APPLICATION FOR CERTIFICATION

2023 MODEL YEAR

Durability Group:	PGMXEEENN002
Test Group:	PGMXV00.0002
Summary Sheet No:	DELETE FROM APPLICATION
Durability Group Description:	Battery Electric Vehicle
Durability Vehicle:	NA
OBD Group:	NA
Test Group Description:	0L NA
Applicable Standards:	Federal CAR BIN0/ZEV
Carlines Covered by Evaporative Family:	0L Chevrolet BOLT EUV Chevrolet BOLT EV PGMXNA
Vehicles Tested:	1NY71250
For Questions, Contact:	E. Ferriolo (248) 494-6082

TABLE OF CONTENTS

TEST VEHICLE DESCRIPTION

	Durability Vehicle Selection	Emission-Data Vehicle Selection
Test Group	N/A	PG 00.000
Evaporative Family		NA (BEV) – Battery Electric Vehicle
Displacement – Liters		150 kW – Electric Motor
Engine Code		1
Emission Control System		
Exhaust		NA (BEV)
Evap		NA (BEV)
Model		1FG48
Transmission Type/Code		AV /1 (Electric Motor)
Shift Schedule		N/A
(LVW/ALVW) Test Weight – Lbs		4000
GVWR		N/A
Roadload HP		11.8
Final Drive		7.05
N/V Ratio – rpm/mph		96
Tires		215/50R17 – ALS
Vehicle/EPA Config No./GM Config No.		001 1 0/00/002

NOTE: For complete vehicle information, see vehicle information submitted in VERIFY database.

Data Vehicle Selection Justification – This vehicle represents the high-sales volume pick for this test group.

FLEXIBLE OR ALTERNATE FUELS

Battery Electric Vehicle (BEV) System Description

Electric Drive Unit

One 3-phase AC Permanent Magnet electric motor
150 kW 10 second peak Power
360 Nm peak torque

Battery

Lithium Ion battery pack
66 kWh pack energy capacity
7.6 kW On-Board; 50 kW Off-Board charge power

Transmission

Automatic Variable (Electric Motor)

Regenerative Braking System

During coasting and during brake applies, the electric motor will be used to decelerate the vehicle and provide electricity to the high voltage battery. The amount of charge the high voltage battery will accept will vary during normal operation depending on the battery state of charge and temperature.

Additional Information Provided in Owner's Manual Documents

Proper recharging procedure
Description of warning system(s) for malfunctions
Starting and shifting procedures
Vehicle safety with the following subtopics:
- Information supplied to the customer for safe operation of the vehicle
- Information on safe handling of the battery system
- Description of emergency procedures

Certification Summary Information Report

Manufacturer	General Motors LLC	**Manufacturer Code**	GMX
Test Group	PGMXV00.0002	**Evaporative/Refueling Family**	--
Certificate Number	--	**CARB Executive Order #**	--
Certificate Issue Date	--	**Certificate Revision Date**	--
Certificate Effective Date	--	**Conditional Certificate**	--
CSI Revision #	--	**CSI Submission/Revision Date**	05/26/2022 02:41:58 PM
Model Year	2023		

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	--	No

Hybrid Indicator	No		
Multiple Fuel Storage	--	**Rechargeable Energy Storage System Indicator**	Yes
Multiple Fuel Combustion	--	**Off-board Charge Capable Indicator**	Yes
Fuel Cell Indicator	No	**EPA Vehicle Class**	LDV
Federal Clean Fuel Vehicle	No	**Federal Clean Fuel Vehicle Standard**	--
Federal Clean Fuel Vehicle ILEV	No	**California Partial Zero Emissions Vehicle Indicator**	No
Durability Group Name	PGMXEEENN002	**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**	PGMXV00.0002
Test Group OBD Compliance Level	Full - no deficiencies	**Number of Test Group OBD Deficiencies**	0
OBD Deficiencies Comments	--		
Mfr Test Group Comments	BEV2		
Mfr Exhaust / Evap Standards Comments	--		

Certification Summary Information Report

Test Group	PGMXV00.0002	**Evaporative/Refueling Family**	--

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	11 - BOLT EUV	California + CAA Section 177 states	2-Wheel Drive, Front	Automatic	1	No
General Motors LLC	3 - Chevrolet	975 - BOLT EV	Federal	2-Wheel Drive, Front	Automatic	1	No
General Motors LLC	3 - Chevrolet	11 - BOLT EUV	Federal	2-Wheel Drive, Front	Automatic	1	No
General Motors LLC	3 - Chevrolet	975 - BOLT EV	California + CAA Section 177 states	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	NGMX10069121	NGMX10069122

Certification Summary Information Report

Test Group	PGMXV00.0002	**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**	1
Total Voltage of Battery Packs	400	**Battery Energy Capacity**	188.5
Battery Specific Energy	153.5	**Battery Charger Type**	Both
Number of Capacitors	--	**Capacitor Rating (In Farads)**	--
Mfr Capacitor Comments	--		
Hydraulic System Description	--		
Regenerative Braking Type	Electrical Regen Brake		
Regenerative Braking Source	Front Wheels	**Driver Controlled Regenerative Braking**	No
Mfr Regenerative Braking Description	--		
Drive Motor(s)/Generator(s)	1		
Motor/Generator Type 1	AC PERMANENT MAGNET	**Rated Motor/Generator Power**	150
Mfr Fuel Cell Description	--		
Fuel Cell On-Board H2 Storage Capacity (kg)	--	**Usable H2 Fill Capacity (kg)**	--
Mfr Hybrid Electric/ Electric Vehicle Comments	--		

