

# RS9 Chassis Fan Replacement

## Introduction

These instructions explain how to replace the fans that cool the maintenance compartment and the configuration bay in the PowerStation RS9 or the RSPC9 Industrial PC. They include steps for disassembling the unit, removing an old fan, installing a new fan, and reassembling the unit.



**Warning** For safety reasons, the unit should be opened only by qualified service personnel.

**Warning** Be sure to observe electrostatic discharge (ESD) precautions while working inside the unit.

**To complete this procedure, you will need the following items:**

- Replacement Fan FAN-9000
- Phillips-head screwdriver
- 5/16" nut driver

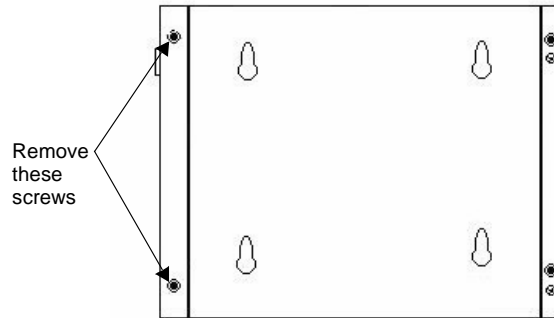
## Disassembling the Unit

**To disassemble the unit, follow these steps:**

1. Turn off the system.
2. Disconnect the unit from the power source.
3. Disconnect all cables attached to the unit.
4. Remove the unit from its mounted location by lifting the unit up and off its mounting screws.
5. Place the unit on a static dissipative mat, in a location free from dirt and moisture and protected against static discharge.
6. If you are replacing the maintenance compartment fan, remove the two screws at the left side of the front cover, as shown in Figure 1 on page 2.

**Note** These screws unscrew from the back side of the unit.

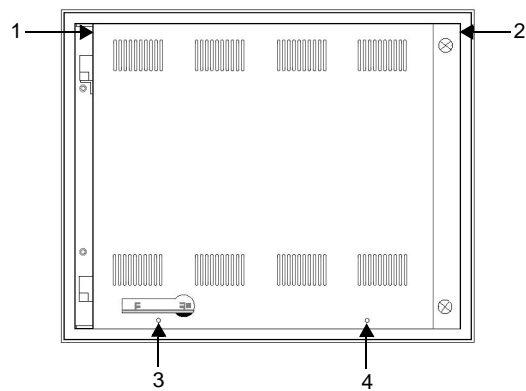
**Figure 1: Opening the Front Cover**



7. If you are replacing the configuration bay fan, remove the four retaining screws holding the back cover onto the unit, as shown in Figure 2.

**Note** Screws 1 and 2 are located at the sides of the cover; screws 3 and 4 are in the back of the cover.

**Figure 2: Removing the Back Cover**



8. Slide the back cover off the unit.

## Removing an Old Fan

Fan removal procedures will differ, depending upon whether you are replacing the maintenance compartment fan or the configuration bay fan. Both procedures are described below.

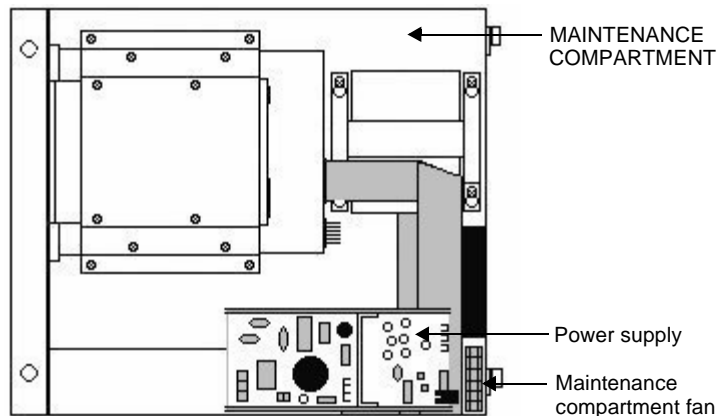
### Removing the Maintenance Compartment Fan

To remove the maintenance compartment fan, you must first remove the system's power supply. This section gives instructions for removing both components.

**To remove a previously installed maintenance compartment fan, follow these steps:**

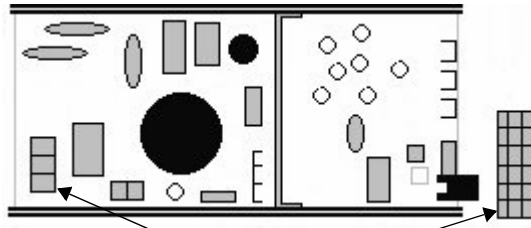
1. Locate the maintenance compartment fan and the power supply in the maintenance compartment, as shown in Figure 3.

**Figure 3: Maintenance Compartment**



2. Disconnect the cables at the left and right sides of the power supply, as shown in Figure 4 on page 4.

**Figure 4: Disconnecting the Power Supply Cables**

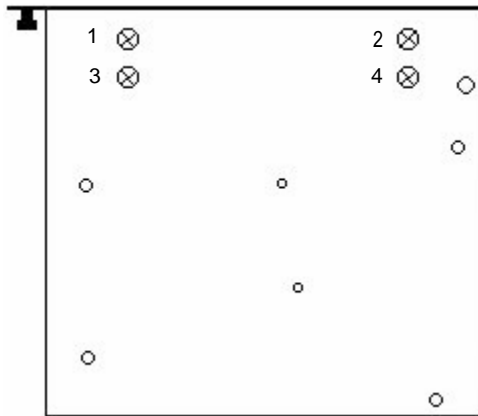


Disconnect cables here

**Important** Each set of cables is gathered in a cable harness, and each harness has a plastic tab that you must pull back in order to detach the harness.

- a. Detach the cables on the left from the power supply itself.
  - b. Detach the cables on the right from the connector just to the right of the power supply.
3. Lay the unit on its back so that the bottom of the unit is facing you.
  4. While holding the power supply in place, remove the four retaining screws that secure the power supply to the bottom of the unit. These screws (1, 2, 3, and 4) are shown in Figure 5.

**Figure 5: Removing the Power Supply Screws**



BOTTOM OF THE  
RS9/RSPC9

Remove screws 1, 2, 3, and 4

**Important** These four screws are of different sizes, and two (screws 1 and 2) are secured by nuts on the inside of the unit. Be sure to capture the nuts when you remove the screws. When you install the new power supply, replace the same size screws in the same locations as the ones you removed.

5. With the power supply removed, detach the maintenance compartment fan cable from its connection on the riser card.

**Note** Note where this connection is so that you can attach the new fan cable in the same place.

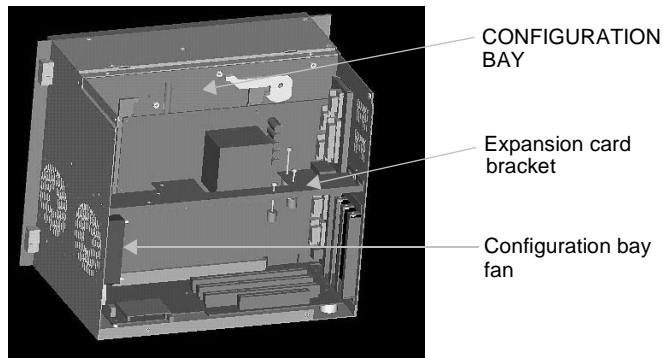
6. Using the nut driver, remove the four nuts holding the fan in place.
7. Slide the fan off the four screws on which it is mounted.

## Removing the Configuration Bay Fan

To remove a configuration bay fan, follow these steps:

1. Locate the fan at the left side of the configuration bay, as shown in Figure 6.

**Figure 6: Configuration Bay Fan**



2. Remove the expansion card bracket and any installed expansion cards.
3. Detach the fan cable from its connection on the riser card.  
**Note** Note where this connection is so that you can attach the new fan cable in the same place.
4. Using the nut driver, remove the four nuts holding the fan in place.

5. Slide the fan off the four screws on which it is mounted.

## Installing a New Fan

**To install a new fan, follow these steps:**

1. Slide the new fan onto its four mounting screws:
  - If you are installing a maintenance compartment fan, make sure that the arrow on the side of the fan is pointing toward the inside of the unit.
  - If you are installing a configuration bay fan, make sure that the arrow printed on the side of the fan is pointing toward the outside of the unit.

**Warning** You can mount the new fan in any orientation. However, make sure that the arrow on the side of the fan is pointing in the direction indicated above.

2. Attach the fan cable to its connection on the riser card—the same place from which you removed the old fan cable in step 3 above, when removing the old fan.

**Warning** Make sure that no part of the cable will become entangled in the fan blades.

3. Using the nut driver, replace the four nuts that you removed in step 4 above, when removing the old fan.

**Important** Fasten the nuts snugly, but do not overtighten them, or you could crack the fan housing.

4. If you are installing a maintenance compartment fan, replace the power supply by completing the following steps:
  - a. Place the unit on its back.
  - b. Replace the power supply in the unit, aligning the screw holes in the bottom of the power supply with those in the bottom of the unit.
  - c. Replace the four screws that you removed when removing the power supply. Be sure to include the nuts with screws 1 and 2.

- d. Re-attach the two sets of cables that you disconnected from the power supply in step 2 on page 3.
  - e. Turn the unit upright.
5. If you are installing a configuration bay fan, replace any expansion cards and the expansion card bracket that you removed in step 2 on page 5, when removing the old fan.

## Reassembling the Unit

**To reassemble the unit, follow these steps:**

1. If you replaced the maintenance compartment fan, close the front cover, and fasten it in place with the two screws that you removed in step 6 on page 1.
2. If you replaced the configuration bay fan, close the back cover by completing the following steps:
  - a. Fit the two tabs in the top of the back cover into the two slots at the top of the configuration bay, and slide the back cover onto the unit.
  - b. Fasten the back cover onto the unit by replacing the four retaining screws that you removed in step 7 on page 2.
3. Reinstall the unit in its mounted location.
4. Reconnect power and other cables to the unit.
5. Reconnect the unit to the power source.

Your fan replacement is complete. You may now restart the system.

