

Situation 1

No LEDs light up

“No power to the Power Chair” means that once the power chair is hooked up properly (all connections including batteries) and the power button is pressed, the joystick does not light up. This can stem from a number of different problems.

Set the meter to DC volts and take a voltage reading from pins 1 and 2 of the XLR connector port located on the front of the joystick. See figure 2.58.



If you have a total battery voltage of approximately 24 volts DC with proper polarity, replace the joystick. If no voltage is present, proceed to the next step.



Figure 2.58. Dynamic Europa

Check battery connections. Make sure they are tight and the battery terminals have no corrosion on them. If the connections are good, check to see if the circuit breaker button is popped out. If it is, the battery voltage path has opened and this will prevent the controller from receiving the proper turn on voltage. Reset the circuit breaker by pushing the button back in. The unit may power up, but you should still take a resistance reading from the circuit breaker.

The circuit breaker could appear to be working properly by a visual inspection, but the problem may be internal. To check the circuit breaker first locate the two phillips-head screws off of the circuit breaker. Set the meter to an ohms or resistance scale. Take a reading with the red lead of the meter on one of the phillips screws and the black lead of the meter on the other phillips screws. See figure 2.59.

The reading should indicate less than one ohm of resistance if the circuit breaker is operating properly.



Figure 2.59. Circuit Breaker

The meter reads _____ ohms.



If an open circuit or more than 3 ohms are detected, replace the circuit breaker.

Although this is the most accurate test, it may not be the most practical for the power chair you are working with. Here are two checks that will help.

On some models, the circuit breaker is directly wired to the batteries. To obtain a resistance reading on these units, disconnect the circuit breaker from the batteries and measure resistance across the two wires. See figure 2.60.

The meter reads _____ ohms.

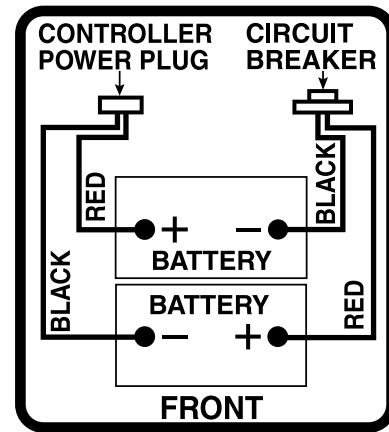


Figure 2.60. Circuit Breaker

The circuit breaker is used to make the series connection between the two 12 volt batteries by connecting the positive of one battery to the negative of the other battery. You can obtain the circuit breaker resistance from the positive of one battery input connector to the negative of the other battery input connector on the utility tray. See figure 2.61.

The meter reads _____ ohms.



Figure 2.61. Battery Connectors

Turn the meter to a DC volts scale. Place the red lead on the positive terminal of one battery and the black lead on the negative terminal of the opposite battery. See figure 2.62.

It is possible to get an initial reading of zero volts. If this is the case, it is the series connection and not the most negative battery terminal. If this reading appears, move to the other positive and negative terminal and the meter should read the total battery voltage of approximately 24 volts.

The meter reads _____ volts DC.

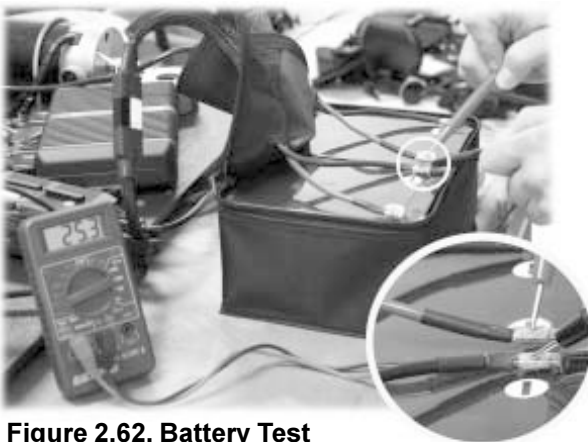


Figure 2.62. Battery Test

Notes:

If this is not the case, recharge the batteries. If the reading is still unexpected after recharging the batteries, the problem may be with the batteries or in the battery charging system. To test the batteries, unhook them from the power chair and perform a standard battery load test. If the batteries fail the load test, replace and charge the new batteries and try to power up the chair.

To test the charging system, unplug the charger's larger white 3-pin connector from the black 3-pin connector. Plug the charger into a wall outlet and take a volt reading across the two outside pins of the white 3-pin connector. See figure 2.63.

A reading of approximately 25 volts DC minimum to 30 volts DC should appear.



Figure 2.63. Charger Output Harness



When taking the output voltage from the charger, allow the reading to normalize before documenting the reading.

The meter reads _____ volts DC.



If the reading is outside tolerance, replace the battery charger. If the reading is within tolerance, take a DC voltage reading off of the two outside pins of the black 3-pin connector.

The total battery voltage of approximately 24 volts DC should appear. See figure 2.64.



Figure 2.64. Controller Charger Harness

The meter reads _____ volts DC.

If the meter reads 0VDC, locate and remove the charger fuse. See Appendix J.

Notes:

Set the meter to the resistance scale and place the red lead of the meter on one side of the fuse and the black lead of the meter on the other side of the fuse. See figure 2.65.

A reading of less than one ohm should appear.



Even if a fuse appears to be intact by a visual inspection, this doesn't always mean the fuse is working properly. Always check the fuse with a meter.

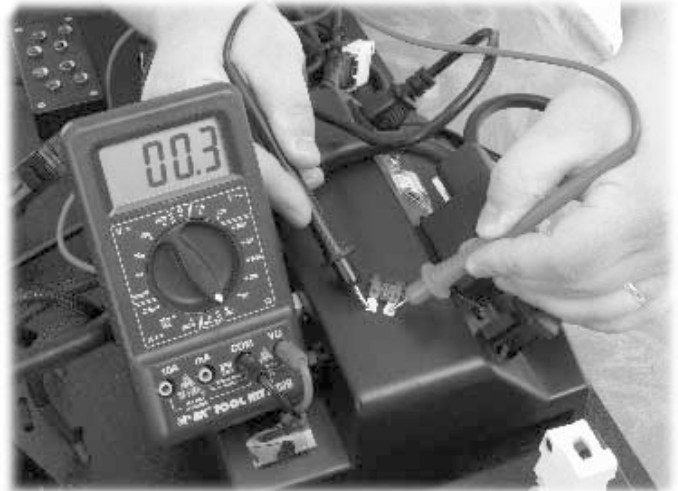


Figure 2.65. Charger Fuse Test

The meter reads _____ ohms.



If the meter reads an "open," replace the fuse. If the fuse test is within tolerance, proceed to the next step.



Reconnect the charger harness and move to the power module (refer to owner's manual for location of the power module). Unplug the 4-pin connector located directly in the top center of the power module. See Appendix H.

Take a voltage reading across the two outside terminals of this harness. The reading should indicate the total battery voltage of approximately 24 volts. See figure 2.66.

Taking a voltage reading across the two inside terminals should show a total battery voltage of approximately 24 volts.

Figure 2.66. Dynamic Power Harness

The meter reads _____ volts DC.



If the reading is outside tolerance, check the batteries or replace the battery harness.

Notes: