

Situation 1

Will not tilt

PG Remote Plus Through Toggle

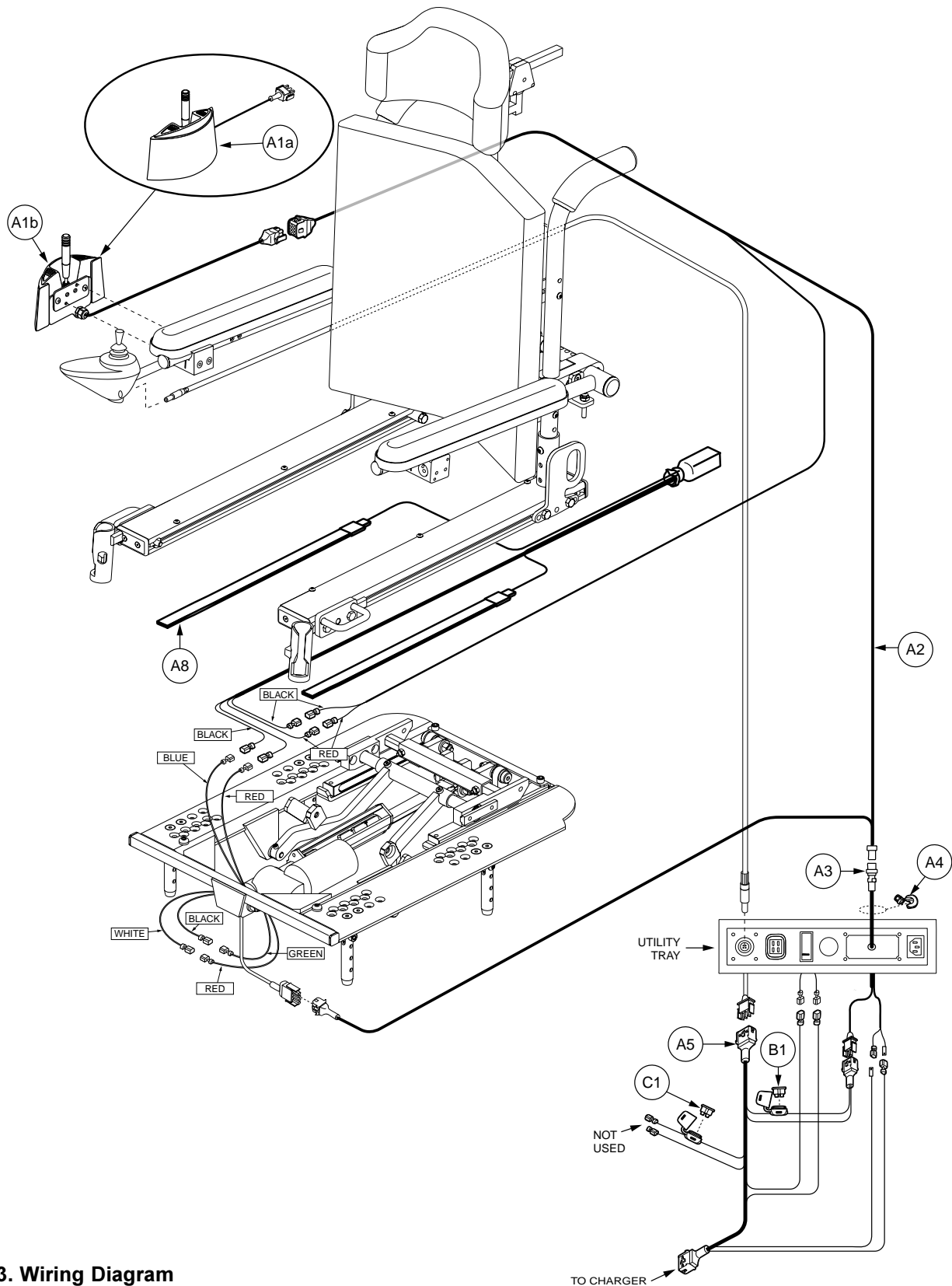


Figure 4.93. Wiring Diagram

Operate the toggle switch for the tilt system and listen to the actuator motor. See figure 4.94.

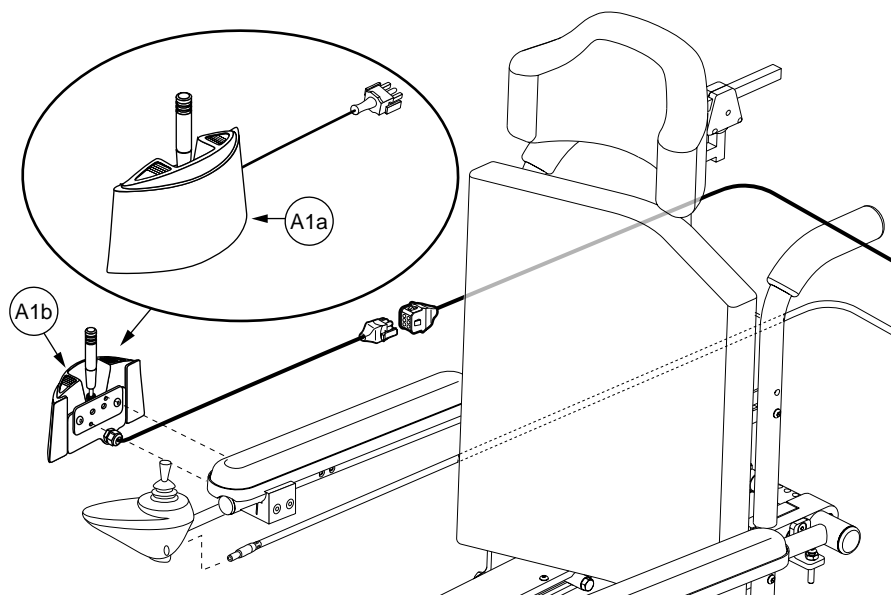


Figure 4.94. Toggle Switch



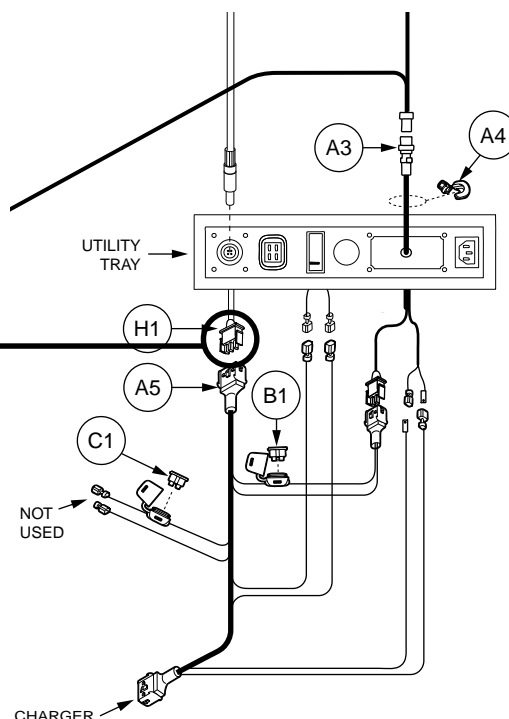
**If the actuator runs, but the tilt does not operate, replace the actuator.**

If the actuator motor does not run, check for voltage at the 24-volt source. Set the meter to measure DC volts. Locate the 3-pin connector (H1) of the joystick/charger interface harness in the utility tray. Disconnect 3-pin connector from the harness (A5). On the 3-pin connector of the joystick/charger interface harness, take a voltage reading from the two indicated outside pins. The reading should indicate approximately 24 volts DC. See figure 4.95.



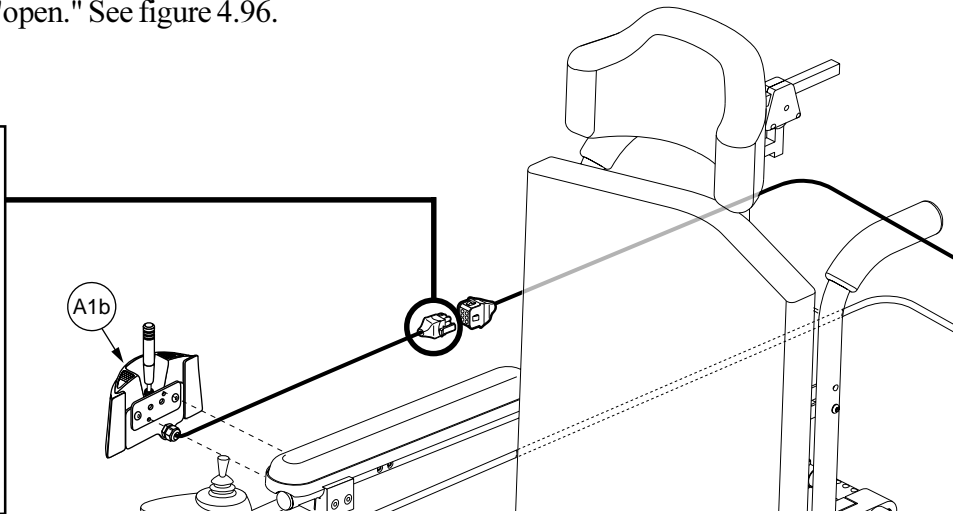
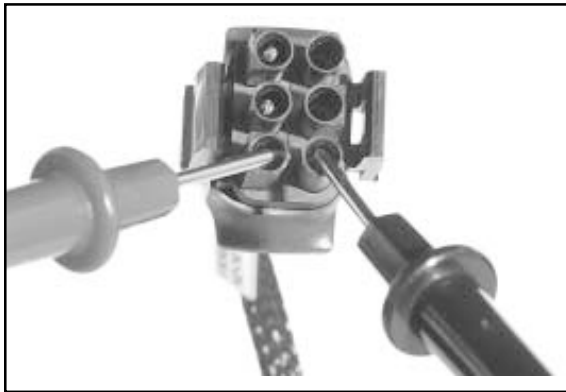
Figure 4.95. Joystick/Charger Interface Harness

The meter reads \_\_\_\_\_ volts DC



**If no voltage is present, refer to the Remote Plus diagnostic section of this product guide to troubleshoot the base. If voltage is present, proceed to the next step.**

If voltage was present, move to the 6-pin connector on the toggle switch assembly. Adjust the meter to its lowest resistance scale. Check for continuity by placing the multimeter leads into the two indicated pins. Operate the tilt switch in the UP direction and verify continuity. Continuity should only be present in the UP position. If the toggle switch is in the DOWN position for this test, the reading should be an "open." See figure 4.96.



