
Installing or Replacing a Tape Drive in an Exabyte 430 or 215 Library

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Revision History

000	August 2000	Initial release
001	November 2000	Added 215M information
002	April 2001	Added AIT information
003	March 2002	Added Fibre Channel M2 information for 430M-FC

1 Preparing for installation

These instructions describe how to install or replace a tape drive in the following Exabyte® libraries:

- 430M and 215M SCSI libraries with M2 tape drives
- 430A and 215A SCSI libraries with AIT tape drives
- 430M-FC Fibre Channel library with M2 tape drives

The tape drive kit contains one Exabyte Mammoth-2 (M2™) or one AIT tape drive, pre-installed in a drive carrier. The M2 tape drive has either a SCSI or Fibre Channel interface. The AIT tape drive has a SCSI interface. The SCSI tape drive kit includes one wide SCSI cable. The Fibre Channel tape drive kit includes one optical fiber cable.

➤ **Important** The Fibre Channel M2 tape drive kit is for the 430M-FC library only. Do not install a Fibre Channel M2 in the 215M.

Note: You can convert a 430M library from SCSI to Fibre Channel (430M-FC) using an upgrade kit available from Exabyte. Contact Exabyte at 1-800-774-7172 or 1-800-392-8273 for this kit.

Installing or replacing a tape drive in the 430 or 215 library involves the following steps:

- Removing an existing tape drive or drive service access cover
- Installing the new tape drive
- Testing the library and resuming operation

Note: The illustrations in these instructions show the 430 SCSI library. The component locations are similar in the 215 library. Where necessary, the 430M-FC is also shown.

To prepare for installation:

1. Obtain a #2 Phillips screwdriver.
2. Ensure that the environment is free of conditions that could cause electrostatic discharge (ESD). If possible, use an antistatic mat and grounded static protection wristband during installation. If a mat and wristband are not available, touch a known grounded surface, such as the computer's metal chassis.

CAUTION

If the library is attached to a SCSI bus, make sure the library is not communicating across the bus before powering it off. Powering off the library may disrupt communication on the SCSI bus.

3. Power off the library and disconnect the power cord.

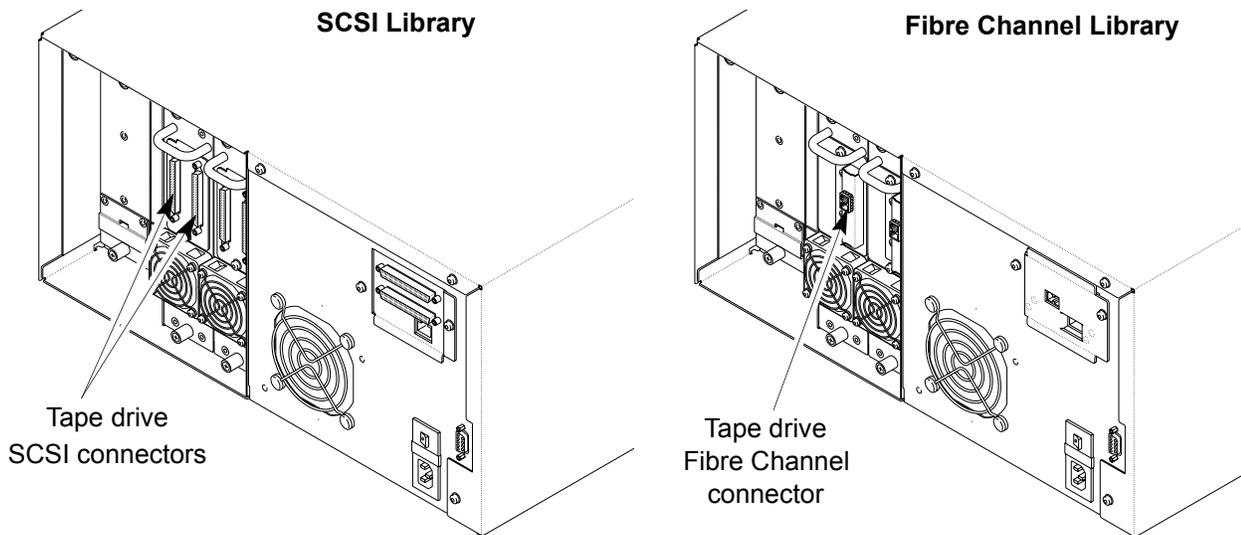
WARNING!

Before continuing with these procedures, be sure that the library's power switch is in the off position and that the power cord is disconnected from the library.

