

Application for Certification

Model Year: 2022
Manufacturer Name: MINI

Test Group: NBMXV00.0F5B
Test Group Description: electric, BEV

Durability Group: NBMXEEVNNBEV
Durability Group Description: not applicable

Vehicle Class: EPA CARB
LDV PC

Applicable Standards: EPA CARB
FTP Standard: Tier 3 - Bin 0 ZEV
SFTP Standard: not applicable not applicable

Carlines Covered: MINI COOPER SE HARDTOP 2 DOOR

Test:

VID	CFG	FTP depl.	HWY depl.	US06	SC03	Cold CO
2N13701	00	NBMX10067722	NBMX10067727	---	---	---

For questions, Contact: Carlheinz Bayer, 201 / 571 - 5193

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1. Correspondence and Communications

- 1.1. Authorized Persons Refer to Common Section, Section 1, Item 1.1
- 1.2. Certificate Information Refer to Common Section, Section 1, Item 1.2
- 1.3. Primary certification contact:

Name: Carlheinz Bayer
Phone Number: 201 / 571 - 5193
Fax Number: 201 / 571 - 5479
E-Mail-Address: Carlheinz.Bayer@bmwna.com

2. Durability Group Description

2.1.	Durability Group Name	NBMXEEVNNBEV
2.2.	Advanced Technology Vehicles	
2.2.1.	Battery Capacity	Refer to Section 16, Confidential Information
2.2.2.	Battery Chemistry	Refer to Section 16, Confidential Information
2.2.3.	Battery Duty Cycle Usage	Refer to Section 16, Confidential Information
2.2.4.	Battery Manufacturer	Refer to Section 16, Confidential Information

3. Evaporative / Refueling Family Description

not applicable

4. Durability Procedure Description

not applicable

5. Test Group Description

5.1.	Test Group Name	NBMXV00.0F5B	
5.2.	Electric vehicle system description		
5.2.1.	Electric Motor Capacity	Refer to Section 16, Confidential Information	
5.2.2.	Electric Motor Voltage	Refer to Section 16, Confidential Information	
5.2.3.	Electric Motor Type	Refer to Section 16, Confidential Information	
5.2.4.	Electric Motor Weight	Refer to Section 16, Confidential Information	
5.2.5.	Battery Capacity	Refer to Section 16, Confidential Information	
5.2.6.	Battery Voltage	Refer to Section 16, Confidential Information	
5.2.7.	Battery Type	Refer to Section 16, Confidential Information	
5.3.	Vehicle class	EPA	CARB
		LDV	PC
5.4.	Emission standards class	Tier 3 - Bin 0	ZEV
5.5.	Participation in NLEV	not applicable	
5.6.	Applicable emission standards	Refer to Summary Sheet enclosed in Section 7 of this application.	

6. Test Vehicle Description

6.1. Test Vehicle Description

VID	CFG	Carline	Model	ETW	Trans Type	Road Load CFG	TRLH P	Gear	Mode	eDrive
2N13701	00	299	MINI COOPER SE HARDTOP 2 DOOR	3500	A-1	11	11.5	---	default mode	---

Road Load Configuration Description

X_ means number of tire groups used for this model
11 Road Load configuration

For complete vehicle description, refer to Certification Summary Information Report Sheet, enclosed in Section 7 of this application.
Selection of vehicles carried out according to 40 CFR §86.1828-01(a).

7. Test results (Cover page)

Certification Summary Information Report submitted to Verify

see attachment:
CSI-NBMXV00.0F5B

8. Statements**8.1 Emission Testing Waiver Statements**

All applicable vehicles will conform with the emission standards for which emission data is not being provided, as allowed under §86.1829-01. The statements below identify the standards for which emission testing was not performed.

Electric vehicle emission compliance statement

According to 40 CFR §86.1829-15 (f) and based on engineering evaluations we state as the manufacturer, that all electric vehicles included in this application comply with the requirements given in 40 CFR Part 86.

8.2 Compliance Statements

not applicable

9. OBD System Description

not applicable

10. Description of Alternate-fueled Vehicles

not applicable

11. Auxiliary Emission Control Devices (AECD) descriptions

not applicable

12. Description of vehicles and test parameters covered by certificate

12.1. Vehicle Parameters

12.1.1. Vehicle Information

Model Name	Carline	Trans	Gear	Vehicle Class	VCW [lbs]	ETW [lbs]	GVW [lbs]	Axle ratio	
								front	rear
MINI COOPER SE HARDTOP 2 DOOR	299	A (F)	1	LDV / PC	3144	3500	3913	8.961	---

12.1.2. Engine Code and Engine Output Data

Model Name	Carline	Trans	Engine Code	E-engine power (peak) [kW/hp]			Electric Motor max. Torque [Nm]	
				front	rear	Sys	front	rear
MINI COOPER SE HARDTOP 2 DOOR	299	A (F)	IB1P23M0F56S	135 / 181	--- / ---	--- / ---	270	---

12.1.3. Sales area

CA, FA

12.2. Test Parameters

12.2.1. Engine Starting Procedures

Refer to Common Section, Section 3

12.2.2. Shift Schedules

not applicable

12.2.3. Dynamometer loading information

12.2.3.1. Sort of dynamometer

single roll

12.2.3.2. Electric Dynamometer Coefficients and Tires

Modell	Carline	Trans	Road Load CFG	N/V	A [lbf]	B [lbf/mph]	C [lbf/mph ²]	TRLHP	a [lbf]	b [lbf/mph]	c [lbf/mph ²]	Grill Shutter
MINI COOPER SE HARDTOP 2 DOOR	299	A	11	127.2	27.4	0.431	0.01495	11.5	-1.3	0.406	0.01636	No

Modell	Carline	Trans	Road Load CFG	Tire Front		Tire Rear	
MINI COOPER SE HARDTOP 2 DOOR	299	A	11	205/45 R17 88W STD		205/45 R17 88W STD	
				195/55 R16 87W STD		195/55 R16 87W STD	

Road Load Configuration Description

X_ means number of tire groups used for this model
 11 Road Load configuration

13. Projected Sales

Refer to Common Section for Model Year 2022, Section 4.

14. Request for certification

We herewith apply for the Federal Certificate of conformity and the ARB Executive Order for the Test Group NBMXV00.0F5B.

The mentioned Test Group complies with all applicable regulations contained in 40 Code of Federal Regulations Part 86 and the California Code of Regulations.



Thomas Berger

15. Other Information

- 15.1. Label according to 40 CFR § 86.1807-01 and according to California Motor Vehicle Emission Control Specifications.
Refer to Section 17, Attachment

Carline	Model Name	VECI Label
299	MINI COOPER SE HARDTOP 2 DOOR	see attachment: 03VE-IB1E-01

17. Attachment

- | | | |
|------|--|-------------------------------------|
| 17.1 | VECI Label | see attachment: 03VE-IB1E-01 |
| 17.2 | Certification Summary Information Report | see attachment:
CSI-NBMXV00.0F5B |

BMW**Designation**

Attachment

VECI Label LDV, NBMXV00.0F5B

Date:

16.10.2020

03VE-IB1E-01

DRAFT - Inverted Representation

**Bayerische Motoren Werke AG****VEHICLE EMISSION CONTROL INFORMATION**

Conforms to regulations:

MY 2022

U.S. EPA: Tier 3 - Bin 0 LDV

CA OBD II

Fuel: electricity Li+

California: LEV III - ZEV PC

CA OBD II

Fuel: electricity Li+

No adjustments needed.

No adjustments needed.

Group: NBMXV00.0F5B



8 844 701

Original representation

Base: Black

Characters: Silver

Certification Summary Information Report

Manufacturer	BMW	Manufacturer Code	BMX
Test Group	NBMXV00.0F5B	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	11/26/2020 10:38:28 AM
Model Year	2022		

Test Group Information

CSI Type	New	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	Yes	Federal Clean Fuel Vehicle Standard	ZEV
Federal Clean Fuel Vehicle ILEV	No	California Partial Zero Emissions Vehicle Indicator	--
Durability Group Name	NBMXEEVNNBEV	Durability Group Equivalency Factor	1
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	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	NBMXV00.0F5B
Test Group OBD Compliance Level	Full - no deficiencies	Number of Test Group OBD Deficiencies	0
OBD Deficiencies Comments	--		
Mfr Test Group Comments	--		
Mfr Exhaust / Evap Standards Comments	--		

Certification Summary Information Report

Test Group	NBMXV00.0F5B	Evaporative/Refueling Family	--
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Models Covered by this Certificate

Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
BMW	2 - Mini	299 - COOPER SE HARDTOP 2 DOOR	California + CAA Section 177 states	2-Wheel Drive, Front	Automatic	1	No
BMW	2 - Mini	299 - COOPER SE HARDTOP 2 DOOR	Federal	2-Wheel Drive, Front	Automatic	1	No

