



Application for Certification - Part 1

Test Group (FOI)

- **Model Year:** 2027
- **Manufacturer Name:** Hyundai Motor Company
- **Test Group:** VHYXV00.0K03
- **Test Group Description:** Battery Electric Vehicle
- **Durability Group:** VHYXEEENNK03
- **Durability Group Description:** N/A
- **Vehicle Class:** LDV
- **Applicable Standards:** FED: Tier-4 Bin 0
- **Vehicle Tested:** SX2U416EA581F / 0
- **Carlines Covered by Certificate:** Kona Electric
- **EPA Response Requested by:** June 31, 2026
- **For Questions, Contact:** Stephanie Wright
Tel: 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 | : VHYXEEENNK03 |
| 2. Engine Type | : Motor |
| 3. Fuel Used | : Electricity |
| 4. Battery Capacity(s) | : 180.9 Ah |
| 5. Battery Chemistry(s) | : NCM*1 |
| 6. Battery Duty Cycle Usage(s) | : 10 years / 200,000km |
| 7. Battery Manufacturer | : Webasto Korea Holdings Ltd.(CATL) |
| 8. Battery Construction | : 24 modules(with 4cells, 96 cells in total) |
| 9. Battery Self-Discharge Information | : <5.0% @SOC70%, RT for 6 months |
| 10. Description of the Thermal Management System | : Active liquid cooled |
| 11. Battery Disposal Plan | : See Common Section 02.00 |

(Note) NCM*1 : Nickel Cobalt Manganese

02.01 List of Vehicles in Durability Groups

Please refer to Common Section 02.01.

02.02 Catalyst Information: Not Applicable

03.00 Evaporative/Refueling Family Description: Not Applicable

04.00 Durability Procedure Description: Not Applicable

05.00 Test Group Description

Test group name : VHYXV00.0K03

Vehicle class(s) covered : FED - LDV

Sales location/emission standard : FED - Tier-4 Bin 0
See CSI report for emission standard levels

06.00 Test Vehicle Description

Durability Data Vehicle: Not Applicable

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 17.00.00.

08.00 Emission Compliance Statement: Not Applicable

09.00 OBD System Description

Battery electric vehicles are exempt from OBD requirements because they do not use emission control systems and/or components.

10.00 Description of Alternate-Fueled Vehicles: Not Applicable

11.00 AECD Description: Not Applicable

12.00 Description of Vehicles Covered by Certificate and Test Parameters

12.01 Vehicle Parameters

Carline		150
Model Name		Kona Electric
Vehicle Classification		LDV
Emission Control System Description		N/A
Engine Code (Motor)		EM16
Number of Valves per Cylinder		N/A
Engine Displacement (L)		N/A
Sales Area		CANADA
Transmission and Overdrive		Fixed Single Speed
SIL		N/A
Tire Size		215/60R17 (Kumho)
N/V Ratios		135.8
ETW(lb)		4000
Elec. Dyno. Target Coefficient	A	Please refer to 12.02.01.
	B	
	C	
Motor	Type	PMSM*1
	Max. Power (kW)	150 (Front motor)
Battery	Type	Lithium ion
	Rated Voltage (V)	358
	Weight (kg)	428kg

(Note) *1 : Permanent Magnet Synchronous Motor

12.02.02 Engine Starting Procedures

Please refer to Common Section 12.02.02.

12.02.03 Shift Schedules: Not Applicable

12.02.04 Transmission / Advanced Technology System Test Modes

Please refer to Common Section 12.02.04.

12.02.05 Running Loss Fuel Tank Temperature Profile: Not Applicable

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
VHYXV00.0K03/ Evaporative Family N/A

Dear Ms. 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 CFR 86.1844-01(d)(14) including the provisions of 40 CFR Parts 85, 86 and 600.

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 'Ji H. Ji', written over a horizontal line.

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

VHYXV00.0K03 – Hyundai Kona Electric – Part 1
Issued : 05-27-2026
Revised:

- 15.00 Other Information**
- 15.01 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 *

VHYXV00.0K03

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

This Test Group is for Canada only.

15.03 ORVR Safety Statement: Not Applicable

15.04 New Technology System Description

Please refer to Common Section 15.04.

15.05 Engine Oil Information: Not Applicable

16.00.00 Service of Process

Please refer to Common Section 01.00.

17.00.00 Attachment

1. CSI Report

Certification Summary Information Report

Manufacturer	Hyundai Motor Company	Manufacturer Code	HYX
Test Group	VHYXV00.0K03	Evaporative/Refueling Family	--
Certificate Number	--	CARB Executive Order #	--
Certificate Issue Date	--	Certificate Revision Date	--
Certificate Effective Date	--	Conditional Certificate	--
CSI Revision #	--	CSI Submission/Revision Date	05/28/2026 12:12:28 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: Electric Motor

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Electricity	--	--

Hybrid Indicator	No		
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	Yes
Multiple Fuel Combustion	--	Off-board Charge Capable Indicator	Yes
Fuel Cell Indicator	No	EPA Vehicle Class	LDV
Federal Clean Fuel Vehicle	No	Federal Clean Fuel Vehicle Standard	--
Federal Clean Fuel Vehicle ILEV	--	California Partial Zero Emissions Vehicle Indicator	No
Durability Group Name	VHYXEEENNK03	Durability Group Equivalency Factor	1.0
Reduced Fee Test Group	No	Certification Region Code(s)	FA
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	Not Applicable	SFTP Tier 2 Composite CO Option	No
SFTP LEV-III Composite Compliance Indicator	No		
OBD Compliance Type	CARB	OBD Demonstration Vehicle Test Group	VHYXV00.0K03
Test Group OBD Compliance Level	Full - no deficiencies	Number of Test Group OBD Deficiencies	0
OBD Deficiencies Comments	Battery Electric Vehicle is exempted from OBD compliance.		
Mfr Test Group Comments	This Test Group is for Canada only.		
Mfr Exhaust / Evap Standards Comments	--		

Certification Summary Information Report

Test Group	VHYXV00.0K03		Evaporative/Refueling Family		--					
Models Covered by this Certificate										
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears				
Hyundai Motor Company	1 - HYUNDAI MOTOR COMPANY	150 - Kona Electric	Federal	2-Wheel Drive, Front	Automatic	1				
Engine Description										
Hybrid Type	--	Hybrid Description			--					
Engine Type	--	Mfr Engine Description			--					
Engine Block Arrangement	--	Mfr Engine Block Arrangement Description			--					
Camless Valvetrain Indicator	--	Oil Viscosity/Classification			--					
Number of Cylinders/Rotors	--	Mechanically Variable Compression Ratio Indicator			--					
After Treatment Device(s) (ATD)										
Mfr After Treatment Device (ATD) Comments	--									
Direct Ozone Reduction (DOR) Device	--									
Mfr Emission Control Device Comments	--									
Official Test Numbers										
Test Group Fuel	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Electricity	--	--	--	--	--	--	--	--	--	--
Official Charge Depleting Test Numbers										
Test Group Fuel		UDDS			Highway					
Electricity		RHYX10082286			RHYX10082287					

Certification Summary Information Report

Test Group	VHYXV00.0K03	Evaporative/Refueling Family	--
Hybrid Electric Vehicle And Fuel Cell Information			
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if Other	--
Battery Type	Lithium Ion	Number of Battery Packs	1
Total Voltage of Battery Packs	358	Battery Energy Capacity	180.9
Battery Specific Energy	152.7	Battery Charger Type	Both
Number of Capacitors	--	Capacitor Rating (In Farads)	--
Mfr Capacitor Comments	--		
Hydraulic System Description	--		
Regenerative Braking Type	Electrical Regen Brake		
Regenerative Braking Source	Front Wheels	Driver Controlled Regenerative Braking	Yes
Mfr Regenerative Braking Description	--		
Drive Motor(s)/Generator(s)	1		
Motor/Generator Type 1	PMSM	Rated Motor/Generator Power	150
Mfr Fuel Cell Description	--		
Fuel Cell On-Board H2 Storage Capacity (kg)	--	Usable H2 Fill Capacity (kg)	--
Mfr Hybrid Electric/ Electric Vehicle Comments	PMSM : Permanent Magnet Synchronous Motor		

Test Group	VHYXV00.0K03	Evaporative/Refueling Family	--
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Emission Data Vehicle Information

Vehicle ID / Configuration	SX2U416EA581F / 0	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	RHYXV00.0401	Original Evaporative/Refueling Family	--
Original Test Vehicle Model Year	2024		

Vehicle Model

Represented Test Vehicle Make	Hyundai	Represented Test Vehicle Model	Kona Electric Long range
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Leak Family Details

Leak Family Identifier	--	Leak Family Name	--
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Drive Sources and Fuel System Details

