

Certification Summary Information Report

Manufacturer	General Motors LLC	Manufacturer Code	GMX
Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Certificate Number	--	CARB Executive Order #	--
Certificate Issue Date	--	Certificate Revision Date	--
Certificate Effective Date	--	Conditional Certificate	--
CSI Revision #	--	CSI Submission/Revision Date	03/11/2016 02:59:04 PM
Model Year	2017		

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
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 fuel injection	No
Drive Source #2:	Electric Motor		
	Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
	Electricity	--	--
Hybrid Indicator	Yes		
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	No	California Partial Zero Emissions Vehicle Indicator	No
Durability Group Name	HGMXHHGVNB01	Durability Group Equivalency Factor	.9
Reduced Fee Test Group	No	Certification Region Code(s)	FA, CA
Complies with HD GHG 2b/3 regulations?	No		
Introduction into Commerce Date	01/29/2016	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	Yes		
OBD Compliance Type	CARB	OBD Demonstration Vehicle Test Group	HGMXV01.5020
Test Group OBD Compliance Level	Full - no deficiencies	Number of Test Group OBD Deficiencies	0
OBD Deficiencies Comments	--		
Mfr Test Group Comments	2017 BIN125/ULEV125 Volt		
Mfr Exhaust / Evap Standards Comments	--		

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600				
Evaporative/Refueling Family Information							
Evaporative Summary Information Type	New	Submission/Correction Date	11/19/2015 07:48:59 AM				
Integrated ORVR?	No	Fuel(s)	Gasoline				
Multiple Fuel Storage	--						
Bladder Fuel Tank?	No						
Fuel Tank Material	Metal	Fuel Tank Material Description	Metal				
Fill Pipe Seal Type	Liquid seal						
Air Intake System Vapor Storage Device?	Yes	Air Intake System Vapor Storage Device Description	HCA				
Fuel System Vapor Storage Canister?	Yes	Other Vapor Storage	--				
Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)	60	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	No						
Canister Bleed Test Indicator	No	Applicability of Evaporative Canister Bleed Test	--				
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	--						
Models Covered by this Certificate							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
General Motors LLC	3 - Chevrolet	121 - VOLT	Federal	2-Wheel Drive, Front	Continuously Variable	1	Yes
General Motors LLC	3 - Chevrolet	121 - VOLT	California + CAA Section 177 states	2-Wheel Drive, Front	Continuously Variable	1	Yes
Engine Description							
Hybrid Type	IC Engine/Electric Motor	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	5W30				
Number of Cylinders/Rotors	4						
After Treatment Device(s) (ATD)							
ATD Number	ATD Type	ATD Precious Metal	Substrate Material	Substrate Construction			
1	Three-way catalyst	Paladium + Rhodium	Ceramic	Monolith			
Mfr After Treatment Device (ATD) Comments							
--							
Direct Ozone Reduction (DOR) Device	Not Equipped						
Mfr Emission Control Device Comments	--						

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Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Engine Configuration Number 1			
Engine Displacement (liters)	1.5	Engine Rated Horsepower	100
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Naturally Aspirated	Number of Air Aspiration Devices	0
Air Aspiration Device Configuration	--	Charge Air Cooler Type	N/A
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	Yes		
Variable Valve Timing System Description	Cam Phaser		
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	Heated oxygen	Air/Fuel Sensor # 1 Description	--
Air/Fuel Sensor # 2 Type	Heated oxygen	Air/Fuel Sensor # 2 Description	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	Yes	Cooled Exhaust Gas Recirculation	Yes
EGR Type	Electronic/Electric	Exhaust Gas Recirculation Description if 'Other'	--
Closed Loop Air Injection System	--		
Air Injection Type	Not Applicable	Air Injection Type if 'Other'	--
Mfr Engine Configuration 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
Gasoline		GGMX91002722	GGMX91002721	GGMX10036180	GGMX10038503	GGMX91002720	161.1	228.2	999.9	286.1	--
Electricity		GGMX91002722	GGMX91002721	GGMX10036180	GGMX10038503	GGMX91002720	--	--	--	--	--

SFTP LEV-III Official Test Numbers

Test Group Fuel	FTP	US06	SC03
Gasoline	GGMX91002722	GGMX91002721	GGMX10036180

Official Charge Depleting Test Numbers

Test Group Fuel	UDDS	Highway
Electricity	GGMX10037222	GGMX10036185

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Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
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	337	Battery Energy Capacity	52
Battery Specific Energy	100.5	Battery Charger Type	Off-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)	2		
Motor/Generator Type 1	3 Phase AC Permenant Magnet	Rated Motor/Generator Power	87
Motor/Generator Type 2	3 Phase AC Permenant Magnet	Rated Motor/Generator Power	48
Mfr Fuel Cell Description	--		
Fuel Cell On-Board H2 Storage Capacity (kg)	--	Usable H2 Fill Capacity (kg)	--
Mfr Hybrid Electric/ Electric Vehicle Comments	Motor Power Rating: Motor A = 40 kW Continuous, Motor B = 75 kW Continuous, Peak Power = 111 kW		

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
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Emission Data Vehicle Information

Vehicle ID / Configuration	141CRN4523 / 1	Manufacturer Vehicle Configuration Number	3
Original Test Group Name	CGMXV01.4011	Original Evaporative/Refueling Family	CGMXR0060600
Original Test Vehicle Model Year	2012		

Vehicle Model

Represented Test Vehicle Make	CHEVROLET	Represented Test Vehicle Model	VOLT
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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
2	Combustion Engine	Gasoline

Hybrid Indicator	Yes		
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	2	Rated Horsepower	84
Displacement (liters)	1.4		
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	0	Air Aspiration Device Configuration	--
Charge Air Cooler Type	N/A	Drive Mode While Testing	2-Wheel Drive, Front
Shift Indicator Light Usage	Not equipped	Aged Emission Components	150,000 (mi)
Curb Weight (lbs)	3715	Equivalent Test Weight (pounds)	4000
GVWR (lbs)	--	N/V Ratio	92.3
Axle Ratio	2.16		
Transmission Type	Continuously Variable	# of Transmission Gears	1
Transmission Lockup	No	Creeper Gear	No

Dynamometer Coefficients:

Coefficient Category	Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
City/Highway/Evap	26.06	-0.012	0.0182	5.4	0.1978	0.01469	9.5

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600						
Emission Control Device Comments	PZEV EREV								
Manufacturer Test Vehicle Comments	--								
Test #	CGMX10017346	Test Procedure	38 - CA fuel 3-day evap.						
Exhaust Test # for this Evap Test	CGMX10017342	Test Fuel Type	23 - CARB Phase II Gasoline						
Test Date	11/02/2011	Fuel	Gasoline						
Fuel Batch ID	--	Fuel Calibration Number	--						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	Milford								
E10 Evaporative Test Measurement Method	--								
Test Start Odometer Reading	6186	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	No								
Drive Cycle Speed Tolerance Criteria	--	Road Speed Fan Usage	--						
Test Results									
<table border="1"> <thead> <tr> <th>Test Result Name</th> <th>Unrounded Test Result</th> <th>Verify Calculated FE Equivalent Value (miles per gallon)</th> </tr> </thead> <tbody> <tr> <td>HC-TOTAL (Total Hydrocarbon)</td> <td>0.139</td> <td>--</td> </tr> </tbody> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL (Total Hydrocarbon)	0.139	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC-TOTAL (Total Hydrocarbon)	0.139	--							
Manufacturer Test Comments	4K EVC3 TEST								
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail	
Fed	120,000 miles	Federal LEV-II Evap	HC-TOTAL	0.139	0.04	0.18	0.5	Pass	
CA	150,000 miles	California LEV-II Zero Evap	HC-TOTAL	0.139	0.04	0.18	0.35	Pass	

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Test #	CGMX91001175	Test Procedure	27 - California fuel 2-day evap
Exhaust Test # for this Evap Test	CGMX91001174	Test Fuel Type	23 - CARB Phase II Gasoline
Test Date	11/29/2011	Fuel	Gasoline
Fuel Batch ID	F0027S	Fuel Calibration Number	269
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6288	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	--	Road Speed Fan Usage	--

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
HC-TOTAL (Total Hydrocarbon)	0.1297962	--

Manufacturer Test Comments

TC SOC not measured - Hot_Soak_HC_(g) = 0.007920, Diurnal (gHC) = 0.121876

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal LEV-II Evap	HC-TOTAL	0.13	0.04	0.17	0.65	Pass
CA	150,000 miles	California LEV-II Zero Evap	HC-TOTAL	0.13	0.04	0.17	0.35	Pass

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Test #	CGMX10017345	Test Procedure	37 - California Fuel Running Loss
Exhaust Test # for this Evap Test	CGMX10017342	Test Fuel Type	23 - CARB Phase II Gasoline
Test Date	11/02/2011	Fuel	Gasoline
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	Milford		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6186	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	--	Road Speed Fan Usage	--

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC (Hydrocarbon for Running Loss and ORVR)	0.0002	--

Manufacturer Test Comments

4K EVCR TEST

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal LEV-II Evap	HC	0	0	0	0.05	Pass
CA	150,000 miles	California LEV-II Zero Evap	HC	0	0	0	0.05	Pass

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600									
Emission Data Vehicle Information												
Vehicle ID / Configuration	1464R74887 / 0	Manufacturer Vehicle Configuration Number	1									
Original Test Group Name	GGMXV01.4088	Original Evaporative/Refueling Family	GGMXR0060600									
Original Test Vehicle Model Year	2016											
Vehicle Model												
Represented Test Vehicle Make	CADILLAC	Represented Test Vehicle Model	ELR									
Leak Family Details												
Leak Family Identifier	--	Leak Family Name	--									
Drive Sources and Fuel System Details												
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Drive Source and Fuel#	Drive Source	Fuel										
1	Combustion Engine	Gasoline										
2	Electric Motor	Electricity										
Hybrid Indicator	Yes											
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	1	Rated Horsepower	84									
Displacement (liters)	1.4											
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'										
Number of Air Aspiration Devices	0	Air Aspiration Device Configuration	--									
Charge Air Cooler Type	N/A	Drive Mode While Testing	2-Wheel Drive, Front									
Shift Indicator Light Usage	Not equipped	Aged Emission Components	150,000 (mi)									
Curb Weight (lbs)	4049	Equivalent Test Weight (pounds)	4500									
GVWR (lbs)	--	N/V Ratio	87.5									
Axle Ratio	2.16											
Transmission Type	Continuously Variable	# of Transmission Gears	1									
Transmission Lockup	Yes	Creeper Gear	No									

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
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Dynamometer Coefficients:

Coefficient Category	Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
City/Highway/Evap	44.41	0.2135	0.0177	13.57	0.3149	0.01615	13.2
US06	44.41	0.2135	0.0177	13.57	0.3149	0.01615	N/A

Emission Control Device Comments PZEV ELR EDV w/ Auto cruise control
Manufacturer Test Vehicle Comments --

Test #	GGMX10036788	Test Procedure	24 - Federal fuel refueling test (ORVR)
Exhaust Test # for this Evap Test	GGMX10036786	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	05/13/2015	Fuel	Gasoline
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	Milford		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4536	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
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 (Hydrocarbon for Running Loss and ORVR)	0.044	--

Manufacturer Test Comments 150K ORVR TEST

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal LEV-II Evap	HC	0.044	0	0.04	0.2	Pass
CA	150,000 miles	California LEV-II Zero Evap	HC	0.044	0	0.04	0.2	Pass

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Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600									
Emission Data Vehicle Information												
Vehicle ID / Configuration	151GRN4042 / 0	Manufacturer Vehicle Configuration Number	1									
Original Test Group Name	GGMXV01.5020	Original Evaporative/Refueling Family	GGMXR0060600									
Original Test Vehicle Model Year	2016											
Vehicle Model												
Represented Test Vehicle Make	CHEVROLET	Represented Test Vehicle Model	VOLT									
Leak Family Details												
Leak Family Identifier	--	Leak Family Name	--									
Drive Sources and Fuel System Details												
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Drive Source and Fuel#	Drive Source	Fuel										
1	Electric Motor	Electricity										
2	Combustion Engine	Gasoline										
Hybrid Indicator	Yes											
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	1	Rated Horsepower	100									
Displacement (liters)	1.5											
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'										
Number of Air Aspiration Devices	0	Air Aspiration Device Configuration	--									
Charge Air Cooler Type	N/A	Drive Mode While Testing	2-Wheel Drive, Front									
Shift Indicator Light Usage	Not equipped	Aged Emission Components	150,000 (mi)									
Curb Weight (lbs)	3560	Equivalent Test Weight (pounds)	3875									
GVWR (lbs)	--	N/V Ratio	55.2									
Axle Ratio	2.64											
Transmission Type	Continuously Variable	# of Transmission Gears	1									
Transmission Lockup	Yes	Creeper Gear	No									

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Test Group		HGMXV01.5020			Evaporative/Refueling Family			HGMXR0060600
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	27.1	0.2173	0.01559	10.33	0.1136	0.01487	10.3	
Cold CO	29.81	0.239	0.01715	4.68	0	0.01635	N/A	
US06	27.1	0.2173	0.01559	10.33	0.1136	0.01487	N/A	
Emission Control Device Comments	Federal EREV Gen 2 Volt							
Manufacturer Test Vehicle Comments	150K							

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Test #	GGMX10036666	Test Procedure	31 - Federal fuel 3-day exhaust
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	05/09/2015	Fuel	Gasoline
Fuel Batch ID	000307	Fuel Calibration Number	7960
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	Milford		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4963	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
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)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	249.76	--
FE BAG 1 (Bag 1 Fuel Economy)	35.3	35.3
CO2 BAG 2 (Bag 2 Carbon Dioxide)	71.5438	--
FE BAG 2 (Bag 2 Fuel Economy)	123.3	123.3
CO2 BAG 3 (Bag 3 Carbon Dioxide)	252.548	--
FE BAG 3 (Bag 3 Fuel Economy)	34.8	34.8
CO2 BAG 4 (Bag 4 Carbon Dioxide)	57.1144	--
FE BAG 4 (Bag 4 Fuel Economy)	155.1	155.1
METHANE (CH4 - Methane)	0.0087747	--
CO (Carbon Monoxide)	0.493814	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.0638583	--
DT-EER (Drive Trace Energy Economy Rating)	-1.73238	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.279899	--
HCHO (Formaldehyde)	0.0012792	--
MFR FE (Manufacturer Fuel Economy)	57.7	57.7
NOX (Nitrogen Oxide)	0.0026029	--
HC-NM (Non-methane Hydrocarbon)	0.0319804	--
NMOG (Non-methane organic gas (California))	0.0332596	--
HC-TOTAL (Total Hydrocarbon)	0.040092	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	154	154

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Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
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Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	153.06	--

Manufacturer Test Comments 150K EMIS TEST - CONFIRMATORY AT MFR - PERCENTAGE 0, SOC = 0.001

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 125	CREE	154	1	--	--	0	--	154	--	--
Fed	120,000 miles	Federal Tier 3 Bin 125	METHANE	0.0088	1	--	--	--	--	0.009	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	CO	0.49	1	--	--	--	--	0.5	2.1	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0.0333	1	1.04	--	--	--	0.033	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.0359	1	--	--	--	--	0.036	0.125	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.0026	1	--	--	--	--	0.003	999.999	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	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Test #	GGMX10038503	Test Procedure	11 - Cold CO
Exhaust Test # for this Evap Test	--	Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)
Test Date	08/29/2015	Fuel	Gasoline
Fuel Batch ID	000334	Fuel Calibration Number	8095
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	Milford		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	1	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
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)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	367	--
FE BAG 1 (Bag 1 Fuel Economy)	22.9	22.9
CO2 BAG 2 (Bag 2 Carbon Dioxide)	122	--
FE BAG 2 (Bag 2 Fuel Economy)	71	71
CO2 BAG 3 (Bag 3 Carbon Dioxide)	263	--
FE BAG 3 (Bag 3 Fuel Economy)	32.9	32.9
METHANE (CH4 - Methane)	0.0240322	--
CO (Carbon Monoxide)	1.47785	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-1.17041	--
DT-EER (Drive Trace Energy Economy Rating)	-1.87092	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-2.64021	--
HCHO (Formaldehyde)	0	--
MFR FE (Manufacturer Fuel Economy)	41.1	41.1
NOX (Nitrogen Oxide)	0.0037071	--
HC-NM (Non-methane Hydrocarbon)	0.215293	--
NMOG (Non-methane organic gas (California))	0.2368223	--
HC-TOTAL (Total Hydrocarbon)	0.237575	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	206.7	--

Manufacturer Test Comments

150K E10 COLD TEST TO SUPPORT 2017 MY - PERCENTAGE = .52, SOC = 0.187

Certification Summary Information Report

Test Group		HGMXV01.5020				Evaporative/Refueling Family				HGMXR0060600		
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 125	CO	1.48	1	--	--	--	--	1.5	10.0	Pass
Fed	120,000 miles	Federal Tier 3 Bin 125	HC-NM	0.22	1	--	--	--	--	0.2	0.3	Pass
CA	50,000 miles	California LEV-III ULEV125	CO	1.48	1	--	--	--	--	1.5	10.0	Pass

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Test #	GGMX91002722	Test Procedure	25 - California fuel 2-day exhaust (w/can load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	05/27/2015	Fuel	Gasoline
Fuel Batch ID	F24615	Fuel Calibration Number	339
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5034	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

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	235.470366	--
FE BAG 1 (Bag 1 Fuel Economy)	999	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	81.1896484	--
FE BAG 2 (Bag 2 Fuel Economy)	999	--
CO2 BAG 3 (Bag 3 Carbon Dioxide)	241.6034383	--
FE BAG 3 (Bag 3 Fuel Economy)	999	--
CO2 BAG 4 (Bag 4 Carbon Dioxide)	87.1115814	--
FE BAG 4 (Bag 4 Fuel Economy)	999	--
METHANE (CH4 - Methane)	0.0067913	--
CO (Carbon Monoxide)	0.4169028	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	2.20943	--
DT-EER (Drive Trace Energy Economy Rating)	0.545908	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	3.571798	--
MFR FE (Manufacturer Fuel Economy)	999	--
NOX (Nitrogen Oxide)	0.0024704	--
HC-NM (Non-methane Hydrocarbon)	0.0289049	--
NMOG (Non-methane organic gas (California))	0.0317954	--
HC-TOTAL (Total Hydrocarbon)	0.0353688	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	999

Certification Summary Information Report

Test Group		HGMXV01.5020		Evaporative/Refueling Family				HGMXR0060600				
Test Result Name		Unrounded Test Result				Verify Calculated CO2						
Carbon dioxide		159.0381477				--						
Manufacturer Test Comments		NMOG=1.1 x NMHC TC N2O Not Measured. OPT-CREE not determined. CREE set to default value. Unrounded Result for the following test results were modified by Verify: FE BAG 2, FE BAG 3, FE BAG 1, FE BAG 4, MFR FE										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NMHC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 125	CREE	999	1	--	--	0	--	999	--	--
Fed	120,000 miles	Federal Tier 3 Bin 125	METHANE	0.0068	1	--	--	--	--	0.007	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	CO	0.42	1	--	--	--	--	0.4	2.1	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	CO-COMP	0.29	1	--	--	--	--	0.3	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0.0318	1	1.1	--	--	--	0.032	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.0343	1	--	--	--	--	0.034	0.125	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX-COMP	0.0205	1	--	--	--	--	0.02	0.120	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.0025	1	--	--	--	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	CO	0.42	1	--	--	--	--	0.4	2.1	Pass
CA	150,000 miles	California LEV-III ULEV125	CO-COMP	0.29	1	--	--	--	--	0.3	4.2	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG	0.0318	1	1.1	--	--	--	0.032	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG+NOX	0.0343	1	--	--	--	--	0.034	0.125	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG+NOX-COMP	0.0205	1	--	--	--	--	0.02	0.120	Pass
CA	150,000 miles	California LEV-III ULEV125	NOX	0.0025	1	--	--	--	--	0.002	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	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Test #	GGMX10036177	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	04/08/2015	Fuel	Gasoline
Fuel Batch ID	000307	Fuel Calibration Number	7960
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	Milford		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4148	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
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)
METHANE (CH4 - Methane)	0.0003	--
CO (Carbon Monoxide)	0.024	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.88468	--
DT-EER (Drive Trace Energy Economy Rating)	0.161589	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.33653	--
HCHO (Formaldehyde)	0.000004	--
MFR FE (Manufacturer Fuel Economy)	60.6	60.6
NOX (Nitrogen Oxide)	0.0035	--
HC-NM (Non-methane Hydrocarbon)	0.0001	--
NMOG (Non-methane organic gas (California))	0.000104	--
HC-TOTAL (Total Hydrocarbon)	0.0004	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	147	146

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	146.44	--

Manufacturer Test Comments

4K HWFE TEST - PERCENTAGE -0.13, SOC = -0.022

Certification Summary Information Report

Test Group		HGMXV01.5020				Evaporative/Refueling Family				HGMXR0060600		
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 125	CREE	146	--	--	--	0	--	146	--	--
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0.0001	--	1.03	--	--	--	0	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.0036	1	--	--	--	--	0.004	0.125	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.0035	--	--	--	--	--	0.004	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG	0.0001	1	1.03	--	--	--	0	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG+NOX	0.0036	1	--	--	--	--	0.004	0.125	Pass
CA	150,000 miles	California LEV-III ULEV125	NOX	0.0035	1	--	--	--	--	0.004	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	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Test #	GGMX91002720	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	05/27/2015	Fuel	Gasoline
Fuel Batch ID	F24615	Fuel Calibration Number	339
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5049	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

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.0011799	--
CO (Carbon Monoxide)	0.0457822	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	4.890352	--
DT-EER (Drive Trace Energy Economy Rating)	0.343501	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	5.850829	--
MFR FE (Manufacturer Fuel Economy)	58.3527622	--
NOX (Nitrogen Oxide)	0.0031794	--
HC-NM (Non-methane Hydrocarbon)	0.0012761	--
NMOG (Non-methane organic gas (California))	0.0013144	--
HC-TOTAL (Total Hydrocarbon)	0.0023992	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	149.3173157	--

Manufacturer Test Comments

NMOG=1.03 x NMHC TC N2O Not Measured. OPT-CREE not determined. CREE set to default value.

Certification Summary Information Report

Test Group		HGMXV01.5020				Evaporative/Refueling Family				HGMXR0060600		
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 125	CREE	999	--	--	--	0	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0.0013	--	1.03	--	--	--	0.001	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.0045	1	--	--	--	--	0.004	0.125	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.0032	--	--	--	--	--	0.003	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG	0.0013	1	1.03	--	--	--	0.001	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG+NOX	0.0045	1	--	--	--	--	0.004	0.125	Pass
CA	150,000 miles	California LEV-III ULEV125	NOX	0.0032	1	--	--	--	--	0.003	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	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Test #	GGMX91002721	Test Procedure	90 - US06
Exhaust Test # for this Evap Test	--	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	05/27/2015	Fuel	Gasoline
Fuel Batch ID	F24615	Fuel Calibration Number	339
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5069	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

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	262.3029183	--
FE BAG 1 (Bag 1 Fuel Economy)	999	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	194.2717161	--
FE BAG 2 (Bag 2 Fuel Economy)	999	--
METHANE (CH4 - Methane)	0.0056837	--
CO (Carbon Monoxide)	0.3187713	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-2.235359	--
DT-EER (Drive Trace Energy Economy Rating)	0.571962	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-2.610003	--
MFR FE (Manufacturer Fuel Economy)	999	--
NOX (Nitrogen Oxide)	0.0042205	--
HC-NM (Non-methane Hydrocarbon)	0.0182604	--
NMOG (Non-methane organic gas (California))	0.0188082	--
HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0.0224808	--
HC-TOTAL (Total Hydrocarbon)	0.02367	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	--

