

Bike works but has small issues Go to Page 2,3  
Oh no, it stopped working! Now what?

## **Don't panic!**

Do you still have power on the battery Meter when the bike is turned on?

If yes Goto GOOD FUSE.

If No Go to NO POWER

### **NO POWER**

Unplug the battery. Still no power then use a voltmeter to see if there is power at the battery plug. If No then open the battery case and ensure all connections are tight to each battery. If all connections are tight then test each 12V battery for power. If power is coming from each 12V battery then check the connection at the battery plug directly and check the primary lead cables going to the plug and connecting each battery together. Check the fuse, if blown go To BLOWN FUSE.

### **BLOWN FUSE**

Unplug the battery and replace fuse. DO NOT RECONNECT the plug!!! We need to see if the controller is blown. If it is blown and you reconnect the fuse you will blow that fuse and possibly burn your fingers. To test the controller we need to look at the motor wheel. Push the wheel, does it have resistance to rotating? If it has resistance the controller is blown. SEE BLOWN CONTROLLER. If there is no resistance replace the fuse with a 25 to 35 amp fuse and reconnect the battery. If no power then look at the connections at the controller. See GOOD FUSE.

### **GOOD FUSE.**

A fuse might look good but be broken at the metal cap so replace the fuse with a 25 to 35 amp fuse and reconnect the battery. If no power then look at the connections at the controller. One of the small connectors in the plastic casings might be corroded or dirty or bent enough not to connect. Look at the brake handle sensor on the handlebar as well to see if they sensors have slipped out and thus has disengaged the motor. Also make sure the brake lever isn't stuck in a slightly pulled position. Still not working go to BLOWN CONTROLLER.

### **BLOWN CONTROLLER.**

A blown controller will blow the fuse and give resistance on the rear wheel(stuck in braking regenerative mode). If you are stranded then disconnect the controller cables and the rear wheel will spin freely and you can peddle to assistance. If you have no tools (Allen wrench). Then push the bike to the nearest safe place and lock the bike up and walk or call for assistance. If you have a replacement controller with you replace the controller and fuse and you should be back in operation. As a LAST resort when you can't leave the bike and have no tools you can try to cut the cable going into the motor at the axle with a knife or sharp rock etc.. Make sure you leave PLENTY of room for splicing these cables together again later. Bring the bike in for repair.

### **MOTOR WORKS INTERMITTENTLY.**

This is an indication the problem may be inside the motor. Sometimes the wires that connect to the hall sensors can break from excessive vibration. If not at the sensor then in the wire leading to the sensor. Look at the cable going into the axle of the motor. Are any cables showing breaks in the plastic covering? Testing or replacing the halls or connections to them is a complex procedure. More information on this can be found on [www.endless-sphere.com/forums/](http://www.endless-sphere.com/forums/) Bring the bike in for Repair.

BIKE WORKS BUT NO SPEEDOMETER OR BATTERY LEVEL READING.

There may have been a short or loose connection inside the handlebar control assembly. The unit may need to be replaced if no loose connection can be found. This has happened once in 50 bikes sold so far – An after market illegal faster speed controller blew taking it out as well.

**THE BIKE IS MAKING A CHUGGING JERKING SOUND WHEN I BRAKE.  
The regenerative braking circuit of the controller is failing. Immediately turn the bike off disconnect the battery!! Undo the 2 screws on the headlight(not the bottom center one) and remove headlight. Trace the two cables coming from the brake handle sensors and disconnect them. Replace headlight and plug battery back in. You may operate the bike without regenerative braking. The brake stop light will no longer function but at least the controller will not blow rendering it useless. Replace the controller as soon as possible. Keep the failing controller as an emergency spare.**

THERE IS A GRINDING SOUND COMING FROM THE FRONT TIRE WHEN I TURN.

Tighten the front tire bolt, it is loose.

I NEED TO TIGHTEN MY BRAKES.

The back brake can be tightened just like any bicycle. Loosen the cable nut, pull the cable tighter pushing the brake arm forward a little and re-tighten the nut. The front brake is similar. Hold the bolt and turn the nut to tighten.

THE CHAIN IS FALLING OFF.

If you have struck the pedal on the ground or sidewalk too hard you have probably thrown the pedal crankshaft out of alignment. Remove the bottom plastic guard and examine the crank shaft. You may be able to simply tighten the bolts(remove the top plastic guard to do so). If the metal blocks are bent out of alignment you may be able to bend them back in place. It is best to heat the metal before/when attempting that. Bending the metal cold may tear the metal. If the metal is torn you will need to replace the block or have it welded. The pedal blocks are designed to fail upon severe impact to protect the frame of the bike and the rider if it happens while riding.

CHECK the sprocket teeth!! If any were bent damaged when you put the chain back on the bent teeth could be throwing the chain off. Fix the teeth or replace that sprocket.

PEDALING DOESN'T WORK.

If you can pedal but the pedaling does not produce any forward motion examine the chain to make sure it is not thrown off the sprockets. If the chain is firmly on the sprockets then see if you have lost the bolt that locks the pedal crank shaft to the chain sprocket. This bolt is held in place by two nuts. If the nuts came loose and fell off the bolt may have fallen out. Replace the bolt. In an emergency for short term usage a short bent nail may suffice. Be sure that neither end of the nail reaches the chain as the end of the chain may become lodged between the sprocket and chain derailing the chain or bending the sprocket teeth.

### INNER TUBE NEEDS TO BE CHANGED.

Remove the tire. The front tire is obvious, the back is more complicated. Take the battery out to reduce bike weight in case you knock the bike over. Tether the bike to something so it does not fall over. Remove the two nuts on each side of the bike holding the swing arm side covers on and remove the covers. Loosen the bolts and retainers holding the axle to the frame. Undo the bolt on the brake side holding the brake to the frame. Remove the tire. Push the tire to the center of the rim and remove the tire. Pushing the tire to the center of the rim will give the needed slack to remove the tire. If you are unable to find a bent stem inner tube do not try to bend the tube stem you will ruin the stem. Instead you can use a drill to change the angle of the stem hole in the rim that the stem goes through. Be sure to sand the edges of the hole otherwise the sharp edges will give you another flat.

### FENDER

I lost the nuts holding the fender on. Replace them and use lock-tight or some electrical tape to ensure the replacements don't come loose. If you have broken the arms of the fender you should replace the fender but in the meantime several layers of electrical tape may reduce the noise until then.

### THE CHARGER IS DEAD.

If the charger does not light up it may be dead. If you have been plugging it directly into the wall instead of using a surge suppressor it was blown by a power surge from the wall. Replace the charger with a 2 amp 48V SLA charger.