



PowerFlex® 700H/S Frame 9 Main Fan and Isolation Transformer Assembly Replacement



ATTENTION: To avoid an electric shock hazard, ensure that all power to the drive has been removed before performing the following.



ATTENTION: To avoid an electric shock hazard, verify that the voltage on the bus capacitors has discharged before performing any work on the drive. Measure the DC bus voltage at the DC+ & DC- terminals. The voltage must be zero.



ATTENTION: HOT surfaces can cause severe burns. Do not touch the heatsink surface during operation of the drive. After disconnecting power allow time for cooling.



ATTENTION: Hazard of permanent eye damage exists when using optical transmission equipment. This product emits intense light and invisible radiation. Do not look into fiber-optic ports or fiber-optic cable connectors.



ATTENTION: This drive contains ESD (Electrostatic Discharge) 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 A-B publication 8000-4.5.2, “Guarding Against Electrostatic Damage” or any other applicable ESD protection handbook.

Required Parts

Verify that you have the items listed in the following table. If you do not have the correct items, contact your Allen-Bradley sales representative.

Quantity	Part Number	Description
1	20-PP09055	Isolation Transformer Assembly
1	20-FR09154	Main Fan Short Support Bracket

Tools That You Need

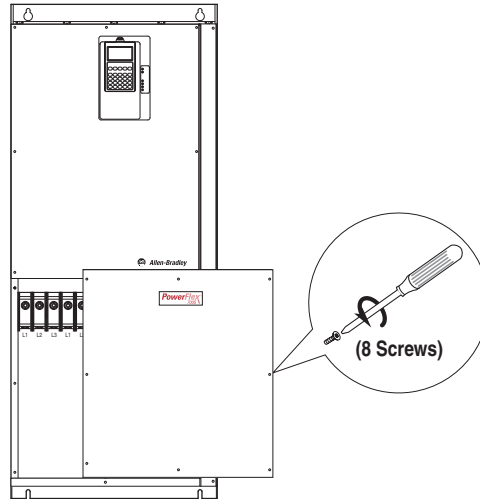
- Phillips® screwdriver
- POZIDRIV® screwdriver

Phillips® is a registered trademark of Phillips Screw Company
POZIDRIV® is a registered trademark of Phillips Screw Company

Step 1: Opening the Drive

1. Remove power from the drive.
2. Check for zero volts between DC+ and DC-.
3. Remove the Connection cover.

Figure 1

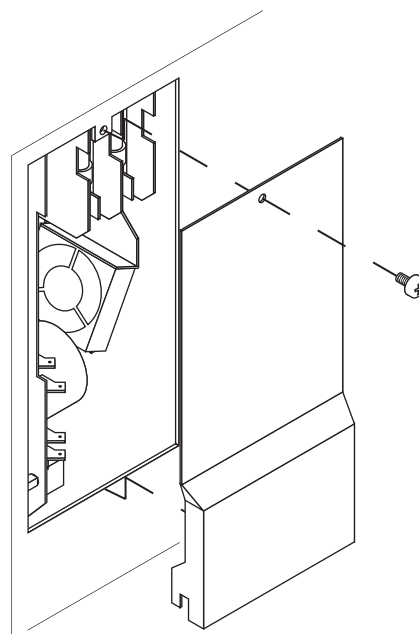


Step 2: Disconnecting and Removing the Main Fan Assembly

Important: Before removing connections and wires, mark the connections and wires to avoid incorrect wiring during assembly.