Certification Summary Information Report

Test Group		HGMXV01.5020		Evaporative/Refueling Family				HGMXR0060600				
		Test Result Name		Unrounded Test Result		Verify Calculated CO2						
		Carbon dioxide		209.338629		--						
Manufacturer Test Comments		NMOG=1.03 x NMHCTC US06 Bag 2 Drive Trace Results. TC N2O Not Measured. OPT-CREE not determined. CREE set to default value. Unrounded Result for the following test results were modified by Verify: FE BAG 1, MFR FE, FE BAG 2										
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 125	CO	0.32	1	--	--	--	--	0.3	99.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0.0188	1	1.03	--	--	--	0.019	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.023	1	--	--	--	--	0.023	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.0042	1	--	--	--	--	0.004	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	CO	0.32	1	--	--	--	--	0.3	99.9	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG	0.0188	1	1.03	--	--	--	0.019	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG+NOX	0.023	1	--	--	--	--	0.023	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NOX	0.0042	1	--	--	--	--	0.004	99.999	Pass

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Test #	GGMX10036180	Test Procedure	95 - SC03
Exhaust Test # for this Evap Test	--	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	04/19/2015	Fuel	Gasoline
Fuel Batch ID	003031	Fuel Calibration Number	7831
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	Milford		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4737	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
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)
METHANE (CH4 - Methane)	0.0036947	--
CO (Carbon Monoxide)	0.146767	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.173503	--
DT-EER (Drive Trace Energy Economy Rating)	-0.0884249	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.273037	--
HCHO (Formaldehyde)	0	--
MFR FE (Manufacturer Fuel Economy)	43.5	43.5
NOX (Nitrogen Oxide)	0.0009472	--
HC-NM (Non-methane Hydrocarbon)	0.0045748	--
NMOG (Non-methane organic gas (California))	0.0047121	--
HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0.006	--
HC-TOTAL (Total Hydrocarbon)	0.0080458	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	200.507	--

Manufacturer Test Comments

150K SC03 TEST - PERCENTAGE 1.9, SOC = 0.166

Certification Summary Information Report

Test Group		HGMXV01.5020				Evaporative/Refueling Family				HGMXR0060600		
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 125	CO	0.15	1	--	--	--	--	0.2	99.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0.0047	1	1.03	--	--	--	0.005	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.0056	1	--	--	--	--	0.006	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.0009	1	--	--	--	--	0.001	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	CO	0.15	1	--	--	--	--	0.2	99.9	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG	0.0047	1	1.03	--	--	--	0.005	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG+NOX	0.0056	1	--	--	--	--	0.006	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NOX	0.0009	1	--	--	--	--	0.001	99.999	Pass

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Test #	GGMX10036185	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	04/15/2015	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	Milford		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4487	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 TEST INFO			
Recharge Event Voltage	240	Recharge Event Energy (kiloWatt-hours)	16.761
Charge Depleting Range (Calculated miles)	46.7	Charge Depleting Range (Actual miles)	46.7
Equivalent All Electric Range (miles)	65.94		
Number of Charge Depleting Bags/Phases Conducted	8		
Charge Depleting Bag/Phase			
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	
1	Actual Distance Driven (miles)	10.262	
2	Average System Voltage	190.32	
3	Bag 1 Carbon Dioxide	0	
4	CH4 - Methane	0	
5	Carbon Monoxide	0	
6	Carbon-Related Exhaust Emissions	0	
7	Drive Trace Absolute Speed Change Rating	1.2944	
8	Drive Trace Energy Economy Rating	0.341246	
9	Drive Trace Inertia Work Ratio Rating	2.4918	
10	Integrated Amp-hours	6.1819	
11	Manufacturer Fuel Economy	69	
12	Nitrogen Oxide	0	
13	Non-methane Hydrocarbon	0	
14	Non-methane organic gas (California)	999.999	
15	Non-methane organic gases plus Nitrogen Oxides	999.999	
16	System End State of Charge Watt-hours	6.1819	
17	System Start State of Charge Watt-hours	0	
18	Total Hydrocarbon	0	

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
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Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
19	Actual Distance Driven (miles)	10.267
20	Average System Voltage	335.92
21	CH4 - Methane	0.001
22	Carbon Monoxide	0.014
23	Drive Trace Absolute Speed Change Rating	1.2944
24	Drive Trace Energy Economy Rating	0.341246
25	Drive Trace Inertia Work Ratio Rating	2.4918
26	Integrated Amp-hours	40.467
27	Nitrogen Oxide	0.004
28	Non-methane Hydrocarbon	0
29	Non-methane organic gas (California)	999.999
30	Non-methane organic gases plus Nitrogen Oxides	999.999
31	System End State of Charge Watt-hours	40.467
32	System Start State of Charge Watt-hours	40.748
33	Total Hydrocarbon	0.001

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
34	Actual Distance Driven (miles)	10.263
35	Average System Voltage	368.42
36	CH4 - Methane	0
37	Carbon Monoxide	0.002
38	Drive Trace Absolute Speed Change Rating	1.2944
39	Drive Trace Energy Economy Rating	0.341246
40	Drive Trace Inertia Work Ratio Rating	2.4918
41	Integrated Amp-hours	18.21
42	Nitrogen Oxide	0
43	Non-methane Hydrocarbon	0
44	Non-methane organic gas (California)	999.999
45	Non-methane organic gases plus Nitrogen Oxides	999.999
46	System End State of Charge Watt-hours	18.21
47	System Start State of Charge Watt-hours	12.15
48	Total Hydrocarbon	0

