

## PowerFlex 750-Series Drives Circuit Board Edge Connector Grease Application

Catalog Numbers SK-RH-PWRS1-CD-F8, SK-RH-PC1-F8, SK-RH-PINT2-F8, SK-RH-MCB1-F8, SK-RH-F1B1-F8, SK-RH-EMCFLT2-F8

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### Overview

Replacing printed circuit board assemblies in PowerFlex® 750-Series drives requires that you grease the edge connectors to help achieve good connectivity and to help protect against corrosive environments. Transceivers are pre-greased - inspect them to help ensure that the grease is present. This document provides references and instructions to properly apply the PolySi PST-576 dielectric grease (included with the kits) to edge connectors, and to inspect transceivers.

### Product Advisories

Read the following advisories before working on the drive.



**ATTENTION:** Qualified Personnel

Only qualified personnel familiar with adjustable frequency AC drives and associated machinery should plan or implement the installation, startup, and subsequent maintenance of the system. Failure to comply can result in personal injury and/or equipment damage.



**ATTENTION:** Product Safety

An incorrectly applied or installed drive system can result in component damage or a reduction in product life. Wiring or application errors such as undersizing the motor, incorrect or inadequate AC supply, or excessive surrounding air temperatures may result in malfunction of the system.



**ATTENTION:** Verify Voltage Discharge

To avoid an electric shock hazard, verify that the voltage on the bus capacitors has discharged completely before servicing. After removing power to the drive, wait 5 minutes for the bus capacitors to discharge. Measure the DC bus voltage at the DC+ and DC- TESTPOINT sockets on the front of the power module. The voltage must be zero.



**ATTENTION:** Electrostatic Discharge

This drive contains electrostatic discharge (ESD) sensitive parts and assemblies. Static control precautions are required when installing, testing, servicing, or repairing this assembly. Component damage may result if ESD control procedures are not followed. If you are not familiar with static control procedures, reference Guarding Against Electrostatic Damage, publication [8000-4.5.2](#) or any other applicable ESD protection handbook.

### Work Area

Prepare your work area before you complete the grease application procedures in this document. The work area and surface must be:

- Clean and free of any debris or contaminants
- Properly ventilated
- Lit well enough to inspect connectors and edge connections on circuit boards

## Personal Protection Equipment (PPE)

**IMPORTANT** Wear proper Personal Protective Equipment (PPE). Follow all applicable local, national, and international codes, standards, regulations, or industry guidelines for safe work place practices and for PPE.

Avoid prolonged or repeated skin contact with the PolySi PST-576 grease that is included in the renewal kits. Wash your hands after handling and application of grease.

The following personal protective equipment is recommended when handling and applying PolySi PST-576 dielectric grease.

- Clean nitrile or latex gloves
- Safety glasses

## Required Tools

See "Required Tools" in the PowerFlex 755 AC Drives Floor Mount Frames 8 and Larger, Hardware Service Manual, publication [750-TG001](#) (referred to as service manual in this document).

## Additional Instructions

In addition to the instructions in this publication, you need the instructions for part removal and replacement that is provided for your part renewal kit in the service manual. See these replacement instructions for the replacement kit you are using:

| Kit Description                      | Cat. No.          | Section  | Chapter in Service Manual |
|--------------------------------------|-------------------|--|---------------------------|
| Main Control board                   | SK-RH-MCB1-F8     | Main Control Board Removal/Installation                  | 4                         |
| Fiber Interface board                | SK-RH-FIB1-F8     | Fiber Interface Board Removal/Installation               | 4                         |
| Converter EMC Filter board           | SK-RH-EMCFLT2-F8  | Converter EMC Filter Circuit Board Removal/Installation  | 5                         |
| Inverter Power Supply board          | SK-RH-PWRST-CD-F8 | Power Supply Circuit Board Removal/Installation          | 7                         |
| Inverter Power Control board         | SK-RH-PC1-F8      | Power Control Circuit Board Removal/Installation         | 7                         |
| Inverter Power Layer Interface board | SK-RH-PINT2-F8    | Power Layer Interface Circuit Board Removal/Installation | 7                         |

## Open and Inspect the Kit Components

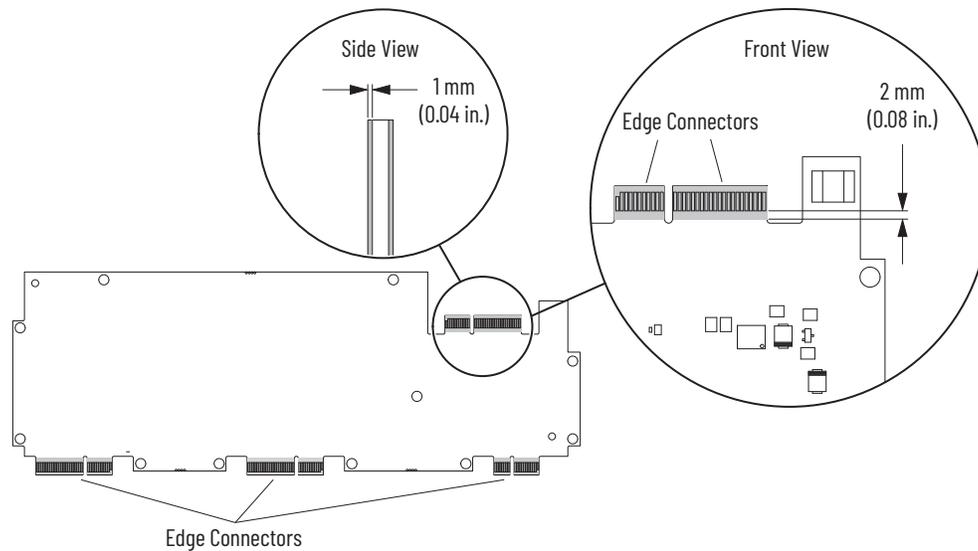
Open your renewal part kit and inspect the circuit board for signs of corrosion on components, connection points, and edge connectors. Corrosion can be white, green, or black discolorations on the exposed metal portions. If there are signs of corrosion on the circuit board, replace it with a new spare part kit.

## Apply Grease to a Circuit Board Edge Connector

Follow these steps to apply the grease to a circuit board edge connector.

1. Review the General Precautions in the service manual.
2. Remove and lockout/tagout power from the drive. See "Remove Power from the Drive" in the service manual.
3. Follow the steps to remove the applicable printed circuit board assembly in the service manual. See [Additional Instructions](#) in this document.
4. Inspect the mating (female) connector for the replacement circuit board for corrosion and particulate contamination and complete the appropriate steps:
  - a. If there is particulate contamination in the connector on the mating circuit board, replace the mating circuit board: replace the backplane board (POD only).
  - b. If the exterior surface of the mating (female) connector has contamination, use a lint-free alcohol wipe with 90% or higher alcohol content, to remove contamination from the mating (female) connector to help prevent any contamination from entering the connector.
5. Open the PolySi PST-576 grease syringe provided with the spare part.
6. Press the plunger to start the flow of grease.
7. In one motion, apply the grease to the edge connector in one direction away from the board towards outside edge with these considerations:
  - DO NOT apply force on the edge connector to help avoid scratching the connection points or damaging the circuit board.
  - Apply grease to both sides of the edge connector at approximately 1 mm thickness. See [Figure 1](#). The grease coverage should extend to at least 2 mm past the edge connector.
  - Grease must cover the entire edge connector surface and extend below the edge connector by 2 mm as seen in [Figure 1](#).
8. Repeat step 7 for the other side of the edge connector.

Figure 1 - Apply Grease to Edge Connectors



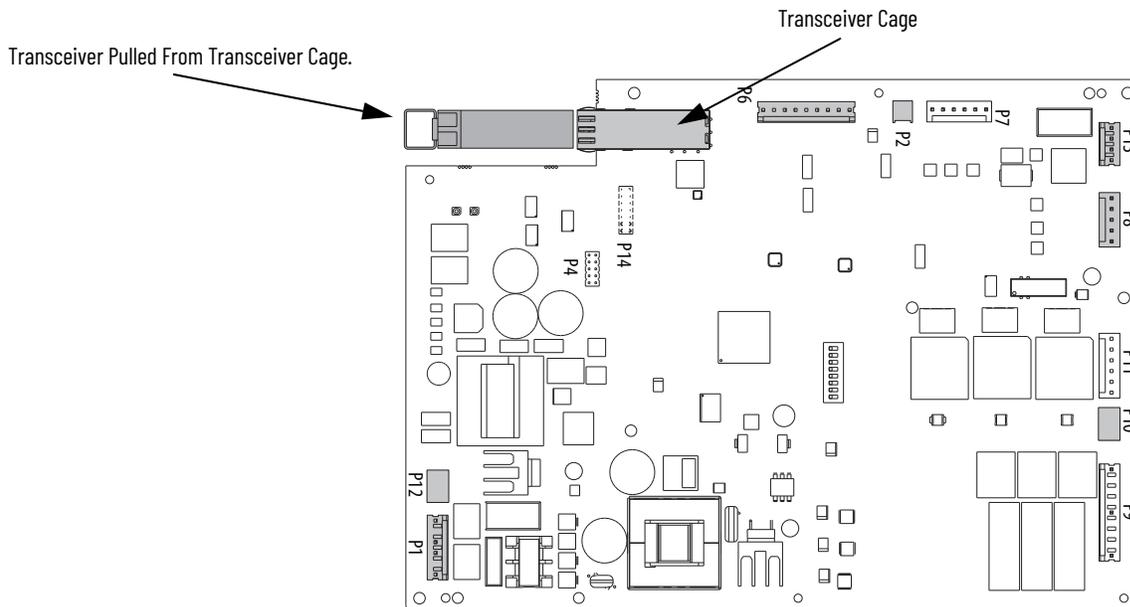
9. Carefully insert the edge connectors on the circuit board into the appropriate connectors on the mating circuit board with these considerations:
  - Take care not to disturb or remove the grease on the edge connectors.
  - Make sure that the new circuit board is fully seated in the mating connectors.
10. See the service manual to replace any parts that were removed to access the circuit board.

### Inspect Pre-greased Transceiver Edge Connectors

1. Use a lint-free alcohol wipe with 90% or higher alcohol content to remove any debris from the transceiver cage.
2. Remove the existing transceiver.



See the Converter Gate Circuit Board Removal/Installation section in Chapter 5 of the Service Manual for an example. Several of the circuit boards have one or more transceivers and the instructions are similar for all of them.



3. Inspect the transceiver cage for contamination. Pay attention to the female connection inside the transceiver cage. If there is debris found in the female connection, replace the printed circuit board assembly.
4. Remove the protective yellow cap on the transceiver to expose the male edge connector.
5. Inspect the male edge connection on the transceiver to confirm that a layer of grease covers the edge connectors. If grease is missing, select a new transceiver.
6. Reattach the fiber-optic cables in the reverse order of how they were removed.
7. Insert the greased transceiver into the transceiver cage until it is fully seated.
8. Repeat steps 1...7 for all transceivers included with the renewal part kit.

## Rockwell Automation Support

Use these resources to access support information.

|   |  |  |
|---|--|--|
| <b>Technical Support Center</b>                         | Find help with how-to videos, FAQs, chat, user forums, and product notification updates.           | <a href="http://rok.auto/support">rok.auto/support</a>             |
| <b>Knowledgebase</b>                                    | Access Knowledgebase articles.   | <a href="http://rok.auto/knowledgebase">rok.auto/knowledgebase</a> |
| <b>Local Technical Support Phone Numbers</b>            | Locate the telephone number for your country.  | <a href="http://rok.auto/phonesupport">rok.auto/phonesupport</a>   |
| <b>Literature Library</b>                               | Find installation instructions, manuals, brochures, and technical data publications.               | <a href="http://rok.auto/literature">rok.auto/literature</a>       |
| <b>Product Compatibility and Download Center (PCDC)</b> | Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes. | <a href="http://rok.auto/pcdc">rok.auto/pcdc</a>                   |

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## Waste Electrical and Electronic Equipment (WEEE)



At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental compliance information on its website at [rok.auto/pec](http://rok.auto/pec).

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