

# **Tape Library Twenty Slot to Forty Slot Upgrade Kit**

## **Modular Scalability Guide**

**Edition 1**

**Manufacturing Part Number: C7242-90010**

**January 2000**

Printed in Greeley, CO USA

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## **Printing History**

New editions of this manual incorporate all material updated since the previous edition. The manual printing date and part number indicate the current edition. The printing date changes when a new edition is printed. (Minor corrections and updates incorporated at reprint do not change this date.)

Edition 1:            January 2000: Initial printing

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## Typographical Conventions and Terms

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### WARNING

**Warnings call attention to a procedure or practice that could result in personal injury if not correctly performed. Do not proceed until you fully understand and meet the required conditions.**

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### CAUTION

Cautions call attention to an operating procedure or practice that could damage the product if not correctly performed. Do not proceed until you understand and meet these required conditions.

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### NOTE

Notes explain significant concepts or operating instructions.

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### TIP

Tips provide hints or shortcuts for a procedure.

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## **In This Manual**

- Chapter 1      Preparing the Library for the Upgrade: Describes how to remove parts from the existing library to accommodate the upgrade module.
- Chapter 2      Upgrading a 20-Slot Library to 40 or 60 Slots: Describes how to upgrade libraries with the capacity for two drives and twenty slots to a library with the capacity for four drives and forty slots or six drives and sixty slots.
- Chapter 3      Upgrading a 40-Slot Library to 60 Slots: Describes how to upgrade library modules with the capacity for four drives and forty slots to a library with the capacity for six drives and sixty slots.
- Chapter 4      Reassembling the Upgraded Library: Includes information on connecting the library, moving the display, verifying the connection, and reconfiguring the backup software.

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# **1** **Preparing the Library for the Upgrade**

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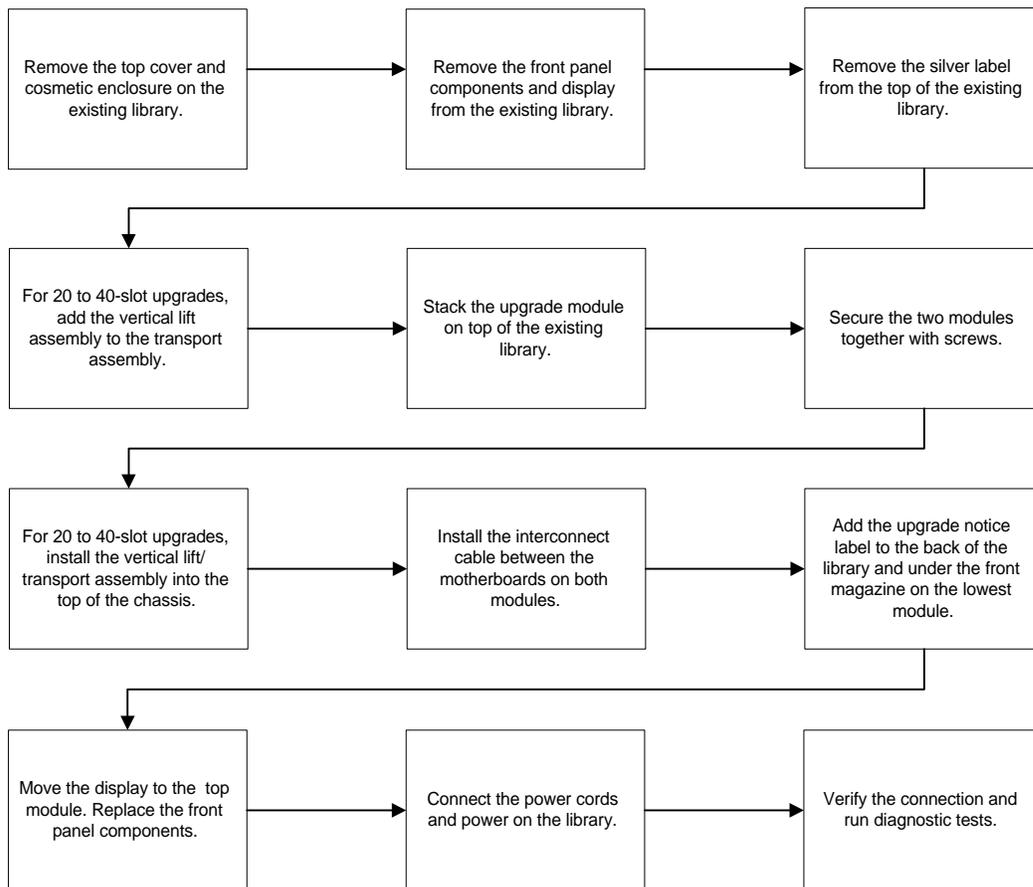
## Installation Overview

For this upgrade, you are adding additional library modules to increase the library's capacity by twenty slots and two drives per upgrade module. Though these procedures are described later in this guide, here is an overview of the entire upgrade procedure:

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**NOTE** This procedure should only be performed by a trained service technician.

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## Removing the Cosmetic Enclosure and Cover

This chapter describes the disassembly procedures needed to prepare the existing library for this upgrade. If your library is rackmounted and you are upgrading a twenty-slot library to forty slots, you will need 6 EIA of clearance (10.5 inches) above the existing library to accommodate the upgrade module. For a forty to sixty-slot upgrade, you will need 5 EIA of clearance (8.75 inches) above the existing library.

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### CAUTION

This library contains very sensitive electrical components. It is important to follow the proper procedures for preventing electrostatic discharge (ESD). Use wrist-grounding straps and anti-static mats when removing and replacing cards and major assemblies.

Failure to follow proper procedures could damage the circuitry.

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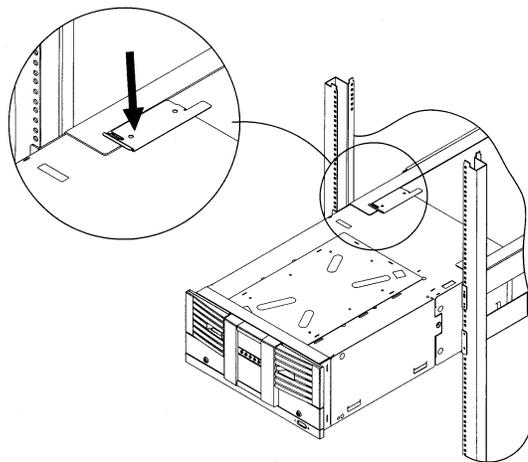
### WARNING

**For rackmounted upgrades, extend the rack's anti-tip foot and lower the leveler feet. Failure to extend the anti-tip foot could result in personal injury or damage to the tape library if the rack tips over. Do not push the library past the latch stop tabs (about 2/3 of the library is out of the rack).**

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**Figure 1-1**

**Latch Stop Tabs**

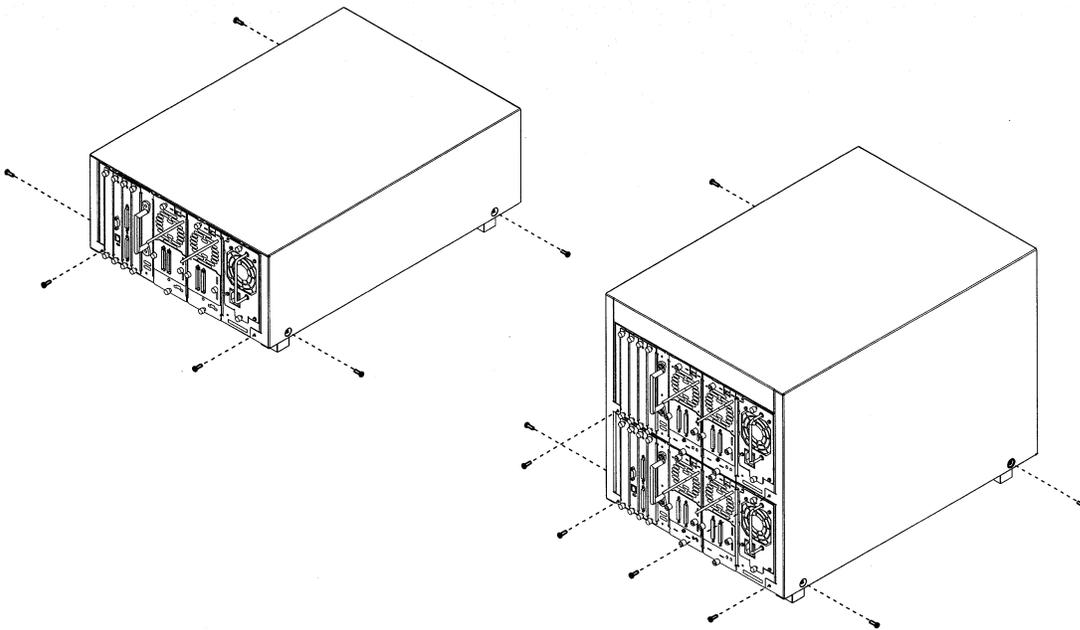


Preparing the Library for the Upgrade  
**Removing the Cosmetic Enclosure and Cover**

Remove the cosmetic enclosure, cover, and label by following these steps:

1. Power off and unplug the library.
2. For a standalone library, remove the cosmetic enclosure. Refer to Figure 1-2 for the screw locations. You will not reuse this enclosure after the upgrade.

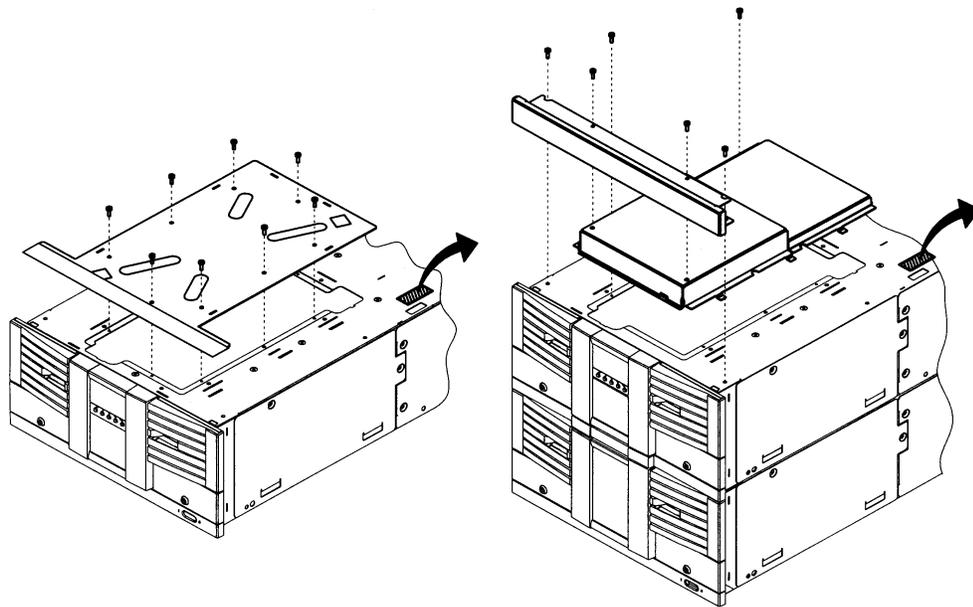
**Figure 1-2**      **Removing the Cosmetic Standalone Enclosure**



## Preparing the Library for the Upgrade Removing the Cosmetic Enclosure and Cover

3. Remove the top cover from the existing library. Save these screws to reinstall the vertical lift top cover. Refer to Figure 1-3 for the screw locations.
  - For 40 to 60-slot rackmounted upgrades, you will need to remove the stop latch bracket to remove the vertical lift cover. See “Stop Latch Bracket” on page 2-14.
  - For libraries rackmounted in a 55-mm bezel depth rack, remove the trim brackets from each side of the library (see Figure 2-11 on page 2-15 or Figure 3-6 on page 3-10 for the location of the trim bracket screws). The trim brackets secure the library to the rack.
  - Push the library 2/3 of the way out of the rack by using the vertical handle at the back of the library. Do not push the library past the latch stop tabs.
4. Remove the silver label on top of the library chassis (Figure 1-3). *You must remove this label to connect the library modules together.*

**Figure 1-3** Removing the Cover



## Removing the Cosmetic Doors

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**NOTE**

Depending on your library model and configuration, the cosmetic doors might look different from the illustrations.

1. Pull the tape door outward. Use the key, if necessary, to unlock the door.
2. Remove the front magazine by lifting the handle on the top of the magazine and pulling upward (Figure 1-4 on page 1-7). *Make a note of where the magazines are located so that you reinstall them in the same place.*
3. Push the release tab on the back of the cosmetic door and simultaneously pull upward on the sheet-metal tab to release the door (see Figure 1-4 on page 1-7).

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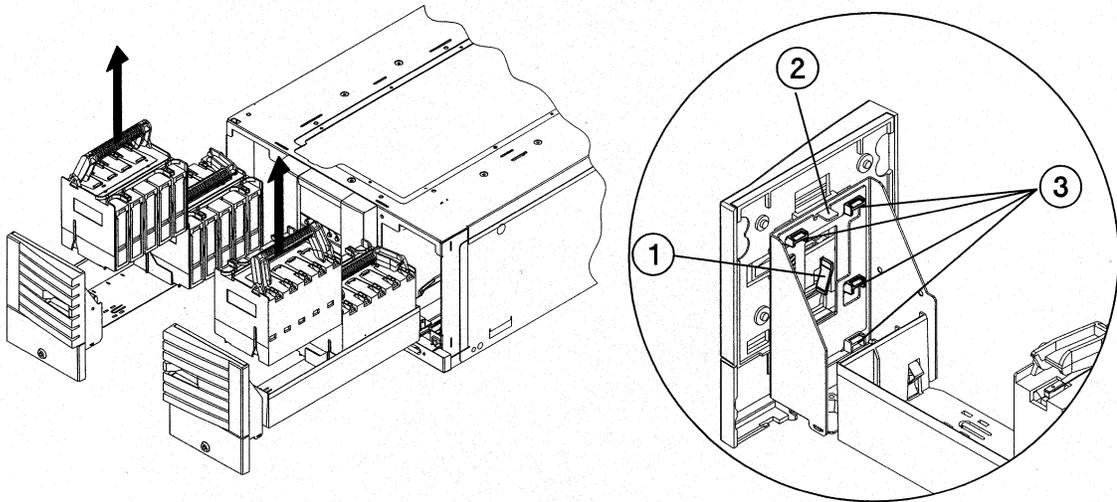
**CAUTION**

To avoid breaking the tab, do not use excessive force.

4. Remove the remaining cosmetic doors by following the steps above.

Preparing the Library for the Upgrade  
Removing the Cosmetic Doors

**Figure 1-4**      **Removing the Cosmetic Doors**



1	Release tab
2	Sheet-metal tab
3	Cosmetic door connecting hooks

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## Removing the Front Panel Display

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### CAUTION

This library contains very sensitive electrical components. Follow the proper procedures for preventing electrostatic discharge (ESD). Use wrist-grounding straps and anti-static mats when removing and replacing cards and assemblies.

Failure to follow proper procedures could damage the circuitry.

1. Remove the display cover and chin plate underneath the display on the existing library module. The screw locations are indicated in Figure 1-5. Save these screws to later reinstall the display cover and chin plate.

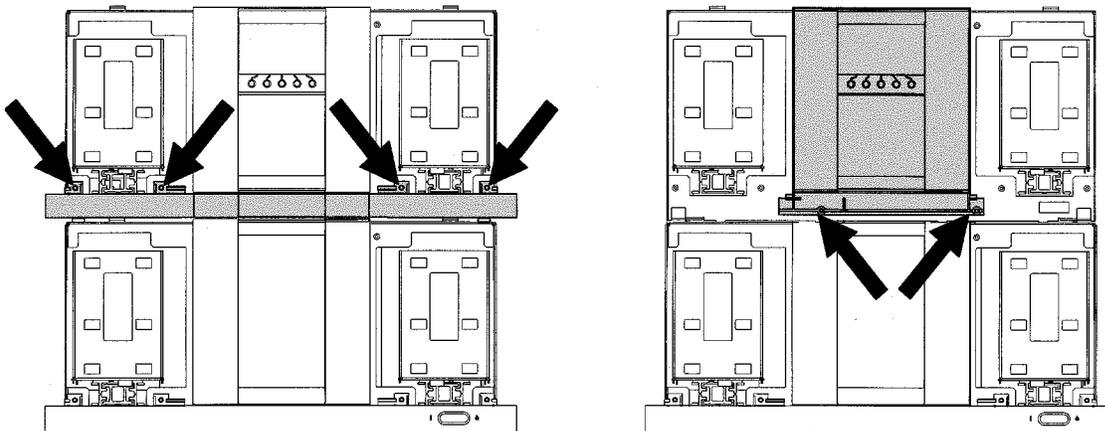
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### NOTE

Your library might only be one module instead of two modules, which is shown in Figure 1-5.

2. Remove the display cover by lifting it upward and away from the library.

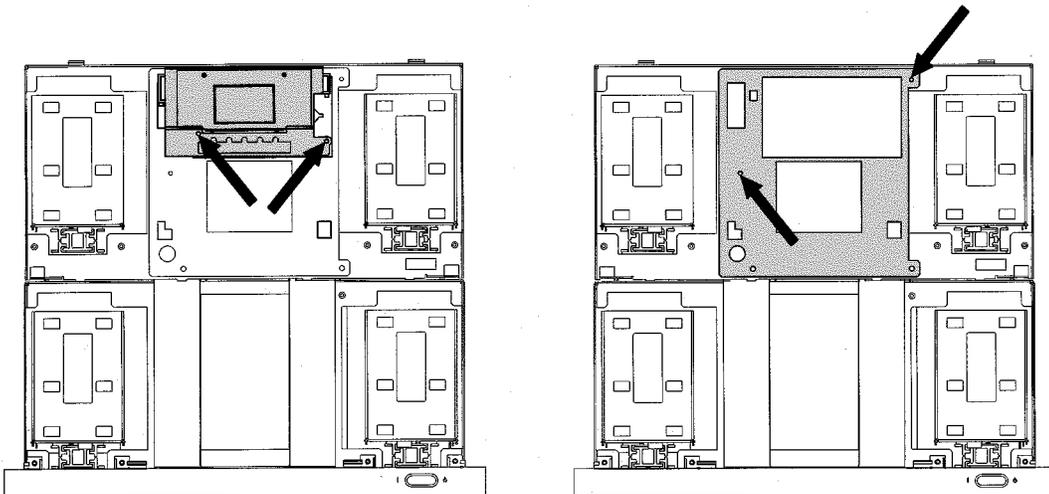
**Figure 1-5** Removing the Chin Plate and Front Cover



## Preparing the Library for the Upgrade Removing the Front Panel Display

3. Remove the two screws that connect the display to the chassis (Figure 1-6). Save these screws to later reconnect the display.

**Figure 1-6** Removing the Front Panel Display and RFI Shield



4. Remove the front panel display by sliding it upward, then gently lifting it away from the front of the library.
5. Disconnect the cable from the back of the display by grasping the sides of the connector and pulling outward. Place the front panel in an ESD-protected area.

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**CAUTION**

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Ensure the display cable is not obstructing the internal moving parts. Secure the cable to the side of the chassis.

6. Remove the black RFI display shield, which is located behind the display (Figure 1-6). Two screws secure the sheet-metal shield to the library chassis.

## **Preparing the Upgrade Module Chassis**

In addition to preparing the existing library for the upgrade, you will also need to modify the upgrade module chassis to optimize the upgrade procedure.

