Installation Instructions

Expansion Module

These instructions explain how to add a new expansion module to a Scalar i500 library.

Adding an expansion module to an existing library includes the following steps:

Adding expansion modules to the library increases the number of data cartridges available within the library system. These instructions explain how to add an expansion module to an existing library.

WARNING

ALL LIBRARIES TALLER THAN 14U MUST BE INSTALLED IN A RACK HAVING A MAIN PROTECTIVE EARTHING (GROUNDING) TERMINAL, AND POWER MUST BE SUPPLIED VIA AN INDUSTRIAL PLUG AND SOCKET-OUTLET AND/OR AN APPLIANCE COUPLER COMPLYING WITH IEC 60309 (OR AN EQUIVALENT NATIONAL STANDARD) AND HAVING A PROTECTIVE EARTH (GROUND) CONDUCTOR WITH A CROSS SECTIONAL AREA OF AT LEAST 1.5 MM^2 (14 AWG).

TO ENSURE PROPER AIRFLOW AND ACCESS SPACE, ALLOW 60 CM (24 INCHES) IN THE FRONT AND BACK OF THE LIBRARY.

WARNING

WITHOUT TAPE DRIVES, TAPE CARTRIDGES, OR POWER SUPPLIES, A CONTROL MODULE WEIGHS APPROXIMATELY 58 LBS. AN EXPANSION MODULE, WITHOUT TAPE DRIVES, TAPE CARTRIDGES, OR POWER SUPPLIES, EXCEEDS 65 LBS.

TO AVOID SERIOUS INJURY, AT LEAST TWO PEOPLE ARE REQUIRED TO SAFELY LIFT THE MODULES INTO POSITION.

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Note

The maximum number of expansion modules supported in a library depends on the level of firmware the library is running. The latest firmware must be installed on the library if you are upgrading from a 5U or 14U configuration to a larger configuration. The latest firmware can be found at www.quantum.com/support. See the *Scalar i500 User's Guide* for more information on updating firmware.

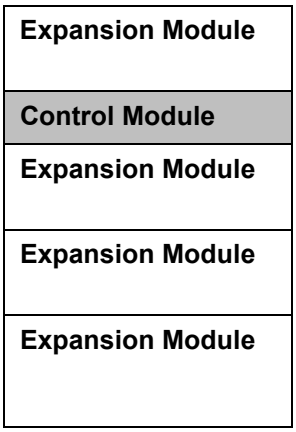
There are some configuration settings to take into account when adding an expansion module to an existing library.

- All COD licenses remain the same. If the current license key does not cover the expanded capacity, you will need a new license key to use the newly available slots.
- Partition, I/E station slot, and cleaning slot assignments do not change; however, unassigned slots may change location.
- Modifying partitions can cause the storage slots to be scattered throughout the library.
- I/E station slots in the new module(s) are assigned as data storage slots. You can reconfigure these slots as I/E station slots after the expansion module has been added to the library. To assign the new I/E station slots as I/E station slots instead of data storage slots, delete all partitions, change the number of I/E station slots, and create new partitions. Storage slots may now be assigned to the new partitions.

A library can use up to four expansion modules to a maximum height of 41U.

There are no restrictions on where the control module can be installed in the library configuration. However, the recommended placement of the control module for library configurations up to 32U is on top of all installed expansion modules. The recommended placement of the control module for 41U library configurations is on top of three expansion modules and below the top expansion module.

When adding additional expansion modules to an existing library configuration, the recommended placement of the new expansion module is at the bottom of the existing library configuration (except for the 41U, where recommended placement is on top). Installing the new expansion module at the bottom of the existing library configuration will logically assign slot numbering within the library.



Preparing to Install an Additional Expansion Module

Required tools:

- Phillips #2 screwdriver, for removing and replacing the top cover plate
- T10 TORX screwdriver, for removing and replacing the bottom cover plate

You need to unstack the library to install the new expansion module at the bottom of the new library configuration.

If the library will be installed in a rack, check to make sure that a rackmount kit, rackmount kit instructions, and all required parts of the kit are available.

1 Upgrade the library firmware to a level that can support the number of modules you are adding. See the *Scalar i500 User's Guide* for information on upgrading firmware.

2 Remove all tape cartridges from the library using the import and export commands of the operator panel or web client.

3 Power off the library.

4 Disconnect all power cords, network data cables, and module-to-module cables from all of the modules.

Note You should label all cables before you remove them so you can later reconnect them to their proper locations.

5 Park the robot assembly in the control module. Before unstacking the library, the robot assembly must be placed in the control module.

a. Open the I/E station and access doors of each module.

