



Spectra TFinity Library

VAX Column Replacement and Alignment Instructions



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A	March 2010	Initial release
B	April 2015	Improve process description. Trademark updates.

Contacting Spectra Logic

To Obtain General Information

Spectra Logic Website: www.spectralogic.com

United States Headquarters

Spectra Logic Corporation
Phone: 1.800.833.1132 or 1.303.449.6400
International: 1.303.449.6400
Fax: 1.303.939.8844

European Office

Spectra Logic Europe Ltd.
Phone: 44 (0) 870.112.2150
Fax: 44 (0) 870.112.2175

Spectra Logic Technical Support

Technical Support Portal: support.spectralogic.com

United States and Canada

Phone:
Toll free US and Canada: 1.800.227.4637
International: 1.303.449.0160

Europe, Middle East, Africa

Phone: 44 (0) 870.112.2185
Deutsch Sprechende Kunden
Phone: 49 (0) 6028.9796.507
Email: spectralogic@stortrec.de

Mexico, Central and South America, Asia, Australia, and New Zealand

Phone: 1.303.449.0160

To Obtain Documentation

Spectra Logic Website: support.spectralogic.com/documentation/

Contents

- INTRODUCTION 4
- BEFORE YOU BEGIN 4
 - Estimated Time to Complete 4
 - Continuing Backups 4
 - Prepare a Work Surface 5
 - Ensure ESD Protection 5
 - Gather Tools and Supplies 6
- IDENTIFY THE TERA PORTER REQUIRING SERVICE 7
- PREPARE TO REPLACE THE VAX COLUMN 8
 - Move the TeraPorter Into the Service Bay 8
 - Disengage the Service Bay Safety Door 9
 - Close the Service Bay Safety Door 10
 - Remove the Service Bay Access Panel 13
- REMOVE THE TRANSPORTER 14
- REMOVE THE VAX COLUMN 14
 - Install the VAX Column Stand 14
 - Remove the VAX Column 17
- INSTALL THE VAX COLUMN 20
 - Prepare the New VAX Column 20
 - Install the VAX Column 28
- ALIGN THE VAX COLUMN 33
 - Remove the Alignment Blocks and VAX Column Support Stand 36
- INSTALL THE TRANSPORTER 36
- COMPLETE THE REPLACEMENT 37
 - Install the Service Bay Access Panel 37
 - Open the Service Bay Safety Door 38
- RETURN THE COMPONENT 40
 - Return Guidelines 40
 - Return Procedures 40

Replacing and Aligning the TFinity VAX Column

INTRODUCTION

These instructions describe replacing and aligning the VAX column in the Spectra® TFinity library. The library contains two VAX columns, one for TeraPorter 1 and one for TeraPorter 2. The VAX column is the main structural element of the TeraPorter and includes the rack and pinion gear drive mechanisms at the top and bottom of the column to move the TeraPorter along the horizontal axis.

BEFORE YOU BEGIN

Before beginning this replacement procedure, make sure that you address the requirements in the following sections.



Important Having two people available to perform this procedure is strongly recommended.

Estimated Time to Complete

Replacing a VAX column requires approximately 2 hours.

Continuing Backups

If one TeraPorter in the library experiences an operational problem, the library takes it offline. Backups can continue using the other TeraPorter while you perform maintenance procedures on the failed TeraPorter.

Note: In some situation, it may be necessary to reboot the Robotics control Module (RCM), which may disrupt backups.

Prepare a Work Surface

A sturdy work surface, approximately 4 feet x 2 feet (122 cm x 61 cm), is required to support the VAX column when it is out of the library.

- Notes:**
- This is the minimum length required to adequately support the VAX column and prevent it from flexing.
 - The maximum length of the surface cannot exceed 5 feet 4 inches (163 cm).
 - The work surface must be able to support approximately 60 pounds (27 kg).

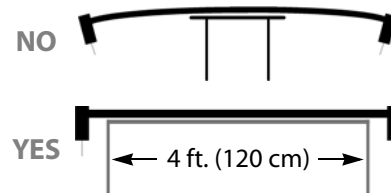
Ensure that you have prepared the work surface before removing the VAX column from the library. The work surface must be long enough, wide enough, and sturdy enough to properly support the assembly.



Caution

Do not bend the VAX column by allowing it to hang over a short work surface during this procedure.

The work surface must be approximately 4 feet long x 2 feet wide (120 cm x 60 cm) to adequately support the VAX column.



