

# PC9/P9 Chassis Fan Replacement

## Introduction

These instructions explain how to replace the fans that cool the configuration bay and the maintenance compartment in the PC9 Industrial PC or the P9 PowerStation. 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:**

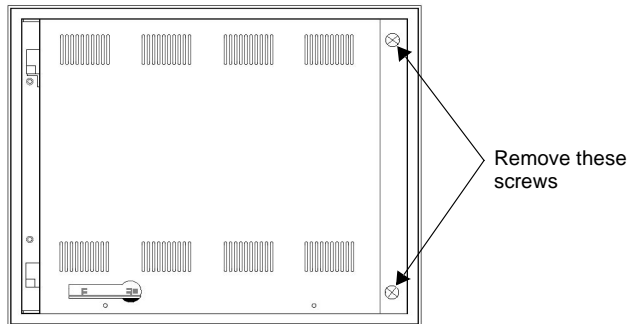
- Replacement Fan for PC9/P9 (FAN-9000)
- Phillips-head screwdriver
- 5/16" nut driver

## Disassembling the Unit

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

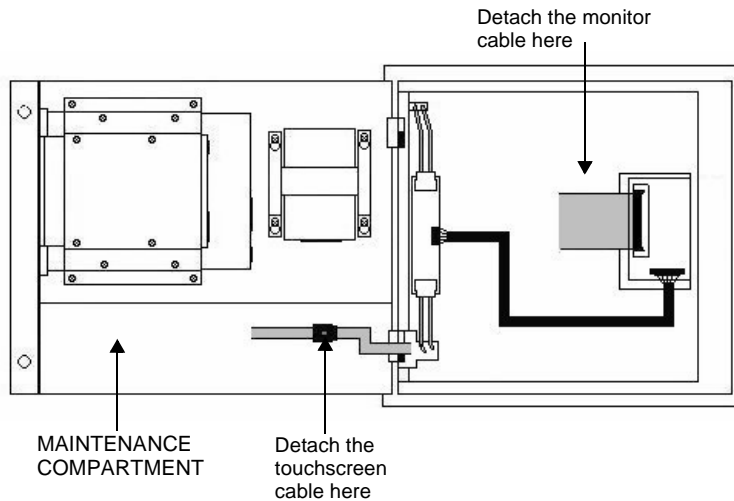
1. Turn off the unit.
2. Disconnect the unit from the power source.
3. Disconnect all cables attached to the unit.
4. Remove the two screws securing the backshell to the faceplate assembly, as shown in Figure 1 on page 2.

**Figure 1: Opening the Backshell**



5. Swing the backshell away from the faceplate.
6. If you have a PC9, detach the two cables connecting the faceplate assembly and backshell, as shown in Figure 2. Then go to step 8.

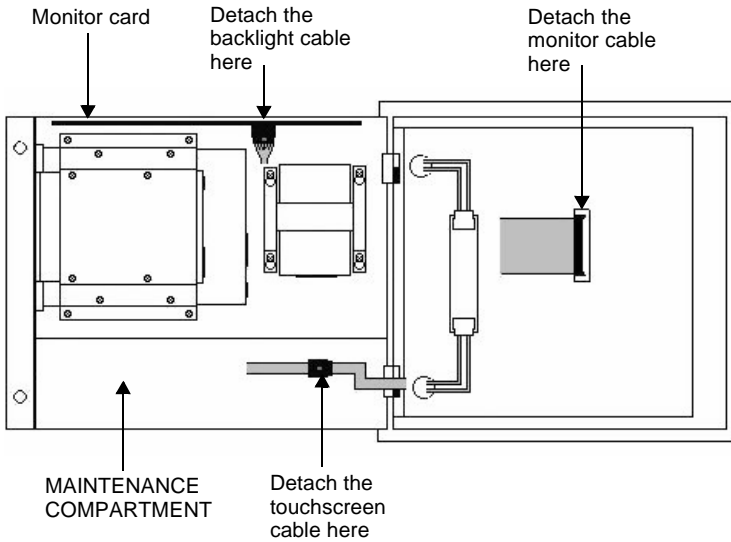
**Figure 2: Disconnecting PC9 Cables**



- a. Detach the monitor (ribbon) cable from its connection at the center of the monitor frame (push back the locking clamps from either side of the monitor).
- b. If your system has a touchscreen, detach the touchscreen cable from its extender in the maintenance compartment.

7. If you have a P9, detach the three cables connecting the faceplate assembly and backshell, as shown in Figure 3.

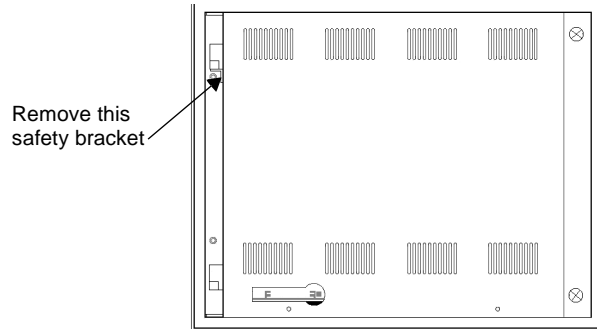
**Figure 3: Disconnecting P9 Cables**



- a. Detach the monitor (ribbon) cable from its connection at the center of the monitor frame (push back the locking clamps from either side of the connector).
  - b. Detach the touchscreen cable from its extender in the maintenance compartment.
  - c. Detach the backlight cable from its connection on the monitor card (press down on the small tab on the lower half of the connector, and pull the cable out).
8. Remove the safety bracket below the upper hinge of the backshell by removing the screw that holds the bracket in place. This bracket is shown in Figure 4 on page 4.

**Warning** Make sure that both the faceplate assembly and backshell are supported when you remove the safety bracket and when you open the backshell.

**Figure 4: Removing the Safety Bracket**



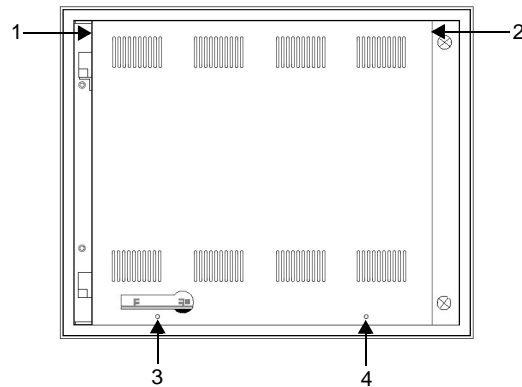
9. Lift the backshell off its hinges, and place it on a static dissipative mat, in a location free from dirt and moisture and protected against static discharge. You may leave the faceplate mounted in the enclosure.

**Warning** When lifting the backshell, grasp it from the outside. If you have a P9, be careful **not** to touch the monitor card, located inside the top of the maintenance compartment. The monitor card is shown in Figure 3 on page 3.

10. If you are replacing the configuration bay fan, remove the four retaining screws holding the back cover onto the unit, as shown in Figure 5.

**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 5: Removing the Back Cover**



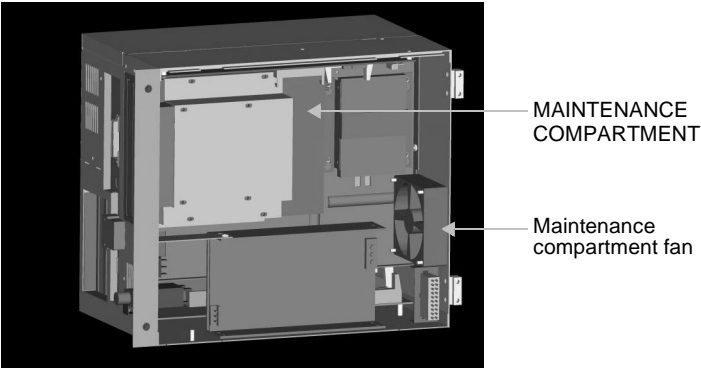
- 11. Slide the back cover off the unit.

## Removing an Old Fan

To remove a previously installed fan, follow these steps:

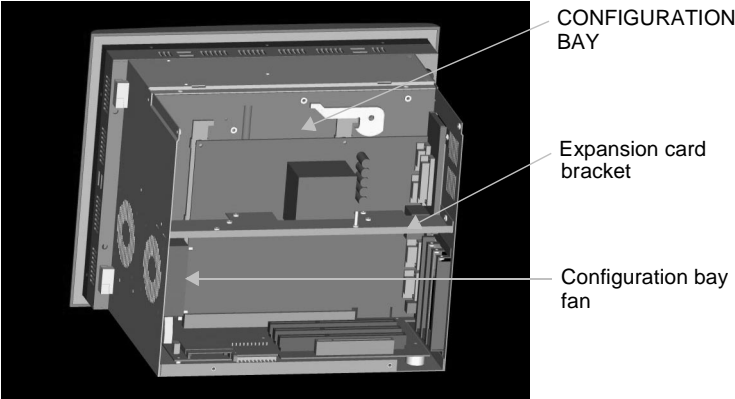
- 1. If you are replacing the maintenance compartment fan, locate the fan at the right side of the maintenance compartment, as shown in Figure 6. Then go to step 4.

**Figure 6: Maintenance Compartment Fan**



- 2. If you are replacing the configuration bay fan, locate the fan at the left side of the configuration bay, as shown in Figure 7.

**Figure 7: Configuration Bay Fan**



- 3. Remove the expansion card bracket and any installed expansion cards.

4. 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.
5. Using the nut driver, remove the four nuts holding the fan in place.
6. 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 configuration bay fan, make sure that the arrow printed on the side of the fan is pointing toward the outside of the unit.
  - 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.

**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 4 above.

**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 5 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 configuration bay fan, replace any expansion cards and the expansion card bracket that you removed in step 3 on page 5.

## Reassembling the Unit

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

1. If you replaced a configuration bay fan, 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.
2. Fasten the back cover onto the unit by replacing the four retaining screws that you removed in step 10 on page 4.
3. Replace the backshell on its hinges.

**Warning** When lifting the backshell, grasp it from the outside. If you have a P9, be careful **not** to touch the monitor card, located inside the top of the maintenance compartment. The monitor card is shown in Figure 3 on page 3.

4. Re-attach the backlight cable, touchscreen cable (if necessary), and monitor cable (if you have a P9) to their connections. (Press the monitor cable connector into its socket until the locking clamps on either side of the socket snap into place).
5. Close the backshell against the faceplate assembly.
6. Replace the safety bracket that you removed in step 8 on page 3, and fasten it in place with its retaining screw.
7. Fasten the backshell to the unit by replacing the two screws that you removed in step 4 on page 1.
8. Reinstall the unit in its enclosure.
9. Reconnect power and other cables to the unit.

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