Charge Depleting Bag/Phase

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
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Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
49	Actual Distance Driven (miles)	10.265
50	Average System Voltage	342.42
51	CH4 - Methane	0
52	Carbon Monoxide	0
53	Drive Trace Absolute Speed Change Rating	1.2944
54	Drive Trace Energy Economy Rating	0.341246
55	Drive Trace Inertia Work Ratio Rating	2.4918
56	Integrated Amp-hours	37.39
57	Nitrogen Oxide	0
58	Non-methane Hydrocarbon	0
59	Non-methane organic gas (California)	999.999
60	Non-methane organic gases plus Nitrogen Oxides	999.999
61	System End State of Charge Watt-hours	37.39
62	System Start State of Charge Watt-hours	30.83
63	Total Hydrocarbon	0

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
64	Actual Distance Driven (miles)	10.274
65	Average System Voltage	359.06
66	CH4 - Methane	0
67	Carbon Monoxide	0.002
68	Drive Trace Absolute Speed Change Rating	1.2944
69	Drive Trace Energy Economy Rating	0.341246
70	Drive Trace Inertia Work Ratio Rating	2.4918
71	Integrated Amp-hours	24.425
72	Nitrogen Oxide	0
73	Non-methane Hydrocarbon	0
74	Non-methane organic gas (California)	999.999
75	Non-methane organic gases plus Nitrogen Oxides	999.999
76	System End State of Charge Watt-hours	24.425
77	System Start State of Charge Watt-hours	18.21
78	Total Hydrocarbon	0

Charge Depleting Bag/Phase

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
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Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
79	Actual Distance Driven (miles)	10.259
80	Average System Voltage	376.74
81	CH4 - Methane	0
82	Carbon Monoxide	0
83	Drive Trace Absolute Speed Change Rating	1.2944
84	Drive Trace Energy Economy Rating	0.341246
85	Drive Trace Inertia Work Ratio Rating	2.4918
86	Integrated Amp-hours	12.15
87	Nitrogen Oxide	0
88	Non-methane Hydrocarbon	0
89	Non-methane organic gas (California)	999.999
90	Non-methane organic gases plus Nitrogen Oxides	999.999
91	System End State of Charge Watt-hours	12.15
92	System Start State of Charge Watt-hours	6.1819
93	Total Hydrocarbon	0

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
94	Actual Distance Driven (miles)	10.268
95	Average System Voltage	336.44
96	CH4 - Methane	0.006
97	Carbon Monoxide	0.37
98	Drive Trace Absolute Speed Change Rating	1.2944
99	Drive Trace Energy Economy Rating	0.341246
100	Drive Trace Inertia Work Ratio Rating	2.4918
101	Integrated Amp-hours	40.748
102	Nitrogen Oxide	0.003
103	Non-methane Hydrocarbon	0.023
104	Non-methane organic gas (California)	999.999
105	Non-methane organic gases plus Nitrogen Oxides	999.999
106	System End State of Charge Watt-hours	40.748
107	System Start State of Charge Watt-hours	37.39
108	Total Hydrocarbon	0.028

Charge Depleting Bag/Phase

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	
109	Actual Distance Driven (miles)	10.254	
110	Average System Voltage	350.74	
111	CH4 - Methane	0	
112	Carbon Monoxide	0	
113	Drive Trace Absolute Speed Change Rating	1.2944	
114	Drive Trace Energy Economy Rating	0.341246	
115	Drive Trace Inertia Work Ratio Rating	2.4918	
116	Integrated Amp-hours	30.83	
117	Nitrogen Oxide	0	
118	Non-methane Hydrocarbon	0	
119	Non-methane organic gas (California)	999.999	
120	Non-methane organic gases plus Nitrogen Oxides	999.999	
121	System End State of Charge Watt-hours	30.83	
122	System Start State of Charge Watt-hours	24.425	
123	Total Hydrocarbon	0	

Manufacturer Test Comments

150K CD HWFE TEST

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Test #	GGMX10037222	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	05/28/2015	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	EPA		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5050	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 TEST INFO			
Recharge Event Voltage	240	Recharge Event Energy (kiloWatt-hours)	16.8456
Charge Depleting Range (Calculated miles)	57.2	Charge Depleting Range (Actual miles)	57.2
Equivalent All Electric Range (miles)	81.14		
Number of Charge Depleting Bags/Phases Conducted	12		
Charge Depleting Bag/Phase			
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	
1	Actual Distance Driven (miles)	7.455	
2	Average System Voltage	350.5	
3	Drive Trace Absolute Speed Change Rating	99.99	
4	Drive Trace Energy Economy Rating	99.99	
5	Drive Trace Inertia Work Ratio Rating	99.99	
6	Integrated Amp-hours	32.9	
7	System End State of Charge Watt-hours	32.9	
8	System Start State of Charge Watt-hours	29.1	
Charge Depleting Bag/Phase			
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	
9	Actual Distance Driven (miles)	7.458	
10	Average System Voltage	380.35	
11	Drive Trace Absolute Speed Change Rating	99.99	
12	Drive Trace Energy Economy Rating	99.99	
13	Drive Trace Inertia Work Ratio Rating	99.99	
14	Integrated Amp-hours	10.7	
15	System End State of Charge Watt-hours	10.7	
16	System Start State of Charge Watt-hours	7.2	

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
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Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
17	Actual Distance Driven (miles)	7.442
18	Average System Voltage	354.66
19	Drive Trace Absolute Speed Change Rating	99.99
20	Drive Trace Energy Economy Rating	99.99
21	Drive Trace Inertia Work Ratio Rating	99.99
22	Integrated Amp-hours	29.1
23	System End State of Charge Watt-hours	29.1
24	System Start State of Charge Watt-hours	25.3
25	Total Hydrocarbon	0.0001

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
26	Actual Distance Driven (miles)	7.46
27	Average System Voltage	336.55
28	CH4 - Methane	0.0056
29	Carbon Monoxide	0.2708
30	Drive Trace Absolute Speed Change Rating	99.99
31	Drive Trace Energy Economy Rating	99.99
32	Drive Trace Inertia Work Ratio Rating	99.99
33	Integrated Amp-hours	40.6
34	Nitrogen Oxide	0.0042
35	System End State of Charge Watt-hours	40.6
36	System Start State of Charge Watt-hours	40.6
37	Total Hydrocarbon	0.0107

