



EW-18
Service & Repair Manual



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CAUTION - To reduce the risk of fire or Electrical Shock, DO NOT expose this unit to any rain or moisture.

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Specifications

Front Tire Size - 16"x 2.5"

Rear Tire Size - 4"x 2"

Tire P.S.I - 25 to 35

Weight Capacity - 300 Lbs.

Top Speed - 15 mph

Estimated Range - 20 miles Max

Climbing Angle - 10°

Turning Radius - 22"

Basket Dimensions - 9"x9"x11"

Ground Clearance - 4.25"

Overall Dimensions - 41" x 27" x 28.5" (L"xW"xH")

Seat Width Dimensions - 14.5" x 10"

Power Motor - 350-Watt Brushless Hub

Battery Voltage and Type -

Floor Clearance - 4"

Tools Needed for Entire Unit

2mm, 3mm, 5mm, 6mm Allen Wrenches

8mm, 10mm, 14mm, 22mm Socket or Wrenches

Philips Head Screwdriver, Wire Cutters, Needle Nose Pliers

Diagnosing Common Problem's

Not Moving?

You would want to start by checking the brake sensor. Make sure the hand brake is fully released and the emergency brake is not locked in. If still nothing, then you will need to look at the connections under the cover in the middle. A multi meter might be needed as well to do some testing on connections. Testing on the throttle and batteries would need to be done.

Not Turning On?

You would want to grab the charger and plug it in, you may see a green light given the unit is dead. After an hour it should switch to the red color indicating the unit is charging, leave it on for 6 to 8 hours for a full charge. Also want to look and make sure all the wiring from the headset is intact and does not look frayed. Please see page_____ to see more information.

Alignment Procedure



You are going to want to untwist the plastic knob until the metal part is loose enough to fold the handlebars down.

You are going to want to use the **6mm** Allen wrench to loosen the middle bolt enough to turn the handlebars without turning the front wheel.



Make the handlebars and tires are aligned then carefully fold handlebars down and tight the **6mm** Allen wrench bolt. You can use your feet to hold the front wheel while doing so.

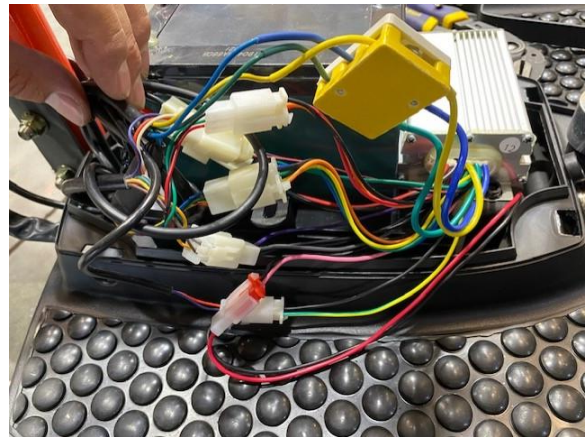
Testing For No Power



You want to set the multi meter to DC-100, put it on the prongs as shown in the photo. It should be admitting 12Volts or higher if charged (Max 38-40Volts).



Making sure all the connections at the headset are connected and don't look pulled out. Also going in under the cover to double check battery connections and all others as well would never hurt.



Loose Brakes or Parking Brake Not Holding



Making sure you have your parking fully released. There are 2 parts the arrows are pointing to where you can make some minimal adjustments to loosen or tighten the brake tension.

There is going to be this **10mm** nut at the end of the wire where you can tighten or loosen the brakes to your standards. If parking brake is not holding, make sure to tighten here first.



Changing Tires & Tubes



Make sure the Tires are **DEFLATED** before removing anything.



Its going to be a 22mm socket and ratchet that will be used to take of both rear wheels when changing the tubes.

Mae sure to have a 5mm Allen wring or socket as shown in photo to split the rim. Once all 3 have been removed you can split the rim into 2 parts. Be careful as a spacer might fall out from center.



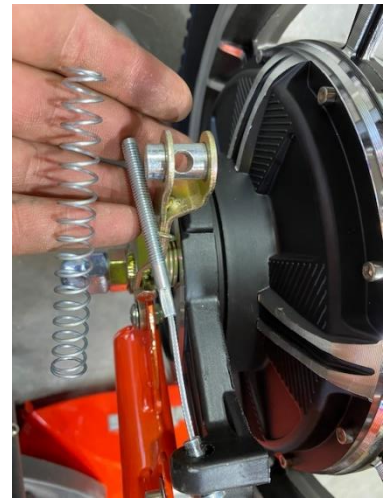
For the front tube & tire the nut will be the 22mm socket or wrench to take it off front forks. Be careful of the motor wire when doing so as well.





There is a 5mm Allen wrench bolt that helps hold the brake housing on that you need to remove as well.

Removing the brake cable just loosen the bolt and pull cable through, watch the spring as it may get lost.

