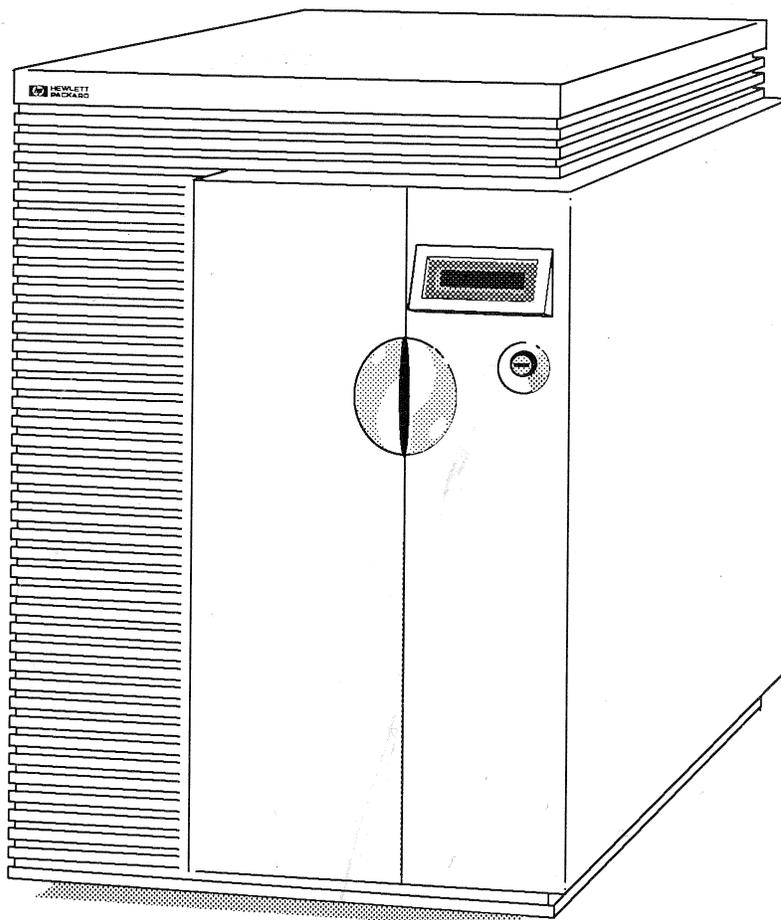


HP 9000 and HP 3000 PA-RISC Computer Systems

HP 3000/9x9KS and HP 9000/Kxx0



Internal Peripherals Upgrade Guide



HP Part No. A2375-90008
Printed in USA, June, 1996
Edition 4, E0696

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Preface

This edition of the **HP 3000/9x9KS and HP 9000/Kxx0 Internal Peripherals Upgrade Guide** contains technical information about the following models:

HP 3000/9x9KS

Model 939KS

Model 959KS

Model 969KS

Model 979KS

HP 9000/Kxx0

Model K100

Model K200

Model K400

Model K210

Model K220

Model K250

Model K260

Model K410

Model K420

Model K450

Model K460

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Introduction

This guide describes the installation of internal peripherals into HP 3000/9x9KS and HP 9000/Kxx0 servers.

Contents of This Guide

- Chapter 1: Introduction
- Chapter 2 Installation Procedures

System Identification

Open the system cabinet door and read the model of your system on the system identification label and note upgrades previously installed.

Identifying HP 3000 Servers

hp HEWLETT
 PACKARD

Series Model
 Product Number Serial Number
 Current Product

DEVICE	DESCRIPTION	PRODUCT/SERIAL #	PATH
A			
B			
C			
D			
E			
F			

User License:

(Regulatory Information)

khmu011

Figure 1-1. HP 3000/9x9KS System Identification Label

Identifying HP 9000 Servers

hp HEWLETT PACKARD Series Model
 Product Number Current Product Serial Number
 (Dashed boxes indicate fields to be filled in)

DEVICE	DESCRIPTION	PRODUCT/SERIAL #	PATH
A			
B			
C			
D			
E			
F			

(Regulatory Information)

khmu012

hp HEWLETT PACKARD Product No: Serial No:
 (Regulatory Information) Current Product
Made in U.S.A.