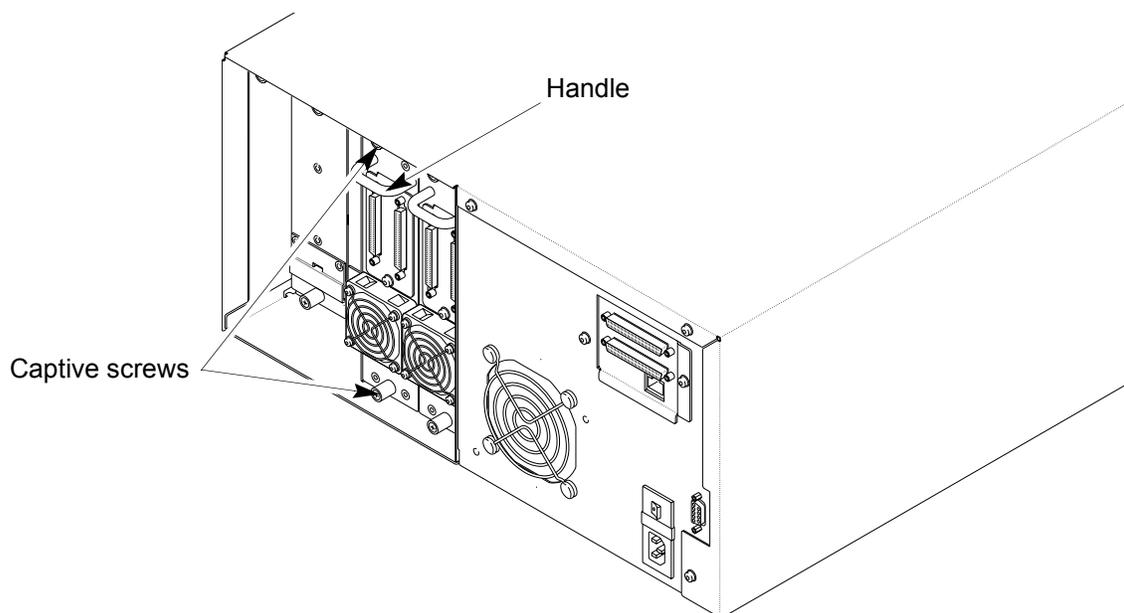
2 Removing the tape drive

If you are replacing an existing tape drive, follow the steps below to remove the drive. If you are installing an additional tape drive, skip to [Section 3, "Removing the drive's service access cover,"](#) on page 5.

1. From the library's back panel, disconnect the cables from the back of the tape drive you plan to replace. If you are replacing a SCSI tape drive, remove any terminator that might be installed on the drive.