- Unpack the chassis from the upgrade kit.
- From the front of the upgrade module, remove the black sheet-metal RFI shield. See Figure 1-6 on page 1-9 for the location and instructions on removing this part. Save these screws to later re-install the shield.
- On the 20 to 40-slot upgrade, remove the top cover from the upgrade module. See Figure 1-3 on page 1-5 for the location and instructions on removing the top cover.

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**2**      **Upgrading a 20-Slot Library to  
40 or 60 Slots**

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## Identifying Upgrade Kit Components

Depending on your upgrade configuration, not all parts are included.

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**NOTE**

If you are upgrading a 20-slot library to a 60-slot library, you will use the following upgrade kit, as well as the upgrade kit on page 3-2.

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**Table 2-1 Upgrade Kit Contents**

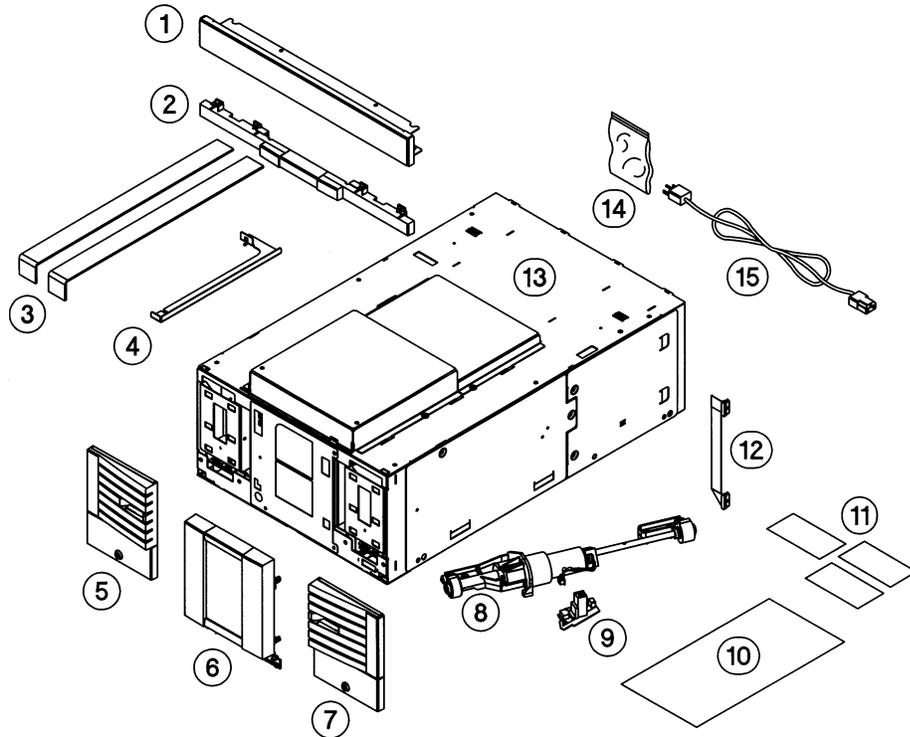
<b>Callout Number</b>	<b>Description of Part</b>
1	Forehead
2	Chin plate
3	Plastic slider tools
4	Stop latch bracket
5	Cosmetic door with sheet-metal tabs
6	Viewing window
7	Cosmetic door with sheet-metal tabs
8	Vertical lift assembly
9	Vertical lift circuit board
10	Clip nut template for rackmounted upgrades
11	Upgrade labels
12	Interconnect cable
13	Library chassis that includes a top cover, slave controller card, power supply, and magazines

**Table 2-1 Upgrade Kit Contents**

Callout Number	Description of Part
14	Hardware bag that contains the following (extra parts provided): <ul style="list-style-type: none"> <li>• Clip nuts</li> <li>• 10-24 x 0.50 Screws</li> <li>• 6-32 phillips</li> </ul>
15	Power cord

**NOTE** The drive, fibre channel card, and cosmetic enclosures are separate upgrade kits.

**Figure 2-1 Exploded View of Upgrade Kit Components**



Upgrading a 20-Slot Library to 40 or 60 Slots  
**Identifying Upgrade Kit Components**

During the upgrade, you will not reuse the following parts:

<b>Parts to Discard</b>
Top cover for 20-slot libraries (Figure 1-3 on page 1-5)
Guide blocks on top of the transport assembly (Figure 2-3 on page 2-6)
Existing cosmetic enclosure for standalone libraries (Figure 1-2 on page 1-4)
Plastic slider tools from the upgrade kit (Figure 2-4 on page 2-8)
Existing trim brackets for libraries rackmounted with 55-mm bezel depth (Figure 2-11 on page 2-15)
Stop bracket for 20-slot libraries

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**CAUTION**

This library contains very sensitive electrical components. It is important to follow the proper procedures for preventing electrostatic discharge (ESD). Use wrist-grounding straps and anti-static mats when removing and replacing cards and major assemblies. Failure to follow proper procedures could damage the circuitry.

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## Upgrading 20-Slot Libraries to 40 Slots

### NOTE

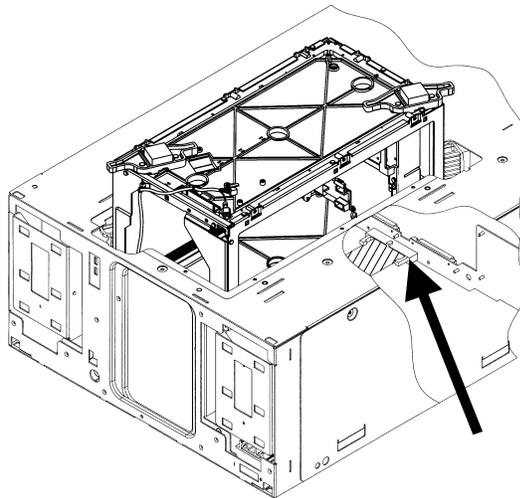
This procedure assumes you are upgrading the library while it is in a rack. If you are upgrading a standalone library, follow the same procedure, disregarding the rackmount steps.

### WARNING

**Before you begin, extend the rack's anti-tip foot and lower the rack's leveler feet. Failure to extend the anti-tip foot could result in personal injury or damage to the tape library if the rack tips over.**

1. Complete the steps in Chapter 1.
2. For rackmounted libraries, ensure the library is in the service position (approximately 2/3 of the way out of the rack).
3. Using the finger holes, lift the transport assembly up and out of the library. Place the transport nearby, disconnecting the umbilical cable from the library chassis by pulling the tabs outward (Figure 2-2). Gently fold the cable underneath the transport assembly.

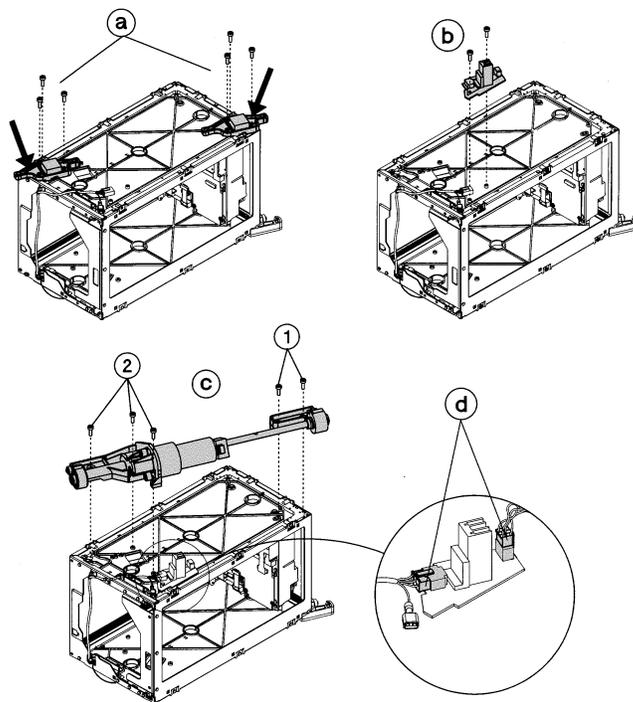
**Figure 2-2** Removing the Transport Assembly



Upgrading a 20-Slot Library to 40 or 60 Slots  
Upgrading 20-Slot Libraries to 40 Slots

4. Install the vertical lift assembly to the transport assembly by following the steps below (see Figure 2-3):
  - a. Remove the guide blocks from the top of the transport assembly. Three screws secure each guide block to the top of the transport assembly. Save these screws to install the vertical lift assembly in step 4c.
  - b. Align the lift circuit board with the screw holes on the transport assembly, and insert two screws. The screws and board are packaged together in the upgrade kit. Tighten the screws securely, but do not over-tighten.
  - c. Align the screw holes in the vertical lift assembly to the top of the transport assembly. Insert five of the screws from step 4a, and tighten in the order specified in Figure 2-3.
  - d. Connect the vertical lift and motor power cable. Do not re-install the vertical lift/transport assembly into the library at this time.

**Figure 2-3** Installing the Vertical Lift Assembly onto the Transport



5. *If your rack does not have threaded screw holes*, select the 4/40 or 6/60 clip nut template, which matches the height of the upgraded library, and follow the steps below:
  - a. Hold the template next to the rack column so that the bottom of the template aligns with the bottom of the library.
  - b. Install three clip nuts from the upgrade kit into each front column of the rack. The top two clip nuts are used for the top mounting rail. The middle clip nut is used for the trim bracket. For racks with a 55-mm bezel depth, you can remove the original trim brackets and push the library flush into the rack to install the bottom clip nuts.
  - c. Using the rackmount template, install two clip nuts into each back column of the rack.