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	NBMX10067722	NBMX10067727

Certification Summary Information Report

Test Group	NBMXV00.0F5B	Evaporative/Refueling Family	--
Hybrid Electric Vehicle And Fuel Cell Information			
Rechargable Energy Storage System	Battery(s)	Rechargable Energy Storage System, if Other	--
Battery Type	Lithium Ion	Number of Battery Packs	8
Total Voltage of Battery Packs	349	Battery Energy Capacity	93.2
Battery Specific Energy	159	Battery Charger Type	On-Board
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	No
Mfr Regenerative Braking Description	--		
Drive Motor(s)/Generator(s)	1		
Motor/Generator Type 1	DC Permanent Magnet, brushless	Rated Motor/Generator Power	135
Mfr Fuel Cell Description	--		
Fuel Cell On-Board H2 Storage Capacity (kg)	--	Usable H2 Fill Capacity (kg)	--
Mfr Hybrid Electric/ Electric Vehicle Comments	--		

Certification Summary Information Report

Test Group	NBMXV00.0F5B	Evaporative/Refueling Family	--					
Emission Data Vehicle Information								
Vehicle ID / Configuration	2N13701 / 0	Manufacturer Vehicle Configuration Number	0					
Original Test Group Name	NBMXV00.0F5B	Original Evaporative/Refueling Family	--					
Original Test Vehicle Model Year	2022							
Vehicle Model								
Represented Test Vehicle Make	BMW	Represented Test Vehicle Model	MINI COOPER SE HARDTOP 2 DOOR					
Leak Family Details								
Leak Family Identifier	--	Leak Family Name	--					
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>Electric Motor</td><td>Electricity</td></tr> </tbody> </table>	Drive Source and Fuel#	Drive Source	Fuel	1	Electric Motor	Electricity	
Drive Source and Fuel#	Drive Source	Fuel						
1	Electric Motor	Electricity						
Hybrid Indicator	No							
Multiple Fuel Storage	--	Multiple Fuel Combustion	--					
Fuel Cell Indicator	No	Rechargeable Energy Storage System Indicator	Yes					
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if 'Other'	--					
Off-board charge Capable Indicator	Yes							
Odometer Correction -- Initial	0	Odometer Correction Factor	1					
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles							
Odometer Correction Units	Miles							
Engine Code	IB1P23M0F56S	Rated Horsepower	181					
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)	3144	Equivalent Test Weight (pounds)	3500					
GVWR (lbs)	3913	N/V Ratio	127.2					
Axle Ratio	8.96							
Transmission Type	Automatic	# of Transmission Gears	1					
Transmission Lockup	No	Creep Gear	No					

Certification Summary Information Report

Test Group	NBMXV00.0F5B			Evaporative/Refueling Family			--
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	27.4	0.431	0.01495	-1.3	0.406	0.01636	
US06	27.4	0.431	0.01495	-1.3	0.406	0.01636	
Emission Control Device Comments		--					
Manufacturer Test Vehicle Comments		MINI COOPER SE HARDTOP 2 DOOR, BEV, MY2022					