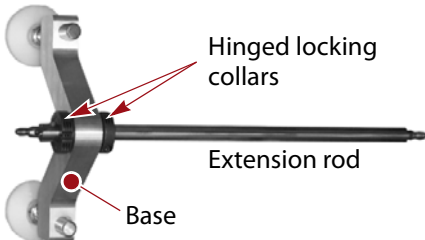

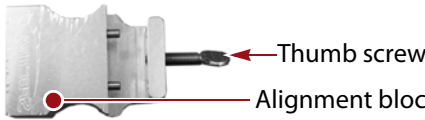

Ensure ESD Protection

The repair environment for the library must be free of conditions that could cause electrostatic discharge (ESD). To protect the library from ESD, follow these procedures when repairing or testing the library:

- Place a static protection mat on the work surface used while removing and installing library components. Use a 1-megohm resistor to ground the static protection mat.
- Wear a static protection wrist band whenever you handle library components that are removed from their antistatic bags. Connect this wrist band to the static protection mat or to other suitable ESD grounding.
- Keep all electronic components in antistatic bags when not in use.

Gather Tools and Supplies

You must have the following to complete this procedure:

Item	Description
<p>A Replacement VAX Column from Spectra Logic</p>	<p>Notes:</p> <ul style="list-style-type: none"> ▪ After removing the replacement VAX column from its packaging, place it flat side down on a work surface until you are ready to install it. ▪ Keep the packing materials for use when returning the failed VAX column to Spectra Logic.
<p>Tools from Original Library Tool Kit</p>	<ul style="list-style-type: none"> ▪ A #2 Phillips screwdriver ▪ A small flat-blade screwdriver ▪ The following Allen wrenches or T-handle hex wrenches from the original library toolkit: <ul style="list-style-type: none"> ▪ 3/32-inch ▪ 7/64-inch ▪ 5/32-inch
<p>Referenced Documents</p>	<ul style="list-style-type: none"> ▪ <i>Spectra TFinity Library Transporter Replacement</i> <p>Note: You must be logged in to your Spectra Logic Technical Support portal account to access this document.</p>
<p>Additional Tools Shipped with Library</p>	<ul style="list-style-type: none"> ▪ The VAX column support stand <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">   </div> ▪ VAX column alignment blocks (two required) <div style="display: flex; justify-content: center; align-items: center; margin-top: 10px;">  </div>
<p>Additional Tools and Supplies</p>	<ul style="list-style-type: none"> ▪ ESD protection gear ▪ A medium binder clip ▪ A sturdy work surface (see Prepare a Work Surface on page 5) ▪ A second person to help remove the VAX column
<p>Optional Items</p>	<ul style="list-style-type: none"> ▪ A step-stool (to reach the top of the TeraPorter) ▪ Rack and pinion latching tool (usually shipped with the library) <div style="text-align: center; margin-top: 10px;">  </div>

IDENTIFY THE TERAPORTER REQUIRING SERVICE

The library contains two TeraPorters. When viewed from the front of the library, TeraPorter 1 is on the left, and TeraPorter 2 is on the right. The two TeraPorters are referred to as Robot 1 and Robot 2, respectively, in the BlueScale® user interface.

The library posts system messages when a TeraPorter experiences problems or when it is moved into its service bay. You can also use the Robotics status icon on the General Status screen for a general indication of the overall status of the library's TeraPorters (robotics).

Note: When a TeraPorter is in its service bay, the LED light bar along the top of the service frame is illuminated red indicating the position of the TeraPorter.

If system messages or the Robotics status icon on the General Status screen indicates that a TeraPorter may have a problem, use the following steps to view information about the current status of each TeraPorter.

1. Log into the library as a user with superuser or administrator privileges.
2. From the toolbar menu, select **General** ... **General Status** to display the library's General Status screen.

