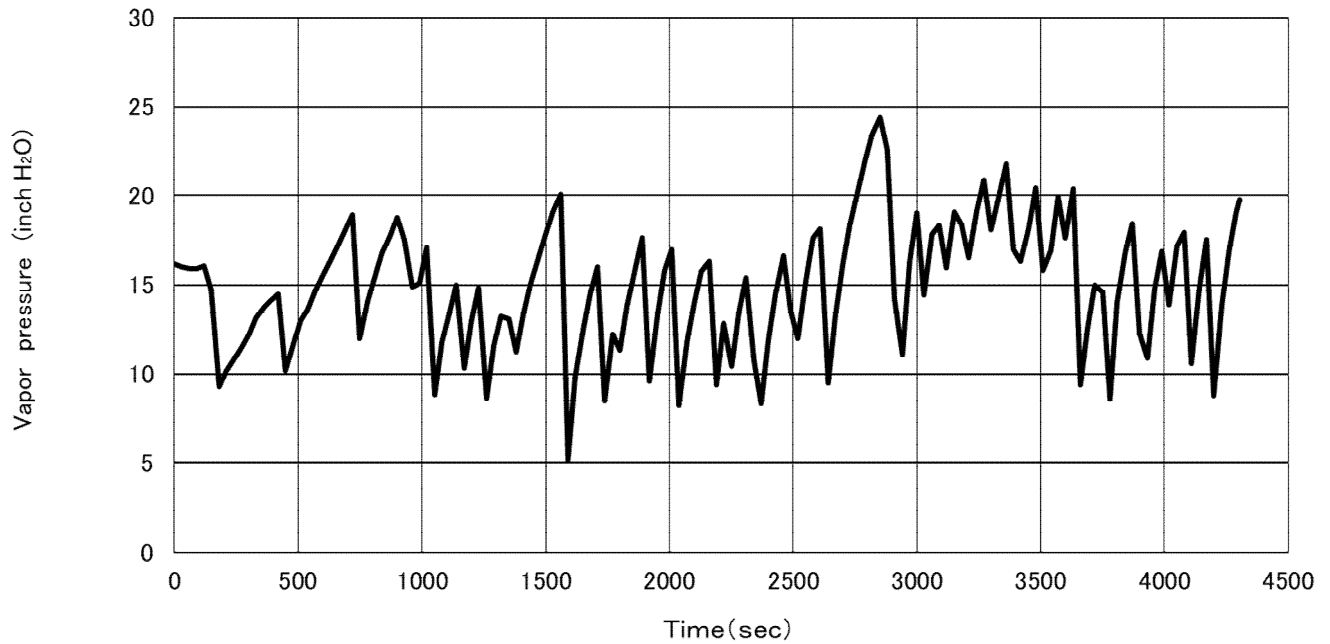
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 95.5       | 1200       | 100.6      | 2400       | 107.6      | 3600       | 115.5      |
| 30         | 95.5       | 1230       | 100.8      | 2430       | 107.6      | 3630       | 115.7      |
| 60         | 95.5       | 1260       | 101.1      | 2460       | 107.2      | 3660       | 115.9      |
| 90         | 95.9       | 1290       | 101.1      | 2490       | 107.1      | 3690       | 116.1      |
| 120        | 95.9       | 1320       | 101.8      | 2520       | 107.6      | 3720       | 116.2      |
| 150        | 95.9       | 1350       | 101.1      | 2550       | 107.8      | 3750       | 116.4      |
| 180        | 95.9       | 1380       | 101.7      | 2580       | 107.6      | 3780       | 116.4      |
| 210        | 96.1       | 1410       | 101.1      | 2610       | 108.1      | 3810       | 116.8      |
| 240        | 96.3       | 1440       | 101.1      | 2640       | 108.1      | 3840       | 116.8      |
| 270        | 96.4       | 1470       | 101.1      | 2670       | 108.7      | 3870       | 116.1      |
| 300        | 96.4       | 1500       | 101.1      | 2700       | 108.5      | 3900       | 116.8      |
| 330        | 96.6       | 1530       | 101.3      | 2730       | 108.5      | 3930       | 116.8      |
| 360        | 96.4       | 1560       | 101.7      | 2760       | 108.5      | 3960       | 117.1      |
| 390        | 96.6       | 1590       | 102.0      | 2790       | 108.7      | 3990       | 116.8      |
| 420        | 96.8       | 1620       | 102.4      | 2820       | 108.9      | 4020       | 116.8      |
| 450        | 96.6       | 1650       | 102.6      | 2850       | 109.4      | 4050       | 117.3      |
| 480        | 97.0       | 1680       | 103.1      | 2880       | 110.1      | 4080       | 117.1      |
| 510        | 97.3       | 1710       | 103.3      | 2910       | 110.5      | 4110       | 117.7      |
| 540        | 97.3       | 1740       | 103.8      | 2940       | 110.8      | 4140       | 117.3      |
| 570        | 97.2       | 1770       | 103.5      | 2970       | 110.7      | 4170       | 117.5      |
| 600        | 97.5       | 1800       | 104.0      | 3000       | 111.2      | 4200       | 117.1      |
| 630        | 97.9       | 1830       | 103.8      | 3030       | 111.7      | 4230       | 117.1      |
| 660        | 97.2       | 1860       | 103.6      | 3060       | 111.9      | 4260       | 116.8      |
| 690        | 97.9       | 1890       | 103.5      | 3090       | 112.3      | 4290       | 118.0      |
| 720        | 97.9       | 1920       | 104.0      | 3120       | 112.5      | 4304       | 118.0      |
| 750        | 98.4       | 1950       | 104.2      | 3150       | 112.8      |            |            |
| 780        | 98.4       | 1980       | 104.0      | 3180       | 112.8      |            |            |
| 810        | 99.0       | 2010       | 104.5      | 3210       | 113.4      |            |            |
| 840        | 99.0       | 2040       | 104.5      | 3240       | 113.5      |            |            |
| 870        | 99.1       | 2070       | 104.9      | 3270       | 113.0      |            |            |
| 900        | 99.5       | 2100       | 104.9      | 3300       | 113.7      |            |            |
| 930        | 99.5       | 2130       | 104.9      | 3330       | 113.7      |            |            |
| 960        | 99.9       | 2160       | 105.3      | 3360       | 114.1      |            |            |
| 990        | 100.0      | 2190       | 105.3      | 3390       | 113.7      |            |            |
| 1020       | 100.2      | 2220       | 105.8      | 3420       | 114.4      |            |            |
| 1050       | 99.7       | 2250       | 106.2      | 3450       | 114.1      |            |            |
| 1080       | 100.0      | 2280       | 106.7      | 3480       | 114.4      |            |            |
| 1110       | 100.4      | 2310       | 106.9      | 3510       | 114.3      |            |            |
| 1140       | 100.8      | 2340       | 107.2      | 3540       | 115.0      |            |            |
| 1170       | 100.6      | 2370       | 107.1      | 3570       | 115.3      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

[Test vehicle]

Model name : TACOMA HYBRID 4WD  
Data is representative for : TACOMA HYBRID 4WD

[Test procedure]

: CARB method

[Test conditions]

Date : 03/07/2023  
Ambient air temperature (at initiation) : 106.0 °F  
Ambient air temperature (at completion) : 106.7 °F  
Track surface temperature (at initiation) : 177.3 °F  
Track surface temperature (at completion) : 178.7 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 03/07/2023  
Ambient air temperature (at initiation) : 106.2 °F  
Ambient air temperature (at completion) : 106.7 °F  
Track surface temperature (at initiation) : 178.0 °F  
Track surface temperature (at completion) : 178.9 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

Measured temperature and pressure profiles

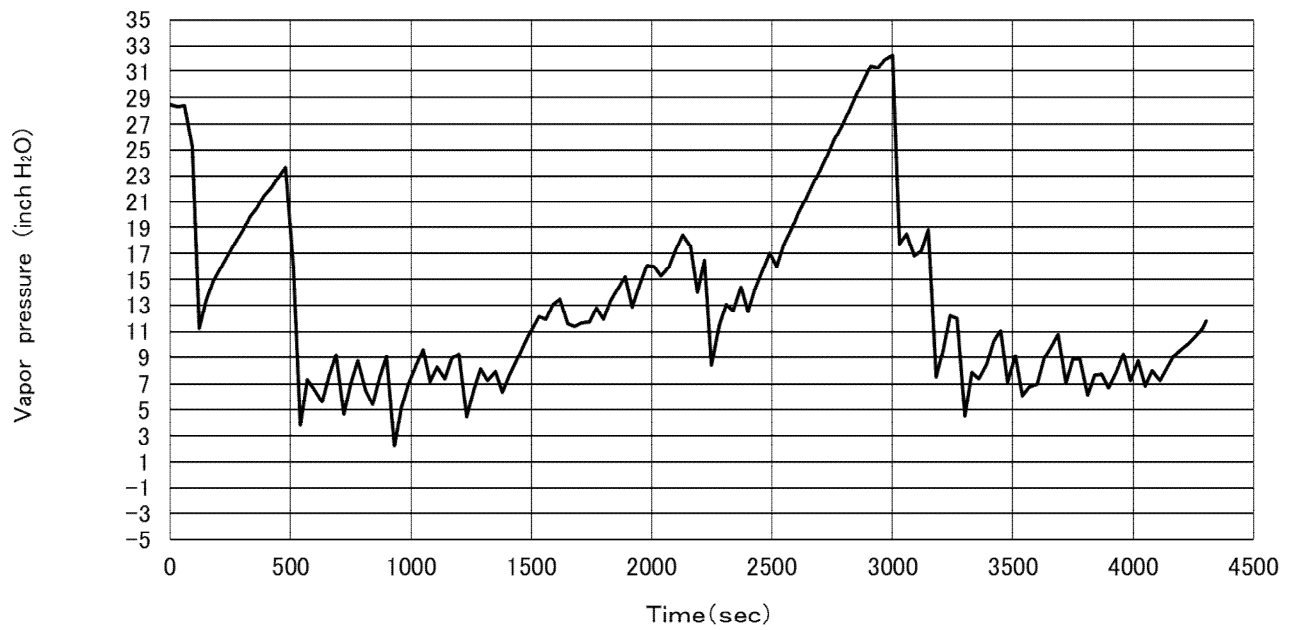
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.5      | 1200       | 111.7      | 2400       | 117.5      | 3600       | 122.2      |
| 30         | 106.7      | 1230       | 111.9      | 2430       | 117.5      | 3630       | 122.4      |
| 60         | 106.9      | 1260       | 112.1      | 2460       | 117.7      | 3660       | 122.4      |
| 90         | 106.9      | 1290       | 112.3      | 2490       | 117.9      | 3690       | 122.4      |
| 120        | 107.1      | 1320       | 112.3      | 2520       | 118.0      | 3720       | 122.5      |
| 150        | 107.1      | 1350       | 112.5      | 2550       | 118.2      | 3750       | 122.5      |
| 180        | 107.2      | 1380       | 112.6      | 2580       | 118.4      | 3780       | 122.5      |
| 210        | 107.2      | 1410       | 112.6      | 2610       | 118.6      | 3810       | 122.7      |
| 240        | 107.2      | 1440       | 112.8      | 2640       | 118.6      | 3840       | 122.7      |
| 270        | 107.4      | 1470       | 113.0      | 2670       | 118.9      | 3870       | 122.7      |
| 300        | 107.4      | 1500       | 113.0      | 2700       | 119.1      | 3900       | 122.7      |
| 330        | 107.6      | 1530       | 113.2      | 2730       | 119.3      | 3930       | 122.9      |
| 360        | 107.8      | 1560       | 113.4      | 2760       | 119.3      | 3960       | 123.1      |
| 390        | 107.8      | 1590       | 113.4      | 2790       | 119.5      | 3990       | 123.1      |
| 420        | 108.0      | 1620       | 113.7      | 2820       | 119.7      | 4020       | 123.1      |
| 450        | 108.1      | 1650       | 113.9      | 2850       | 119.8      | 4050       | 123.3      |
| 480        | 108.3      | 1680       | 113.9      | 2880       | 120.0      | 4080       | 123.1      |
| 510        | 108.3      | 1710       | 114.1      | 2910       | 120.4      | 4110       | 123.3      |
| 540        | 108.5      | 1740       | 114.3      | 2940       | 120.4      | 4140       | 123.3      |
| 570        | 108.7      | 1770       | 114.3      | 2970       | 120.4      | 4170       | 123.4      |
| 600        | 108.9      | 1800       | 114.4      | 3000       | 120.7      | 4200       | 123.4      |
| 630        | 109.0      | 1830       | 114.6      | 3030       | 120.9      | 4230       | 123.4      |
| 660        | 109.0      | 1860       | 114.6      | 3060       | 120.9      | 4260       | 123.4      |
| 690        | 109.2      | 1890       | 114.8      | 3090       | 121.1      | 4290       | 123.4      |
| 720        | 109.4      | 1920       | 115.0      | 3120       | 121.1      | 4304       | 123.6      |
| 750        | 109.6      | 1950       | 115.2      | 3150       | 121.1      |            |            |
| 780        | 109.6      | 1980       | 115.3      | 3180       | 121.3      |            |            |
| 810        | 109.8      | 2010       | 115.5      | 3210       | 121.3      |            |            |
| 840        | 109.9      | 2040       | 115.7      | 3240       | 121.5      |            |            |
| 870        | 110.1      | 2070       | 115.7      | 3270       | 121.5      |            |            |
| 900        | 110.3      | 2100       | 115.9      | 3300       | 121.5      |            |            |
| 930        | 110.5      | 2130       | 116.1      | 3330       | 121.5      |            |            |
| 960        | 110.5      | 2160       | 116.2      | 3360       | 121.6      |            |            |
| 990        | 110.7      | 2190       | 116.4      | 3390       | 121.6      |            |            |
| 1020       | 110.8      | 2220       | 116.6      | 3420       | 121.8      |            |            |
| 1050       | 111.0      | 2250       | 116.8      | 3450       | 121.8      |            |            |
| 1080       | 111.2      | 2280       | 117.0      | 3480       | 122.0      |            |            |
| 1110       | 111.4      | 2310       | 117.0      | 3510       | 122.0      |            |            |
| 1140       | 111.6      | 2340       | 117.1      | 3540       | 122.0      |            |            |
| 1170       | 111.7      | 2370       | 117.3      | 3570       | 122.2      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

[Test vehicle]

Model name : TACOMA HYBRID 4WD  
Data is representative for : TACOMA HYBRID 4WD

[Test procedure]

: EPA method

[Test conditions]

Date : 03/07/2023  
Ambient air temperature (at initiation) : 95.9 °F  
Ambient air temperature (at completion) : 96.3 °F  
Track surface temperature (at initiation) : 158.9 °F  
Track surface temperature (at completion) : 160.2 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 03/07/2023  
Ambient air temperature (at initiation) : 95.7 °F  
Ambient air temperature (at completion) : 96.3 °F  
Track surface temperature (at initiation) : 160.0 °F  
Track surface temperature (at completion) : 161.1 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

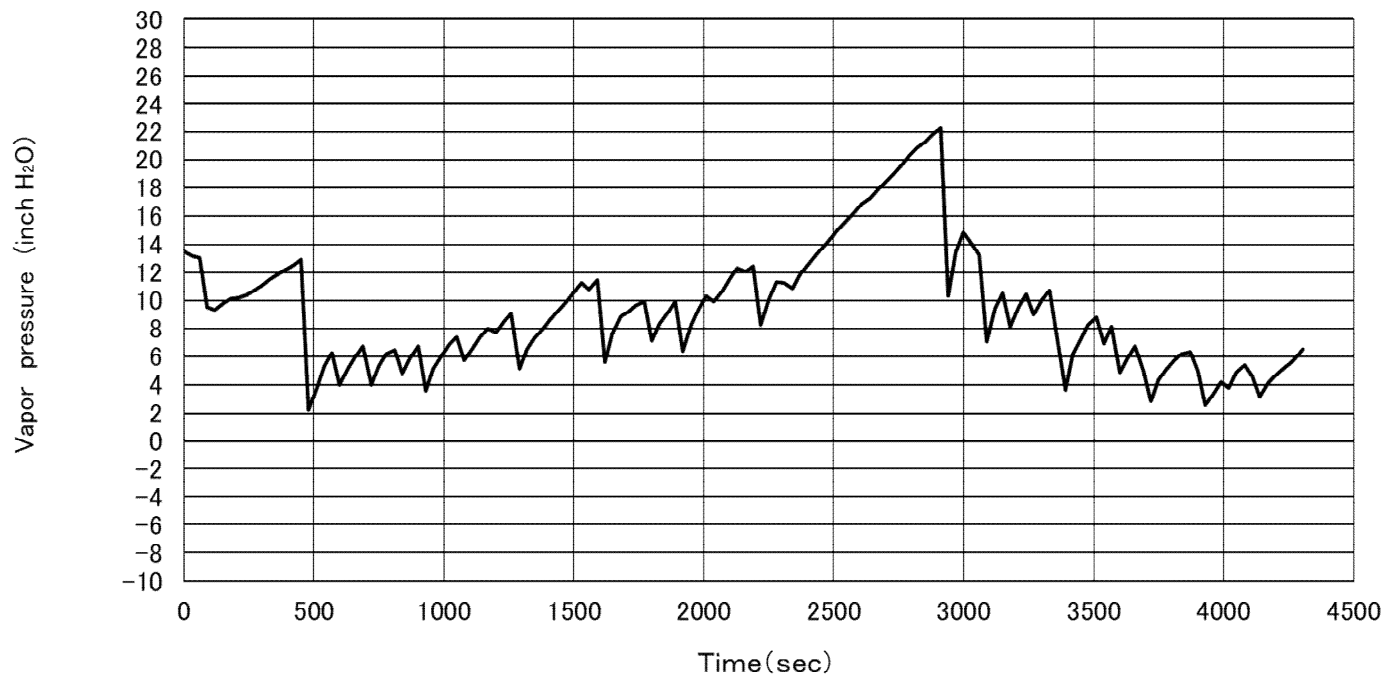
17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.  
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.4       | 1200       | 101.3      | 2400       | 107.2      | 3600       | 111.4      |
| 30         | 96.6       | 1230       | 101.3      | 2430       | 107.2      | 3630       | 111.6      |
| 60         | 96.8       | 1260       | 101.5      | 2460       | 107.4      | 3660       | 111.6      |
| 90         | 96.8       | 1290       | 101.7      | 2490       | 107.4      | 3690       | 111.6      |
| 120        | 96.8       | 1320       | 101.8      | 2520       | 107.6      | 3720       | 111.7      |
| 150        | 97.0       | 1350       | 102.0      | 2550       | 107.8      | 3750       | 111.7      |
| 180        | 97.0       | 1380       | 102.0      | 2580       | 108.0      | 3780       | 111.7      |
| 210        | 97.0       | 1410       | 102.0      | 2610       | 108.1      | 3810       | 111.7      |
| 240        | 97.2       | 1440       | 102.2      | 2640       | 108.1      | 3840       | 111.9      |
| 270        | 97.2       | 1470       | 102.4      | 2670       | 108.5      | 3870       | 111.9      |
| 300        | 97.3       | 1500       | 102.4      | 2700       | 108.5      | 3900       | 111.9      |
| 330        | 97.3       | 1530       | 102.6      | 2730       | 108.7      | 3930       | 112.1      |
| 360        | 97.5       | 1560       | 102.7      | 2760       | 108.9      | 3960       | 112.1      |
| 390        | 97.7       | 1590       | 102.7      | 2790       | 108.9      | 3990       | 112.1      |
| 420        | 97.9       | 1620       | 103.1      | 2820       | 108.9      | 4020       | 112.3      |
| 450        | 97.9       | 1650       | 103.3      | 2850       | 109.2      | 4050       | 112.3      |
| 480        | 98.1       | 1680       | 103.5      | 2880       | 109.4      | 4080       | 112.3      |
| 510        | 98.1       | 1710       | 103.5      | 2910       | 109.6      | 4110       | 112.5      |
| 540        | 98.2       | 1740       | 103.6      | 2940       | 109.8      | 4140       | 112.5      |
| 570        | 98.4       | 1770       | 103.8      | 2970       | 109.8      | 4170       | 112.5      |
| 600        | 98.6       | 1800       | 104.0      | 3000       | 109.9      | 4200       | 112.5      |
| 630        | 98.6       | 1830       | 104.2      | 3030       | 110.1      | 4230       | 112.5      |
| 660        | 98.8       | 1860       | 104.4      | 3060       | 110.1      | 4260       | 112.6      |
| 690        | 99.0       | 1890       | 104.4      | 3090       | 110.1      | 4290       | 112.6      |
| 720        | 99.0       | 1920       | 104.5      | 3120       | 110.3      | 4304       | 112.6      |
| 750        | 99.1       | 1950       | 104.7      | 3150       | 110.3      |            |            |
| 780        | 99.3       | 1980       | 104.9      | 3180       | 110.5      |            |            |
| 810        | 99.5       | 2010       | 104.9      | 3210       | 110.7      |            |            |
| 840        | 99.7       | 2040       | 105.1      | 3240       | 110.5      |            |            |
| 870        | 99.7       | 2070       | 105.4      | 3270       | 110.7      |            |            |
| 900        | 99.9       | 2100       | 105.4      | 3300       | 110.7      |            |            |
| 930        | 100.0      | 2130       | 105.6      | 3330       | 110.8      |            |            |
| 960        | 100.2      | 2160       | 105.8      | 3360       | 110.8      |            |            |
| 990        | 100.4      | 2190       | 105.8      | 3390       | 110.8      |            |            |
| 1020       | 100.4      | 2220       | 106.2      | 3420       | 111.0      |            |            |
| 1050       | 100.6      | 2250       | 106.3      | 3450       | 111.0      |            |            |
| 1080       | 100.8      | 2280       | 106.5      | 3480       | 111.0      |            |            |
| 1110       | 100.8      | 2310       | 106.7      | 3510       | 111.2      |            |            |
| 1140       | 101.1      | 2340       | 106.7      | 3540       | 111.2      |            |            |
| 1170       | 101.1      | 2370       | 107.1      | 3570       | 111.4      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

[Test vehicle]

Model name : LX 700h

Data is representative for : LX 700h

[Test procedure] : CARB method

[Test conditions]

Date : 05/06/2024

Ambient air temperature (at initiation) : 105.6 °F

Ambient air temperature (at completion) : 110.1 °F

Track surface temperature (at initiation) : 173.5 °F

Track surface temperature (at completion) : 177.3 °F

Wind speed : N/A

Test fuel RVP : 7.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

[Test conditions]

