E2230A-04

S E R V I C E N O T E

Supersedes:
NONE

E2230A

Serial Numbers: All shipments prior to October 31, 2004

The E3858A Power Distribution Unit (PDU) used on the E2230A can affect system performance for certain measurements.

To Be Performed By: Agilent-Qualified Personnel Only

Parts Required:
T10 Torx driver
Small flat-blade screwdriver
Small pair of pliers
Hole punch or scissors and double-sided tape
Soldering Iron
Solder & Flux
20 AWG UL1061 wire (50mm)
Terminal Ring
Heat-shrink (heating) gun

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION: **MODIFICATION RECOMMENDED**			
ACTION CATEGORY:	[ ] IMMEDIATELY X ON SPECIFIED FAILURE AGREEABLE TIME	STANDARDS: LABOR: 1.0 Hours	
LOCATION CATEGORY:	X CUSTOMER INSTALLABLE ON-SITE [ ] SERVICE CENTER	SERVICE INVENTORY:	RETURN [ ] SCRAP X SEE TEXT USED PARTS: [ ] RETURN [ ] SCRAP X SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE	AGILENT RESPONSIBLE UNTIL: 5/1/2006	
AUTHOR: D.P.R. PRODUCT LINE: BL ADDITIONAL INFORMATION:: TS-5410 Series Functional Test Systems, E2230A			

Agilent Technologies

May 19, 2005

Situation:

The issue with the E3858A PDU used on the E2230A is that the PDU grounding can affect the system performance for certain measurements.

Some units in the field will experience a common mode voltage of 12 Vpp at 60 Hz and 7.3 Vpp at >70kHz. These units will also experience a Differential Mode voltage of 1.3 Vpp at >70 kHz.

This will affect certain sensitive measurements if the modifications are not made to the unit.

Solution/Action:

Re-work Instructions:

- Turn power off to the system and disconnect the rear power cord from the PDU.
- Remove the PDU from the system rack.
- Open the top cover using a T10 Torx driver and removing the ten screws (Figure 1).

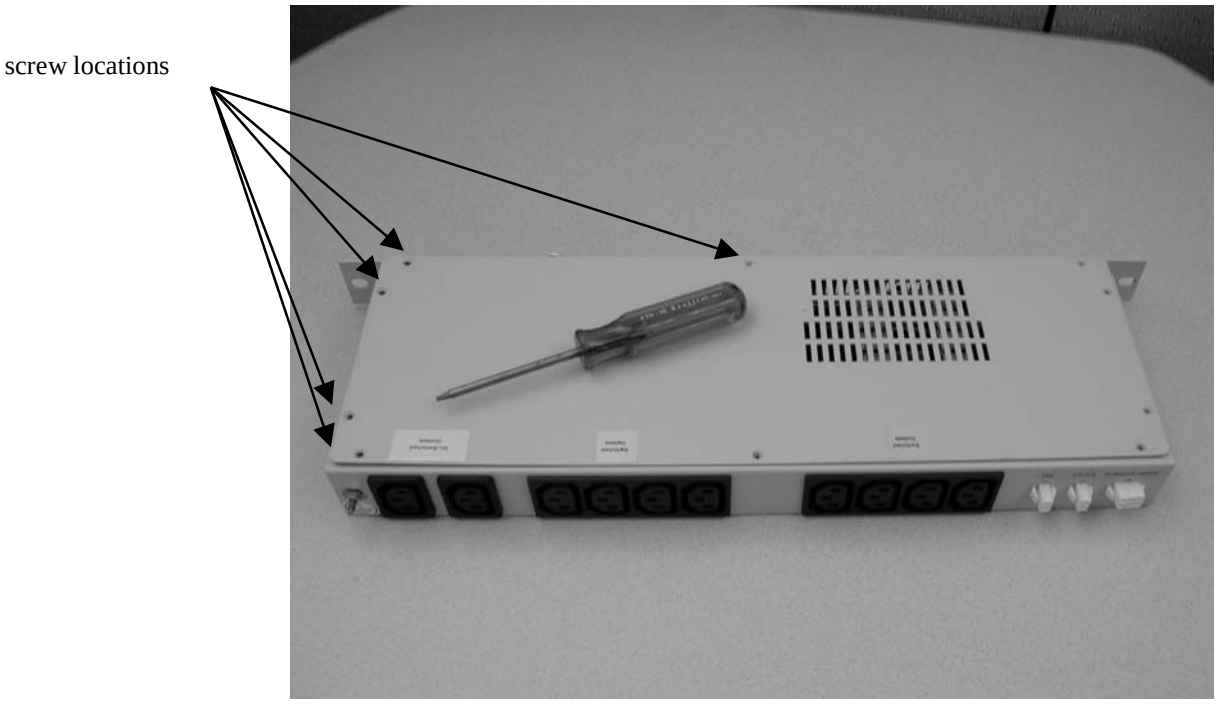

Figure 1. PDU removed from TS-5410 System.

- Remove the connections to the PDU power supply as shown in Figure 2.
    - Use a flat-blade screw driver to help remove the white connectors
        - E3858-61614 (white and black cable into smaller white connector)
        - E3858-61607 (6 white wires into larger white connector)
    - Use a pair of pliers to pull out the connector with the green wire
        - E3858-61606 (green wire into connector)

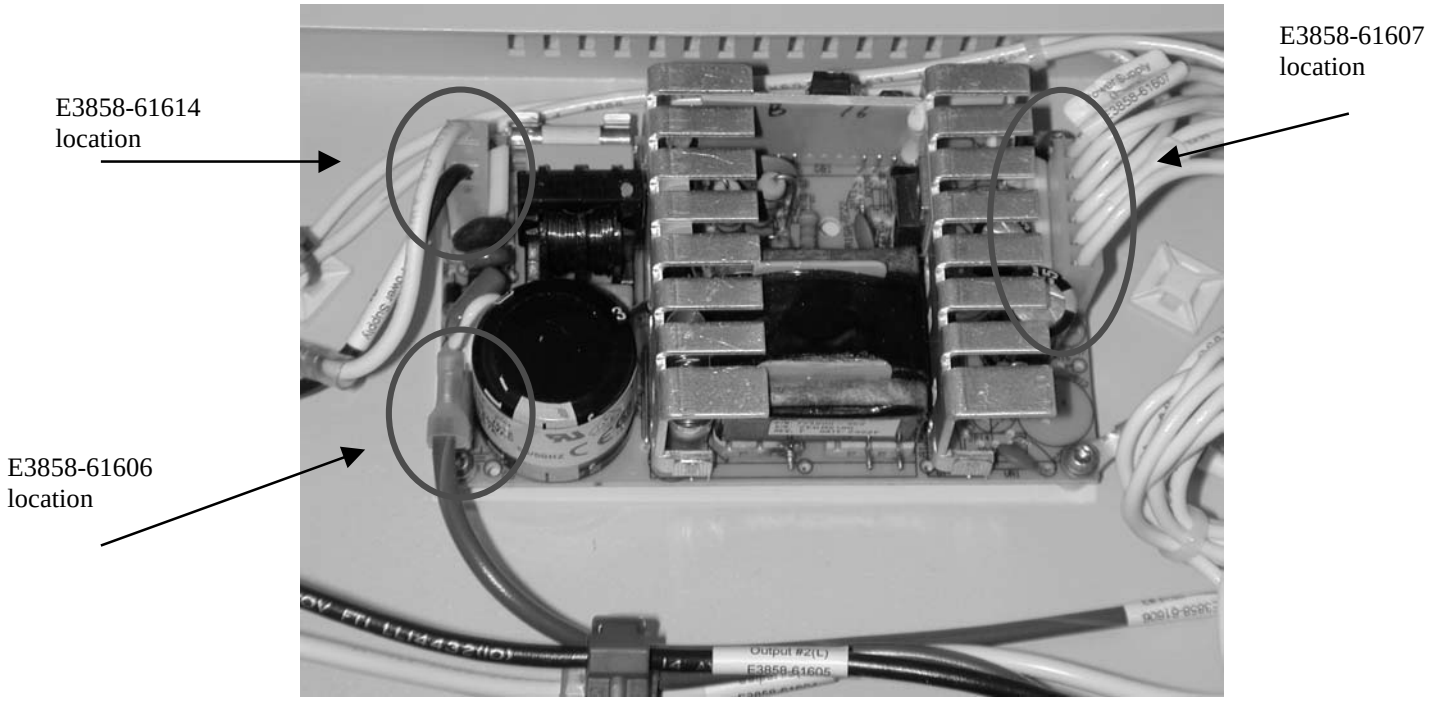

Figure 2. Removing Power Supply Cabling.

- Using a T10 Torx driver, remove the four screws connecting the power supply to the PDU chassis. Remove the power supply from the chassis (Figure 3).

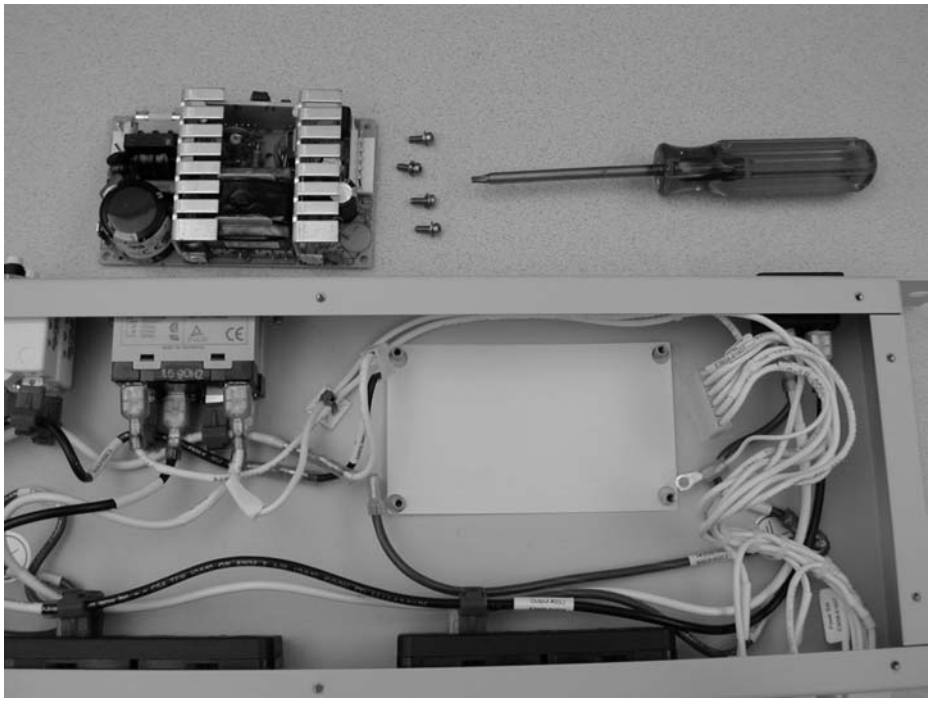

Figure 3. Power Supply Removed from the PDU Chassis.

- Remove the white plastic ESD protector from the chassis.
- Enlarge the holes on the plastic protector using a hole punch (Figure 4).

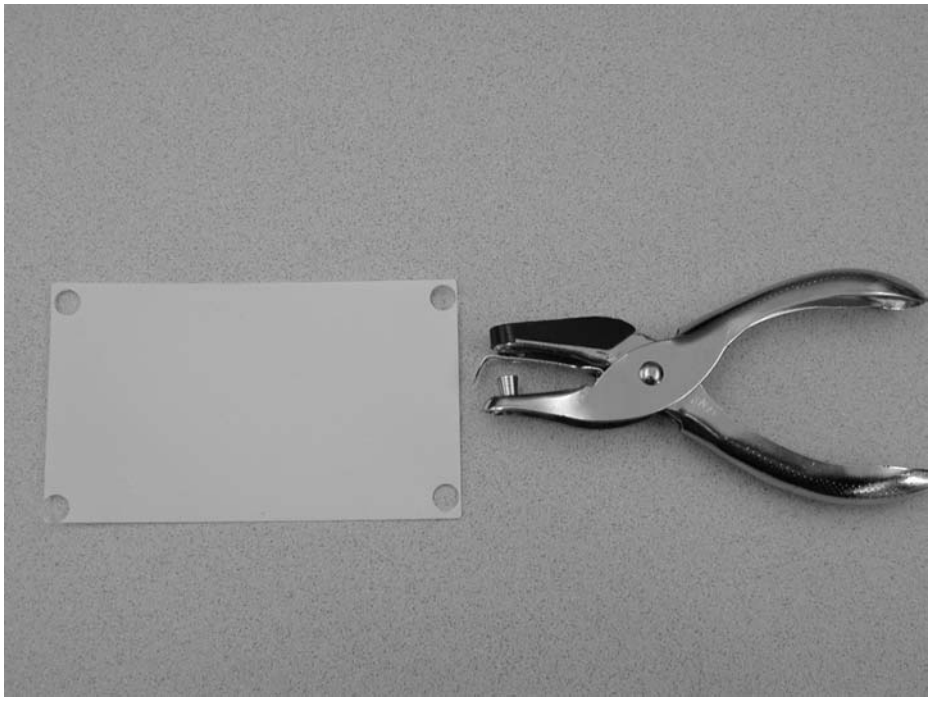

Figure 4. ESD Protector with holes enlarged.

- Optionally, using a pair of scissors cut the corners of the plastic ESD protector as shown in Figure 5. Use two strips of double-sided tape to attach the ESD protector to the chassis.

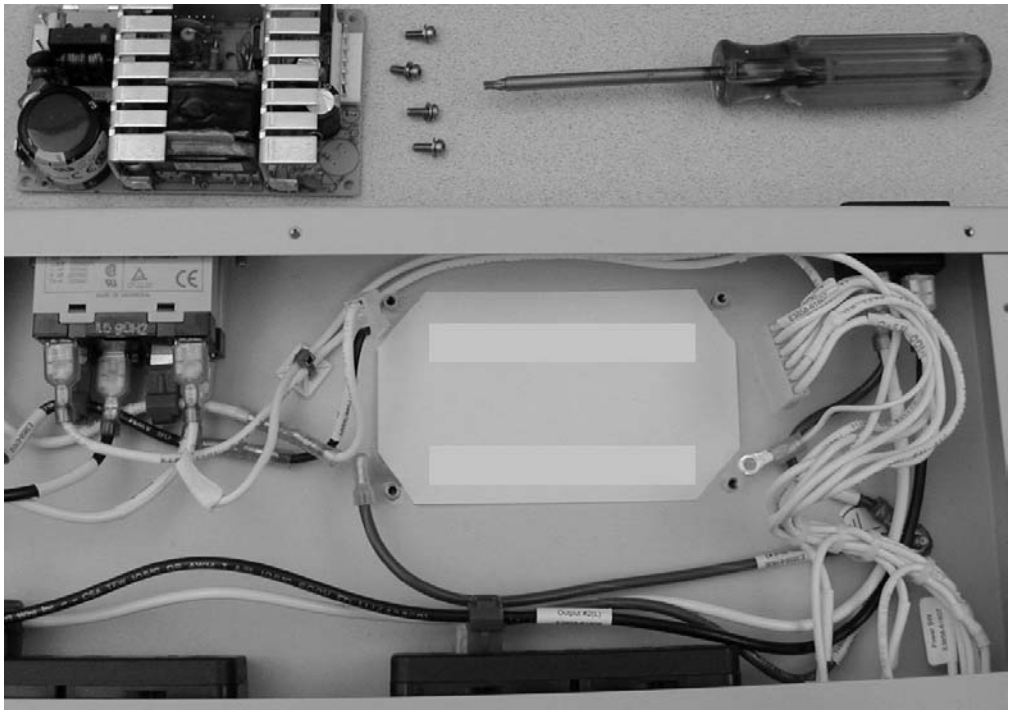

Figure 5. Optional Modification to the ESD Protector.

- Modify cable E3858-61607 as follows:
    - Remove the wire from pin 6 of the 6-pin connector. See Figure 6 for connector orientation to locate pin 6.

