



# KIT DIODE RECTIFIERS ASSEMBLY

100047-1



**Installation and servicing of Danfoss Turbocor® compressors by qualified and product trained personnel only. Follow these instructions and sound refrigeration/electrical/servicing practices relating to installation, commissioning, maintenance and service.**

<p>Consult the appropriate Danfoss Turbocor Compressors Inc. (DTC) Service Manual on <a href="http://turbocor.danfoss.com">turbocor.danfoss.com</a> for detailed service instructions.</p>	<p><b>Never power compressor without covers in place and secured.</b></p> <p><b>Removing the mains input cover will expose you to a voltage hazard of up to 575V. Ensure the mains input power is off and locked out before removing cover.</b></p> <p><b>Before removing top cover, wait at least 20 minutes after isolating AC power to allow the high voltage capacitors to discharge.</b></p>	<p>Always wear appropriately rated safety equipment when working around equipment and/or components energized with high voltage.</p> <p><b>This equipment contains hazardous voltages that can cause serious injury or death.</b></p>	<p><b>Recover all refrigerant from compressor in accordance with local codes and ensure pressure is fully vented before the removal of refrigerant containing components.</b></p>
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## 1 - Introduction

DIODE RECTIFIERS Removal and installation.

## 2 - DIODE RECTIFIERS Removal:

1. Isolate compressor power as described in the Electrical Isolation of the Compressor section of the *Service Manual (M-SV-001)*.
2. Remove the Mains input cover by releasing the four (4) captive screws that secure the Mains input cover and remove the cover.
3. Release the nine (9) captive screws that secure the Top cover and remove the cover.
4. Disconnect the 3-phase A/C input wires from the terminal blocks.
5. Remove the three (3) fasteners that connect the Fast Acting Fuses to the SCRs and the 3-Phase input wires to the SCR Gate Cable harness. Refer to Figure 1 (Fuse Block Assemblies).
6. Remove the two (2) fasteners from each of the three (3) fuse block assemblies and set aside the fuse assemblies. Refer to Figure 1 (Fuse Block Assemblies) and Figure 2 (Fuse Block Removal).

