# LORDSTOWN

# APPLICATION FOR CERTIFICATION 2023 Model Year

# PART 1

# PLEVT00.07NY

## **APPLICATION FOR CERTIFICATION**

## Part 1

### 2023 Model Year

Durability Group: PLEVEEVNNEV1

Evap. Family: Not Applicable

Test Group: PLEVT00.07NY

Durability Group Description: Battery Electric Vehicle

Test Group Description: LDT

Application Standards Federal: Tier 3 Bin 0 California: LDT ZEV 50 states

Vehicles Covered ENDURANCE (AWD, BEV) (50 state)

Vehicle Tested:

Charge Depletion Test #

PLEV10077084 UDDS PLEV10077085 HWY

#### **Range Test Procedure:**

The Multi-Cycle Range and Energy Consumption Test (MCT) SAE J1634 test procedure consists of four UDDS cycles and two HWFET cycles in a specified sequence including mid-test and end-of-test constant speed "depletion phases" Constant speed performed at 55 mph.

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**1.0** Correspondence and Communications

#### 1.10 Mailing Information

Name and Address of the person to whom the Certificate and the Executive Order should be mailed:

Lordstown EV Corporation Darren Post VP of Engineering 38555 Hills Tech Drive Farmington Hills, MI 48331

Corporate Name and Address that should appear on the Certificate of Conformity and on the Executive Order

Lordstown EV Corporation 38555 Hills Tech Drive Farmington Hills, MI 48331

#### 2.0 Confidential Information

- 2.20 Test Vehicle Selection
- 2.30 Test Parameters
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#### 3.0 Facilities, Equipment, and Test Procedures

- 3.10 Test Facility:
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# 3.70 Procedure to Determine Mass Emissions of Fuel Fired Heater

Not applicable since Fuel Fired Heater not offered for this vehicle by Lordstown Motors.

#### 3.80 Special Test Instructions:

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- 1. Equipment
- 2. Safety warnings
- 3. Installation guide
- 4. Driver's guide for the Multi-Cycle Test (MCT)
- 5. Vehicle settings for the MCT
- 6. Uninstallation guide



Figure 1. Endurance running on a dynomometer

- 1. Lordstown will provide 2 Hioki current clamps (CT6846-05), 2 current clamp cable extenders (CT9902), 1 breakout box (made by Lordstown) with Hioki current clamp(CT6863-05), and 2 voltage probes (+,-) inside, 4 Hioki banana branch patch cords, and 1 Hioki Power Analyzer (PW3390).
- 2. One 10mm socket, one socket extender, and one rachet are required from the garage.

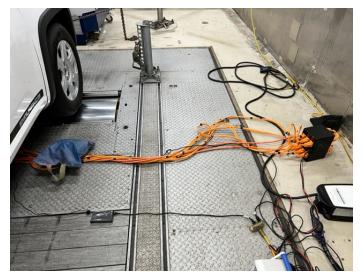


Figure 2. Breakout box and cables



Figure 3. Breakout box cables

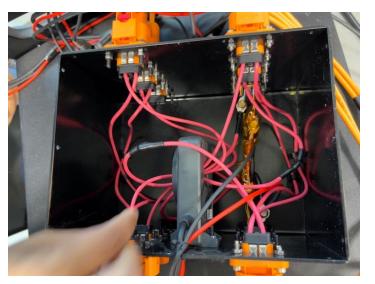


Figure 4. Inside of the Breakout box

- 3. Current clamps are used to measure the DC current output from the High Voltage (HV) battery to all 4 inverters. One clamp for the 2 front inverters and one clamp for the two rear inverters.
- 4. The breakout box measures the total DC current from the HV battery to DCDC (APM), AC compressor, Cabin Heater, Battery Heater, and On-Board Charging Module (OBCM). The breakout box also measures the voltage of the HV battery through the voltage probes inside.
- 5. The breakout box is needed because the positive and negative wires of each of those components are wrapped in one cable. The breakout box separates those cables into positive and negative wires. The current clamp inside the breakout box is clamped over all 5 positive wires with the current convention of negative current flow out of the battery to those components (discharge).
- 6. The current clamp inside the breakout box is integrated with the box and can not be separated. In case of a different clamp is needed for measurement, it will need to have a hinge that allows opening and close around the wires.
- 7. The voltage probes inside the breakout box are attached to the OBCM terminals.
- 8. Banana branch patch cords are used to jump HV battery voltage measured to other channels of the power analyzer.
- 9. The PW3390 Hioki Power Analyzer requires 30 mins to warm up.

- 1. People who will be performing the operations and procedures mentioned in this document should be properly trained and qualified for High Voltage vehicles.
- 2. Appropriate personal protection equipment (PPE) should be worn throughout the installation and uninstallation process.
- 3. Installation and uninstallation should only be done when the vehicle is completely shut off and the 12V battery disconnected.
- 4. Breakout box should stay closed throughout the test.
- 5. Cables and wires should be clear from the driver's entry and exit path of the vehicle.
- 6. Safety risks:
  - Electrocution
  - Electric shock
  - Burns
  - Loss of consciousness or loss of muscle control
  - Death

- 1. Installation environment
- 2. Setting up the Hioki Power Analyzer
- 3. Vehicle shutoff procedure and 12V battery disconnection
- 4. Installing the current clamps
- 5. Connecting the breakout box to the vehicle
- 6. Re-connecting the 12V battery and starting the vehicle

- 1. It is recommended to install the instruments after the vehicle has been tied down on the dyno to avoid moving the vehicle with breakout box cables hanging on the ground. However, this will require the installer to lay underneath the vehicle and complete the installation in a tight space.
- 2. If installing the instruments on the dyno is not feasible. Use wheel dollies to move the vehicle after instruments are installed and make sure no cables or connectors are scraping the floor.
- 3. The complete installation time is around 30 to 45 minutes if performed with the vehicle on the dyno.



Figure 5. Cables hanging on the floor after connection

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- 1. Turn the Hioki Power Analyzer at least 30 mins before the start of the test to let it warm up properly.
- 2. Connect each current clamp with a cable extender. Connect the other side of the extender to the power analyzer.
- 3. Connect the front current clamp to channel 1 and the rear current clamp to channel 2.
- 4. Connect the current sensor cable (12-pin) from the breakout box to channel 3. Connect the red and black voltage cables from the breakout box to the Hioki channel 3 banana adapters.
- 5. After Hioki is powered on. Hit the "0 ADJ" button on the Hioki to conduct zero adjustments.
- 6. The desired Hioki measurement setting has been set to default, no adjustment is needed. (Refer to Pg.25 and 26 for specific settings.)
- 7. See the next page for a completed power analyzer connection.