Certification Summary Information Report

Test Group	PGMXV00.0002	**Evaporative/Refueling Family**	--

Emission Data Vehicle Information

Vehicle ID / Configuration	1NY71250 / 1	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	NGMXV00.0002	**Original Evaporative/Refueling Family**	--
Original Test Vehicle Model Year	2022		

Vehicle Model

Represented Test Vehicle Make	CHEVROLET	**Represented Test Vehicle Model**	BOLT EUV

Leak Family Details

Leak Family Identifier	LK1	**Leak Family Name**	--

Drive Sources and Fuel System Details

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	1	**Rated Horsepower**	200
Displacement (liters)	0.001		
Air Aspiration Method	Naturally Aspirated	**Air Aspiration Method, if 'Other'**	
Number of Air Aspiration Devices	0	**Air Aspiration Device Configuration**	--
Charge Air Cooler Type	--	**Drive Mode While Testing**	2-Wheel Drive, Front
Shift Indicator Light Usage	Not eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	3717	**Equivalent Test Weight (pounds)**	4000
GVWR (lbs)	--	**N/V Ratio**	96
Axle Ratio	7.05		
Transmission Type	Continuously Variable	**# of Transmission Gears**	1
Transmission Lockup	No	**Creeper Gear**	No

Dynamometer Coefficients:

	Target Coefficients			Set Coefficients			
Coefficient Category	**A (lbf)**	**B (lbf/mph)**	**C (lbf/mph**2)**	**A (lbf)**	**B (lbf/mph)**	**C (lbf/mph**2)**	**EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients**
City/Highway/Evap	31.12	0.0175	0.02251	15.54	-0.1796	0.02285	11.8

Emission Control Device Comments BOLT EV/BOLT EUV

Certification Summary Information Report

Test Group	PGMXV00.0002	**Evaporative/Refueling Family**	--

Manufacturer Test Vehicle Comments ONE PEDAL DRIVE OFF

Test #	**NGMX10069121**	**Test Procedure**	**81 - Charge Depleting UDDS**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	62 - Electricity
Test Date	03/18/2021	**Fuel**	Electricity
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Assigned
Verify Test Lab ID	Referenced Test Lab: EPA/1		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	1643	**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**	Yes

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	240	**Recharge Event Energy (kiloWatt-hours)**	71.4733
Charge Depleting Range (Calculated miles)	366.64	**Charge Depleting Range (Actual miles)**	366.64
All Electric Range Unadjusted (miles)	--	**Derived 5-Cycle Coefficient Model Year**	--
Equivalent All Electric Range (miles)	366.64		
Number of Charge Depleting Bags/Phases Conducted	1	**Transition Bag/Phase Number**	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon-Related Exhaust Emissions	0
2	Drive Trace Absolute Speed Change Rating	0.68
3	Drive Trace Energy Economy Rating	-0.673
4	Drive Trace Inertia Work Ratio Rating	0.803
5	Manufacturer Fuel Economy	172.87
6	System End State of Charge Watt-hours	0
7	System Start State of Charge Watt-hours	1.4466

Manufacturer Test Comments 4K CDEM - EPA CONFIRMATORY

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 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

Certification Summary Information Report

Test Group	PGMXV00.0002	**Evaporative/Refueling Family**	--

Test #	**NGMX10069122**	**Test Procedure**	**84 - Charge Depleting Highway**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	62 - Electricity
Test Date	03/18/2021	**Fuel**	Electricity
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Assigned
Verify Test Lab ID	Referenced Test Lab: EPA/1		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	1643	**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**	Yes

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	240	**Recharge Event Energy (kiloWatt-hours)**	71.4733
Charge Depleting Range (Calculated miles)	314.38	**Charge Depleting Range (Actual miles)**	314.38
All Electric Range Unadjusted (miles)	--	**Derived 5-Cycle Coefficient Model Year**	--
Equivalent All Electric Range (miles)	314.68		
Number of Charge Depleting Bags/Phases Conducted	1	**Transition Bag/Phase Number**	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon-Related Exhaust Emissions	0
2	Drive Trace Absolute Speed Change Rating	2.7
3	Drive Trace Energy Economy Rating	0.438
4	Drive Trace Inertia Work Ratio Rating	3.317
5	Manufacturer Fuel Economy	148.23
6	System End State of Charge Watt-hours	0
7	System Start State of Charge Watt-hours	2126

Manufacturer Test Comments --

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 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

Fuel Properties

Certification Summary Information Report

Test Group	PGMXV00.0002	**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**	Charge Depleting UDDS

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0
150,000 miles	CREE	--	--	--	--	--	--	0	0

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	California ZEV
Fuel	Electricity	**Test Procedure**	Charge Depleting Highway

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0
150,000 miles	CREE	--	--	--	--	--	--	0	0

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	Federal Tier 3 Bin 0
Fuel	Electricity	**Test Procedure**	Charge Depleting Highway

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0
150,000 miles	CREE	--	--	--	--	--	--	0	0

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	Federal Tier 3 Bin 0
Fuel	Electricity	**Test Procedure**	Charge Depleting UDDS

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0
150,000 miles	CREE	--	--	--	--	--	--	0	0

