Philips Respironics V200 Esprit Power Supply Replacement

Use this guide to replace the power supply of the Philips Respironics V200 Esprit.

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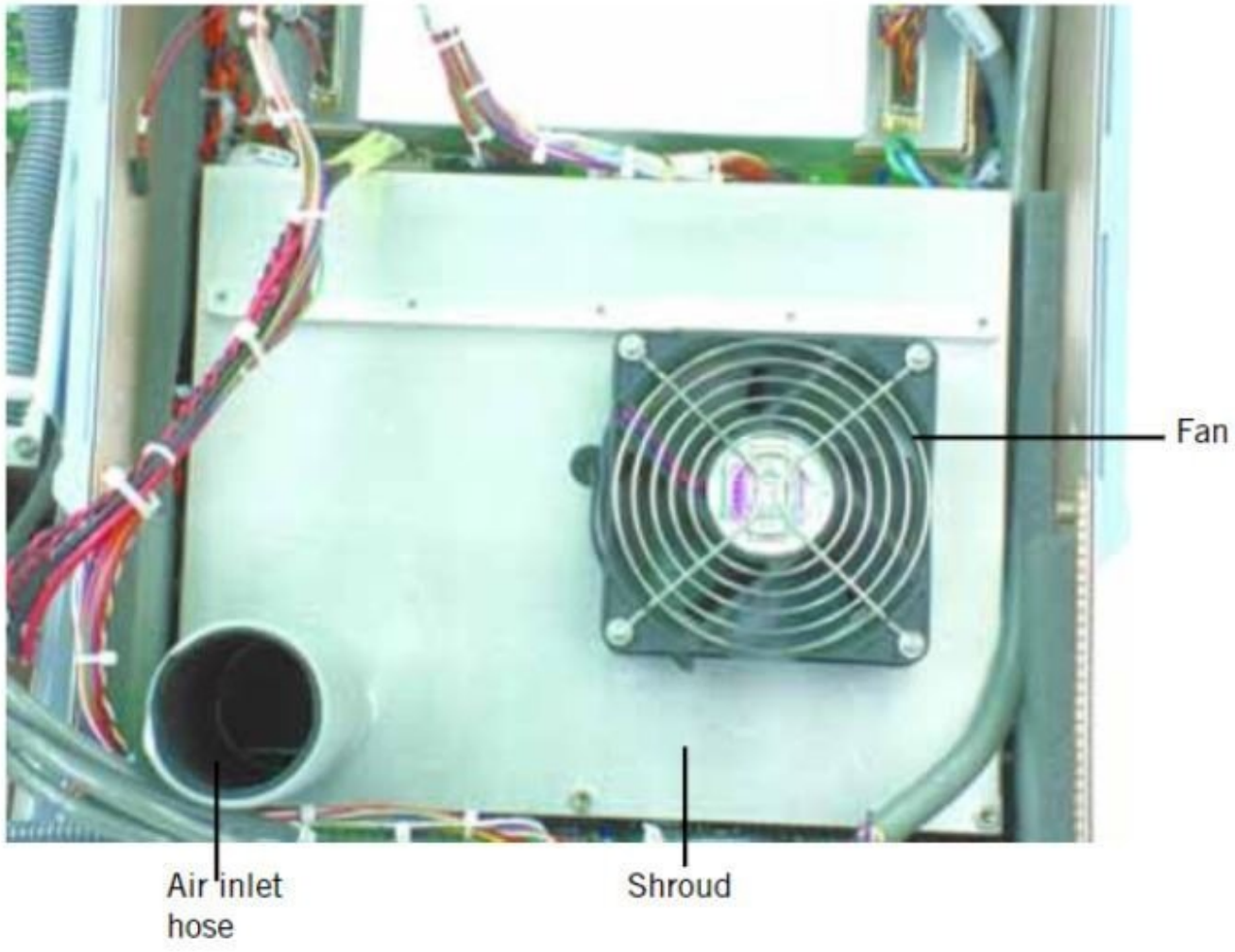


Figure 10-19: Power Supply Fan and Shroud

INTRODUCTION

This guide is for the Philips Respironics V200 / Espirit Ventilator, Part Number 580-1000-02. The power supply converts AC voltage to DC voltage to be used by the system electronics. The switching power supply can accept voltage from 100 to 240 V AC (50/60 Hz), and converts it to +5 V, + 12 V, and +29 V DC voltages. In the absence of AC voltage, the power supply converts the +24V DC input voltage from an external DC power source (Backup Battery or External Battery). The power supply also includes power fail logic and charging circuitry for the backup battery.The power supply is cooled by a 24 VDC fan housed in a shroud covering the power supply PCB.