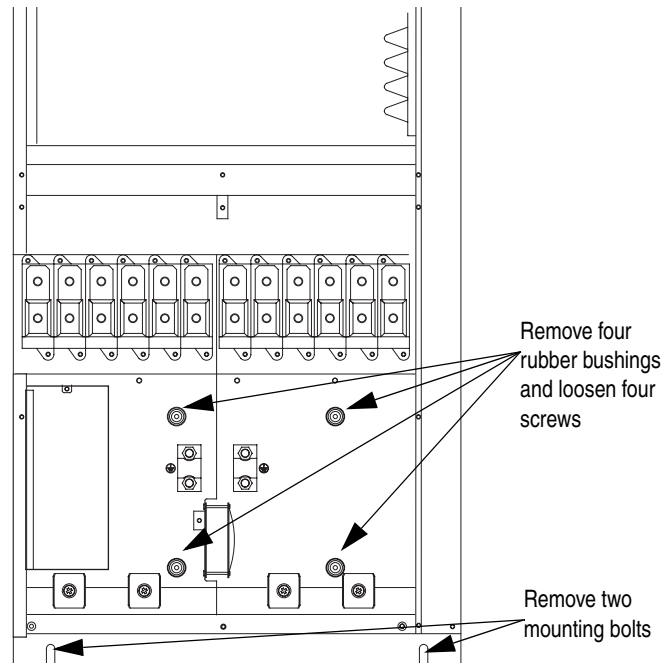
1. Disconnect the input power cables (L1, L2 and L3).
2. Remove the screw that secures the fan power supply cover to the drive and remove the cover from the drive.

Figure 2



3. Disconnect the main fan motor lead wires including the ground wire.
4. Remove the four rubber bushings that cover the screws which mount the fan assembly (see [Figure 3](#) below).
5. Check that the upper mounting bolts securely hold the drive on the wall of the system enclosure. Remove the lower mounting bolts from the bottom of the frame (see [Figure 3](#)).

Figure 3

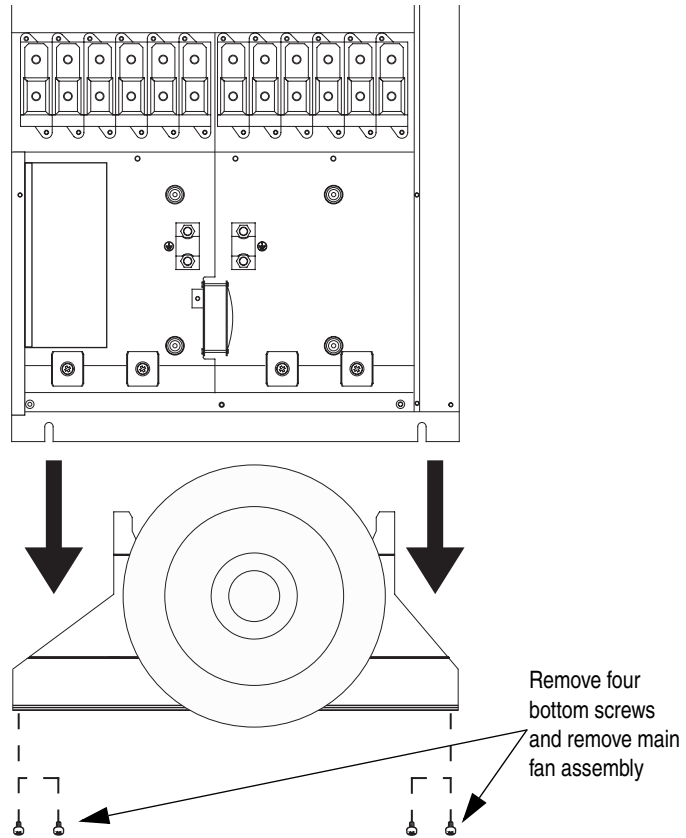


6. Loosen, but do NOT remove, the four front screws (which are accessible through the holes vacated by the rubber bushings) so that the main fan assembly can easily slide off. To loosen, but not remove these screws, turn them approximately 12 times.
7. Mark the existing isolation transformer wires so that you can identify them later in this procedure. Reach into the drive and disconnect the isolation transformer wires. Note: The existing transformer will be disconnected and left in place.
8. Remove the two screws that mount the fuse holder/capacitor bracket to the drive and remove the bracket.
9. Remove the three screws that hold the fan inverter board to the drive. Disconnect the control wire X8 and X2 between the fan inverter board and the fuse holder/capacitor bracket. Make sure that wires X8 and X2 do not fall inside the hole in the frame.
10. Remove the fan inverter circuit board from the drive.

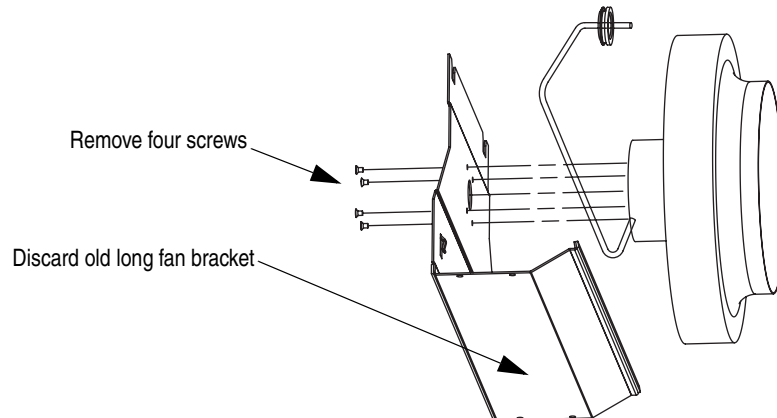
Step 3: Installing the New Isolation Transformer and Main Fan

1. Remove the four screws from bottom of the main fan frame (see [Figure 4](#) below). The fan plate should now easily slide down. If it does not, loosen the front screws another turn and attempt again. Continue loosening the screws until the fan plate slides easily from the drive. Note: The old main fan long support bracket will be discarded.

Figure 4

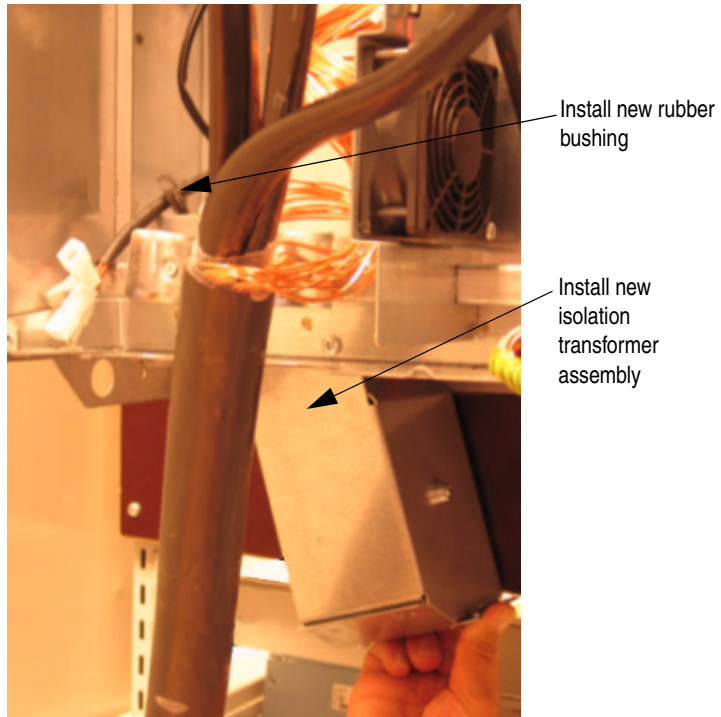


2. Remove the four screws that secure the fan to the old long fan bracket. Retain the screws for reuse. Discard the old long fan bracket.



3. Secure the fan to the new short fan bracket with the screws retained from step 2 above.
4. While pulling the isolation transformer's wires inside the drive, at same time install the new isolation transformer assembly from below the drive into the left side of the main fan space (see [Figure 5](#) below).

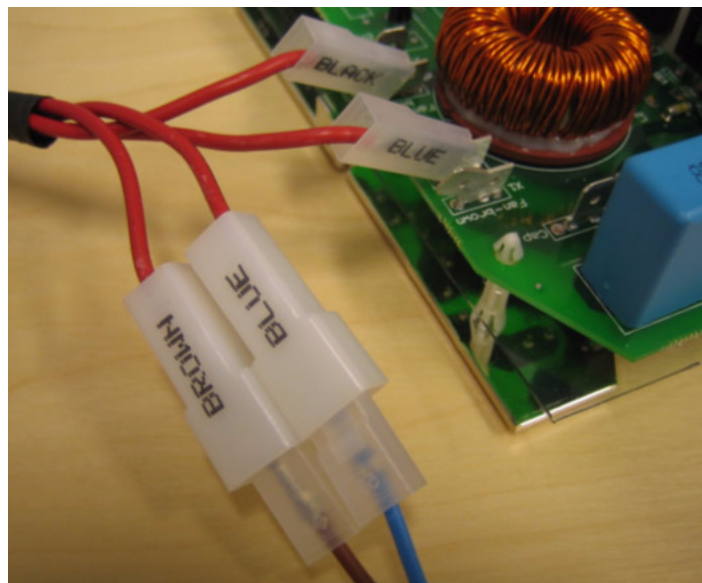
Figure 5



5. Pull all extra wires to the side of the fan inverter case. Insert the rubber bushing into the hole before installing the fan inverter board assembly and the fuse rack (see [Figure 5](#) above). Tighten the M5 x 10 screws on the bottom of the isolation transformer to hold it in place.

6. Make the isolation transformer and inverter board connections as follows (see [Figure 6](#) below):
 - Install the “BLACK” female connector into the “FAN-BLACK” terminal on the fan inverter board.
 - Install the “BLUE” female connector into the “FAN-BLUE” terminal on the inverter board.
7. Connect the wires of the motor capacitor as follows (see [Figure 6](#) below):
 - Connect the “BROWN” male connector to the brown wire and the “BLUE” male connector to the blue wire.

Figure 6



Isolation
transformer and
inverter board
connections

8. Connect the X2 control wire to the terminals of the motor capacitor and re-install the fuse holder/capacitor bracket.
9. Cut the old isolation transformer wires, wrap the ends with electrical tape and attach them to the frame with a cable tie.
10. Re-install the inverter board, the motor capacitor and the fuse holder/capacitor bracket in reverse order. Also install the connector of the small fan onto the fuse holder.

Important: Do not attempt to force the fan plate into the drive. This may bend the fan.

11. Install the new main fan assembly and plug the connector of the main fan in the connector of the isolation transformer. Place the rubber bushing around the cable and put the cable into the bushing hole located in the bottom of the isolation transformer assembly.
12. Bend and attach the extra wire in the fastening on the fan support (see [Figure 7](#) below).

Figure 7



Contacting Rockwell Automation Support

Before you contact Rockwell Automation for technical assistance, we suggest you please review the troubleshooting information contained in the supporting product publications first (e.g. publications PFLEX-TG001, *Hardware Service Manual - PowerFlex 700S and 700H Drives (Frame 9)*, and PFLEX-IN006, *Installation Instructions - PowerFlex 700S and 700H Drives*).

If the problem persists, call your local distributor or contact Rockwell Automation in one of the following ways:

Phone	United States/ Canada	1.262.512.8176 (7 AM - 6 PM CST) 1.440.646.5800 (24 hour paid support available through the TechConnect Support Program)
	Outside United States/Canada	You can access the phone number for your country via the Internet: Go to http://www.ab.com Click on <i>Support</i> (http://support.rockwellautomation.com/) Under <i>Contact Customer Support</i> , click on <i>Phone Support</i>
Internet	⇒	Go to http://www.ab.com/support/abdrives/
E-mail	⇒	support@drives.ra.rockwell.com

Be prepared to furnish the following information when you contact support:

- Product Catalog Number
- Product Serial Number
- Firmware Revision Level

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846