



KIT COOLING FAN ASSEMBLY

100373



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 turbocor.danfoss.com for detailed service instructions.</p>	<p>Never power compressor without covers in place and secured.</p> <p>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.</p> <p>Before removing top cover, wait at least 20 minutes after isolating AC power to allow the high voltage capacitors to discharge.</p>	<p>Always wear appropriately rated safety equipment when working around equipment and/or components energized with high voltage.</p> <p>This equipment contains hazardous voltages that can cause serious injury or death.</p>	<p>Recover all refrigerant from compressor in accordance with local codes and ensure pressure is fully vented before the removal of refrigerant containing components.</p>
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1 - Introduction:

COOLING FAN ASSEMBLY Removal and installation. The replacement fan includes an adapter board that is attached to the fan. This adapter must be used for proper operation of the replacement fan.

2 - Suggested Tools:

The following tools are suggested:

1. Philips screwdriver/bit
2. Hex bit

3 - Soft Start Identification:

This kit contains a fan and an adapter board along with associated hardware. In some cases, usage of the adapter board will not be necessary. In order to identify whether or not the adapter board is needed, locate the revision of the Soft Start (refer to Figure 1 - Revision Identification).

Soft Starts with revision **P and earlier** require the use of the adapter board. Soft Starts with revision **Q and later** do not require the adapter board.

CAUTION: Use of the adapter board on Soft Starts with revision Q and later may cause the fan not to start leading to Soft Start over-temperature faults. Not incorporating the adapter board on Soft Starts with revision P and earlier will cause premature failure of the Soft Start Fan.

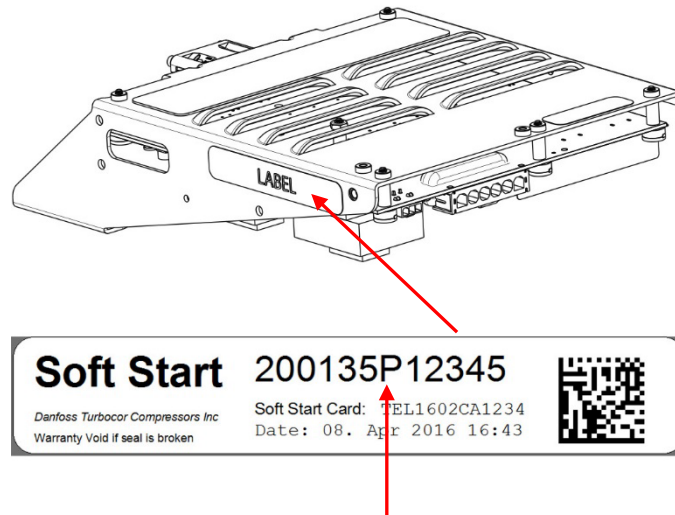


Figure 1. Revision Identification

4 - COOLING FAN ASSEMBLY Removal:

1. Turn off the mains input power to the compressor.
2. Lock Out/Tag Out (LOTO) the mains disconnect to ensure no accidental or unauthorized re-application of the mains input power can occur.
3. Remove the mains cover only.
4. Using an appropriately rated volt meter, confirm that the AC voltage is isolated.
5. Wait at least 20 minutes for the DC bus capacitors to discharge.

DANGER: Do NOT touch any components when removing the top cover. This is particularly true for compressors with CE covers because they are coated on the outside for the express purpose of being conductive

1. Remove the top cover by releasing the nine (9) screws that secure the cover, taking particular care not to touch ANY components underneath.
2. Using an appropriately rated volt meter, check the DC bus bars for voltage level. If the voltage is above 5VDC, wait five (5) minutes and recheck until 5VDC or below is achieved.
3. Unplug the Fan Power Supply (J5) from the Soft Start.
4. Remove the four (4) mounting screws securing the cooling fan to the Soft Start Bracket. Be careful not to drop the fasteners onto the compressor components. Refer to Figure 2 for details.

