

Overview

The Charge Tank effectively triples the on-board charging speed of 2015 and later Zero S, SR, DS and DSR motorcycles when used with level 2 charging stations on the J1772 standard. This dealer-installed 2.5 kW charger works in tandem with the standard on-board 1.3kW charger to deliver a total of 3.8 kW of charging power. This capability reduces typical charge times to about two to three hours (2.6 hours for ZF9.8 power packs or 3.4 hours for ZF13.0 power packs). The result is up to 53 miles of riding range for each hour of charging time (based on city range).

It includes a new tank section that eliminates the tank bag from the motorcycle, and is not compatible with motorcycles equipped with the Power Tank accessory. The European version includes a Mennekes-to-J1772 charge cable.



Using The Charge Tank

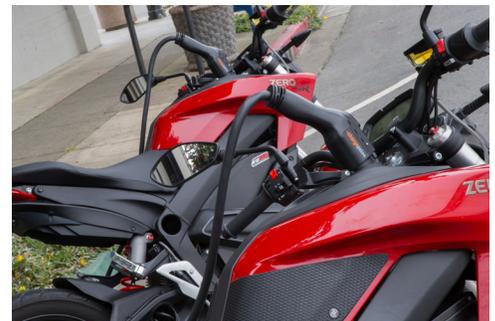
The procedure for using the Charge Tank is the same around the world. However, the process of using any specific charge station may differ, and you'll want to familiarize yourself with their instructions if you are new to electric vehicle supply equipment (EVSE). We recommend that you complete a few test charges with representative and known working charge stations during your first few charging attempts. Until you are confident in your use of public charging stations, we suggest that you make sure the motorcycle has a sufficient state of charge for a return trip home in case you encounter problems.

To save battery power and ensure battery longevity, your Zero motorcycle turns off almost all power-consuming circuits when the key switch is in the OFF position and the motorcycle's on-board charger is not connected to power. As a result, your motorcycle must be turned ON prior to initiating any charge cycle using the Charge Tank.

IMPORTANT: Unless your motorcycle is keyed ON prior to connecting a charge station, the Charge Tank will not work.

To charge using the Charge Tank:

1. Ensure that the key switch is in the **ON** position and flip back the cover on the Charge Tank inlet located on the top of the tank assembly.



Using The Charge Tank (cont'd)

- Follow the instructions of the charge station you will be using until it signals it is ready to charge and that the J1772 plug should be inserted into the vehicle. If using the European version of the Charge Tank, you will connect the supplied Mennekes to J1772 charge cable to the charge station first.
- Once you are sure that the charge station is ready to begin charging, plug in the J1772 connector of the charge station cable into the motorcycle, and confirm that the motorcycle is charging normally as signaled by the green blinking Charging Indicator on the dash.
- Monitor the Remaining Charge Time Indicator on the dash for approximately 30 seconds. The remaining charge time will fluctuate as the Charge Tank tests the input voltage and available current. Initially, it displays a time indicative of only the motorcycle's on-board charger. It will then switch briefly to zero before displaying a new shorter time that reflects both the on-board and charge tank working together.
- When the remaining charge time settles and if no red System Warning Indicator lights flash, then you can turn the key switch to the **OFF** position and remove the key. If left uninterrupted, the motorcycle should continue charging until the Charge Indicator indicates a 100% state of charge.

If you experience problems initiating charging with the Charge Tank, try the following steps to clear any errors prior to repeating the above charge initiation process:

- Unplug the motorcycle from all chargers including the charge station.
- Ensure that the motorcycle's key switch is in the **OFF** position.
- Wait approximately 30 seconds or until all lights go out on the motorcycle's dash. You may hear an audible click of the power pack's contactor open during this step.

Your Zero motorcycle may be disconnected from the charge station at any time after the charging process is initiated. Stopping the charging process prior to reaching a 100% state of charge does not damage the motorcycle or its batteries. The motorcycle's battery management system monitors and manages the health of your power packs at all times. Of course, we always recommend keeping your motorcycle fully charged.



Figure 1. Charge Tank Inlet Open

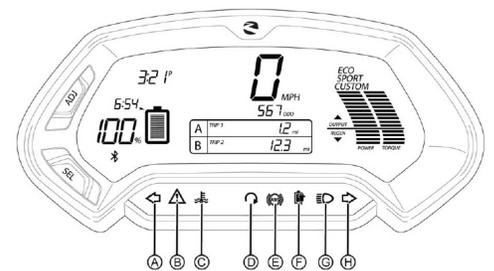


Figure 2. Dash Lights
(B) System Warning Indicator
(F) Charging Indicator Light

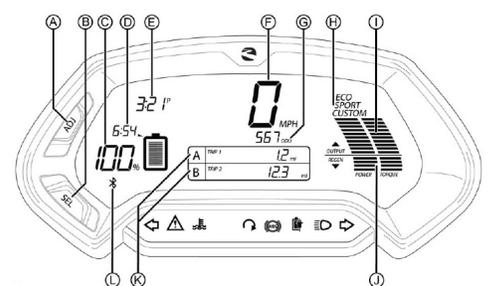


Figure 3. Dash Display
(C) Charge Indicator
(D) Remaining Charge Time Indicator

Using The Charge Tank (cont'd)

To stop charging using the Charge Tank:

1. Unplug the J1772 plug from the motorcycle. If using the European Charge Tank, disconnect the charging cable from the charge station and secure it in a motorcycle storage case or backpack. Otherwise, return the charging cable to the charge station.