Certification Summary Information Report

Test Group	PGMXV00.0002	**Evaporative/Refueling Family**	--

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
150,000 miles	CO	--	--	--	--	--	--	0	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
150,000 miles	CO	--	--	--	--	--	--	0	0

Certification Summary Information Report

Test Group	PGMXV00.0002	**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

Certification Summary Information Report

Test Group	PGMXV00.0002	**Evaporative/Refueling Family**	--
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		

Certification Summary Information Report

Test Group	PGMXV00.0002	**Evaporative/Refueling Family**	--

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

Engine Code Information

Base Engine Code	1
EC Derivatives	
Test Group	PGMXV00.0002
Durability Group	PGMXEEENN002
Engine RPO	EN0
Disp, liters	0.0
Trans RPO	MMF
Trans Type	A1
Product Code	F
Emission RPO	NT7
Emissions Category	Tier 3
Vehicle Type	CAR
Regulatory Agencies	F
Sales Area	FA/CA
Design Altitude	Both
A/C Equipped	Yes
Driver Select Device	YES - Normal/Sport
Police Only	No
Horsepower @ RPM	NA
Torque @ RPM	NA
Emission Ctrl Sys	BEV2
TapUp/TapDown	No
Active Fuel Management	No
Description	BOLT EV/BOLT EUV

Vehicle Parameters - Certificate Coverage

Durability Group PGMXEEENN002
TestGroup PGMXV00.0002

EC	EC Der	Eng RPO	Disp	Evap Family	Evap Code	Model	Car Line	Trans Type/Code	Final Drive Ratio	GVWR	Tire	N/V	Loaded Weight Veh/DA	TWC Meth	TWC	TLHP	F0	F1	F2	RLHP RPO	Drv Sys	Note
1		EN0	0.0	PGMXNA	NA	1FB48	BOLT EV	AV/1	7.05	--	205/55R16 ALS GDY	98.2	3930/204	LVW	3875	11.4	31.69	-0.0441	0.02235	&AXJ&WMX	FD	--
1		EN0	0.0	PGMXNA	NA	1FB48	BOLT EV	AV/1	7.05	--	215/50R17 ALS MIC	96.0	3930/204	LVW	3875	11.3	30.51	0.0152	0.02151	&AXJ&WMX	FD	--
1		EN0	0.0	PGMXNA	NA	1FB48+VX	BOLT EV	AV/1	7.05	--	205/55R16 ALS GDY	98.2	#VALUE!	LVW	4250	11.7	33.65	-0.0433	0.02245	&WMX	FD	--
1		EN0	0.0	PGMXNA	NA	1FC48	BOLT EV	AV/1	7.05	--	215/50R17 ALS MIC	96.0	3930/204	LVW	3875	11.3	30.51	0.0152	0.02151	&AXJ&WMX	FD	--
1		EN0	0.0	PGMXNA	NA	1FF48	BOLT EUV	AV/1	7.05	--	215/50R17 ALS MIC	96.0	4012/209	LVW	4000	11.8	31.12	0.0175	0.02251	&AXJ&WMX-	FD	--
1		EN0	0.0	PGMXNA	NA	1FG48	BOLT EUV	AV/1	7.05	--	215/50R17 ALS MIC	96.0	4012/209	LVW	4000	11.8	31.12	0.0175	0.02251	&AXJ&WMX-	FD	--

GM elects to test at the next higher test weight class where applicable (reference 40CFR86.1831-01(b)(3)).

TRANSMISSION INFORMATION

Test Group ID	PGMXV00.0002
Transmission Code	1
Transmission RPO	MMF
Transmission Type	A1
Drive Gear Ratios	1
Chain Drive Ratio	NA
Shift Calibrations	PCM Controlled
Torque Converter Diameter	NA
Torque Converter Stall Torque Ratio	NA
Torque Converter Lockup RPM'S	PCM Controlled
Torque Converter Stall Torque Speed	NA
Multimode Feature - # of Modes	2
Shift Indicator Light	NA
Description	MMF EV
TapUp/TapDown	NA

SPECIAL TEST INSTRUCTIONS

OTHER

Parking Brake:

All front wheel drive vehicles must have the parking brake set prior to any dynamometer emission testing.

Anti-Lock Braking System (ABS):

Some vehicles come equipped with ABS systems. During dynamometer testing, the ABS system will detect the difference in wheel speed between the front and rear wheels. The ABS system will interpret this as a system malfunction and illuminate the ABS warning lamp on the instrument cluster. This will have no effect on test results. ABS codes must be cleared when testing is complete.

Emission Test Special Vehicle Cooling:

When conducting an emission test, the front cooling fan is placed on the floor to match the vehicle air inlet area.

Automatic Headlight Systems:

Automatic headlight systems must be disabled prior to any emission or fuel economy testing. DRL can be turned off via a switch on the end of the turn signal stalk. Please contact General Motors Compliance and Certification organization for instructions on how to disable the automatic headlight system.

Daytime Running Lights (DRL):

Daytime running lights must be disabled prior to fuel economy testing. DRL can be turned off via a switch at the far left of the instrument panel. Please contact General Motors Compliance and Certification organization for instructions on how to disable the daytime running lights.

VEHICLE STARTING INSTRUCTIONS

Warm or Cold Engine

Reference Owner's Manual for complete starting instructions.