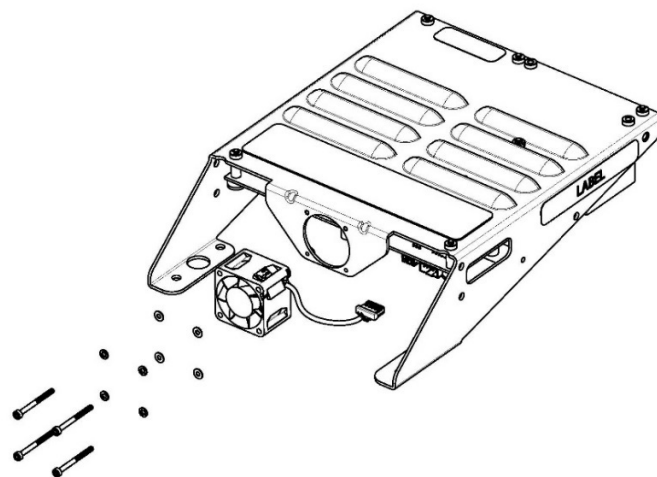


Figure 2. Soft Start with Old Style Fan

 5 - COOLING FAN ASSEMBLY Installation:

Fan with Adapter Board

NOTE: A label is attached to the end of the adapter board cable. This label is not shown in the illustrations; however, it **must** be removed prior to installation.

1. Orient the fan so the vertical arrow is pointing down and the horizontal arrow is pointing toward the Soft Start Board. Figure 3 (Fan Orientation with Adapter Board) shows an upside-down view of the Soft Start and where the fan arrows should be pointing.

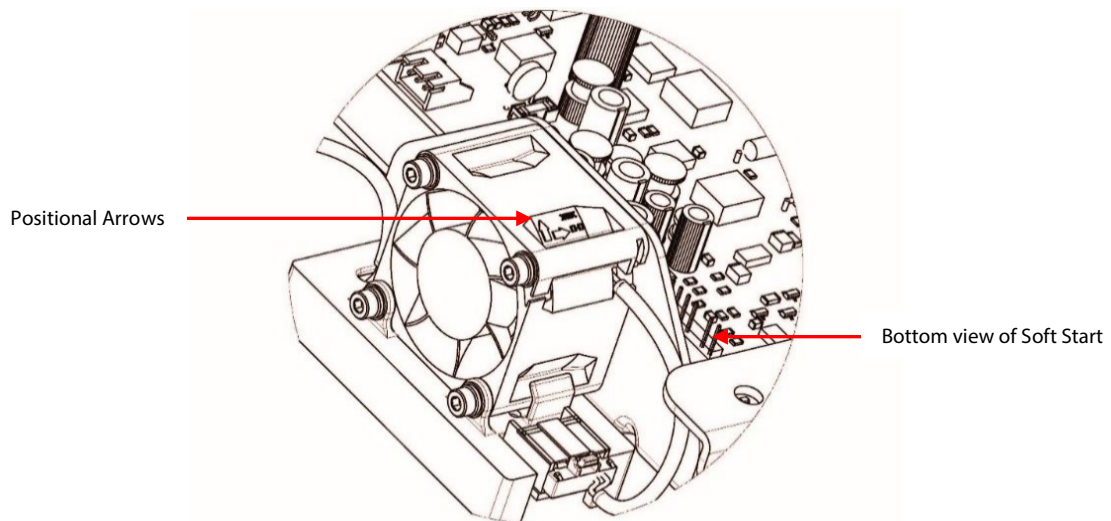


Figure 3. Fan Orientation with Adapter

2. Finger tighten the two (2) screws to secure the fan and adapter board to the Soft Start Bracket. Be sure to use the supplied screws and washers.
3. Insert the two (2) remaining screws along with the washers, then torque all four (4) screws to 6 in.lb.