Date : 05/07/2024

Ambient air temperature (at initiation) : 106.2 °F

Ambient air temperature (at completion) : 110.7 °F

Track surface temperature (at initiation) : 174.0 °F

Track surface temperature (at completion) : 177.6 °F

Wind speed : N/A

Test fuel RVP : 7.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

Measured temperature and pressure profiles

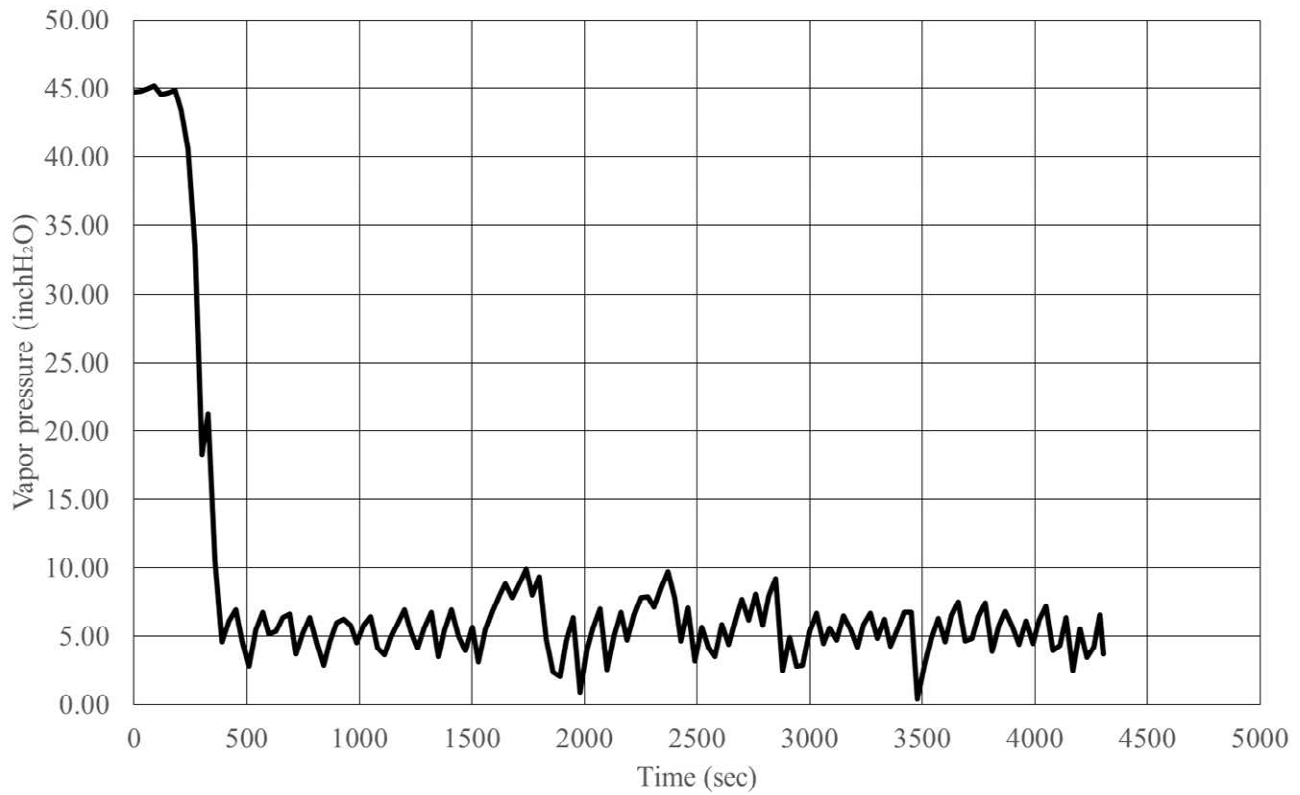
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 103.8      | 1200       | 105.6      | 2400       | 112.3      | 3600       | 117.3      |
| 30         | 103.7      | 1230       | 105.6      | 2430       | 112.5      | 3630       | 117.1      |
| 60         | 103.8      | 1260       | 105.8      | 2460       | 112.8      | 3660       | 117.0      |
| 90         | 103.8      | 1290       | 106.0      | 2490       | 113.2      | 3690       | 116.8      |
| 120        | 104.0      | 1320       | 106.0      | 2520       | 113.4      | 3720       | 117.0      |
| 150        | 104.2      | 1350       | 106.2      | 2550       | 113.5      | 3750       | 117.0      |
| 180        | 104.2      | 1380       | 106.3      | 2580       | 113.9      | 3780       | 117.1      |
| 210        | 104.2      | 1410       | 106.5      | 2610       | 114.1      | 3810       | 117.3      |
| 240        | 104.2      | 1440       | 106.9      | 2640       | 114.3      | 3840       | 117.5      |
| 270        | 104.2      | 1470       | 107.2      | 2670       | 114.3      | 3870       | 117.9      |
| 300        | 104.2      | 1500       | 107.4      | 2700       | 114.4      | 3900       | 117.9      |
| 330        | 104.0      | 1530       | 107.6      | 2730       | 114.4      | 3930       | 118.2      |
| 360        | 104.2      | 1560       | 107.8      | 2760       | 114.6      | 3960       | 118.2      |
| 390        | 104.2      | 1590       | 108.0      | 2790       | 114.6      | 3990       | 118.6      |
| 420        | 104.4      | 1620       | 108.1      | 2820       | 115.0      | 4020       | 118.8      |
| 450        | 104.4      | 1650       | 108.3      | 2850       | 115.2      | 4050       | 118.8      |
| 480        | 104.4      | 1680       | 108.3      | 2880       | 115.2      | 4080       | 119.1      |
| 510        | 104.4      | 1710       | 108.3      | 2910       | 115.0      | 4110       | 119.3      |
| 540        | 104.4      | 1740       | 108.5      | 2940       | 114.6      | 4140       | 119.5      |
| 570        | 104.5      | 1770       | 108.5      | 2970       | 115.0      | 4170       | 119.5      |
| 600        | 104.5      | 1800       | 108.7      | 3000       | 115.2      | 4200       | 119.8      |
| 630        | 104.5      | 1830       | 108.9      | 3030       | 114.8      | 4230       | 120.0      |
| 660        | 104.5      | 1860       | 109.0      | 3060       | 114.4      | 4260       | 120.6      |
| 690        | 104.7      | 1890       | 109.4      | 3090       | 114.1      | 4290       | 120.7      |
| 720        | 104.7      | 1920       | 109.6      | 3120       | 114.1      | 4304       | 120.7      |
| 750        | 104.9      | 1950       | 109.8      | 3150       | 114.4      |            |            |
| 780        | 104.9      | 1980       | 110.1      | 3180       | 114.6      |            |            |
| 810        | 104.9      | 2010       | 110.1      | 3210       | 115.0      |            |            |
| 840        | 104.9      | 2040       | 110.5      | 3240       | 115.2      |            |            |
| 870        | 104.5      | 2070       | 110.5      | 3270       | 115.5      |            |            |
| 900        | 104.5      | 2100       | 110.8      | 3300       | 115.5      |            |            |
| 930        | 104.5      | 2130       | 111.2      | 3330       | 115.7      |            |            |
| 960        | 104.5      | 2160       | 111.2      | 3360       | 115.9      |            |            |
| 990        | 104.7      | 2190       | 111.6      | 3390       | 116.2      |            |            |
| 1020       | 104.5      | 2220       | 111.9      | 3420       | 116.2      |            |            |
| 1050       | 104.9      | 2250       | 111.7      | 3450       | 116.6      |            |            |
| 1080       | 105.1      | 2280       | 111.7      | 3480       | 116.8      |            |            |
| 1110       | 105.3      | 2310       | 111.7      | 3510       | 117.0      |            |            |
| 1140       | 105.3      | 2340       | 111.9      | 3540       | 117.0      |            |            |
| 1170       | 105.4      | 2370       | 112.1      | 3570       | 117.1      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

[Test vehicle]

Model name : LX 700h

Data is representative for : LX 700h

[Test procedure] : EPA method

[Test conditions]

Date : 05/06/2024

Ambient air temperature (at initiation) : 97.7 °F

Ambient air temperature (at completion) : 100.0 °F

Track surface temperature (at initiation) : 155.1 °F

Track surface temperature (at completion) : 156.7 °F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

[Test conditions]

Date : 05/07/2024

Ambient air temperature (at initiation) : 96.3 °F

Ambient air temperature (at completion) : 100.0 °F

Track surface temperature (at initiation) : 153.3 °F

Track surface temperature (at completion) : 156.9 °F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

Measured temperature and pressure profiles

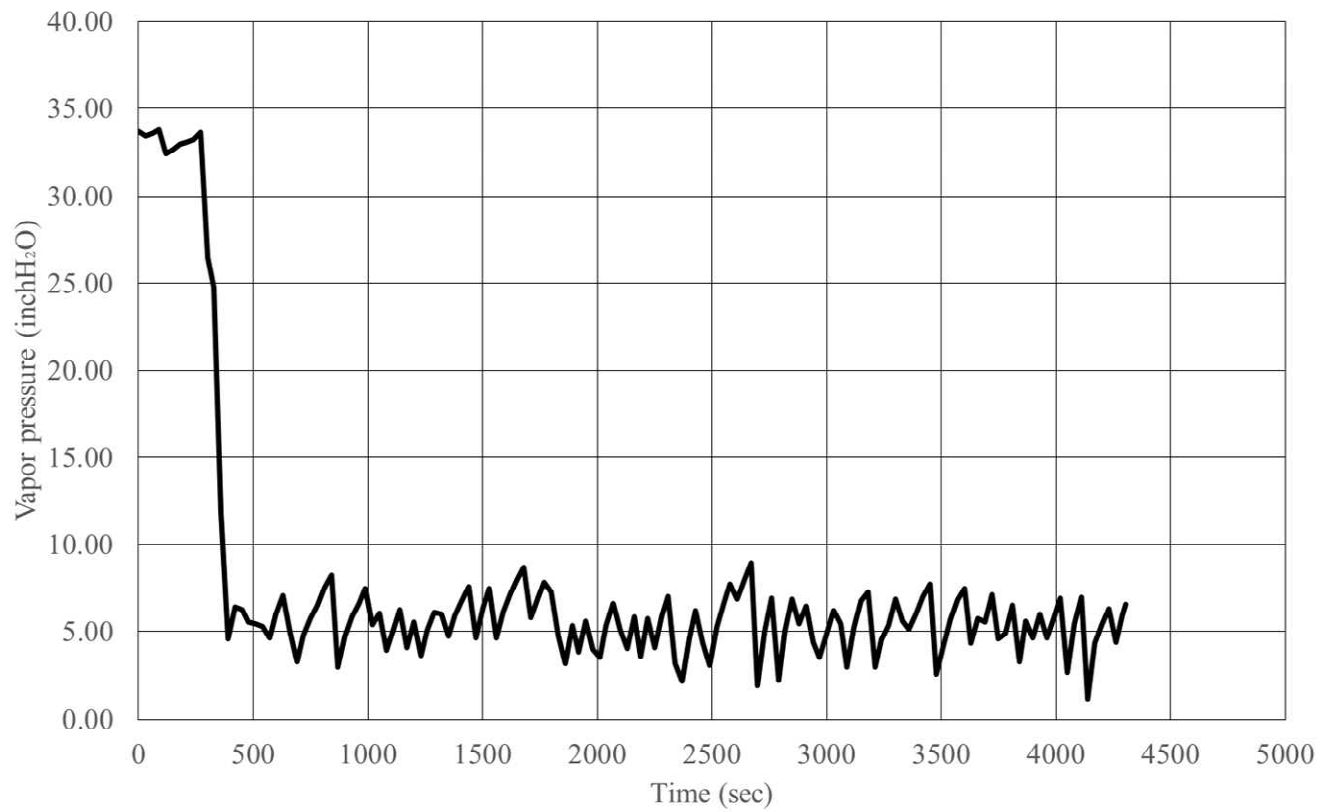
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 95.9       | 1200       | 99.9       | 2400       | 104.9      | 3600       | 110.7      |
| 30         | 95.7       | 1230       | 99.9       | 2430       | 105.1      | 3630       | 110.7      |
| 60         | 95.9       | 1260       | 100.0      | 2460       | 105.1      | 3660       | 110.8      |
| 90         | 95.9       | 1290       | 100.0      | 2490       | 105.1      | 3690       | 110.8      |
| 120        | 96.3       | 1320       | 100.2      | 2520       | 105.3      | 3720       | 111.0      |
| 150        | 96.4       | 1350       | 100.2      | 2550       | 105.4      | 3750       | 111.0      |
| 180        | 96.4       | 1380       | 100.2      | 2580       | 105.4      | 3780       | 111.4      |
| 210        | 96.6       | 1410       | 100.4      | 2610       | 105.4      | 3810       | 111.4      |
| 240        | 96.6       | 1440       | 100.4      | 2640       | 105.8      | 3840       | 111.6      |
| 270        | 96.8       | 1470       | 100.6      | 2670       | 106.2      | 3870       | 111.6      |
| 300        | 97.0       | 1500       | 100.6      | 2700       | 106.2      | 3900       | 111.6      |
| 330        | 97.0       | 1530       | 100.6      | 2730       | 106.3      | 3930       | 111.7      |
| 360        | 96.8       | 1560       | 100.6      | 2760       | 106.3      | 3960       | 111.9      |
| 390        | 97.0       | 1590       | 100.8      | 2790       | 106.5      | 3990       | 112.1      |
| 420        | 97.2       | 1620       | 100.8      | 2820       | 106.7      | 4020       | 112.1      |
| 450        | 97.2       | 1650       | 100.9      | 2850       | 106.9      | 4050       | 112.1      |
| 480        | 97.2       | 1680       | 101.1      | 2880       | 107.2      | 4080       | 112.3      |
| 510        | 97.3       | 1710       | 101.3      | 2910       | 107.4      | 4110       | 112.5      |
| 540        | 97.3       | 1740       | 101.7      | 2940       | 107.6      | 4140       | 112.5      |
| 570        | 97.3       | 1770       | 101.7      | 2970       | 107.8      | 4170       | 112.5      |
| 600        | 97.3       | 1800       | 101.8      | 3000       | 108.0      | 4200       | 112.5      |
| 630        | 97.3       | 1830       | 101.8      | 3030       | 108.1      | 4230       | 112.5      |
| 660        | 97.5       | 1860       | 101.8      | 3060       | 108.1      | 4260       | 112.5      |
| 690        | 97.7       | 1890       | 102.0      | 3090       | 108.3      | 4290       | 112.6      |
| 720        | 97.7       | 1920       | 102.0      | 3120       | 108.5      | 4304       | 112.6      |
| 750        | 98.1       | 1950       | 102.4      | 3150       | 108.9      |            |            |
| 780        | 98.1       | 1980       | 102.4      | 3180       | 108.9      |            |            |
| 810        | 98.2       | 2010       | 102.6      | 3210       | 109.0      |            |            |
| 840        | 98.4       | 2040       | 102.9      | 3240       | 109.0      |            |            |
| 870        | 98.6       | 2070       | 103.1      | 3270       | 109.0      |            |            |
| 900        | 98.8       | 2100       | 103.3      | 3300       | 109.4      |            |            |
| 930        | 99.0       | 2130       | 103.1      | 3330       | 109.6      |            |            |
| 960        | 99.0       | 2160       | 103.3      | 3360       | 109.6      |            |            |
| 990        | 99.1       | 2190       | 103.6      | 3390       | 109.9      |            |            |
| 1020       | 99.3       | 2220       | 103.8      | 3420       | 109.8      |            |            |
| 1050       | 99.3       | 2250       | 104.0      | 3450       | 110.1      |            |            |
| 1080       | 99.3       | 2280       | 104.2      | 3480       | 109.9      |            |            |
| 1110       | 99.3       | 2310       | 104.4      | 3510       | 110.3      |            |            |
| 1140       | 99.5       | 2340       | 104.5      | 3540       | 110.3      |            |            |
| 1170       | 99.7       | 2370       | 104.7      | 3570       | 110.5      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

(b) Measured vapor space pressure profile



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

Evaporative emission test log

Vehicle Description

|                     |                                          |
|---------------------|------------------------------------------|
|                     | Evaporative / Refueling emission vehicle |
| Test group          | : RTYXT02.4P34                           |
| Vehicle ID          | : 24-TN2H                                |
| Rep. car/truck line | : TACOMA HYBRID                          |
| Rep. vehicle model  | : TZNH47L-PRVSZA                         |
| Displacement        | : 146.0 CID                              |
| Transmission        | : L580F-A                                |
| Test weight         | : 5,500 lbs.                             |
| Road load           | : 20.1 HP                                |
| Evap. code          | : TN2L                                   |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Running loss  | :       | 0.000      | (g/mile) |
| Hot soak loss | :       | 0.0443     | (g/test) |
| 3DBL          | 1st day | : 0.1270*1 | (g/test) |
|               | 2nd day | : 0.0971   | (g/test) |
|               | 3rd day | : 0.0990   | (g/test) |

2-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Hot soak loss | :       | 0.0280     | (g/test) |
| 2DBL          | 1st day | : 0.3295*1 | (g/test) |
|               | 2nd day | : 0.3115   | (g/test) |

Refueling sequence test results

|                    |   |       |         |
|--------------------|---|-------|---------|
| Refueling emission | : | 0.006 | (g/gal) |
|--------------------|---|-------|---------|

\*1: 1st DBL is added key off monitor loss (0.0010 gram).

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0170J62.

Evaporative emission test log

Vehicle Description

|                     | Evaporative emission vehicle | Refueling emission vehicle |
|---------------------|------------------------------|----------------------------|
| Test group          | : RTYXT02.4P34               | STYXT02.4H3J               |
| Vehicle ID          | : 24-TN2H                    | 25-TN2H                    |
| Rep. car/truck line | : TACOMA HYBRID              | 4RUNNER                    |
| Rep. vehicle model  | : TZNH47L-PRVSZA             | TZNH55L-GKVSZA             |
| Displacement        | : 146.0 CID                  | 146.0 CID                  |
| Transmission        | : L580F-A                    | L580F-C                    |
| Test weight         | : 5,500 lbs.                 | 5,500 lbs.                 |
| Road load           | : 20.1 HP                    | 18.8 HP                    |
| Evap. code          | : TN2L                       | TN1T                       |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Running loss  | :       | 0.000      | (g/mile) |
| Hot soak loss | :       | 0.0443     | (g/test) |
| 3DBL          | 1st day | : 0.1270*1 | (g/test) |
|               | 2nd day | : 0.0971   | (g/test) |
|               | 3rd day | : 0.0990   | (g/test) |

2-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Hot soak loss | :       | 0.0280     | (g/test) |
| 2DBL          | 1st day | : 0.3295*1 | (g/test) |
|               | 2nd day | : 0.3115   | (g/test) |

Refueling sequence test results

|                    |   |       |         |
|--------------------|---|-------|---------|
| Refueling emission | : | 0.030 | (g/gal) |
|--------------------|---|-------|---------|

\*1: 1st DBL is added key off monitor loss (0.0010 gram).

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J62.

[Test vehicle]

Model name : TX 550h+  
Data is representative for : TX 550h+

[Test procedure] : CARB method

[Test conditions]

Date : 02/08/2023  
Ambient air temperature (at initiation) : 105.1 °F  
Ambient air temperature (at completion) : 110.5 °F  
Track surface temperature (at initiation) : 146.1 °F  
Track surface temperature (at completion) : 150.1 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 02/09/2023  
Ambient air temperature (at initiation) : 105.4 °F  
Ambient air temperature (at completion) : 110.3 °F  
Track surface temperature (at initiation) : 146.7 °F  
Track surface temperature (at completion) : 150.1 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J62.