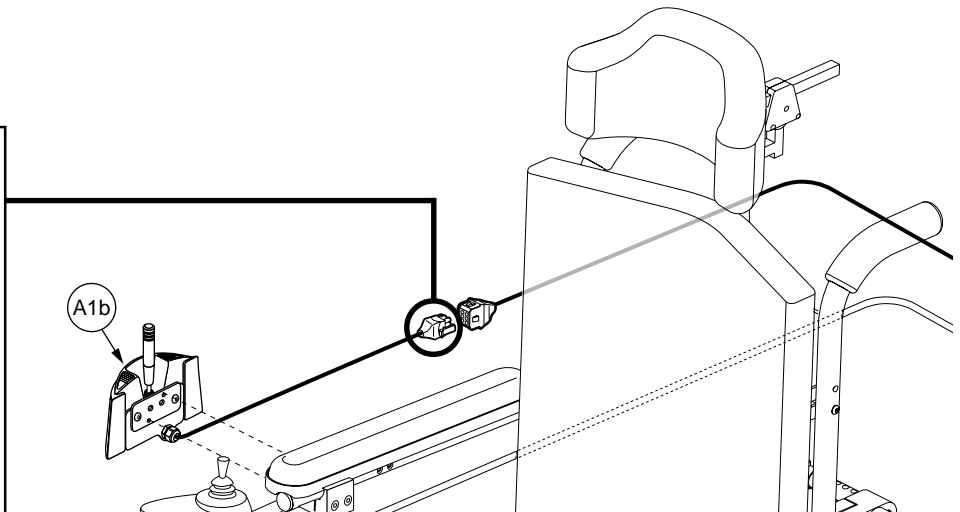
**Figure 4.96. 6-Pin Connector (Toggle Switch UP)**

The meter reads \_\_\_\_\_ ohms in the up direction  
 The meter reads \_\_\_\_\_ ohms in the down direction



**If continuity is not present in the up position, replace the toggle switch assembly.**

Check for continuity in the DOWN position by placing the multimeter leads in the indicated pins. Operate the toggle switch in the DOWN position and verify for continuity. Continuity should only be present in the DOWN position for this test. If the toggle is in the UP position, the reading should be an "open." See figure 4.96.



**Figure 4.96. 6-Pin Connector (Toggle Switch DOWN)**

The meter reads \_\_\_\_\_ ohms in the up direction  
 The meter reads \_\_\_\_\_ ohms in the down direction



**If continuity is not present in the DOWN position, replace the toggle switch assembly.**

Move to the 6-pin connector of the harness (A2). Disconnect the round connector of the same harness that leads to the base. With a multimeter set to its lowest resistance scale, check for continuity from the female pins of the round connector to the female pins indicated on the 6-pin connector. See figure 4.97.

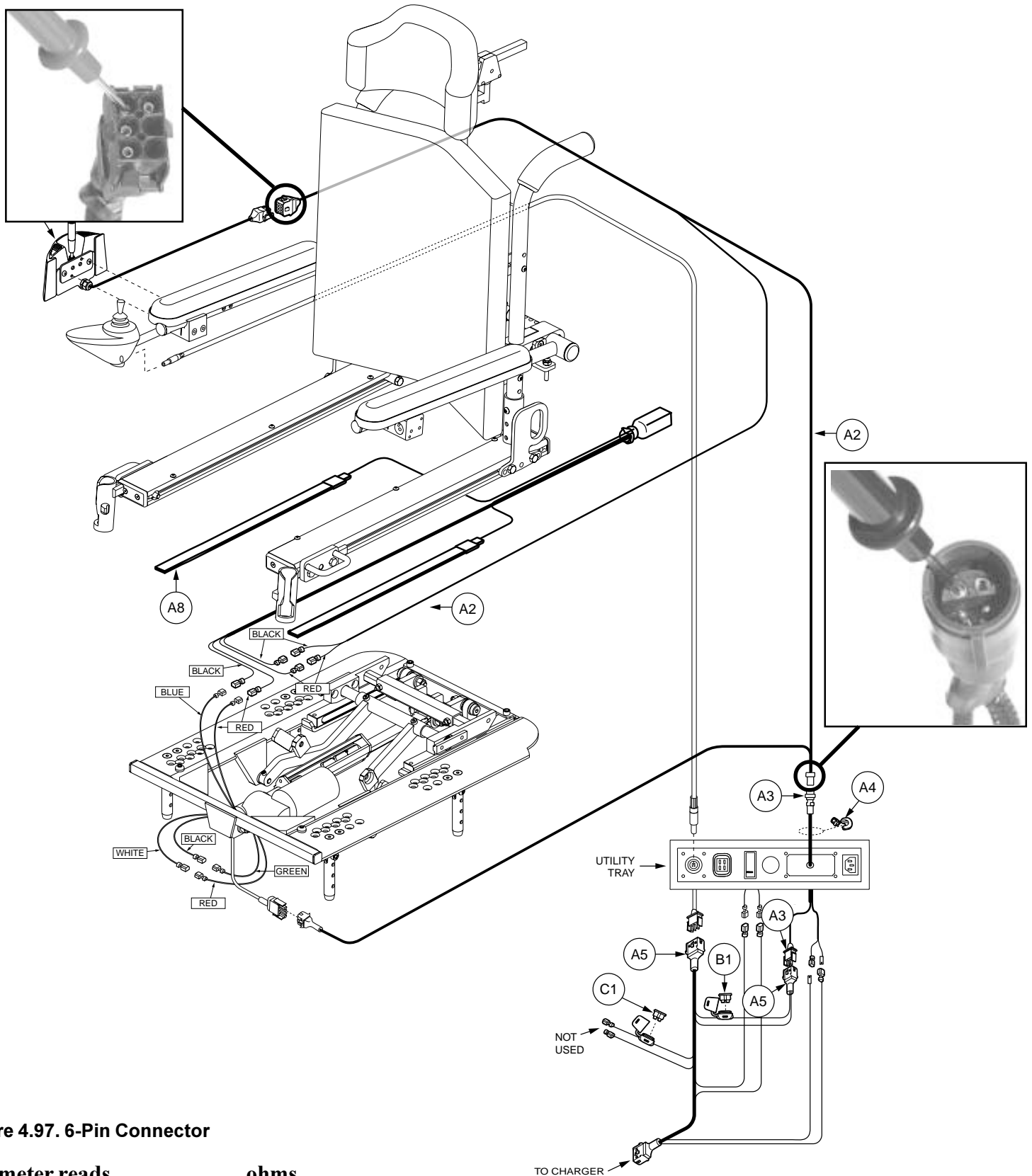


Figure 4.97. 6-Pin Connector

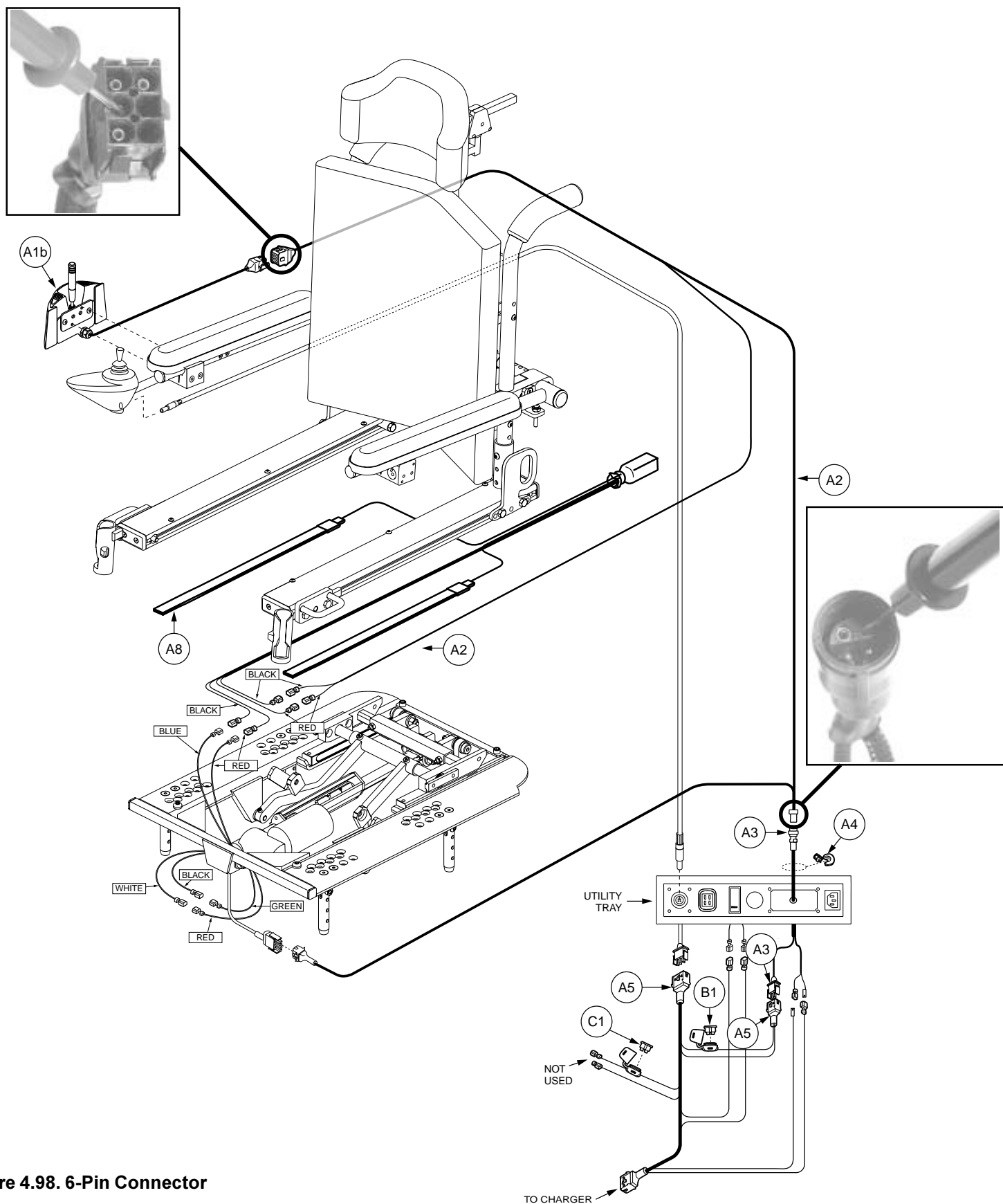
The meter reads \_\_\_\_\_ ohms



If continuity is not present, replace the harness (A2). If it is present, proceed to the next step.