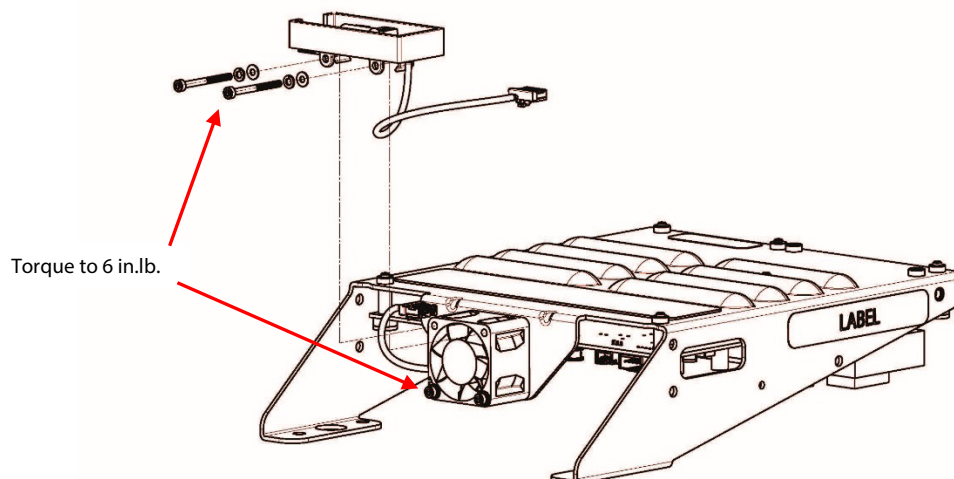


Figure 4. Mounting Adapter

4. Plug the connector of the new fan adapter board into J5 of the Soft Start.
5. Plug the connector of the new fan into the adapter board.

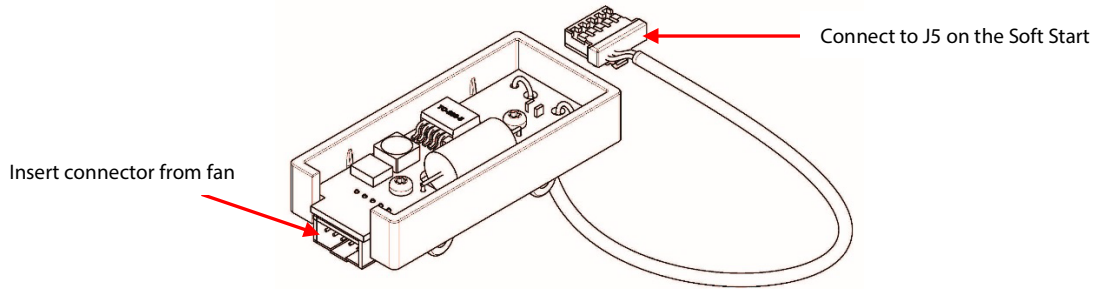


Figure 5. Adapter Electrical Connections

6. Re-install the compressor covers.
7. Restore power to the compressor.

Fan Only (No Adapter)

1. Remove the adapter board from the fan by removing the two (2) upper screws.

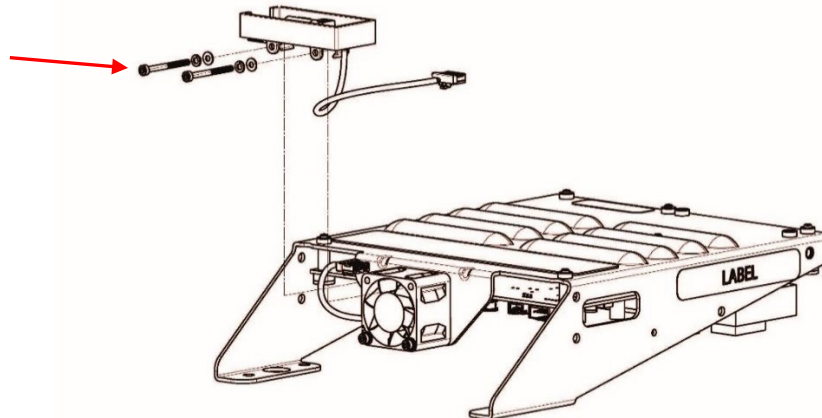


Figure 6. Adapter Removal

2. Orient the fan so the vertical arrow is pointing up and the horizontal arrow is pointing toward the Soft Start Board, directing the fan blade away from the Soft Start Board. Refer to Figure 7 (Fan Orientation W/O Adapter Board).

