



Application for Certification - Part 1

Test Group (CBI)

- **Model Year:** 2027
- **Manufacturer Name:** Hyundai Motor Company
- **Test Group:** VHXYV02.5UP3
- **Test Group Description:** 2.5 Liter / I4 Turbo GDPI / Otto-cycle
- **Durability Group:** VHXYGPGNNUP3
- **Durability Group Description:** Monolith, TWC
- **Vehicle Class:** LDV
- **Applicable Standards:** FED: Interim Tier-4 Bin 30 / Tier-4 Evap
CAL: LEV-IV SULEV 30 / LEV-IV Evap
- **Vehicles Tested:** EDV-JKAU5H5TA010A/0 (Exh.)
RG3U1L5TA082A/0 (Evap.)
FEDV-JKAU5H5TA010A/0, JKAU5H5TA010A/2
- **Carlines Covered by Certificate:** GV70 AWD
- **EPA Response Requested by:** March 27, 2026
- **For Questions, Contact:** Stephanie Wright
734-273-1904
E-mail: swright@hatci.com

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01.00 Correspondence and Communications

Please refer to Common Section 01.00.

For questions, call Stephanie Wright (734-273-1904).

02.00 Durability Group Description

1. Durability Group Name : VHYXGPGNNUP3
2. Combustion Cycle : Otto cycle / four stroke
3. Engine Type : Piston / Water cooled
4. Fuel Used : Gasoline
5. Basic Fuel Metering System : Direct & Port Injection
6. Catalyst Construction and location : See Section 02.02
7. Precious Metals in Catalyst : See Section 02.02
8. Precious Metal Loading for all Catalysts in the Durability Group : See Section 02.02
9. Range of Catalyst Grouping Statistics : See Section 02.02
10. Type of particulate filter : None

02.01 List of Vehicles in Durability Groups

Please refer to Common Section 02.01.

03.00 Evaporative/Refueling Family Description

03.00.01 Evaporative/Refueling Family Name: VHYXR0142UPG
(C/O 21MY G80 3.5T)

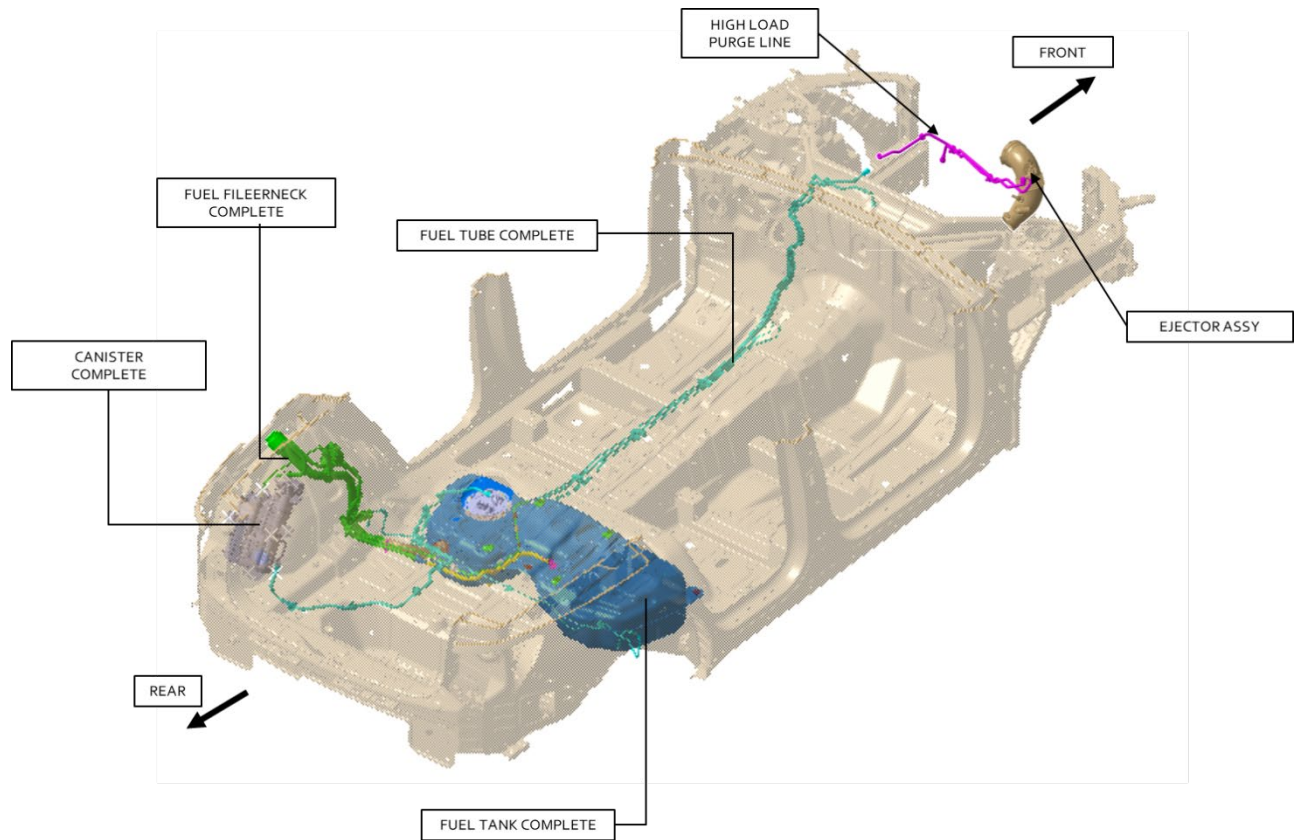
03.00.01.01 Evaporative/Refueling Family Parameters

1. Type of Vapor Storage Device: Canister(1EA), Air cleaner(1EA)
2. Basic canister design

Evap. Code	Absorption Flow Rate (g/hr)	Nominal Working Capacity(g)	Size (cc)	Material	Medium	Nominal Fuel Tank Capacity (gal)
142UPG	15	142	2500	Plastic	Activated Carbon	17.4

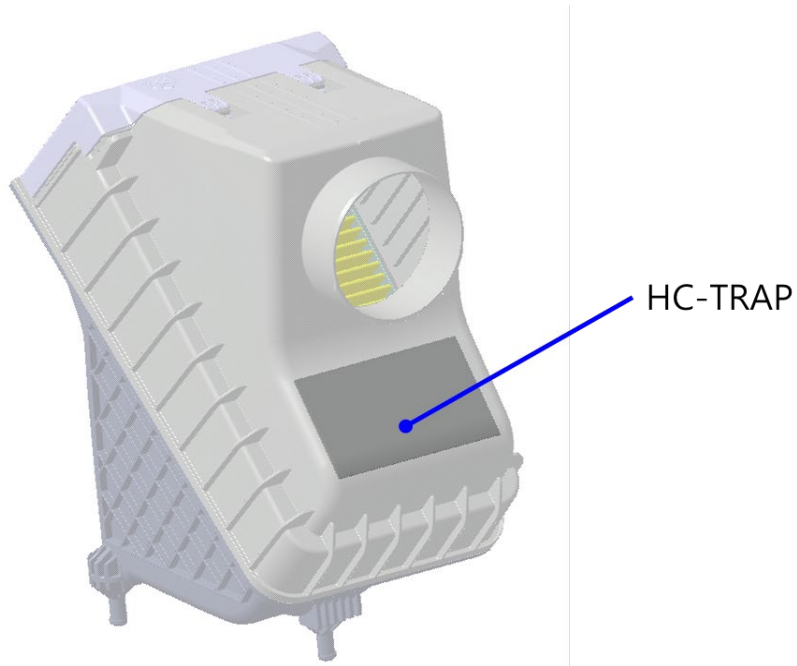
3. Fuel system: Returnless fuel system
4. Type of refueling emission control system: Integrated type
5. Fillpipe seal mechanism: Liquid seal type
6. Vapor control system or method of vapor line to the canister:
 - a. Fill Limit Vent valve
 - b. Overfill Limiter (2way valve)
 - c. Canister close valve
7. Purge control system
 - a. Type of valve: Duty
 - b. Purge control strategy: Controlled by ECU
 - c. High load purge system : Yes
 - d. Active purge system : No
8. Vapor hose material: Rubber
9. Fuel tank material: Plastic
10. HC-Trap
 - 10.1 Media : Carbon sheet type
 - 10.2 Working capacity: 1g

03.00.01.02 Evaporative/Refueling Schematic



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Issued : 02-11-2026
Revised:

03.00.01.03 HC-Trap Schematic



03.01 Evaporative/Refueling General Description

Please refer to Common Section 03.01.

03.02 List of Vehicles in Evaporative Families

Please refer to Common Section 03.02.

04.00 Durability Test Procedure Description

04.01 Exhaust Durability Test Data

1. Durability Group Name: VHYXGPGNNUP3 (C/O 2025MY GV80 2.5T)

The exhaust durability tests were conducted according to the Test Procedure of the EPA SBC (Standard Bench Cycle).