SHIFT SCHEDULES - NA

	Shift Schedule				Recommended Shift Speeds (mph)				
Trans Code	FTP	Hwy	SC03	US06*1	1-2	2-3	3-4	4-5	5-6

N/A – Not Applicable

EMISSION DATA RATIOS

	Data Ratios
NMHC (G/MI) *1	NA
NMOG (G/MI) *2	NA
HCHO (G/MI) *3	NA
NMOG:NMHC *2	NA
HCHO:NMHC *2	NA

*1 NMHC includes methane response factor.

*2 Effective with the 2004 model year, both EPA and CARB have, through regulatory change, established an industry 1.04 NMHC to NMOG factor which can be used for cert testing for all gasoline tests (does not apply to alcohol fuels).

*3 HCHO requirements will now be met by a compliance statement for both EPA and CARB (does not apply to alcohol fuels).

May 26, 2022 PP083

Mr. D. Cullen
U.S. Environmental Protection Agency
Office of Transportation & Air Quality
Certification & Compliance Division
2000 Traverwood
Ann Arbor, MI 48105

Dear Mr. Cullen:

Subject: Request for Certificate of Conformity - General Motors 2023 Test Group PGMXV00.0002

General Motors requests that the EPA issue a certificate of conformity for the subject test group/evaporative family. GM requests the EPA review this application promptly to expedite final approval of the certificate of conformity for the subject test group. Attached to this request is the Part 1 Application.

GM requests that the EPA treat the information contained in this Part 1 Application, or information subsequently submitted for inclusion in this application, as confidential business information under 40 C.F.R. Part 2, Subpart B, and 5 U.S.C. § 552. The EPA's General Counsel made a class determination that information contained in applications for certification is entitled to confidential treatment (see Class Determination 1-13). As such, GM requests that the information described in each Table of the Class Determination be accorded confidential treatment in accordance with the time periods specified.

GM believes that the test group complies with all applicable regulations contained in 40 C.F.R. Parts 85 and 86, and the applicable California Amendments of the EPA regulations it has incorporated, and Title 13 of the California Code of Regulations.

Please review this information as soon as possible and call if you should have any questions regarding this request for a certificate of conformity.

Sincerely,

Emily L. Ferriolo

Emily L. Ferriolo
Total Certification Engineer
Compliance & Certification

ELP/np

general motors
GM Proving Ground / Compliance & Certification / M/C 483-331-500 / 3300 GM Rd. / Milford, MI 48380-3726

May 26, 2022 PP084

Mr. A. Lyons, Chief
Emissions Certification and Compliance Division
California Air Resources Board
4001 Iowa Avenue
Riverside, CA 92507

Dear Mr. Lyons:

Subject: Request for Executive Order - General Motors 2023 Test Group PGMXV00.0002

General Motors requests that CARB issue an executive order for the subject test group. GM requests that the CARB treat the information contained in this Part 1 Application, or information subsequently submitted for inclusion in this application, as confidential business information pursuant to the California Public Records Act and Sections 91000-91022 of Title 17 of the California Code of Regulations. The information is confidential and sensitive GM business information that constitutes trade secrets and commercial or financial information within the meaning of Section 6254.7 of the California Public Records Act, is entitled to confidential treatment, and will cause substantial competitive harm to GM if released. In the event that CARB does not agree with our position regarding confidential treatment of this information or is considering the public release of this confidential, trade secret, and commercial or financial information, or receives a request for disclosure of the information, we request that you first provide notice to me and we request the opportunity to discuss the material and the need to maintain the confidentiality of this information with you or the CARB General Counsel before any decision is made regarding its release. GM requests that the information be accorded confidential treatment indefinitely.

GM believes that the test group complies with all applicable regulations contained in 40 C.F.R. Parts 85 and 86, and the applicable California Amendments of the EPA regulations that CARB has incorporated and Title 13 of the California Code of Regulations.

The EPA certificate of conformity for this test group will be forwarded to you when it becomes available.

Based upon our review prior to submitting the application for certification and to the best of our current information and belief, the GM vehicles described in this request for executive order do not employ defeat devices, and do not use alternative maps or AECDs that have not been declared, nor does our emission control system include strategies that link transmission controls (input or output) to these AECDs. In addition, we do not use control strategies that would trigger different transmission behavior when driven on an official emission test compared to when driven on the road under the same conditions. We are submitting this statement to you in good faith. If, in the future, we identify any new relevant information, we will notify CARB in a timely fashion.

Please review this information as soon as possible and call if you have any questions regarding this request for an executive order.

Sincerely,

Emily L. Ferriolo

Emily L. Ferriolo
Total Certification Engineer
Compliance & Certification

ELP/np

general motors
GM Proving Ground / Compliance & Certification / M/C 483-331-500 / 3300 GM Rd. / Milford, MI 48380-3726

*** VEHICLE INFORMATION ***

Model Year	2023	**Certifying Agent**	GM
Test Vehicle	1NY71250	**GM Config**	002
		Run Date	05/27/2022 10:12:54

VEHICLE NO:	1NY71250	**CONFIGURATION NO:**	002	**EPA VERSION NO:**			
				ORIGINAL CERT YEAR:	2022		
ENG FAM/TEST GRP:	PGMXV00.0002	**ENGINE CODE:**	1				
EVAP FAMILY:	PGMXNA	**EVAP CODE:**	NA				
TEST PURPOSE:	FE	**DISPL:**	0.0	**SALES LOC:**			
VEH TYPE: FED=		**CAL=**		**EMIS CATEGORY: FED=**		**CAL=**	
DURA GRP:	PGMXEEVNN002	**DURA VEH NO:**		**DURA CONFIG:**			
FUEL METER:	NA	**BOOST TYPE:**		**VALVES PER CYL:**	0		
TRANS: TYPE=	A1	**CODE=** 1	**MODE=** NORMAL	**SIL EQUIPPED:**	No	**SIL VERSION:**	N/A
SHIFT SCHEDULE:	N/A	**SHIFT SCHED NO:**					
EVAP CANISTER SIZE(L):							
TANK CAPACITY (GAL): PRIM=		**AUX=**				**PRIMARY FUEL:**	ELEC
PREMIUM FUEL RECOM'D:	N	**USAGE: F=**		**C=**			
DYNAMOMETER DRIVE AXLE:	F						
TIRE PRESS(PSI): FRT=	38	**REAR=**	38	**A/C EQ:**	Y		
68d ROADLOAD: F0=	31.12	**F1=** 0.0175		**F2=** 0.02251		**TRLHP 68d:**	11.8
20d ROADLOAD: F0=	34.23	**F1=** 0.0193		**F2=** 0.02476		**TRLHP 20d:**	12.9
WEIGHTS (LBS):				**TIRES:**			
ETW: 4000	**EPA CURB:** 3717	**GVWR:**		**VENDOR:**	MIC	**SIZE:**	215/50R17
				TREAD TYPE:	ALS		
	CURB WEIGHT/TEST WT CLASS TYPE	**DRIVE AXLE**					
DESIGN:	3717/LVW	2092					
REP VEH MODEL:	1FG48	**FIN DR RATIO:**	7.05	**N/V:**	96.0	**ENG RPO:**	EN0
ACTUAL MODEL NO:	1FG48						
RATED HP:	200	**TCC:**	Y				
OVERDRIVE:	N	**CREEPER:**	N	**PS:**	YES	**PB:**	YES
MODE LINK CONFS:		**C/O CONF:**		**SIL LINK CONF:**			
ZERO-MILE ODO:	0	**ODO CORR:**	1.00				

COMMENTS One Pedal Drive OFF - EUV

F23EN0NC9WMX1FB48 262 1FS2362287

Feb 01 2022 10:12:36

WMX1FB48

VEHICLE EMISSION CONTROL INFORMATION

GENERAL MOTORS LLC

Conforms to Regulations: 2023
U.S. EPA class / stds: LDV / TIER3
California class / stds: PC / ZEV
Group: PGMXV00.0002
Evap: N/A
CA OBD: N/A

Fuel: Electric
F23EN0NC9WMX1FB48

F23EN0NT7WMX1FF48 262 1FS2362287

Feb 01 2022 10:12:39

WMX1FF48

VEHICLE EMISSION CONTROL INFORMATION

GENERAL MOTORS LLC

Conforms to Regulations: 2023
U.S. EPA class / stds: LDV / TIER3
California class / stds: PC / ZEV
Group: PGMXV00.0002
Evap: N/A
CA OBD: N/A

Fuel: Electric
F23EN0NT7WMX1FF48

2023 MODEL YEAR

BATTERY CHARGING AND TESTING PROCEDURE INFORMATION

General Battery Charging Procedures

Reference Owner's Manual for additional information.

Charging Plug-In Charging AC/DC Charge Cord Handle

1. Open charge port door by pushing on the plug icon at the rear of the door.

2. Charge Port

3. DC Charge Port (If Equipped – See Owner's Manual)

The high voltage battery can be charged using a household electrical outlet. When using a 240-volt charging station, it will take approximately 10 hours to charge the vehicle from empty to full. When using a 120-volt AC wall outlet, it will take approximately 55 hours to charge the vehicle with the 12 amp AC current setting, and considerably longer using the default 8 amp AC current setting. Charge times will vary with outside temperature. There are three ways to program how the vehicle is charged. See *Charging section in Owner's Manual*. If equipped, the vehicle can be charged using DC charging equipment found at service stations and other public locations. When using a DC charging station with at least 50kW of available power, it will take approximately 60 minutes to recharge from a depleted battery to a level of 80% of the driving range available for use. This time estimate is applicable to nominal temperature ranges. In extreme hot or cold conditions, this time may be lengthened. When a full charge is desired, the charging time will be increased. **While the charge cord is plugged into the vehicle, the vehicle cannot be driven.**

2023 MODEL YEAR

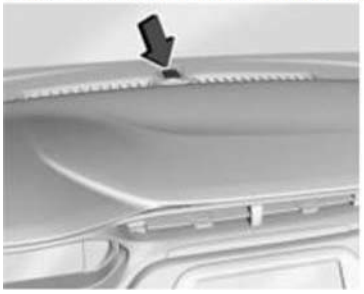
BATTERY CHARGING AND TESTING PROCEDURE INFORMATION

AC Charging Start Charge

1. Make sure the vehicle is in park and turned off.
2. Push the rearward edge of the charge port door in and release to open the door.
3. Connect the provided 240v charger.

4. Plug the charge cord into the metered 240V electrical outlet. See *Electrical Requirements for Battery Charging in Owner's Manual*. Verify the charge cord "power" status light is illuminated. Plug in the vehicle plug of the charge cord into the charge port on the vehicle. Verify that the Charging Status Indicator (CSI) illuminates on top of the instrument panel and a horn chirp occurs.