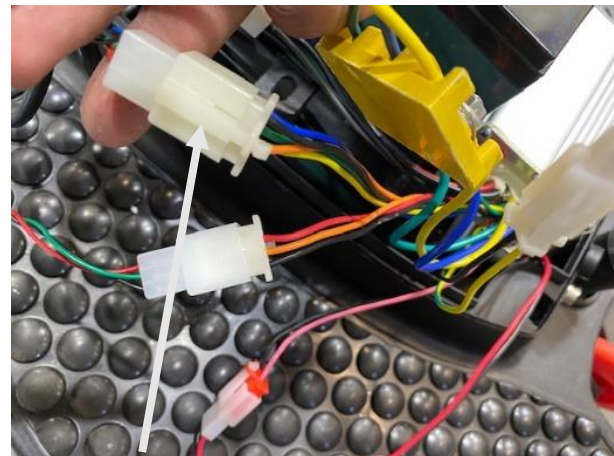


Testing The Motor

Start by testing the resistance at the motor phase lines using all color combinations. If your meter displays any resistance levels other than infinite/zero, then the motor needs to be replaced.

Next, check that the Hall Effect positioning sensor's voltage is decreasing when the wheel is being rotated. Rotate the wheel by hand, not with the throttle.

While under a full load (with the throttle pulled all the way) the motor should respond if the controller, harness, and throttle have already been tested, and the brake sensors have already been checked. If not, the motor needs to be replaced.



Throttle Testing

The throttle responds via a hall effect positioning sensor. The connection that you are going to need to get to is going to be under the battery cover, by the controller as shown below. The sensor increases its output voltage the more the throttle is pulled. To test this sensor, start by turning the scooter on. Next, set your multimeter to **DC 20 volts** (or closest setting). While leaving the scooter powered on, and ensuring the throttle to harness, harness to controller, and controller to motor connections are plugged in, insert the multimeter red lead into the throttle connections red wire, and the black multimeter lead into the throttle connections black wire. The voltage reading should be around .82 volts when the throttle is not being pulled (no load).

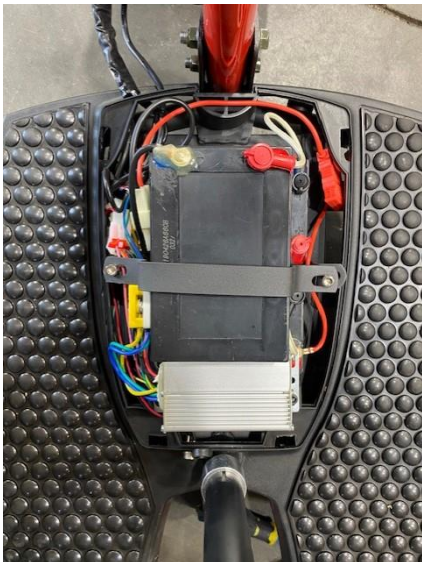
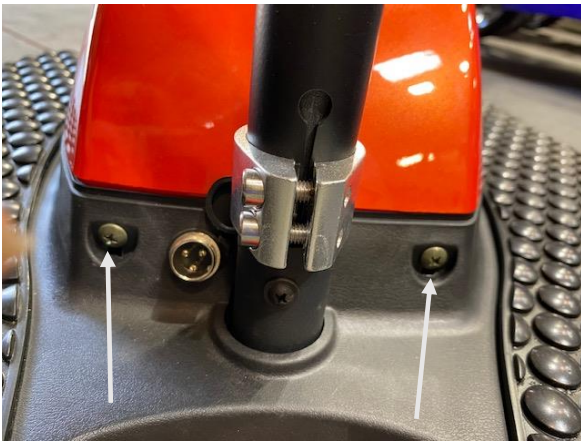
If you are getting the correct voltage with the power turned on, without pulling the throttle (no load), then the next step is to check the throttle voltage under load (while pulling the throttle). The voltage should increase to around 3.51 volts under full load (while fully rotated). The scooter should engage forward when the voltage rating hits approximately 1.54 volts. If all steps above are followed, and the scooter is not driving, the throttle is not the component causing the problem