Certification Summary Information Report

Test Group	NBMXV00.0F5B	Evaporative/Refueling Family	--																								
Test #	NBMX10067722	Test Procedure	81 - Charge Depleting UDDS																								
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity																								
Test Date	10/27/2020	Fuel	N/A																								
Fuel Batch ID	--	Fuel Calibration Number	--																								
Vehicle Class	N/A	DF Type	Mfr. Assigned																								
Verify Test Lab ID	ATZ																										
E10 Evaporative Test Measurement Method	--																										
Test Start Odometer Reading	2164	Odometer Units	K																								
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	Yes																								
PHEV/EV Charge Depleting Test Information																											
Recharge Event Voltage	230	Recharge Event Energy (kiloWatt-hours)	34.742																								
Charge Depleting Range (Calculated miles)	174.86	Charge Depleting Range (Actual miles)	174.86																								
All Electric Range Unadjusted (miles)	--	Derived 5-Cycle Coefficient Model Year	--																								
Equivalent All Electric Range (miles)	174.86																										
Number of Charge Depleting Bags/Phases Conducted	1	Transition Bag/Phase Number	--																								
Charge Depleting Bag/Phase																											
	<table border="1"> <thead> <tr> <th>Charge Depleting Bag/Phase #</th> <th>Test Result/Emission Name</th> <th>Unrounded Test Result</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Carbon-Related Exhaust Emissions</td> <td>0</td> </tr> <tr> <td>2</td> <td>Drive Trace Absolute Speed Change Rating</td> <td>99.99</td> </tr> <tr> <td>3</td> <td>Drive Trace Energy Economy Rating</td> <td>99.99</td> </tr> <tr> <td>4</td> <td>Drive Trace Inertia Work Ratio Rating</td> <td>99.99</td> </tr> <tr> <td>5</td> <td>Manufacturer Fuel Economy</td> <td>169.64</td> </tr> <tr> <td>6</td> <td>System End State of Charge Watt-hours</td> <td>30.527</td> </tr> <tr> <td>7</td> <td>System Start State of Charge Watt-hours</td> <td>0</td> </tr> </tbody> </table>	Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	1	Carbon-Related Exhaust Emissions	0	2	Drive Trace Absolute Speed Change Rating	99.99	3	Drive Trace Energy Economy Rating	99.99	4	Drive Trace Inertia Work Ratio Rating	99.99	5	Manufacturer Fuel Economy	169.64	6	System End State of Charge Watt-hours	30.527	7	System Start State of Charge Watt-hours	0		
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5	Manufacturer Fuel Economy	169.64																									
6	System End State of Charge Watt-hours	30.527																									
7	System Start State of Charge Watt-hours	0																									
Manufacturer Test Comments	Mini COOPER SE HARDTOP 2 DOOR - BEV - Multi Cycle testing was used according to SAE J1634; Calculated UDDS values; MFR FE is in units of MPGe (unadjusted, unrounded); Result is also 19.87 kWhr/100 mi (unadjusted, unrounded)																										

Certification Summary Information Report

Test Group	NBMXV00.0F5B	Evaporative/Refueling Family	--																								
Test #	NBMX10067727	Test Procedure	84 - Charge Depleting Highway																								
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity																								
Test Date	10/27/2020	Fuel	N/A																								
Fuel Batch ID	--	Fuel Calibration Number	--																								
Vehicle Class	N/A	DF Type	Mfr. Assigned																								
Verify Test Lab ID	ATZ																										
E10 Evaporative Test Measurement Method	--																										
Test Start Odometer Reading	2164	Odometer Units	K																								
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	Yes																								
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5	Manufacturer Fuel Economy	143.52																									
6	System End State of Charge Watt-hours	30.527																									
7	System Start State of Charge Watt-hours	0																									
Manufacturer Test Comments	Mini COOPER SE HARDTOP 2 DOOR - BEV - Multi Cycle testing was used according to SAE J1634; Calculated HWY values; MFR FE is in units of MPGe (unadjusted, unrounded); Result is also 23.48 kWhr/100 mi (unadjusted, unrounded)																										
Fuel Properties																											

Certification Summary Information Report

Test Group		NBMXV00.0F5B			Evaporative/Refueling Family			--	
Consolidated List of Standards									
Exhaust Standards									
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			California ZEV	
Fuel		Electricity			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	--	--	--	--	--	1	--	0
150,000 miles	CO	--	--	--	--	--	1	--	0
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 0	
Fuel		Electricity			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	--	--	--	--	--	1	--	0
150,000 miles	CO	--	--	--	--	--	1	--	0
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			California ZEV	
Fuel		Electricity			Test Procedure			Federal fuel 3-day exhaust	
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	--	--	--	--	--	1	--	0
150,000 miles	CO	--	--	--	--	--	1	--	0
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 0	
Fuel		Electricity			Test Procedure			Federal fuel 3-day exhaust	
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	--	--	--	--	--	1	--	0
150,000 miles	CO	--	--	--	--	--	1	--	0