Figure 1-2. HP 9000/Kxx0 System Identification Label

Orderly Power Down

Refer to your HP 3000/9x9KS Operator's Handbook or HP 9000/Kxx0 Owner's Guide for appropriate power off commands for your system.

System Back Up

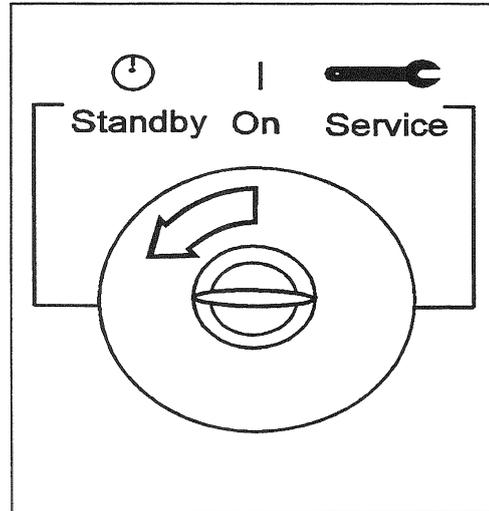
Note

If you are replacing, adding, or reconfiguring hard disks, back up your existing hard disks.

Turning Off Power

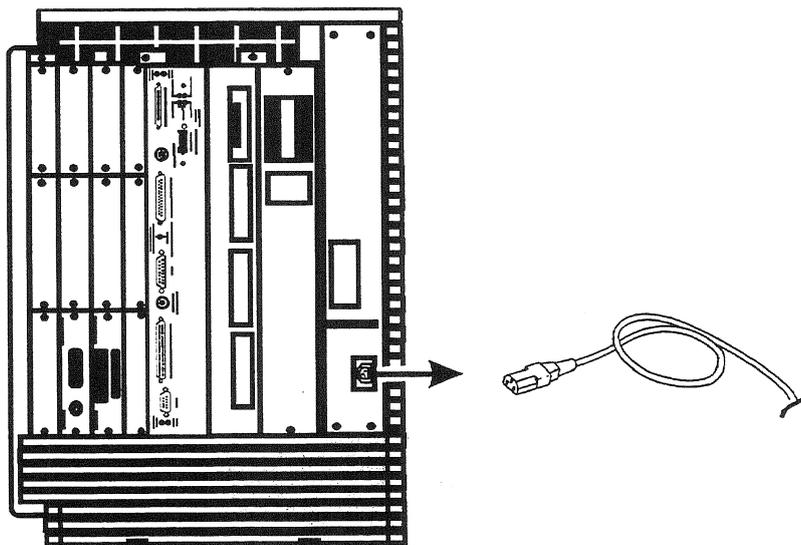
After alerting users and backing up your hard disks:

1. Turn the system front key switch to the Standby position. The front panel LCD reads "Power Off".
2. Disconnect the power cord at the back of the system cabinet.



khmuc32a

Figure 1-3. Turn Off Power (Set Key Switch to StandBy)



khmuc33

Figure 1-4. Disconnect the Power Cord from the System Cabinet

Installation Procedures

Gaining Accessing to Peripherals

All internal peripherals are located inside the peripheral bay, which is accessible from the front of the SPU.

Electrostatic Discharge (ESD) Precautions

When installing peripherals, you must observe the following antistatic precautions to prevent damage to peripherals and system components from electrostatic discharge:

- Always wear a grounded wrist strap when working on or around the system, and when handling printed circuit boards.
- Treat all assemblies, components, and interface connections as static-sensitive.
- Perform all removal and installation in a work area where potential static sources are minimized (preferably an anti-static work station).
- Avoid working in carpeted areas, and keep body movement to a minimum while removing and installing boards to minimize buildup of static charge.

Front Bezel Removal

1. Press two tabs at the bottom of the front bezel to release the bezel.
2. Remove the front bezel by gently pulling forward from the bottom of the bezel and lifting up.