Drive Source and Fuel#	Drive Source	Fuel
1	Electric Motor	Electricity

Hybrid Indicator	No	Multiple Fuel Combustion	--
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	Yes
Fuel Cell Indicator	No	Rechargeable Energy Storage System, if 'Other'	--
Rechargeable Energy Storage System	Battery(s)		
Off-board charge Capable Indicator	Yes		
Odometer Correction -- Initial	0	Odometer Correction Factor	0.9966
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor		
Odometer Correction Units	Miles		
Engine Code	EM16	Rated Horsepower	201
Displacement (liters)	0.001		
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	--	Air Aspiration Device Configuration	--
Charge Air Cooler Type	--	Drive Mode While Testing	2-Wheel Drive, Front
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)
Curb Weight (lbs)	3759	Equivalent Test Weight (pounds)	4000
GVWR (lbs)	4883	N/V Ratio	135.8
Axle Ratio	4.71		
Transmission Type	Automatic	# of Transmission Gears	1
Transmission Lockup	No	Creeper Gear	No

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	22.805	0.18097	0.019957	8.587	0.07628	0.019817	10.9

Emission Control Device Comments

--

Certification Summary Information Report

Test Group	VHYXV00.0K03	Evaporative/Refueling Family	--
Manufacturer Test Vehicle Comments	24MY SX2 EV Long Range		

Certification Summary Information Report

Test Group	VHYXV00.0K03		Evaporative/Refueling Family		--																	
Test #	RHYX10082286		Test Procedure		81 - Charge Depleting UDDS																	
Exhaust Test # for this Evap Test	--		Test Fuel Type		62 - Electricity																	
Test Date	07/19/2023		Fuel		Electricity																	
Fuel Batch ID	--		Fuel Calibration Number		--																	
Vehicle Class	LDV/Passenger Car		DF Type		Mfr. Determined																	
Verify Test Lab ID	2565 Plymouth																					
E10 Evaporative Test Measurement Method	--																					
Test Start Odometer Reading	3329		Odometer Units		M																	
4WD Test Dyno	No		Diesel Adjustment Factor Usage		--																	
State of Charge Delta	Yes																					
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)		Road Speed Fan Usage		No																	
PHEV/EV Charge Depleting Test Information																						
Recharge Event Voltage	240		Recharge Event Energy (kiloWatt-hours)		75.3977																	
Charge Depleting Range (Calculated miles)	411.637		Charge Depleting Range (Actual miles)		411.637																	
Charge Depleting Range Highway (Calculated miles)	--		Derived 5-Cycle Coefficient Model Year		--																	
All Electric Range Unadjusted (miles)	--		Equivalent All Electric Range (miles)		411.637																	
Number of Charge Depleting Bags/Phases Conducted	1		Transition Bag/Phase Number		--																	
Charge Depleting Bag/Phase #1																						
			<table border="1"> <thead> <tr> <th>Test Result/Emission Name</th> <th>Unrounded Test Result</th> </tr> </thead> <tbody> <tr> <td>Carbon-Related Exhaust Emissions</td> <td>0</td> </tr> <tr> <td>Drive Trace Absolute Speed Change Rating</td> <td>0.24</td> </tr> <tr> <td>Drive Trace Energy Economy Rating</td> <td>-0.64</td> </tr> <tr> <td>Drive Trace Inertia Work Ratio Rating</td> <td>0.45</td> </tr> <tr> <td>Manufacturer Fuel Economy</td> <td>18.3166</td> </tr> <tr> <td>System End State of Charge Watt-hours</td> <td>0</td> </tr> <tr> <td>System Start State of Charge Watt-hours</td> <td>0</td> </tr> </tbody> </table>				Test Result/Emission Name	Unrounded Test Result	Carbon-Related Exhaust Emissions	0	Drive Trace Absolute Speed Change Rating	0.24	Drive Trace Energy Economy Rating	-0.64	Drive Trace Inertia Work Ratio Rating	0.45	Manufacturer Fuel Economy	18.3166	System End State of Charge Watt-hours	0	System Start State of Charge Watt-hours	0
Test Result/Emission Name	Unrounded Test Result																					
Carbon-Related Exhaust Emissions	0																					
Drive Trace Absolute Speed Change Rating	0.24																					
Drive Trace Energy Economy Rating	-0.64																					
Drive Trace Inertia Work Ratio Rating	0.45																					
Manufacturer Fuel Economy	18.3166																					
System End State of Charge Watt-hours	0																					
System Start State of Charge Watt-hours	0																					
Manufacturer Test Comments			24MY SX2 EV FWD(150kW) 17in. (UDDS) Tested in EPA (Test Record no : D329_202307190738_01056 / Dyno no : EPA-D329) These results came from a multi-cycle test. 1. DC energy consumption UDDS1 = 161.4 Wh/mi; UDDS2 = 159.6 Wh/mi; UDDS3 = 158.3 Wh/mi; UDDS4 = 160.4 Wh/mi 2. UDDS weighted : 159.4 Wh/mi 3. UDDS1 DC discharge energy : 1204 Wh 4. MCT UBE energy : 65,631 Wh 5. Drive trace information for all UDDS phases (IWRR/ASCR/EER) UDDS1 : 0.45/0.24/-0.64 UDDS2 : 5.31/3.30/3.59 UDDS3 : 2.40/1.58/0.58 UDDS4 : 4.21/2.58/1.42																			
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 4 Bin 0	CREE	0	--	--	--	0	--	0	--	--										