NOTE: In Europe, it may be necessary to stop the charge cycle using the charge station first in order to unlock your Mennekes-to-J1772 charge cable from the charge station. Please refer to instructions provided by the charge station network provider.

2. Replace the cover over the Charge Tank inlet.
3. The System Warning Indicator will likely flash after the motorcycle is disconnected if the motorcycle has not completed a full charge cycle reaching a 100% state of charge. No damage is done to the motorcycle and this flashing light simply reflects that the motorcycle was not fully charged.
4. Wait approximately 30 seconds or until all lights, including the System Warning Indicator and the green blinking Charging Indicator, go out on the motorcycle's dash. You may hear an audible click of the power pack's contactor open during this step.



Figure 4. Charge Tank Inlet Closed

IMPORTANT: Unless your motorcycle is keyed ON prior to connecting a charge station, the Charge Tank will not work.

Frequently Asked Questions

Question: If I connect the on-board charging cable to a 240 volt circuit will the motorcycle charge more quickly?

Answer: Yes. The Charge Tank operates in combination with the on-board charger without the need for separate connection. If connected to a 240 volt circuit, the Charge Tank will initiate charging at 10 amps to deliver a total of 2.4 kW of charging capability.

Question: When I initiated a charge, the Charging Indicator Light initially blinked green, but then stopped and the System Warning Indicator started flashing red. What went wrong?

Answer: This error occurs most often when the J1772 cable is connected to the motorcycle but the charge station is not enabled to start charging. Try clearing the error using the process described in the Using the Charge Tank section and then re-initiate the charging process after confirming the charge station is ready to be plugged into a vehicle. If the error continues, it's possible that the charge station is not functioning correctly. Try a different, known good charge station to confirm the issue is with the charge station.

Question: When I arrived at the charge station and plugged in the motorcycle, the Temperature Lamp blinked yellow and charging did not start. What went wrong?

Answer: After an extended session of spirited riding, it's possible that the motorcycle's power pack may exceed the recommended temperature to initiate a charge. While this is a normal safety mechanism for the motorcycle and no damage was caused in the ride, the charge cycle will not start until the power pack cools sufficiently. You may leave the motorcycle turned off and it will start the charging process once it reaches an acceptable temperature. However, some charging stations may sense that the charging process did not start and may disconnect automatically before the motorcycle has cooled. As a result, you'll want to check the motorcycle after the Temperature Lamp stops blinking to ensure that the charge cycle was initiated properly.

Question: Why doesn't the motorcycle turn on automatically when connected to a charge station?

Answer: To save battery power and ensure battery longevity, your Zero motorcycle turns off almost all power consuming circuits when the key switch is in the OFF position and the motorcycle's on-board charger is not connected to power. This includes the J1772 Interface Board (JIB). Turning on the motorcycle wakes the JIB so that it can sense new connections. Unfortunately, this does mean that the Charge Tank does not work with charge stations that offer delayed charging start times.

Question: Can I charge faster by plugging in both the motorcycle's on-board charger and the Charge Tank at the same time?

Answer: No. The Charge Tank operates in combination with the on-board charger without the need for a separate connection. If both the on-board charger and the Charge Tank are connected at the same time, the motorcycle will automatically disconnect the on-board charger cable and use only the J1772 connection.

Frequently Asked Questions (cont'd)

Question: Can I leave my motorcycle connected to an EVSE during long-term storage?

Answer: We recommend that any motorcycle that is being stored for a long period of time be connected via the original charge cord to the on-board charger only. This simplifies the job of the battery management system and reduces the current used by the motorcycle during the storage period.

Question: Can I use Quick Chargers at the same time as using the Charge Tank?

Answer: Yes. Up to four Quick Chargers can be connected to the motorcycle to further decrease charge time. Each Quick Charger adds approximately 1kW of charging capability. When using four Quick Chargers, the total charging capacity is 7.8kW.

Caution: you will want to be certain that the available electrical infrastructure can support these separate chargers. Please consult a certified electrician if you have any questions regarding whether your home or office can support this load.

IMPORTANT: Unless your motorcycle is keyed ON prior to connecting a charge station, the Charge Tank will not work.