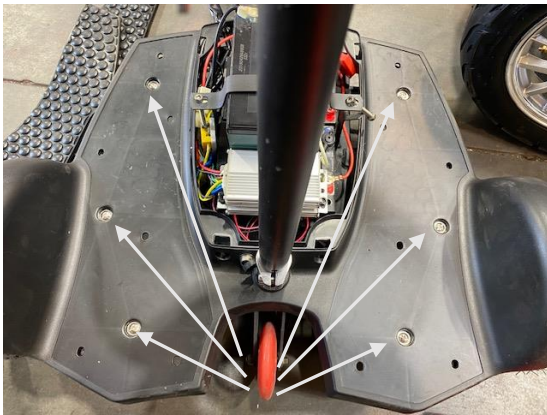
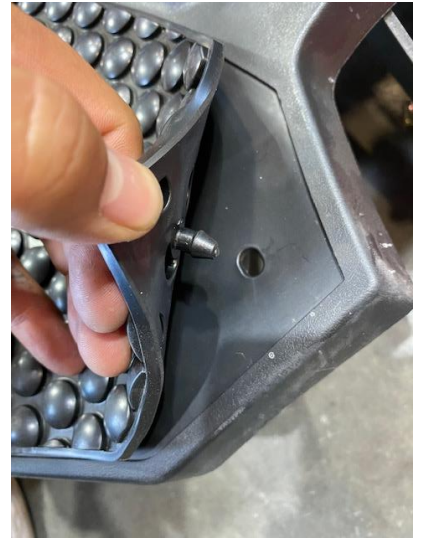
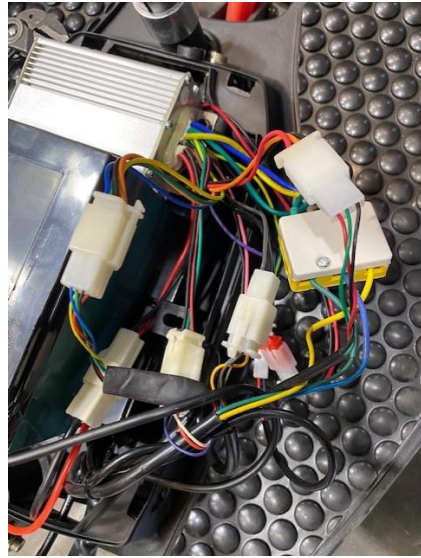
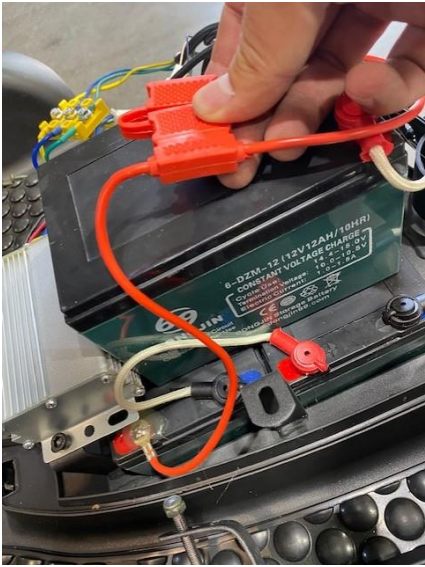


To test that the controller is emitting the proper voltage to the motor, connect your multimeter to any color combination on the motor phase wires where they connect at the yellow junction box. Set your meter at DC 50 or higher, and test under load (with the scooter power turned on, while pulling the throttle). The voltage should start at 0 and increase between 2.5-3.6 volts while under full load (holding the throttle pulled at the way).

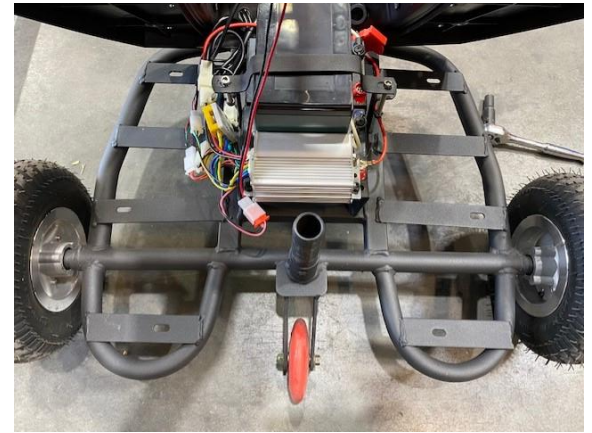
Parts Removal

You will need a Philips head screwdriver and 5mm Allen wrenches/socket.
Removing these screws below will get you access to the batteries, controller and all the connections (Important stuff).



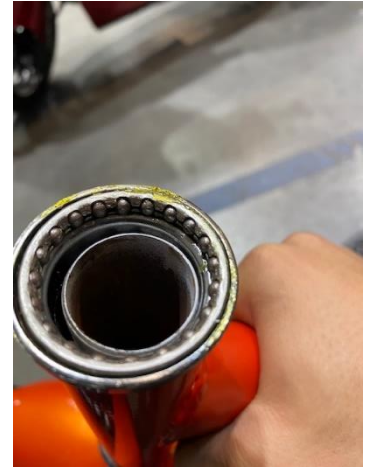


Remove all Philip screws to take the floorboard off.



We will be removing the handlebars from the front forks also, so you are able to take the front forks off as well. Fold the handlebars down and get a **6mm** Allen wrench to loosen the bolt underneath.





After loosening the bolt, you are going to want to remove the big nut that is holding the forks in place. Once you have removed the nut you will want to be careful pulling up the frame as the bearings might fall out.



To remove the front portion of the frame you will need a **14mm** socket or wrench