Repeat the test on the other two indicated pins and verify continuity. See figure 4.98.



**Figure 4.98. 6-Pin Connector**

The meter reads \_\_\_\_\_ ohms



**If continuity is not present, replace the harness (A2).**

If continuity is present, reconnect the harness (A2) and move to the red and green wires on the actuator motor. Using a multimeter that is set to its lowest resistance scale, measure the resistance of the actuator motor. Place one lead from the multimeter to the red pigtail and the other meter lead to the green pigtail. The reading should indicate a normal resistance of approximately .5 to 15 ohms. See figure 4.99.

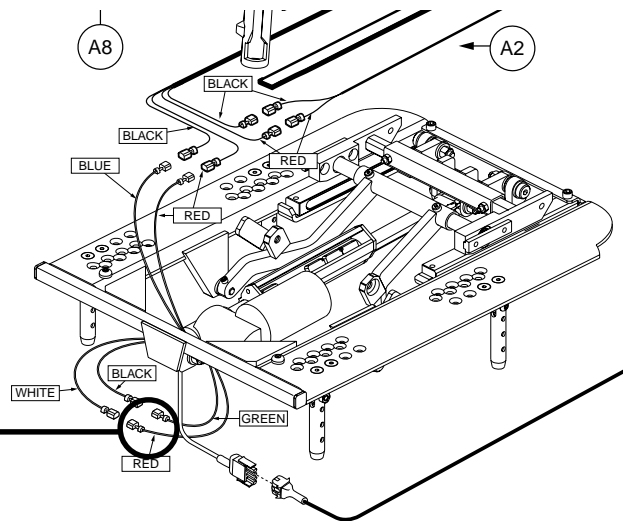
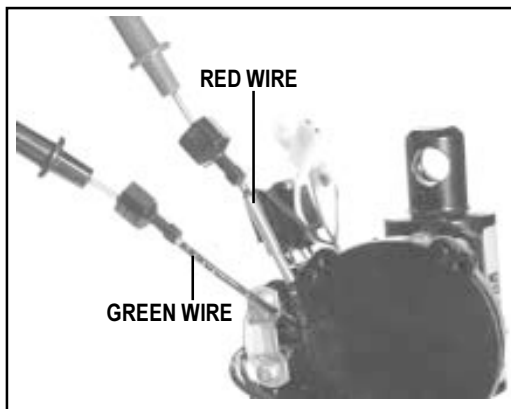


Figure 4.99. Red and Green Wire Test

The meter reads \_\_\_\_\_ ohms



**If the actuator resistance is significantly outside the specified range, replace the actuator.**



**A reading of less than .5 ohms could indicate a shorted actuator.**

If the actuator reads normal resistance, check for voltage going to the actuator. Set the meter to DC volts. Place the red lead of the meter in the white wire leading from the limit switch assembly. Place the black lead into the black wire leading from the limit switch assembly. Operate the toggle switch assembly. The test should yield approximately 24 volts DC in the up position and -24 volts DC in the down position. See figure 4.100.



**If the tilt is all the way down, you will see voltage only in the UP direction. If the tilt is all the way up, you will only see voltage in the DOWN direction.**

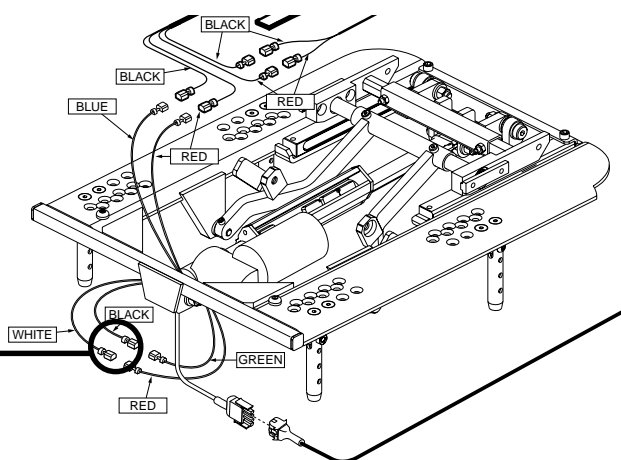
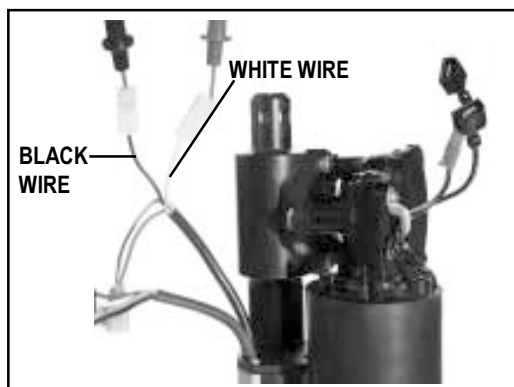