Measured temperature and pressure profiles

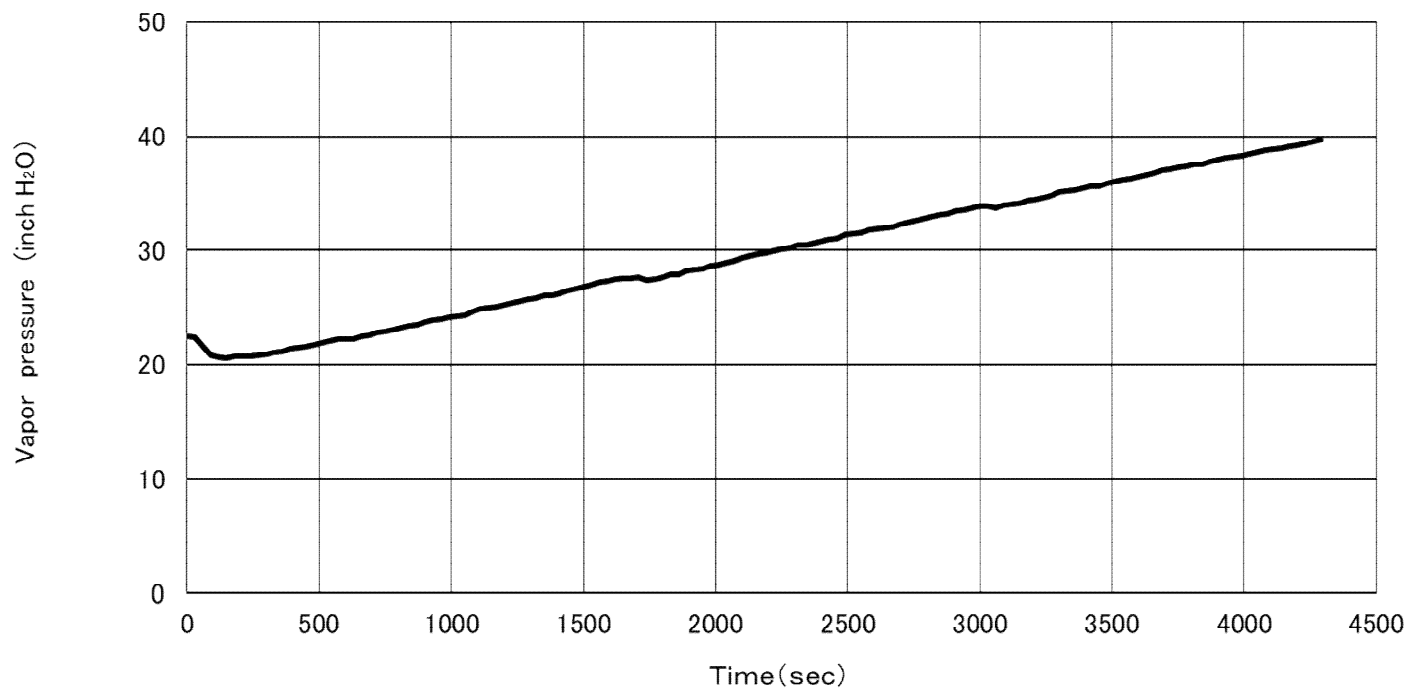
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 97.3       | 1200       | 100.9      | 2400       | 101.7      | 3600       | 102.9      |
| 30         | 97.3       | 1230       | 100.9      | 2430       | 101.7      | 3630       | 102.9      |
| 60         | 97.9       | 1260       | 100.9      | 2460       | 101.7      | 3660       | 102.9      |
| 90         | 98.2       | 1290       | 100.9      | 2490       | 101.7      | 3690       | 103.1      |
| 120        | 98.6       | 1320       | 100.9      | 2520       | 101.7      | 3720       | 102.9      |
| 150        | 98.6       | 1350       | 100.9      | 2550       | 101.8      | 3750       | 103.1      |
| 180        | 99.0       | 1380       | 100.9      | 2580       | 101.8      | 3780       | 103.1      |
| 210        | 99.3       | 1410       | 100.9      | 2610       | 101.8      | 3810       | 103.1      |
| 240        | 99.7       | 1440       | 100.9      | 2640       | 101.8      | 3840       | 103.1      |
| 270        | 99.7       | 1470       | 100.9      | 2670       | 101.8      | 3870       | 103.3      |
| 300        | 99.9       | 1500       | 100.9      | 2700       | 101.8      | 3900       | 103.3      |
| 330        | 100.0      | 1530       | 100.9      | 2730       | 102.0      | 3930       | 103.3      |
| 360        | 100.2      | 1560       | 100.9      | 2760       | 102.0      | 3960       | 103.3      |
| 390        | 100.4      | 1590       | 100.9      | 2790       | 102.0      | 3990       | 103.3      |
| 420        | 100.4      | 1620       | 100.9      | 2820       | 102.0      | 4020       | 103.3      |
| 450        | 100.4      | 1650       | 101.1      | 2850       | 102.0      | 4050       | 103.3      |
| 480        | 100.4      | 1680       | 101.1      | 2880       | 102.0      | 4080       | 103.5      |
| 510        | 100.6      | 1710       | 101.1      | 2910       | 102.0      | 4110       | 103.5      |
| 540        | 100.6      | 1740       | 101.3      | 2940       | 102.0      | 4140       | 103.5      |
| 570        | 100.8      | 1770       | 101.1      | 2970       | 102.2      | 4170       | 103.5      |
| 600        | 100.8      | 1800       | 101.1      | 3000       | 102.2      | 4200       | 103.5      |
| 630        | 100.8      | 1830       | 101.1      | 3030       | 102.2      | 4230       | 103.5      |
| 660        | 100.8      | 1860       | 101.3      | 3060       | 102.4      | 4260       | 103.5      |
| 690        | 100.8      | 1890       | 101.3      | 3090       | 102.4      | 4290       | 103.6      |
| 720        | 100.8      | 1920       | 101.3      | 3120       | 102.4      |            |            |
| 750        | 100.8      | 1950       | 101.3      | 3150       | 102.4      |            |            |
| 780        | 100.8      | 1980       | 101.3      | 3180       | 102.4      |            |            |
| 810        | 100.8      | 2010       | 101.3      | 3210       | 102.6      |            |            |
| 840        | 100.8      | 2040       | 101.5      | 3240       | 102.6      |            |            |
| 870        | 100.8      | 2070       | 101.5      | 3270       | 102.6      |            |            |
| 900        | 100.8      | 2100       | 101.5      | 3300       | 102.6      |            |            |
| 930        | 100.8      | 2130       | 101.5      | 3330       | 102.6      |            |            |
| 960        | 100.9      | 2160       | 101.5      | 3360       | 102.6      |            |            |
| 990        | 100.8      | 2190       | 101.5      | 3390       | 102.7      |            |            |
| 1020       | 100.9      | 2220       | 101.5      | 3420       | 102.7      |            |            |
| 1050       | 100.9      | 2250       | 101.5      | 3450       | 102.7      |            |            |
| 1080       | 100.9      | 2280       | 101.5      | 3480       | 102.7      |            |            |
| 1110       | 100.9      | 2310       | 101.7      | 3510       | 102.9      |            |            |
| 1140       | 100.9      | 2340       | 101.5      | 3540       | 102.9      |            |            |
| 1170       | 100.9      | 2370       | 101.5      | 3570       | 102.7      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J62.

[Test vehicle]

Model name : TX 550h+  
Data is representative for : TX 550h+

[Test procedure] : EPA method

[Test conditions]

Date : 02/08/2023  
Ambient air temperature (at initiation) : 95.5 °F  
Ambient air temperature (at completion) : 100.6 °F  
Track surface temperature (at initiation) : 131.2 °F  
Track surface temperature (at completion) : 134.4 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 02/09/2023  
Ambient air temperature (at initiation) : 96.1 °F  
Ambient air temperature (at completion) : 100.6 °F  
Track surface temperature (at initiation) : 131.9 °F  
Track surface temperature (at completion) : 136.0 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

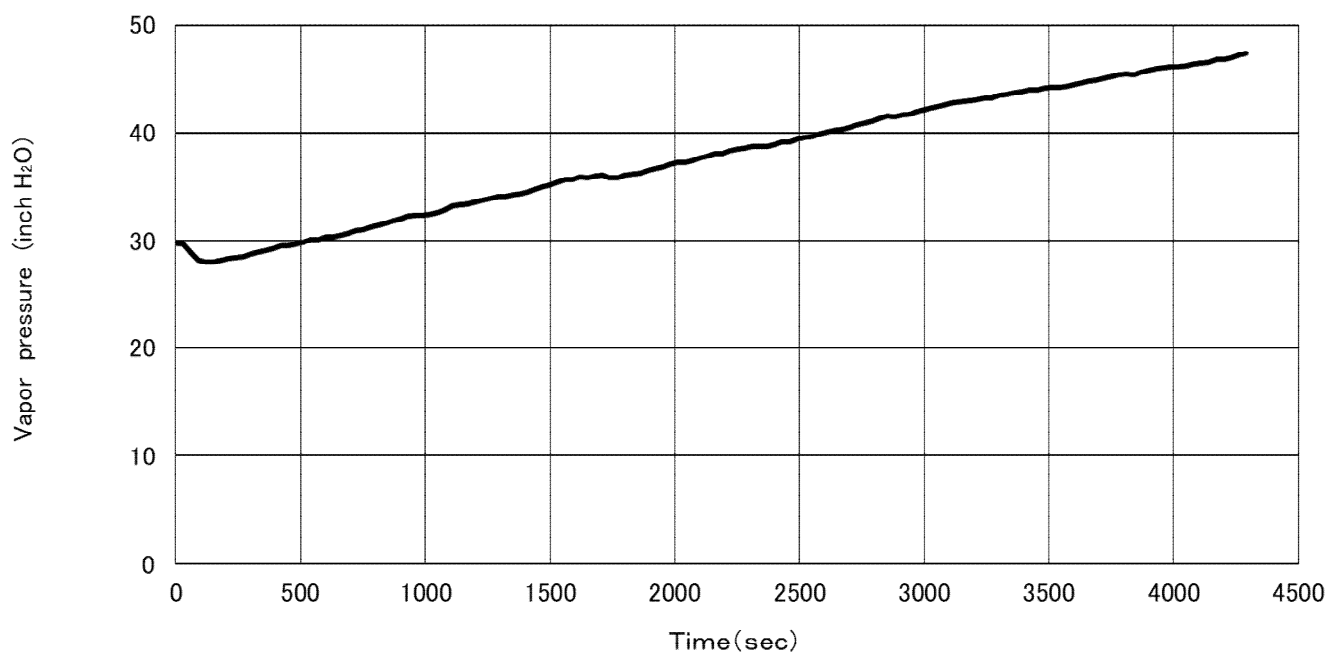
17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J62.  
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 87.6       | 1200       | 91.4       | 2400       | 91.8       | 3600       | 92.8       |
| 30         | 87.6       | 1230       | 91.4       | 2430       | 91.8       | 3630       | 92.7       |
| 60         | 88.2       | 1260       | 91.4       | 2460       | 91.8       | 3660       | 92.7       |
| 90         | 88.7       | 1290       | 91.4       | 2490       | 91.9       | 3690       | 92.7       |
| 120        | 89.1       | 1320       | 91.4       | 2520       | 91.8       | 3720       | 92.8       |
| 150        | 89.2       | 1350       | 91.4       | 2550       | 91.9       | 3750       | 92.8       |
| 180        | 89.4       | 1380       | 91.4       | 2580       | 91.9       | 3780       | 92.8       |
| 210        | 89.8       | 1410       | 91.4       | 2610       | 91.9       | 3810       | 92.8       |
| 240        | 90.1       | 1440       | 91.4       | 2640       | 91.9       | 3840       | 92.8       |
| 270        | 90.1       | 1470       | 91.4       | 2670       | 91.9       | 3870       | 92.8       |
| 300        | 90.3       | 1500       | 91.2       | 2700       | 91.9       | 3900       | 92.8       |
| 330        | 90.5       | 1530       | 91.4       | 2730       | 92.1       | 3930       | 92.8       |
| 360        | 90.7       | 1560       | 91.4       | 2760       | 92.1       | 3960       | 93.0       |
| 390        | 90.7       | 1590       | 91.4       | 2790       | 92.1       | 3990       | 92.8       |
| 420        | 90.9       | 1620       | 91.2       | 2820       | 92.1       | 4020       | 93.0       |
| 450        | 90.9       | 1650       | 91.2       | 2850       | 92.1       | 4050       | 93.0       |
| 480        | 91.0       | 1680       | 91.2       | 2880       | 91.9       | 4080       | 93.0       |
| 510        | 91.0       | 1710       | 91.2       | 2910       | 91.9       | 4110       | 93.0       |
| 540        | 91.0       | 1740       | 91.4       | 2940       | 92.1       | 4140       | 93.0       |
| 570        | 91.0       | 1770       | 91.4       | 2970       | 92.1       | 4170       | 93.0       |
| 600        | 91.2       | 1800       | 91.4       | 3000       | 92.1       | 4200       | 93.0       |
| 630        | 91.0       | 1830       | 91.4       | 3030       | 92.1       | 4230       | 93.2       |
| 660        | 91.2       | 1860       | 91.4       | 3060       | 92.1       | 4260       | 93.2       |
| 690        | 91.2       | 1890       | 91.4       | 3090       | 92.1       | 4290       | 93.4       |
| 720        | 91.2       | 1920       | 91.4       | 3120       | 92.3       |            |            |
| 750        | 91.4       | 1950       | 91.4       | 3150       | 92.3       |            |            |
| 780        | 91.4       | 1980       | 91.4       | 3180       | 92.3       |            |            |
| 810        | 91.2       | 2010       | 91.4       | 3210       | 92.3       |            |            |
| 840        | 91.2       | 2040       | 91.4       | 3240       | 92.3       |            |            |
| 870        | 91.4       | 2070       | 91.4       | 3270       | 92.5       |            |            |
| 900        | 91.4       | 2100       | 91.6       | 3300       | 92.5       |            |            |
| 930        | 91.4       | 2130       | 91.6       | 3330       | 92.5       |            |            |
| 960        | 91.4       | 2160       | 91.4       | 3360       | 92.5       |            |            |
| 990        | 91.4       | 2190       | 91.4       | 3390       | 92.5       |            |            |
| 1020       | 91.4       | 2220       | 91.6       | 3420       | 92.7       |            |            |
| 1050       | 91.4       | 2250       | 91.6       | 3450       | 92.7       |            |            |
| 1080       | 91.4       | 2280       | 91.6       | 3480       | 92.7       |            |            |
| 1110       | 91.4       | 2310       | 91.6       | 3510       | 92.7       |            |            |
| 1140       | 91.4       | 2340       | 91.6       | 3540       | 92.7       |            |            |
| 1170       | 91.4       | 2370       | 91.8       | 3570       | 92.7       |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J62.

(b) Measured vapor space pressure profile



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165J62.

Evaporative emission test log

Vehicle Description

|                     |                                          |
|---------------------|------------------------------------------|
|                     | Evaporative / Refueling emission vehicle |
| Test group          | : RTYXT03.5P33                           |
| Vehicle ID          | : 24-GU2H                                |
| Rep. car/truck line | : TX 550h+                               |
| Rep. vehicle model  | : GYU15L-BWXGBA                          |
| Displacement        | : 241.4CID                               |
| Transmission        | : P810-I                                 |
| Test weight         | : 5,500 lbs.                             |
| Road load           | : 15.9 HP                                |
| Evap. code          | : GU1E                                   |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|                  |         |            |          |
|------------------|---------|------------|----------|
| Exhaust emission | NMOG    | : 0.0002   | (g/mile) |
|                  | CO      | : 0.00     | (g/mile) |
|                  | NOx     | : 0.0000   | (g/mile) |
| Running loss     |         | : 0.391    | (g/mile) |
| Hot soak loss    |         | : 0.0478   | (g/test) |
| 3DBL             | 1st day | : 0.3431*1 | (g/test) |
|                  | 2nd day | : 0.2084   | (g/test) |
|                  | 3rd day | : 0.1880   | (g/test) |

2-day diurnal sequence test results\*2

|                  |         |          |          |
|------------------|---------|----------|----------|
| Exhaust emission | NMOG    | : N/A    | (g/mile) |
|                  | CO      | : 0.00   | (g/mile) |
|                  | NOx     | : N/A    | (g/mile) |
| Hot soak loss    |         | : 0.0208 | (g/test) |
| 2DBL             | 1st day | : 0.2759 | (g/test) |
|                  | 2nd day | : 0.1397 | (g/test) |

Refueling sequence test results

Refueling emission : 0.001 (g/gal)

\*1: 1st DBL is added key off monitor loss (0.0086 gram).

\*2: In lieu of testing, Toyota is providing a compliance statement in §8.2.

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

[Test vehicle]

Model name : GX 550  
Data is representative for : GX 550

[Test procedure] : CARB method

[Test conditions]

Date : 01/23/2023  
Ambient air temperature (at initiation) : 106.3 °F  
Ambient air temperature (at completion) : 107.8 °F  
Track surface temperature (at initiation) : 148.8 °F  
Track surface temperature (at completion) : 151.0 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 01/24/2023  
Ambient air temperature (at initiation) : 106.3 °F  
Ambient air temperature (at completion) : 107.8 °F  
Track surface temperature (at initiation) : 148.8 °F  
Track surface temperature (at completion) : 151.0 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

Measured temperature and pressure profiles

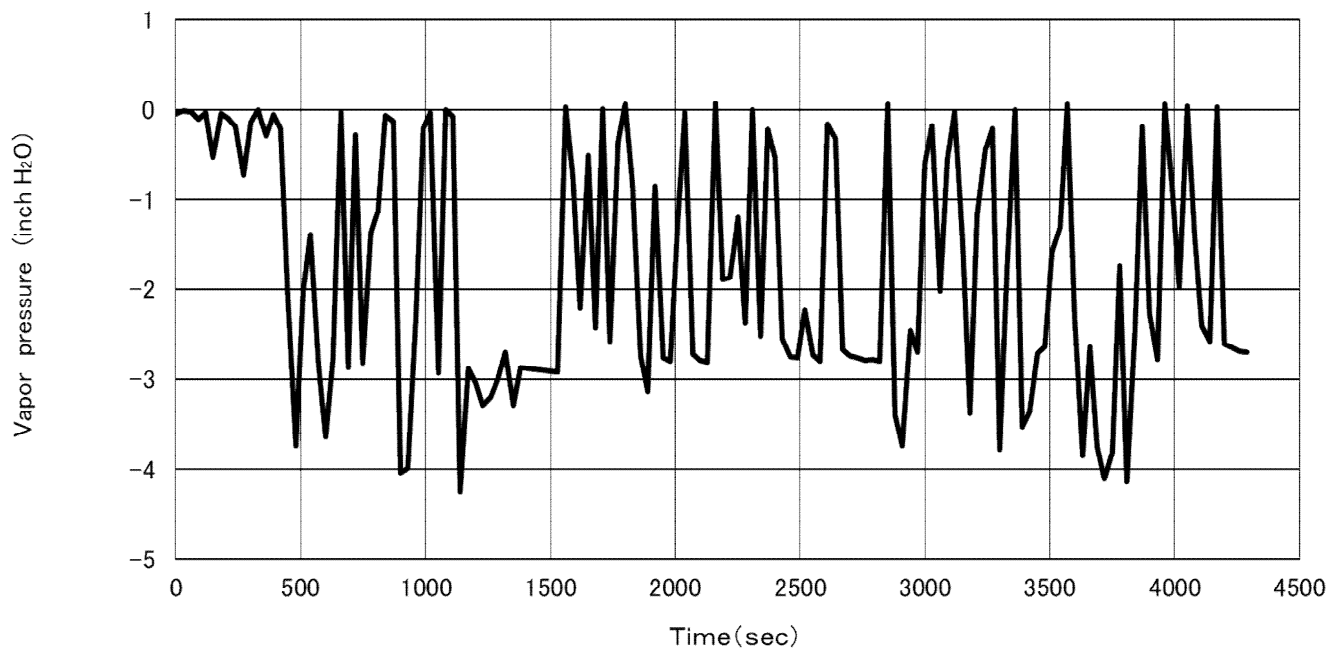
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.7      | 1200       | 109.9      | 2400       | 116.1      | 3600       | 123.1      |
| 30         | 106.7      | 1230       | 110.3      | 2430       | 115.7      | 3630       | 123.3      |
| 60         | 106.7      | 1260       | 110.1      | 2460       | 115.5      | 3660       | 123.6      |
| 90         | 106.7      | 1290       | 110.5      | 2490       | 115.5      | 3690       | 123.8      |
| 120        | 106.7      | 1320       | 110.8      | 2520       | 116.1      | 3720       | 124.0      |
| 150        | 106.5      | 1350       | 110.3      | 2550       | 116.2      | 3750       | 124.2      |
| 180        | 106.5      | 1380       | 110.5      | 2580       | 116.2      | 3780       | 124.3      |
| 210        | 106.9      | 1410       | 110.1      | 2610       | 117.0      | 3810       | 124.5      |
| 240        | 107.1      | 1440       | 110.1      | 2640       | 117.0      | 3840       | 124.7      |
| 270        | 107.2      | 1470       | 110.1      | 2670       | 117.1      | 3870       | 124.2      |
| 300        | 107.2      | 1500       | 110.1      | 2700       | 117.1      | 3900       | 124.7      |
| 330        | 107.4      | 1530       | 110.3      | 2730       | 117.3      | 3930       | 124.3      |
| 360        | 107.1      | 1560       | 110.7      | 2760       | 117.3      | 3960       | 124.9      |
| 390        | 107.4      | 1590       | 110.7      | 2790       | 117.3      | 3990       | 124.7      |
| 420        | 107.4      | 1620       | 111.2      | 2820       | 117.7      | 4020       | 124.9      |
| 450        | 107.2      | 1650       | 111.4      | 2850       | 118.2      | 4050       | 125.4      |
| 480        | 107.6      | 1680       | 112.1      | 2880       | 118.8      | 4080       | 124.9      |
| 510        | 107.8      | 1710       | 112.3      | 2910       | 118.8      | 4110       | 125.4      |
| 540        | 108.0      | 1740       | 112.5      | 2940       | 119.1      | 4140       | 125.2      |
| 570        | 107.8      | 1770       | 111.9      | 2970       | 118.9      | 4170       | 125.4      |
| 600        | 108.0      | 1800       | 112.6      | 3000       | 119.5      | 4200       | 125.2      |
| 630        | 108.1      | 1830       | 112.3      | 3030       | 119.5      | 4230       | 125.1      |
| 660        | 107.8      | 1860       | 112.1      | 3060       | 119.5      | 4260       | 125.1      |
| 690        | 108.0      | 1890       | 112.3      | 3090       | 119.8      | 4290       | 125.4      |
| 720        | 108.1      | 1920       | 112.6      | 3120       | 120.2      |            |            |
| 750        | 108.3      | 1950       | 112.8      | 3150       | 120.7      |            |            |
| 780        | 108.5      | 1980       | 112.8      | 3180       | 120.7      |            |            |
| 810        | 108.9      | 2010       | 113.4      | 3210       | 121.3      |            |            |
| 840        | 109.0      | 2040       | 113.2      | 3240       | 121.5      |            |            |
| 870        | 109.4      | 2070       | 113.7      | 3270       | 121.1      |            |            |
| 900        | 109.4      | 2100       | 113.5      | 3300       | 121.5      |            |            |
| 930        | 109.6      | 2130       | 113.5      | 3330       | 121.6      |            |            |
| 960        | 109.8      | 2160       | 113.9      | 3360       | 122.0      |            |            |
| 990        | 109.9      | 2190       | 113.9      | 3390       | 121.6      |            |            |
| 1020       | 109.9      | 2220       | 114.4      | 3420       | 122.2      |            |            |
| 1050       | 109.4      | 2250       | 114.6      | 3450       | 122.0      |            |            |
| 1080       | 109.8      | 2280       | 115.3      | 3480       | 122.2      |            |            |
| 1110       | 109.2      | 2310       | 115.5      | 3510       | 122.0      |            |            |
| 1140       | 110.1      | 2340       | 115.9      | 3540       | 122.7      |            |            |
| 1170       | 109.8      | 2370       | 115.2      | 3570       | 122.9      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

[Test vehicle]

Model name : GX 550  
Data is representative for : GX 550

[Test procedure] : EPA method

[Test conditions]

Date : 01/23/2023  
Ambient air temperature (at initiation) : 98.1 °F  
Ambient air temperature (at completion) : 98.6 °F  
Track surface temperature (at initiation) : 131.0 °F  
Track surface temperature (at completion) : 132.6 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 01/24/2023  
Ambient air temperature (at initiation) : 95.5 °F  
Ambient air temperature (at completion) : 99.9 °F  
Track surface temperature (at initiation) : 132.1 °F  
Track surface temperature (at completion) : 133.0 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

