

PowerFlex 700H and 700S AC Drives Frame 10 and 12 Main Fan Capacitor Replacement Kit



ATTENTION: The sheet metal cover and mounting screws on the ASIC Board located on the power structure are energized at (-) DC bus potential high voltage. Risk of electrical shock, injury, or death exists if someone comes into contact with the assembly.



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 guide.



ATTENTION: Only qualified personnel familiar with adjustable frequency AC drives and associated machinery should perform maintenance/repair of the system. Failure to comply may result in personal injury and/or equipment damage.



ATTENTION: The following information is merely a guide for proper installation. Rockwell Automation cannot assume responsibility for the compliance or the noncompliance to any code, national, local or otherwise for the proper installation of this drive or associated equipment. A hazard of personal injury and/or equipment damage exists if codes are ignored during installation.

What This Kit Includes

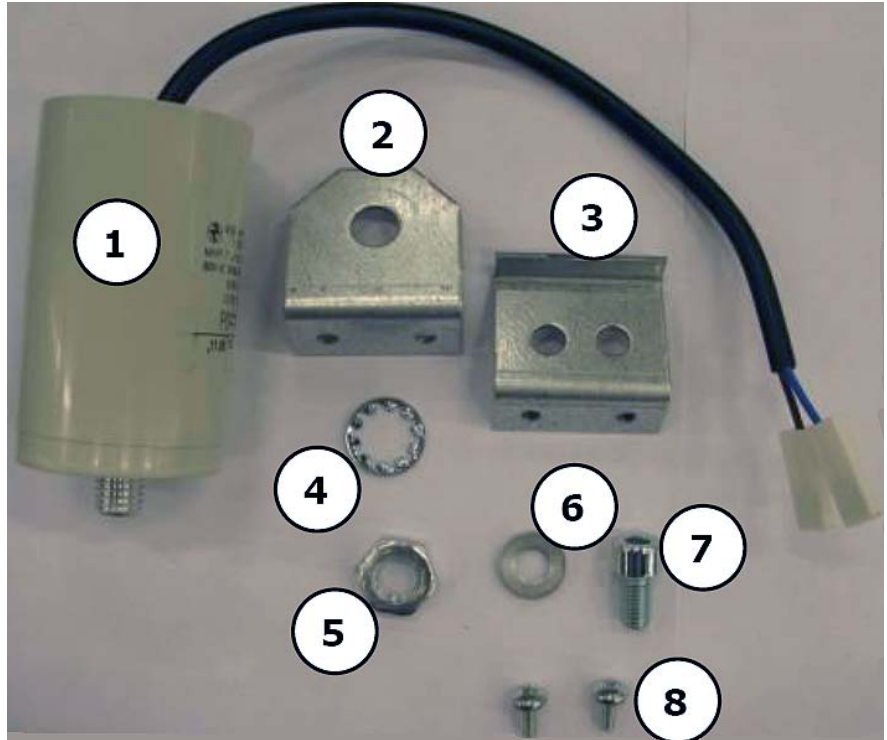


Photo ID#	Part Description	Quantity
1	Fan capacitor	1
2	Fan capacitor bracket	1
3	Adapter bracket	1
4	M12 lock washer (for fan capacitor bracket)	1
5	M12 fastening nut (for fan capacitor bracket)	1
6	Spring washer (for adapter bracket)	1
7	M8 x 16 mm hexagonal socket screw (for adapter bracket)	1
8	M5 x 10 mm POZIDRIV screw (for adapter bracket)	2

Tools That You Need

- #2 POZIDRIV® screwdriver
- T20 hexalobular screwdriver
- 19 mm wrench
- Hexagonal head screwdriver
- Wire cutter
- Nose pliers
- Optional: PowerFlex 700S and 700H frame 10...14 maintenance stand (catalog number 20-MAINSTND)

POZIDRIV® is a registered trademark of the Phillips Screw Company

What You Need to Do

- Step 1: Remove power from the drive
- Step 2: Remove the protective covers
- Step 3: Remove the existing fan capacitor
- Step 4: Install the new fan capacitor and bracket

Step: 1 Remove Power from the Drive



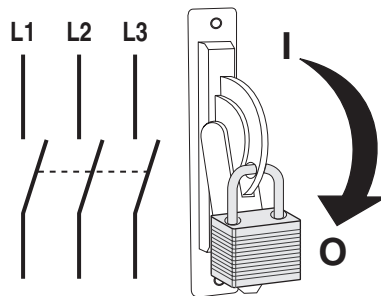
ATTENTION: To avoid an electric shock hazard, verify that the voltage on the bus capacitors has discharged before performing any work on the drive. Check the DC bus voltage at the power terminal block by measuring between the +DC and -DC terminals, between the +DC terminal and the chassis, and between the -DC terminal and the chassis. The voltage must be zero for all three measurements.

Remove power before making or breaking cable connections. When you remove or insert a cable connector with power applied, an electrical arc may occur. An electrical arc can cause personal injury or property damage by:

- sending an erroneous signal to your system's field devices, causing unintended machine motion
- causing an explosion in a hazardous environment

Electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance.

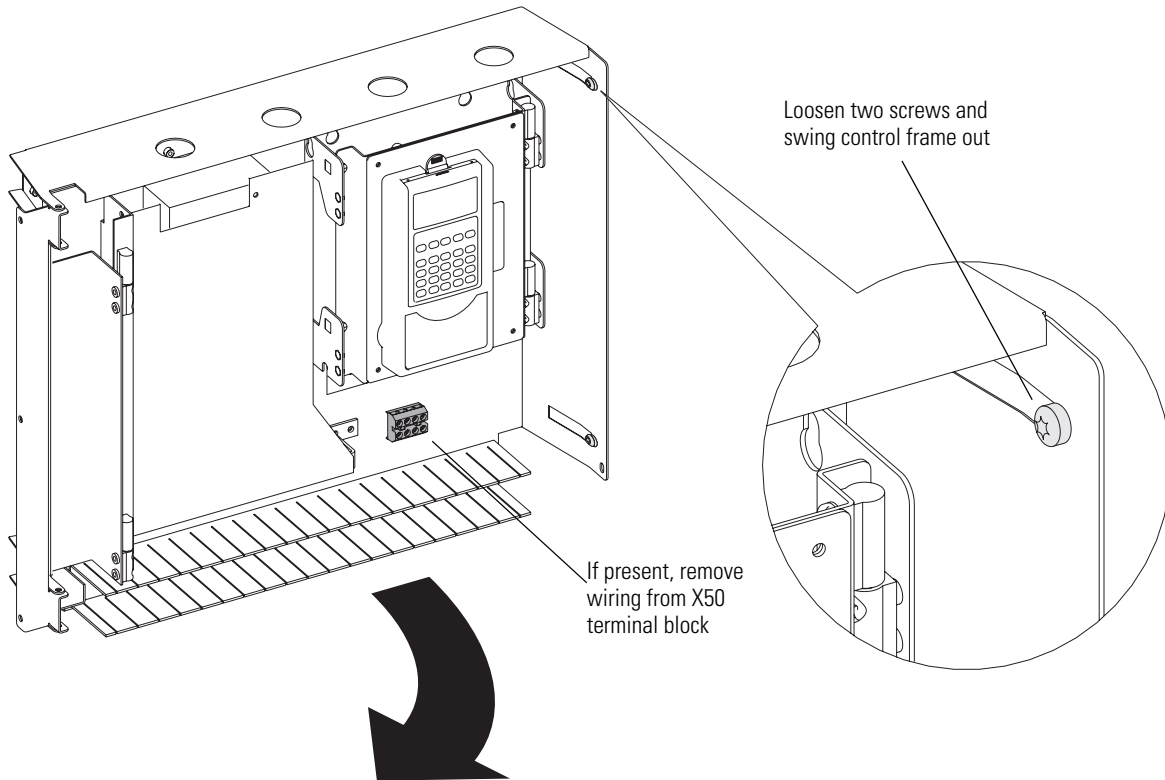
1. Turn off and lock out input power. Wait fifteen minutes.
2. Verify that there is no voltage at the drive's input power terminals.
3. Check the DC bus voltage at the power terminal block by measuring between the +DC and -DC terminals, between the +DC terminal and the chassis, and between the -DC terminal and the chassis. The voltage must be zero for all three measurements.



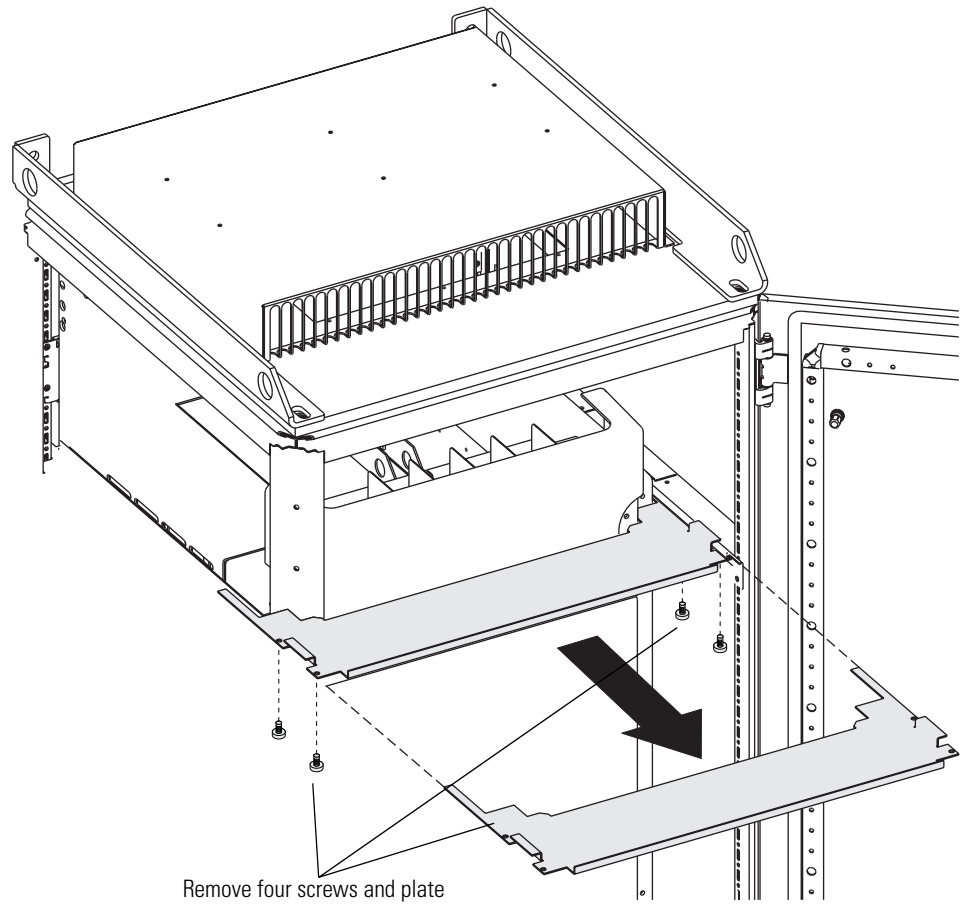
Step: 2 Remove the Protective Covers

You must first move the control frame (on frame 12 drives, left-hand enclosure only) and remove the air flow plate from the drive in order to access the protective covers on the drive.

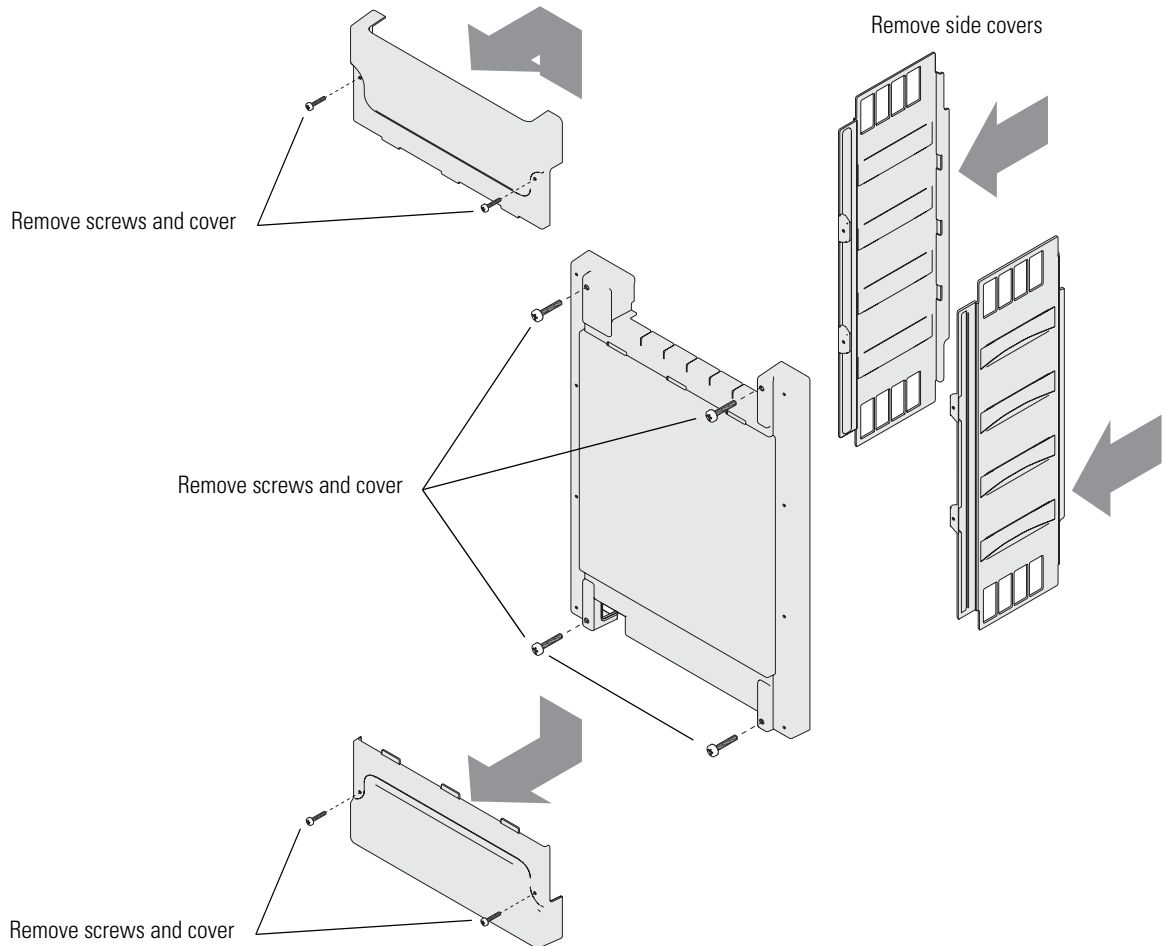
1. If you are moving the control frame on a DC input drive with a precharge interlock, disconnect the input wiring to the X50 terminal block on the control frame.
2. Loosen the two hexalobular screws that secure the control frame to the enclosure and swing the control frame away from the drive.



3. Remove the four hexalobular screws that secure the air flow plate to the drive enclosure and slide the plate off the drive.



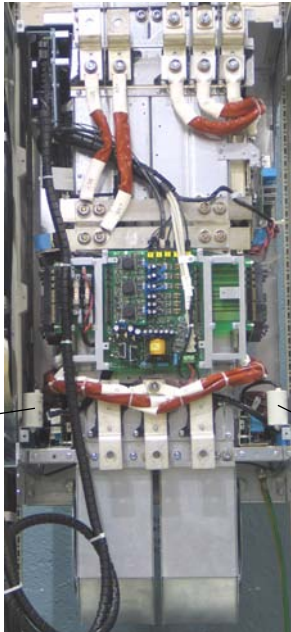
4. Remove the four M5 x 16 mm POZIDRIV screws that secure the top and bottom protective covers to the main front protective cover, then remove the top and bottom protective covers. Tightening torque for re-assembly is 1.5 N•m (13.3 lb•in).
5. Remove the four M5 x 10 mm POZIDRIV screws, which secure the main front protective cover to the drive, then remove the protective cover. Tightening torque for re-assembly is 1.5 N•m (13.3 lb•in).
6. Remove the side protective covers.



Step 3 Remove the Existing Fan Capacitor

1. Cut the cable-ties that secure the cables with orange insulation (on both left-hand and right-hand sides). This will allow you to move the cables while removing the inverter assemblies.

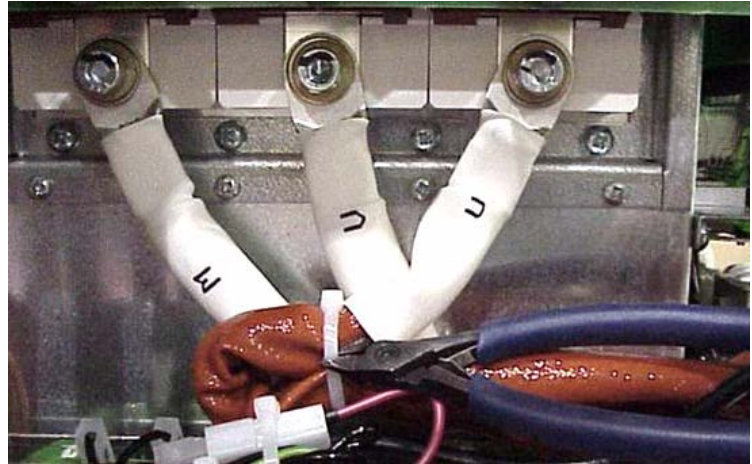
Note: Power structure shown removed from the drive enclosure for clarity only.



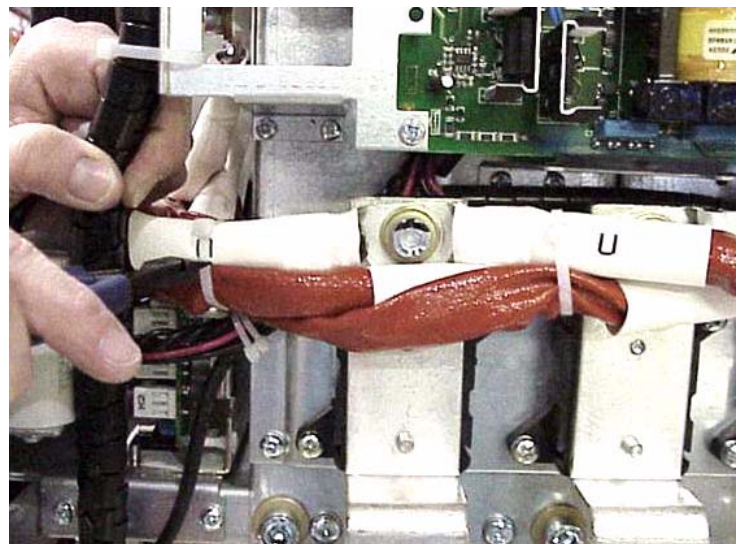
Left-hand inverter

Right-hand inverter

Left-hand side view

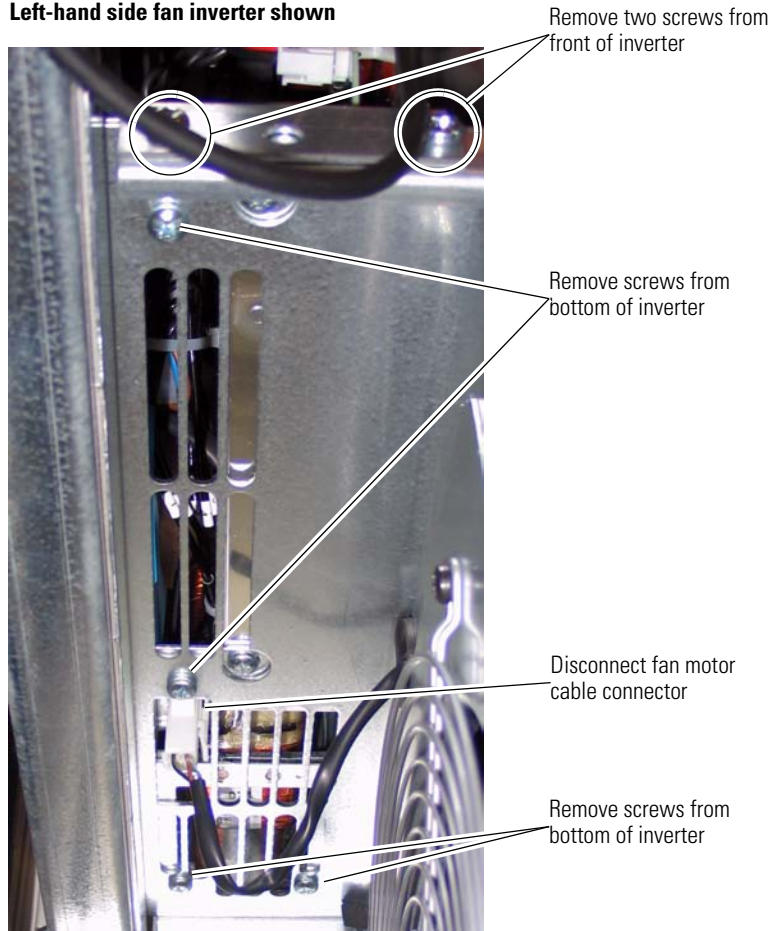


Front view on left-hand side



2. Remove the two M5 POZIDRIV screws that secure the front of the fan inverter to the drive. Tightening torque for re-assembly is 4 N•m (35 lb•in).
3. Disconnect the fan motor cable under the fan inverter.
4. Remove the four M5 POZIDRIV screws that secure the bottom of the fan inverter to the drive. Tightening torque for re-assembly is 4 N•m (35 lb•in).

Left-hand side fan inverter shown

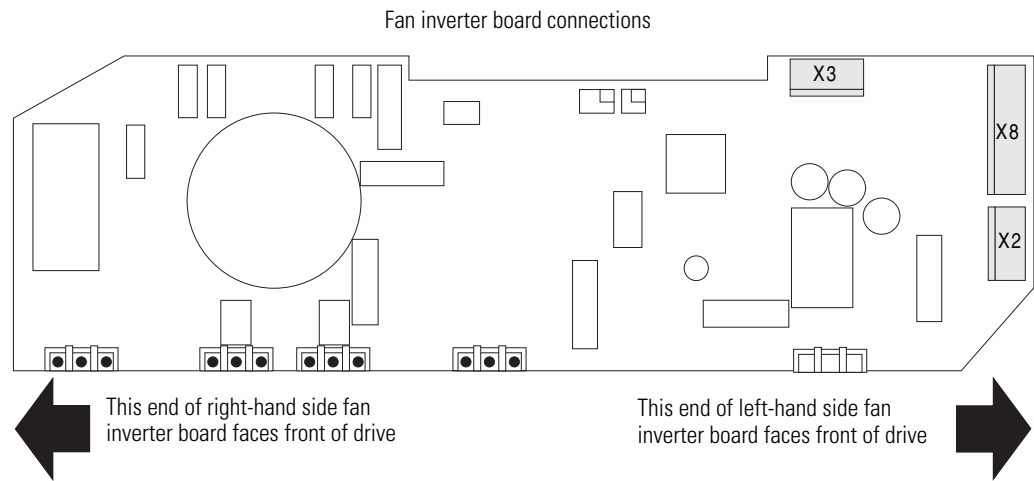


5. Disconnect the cables at X2, X8 and X3 (on left-hand inverter); and X2 and X8 (on right-hand inverter).

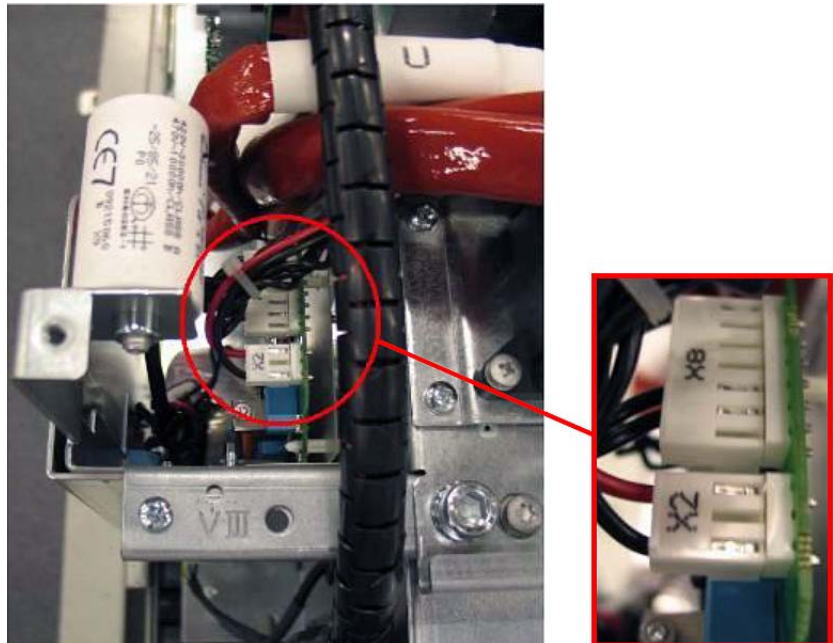
Note: You must begin to slide the right-hand fan inverter assembly out of the drive before you can disconnect the cables at X2 and X8.

6. Carefully remove the inverter assemblies by sliding them out from the front of the drive.

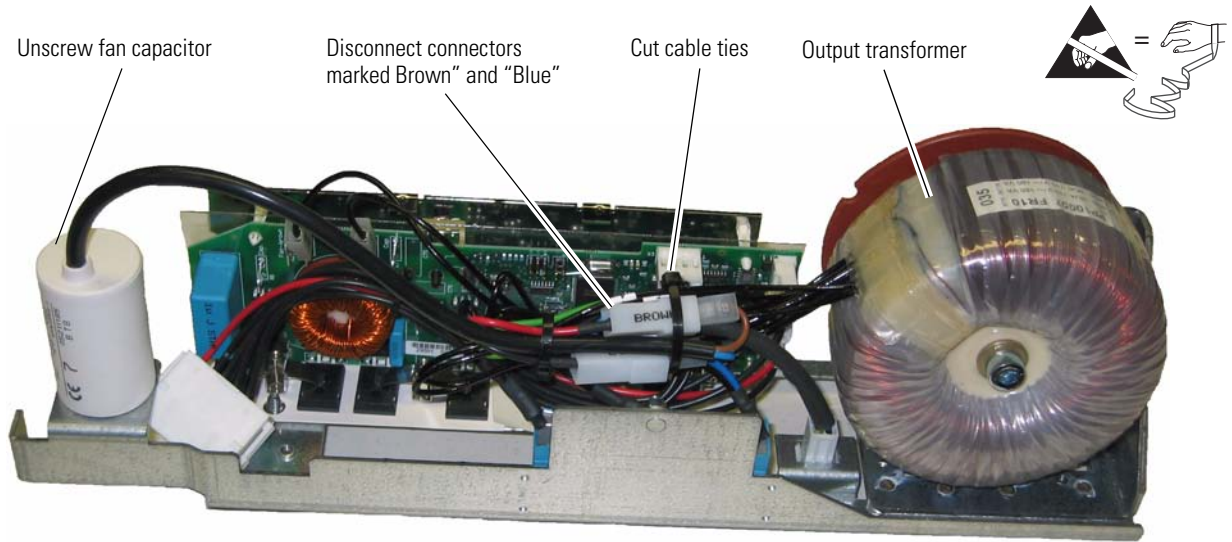
IMPORTANT Take care to not damage the output transformer when removing or installing the fan inverter assembly.



Left-hand side fan inverter shown



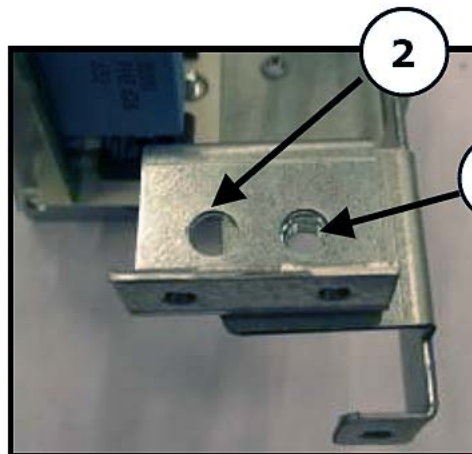
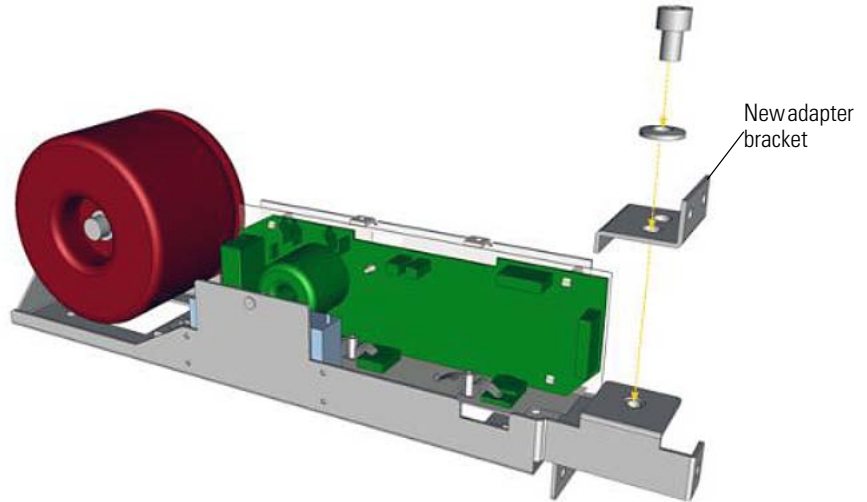
7. Cut the cable ties that secure the fan capacitor wires to the inverter assembly.
8. Disconnect the fan capacitor wire connectors marked “Brown” and “Blue.”
9. Unscrew and remove the fan capacitor from the inverter assembly.



Step: 4 Install the New Fan Capacitor and Bracket

1. Secure the new fan capacitor adapter bracket to the fan inverter assembly using the new M8 x 16 mm hexagonal socket screw and washer provided in the kit. Tightening torque is 12 N•m (106 lb•in).

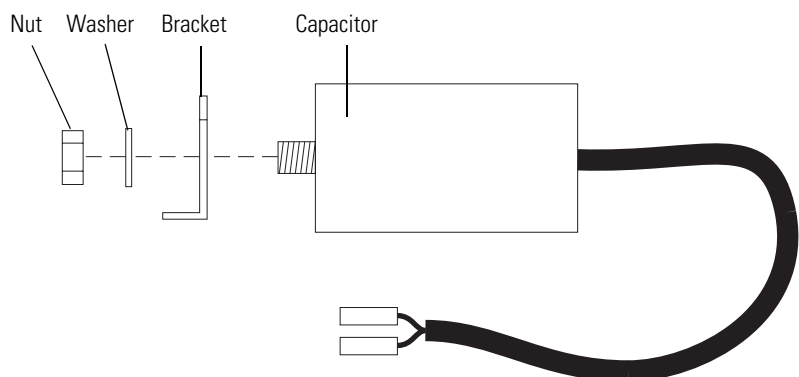
IMPORTANT Assemble the adapter bracket using the appropriate mounting hole as shown in the illustration below.



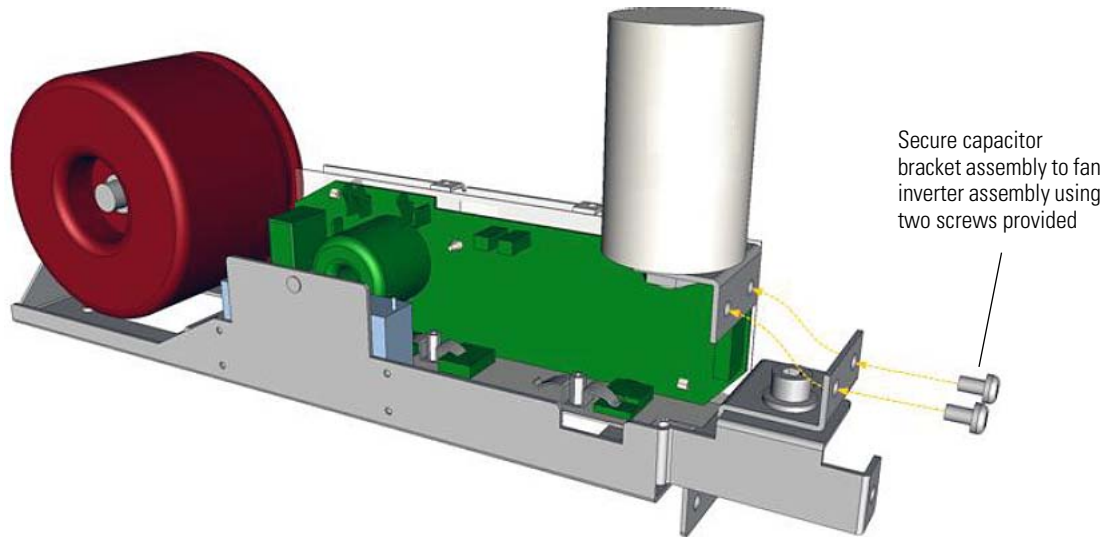
① Use this hole when installing the adapter bracket on the right-hand side fan inverter assembly.

② Use this hole when installing the adapter bracket on the left-hand side fan inverter assembly.

2. Secure the new fan capacitor to the new fan capacitor bracket using the M12 nut and lock washer provided in the kit. Tightening torque is 5 N•m (44 lb•in).



- Secure the new fan capacitor bracket assembly to the fan inverter assembly using the two M5 x 10 mm POZIDRIV screws provided in the kit. Tightening torque is 4 N•m (35 lb•in).



- Install the fan inverter assembly in the reverse order of removal as detailed in [Step 3 Remove the Existing Fan Capacitor](#) on page 7.



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