

PC9/P9 Hard Drive Installation

Introduction

These instructions explain how to install or replace a hard drive in the PC9 Industrial PC or the P9 PowerStation. They include steps for disassembling the unit, removing a previously installed hard drive, installing a new hard drive, 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:

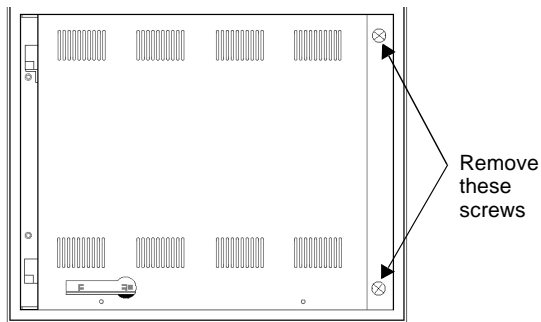
- The hard drive replacement kit that you purchased:
 - 3.2GB Hard Drive Replacement/Upgrade Kit for PC9/P9 (HDV-9003)
 - 6.4GB Hard Drive Replacement/Upgrade Kit for PC9/P9 (HDV-9006)
- Phillips-head screwdriver

Disassembling the Unit

To disassemble the unit, follow these steps:

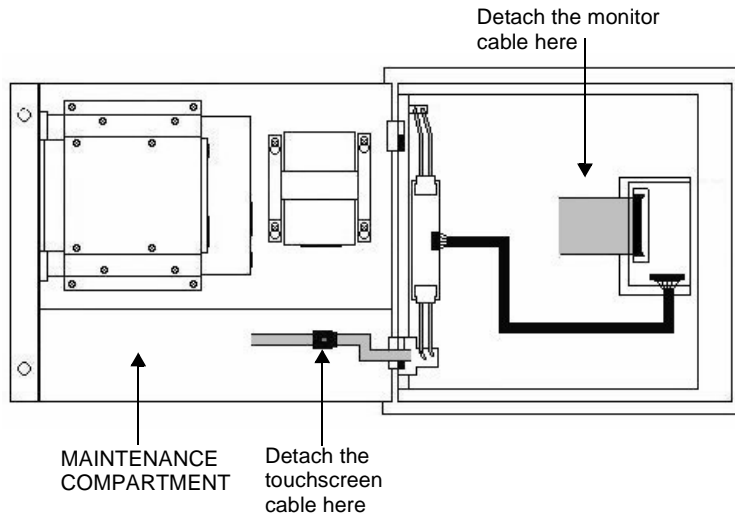
1. Turn off the unit.
2. Disconnect the unit from the power source.
3. Disconnect all cables attached to the unit.
4. Remove the two screws securing the backshell to the faceplate assembly, as shown in Figure 1 on page 2.

Figure 1: Opening the Backshell

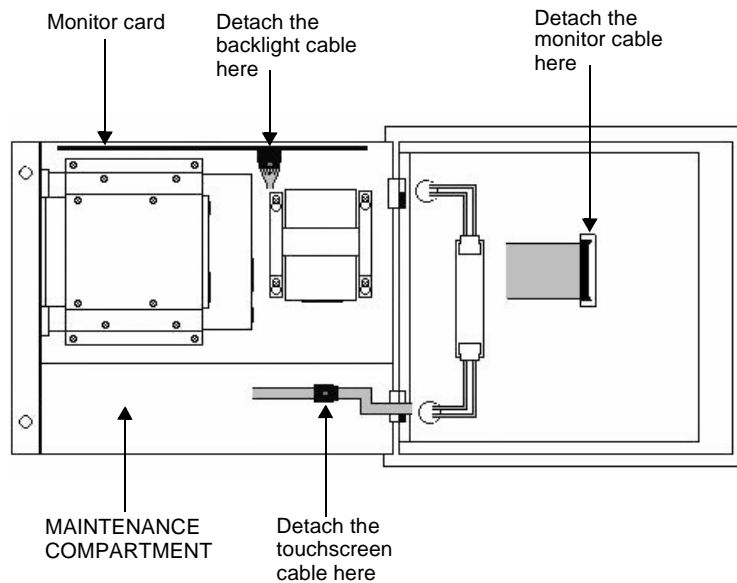


5. Swing the backshell away from the faceplate.
6. If you have a PC9, detach the two cables connecting the faceplate assembly and backshell, as shown in Figure 2. Then go to step 8.

Figure 2: Disconnecting PC9 Cables



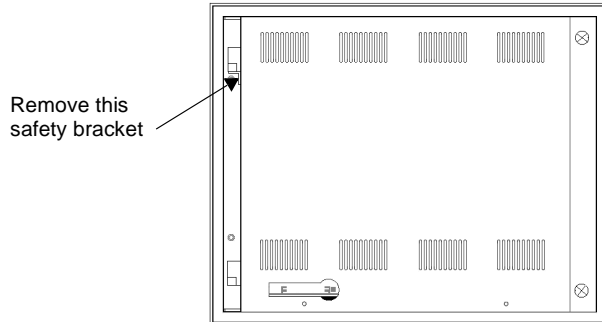
- a. Detach the monitor (ribbon) cable from its connection at the center of the monitor frame (push back the locking clamps from either side of the monitor).
 - b. If your system has a touchscreen, detach the touchscreen cable from its extender in the maintenance compartment.
7. If you have a P9, detach the three cables connecting the faceplate assembly and backshell, as shown in Figure 3 on page 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. If your system has a touchscreen, detach the touchscreen cable from its extender in the service 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.

If you are installing the first hard drive in the unit, go to *Installing a Hard Drive* on page 6. If you are replacing a hard drive, continue with *Removing a Hard Drive* on page 4.

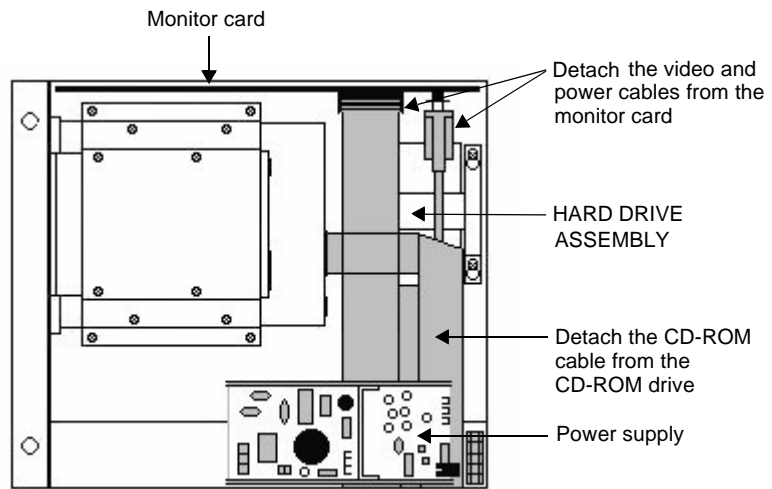
Removing a Hard Drive

To remove a previously installed hard drive, follow these steps:

1. Locate the hard drive assembly in the upper right side of the maintenance compartment, as shown in Figure 5 on page 5.

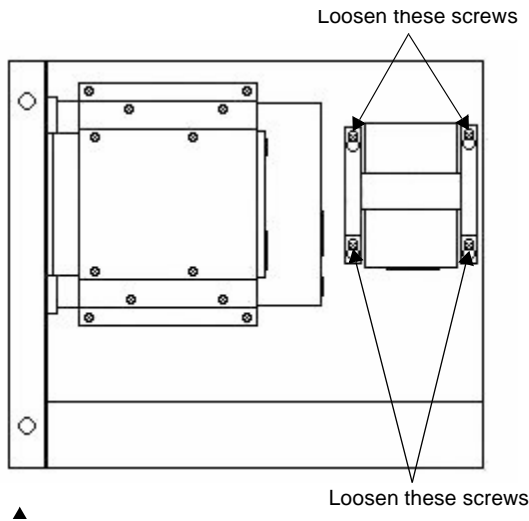
Note The hard drive assembly consists of the hard drive and a metal bracket, into which the hard drive is fastened with four screws.

Figure 5: Locating the Hard Drive



2. Disconnect any cables that may hinder replacement of the hard drive. These cables are shown in the illustration above.
 - a. Detach the video and power cables from their connections on the monitor card.
 - b. If necessary, detach the CD-ROM cable from its connection on the CD-ROM drive
3. Loosen (but do **not** remove) the four retaining screws holding the hard drive assembly in place, as shown in Figure 6 on page 6.

Figure 6: Removing a Hard Drive'



4. Slide the entire hard drive assembly up, and lift it over the retaining screws and out of the unit.

Note The larger end of the “keyhole” openings on the hard drive bracket will slide over the heads of the screws.

5. Disconnect the ribbon cable from the bottom of the hard drive.

Installing a Hard Drive

If you are replacing a previously installed hard drive, go to *Installing the Hard Drive* on page 9. If you have a P9, and you are installing the first hard drive in the unit, continue with *Preparing for First Installation*, below.

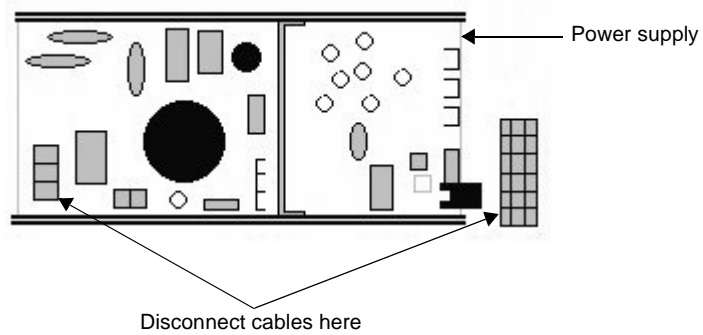
Preparing for First Installation

If you are installing the first hard drive in the unit, you may find it helpful to remove the power supply from the unit and to disconnect several cables so that you can more easily install the new hard drive and attach its cable to the riser card.

To prepare for first installation of a hard drive, follow these steps:

1. Locate the power supply in the lower right portion of the maintenance compartment. The power supply is shown in Figure 5 on page 5.
2. Disconnect the cables at the left and right sides of the power supply, as shown in Figure 7.

Figure 7: Disconnecting the Power Supply Cables

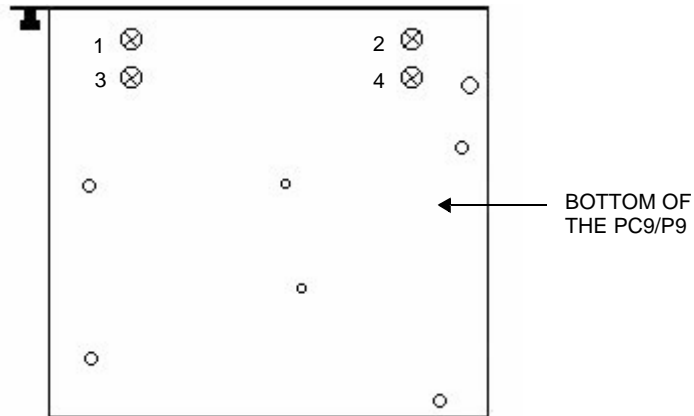


Important Each set of cables is gathered in a cable harness, and each harness has a plastic tab that you must pull back in order to detach the harness.

3. Place the backshell on its back so that the bottom of the backshell 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 8 on page 8.

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.

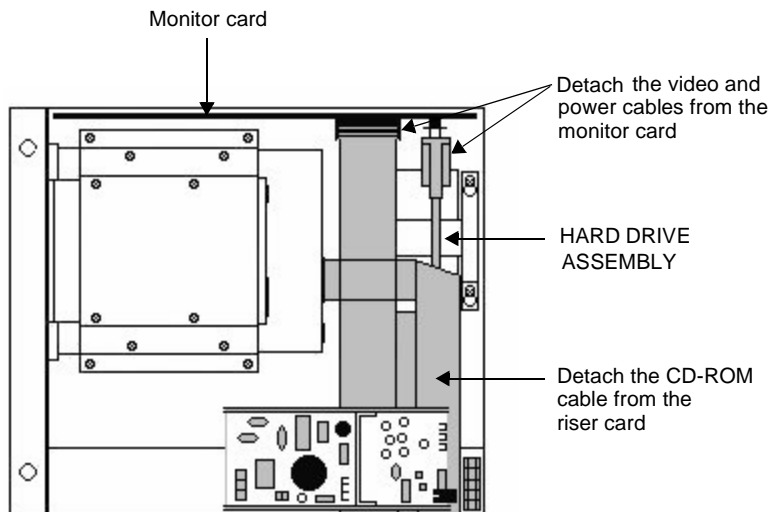
Figure 8: Removing the Power Supply Retaining Screws



Remove screws 1, 2, 3, and 4

5. Disconnect any cables that might hinder installation of the new hard drive. These cables appear in Figure 9, which shows the maintenance compartment of the P9.

Figure 9: Disconnecting Hard Drive Cables



- a. Detach the video and power cables from their connections on the monitor card.
- b. If necessary, detach the CD-ROM cable from its connection on the riser card.

6. Insert, but do **not** tighten, the four retaining screws in the space provided for the hard drive in the upper right side of the service compartment. These screws will be provided in your Hard Drive Replacement/Upgrade Kit.

Installing the Hard Drive

To install a new hard drive, follow these steps:

1. Attach the ribbon cable to the bottom of the hard drive.
 - If this is a first-time installation, this cable will be included in your Hard Drive Replacement/Upgrade Kit.

Note The cable end that you should attach to the hard drive has a gray-colored key in the lower row of receptacles.

- If you are replacing a previously installed hard drive, re-attach the cable that you removed in step 5 on page 6.
2. Place the new hard drive assembly over the four hard drive retaining screws, and slide the assembly downward so that the screw heads fit over the small ends of the “keyhole” openings in the bracket.
 3. Tighten the four retaining screws.
 4. If this is a first-time installation, fasten the free end of the ribbon cable to its connector on the riser card.

This connector is directly below the bottom of the hard drive, behind the cable connector for the CD-ROM drive.
 5. If necessary, re-attach the CD-ROM drive cable to its connector on the riser card.
 6. If you have a P9, re-attach to the monitor card the video and power cables that you removed in step 2 on page 5, or in step 5 on page 8.
 7. If you have removed the power supply from the unit, replace it by following these steps:
 - a. Place the backshell 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 secure the power supply in place and that you removed in step 4 on page 7. Be sure to replace 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 7.
- e. Turn the backshell upright.

Reassembling the Unit

To reassemble the unit, follow these steps:

1. 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.
2. 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).
3. Replace the safety bracket that you removed in step 8 on page 3, and fasten it in place with its retaining screw.
4. Close the backshell against the faceplate assembly.
5. Fasten the backshell to the unit by replacing the two screws that you removed in step 4 on page 1.
6. Reconnect power and other cables to the unit.
7. Reconnect the unit to the power source.

Your hard drive installation or replacement is complete. You may now restart the unit.