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
38	Actual Distance Driven (miles)	7.447
39	Average System Voltage	370
40	Drive Trace Absolute Speed Change Rating	99.99
41	Drive Trace Energy Economy Rating	99.99
42	Drive Trace Inertia Work Ratio Rating	99.99
43	Integrated Amp-hours	17.9
44	System End State of Charge Watt-hours	17.9
45	System Start State of Charge Watt-hours	14.3

Charge Depleting Bag/Phase

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
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Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
46	Actual Distance Driven (miles)	7.464
47	Average System Voltage	345.65
48	Drive Trace Absolute Speed Change Rating	99.99
49	Drive Trace Energy Economy Rating	99.99
50	Drive Trace Inertia Work Ratio Rating	99.99
51	Integrated Amp-hours	36.8
52	System End State of Charge Watt-hours	36.8
53	System Start State of Charge Watt-hours	32.9
54	Total Hydrocarbon	0.0001

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
55	Actual Distance Driven (miles)	7.454
56	Average System Voltage	359.31
57	Drive Trace Absolute Speed Change Rating	99.99
58	Drive Trace Energy Economy Rating	99.99
59	Drive Trace Inertia Work Ratio Rating	99.99
60	Integrated Amp-hours	25.3
61	System End State of Charge Watt-hours	25.3
62	System Start State of Charge Watt-hours	21.6

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
63	Actual Distance Driven (miles)	7.45
64	Average System Voltage	339.15
65	CH4 - Methane	0.0046
66	Carbon Monoxide	0.1418
67	Drive Trace Absolute Speed Change Rating	99.99
68	Drive Trace Energy Economy Rating	99.99
69	Drive Trace Inertia Work Ratio Rating	99.99
70	Integrated Amp-hours	40.6
71	Nitrogen Oxide	0.0093
72	System End State of Charge Watt-hours	40.6
73	System Start State of Charge Watt-hours	36.8
74	Total Hydrocarbon	0.0512

Charge Depleting Bag/Phase

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
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Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
75	Actual Distance Driven (miles)	7.449
76	Average System Voltage	365.05
77	Drive Trace Absolute Speed Change Rating	99.99
78	Drive Trace Energy Economy Rating	99.99
79	Drive Trace Inertia Work Ratio Rating	99.99
80	Integrated Amp-hours	21.6
81	System End State of Charge Watt-hours	21.6
82	System Start State of Charge Watt-hours	17.9
83	Total Hydrocarbon	0.0001

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
84	Actual Distance Driven (miles)	7.448
85	Average System Voltage	385.05
86	Drive Trace Absolute Speed Change Rating	99.99
87	Drive Trace Energy Economy Rating	99.99
88	Drive Trace Inertia Work Ratio Rating	99.99
89	Integrated Amp-hours	7.2
90	System End State of Charge Watt-hours	7.2
91	System Start State of Charge Watt-hours	3.616
92	Total Hydrocarbon	0.0001

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
93	Actual Distance Driven (miles)	7.448
94	Average System Voltage	193.7
95	Bag 1 Carbon Dioxide	0.2954
96	Carbon-Related Exhaust Emissions	0
97	Drive Trace Absolute Speed Change Rating	99.99
98	Drive Trace Energy Economy Rating	99.99
99	Drive Trace Inertia Work Ratio Rating	99.99
100	Integrated Amp-hours	3.616
101	Manufacturer Fuel Economy	82
102	System End State of Charge Watt-hours	3.616
103	System Start State of Charge Watt-hours	0
104	Total Hydrocarbon	0.0017

Charge Depleting Bag/Phase

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Fuel Properties			
Fuel Batch ID	000334	Fuel Calibration Number	8095
Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)	Fuel Batch Calibration Date	06/29/2015
Fuel Batch Calibration Effective Date	06/29/2015	Fuel Batch Calibration Ineffective Date	--
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 Net Heating Value (BTU / lb)	17793	Fuel Blend Carbon Weight Fraction	0.827
Weight Fraction CO2	--		
Fuel Batch ID	000307	Fuel Calibration Number	7960
Test Fuel Type	61 - Tier 2 Cert Gasoline	Fuel Batch Calibration Date	02/16/2015
Fuel Batch Calibration Effective Date	02/16/2015	Fuel Batch Calibration Ineffective Date	--
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 Net Heating Value (BTU / lb)	18489	Fuel Blend Carbon Weight Fraction	0.865
Weight Fraction CO2	--		
Fuel Batch ID	F0027S	Fuel Calibration Number	269
Test Fuel Type	23 - CARB Phase II Gasoline	Fuel Batch Calibration Date	08/23/2011
Fuel Batch Calibration Effective Date	08/15/2011	Fuel Batch Calibration Ineffective Date	12/31/2030
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.739
Fuel Net Heating Value (BTU / lb)	18167	Fuel Blend Carbon Weight Fraction	0.842
Weight Fraction CO2	--		
Fuel Batch ID	F2461S	Fuel Calibration Number	339
Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline	Fuel Batch Calibration Date	03/09/2015
Fuel Batch Calibration Effective Date	03/05/2015	Fuel Batch Calibration Ineffective Date	12/31/2030
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 Net Heating Value (BTU / lb)	17916	Fuel Blend Carbon Weight Fraction	0.83
Weight Fraction CO2	--		
Fuel Batch ID	003031	Fuel Calibration Number	7831
Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline	Fuel Batch Calibration Date	10/20/2014
Fuel Batch Calibration Effective Date	10/20/2014	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.751
Fuel Net Heating Value (BTU / lb)	17792	Fuel Blend Carbon Weight Fraction	0.828
Weight Fraction CO2	--		

Certification Summary Information Report

Test Group		HGMXV01.5020			Evaporative/Refueling Family			HGMXR0060600		
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 125		
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	--	1	--	--	--	--	--	99.9	
150,000 miles	NMOG	--	1	1.03	--	--	--	--	99.999	
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	99.999	
150,000 miles	NOX	--	1	--	--	--	--	--	99.999	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-III ULEV125		
Fuel		Gasoline			Test Procedure			California 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	--	1	--	--	--	--	--	2.1	
150,000 miles	CO-COMP	--	1	--	--	--	--	--	4.2	
150,000 miles	NMOG	--	1	1.1	--	--	--	--	99.999	
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	0.125	
150,000 miles	NMOG+NOX-COMP	--	1	--	--	--	--	--	0.120	
150,000 miles	NOX	--	1	--	--	--	--	--	99.999	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-III ULEV125		
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	--	1	--	--	--	--	--	10.0	