Figure 4.100. White and Black Wire Test

The meter reads \_\_\_\_\_ volts DC in the up position

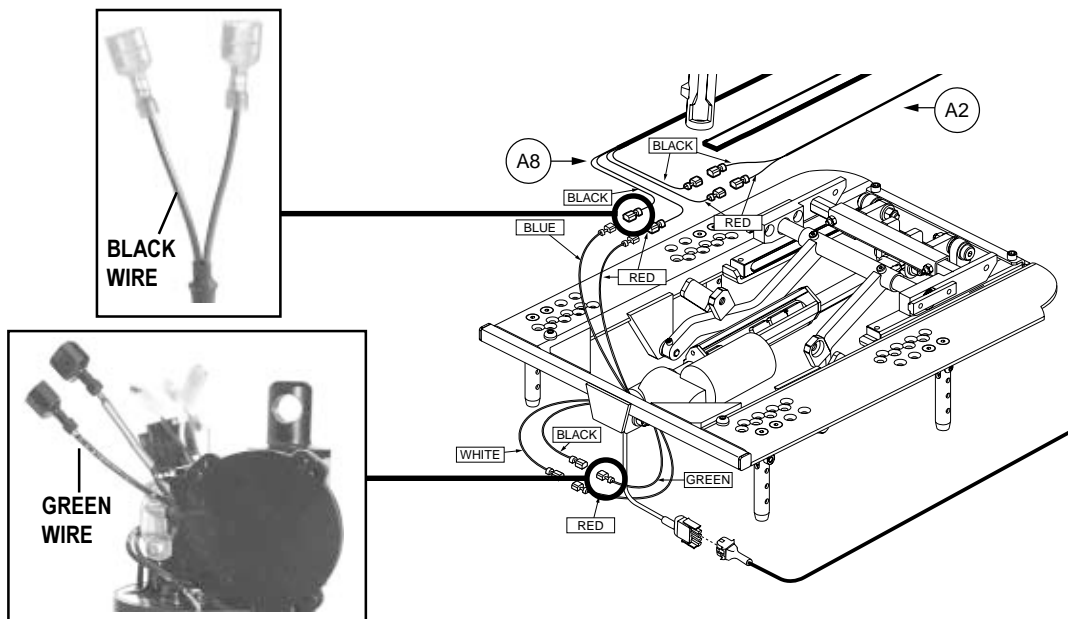
The meter reads \_\_\_\_\_ volts DC in the down position



**If voltage is not present on either test, proceed to the next step.**

Move to the limit switches in the actuator assembly. It is easiest to check them by eliminating the switches from the circuit.

To test the UP limit switch in the actuator (see figure 4.101), locate the green wire painted black from the actuator motor. Disconnect this wire. Locate the black wire from the harness (A8) with the ¼-inch female connector and disconnect this wire. Connect the green wire from the actuator motor to the black wire of the harness (A8) and test the tilt. See figure 4.101.

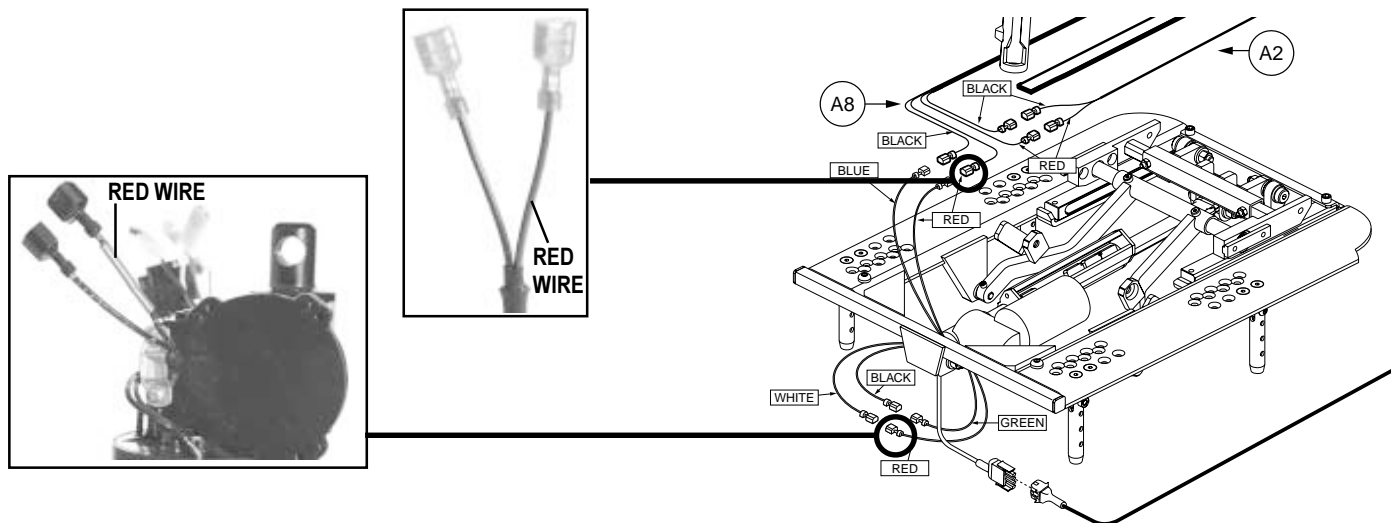


**Figure 4.101. UP Limit Switch Test**



**If the tilt operates, the UP limit switch is defective. Replace the actuator assembly. If the tilt does not operate, reconnect the harness and proceed to the next step.**

Move to the DOWN limit switch (see figure 3.102). Locate the red wire painted black from the actuator motor. Disconnect this wire. Locate the red wire from the harness (A8) with the ¼-inch female connector and disconnect this wire. Connect the red wire from the actuator motor to the red wire of the harness (A8) and test the tilt. See figure 4.102.