**NOTE:** Keep the Mylar in place as there is no need to remove it for this procedure.

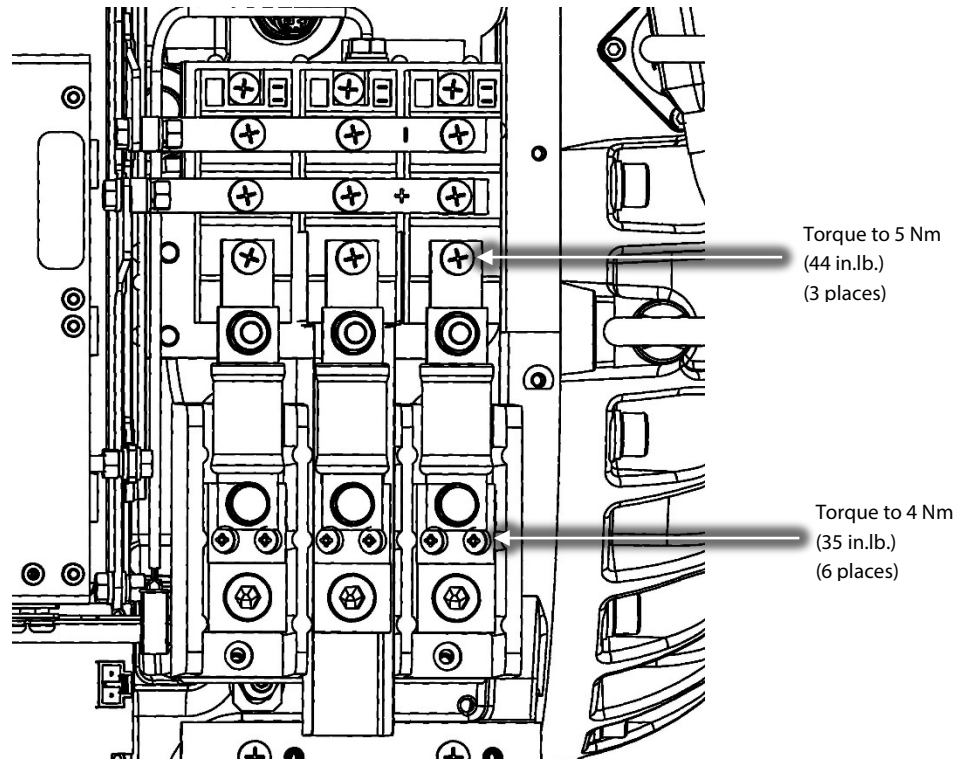


Figure 1 – Fuse Block Assemblies

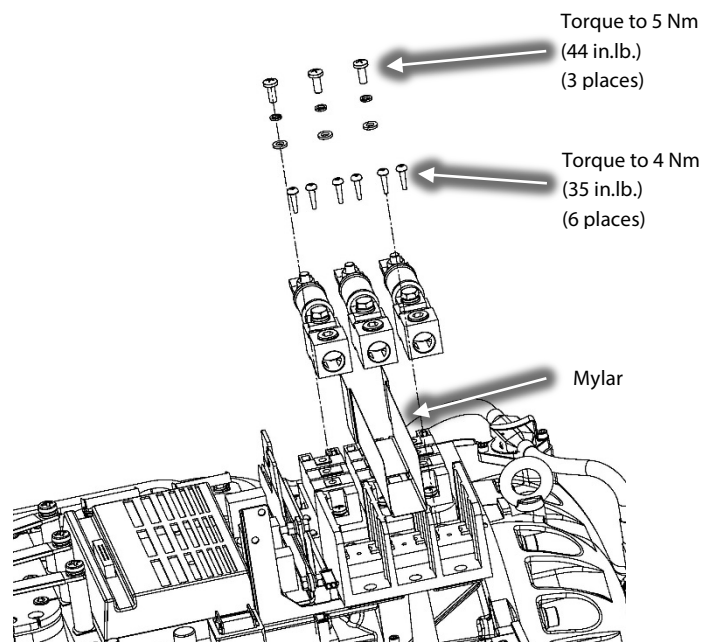


Figure 2 – Fuse Block Removal

7. Using a 10 mm combination wrench, remove the attaching hardware that secures the (+) and (-) diode bus bars to the DC bus bars and remove the diode bus bars. Refer to Figure 3 (DC Bus Bar Removal) for this both this step and the following step.
8. Remove the six (6) screws that secure the (+) and (-) diode bus bars to the rectifiers.

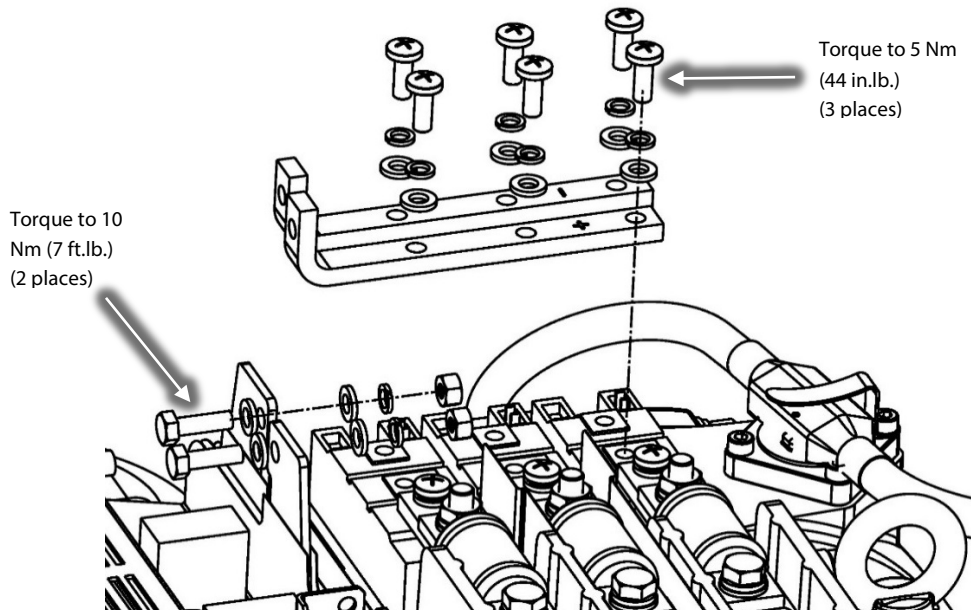


Figure 3 – DC Bus Bar Removal

9. Disconnect the two (2) SCR gate connectors from each rectifier. Refer to Figure 4 – (SCR Screws and Gate Connectors).
10. Remove the two (2) screws that secure each rectifier diode to the cooling manifold and remove the rectifier diode. Refer to Figure 4 – (SCR Screws and Gate Connectors).