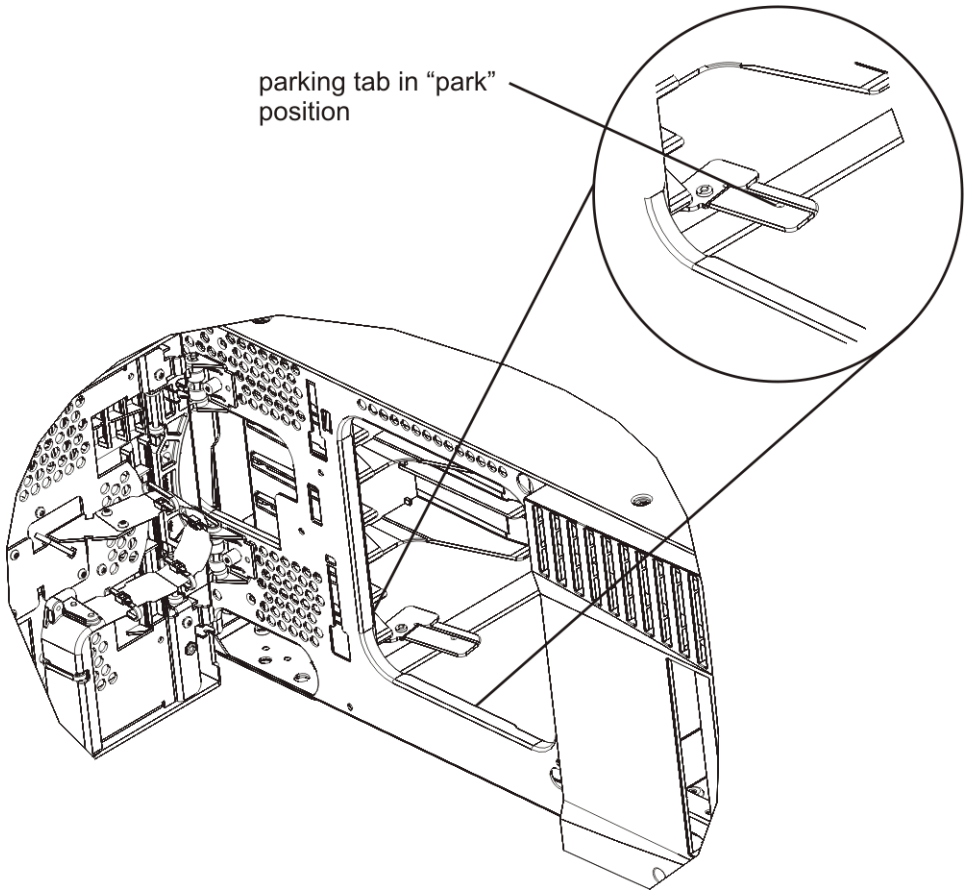
b. Using your hands, gently lift the robot assembly into the control module. The robot assembly should glide slowly and with some resistance.

CAUTION **Support the robot assembly by holding onto the broad metal X-axis plate. Lifting the robot by the thin metal rod will bend the rod.**

c. After raising the robot assembly to the approximate middle of the control module, hold it in place with one hand and, using your other hand, swivel the parking tab toward you. The metal parking tab is located at the bottom of column 1.

d. Gently release the robot assembly to rest on the parking tab (see Figure 1).

Figure 1 Parking the Robot Assembly



6 Remove all power supplies from each module.

7 Remove all tape drives from each module.

Unstacking the Existing Modules

1 Starting with the topmost module of your library, open the I/E station and access doors.

CAUTION **Before unstacking the modules, the robot assembly must be parked as described in Step 5 on page 3.**