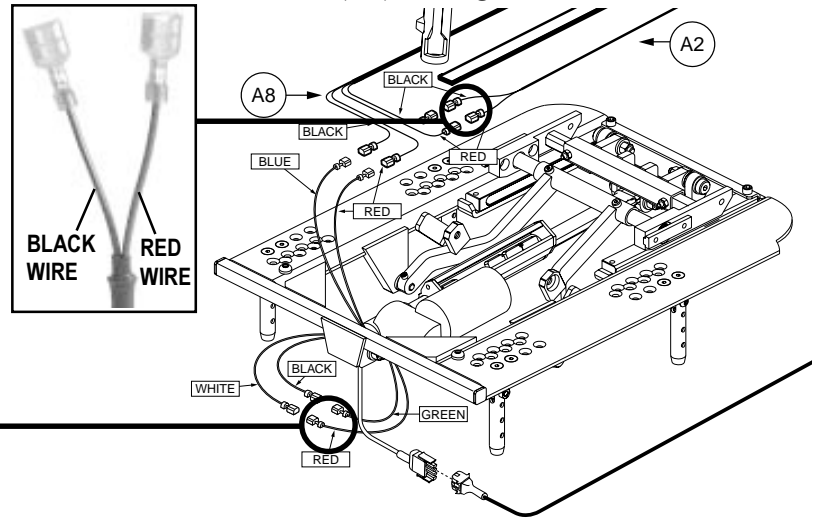
**Figure 4.102. DOWN Limit Switch Test**



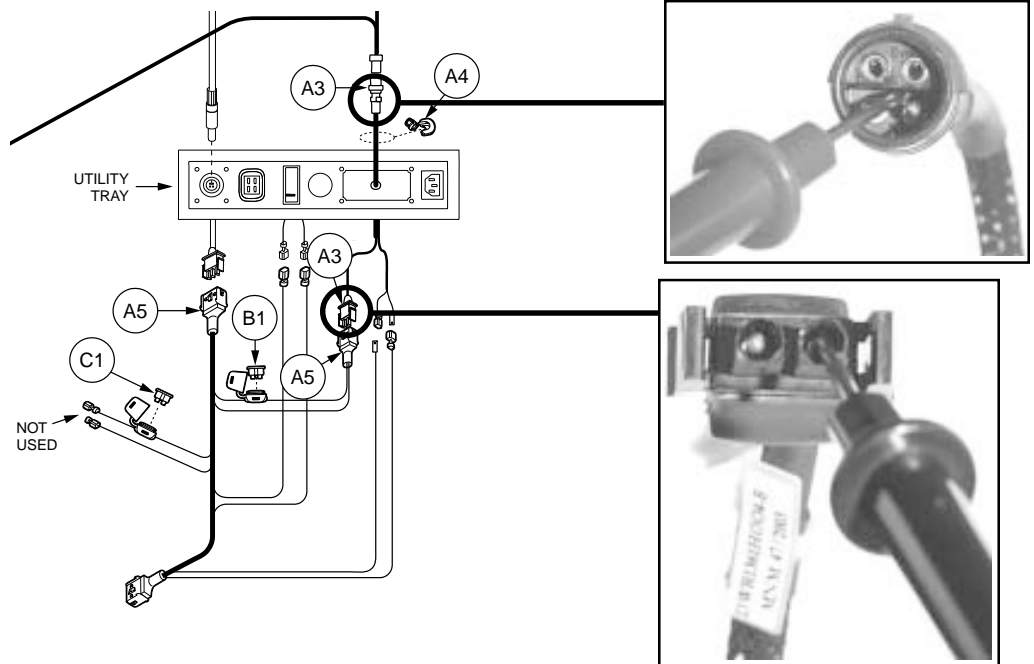
**If the tilt operates, the DOWN limit switch is defective, replace the actuator assembly.**

If the tilt does not operate, reconnect the harness and proceed to the next step. See figure 4.98.

A black and white photograph of a small engine with a light bulb. Two wires are connected to the engine: a red wire and a green wire. Labels with leader lines point to each wire. The red wire is labeled "RED WIRE" and the green wire is labeled "GREEN WIRE".



If the round connectors are correctly mated and the symptoms are still present, disconnect the 2-pin male connector of the harness (A3) from the 2-pin female connector of the harness (A5). Check for continuity within the harness (A3). With the meter set to measure continuity, place one lead of the meter in the male pin on the round connector. Place the other lead of the meter in the male pin of the 2-pin connector indicated. See figure 4.104.