Information about removing and installing the power supply can be found in the [document|7525|Service Manual] in Chapter 10.10.1-2 on pages 10.22-24. In order to remove the power supply, you must also remove and reinstall the power supply shroud and MMI PCB. Information on these topics can be found in Chapter 10.8 on page 10-21 and Chapter 10.12 on page 10-26 in the [document|7525|Service Manual]).

TOOLS:

- 4 mm Hex Driver (1)
- Bostitch HEX WRENCH (4MM) 166038 (1)
- 3 mm Hex Driver (1)

Step 1 — Power Supply

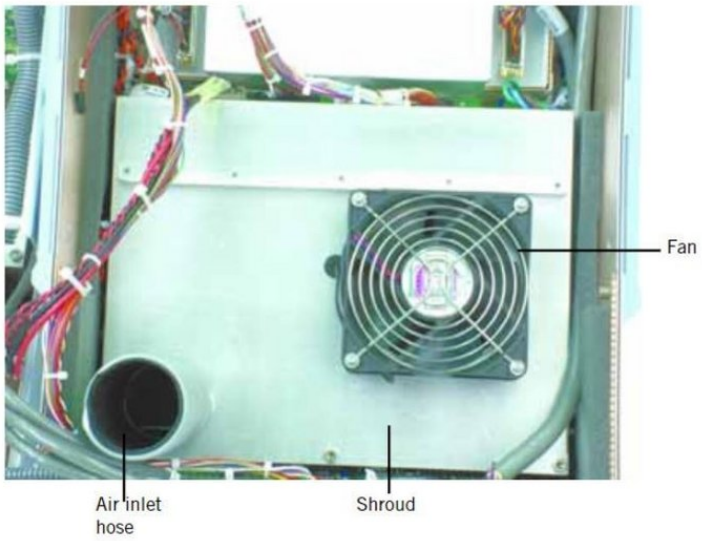
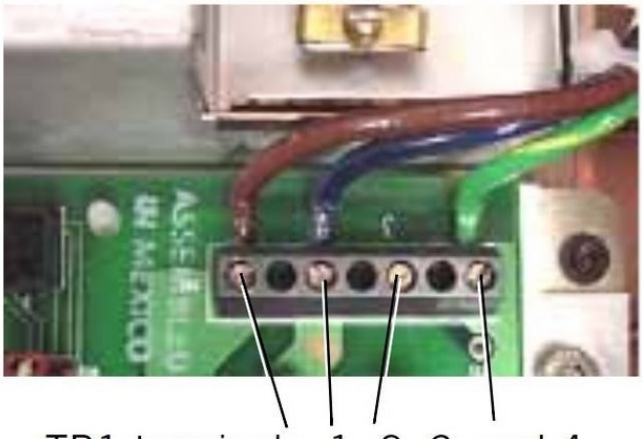


Figure 10-19: Power Supply Fan and Shroud

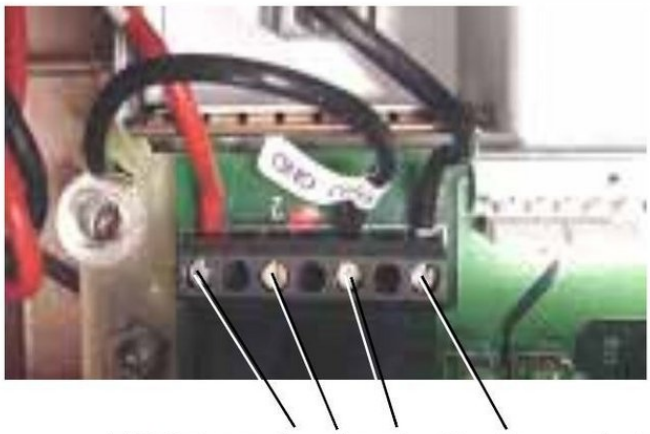
- Remove the power supply shroud (Instructions found in Chapter 10.8 on page 10-21 of the Service Manual).