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**NOTE**

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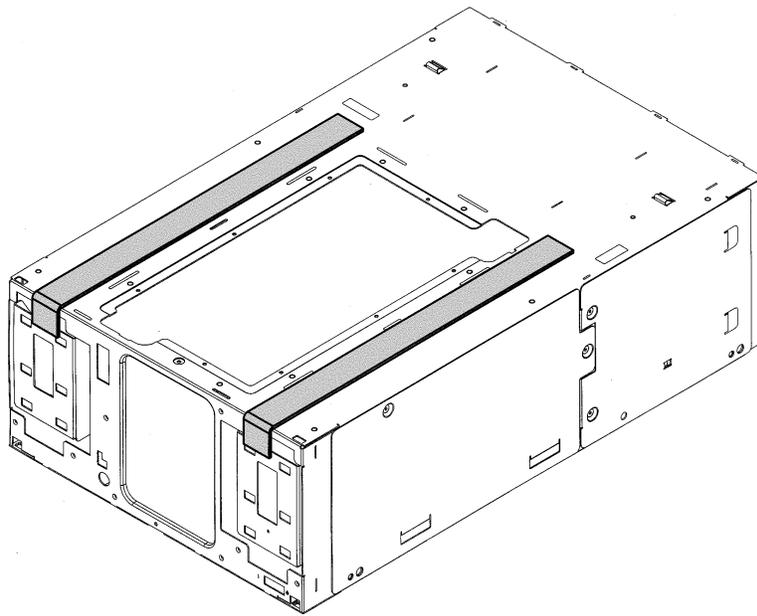
Use the EIA markers as a reference point to ensure the holes on the rack correspond to the holes on the template. The EIA markers on the templates are represented by #>.

6. Pull the existing library into the rack using the vertical handle on the back of the library.
7. Remove the top mounting rails (one on each rack column) to allow the upgrade unit to slide on top of the library.
  - a. Remove the screws in the front and back that attach the top rails to the column, and lift each rail up and out of the rack.
  - b. Save these screws to reinstall the mounting rails.

Upgrading a 20-Slot Library to 40 or 60 Slots  
**Upgrading 20-Slot Libraries to 40 Slots**

8. Place the plastic slider tools on top and at the front of the existing library (see Figure 2-4).

**Figure 2-4**      **Installing the Plastic Slider Tools**



9. Remove the stop bracket from the back of the library module. You will not reuse this stop bracket.

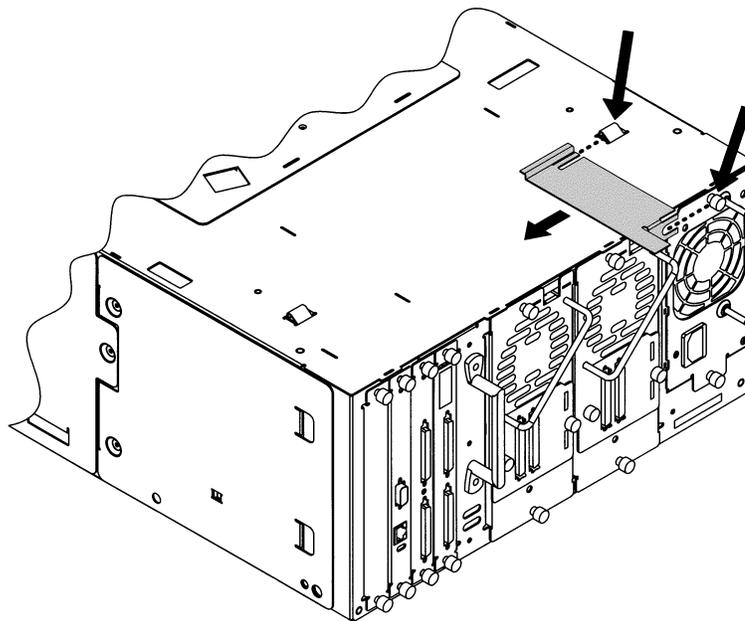
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**WARNING**

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**To avoid personal injury or damage to the library, do not pull the library out of the rack once the stop bracket and top mounting rails are removed. The library is not secured inside the rack until you reinstall the stop bracket for the upgrade module.**

**Figure 2-5 Removing the Stop Bracket**



10. Using two people or an appropriately rated mechanical lift, align the bottom of the upgrade module with the top of the existing library. (The upgrade module weighs 47 pounds.) Do not lift the library using the power supply or drive module handles.

Slide the upgrade module on top of the library until the modules are aligned in the front. Remove the plastic slider tools.

11. Finish aligning the two modules together by gently moving the top unit side-to-side until it clicks into place. Ensure the modules are connected by moving to the back of the library and moving the top unit side-to-side until it also clicks into place.

Upgrading a 20-Slot Library to 40 or 60 Slots  
**Upgrading 20-Slot Libraries to 40 Slots**

12. Re-install the top mounting rails by following the steps below:
- Ensure the rails are fully extended to the outside of the rack column and install them on top of the library. Ensure you are using the correct top mounting rail holes (see Figure 2-6).
  - Lower the rails to the top of the library and rotate them out until they drop between the rack column and the library. Be careful not to accidentally move the clip nuts.
  - Attach the rails to the front of the rack. Use the same screws that originally attached the rails to the rack.
  - Ensure the rails are extended to the outside of the rack column, and attach the rails to the back of the rack.

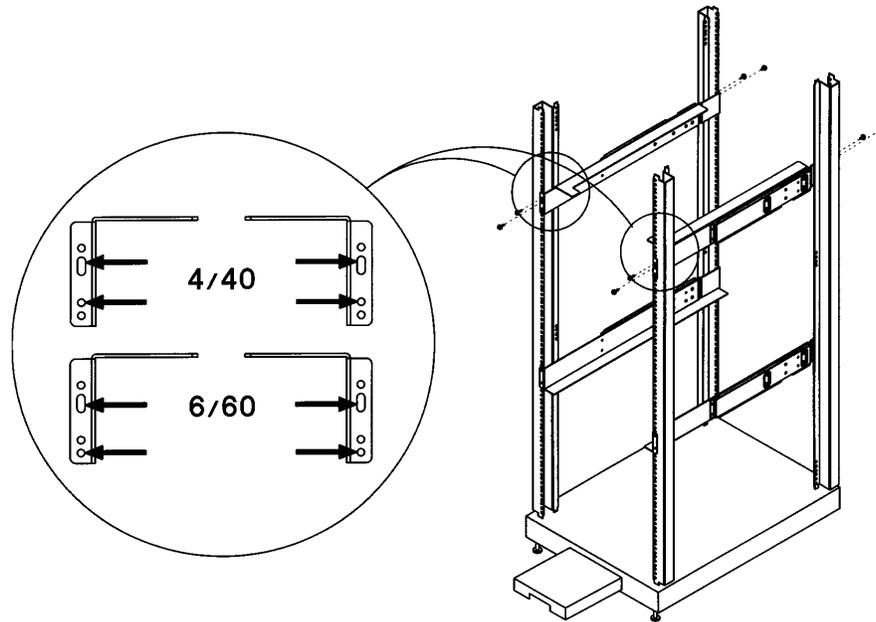
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**NOTE**

Ensure the mounting rails are installed in the same location in the front and back of the rack. The rails should be level with the top of the library.

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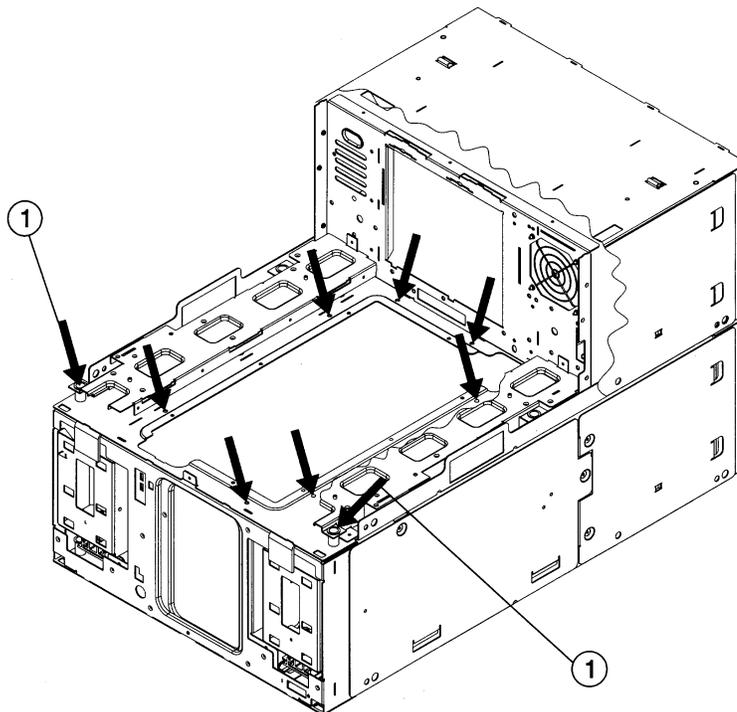
**Figure 2-6**      **Mounting Rail Location**



## Connecting the Library Modules

1. Secure the two units together by installing one 10-24 x 0.50 screw from the upgrade kit behind each cosmetic door (Figure 2-7). You will need to remove the magazines and use a short T-25 driver to access these screw holes.
2. Push the library out of the rack, using the lowest library module. Continue easing the library out of the rack until the library is 2/3 of the way out of the rack (see Figure 1-1 on page 1-3). Do not push the library past the latch stops.
3. Install seven 10-24 x 0.50 screws inside the chassis to secure the two units together (Figure 2-7).