Certification Summary Information Report

Test Group	VHXXV00.0K03	Evaporative/Refueling Family	--									
Test #	RHXX10082287	Test Procedure	84 - Charge Depleting Highway									
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity									
Test Date	07/19/2023	Fuel	Electricity									
Fuel Batch ID	--	Fuel Calibration Number	--									
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined									
Verify Test Lab ID	2565 Plymouth											
E10 Evaporative Test Measurement Method	--											
Test Start Odometer Reading	3329	Odometer Units	M									
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--									
State of Charge Delta	Yes											
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No									
PHEV/EV Charge Depleting Test Information												
Recharge Event Voltage	240	Recharge Event Energy (kiloWatt-hours)	75.3977									
Charge Depleting Range (Calculated miles)	330.028	Charge Depleting Range (Actual miles)	330.028									
Charge Depleting Range Highway (Calculated miles)	--	Derived 5-Cycle Coefficient Model Year	--									
All Electric Range Unadjusted (miles)	--	Equivalent All Electric Range (miles)	330.028									
Number of Charge Depleting Bags/Phases Conducted	1	Transition Bag/Phase Number	--									
Charge Depleting Bag/Phase #1												
Test Result/Emission Name		Unrounded Test Result										
Carbon-Related Exhaust Emissions		0										
Drive Trace Absolute Speed Change Rating		8.19										
Drive Trace Energy Economy Rating		1.08										
Drive Trace Inertia Work Ratio Rating		10.94										
Manufacturer Fuel Economy		22.8459										
System End State of Charge Watt-hours		0										
System Start State of Charge Watt-hours		0										
Manufacturer Test Comments		24MY SX2 EV FWD(150kW) 17in. (HWY) EPA test result (Test Record no : D329_202307190738_01056 / Dyno no : EPA-D329) These results came from a multi-cycle test. 1. DC energy consumption HWFE1 = 200.7 Wh/mi HWFE2 = 197.0 Wh/mi 2. Drive trace information for all HWY phases (IWRR/ASCR/EER) HWY1 : 10.94/8.19/1.08 HWY2 : 12.86/9.89/0.91										
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 4 Bin 0	CREE	0	--	--	--	0	--	0	--	--

Certification Summary Information Report

Test Group	VHYYXV00.0K03	Evaporative/Refueling Family	--
Fuel Properties			

Certification Summary Information Report

Test Group		VHYXV00.0K03			Evaporative/Refueling Family			--	
Consolidated List of Standards									
Exhaust Standards									
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 4 Bin 0	
Fuel		Electricity			Test Procedure			Charge Depleting UDDS	
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	0
150,000 miles	CREE	--	--	--	--	--	--	0	0
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 4 Bin 0	
Fuel		Electricity			Test Procedure			Charge Depleting Highway	
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	0
150,000 miles	CREE	--	--	--	--	--	--	0	0
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 4 Bin 0	
Fuel		Electricity			Test Procedure			CVS 75 and later (w/o 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	0

