

Visually inspect the unit. Any signs of lightning damage to electrical or electronic hardware certainly indicates the component is damaged.

Note: All the following steps are done with the AC voltage **ON** to the rectifier and with the battery connected (except where noted).

Test to see if the Communication Module is damaged:

- The Communication Module has a Green power LED, which is on steady, and a Blue GPS LED which blinks once per second. If both LEDs are currently working, the Communication Module is assumed good.
- If the Communication Module does not show the Green power LED:
 1. Disconnect the 16 pin, Interface Cable from the front of the Communication Module
 2. Replace the existing 6 volt battery with a fully charged 6 volt battery
 3. The Green power LED should come on immediately with the Blue GPS LED following within 5 minutes.
 4. If this happens, the problem is likely with the other components

Testing other components:

- Symptom: **Unit will not power up**
 1. Make sure the AC power to the Rectifier is ON. Disconnect the 6 volt battery.
 2. With your meter set to AC Voltage, measure the voltage at the two screws of the Phoenix Connector located on the Interface circuit board, which correspond with the two pins marked "Supply 60V MAX". If you read a voltage level that matches the taps, where the wires are terminated, go to Step 2. If not, troubleshoot the AC wiring.
 3. Remove both Phoenix connectors from the Surge Suppression module and then remove the Surge Suppression module from the Interface Board. Plug the 8-pin Phoenix Connector directly into the Interface Board in the appropriate place. If the Interface Board powers up normally (see Step 6), then the Surge Suppression Module has failed and should be replaced. If the Interface Board does not power up, move on to Step 4.
 4. Remove both Phoenix Connectors from the Interface Board and remove the Interface Board from the SnapTrack holder. Disconnect the Interface Cable from the Interface board and the Tamper Alarm wires from the 11-pin connector (be careful not to bend the pins). With a new Interface Board, attach the Interface Cable and the 8-pin Phoenix Connector then observe the Interface Board. If it powers up as normal (see Step 6), connect the 11-pin, Tamper wire in the appropriate terminal and remove the 8-pin Phoenix Connector from the Interface Board. Insert the Interface Board into the SnapTrack holder. Repeat Step 2 to determine if the Surge Suppression Module is also damaged? If the Interface Board does not power up as normal, move on to Step 5.
 5. Disconnect the Interface cable between the Interface Board and the Communication Module. Using a new Interface cable, make connections between the Interface Board and the Communication Module. Attach the Phoenix connector to the new Interface Board. If the new Interface Board powers up, go to Step 6. Also, repeat

Step 3 with the old Interface Board and repeat Step 2 for the Surge Suppression module. If the new Interface Board fails to power up, there is an issue with the Communication Module.

6. Observe the Interface Board. If the LEDs are all blinking, an overvoltage situation exists and must be corrected. If the LEDs are not blinking, connect the 6 volt battery to the Hero 2 rectifier monitor.

- Symptom: **Unit has incorrect Output Voltage/Output Current readings on the website**

1. Make sure the AC power to the Rectifier is ON and the battery is connected to the Hero 2 monitor.

2. With your meter set to DC Voltage (or mVolt), measure the voltage of the two screws on the Phoenix Connector located on the Interface Board, which correspond with the two pins marked “Rect 0-150V” (or “Shunt 0-500MV”). If you read a voltage level that matches the DC output of your rectifier, go to Step 3. If not, troubleshoot the wiring.

3. Remove the Phoenix Connectors from the Surge Suppression module and then remove the Surge Suppression module from the Interface Board. Plug the 8-pin Phoenix connector, only, into the Interface Board at the appropriate place. Issue a “Get Data” command by holding down the “Data/Reset” button for three seconds. Now compare the readings on the website to the expected Voltage (or Amperage) on the machine, make sure the “Age of Last Data” column is no more than a minute or two old. If the unit shows the correct Voltage (or Amperage) the Surge Suppression Module has failed and should be replaced. If there is no change in the readings, move on to Step 4.