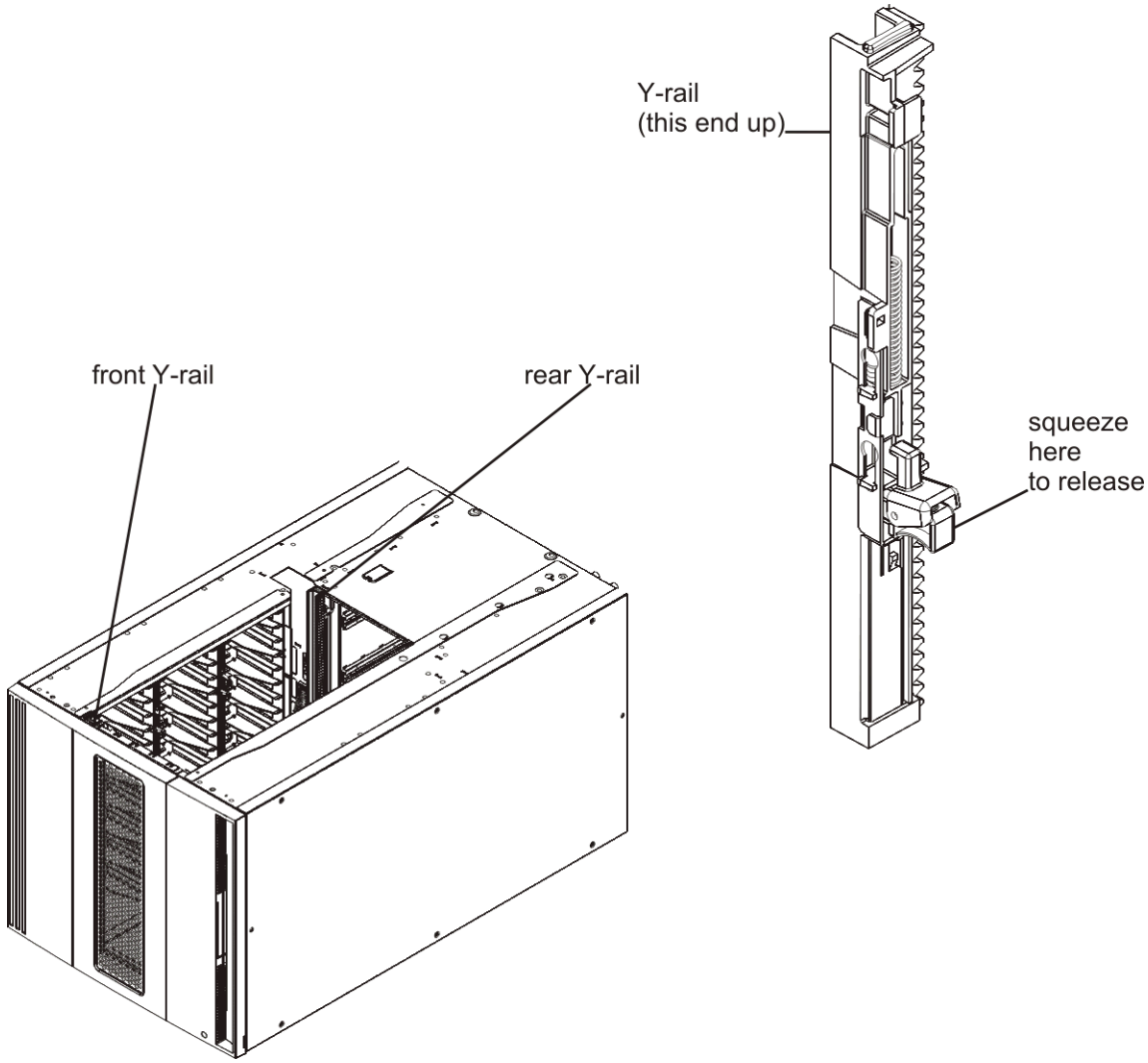
2 If your current configuration already uses an expansion module, disengage the Y-rails so the modules can be safely unstacked.

a. From the front of the library, find the Y-rail release mechanism, which is located on the left side of the module. Squeeze the handle of the Y-rail release mechanism, lift it, and release it so that it locks into place (see Figure 2).

b. From the rear of the library, find the rear Y-rail release mechanism located in the interior of the right side of the module. Squeeze the handle of the Y-rail release mechanism, lift it, and release it so that it locks into place (see Figure 2).

Note The rear Y-rail is impossible to lift up with the tape drives installed.