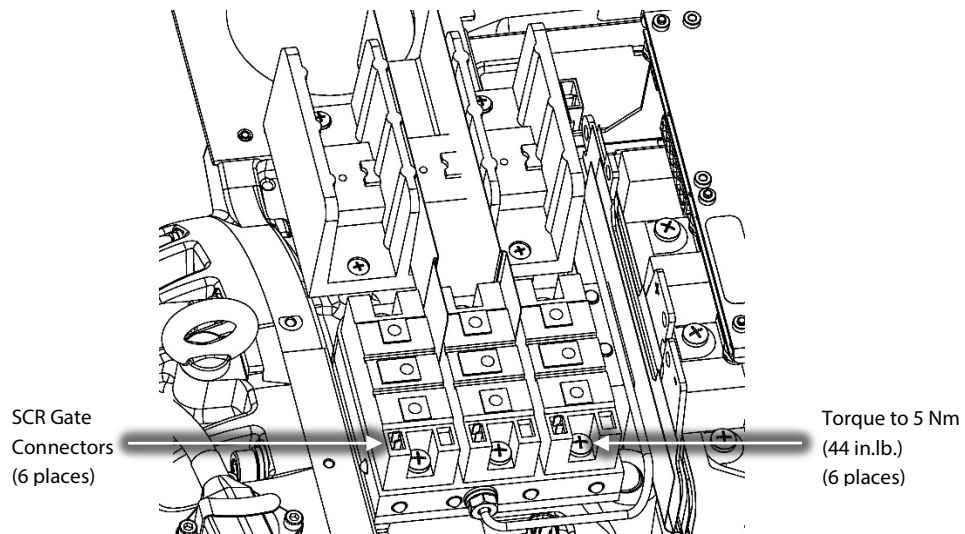


Figure 4 – SCR Screws and Gate Connectors

**3 - DIODE RECTIFIERS installation:**

1. Ensure that no residue remains on the contact surfaces of the SCR Cooling Manifold.
2. Take a diode and spread a thin and uniform coat of Dow Corning Silicone Heat Sink paste (or equivalent) entirely over the bottom of each diode surface. Refer to Figure 5 (Heat Sink Paste Application).

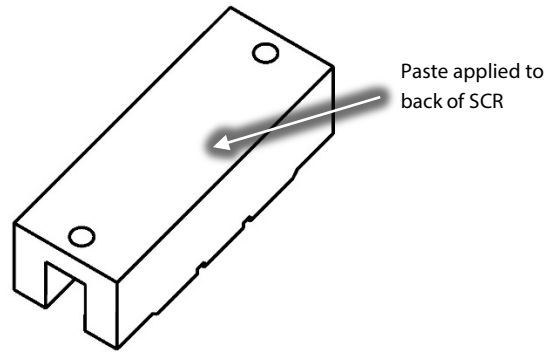


Figure 5 – Heat Sink Paste Application

3. Install the diodes on the SCR Cooling Manifold. The diode pins should be on the same side of the Manifold sensor wire. Refer to Figure 6 (SCR Orientation).
4. Secure the diodes on the Manifold Assembly using six (6) screws, and six (6) lock washers. Torque the screws to 6 Nm (53 in.lb). Refer to Figure 6 (SCR Orientation).

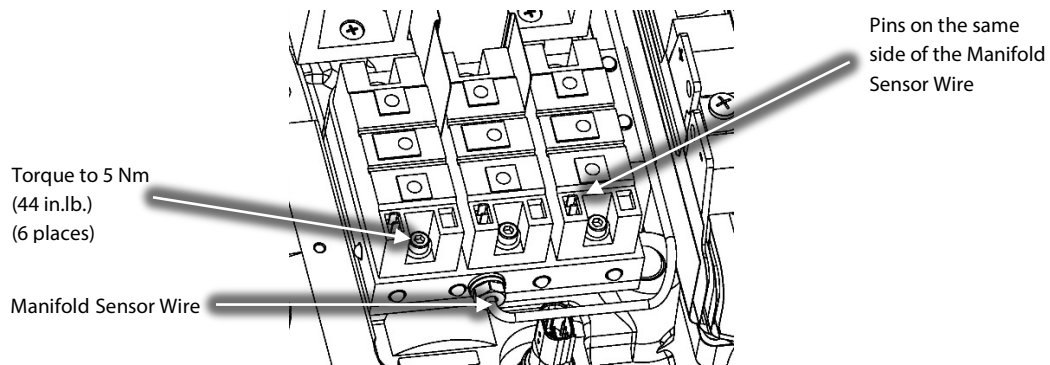


Figure 6 – SCR Orientation

**NOTE:** The screws should be tightened up again three (3) hours later as the thermal compound spreads out under the mounting pressure.

5. Place the negative bus bar on the diodes. The negative bus bar should be next to the diode pins (aligned with the holes identified as #3 on the diodes). Refer to Figure 7 (Bus Bar Installation) and Figure 8 (Bus Bar Locations).
6. Install the positive bus bar beside the negative bus bar (aligned with holes identified as #2 on the diodes). Refer to Figure 7 (Bus Bar Installation) and Figure 8 (Bus Bar Locations).
7. The curved section of the bus bar should be installed upwards. Refer to Figure 7 (Bus Bar Installation).