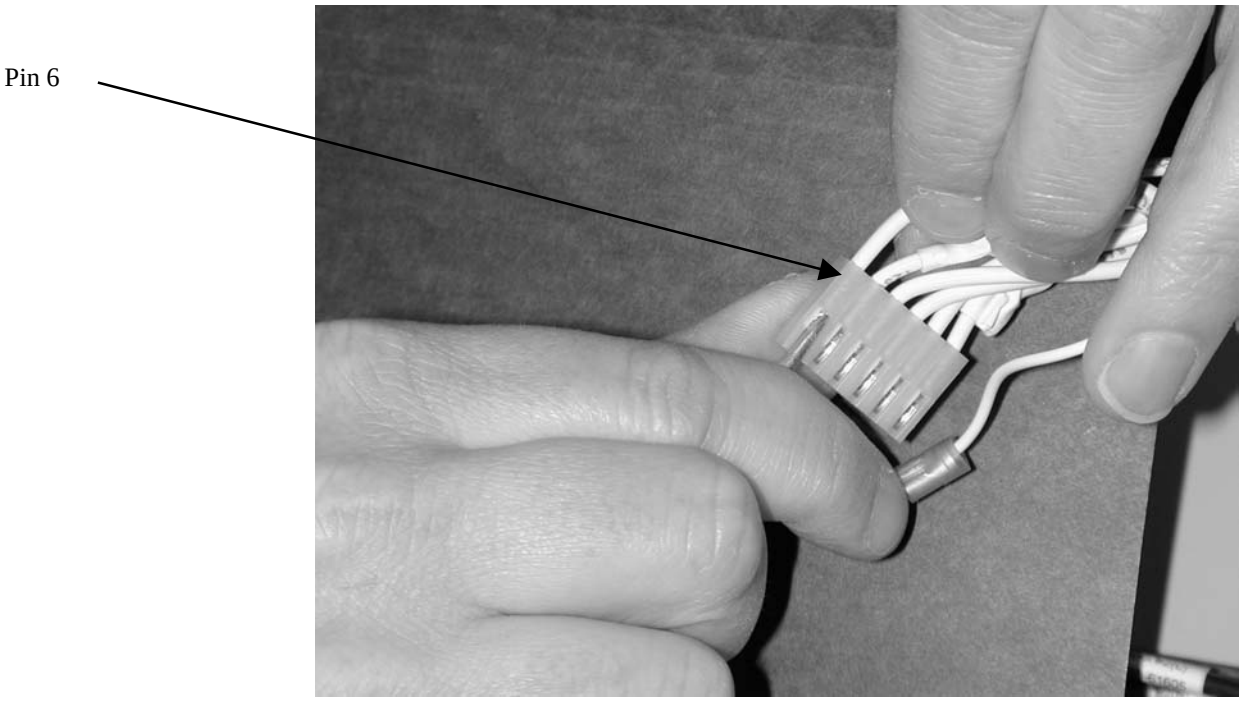

Figure 6. Removing the wire from pin six.

- Remove approximately 2 mm of insulation from the wire starting at 8 mm from the connector pin (Figure 7). Do not cut the wire.

- Using a piece of 20 AWG UL1061 wire 50mm long, remove approximately 8 mm of insulation from each end.

- Connect a ring terminal to one end of the wire. Solder the other end of the wire to the 2 mm strip of the pin 6 wire (part of E3858-61607). See Figure 7.