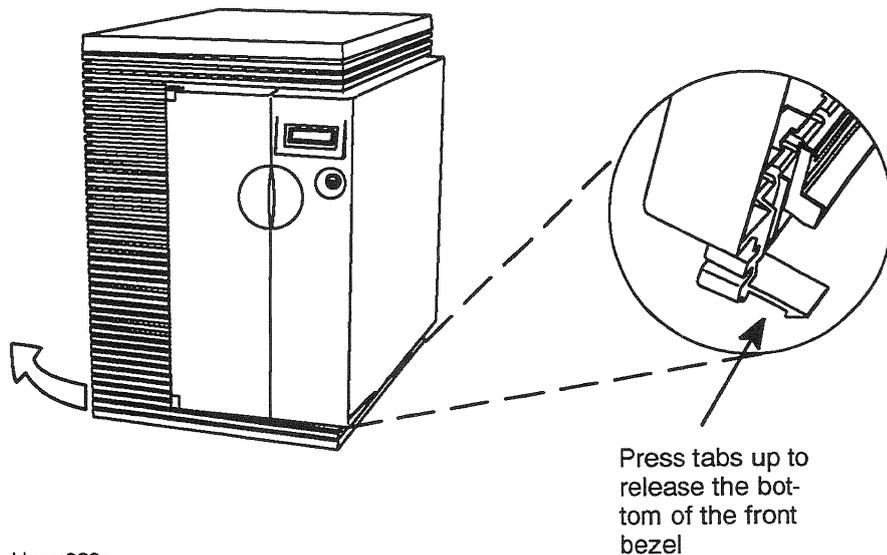
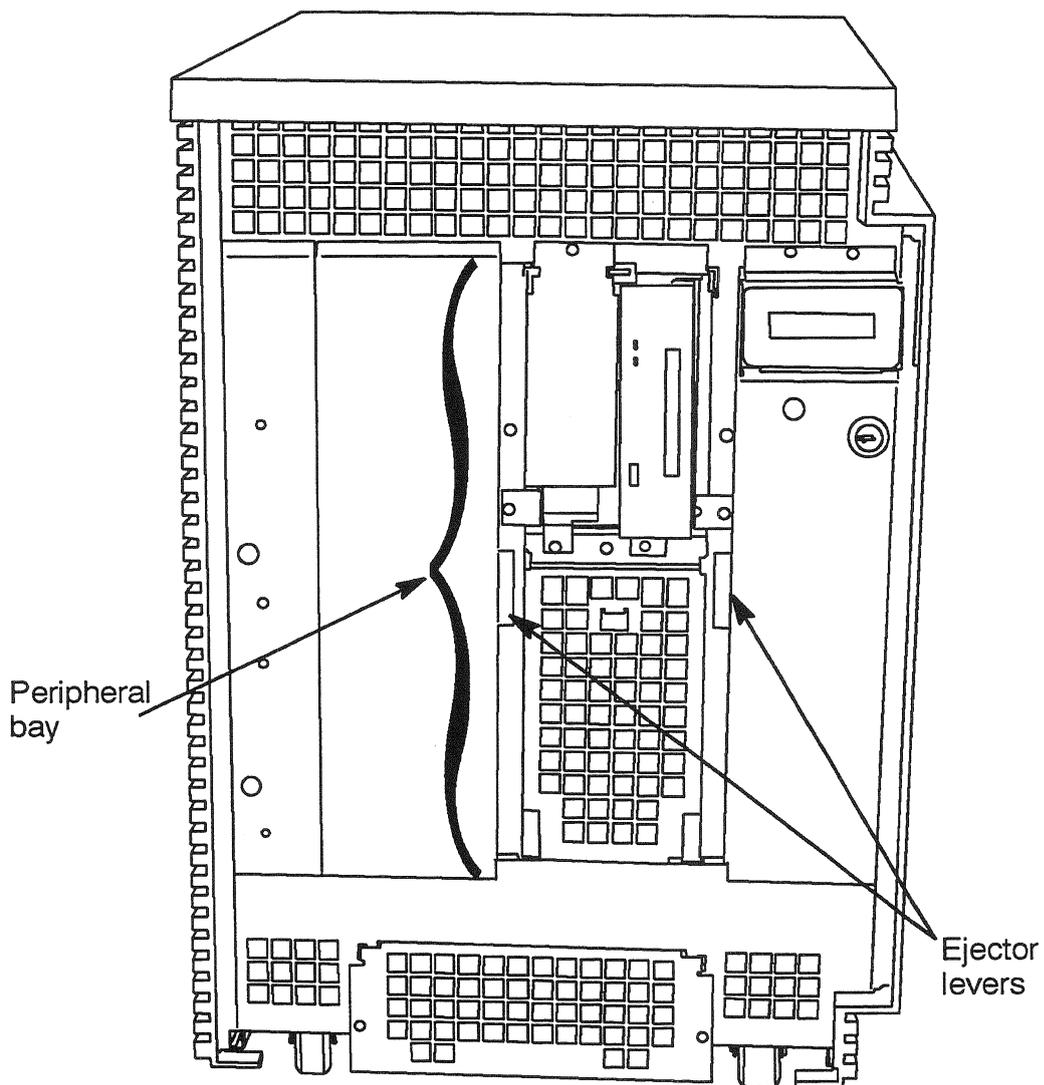


Figure 2-1. Front Bezel Removal

The internal peripheral bay is now accessible. All internal peripherals are mounted in an internal peripheral bay that slides out (see Figure 2-2 for location of peripheral bay).

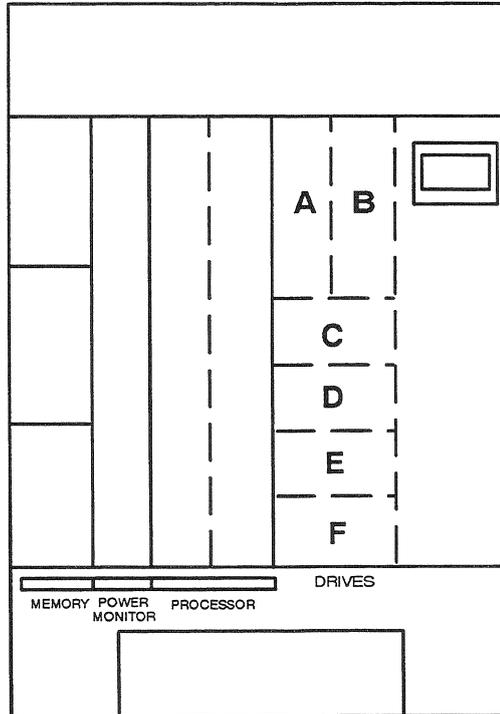


khpu006

Figure 2-2. Peripheral Bay Location

Peripheral Location and Identification

Refer to Figure 2-3 to locate and identify internal peripheral devices. The system identification label on the inside of the system cabinet door lists all current devices.



khpu003

Figure 2-3. Peripheral Device Location and Identification

Key to Figure 2-3:

A, B: Slots for removable media, such as:

- DDS tape drive
- 8mm tape drive (HP 9000 only)
- CD-ROM drive

C-F: Slots for hard disk drives.

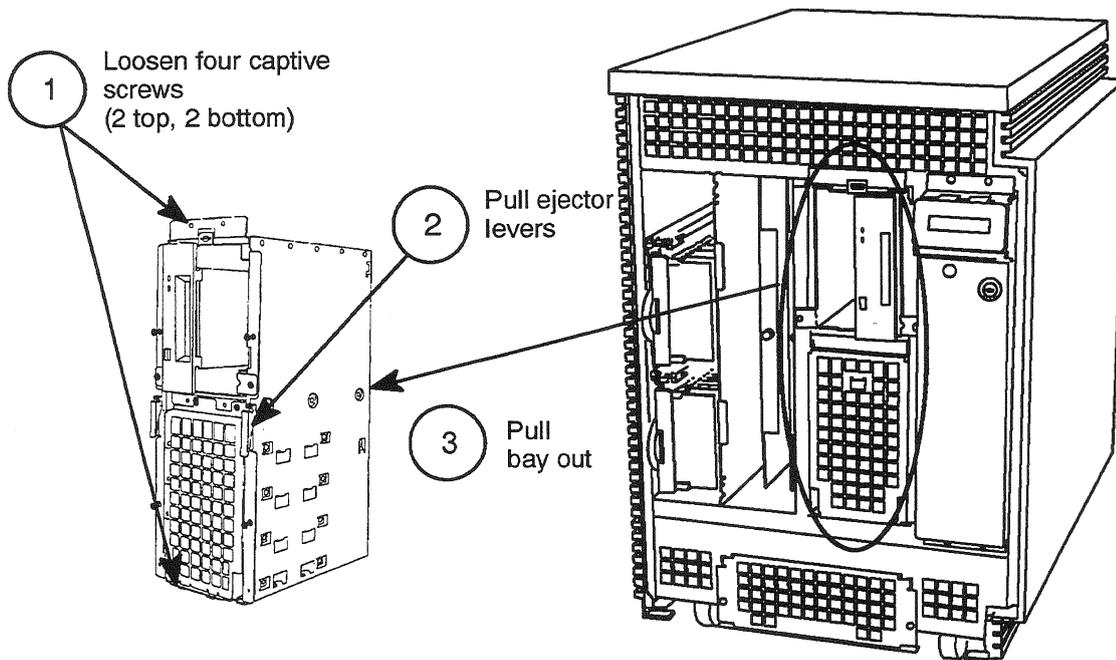
Peripheral Configuration

Refer to the installation manual that came with the peripheral for detailed specification and configuration information for the peripheral device. Refer to the appropriate peripheral manual for troubleshooting, maintenance, and diagnostic information for peripherals.

Removing the Peripheral Bay

All internal peripherals are mounted in the internal peripheral bay. This bay is held in place with four captive screws. To remove the peripheral bay:

1. Loosen the four captive screws.
2. Pull the white plastic extractor levers toward you. The bay moves forward slightly, disengaging the bay from a system board connector.
3. Pull the bay all the way forward and out of the system chassis. Data and power to all internal peripherals are supplied by a peripheral interconnect card on the rear of the bay, so there are no cables to disconnect.



khpu004

Figure 2-4. Removing The Peripheral Bay From The System Cabinet

Peripheral Interconnect Board and DC Power Connectors

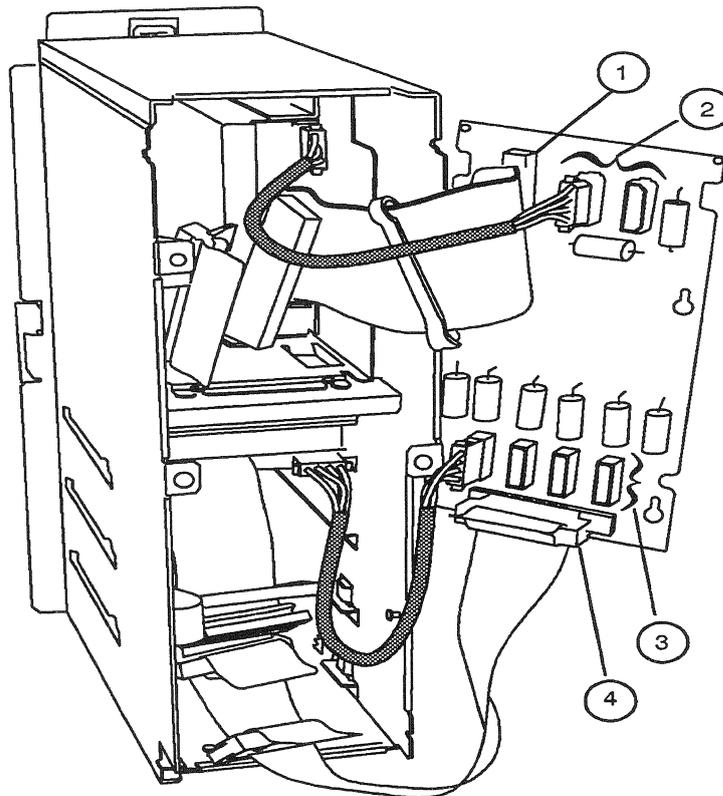
To gain access to the peripheral interconnect board and peripheral DC and data connections:

1. Turn the peripheral bay so the back faces you.
2. The peripheral interconnect board attaches loosely to the back of the peripheral bay, by sliding over four posts. Slide the board up and pull it toward you to access the connectors on the inside of the peripheral interconnect board.

There are six DC power connectors (4-prong female connectors), two for the upper bay peripherals and four for the hard disks. Data connections are made via two ribbon connectors, one for the upper bay peripherals and one for the system hard disks (see Figure 2-5).

Key to Figure 2-5:

- Item 1:** The top ribbon connector attaches to the upper bay removable media peripherals.
- Item 2:** The top two DC power connectors attach to the upper bay peripherals in any order.
- Item 3:** The bottom four DC power connectors can be attached to the hard disks in any order.
- Item 4:** The bottom ribbon connector attaches to the system hard disks.



khpu001

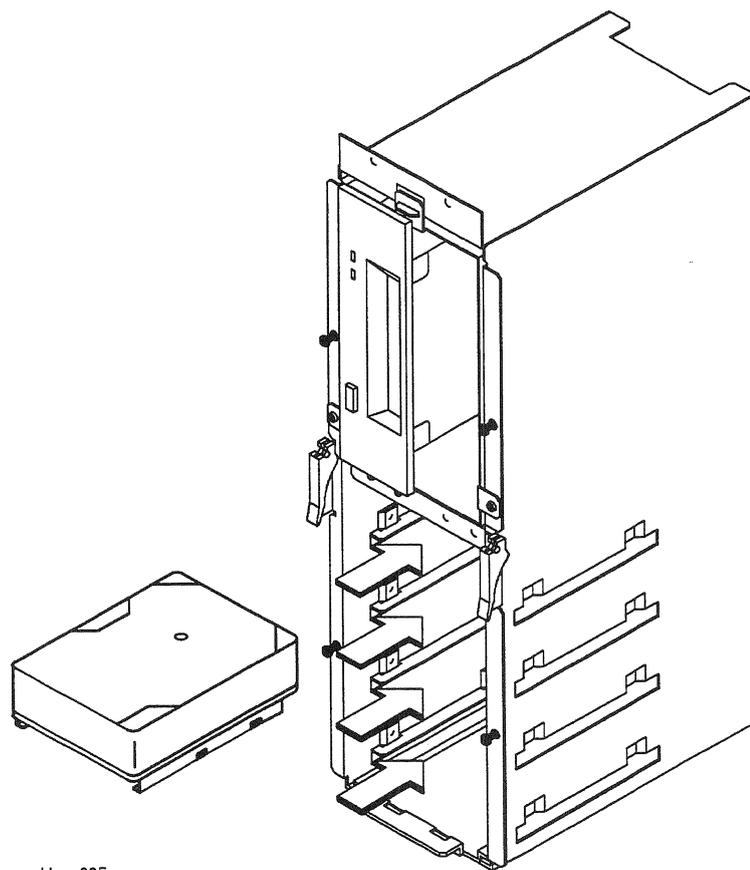
Figure 2-5. Peripheral Interconnect Board DC and Data Connectors

Physical Installation

Hard Disk Drive Installation

All hard disk drives sit on mounting tabs and attach to the peripheral bay with four screws, two on each side. The hard disks install from the bottom up. To install a new drive:

1. Remove the front grill by loosening the captive screw at the top. Set the grill aside.
2. Slide in the new hard disk from the front.
3. Connect the DC and data cables at the rear of the bay.
4. Attach the disk drive to the peripheral bay with four screws.
5. Reinstall the front grill.
6. Slide the peripheral bay back into the system chassis.
7. Attach the peripheral bay to the system chassis with the four captive screws.



khpu005

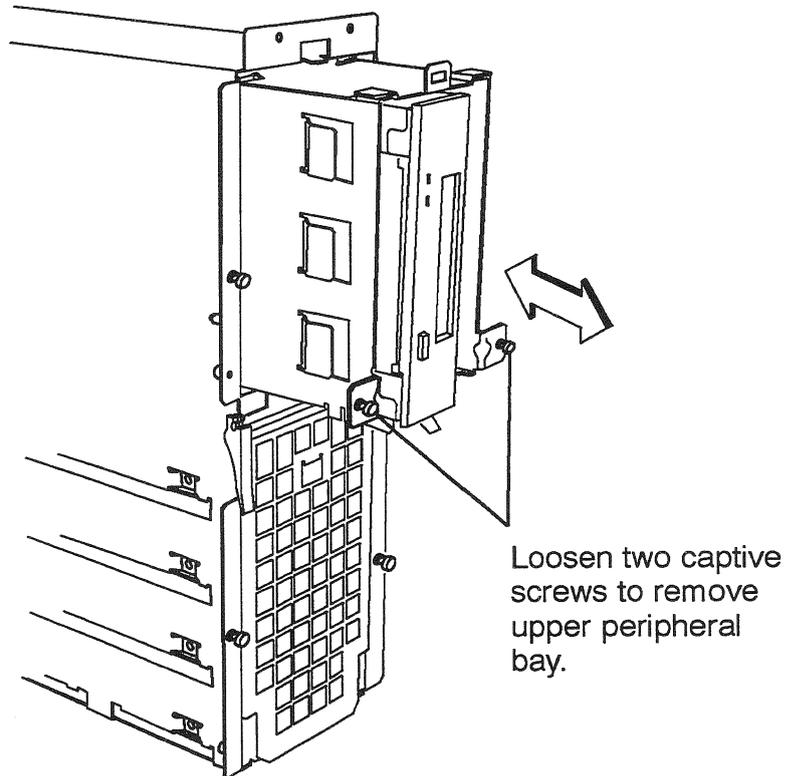
Figure 2-6. Disk Drive Installation

Note

All connectors are keyed to prevent incorrect installation. The connectors on the data cable can be installed in any order, but you may have to move connectors between drives to accommodate cable lengths. The bottom hard disk is typically connected to the data cable connector closest to the peripheral interconnect board.

Removable Media Installation (Tape, CD-ROM, Floppy Drives)

All removable media devices install in the upper bay. In order to mount the devices, it is necessary to remove the upper bay compartment from the peripheral bay.



khpu002

Figure 2-7. Removing the Upper Bay Peripheral Compartment

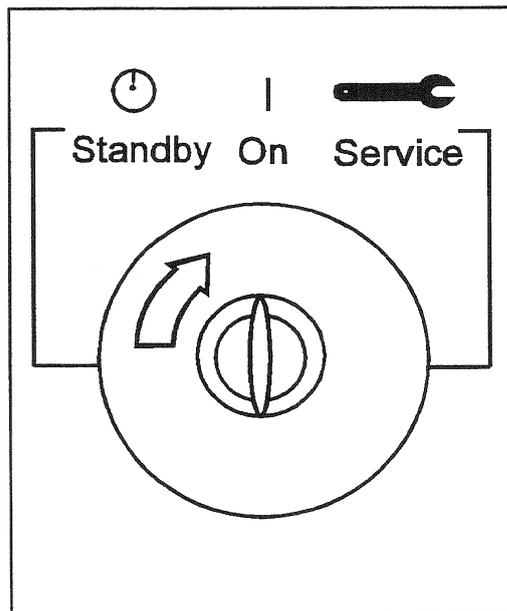
1. Loosen the two captive screws holding the upper bay compartment in place.
2. Slide the compartment out.
3. Insert the new peripheral in from the front of the bay. Be sure to orient the peripheral correctly; with the top to the right.
4. Attach the peripheral to the top and bottom of the compartment with eight screws (four each top and bottom).
5. Reinstall the compartment, securing it with the two captive screws.
6. Attach the DC power cable at the rear of the compartment.
7. Attach the data cable to the data connector.

Reassembling the System

1. Reinstall the peripheral interconnect card.
2. Slide the peripheral bay back into the system chassis.
3. Secure the peripheral bay with four captive screws.
4. Replace the bezel by inserting the top edge of the bezel under the cabinet top. The bezel hangs on a hinge hidden by the cabinet top.
5. Push the bezel in gently at the bottom to seat the bezel against the front of the cabinet.

System Power On

1. Be sure that the system key switch is still in the "Standby" position.
2. Reattach the system power cable.
3. Turn "ON" all system peripherals. Be sure all peripherals are on with no error indications.
4. Turn on the system by setting the key switch to the "ON" position.



khmuc32b

Figure 2-8. System Power On (Key Switch to the ON Position)

Refer to the System Administrators Guide for configuration procedures. The computer Owner's Guide has the address path information needed for the configuration procedures.

Verify System Operation

To verify correct operation of newly installed hardware, refer to the Operator's Handbook (HP 3000) or Owner's Guide (HP 9000) supplied with your system.

READER COMMENT SHEET

Systems Technology Division

HP 3000/9x9KS and

HP 9000/Kxx0

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Edition 4

Manual Part Number A2375-90008

June 1996

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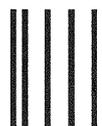
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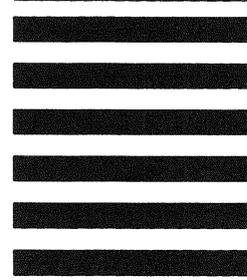
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Customer Order No. A2375-90008

Edition 4, E0696

Printed in USA, June, 1996

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