Figure 6. Power analyzer and current clamps

#### SETTING UP THE HIOKI POWER ANALYZER.

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Figure 7. Power analyzer connection

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- 1. The complete Hioki Power Analyzer startup sequence is below:
  - Step 1: Turn on the power analyzer
  - Step 2: Go to the measurement screen
  - Step 3: Start zero adjustment
  - Step 4: Confirm zero adjustment
  - Step 5: Start recording data
- 2. Start/Stop button in green means the power analyzer is recording data.



Figure 8. Power analyzer starting sequence

- 1. Open driver's door.
- 2. Make sure the start/stop button light is off, if not, push it to turn off the vehicle.
- 3. Pull the hood latch lever inside the cabin twice. This action will wake up the vehicle.
- 4. Wait until the red light on the gear selector and the blue light on the cabin air recirculation are both turned off.
- 5. Exit the vehicle and leave the driver's door open.
- 6. Open the hood, there is no hood release latch outside the vehicle.
- 7. Remove the 12V battery cover.
- 8. Use a 10mm socket and ratchet to remove the positive cable. Slightly pull the positive cable out so it will not touch the terminal by accident.

9. Now the vehicle is completely shut off and ready to install the current and voltage measuring instrument.



Figure 9. Hood latch lever



Figure 10. Gear selector and cabin air circulation lights

Cabin air circulation light

Gear selector light



Figure 11. 12V battery location

Attaching the current clamp on the HV battery to the front inverter cables.

- 1. Attach the current clamp on the two cables shown below. Blue arrows indicate which wires to clamp and the current convention during recharge. Matching the arrow on the clamp with a blue arrow will generate positive current readings during battery recharge.
- 2. Slide up the lock button on the side of the current clamp handle to lock the hinge.

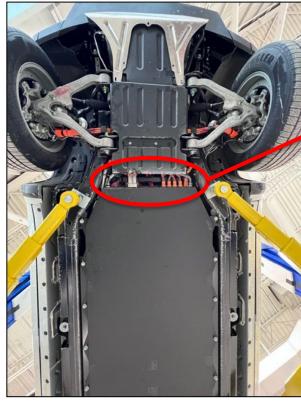


Figure 12. Location of the HV battery to front inverter cables

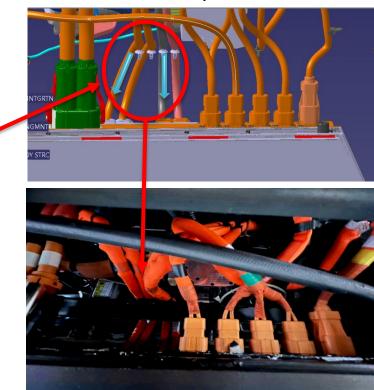


Figure 12. Cables to attach the front clamp



Figure 13. Clamp on the front cables

Attaching the current clamp on the HV battery to the rear inverter cables.

- 1. Attach the current clamp on the two cables shown below. Blue arrows indicate which wire to clamp and the current convention during recharge. Matching the arrow on the clamp with blue arrows will generate positive current readings during battery recharge.
- 2. Slide up the lock button on the side of the current clamp handle to lock the hinge.



Figure 12. Location of the HV battery to rear inverter cables

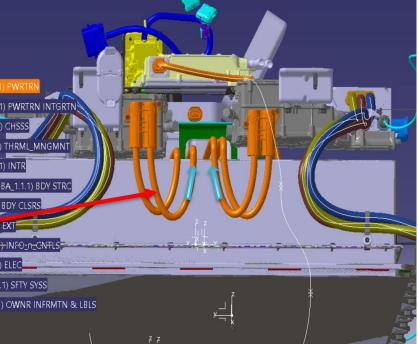


Figure 13. Cables to attach the rear clamp



Figure 14. Clamp on the rear cables

Page 1 of 4.

- 1. There are 5 HV auxiliary connectors that need to be disconnected from the HV battery and re-routed to the breakout box. They are located next to the front inverter cables.
- 2. First, disconnect the OBCM connector from the HV battery. Figure 17 shows the vehicle side OBCM female connector and the process of unplugging it. The red arrows show the direction to pull and press.

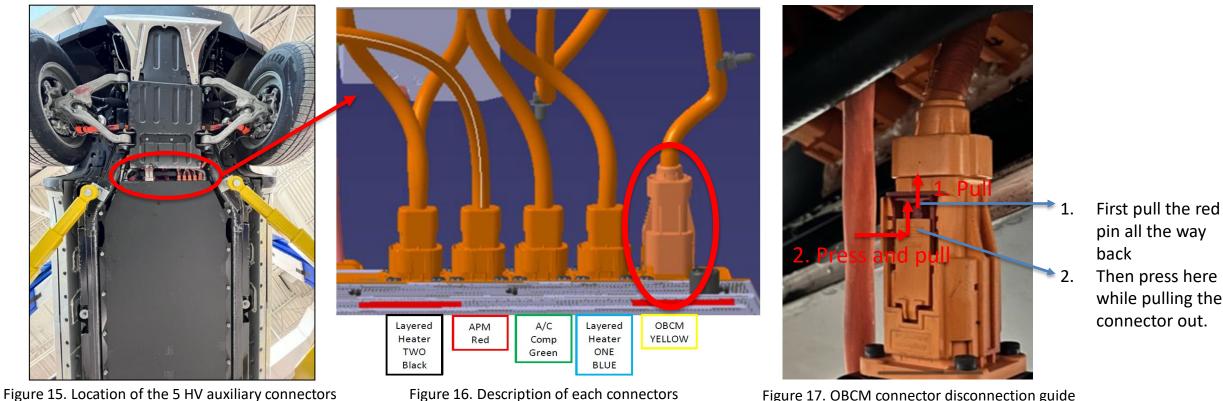


Figure 17. OBCM connector disconnection guide

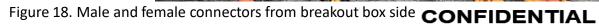
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- Connect the vehicle side female connector you just pulled out to the breakout box side OBCM male connector (yellow labeled). After they are connected, push in the red pin on the vehicle side female connector to secure the connection. (Figure 19)
- 4. Connect the breakout box side OBCM female connector to the vehicle HV battery side male connector. Push in the red pin on the breakout box side OBCM female connector to secure the connection.
- 5. Figure 18 shows all the male and female connectors from the breakout box.

- Breakout box side OBCM male connector.
- Breakout box side OBCM female connector.







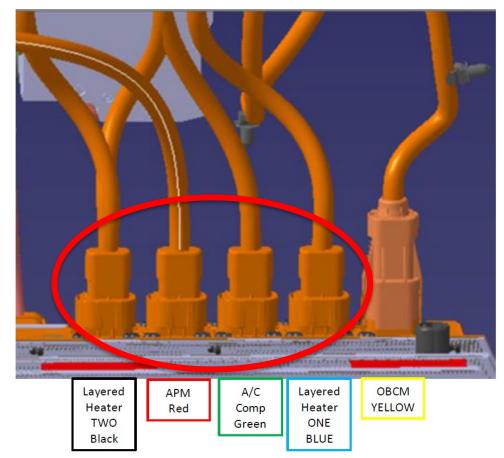
Push in to secure the connection (This picture is showing the pin already pushed in)

Figure 19. Red pin on the female connector

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6. Repeat the same process for the blue, green, red, and black connectors. The only difference is these female connectors do not need to be pressed when disconnecting. You only need to pull back the red pin before pulling the connector out and push back the red pin after the connection.





Only red pin, no pressing required

Figure 21. Female connector for DCDC, AC compressor, Cabin Heater, and Battery Heater

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7. Here is a picture showing the completed breakout box to vehicle connection.

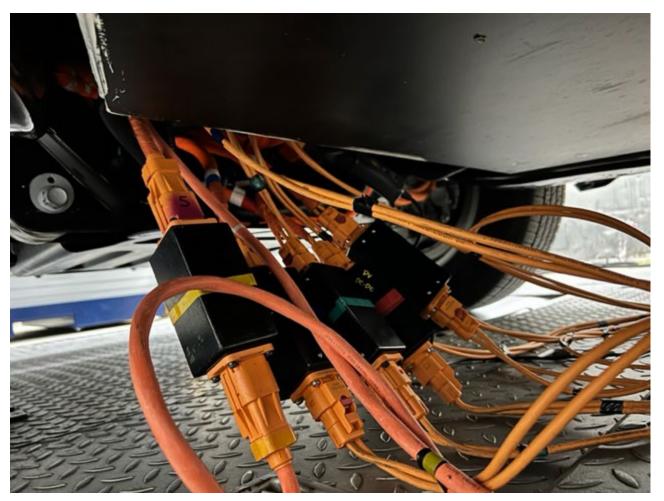


Figure 22. All break out box connectors connected to the vehicle

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- 1. Re-attach the positive cable on the 12V battery positive terminal. Use the rachet to fasten the bolt to secure the connection.
- 2. Close the hood.

Driving the MCT test

- 1. Run both constant speed sections of MCT at 55 mph.
- 2. End the first constant speed section after 3 hours 25 minutes (not including a soak in between). The vehicle should be at about 18% State of Charge.
- 3. Use cruise control for the first constant speed section (CSC1).
- 4. Do not use cruise control for the second constant speed section (CSC2). Cruise control is disabled at 10% SOC.
- After the MCT test is finished, <u>the vehicle will be immobilized with the parking brake on due to the battery being</u> <u>completely drained</u>. It is recommended to fully recharge the vehicle on the dyno. If that is not feasible, use vehicle dollies on the two rear wheels to move the vehicle off the dyno and charge.

Vehicle turn-on/off procedure

- 1. Endurance uses a regular transponder key fob.
- 2. Once inside, press the brake pedal and push the Start/Stop button to start the vehicle.
- 3. While pressing the brake pedal, rotate the gear selector to shift into Drive, Reverse, or Neutral. Press P to shift into Park. See figure 23 for the gear selector and parking brake location.
- 4. Parking brake automatically applies when the vehicle shifts into Park.
- 5. <u>Parking brake button must be pressed every time the vehicle shifts out of Park to disengage the parking brake.</u>
- 6. To shut off the vehicle (aka sleep mode), first shift into Park, then press the Start/Stop button to power off the vehicle.
- 7. Exit the vehicle, make sure all doors are closed, then hit the lock button on the key fob to lock the vehicle. The vehicle will then go into sleep mode.



Figure 23. Gear selector and parking brake

Dyno Mode

1. Endurance does not require a Dyno mode to run on a dyno.

Vehicle setting through the screen

1. No setting needs to be set or adjusted on the center touch screen.

All vehicle settings should be checked before the driver starts the dynamic sections or constant speed.

- 1. Light
  - Turn the light switch knob (located on the left side of the steering column) to the location shown in the picture below, then turn counterclockwise slightly.
  - Verify the front lights, daytime running lights, and orange marker lights are off.
- 2. HVAC
  - Push the "Fan Down" button until the fan is off.
  - Make sure the A/C knob and the Max A/C button indication lights are off (no blue lights).



Figure 24. Exterior light control knob



Figure 25. Blower control buttons

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Cruise Control for constant speed section 1.

- 1. The cruise control buttons are located on the left spoke of the steering wheel.
- 2. Press button No.1 to activate the cruise control.
- 3. Press button No.2 to set the cruise control speed. Press button No.2 or No.3 to speed up or slow down, respectively.
- 4. Press button No.1 or press on the brake pedal to deactivate the cruise control.



Figure 26. Cruise control buttons

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#### Charging

- 1. Charging can only start when the vehicle is unlocked and powered on (blue light showing on the Start/Stop button).
- 2. The charge port is located at the center of the front facia.
- 3. Push on the lid to open the charge port door, and unplug the rubber protective covers.
- 4. With a charging cable inserted, the charge port light will illuminate depending on the status of the charge.

Charge Port Light

- No LEDs illuminated when charging is not in progress.
- When the charge plug is connected to the vehicle, the charge port LEDs shall illuminate solid blue to indicate initialization is in progress.
- When the charge plug is connected to the vehicle and AC/DC charging has started, LEDs shall transition from solid blue to blinking blue to indicate charging is in progress.
- When charging is complete, LEDs shall be solid green to indicate charging is complete.
- Red LED will indicate a fault in the charging process.



Figure 27. Charging port and lights

After the test is completed:

- 1. Hioki Power Analyzer: press the START/STOP button to stop recording.
- 2. Follow the same power off and 12V battery disconnecting procedure as mentioned in the installation procedure.
- 3. Detach the Hioki current clamps from the vehicle.
- 4. Disconnect the current clamps from the extension cords.
- 5. Disconnect the extension cords from the power analyzer.
- 6. Disconnect the breakout box female and male connectors from the vehicle.
- 7. Re-connect the 5 auxiliary vehicle male connectors back on the vehicle HV battery female connectors. Remember to push back in the red pin on the male connectors to secure the connection.
- 8. Re-connect the 12V battery positive wire and fasten the bolt.