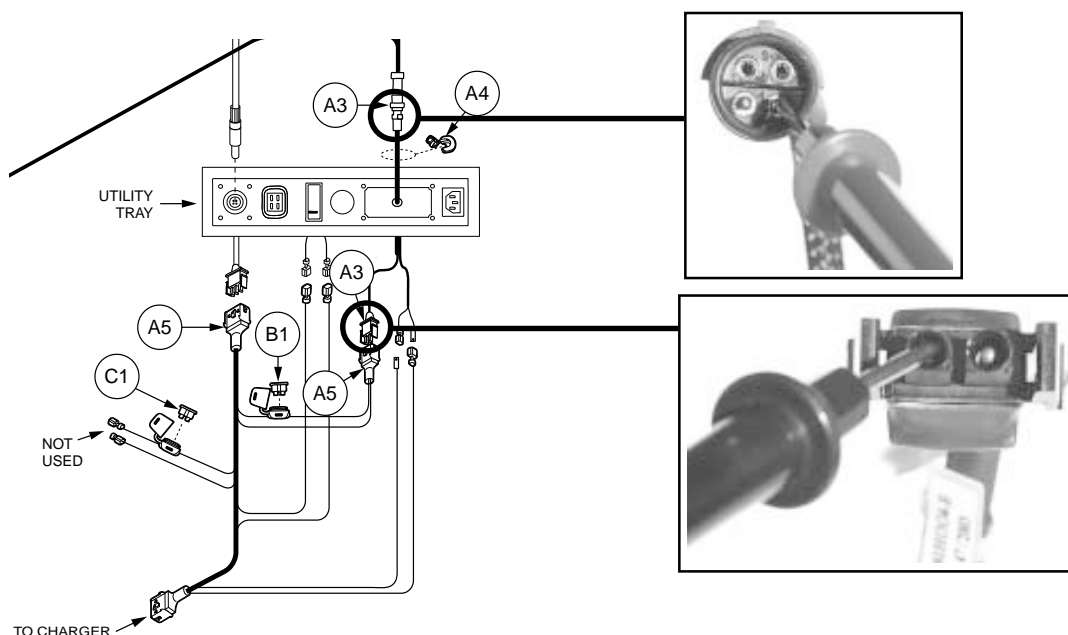
**The meter reads                      ohms**



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Check for continuity on the other two indicated pins (see figure 4.105). Place one lead of the meter in the male pin of the round 4-pin connector and the other lead in the male pin of the 2-pin connector. See figure 4.105.



**Figure 4.105. Harness Test**

The meter reads \_\_\_\_\_ ohms



**If continuity is not present, replace the harness (A3). If continuity is present, proceed to the next step.**

**Notes:**

If continuity is present within the harness (see figure 4.106), move to the 2-pin female connector of the harness (A5) and check for voltage. With the meter set to measure DC volts, take a voltage reading from the 2-pin female connector of the harness (A5). The reading should indicate approximately 24 volts DC. See figure 4.106.

The meter reads \_\_\_\_\_ volts DC

If voltage was not present, move to the 15-amp fuse (B1) in the harness (A5) located under the utility tray assembly. Remove the fuse. With the multimeter set to its lowest resistance, check with the multimeter for continuity. See figure 4.107.

The meter reads \_\_\_\_\_ ohms

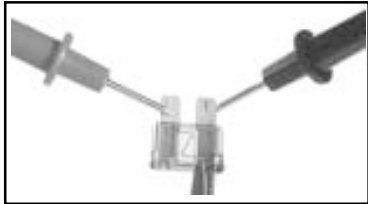
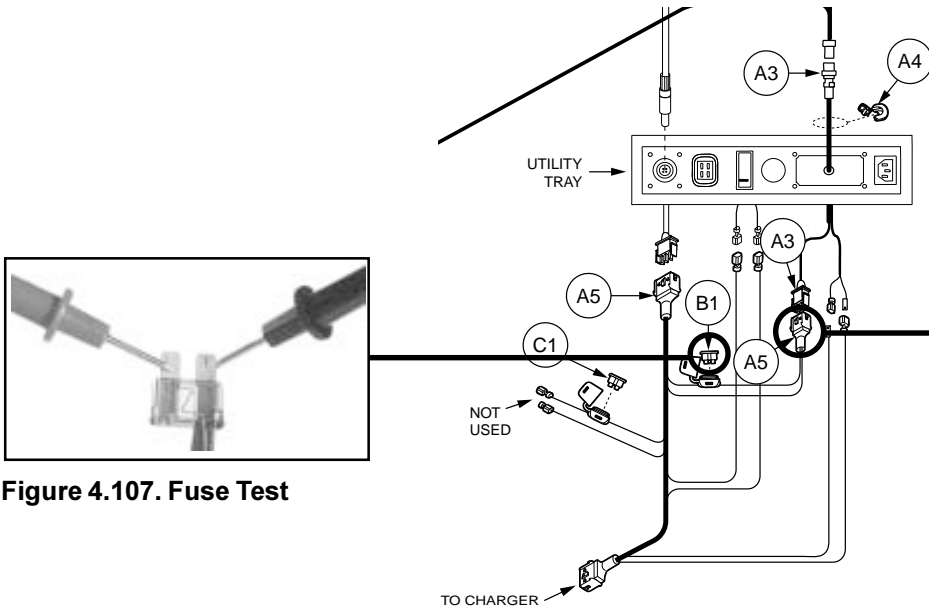


Figure 4.107. Fuse Test

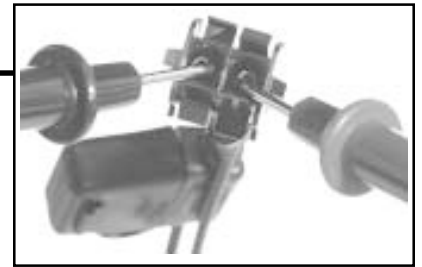


Figure 4.106. Harness Test



If the fuse is defective, replace the fuse and retest the power chair. If the fuse passes the test, replace the harness (A5).

## Notes: