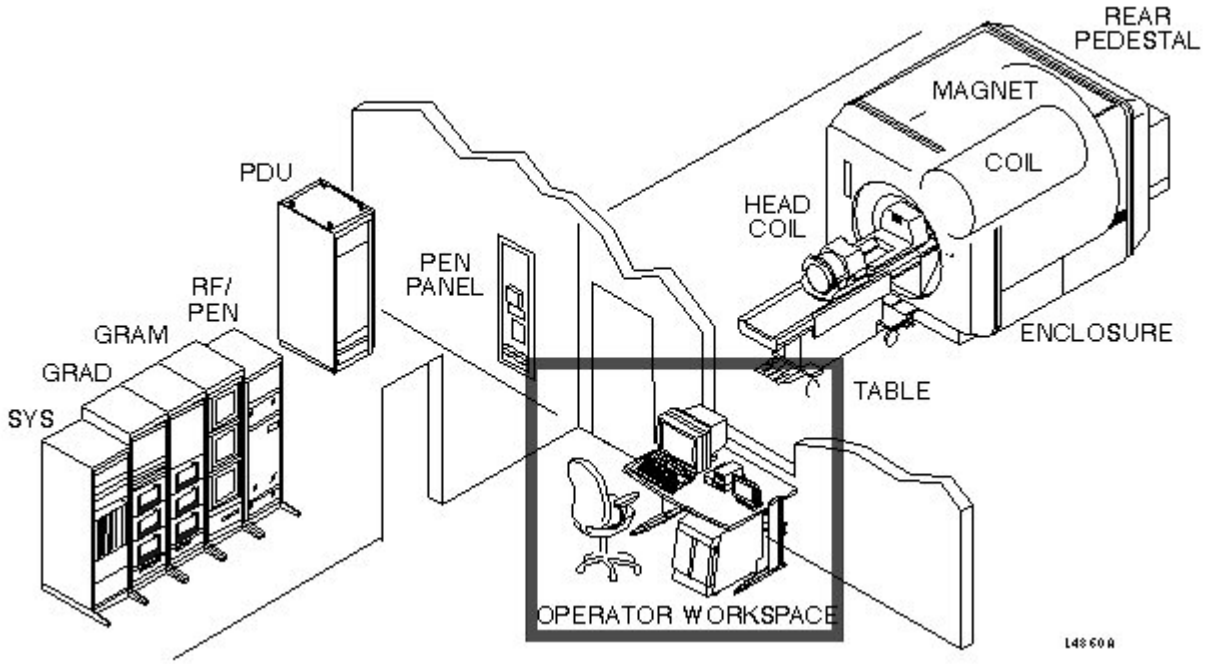
TABLE OF CONTENTS

DESCRIPTION

This procedure describes the replacement procedures for all FRU-1 parts for the Operator Workspace Table including the new Octane computer. For replacement of Indigo computer parts, refer to procedure Workspace Table Replacements Indigo.

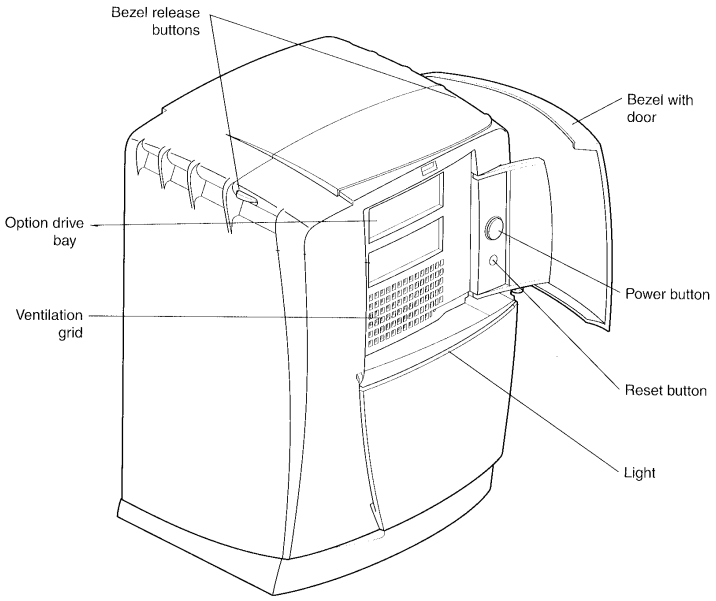
The operator workspace (OW) (see Illustration 1) subsystem is serviced by isolating faults to a FRU level, and by replacing the defective FRU. This procedure describes the replacement of level 1 FRUs of the components located on the table.



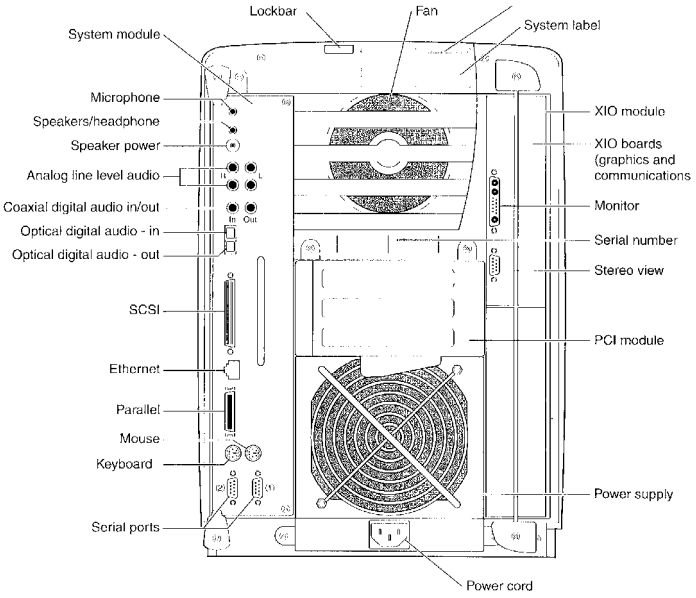
OPERATIOR WORKSPACE
ILLUSTRATION 1

1- INTRODUCTION

The Octane computer is now located on the workspace table. Sections 1 through 6 are Octane related procedures. Front and back view illustrations of the SGI OCTANE Tower. See Illustrations 1-1 and 1-2.



SGI TOWER (FRONT VIEW)
ILLUSTRATION 1-1



SGI TOWER (REAR VIEW)
ILLUSTRATION 1-2

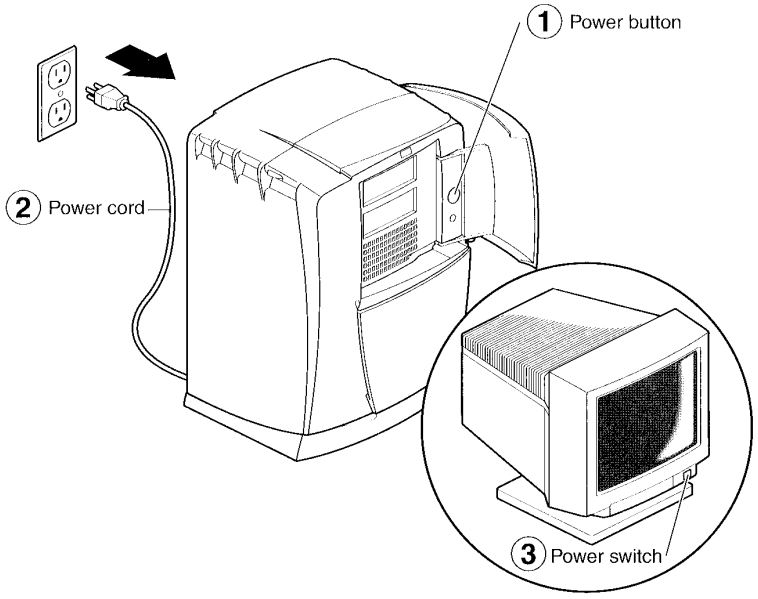
1-1 Preparing the System for Installation or Removal of Replacement Parts

Several steps need to be taken prior to actual removal or installation of replacement parts. This will ensure operator safety.

1-2 Powering Off the OCTANE Workstation

You must first follow proper procedures to shut down any programs you are working in and log out from Host Computer.

1. Log out from Host Computer.
2. Shut down the Host Computer.
3. Bring the PC down by closing the Program Manager. Be sure that no LEDs are lighted.
4. As applicable, open the circuit breaker(s) that power the Operator Workspace to turn power off.
5. Lock and tag the circuit breaker(s). (Refer to CD-ROM *Dir. 2187583-3 [or -2], MR Release Signa 5x/8x Service Methods, Renewal Parts and Service Tools,* Safety*,* Section 6, OSHA LOCKOUT/TAGOUT REQUIREMENTS.)
6. Open computer cabinet door and verify that power is off by twice pressing (on/off) the Host Computer power button; the LED should remain off.
7. Open the front cover of the workstation and push the power button to power down the OCTANE workstation. See Illustration 1-3.



POWER BUTTON LOCATIONS
ILLUSTRATION 1-3

1. 8. Unplug the power cord from the electrical outlet and from the OCTANE workstation.

1-2 Powering Off the OCTANE Workstation (continued)

WARNING!

SOME POWER STILL REMAINS AFTER POWER OFF USING THE POWER SWITCH. TO ENSURE THAT ALL POWER IS REMOVED, UNPLUG THE COMPUTER.

1. 9. Turn off monitor by pressing the monitor power button.

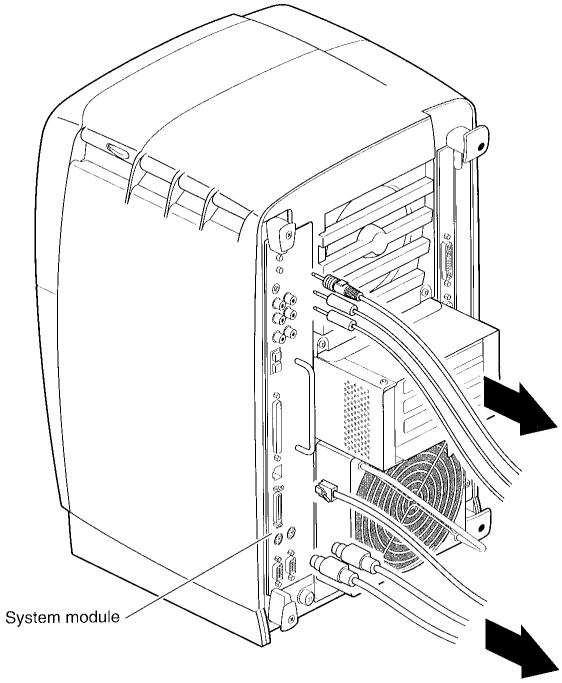
2. 10. Wait five minutes for workstation to cool down.

WARNING!

THE HEAT SINKS ON THE CPU (PROCESSOR) AND SYSTEM MODULE BECOME VERY HOT. WAIT FIVE MINUTES AFTER POWERING OFF THE OCTANE WORKSTATION BEFORE YOU REMOVE THE ANY COMPONENTS. TEST BEFORE TOUCHING THE CPU OR HEAT SINKS.

1-3 Removing the Cables from the System Module

1. Remove cables attached to the system module. See Illustration 1-4.



2.

SYSTEM MODULE CABLES
ILLUSTRATION 1-4

2- INSTALLING AND REMOVING CPU AND MEMORY

Open computer cabinet door and verify that power to the Operator Workstation is off by twice pressing (on/off) the power button on the Host Computer; the power LED should remain unlighted. If not, use the lock out/tag out steps listed in Section 1-2, Powering Off the Workstation. (Refer to CD-ROM *Dir. 2187583-3 [or -2], MR Release Signa 5x/8x Service Methods, Renewal Parts and Service Tools, Safety,* Section 6, OSHA LOCKOUT/TAGOUT REQUIREMENTS.)

CAUTION

The components inside the OCTANE workstation are extremely sensitive to static electricity; you must wear a wrist strap while replacing parts inside the workstation.

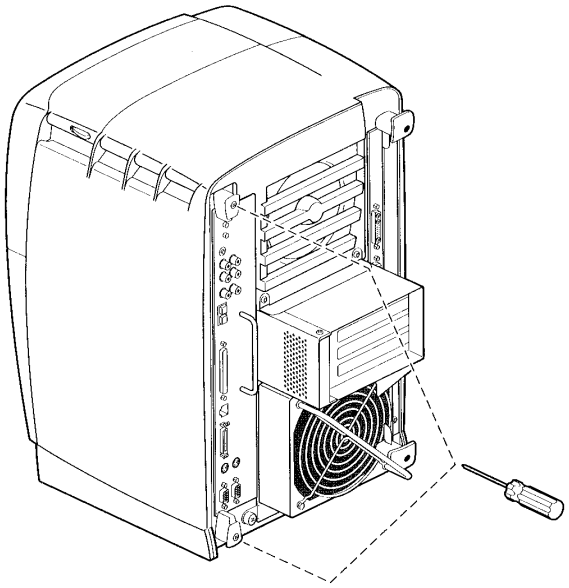
2-1 Removing the System Module

WARNING!

THE HEAT SINKS ON THE CPU (PROCESSOR) AND SYSTEM MODULE BECOME VERY HOT. WAIT FIVE MINUTES AFTER POWERING OFF THE OCTANE WORKSTATION BEFORE YOU REMOVE THE SYSTEM MODULE. TEST BEFORE TOUCHING THE CPU OR HEAT SINKS.

1. To ensure operator safety, be sure the power is off, that five minutes have elapsed to allow the heat sinks to cool, that you have attached a wrist strap; a system module has been removed to install memory.

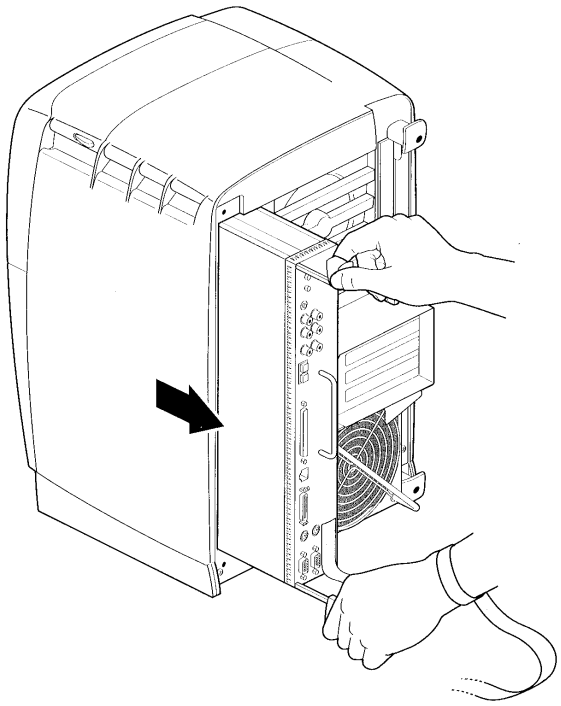
2. Locate and loosen the system module screws that hold the sliding handles to the OCTANE workstation. See Illustration 2-1.



SYSTEM MODULE SCREWS
ILLUSTRATION 2-1

2-1 Removing the System Module (continued)

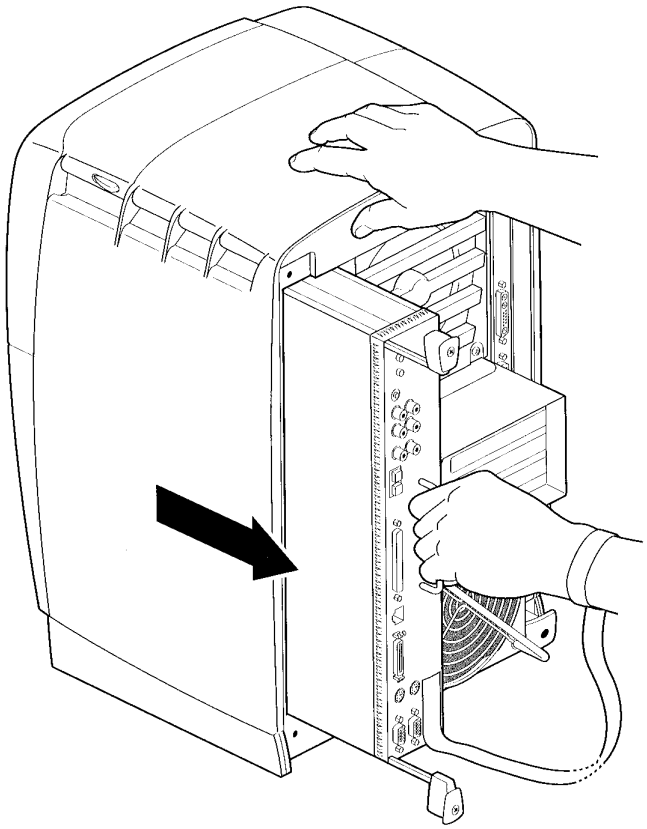
3. Pull both sliding handles simultaneously until they are completely extended to release the system module from the workstation. See Illustration 2-2.



SLIDING OUT SYSTEM MODULE
ILLUSTRATION 2-2

2-1 Removing the System Module (continued)

1. 4. Pull the system module from the chassis by grasping the module handle with one hand and bracing your other hand against the top of the OCTANE workstation. See Illustration 2-3.



REMOVING SYSTEM MODULE FROM CHASSIS
ILLUSTRATION 2-3

1. 5. Place it on a dry, antistatic surface such as your desktop. Keep the CPU and DIMMs facing up.

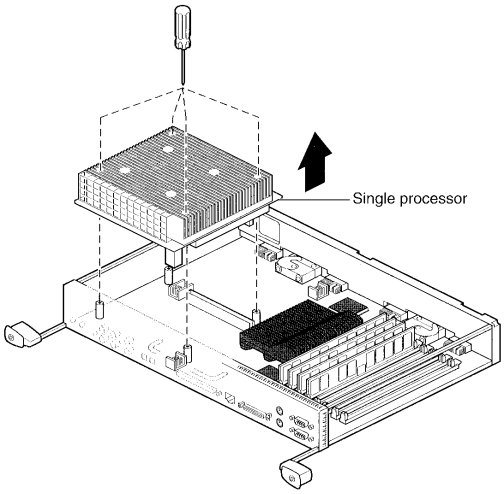
2.

2-2 Removing CPU/Processor

WARNING!

THE HEAT SINKS ON THE CPU (PROCESSOR) AND SYSTEM MODULE BECOME VERY HOT. WAIT FIVE MINUTES AFTER POWERING OFF THE OCTANE WORKSTATION BEFORE YOU REMOVE THE SYSTEM MODULE. TEST BEFORE TOUCHING THE CPU OR HEAT SINKS.

1. Loosen the four Phillips screws holding the CPU (single processor) in place. See Illustration 2-4.



2.

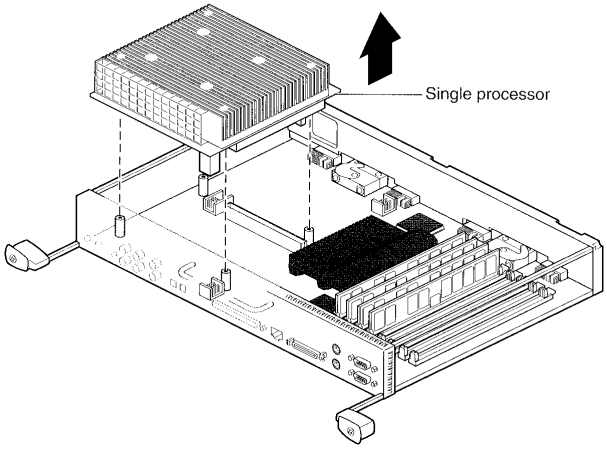
CPU SCREW LOCATIONS
ILLUSTRATION 2-4

CAUTION

Do not remove the four inner screws holding the heat sink to the CPU (flat head screws).

2-2 Removing CPU/Processor (continued)

1. 2. To lift the single processor from the system module, slide your fingers under the edge of the single processor closest to the back of the module and push up to release it. See Illustration 2-5.



2.

REMOVING CPU
ILLUSTRATION 2-5

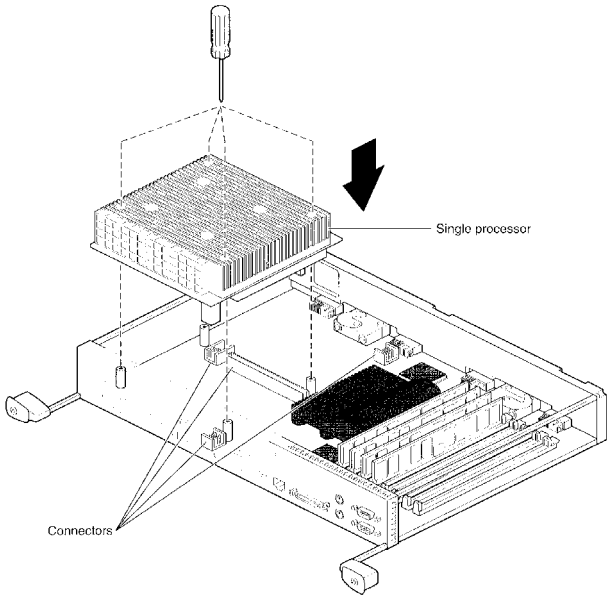
2-2-1 Installing CPU/Processor

1. Turn over the CPU to determine where the connectors are located. Align the connectors on the base of the CPU with the connectors on the system board.

2. Place the single processor on the side of the system module closest to the panel of connectors.

3. Lower the CPU onto the standoffs and connectors. See Illustration 2-6.

4. Tighten the four Phillips screws to the standoffs.



INSTALLING CPU
ILLUSTRATION 2-6

2-3 Removing Memory

WARNING!

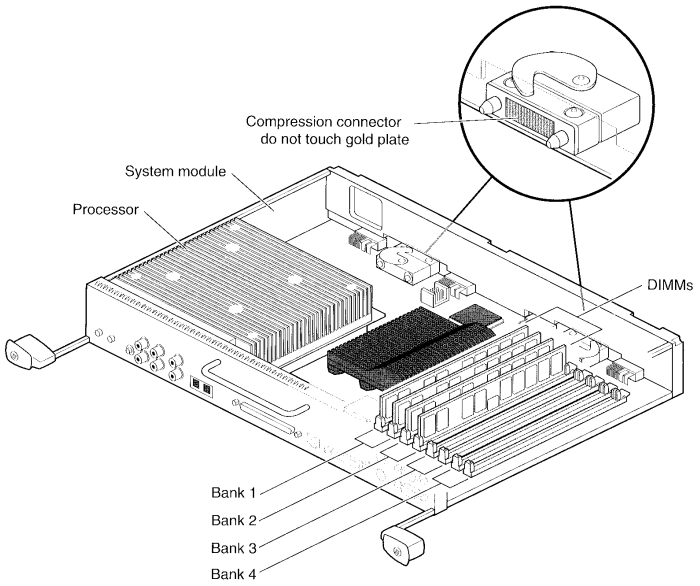
THE HEAT SINKS ON THE CPU (PROCESSOR) AND SYSTEM MODULE BECOME VERY HOT. WAIT FIVE MINUTES AFTER POWERING OFF THE OCTANE WORKSTATION BEFORE YOU REMOVE THE SYSTEM MODULE. TEST BEFORE TOUCHING THE CPU OR HEAT SINKS.

To ensure operator safety, make sure the power is off, That five minutes have elapsed to allow the heat sinks to cool, that you have attached a wrist strap; a system module has been removed to install memory.

CAUTION

Dual inline memory modules, or DIMMs, are extremely sensitive to static electricity. Handle the DIMMs carefully and wear a wrist strap to avoid the flow of static electricity.

1. Locate the DIMM banks and sockets. See Illustration 2-7.



DIMM BANKS AND SOCKET LOCATIONS
ILLUSTRATION 2-7

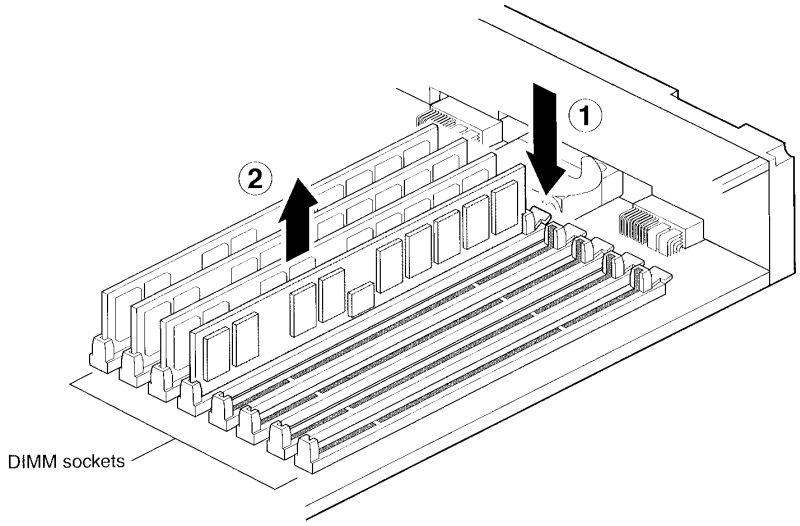
2. Locate the DIMM(s) selected for removal.

CAUTION

Do not touch the connector near the DIMM removal levers.

2-3 Removing Memory (continued)

3. To remove DIMM(s), press down on the latch at the end of the DIMM socket. The DIMM partially ejects from the socket. See Illustration 2-8.



REMOVING DIMM(S)
ILLUSTRATION 2-8

4. Remove DIMM(s).

Note

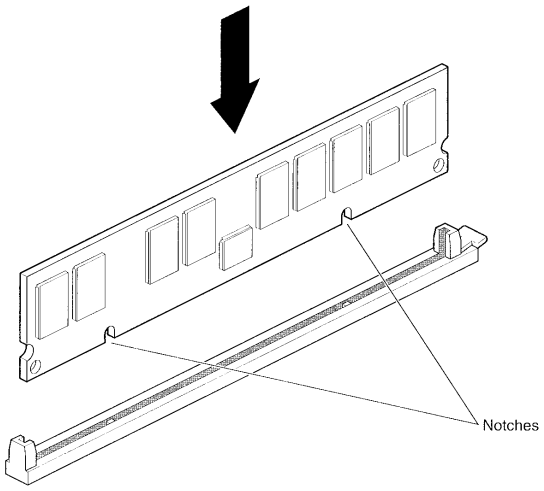
Both sockets in a DIMM bank must be either empty or occupied. If you are removing one DIMM and not replacing it immediately, you must remove the other DIMM from the bank. When the new DIMM is installed then return the other DIMM to its socket.

1.

2-3-1 Installing Memory

1. To ensure operator safety, make sure the power is off, 5 minutes have elapsed to allow the heat sinks to cool, you have attached a wrist strap; a system module has been removed to install memory.

DIMMs are notched on the bottom so that they cannot be inserted incorrectly. See Illustration 2-9.



INSTALLING DIMMS
ILLUSTRATION 2-9

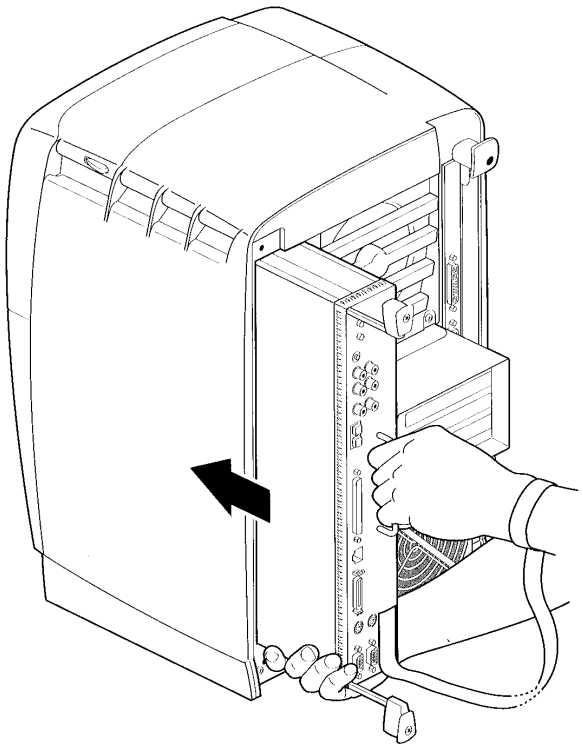
2. Insert the DIMM into the socket, You will hear a click as it makes its connection and the latch on the end of the socket moves up.

3. Check to make sure that both sockets in the bank are full. DIMMs must be installed in pairs.

You have finished installing the memory and are ready to replace the system module.

2-4 Replacing the System Module

1. Grasp the system module by its handle and support it with one hand as you slide it into the chassis. See Illustration 2-10.

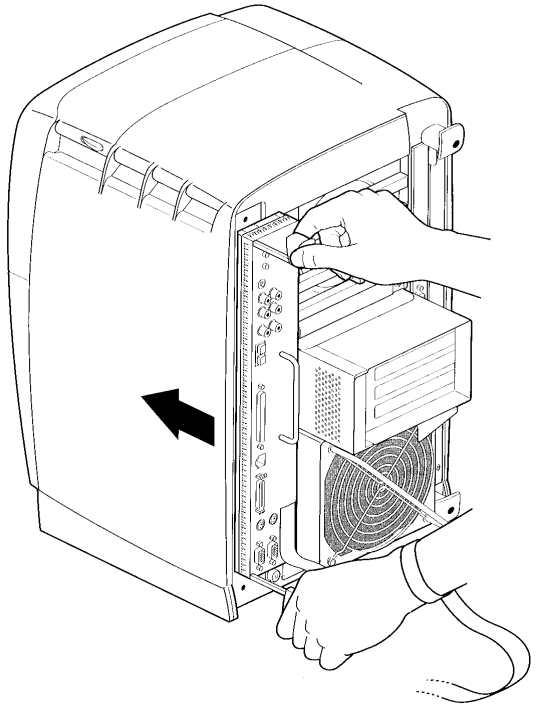


REPLACING THE SYSTEM MODULE
ILLUSTRATION 2-10

2. Push the module completely into the chassis using the handle. Both sliding handles protrude from the ends of the system module. The system module stops when it is slightly out of the chassis.

2-4 Replacing the System Module (continued)

3. Push the sliding handles simultaneously to connect the system module to the workstation. See Illustration 2-11.



SLIDING IN SYSTEM MODULE
ILLUSTRATION 2-11

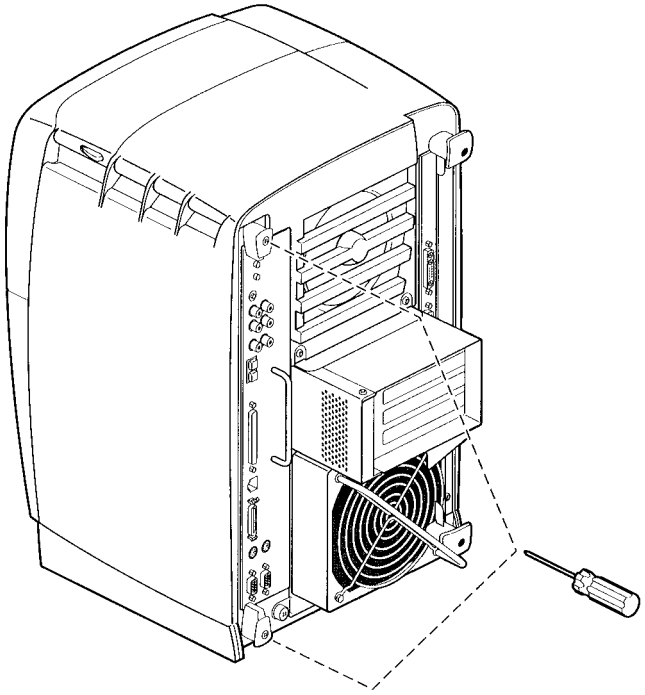
4. Push firmly on the sliding handles to completely lock the system module to the workstation.

Note

The sliding handles are completely recessed and the system module is flush with the chassis when it is fully positioned and locked to the workstation.

2-4 Replacing the System Module (continued)

1. 5. Tighten the connected screws in the sliding handles until the system module is attached to the chassis. See Illustration 2-12.

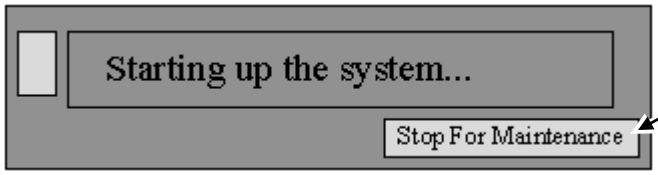


REPLACING SYSTEM MODULE SCREWS
ILLUSTRATION 2-12

1. 6. Remove wrist strap.

2-5 Verifying Memory Installation

1. 1. After powering on your system,



Select the **[Stop For Maintenance]**

1. 2. Select **[Stop For Maintenance]**. Then, click on the **[Command Monitor]** button when it becomes available.

   Type the following: **hinv <Enter>**

   1. The amount of memory should equal the amount of memory you removed or installed. For example if you originally had 256 MB and removed 32 MB DIMMs, the System Manager would show you have 192 MB of memory.

   2. If the amount of memory is incorrect, follow the directions to power off the system and confirm the installation or removal process.

      - Check to see that the angle of the DIMMs are upright and completely inserted.
      - Check that each bank is occupied with two DIMMs and they are the same type. You must have an even amount of DIMMs installed.
      - Check the label color on the DIMM. Both DIMMs in a bank must have the same colored label.

3.

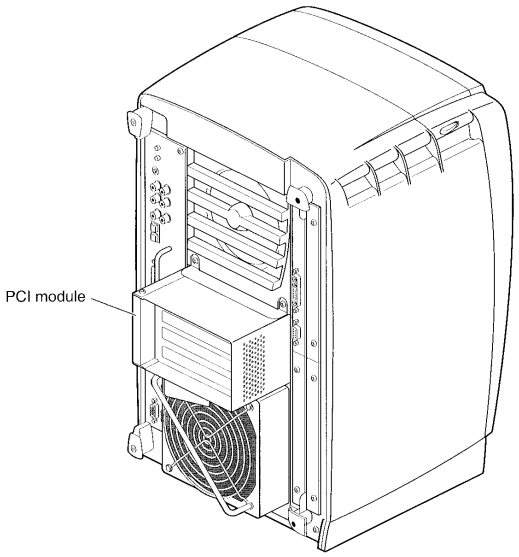
3- INSTALLING AND REMOVING THE POWER SUPPLY

Open computer cabinet door and verify that power to the Operator Workstation is off by twice pressing (on/off) the power button on the Host Computer; the power LED should remain unlighted. If not, use the lock out/tag out steps listed in Section 1-2, Powering Off the Workstation. (Refer to CD-ROM *Dir. 2187583-3 [or -2], MR Release Signa 5x/8x Service Methods, Renewal Parts and Service Tools, Safety,* Section 6, OSHA LOCKOUT/TAGOUT REQUIREMENTS.)

3-1 Preparing the System for Installation or Removal of the Power Supply

1. To prepare the workstation for removal or installation of the power supply, you must first log out from host computer, power off the OCTANE workstation, unplug the power cable from the electrical socket, and power off the monitor.

2. You must first remove the PCI module **prior to removing the power supply.** The PCI module protrudes from the rear of the workstation. See Illustration 3-1.

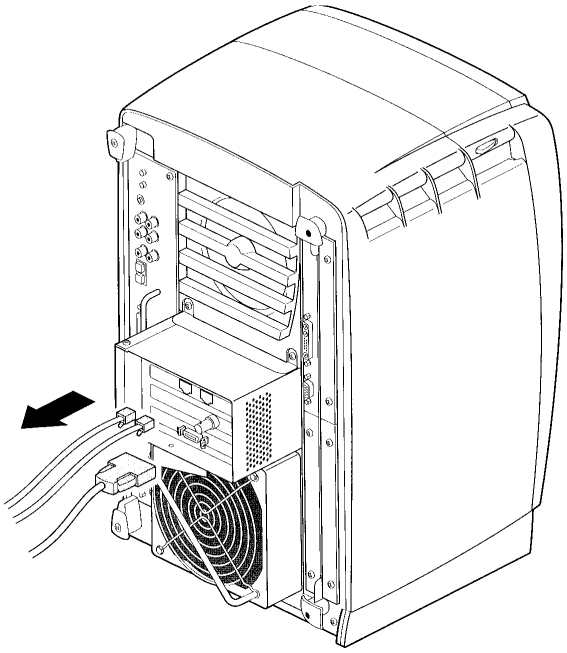


PCI MODULE LOCATION
ILLUSTRATION 3-1

3-2 Removing PCI Module

1. Ensure that power is off, the power cord is unplugged, and the monitor power is off.

2. Remove any cables from the PCI module. See Illustration 3-2.



REMOVING PCI MODULE CABLES
ILLUSTRATION 3-2

3. You must wear a wrist strap while replacing parts.

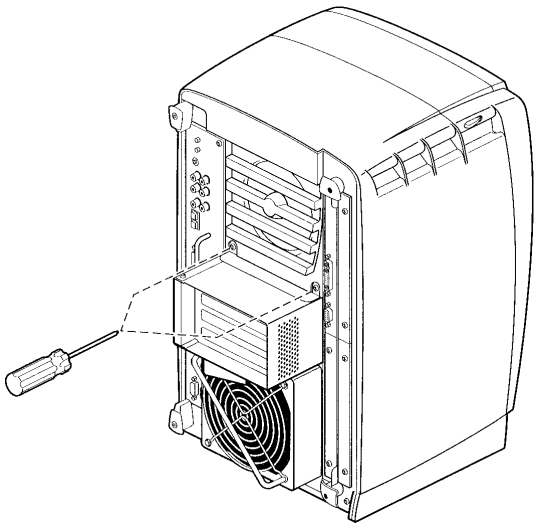
CAUTION

The components inside the OCTANE workstation are extremely sensitive to static electricity; you must wear a wrist strap while replacing parts inside the workstation.

Installing or removing the PCI boards requires removing the PCI module from the workstation.

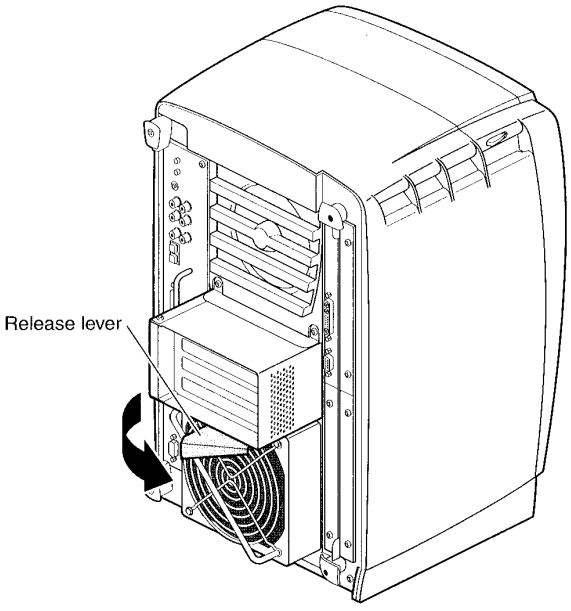
3-2 Removing PCI Module (continued)

4. Loosen the two fixed screws that secure the PCI module to the OCTANE workstation until they are disconnected from the chassis. See Illustration 3-3.



REMOVING PCI MODULE SCREWS
ILLUSTRATION 3-3

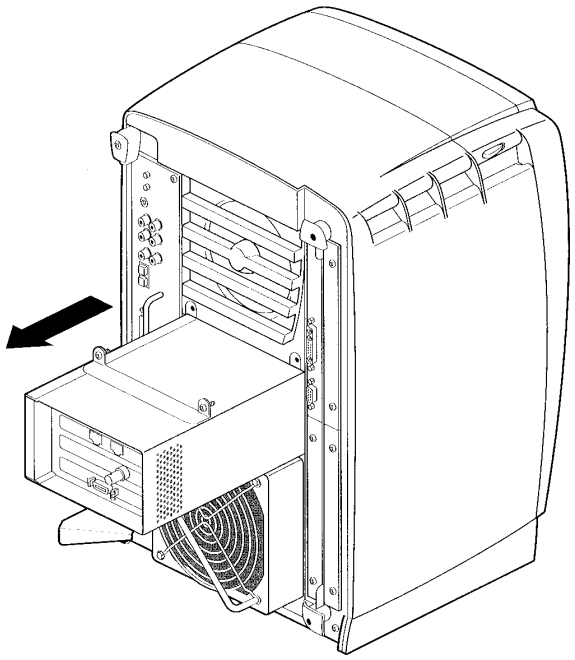
1. 5. Pull the release lever toward you and to the right. See Illustration 3-4.



PCI MODULE RELEASE LEVER
ILLUSTRATION 3-4

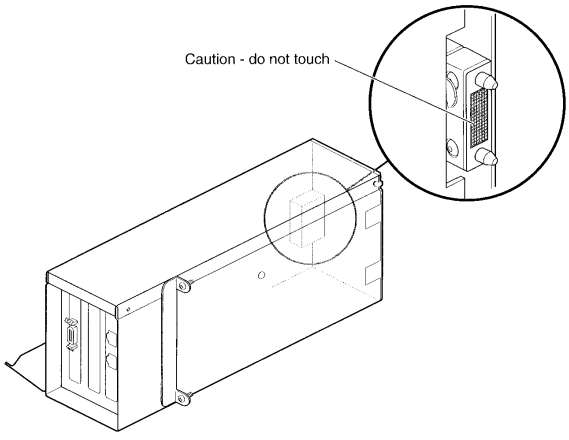
3-2 Removing PCI Module (continued)

1. 6. Slide the PCI module from the chassis. See Illustration 3-5. Place it on a dry anti-static surface such as your desktop.



REMOVING PCI MODULE
ILLUSTRATION 3-5

To identify the Compression Connector on the PCI module, see Illustration 3-6.



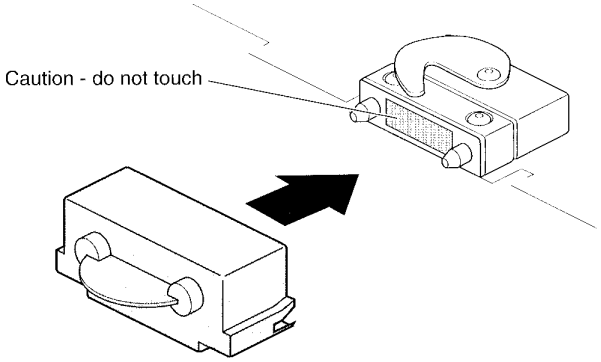
COMPRESSION CONNECTOR
ILLUSTRATION 3-6

3-2 Removing PCI Module (continued)

CAUTION

The compression connector on the back of the PCI module is delicate and easily damaged. Do not touch or bump the gold area of the compression connector.

1. 7. Place a cap on the compression connector on the back of the PCI module. See Illustration 3-7.



PLACING CAP ON COMPRESSION CONNECTOR
ILLUSTRATION 3-7

You are now ready to remove the power supply.

3-3 Removing Power Supply Module

You do not need to use a wrist strap when removing the power supply.

WARNING!

ELECTRIC SHOCK HAZARD! BE SURE THAT YOU HAVE REMOVED THE POWER CABLE FROM THE ELECTRICAL OUTLET BEFORE BEGINNING THIS PROCEDURE!

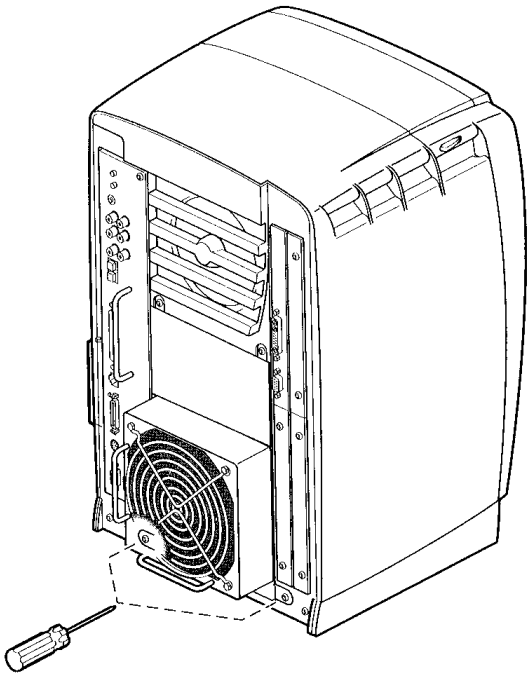
Open computer cabinet door and verify that power to the Operator Workstation is off by twice pressing (on/off) the power button on the Host Computer; the power LED should remain unlighted. If not, use the lock out/tag out steps listed in Section 1-2, Powering Down the Workstation. (Refer to CD-ROM *Dir. 2187583-3 [or -2], MR Release Signa 5x/8x Service Methods, Renewal Parts and Service Tools,* Safety, Section 6, OSHA LOCKOUT/TAGOUT REQUIREMENTS.)

3-3 Removing Power Supply Module (continued)

CAUTION

Do not remove the power cable from the power supply until the power supply is out of the chassis.

1. Locate the two fixed screws near the bottom of the power supply. See Illustration 3-8.

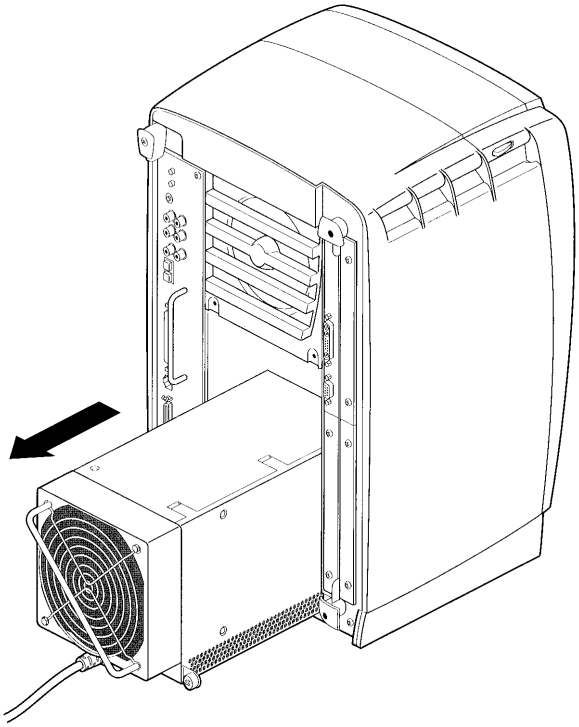


POWER SUPPLY SCREWS
ILLUSTRATION 3-8

2. Using a Phillips screwdriver, loosen the two fixed screws until they release from the chassis.

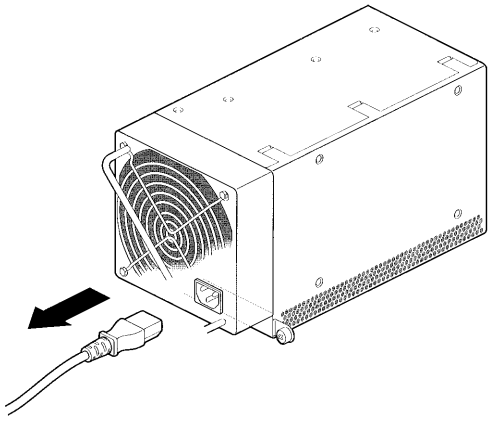
3-3 Removing Power Supply Module (continued)

3. Grasp the handle and pull the power supply from the chassis. See Illustration 3-9.



REMOVING POWER SUPPLY MODULE
ILLUSTRATION 3-9

4. Unplug the power cable. See Illustration 3-10.



UNPLUGGING THE POWER CABLE
ILLUSTRATION 3-10

Before installing the new Power Supply you must first install the PCI Module.

3-4 Installing the PCI Module

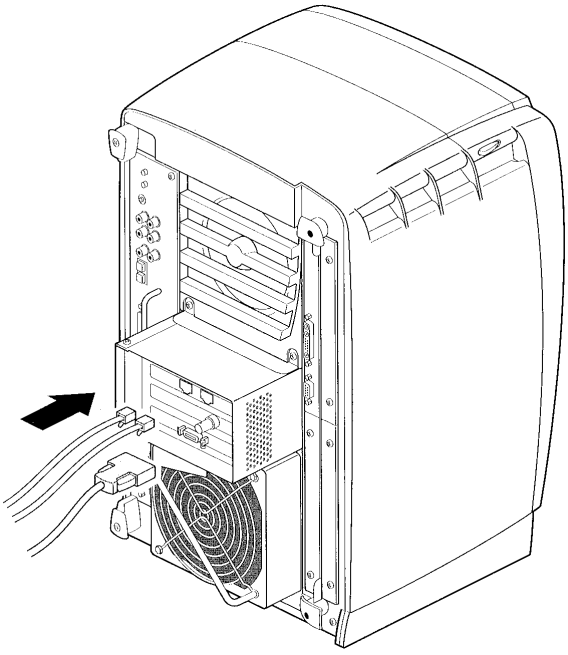
1. Remove the cap from the compression connector on the back of the PCI module, and save it for future use.

2. Place the PCI module in the chassis and push it until the tabs are flush with the chassis.

3. Close the release lever by pushing it to the left until it is parallel with the PCI module.

4. Tighten the fixed screws that hold the PCI module to the chassis.

5. Connect any PCI cables to the PCI connectors. See Illustration 3-11.



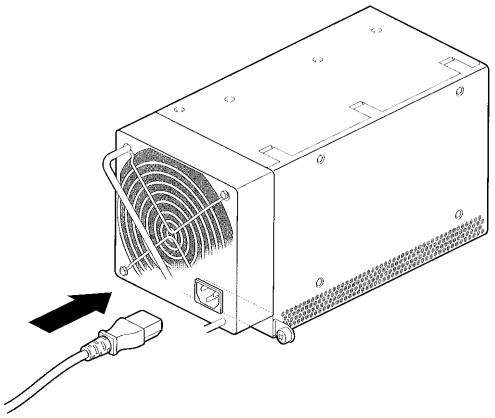
6.

RECONNECTING PCI CABLES
ILLUSTRATION 3-11

1. 6. Remove wrist strap.

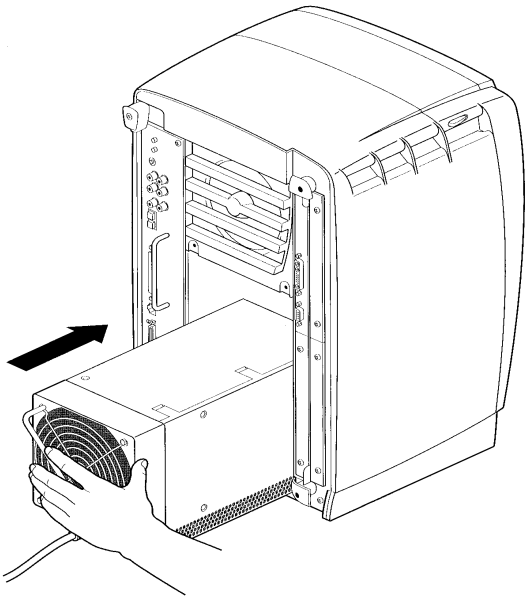
3-5 Installing the Power Supply

1. Plug the power cable into the power supply. See Illustration 3-12.



CONNECTING POWER CABLE
ILLUSTRATION 3-12

2. Slide the new power supply into the chassis. See Illustration 3-13.



SLIDING POWER SUPPLY INTO CHASSIS
ILLUSTRATION 3-13

3. Push on the power supply to firmly connect it to the frontplane.

Note

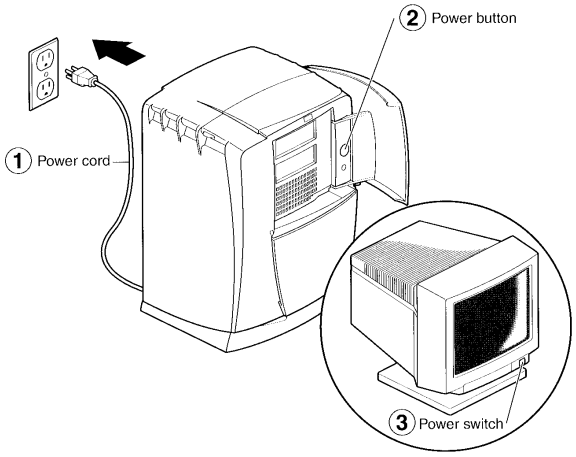
Be sure the tabs holding the screws on the power supply are flush with the chassis.

4. Tighten the screws that attach the power supply to the workstation.

5.

3-6 Powering On the OCTANE Workstation

1. Remove the lock and tag devices.
2. Plug the power cable into an electrical outlet. See Illustration 3-14.
3. Press the power button on the OCTANE workstation.
4. Press the power button on the monitor.



RESTORING POWER TO OCTANE WORKSTATION
ILLUSTRATION 3-14

4- INSTALLING OR REMOVING PCI BOARDS

The PCI module supports full or half size boards. A maximum of three boards can be installed in the PCI module. The PCI module allows installation of PCI boards that have extra long I/O connectors. Possible board combinations are:

Two full size boards
One full size board and two half size boards
Three half size boards

Total power or the sum of power for all boards from all power supply rails for the PCI module must not exceed 45.0W (average 15.0W per board). The OCTANE PCI module is a 5V environment.

4-1 Preparing the System for Installation or Removal of PCI Boards

To prepare the workstation to remove or install a PCI Board you must first log out from host computer, power off the OCTANE workstation, unplug the power cable from the electrical outlet and power off the monitor.

Installing or removing the PCI Boards requires removing the PCI module from the workstation. Refer to procedure Removing PCI Module.

You must wear a wrist strap while replacing parts.

CAUTION

The components inside the OCTANE workstation are extremely sensitive to static electricity; you must wear a wrist strap while replacing parts inside the workstation.

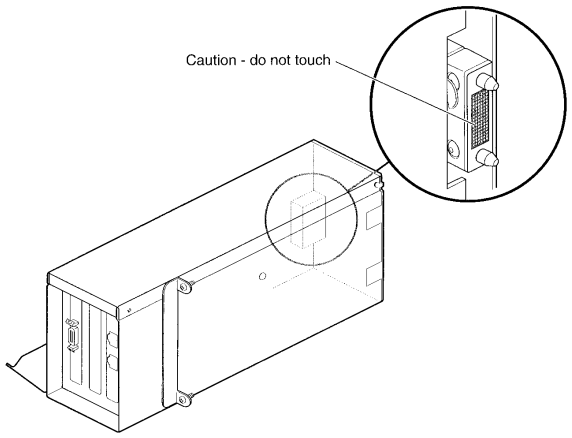
Once the PCI Module has been removed from the workstation chassis, place it on a dry anti-static surface such as your desktop.

4-1 Preparing the System for Installation or Removal of PCI Boards (continued)

To identify the Compression Connector on the PCI module see Illustration 4-1.

CAUTION

The compression connector on the back of the PCI module is delicate and easily damaged. Do not touch or bump the gold area of the compression connector.



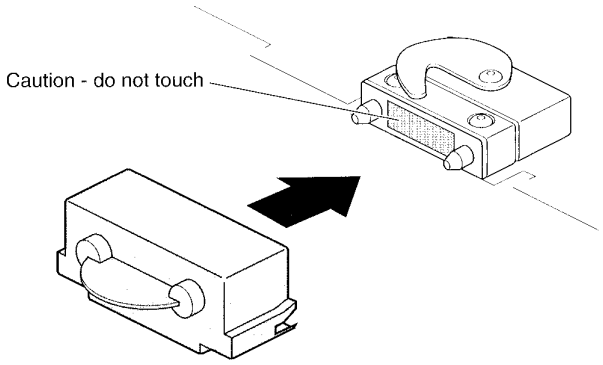
1.

COMPRESSION CONNECTOR ON PCI MODULE
ILLUSTRATION 4-1

1. Place a cap on the compression connector on the back of the PCI module. See Illustration 4-2.

Note

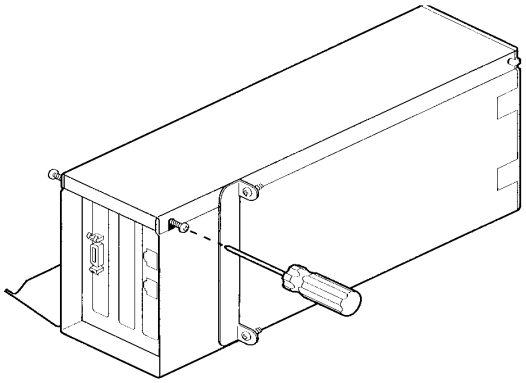
The cap comes with the FRU part. Install the new part and return cap with defective part.



PLACING CAP ON COMPRESSION CONNECTOR
ILLUSTRATION 4-2

4-2 Opening the PCI module

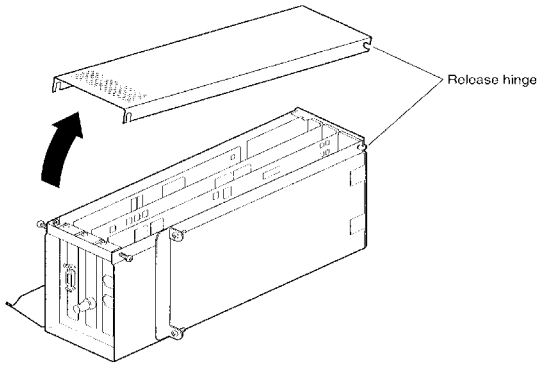
2. Turn the PCI module as shown in Illustration 4-3.



OPENING PCI MODULE
ILLUSTRATION 4-3

2. Loosen the screws holding the PCI module door closed, but do not remove them.

3. Pull the PCI module door up and off. The release hinge allows the module door to slide up and off. See Illustration 4-4.



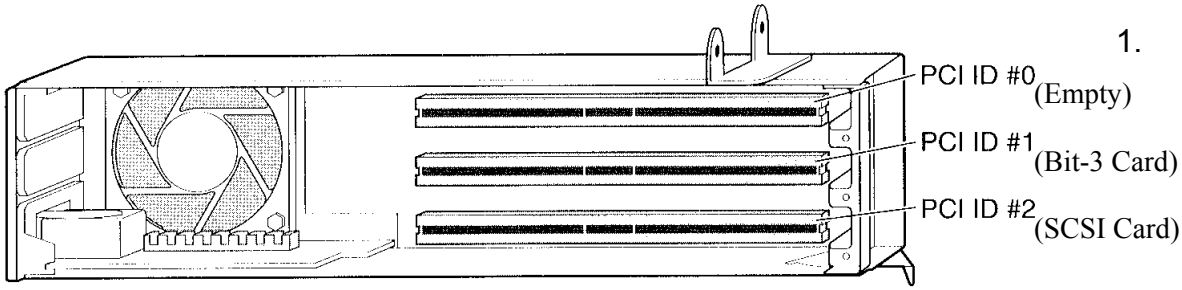
REMOVING PCI MODULE DOOR
ILLUSTRATION 4-4

4-2-1 Identifying a PCI Slot

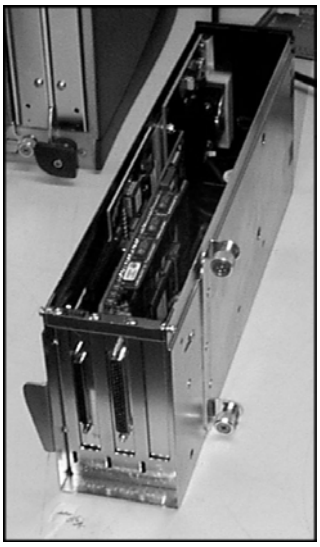
See Illustration 4-5 to identify PCI slots. PCI physical slots and slots identified in software have the same designation.

- The top slot is PCI ID #0
- The middle slot is PCI ID #1.
- The bottom (half sized) slot is PCI ID #2.

1.



1.



PCI SLOT IDENTIFICATION
ILLUSTRATION 4-5

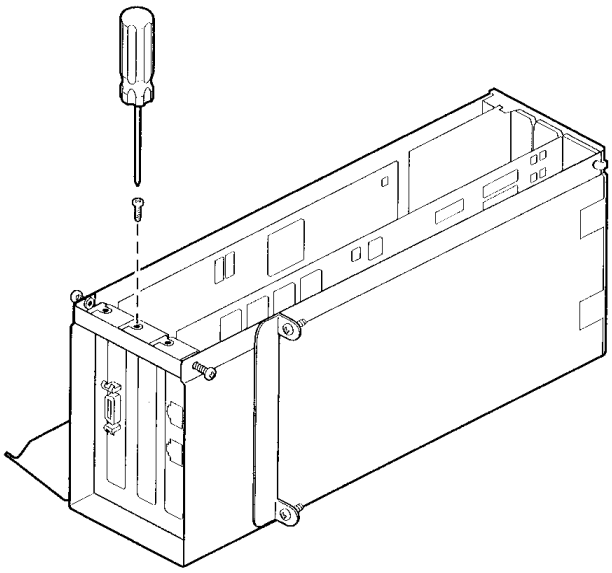
4-3 Installing a PCI Board

CAUTION

PCI boards are extremely sensitive to static electricity; you must wear a wrist strap while removing or installing PCI boards. A wrist strap prevents the flow of static electricity, which could damage the PCI board.

4-3-1 I/O Panels

1. Remove the screw from the blank I/O panel that is in the slot in which you are installing the PCI board. See Illustration 4-6.



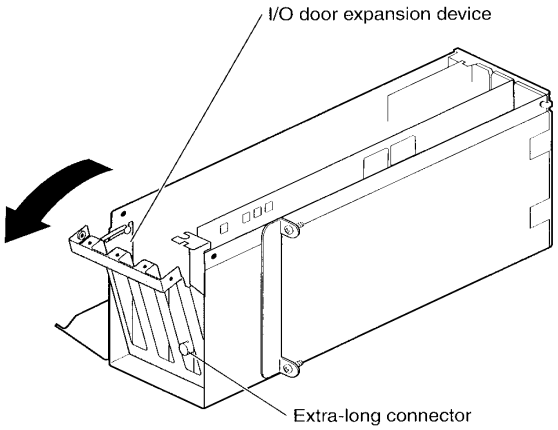
REMOVING I/O PANEL SCREWS
ILLUSTRATION 4-6

2. Using the metal knob on the side of the blank panel, remove the blank I/O panel by pulling up and out of the PCI module.

4-3-1 I/O Panels (continued)

3. If you have a board with an extra long connector, completely remove the screws that hold the lid to the PCI module. See Illustration 4-7.

4. Slide the I/O expansion door open.



OPENING I/O EXPANSION DOOR
ILLUSTRATION 4-7

5. Do not discard the blank I/O panel. If you remove a PCI board and do not replace it, you must reinstall the blank panel.

4-3-2 Removing/Deleting an Option or Board

1. Install a blank I/O panel in the I/O door in place of the PCI Board. Use the knobs on the back of the blank panel to position it.

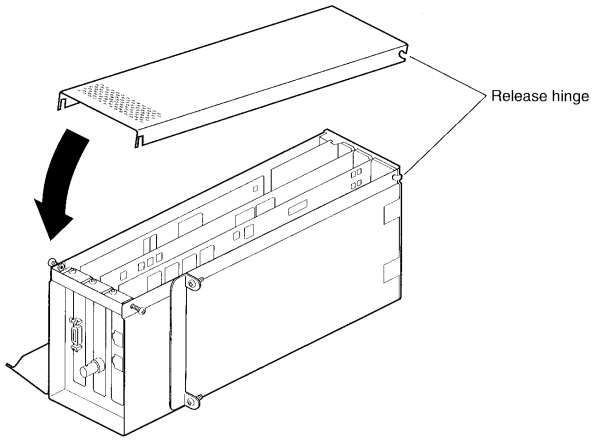
Note

Be sure to place the tip of the I/O blank panel inside the groove at the bottom of the PCI module. Do not position the tip outside the groove.

2. Attach the blank panel to the I/O door with a screw.

4-3-2 Removing/Deleting an Option or Board (continued)

3. Fit the hinged door to the PCI module. See Illustration 4-8.

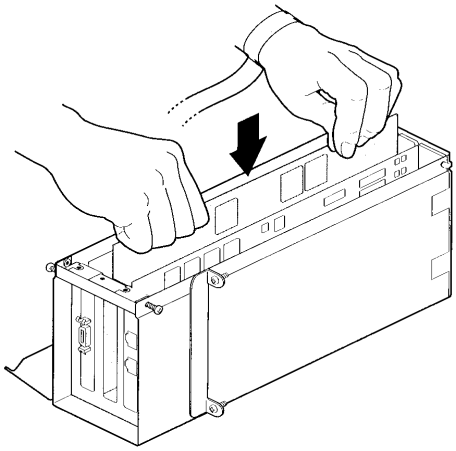


REPLACING PCI MODULE DOOR
ILLUSTRATION 4-8

4. Tighten the door screws

4-3-3 Inserting a PCI Board into the PCI Module

1. Once the blank I/O panel has been removed, insert the PCI board into the connector in the PCI module. Push gently until the PCI board snaps into place. See Illustration 4-9.



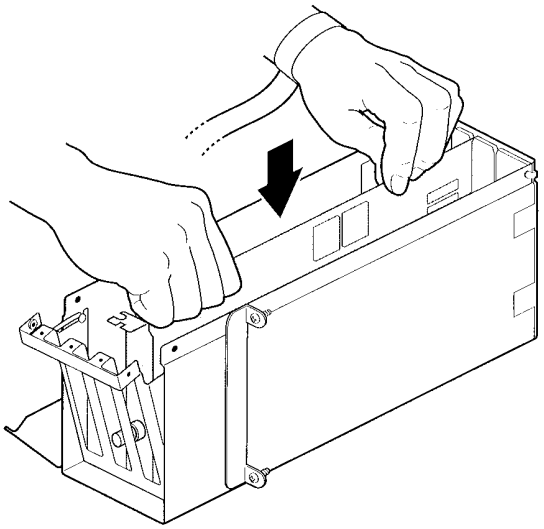
INSERTING THE PCI BOARD
ILLUSTRATION 4-9

2. If you have a board with an extra long connector, completely remove the screws that hold the lid to the PCI module.

3. Slide the I/O expansion door open.

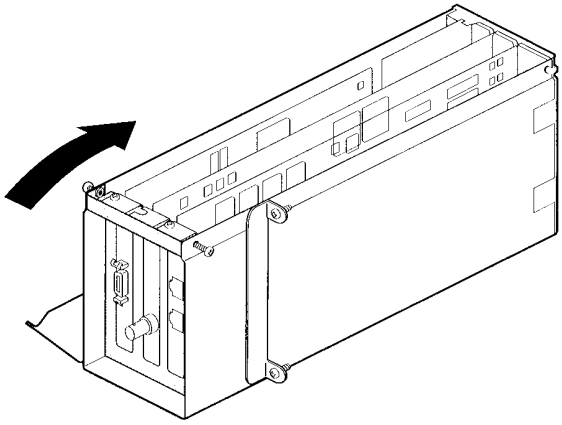
4-3-3 Inserting a PCI Board into the PCI Module (continued)

4. Insert the PCI board into the connector in the PCI module. Press gently until the board snaps into place. See Illustration 4-10.



INSERTING PCI BOARD
ILLUSTRATION 4-10

5. Close the I/O door and insert the screw that holds the PCI board to the I/O panel door. See Illustration 4-11.



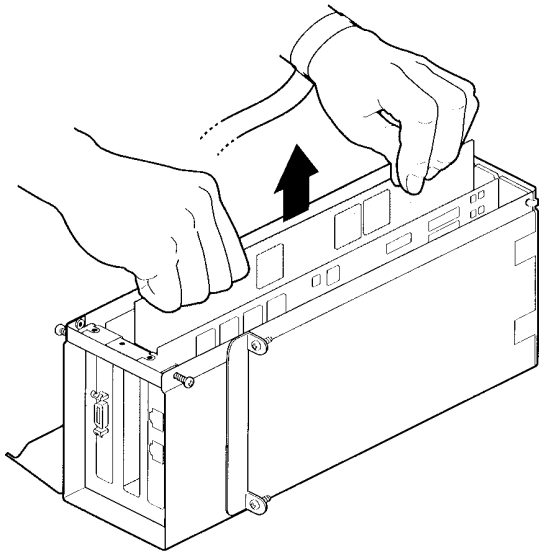
CLOSING I/O DOOR
ILLUSTRATION 4-11

6. Replace the hinged door to the PCI module.

7. Tighten the module screw doors.

4-4 Removing a PCI Board

1. Remove the screw holding the PCI board to the module.
2. If you have a board with an extra long connector you will need to remove the screws holding any other PCI boards to the module so that the I/O door can swing open.
3. Slide the I/O door open.
4. Grasp the PCI board on the top edge to extract it. See Illustration 4-12.

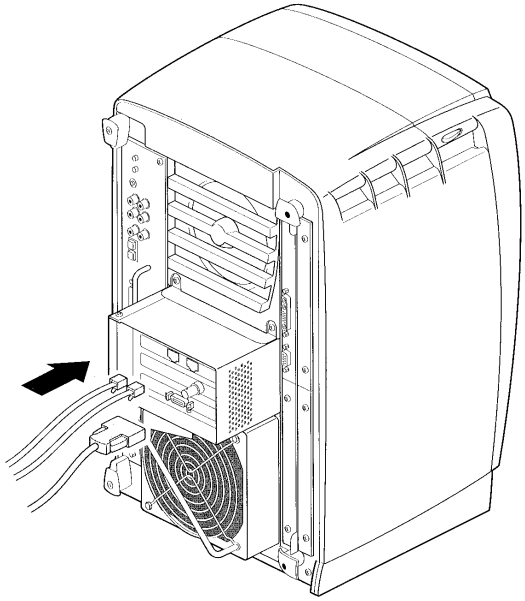


REMOVING PCI BOARD
ILLUSTRATION 4-12

5. Pull up until the board releases.
6. If you are not installing another PCI board in the same slot, insert an I/O blank panel.
7. Close the I/O door, and insert screws holding the PCI lid to the PCI module.

4-5 Installing the PCI module

1. Remove the cap from the compression connector on the back of the PCI module, and save it for future use.
2. Place the PCI module in the chassis and push it until the tabs are flush with the chassis.
3. Close the release lever by pushing it to the left until it is parallel with the PCI module.
4. Tighten the fixed screws that hold the PCI module to the chassis.
5. Connect any PCI cables to the PCI connectors. See Illustration 4-13.



CONNECTING PCI CABLES
ILLUSTRATION 4-13

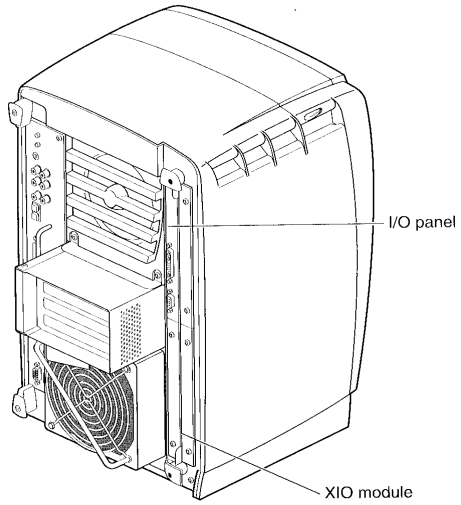
6. Remove wrist strap.
7. You are ready to power on the OCTANE workstation.
8.

4-6 Power On the OCTANE Workstation

1. Plug the power cable into an electrical outlet.
2. Press the power button on the OCTANE workstation.
3. Press the power button on the monitor.

5- XIO MODULE

The XIO module is located on the right side on the back of the chassis. See Illustration 5-1.



XIO MODULE LOCATION
ILLUSTRATION 5-1

5-1 Removing XIO Module

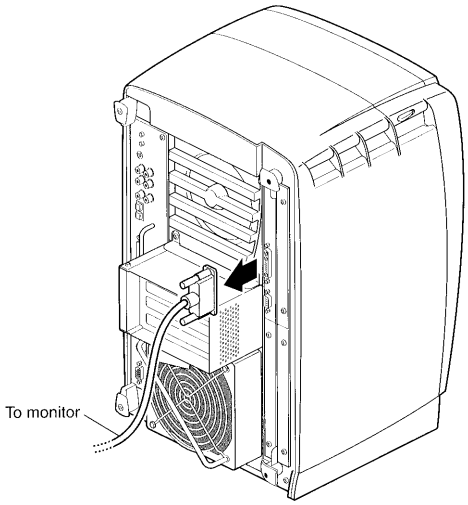
Open computer cabinet door and verify that power to the Operator Workstation is off by twice pressing (on/off) the power button on the Host Computer; the power LED should remain unlighted. If not, use the lock out/tag out steps listed in Section 1-2, Powering Down the Workstation. (Refer to CD-ROM *Dir. 2187583-3 [or -2], MR Release Signa 5x/8x Service Methods, Renewal Parts and Service Tools, Safety,* Section 6, OSHA LOCKOUT/TAGOUT REQUIREMENTS.)

WARNING!

THE HEAT SINKS ON THE XIO BOARDS BECOME VERY HOT. WAIT FIVE MINUTES AFTER POWERING OFF THE OCTANE WORKSTATION BEFORE YOU REMOVE THE XIO MODULE. TEST BEFORE TOUCHING ANY OF THE XIO BOARDS.

5-1 Removing XIO Module (continued)

1. Remove all cables from the XIO module. See Illustration 5-2.



REMOVING CABLES FROM XIO MODULE
ILLUSTRATION 5-2

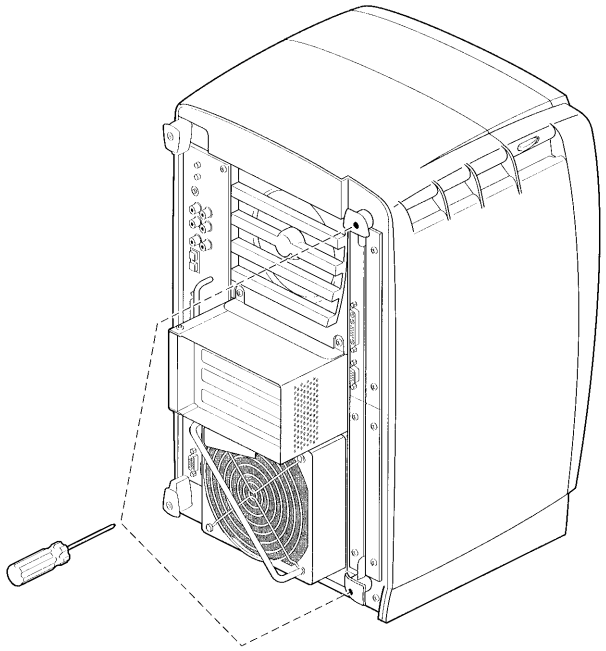
2. Attach wrist strap.

CAUTION

The components inside the OCTANE workstation are extremely sensitive to static electricity; you must wear a wrist strap while replacing parts inside the workstation.

5-1 Removing XIO Module (continued)

3. Loosen the fixed screws in the XIO module handles with a Phillips screwdriver until the screws are disconnected from the chassis. See Illustration 5-3.

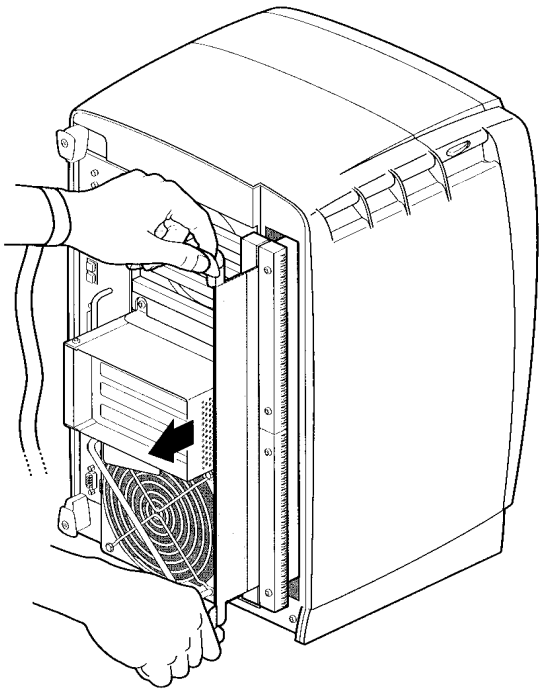


REMOVING XIO MODULE SCREWS
ILLUSTRATION 5-3

4. Grasp the handles and pull until the XIO module protrudes about an inch from the chassis. The handles and XIO module move out about one inch before the I/O panels move.

5-1 Removing XIO Module (continued)

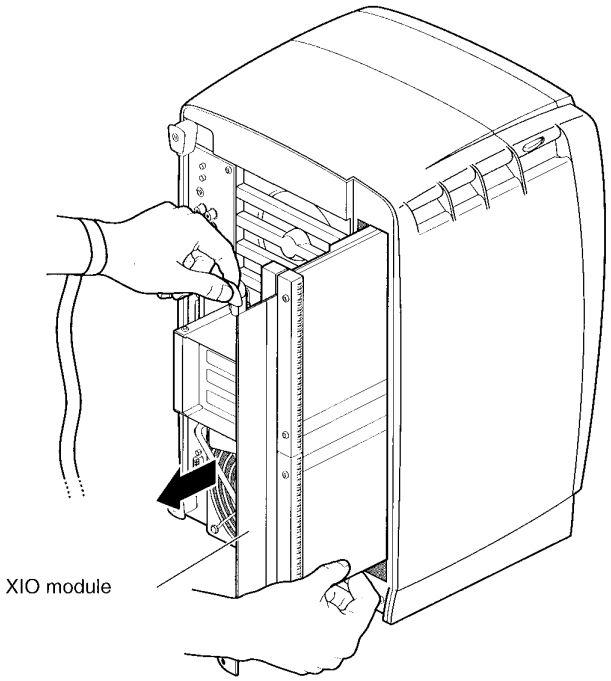
5. Continue to pull on the handles until the XIO module releases from the OCTANE workstation. See Illustration 5-4.



REMOVING XIO MODULE
ILLUSTRATION 5-4

5-1 Removing XIO Module (continued)

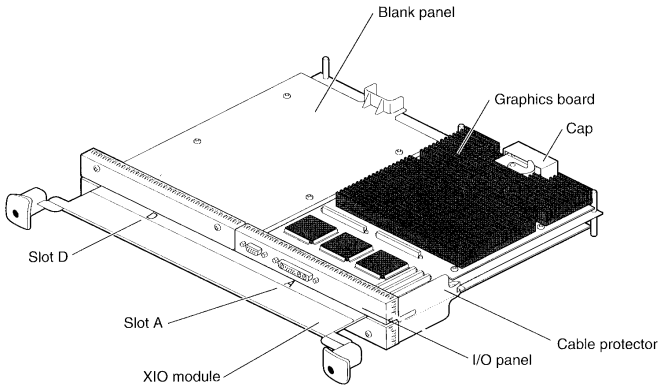
6. Support the XIO module along the bottom edge as you remove it from the chassis. See Illustration 5-5.



REMOVING XIO MODULE FROM CHASSIS
ILLUSTRATION 5-5

7. Place the XIO module on its side and on a flat, anti-static surface.

8. The handle area protrudes when the XIO module is out of the chassis. The identification slots for the XIO boards are visible (D, A, B and C). See Illustration 5-6.

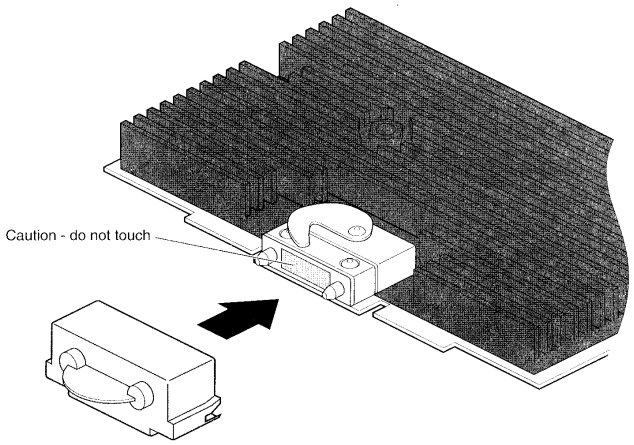


XIO BOARD SLOT IDENTIFICATION
ILLUSTRATION 5-6

Do not push on the handle area after removing the XIO module. The XIO module locks to the workstation only if the handle area is protruding.

5-1 Removing XIO Module (continued)

8. Place a cap on the XIO graphics board compression connector before removing. See Illustration 5-7.



9.

PLACING CAP ON COMPRESSION CONNECTOR
ILLUSTRATION 5-7

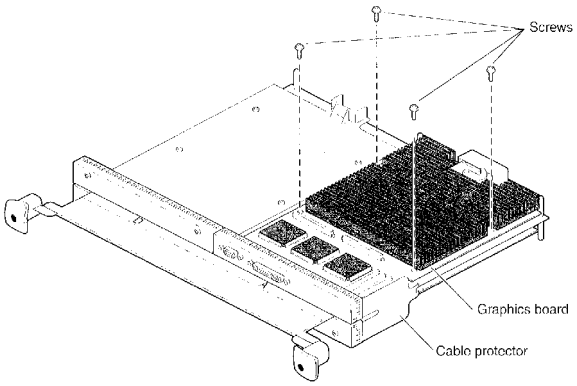
CAUTION

Do not touch or bump the gold (front) surface of the XIO compression connector. Oil or dust damages the connector. Place a protective cap on the XIO compression connector to prevent damage when the XIO boards are removed from the OCTANE workstation. Caps come with the workstation and can be used on any compression connector. They are not needed on blank panels.

5-2 Removing XIO Board and Baffle

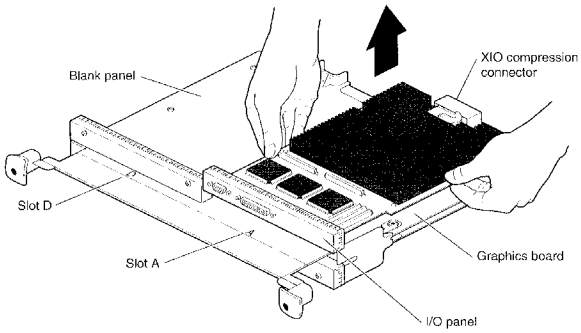
1. If you have a flex cable protector attached to the XIO module, slide it from beneath the edges of the graphics board I/O panel.

2. Remove the screws from the graphics board, option board or blank panel. See Illustration 5-8.



REMOVING GRAPHIC BOARD SCREWS
ILLUSTRATION 5-8

3. Grasp the graphics board, blank panel or option board on the I/O panel and on the side of the board with no connectors and lift. See Illustration 5-9.



REMOVING GRAPHICS BOARD
ILLUSTRATION 5-9

4. Place the board face up on a clean anti-static surface.

IMPORTANT!

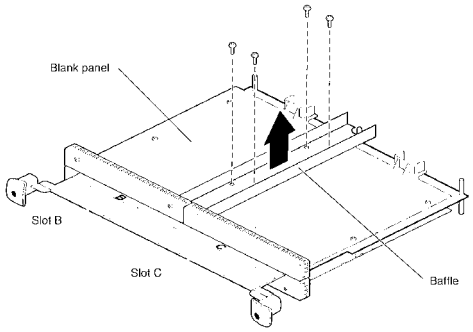
The graphics replacement board (2169940-3) comes without TMRAM. Remove the TMRAM from the board and install it into the replacement board.

Note

Save the blank panel to reinstall in the workstation if an option board is removed.

5-2 Removing XIO Board and Baffle (continued)

5. If you are removing a blank panel next to another blank panel, first remove the baffle. See Illustration 5-10.
   - Remove the fours screws from the baffle.
   - Lift the baffle off the blank panels and keep it for future use.
   - Replace two screws into the blank panel you are not removing.



REMOVING BAFFLE
ILLUSTRATION 5-10

6. Remove final two screws from the blank panel.

7. Lift the blank panel from the XIO module.

5-3 Installing XIO Board/Option Boards

Before installing a graphics board, option board, or blank panel, you must log out from host computer, power off the OCTANE workstation, wait 5 minutes for the heat sinks to cool, attach a wrist strap, and remove the XIO module.

CAUTION

Do not remove the compression connector until the installation process is complete.

1. The XIO module should be on its side, with the handles pointing toward you.

2. Determine which slots you will use to install the graphics board, option board, or blank panel.

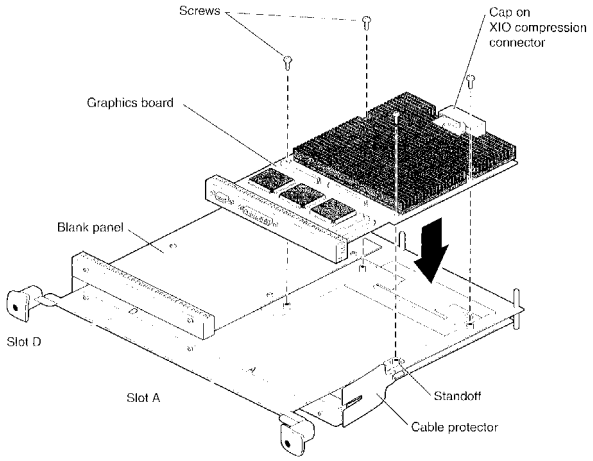
Note
The OCTANE/SI graphics board always goes in slot A.

IMPORTANT!
The graphics replacement board (2169940-3) comes without TMRAM. Remove the TMRAM from the board and install it into the replacement board.

5-3 Installing XIO Board/Option Boards (continued)

3. Place the graphics board, option board, or blank panel on the standoffs.

4. Replace the screws, tightening the board or panel to the standoffs. See Illustration 5-11.



REPLACING BOARD
ILLUSTRATION 5-11

Note

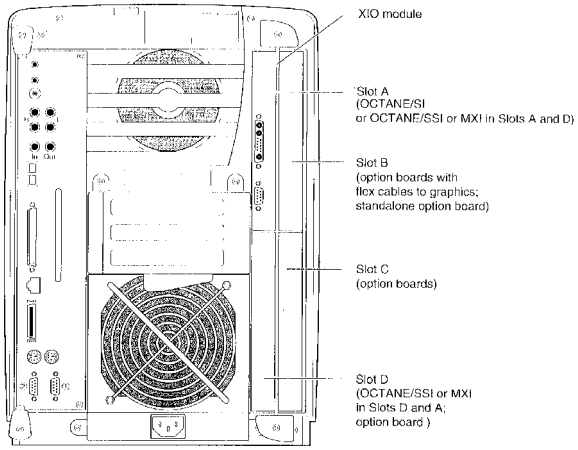
The OCTANE/SI graphics boards attaches with four screws using slot A. The OCTANE/SSI and OCTANE/MXI graphics boards attaches with six screws using slots D and A.

IMPORTANT! Be sure that all the slots are filled with graphic boards, option boards, or blank panels. The system will not cool properly if any of the slots are empty.

5. If you have a flex cable protector attached to your XIO module, slide the ends of the cable protector under the I/O panels on each side of the XIO module.

6. Remove the cap from the XIO compression connector. Keep the caps for future use.

5-4 Installing the XIO Module



XIO MODULE LOCATION
ILLUSTRATION 5-12

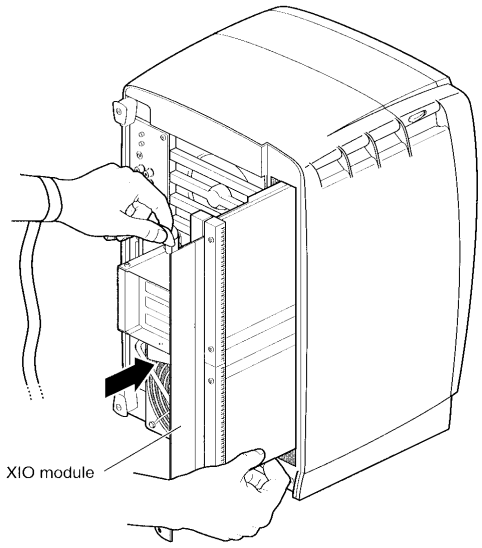
CAUTION

Replace the XIO module with the graphics boards toward the inside of the workstation. The boards may be damaged if placed toward the exterior of the workstation.

If the XIO module is inserted with the OCTANE/SSI or OCTANE/MXI graphics boards toward the exterior of the workstation, a notifier appears during power up instructing you to insert the XIO module with the graphics boards toward the interior of the workstation.

5-4 Installing the XIO Module (continued)

1. Before inserting the XIO module into the OCTANE workstation, make sure the handle portion protrudes from the I/O panels. See Illustration 5-13. If the handles are flush with the I/O panels, the XIO module will stop during insertion.



INSTALLING XIO MODULE
ILLUSTRATION 5-13

2. Slide the XIO module onto the guides on the top and bottom of the workstation to replace the XIO module in the OCTANE workstation.

3. While supporting the XIO module on the bottom edge, grasp the handle and slide the module into the chassis.

4. Use the handles to push the XIO module into a locked position.

5. Tighten the fixed screws in the handles.

6. Remove wrist strap.

7. Reconnect all XIO cables to the XIO module.

8. Connect any new cables to the XIO module.

5-5 Powering On the OCTANE Workstation

1. Plug the power cable into an electrical outlet.

2. Press the power button on the OCTANE workstation.

3. Press the power button on the monitor.

6- INSTALLING AND REMOVING DRIVES AND FRONT MODULE PARTS

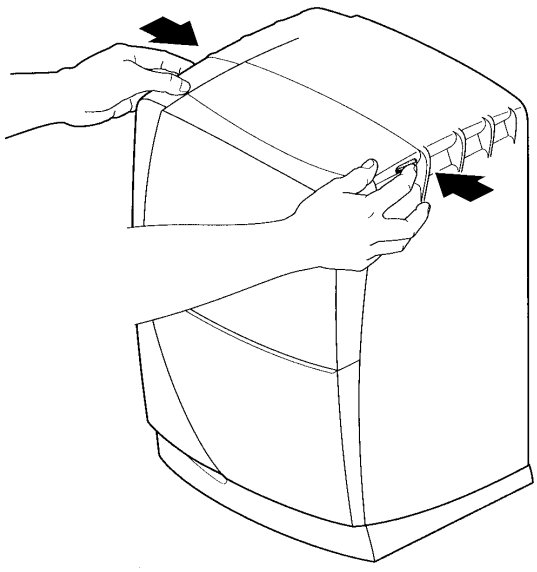
Open computer cabinet door and verify that power to the Operator Workstation is off by twice pressing (on/off) the power button on the Host Computer; the power LED should remain unlighted. If not, use the lock out/tag out steps listed in Section 1-2, Powering Down the Workstation. (Refer to CD-ROM *Dir. 2187583-3 [or -2], MR Release Signa 5x/8x Service Methods, Renewal Parts and Service Tools, Safety,* Section 6, OSHA LOCKOUT/TAGOUT REQUIREMENTS.)

6-1 Powering Off the OCTANE Workstation

1. Log out from host computer.
2. Open the front cover of the workstation and push the power button to turn off power.
3. Unplug the power cord from the electrical outlet and from the OCTANE workstation.
4. Turn off monitor by pressing the monitor power button.

6-2 Removing the Bezel

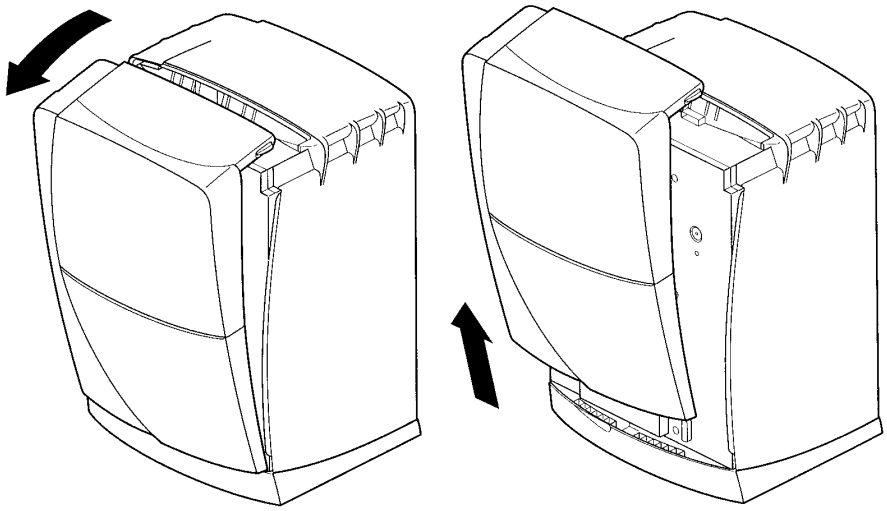
1. The front cover door should be closed.
2. Locate bezel release buttons.
3. Press both bezel release buttons. See Illustration 6-1.



BEZEL RELEASE BUTTONS
ILLUSTRATION 6-1

6-2 Removing the Bezel (continued)

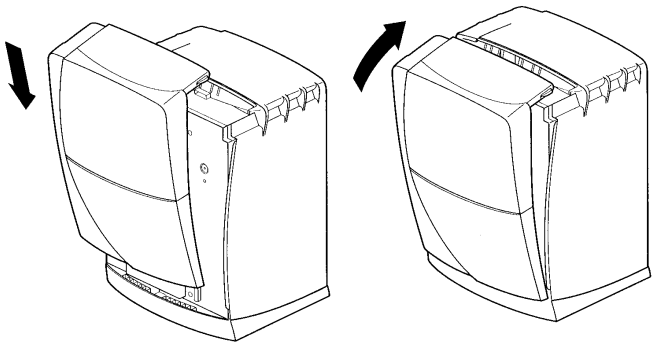
4. Remove bezel by tilting it forward, then lifting it from its release hooks at the bottom. See Illustration 6-2.



REMOVING BEZEL
ILLUSTRATION 6-2

6-2-1 Replacing the Bezel

1. Lower the bezel into the lower edge of the chassis. See Illustration 6-3.



LOWERING BEZEL
ILLUSTRATION 6-3

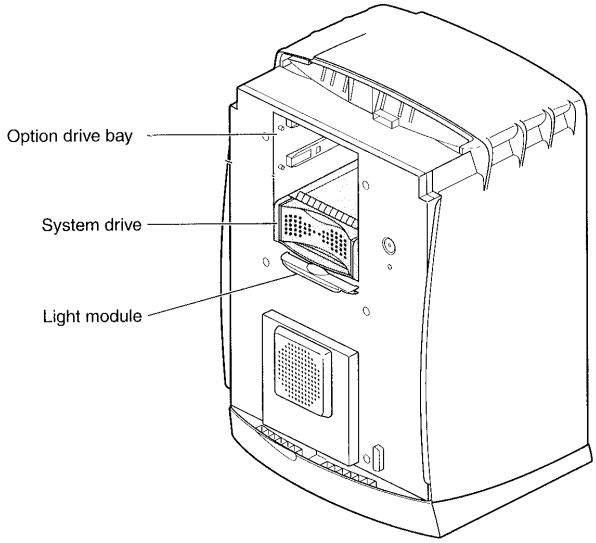
2. Hook the bezel in place.

3. Push the bezel back and into the closed position. You will hear the latches snap into place.

6-3 Installing an Internal Option Drive

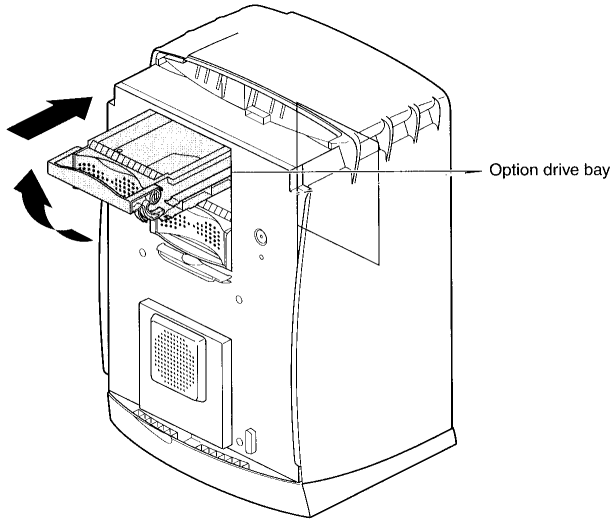
To ensure operator safety, log out of host computer, make sure power is off and the bezel has been removed.

The option drive bay is the top drive bay, This system requires two hard drives. See Illustration 6-4.



DRIVE BAYS
ILLUSTRATION 6-4

1. Lift the handle on the drive to a horizontal position, and slide the drive into the drive bay. See Illustration 6-5.



INSERTING DRIVE INTO BAY
ILLUSTRATION 6-5

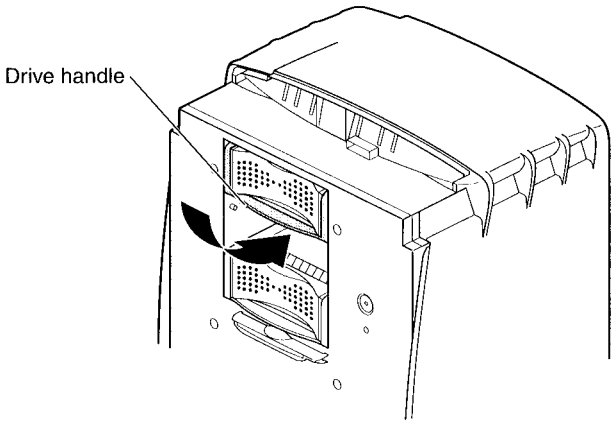
6-3 Installing an Internal Option Drive (continued)

CAUTION

Pushing the drive into the frontplane using excessive force can damage the drive.

2. Slide the drive in gently until you feel resistance. The drive is connected to the frontplane when the front of the drive is flush with the chassis.

3. With the drive completely inserted, rotate the handle downward to lock the drive in the workstation. See Illustration 6-6.



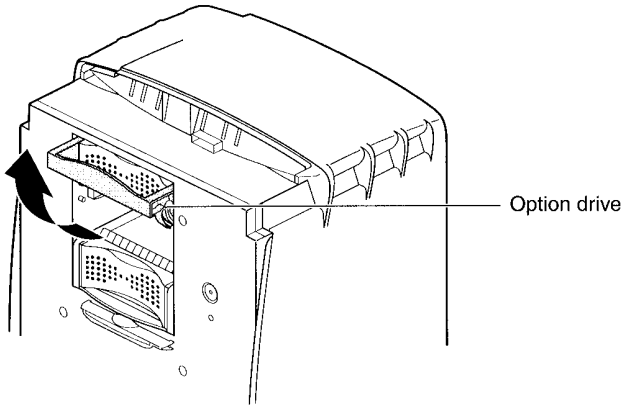
DRIVE HANDLE LOCATION
ILLUSTRATION 6-6

4. The installation of an optional drive is completed.

6-3-1 Removing an Internal Option Drive

1. To ensure operator safety, make sure power is off and the bezel has been removed.

2. Lift the drive handle to unlock the drive. See Illustration 6-7.



UNLOCKING DRIVE
ILLUSTRATION 6-7

6-3-1 Removing an Internal Option Drive (continued)

3. Pull the drive directly toward you to remove it from the drive bay.

4. To leave the drive bay empty, replace the blank panel before replacing the bezel.

6-4 Installing a System Drive

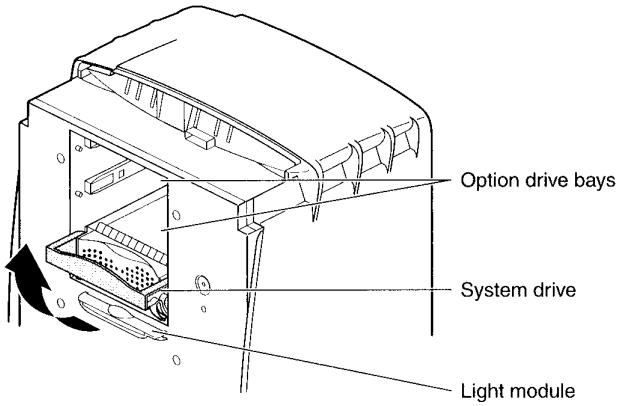
1. To ensure operator safety, make sure power is off and the bezel has been removed.

CAUTION

Do not remove the system drive unless you have a new drive to replace it. The drive needs to remain in place to prevent damage to the OCTANE workstation.

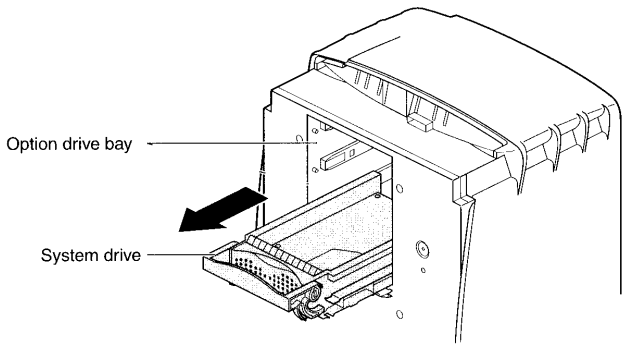
2. Locate the system drive.

3. Raise handle to horizontal position. See Illustration 6-9.



DRIVE HANDLE LOCATION
ILLUSTRATION 6-9

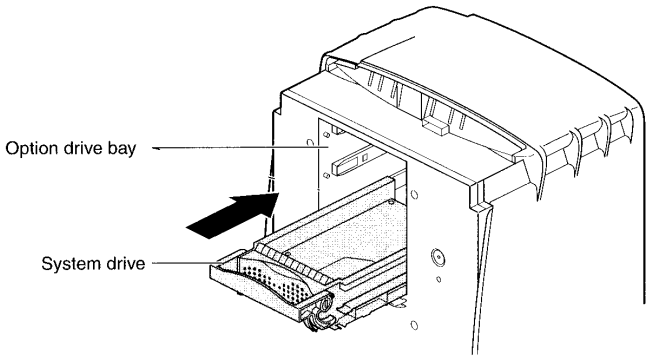
4. Pull the system drive out the OCTANE workstation. See Illustration 6-10.



REMOVING SYSTEM DRIVE
ILLUSTRATION 6-10

6-4 Installing a System Drive (continued)

5. To insert the new drive, lift the handle on the drive. See Illustration 6-11.



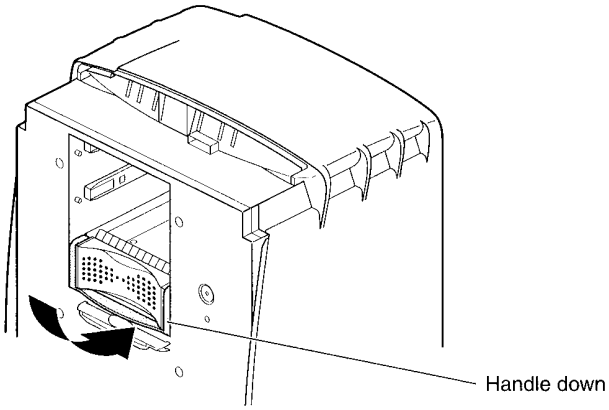
INSTALLING NEW SYSTEM DRIVE
ILLUSTRATION 6-11

6. Gently slide the drive in to the drive bay. The drive is connected to the frontplane when the front edge of the drive is flush with the chassis.

CAUTION

Using excessive force when pushing in system drive can damage the drive.

7. Rotate the handle down, to lock the system drive to the workstation. See Illustration 6-12.



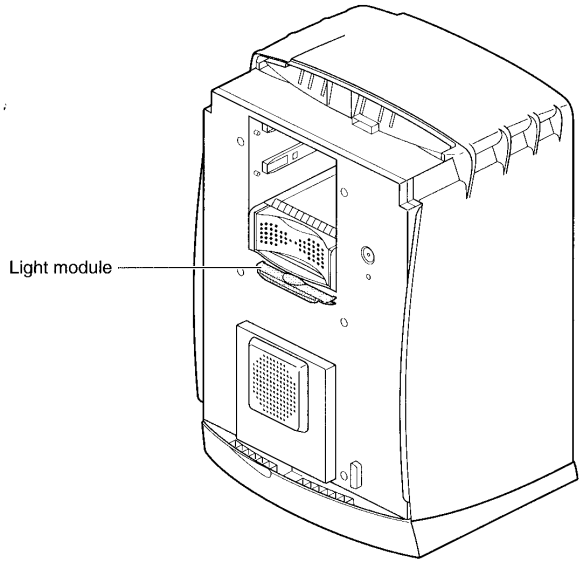
LOCKING SYSTEM DRIVE
ILLUSTRATION 6-12

8. Replace bezel.

9. Power on workstation.

6-5 Replacing the Light Module

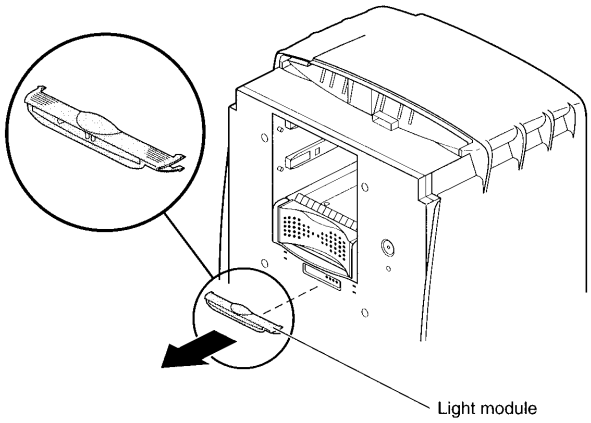
The light module, which is located directly under the system drive, provides light on the front of the OCTANE workstation. The light module is located on the sheet metal face, behind the bezel. See Illustration 6-13.



LIGHT MODULE LOCATION
ILLUSTRATION 6-13

To ensure operator safety, make sure power is off by following the power down procedure and the bezel has been removed.

1. Squeeze top and bottom wings together and gently pull straight back. If the light module does not release, squeeze more firmly until it releases from the workstation. See Illustration 6-14.



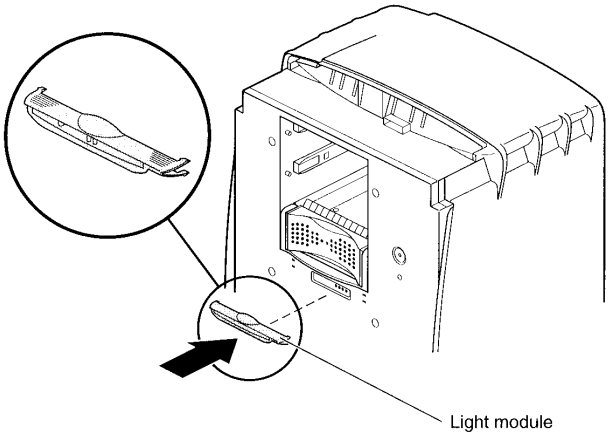
REMOVING LIGHT MODULE
ILLUSTRATION 6-14

2. Discard the light module.

6-5 Replacing the Light Module (continued)

3. To insert the new light module, align the two hollow plastic pins on the module with the two solid metal pins on the sheet metal cap.

4. Slide the module onto the sheet metal face until the module snaps into place. Make sure both sides snap firmly into place. See Illustration 6-15.



INSERTING LIGHT MODULE
ILLUSTRATION 6-15

6-6 Removing and Installing the Frontplane Module and Sytem Indentification Module

CAUTION

The components on the frontplane module are extremely sensitive to static electricity; you must wear a wrist strap while working with the frontplane module.

To ensure operator safety, you must prepare the workstation for frontplane replacement.

Log out from host computer.

Shut down **power** to the system

Remove the **bezel**.

Attach **wrist strap**.

Remove the **system module** from the chassis.

Remove the **PCI module** from the chassis.

Remove the **power supply** from the chassis.

Remove the **XIO module** from the chassis.

6-6 Removing and Installing the Frontplane Module and Sytem Indentification Module (continued)

On the front of the OCTANE workstation:

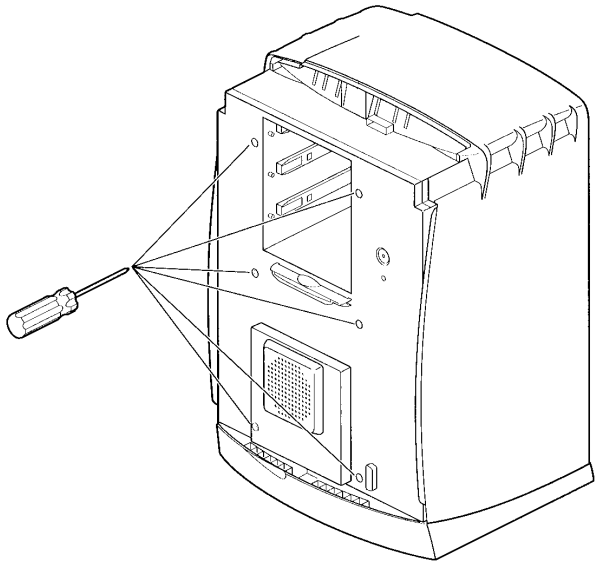
Remove the **system drive** and any **option drives**.

Remove the **light module**.

6-6-1 Frontplane Removal Procedure

1. Place an anti-static bag on a clean anti-static surface.

2. Loosen the six fixed screws holding the frontplane module to the chassis until the screws are loose in their sockets. See Illustration 6-16.



REMOVING FRONTPLANE MODULE SCREWS
ILLUSTRATION 6-16

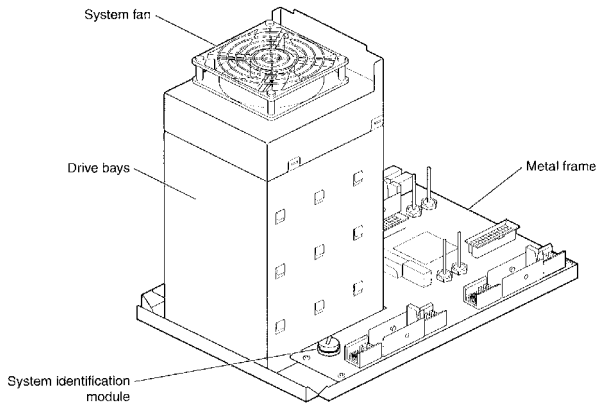
3. Place your hand inside the drive bay and lift the frontplane module out of the chassis.

CAUTION

The frontplane module is large and awkward. Use caution when removing it from the chassis.

6-6-1 Frontplane Removal Procedure (continued)

4. Gently place it face down, on a clean anti-static surface. Handle the frontplane module by the metal frame to avoid damaging components. See Illustration 6-17.



FRONTPLANE MODULE
ILLUSTRATION 6-17

6-6-2 System Identification Module

Remove the system identification module only when replacing the frontplane module.

1. Lift metal retaining clip up.
2. Slide the system identification module to the side and out.

To place the system identification module on the new frontplane:

3. Lift the retaining clip up.
4. Slide the system identification module under the clip.

6-6-3 Frontplane Installation Procedure

1. Grasp the replacement frontplane module by the edge of the metal frame.
2. Lift the frontplane module into place and insert it into the OCTANE workstation.
3. Tighten the six fixed screws.
4. Replace the system drive and any optional drives.
5. Replace the light module.

6-6-3 Frontplane Installation Procedure (continued)

On the back of the OCTANE workstation:

6. Insert the XIO module
7. Insert the PCI module.
8. Insert the power supply.
9. Insert the system module.
10. Replace the bezel.

6-7 Removing and Installing the System Fan

CAUTION

The components on the frontplane module are extremely sensitive to static electricity; you must wear a wrist strap while working with the frontplane module.

To ensure operator safety, you must prepare the workstation for frontplane replacement.

Log out from host computer.

Shut down **power** to the system

Remove the **bezel**.

Attach **wrist strap**.

Remove the **system drive** and any **option drives**.

Remove the **light module**.

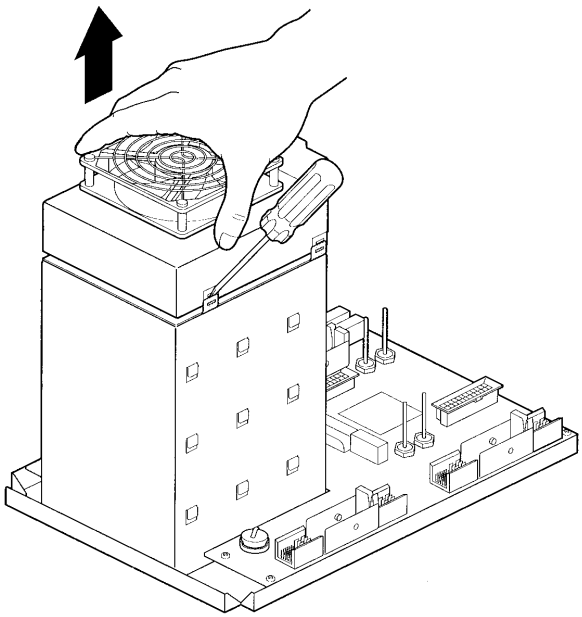
Remove all **cables and modules** from the back of the workstation.

Remove the **frontplane module** from the chassis.

6-7-1 Fan Removal Procedure

1. Locate the system fan on the back of the drive bay.

2. Use a flat head screwdriver; slide the tip of the screwdriver between the tab and fan. See Illustration 6-18.



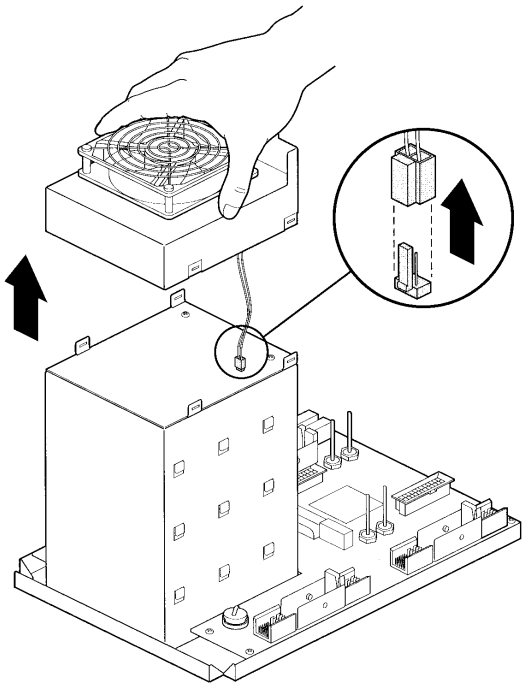
REMOVING SYSTEM FAN
ILLUSTRATION 6-18

3. Tilt the screwdriver to release the fan.

4. Partially lift the fan from the back of the drive bay.

6-7-1 Fan Removal Procedure (continued)

5. Gently pull up the connecting cable. See Illustration 6-19.

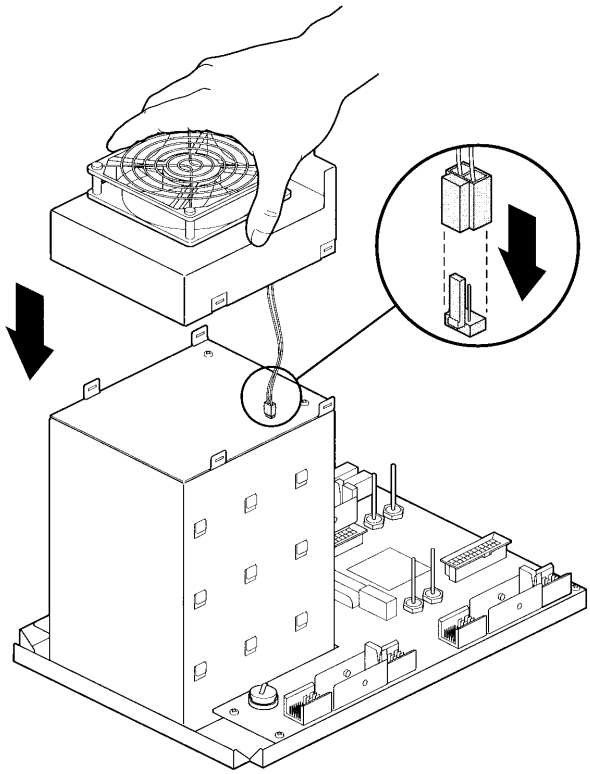


CONNECTING CABLE LOCATION
ILLUSTRATION 6-19

6. Discard old fan.

6-7-2 Fan Replacement Procedure

1. Insert the cable connector onto the back of the drive bay. See Illustration 6-20.



CONNECTING CABLE LOCATION
ILLUSTRATION 6-20

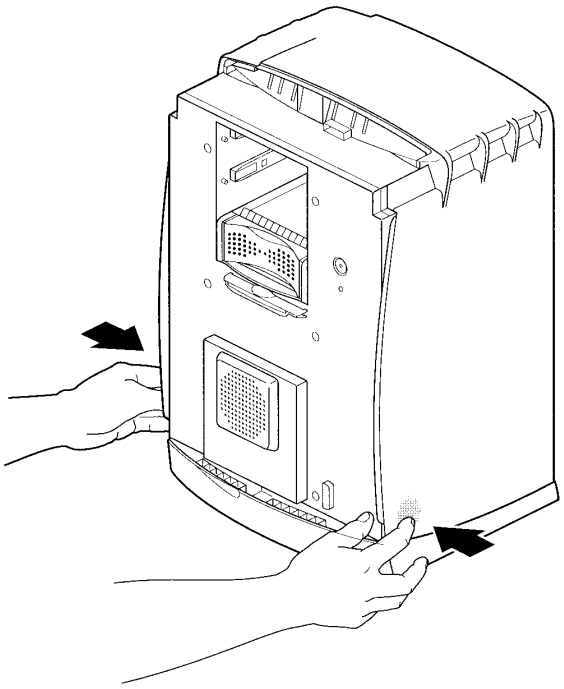
2. Place the new fan on the back of the drive bay and align tabs into place.

6-8 Removing and Installing the Plastics: Top and Base

To ensure operator safety, make sure power is off and the bezel has been removed.

6-8-1 Plastic Top Cover

1. Press inward and hold catches on the bottom front of the workstation. See Illustration 6-21.

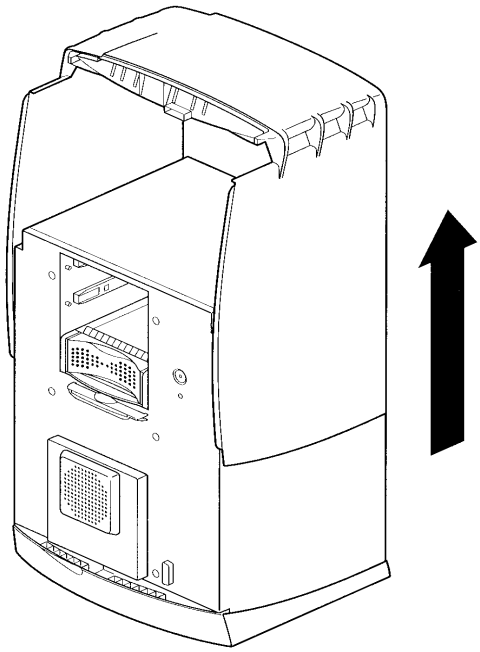


TOP COVER RELEASE CATCHES
ILLUSTRATION 6-21

2. While pressing, the cover will slide forward.

6-8-1 Plastic Top Cover (continued)

3. Then lift over straight up and off the chassis. See Illustration 6-22.



REMOVING TOP COVER
ILLUSTRATION 6-22

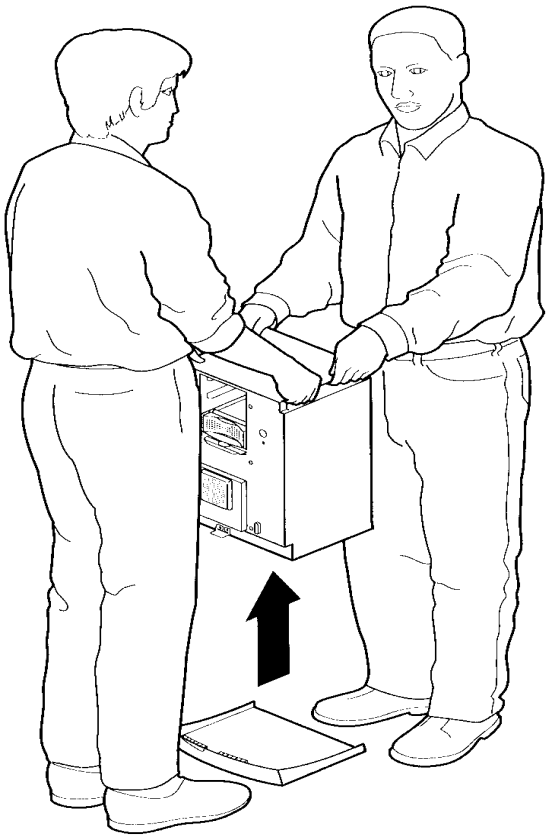
To replace plastic cover:

4. Slide cover straight down over the chassis. The cover will snap into place.

6-8-2 Plastic Base

To ensure operator safety, make sure power is off, the bezel has been removed, and the top plastic cover has been removed.

1. Locate the plastic release tab on the base of workstation.
2. Use a flat head screwdriver to press down on the plastic release tab.
3. While pressing down on the tab, slide the chassis back about one and one half inches.
4. Lift the chassis straight up and off the base. See Illustration 6-23.



REMOVING CHASSIS FROM BASE
ILLUSTRATION 6-23

To replace chassis onto plastic base:

1. Align the four tabs on each side of the chassis with the slots of the base.
2. Lower the chassis onto the base.
3. Slide chassis forward about one and one half inches until it locks into the base.
4. Place plastic cover over the chassis and snap into place.

6-8-2 Plastic Base

5. Replace the bezel.

6. Power on system
   - Plug the power cable into an electrical outlet.
   - Press the power button on the OCTANE workstation.
   - Press the power button on the monitor.

7- WORKSPACE TABLE COMPONENTS

Open computer cabinet door and verify that power to the Operator Workstation is off by twice pressing (on/off) the power button on the Host Computer; the power LED should remain unlighted. If not, use the lock out/tag out steps listed in Section 1-2, Powering Down the Workstation. (Refer to CD-ROM *Dir. 2187583-3 [or -2], MR Release Signa 5x/8x Service Methods, Renewal Parts and Service Tools, Safety,* Section 6, OSHA LOCKOUT/TAGOUT REQUIREMENTS.)

7-1 Monitor Replacement

DANGER!!

FATAL ELECTRIC SHOCK HAZARD!! ENSURE THAT POWER IS OFF TO THE INVOLVED UNITS BEFORE STARTING THIS PROCEDURE.

USE PROPER ESD PRECAUTIONS WHEN WORKING ON THIS HARDWARE. THESE COMPONENTS ARE ESD SENSITIVE AND DAMAGE WILL OCCUR TO THE HARDWARE IF PROPER ESD MEASURES ARE NOT FOLLOWED.

7-1-1 Tools Required

- Small flat head screwdriver
- Medium flat head screwdriver

7-1-2 Removal Procedures

1. Locate the Monitor on the left side of the workspace table. See Illustration 1 page 3 of this document.

2. At the rear of the monitor, disconnect the external cables.

3. Remove the old monitor from the workspace table and set aside.

7-1-3 Installation Procedures

1. Remove the replacement Monitor from the ESD Storage Bag and/or original carton, as applicable.

2. Securely position the Monitor on the left side of the workspace table.

3. Reconnect the external cables to the monitor.

4. See Procedure for Monitor Adjustments (Gray Scale) or Procedure for Monitor Adjustments (Color) for monitor setups.

5. Return power to the unit. Place the old monitor in the ESD Storage Bag and/or original carton, as applicable.

7-2 Workspace Interface Module Replacement

FATAL ELECTRIC SHOCK HAZARD!! ENSURE THAT POWER IS OFF TO THE INVOLVED UNITS BEFORE STARTING THIS PROCEDURE.

Use caution when removing panels and modules from the Operator Workspace. ESD copper fingers located on the inside edges of the SGI housing and cover panels damage easily. Handle carefully to prevent damage to your hands and the ESD fingers. If damage occurs to the ESD fingers, they must be replaced in their slot like zipping a zipper. Start where the fingers are aligned correctly and press the damaged fingers in place by sliding your fingers along the edges as applicable.

7-2-1 Tools Required

- Small flat head screwdriver
- Medium flat head screwdriver

7-2-2 Removal Procedures

1. Locate the Workspace Interface Module (WIM) on the left underside of the workspace table. See Illustration 1 page 3 of this document.

2. From the front of the WIM, disconnect the keyboard cable.

3. From the rear of the WIM, disconnect the following cables: J7 Patient Interface, J8 Host Interface, J9 PC Interface, J17 Power, and J18 TYME I/F. If present, remove all other cables residing in ports J13 through J16.

4. Remove the WIM by turning each screw on the rear of the Interface clockwise 1/2 turn. With the screw held in a horizontal position, pull the module toward you.

CAUTION

Possible equipment damage. Screws are spring loaded. Be sure to hold on to the module tightly as you turn the second screw. Failure to do so will cause the module to fall.

Repeat this procedure for the second screw.

5. Set the old WIM aside for later reattachment of the cover. See Installation Procedures, step 2.

7-2-3 Installation Procedures

1. Remove the replacement WIM from the ESD storage bag and/or original carton, as applicable.

2. On the replacement WIM, unscrew the screws located at each corner of thecover. Remove the module cover and reinstall it on the old module.

3. With the cover removed, set the jumpers on the replacement as follows: JP1, JP2, JP5, and JP7 should be in the *out* position. Jumpers JP3, JP4 (autovoice), JP6, and JP8 should all be in the *in* position.

4. Reinstall the replacement WIM under the workspace table by sliding it into the existing cover from the rear. Make sure the module clears the top of existing cover and that the cable ports are accessible from the rear of the table. The module snaps into place and the screws automatically return to a vertical position.

5. Reconnect the external cables to the WIM. Make sure that all cables match the corresponding ports. See step 3 of Removal Procedures.

6. Return power to the unit.

7. Store the old WIM in the ESD storage bag and/or original carton, as applicable.

8. See Procedure for SGI Diagnostics Octane for the keyboard to test the installation.

7-3 Modem Replacement

FATAL ELECTRIC SHOCK HAZARD!! ENSURE THAT POWER IS OFF TO THE INVOLVED UNITS BEFORE STARTING THIS PROCEDURE.

Use caution when removing panels and modules from the Operator Workspace. ESD copper fingers located on the inside edges of the SGI housing and cover panels damage easily. Handle carefully to prevent damage to your hands and the ESD fingers. If damage occurs to the ESD fingers, they must be replaced in their slot like zipping a zipper. Start where the fingers are aligned correctly and press the damaged fingers in place by sliding your fingers along the edges as applicable.

7-3-1 Tools Required

- Small flat head screwdriver
- Medium Phillips screwdriver
- Container for screws

7-3-2 Removal Procedures

1. Locate the Modem at the right rear of the workspace table, attached to the modesty panel. See Illustration 1 on page 3 of this document.

2. Release the Velcro straps to remove the Modem.

3. At the rear of the Modem, disconnect the external cables.

4. Remove the old Modem and set aside.

7-3-3 Installation Procedures

1. Remove the replacement Modem from the ESD Storage Bag and/or original carton, as applicable.

2. Reconnect the external cables to the Modem.

3. Reposition the Modem at the right rear of the workspace table, attached to the modesty panel.

4. Reattach the Velcro straps to secure the Modem.

5. Return power to the unit.

6. Place the old Modem in the ESD Storage Bag and/or original carton, as applicable.

7-4 Digital DASM Replacement

DANGER!!

FATAL ELECTRIC SHOCK HAZARD!! ENSURE THAT POWER IS OFF TO THE INVOLVED UNITS BEFORE STARTING THIS PROCEDURE.

CAUTION

Use caution when removing panels and modules from the Operator Workspace. ESD copper fingers located on the inside edges of the SGI housing and cover panels damage easily. Handle carefully to prevent damage to your hands and the ESD fingers. If damage occurs to the ESD fingers, they must be replaced in their slot like zipping a zipper. Start where the fingers are aligned correctly and press the damaged fingers in place by sliding your fingers along the edges as applicable.

7-4-1 Tools Required

- Small flat head screwdriver
- Medium Phillips screwdriver
- ESD Kit
- Container for screws

7-4-2 Removal Procedures

1. Locate the Digital DASM on the right rear of the workspace table, in the cable tray. See Illustration 1 on page 3 of this manual.
2. At the rear of the Digital DASM, disconnect the external cables.
3. Remove the Digital DASM.
4. Place the old Digital DASM on the red ESD mat.

7-4-3 Installation Procedures

1. Remove the replacement Digital DASM from the ESD Storage Bag and/or original carton, as applicable.
2. Reposition the Digital DASM on the right rear of the workspace table, in the cable tray.
3. Reconnect the external cables to the Digital DASM.
4. Return power to the unit.
5. Place the old Digital DASM in the ESD Storage Bag and/or original carton, as applicable.
6. Perform Digital DASM Calibration. See the procedure for the Digital DASM Calibration and Troubleshooting

7-5 Analog DASM Replacement

DANGER!!

FATAL ELECTRIC SHOCK HAZARD!! ENSURE THAT POWER IS OFF TO THE INVOLVED UNITS BEFORE STARTING THIS PROCEDURE.

CAUTION

Use caution when removing panels and modules from the Operator Workspace. ESD copper fingers located on the inside edges of the SGI housing and cover panels damage easily. Handle carefully to prevent damage to your hands and the ESD fingers. If damage occurs to the ESD fingers, they must be replaced in their slot like zipping a zipper. Start where the fingers are aligned correctly and press the damaged fingers in place by sliding your fingers along the edges as applicable.

7-5-1 Tools Required

- Small flat head screwdriver
- Medium Phillips screwdriver
- ESD Kit
- Container for screws

7-5-2 Removal Procedures

1. Locate the Analog DASM on the right rear of the workspace table, in the cable tray. See Illustration 1 on page 3 of this document.
2. At the rear of the Analog DASM, disconnect the external cables.
3. Remove the Analog DASM.
4. Place the old Analog DASM on the red ESD mat.

7-5-3 Installation Procedures

1. Remove the replacement Analog DASM from the ESD Storage Bag and/or original carton, as applicable.
2. Reposition the Analog DASM on the right rear of the workspace table, in the cable tray.
3. Reconnect the external cables to the Analog DASM.
4. Return power to the unit.
5. Place the old Analog DASM in the ESD Storage Bag and/or original carton, as applicable.
6. Perform Analog DASM Calibration. See the procedure for the Analog DASM Calibration and Troubleshooting for setup information for this device.

7-6 LCD Panel Replacement

DANGER!!

FATAL ELECTRIC SHOCK HAZARD!! ENSURE THAT POWER IS OFF TO THE INVOLVED UNITS BEFORE STARTING THIS PROCEDURE.

CAUTION

Use caution when removing panels and modules from the Operator Workspace. ESD copper fingers located on the inside edges of the SGI housing and cover panels damage easily. Handle carefully to prevent damage to your hands and the ESD fingers. If damage occurs to the ESD fingers, they must be replaced in their slot like zipping a zipper. Start where the fingers are aligned correctly and press the damaged fingers in place by sliding your fingers along the edges as applicable.

7-6-1 Tools Required

- Medium Phillips screwdriver
- Small flat head screwdriver

7-6-2 Removal Procedures

1. Locate the LCD Panel on the right side of the workspace table. See Illustration 1 on page 3 of this document.
2. At the rear of the LCD Panel, disconnect the external cables.
3. Remove the old LCD Panel and set aside.

7-6-3 Installation Procedures

1. Remove the replacement LCD Panel from the ESD Storage Bag and/or original carton, as applicable.
2. Reposition the replacement LCD Panel on the right side of the workspace table.
3. Reconnect the external cables to the LCD Panel.
4. Return power to the unit.
5. See Procedure for LCD Brightness/Contrast Adjustment to setup this device.
6. Place the old LCD Panel in the ESD Storage Bag and/or original carton, as applicable.

7-7 Keyboard / Mouse Replacement

FATAL ELECTRIC SHOCK HAZARD!! ENSURE THAT POWER IS OFF TO THE INVOLVED UNITS BEFORE STARTING THIS PROCEDURE.

Use caution when removing panels and modules from the Operator Workspace. ESD copper fingers located on the inside edges of the SGI housing and cover panels damage easily. Handle carefully to prevent damage to your hands and the ESD fingers. If damage occurs to the ESD fingers, they must be replaced in their slot like zipping a zipper. Start where the fingers are aligned correctly and press the damaged fingers in place by sliding your fingers along the edges as applicable.

7-7-1 Tools Required

- Small flat head screwdriver
- Medium Phillips screwdriver

7-7-2 Removal Procedures

1. Locate the Keyboard/Mouse on the workspace table. See Illustration L4855B on page 3 of this document.
2. Turn the Keyboard over to display the cable connections on the underside.
3. Disconnect the external cables.
4. Remove the old Keyboard and Mouse and set aside.

7-7-3 Installation Procedures

1. Remove the replacement Keyboard/Mouse from the carton and/or ESD Storage Bag as applicable.
2. Reposition the Keyboard/Mouse on the workspace table.
3. Reconnect the external cables to the Keyboard.
4. Return power to the unit.
5. See Procedure for SGI Diagnostics, keyboard diagnostics to test the installation.
6. Place the old Keyboard/Mouse in the ESD Storage Bag and/or original carton, as applicable.

7-7-4 Milan MIL-S800i Switch Replacement

Remove the Front Cover, the SGI Host Side Cover, and the PC Side Cover of the OW Cabinet as shown in Appendix A of this document.

7-7-5 Tools Required

- Medium Phillips screwdriver
- Small flat head screwdriver
- Container for screws

7-7-6 Removal Procedures

1. Locate the current Hub/Switch on the left side of the Operator Workspace cabinet, above the PC. See Illustration 2-1 on page 5 of this document.

2. On the front of the Hub, remove the two screws located on either end of the cable clamp. Set the cable clamp aside.

3. Disconnect the external cables located on the front and rear of the Hub or switch depending on which model is present.

4. Lift the old Hub/Switch out of the bracket shelf and set aside.

7-7-7 Installation Procedures

1. Remove the replacement Milan Switch from the original carton, as applicable.

2. Reconnect the external cables to the rear of the unit.

3. Install the Switch.

4. Position the cables over the lower bracket of the cable clamp. Reposition the top bracket over the cables. Then install the two screws on either end.

5. Return power to the unit. Refer to Table 2-1 for LED functions.

6. Place the old Hub or switch in the ESD Storage Bag and/or original carton, as applicable.

Note

The Milan switch can be “ganged” together by connecting a RG-45 Cat 5 cable to any of the 8 ports. “Auto-negotiation” automatically sets the best possible bandwidth when connection is established with another network device. Each port supports Half/Full Duplex function.

TABLE 2-1
LED INDICATORS

LED Indicators	Color	Description
Power	Green	Lit: Power On Unlit: Power off
10/100 M Speed	Green	Lit: Link at 100 Mbs Unlit: Link at 10Mbs or no link
Link/Activity	Green	Lit: Good link on port. Blinking: Port receiving and transmitting Unlit: No link is occurring on the port
Full Duplex/Collison	Green	Lit: Full-Duplex mode Unlit: Half-duplex mode Blinking: Data collision

REVISION HISTORY

REV	DATE	AUTHOR	PRIMARY REASONS FOR CHANGE
A	Apr 29, 1998	K. L-P	Initial Release
0	May 18, 1998	wek	Updated lock out/tag out info
1	July 28, 1998	K. L-P	Added TMRAM removal to graphics board installation
2	Oct 10, 2002	D. Hofstetter	Added Milan Switch Replacement