#### POWER ANALYZER SETTING 1 OF 2

	HIOKI PW3390 POWER ANALYZER	
Y	Wiring Sensor Input Calo Time It is the	2622-68-26 67:56:67
	CH1 CH2 CH3 CH4 Wiring 1P2W 1P2W 1P2W 1P2W	PAGE
	Current sensor     AUTO     AUTO     AUTO       Rating     1000A     1000A     200A     500A	OFF FUNCTION RANGE COMMAND
	AC/DC AC/DC AC/DC AC/DC AC	
4 4	Phase corr.         OFF         OFF         OFF           Frequency[kHz]         100.000         100.000         100.000         100.000	-F3 AUTO AUTO HOLD
	Angle[*] +00.00 +00.00 +00.00	F4 ENTER DATA
CF CF		All CH Set
CARD	Toggles the phase correction function on and off. High-frequency phase error tion using the sensor's phase characteristics.	
h 2	Toggles the phase correction using the sensor s phase characteristics	

#### POWER ANALYZER SETTING 2 OF 2

		/3390 POWE	R ANALYZER					
Y	MEAS SYSTEM Wiring Sensor	E TITLE		ce System D/A Out	2822-68-26 07:55:59	MEAS	FILE	
	Wiring	CH1 CH2 1P2W 1P2W	<b>CH3 CH4 1</b> P2W <b>1</b> P2W		CARE     CARE		SHIFT	
	Sync source U range	DC 100ms DC 100m 600V 600V	s DC 100ms U4	Lowest freq 20Hz Harm sync U1	UI		COMMAND	Jul .
	U rect VT rate	RMS RMS	RMS     RMS       OFF     OFF	THD calc THD-F	UZ	- <b>F2</b> - (	SAVE	The second
44	I range I rect	1kA     1kA       RMS     RMS	200A 50A	Motor sync No motor Operation TYPE1	US	-F3 AUTO	AUTO HOLD	
0	CT rate	OFF OFF	OFF OFF		U4		DATA RESET	
FON	LPF Integ mode		DC RMS		All CH Set	F5 0	START	
ARD	Freq measure		ms (or Ext) is select	able. Ext is selectable	Next	F6 ESC /om	PCIDER	
10	U1 to U4, I1 only when mot	to 14, DCSDMB, Deter cor analysis function	n is equipped and UHB	able. Ext is selectable input type is pulse.				

#### 4.0 Test Group Description

#### 5.0 Durability Group Description

Durability Group Name:	PBGREEVNNEV2			
Combustion Cycle:	N.A.			
Engine Type:	Electric Motors			
Fuel Used:	Electricity			
Basic Fuel Metering System:	N.A.			
Catalyst Construction:	N.A.			
Battery Manufacture:	Refer Section 11.30			
Battery Chemistry:	Refer Section 11.30			
Battery Capacity:	Refer Section 11.3.1			
Battery Self Discharge Information:	Refer Section 11.3.2			
Battery Thermal System:	Refer Section 11.3.3			
Battery Disposal Plan:	Refer Section 11.3.5			
Battery Construction:	Refer Section 11.30			
Durability Vehicle:				

#### 6.0 Evaporative/Refuelling Family

Not Applicable

#### 7.0 OBD System Description

Not Applicable

#### 8.0 AECD Description

Not Applicable

#### 9.0 Maintenance

#### 9.10 Test Vehicle Scheduled Maintenance:

Not applicable (same as "Recommended Customer Maintenance Schedule" in next section 9.20).

## 9.20 Recommended Customer Maintenance Schedule

The Maintenance Schedules and the required maintenance intervals are located in the Owner's Manual and Warranty and Service Booklet.

### 9.30 Lubricants and heater fuels, if any

Fuel Fired Heater is not applicable on this vehicle.

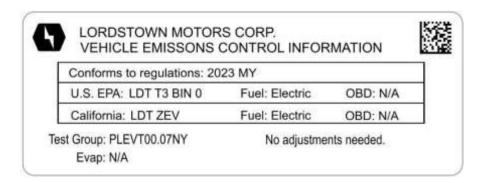
## 10.0 Vehicle Emission Control Information (VECI) and Fuel Economy and Environment Labels

## 10.10 VECI Label Locations:

The Vehicle Emissions Control Information label (VECI) is on the hood's underside. Below is this vehicle's VECI label.

Label according to 40 CFR § 86.1807-01

## 10.20 VECI Label



## 10.30 Fuel Economy and Environment Label

The Fuel Economy Label is installed on the driver side rear door window. The Monroney Label now includes the EPA/DOT Fuel Economy and Environment Section (GHG, Smog Rating) based on the template published by EPA in May 2011. See attachment for label template to be used for this vehicle (The real FE label for this vehicle is not available at this time). The California Environmental Performance Label will be included on the vehicle.

EPA DOT Fuel Eco	nomy and Environment	Electric Vehicle
Fuel Economy	MPGe Standard Pickup Trucks range from 12 to 70 MPGe. The best vehicle rates 132MPGe.	You save
combined city/hwy Driving Range When folly charges, with Charge Time: ho	city highway KW-hrs per 100 miles	in tuel costs over 5 years compared to the average new vehicle.
Annual fuel CC	Fuel Economy & Greenhouse Gas Rati	10 10 Best a 0 grams per mile (tatipipe only). Does not include
vehicle. The average new vehic based on 15,000 miles per year	ny reasons, including driving conditions and how you drive a cle gets 28 MPG and costs \$5,000 to fuel over 5 years. Cost er r at \$0.14 per kW-hr. MPGe is miles per gasoline gallon equiv se of climate change and smog. MY.GOV	nd maintain your grant atimates are

## 10.40 Derived 5-cycle MPG and MCT Calculations

EPA EV Multicycl	e Calculator (S	AE J1634 Oct 2	012)					
Manufacturer:	Lordstown				As used by	/ EPA labat	ory	
Carline:								
Model Year	2023					D.Good N	1arch 8, 2016	
Vehicle	Endurance							
Test Number								
Comments:	•	int with cruise co	ontrol for SS1, r	oad speed fa	n, 45 psi, 3rd Ul	ODS starts	at 18% SOC	
Lab	TRC Inc							
Test Date								
	- (		501	Konstat	Kurat	Recharge		
Cycle UDDS1	Energy (Wh) 2944.81	Distance (mi) 7.43	ECdc_cyc 396.34	Kuwgt 99.09	Kwgt 11.45	AC Watt⊦		min
	2944.81						<mark>121273</mark> Xhr	, min
UDDS2 UDDS3	2773.82							
UDDS4	2634.27							
HWY1 HWY2	3976.74							
SS1	3770.35 75367.4				)			
SS2	75367.4							
TOTAL	101894.73							
K-Factors	UDDS1	UDDS2	UDDS3	UDDS4	HWY1	HWY2	2	
Unweighted	0.250	0.250	0.250	0.250	0.500	0.500	l.	
Weighted	0.029	0.324	0.324	0.324	NA	NA		
							EPA versi	on
Results	Range (mi)	AC Wh/mi	MPGe	kWh	/100mi		kWh/100	mi
UDDSu	274.42				,			
UDDSw	279.98	433.15	77.8142	43	3.3147		43.3147	1
HWY	270.29	448.68	75.1209	44	.8677		44.8676	8

## 10.50 Statement of Compliance

This vehicle conforms to US EPA Tier 3 Bin 0 vehicle regulations applicable to 2023 model year new motor vehicles and to California regulations applicable to 2023 model year new ZEV light duty trucks.

Lordstown Motors states that in regard to the vehicle's control systems and all related parameters the production vehicles will be identical to the test vehicle that was used for certification testing.

The vehicles (BEV comply with all the requirements of § 86.1829-15 instead of submitting test data. Tailpipe emissions of regulated pollutants from vehicles powered solely by electricity are deemed to be zero.

Emission Compliance Statements (in lieu of conducting emission testing These BEV comply with all the testing requirements of Part 86, subpart S.

## 10.60 Emission Testing Waiver Statement

## 10.70 Certification Short Test (CST), High Altitude Testing and Idle CO Testing Waiver Statement

## **11.0 General Technical Descriptions**

## 11.10 Description of Propulsion System

The propulsion system consists of four in-wheel electric hub motors, a rear and front inverter, and a high-voltage battery pack.

## 11.20 Description of Motors

#### Motors

Four in-wheel electric hub motors, surface mounted permanent magnet with concentrated wire winding

## 11.30 Description of Battery

The vehicle is equipped with a liquid-cooled lithium-ion high voltage battery that is used to power the electric powertrain systems and the vehicle electrical system.

## 11.3.1 Battery Charging Capacity

Nominal Battery Capacity 315 Ah

## 11.3.2 Self-discharge information

## 11.3.3 Description of the thermal management system

## 11.3.4 Definition of end-of-life

The battery end of life is described as approximately 70% remaining capacity Canters with proper inspection and test methods.

The battery is warranted for 8 years, 100 K miles (whichever occurs first).

## 11.3.5 Description of the battery disposal plan

Lordstown Motors highly recommends that all battery packs be taken to Lordstown Motors service facilities so that they can be recycled in a safe and efficient manner. If disposing independently, without return to Lordstown Motors, then the owner must assume responsibility for recycling in a safe and legal manner. If an owner does assume this responsibility, Lordstown Motors recommends consulting with the appropriate local, state or federal authorities to determine the appropriate methods for disposal and recycling. Keep in mind that disposal regulations may vary dependent on location. All batteries removed from the vehicle will be collected by any dealer and recycled as per the manufacturer's instructions. As for defective lithium-ion batteries, they must be stored in fire-resistant containers, and then they can be transported to a designated recycling facility.

## 11.40 Description of Controller/Inverter

#### Inverter:

## 11.50 Description of Transmission

N/A

## 11.60 Description of climate control system

## 11.6.1 HV Heater + LV PTC cabin Heater

11.6.2 (Reserved)

## 11.6.3 Climate control system logic

The system has no automatic mode

For Manual modes, choose any combination of air direction to defrost, face, foot, or any combination.

Blower speed can be manually adjusted in speeds from 0% to 100%.

Recirculation can be chosen between 2 states: fresh air (fan only) and full recirculation.

There are 2 special manual modes:

Max cooling - blower speed is at maximum; airflow is user setup and recirculation is activated. The vehicle is cooling without limit (the minimum possible theoretical temperature on air vents is  $5^{\circ}$ C).

Defrost – blower speed is at maximum, airflow is defrosting + demister vents, the vehicle is heating + full recirculation of air.

## 11.70 **Description of Regenerative Braking System**

The Regenerative Braking System is a system that uses the generated mode of electric motors and allows energy recovery. Apart from extending vehicle range, the regenerative braking system also causes less wear on hydraulic brake pads and discs.

## 11.7.1 Control logic

The vehicle is equipped with a regenerative braking system in which the regenerative braking energy is captured and stored back into the battery pack when decelerating.

# 11.7.2 Percentage of braking performed on road by each axle

## 11.80 Description of the on-board charger

## 11.80.1 **Power recharging procedures**

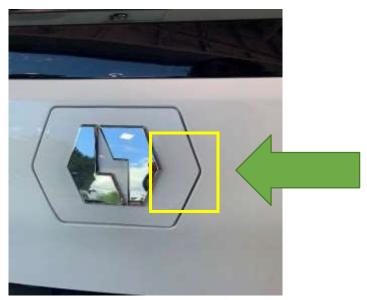
#### **Charging socket**

The charging socket is located on the front of the vehicle. The charging socket is allowing the vehicle to be AC and DC charged.

The charging socket is covered by a charging lid. The charging lid is a mechanical door that when closed prevents water, dirt, or unwanted access to the charging socket.

To open the charging lid to gain access to the charging socket user must push the charging lid door with most of the pressure on the right side of the door.

Closing is also done manually by closing the lid and pressing the right side of the flap until "click" (green arrow).



There is an additional protective cover over the charging socket to protect the socket from water and dirt.

To charge the vehicle, the user must plug in the cable to the charging socket.

While the cable is in the charging socket the vehicle powertrain cannot be engaged and no other gear than P can be selected.

The charging socket can detect a cable that is connected even if the cable is not connected to the working outlet on the other end.

#### To start normal charging:

1. Set the P (Park) position switch to place the vehicle in the park position and apply the parking brake.

- 2. Open the charge port lid of the vehicle.
- 3. Connect the charger connector (available in the trunk) to the charge port.
- 4. Connect the power plug to the mains electricity.

The LED on the charger cable notifies the correct functioning of the product and warns of any faults.

