

BATTERY ACCESS, RESET AND REPLACEMENT

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Purpose

The Rungu Electric Juggernaut and Electric Kilimanjaro (model years 2017 and prior) may require battery service from time to time. Scenarios include:

- Removal of the battery for storage for extended periods of inactivity
- Replacement of the battery after inactivity or reset
- Resetting a battery in hibernation

This document explains how to remove, reset and replace the battery

Background

The battery pack inside the Rungu Electric Juggernaut and Electric Kilimanjaro is a sophisticated system. Unlike a car battery, the battery pack consists of many individual cells and a built-in Battery Management System (BMS). The battery pack uses high-quality, long lasting cells that have a specified life of 1,000 charging cycles (a little less than three years of daily charging or more than five years charging every other day). These cells are controlled by the BMS housed inside the pack. The BMS protects you and the electrical system by placing the battery in a hibernation mode when the BMS detects:

- Excessive discharge (short circuit)
- Under voltage condition (battery voltage drained below a threshold)
- Over voltage condition (battery being charged at too high a voltage)
- Long duration inactivity (battery not being used for a period a few weeks).

Note: A battery that appears to be dead (e.g. Cycle Analyst dashboard fails to turn on when turning the key) may be in hibernation. Most frequently, battery hibernation occurs when the Rungu experiences no activity for a period of two or more weeks.

Best practice: When you are aware of an upcoming period of inactivity that is greater than two weeks, remove and disconnect the battery. Store the battery indoors away from areas of excessive heat or cold.

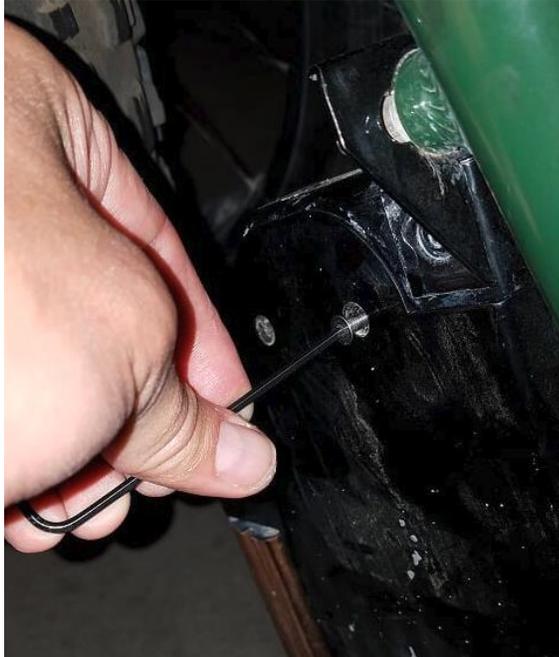
Tools required

- 2.5mm hex wrench
- Battery reset cable (may or may not be required for a reset). This cable is provided upon customer request.

Access and Battery Removal

Caution: This procedure requires lifting an up-to 15 lb. (6.8 kg) battery with one hand. Get a bicycle technician or other technician to complete the procedure if you are unable.

1. Use the 2.5mm hex wrench to remove the four screws on the battery case cover. Put the screws aside to avoid losing them.



2. Remove the cover.



3. Carefully remove the battery and if possible remove the bottom first (as depicted below) – put a soft mat, foam or box down underneath the case to avoid dropping the battery. Dropping the battery may physically damage the battery, which is not covered under warranty.



Removing the battery for storage

Disconnect the battery from the red and black connectors (or a single small yellow connector in some 2017 models) and the large yellow connector. Store the battery indoors away from excessive heat or cold. Replace the battery case cover and screws for protection of the exposed cabling.