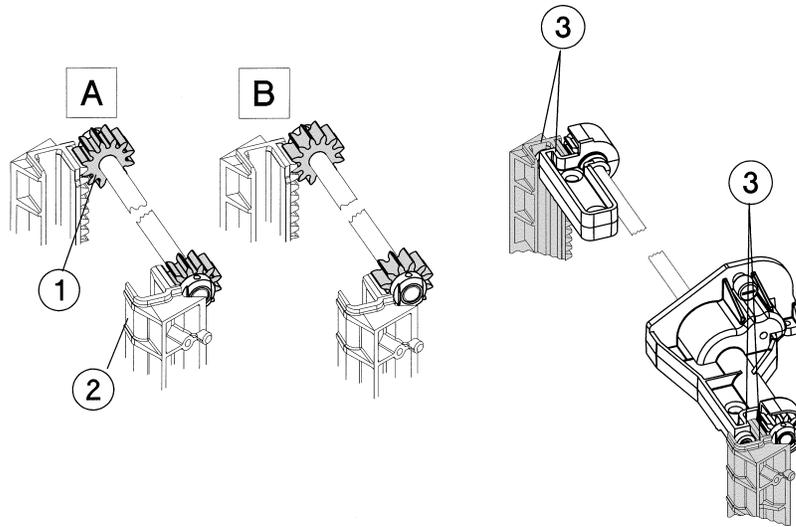
**Figure 2-7** Installing the Screws



Upgrading a 20-Slot Library to 40 or 60 Slots  
**Connecting the Library Modules**

4. Install the vertical lift/transport assembly into the chassis by following the steps below:
  - a. Connect the umbilical cable to the lowest library chassis, ensuring the cable is not pinched. You might need to partially remove the drives on the lowest library module to access the umbilical cable connector (Figure 2-2 on page 2-5).
  - b. Ensure the gear teeth on the vertical lift/transport assembly are aligned with the gear rails and that the gear rails are level with each other (see Figure 2-8).
  - c. When the vertical lift/transport assembly is level with the top of the upgraded library, lower it to the bottom of the library.

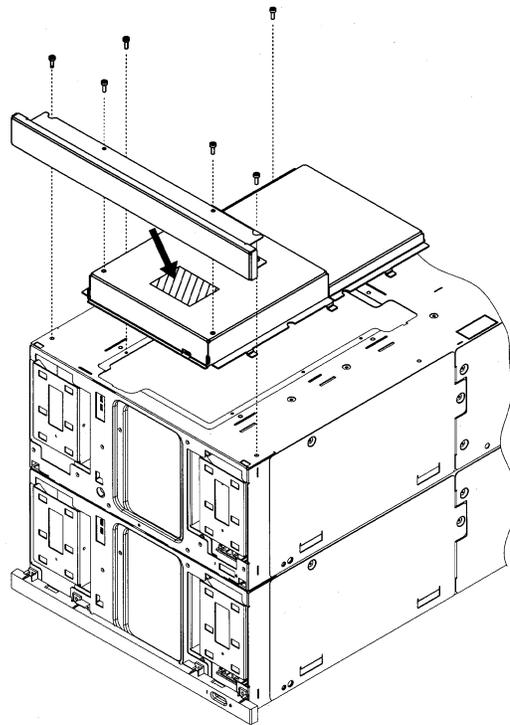
**Figure 2-8**      **Aligning the Gears**



A	Gears incorrectly aligned	1	Gears
B	Gear correctly aligned	2	Gear rails (racks)
		3	Check points to ensure alignment

5. Install the top (vertical lift) cover on the library using two 10-24 x 0.50 screws on one side of the library and the connecting tabs on the other side (Figure 2-9). You can wait to install the back left screw until you complete step 6.
  - a. Install the forehead included in the upgrade kit with four 10-24 x 0.50 screws.
  - b. Install the weight warning label on the top cover.
  - c. For standalone libraries, install the cosmetic enclosure (see Figure 1-2 on page 1-4 for screw locations).

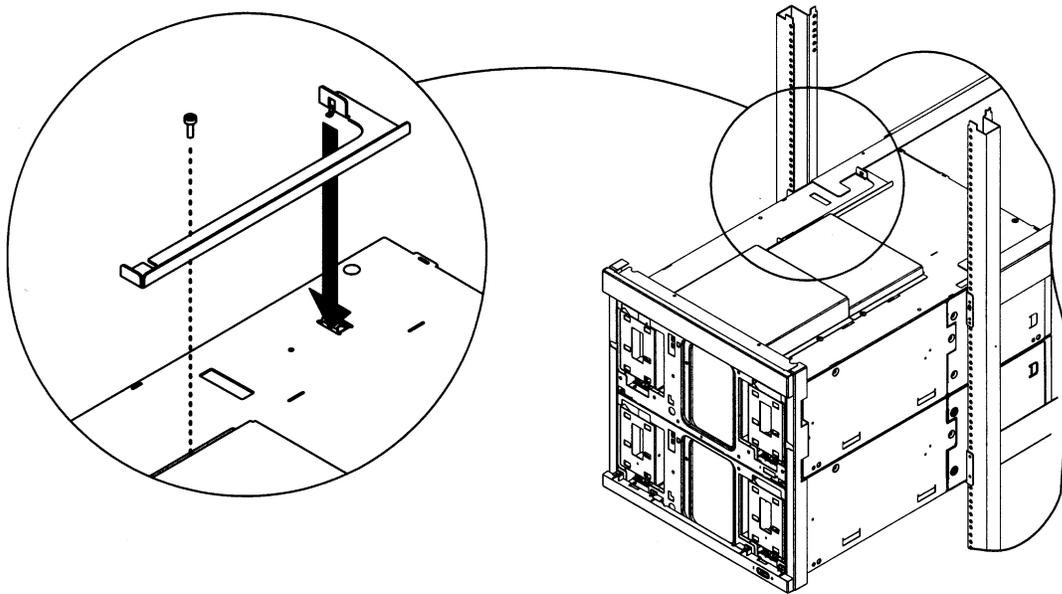
**Figure 2-9** Installing the Cover and Forehead



Upgrading a 20-Slot Library to 40 or 60 Slots  
**Connecting the Library Modules**

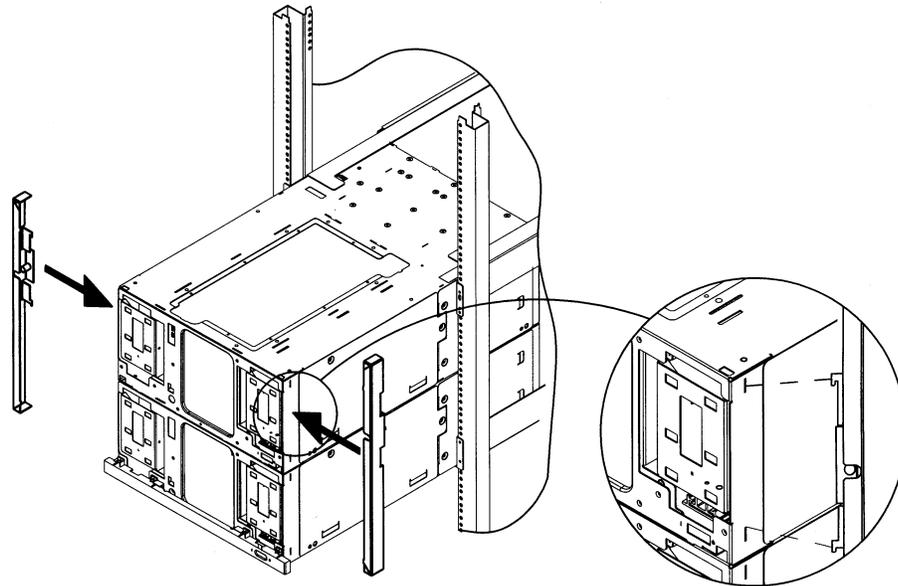
6. Install the stop latch bracket on top of the library by following these steps (see Figure 2-10):
  - a. Remove, if necessary, the left screw from the top cover.
  - b. Install the stop latch bracket by inserting the tab into the latch stop.
  - c. Re-install the screw into the top cover. The library is now secured inside the rack.

**Figure 2-10** Stop Latch Bracket



7. For rackmounted libraries with a bezel depth of 55 mm, install the trim brackets on the side of the library (Figure 2-11).

**Figure 2-11** Installing the Trim Brackets



8. Using the vertical handle on the back of the library, pull the library into the rack.
9. For rackmounted libraries with a bezel depth of 55 mm, tighten the trim bracket screws to secure the library to the rack.
10. Remove the cards and slot covers from the back of the existing library to access the interconnect cable. Place the cards in an ESD-protected area.
11. From the back of the library and using an additional light source, connect the interconnect cable from the motherboard on the upgrade module to the motherboard on the existing library. The connection should go from the top connector of the existing library to the bottom connector of the upgrade module (Figure 2-12 on page 2-16). Ensure the cable does not interfere with other connectors.

**NOTE**

Make a note of the card locations and cable configuration.

Upgrading a 20-Slot Library to 40 or 60 Slots  
Connecting the Library Modules

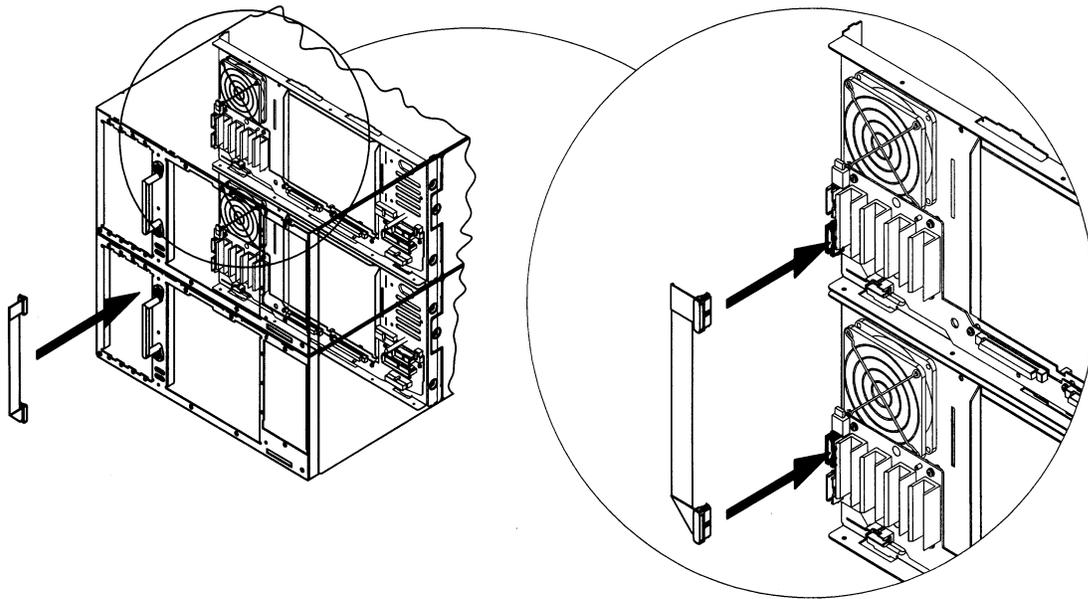
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**CAUTION**

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Align and install the interconnect cable as show in Figure 2-12. The pins can become damaged if the cable is incorrectly installed.

**Figure 2-12** Installing the Interconnect Cable



12. Install or replace the cards and drives into both units. Refer to the pull-out tabs on the back of the library for card locations.

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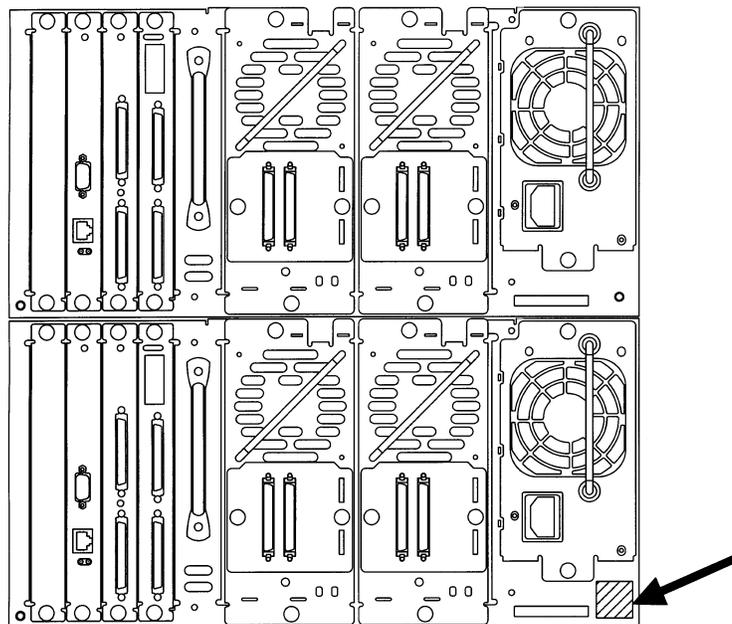
**TIP**

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The number on the cards match the number on the back of the library chassis.

13. Select the upgrade notice label that is in the appropriate language for the customer, and install it to the right of the pull-out tabs on the back of the library (Figure 2-13). Add the second upgrade notice label underneath the front left magazine on the lowest library module.

**Figure 2-13** Installing the Upgrade Notice Label



20-Slot to 40-Slot Upgrade

14. Add the upgrade serial number label to the bottom pull-out tab on the back of the library.
15. Continue the procedure by referring to “Moving the Front Panel Components and Display” on page 4-2.

Upgrading a 20-Slot Library to 40 or 60 Slots  
**Connecting the Library Modules**

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## **3 Upgrading a 40-Slot Library to 60 Slots**

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## Identifying Upgrade Kit Components

**Table 3-1** Upgrade Kit Contents

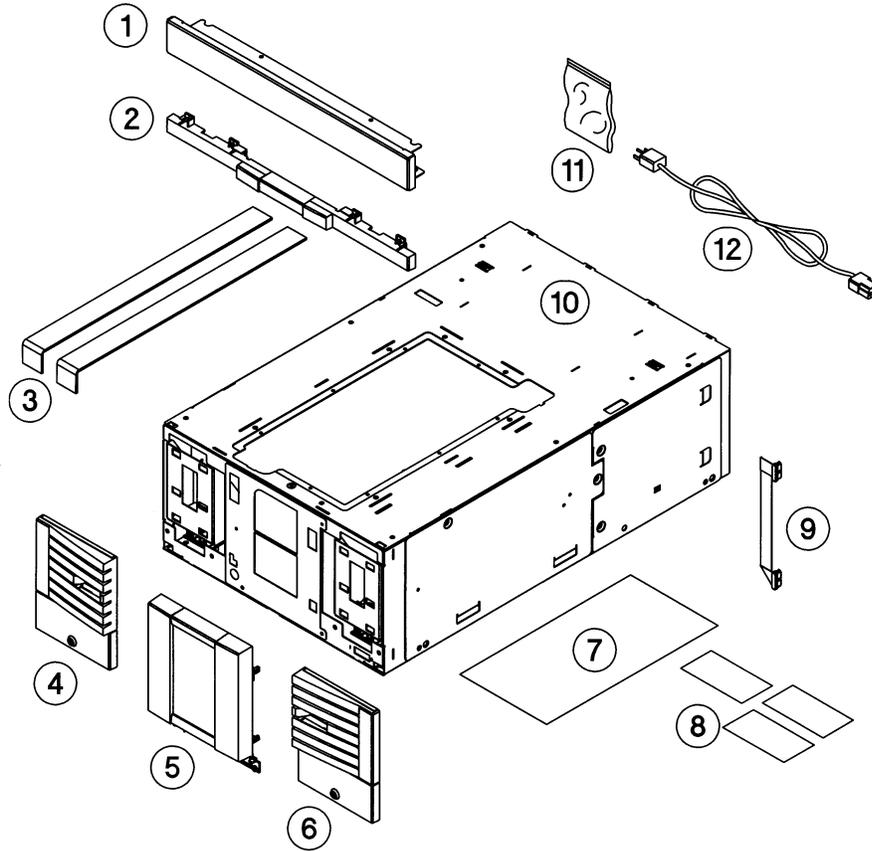
Callout Number	Description of Part
1	Forehead
2	Chin plate
3	Plastic slider tools
4	Cosmetic door
5	Viewing window
6	Cosmetic door
7	Clip nut template for rackmounted upgrades
8	Upgrade labels
9	Interconnect cable
10	Library chassis that includes a top cover, slave controller card, power supply, and magazines
11	Hardware bag that contains the following screws and clip nuts (extra parts provided): <ul style="list-style-type: none"><li>• Clip nuts</li><li>• 10-24 x 0.50 Screws</li><li>• 6-32 phillips</li></ul>
12	Power cord

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**NOTE** The drives, fibre channel cards, and standalone mini rack are separate upgrade kits.

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**Figure 3-1**      **Exploded View of Upgrade Components**



40-Slot to 60-Slot Upgrade

Upgrading a 40-Slot Library to 60 Slots  
**Identifying Upgrade Kit Components**

During the upgrade, you will not reuse the following parts:

<b>Parts to Discard</b>
Existing cosmetic enclosure for standalone libraries (Figure 1-2 on page 1-4)
Plastic slider tools from the upgrade kit (Figure 3-2 on page 3-6)
Existing trim brackets for libraries rackmounted with 55-mm bezel depth (Figure 3-6 on page 3-10)
Existing forehead

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**CAUTION**

This library contains very sensitive electrical components. It is important to follow the proper procedures for preventing electrostatic discharge (ESD). Use wrist-grounding straps and anti-static mats when removing and replacing cards and major assemblies. Failure to follow proper procedures could damage the circuitry.

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## Upgrading 40-Slot Libraries to 60 Slots

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### NOTE

This procedure assumes you are upgrading the library while it is in a rack. If you are upgrading a standalone library, follow the same procedure, disregarding the rackmount steps.

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### WARNING

**Before you begin, extend the rack's anti-tip foot, and lower the leveler feet. Failure to extend the anti-tip foot could result in personal injury or damage to the tape library if the rack tips over.**

1. Complete the steps in Chapter 1.
2. Ensure the library is in the service position (approximately 2/3 of the way out of the rack). Do not push the library past the latch stops.
3. *If your rack does not have threaded screw holes*, select the 6/60 clip nut template, which matches the height of the upgraded library, and follow the steps below:
  - a. Hold the template next to the rack column so that the bottom of the template aligns with the bottom of the library.
  - b. Install three clip nuts from the upgrade kit into each front column of the rack. The top two clip nuts are used for the top mounting rail. The middle clip nut is used for the trim bracket. For racks with a 55-mm bezel depth, you can remove the original trim brackets and pull the library flush into the rack to install the bottom clip nuts.
  - c. Using the rackmount template, install two clip nuts into each back column of the rack.

---

### NOTE

Use the EIA markers as a reference point to ensure the holes on the rack correspond to the holes on the template. The EIA markers on the templates are represented by #>.

4. Pull the existing library into the rack using the vertical handle on the back of the library.

Upgrading a 40-Slot Library to 60 Slots  
Upgrading 40-Slot Libraries to 60 Slots

5. Remove the top mounting rails (one on each rack column). Remove the screws that attach the rails to the column, and lift each rail up and out of the rack. Save these screws to reinstall the mounting rails.

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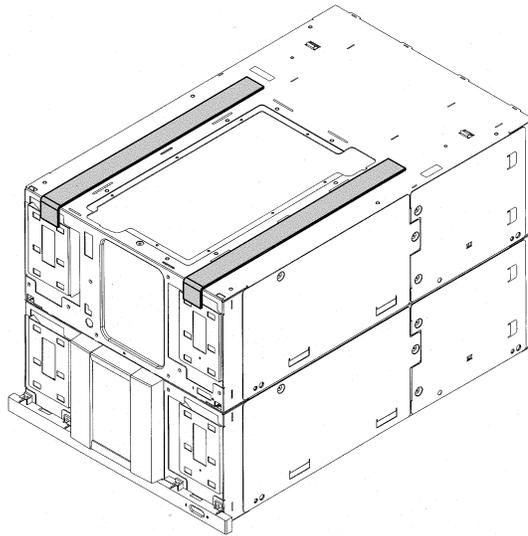
**WARNING**

**To avoid personal injury or damage to the library, do not pull the library out of the rack once the top mounting rails are removed. The library is not secured inside the rack until you replace the stop latch bracket.**

---

6. Place the plastic slider tools on top of the existing library (Figure 3-2).

**Figure 3-2** Installing the Plastic Slider Tools



7. Using two people or an appropriately rated mechanical lift, align the bottom of the upgrade module with the top of the existing library. (The upgrade module weighs 47 pounds.) Do not lift the library using the power supply or drive module handles.

Slide the upgrade module on top of the library until the modules are aligned. Remove the plastic slider tools by lifting the upgrade module up and easing the tools out.

8. Finish aligning the two modules together by gently moving the upgrade unit side-to-side until it “clicks” into place. Ensure the modules are connected by moving the back of the library side-to-side until it also “clicks” into place.

9. Re-install the top mounting rails by following the steps below:
  - a. Ensure the rails are fully extended to the outside of the rack column, and install them on top of the library. Ensure you are using the correct top mounting rail holes (see Figure 3-3).
  - b. Lower the rails to the top of the library and rotate them out until they drop between the rack column and the library. Be careful not to accidentally move the clip nuts.
  - c. Attach the rails to the front of the rack. Use the same screws that originally attached the rails to the rack.
  - d. Ensure the rails are extended to the outside of the rack column, and attach the rails to the back of the rack.

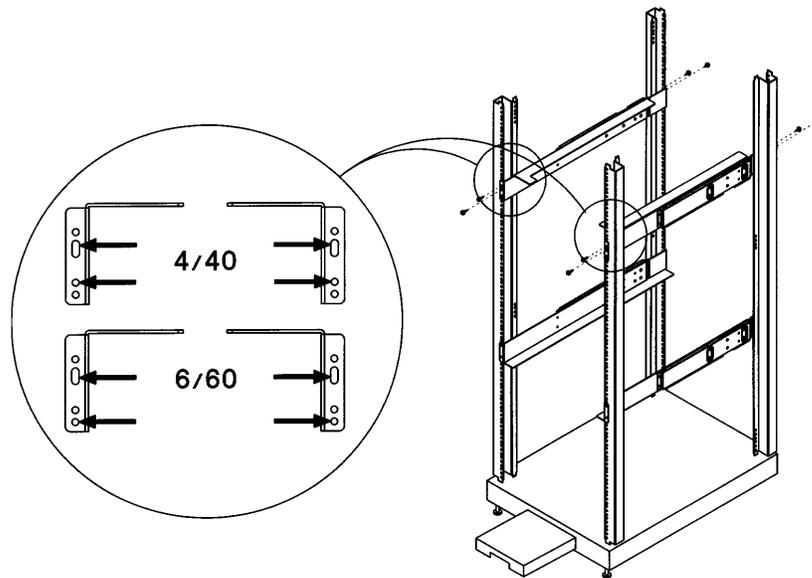
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**NOTE**

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Ensure the mounting rails are installed in the same location in the front and back of the rack. The rails should be level with the top of the library.

**Figure 3-3 Mounting Rail Location**

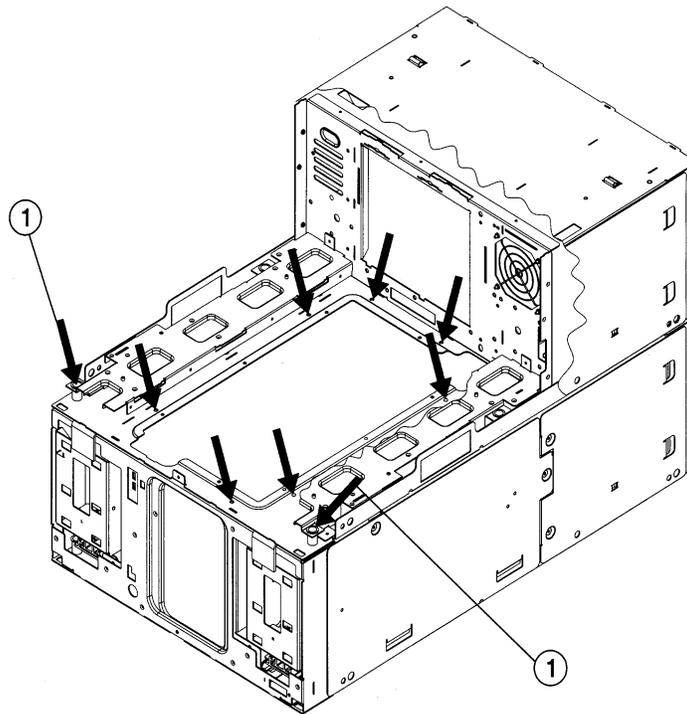


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## Connecting the Library Modules

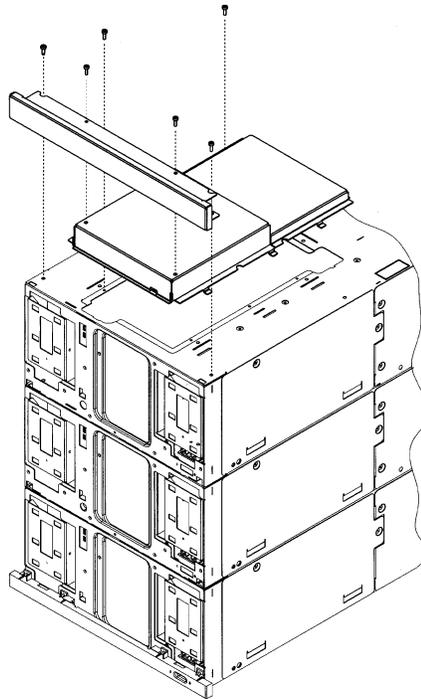
1. Secure the two units together by installing one 10-24 x 0.50 screw behind each of the top tape doors (Figure 3-4). You will need to remove the magazines and use a short T-25 driver to access these screw holes.
2. Push the library out of the rack, distributing the weight on the lowest library module. Do not push the library more than 2/3 of the way out of the rack (see Figure 1-1 on page 1-3).
3. Install seven 10-24 x 0.50 screws inside the chassis to secure the two units together (Figure 3-4).

**Figure 3-4** Installing the Screws



4. Replace the top (vertical lift) cover on the library using two 10-24 x 0.50 screws on one side of the library and the connecting tabs on the other side (Figure 3-5). You can wait to install the back left screw until you complete step 6.
5. Install the forehead included in the upgrade kit with four 10-24 x 0.50 screws.

**Figure 3-5** Replacing the Cover and Forehead

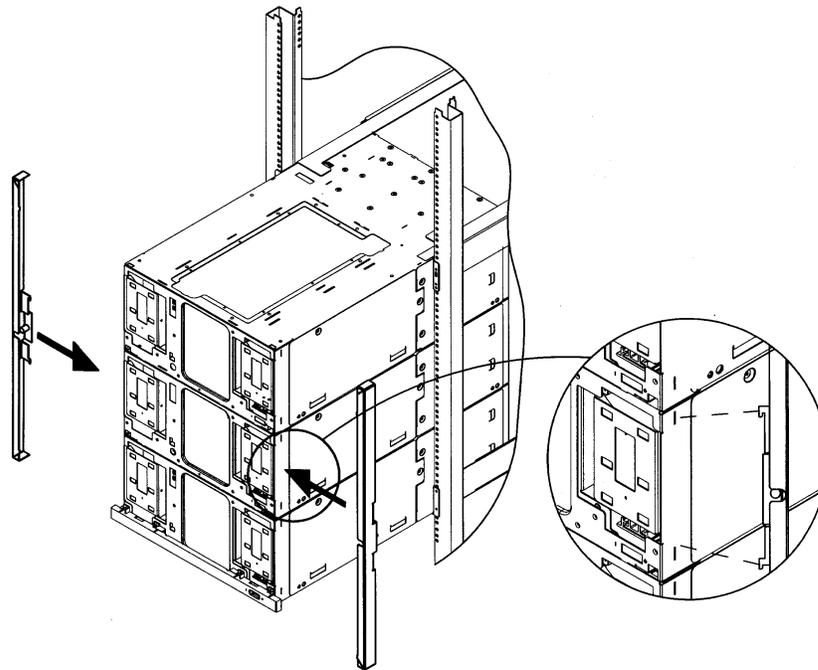


6. Replace the stop latch bracket on top of the library by following these steps (see Figure 2-10 on page 2-14):
  - a. Install the stop latch by inserting the tab into the latch stop.
  - b. Re-install the screw into the top cover. The library is now secured inside the rack.

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7. For rackmounted libraries with a bezel depth of 55 mm, install the trim brackets on the side of the library (Figure 3-6).

**Figure 3-6** Installing the Trim Brackets



8. Using the vertical handle on the back of the library, pull the library into the rack.
9. For rackmounted libraries with a bezel depth of 55 mm, secure the library to the rack by tightening the trim bracket screws.
10. Remove the cards and slot covers from the back of the existing library to access the interconnect cable. Place the cards in an ESD-protected area.

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**NOTE**

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Make a note of the card locations and cable configuration.

11. From the back of the library and using an additional light source, connect the interconnect cable from the motherboard on the upgrade module to the motherboard on the existing library. The connection should go from the top connector of the existing library to the bottom connector of the upgrade module (Figure 3-7). Ensure the cable does not interfere with other connectors.

