

Troubleshooting Procedures on 816 / 1816

BEFORE RETURNING UNITS TO THE STORE, PLEASE KINDLY CHECK THE FOLLOWING:

1. Check to make sure that the front wheel rotates freely and rear wheel rotates with little resistance when push by hand.
2. Check the tightness of the chain by depressing the drive chain with minimal force to see whether it gives approximately ¼- ½” slack in vertical movement.

Troubleshooting (Note: Always take full charge before attempting to work on the scooter)



Symptoms	Causes	Solutions
No light at all when turn on	Loose cables	Use pliers to tighten the U-connector and reconnect
	Faulty On/Off switch	See illustration at the end of this guide
Green light flashes rapidly when turn on and unit will not run	The Motor Overheat protection connector (dark blue coated) is disconnected from the circuit board)	Reconnect
Green light flashes at regular pace when turn on and unit will not run	Motor connector is shorted	Replace motor if wire is shorted,
	Motor connector wire come loose	Push wire back onto the connector and use epoxy to secure it in place
<ul style="list-style-type: none"> • Red light flashes and make signal light sound when turn on and unit will not run • Red light stays on when turn on, and unit will not run • Not work when turn on, make grinding noise when applying throttle • Green light comes on even with switch in off position 	Faulty Control Board	Replace Control Board

<ul style="list-style-type: none"> • Not working when turn on, light blinks and noise from the board • Not working when turn on, light on and make normal switch noise • Not working when turn on, no light at all 		
<p>Motor won't run</p>	<p>Power Off</p> <p>Faulty On/Off switch</p> <p>Motor connector or motor protection wire loose</p> <p>Faulty Motor – Hand turn the small gear (If there is vibration or imbalance during turning, motor needs to be replaced)</p> <p>Faulty Throttle cable</p>	<p>Turn power on</p> <p>See illustration at the end of this guide</p> <p>Reconnect or Push wire back onto the connector and use epoxy to secure it in place</p> <p>Replace Motor</p> <p>See illustration at the end of this guide</p>
<p>Unit won't take recharge</p>	<p>Bad wall AC outlet</p> <p>Faulty Charger– See illustration at the very end of this guide</p> <p>Faulty Battery</p>	<p>Use Volt-ohm meter to detect the presence of AC voltage at the wall outlet</p> <p>Refer to the LED indicator signal as shown in the illustration section</p> <p>Individual battery reading should be around 12.6 or above after fully charged. Replace the entire set of battery if voltage</p>

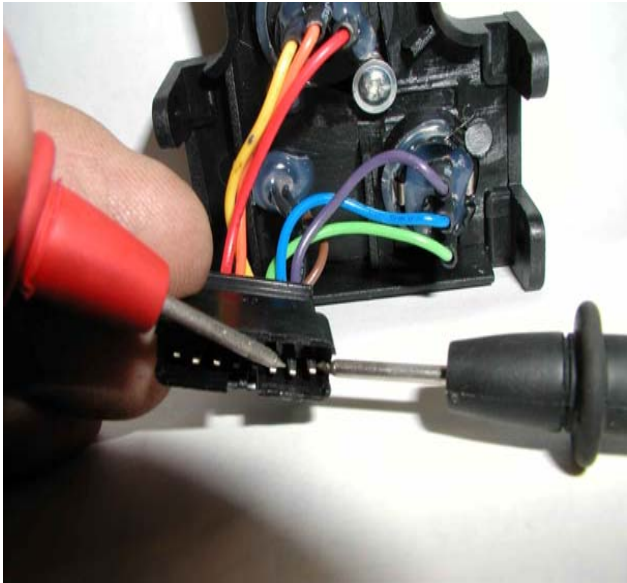
		is below 10.5V. The polarity difference between the two batteries should not be more than 0.3V
	Faulty Control Board	Replace Control Board
Unit run a short range	<p>Faulty Battery</p> <p>Tight chain - If the chain is adjusted too tight, it will create a high resistance on the wheel and it drains out the battery sooner – refer to the end of this guide for troubleshooting chain tightness.</p> <p>Bent sprocket – Chain will be damaged grinding against the bent sprocket and sprocket teeth will be worn</p>	<p>Individual battery reading should be around 12.6 or above after fully charged. Replace the entire set of battery if voltage is below 10.5V. The polarity difference between the two batteries should not be more than 0.3V</p> <p>Loose up the chain, see illustration for troubleshooting the chain tightness</p> <p>Replace sprocket</p>

Check Charger

816 and 1816 come with two versions of chargers, but they serve the same functions except different LED indicator.

 The image shows the initial version of the charger, which is a black rectangular unit with a 2-pin AC power cord attached to the top. A separate power cord with a 3-pin AC plug and a charging cable with a gold-colored connector are also shown.		<p>Charger plug:</p> <ul style="list-style-type: none">• Initial version – 2 pin AC adaptor with power cord attached to the charger unit• Latest version – 3 pin plug AC adaptor with power cord separated from the charger unit
 The image shows the latest version of the charger, which is a black rectangular unit with a 3-pin AC power cord attached to the top. A separate power cord with a 3-pin AC plug and a charging cable with a gold-colored connector are also shown.		<p>LED indicator:</p> <ul style="list-style-type: none">• Initial version – 2 LED lights, green and red<ul style="list-style-type: none">● Green – when plug to AC outlet, turn green indicate power● Red – when unit is charging● Green – Turn back to green when fully charge• Latest version – 1 LED light<ul style="list-style-type: none">● Red – when plug to AC outlet, turn red indicating power● Red/Green – when unit is charging● Green – when unit is fully charged
Initial Version	Latest Version	

Check On/Off switch



Check On/Off Toggle switch

Remove 4 screws to get inside the on/off switch, unplug the 8-pin connector. Check the connectors (blue and purple) as shown at the off position with the volt-meter set to read Ω . The reading should be $\sim 0.5\Omega$. Do the same on the blue and green wire connectors and the reading should be OL (open circuit). When the switch is turned to on position, reading should be just the opposite of the above mentioned. If not, the on/off switch is bad.

Check Charger Pot

Place one probe on the charger pot #1 and the other probe to the red wire connector as shown. The reading should be $\sim 0.3 \Omega$, do the same checking on pot 2 and 3 to yellow and orange connectors respectively. If not, the on/off switch is bad.



Check Throttle cable



Pull the connector (yellow) from the Controller Board, place the black and red probes on contacts where the white and red cables of the connector are as shown and with Ω select from the voltmeter. The meter should read over 18 k Ω and should read ~ 5 k Ω with the throttle lever fully depressed. Then place the probes on the white and black wires and it should read over 3 Ω and should read over 14 k Ω with the throttle lever fully depressed. If open circuit OL is found in either case, throttle cable or lever is bad.



Check brake cable



Place the probes on the connector as shown and turn the volt-meter to read Ω , the reading should be OL (open circuit). Once the brake lever is depressed, the reading should be ~ 0.5 Ω ; otherwise, the brake cable is bad.

Check chain tightness

Clamp the amp-meter on the red battery cable as shown and power on, then raise the rear wheel and depress throttle lever to start the scooter. Make sure that you measure the DC current (not AC ~), the reading would prefer to be around 1.9 – 2.3 A. Any reading below or above these ranges would consider as too loose or too tight respectively.