Certification Summary Information Report

Test Group	NBMXV00.0F5B	Evaporative/Refueling Family	--

Certification Summary Information Report

Test Group		NBMXV00.0F5B	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		METHANOL	CH3OH - Methanol	
CO	Carbon Monoxide		N2O	Nitrous Oxide	
CO2	Carbon dioxide		SPITBACK	Spitback Hydrocarbon in grams	
CREE	Carbon-Related Exhaust Emissions		AMP-HRS	Integrated Amp-hours	
OPT-CREE	Optional Carbon-Related Exhaust Emissions		START-SOC	System Start State of Charge Watt-hours	
NOX	Nitrogen Oxide		END-SOC	System End State of Charge Watt-hours	
PM	Particulate Matter		ACT-DISTANCE	Actual Distance Driven (miles)	
PM-COMP	SFTP Composite Particulate Matter		AS-VOLT	Average System Voltage	
HC-NM	Non-methane Hydrocarbon		CO2 BAG 1	Bag 1 Carbon Dioxide	
OMHCE	Organic material Hydrocarbon Equivalent		CO2 BAG 2	Bag 2 Carbon Dioxide	
OMNMHCE	Organic material non-methane HC equivalent		CO2 BAG 3	Bag 3 Carbon Dioxide	
NMOG	Non-methane organic gases		CO2 BAG 4	Bag 4 Carbon Dioxide	
HCHO	Formaldehyde		NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides	
H3C2HO	Acetaldehyde		NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides	
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03		DT-IWRR	Drive Trace Inertia Work Ratio Rating	
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides		DT-ASCR	Drive Trace Absolute Speed Change Rating	
CO-COMP	SFTP Composite Carbon Monoxide		DT-EER	Drive Trace Energy Economy Rating	
ETHANOL	C2H5OH - Ethanol		COMB-CREE	Combined Carbon-Related Exhaust Emissions	
FE BAG 1	Bag 1 Fuel Economy		COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions	
FE BAG 2	Bag 2 Fuel Economy		HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only	
FE BAG 3	Bag 3 Fuel Economy		METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only	
FE BAG 4	Bag 4 Fuel Economy		N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only	
MFR FE	Manufacturer Fuel Economy		LEAK-DIA	Effective Leak Diameter (inches)	
HC	Hydrocarbon for Running Loss and ORVR		LEAK-GAS CAP	Gas Cap Leakage (cc/min)	
METHANE	CH4 - Methane		CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only	
Certification Region					
CA	California + CAA Section 177 states		FA	Federal	
Exhaust Emission Standard Level					
B1	Federal Tier 2 Bin 1		L3ULEV340	California LEV-III ULEV340	
B2	Federal Tier 2 Bin 2		L3ULEV250	California LEV-III ULEV250	
B3	Federal Tier 2 Bin 3		L3ULEV200	California LEV-III ULEV200	
B4	Federal Tier 2 Bin 4		L3SULEV170	California LEV-III SULEV170	
B5	Federal Tier 2 Bin 5		L3SULEV150	California LEV-III SULEV150	

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B6	Federal Tier 2 Bin 6		L3LEV630	California LEV-III LEV630	
B7	Federal Tier 2 Bin 7		L3ULEV570	California LEV-III ULEV570	
B8	Federal Tier 2 Bin 8		L3ULEV400	California LEV-III ULEV400	
B9	Federal Tier 2 Bin 9		L3ULEV270	California LEV-III ULEV270	
B10	Federal Tier 2 Bin 10		L3SULEV230	California LEV-III SULEV230	
B11	Federal Tier 2 Bin 11		L3SULEV200	California LEV-III SULEV200	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)		T3B160	Federal Tier 3 Bin 160	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)		T3B125	Federal Tier 3 Bin 125	
L2	California LEV-II LEV		T3B110	Federal Tier 3 Transitional Bin 110	
L2OP	California LEV-II LEV Optional		T3B85	Federal Tier 3 Transitional Bin 85	
U2	California LEV-II ULEV		T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover	
S2	California LEV-II SULEV		T3B70	Federal Tier 3 Bin 70	
ZEV	California ZEV		T3B50	Federal Tier 3 Bin 50	
OT	Other		T3B30	Federal Tier 3 Bin 30	
T1	Federal Tier 1		T3B20	Federal Tier 3 Bin 20	
PZEV	California PZEV		T3B0	Federal Tier 3 Bin 0	
L2LEV160	California LEV-II LEV160		HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395	
L2ULEV125	California LEV-II ULEV125		HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
L2SULEV30	California LEV-II SULEV30		HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
L2LEV395	California LEV-II LEV395		HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
L2ULEV340	California LEV-II ULEV340		HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
L2LEV630	California LEV-II LEV630		HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
L2ULEV570	California LEV-II ULEV570		HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
L3LEV160	California LEV-III LEV160		HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
L3ULEV125	California LEV-III ULEV125		HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
L3ULEV70	California LEV-III ULEV70		HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
L3ULEV50	California LEV-III ULEV50		HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
L3SULEV30	California LEV-III SULEV30		HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
L3SULEV20	California LEV-III SULEV20		HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
L3LEV395	California LEV-III LEV395		HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
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				

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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		