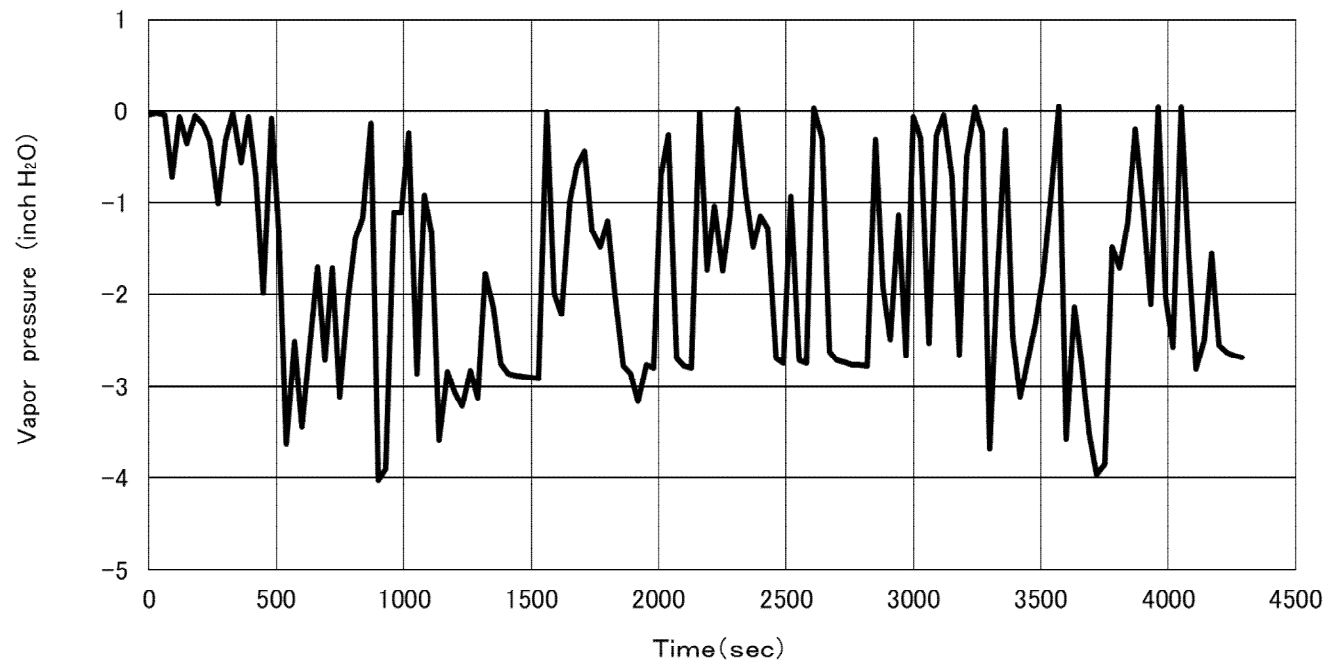
17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.  
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 95.7       | 1200       | 98.8       | 2400       | 104.5      | 3600       | 111.4      |
| 30         | 95.7       | 1230       | 99.0       | 2430       | 104.4      | 3630       | 111.6      |
| 60         | 95.9       | 1260       | 99.0       | 2460       | 104.4      | 3660       | 111.7      |
| 90         | 95.9       | 1290       | 99.0       | 2490       | 104.5      | 3690       | 112.1      |
| 120        | 96.1       | 1320       | 99.3       | 2520       | 104.9      | 3720       | 112.3      |
| 150        | 95.9       | 1350       | 99.3       | 2550       | 105.1      | 3750       | 112.3      |
| 180        | 95.9       | 1380       | 99.5       | 2580       | 105.3      | 3780       | 112.5      |
| 210        | 96.1       | 1410       | 99.3       | 2610       | 105.4      | 3810       | 112.6      |
| 240        | 96.1       | 1440       | 99.3       | 2640       | 105.6      | 3840       | 113.0      |
| 270        | 96.3       | 1470       | 99.5       | 2670       | 105.6      | 3870       | 112.6      |
| 300        | 96.3       | 1500       | 99.5       | 2700       | 105.8      | 3900       | 113.0      |
| 330        | 96.3       | 1530       | 99.5       | 2730       | 106.0      | 3930       | 112.8      |
| 360        | 96.1       | 1560       | 99.7       | 2760       | 106.2      | 3960       | 113.4      |
| 390        | 96.4       | 1590       | 99.9       | 2790       | 106.5      | 3990       | 113.0      |
| 420        | 96.3       | 1620       | 100.0      | 2820       | 106.5      | 4020       | 113.2      |
| 450        | 96.3       | 1650       | 100.2      | 2850       | 106.7      | 4050       | 113.5      |
| 480        | 96.4       | 1680       | 100.8      | 2880       | 107.2      | 4080       | 113.5      |
| 510        | 96.6       | 1710       | 100.8      | 2910       | 107.1      | 4110       | 113.7      |
| 540        | 96.6       | 1740       | 101.1      | 2940       | 107.4      | 4140       | 113.9      |
| 570        | 96.4       | 1770       | 100.9      | 2970       | 107.6      | 4170       | 113.9      |
| 600        | 96.6       | 1800       | 101.1      | 3000       | 107.8      | 4200       | 113.9      |
| 630        | 96.8       | 1830       | 101.3      | 3030       | 107.8      | 4230       | 113.9      |
| 660        | 96.8       | 1860       | 101.1      | 3060       | 107.8      | 4260       | 113.9      |
| 690        | 97.0       | 1890       | 101.3      | 3090       | 108.1      | 4290       | 114.1      |
| 720        | 97.0       | 1920       | 101.5      | 3120       | 108.3      |            |            |
| 750        | 97.2       | 1950       | 101.5      | 3150       | 109.0      |            |            |
| 780        | 97.2       | 1980       | 101.7      | 3180       | 109.0      |            |            |
| 810        | 97.5       | 2010       | 102.0      | 3210       | 109.4      |            |            |
| 840        | 97.7       | 2040       | 102.0      | 3240       | 109.6      |            |            |
| 870        | 97.7       | 2070       | 102.2      | 3270       | 109.4      |            |            |
| 900        | 97.9       | 2100       | 102.4      | 3300       | 109.9      |            |            |
| 930        | 98.1       | 2130       | 102.6      | 3330       | 109.9      |            |            |
| 960        | 98.2       | 2160       | 102.6      | 3360       | 110.1      |            |            |
| 990        | 98.2       | 2190       | 102.7      | 3390       | 110.1      |            |            |
| 1020       | 98.6       | 2220       | 103.3      | 3420       | 110.5      |            |            |
| 1050       | 98.2       | 2250       | 103.5      | 3450       | 110.5      |            |            |
| 1080       | 98.4       | 2280       | 103.8      | 3480       | 110.5      |            |            |
| 1110       | 98.2       | 2310       | 103.8      | 3510       | 110.5      |            |            |
| 1140       | 98.6       | 2340       | 104.2      | 3540       | 111.0      |            |            |
| 1170       | 98.6       | 2370       | 104.0      | 3570       | 111.2      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

[Test vehicle]

Model name : 4RUNNER 4WD  
Data is representative for : 4RUNNER 2WD, 4RUNNER 4WD

[Test procedure] : CARB method

[Test conditions]

Date : 11/30/2023  
Ambient air temperature (at initiation) : 105.8 °F  
Ambient air temperature (at completion) : 110.7 °F  
Track surface temperature (at initiation) : 169.5 °F  
Track surface temperature (at completion) : 178.9 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 12/01/2023  
Ambient air temperature (at initiation) : 106.2 °F  
Ambient air temperature (at completion) : 110.5 °F  
Track surface temperature (at initiation) : 176.5 °F  
Track surface temperature (at completion) : 178.9 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

Measured temperature and pressure profiles

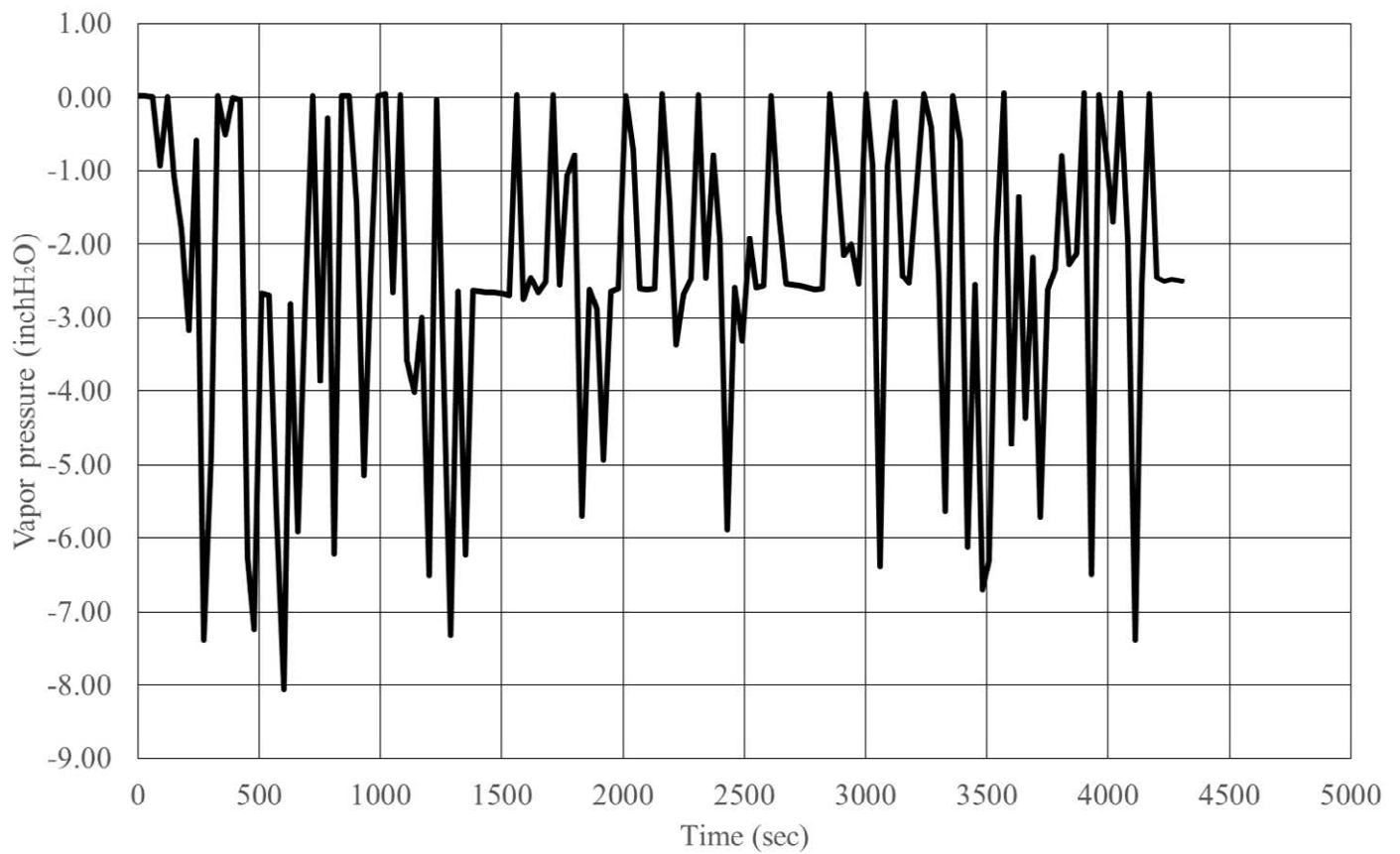
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 104.9      | 1200       | 109.6      | 2400       | 116.2      | 3600       | 122.0      |
| 30         | 104.9      | 1230       | 109.6      | 2430       | 116.4      | 3630       | 122.2      |
| 60         | 105.1      | 1260       | 109.9      | 2460       | 116.6      | 3660       | 122.2      |
| 90         | 105.1      | 1290       | 110.1      | 2490       | 116.8      | 3690       | 122.4      |
| 120        | 105.3      | 1320       | 110.3      | 2520       | 116.8      | 3720       | 122.5      |
| 150        | 105.4      | 1350       | 110.5      | 2550       | 117.1      | 3750       | 122.7      |
| 180        | 105.4      | 1380       | 110.5      | 2580       | 117.5      | 3780       | 122.7      |
| 210        | 105.4      | 1410       | 110.7      | 2610       | 117.5      | 3810       | 122.9      |
| 240        | 105.4      | 1440       | 110.8      | 2640       | 117.5      | 3840       | 122.9      |
| 270        | 105.6      | 1470       | 111.0      | 2670       | 117.7      | 3870       | 123.1      |
| 300        | 105.8      | 1500       | 111.2      | 2700       | 117.9      | 3900       | 123.1      |
| 330        | 106.0      | 1530       | 111.4      | 2730       | 118.0      | 3930       | 123.3      |
| 360        | 106.2      | 1560       | 111.4      | 2760       | 118.2      | 3960       | 123.3      |
| 390        | 106.2      | 1590       | 111.6      | 2790       | 118.6      | 3990       | 123.4      |
| 420        | 106.3      | 1620       | 111.7      | 2820       | 118.6      | 4020       | 123.6      |
| 450        | 106.5      | 1650       | 111.9      | 2850       | 118.8      | 4050       | 123.6      |
| 480        | 106.5      | 1680       | 112.1      | 2880       | 118.8      | 4080       | 123.8      |
| 510        | 106.7      | 1710       | 112.3      | 2910       | 119.1      | 4110       | 123.8      |
| 540        | 106.9      | 1740       | 112.5      | 2940       | 119.3      | 4140       | 124.0      |
| 570        | 106.9      | 1770       | 112.6      | 2970       | 119.5      | 4170       | 124.0      |
| 600        | 107.1      | 1800       | 112.8      | 3000       | 119.5      | 4200       | 124.2      |
| 630        | 107.1      | 1830       | 113.0      | 3030       | 119.8      | 4230       | 124.3      |
| 660        | 107.2      | 1860       | 113.2      | 3060       | 120.4      | 4260       | 124.3      |
| 690        | 107.4      | 1890       | 113.5      | 3090       | 120.4      | 4290       | 124.5      |
| 720        | 107.4      | 1920       | 113.5      | 3120       | 120.7      | 4304       | 124.5      |
| 750        | 107.4      | 1950       | 113.7      | 3150       | 120.6      |            |            |
| 780        | 107.6      | 1980       | 113.9      | 3180       | 120.7      |            |            |
| 810        | 107.6      | 2010       | 113.9      | 3210       | 120.7      |            |            |
| 840        | 107.8      | 2040       | 114.1      | 3240       | 120.7      |            |            |
| 870        | 108.0      | 2070       | 114.4      | 3270       | 120.9      |            |            |
| 900        | 108.1      | 2100       | 114.6      | 3300       | 120.9      |            |            |
| 930        | 108.3      | 2130       | 114.8      | 3330       | 121.1      |            |            |
| 960        | 108.5      | 2160       | 114.8      | 3360       | 121.1      |            |            |
| 990        | 108.7      | 2190       | 115.0      | 3390       | 121.1      |            |            |
| 1020       | 108.7      | 2220       | 115.2      | 3420       | 121.3      |            |            |
| 1050       | 108.9      | 2250       | 115.2      | 3450       | 121.5      |            |            |
| 1080       | 109.0      | 2280       | 115.5      | 3480       | 121.6      |            |            |
| 1110       | 109.2      | 2310       | 115.7      | 3510       | 121.6      |            |            |
| 1140       | 109.2      | 2340       | 115.9      | 3540       | 121.8      |            |            |
| 1170       | 109.4      | 2370       | 116.1      | 3570       | 122.0      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

[Test vehicle]

Model name : 4RUNNER 4WD  
Data is representative for : 4RUNNER 2WD, 4RUNNER 4WD

[Test procedure] : EPA method

[Test conditions]

Date : 12/04/2023  
Ambient air temperature (at initiation) : 97.0 °F  
Ambient air temperature (at completion) : 100.0 °F  
Track surface temperature (at initiation) : 159.1 °F  
Track surface temperature (at completion) : 158.0 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 12/04/2023  
Ambient air temperature (at initiation) : 97.0 °F  
Ambient air temperature (at completion) : 99.9 °F  
Track surface temperature (at initiation) : 159.8 °F  
Track surface temperature (at completion) : 158.2 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.  
Measured temperature and pressure profiles

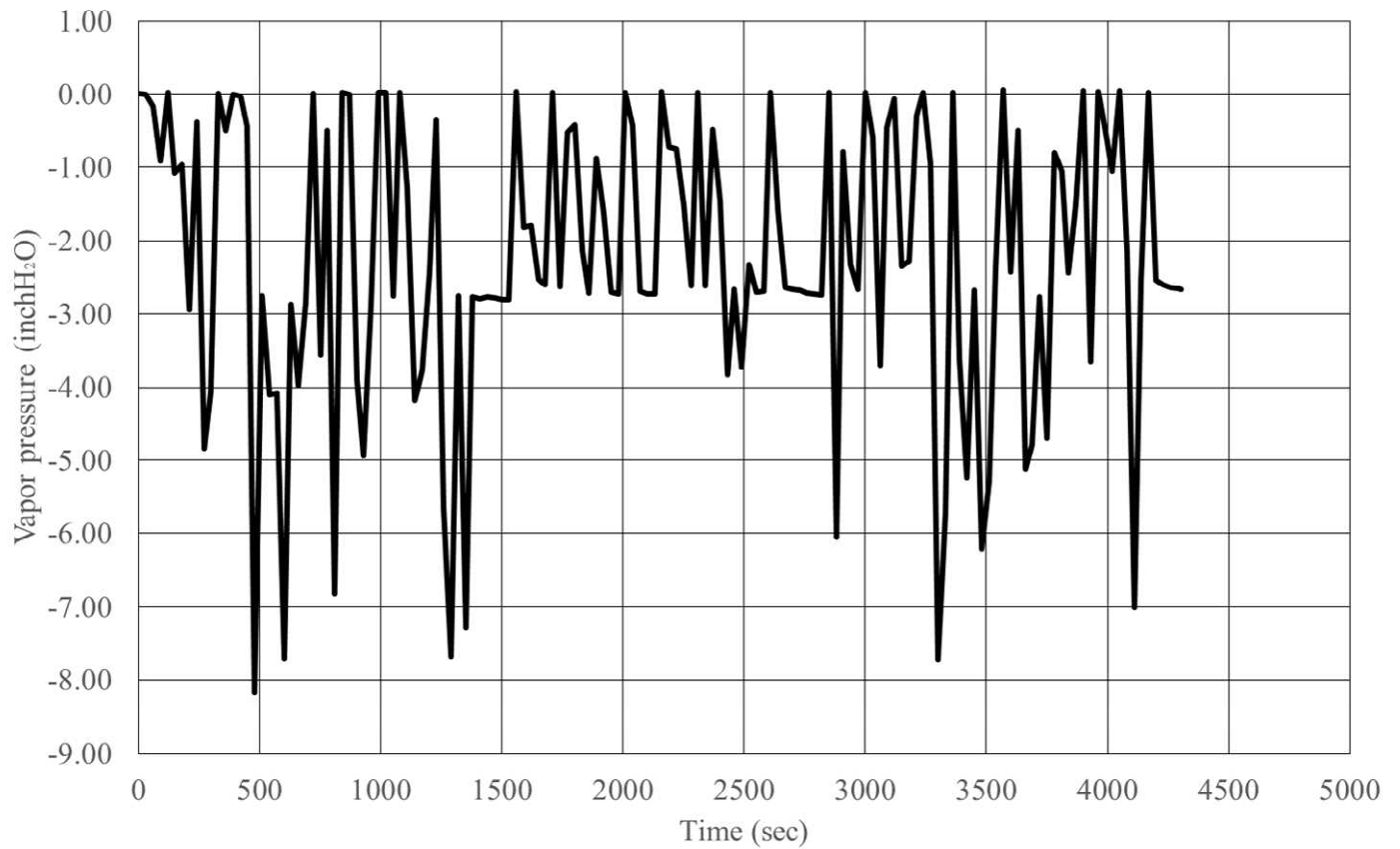
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 97.5       | 1200       | 102.7      | 2400       | 109.6      | 3600       | 115.5      |
| 30         | 97.7       | 1230       | 102.7      | 2430       | 109.8      | 3630       | 115.5      |
| 60         | 97.8       | 1260       | 102.9      | 2460       | 109.9      | 3660       | 115.7      |
| 90         | 97.9       | 1290       | 103.1      | 2490       | 110.1      | 3690       | 115.9      |
| 120        | 98.1       | 1320       | 103.3      | 2520       | 110.1      | 3720       | 115.9      |
| 150        | 98.2       | 1350       | 103.5      | 2550       | 110.3      | 3750       | 116.1      |
| 180        | 98.2       | 1380       | 103.6      | 2580       | 110.5      | 3780       | 116.1      |
| 210        | 98.2       | 1410       | 103.6      | 2610       | 110.7      | 3810       | 116.2      |
| 240        | 98.4       | 1440       | 103.8      | 2640       | 110.8      | 3840       | 116.4      |
| 270        | 98.4       | 1470       | 104.2      | 2670       | 111.0      | 3870       | 116.4      |
| 300        | 98.6       | 1500       | 104.2      | 2700       | 111.2      | 3900       | 116.4      |
| 330        | 98.8       | 1530       | 104.4      | 2730       | 111.4      | 3930       | 116.6      |
| 360        | 99.0       | 1560       | 104.4      | 2760       | 111.6      | 3960       | 116.8      |
| 390        | 99.0       | 1590       | 104.5      | 2790       | 111.7      | 3990       | 116.8      |
| 420        | 99.0       | 1620       | 104.7      | 2820       | 111.9      | 4020       | 117.0      |
| 450        | 99.3       | 1650       | 104.9      | 2850       | 111.9      | 4050       | 117.0      |
| 480        | 99.3       | 1680       | 104.9      | 2880       | 112.1      | 4080       | 117.1      |
| 510        | 99.3       | 1710       | 105.3      | 2910       | 112.3      | 4110       | 117.1      |
| 540        | 99.5       | 1740       | 105.4      | 2940       | 112.6      | 4140       | 117.1      |
| 570        | 99.7       | 1770       | 105.6      | 2970       | 112.8      | 4170       | 117.3      |
| 600        | 99.9       | 1800       | 105.8      | 3000       | 112.8      | 4200       | 117.5      |
| 630        | 100.0      | 1830       | 106.0      | 3030       | 113.2      | 4230       | 117.7      |
| 660        | 100.2      | 1860       | 106.3      | 3060       | 113.5      | 4260       | 117.7      |
| 690        | 100.2      | 1890       | 106.5      | 3090       | 113.9      | 4290       | 117.9      |
| 720        | 100.4      | 1920       | 106.7      | 3120       | 114.1      | 4304       | 117.9      |
| 750        | 100.6      | 1950       | 106.7      | 3150       | 113.9      |            |            |
| 780        | 100.6      | 1980       | 106.9      | 3180       | 114.1      |            |            |
| 810        | 100.8      | 2010       | 107.1      | 3210       | 114.3      |            |            |
| 840        | 100.9      | 2040       | 107.4      | 3240       | 114.3      |            |            |
| 870        | 101.1      | 2070       | 107.6      | 3270       | 114.3      |            |            |
| 900        | 101.1      | 2100       | 107.8      | 3300       | 114.4      |            |            |
| 930        | 101.3      | 2130       | 108.0      | 3330       | 114.4      |            |            |
| 960        | 101.5      | 2160       | 108.1      | 3360       | 114.4      |            |            |
| 990        | 101.7      | 2190       | 108.3      | 3390       | 114.6      |            |            |
| 1020       | 101.8      | 2220       | 108.3      | 3420       | 114.8      |            |            |
| 1050       | 102.0      | 2250       | 108.5      | 3450       | 114.8      |            |            |
| 1080       | 102.2      | 2280       | 108.7      | 3480       | 115.0      |            |            |
| 1110       | 102.2      | 2310       | 108.9      | 3510       | 115.2      |            |            |
| 1140       | 102.4      | 2340       | 109.2      | 3540       | 115.2      |            |            |
| 1170       | 102.6      | 2370       | 109.4      | 3570       | 115.3      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