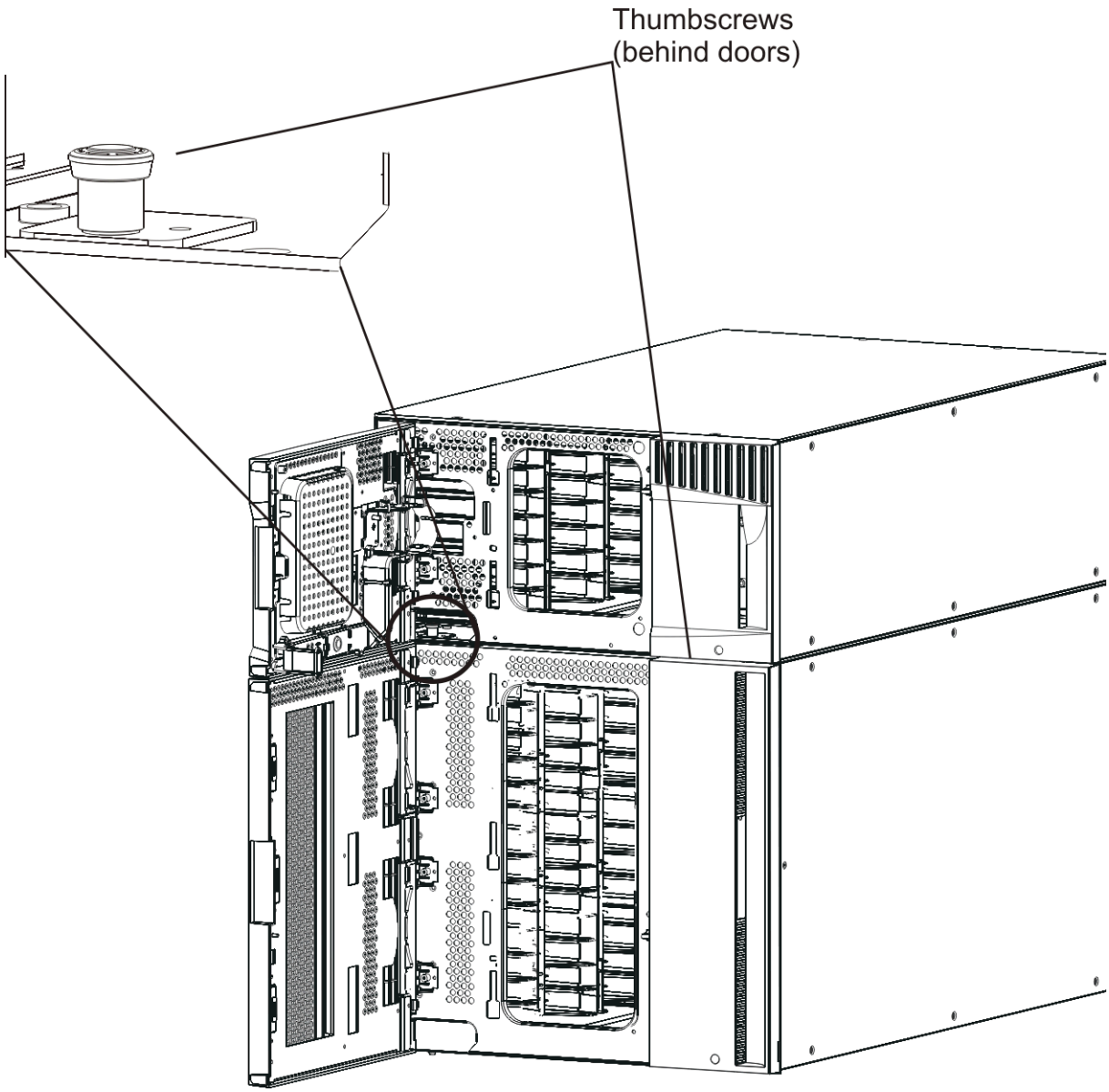
Figure 2 Expansion Module Y-rail



3 Remove the rack ears that fasten the module to the rack.

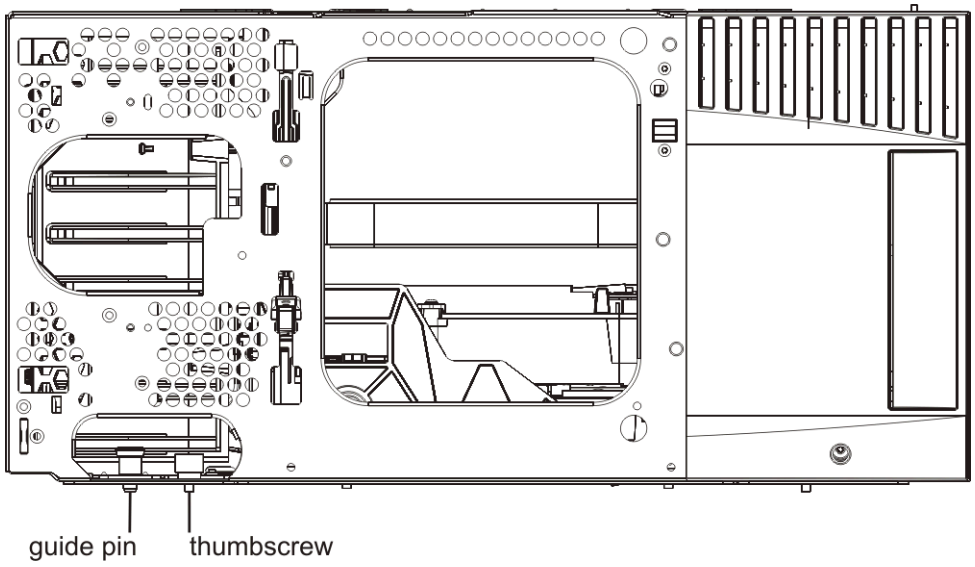
4 Loosen the thumbscrews located at the base of the front and rear of the module (see Figure 3).