2. Bench Aging Time Calculation Result

Reference Temp.: 916°C

Amount of aging required: 115Hr

Bench Aging Time performed: 115Hr

3. Test Vehicle General Description

Vehicle ID	TM	Curb Weight	ETW	Tire Spec.
JX14F5HU07B3/0	SA8	4940 lb	5250 lb	265/40R22

4. Test Data & Deterioration Factor

4.1 Fuel: E0

		Emission [g/mile]			
		THC	CH4	N2O	CO
Additive D.F(E0)	120K DF	0.004	0.0034	0.0005	0.10

Note: 120K mile E/M is determined using linear interpolation.

4.2 Fuel: E10

		Emission [g/mile]					
		NMHC	NMOG	NOx	NMOG+NOx	CO	PM
Additive D.F(E10)	50K DF	-	-	-	-	0.02	-
	120K DF	0.0015	-	-	-	-	-
	150K DF	-	0.0020	0.0054	0.0074	0.06	0.0002

Note: 50K & 120K mile E/M is determined using linear interpolation.

04.02 Evap./ORVR Durability Test Data

**04.02.01 Evap./Refueling Family Name: VHYXR0142UPG
(C/O 2021MY GV80 3.5L)**

1. 4K Stabilized Vehicles

Vehicle ID: JX1L5HU06B2/1

	Running Loss (g/mile)	3 Day HSL + DBL (g/test)	2 Day HSL + DBL (g/test)	ORVR (g/gal)
DF (150k - 4k) (Additive)	0	0	0	0.003

Note: Negative DF values are reported as zero

04.03 Exhaust Durability Test Procedure

Please refer to Common Section 04.03 for details.

04.04 Evaporative Durability Test Procedure

Please refer to Common Section 04.04.

05.00 Test Group Description

Test Group Name : VHYXV02.5UP3

Engine Displacement (L) Covered : 2.5L

Arrangement/Number of Cylinders : I4

Vehicle Class(s) Covered : LDV

Sales Location/Emission Standard : FED: Interim Tier-4 Bin 30
CAL: LEV-IV SULEV 30
See CSI report for emission standard levels

06.00 Test Vehicle Description

Exhaust Durability Data Vehicle

Verify Processing Report

Total Datasets Submitted: 1
Accepted Datasets: 1
Rejected Datasets: 0

The original datasets are listed below. In addition, any information generated by the Verify system is also included. For any rejected datasets, the reason(s) the dataset was rejected is provided below in the Transaction Report for that particular dataset.

Test Vehicle Information Submission

Test Vehicle Information Details

Information Process Code : N
EPA Manufacturer Code : HYY
Vehicle Identification Text : JX14F5HU07B3
Vehicle Configuration Number : 0

Vehicle Configuration Details

Vehicle Description Details

Manufacturer Vehicle Configuration Number : 0
Test Group Name : SHYXT02.5TP3
Evaporative Refueling Family Name : SHYXR0162TTG
Leak Family Identifier : JX1
Leak Family Name : SHYXR0162TTG-JX1
Model Year : 2025
Actual Test Vehicle Make Text : Genesis
Actual Test Vehicle Model Text : GV80

Drive Source Details

Drive Source Identifier : C
Fuel Identifier : G

Test Drive Code : R
Shift Indicator Light Usage Identifier : 1
Aged Component Usage Identifier : 4

Odometer Correction Details

Correction Initial Value : 0
Correction Factor Value : 1.0049
Correction Sign Identifier : -
Correction Units Code : M

Engine Code Text : G4KR-AC
Engine Rated Horsepower Value : 300
Engine Displacement Value : 2.5

Air Aspiration Details

Air Aspiration Method Identifier : TC
Air Aspiration Device Count : 1
Air Aspiration Configuration Identifier : N

Charge Air Cooler Identifier : L

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Vehicle Specifications Details

Curb Weight Value : 4940
Equivalent Test Weight Value : 5250
Gross Vehicle Weight Rating Value : 6030
NV Ratio Value : 28.0
Axle Ratio Value : 4.36

Transmission Specifications Details

Light Duty Transmission Type Identifier : SA
Transmission Lockup Indicator : Y
Transmission Creeper Gear Indicator : N
Transmission Gear Count : 8

Target Set Coefficient Details

Test Procedure Dynamometer Coefficients Category : C-H-E
Target CoefficientA Value : 44.177
Target CoefficientB Value : 0.28556
Target CoefficientC Value : 0.028485
Set CoefficientA Value : 22.848
Set CoefficientB Value : -0.03686
Set CoefficientC Value : 0.030126

Target Set Coefficient Details

Test Procedure Dynamometer Coefficients Category : Cold-CO
Target CoefficientA Value : 48.595
Target CoefficientB Value : 0.31411
Target CoefficientC Value : 0.031333
Set CoefficientA Value : 20.006
Set CoefficientB Value : -0.14194
Set CoefficientC Value : 0.034153

Target Set Coefficient Details

Test Procedure Dynamometer Coefficients Category : US06
Target CoefficientA Value : 44.177
Target CoefficientB Value : 0.28556
Target CoefficientC Value : 0.028485
Set CoefficientA Value : 22.848
Set CoefficientB Value : -0.03686
Set CoefficientC Value : 0.030126

Manufacturer Comment Text : 25MY JX 2.5T AWD 22" (DDV)

EPA Generated Test Vehicle Details

Original Receipt Date : 20231129
Hybrid Vehicle Indicator : N
Adjusted Loaded Vehicle Weight Value : 5485
Loaded Vehicle Weight Value : 5240
Total Road Load Horsepower Value : 17.3

Transaction Status Details

Transaction Status Identifier : ACCEPTED

Exhaust & Evaporative Emission Data Vehicle

Please refer to CSI report in 07.00

07.00 Test Results

07.01.01 EV-CIS Certification Summary Information

Certification Summary Information Report submitted to EV-CIS.

See 18.00.00.

07.02 Litmus Test Sheet

Litmus Test of EDV

EDV	FTP(75°F)	Cold FTP (20°F)	HFET	US06	SC03
BAG1	17.6	15.7	26.4	13.9	16.4
BAG2	19.8	18.8		22.3	
BAG3	21.3	20.1			
TOTAL	19.7			19.7	

(1) Determining the City FE Method

5 Cycle City Criteria (Specific 5 cycle City FE \geq 0.96 Mpg Based City FE)	Passed
---	--------

		UNROUNDED	ADJ. ROUNDED	Examination	Decision
CITY FE	MPG BASED	15.87822674	15.2	Applicable	Selected
	5-CYCLE	16.05160587	16.1	Applicable	
	Ratio of 5CYCLE to 0.96 MPG-BASED		105.92		
					CRITERIA : 100%

(2) Determining the Hwy FE Method

5 Cycle Highway Criteria (Specific 5 cycle HWY FE \geq 0.95 Mpg Based HWY FE)	Passed
--	--------

		UNROUNDED	ADJ. ROUNDED	Examination	Decision
HWY FE	MPG BASED	19.1479	18.2	Select This	Selected
	5-CYCLE	20.3221	20.3	Not Applicable	
	MODIFIED	20.3130	20.3	Not Applicable	
	Ratio of 5CYCLE to 0.95 MPG-BASED		111.54		
				CRITERIA : 100%	

08.00 Emission Compliance Statement

Please refer to Common Section 08.00.

09.00 OBD System Description

The on-board diagnostic (OBD) system complies with 40 CFR 86.1806-05, 86.1806-17 per the compliance option allowing demonstration of compliance with California OBD II requirements in Title 13 California Code of Regulation 1968.2 (13 CCR 1968.2) approved on July 31, 2013.

Please refer to OBD application uploaded in EV-CIS system.

10.00 Description of Alternate-Fueled Vehicles: Not Applicable

12.00 Description of Vehicles Covered by Certificate and Test Parameters

12.01 Vehicle Parameters

Model Name		GV70 AWD	
Vehicle Classification		LDV	
Carline		351	
Emission Control System Description	Type, number and configuration of catalyst(s)	See Sec. 02.02	
	EGR Type	N/A	
	Air pump type	N/A	
	Fuel system type	DFI, SFI	
	Intake air aspiration method	Turbocharger, Charge Air Cooler	
	Other	-	
Engine Code		G4KR-AC	
Number of Valves Per Cylinder		4	
Engine Displacement (L)		2.5	
Sales Area		50-State	
Transmission		SA8	
SIL		N/A	
Tire Size		255/40R21 (Michelin)	235/55R19 (Michelin)
N/V Ratios		28.2	27.9
ETW (lb)		4750	4750
Elec. Dyno. Target Coefficient	A	Please refer to 12.02.01.	
	B		
	C		
Fuel tank Volume(gal)		17.4	

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Issued : 02-11-2026

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12.02.02 Engine Starting Procedures

Please refer to Common Section 12.02.02.

12.02.03 Shift Schedules

Automatic transmission: Please refer to Common Section 12.02.03.01

12.02.04 Transmission / Advanced Technology System Test Modes

Please refer to Common Section 12.02.04

13.00 Projected Sales

Please refer to Common Section 13.00.