The CSI is at the center of the instrument panel near the windshield.



When the vehicle is plugged in and the vehicle power is off, the CSI indicates the following:

- Solid Yellow – Vehicle is plugged in and everything from the wall outlet to the vehicle plug is normally operating. The light should transition to green, then on board vehicle systems pass diagnostic checks. It is normal for the CSI to turn yellow for a few seconds after plugging in a compatible charge cord. The solid yellow may be extended depending on the vehicle and if there is a total utility interruption via OnStar. See *Utility Interruption of Charging on page 9-39*. This may also indicate that the charging system has detected a fault and will not charge the battery. See "Charge Cord Status Indicators" in the charge cord user manual.
- Solid Green – Vehicle is plugged in. Battery is not fully charged. Battery is charging.
- Slow Flashing Green – Vehicle is plugged in. Battery is not fully charged. Battery charging is delayed.
- Fast Flashing Green – Vehicle is plugged in. Battery is fully charged.

2023 MODEL YEAR

BATTERY CHARGING AND TESTING PROCEDURE INFORMATION

The system may be thermally conditioning the battery during any of the states above, requiring electrical energy to be transferred to the vehicle. If the vehicle is plugged in and vehicle power is on, the CSI will be blinking green. The same is true during a remote start if the vehicle is plugged in.

End Charge

1. Unlock the vehicle with the keyfob to disarm the charge cord theft alert.
2. Unplug the vehicle plug of the charge cord from the vehicle.
3. Close the charge port door by pressing firmly on the plug icon at the rear of the door.
4. Unplug the charge cord from the electrical outlet.

General Testing Procedures

EV Electric Range Test Sequence for GM Vehicles:

- SAE J1634 (As Revised 2012, Section 8) shall be followed for all EV testing for GM Test Group LGMXV00.0002. Steady State at 65mph.

Vehicle Verification

Verify that vehicle has at least 30 miles worth of charge for the dyno determination sequence. Verify that the Hioki sensor (contact GM for support) is installed and secured in the backseat of the vehicle. Device to read high voltage battery voltage is connected (contact GM for support).

High Voltage Connections – Extreme Caution required

For safety reason GM does not provide any vehicle connections nor directions as to where to connect a Hioki to collect current/voltage data. Experienced personnel familiar with HV should reference the service manual for additional information.

**** Note: GM may supply a Hioki attachment point on Certification test vehicles supplied to the EPA for Confirmatory Testing.**

Crabbing Vehicle

Vehicle shall be crabbed or pushed to charging station, test site, etc. while in any test sequence.

2023 MODEL YEAR

BATTERY CHARGING AND TESTING PROCEDURE INFORMATION

Dyno Determination
Starting and stopping the vehicle

Starting Procedure
Move the shift lever to P (Park) or N (Neutral). The propulsion system will not start in any other position. The Remote Keyless Entry (RKE) transmitter must be in the vehicle. The vehicle has an electronic push button start. Press the brake pedal and push and release the POWER button. See power button in Owner's Manual

ON/RUN: This position is for starting and driving. With the vehicle off and the brake pedal applied, pressing the POWER button once will place the vehicle in ON/RUN. When the vehicle ready light is on in the instrument cluster, the vehicle is ready to be driven. This could take up to 15 seconds at extremely cold temperatures. See *Vehicle Ready Light in Owner's Manual*.

A vehicle ready light displays in the lower right corner of the instrument cluster when the vehicle is ready to be driven. The instrument cluster also displays an active battery gauge when the vehicle is ready to be driven.

STOPPING THE VEHICLE/OFF: To turn the vehicle off, push the POWER button with the vehicle in P (Park). Retained Accessory Power (RAP) will remain active until the driver door is opened. See *Retained Accessory Power (RAP) in Owner's Manual*. When turning off the vehicle, if the vehicle is not in P (Park), the vehicle will automatically shift to park.

2023 MODEL YEAR

BATTERY CHARGING AND TESTING PROCEDURE INFORMATION

Multi-Cycle RANGE TEST

Soak/Charging

Charge time not to exceed soak time. Minimum charge time of 12 hours 240 VAC CONTINUOUS charging. Disconnect the charger just prior to crabbing vehicle to site.

Prior to Test

- Verify that all vehicle accessories are turned off
- Fixed speed fan on during test
- Hood up with hood latch adapter installed
- Emission bags off
- Make sure no battery chargers are connected to 12VDC system
- Vehicle rear hatch closed
- Disable Dyno Augmented Braking from Dyno controller.
- Disable traction control
- Start vehicle by placing foot on brake and pressing the power button. Confirm “Ready” light on cluster is green (icon is on lower right side of cluster by PRNDL).
- Turn off the HVAC system completely by turning off auto and setting the fan to off.
- Turn off radio console stack completely by holding the radio power button until the display asks if you want to fully shut down the console stack. Select yes and the display should turn off.

During 10min Soak Periods

- Vehicle keyed off and put in Park
- Shifter button completely released
- Driver door open and closed
- Vehicle hood closed
- Fixed speed fan off

End of Test Criteria

- The official end of test criteria is when a drive trace error occurs due to the vehicle being unable to keep up with the trace (two second driver violation), per SAE J1634.
- Bring the vehicle to a controlled stop with the brake within 10 seconds

2023 MODEL YEAR

BATTERY CHARGING AND TESTING PROCEDURE INFORMATION

After UDDS and Highway Test Sequence(s)

To place vehicle in neutral for moving and dyno alignment:

- Follow neutral instructions from Dyno Determination Sheet.
- Disconnect all CAN equipment on driver and passenger side OBD-II ports.
- Verify that car systems power down. With keys left in car:
    - Close all doors – horn will sound 3 quick beeps
    - If no beeps, cycle accessory power again

Vehicle Start-Up Instructions for Operating on a Dyno ** Will Need to contact Manufacturer for setup information and details.