- Red light: Fault
- Blinking blue light: charge
- Solid Blue light: charge completed, maintenance.

During charging, the sophisticated dynamic protection system prevents overheating and short circuits, for guaranteed safety.

#### To stop normal charging:

- When the car is completely charged, remove the charge connector from the charge port.

- Properly store the charger in the bag in the frunk.
- Install the rubber protective covers.
- Close the charge port lid.

#### **Charging settings**

While the vehicle is charging user is presented with the charging screen on the central display showing the state of charge percentage.

## 11.80.2 **Power requirements necessary to** recharge the vehicle

Level 1 (110V/15A) = <15 hr.

Level 2 (220V/30A) = <6 hr.

Level 2 (220V/50A) = <5 hr.

150kW: <45Min

All charging time estimation are performed, (20-80)% of our HV Battery Pack.

## 11.90 Accessories that draw energy from the batteries 11.9.1 Other unique features (e.g. solar panels)

Not Available

## 11.9.2 **Description of warning system(s) for** maintenance/malfunction

## 11.9.3 Cut off terminal voltages to prevent battery damage

The control electronics inside of the Power Distribution Unit are programmed not to allow the voltage of the battery above or below voltage limits.

## 12.0 Starting and Shifting Schedules

## **12.1 Starting Procedure**

### 12.2 Shifting Procedure

This vehicle uses a rotary dial to select transmission direction (choose "D" for Drive or "R" for Reverse) and since the vehicle does not have a gearbox, there is no shift schedule.

## **13.0 Description of Vehicles Covered by Certification**

## 14.0 Additional Information

14.1 EPA filing Fee Form

## **US EPA Fee Form**

Help and EPA Instructions

\* Required Field

**General Information** 

Date: 09/26/2022

Process Code \*

Submit New Fee Filing Form

Manufacturer Code \*

LEV

Manufacturer Name \*

Lordstown EV Corporation

Contact Name \*

Tieara McPherson

Contact Email Address \*

Tieara.McPherson@lordstownmotors.com

Contact Phone \*

(228) 249-1566

Calendar Year complete application submitted to EPA \*

2022

PLEASE NOTE: These fees apply to complete certification applications received by EPA from January 1, 2022, through December 31, 2022. The applicable fee is determined by the calendar year in which the complete certification application is received, not the model year.

Engine Family / Evaporative Family / Test Group

\*

#### PLEVT00.07NY

#### Certificate Request Type (Industry Sector Code)

#### Certificate Request Type \*

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

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

#### ICI VIN Number (Required for ICIs Only)

Do you qualify for a Reduced Fee? \*

No

#### **Payment Information**

#### Amount Owed

\$28,445.00

Offline ACH

#### Comments

Pay.gov Tracking ID: 271PSMIO

EPA Form Number 3520-29

OMB Control No. 2060-0545

Approval expires 12/31/2022

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

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

**15.0 EPA Certificate Summary Information Report** 

			v	•	
Manufacturer	Lordstown EV Corpora	tion	Manufacturer Code		LEV
Test Group	PLEVT00.07NY		Evaporative/Refueling Fa		
Certificate Number			CARB Executive Order #		
Certificate Issue Date			Certificate Revision Date	e	
Certificate Effective Date			<b>Conditional Certificate</b>		
CSI Revision #			CSI Submission/Revision	n Date	09/27/2022 09:30:29 F
Model Year	2023				
Test Group Information					
СЅІ Туре	Update for Correction		Running Change Referen	nce Number	
GHG Exempt Status	Small Business Admini	stration Exemption			
Drive Sources and Fuel(s)					
Drive Source #1:	Electric Motor				
Fu	el	<b>Basic Fuel N</b>	Metering System	Lean Burn Strateg	y Indicator
Electr	icity				
Hybrid Indicator	No				
Multiple Fuel Storage			Rechargeable Energy Sto	orage System Indicator	Yes
Multiple Fuel Combustion			Off-board Charge Capat		Yes
Fuel Cell Indicator	No		EPA Vehicle Class		LDT4
Federal Clean Fuel Vehicle	Yes		Federal Clean Fuel Vehic	cle Standard	ZEV
Federal Clean Fuel Vehicle ILEV	No NDCDEENDNEV2			Emissions Vehicle Indicator	No
Durability Group Name	NBGREEVNNEV2		Durability Group Equiva	-	0.1 EA CA
Reduced Fee Test Group	No		Certification Region Cod	1e(s)	FA, CA
Complies with HD GHG 2b/3 regulations?	No				
Introduction into Commerce Date			CAP2000 Conditional Ce	ertificate?	N/A
Independent Commercial Importer?			Alternative Fuel Convert	ter Certificate?	
SFTP Federal Composite Compliance Identifier	Not Applicable		SFTP Tier 2 Composite (	CO Option	
SFTP LEV-III Composite Compliance Indicator	No				
<b>OBD</b> Compliance Type	CARB		<b>OBD</b> Demonstration Veh	hicle Test Group	PLEVT00.07NY
Test Group OBD Compliance Level	Full - no deficiencies		Number of Test Group C		0
		1.11 ODD (			
<b>OBD</b> Deficiencies Comments	OBD information is pla	icenoider, OBD not requi	ired for Electric vehicles		
OBD Deficiencies Comments Mfr Test Group Comments	OBD information is pla	icenolder, OBD not requi	ired for Electric vehicles		

Test Group		PLEVT00.0	7NY		Evaporative/Refuelin	g Family				
Models Covered by	this Certificate									
Carline Manufacturer	Division	Ca	rline	Certification Region Code(s)	Drive System	Trans - T	уре	- # of Gears	Trar	ıs - Lockup
Lordstown EV Corporation	1 - Lordstown E Corporation		durance	Federal	4-Wheel Drive	Automa	tic	1		No
Lordstown EV Corporation	1 - Lordstown E Corporation		durance	California + CAA Section 177 states	4-Wheel Drive	Automa	tic	1		No
Engine Description										
Hybrid Type					Hybrid Description					
Engine Type					Mfr Engine Descripti	0 <b>n</b>				
Engine Block Arrangem	lent				Mfr Engine Block Ar	rangement Desci	ription			
Camless Valvetrain Ind	icator				Oil Viscosity/Classific	ation	_			
Number of Cylinders/Ro	otors				Mechanically Variab	le Compression I	Ratio Indicato	r		
After Treatment De	evice(s) (ATD)									
Mfr After Treatment D Comments										
Direct Ozone Reduction	n (DOR) Device									
Mfr Emission Control	Device Comments									
Official Test Numb	ers									
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 De	pleting Test Nu	mbers								
Test Gro	oup Fuel		UDD	)S		Highway				
Elect	•		PLEV100	077084	I	PLEV10077085				