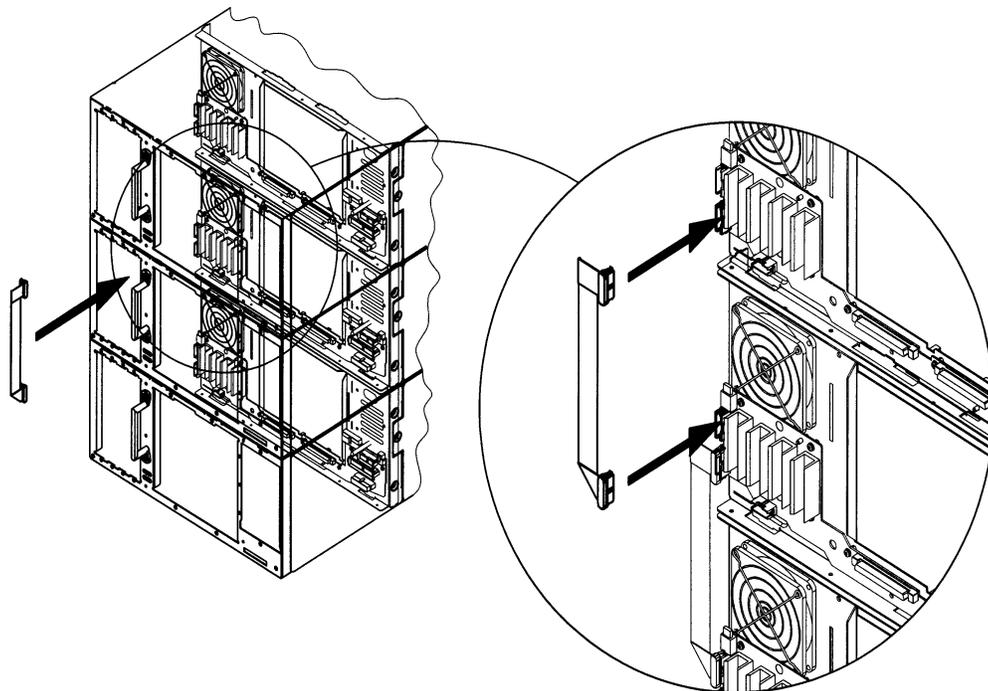
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**CAUTION**

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Align and install the interconnect cable as show in Figure 3-7. The pins can become damaged if the cable is incorrectly installed.

**Figure 3-7** Installing the Interconnect Cable



Upgrading a 40-Slot Library to 60 Slots  
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12. Install or replace the cards and drives into both units. Refer to the pull-out tabs on the back of the library for the card locations.

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**TIP**

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The number on the cards match the number on the back of the library chassis.

13. Select the upgrade notice label that is in the appropriate language for the customer, and install it to the right of the pull-out tabs on the back of the library (Figure 2-13 on page 2-17). Add the second upgrade notice label underneath the front left magazine on the lowest library module.

14. Add the upgrade serial number label to the bottom pull-out tab on the back of the library.

15. Continue the procedure by referring to “Moving the Front Panel Components and Display” on page 4-2.

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**4** **Reassembling the Upgraded Library**

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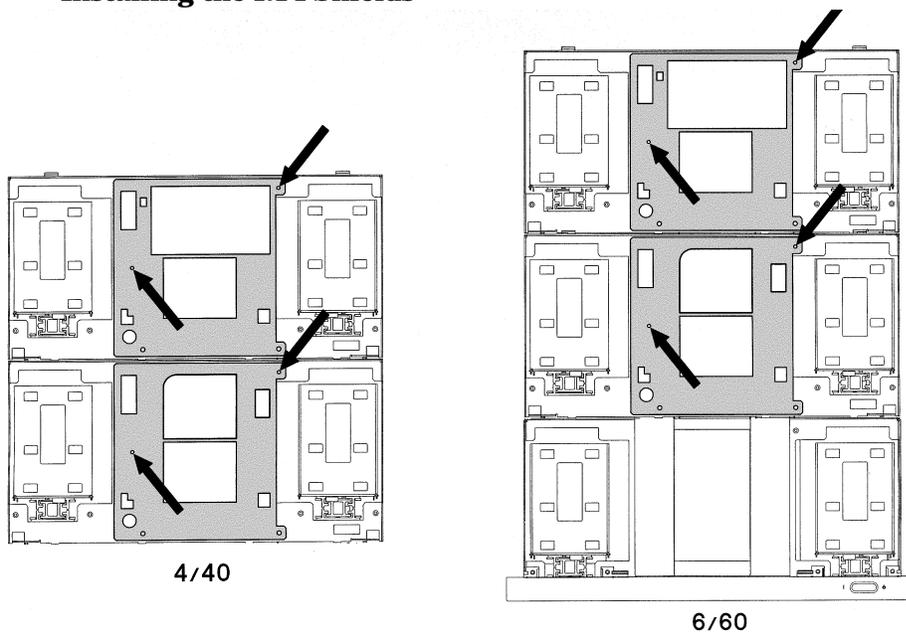
## Moving the Front Panel Components and Display

You need to move the front panel display to the top library module to maintain consistency with the factory configuration. To move the display to the top module, you will need to exchange the display components from the existing library with the upgrade module.

### Replacing the Display and Viewing Window

1. Install the black RFI display shield to the top module. Two short T-15 screws attach the shield to the library chassis (see Figure 4-1). The display shield has a larger opening on top to accommodate the display.
2. Install the black RFI viewing window shield to the lower library module. Two short T-15 screws attach the shield to the library chassis (see Figure 4-1).

**Figure 4-1** Installing the RFI Shields



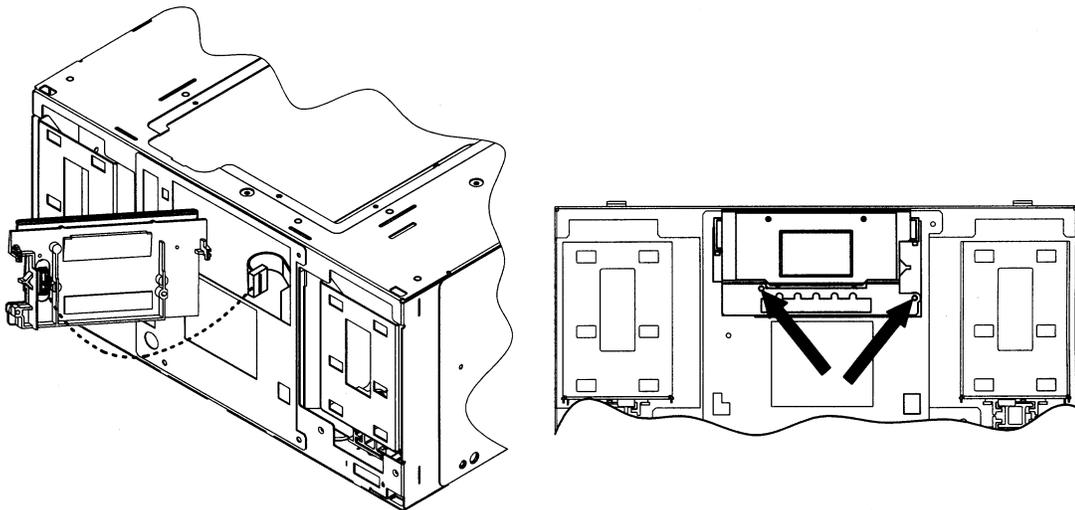
Reassembling the Upgraded Library  
Moving the Front Panel Components and Display

3. Move the display to the top library module, and connect the cable to the front panel connector. The display attaches to two tabs on the side of the display opening. Attach the display on the tabs and slide it down.

*Ensure the display cable on both library modules is not obstructing the vertical lift translate assembly.*

4. Install the two long T-10 screws that are next to the soft keys to secure the display to the chassis (see Figure 4-2).

**Figure 4-2** Connecting the Front Panel



5. Re-install the display cover by easing the top of the cover underneath the forehead and sliding it down (see Figure 1-5 on page 1-8). Tighten the two phillips head screws to secure the display cover in place.
6. Install the viewing window from the upgrade kit to the bottom library module. Tighten the two phillips head screws from the upgrade kit to secure the window in place.
7. Install the eight screws that connect the chin plates (see Figure 1-5 on page 1-8 for all screw locations). The chin plate that goes between the library modules is included in the upgrade kit.

## Replacing the Cosmetic Doors

1. Insert the cosmetic door's connecting hooks through the holes in the front of the door.
2. Holding the cosmetic door in place, align the holes in the sheet-metal with the holes in the door (see Figure 1-4 on page 1-7).
3. Push the sheet-metal tab downward so that the sheet-metal plate clicks into place beneath the plastic tab.
4. Replace the magazines. *Ensure you replace the magazines in their original location.*
5. Close the doors.

## Verifying the Connection

After connecting the hardware, you will need to verify the library connection by completing the following:

- Powering on the library
- Running diagnostic tests
- Configuring the library
- Reconfiguring the backup software

### Powering on the Library

1. Install a power cord into the upgrade module.
2. Connect all library power cords into a grounded outlet.
3. Press the recessed standby (power) switch on the front of the library.

### Running Diagnostic Tests

When you power on the library, it will automatically run an inventory check. The inventory check will test for vertical alignment, drive/slot availability, and electronics. Check the home page on the display to see the overall health of the library and the availability of drives/slots. The front panel display will also show any errors.

In addition to the inventory check, run the **Wellness** and **Show All Sensors** tests to ensure the library is correctly configured. The **Wellness** test ensures a tape can be loaded into the drive. The **Show All Sensors** test dynamically displays the state of the sensors. With this test, open and close the doors and mailslot to toggle the sensors.

## Reassembling the Upgraded Library

### Verifying the Connection

To run these tests:

1. From **Administration**, select **[More]** to display additional administrative options. Select the **Run Test** menu.
2. From **Run Test**, use the **[-]** or **[+]** key to view available tests.
3. Select **[OK]** to select the test.
4. Select the number of times this test will run (if needed).

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**NOTE**

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Select **[Stop]** to abort a test. The current test cycle completes before the test stops.

5. Select **[Run]** to start the test cycle.

The test results will display at the conclusion of the test cycle.

### Configuring the Library

Check the mailslot configuration. Since the mailslot will now be the top right-hand drawer of the upgraded library, remove the tapes from the old mailslot (0, 1, or 5 slots), and add them to the new mailslot on the top module. When you power the library on, the library will automatically reconfigure itself for the upgraded capacity and new mailslot.

The firmware automatically recognizes the upgrade status, so no additional library configuration is needed.

### Reconfiguring the Backup Software

Your software applications may need to be reconfigured or, in some cases, reinstalled after you have installed additional drives or slots into the library. In addition, some backup software applications may require the purchase of additional add-on components and/or licenses when increasing the number of storage slots or drives. Contact your software application provider for more information or if newly installed storage slots and drives are not recognized by your backup software application.