This procedure must be performed after every key-off event and during a dyno determination

Assumption: Vehicle is off

1. Verify CANLogger is plugged into driver's side ALDL and hood latch adapter is installed
2. Place vehicle in "service mode".
   a. Hold blue "Power" button for ~7sec **(without foot on brake)** until vehicle is awake
   b. Service Mode is active when instrument cluster display looks like the picture below

Service Mode Active

3. Enter Dyno Mode (Disable Traction Control for 2WD Dyno)
   a. Hold down the red thumb trigger for ~3sec until you hear chimes

   b. Dyno mode is active when the instrument cluster display looks like the picture below
   Service Stabilitrak message displayed and Stability Control, ABS and Brake tell-tale lights illuminated

Dyno Mode Active

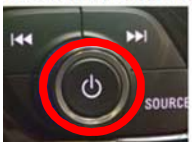
4. Leave the CANLogger plugged into the driver's side ALDL
5. To begin test cycle, start vehicle by putting foot on brake, and pressing the blue "Power" button
   a. The Green Car with "READY" will be displayed on the bottom right of the DIC.

Vehicle Running

6. Confirm HVAC and Radio are off
   a. Temp should have "- -" displayed, and LED indicator above "On" should be off

HVAC Off

   b. Press and hold radio power button for 5 seconds and press yes on screen



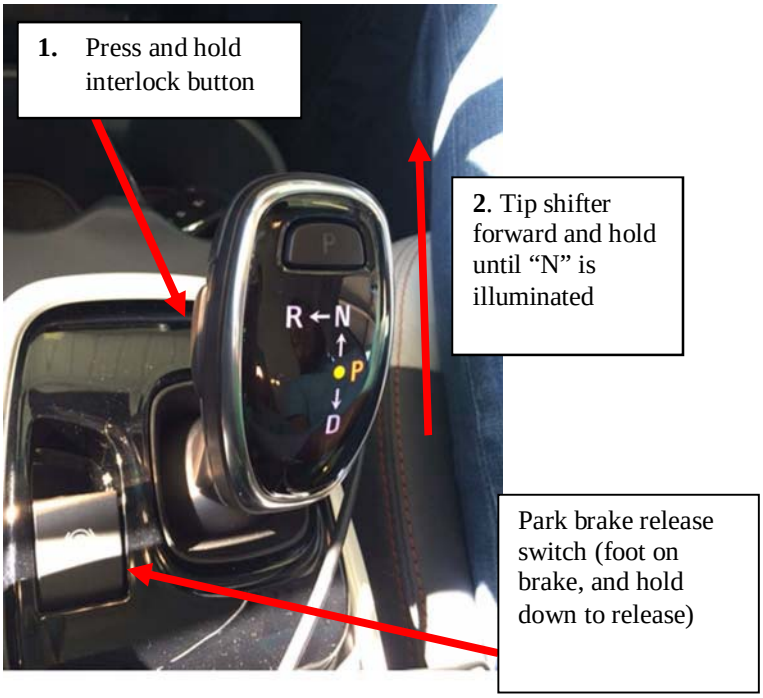
Radio Off

7. If preforming a dyno determination, follow procedure on next page to put vehicle in Neutral for Dyno Determination

Vehicle Set-Up Instructions for Dyno Determination

Assumption: Vehicle is running and in dyno mode (instructions on previous page)
To put vehicle in Neutral and prevent and Auto-Shift to "Park" when door is opened

1. Place vehicle in park
2. Open driver door
3. Place vehicle in neutral (items **1** & **2** below)



4. Confirm DIC displays Neutral in the bottom right corner

5. **Warning:** Park Brake will auto-apply and vehicle will auto-shift to Park if the following are true. Release it by pressing the brake pedal and holding the park brake switch oo the left of shifter stalk down
    a. Vehicle is not in park
    b. Driver Door Is open
    c. Foot is off brake
    d. Driver seat belt is unbelted
6. Door can be closed once vehicle is in neutral

Supplemental ZEV Application for Certification - PGMXV00.0002

Section No.	Title
01.00.0	Communications **See GM Application for Certification PGMXV00.0002**
.01.00	Mailing Information **See GM Application for Certification PGMXV00.0002**
.01	Certification Information **See GM Application for Certification PGMXV00.0002**
.02	Responsible official **See GM Application for Certification PGMXV00.0002**
02.00.00	Confidential Information **See GM Application for Certification PGMXV00.0002**
.01.00	Statement of confidentiality **See GM Application for Certification PGMXV00.0002**
.02.00	Test vehicle selection "Worst case" test vehicle selection and manufacturer defined criteria if more than one model offered (e.g. 2-door vs 4-door). **See GM Application for Certification PGMXV00.0002**
.03.00	Projected California sales **See GM Application for Certification PGMXV00.0002**
03.00.00	Facilities, equipment, and test procedures (Manufacturers to keep information regarding facilities and equipment on file.) **Testing was conducted at GM facilities as well as EPA facilities – per SAE J1634 procedure (as Revised 2017, Section 8) Steady State at 65 mph**
.01.00	Procedure to determine mass emissions of the fuel-fired heater **Not applicable**
.02.00	Battery pre-conditioning procedures (if necessary) **None –Fully Charged per SAE J1634 procedure (as Revised 2017, Section 8)**
04.00.00	(Reserved)
05.00.00	(Reserved)