2. Use a #2 Phillips screwdriver to release the two captive screws that secure the tape drive carrier to the library.

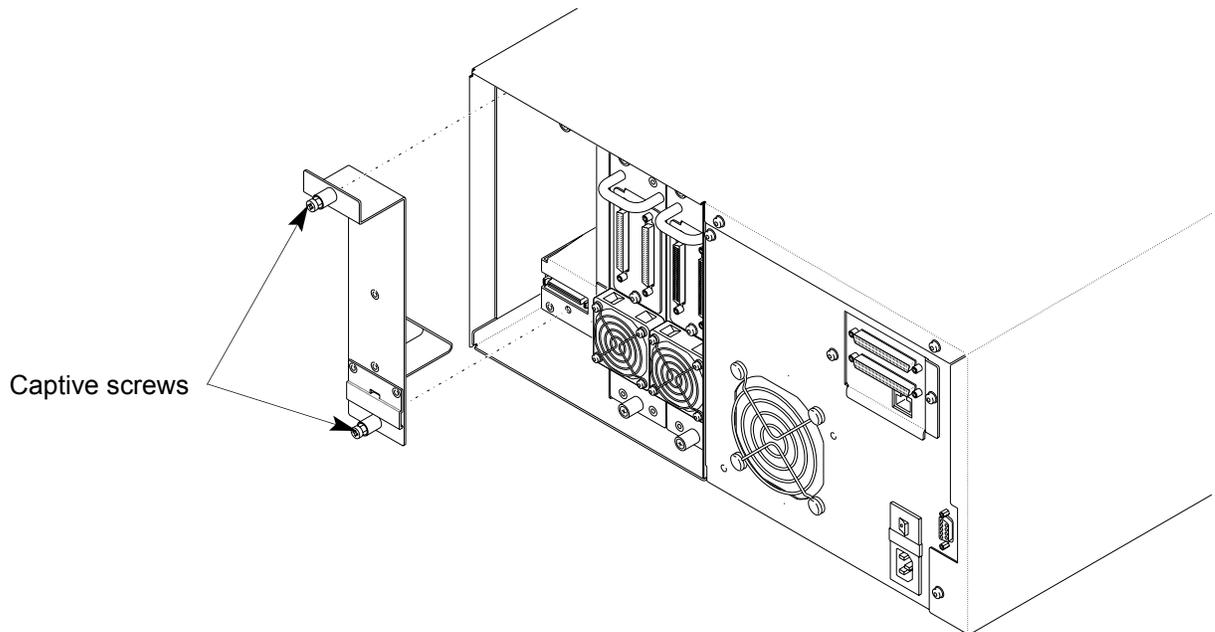


3. Remove the drive carrier by grasping the handle and pulling it straight out of the library. The drive carrier weighs about 5 pounds; make sure you support the bottom of the carrier as you remove it.

3 Removing the drive's service access cover

Follow these steps if you are installing a tape drive in an empty slot.

1. From the back panel, use a #2 Phillips screwdriver to release the two captive screws that secure the service access cover to the library.



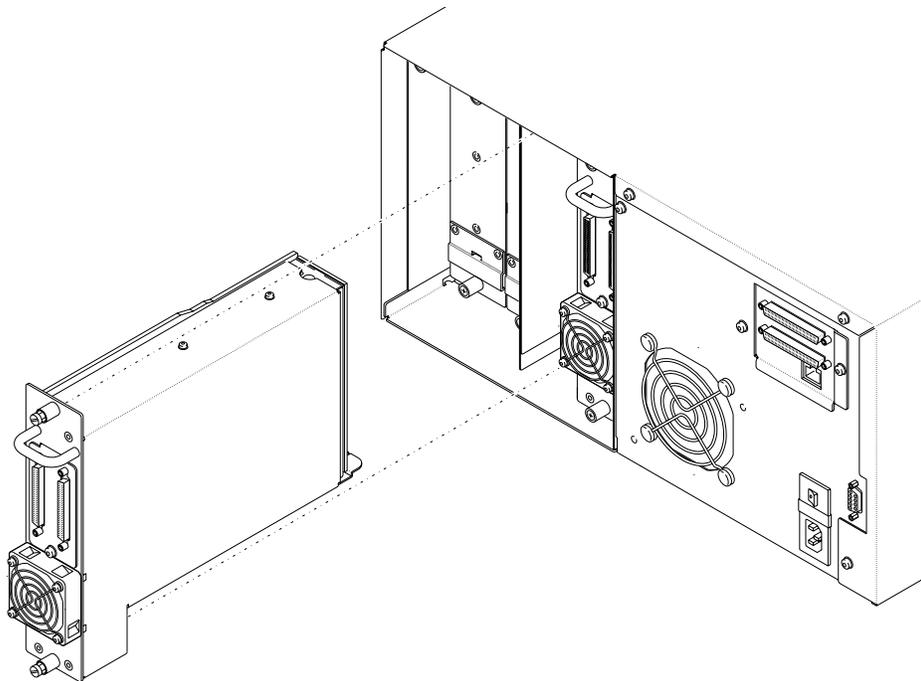
2. When the screws are loosened, remove the drive access cover.

4 Installing the tape drive

CAUTION

Do not install a mixture of Fibre Channel and SCSI tape drives in the library. Mixing drive interfaces could cause data loss.

1. Insert the tape drive so that the handle is at the top and the fan is at the bottom, as shown in the following figure. The drive should slide easily toward the front of the library.



2. Tighten the captive screws on each end of the drive carrier to 8.0 inch-pounds (9.2 kg-cm) of torque.

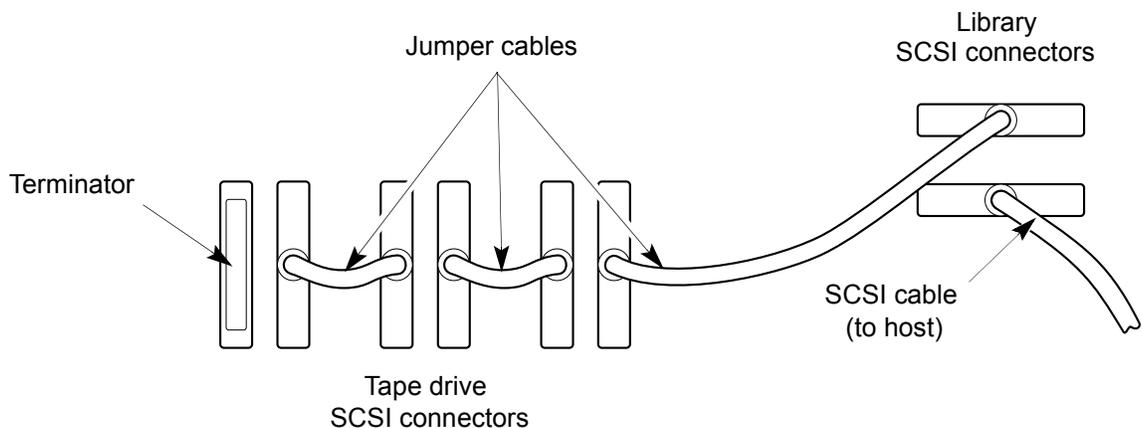
5 Connecting the cables (SCSI library)