[Test vehicle]

Model name : LX 600  
Data is representative for : LX 600

[Test procedure] : CARB method

[Test conditions]

Date : 01/16/2021  
Ambient air temperature (at initiation) : 107.1 °F  
Ambient air temperature (at completion) : 108.9 °F  
Track surface temperature (at initiation) : 149.2 °F  
Track surface temperature (at completion) : 150.4 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 01/17/2021  
Ambient air temperature (at initiation) : 107.4 °F  
Ambient air temperature (at completion) : 108.5 °F  
Track surface temperature (at initiation) : 149.5 °F  
Track surface temperature (at completion) : 150.6 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

Measured temperature and pressure profiles

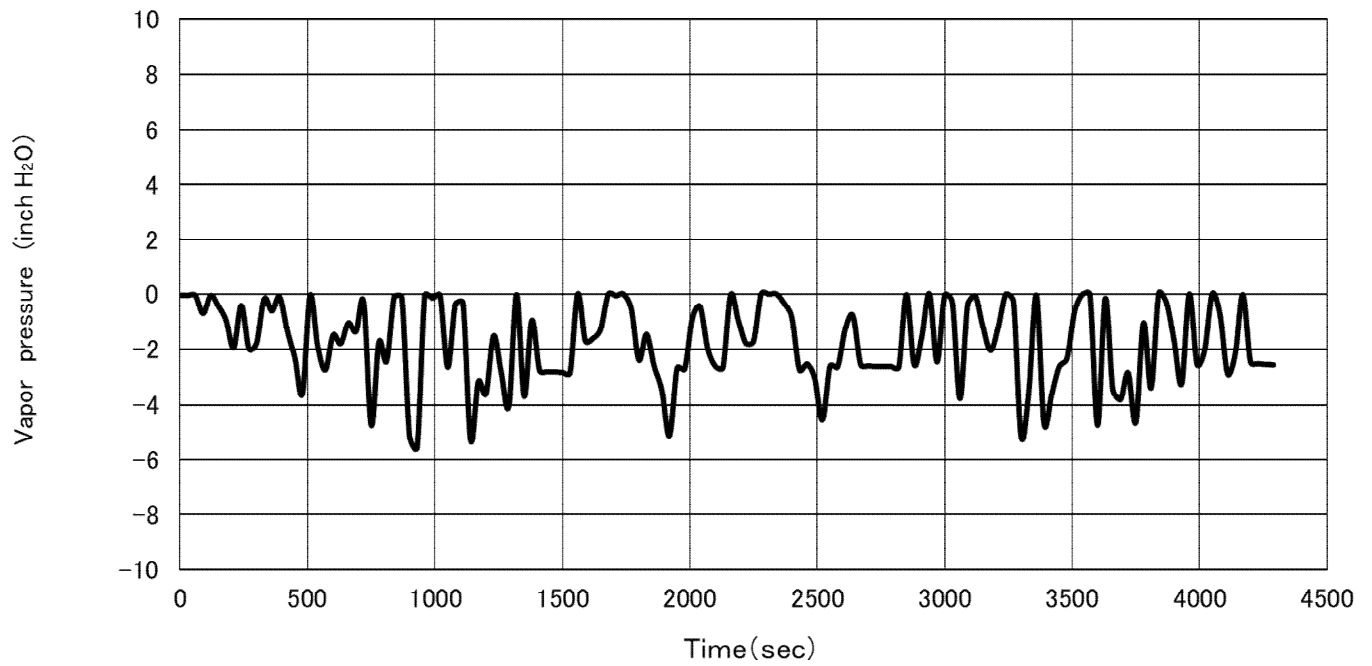
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.2      | 1200       | 109.4      | 2400       | 115.0      | 3600       | 120.9      |
| 30         | 106.2      | 1230       | 109.4      | 2430       | 114.8      | 3630       | 121.1      |
| 60         | 106.2      | 1260       | 109.6      | 2460       | 115.0      | 3660       | 121.3      |
| 90         | 106.2      | 1290       | 109.8      | 2490       | 115.2      | 3690       | 121.5      |
| 120        | 106.2      | 1320       | 109.9      | 2520       | 115.3      | 3720       | 121.6      |
| 150        | 106.2      | 1350       | 109.8      | 2550       | 115.7      | 3750       | 121.6      |
| 180        | 106.2      | 1380       | 110.1      | 2580       | 115.7      | 3780       | 121.8      |
| 210        | 106.2      | 1410       | 110.1      | 2610       | 115.9      | 3810       | 122.0      |
| 240        | 106.3      | 1440       | 110.3      | 2640       | 115.9      | 3840       | 122.2      |
| 270        | 106.3      | 1470       | 110.3      | 2670       | 116.4      | 3870       | 121.8      |
| 300        | 106.3      | 1500       | 110.5      | 2700       | 116.4      | 3900       | 122.2      |
| 330        | 106.2      | 1530       | 110.8      | 2730       | 116.4      | 3930       | 122.4      |
| 360        | 106.2      | 1560       | 110.8      | 2760       | 116.6      | 3960       | 122.5      |
| 390        | 106.5      | 1590       | 111.0      | 2790       | 116.8      | 3990       | 122.5      |
| 420        | 106.5      | 1620       | 111.2      | 2820       | 117.0      | 4020       | 122.5      |
| 450        | 106.7      | 1650       | 111.2      | 2850       | 117.3      | 4050       | 122.9      |
| 480        | 106.7      | 1680       | 111.6      | 2880       | 117.7      | 4080       | 122.9      |
| 510        | 106.9      | 1710       | 111.6      | 2910       | 117.9      | 4110       | 123.3      |
| 540        | 106.9      | 1740       | 111.7      | 2940       | 117.9      | 4140       | 123.4      |
| 570        | 107.1      | 1770       | 111.6      | 2970       | 117.7      | 4170       | 123.3      |
| 600        | 107.1      | 1800       | 111.9      | 3000       | 117.9      | 4200       | 123.4      |
| 630        | 107.2      | 1830       | 111.9      | 3030       | 118.2      | 4230       | 123.3      |
| 660        | 107.1      | 1860       | 111.9      | 3060       | 118.6      | 4260       | 123.4      |
| 690        | 107.4      | 1890       | 112.1      | 3090       | 118.6      | 4290       | 123.6      |
| 720        | 107.4      | 1920       | 112.3      | 3120       | 118.8      |            |            |
| 750        | 107.6      | 1950       | 112.6      | 3150       | 118.9      |            |            |
| 780        | 107.8      | 1980       | 112.6      | 3180       | 118.9      |            |            |
| 810        | 108.0      | 2010       | 112.8      | 3210       | 119.3      |            |            |
| 840        | 108.0      | 2040       | 113.0      | 3240       | 119.5      |            |            |
| 870        | 108.1      | 2070       | 113.4      | 3270       | 119.1      |            |            |
| 900        | 108.3      | 2100       | 113.4      | 3300       | 119.7      |            |            |
| 930        | 108.5      | 2130       | 113.4      | 3330       | 119.7      |            |            |
| 960        | 108.5      | 2160       | 113.5      | 3360       | 119.8      |            |            |
| 990        | 108.7      | 2190       | 113.7      | 3390       | 119.7      |            |            |
| 1020       | 108.9      | 2220       | 113.9      | 3420       | 120.0      |            |            |
| 1050       | 108.9      | 2250       | 114.1      | 3450       | 120.2      |            |            |
| 1080       | 108.9      | 2280       | 114.4      | 3480       | 120.2      |            |            |
| 1110       | 109.2      | 2310       | 114.4      | 3510       | 120.6      |            |            |
| 1140       | 109.2      | 2340       | 114.8      | 3540       | 120.7      |            |            |
| 1170       | 109.4      | 2370       | 114.4      | 3570       | 120.9      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

[Test vehicle]

Model name : LX 600

Data is representative for : LX 600

[Test procedure] : EPA method

[Test conditions]

Date : 01/16/2021

Ambient air temperature (at initiation) : 96.8 °F

Ambient air temperature (at completion) : 99.7 °F

Track surface temperature (at initiation) : 131.0 °F

Track surface temperature (at completion) : 132.3 °F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

[Test conditions]

Date : 01/17/2021

Ambient air temperature (at initiation) : 97.7 °F

Ambient air temperature (at completion) : 98.4 °F

Track surface temperature (at initiation) : 130.8 °F

Track surface temperature (at completion) : 132.3 °F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.  
Measured temperature and pressure profiles

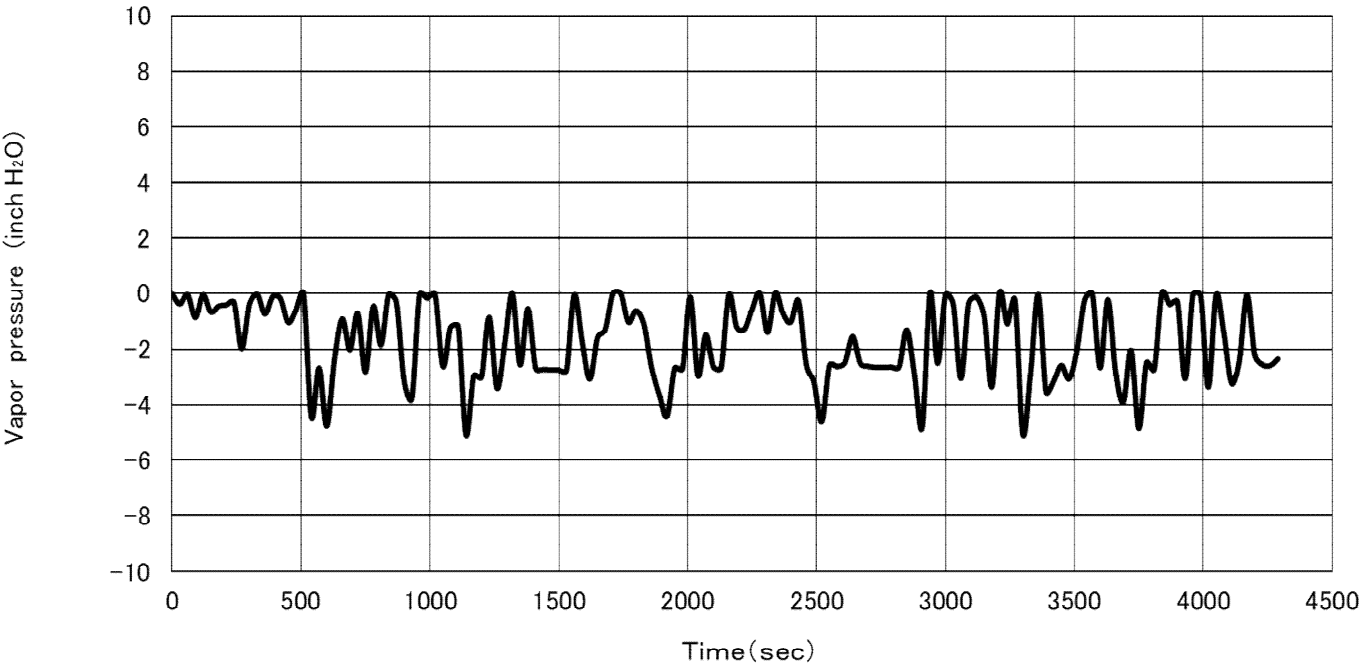
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.1       | 1200       | 99.1       | 2400       | 104.2      | 3600       | 110.5      |
| 30         | 96.1       | 1230       | 99.1       | 2430       | 104.2      | 3630       | 110.7      |
| 60         | 96.1       | 1260       | 99.3       | 2460       | 104.4      | 3660       | 110.7      |
| 90         | 96.1       | 1290       | 99.3       | 2490       | 104.5      | 3690       | 111.0      |
| 120        | 95.9       | 1320       | 99.5       | 2520       | 104.7      | 3720       | 111.2      |
| 150        | 96.1       | 1350       | 99.5       | 2550       | 104.9      | 3750       | 111.2      |
| 180        | 95.9       | 1380       | 99.9       | 2580       | 105.1      | 3780       | 111.6      |
| 210        | 96.1       | 1410       | 99.9       | 2610       | 105.3      | 3810       | 111.6      |
| 240        | 96.1       | 1440       | 99.9       | 2640       | 105.3      | 3840       | 111.7      |
| 270        | 96.1       | 1470       | 100.0      | 2670       | 105.8      | 3870       | 111.6      |
| 300        | 96.1       | 1500       | 100.0      | 2700       | 105.6      | 3900       | 111.7      |
| 330        | 96.3       | 1530       | 100.4      | 2730       | 105.8      | 3930       | 111.9      |
| 360        | 96.1       | 1560       | 100.4      | 2760       | 106.0      | 3960       | 112.1      |
| 390        | 96.3       | 1590       | 100.4      | 2790       | 106.3      | 3990       | 112.3      |
| 420        | 96.4       | 1620       | 100.6      | 2820       | 106.5      | 4020       | 112.3      |
| 450        | 96.6       | 1650       | 100.8      | 2850       | 106.7      | 4050       | 112.5      |
| 480        | 96.6       | 1680       | 100.9      | 2880       | 106.9      | 4080       | 112.6      |
| 510        | 96.6       | 1710       | 100.9      | 2910       | 107.1      | 4110       | 112.8      |
| 540        | 96.6       | 1740       | 101.1      | 2940       | 107.1      | 4140       | 113.0      |
| 570        | 96.8       | 1770       | 100.9      | 2970       | 107.2      | 4170       | 112.8      |
| 600        | 96.8       | 1800       | 101.3      | 3000       | 107.2      | 4200       | 113.0      |
| 630        | 97.0       | 1830       | 101.3      | 3030       | 107.6      | 4230       | 113.2      |
| 660        | 97.0       | 1860       | 101.3      | 3060       | 108.0      | 4260       | 113.2      |
| 690        | 97.2       | 1890       | 101.7      | 3090       | 108.0      | 4290       | 113.4      |
| 720        | 97.2       | 1920       | 101.7      | 3120       | 108.1      |            |            |
| 750        | 97.3       | 1950       | 102.0      | 3150       | 108.5      |            |            |
| 780        | 97.5       | 1980       | 102.0      | 3180       | 108.3      |            |            |
| 810        | 97.7       | 2010       | 102.2      | 3210       | 108.7      |            |            |
| 840        | 97.7       | 2040       | 102.2      | 3240       | 109.0      |            |            |
| 870        | 97.9       | 2070       | 102.7      | 3270       | 108.7      |            |            |
| 900        | 98.1       | 2100       | 102.7      | 3300       | 109.0      |            |            |
| 930        | 98.1       | 2130       | 102.9      | 3330       | 109.2      |            |            |
| 960        | 98.2       | 2160       | 102.9      | 3360       | 109.4      |            |            |
| 990        | 98.2       | 2190       | 103.1      | 3390       | 109.4      |            |            |
| 1020       | 98.4       | 2220       | 103.1      | 3420       | 109.6      |            |            |
| 1050       | 98.8       | 2250       | 103.3      | 3450       | 109.8      |            |            |
| 1080       | 98.6       | 2280       | 103.5      | 3480       | 109.8      |            |            |
| 1110       | 98.8       | 2310       | 103.6      | 3510       | 109.9      |            |            |
| 1140       | 98.8       | 2340       | 104.0      | 3540       | 110.1      |            |            |
| 1170       | 99.0       | 2370       | 103.8      | 3570       | 110.3      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

(b) Measured vapor space pressure profile



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P62.

Evaporative emission test log

Vehicle Description

|                     |                                          |
|---------------------|------------------------------------------|
|                     | Evaporative / Refueling emission vehicle |
| Test group          | : NTYXT03.4M5W                           |
| Vehicle ID          | : 22-VA1A                                |
| Rep. car/truck line | : LX 600                                 |
| Rep. vehicle model  | : VJA310L-GKULZA                         |
| Displacement        | : 210.2CID                               |
| Transmission        | : AJA0F-A                                |
| Test weight         | : 6,000 lbs.                             |
| Road load           | : 19.6 HP                                |
| Evap. code          | : VA1S                                   |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|                  |         |            |          |
|------------------|---------|------------|----------|
| Exhaust emission | NMOG    | : 0.0071   | (g/mile) |
|                  | CO      | : 0.10     | (g/mile) |
|                  | NOx     | : 0.0126   | (g/mile) |
| Running loss     |         | : 0.002    | (g/mile) |
| Hot soak loss    |         | : 0.0644   | (g/test) |
| 3DBL             | 1st day | : 0.1938*1 | (g/test) |
|                  | 2nd day | : 0.1496   | (g/test) |
|                  | 3rd day | : 0.1357   | (g/test) |

2-day diurnal sequence test results\*2

|                  |         |       |          |
|------------------|---------|-------|----------|
| Exhaust emission | NMOG    | : N/A | (g/mile) |
|                  | CO      | : N/A | (g/mile) |
|                  | NOx     | : N/A | (g/mile) |
| Hot soak loss    |         | : N/A | (g/test) |
| 2DBL             | 1st day | : N/A | (g/test) |
|                  | 2nd day | : N/A | (g/test) |

Refueling sequence test results

|                    |      |          |          |
|--------------------|------|----------|----------|
| Exhaust emission   | NMOG | : 0.0063 | (g/mile) |
|                    | CO   | : 0.08   | (g/mile) |
|                    | NOx  | : 0.0098 | (g/mile) |
| Refueling emission |      | : 0.006  | (g/gal)  |

\*1: 1st DBL is added key off monitor loss (0.0003 gram).

\*2: In lieu of testing, Toyota is providing a compliance statement in §8.2.

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0215P62.

[Test vehicle]

Model name : TUNDRA

Data is representative for : TUNDRA

[Test procedure] : CARB method

[Test conditions]

Date : 02/02/2021

Ambient air temperature (at initiation) : 106.0 °F

Ambient air temperature (at completion) : 106.5 °F

Track surface temperature (at initiation) : 177.6 °F

Track surface temperature (at completion) : 179.2 °F

Wind speed : N/A

Test fuel RVP : 7.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

[Test conditions]

Date : 02/02/2021

Ambient air temperature (at initiation) : 106.7 °F

Ambient air temperature (at completion) : 106.5 °F

Track surface temperature (at initiation) : 177.4 °F

Track surface temperature (at completion) : 178.5 °F

Wind speed : N/A

Test fuel RVP : 7.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0215P62.

Measured temperature and pressure profiles

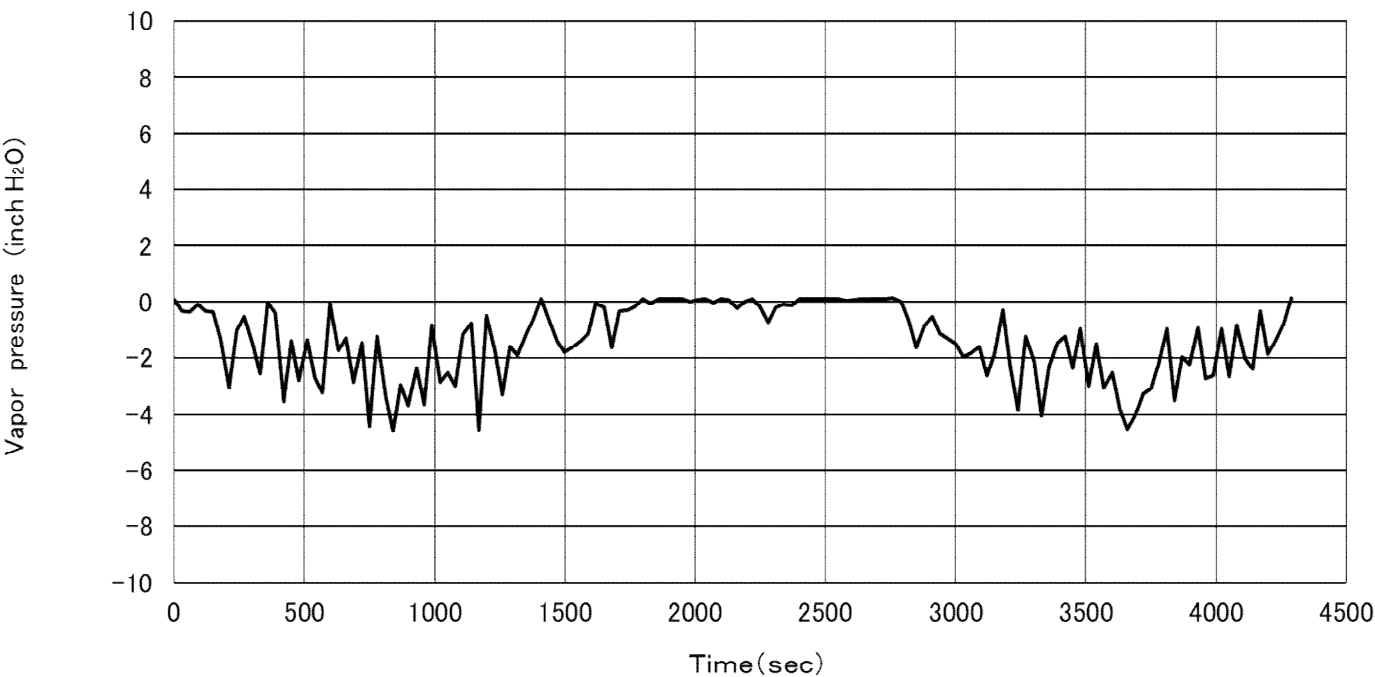
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.3      | 1200       | 109.8      | 2400       | 113.9      | 3600       | 118.0      |
| 30         | 106.3      | 1230       | 109.9      | 2430       | 114.1      | 3630       | 118.0      |
| 60         | 106.3      | 1260       | 109.9      | 2460       | 114.1      | 3660       | 118.2      |
| 90         | 106.3      | 1290       | 110.1      | 2490       | 114.3      | 3690       | 118.2      |
| 120        | 106.3      | 1320       | 110.3      | 2520       | 114.3      | 3720       | 118.4      |
| 150        | 106.5      | 1350       | 110.3      | 2550       | 114.4      | 3750       | 118.6      |
| 180        | 106.5      | 1380       | 110.5      | 2580       | 114.6      | 3780       | 118.6      |
| 210        | 106.5      | 1410       | 110.5      | 2610       | 114.6      | 3810       | 118.6      |
| 240        | 106.5      | 1440       | 110.7      | 2640       | 114.8      | 3840       | 118.8      |
| 270        | 106.7      | 1470       | 110.7      | 2670       | 115.0      | 3870       | 118.8      |
| 300        | 106.7      | 1500       | 110.8      | 2700       | 115.0      | 3900       | 118.9      |
| 330        | 106.9      | 1530       | 110.8      | 2730       | 115.0      | 3930       | 118.9      |
| 360        | 107.1      | 1560       | 111.0      | 2760       | 115.2      | 3960       | 118.9      |
| 390        | 107.1      | 1590       | 111.0      | 2790       | 115.2      | 3990       | 119.1      |
| 420        | 107.1      | 1620       | 111.2      | 2820       | 115.3      | 4020       | 119.1      |
| 450        | 107.2      | 1650       | 111.2      | 2850       | 115.5      | 4050       | 119.3      |
| 480        | 107.2      | 1680       | 111.4      | 2880       | 115.5      | 4080       | 119.3      |
| 510        | 107.4      | 1710       | 111.4      | 2910       | 115.7      | 4110       | 119.3      |
| 540        | 107.6      | 1740       | 111.6      | 2940       | 115.9      | 4140       | 119.5      |
| 570        | 107.6      | 1770       | 111.6      | 2970       | 115.9      | 4170       | 119.5      |
| 600        | 107.8      | 1800       | 111.7      | 3000       | 115.9      | 4200       | 119.7      |
| 630        | 107.8      | 1830       | 111.9      | 3030       | 116.1      | 4230       | 119.7      |
| 660        | 107.8      | 1860       | 111.9      | 3060       | 116.2      | 4260       | 119.8      |
| 690        | 108.0      | 1890       | 112.1      | 3090       | 116.2      | 4290       | 119.8      |
| 720        | 108.1      | 1920       | 112.1      | 3120       | 116.4      |            |            |
| 750        | 108.1      | 1950       | 112.3      | 3150       | 116.6      |            |            |
| 780        | 108.3      | 1980       | 112.5      | 3180       | 116.6      |            |            |
| 810        | 108.3      | 2010       | 112.5      | 3210       | 116.8      |            |            |
| 840        | 108.5      | 2040       | 112.6      | 3240       | 116.8      |            |            |
| 870        | 108.7      | 2070       | 112.6      | 3270       | 117.0      |            |            |
| 900        | 108.7      | 2100       | 112.8      | 3300       | 117.1      |            |            |
| 930        | 108.9      | 2130       | 112.8      | 3330       | 117.1      |            |            |
| 960        | 108.9      | 2160       | 113.0      | 3360       | 117.3      |            |            |
| 990        | 109.0      | 2190       | 113.2      | 3390       | 117.3      |            |            |
| 1020       | 109.2      | 2220       | 113.2      | 3420       | 117.5      |            |            |
| 1050       | 109.2      | 2250       | 113.4      | 3450       | 117.5      |            |            |
| 1080       | 109.4      | 2280       | 113.4      | 3480       | 117.7      |            |            |
| 1110       | 109.6      | 2310       | 113.5      | 3510       | 117.7      |            |            |
| 1140       | 109.6      | 2340       | 113.7      | 3540       | 117.9      |            |            |
| 1170       | 109.8      | 2370       | 113.7      | 3570       | 117.9      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0215P62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0215P62.