Figure 3 Module Thumbscrew Location



5 Open the module's access door and raise the guide pin by pulling it up and turning it slightly as if it were a screw. Otherwise, the guide pin may scratch the front doors of the module beneath it (see Figure 4).

Figure 4 Guide Pin Location



6 From the front of the library, slide the entire module toward you and lift it off of the module below it.

7 Repeat these steps for each module that you need to remove.

Installing the New Expansion Module

1 Prepare the rack to hold modules, if you want to install your library in a rack. See the *Scalar i500 User's Guide* or the CRU instruction sheet, *Installation Instructions: Rackmount Kit*, for instructions on installing a rackmount kit.

2 Remove and replace the cover plates, if appropriate.

CAUTION **Before removing the control module's bottom cover plate, the robot assembly must be parked as described in Step 5 on page 3.**

a. If you plan to stack the control module at the top of the library, and if an expansion module is located below it, remove the control module's bottom cover plate and the expansion module's top plate.

b. If you plan to stack the control module between expansion modules, remove both the top and bottom plates of the control module. Also remove the top plate of the expansion module located

below the control module and the bottom plate of the expansion module located above the control module.

c. If you plan to stack the control module at the bottom of the library, and if an expansion module will be located above it, remove the control module's top plate and the expansion module's bottom plate.

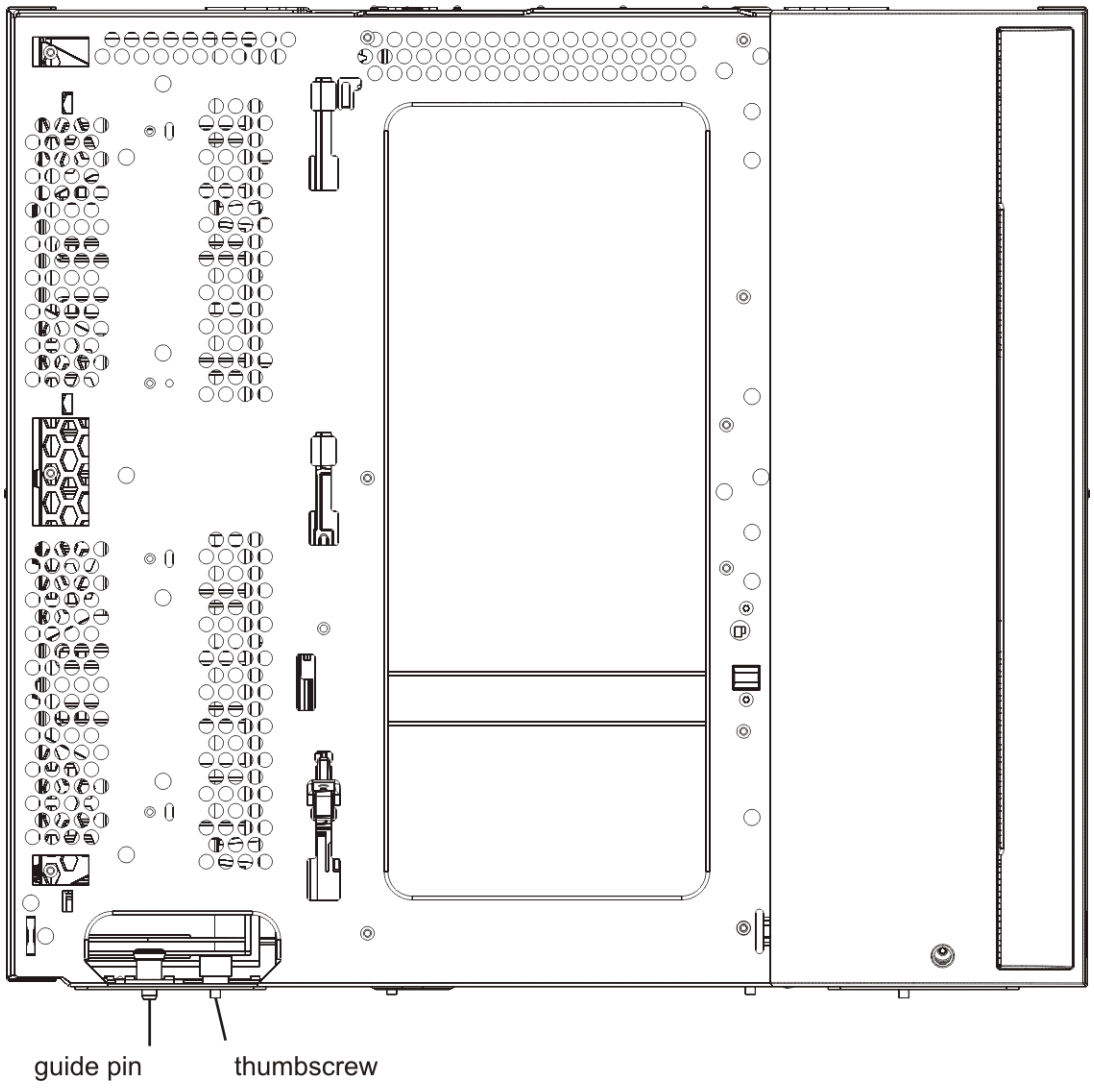
Table 1 Cover Plate Location after Adding an Expansion Module

5U	14U	23U	32U	41U
				cover plate
			cover plate	**NEW Expansion Module**[a]
		cover plate	**Control Module**	**Control Module**
	cover plate	**Control Module**	**Expansion Module**	**Expansion Module**
cover plate	**Control Module**	**Expansion Module**	**Expansion Module**	**Expansion Module**
Control Module	**NEW Expansion Module**[a]	**NEW Expansion Module**[a]	**NEW Expansion Module**[a]	**Expansion Module**
cover plate	cover plate	cover plate	cover plate	cover plate

a. Recommended location for adding an expansion module.

3 Open the expansion module's access door and raise the guide pin by pulling it up and turning it slightly as if it were a screw (see Figure 5). Otherwise, the guide pin may scratch the front doors of the module on which you are stacking it.

Figure 5 Guide Pin Location



4 Lift the new expansion module and, from the front of the library, place it in the desired location.

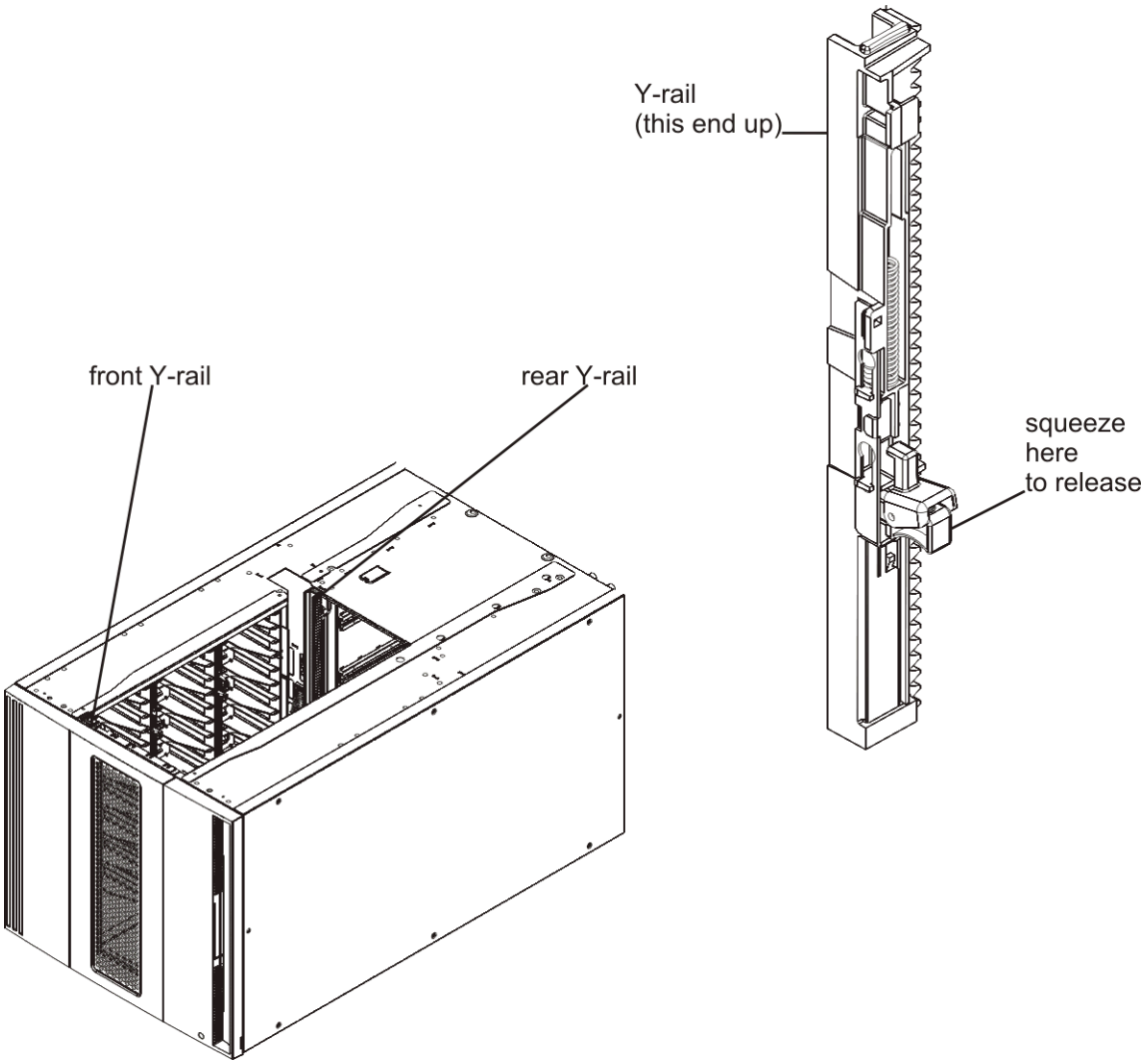
5 If there is already a module installed, secure the two modules together by tightening the two thumbscrews at the base of the front of the module and the two thumbscrews located at the base of the back of the module. Then lower the module's guide pin (located at the base of the front of the module) by turning it and pushing it down.