Supplemental ZEV Application for Certification - PGMXV00.0002

Section No.	Title
06.00.00	Maintenance **See Owner's Manual**
.01.00	Test vehicle scheduled maintenance **None**
.02.00	Recommended customer maintenance schedule **See Owner's Manual**
.03.00	Lubricants and heater fuels, if any **See Owner's Manual**
07.00.00	Vehicle Emission Control Information (VECI) and Environmental Performance (EP) Labels
.01.00	VECI Label locations **Under hood**
.02.00	Sample emission control information labels **See GM Application for Certification PGMXV00.0002**
.03.00	Sample EP Label (Formerly called the Smog Index label) **Per agreement with GM and CARB EPL is now incorporated in the vehicles Window sticker. Smog score value is 10. Actual window sticker not available until EPA Certificate and Fuel Economy Labels are available**
.04.00	Statement of compliance **See GM Application for Certification PGMXV00.0002**
08.00.00	General technical description Manufacturer's sales brochures or owner's manual may be submitted to satisfy the requirements in this section **See Owner's Manual**
.01.00	Description of Propulsion System **Single speed fixed ratio direct drive with 7.05 axle ratio. Energy stored and provided by 350v nominal lithium ion battery**
.02.00	Description of Motor(s) **See GM Application for Certification PGMXV00.0002 – Permanent Magnet 3-phase electric machine**
.03.00	Description of Batteries **See GM Application for Certification PGMXV00.0002 – Lithium Ion, 350v, 288 cells**
.01	Battery charging capacity **See GM Application for Certification PGMXV00.0002 –188.5Ahr**

Supplemental ZEV Application for Certification - PGMXV00.0002

Section No.	Title
.02	Self-discharge information **Not applicable**
.03	Description of thermal management system **Liquid heating and cooling system**
08.00.04	Definition of end-of-life **BEV is calibrated to set the EOL DTC when the calculated discharge power capability during normal operation will not allow the vehicle to drive real work i.e. US06 type drive schedules.**
.05	Description of battery disposal plan **Battery is recycled using GM contactor**
.04.00	Description of Controller/Inverter **High-voltage DC to high-voltage 3-phase AC**
.05.00	Description of Transmission **Single speed, fixed ratio (7.05)**
.06.00	Description of climate control system
.01	Electric Heat Pump **Not applicable**
.02	(Reserved)
.03	Climate control system logic **See HVAC section in Owner's Manual**
.04	(Reserved) **Not applicable**
.07.00	Description of Regenerative Braking System
.01	Control logic **Brake system will recover energy until the driver requests more braking power than the traction system can deliver.**
.02	Percentage of braking performed on road by each axle **Energy is only recovered from the front axle.**
.08.00	Description of charger **On-board, liquid cooled, 7.6 kW (240V), 1.4 kW (120V)**
.01	Proper recharging procedures **See Charging section of Owner's Manual**

Supplemental ZEV Application for Certification - PGMXV00.0002

Section No.	Title
.02	Power requirements necessary to recharge vehicle **Up to 7.6 kW (32 Amp wall service on 240V)**
.09.00	Accessories which draw energy from the batteries **Cabin Heater, Air Conditioner, Battery Heater, Accessory Power Module (12V)**
.10.00	Other unique features (e.g. solar panels) **SAE Type 3 Fast Charging**
.11.00	Description of warning system(s) for maintenance / malfunction **Service Vehicle Soon indicator on instrument panel cluster.**
.01	Cut off terminal voltages for prevention of battery damage **240V**
09.00.00	(Reserved)
10.00.00	(Reserved)
11.00.00	Starting and shifting schedules **See GM Application for Certification PGMXV00.0002**
12.00.00 through 16.00.00	(Reserved)
17.00.00	California requirements
.01.00	Statement of compliance
.01	General statement
.02	Driveability statement
.02.00	Supplemental Data and Certification Review Sheets
.03.00	(Reserved)
.04.00	Credits
.01	Description of multi-manufacturer arrangements **Not applicable**

Supplemental ZEV Application for Certification - PGMXV00.0002

Section No.	Title
.02	Credit calculation **Per table for ZEV credits found within CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 2009 AND SUBSEQUENT MODEL ZERO-EMISSION VEHICLES AND HYBRID ELECTRIC VEHICLES, IN THE PASSENGER CAR, LIGHT-DUTY TRUCK AND MEDIUM-DUTY VEHICLE CLASSES** **Adopted: December 17, 2008, Amended: December 2, 2009** **General Motors Classifies the Bolt EV as a Type III, with UDDS Range ≥ 200 Miles without CARB Specified Fast Charging capability. Per referenced Table the ZEV Credit shall be = 4.**
.05.00	Vehicle Safety
.01	All information for safe operation of vehicle **See first responder section of Owner's Manual**
.02	Information on safe handling of battery system **See first responder section of Owner's Manual**
.03	Description of emergency procedures **See first responder section of Owner's Manual**
.06.00	(Reserved)