[Test vehicle]

Model name : TUNDRA

Data is representative for : TUNDRA

[Test procedure] : EPA method

[Test conditions]

Date : 02/01/2021

Ambient air temperature (at initiation) : 95.9 °F

Ambient air temperature (at completion) : 96.4 °F

Track surface temperature (at initiation) : 160.2 °F

Track surface temperature (at completion) : 160.5 °F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

[Test conditions]

Date : 02/01/2021

Ambient air temperature (at initiation) : 95.7 °F

Ambient air temperature (at completion) : 96.4 °F

Track surface temperature (at initiation) : 159.6 °F

Track surface temperature (at completion) : 161.1 °F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0215P62.  
Measured temperature and pressure profiles

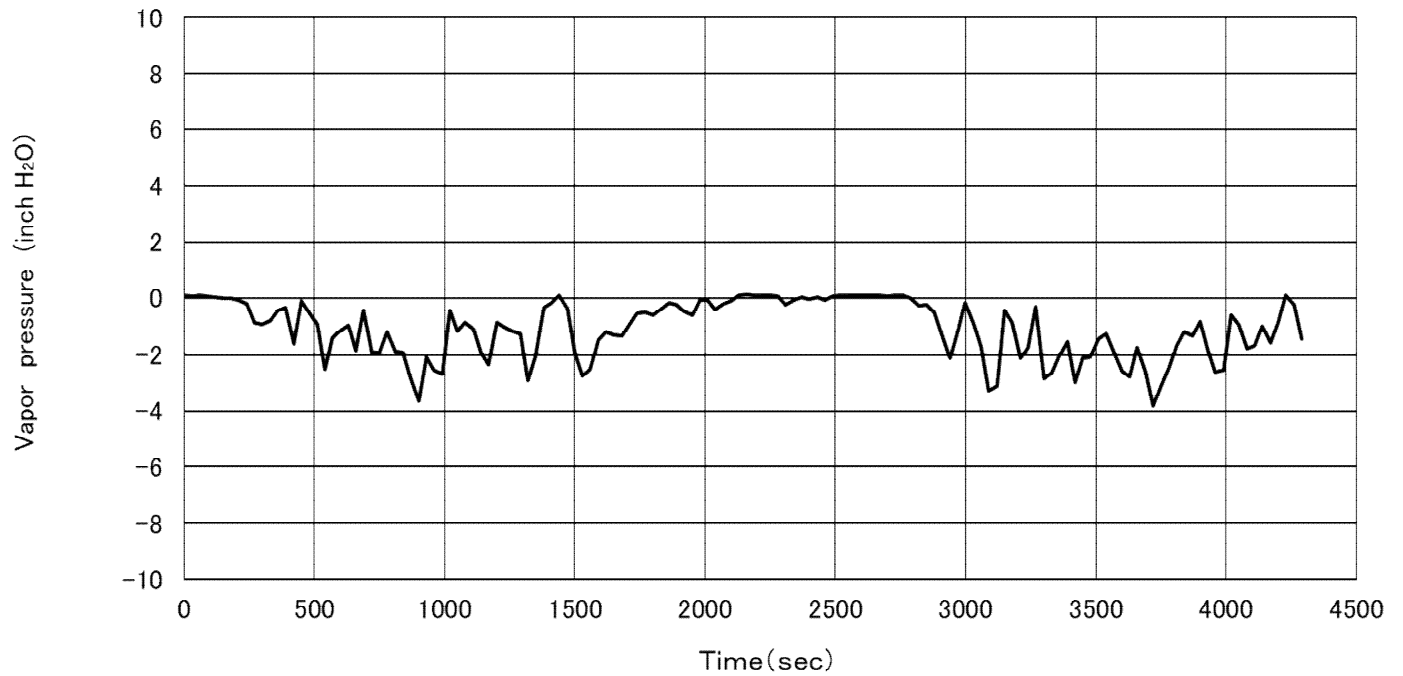
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.4       | 1200       | 99.7       | 2400       | 103.5      | 3600       | 107.4      |
| 30         | 96.4       | 1230       | 99.7       | 2430       | 103.6      | 3630       | 107.4      |
| 60         | 96.4       | 1260       | 99.9       | 2460       | 103.6      | 3660       | 107.6      |
| 90         | 96.4       | 1290       | 99.9       | 2490       | 103.6      | 3690       | 107.6      |
| 120        | 96.4       | 1320       | 100.0      | 2520       | 103.8      | 3720       | 107.8      |
| 150        | 96.4       | 1350       | 100.2      | 2550       | 104.0      | 3750       | 107.8      |
| 180        | 96.6       | 1380       | 100.2      | 2580       | 104.0      | 3780       | 108.0      |
| 210        | 96.6       | 1410       | 100.2      | 2610       | 104.2      | 3810       | 108.0      |
| 240        | 96.8       | 1440       | 100.4      | 2640       | 104.2      | 3840       | 108.1      |
| 270        | 96.8       | 1470       | 100.4      | 2670       | 104.4      | 3870       | 108.1      |
| 300        | 97.0       | 1500       | 100.6      | 2700       | 104.4      | 3900       | 108.3      |
| 330        | 97.0       | 1530       | 100.6      | 2730       | 104.5      | 3930       | 108.3      |
| 360        | 97.0       | 1560       | 100.8      | 2760       | 104.5      | 3960       | 108.5      |
| 390        | 97.0       | 1590       | 100.8      | 2790       | 104.7      | 3990       | 108.5      |
| 420        | 97.2       | 1620       | 100.9      | 2820       | 104.7      | 4020       | 108.5      |
| 450        | 97.3       | 1650       | 100.9      | 2850       | 104.9      | 4050       | 108.7      |
| 480        | 97.3       | 1680       | 101.1      | 2880       | 104.9      | 4080       | 108.7      |
| 510        | 97.5       | 1710       | 101.1      | 2910       | 105.1      | 4110       | 108.9      |
| 540        | 97.5       | 1740       | 101.3      | 2940       | 105.1      | 4140       | 108.9      |
| 570        | 97.7       | 1770       | 101.3      | 2970       | 105.3      | 4170       | 109.0      |
| 600        | 97.7       | 1800       | 101.5      | 3000       | 105.4      | 4200       | 109.0      |
| 630        | 97.9       | 1830       | 101.7      | 3030       | 105.4      | 4230       | 109.2      |
| 660        | 97.9       | 1860       | 101.7      | 3060       | 105.6      | 4260       | 109.2      |
| 690        | 98.1       | 1890       | 101.7      | 3090       | 105.8      | 4290       | 109.4      |
| 720        | 98.1       | 1920       | 101.8      | 3120       | 105.8      |            |            |
| 750        | 98.2       | 1950       | 101.8      | 3150       | 106.0      |            |            |
| 780        | 98.2       | 1980       | 102.0      | 3180       | 106.0      |            |            |
| 810        | 98.4       | 2010       | 102.0      | 3210       | 106.2      |            |            |
| 840        | 98.4       | 2040       | 102.2      | 3240       | 106.3      |            |            |
| 870        | 98.6       | 2070       | 102.2      | 3270       | 106.3      |            |            |
| 900        | 98.6       | 2100       | 102.4      | 3300       | 106.5      |            |            |
| 930        | 98.8       | 2130       | 102.4      | 3330       | 106.5      |            |            |
| 960        | 98.8       | 2160       | 102.6      | 3360       | 106.7      |            |            |
| 990        | 99.0       | 2190       | 102.6      | 3390       | 106.7      |            |            |
| 1020       | 99.1       | 2220       | 102.7      | 3420       | 106.9      |            |            |
| 1050       | 99.1       | 2250       | 102.7      | 3450       | 106.9      |            |            |
| 1080       | 99.3       | 2280       | 102.9      | 3480       | 107.1      |            |            |
| 1110       | 99.3       | 2310       | 102.9      | 3510       | 107.1      |            |            |
| 1140       | 99.5       | 2340       | 103.1      | 3540       | 107.2      |            |            |
| 1170       | 99.5       | 2370       | 103.3      | 3570       | 107.2      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0215P62.

(b) Measured vapor space pressure profile



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0215P62.

Evaporative emission test log

Vehicle Description

|                     |                                          |
|---------------------|------------------------------------------|
|                     | Evaporative / Refueling emission vehicle |
| Test group          | : NTYXT03.4M5W                           |
| Vehicle ID          | : 22-VK3A                                |
| Rep. car/truck line | : TUNDRA                                 |
| Rep. vehicle model  | : VXKA75L-CRULZA                         |
| Displacement        | : 210.2CID                               |
| Transmission        | : AJA0F-B                                |
| Test weight         | : 6,000 lbs.                             |
| Road load           | : 20.7 HP                                |
| Evap. code          | : VK15                                   |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|                  |         |            |          |
|------------------|---------|------------|----------|
| Exhaust emission | NMOG    | : 0.0104   | (g/mile) |
|                  | CO      | : 0.08     | (g/mile) |
|                  | NOx     | : 0.0183   | (g/mile) |
| Running loss     |         | : 0.003    | (g/mile) |
| Hot soak loss    |         | : 0.0654   | (g/test) |
| 3DBL             | 1st day | : 0.1898*1 | (g/test) |
|                  | 2nd day | : 0.1574   | (g/test) |
|                  | 3rd day | : 0.1446   | (g/test) |

2-day diurnal sequence test results\*2

|                  |         |       |          |
|------------------|---------|-------|----------|
| Exhaust emission | NMOG    | : N/A | (g/mile) |
|                  | CO      | : N/A | (g/mile) |
|                  | NOx     | : N/A | (g/mile) |
| Hot soak loss    |         | : N/A | (g/test) |
| 2DBL             | 1st day | : N/A | (g/test) |
|                  | 2nd day | : N/A | (g/test) |

Refueling sequence test results

|                    |      |          |          |
|--------------------|------|----------|----------|
| Exhaust emission   | NMOG | : 0.0115 | (g/mile) |
|                    | CO   | : 0.14   | (g/mile) |
|                    | NOx  | : 0.0220 | (g/mile) |
| Refueling emission |      | : 0.030  | (g/gal)  |

\*1: 1st DBL is added key off monitor loss (0.0004 gram).

\*2: In lieu of testing, Toyota is providing a compliance statement in §8.2.

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0325J62.

[Test vehicle]

Model name : TUNDRA

Data is representative for : TUNDRA

[Test procedure] : CARB method

[Test conditions]

Date : 02/02/2021

Ambient air temperature (at initiation) : 106.0 °F

Ambient air temperature (at completion) : 106.5 °F

Track surface temperature (at initiation) : 177.6 °F

Track surface temperature (at completion) : 179.2 °F

Wind speed : N/A

Test fuel RVP : 7.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

[Test conditions]

Date : 02/02/2021

Ambient air temperature (at initiation) : 106.7 °F

Ambient air temperature (at completion) : 106.5 °F

Track surface temperature (at initiation) : 177.4 °F

Track surface temperature (at completion) : 178.5 °F

Wind speed : N/A

Test fuel RVP : 7.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0325J62.

Measured temperature and pressure profiles

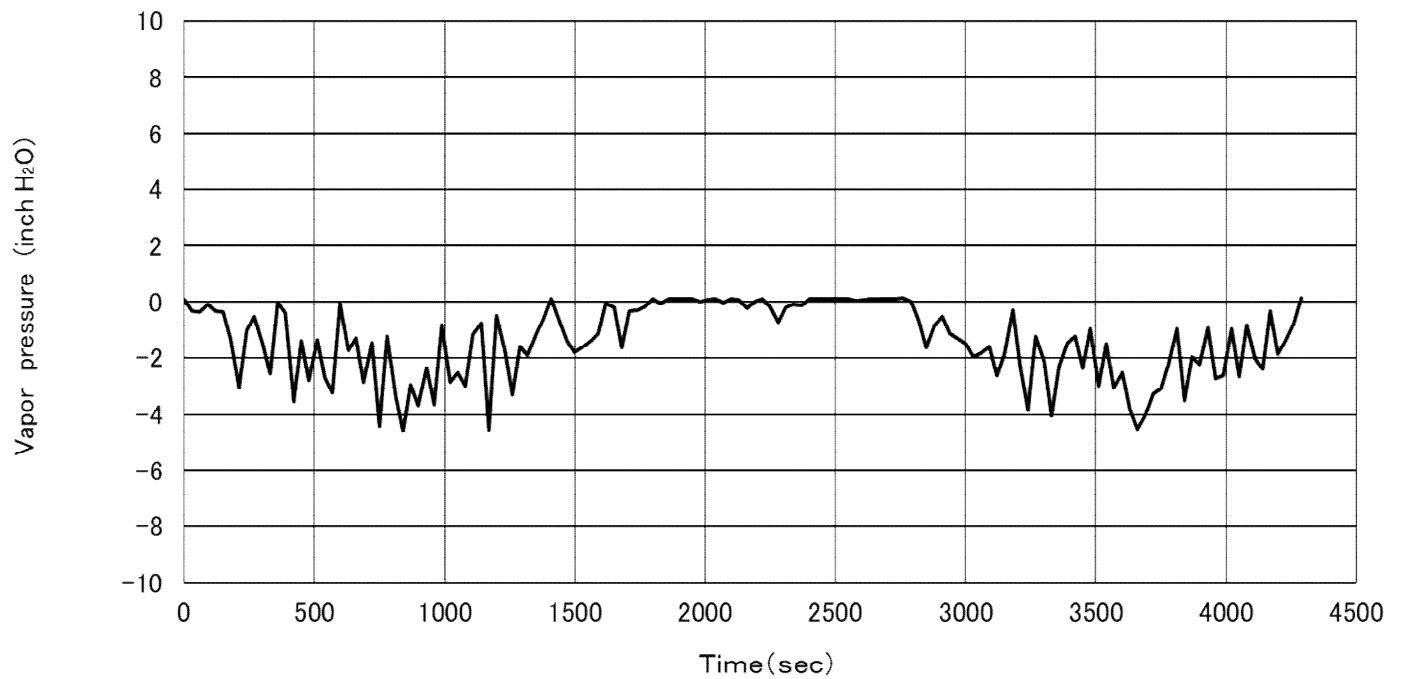
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.3      | 1200       | 109.8      | 2400       | 113.9      | 3600       | 118.0      |
| 30         | 106.3      | 1230       | 109.9      | 2430       | 114.1      | 3630       | 118.0      |
| 60         | 106.3      | 1260       | 109.9      | 2460       | 114.1      | 3660       | 118.2      |
| 90         | 106.3      | 1290       | 110.1      | 2490       | 114.3      | 3690       | 118.2      |
| 120        | 106.3      | 1320       | 110.3      | 2520       | 114.3      | 3720       | 118.4      |
| 150        | 106.5      | 1350       | 110.3      | 2550       | 114.4      | 3750       | 118.6      |
| 180        | 106.5      | 1380       | 110.5      | 2580       | 114.6      | 3780       | 118.6      |
| 210        | 106.5      | 1410       | 110.5      | 2610       | 114.6      | 3810       | 118.6      |
| 240        | 106.5      | 1440       | 110.7      | 2640       | 114.8      | 3840       | 118.8      |
| 270        | 106.7      | 1470       | 110.7      | 2670       | 115.0      | 3870       | 118.8      |
| 300        | 106.7      | 1500       | 110.8      | 2700       | 115.0      | 3900       | 118.9      |
| 330        | 106.9      | 1530       | 110.8      | 2730       | 115.0      | 3930       | 118.9      |
| 360        | 107.1      | 1560       | 111.0      | 2760       | 115.2      | 3960       | 118.9      |
| 390        | 107.1      | 1590       | 111.0      | 2790       | 115.2      | 3990       | 119.1      |
| 420        | 107.1      | 1620       | 111.2      | 2820       | 115.3      | 4020       | 119.1      |
| 450        | 107.2      | 1650       | 111.2      | 2850       | 115.5      | 4050       | 119.3      |
| 480        | 107.2      | 1680       | 111.4      | 2880       | 115.5      | 4080       | 119.3      |
| 510        | 107.4      | 1710       | 111.4      | 2910       | 115.7      | 4110       | 119.3      |
| 540        | 107.6      | 1740       | 111.6      | 2940       | 115.9      | 4140       | 119.5      |
| 570        | 107.6      | 1770       | 111.6      | 2970       | 115.9      | 4170       | 119.5      |
| 600        | 107.8      | 1800       | 111.7      | 3000       | 115.9      | 4200       | 119.7      |
| 630        | 107.8      | 1830       | 111.9      | 3030       | 116.1      | 4230       | 119.7      |
| 660        | 107.8      | 1860       | 111.9      | 3060       | 116.2      | 4260       | 119.8      |
| 690        | 108.0      | 1890       | 112.1      | 3090       | 116.2      | 4290       | 119.8      |
| 720        | 108.1      | 1920       | 112.1      | 3120       | 116.4      |            |            |
| 750        | 108.1      | 1950       | 112.3      | 3150       | 116.6      |            |            |
| 780        | 108.3      | 1980       | 112.5      | 3180       | 116.6      |            |            |
| 810        | 108.3      | 2010       | 112.5      | 3210       | 116.8      |            |            |
| 840        | 108.5      | 2040       | 112.6      | 3240       | 116.8      |            |            |
| 870        | 108.7      | 2070       | 112.6      | 3270       | 117.0      |            |            |
| 900        | 108.7      | 2100       | 112.8      | 3300       | 117.1      |            |            |
| 930        | 108.9      | 2130       | 112.8      | 3330       | 117.1      |            |            |
| 960        | 108.9      | 2160       | 113.0      | 3360       | 117.3      |            |            |
| 990        | 109.0      | 2190       | 113.2      | 3390       | 117.3      |            |            |
| 1020       | 109.2      | 2220       | 113.2      | 3420       | 117.5      |            |            |
| 1050       | 109.2      | 2250       | 113.4      | 3450       | 117.5      |            |            |
| 1080       | 109.4      | 2280       | 113.4      | 3480       | 117.7      |            |            |
| 1110       | 109.6      | 2310       | 113.5      | 3510       | 117.7      |            |            |
| 1140       | 109.6      | 2340       | 113.7      | 3540       | 117.9      |            |            |
| 1170       | 109.8      | 2370       | 113.7      | 3570       | 117.9      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0325J62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0325J62.