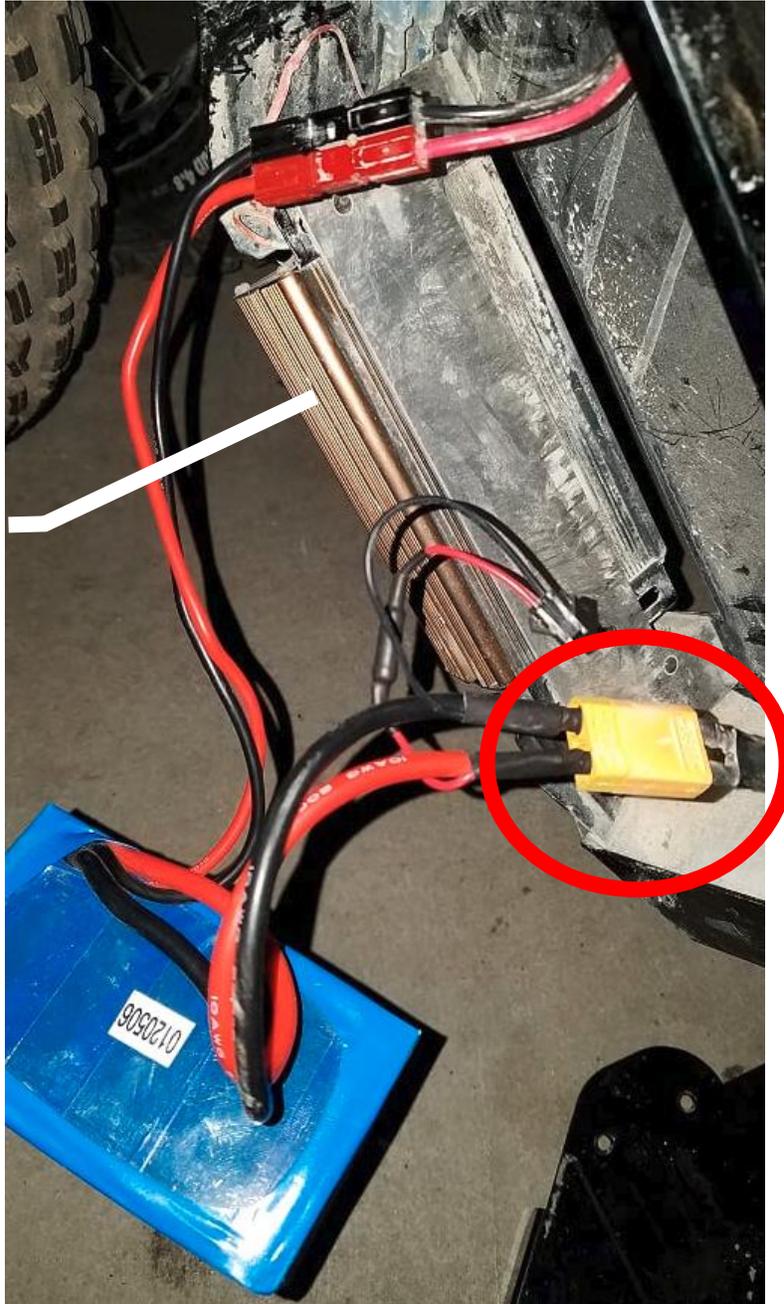


Resetting the Battery Pack

Note: This procedure may or may not require the battery reset cable. Make sure to have the battery reset cable at hand.

1. Make sure that the key switch on the battery case is in the OFF position.
2. Disconnect the battery from the controller (see image below) by disconnecting the large yellow connector.

Controller



Warning: The next step - connecting the 52V battery to the controller may cause a spark visible inside the connector. Be sure to perform this step in a well-ventilated area away from flammable materials.

3. Plug the battery back into the controller. You may or may not hear a pop and see a flash inside the connector (more likely with 2016 models).
4. Turn the key switch to the ON position and see if the Cycle Analyst turns on. If it turns on, skip the rest of this section and proceed to [Replacing the Battery in the Battery Case after Reset or Storage](#).
5. Disconnect the battery from the controller a second time by disconnecting the large yellow connector.
6. Plug the yellow connector on the battery reset cable into the large yellow connector on the battery.



7. Plug the black connector on the battery reset cable into your battery charger. Make sure the charger has been disconnected from AC power (wall outlet) for at least 2 minutes before doing this step, otherwise you'll need to repeat this step.
8. Plug the charger into AC power (wall outlet). The charger fan should turn on. If it doesn't, unplug the charger, and go back to step 7.
9. Charge the battery in this manner for 10 seconds.

Warning - charging the battery for more than 20 seconds in this way overrides the protections of the BMS, may cause irreparable damage the battery pack, and voids the battery pack warranty.

10. Unplug the charger from the wall.
11. Unplug the battery reset cable from charger.
12. Unplug the battery reset cable from the battery.

Replacing the battery in the battery case after reset or storage

1. If you are replacing the battery after a period of storage, remove the screws and case cover as shown above, and connect the red and black battery charging connectors shown above (or yellow connector in 2017 models), otherwise continue to Step 2.

Warning: The next step - connecting the 52V battery to the controller may cause a spark visible inside the connector. Be sure to perform this step in a well-ventilated area away from flammable materials.

2. Plug the battery back into the controller using the large yellow connector. You may or may not hear a pop and see a flash inside the connector (more likely with 2016 models).
3. Plug the charger into the battery case socket and then into AC power to verify the battery charges. If the charger fails to start charging or shows the green "fully charged" light,
 - a. Disconnect the charger from AC power and wait for the both red and green lights to turn off.
 - b. Unplug and re-plug the red and black battery charging connectors shown above (or yellow connector in 2017 models).
 - c. Reconnect the charger to the battery case charger socket and start charging.
 - d. If the battery still fails to charge, complete the steps in the battery reset section.
4. Disconnect the charger from AC power and the battery case.

5. Replace the battery by tucking in the cables in front of the battery and then replacing the top of the battery first followed by pivoting the bottom of the battery into the case.



Note: Be careful to maintain the foam protective wrap in position and avoid pinching the cabling around the battery.

6. Replace the cover



7. Replace and tighten the four screws using the 2.5 mm hex wrench.



Further questions

Contact support by e-mail at support@riderungu.com or call +1.949.877.9755