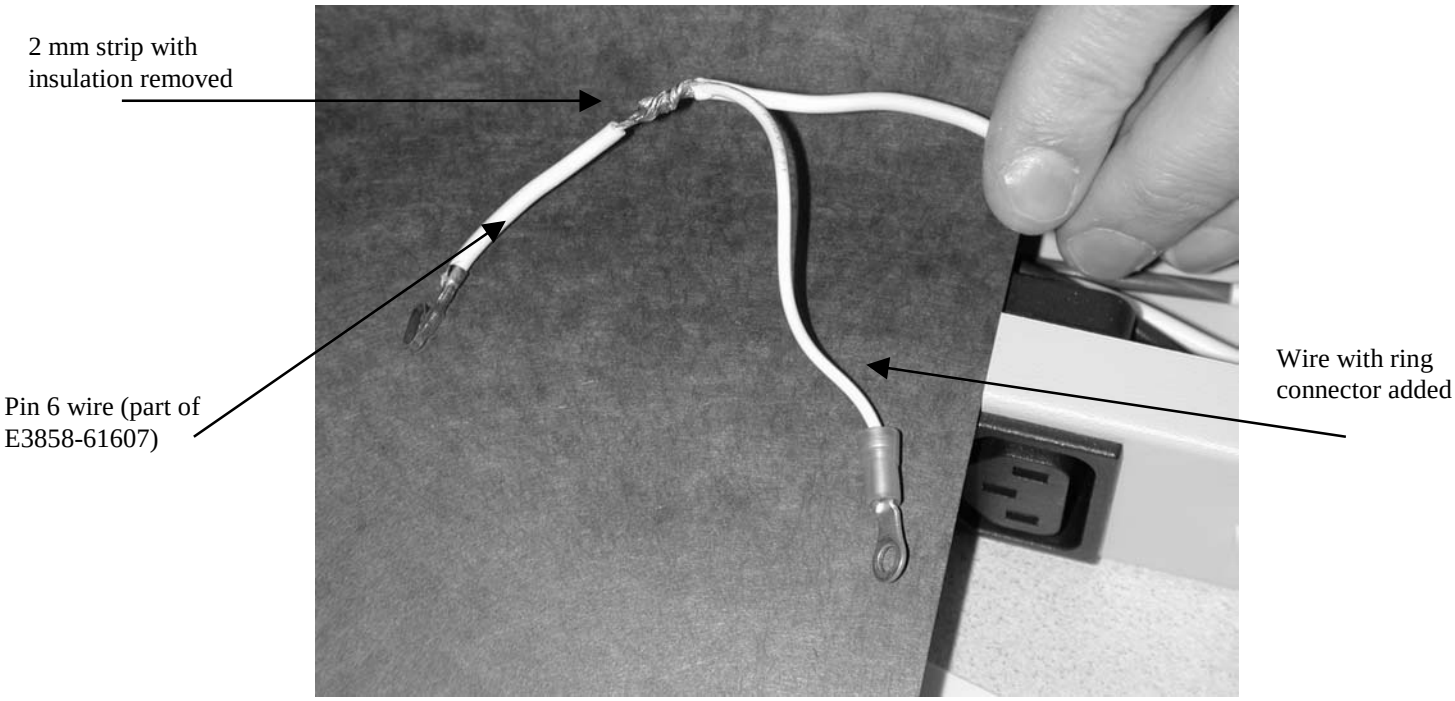

Figure 7. Adding a Wire With a Ring Connector to the Pin 6 (E3858-61607) Wire.

- Add a piece of heat shrink tubing (20mm long) over the soldered section (Figure 8). Use a heat gun to seal the heat shrink.

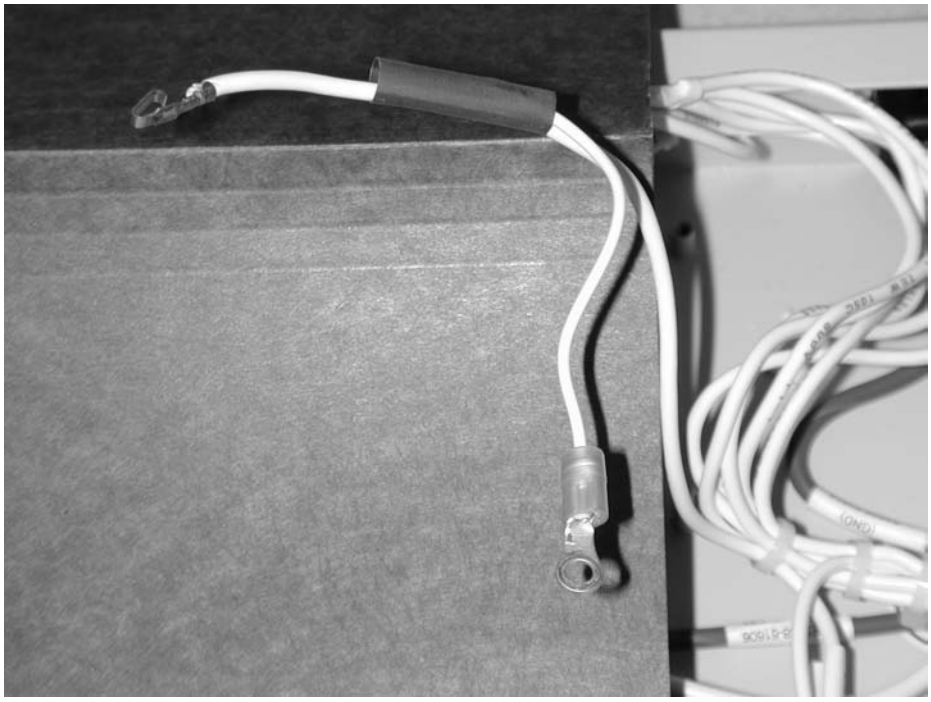

Figure 8. Heat shrink in place.

- Re-insert the pin into the 6-pin connector.

- Use a flat-blade screwdriver (or razor blade) to scrape any paint residue from the top of the posts indicated in Figure 9. This will ensure a good electrical contact between the PDU chassis and the power supply.

- Re-insert the plastic protector if a hole punch was used to enlarge the holes (Figure 4). The protector should now lay flat on the chassis base.

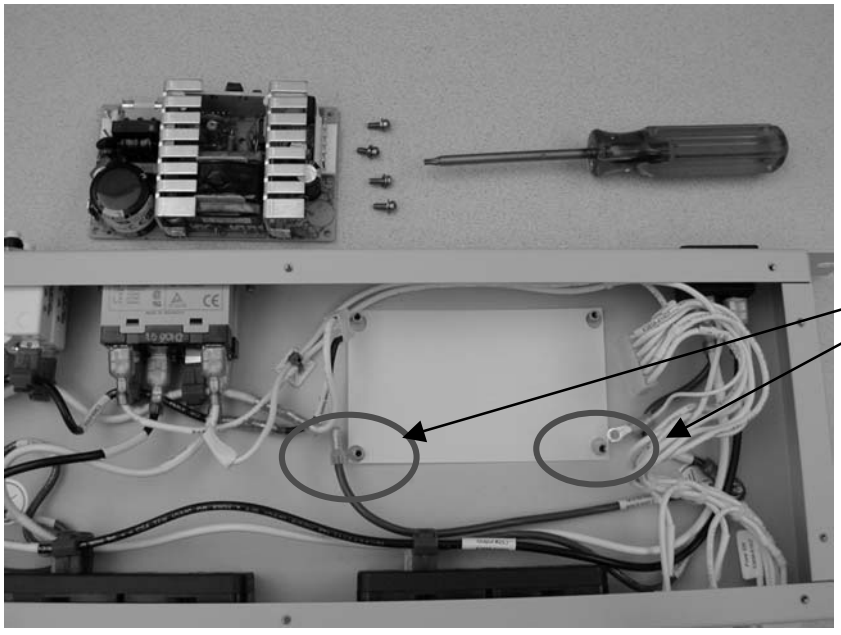

Figure 9. Remove Paint Residue from these Posts.

- Reinstall the power supply in the PDU chassis using the four screws. Attach the ground wire from the pin 6 wire to the post as shown in Figure 10. Reattach cables E3858-61614, E3858-61607, and E3858-61606 that were removed previously (Figure 2).

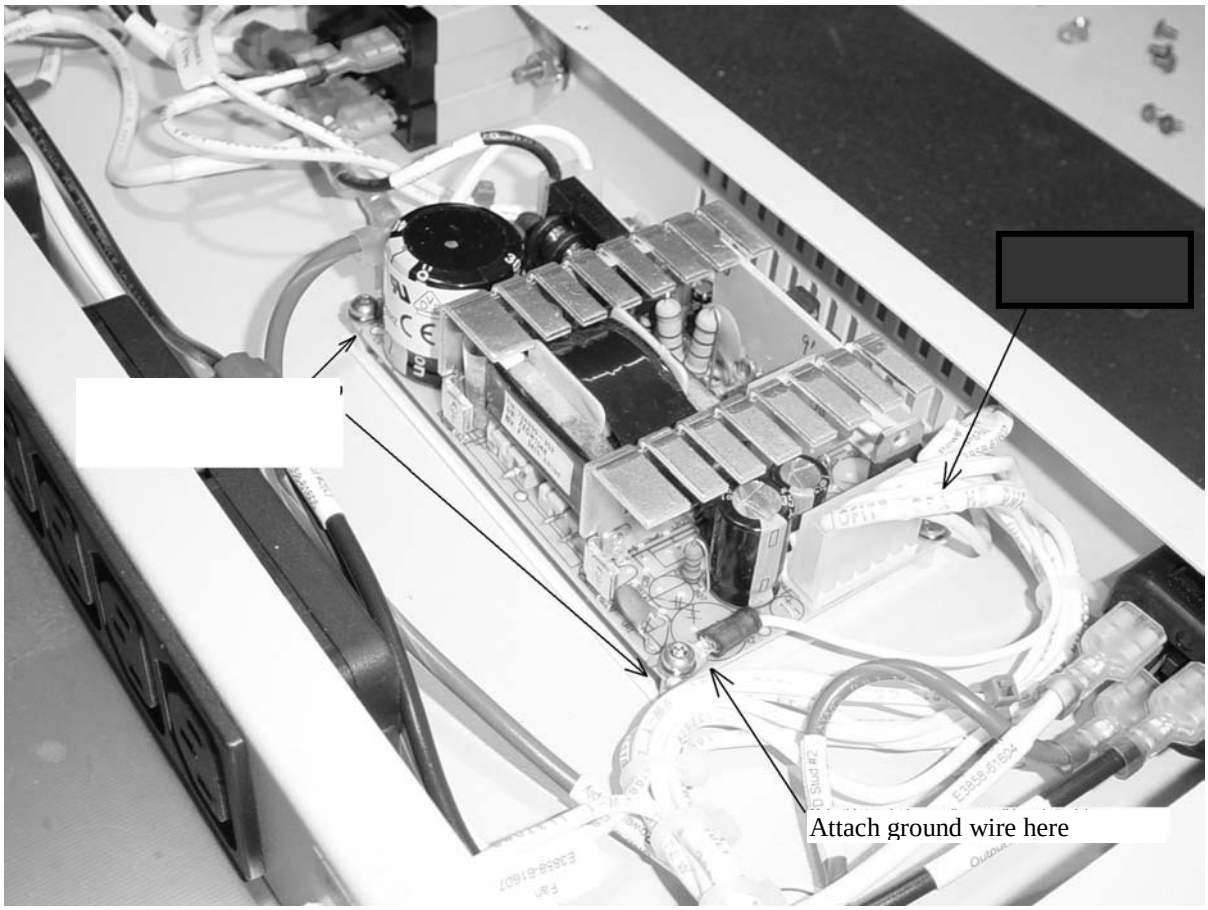

Figure 10. Re-installing the Power Supply and Connecting the Ground Wire to the Post.

- Replace the PDU cover. Verify proper installation of the ground wire by checking continuity between the ground terminal and the bottom (LO) pins of the connectors shown in Figure 11. Re-install the unit in the system rack.

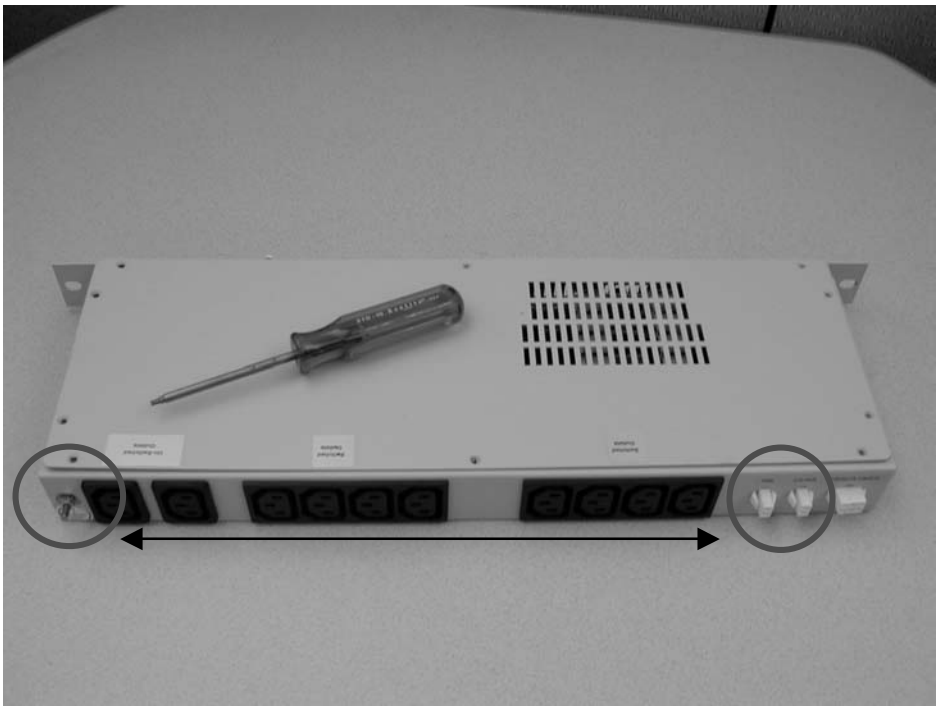

Figure 11. Measure Continuity Between these Points.

End of Document