14.00 Request for Certification



Ms. Kathryn Kochunas
Certification Division
Mobile Source Pollution Control
U.S. Environmental Protection Agency
2000 Traverwood Drive
Ann Arbor, Michigan

Subject: Request for Certificate of Conformity for 2027 Model Year Test Group VHYXV02.5UP3 /
Evaporative Family VHYXR0142UPG

Dear Ms. Kathryn Kochunas:

Hyundai Motor Company requests that EPA issue a Certificate of Conformity for the test group subjected above.

All vehicles within the test group mentioned above comply with the applicable regulations contained in 40 CFR86.1844-01(d), (14) including the provisions of 40 CFR Parts 85, 86 and 600. This test group also complies with California Air Resources Board, Final Regulation Order, Sections 1961.4 and 1961.3 (1962.4 and 1962.3 for zero-emission vehicles) Title 13, California Code of Regulations.

The Part 1 Application for Certification has been prepared in accordance with the standardized format recommended by EPA via its guidance document CD-14-19 (LDV/LDT/OCO/LIMO) Subject: Certification Application Reporting Guidance, dated November 24, 2014.

If you have any questions regarding the Certificate of Conformity, do not hesitate to contact Stephanie Wright at swright@hatci.com or (734) 273-1904.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. H. Ji', written over a horizontal line.

C. H. Ji
General Manager
Regulation & Certification Team2
Hyundai Motor Company

VHYXV02.5UP3 – Hyundai GV70 AWD 2.5L – Part 1
Issued : 02-11-2026
Revised :



Ms. Robin U. Lang, Chief
Emissions Certification and Compliance Division
California Air Resources Board
4001 Iowa Ave.
Riverside, California 92507

Subject: Request for an Executive Order for 2027 Model Year Test Group
VHYXV02.5UP3 / Evaporative Family VHYXR0142UPG

Dear Ms. Robin U. Lang:

Hyundai Motor Company requests that California Air Resources Board (CARB) issue an Executive Order for the test group subjected above.

All vehicles within the test group mentioned above comply with the applicable regulations contained in 40 CFR86.1844-01(d), (14) including the provisions of 40 CFR Parts 85, 86 and 600. This test group also complies with California Air Resources Board, Final Regulation Order, Sections 1961.4 and 1961.3 (1962.4 and 1962.3 for zero-emission vehicles) Title 13, California Code of Regulations.

The Part 1 Application for Certification has been prepared in accordance with the standardized format recommended by EPA via its guidance document CD-14-19 (LDV/LDT/OCO/LIMO) Subject: Certification Application Reporting Guidance, dated November 24, 2014.

If you have any questions regarding the Executive Order, do not hesitate to contact Stephanie Wright at swright@hatci.com or (734) 273-1904.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. H. Ji', written over a horizontal line.

C. H. Ji
General Manager
Regulation & Certification Team2
Hyundai Motor Company

VHYXV02.5UP3 – Hyundai GV70 AWD 2.5L – Part 1
Issued : 02-11-2026
Revised :

15.00
15.01

Other Information
Certification Fee Filing Form

US EPA Fee Form

[Help and EPA Instructions](#)

* Required Field

General Information

Date: 03/03/2026

Process Code *

Submit New Fee Filing Form

Manufacturer Code *

HYX

Manufacturer Name *

Hyundai

Contact Name *

Jennifer Cherry

Contact Email Address *

jcherry@hatci.com

Contact Phone *

7343372259

Calendar Year complete application submitted to EPA *

2026

PLEASE NOTE: These fees apply to complete certification applications received by EPA from January 1, 2026, through December 31, 2026. The applicable fee is determined by the

calendar year in which the complete certification application is received, not the model year.

Engine Family / Evaporative Family / Test Group *

VHYXV02.5UP3

Certificate Request Type (Industry Sector Code)

Certificate Request Type *

- On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (Federal) (A, B, D, J, T, V)
- On-Highway HDE Dyno Cert (Federal) (E, H)
- On-Highway LD ICI, MDPV ICI, HDV ICI (A, B, D, J, T, V)
- On-Highway Motorcycle (C)
- On-Highway HDV Evap (F)
- On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (California-Only) (A, B, D, J, T, V)
- On-Highway HDE Dyno Cert (California-Only) (E, H)
- Nonroad CI (L)
- Nonroad SI (B, S)
- Locomotive (G, K)
- All Nonroad Recreational, excluding Marine engines (X, Y)
- All Marine (Including IMO) (M, N, W)
- Component Certification for Evaporative Emissions (P)

IMO Name (Required for dual US/IMO Marine Only)

ICI VIN Number (Required for ICIs Only)

Do you qualify for a Reduced Fee? *

No

Payment Information

Amount Owed

\$32,317.00

Payment Type *

Offline Wire

Comments

EPA Form Number 3520-29


OMB Control No. 2060-0545

Approval expires 7/31/2027

The public reporting and recordkeeping burden for this collection of information is estimated to average 12 minutes per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed forms to this address.

The content of this document may contain Sensitive But Unclassified (SBU) data and/or Controlled Unclassified Information (CUI).

15.02 Vehicle Emission Control Information (VECI) Label

	HYUNDAI MOTOR COMPANY VEHICLE EMISSION CONTROL INFORMATION	
Conforms to regulations:		2027 MY
U.S.EPA: Interim T4B30 LDV OBD: CA II Fuel: Gasoline		
California: LEV IV SULEV30 PC OBD: CA II Fuel: Gasoline		
No adjustments needed.		DFI, SFI, WR-HO2S, HO2S, TWC, TC, CAC
Group: VHYXV02.5UP3 Evap.: VHYXR0142UPG		32450-2T202

15.03 ORVR Safety Statement

Hyundai uses standard technology in all ORVR systems for 2027 model year vehicles. In accordance with EPA Guidance Letter C1SD-06-06, ORVR applications will not be submitted.

15.04 New Technology System Description

Please refer to Common Section 15.04.

15.05 Engine Oil Information

Please refer to Common Section 15.05.

16.00 California ARB Information

16.01 Exhaust Emission Control System (Tune-up label)

Test Group Name	Model	Trans.	Exhaust Emission Control System
VHYXV02.5UP3	GV70 AWD	SA8	DFI, SFI, WR-HO2S, HO2S, TWC, TC, CAC, OBD-II

Note: HO2S : Heated Oxygen Sensor
WR-HO2S : Wide Range Heated Oxygen Sensor
WU-TWC : Warm up Three Way Catalyst
TWC : Three Way Catalyst
DFI : Direct Fuel Injection
SFI : Sequential multiport Fuel Injection
OBD-II : On-Board Diagnostics II
TC : Turbo Charger
CAC : Charge Air Cooler
(Use abbreviations per SAE J1930 October 08)

16.02 Test Procedures

Please refer to Common Section 16.02

16.03.00 Fill Pipe Access Zones Statement and Specifications

16.03.01 Fill Pipe Access Zones Statement

Please refer to Common Section 16.03.01.

16.04.00 Request for Certification

Please refer to 14.00.

16.04.01 Statement of Compliance

Please refer to Common Section 16.04.01.

16.04.02 Supplemental Data Sheet

Please refer to E-cert data.

16.05.00 Emission Testing Waiver Statement

Please refer to Common Section 16.05.00.

16.06.00 Projected Sales

Please refer to Common Section 13.00.

16.07.00 OBD-II System Description

Please refer to section 09.00.

16.08.00 New Technology System Description

Please refer to Common Section 15.04.

16.09.00 Environmental Performance Label

Pursuant to CALIFORNIA ENVIRONMENTAL PERFORMANCE LABEL SPECIFICATIONS FOR 2009 AND SUBSEQUENT MODEL YEAR PASSENGER CARS, LIGHT-DUTY TRUCKS, AND MEDIUM-DUTY PASSENGER VEHICLES (adopted May 2, 2008, last amended September 2, 2015), 2012, Hyundai Motor Group complies Environmental Performance Label requirement by affixing the Federal Fuel Economy and Environment Label in accordance to 40 CFR Parts 85, 86, and 600 as promulgated on July 6, 2011.

16.10.00 AECD General Statements

The vehicles contained in this test group are not equipped with a defeat device and are not equipped with alternative mapping strategies. Furthermore, all AECDs have been declared and described in the application.

As described in our application, the vehicle's transmission is not part of any AECD. However, the transmission gear is an input for the emissions control strategy, as described in that application. The ECU does not provide an output to the TCU to control emissions strategy.

When driving conditions on the road can be properly represented on the dynamometer, the transmission will perform in the same manner. However, there are some different driving conditions, such as an uphill or downhill grade, extreme heat or extreme cold conditions, heavy braking, and curved road driving conditions, which cannot be appropriately represented on the dynamometer. In these conditions where necessary to protect the transmission or to prevent an unnatural shift pattern, a different shift pattern may be executed. It is our understanding that this is commonly used throughout the industry.

The Hyundai-Kia American Technical Center and the Hyundai Motor Group Research and Development Center in Namyang, Korea have endeavored to respond based on our understanding of the regulatory definition of an AECD, the past certification reviews of AECDs conducted by ARB, existing guidance regarding AECDs issued by ARB, and, of course, EPA's and ARB's increased interest in this area. We will continue to monitor guidance issued by ARB regarding the level of information and detail desired in a certification application, and will continue to evaluate AECD issues to ensure transparency with respect to our vehicle and engine performance.

16.11.00 California Warranty Compliance

Please refer to Common Section 16.11.00.

16.12.00 Description of the Propulsion System: Not Applicable

16.13.00 ZEV Compliance: Not Applicable

17.00.00 Service of Process

Please refer to Common Section 01.00.

18.00.00 Attachment

1. CSI Report

Certification Summary Information Report

Manufacturer	Hyundai Motor Company	Manufacturer Code	HYX
Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Certificate Number	--	CARB Executive Order #	--
Certificate Issue Date	--	Certificate Revision Date	--
Certificate Effective Date	--	Conditional Certificate	--
CSI Revision #	--	CSI Submission/Revision Date	01/27/2026 02:01:27 AM
Model Year	2027		

Test Group Information			
CSI Type	Update for Correction	Running Change Reference Number	--
GHG Exempt Status	Not Exempt		
Drive Sources and Fuel(s)			
Drive Source #1:	Combustion Engine		
	Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
	Gasoline	Spark Ignition direct & ported injection	No

Hybrid Indicator	No		
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	--
Multiple Fuel Combustion	--	Off-board Charge Capable Indicator	--
Fuel Cell Indicator	--	EPA Vehicle Class	LDV
Federal Clean Fuel Vehicle	No	Federal Clean Fuel Vehicle Standard	--
Federal Clean Fuel Vehicle ILEV	No	California Partial Zero Emissions Vehicle Indicator	No
Durability Group Name	VHYXGPGNNUP3	Durability Group Equivalency Factor	1.0
Reduced Fee Test Group	No	Certification Region Code(s)	FA, CA
Complies with HD GHG 2b/3 regulations?	No		
Introduction into Commerce Date	--	CAP2000 Conditional Certificate?	N/A
Independent Commercial Importer?	--	Alternative Fuel Converter Certificate?	--
SFTP Federal Composite Compliance Identifier	Tier 3	SFTP Tier 2 Composite CO Option	No
SFTP LEV-III Composite Compliance Indicator	No		
OBD Compliance Type	CARB	OBD Demonstration Vehicle Test Group	VHYXV02.5UP3
Test Group OBD Compliance Level	Full - no deficiencies	Number of Test Group OBD Deficiencies	0
OBD Deficiencies Comments	--		
Mfr Test Group Comments	The fuel for Litmus test is E10. Litmus result(Value/Threshold): City(16.1/15.2),HWY(20.3/18.2)-2MODE. Test No: THYX1007362(FTP),THYX10087374(HWY),THYX10087375(US06),THYX10087376(SC03),THYX10087377(Cold)		
Mfr Exhaust / Evap Standards Comments	--		

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG				
Evaporative/Refueling Family Information							
Evaporative Summary Information Type	New	Submission/Correction Date	01/27/2026 01:35:30 AM				
Integrated ORVR?	Yes	Fuel(s)	Gasoline				
Multiple Fuel Storage	--						
Bladder Fuel Tank?	No						
Fuel Tank Material	Plastic	Fuel Tank Material Description	HDPE				
Fill Pipe Seal Type	Liquid seal						
Air Intake System Vapor Storage Device?	Yes	Air Intake System Vapor Storage Device Description	HC-TRAP				
Fuel System Vapor Storage Canister?	Yes	Other Vapor Storage	--				
Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)	142	Number of Primary Canisters	1				
Number of Bleed Canisters	0	Bleed Canister Total Working Capacity (grams)	--				
Mfr Evaporative/Refueling Family Comments	--						
Leak Family Details							
Leak Family Indicator	Yes						
Canister Bleed Test Indicator	Yes	Applicability of Evaporative Canister Bleed Test	50 State				
Evaporative Canister Bleed Test Comments	--						
CARB Fuel Only (Rig) Test Indicator	No	Applicability of CARB Fuel Only (Rig) Test	--				
CARB Fuel Only (Rig) Test Comments	--						
Leak Family Name	Applicability of Leak Family Requirements	Leak Family Standard (inches)	Leak Family Description				
VHYXR0142UPG-JK1	50 State	0.02	--				
Models Covered by this Certificate							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Hyundai Motor Company	2 - GENESIS	351 - GV70 AWD	California + CAA Section 177 states	All Wheel Drive	Semi-Automatic	8	Yes
Hyundai Motor Company	2 - GENESIS	351 - GV70 AWD	Federal	All Wheel Drive	Semi-Automatic	8	Yes
Engine Description							
Hybrid Type	--	Hybrid Description	--				
Engine Type	4-Stroke Spark Ignition	Mfr Engine Description	--				
Engine Block Arrangement	Inline	Mfr Engine Block Arrangement Description	--				
Camless Valvetrain Indicator	No	Oil Viscosity/Classification	SAE 0W30				
Number of Cylinders/Rotors	4	Mechanically Variable Compression Ratio Indicator	N				

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
After Treatment Device(s) (ATD)			
ATD Number	ATD Type	ATD Precious Metal	Substrate Material
1	Three-way catalyst	Platinum + Palladium + Rhodium	Ceramic
Substrate Construction			
Monolith			
Mfr After Treatment Device (ATD) Comments			
--			
Direct Ozone Reduction (DOR) Device			
Not Equipped			
Mfr Emission Control Device Comments			
--			
Engine Configuration Number 1			
Engine Displacement (liters)	2.5	Engine Rated Horsepower	300
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Liquid
Air Aspiration Drive Method(s)	Mechanical		
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	Yes		
Variable Valve Timing System Description	Fixed3		
Variable Valve Lift?	No		
Variable Valve Lift System Description	--		
Number of Knock Sensors	1	Number of Air/Fuel Sensors	2
Air/Fuel Sensor # 1 Type	Other	Air/Fuel Sensor # 1 Description	WR-H2OS
Air/Fuel Sensor # 2 Type	Heated oxygen	Air/Fuel Sensor # 2 Description	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	No	Cooled Exhaust Gas Recirculation	No
EGR Type	--	Exhaust Gas Recirculation Description if 'Other'	--
Closed Loop Air Injection System	No		
Air Injection Type	--	Air Injection Type if 'Other'	--
Mfr Engine Configuration Comments	--		
Official Test Numbers			
Test Group	Fuel	FTP	US06
Fuel	FTP	US06	SC03
Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold
Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value
EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor	
Gasoline	THYX10087362	THYX10087375	THYX10087376
THYX10087377	THYX10087374	19.0	228.2
27.0	286.1	--	

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
SFTP LEV-III Official Test Numbers			
Test Group Fuel	FTP	US06	SC03
Gasoline	THYX10087362	THYX10087375	THYX10087376

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG						
Emission Data Vehicle Information									
Vehicle ID / Configuration	JKAU5H5TA010A / 0	Manufacturer Vehicle Configuration Number	0						
Original Test Group Name	THYXV02.5UP3	Original Evaporative/Refueling Family	THYXR0142UPG						
Original Test Vehicle Model Year	2026								
Vehicle Model									
Represented Test Vehicle Make	Genesis	Represented Test Vehicle Model	GV70						
Leak Family Details									
Leak Family Identifier	JK1	Leak Family Name	THYXR0142UPG-JK1						
Drive Sources and Fuel System Details									
	<table border="1"> <thead> <tr> <th>Drive Source and Fuel#</th> <th>Drive Source</th> <th>Fuel</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Combustion Engine</td> <td>Gasoline</td> </tr> </tbody> </table>			Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline
Drive Source and Fuel#	Drive Source	Fuel							
1	Combustion Engine	Gasoline							
Hybrid Indicator	No								
Multiple Fuel Storage	--	Multiple Fuel Combustion	--						
Fuel Cell Indicator	--	Rechargeable Energy Storage System Indicator	--						
Rechargeable Energy Storage System	--	Rechargeable Energy Storage System, if 'Other'	--						
Off-board charge Capable Indicator	--								
Odometer Correction -- Initial	0	Odometer Correction Factor	0.9995						
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles								
Odometer Correction Units	Miles								
Engine Code	G4KR-AC	Rated Horsepower	300						
Displacement (liters)	2.5								
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'							
Number of Air Aspiration Devices	1	Air Aspiration Device Configuration	Single						
Charge Air Cooler Type	Liquid	Drive Mode While Testing	2-Wheel Drive, Rear						
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)						
Curb Weight (lbs)	4467	Equivalent Test Weight (pounds)	4750						
GVWR (lbs)	5622	N/V Ratio	28.2						
Axle Ratio	4.18								
Transmission Type	Semi-Automatic	# of Transmission Gears	8						
Transmission Lockup	Yes	Creeper Gear	No						

Certification Summary Information Report

Test Group	VHYXV02.5UP3			Evaporative/Refueling Family			VHYXR0142UPG
Dynamometer Coefficients:							
	Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
City/Highway/Evap	38.683	0.35513	0.025791	17.008	0.04446	0.026978	16.1
Cold CO	42.551	0.39064	0.02837	3.994	0.17245	0.028049	N/A
US06	38.683	0.35513	0.025791	17.008	0.04446	0.026978	N/A
Emission Control Device Comments	--						
Manufacturer Test Vehicle Comments	26MY JK PE 2.5T SPORTPACK AWD 21" ETW 4750 (EDV)						

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Test #	THYX10087362	Test Procedure	21 - Federal fuel 2-day exhaust (w/can load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	06/13/2024	Fuel	Gasoline
Fuel Batch ID	23T-02	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4166	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	489.9984	--
FE BAG 1 (Bag 1 Fuel Economy)	17.5735	17.5735
CO2 BAG 2 (Bag 2 Carbon Dioxide)	436.3208	--
FE BAG 2 (Bag 2 Fuel Economy)	19.8119	19.8119
CO2 BAG 3 (Bag 3 Carbon Dioxide)	406.1909	--
FE BAG 3 (Bag 3 Fuel Economy)	21.2572	21.2572
CO (Carbon Monoxide)	0.3535	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.29	--
DT-EER (Drive Trace Energy Economy Rating)	-0.85	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.12	--
MFR FE (Manufacturer Fuel Economy)	19.6583	19.6583
NOX (Nitrogen Oxide)	0.0054	--
HC-NM (Non-methane Hydrocarbon)	0.004	--
NMOG (Non-methane organic gases)	0.0044	--
PM (Particulate Matter)	0.0005	--
HC-TOTAL (Total Hydrocarbon)	0.0053	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	439.5649	999

Certification Summary Information Report

Test Group		VHYXV02.5UP3			Evaporative/Refueling Family				VHYXR0142UPG			
		Test Result Name		Unrounded Test Result			Verify Calculated CO2					
		Carbon dioxide		439.1671			--					
Manufacturer Test Comments		26MY JK PE 2.5T AWD 21" (ETW:4750) E10-FTP										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 30	CREE	999	--	--	--	0.436873	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.35	--	--	--	0.06	--	0.4	1.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO-COMP	0.37	--	--	--	0	--	0.4	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0044	--	1.10	--	0.0020	--	0.006	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0098	--	--	--	--	--	0.017	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX-COMP	0.0146	--	--	--	0	--	0.015	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0054	--	--	--	0.0054	--	0.011	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0005	--	--	--	0.0002	--	0.001	0.003	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.35	--	--	--	0.06	--	0.4	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0044	--	1.10	--	0.0020	--	0.006	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0098	--	--	--	--	--	0.017	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0054	--	--	--	0.0054	--	0.011	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0005	--	--	--	0.0002	--	0.001	0.003	Pass

NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Test #	THYX10087377	Test Procedure	11 - Cold CO
Exhaust Test # for this Evap Test	--	Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)
Test Date	06/16/2024	Fuel	Gasoline
Fuel Batch ID	22D-01	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4242	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	550.0164	--
FE BAG 1 (Bag 1 Fuel Economy)	15.6534	15.6534
CO2 BAG 2 (Bag 2 Carbon Dioxide)	460.4501	--
FE BAG 2 (Bag 2 Fuel Economy)	18.8105	18.8105
CO2 BAG 3 (Bag 3 Carbon Dioxide)	430.4617	--
FE BAG 3 (Bag 3 Fuel Economy)	20.1216	20.1216
CO (Carbon Monoxide)	0.4119	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.58	--
DT-EER (Drive Trace Energy Economy Rating)	-0.94	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.39	--
MFR FE (Manufacturer Fuel Economy)	18.3487	18.3487
NOX (Nitrogen Oxide)	0.0066	--
HC-NM (Non-methane Hydrocarbon)	0.0372	--
HC-TOTAL (Total Hydrocarbon)	0.0422	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	470.7642	--

Manufacturer Test Comments

26MY JK PE 2.5T AWD 21" (ETW:4750) E10-20F

Certification Summary Information Report

Test Group		VHYXV02.5UP3				Evaporative/Refueling Family				VHYXR0142UPG		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	50,000 miles	Federal Tier 3 Bin 30	CO	0.41	--	--	--	0.02	--	0.4	10.0	Pass
Fed	120,000 miles	Federal Tier 3 Bin 30	HC-NM	0.04	--	--	--	0.0015	--	0.0	0.3	Pass
CA	50,000 miles	California LEV-IV SULEV30	CO	0.41	--	--	--	0.02	--	0.4	10.0	Pass

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Test #	THYX10087378	Test Procedure	52 - Fed. fuel 50 F exh.
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	06/12/2024	Fuel	Gasoline
Fuel Batch ID	23T-02	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4126	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO (Carbon Monoxide)	0.3722	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.57	--
DT-EER (Drive Trace Energy Economy Rating)	-0.85	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.29	--
MFR FE (Manufacturer Fuel Economy)	19.523	19.523
NOX (Nitrogen Oxide)	0.004	--
HC-NM (Non-methane Hydrocarbon)	0.0078	--
NMOG (Non-methane organic gases)	0.0086	--
HC-TOTAL (Total Hydrocarbon)	0.0098	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	442.3959	--

Manufacturer Test Comments 26MY JK PE 2.5T AWD 21" (ETW:4750) E10-50F

Certification Summary Information Report

Test Group		VHYXV02.5UP3				Evaporative/Refueling Family				VHYXR0142UPG		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
CA	4,000 miles	California LEV-IV SULEV30	CO	0.37	--	--	--	--	--	0.4	1.0	Pass
CA	4,000 miles	California LEV-IV SULEV30	NMOG	0.0086	--	1.10	--	--	--	0.009	99.999	Pass
CA	4,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0126	--	--	--	--	--	0.013	0.060	Pass
CA	4,000 miles	California LEV-IV SULEV30	NOX	0.0040	--	--	--	--	--	0.004	99.999	Pass

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Test #	THYX10087379	Test Procedure	21 - Federal fuel 2-day exhaust (w/can load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	06/19/2024	Fuel	Gasoline
Fuel Batch ID	22M-01	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4301	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	397.513	--
FE BAG 1 (Bag 1 Fuel Economy)	22.3037	22.3037
CO2 BAG 2 (Bag 2 Carbon Dioxide)	365.3691	--
FE BAG 2 (Bag 2 Fuel Economy)	24.4299	24.4299
CO2 BAG 3 (Bag 3 Carbon Dioxide)	318.0748	--
FE BAG 3 (Bag 3 Fuel Economy)	28.0313	28.0313
METHANE (CH4 - Methane)	0.0032	--
CO (Carbon Monoxide)	0.279	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.18	--
DT-EER (Drive Trace Energy Economy Rating)	-0.47	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.52	--
MFR FE (Manufacturer Fuel Economy)	24.8106	24.8106
NOX (Nitrogen Oxide)	0.0064	--
N2O (Nitrous Oxide)	0.0005	--
HC-NM (Non-methane Hydrocarbon)	0.0054	--
NMOG (Non-methane organic gases)	0.0056	--
HC-TOTAL (Total Hydrocarbon)	0.0072	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	359.4621	359

Certification Summary Information Report

Test Group		VHYXV02.5UP3			Evaporative/Refueling Family				VHYXR0142UPG			
		Test Result Name		Unrounded Test Result			Verify Calculated CO2					
		Carbon dioxide		359.0501			--					
Manufacturer Test Comments		26MY JK PE 2.5T AWD 21" (ETW:4750) E0-FTP										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 30	CREE	359	--	--	--	0.436873	--	359	--	--
Fed	120,000 miles	Federal Tier 3 Bin 30	METHANE	0.0032	--	--	--	0.0034	--	0.007	0.030	Pass
Fed	120,000 miles	Federal Tier 3 Bin 30	N2O	0.0005	--	--	--	0.0005	--	0.001	0.010	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.28	--	--	--	0.06	--	0.3	1.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0056	--	1.10	--	0.0020	--	0.008	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0120	--	--	--	--	--	0.019	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0064	--	--	--	0.0054	--	0.012	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.28	--	--	--	0.06	--	0.3	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0056	--	1.10	--	0.0020	--	0.008	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0120	--	--	--	--	--	0.019	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0064	--	--	--	0.0054	--	0.012	99.999	Pass
NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.												