4. Remove the Phoenix Connector from the Interface Board and remove the Interface Board from the Snap Track holder. Disconnect the Interface Cable from the Interface board and the Tamper Alarm wiring from the 11-pin connector (be careful not to bend the pins). With a new Interface Board, attach the Interface Cable, the 8 pin Phoenix Connector and issue a “Get Data” command by holding down the “Data/Reset” button for three seconds. Using your meter set to DC voltage, compare the readings at the website to the readings at the two screws on the Phoenix Connector located at the Interface Board, which correspond with the two pins marked “Rect 0-150V” (or “Shunt 0-500MV”). If they are now correct, repeat Step 2 to determine if the Surge Suppression Module is also damaged. If the readings are still not correct, move on to Step 5.

5. Remove the Interface cable between the Interface board and the Communication Module. Using a new Interface cable, make connections with the new Interface Board and the Communication Module. Attach all Phoenix connectors to the new Interface Board. Issue a “Get Data” command by holding down the “Data/Reset” button for three seconds. Using your meter set to DC voltage, compare the readings at the website to the readings at the two screws on the Phoenix Connector located at the Interface Board, which correspond with the two pins marked “Rect 0-150V” (or “Shunt 0-500MV”). If the readings are correct, repeat Step 3 for the Old Interface Board and Step 2 for old the Surge Suppression module. If the readings on the website don’t match the meter readings, there is an issue with the Communication Module.

- Symptom: **Unit won’t Interrupt/Fails the Interruption test**

1. From the website, select the unit (left click on the unit ID number).

2. Hover your mouse over the “Command” menu and choose the “Send Command” tab.

3. From the “Send Command” menu choose the “Check Interrupter” command. Send & confirm.

4. Go back to the User Main page, hover your mouse over the “View” menu and select the “Raw Data” tab.
5. When the unit has completed operating the “Check Interrupter” command, there is a line of data that comes back in the “Raw Data” page that looks like this:

:Relay Test PASS | GPS PASS

6. The unit will indicate Pass/Fail for the Relay and/or GPS. The instructions below are provided if the unit fails the “Relay” portion of the interruption test.
7. If the unit Fails the GPS portion, a new Cell/GPS antenna is called for.

Trouble Shooting the (on board) Pilot relay and External relay:

1. Make sure the AC power to the Rectifier is ON and the 6 volt battery is connected to the Hero 2 monitor.
2. With your meter set to AC voltage, measure the voltage at the two screws on the three-position Phoenix connector located on the Surge Suppressor module, which correspond to the “C” and “NO”. You should read ~24 volts AC on this position. If voltage is present, go to Step 5. If no voltage is present, go to Step 3.
3. Remove the Surge Suppression module from the Interface Board and remove the Phoenix connectors from the Surge Suppression module. Connect the Phoenix connectors to the appropriate receivers on the Interface Board and measure the AC voltage on the “C” and “NO” pins again. If voltage is present, a new Surge Suppression module is indicated. If no voltage is present, go to Step 4
4. Turn off the AC power. Set your meter to read resistance (Ohms). Check the continuity of the three control wires (yellow wires) for the external relay. Make sure you put your test leads on the lugs of your taps, the screw heads of the control points of the relay and the screws on the Phoenix connectors. Troubleshoot as necessary for any broken connections.
5. Turn the AC power on. Hold down the “Interrupter Relay” button on the Interface Board for ten second to invoke a 3 second off and 7 second on interruption cycle.
6. With your meter set to AC Voltage, measure the voltage of the two screws on the three-position Phoenix connector, located on the Interface Board, that correspond with the “C” and “NO” positions. Wait until the Interruption Cycle is started, before you do this. You should read No AC voltage for 3 seconds and ~24 VAC for 7 seconds on the pins. If you see this pattern, move on to step 7. If you read a constant, ~ 24VAC across these pins, with the unit interrupting, a bad pilot relay is indicated and the Interface Board should be replaced. If you read a constant 0 VAC across these pins, check the voltage across the interrupter relay. If it's ~24 VAC, then the pilot relay is defective. If it's 0 VAC, then the wiring to the taps is the issue (see Step 4).
7. If you read the voltage for 3 seconds and no voltage for 7 seconds pattern in Step 6, a bad External relay is indicated, and it should be replaced.