[Test vehicle]

Model name : TUNDRA

Data is representative for : TUNDRA

[Test procedure] : EPA method

[Test conditions]

Date : 02/01/2021

Ambient air temperature (at initiation) : 95.9 °F

Ambient air temperature (at completion) : 96.4 °F

Track surface temperature (at initiation) : 160.2 °F

Track surface temperature (at completion) : 160.5 °F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

[Test conditions]

Date : 02/01/2021

Ambient air temperature (at initiation) : 95.7 °F

Ambient air temperature (at completion) : 96.4 °F

Track surface temperature (at initiation) : 159.6 °F

Track surface temperature (at completion) : 161.1 °F

Wind speed : N/A

Test fuel RVP : 9.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0325J62.  
Measured temperature and pressure profiles

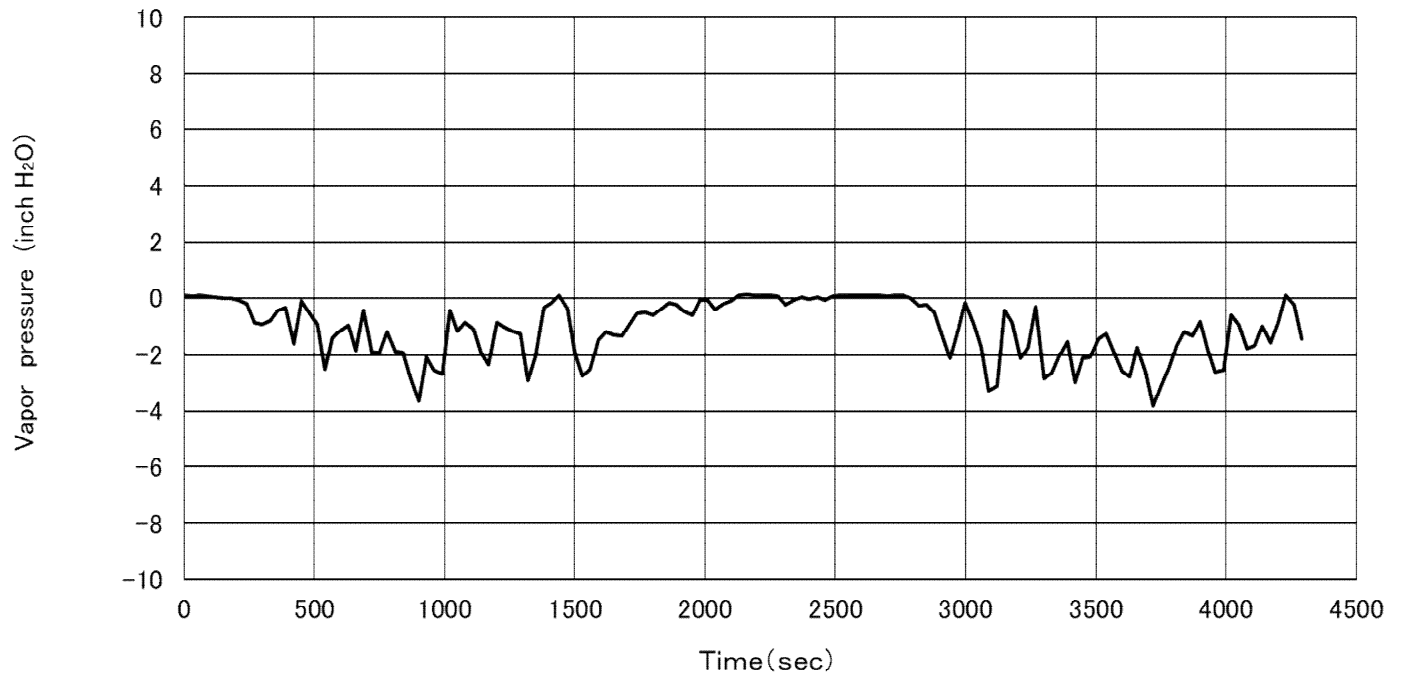
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.4       | 1200       | 99.7       | 2400       | 103.5      | 3600       | 107.4      |
| 30         | 96.4       | 1230       | 99.7       | 2430       | 103.6      | 3630       | 107.4      |
| 60         | 96.4       | 1260       | 99.9       | 2460       | 103.6      | 3660       | 107.6      |
| 90         | 96.4       | 1290       | 99.9       | 2490       | 103.6      | 3690       | 107.6      |
| 120        | 96.4       | 1320       | 100.0      | 2520       | 103.8      | 3720       | 107.8      |
| 150        | 96.4       | 1350       | 100.2      | 2550       | 104.0      | 3750       | 107.8      |
| 180        | 96.6       | 1380       | 100.2      | 2580       | 104.0      | 3780       | 108.0      |
| 210        | 96.6       | 1410       | 100.2      | 2610       | 104.2      | 3810       | 108.0      |
| 240        | 96.8       | 1440       | 100.4      | 2640       | 104.2      | 3840       | 108.1      |
| 270        | 96.8       | 1470       | 100.4      | 2670       | 104.4      | 3870       | 108.1      |
| 300        | 97.0       | 1500       | 100.6      | 2700       | 104.4      | 3900       | 108.3      |
| 330        | 97.0       | 1530       | 100.6      | 2730       | 104.5      | 3930       | 108.3      |
| 360        | 97.0       | 1560       | 100.8      | 2760       | 104.5      | 3960       | 108.5      |
| 390        | 97.0       | 1590       | 100.8      | 2790       | 104.7      | 3990       | 108.5      |
| 420        | 97.2       | 1620       | 100.9      | 2820       | 104.7      | 4020       | 108.5      |
| 450        | 97.3       | 1650       | 100.9      | 2850       | 104.9      | 4050       | 108.7      |
| 480        | 97.3       | 1680       | 101.1      | 2880       | 104.9      | 4080       | 108.7      |
| 510        | 97.5       | 1710       | 101.1      | 2910       | 105.1      | 4110       | 108.9      |
| 540        | 97.5       | 1740       | 101.3      | 2940       | 105.1      | 4140       | 108.9      |
| 570        | 97.7       | 1770       | 101.3      | 2970       | 105.3      | 4170       | 109.0      |
| 600        | 97.7       | 1800       | 101.5      | 3000       | 105.4      | 4200       | 109.0      |
| 630        | 97.9       | 1830       | 101.7      | 3030       | 105.4      | 4230       | 109.2      |
| 660        | 97.9       | 1860       | 101.7      | 3060       | 105.6      | 4260       | 109.2      |
| 690        | 98.1       | 1890       | 101.7      | 3090       | 105.8      | 4290       | 109.4      |
| 720        | 98.1       | 1920       | 101.8      | 3120       | 105.8      |            |            |
| 750        | 98.2       | 1950       | 101.8      | 3150       | 106.0      |            |            |
| 780        | 98.2       | 1980       | 102.0      | 3180       | 106.0      |            |            |
| 810        | 98.4       | 2010       | 102.0      | 3210       | 106.2      |            |            |
| 840        | 98.4       | 2040       | 102.2      | 3240       | 106.3      |            |            |
| 870        | 98.6       | 2070       | 102.2      | 3270       | 106.3      |            |            |
| 900        | 98.6       | 2100       | 102.4      | 3300       | 106.5      |            |            |
| 930        | 98.8       | 2130       | 102.4      | 3330       | 106.5      |            |            |
| 960        | 98.8       | 2160       | 102.6      | 3360       | 106.7      |            |            |
| 990        | 99.0       | 2190       | 102.6      | 3390       | 106.7      |            |            |
| 1020       | 99.1       | 2220       | 102.7      | 3420       | 106.9      |            |            |
| 1050       | 99.1       | 2250       | 102.7      | 3450       | 106.9      |            |            |
| 1080       | 99.3       | 2280       | 102.9      | 3480       | 107.1      |            |            |
| 1110       | 99.3       | 2310       | 102.9      | 3510       | 107.1      |            |            |
| 1140       | 99.5       | 2340       | 103.1      | 3540       | 107.2      |            |            |
| 1170       | 99.5       | 2370       | 103.3      | 3570       | 107.2      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0325J62.

(b) Measured vapor space pressure profile



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0325J62.

Evaporative emission test log

Vehicle Description

|                     |                                          |
|---------------------|------------------------------------------|
|                     | Evaporative / Refueling emission vehicle |
| Test group          | : NTYXT03.4M53                           |
| Vehicle ID          | : 22-VK2H                                |
| Rep. car/truck line | : TUNDRA (Hybrid)                        |
| Rep. vehicle model  | : VXKH75L-PSVLZA                         |
| Displacement        | : 210.2CID                               |
| Transmission        | : L4A0F-A                                |
| Test weight         | : 6,500 lbs.                             |
| Road load           | : 22.2 HP                                |
| Evap. code          | : VK17                                   |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Running loss  | :       | 0.001      | (g/mile) |
| Hot soak loss | :       | 0.0724     | (g/test) |
| 3DBL          | 1st day | : 0.2414*1 | (g/test) |
|               | 2nd day | : 0.2003   | (g/test) |
|               | 3rd day | : 0.1942   | (g/test) |

2-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Hot soak loss | :       | 0.0450     | (g/test) |
| 2DBL          | 1st day | : 0.1859*1 | (g/test) |
|               | 2nd day | : 0.1484   | (g/test) |

Refueling sequence test results

|                    |   |       |         |
|--------------------|---|-------|---------|
| Refueling emission | : | 0.004 | (g/gal) |
|--------------------|---|-------|---------|

\*1: 1st DBL is added key off monitor loss (0.0055 gram).

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0265J62.

[Test vehicle]

Model name : SEQUOIA

Data is representative for : SEQUOIA

[Test procedure] : CARB method

[Test conditions]

Date : 09/21/2021

Ambient air temperature (at initiation) : 105.8 °F

Ambient air temperature (at completion) : 106.3 °F

Track surface temperature (at initiation) : 178.3 °F

Track surface temperature (at completion) : 178.7 °F

Wind speed : N/A

Test fuel RVP : 7.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

[Test conditions]

Date : 09/22/2021

Ambient air temperature (at initiation) : 106.2 °F

Ambient air temperature (at completion) : 106.5 °F

Track surface temperature (at initiation) : 178.2 °F

Track surface temperature (at completion) : 178.9 °F

Wind speed : N/A

Test fuel RVP : 7.0 PSI

Driving cycles : LA#4+NYCC+NYCC+LA#4

Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0265J62.

Measured temperature and pressure profiles

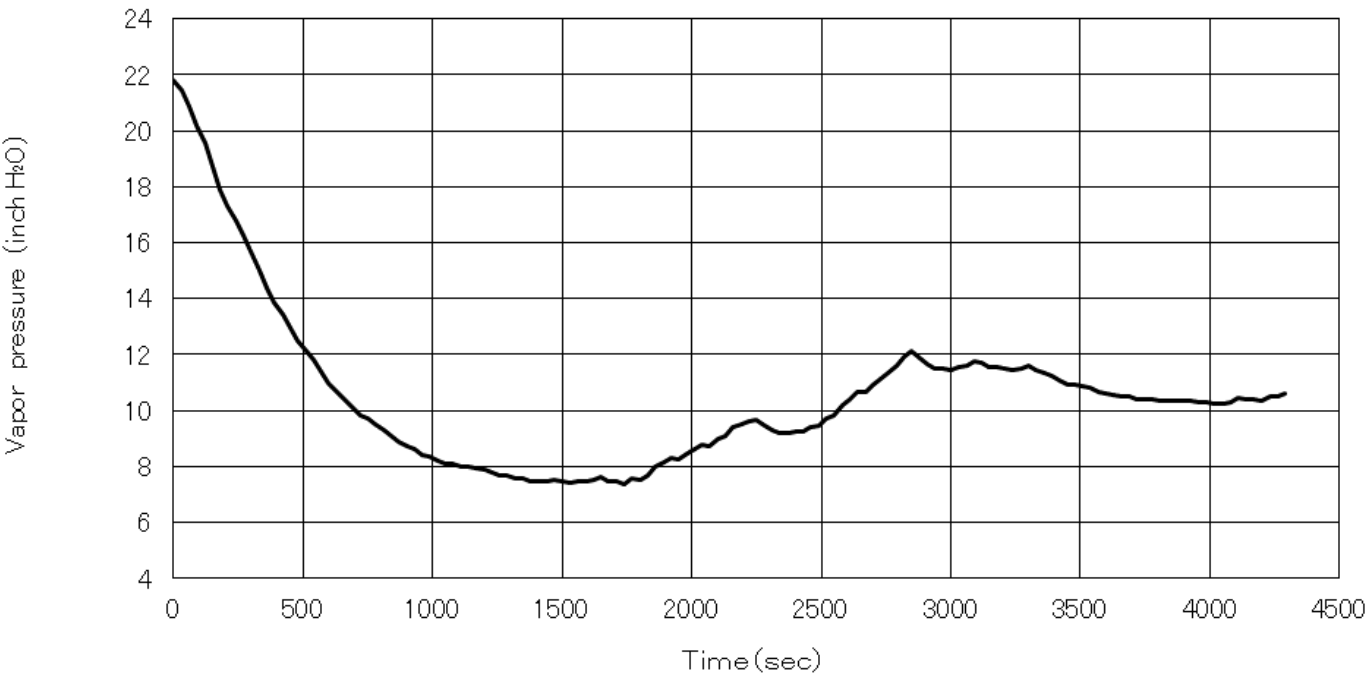
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 105.8      | 1200       | 108.7      | 2400       | 112.8      | 3600       | 117.7      |
| 30         | 105.8      | 1230       | 108.9      | 2430       | 112.8      | 3630       | 117.9      |
| 60         | 106.0      | 1260       | 108.9      | 2460       | 113.0      | 3660       | 117.9      |
| 90         | 106.0      | 1290       | 108.9      | 2490       | 113.2      | 3690       | 117.9      |
| 120        | 106.2      | 1320       | 109.0      | 2520       | 113.4      | 3720       | 118.0      |
| 150        | 106.2      | 1350       | 109.0      | 2550       | 113.4      | 3750       | 118.2      |
| 180        | 106.2      | 1380       | 109.2      | 2580       | 113.5      | 3780       | 118.2      |
| 210        | 106.2      | 1410       | 109.2      | 2610       | 113.7      | 3810       | 118.4      |
| 240        | 106.3      | 1440       | 109.2      | 2640       | 113.9      | 3840       | 118.4      |
| 270        | 106.3      | 1470       | 109.4      | 2670       | 113.9      | 3870       | 118.4      |
| 300        | 106.5      | 1500       | 109.4      | 2700       | 114.1      | 3900       | 118.6      |
| 330        | 106.5      | 1530       | 109.4      | 2730       | 114.3      | 3930       | 118.8      |
| 360        | 106.7      | 1560       | 109.6      | 2760       | 114.4      | 3960       | 118.8      |
| 390        | 106.7      | 1590       | 109.6      | 2790       | 114.4      | 3990       | 118.9      |
| 420        | 106.7      | 1620       | 109.6      | 2820       | 114.6      | 4020       | 118.9      |
| 450        | 106.9      | 1650       | 109.8      | 2850       | 114.8      | 4050       | 118.9      |
| 480        | 106.9      | 1680       | 109.9      | 2880       | 114.8      | 4080       | 119.1      |
| 510        | 106.9      | 1710       | 109.9      | 2910       | 115.0      | 4110       | 119.3      |
| 540        | 107.1      | 1740       | 110.1      | 2940       | 115.2      | 4140       | 119.3      |
| 570        | 107.1      | 1770       | 110.3      | 2970       | 115.3      | 4170       | 119.5      |
| 600        | 107.1      | 1800       | 110.3      | 3000       | 115.3      | 4200       | 119.5      |
| 630        | 107.1      | 1830       | 110.5      | 3030       | 115.5      | 4230       | 119.5      |
| 660        | 107.2      | 1860       | 110.5      | 3060       | 115.7      | 4260       | 119.5      |
| 690        | 107.2      | 1890       | 110.7      | 3090       | 115.9      | 4290       | 119.7      |
| 720        | 107.4      | 1920       | 110.8      | 3120       | 116.1      |            |            |
| 750        | 107.4      | 1950       | 110.8      | 3150       | 116.1      |            |            |
| 780        | 107.6      | 1980       | 111.0      | 3180       | 116.2      |            |            |
| 810        | 107.6      | 2010       | 111.2      | 3210       | 116.4      |            |            |
| 840        | 107.8      | 2040       | 111.4      | 3240       | 116.4      |            |            |
| 870        | 107.8      | 2070       | 111.4      | 3270       | 116.6      |            |            |
| 900        | 108.0      | 2100       | 111.6      | 3300       | 116.6      |            |            |
| 930        | 108.0      | 2130       | 111.7      | 3330       | 116.8      |            |            |
| 960        | 108.1      | 2160       | 111.7      | 3360       | 116.8      |            |            |
| 990        | 108.1      | 2190       | 111.9      | 3390       | 117.0      |            |            |
| 1020       | 108.1      | 2220       | 111.9      | 3420       | 117.1      |            |            |
| 1050       | 108.3      | 2250       | 112.1      | 3450       | 117.1      |            |            |
| 1080       | 108.3      | 2280       | 112.3      | 3480       | 117.1      |            |            |
| 1110       | 108.5      | 2310       | 112.5      | 3510       | 117.3      |            |            |
| 1140       | 108.5      | 2340       | 112.5      | 3540       | 117.3      |            |            |
| 1170       | 108.7      | 2370       | 112.6      | 3570       | 117.5      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0265J62.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0265J62.

[Test vehicle]

Model name : SEQUOIA  
Data is representative for : SEQUOIA

[Test procedure] : EPA method

[Test conditions]

Date : 09/21/2021  
Ambient air temperature (at initiation) : 95.9 °F  
Ambient air temperature (at completion) : 96.3 °F  
Track surface temperature (at initiation) : 160.0 °F  
Track surface temperature (at completion) : 160.7 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 09/22/2021  
Ambient air temperature (at initiation) : 95.9 °F  
Ambient air temperature (at completion) : 96.4 °F  
Track surface temperature (at initiation) : 160.3 °F  
Track surface temperature (at completion) : 160.7 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0265J62.  
Measured temperature and pressure profiles

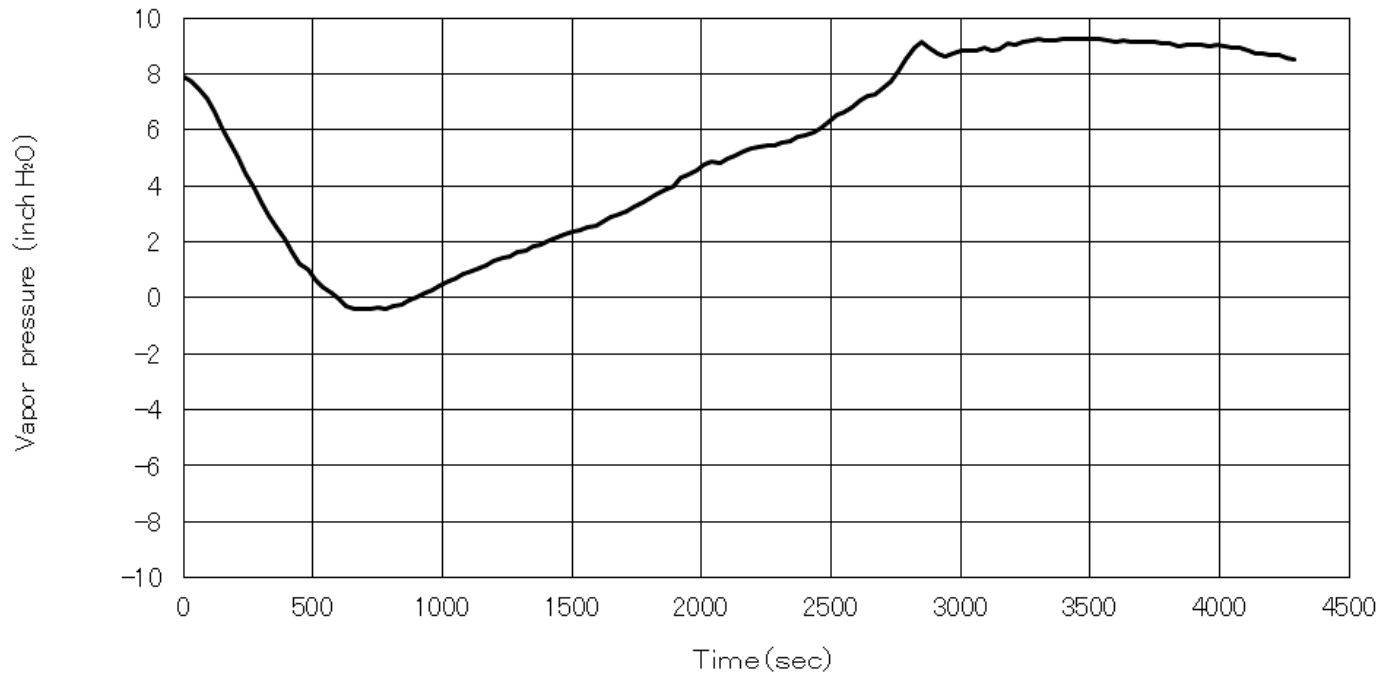
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 95.7       | 1200       | 98.4       | 2400       | 101.5      | 3600       | 105.8      |
| 30         | 95.7       | 1230       | 98.2       | 2430       | 101.7      | 3630       | 106.0      |
| 60         | 95.9       | 1260       | 98.4       | 2460       | 101.7      | 3660       | 106.0      |
| 90         | 95.9       | 1290       | 98.6       | 2490       | 101.8      | 3690       | 106.2      |
| 120        | 96.1       | 1320       | 98.6       | 2520       | 102.0      | 3720       | 106.2      |
| 150        | 96.1       | 1350       | 98.6       | 2550       | 102.2      | 3750       | 106.3      |
| 180        | 96.1       | 1380       | 98.8       | 2580       | 102.4      | 3780       | 106.3      |
| 210        | 96.1       | 1410       | 98.8       | 2610       | 102.4      | 3810       | 106.5      |
| 240        | 96.3       | 1440       | 99.0       | 2640       | 102.6      | 3840       | 106.5      |
| 270        | 96.3       | 1470       | 99.0       | 2670       | 102.7      | 3870       | 106.7      |
| 300        | 96.3       | 1500       | 99.0       | 2700       | 102.7      | 3900       | 106.7      |
| 330        | 96.4       | 1530       | 99.0       | 2730       | 102.9      | 3930       | 106.9      |
| 360        | 96.4       | 1560       | 99.0       | 2760       | 103.1      | 3960       | 107.1      |
| 390        | 96.4       | 1590       | 99.1       | 2790       | 103.1      | 3990       | 107.1      |
| 420        | 96.6       | 1620       | 99.1       | 2820       | 103.3      | 4020       | 107.2      |
| 450        | 96.6       | 1650       | 99.3       | 2850       | 103.3      | 4050       | 107.2      |
| 480        | 96.6       | 1680       | 99.5       | 2880       | 103.5      | 4080       | 107.2      |
| 510        | 96.8       | 1710       | 99.5       | 2910       | 103.5      | 4110       | 107.4      |
| 540        | 96.8       | 1740       | 99.7       | 2940       | 103.6      | 4140       | 107.4      |
| 570        | 96.8       | 1770       | 99.7       | 2970       | 103.8      | 4170       | 107.4      |
| 600        | 97.0       | 1800       | 99.9       | 3000       | 103.8      | 4200       | 107.6      |
| 630        | 97.0       | 1830       | 99.9       | 3030       | 103.8      | 4230       | 107.6      |
| 660        | 97.0       | 1860       | 100.0      | 3060       | 104.0      | 4260       | 107.6      |
| 690        | 97.0       | 1890       | 100.0      | 3090       | 104.2      | 4290       | 107.8      |
| 720        | 97.2       | 1920       | 100.2      | 3120       | 104.4      |            |            |
| 750        | 97.2       | 1950       | 100.2      | 3150       | 104.5      |            |            |
| 780        | 97.2       | 1980       | 100.4      | 3180       | 104.5      |            |            |
| 810        | 97.3       | 2010       | 100.4      | 3210       | 104.7      |            |            |
| 840        | 97.5       | 2040       | 100.6      | 3240       | 104.9      |            |            |
| 870        | 97.5       | 2070       | 100.6      | 3270       | 104.9      |            |            |
| 900        | 97.5       | 2100       | 100.8      | 3300       | 104.9      |            |            |
| 930        | 97.5       | 2130       | 100.8      | 3330       | 105.1      |            |            |
| 960        | 97.7       | 2160       | 100.8      | 3360       | 105.1      |            |            |
| 990        | 97.7       | 2190       | 100.8      | 3390       | 105.3      |            |            |
| 1020       | 97.9       | 2220       | 100.9      | 3420       | 105.3      |            |            |
| 1050       | 97.9       | 2250       | 101.1      | 3450       | 105.4      |            |            |
| 1080       | 97.9       | 2280       | 101.1      | 3480       | 105.4      |            |            |
| 1110       | 98.1       | 2310       | 101.1      | 3510       | 105.6      |            |            |
| 1140       | 98.1       | 2340       | 101.3      | 3540       | 105.8      |            |            |
| 1170       | 98.2       | 2370       | 101.5      | 3570       | 105.8      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0265J62.