Certification Summary Information Report

Test Group		VHYXV00.0K03	Evaporative/Refueling Family		--
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		COMB-CREE	Combined Carbon-Related Exhaust Emissions	
CO	Carbon Monoxide		COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions	
CO2	Carbon dioxide		HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only	
CREE	Carbon-Related Exhaust Emissions		METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only	
OPT-CREE	Optional Carbon-Related Exhaust Emissions		N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only	
NOX	Nitrogen Oxide		LEAK-DIA	Effective Leak Diameter (inches)	
PM	Particulate Matter		LEAK-GAS CAP	Gas Cap Leakage (cc/min)	
PM-COMP	SFTP Composite Particulate Matter		CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only	
HC-NM	Non-methane Hydrocarbon		KW-HRS	Integrated DC KW-HRS	
OMHCE	Organic material Hydrocarbon Equivalent		CH4 BAG 1	Bag 1 Methane	
OMNMHCE	Organic material non-methane HC equivalent		CH4 BAG 2	Bag 2 Methane	
NMOG	Non-methane organic gases		CH4 BAG 3	Bag 3 Methane	
HCHO	Formaldehyde		CH4 BAG 4	Bag 4 Methane	
H3C2HO	Acetaldehyde		CO BAG 1	Bag 1 Carbon Monoxide	
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03		CO BAG 2	Bag 2 Carbon Monoxide	
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides		CO BAG 3	Bag 3 Carbon Monoxide	
CO-COMP	SFTP Composite Carbon Monoxide		CO BAG 4	Bag 4 Carbon Monoxide	
ETHANOL	C2H5OH - Ethanol		NMOG BAG 1	Bag 1 Non-methane organic gases	
FE BAG 1	Bag 1 Fuel Economy		NMOG BAG 2	Bag 2 Non-methane organic gases	
FE BAG 2	Bag 2 Fuel Economy		NMOG BAG 3	Bag 3 Non-methane organic gases	
FE BAG 3	Bag 3 Fuel Economy		NMOG BAG 4	Bag 4 Non-methane organic gases	
FE BAG 4	Bag 4 Fuel Economy		ACT-DISTANCE BAG 1	Bag 1 Actual Distance	
MFR FE	Manufacturer Fuel Economy		ACT-DISTANCE BAG 2	Bag 2 Actual Distance	
HC	Hydrocarbon for Running Loss and ORVR		ACT-DISTANCE BAG 3	Bag 3 Actual Distance	
METHANE	CH4 - Methane		ACT-DISTANCE BAG 4	Bag 4 Actual Distance	
METHANOL	CH3OH - Methanol		HC-TOTAL BAG 1	Bag 1 Total Hydrocarbon	
N2O	Nitrous Oxide		HC-TOTAL BAG 2	Bag 2 Total Hydrocarbon	
SPITBACK	Spitback Hydrocarbon in grams		HC-TOTAL BAG 3	Bag 3 Total Hydrocarbon	
AMP-HRS	Integrated Amp-hours		HC-TOTAL BAG 4	Bag 4 Total Hydrocarbon	
START-SOC	System Start State of Charge Watt-hours		WATT-HRS BAG 1	Bag 1 Watt Hours	
END-SOC	System End State of Charge Watt-hours		WATT-HRS BAG 2	Bag 2 Watt Hours	

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ACT-DISTANCE	Actual Distance Driven (miles)		WATT-HRS BAG 3	Bag 3 Watt Hours	
AS-VOLT	Average System Voltage		WATT-HRS BAG 4	Bag 4 Watt Hours	
CO2 BAG 1	Bag 1 Carbon Dioxide		WATT-HRS	Watt Hours	
CO2 BAG 2	Bag 2 Carbon Dioxide		HC-NM BAG 1	Bag 1 Non-methane Hydrocarbon	
CO2 BAG 3	Bag 3 Carbon Dioxide		HC-NM BAG 2	Bag 2 Non-methane Hydrocarbon	
CO2 BAG 4	Bag 4 Carbon Dioxide		HC-NM BAG 3	Bag 3 Non-methane Hydrocarbon	
NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides		HC-NM BAG 4	Bag 4 Non-methane Hydrocarbon	
NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides		N2O BAG 1	Bag 1 Nitrous Oxide	
DT-IWRR	Drive Trace Inertia Work Ratio Rating		N2O BAG 2	Bag 2 Nitrous Oxide	
DT-ASCR	Drive Trace Absolute Speed Change Rating		N2O BAG 3	Bag 3 Nitrous Oxide	
DT-EER	Drive Trace Energy Economy Rating		N2O BAG 4	Bag 4 Nitrous Oxide	
Certification Region					
CA	California + CAA Section 177 states		FA	Federal	
Exhaust Emission Standard Level					
B1	Federal Tier 2 Bin 1		HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
B2	Federal Tier 2 Bin 2		HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
B3	Federal Tier 2 Bin 3		HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
B4	Federal Tier 2 Bin 4		HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
B5	Federal Tier 2 Bin 5		HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
B6	Federal Tier 2 Bin 6		HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
B7	Federal Tier 2 Bin 7		HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
B8	Federal Tier 2 Bin 8		HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
B9	Federal Tier 2 Bin 9		HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
B10	Federal Tier 2 Bin 10		HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
B11	Federal Tier 2 Bin 11		HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)		HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)		HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
L2	California LEV-II LEV		L4SULEV100	California LEV-IV SULEV100	
L2OP	California LEV-II LEV Optional		L4SULEV125	California LEV-IV SULEV125	
U2	California LEV-II ULEV		L4SULEV15	California LEV-IV SULEV15	
S2	California LEV-II SULEV		L4SULEV150	California LEV-IV SULEV150	
ZEV	California ZEV		L4SULEV170	California LEV-IV SULEV170	
OT	Other		L4SULEV175	California LEV-IV SULEV175	
T1	Federal Tier 1		L4SULEV20	California LEV-IV SULEV20	
PZEV	California PZEV		L4SULEV200	California LEV-IV SULEV200	
L2LEV160	California LEV-II LEV160		L4SULEV230	California LEV-IV SULEV230	
L2ULEV125	California LEV-II ULEV125		L4SULEV25	California LEV-IV SULEV25	
L2SULEV30	California LEV-II SULEV30		L4SULEV30	California LEV-IV SULEV30	
L2LEV395	California LEV-II LEV395		L4SULEV75	California LEV-IV SULEV75	