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Test #	THYX10087374	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	06/11/2024	Fuel	Gasoline
Fuel Batch ID	23T-02	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4075	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO (Carbon Monoxide)	0.1857	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	5.53	--
DT-EER (Drive Trace Energy Economy Rating)	0.58	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	6.3	--
MFR FE (Manufacturer Fuel Economy)	26.4003	26.4003
NOX (Nitrogen Oxide)	0.0025	--
HC-NM (Non-methane Hydrocarbon)	0.0009	--
NMOG (Non-methane organic gases)	0.0009	--
HC-TOTAL (Total Hydrocarbon)	0.004	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	327.3106	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	327.4254	--

Manufacturer Test Comments 26MY JK PE 2.5T AWD 21" (ETW:4750) E10-HWY

Certification Summary Information Report

Test Group		VHYXV02.5UP3				Evaporative/Refueling Family				VHYXR0142UPG		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 30	CREE	999	--	--	--	0.436873	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0009	--	1.03	--	0.0020	--	0.003	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0034	--	--	--	--	--	0.011	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0025	--	--	--	0.0054	--	0.008	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0009	--	1.03	--	0.0020	--	0.003	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0034	--	--	--	--	--	0.011	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0025	--	--	--	0.0054	--	0.008	99.999	Pass

NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Test #	THYX10087380	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	06/19/2024	Fuel	Gasoline
Fuel Batch ID	22M-01	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4312	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO (Carbon Monoxide)	0.0886	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	6.4	--
DT-EER (Drive Trace Energy Economy Rating)	0.72	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	7.33	--
MFR FE (Manufacturer Fuel Economy)	37.1384	37.1384
NOX (Nitrogen Oxide)	0.0012	--
HC-NM (Non-methane Hydrocarbon)	0	--
NMOG (Non-methane organic gases)	0	--
HC-TOTAL (Total Hydrocarbon)	0.0001	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	240.1414	240

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	239.9765	--

Manufacturer Test Comments 26MY JK PE 2.5T AWD 21" (ETW:4750) E0-HWY

Certification Summary Information Report

Test Group		VHYXV02.5UP3			Evaporative/Refueling Family					VHYXR0142UPG		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 30	CREE	240	--	--	--	0.436873	--	240	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0000	--	1.03	--	0.0020	--	0.002	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0012	--	--	--	--	--	0.009	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0012	--	--	--	0.0054	--	0.007	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0000	--	1.03	--	0.0020	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0012	--	--	--	--	--	0.009	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0012	--	--	--	0.0054	--	0.007	99.999	Pass

NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Test #	THYX10087375	Test Procedure	90 - US06
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	06/11/2024	Fuel	Gasoline
Fuel Batch ID	23T-02	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4096	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	620.684	--
FE BAG 1 (Bag 1 Fuel Economy)	13.9102	13.9102
CO2 BAG 2 (Bag 2 Carbon Dioxide)	387.2971	--
FE BAG 2 (Bag 2 Fuel Economy)	22.3145	22.3145
CO (Carbon Monoxide)	0.1415	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-8.84	--
DT-EER (Drive Trace Energy Economy Rating)	-5.53	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-11.99	--
MFR FE (Manufacturer Fuel Economy)	19.6735	19.6735
NOX (Nitrogen Oxide)	0.0056	--
HC-NM (Non-methane Hydrocarbon)	0.0004	--
NMOG (Non-methane organic gases)	0.0005	--
PM (Particulate Matter)	0.0015	--
HC-TOTAL (Total Hydrocarbon)	0.0019	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	438.9434	--

Manufacturer Test Comments

26MY JK PE 2.5T AWD 21" (ETW:4750) E10-US06

Certification Summary Information Report

Test Group		VHYXV02.5UP3				Evaporative/Refueling Family				VHYXR0142UPG		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.1415	--	--	--	0.06	--	0.202	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0005	--	1.03	--	0.0020	--	0.002	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0061	--	--	--	--	--	0.014	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0056	--	--	--	0.0054	--	0.011	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0015	--	--	--	0.0002	--	0.002	0.006	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.14	--	--	--	0.06	--	0.2	9.6	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0005	--	1.03	--	0.0020	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0061	--	--	--	--	--	0.014	0.036	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0056	--	--	--	0.0054	--	0.011	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0015	--	--	--	0.0002	--	0.002	0.006	Pass

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Test #	THYX10087376	Test Procedure	95 - SC03
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	06/11/2024	Fuel	Gasoline
Fuel Batch ID	23T-02	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4112	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO (Carbon Monoxide)	0.39	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-1.27	--
DT-EER (Drive Trace Energy Economy Rating)	-0.46	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.22	--
MFR FE (Manufacturer Fuel Economy)	16.4087	16.4087
NOX (Nitrogen Oxide)	0.0055	--
HC-NM (Non-methane Hydrocarbon)	0	--
NMOG (Non-methane organic gases)	0	--
HC-TOTAL (Total Hydrocarbon)	0.001	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	525.548	--

Manufacturer Test Comments 26MY JK PE 2.5T AWD 21" (ETW:4750) E10-SC03

Certification Summary Information Report

Test Group		VHYXV02.5UP3				Evaporative/Refueling Family				VHYXR0142UPG		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.3900	--	--	--	0.06	--	0.450	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0000	--	1.03	--	0.0020	--	0.002	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0055	--	--	--	--	--	0.013	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0055	--	--	--	0.0054	--	0.011	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.39	--	--	--	0.06	--	0.4	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0000	--	1.03	--	0.0020	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0055	--	--	--	--	--	0.013	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0055	--	--	--	0.0054	--	0.011	99.999	Pass

Certification Summary Information Report

Test Group	VHYXV02.5UP3		Evaporative/Refueling Family	VHYXR0142UPG							
Emission Data Vehicle Information											
Vehicle ID / Configuration	RG3U1L5TA082A / 0		Manufacturer Vehicle Configuration Number	0							
Original Test Group Name	MHYXV03.5HT5		Original Evaporative/Refueling Family	MHYXR0142HTG							
Original Test Vehicle Model Year	2021										
Vehicle Model											
Represented Test Vehicle Make	Genesis		Represented Test Vehicle Model	G80							
Leak Family Details											
Leak Family Identifier	RG3		Leak Family Name	MHYXR0142HTG-RG3							
Drive Sources and Fuel System Details											
<table border="1"> <thead> <tr> <th>Drive Source and Fuel#</th> <th>Drive Source</th> <th>Fuel</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Combustion Engine</td> <td>Gasoline</td> </tr> </tbody> </table>						Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline
Drive Source and Fuel#	Drive Source	Fuel									
1	Combustion Engine	Gasoline									
Hybrid Indicator	No		Multiple Fuel Combustion	--							
Multiple Fuel Storage	--		Rechargeable Energy Storage System Indicator	--							
Fuel Cell Indicator	--		Rechargeable Energy Storage System, if 'Other'	--							
Rechargeable Energy Storage System	--										
Off-board charge Capable Indicator	--		Odometer Correction Factor	0.9948							
Odometer Correction -- Initial	0										
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles										
Odometer Correction Units	Miles										
Engine Code	G6DS-AC		Rated Horsepower	375							
Displacement (liters)	3.5		Air Aspiration Method, if 'Other'								
Air Aspiration Method	Turbocharged		Air Aspiration Device Configuration	Parallel							
Number of Air Aspiration Devices	2		Drive Mode While Testing	2-Wheel Drive, Rear							
Charge Air Cooler Type	Liquid		Aged Emission Components	4,000 (mi)							
Shift Indicator Light Usage	Not equipped		Equivalent Test Weight (pounds)	4750							
Curb Weight (lbs)	4497		N/V Ratio	24.8							
GVWR (lbs)	5567										
Axle Ratio	3.54		# of Transmission Gears	8							
Transmission Type	Semi-Automatic		Creeper Gear	No							
Transmission Lockup	Yes										
Dynamometer Coefficients:											
Target Coefficients			Set Coefficients								
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients				
City/Highway/Evap	44.566	0.44728	0.017087	21.698	0.14745	0.018759	14.6				
Emission Control Device Comments						--					

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
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Manufacturer Test Vehicle Comments 21MY RG3 3.5T EVAP AWD 20"

Test #	MHYX10062524	Test Procedure	38 - CA fuel 3-day evap.
Exhaust Test # for this Evap Test	MHYX10062521	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	11/22/2019	Fuel	Gasoline
Fuel Batch ID	19E-03	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4238	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.1919	--

Manufacturer Test Comments 21MY RG3 3.5L 20"(ETW:4750)-3DBL

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.1919	0	0.192	0.300	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1919	0	0.192	0.300	Pass

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Test #	MHYX91004651	Test Procedure	27 - California fuel 2-day evap
Exhaust Test # for this Evap Test	MHYX91004650	Test Fuel Type	46 - CARB LEV3 E10 Regular
Test Date	10/22/2020	Fuel	Gasoline
Fuel Batch ID	26757	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	5077.1	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.207219	--

Manufacturer Test Comments Hot_Soak_HC_(g) = 0.044611, Diurnal (gHC) = 0.162608

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.2072	0	0.207	0.300	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.2072	0	0.207	0.300	Pass

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
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Test #	MHYX10062526	Test Procedure	37 - California Fuel Running Loss
Exhaust Test # for this Evap Test	MHYX10062521	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	11/22/2019	Fuel	Gasoline
Fuel Batch ID	19E-03	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4238	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.001	--

Manufacturer Test Comments 21MY RG3 3.5L 20"(ETW:4750) CA E10-RL

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.001	0	0.00	0.05	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.001	0	0.00	0.05	Pass

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Test #	MHYX10062527	Test Procedure	24 - Federal fuel refueling test (ORVR)
Exhaust Test # for this Evap Test	MHYX10062523	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	11/06/2019	Fuel	Gasoline
Fuel Batch ID	18T-03	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4102	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.006	--

Manufacturer Test Comments

21MY RG3 3.5L 20"(ETW:4750) FED E10-ORVR

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.006	0.003	0.01	0.20	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.006	0.003	0.01	0.20	Pass

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
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Test #	MHYX10062528	Test Procedure	65 - Evap Canister Bleed Test
Exhaust Test # for this Evap Test	--	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	11/28/2019	Fuel	Gasoline
Fuel Batch ID	19E-03	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4257	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL (Total Hydrocarbon)	0.0148	--

Manufacturer Test Comments 21MY RG3 3.5L 20"(ETW:4750) CA E10-Bleed

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL	0.0148	0	0.015	0.020	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL	0.0148	0	0.015	0.020	Pass

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
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Test #	MHYX10062680	Test Procedure	67 - Leak Test - Port Near Canister
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	12/02/2019	Fuel	Gasoline
Fuel Batch ID	18T-03	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4257	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
LEAK-DIA (Effective Leak Diameter (inches))	0	--

Manufacturer Test Comments 21MY RG3 3.5L 20"(ETW:4750) FED E10-Leak Test Port Near Canister

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	LEAK-DIA	0.0000	0	0.000	0.020	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	LEAK-DIA	0.000	0	0.00	0.02	Pass

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Test #	MHYX10062681	Test Procedure	68 - Leak Test - Port Near Fuel Pipe
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	12/02/2019	Fuel	Gasoline
Fuel Batch ID	18T-03	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4257	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
LEAK-DIA (Effective Leak Diameter (inches))	0	--

Manufacturer Test Comments

21MY RG3 3.5L 20"(ETW:4750) FED E10-Leak Test Port Near Fuel Pipe

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	LEAK-DIA	0.0000	0	0.000	0.020	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	LEAK-DIA	0.000	0	0.00	0.02	Pass

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Fuel Properties			
Fuel Batch ID	23T-02	Fuel Calibration Number	1
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	09/29/2022
Fuel Batch Calibration Effective Date	08/21/2023	Fuel Batch Calibration Ineffective Date	08/21/2026
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.74
Fuel Ethanol Volume Percent (%)	9.8	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17799
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.824	Weight Fraction CO2	--
Fuel Batch ID	22M-01	Fuel Calibration Number	1
Test Fuel Type	61 - Tier 2 Cert Gasoline	Fuel Batch Calibration Date	02/14/2022
Fuel Batch Calibration Effective Date	02/14/2022	Fuel Batch Calibration Ineffective Date	02/14/2025
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.743
Fuel Ethanol Volume Percent (%)	--	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18435
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.867	Weight Fraction CO2	--
Fuel Batch ID	19E-03	Fuel Calibration Number	1
Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline	Fuel Batch Calibration Date	08/08/2019
Fuel Batch Calibration Effective Date	10/29/2019	Fuel Batch Calibration Ineffective Date	10/29/2022
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.75
Fuel Ethanol Volume Percent (%)	9.6	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17917
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.827	Weight Fraction CO2	--
Fuel Batch ID	18T-03	Fuel Calibration Number	1
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	12/10/2018
Fuel Batch Calibration Effective Date	12/11/2018	Fuel Batch Calibration Ineffective Date	12/11/2021
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.745
Fuel Ethanol Volume Percent (%)	10.1	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17781
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.83	Weight Fraction CO2	--
Fuel Batch ID	22D-01	Fuel Calibration Number	1
Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)	Fuel Batch Calibration Date	07/29/2021
Fuel Batch Calibration Effective Date	05/10/2022	Fuel Batch Calibration Ineffective Date	05/10/2025
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.742
Fuel Ethanol Volume Percent (%)	9.9	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17925
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.828	Weight Fraction CO2	--
Fuel Batch ID	26757	Fuel Calibration Number	1
Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline	Fuel Batch Calibration Date	07/27/2017
Fuel Batch Calibration Effective Date	07/27/2017	Fuel Batch Calibration Ineffective Date	07/27/2032
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.749
Fuel Ethanol Volume Percent (%)	9.8	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17958
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.827	Weight Fraction CO2	--

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
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Consolidated List of Standards

Exhaust Standards

Cert Region	Federal	Cert/In-Use Code	Cert
Vehicle Class	LDV/Passenger Car	Standard Level	Federal Tier 3 Bin 30
Fuel	Gasoline	Test Procedure	HWFE

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CREE	--	--	--	--	--	--	0.436873	999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0020	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0054	99.999

Cert Region	Federal	Cert/In-Use Code	Cert
Vehicle Class	LDV/Passenger Car	Standard Level	Federal Tier 3 Bin 30
Fuel	Gasoline	Test Procedure	Federal fuel 2-day exhaust (w/can load)

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CREE	--	--	--	--	--	--	0.436873	999
120,000 miles	METHANE	--	--	--	--	--	--	0.0034	0.030
120,000 miles	N2O	--	--	--	--	--	--	0.0005	0.010
150,000 miles	CO	--	--	--	--	--	--	0.06	1.0
150,000 miles	CO-COMP	--	--	--	--	--	--	0	4.2
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.10	--	--	--	0.0020	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0054	99.999
150,000 miles	PM	--	--	--	--	--	--	0.0002	0.003

Certification Summary Information Report

Test Group		VHYXV02.5UP3			Evaporative/Refueling Family			VHYXR0142UPG		
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV SULEV30		
Fuel		Gasoline			Test Procedure			Fed. fuel 50 F exh.		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
4,000 miles	CO	--	--	--	--	--	--	--	1.0	
4,000 miles	HCHO	--	--	--	--	--	--	--	0.008	
4,000 miles	NMOG	--	--	1.10	--	--	--	--	99.999	
4,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.060	
4,000 miles	NOX	--	--	--	--	--	--	--	99.999	

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV SULEV30		
Fuel		Gasoline			Test Procedure			HWFE		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0020	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030	
150,000 miles	NOX	--	--	--	--	--	--	0.0054	99.999	

Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 30		
Fuel		Gasoline			Test Procedure			US06		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0.06	99.999	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0020	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	99.999	
150,000 miles	NOX	--	--	--	--	--	--	0.0054	99.999	
150,000 miles	PM	--	--	--	--	--	--	0.0002	0.006	

Certification Summary Information Report

Test Group		VHYXV02.5UP3			Evaporative/Refueling Family			VHYXR0142UPG	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV SULEV30	
Fuel		Gasoline			Test Procedure			Federal fuel 2-day exhaust (w/can load)	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.06	1.0
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.10	--	--	--	0.0020	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0054	99.999
150,000 miles	PM	--	--	--	--	--	--	0.0002	0.003

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV SULEV30	
Fuel		Gasoline			Test Procedure			US06	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.06	9.6
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0020	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.036
150,000 miles	NOX	--	--	--	--	--	--	0.0054	99.999
150,000 miles	PM	--	--	--	--	--	--	0.0002	0.006

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV SULEV30	
Fuel		Gasoline			Test Procedure			Cold CO	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
50,000 miles	CO	--	--	--	--	--	--	0.02	10.0

Certification Summary Information Report

Test Group		VHYXV02.5UP3			Evaporative/Refueling Family			VHYXR0142UPG		
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 30		
Fuel		Gasoline			Test Procedure			SC03		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0.06	99.999	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0020	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	99.999	
150,000 miles	NOX	--	--	--	--	--	--	0.0054	99.999	

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV SULEV30		
Fuel		Gasoline			Test Procedure			SC03		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0.06	1.0	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0020	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030	
150,000 miles	NOX	--	--	--	--	--	--	0.0054	99.999	

Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 30		
Fuel		Gasoline			Test Procedure			Cold CO		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
50,000 miles	CO	--	--	--	--	--	--	0.02	10.0	
120,000 miles	HC-NM	--	--	--	--	--	--	0.0015	0.3	

Evaporative/Refueling Standards

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG		
Evaporative/Refueling Family	VHYXR0142UPG	Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
Cert/In-Use Code	Cert	Standard Level			
Test Procedure	Leak Test - Port Near Fuel Pipe				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	LEAK-DIA	--	0.02	0
Evaporative/Refueling Family	VHYXR0142UPG	Cert Region	Federal		
Cert/In-Use Code	Cert	Standard Level	Federal Tier 3 Evap		
Test Procedure	California fuel 2-day evap				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0
Evaporative/Refueling Family	VHYXR0142UPG	Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
Cert/In-Use Code	Cert	Standard Level			
Test Procedure	Federal fuel refueling test (ORVR)				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.20	0.003
Evaporative/Refueling Family	VHYXR0142UPG	Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
Cert/In-Use Code	Cert	Standard Level			
Test Procedure	Leak Test - Port Near Canister				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	LEAK-DIA	--	0.02	0
Evaporative/Refueling Family	VHYXR0142UPG	Cert Region	Federal		
Cert/In-Use Code	Cert	Standard Level	Federal Tier 3 Evap		
Test Procedure	Leak Test - Port Near Canister				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	LEAK-DIA	--	0.020	0