(b) Measured vapor space pressure profile



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0265J62.

Evaporative emission test log

Vehicle Description

|                     |                                          |
|---------------------|------------------------------------------|
|                     | Evaporative / Refueling emission vehicle |
| Test group          | : PTYXT03.4M53                           |
| Vehicle ID          | : 23-VK2H                                |
| Rep. car/truck line | : SEQUOIA (Hybrid)                       |
| Rep. vehicle model  | : VXKH80L-GKVZZA                         |
| Displacement        | : 210.2CID                               |
| Transmission        | : L4A0E-B                                |
| Test weight         | : 6,000 lbs.                             |
| Road load           | : 18.8 HP                                |
| Evap. code          | : VK1U                                   |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Running loss  | :       | 0.000      | (g/mile) |
| Hot soak loss | :       | 0.0809     | (g/test) |
| 3DBL          | 1st day | : 0.1535*1 | (g/test) |
|               | 2nd day | : 0.0963   | (g/test) |
|               | 3rd day | : 0.0840   | (g/test) |

2-day diurnal sequence test results

|               |         |            |          |
|---------------|---------|------------|----------|
| Hot soak loss | :       | 0.0341     | (g/test) |
| 2DBL          | 1st day | : 0.1952*1 | (g/test) |
|               | 2nd day | : 0.1258   | (g/test) |

Refueling sequence test results

|                    |   |       |         |
|--------------------|---|-------|---------|
| Refueling emission | : | 0.003 | (g/gal) |
|--------------------|---|-------|---------|

\*1: 1st DBL is added key off monitor loss (0.0120 gram).

17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P42.

[Test vehicle]

Model name : IS 350  
Data is representative for : IS 350, IS 350 AWD

[Test procedure] : CARB method

[Test conditions]

Date : 01/15/2020  
Ambient air temperature (at initiation) : 108.3 °F  
Ambient air temperature (at completion) : 108.1 °F  
Track surface temperature (at initiation) : 149.7 °F  
Track surface temperature (at completion) : 151.7° F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 01/15/2020  
Ambient air temperature (at initiation) : 108.0 °F  
Ambient air temperature (at completion) : 108.0 °F  
Track surface temperature (at initiation) : 150.3° F  
Track surface temperature (at completion) : 151.7 °F  
Wind speed : N/A  
Test fuel RVP : 7.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P42.  
Measured temperature and pressure profiles

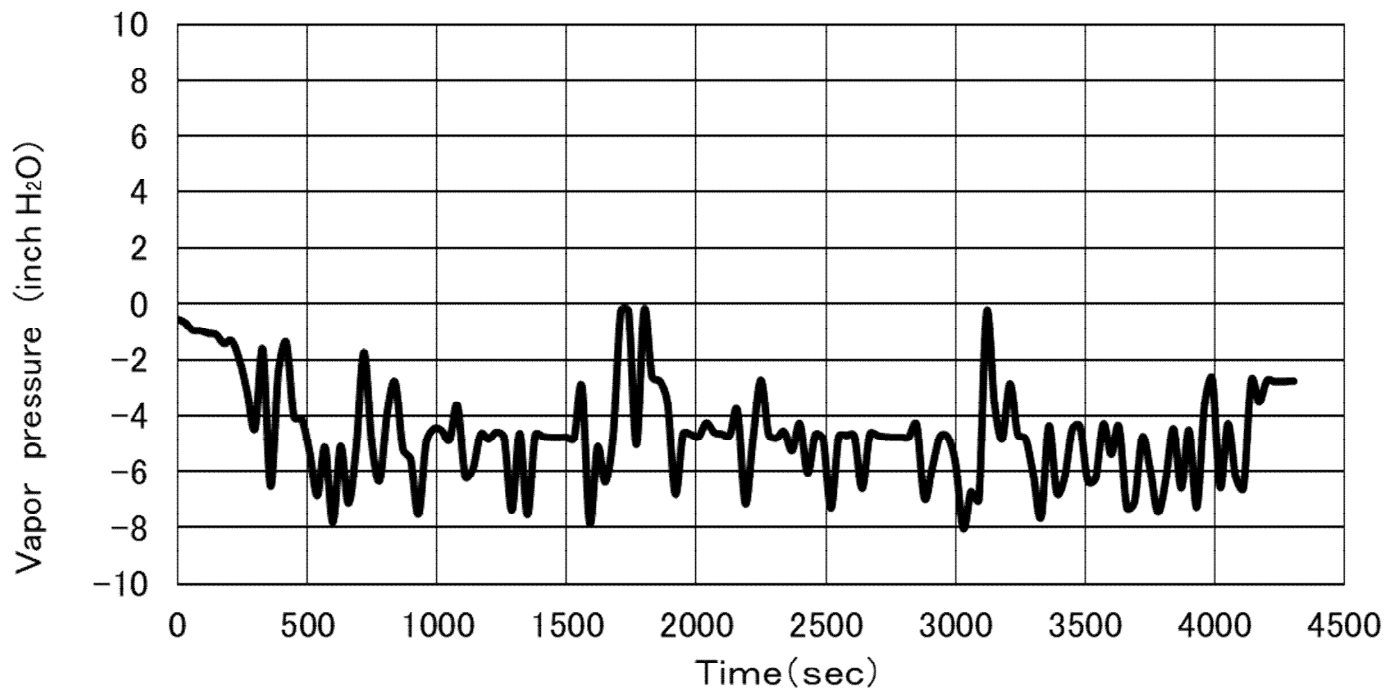
(a) Measured average fuel temperature

This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 106.2      | 1200       | 111.7      | 2400       | 118.9      | 3600       | 125.1      |
| 30         | 106.3      | 1230       | 111.9      | 2430       | 119.1      | 3630       | 125.2      |
| 60         | 106.3      | 1260       | 112.1      | 2460       | 119.3      | 3660       | 125.2      |
| 90         | 106.5      | 1290       | 112.1      | 2490       | 119.3      | 3690       | 125.6      |
| 120        | 106.7      | 1320       | 112.3      | 2520       | 119.5      | 3720       | 125.6      |
| 150        | 106.7      | 1350       | 112.5      | 2550       | 119.7      | 3750       | 125.8      |
| 180        | 106.7      | 1380       | 112.8      | 2580       | 119.8      | 3780       | 126.0      |
| 210        | 106.9      | 1410       | 112.8      | 2610       | 120.0      | 3810       | 126.1      |
| 240        | 107.1      | 1440       | 113.0      | 2640       | 120.2      | 3840       | 126.1      |
| 270        | 107.1      | 1470       | 113.2      | 2670       | 120.4      | 3870       | 126.1      |
| 300        | 107.2      | 1500       | 113.4      | 2700       | 120.6      | 3900       | 126.5      |
| 330        | 107.4      | 1530       | 113.4      | 2730       | 120.7      | 3930       | 126.5      |
| 360        | 107.4      | 1560       | 113.5      | 2760       | 120.9      | 3960       | 126.7      |
| 390        | 107.6      | 1590       | 113.9      | 2790       | 120.9      | 3990       | 126.9      |
| 420        | 107.6      | 1620       | 113.9      | 2820       | 121.1      | 4020       | 126.9      |
| 450        | 107.8      | 1650       | 114.1      | 2850       | 121.3      | 4050       | 127.0      |
| 480        | 108.0      | 1680       | 114.4      | 2880       | 121.6      | 4080       | 127.0      |
| 510        | 108.0      | 1710       | 114.6      | 2910       | 121.8      | 4110       | 127.2      |
| 540        | 108.1      | 1740       | 114.8      | 2940       | 122.0      | 4140       | 127.4      |
| 570        | 108.3      | 1770       | 115.0      | 2970       | 122.0      | 4170       | 127.4      |
| 600        | 108.3      | 1800       | 115.2      | 3000       | 122.4      | 4200       | 127.6      |
| 630        | 108.5      | 1830       | 115.3      | 3030       | 122.4      | 4230       | 127.6      |
| 660        | 108.7      | 1860       | 115.5      | 3060       | 122.5      | 4260       | 127.8      |
| 690        | 108.9      | 1890       | 115.7      | 3090       | 122.7      | 4290       | 127.9      |
| 720        | 109.0      | 1920       | 115.9      | 3120       | 122.9      | 4304       | 127.9      |
| 750        | 109.0      | 1950       | 116.2      | 3150       | 123.1      |            |            |
| 780        | 109.4      | 1980       | 116.2      | 3180       | 123.3      |            |            |
| 810        | 109.4      | 2010       | 116.4      | 3210       | 123.4      |            |            |
| 840        | 109.6      | 2040       | 116.8      | 3240       | 123.6      |            |            |
| 870        | 109.8      | 2070       | 116.8      | 3270       | 123.6      |            |            |
| 900        | 109.9      | 2100       | 117.0      | 3300       | 123.8      |            |            |
| 930        | 110.1      | 2130       | 117.1      | 3330       | 123.8      |            |            |
| 960        | 110.3      | 2160       | 117.3      | 3360       | 124.0      |            |            |
| 990        | 110.5      | 2190       | 117.5      | 3390       | 124.2      |            |            |
| 1020       | 110.8      | 2220       | 117.7      | 3420       | 124.3      |            |            |
| 1050       | 110.8      | 2250       | 118.0      | 3450       | 124.5      |            |            |
| 1080       | 111.0      | 2280       | 118.0      | 3480       | 124.5      |            |            |
| 1110       | 111.2      | 2310       | 118.2      | 3510       | 124.7      |            |            |
| 1140       | 111.4      | 2340       | 118.4      | 3540       | 124.7      |            |            |
| 1170       | 111.6      | 2370       | 118.6      | 3570       | 124.9      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P42.

(b) Measured vapor space pressure profile



17.5 Supplemental information and data for compliance with the enhanced evaporative requirements for California

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P42.

[Test vehicle]

Model name : IS 350  
Data is representative for : IS 350, IS 350 AWD

[Test procedure] : EPA method

[Test conditions]

Date : 01/14/2020  
Ambient air temperature (at initiation) : 97.5 °F  
Ambient air temperature (at completion) : 98.2 °F  
Track surface temperature (at initiation) : 131.5 °F  
Track surface temperature (at completion) : 134.2° F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

[Test conditions]

Date : 01/14/2020  
Ambient air temperature (at initiation) : 98.1°F  
Ambient air temperature (at completion) : 98.4 °F  
Track surface temperature (at initiation) : 131.9° F  
Track surface temperature (at completion) : 134.2 °F  
Wind speed : N/A  
Test fuel RVP : 9.0 PSI  
Driving cycles : LA#4+NYCC+NYCC+LA#4  
Percent cloud cover : N/A

Note : Fuel tank temperature profiles in this section are averaged with these two profiles in accordance with 40CFR §86.129-94(d)(1)

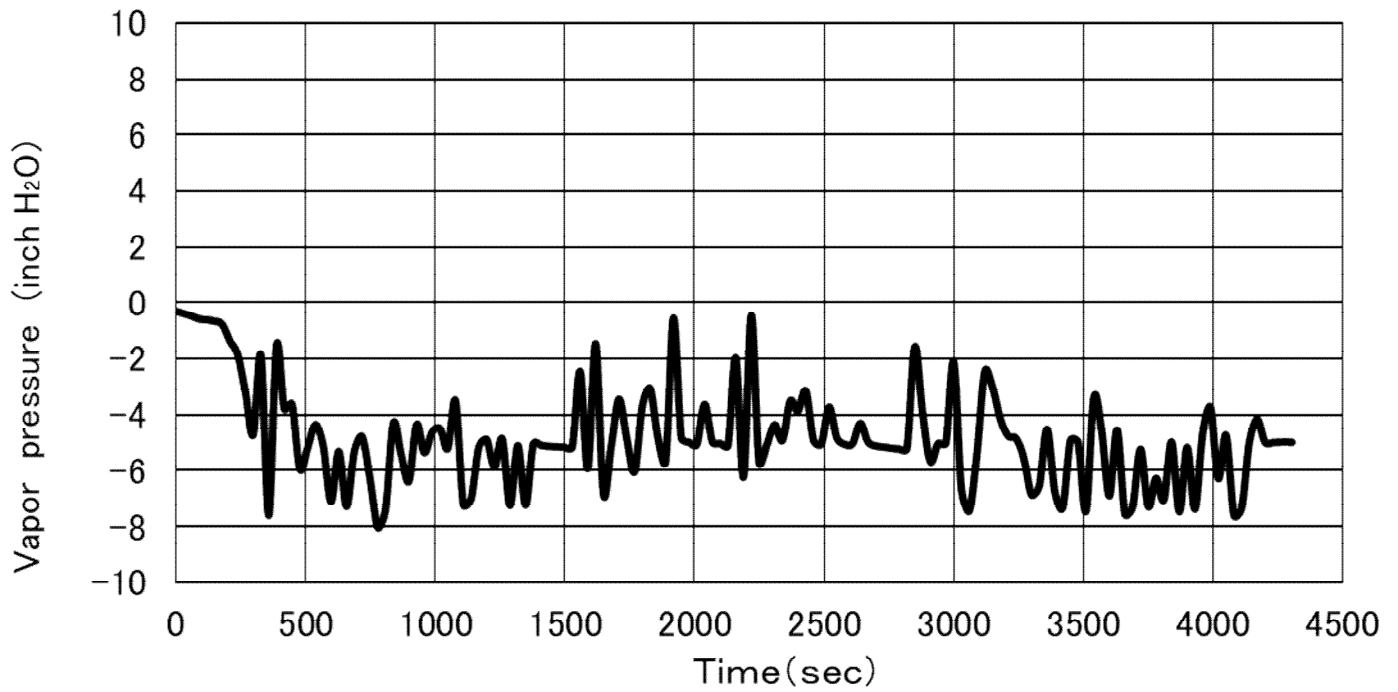
17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P42.  
Measured temperature and pressure profiles

- (a) Measured average fuel temperature  
This profile is raw data and not corrected actually.

| Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) | Time(sec.) | Liquid('F) |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 0          | 96.6       | 1200       | 101.5      | 2400       | 108.0      | 3600       | 114.1      |
| 30         | 96.6       | 1230       | 101.7      | 2430       | 108.1      | 3630       | 114.1      |
| 60         | 96.6       | 1260       | 101.8      | 2460       | 108.3      | 3660       | 114.3      |
| 90         | 96.6       | 1290       | 101.8      | 2490       | 108.5      | 3690       | 114.4      |
| 120        | 96.6       | 1320       | 102.2      | 2520       | 108.7      | 3720       | 114.6      |
| 150        | 96.8       | 1350       | 102.4      | 2550       | 108.7      | 3750       | 114.6      |
| 180        | 96.8       | 1380       | 102.4      | 2580       | 108.9      | 3780       | 114.8      |
| 210        | 97.0       | 1410       | 102.6      | 2610       | 109.0      | 3810       | 115.0      |
| 240        | 97.0       | 1440       | 102.7      | 2640       | 109.4      | 3840       | 115.0      |
| 270        | 97.2       | 1470       | 102.7      | 2670       | 109.4      | 3870       | 115.2      |
| 300        | 97.3       | 1500       | 102.9      | 2700       | 109.8      | 3900       | 115.3      |
| 330        | 97.5       | 1530       | 103.1      | 2730       | 109.8      | 3930       | 115.3      |
| 360        | 97.5       | 1560       | 103.3      | 2760       | 109.9      | 3960       | 115.5      |
| 390        | 97.5       | 1590       | 103.3      | 2790       | 109.9      | 3990       | 115.5      |
| 420        | 97.7       | 1620       | 103.6      | 2820       | 110.3      | 4020       | 115.7      |
| 450        | 97.9       | 1650       | 103.6      | 2850       | 110.5      | 4050       | 115.7      |
| 480        | 98.1       | 1680       | 104.0      | 2880       | 110.5      | 4080       | 115.9      |
| 510        | 98.1       | 1710       | 104.0      | 2910       | 110.7      | 4110       | 116.1      |
| 540        | 98.2       | 1740       | 104.4      | 2940       | 111.0      | 4140       | 116.1      |
| 570        | 98.4       | 1770       | 104.5      | 2970       | 111.0      | 4170       | 116.2      |
| 600        | 98.4       | 1800       | 104.7      | 3000       | 111.2      | 4200       | 116.4      |
| 630        | 98.6       | 1830       | 104.9      | 3030       | 111.4      | 4230       | 116.4      |
| 660        | 98.6       | 1860       | 104.9      | 3060       | 111.6      | 4260       | 116.6      |
| 690        | 99.0       | 1890       | 105.1      | 3090       | 111.7      | 4290       | 116.6      |
| 720        | 99.0       | 1920       | 105.3      | 3120       | 111.9      | 4304       | 116.8      |
| 750        | 99.1       | 1950       | 105.4      | 3150       | 112.1      |            |            |
| 780        | 99.3       | 1980       | 105.6      | 3180       | 112.3      |            |            |
| 810        | 99.5       | 2010       | 105.8      | 3210       | 112.3      |            |            |
| 840        | 99.7       | 2040       | 106.0      | 3240       | 112.5      |            |            |
| 870        | 99.9       | 2070       | 106.2      | 3270       | 112.5      |            |            |
| 900        | 100.0      | 2100       | 106.3      | 3300       | 112.8      |            |            |
| 930        | 100.2      | 2130       | 106.5      | 3330       | 112.8      |            |            |
| 960        | 100.2      | 2160       | 106.7      | 3360       | 113.0      |            |            |
| 990        | 100.4      | 2190       | 106.9      | 3390       | 113.2      |            |            |
| 1020       | 100.6      | 2220       | 106.9      | 3420       | 113.2      |            |            |
| 1050       | 100.8      | 2250       | 107.2      | 3450       | 113.4      |            |            |
| 1080       | 100.8      | 2280       | 107.2      | 3480       | 113.5      |            |            |
| 1110       | 101.1      | 2310       | 107.4      | 3510       | 113.5      |            |            |
| 1140       | 101.1      | 2340       | 107.8      | 3540       | 113.7      |            |            |
| 1170       | 101.3      | 2370       | 107.8      | 3570       | 113.9      |            |            |

17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P42.

(b) Measured vapor space pressure profile



17.5.1 Fuel tank temperature profile (FTTP) and pressure profile for TTYXR0165P42.

Evaporative emission test log

Vehicle Description

|                     |                                         |
|---------------------|-----------------------------------------|
|                     | Evaporative/ Refueling emission vehicle |
| Test group          | : MTYXV02.0M5A                          |
| Vehicle ID          | : 21-AC1A                               |
| Rep. car/truck line | : IS 300                                |
| Rep. vehicle model  | : ASE30L-BEYLZA                         |
| Displacement        | : 121.9CID                              |
| Transmission        | : AA81E-D                               |
| Test weight         | : 4,000 lbs.                            |
| Road load           | : 241 HP                                |
| Evap. code          | : AE1K                                  |

Test results

Test procedure : EPA's procedure

3-day diurnal sequence test results

|                  |         |            |          |
|------------------|---------|------------|----------|
| Exhaust emission | NMOG    | : 0.012    | (g/mile) |
|                  | CO      | : 0.17     | (g/mile) |
|                  | NOx     | : 0.009    | (g/mile) |
| Running loss     |         | : 0.000    | (g/mile) |
| Hot soak loss    |         | : 0.069    | (g/test) |
| 3DBL             | 1st day | : 0.201 *1 | (g/test) |
|                  | 2nd day | : 0.173    | (g/test) |
|                  | 3rd day | : 0.135    | (g/test) |

2-day diurnal sequence test results\*2

|                  |         |       |          |
|------------------|---------|-------|----------|
| Exhaust emission | NMOG    | : N/A | (g/mile) |
|                  | CO      | : N/A | (g/mile) |
|                  | NOx     | : N/A | (g/mile) |
| Hot soak loss    |         | : N/A | (g/test) |
| 2DBL             | 1st day | : N/A | (g/test) |
|                  | 2nd day | : N/A | (g/test) |

Refueling sequence test results

|                    |      |         |          |
|--------------------|------|---------|----------|
| Exhaust emission   | NMOG | : 0.010 | (g/mile) |
|                    | CO   | : 0.14  | (g/mile) |
|                    | NOx  | : 0.010 | (g/mile) |
| Refueling emission |      | : 0.005 | (g/gal)  |

\*1: 1st DBL is added key off monitor loss (0.0004 gram).

\*2: In lieu of testing, Toyota is providing a compliance statement in §8.2

## 17.6 New unique or changed emission control technology

New, unique or changed Exhaust, Evaporative/Refueling emission control technology or parts in Toyota 2026 MY is shown below

### New, unique or changed emission control technology

|                |                                                    |
|----------------|----------------------------------------------------|
| Test group     | New, unique or changed emission control technology |
| Not applicable | -                                                  |

## 17.7 Service literature

Toyota will make available service bulletins, service manual and Fed World electronically.

Toyota is going to issue California ARB the service account which allows Carb to access Toyota Vehicle all serviceable parts information as stated in CCR section 1969 (l)(1)(C).

## 17.8 Emission Control Information Labels.

Please refer to the test group file

17.9     Reserved

## 17.10 Identification of AB71-Qualified Vehicles (Mail-Out #MSO-2000-04)

No vehicles qualified for the 2026MY.

## 17.11 Supplemental Data Sheet and Certification Review Sheet

Please refer to the each test group file.

17.12 Test group and Evaporative family sales for California

Confidential Information

17.13 California Phase-in Compliance

Confidential Information

## 17.14 Compliance with OBD-II Phase-in Requirements

Confidential Information

17.15 ZEV and HEV information

Confidential Information

## 17.16 Warranty information

Please refer to CBI file.

**18. Information on Service of Process**

Please refer to Section 1.