Certification Summary Information Report

Test Group	HGMXV01.5020			Evaporative/Refueling Family			HGMXR0060600		
Cert Region	Federal			Cert/In-Use Code			Cert		
Vehicle Class	LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 125		
Fuel	Gasoline			Test Procedure			California 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	--	1	--	--	--	--	0	999.9999
120,000 miles	METHANE	--	1	--	--	--	--	--	0.030
120,000 miles	N2O	--	1	--	--	--	--	--	0.010
150,000 miles	CO	--	1	--	--	--	--	--	2.1
150,000 miles	CO-COMP	--	1	--	--	--	--	--	4.2
150,000 miles	NMOG	--	1	1.1	--	--	--	--	99.999
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	0.125
150,000 miles	NMOG+NOX-COMP	--	1	--	--	--	--	--	0.120
150,000 miles	NOX	--	1	--	--	--	--	--	99.999

Cert Region	Federal			Cert/In-Use Code			Cert		
Vehicle Class	LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 125		
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	CREE	--	--	--	--	--	--	0	999.9999
150,000 miles	NMOG	--	--	1.03	--	--	--	--	99.999
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	0.125
150,000 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-III ULEV125		
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	--	1	--	--	--	--	--	99.9
150,000 miles	NMOG	--	1	1.03	--	--	--	--	99.999
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	99.999
150,000 miles	NOX	--	1	--	--	--	--	--	99.999

Certification Summary Information Report

Test Group		HGMXV01.5020			Evaporative/Refueling Family			HGMXR0060600		
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-III ULEV125		
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	--	1	--	--	--	--	--	99.9	
150,000 miles	NMOG	--	1	1.03	--	--	--	--	99.999	
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	99.999	
150,000 miles	NOX	--	1	--	--	--	--	--	99.999	
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 125		
Fuel		Gasoline			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	999.9999	
120,000 miles	METHANE	--	1	--	--	--	--	--	0.030	
120,000 miles	N2O	--	1	--	--	--	--	--	0.010	
150,000 miles	CO	--	1	--	--	--	--	--	2.1	
150,000 miles	NMOG	--	1	1.04	--	--	--	--	999.999	
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	0.125	
150,000 miles	NOX	--	1	--	--	--	--	--	999.999	
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 125		
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	--	1	--	--	--	--	--	10.0	
120,000 miles	HC-NM	--	1	--	--	--	--	--	0.3	

Certification Summary Information Report

Test Group	HGMXV01.5020				Evaporative/Refueling Family			HGMXR0060600		
Cert Region	California + CAA Section 177 states				Cert/In-Use Code			Cert		
Vehicle Class	LDV/Passenger Car				Standard Level			California LEV-III ULEV125		
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	1.03	--	--	--	--	99.999	
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	0.125	
150,000 miles	NOX	--	1	--	--	--	--	--	99.999	

Cert Region	Federal				Cert/In-Use Code			Cert		
Vehicle Class	LDV/Passenger Car				Standard Level			Federal Tier 3 Bin 125		
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	--	1	--	--	--	--	--	99.9	
150,000 miles	NMOG	--	1	1.03	--	--	--	--	99.999	
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	99.999	
150,000 miles	NOX	--	1	--	--	--	--	--	99.999	

Evaporative/Refueling Standards

Evaporative/Refueling Family	HGMXR0060600				Cert Region			California + CAA Section 177 states		
Cert/In-Use Code	Cert				Standard Level			California LEV-II Zero Evap		
Test Procedure	California fuel 2-day evap									
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF					
Gasoline	150,000 miles	HC-TOTAL	--	0.35	0.04					

Evaporative/Refueling Family	HGMXR0060600				Cert Region			Federal		
Cert/In-Use Code	Cert				Standard Level			Federal LEV-II Evap		
Test Procedure	Federal fuel refueling test (ORVR)									
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF					
Gasoline	120,000 miles	HC	--	0.2	0					

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600		
Evaporative/Refueling Family	HGMXR0060600	Cert Region	California + CAA Section 177 states		
Cert/In-Use Code	Cert	Standard Level	California LEV-II Zero Evap		
Test Procedure	CA fuel 3-day evap.				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL	--	0.35	0.04
Evaporative/Refueling Family	HGMXR0060600	Cert Region	Federal		
Cert/In-Use Code	Cert	Standard Level	Federal LEV-II Evap		
Test Procedure	California fuel 2-day evap				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	120,000 miles	HC-TOTAL	--	0.65	0.04
Evaporative/Refueling Family	HGMXR0060600	Cert Region	Federal		
Cert/In-Use Code	Cert	Standard Level	Federal LEV-II Evap		
Test Procedure	CA fuel 3-day evap.				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	120,000 miles	HC-TOTAL	--	0.5	0.04
Evaporative/Refueling Family	HGMXR0060600	Cert Region	Federal		
Cert/In-Use Code	Cert	Standard Level	Federal LEV-II Evap		
Test Procedure	California Fuel Running Loss				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	120,000 miles	HC	--	0.05	0
Evaporative/Refueling Family	HGMXR0060600	Cert Region	California + CAA Section 177 states		
Cert/In-Use Code	Cert	Standard Level	California LEV-II Zero Evap		
Test Procedure	California Fuel Running Loss				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC	--	0.05	0
Evaporative/Refueling Family	HGMXR0060600	Cert Region	California + CAA Section 177 states		
Cert/In-Use Code	Cert	Standard Level	California LEV-II Zero Evap		
Test Procedure	Federal fuel refueling test (ORVR)				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC	--	0.2	0

Certification Summary Information Report

Test Group	HGMXV01.5020	Evaporative/Refueling Family	HGMXR0060600
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 gas (California)	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		
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