Test Group	PLEVT00.07NY	Evaporative/Refueling Family	
Hybrid Electric Vehicle And Fuel Cel	l 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	348	Battery Energy Capacity	315
Battery Specific Energy	151.4	Battery Charger Type	On-Board
Number of Capacitors		Capacitor Rating (In Farads)	
Mfr Capacitor Comments			
Hydraulic System Description			
Regenerative Braking Type	Electrical Regen Brake		
<b>Regenerative Braking Source</b>	Both	Driver Controlled Regenerative Braking	Yes
Mfr Regenerative Braking Description			
Drive Motor(s)/Generator(s)	4		
Motor/Generator Type 1	AC Induction	<b>Rated Motor/Generator Power</b>	96
Motor/Generator Type 2	AC Induction	<b>Rated Motor/Generator Power</b>	96
Motor/Generator Type 3	AC Induction	<b>Rated Motor/Generator Power</b>	96
Motor/Generator Type 4	AC Induction	<b>Rated Motor/Generator Power</b>	96
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**

Fest Group	PLEVT00.07NY		Evaporative/R	efueling Family			
Emission Data Vehicle Informati	on						
Vehicle ID / Configuration	PPV-51 / 0		Manufacturer	Vehicle Configuratio	on Number	0	
Original Test Group Name	PLEVT00.07NY			orative/Refueling Far			
Original Test Vehicle Model Year	2023		8 1	8	·		
Vehicle Model							
Represented Test Vehicle Make	Lordstown Motors		<b>Represented</b> T	est Vehicle Model		Endurance	
Leak Family Details							
Leak Family Identifier			Leak Family N	ame			
Drive Sources and Fuel System <b>D</b>	Details						
Drive Se	ource and Fuel#	D i	ve Source		Fuel		
	1	El c	tric Motor		Electrici y		
Hybrid Indicator	No						
Multiple Fuel Storage			Multiple Fuel	Combustion			
Fuel Cell Indicator	No		-	Energy Storage Syste	em Indicator	Yes	
Rechargeable Energy Storage System	Battery(s)		-	Energy Storage Syste			
Off-board charge Capable Indicator	Yes		0				
Odometer Correction Initial	430		<b>Odometer</b> Cor	rection Factor		0	
Odometer Correction Sign	+ = System Miles is equal to (7)	Fest odometer re	ading * Correction	factor) + Initial system	n miles		
Odometer Correction Units	Kilometers						
Engine Code	1		<b>Rated Horsepo</b>	wer		600	
Displacement (liters)	0.01						
Air Aspiration Method	Naturally Aspirated		Air Aspiration	Method, if 'Other'			
Number of Air Aspiration Devices			Air Aspiration	<b>Device Configuration</b>	n		
Charge Air Cooler Type			Drive Mode W	hile Testing		4-Wheel Drive	
Shift Indicator Light Usage	Not eqipped		Aged Emission	Components		4,000 (mi)	
Curb Weight (lbs)	6450		Equivalent Tes	st Weight (pounds)		6500	
GVWR (lbs)			N/V Ratio			10.1	
Axle Ratio	1						
Fransmission Type	Automatic		# of Transmiss	ion Gears		1	
Fransmission Lockup	No		Creeper Gear			No	
Dynamometer Coefficients:							
	arget Coefficients		Set Coefficients				
Casffatant		A (lbf)	B (lbf/mph)	C (lbf/mph**2)		Total Road Load H ghway/Evap Coeffi	
Coefficient Category A (lbf)	B (lbf/mph) C (lbf/mph**2)		$\mathbf{D}$ ( $\mathbf{D}$ ) $\mathbf{D}$ ( $\mathbf{D}$ )				

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#### **Certification Summary Information Report**

Test Group	PLEVT00.07NY	Evaporative/Refueling Family	
Manufacturer Test Vehicle Comments	Transmission data is a placeholders, hub mot representative in actual use.	ors. Vehicle tested at an ETW of 6710, higher than required	l, enabling the range to be more
Test #	PLEV10077084	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	09/02/2022	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	Mfr. Assigned
Verify Test Lab ID	Transportation Research Center		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	5055.5	Odometer Units	М
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	No
PHEV/EV Charge Depleting Test In	formation		
Recharge Event Voltage	240	<b>Recharge Event Energy (kiloWatt-hours)</b>	121.273
Charge Depleting Range (Calculated miles)	279.98	Charge Depleting Range (Actual miles)	279.98
All Electric Range Unadjusted (miles)		Derived 5-Cycle Coefficient Model Year	
Equivalent All Electric Range (miles)	279.98		
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 dioxide	0
2	Carbon-Related Exhaust Emissions	0.01
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	Manufacturer Fuel Economy	77.8142
7	System End State of Charge Watt-hours	0
8	System Start State of Charge Watt-hours	0

**Manufacturer Test Comments** 

Comment both UDDS and HW tests (test procedure 81 and 84)were actually conducted as the multicycle (MCT) test according to the SAE J1634 test procedure 2012, constant speed @ 55 mph. The constant steady speed operation was performed at 55 mph. The Pre-charge energy from depletion to 99.9% SOC: 121.250 KWH. Number of bags/ phases set to 1 as a placeholder, Recharge AC Watt Hours 121273 HWY DC Wh/mile = 371.3163

#### **Certification Summary Information Report**

Test Group	PLEVT00.07NY	Evaporative/Refueling Family	
Test #	PLEV10077085	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	09/02/2022	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	Mfr. Assigned
Verify Test Lab ID	Transportation Research Center		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	5055.5	Odometer Units	М
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	No
PHEV/EV Charge Depleting Test Inf	formation		
Recharge Event Voltage	240	Recharge Event Energy (kiloWatt-hours)	121.273
Charge Depleting Range (Calculated miles)	270.29	Charge Depleting Range (Actual miles)	270.29
All Electric Range Unadjusted (miles)		Derived 5-Cycle Coefficient Model Year	
Equivalent All Electric Range (miles)	270.29		
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 dioxide	0
2	Carbon-Related Exhaust Emissions	0.01
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	Manufacturer Fuel Economy	75.1207
7	System End State of Charge Watt-hours	0
8	System Start State of Charge Watt-hours	0