6 Tighten all thumbscrews located at the base of the front and back of the modules.

7 Fasten the module to the rack with rack ears.

8 Engage the Y-rails of the new module in your library configuration. Ensure that the Y-rails are properly aligned and the thumbscrews are tightened (see Figure 6).

Figure 6 Expansion Module Y-rails



a. From the front of the library, open the I/E station and access doors of the expansion module.

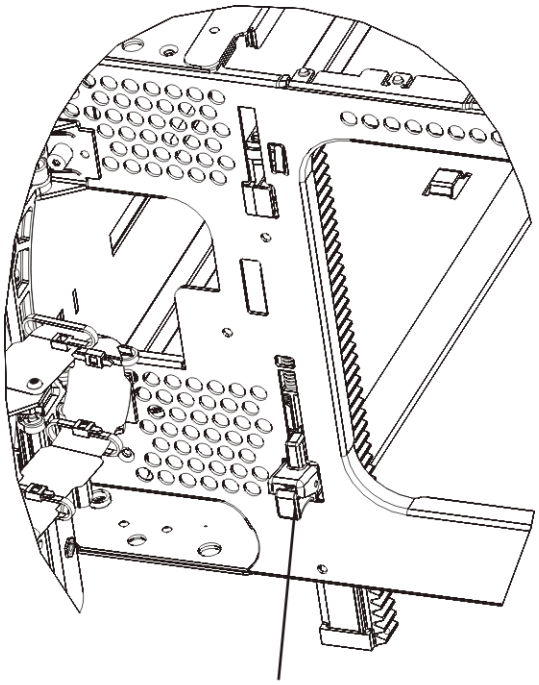
b. Squeeze the handle of the Y-rail release mechanism, lift it out of its locked position, and slide it downward as far as it will go.

c. From the back of the library, find the rear Y-rail release mechanism, which is located in the interior of the right side of the module. Squeeze the handle of the Y-rail release mechanism, lift it out of its locked position, and slide it downward as far as it will go (see Figure 7).

   Doing this aligns the Y-rails with the Y-rails of the module beneath it.

CAUTION **Check to make sure that there is no gap between the top and bottom Y-rails on both the front and back of the library. If a gap exists, the library cannot mechanically initialize.**

Figure 7 Y-rail in Unlocked, Functional Position



9 Repeat these steps for each module you need to re-install in the library configuration.

Preparing to Use the Library

1 Add the tape drives to the modules. For details, see the *Scalar i500 User's Guide*.

2 Add the power supplies. For details, see the *Scalar i500 User's Guide*.

3 Add the LCB to the control module. For details, see the *Scalar i500 User's Guide*..

4 If your library contains FC I/O blades, install both the I/O blades and the accompanying fan blades in the expansion module. For details, see the *Scalar i500 User's Guide*.