Step 2



- Loosen the screws on power supply connector TB1 (page 10-22 of Service Manual).
- Disconnect the following wires:
- Brown (terminal 1)
- Blue (terminal 2)
- Green (Terminal 4)

Step 3

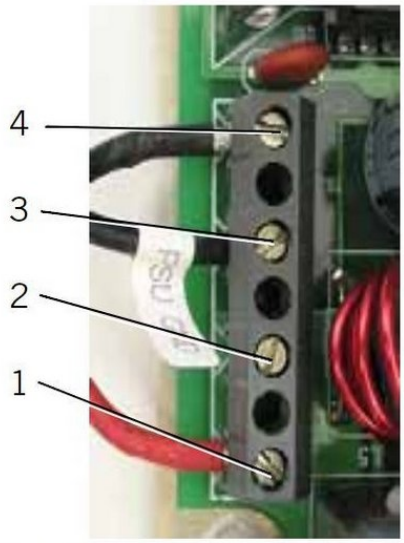


TB2 terminals: 1, 2, 3, and 4

Do not remove ground wire from terminal 3.

- Loosen the screws on power supply connector TB2 (page 10-22 of Service Manual).
- Disconnect the following wires:
- Red (Terminal 1)
- Black (Terminal 4)
- Caution! Do not remove the black ground wire from TB3 Terminal 3.

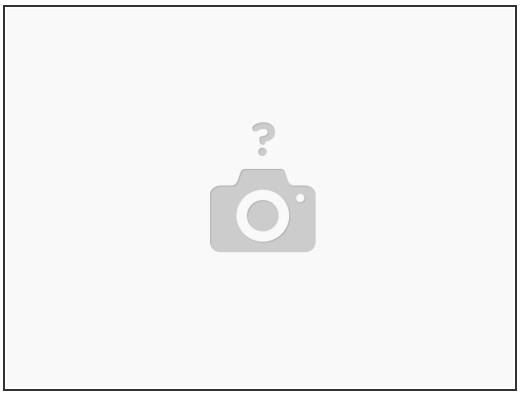
Step 4



TB3 terminals
Do not remove ground wire from terminal 3.

- Loosen the screws on the power supply connector TB3 (page 10-22 in Service Manual).
- Disconnect the following wires:
- Red (Terminal 1)
- Black (Terminal 2)
- **Caution!** Do not remove the black ground wire from TB3 Terminal 2.

Step 5



- Using a 4-mm hex driver, remove the eight M5 x 12 screws that secure the power supply to the top enclosure (page 10-22 in Service Manual),

Step 6

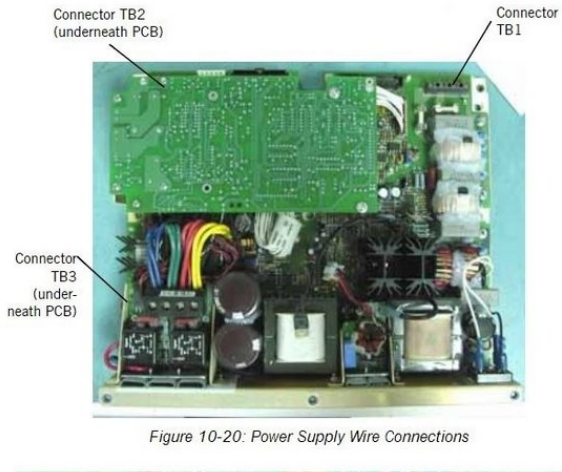


Figure 10-20: Power Supply Wire Connections

Figure 10-21: Power Supply Connectors

- For this step, lift the power supply as needed (page 10-22 of Service Manual).
- Disconnect cables from connectors J1, J2, and J3.

Step 7

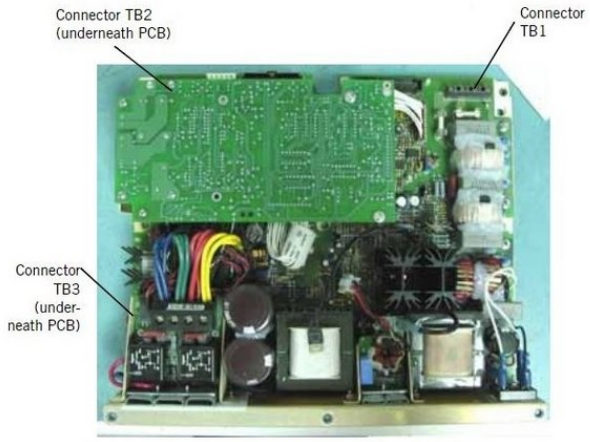


Figure 10-20: Power Supply Wire Connections

Figure 10-21: Power Supply Connectors

- Lift the power supply from the top enclosure (page 10-22 of Service Manual).
- You must install the MMI PCB before installing the power supply. Information on how to do this can be found in Chapter 10.12 on page 10-26 of the Service Manual.
- When installing the power supply, make sure no cables are routed underneath the power supply.