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L2ULEV340	California LEV-II ULEV340		L4SULEV85	California LEV-IV SULEV85	
L2LEV630	California LEV-II LEV630		L4ULEV125	California LEV-IV ULEV125	
L2ULEV570	California LEV-II ULEV570		L4ULEV200	California LEV-IV ULEV200	
L3LEV160	California LEV-III LEV160		L4ULEV250	California LEV-IV ULEV250	
L3ULEV125	California LEV-III ULEV125		L4ULEV270	California LEV-IV ULEV270	
L3ULEV70	California LEV-III ULEV70		L4ULEV40	California LEV-IV ULEV40	
L3ULEV50	California LEV-III ULEV50		L4ULEV400	California LEV-IV ULEV400	
L3SULEV30	California LEV-III SULEV30		L4ULEV50	California LEV-IV ULEV50	
L3SULEV20	California LEV-III SULEV20		L4ULEV60	California LEV-IV ULEV60	
L3LEV395	California LEV-III LEV395		L4ULEV70	California LEV-IV ULEV70	
L3ULEV340	California LEV-III ULEV340		T4B170	Federal Tier 4 MDV Bin 170	
L3ULEV250	California LEV-III ULEV250		T4B150	Federal Tier 4 MDV Bin 150	
L3ULEV200	California LEV-III ULEV200		T4B125	Federal Tier 4 MDV Bin 125	
L3SULEV170	California LEV-III SULEV170		T4B100	Federal Tier 4 MDV Bin 100	
L3SULEV150	California LEV-III SULEV150		T4B85	Federal Tier 4 MDV Bin 85	
L3LEV630	California LEV-III LEV630		T4B75	Federal Tier 4 MDV Bin 75	
L3ULEV570	California LEV-III ULEV570		T4B70	Federal Tier 4 Bin 70	
L3ULEV400	California LEV-III ULEV400		T4B65	Federal Tier 4 Bin 65	
L3ULEV270	California LEV-III ULEV270		T4B60	Federal Tier 4 Bin 60	
L3SULEV230	California LEV-III SULEV230		T4B55	Federal Tier 4 Bin 55	
L3SULEV200	California LEV-III SULEV200		T4B50	Federal Tier 4 Bin 50	
T3B160	Federal Tier 3 Bin 160		T4B45	Federal Tier 4 Bin 45	
T3B125	Federal Tier 3 Bin 125		T4B40	Federal Tier 4 Bin 40	
T3B110	Federal Tier 3 Transitional Bin 110		T4B35	Federal Tier 4 Bin 35	
T3B85	Federal Tier 3 Transitional Bin 85		T4B30	Federal Tier 4 Bin 30	
T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover		T4B25	Federal Tier 4 Bin 25	
T3B70	Federal Tier 3 Bin 70		T4B20	Federal Tier 4 Bin 20	
T3B50	Federal Tier 3 Bin 50		T4B15	Federal Tier 4 Bin 15	
T3B30	Federal Tier 3 Bin 30		T4B10	Federal Tier 4 Bin 10	
T3B20	Federal Tier 3 Bin 20		T4B5	Federal Tier 4 Bin 5	
T3B0	Federal Tier 3 Bin 0		T4B0	Federal Tier 4 Bin 0	
HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395				
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		

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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	