5 Unpark the robot assembly.

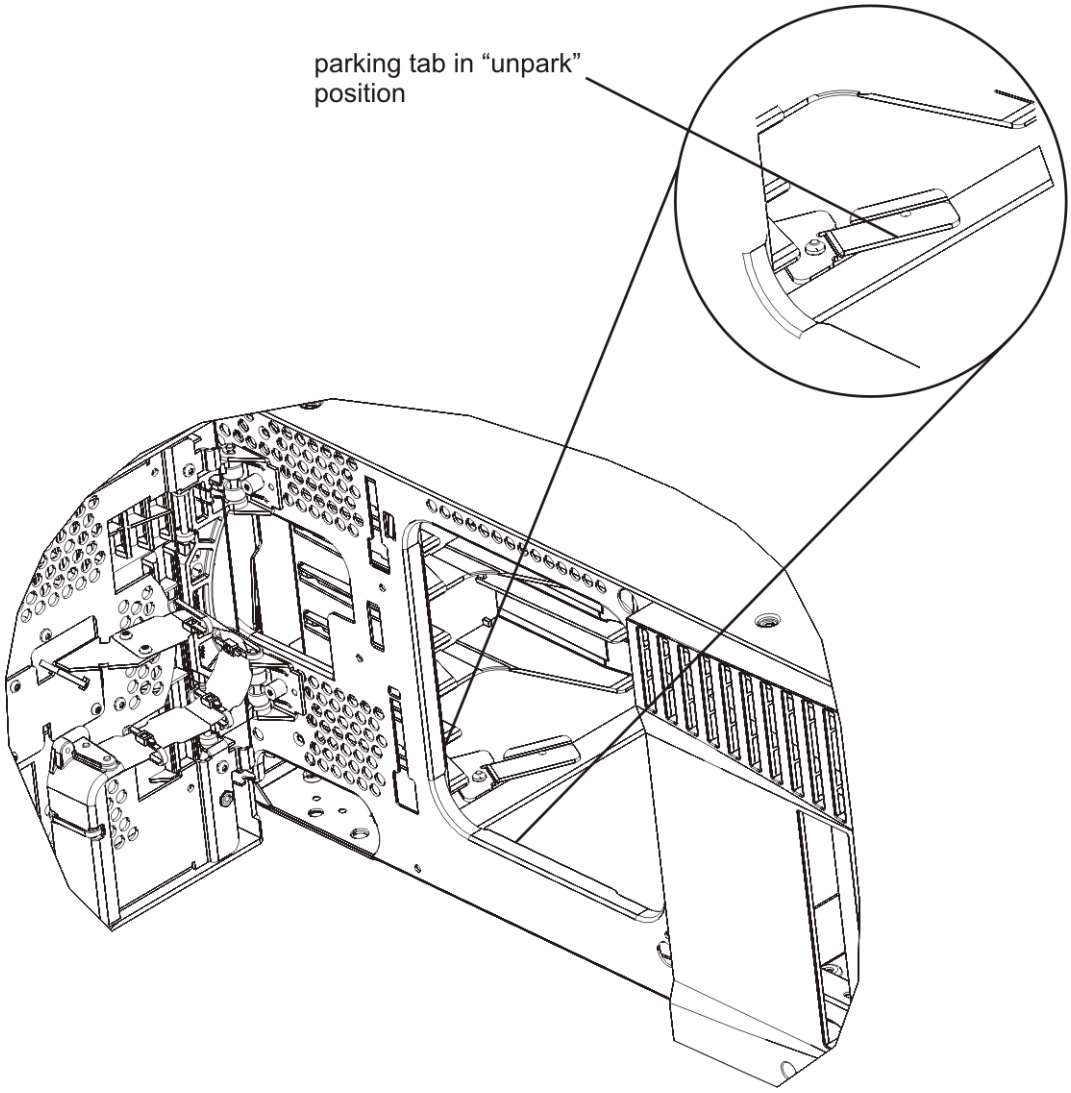
a. Gently raise the robot assembly so that it no longer rests on the parking tab.

CAUTION **Support the robot assembly by holding onto the broad metal X-axis plate. Lifting the robot by the thin metal rod will bend the rod.**

b. With your free hand, swivel the parking tab away from you until it is removed completely from the interior of the module (see Figure 8). When replaced correctly, the parking tab will not accidentally swivel into the path of the robot.

c. Gently release the robot assembly. It will lower to the bottom module of the library.

Figure 8 Unparking the Robot Assembly



6 Connect all power cords, network data cables, and module-to-module cables. Make sure the module terminators are installed at the top and bottom of the stack of modules. For complete cabling instructions, see the *Scalar i500 User’s Guide*.

7 Power on the library.

8 Reconfigure the library, including applying the new COD license key, using the operator panel or web client.

9 Add the tape cartridges to the library’s modules using the I/E station commands from the operator panel or web client.

10 Open the host application and reinventory in order to synchronize its logical inventory with the physical inventory of the library.