Step 8

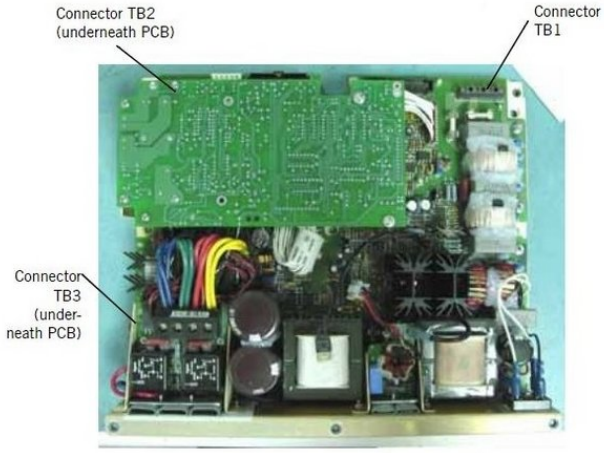
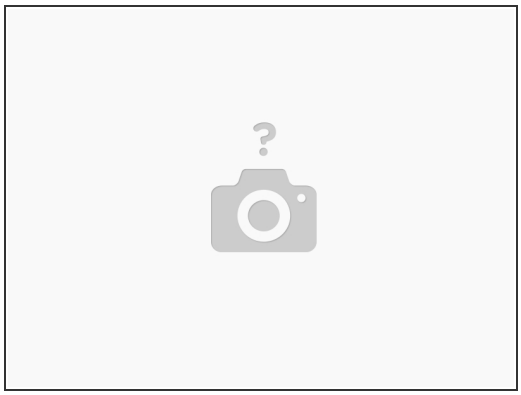


Figure 10-20: Power Supply Wire Connections

Figure 10-21: Power Supply Connectors

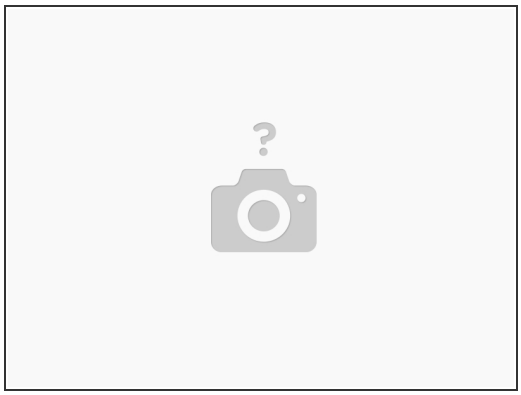
- Reinstalling the power supply (page 10-24 of Service Manual):
- Reinstall the eight screws that hold the power supply to the top enclosure.
- Do not tighten the screws until all are installed.

Step 9



- Connect the following cables to the power supply (page 10-24 of Service Manual):
- Cable PSU J1 to connector J1
- Cable PSU J2 to connector J2
- Cable PSU J3 to connector J3

Step 10



- Install the following wires to the power supply (page 10-24 of Service Manual):
- Red and black wires (PSU TB3) to connector TB3
- Red and black wires (PSU TB2) to connector TB2
- Blue, green, and brown wires from the AC mains panel to connector TB1
- When installing, push the wires completely into the connectors.
- No wires should be visible after being tightened at the terminal block.

Step 11

Figure 10-22: Shroud Ground Connection

- Reinstall the power supply shroud (Instructions found in Chapter 10.8 on page 10-21 of the Service Manual).
- Make sure the red and black wires from TB3 rest inside the shroud slots.
- Make sure the shroud does nor pinch any cables.
- All cable assemblies and wires must be routed between the shroud and the top enclosure wall.
- The black ground wire reattaches to the shroud with the longer screw (near connector TB2).