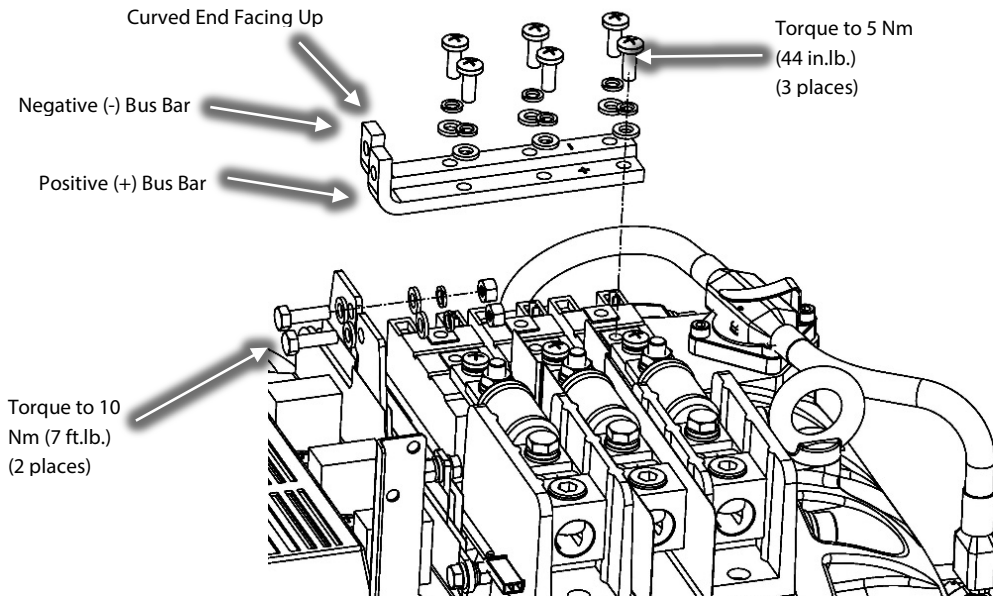


Figure 7 – Bus Bar Installation

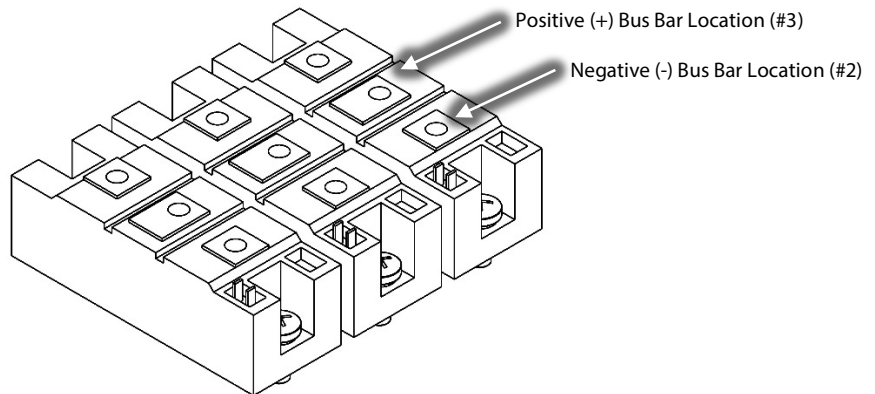


Figure 8 – Bus Bar Locations

8. Using a screw driver, install the bus bars into place using six (6) flat washers, lock washers, and screws. Torque the screws to 6 Nm (53 in.lb). Refer to Figure 9 (Bus Bar Fasteners).

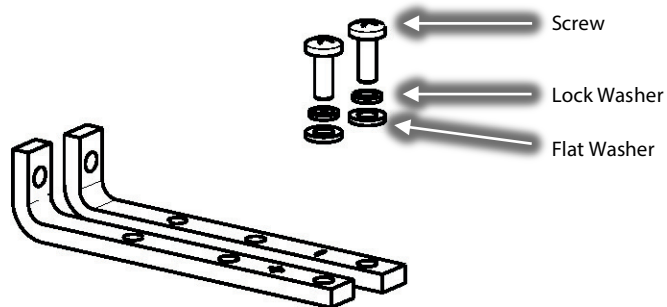





Figure 9 – Bus Bar Fasteners

9. Apply di-electric grease at the top of screws to prevent moisturizing and corrosion; place the covers and start the compressor.

4 - Kit Contents

Kit numbers	Compressor models
100047-1	TT300

QTY	Part(s) Description	Picture(s)
3	DIODE REC/SCRM 250A SKKH 162/16E	
6	WASHER M6 SPRING	
6	SCREW M6x16 SOCKET HEAD CAP	



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