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG		
Evaporative/Refueling Family	VHYXR0142UPG	Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
Cert/In-Use Code	Cert	Standard Level			
Test Procedure	California fuel 2-day evap				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0
Evaporative/Refueling Family	VHYXR0142UPG	Cert Region	Federal		
Cert/In-Use Code	Cert	Standard Level	Federal Tier 3 Evap		
Test Procedure	Leak Test - Port Near Fuel Pipe				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	LEAK-DIA	--	0.020	0
Evaporative/Refueling Family	VHYXR0142UPG	Cert Region	Federal		
Cert/In-Use Code	Cert	Standard Level	Federal Tier 3 Evap		
Test Procedure	CA fuel 3-day evap.				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0
Evaporative/Refueling Family	VHYXR0142UPG	Cert Region	Federal		
Cert/In-Use Code	Cert	Standard Level	Federal Tier 3 Evap		
Test Procedure	California Fuel Running Loss				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.05	0
Evaporative/Refueling Family	VHYXR0142UPG	Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
Cert/In-Use Code	Cert	Standard Level			
Test Procedure	California Fuel Running Loss				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.05	0

Certification Summary Information Report

Test Group	VHYXV02.5UP3		Evaporative/Refueling Family	VHYXR0142UPG	
Evaporative/Refueling Family	VHYXR0142UPG		Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)	
Cert/In-Use Code	Cert		Standard Level		
Test Procedure	Evap Canister Bleed Test				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL	--	0.020	0
Evaporative/Refueling Family	VHYXR0142UPG		Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)	
Cert/In-Use Code	Cert		Standard Level		
Test Procedure	CA fuel 3-day evap.				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0
Evaporative/Refueling Family	VHYXR0142UPG		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	Federal fuel refueling test (ORVR)				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.20	0.003
Evaporative/Refueling Family	VHYXR0142UPG		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	Evap Canister Bleed Test				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL	--	0.020	0

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
Glossary			
Useful Life			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
Emission Name			
HC-TOTAL	Total Hydrocarbon	AS-VOLT	Average System Voltage
CO	Carbon Monoxide	CO2 BAG 1	Bag 1 Carbon Dioxide
CO2	Carbon dioxide	CO2 BAG 2	Bag 2 Carbon Dioxide
CREE	Carbon-Related Exhaust Emissions	CO2 BAG 3	Bag 3 Carbon Dioxide
OPT-CREE	Optional Carbon-Related Exhaust Emissions	CO2 BAG 4	Bag 4 Carbon Dioxide
NOX	Nitrogen Oxide	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
PM	Particulate Matter	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
PM-COMP	SFTP Composite Particulate Matter	DT-IWRR	Drive Trace Inertia Work Ratio Rating
HC-NM	Non-methane Hydrocarbon	DT-ASCR	Drive Trace Absolute Speed Change Rating
OMHCE	Organic material Hydrocarbon Equivalent	DT-EER	Drive Trace Energy Economy Rating
OMNMHCE	Organic material non-methane HC equivalent	COMB-CREE	Combined Carbon-Related Exhaust Emissions
NMOG	Non-methane organic gases	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
HCHO	Formaldehyde	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only
H3C2HO	Acetaldehyde	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	LEAK-DIA	Effective Leak Diameter (inches)
CO-COMP	SFTP Composite Carbon Monoxide	LEAK-GAS CAP	Gas Cap Leakage (cc/min)
ETHANOL	C2H5OH - Ethanol	CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only
FE BAG 1	Bag 1 Fuel Economy	KW-HRS	Integrated DC KW-HRS
FE BAG 2	Bag 2 Fuel Economy	CH4 BAG 1	Bag 1 Methane
FE BAG 3	Bag 3 Fuel Economy	CH4 BAG 2	Bag 2 Methane
FE BAG 4	Bag 4 Fuel Economy	CH4 BAG 3	Bag 3 Methane
MFR FE	Manufacturer Fuel Economy	CH4 BAG 4	Bag 4 Methane
HC	Hydrocarbon for Running Loss and ORVR	CO BAG 1	Bag 1 Carbon Monoxide
METHANE	CH4 - Methane	CO BAG 2	Bag 2 Carbon Monoxide
METHANOL	CH3OH - Methanol	CO BAG 3	Bag 3 Carbon Monoxide
N2O	Nitrous Oxide	CO BAG 4	Bag 4 Carbon Monoxide
SPITBACK	Spitback Hydrocarbon in grams	NMOG BAG 1	Bag 1 Non-methane organic gases
AMP-HRS	Integrated Amp-hours	NMOG BAG 2	Bag 2 Non-methane organic gases
START-SOC	System Start State of Charge Watt-hours	NMOG BAG 3	Bag 3 Non-methane organic gases
END-SOC	System End State of Charge Watt-hours	NMOG BAG 4	Bag 4 Non-methane organic gases
ACT-DISTANCE	Actual Distance Driven (miles)		
Certification Region			

Certification Summary Information Report

Test Group	VHYXV02.5UP3	Evaporative/Refueling Family		VHYXR0142UPG
CA	California + CAA Section 177 states	FA	Federal	
Exhaust Emission Standard Level				
B1	Federal Tier 2 Bin 1	T3B160	Federal Tier 3 Bin 160	
B2	Federal Tier 2 Bin 2	T3B125	Federal Tier 3 Bin 125	
B3	Federal Tier 2 Bin 3	T3B110	Federal Tier 3 Transitional Bin 110	
B4	Federal Tier 2 Bin 4	T3B85	Federal Tier 3 Transitional Bin 85	
B5	Federal Tier 2 Bin 5	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover	
B6	Federal Tier 2 Bin 6	T3B70	Federal Tier 3 Bin 70	
B7	Federal Tier 2 Bin 7	T3B50	Federal Tier 3 Bin 50	
B8	Federal Tier 2 Bin 8	T3B30	Federal Tier 3 Bin 30	
B9	Federal Tier 2 Bin 9	T3B20	Federal Tier 3 Bin 20	
B10	Federal Tier 2 Bin 10	T3B0	Federal Tier 3 Bin 0	
B11	Federal Tier 2 Bin 11	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
L2	California LEV-II LEV	HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
L2OP	California LEV-II LEV Optional	HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
U2	California LEV-II ULEV	HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
S2	California LEV-II SULEV	HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
ZEV	California ZEV	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
OT	Other	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
T1	Federal Tier 1	HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
PZEV	California PZEV	HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
L2LEV160	California LEV-II LEV160	HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
L2ULEV125	California LEV-II ULEV125	HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
L2SULEV30	California LEV-II SULEV30	HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
L2LEV395	California LEV-II LEV395	L4SULEV100	California LEV-IV SULEV100	
L2ULEV340	California LEV-II ULEV340	L4SULEV125	California LEV-IV SULEV125	
L2LEV630	California LEV-II LEV630	L4SULEV15	California LEV-IV SULEV15	
L2ULEV570	California LEV-II ULEV570	L4SULEV150	California LEV-IV SULEV150	
L3LEV160	California LEV-III LEV160	L4SULEV170	California LEV-IV SULEV170	
L3ULEV125	California LEV-III ULEV125	L4SULEV175	California LEV-IV SULEV175	
L3ULEV70	California LEV-III ULEV70	L4SULEV20	California LEV-IV SULEV20	
L3ULEV50	California LEV-III ULEV50	L4SULEV200	California LEV-IV SULEV200	
L3SULEV30	California LEV-III SULEV30	L4SULEV230	California LEV-IV SULEV230	
L3SULEV20	California LEV-III SULEV20	L4SULEV25	California LEV-IV SULEV25	
L3LEV395	California LEV-III LEV395	L4SULEV30	California LEV-IV SULEV30	
L3ULEV340	California LEV-III ULEV340	L4SULEV75	California LEV-IV SULEV75	
L3ULEV250	California LEV-III ULEV250	L4SULEV85	California LEV-IV SULEV85	
L3ULEV200	California LEV-III ULEV200	L4ULEV125	California LEV-IV ULEV125	

Certification Summary Information Report

Test Group		VHYXV02.5UP3	Evaporative/Refueling Family	VHYXR0142UPG
L3SULEV170	California LEV-III SULEV170		L4ULEV200	California LEV-IV ULEV200
L3SULEV150	California LEV-III SULEV150		L4ULEV250	California LEV-IV ULEV250
L3LEV630	California LEV-III LEV630		L4ULEV270	California LEV-IV ULEV270
L3ULEV570	California LEV-III ULEV570		L4ULEV40	California LEV-IV ULEV40
L3ULEV400	California LEV-III ULEV400		L4ULEV400	California LEV-IV ULEV400
L3ULEV270	California LEV-III ULEV270		L4ULEV50	California LEV-IV ULEV50
L3SULEV230	California LEV-III SULEV230		L4ULEV60	California LEV-IV ULEV60
L3SULEV200	California LEV-III SULEV200		L4ULEV70	California LEV-IV ULEV70
Transmission Type Code				
AMS	Automated Manual- Selectable (e.g. Automated Manual with paddles)	M	Manual	
A	Automatic	OT	Other	
AM	Automated Manual	SA	Semi-Automatic	
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)	
Drive System Code				
4	4-Wheel Drive	P	Part-time 4-Wheel Drive	
F	2-Wheel Drive, Front	A	All Wheel Drive	
R	2-Wheel Drive, Rear			
Additional Terms and Acronyms				
AFC	Alternative Fuel Converter	ICI	Independent Commercial Importer	
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery	
DF	Deterioration Factor	SIL	Shift Indicator Light	
Evap	Evaporation, Evaporative	Trans	Transmission	