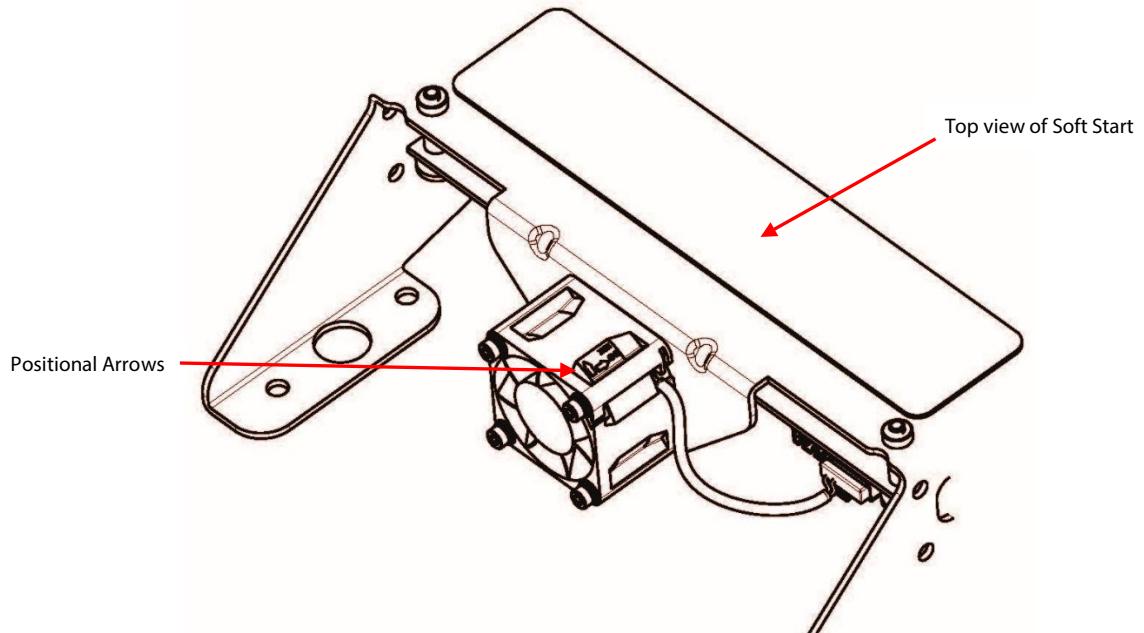


Figure 7. Fan Orientation W/O Adapter

3. Secure the fan to the Soft Start Bracket using the provided new screws and washers. Torque to 6 in.lb.

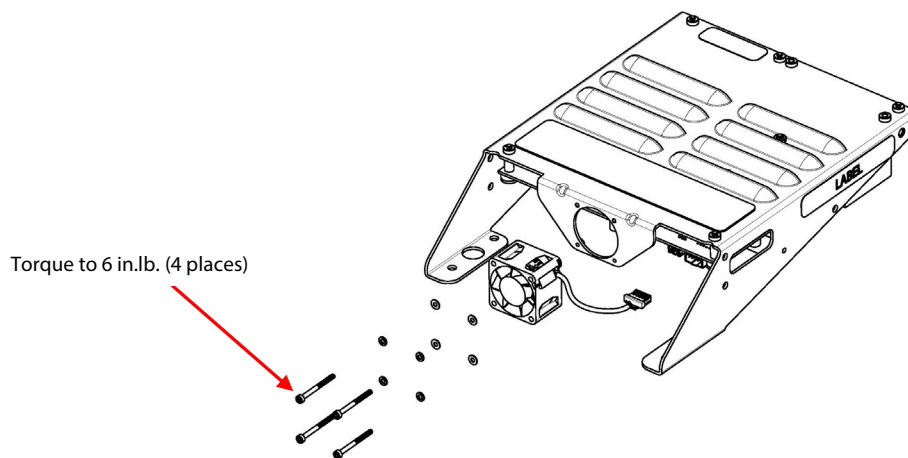
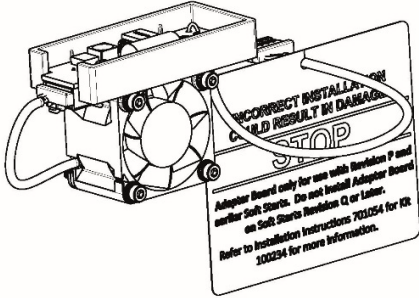





Figure 8. Soft Start with New Style Fan

4. Plug the connector of the new fan into J5 of the Soft Start Board.
5. Re-install the compressor covers.
6. Restore power to the compressor.

6 - Kit Contents:

Kit numbers	Compressor models
100373	ALL MODELS

QTY	Part(s) Description	Picture(s)
1	COOLING FAN	
1	ADAPTER BOARD <i>(Only for P and earlier revision Soft Starts)</i>	
4	WASHER M3-FLAT	
4	WASHER M3 SPLIT TYPE LOCK	
4	SCREW M3X35 SOCKET HEAD CAP	

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