**Manufacturer Test Comments** 

Comment both UDDS and HW tests (test procedure 81 and 84) were actually conducted as the multicycle (MCT) test according to the SAE J1634 test procedure 2012. The constant steady speed operation was performed at 55 mph. The Pre-charge energy from depletion to 99.9% SOC: 121.250 KWH. Number of bags/ phases set to 1 as a placeholder, Recharge AC Watt Hours 121273 HWY DC Wh/mile = 376.9873

**Fuel Properties** 

Test Group	PLEVT00.07NY Evaporative/Refueling Family									
			Consolid	ated List of St	andards					
Exhaust Standards	6									
Cert Region	С	alifornia + CAA Section	n 177 states	Cert/In-	Use Code		Cer	t		
Vehicle Class	L	DV/Passenger Car		Standar	d Level		Cal	ifornia ZEV		
Fuel	E	lectricity		Test Pro	cedure		Cha	urge Depleting Hig	hway	
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	СО							0	0	
150,000 miles	MFR FE								0	
Cert Region	F	ederal		Cert/In-	Use Code		Cer	t		
Vehicle Class	L	DV/Passenger Car		Standar	d Level		Fed	eral Tier 3 Bin 0		
Fuel	E	lectricity		Test Pro	cedure		Cold CO			
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	СО							0	0	
· · · · ·										
Cert Region	F	ederal		Cert/In-	Use Code		Cer	t		
Vehicle Class	L	DV/Passenger Car		Standar	d Level		Fed	eral Tier 3 Bin 0		
Fuel	E	lectricity		Test Pro	cedure		Cha	rge Depleting Hig	hway	
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	СО							0	0	
150,000 miles	MFR FE								0	
Cert Region	С	alifornia + CAA Section	n 177 states	Cert/In-	Use Code		Cer	t		
Vehicle Class	L	DV/Passenger Car		Standar	d Level		Cal	ifornia ZEV		
Fuel	E	lectricity		Test Pro	cedure		Cha	rge Depleting UD	DS	
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	СО							0	0	
150,000 miles	MFR FE								0	

Test Group	PLEV'	/T00.07NY Evaporative/Refueling Family							
Cert Region	Federa	Cert/In-Use Code				Cert			
Vehicle Class	LDV/I	Passenger Car		Standard	Level		Fed	eral Tier 3 Bin 0	
Fuel	Electri	city		Test Proc	edure		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	СО							0	0
150,000 miles	MFR FE								0

#### **Certification Summary Information Report**

Test Group	PLEVT00.07NY 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				
НСНО	Formaldehyde	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides				
НЗС2НО	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 Star	ndard 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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Test Group	PLEVT00.07NY	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)	М	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	Р	Part-time 4-Wheel Drive
F	2-Wheel Drive, Front	А	All Wheel Drive
1	,,,,,,,,,,,,,,.		

Test Group	PLEVT00.07NY	Evaporative/Re	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			

## 16.0 Federal Requirements

16.1 Request for COC



Mr. David Wright Certification Division Mobil Source Pollution Control U.S. Environmental Protection Agency 2000 Traverwood Drive Ann Arbor, Michigan 48105 David Baker Lordstown Motors, Corp. 38555 Hills Tech Drive Farmington Hills, MI 48331

September 22, 2022

Dear Mr. Wright,

Subject: Request for Certificate of Conformity – Lordstown Motors 2023 Test Group PLEVT00.07NY

Lordstown Motors, Corp. requests that EPA issue a certificate of conformity for the subject test group. Attached is the Part 1 Application for Certification for the 2023 model year battery electric powered light-duty trucks (LDT4) contained in Lordstown Motors 50 state (Federal/CA) test group.

Lordstown Motors believes that the test group complies with all applicable regulations contained within 40 C.F.R. Parts 85, 86, and 600 and the applicable California Amendments of the EPA regulations it has incorporated and Title 13 of the California Code of Regulations. This test group complies with Federal Tier 3 Bin 0 and California ZEV.

Lordstown Motors wishes to obtain a conditional certificate of conformity (COC) under the provisions of 86.1835-01 (d).

The ARB executive order for this test group will be forwarded to you when it becomes available.

Your timely review and issuance of the certificate will be greatly appreciated.

Sincerely,

DSBaker

David Baker, Director

## 16.2 Request for EO

## 17.0 California ARB Information, Statements

# 17.1 California Compliance Statements Production Vehicle same as Test Vehicle Statement

The production vehicles represented by this test group will be in all material respects of the same design as those for which vehicle approval is granted.

## 17.2 Labelling Durability Statement

The labeling required pursuant to 40 CFR 86.082-35 and Section 1965, Chapter 3, Title 13 of the California Administrative code and described in Section 10 of this application will conform with the requirements specified in the California Motor Vehicle Tune-Up Label Specifications and is designed to comply with the durability requirements of those specifications.

## 17.3 Drivability Statement

Vehicles for which certification is requested have drivability and performance characteristics that satisfy our customary drivability and performance requirements for vehicles sold in the United States.

## 17.4 Fill Pipe Specifications

Not Applicable

### 17.5 Evaporative Emission Deterioration Program

Not Applicable

### 17.6 Assembly line NMOG / NMHC Factor

Not Applicable

## 17.7 Continuity of Emissions

Not Applicable

### 17.8 Lubricants

All lubricants to be used in test vehicles comply with applicable regulations. There are no differences between proposed vehicle lubricants and proposed production vehicle lubricants.

## 17.9 Test Facility and Equipment

The facility and equipment to be used for mileage accumulation and emission testing comply with all applicable regulations.

## 17.10 Diagnostic Procedures

In the event that unscheduled maintenance is required on one of the certification test vehicles might become necessary, Lordstown Motors uses the service diagnostic system.

## 17.11 Procedures for Evaluating Drivability

## 17.12 Alternate Procedure

## 17.13 Blanket Approval List

## 17.14 Fuel Economy and Environment Label

Lordstown Motors affixes the Federal Fuel Economy and Environment Label in accordance with 40 CFR Parts 85, 86, and 600 as promulgated on July 6, 2011 (in lieu of CA EP Labels)

## 17.15 Projected Sales

# 17.16 Certification Short Test (CST), High Altitude Testing and Idle CO Testing

# 17.17 Method for Calculation of CO2 Equivalent Value & GHG score

California ZEV Credits

ZEV Credit = (0.01) \* (UDDS range) + 0.50 Must have at least 50 miles range.

Maximum of 4.0 credits per ZEV.

## 17.18 Compliance Fee Final Invoice