For the 430M, 430A, 215M, and 215A SCSI libraries, connect the SCSI cables as described in this section. For the 430M-FC Fibre Channel library, go to [Section 6, “Connecting the cables \(Fibre Channel library\),”](#) on [page 8](#).

CAUTION

To avoid damaging the tape drive, make sure the library is powered off when you connect it to the SCSI bus.

1. If you replaced a tape drive, reconnect the SCSI cables (or cable and terminator) to the new tape drive as they were before. If you installed an additional tape drive that will be on the same SCSI bus as the other drives in the library, remove the terminator from the adjacent drive and install it on the new drive. Then, use the SCSI cable provided in the kit to connect the new tape drive to the adjacent drive. The following figure is an example of a typical cable and terminator configuration for three tape drives on a single SCSI bus.



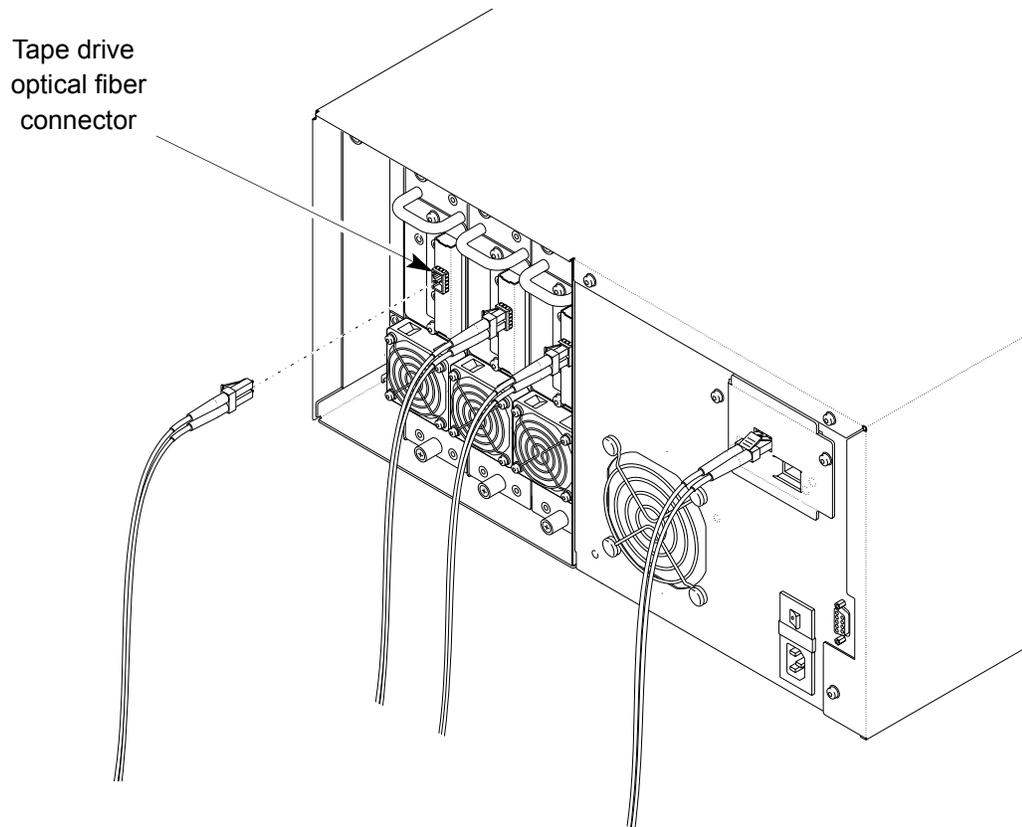
2. Reconnect the power cord and power on the library. The library automatically calibrates the position of the new tape drive.
3. If you installed a new tape drive, set the SCSI ID for the drive as described in *Exabyte 430M and 430A Libraries Installation and Operation* or *Exabyte 215M and 215A Libraries Installation and Operation*. If you replaced a drive, the new drive automatically assumes the SCSI ID of the old tape drive.
4. Proceed to [Section 7, “Testing the library and resuming operation,”](#) on [page 9](#).

6 Connecting the cables (Fibre Channel library)

For the Fibre Channel 430M-FC, connect the optical fiber cable as follows:

1. Remove the protective plug from the optical fiber connector on the new tape drive, if present.
2. Attach an optical cable from the Fibre Channel hub or switch to the Fibre Channel connector on the new tape drive, as shown in the following figure.

Note: You can use the optical cable provided in the kit, or you can use your own cable. Make sure that the cable is compatible with the GBIC on the tape drive and on the hub or switch.



3. Reconnect the power cord to the library, then power on the library. The library automatically calibrates the position of the new tape drive.

7 Testing the library and resuming operation

Before resuming operation, use the Demo Menu from the operator panel to ensure that the robot and the newly installed tape drive are communicating correctly. The Demo Menu causes the robot to randomly move cartridges from slot to slot, including the fixed cartridge slots.

To test the library operation using the Demo Menu, follow these steps:

1. Insert a cartridge in the entry/exit port.

Note: All other cartridges in the library can remain where they are. The testing can also be performed without any cartridges other than the one in the entry/exit port.

2. If necessary, disable security as follows:

- a. Press the **(MENU)** key to display the menus. Press the down arrow key until "Security" appears on the screen, as shown below. If security is enabled, "LCD Password" appears on this screen.

```

▶ S e c u r i t y
  L C D   P a s s w o r d
  
```

- b. Press **(ENTER)**. The following screen appears.

```

P a s s w o r d ?   0 0 0
                   ↓
  
```

- c. Use the left and right arrow keys to move across the columns. Enter your password using the up and down arrow keys to select a number. Press **(ENTER)**. Security is then disabled.

3. Change the control mode to LCD as follows:

- a. Press **(MENU)** to display the menus, then press the down arrow key until "Robot Mode" appears. The Robot Mode screen shows the currently activated mode.

```

▶ R o b o t   M o d e
  S C S I
  
```

7 Testing the library and resuming operation

- b. Press **ENTER**. An informational message appears, then the following screen appears.

```
R o b o t   M o d e ?  
S C S I           ↑
```

- c. Use the arrow keys to select LCD mode and press **ENTER**. The screen shows the new selection.
4. From the operator panel keypad, press **MENU** to display the menus. Press the down arrow key until "Demo Menu" appears, as shown below.

```
▶ D e m o  
M e n u
```

5. Press **ENTER**. The following screen appears.

```
U s e  
D r i v e N ↑
```

6. Press the up arrow to display "Y." Press **ENTER**. The following screen appears.

```
0 0 0 0 0 1 0  
←  ↓      →
```

7. Use the arrow keys to set the number of moves (the left and right arrow keys move across the columns; the up and down arrow keys change the numbers). Then press **ENTER**.

Note: The default number of moves is 10. Exabyte recommends that you perform at least 20 moves.

8. The library begins the demo and displays status messages. If you want to abort a demo in progress, press **ESCAPE**.
9. After the demo moves have successfully completed, press **STATUS** to return to the main menu.
10. Return the control mode to SCSI by pressing **MENU** then pressing the down arrow key until "Robot Mode" appears.

```
▶ R o b o t   M o d e  
L C D
```

11. Press **ENTER** and use the arrow keys to select SCSI mode. Press **ENTER** again.

If the library does not operate correctly, check the following:

SCSI library	Fibre Channel library
✓ Are the devices on each SCSI bus attached to the library all LVD?	✓ Are the GBICs and cables used to connect the tape drives to the Fibre Channel loop compatible?
✓ Are the SCSI buses terminated?	✓ Are the Fibre Channel cables firmly connected to the library, tape drives, and the Fibre Channel hub or switch?
✓ Are the SCSI cables firmly connected to the library, tape drives, and host computer?	✓ Is the library operating in the correct control mode? (For most applications, the control mode should be set to SCSI.)
✓ Are the SCSI IDs unique for the devices on each SCSI bus?	
✓ Is the library operating in the correct control mode? (For most applications, the control mode should be set to SCSI.)	

If you cannot solve the problem yourself, contact your service provider or Exabyte Technical Support (1-800-445-7736 or 1-303-417-7792).

Notes