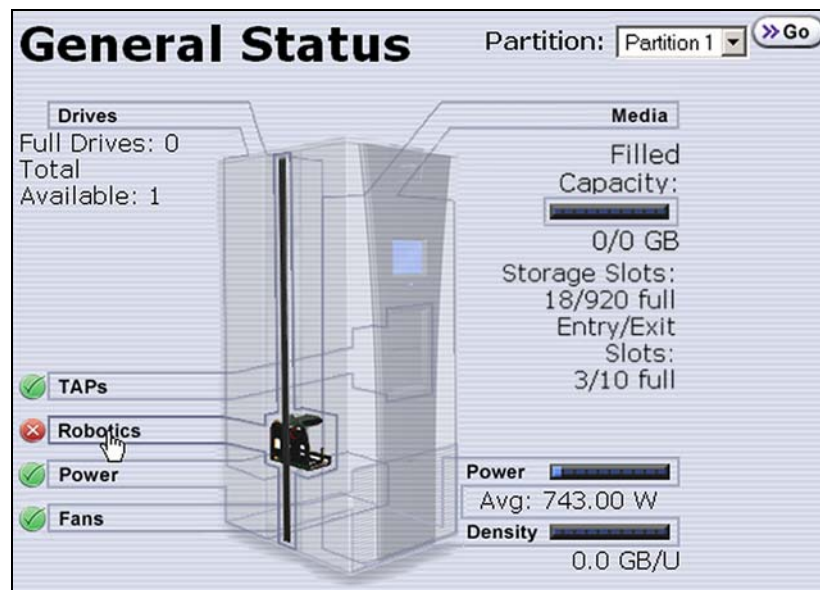


Figure 1 The General Status screen indicating a TeraPorter problem.

3. Click **Robotics** to display the Robotics Status screen (see [Figure 1 on page 7](#)).

Note: When viewed from the front of the library, Robot 1 (TeraPorter 1) is to the left and Robot 2 (TeraPorter 2) is to the right.

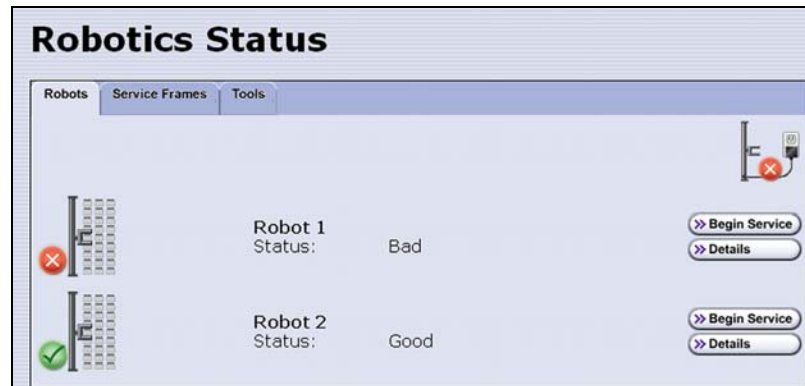


Figure 2 The Robotics Status screen.

4. If you need assistance determining which transporter to replace, contact Spectra Logic Technical Support (see [Contacting Spectra Logic on page 2](#)).

PREPARE TO REPLACE THE VAX COLUMN


Before a TeraPorter can be serviced, it must be in its service bay with the service bay safety door closed.

Note: The service bay is the outer-most compartment of the service frame.

- If the TeraPorter is already in the service bay, skip to [Disengage the Service Bay Safety Door on page 9](#).
- If the failed TeraPorter is not already in its service bay, continue with [Move the TeraPorter Into the Service Bay](#).

Move the TeraPorter Into the Service Bay

If the failed Robot is not already in its service bay, use the following steps to move it there, if possible. If the Robot is already in the service bay, skip to [Disengage the Service Bay Safety Door on page 9](#).

1. If you have not already done so, log into the library as a user with superuser or administrator privileges.
2. From the toolbar menu, select **General**  **General Status** to display the library's General Status screen.
3. Click **Robotics** to display the Robotics Status screen and select the **Robots** tab (see [Figure 1 on page 7](#)).

4. Click **Begin Service** next to the robot you need to move into its service bay in preparation for the service operation. A status message is displayed when the TeraPorter is successfully moved to the service bay.
5. Look through the window on the end of the service frame to confirm that the TeraPorter is in the service bay.

Note: If the TeraPorter is not in the service bay, contact Spectra Logic Technical Support for assistance (see [Contacting Spectra Logic on page 2](#)).

6. Click **OK** on the confirmation screen. The library disengages the solenoid lock on the service bay safety door so that it can be closed. Directions to close and lock the service bay safety door display.



Important

Close the service bay safety door, as described in [Close the Service Bay Safety Door on page 10](#), prior to clicking **OK**.

7. Skip to [Close the Service Bay Safety Door on page 10](#).

Disengage the Service Bay Safety Door

If the library automatically moved the TeraPorter into the service bay, use the following steps to disengage the service bay safety door so that it can close.

1. If you have not already done so, log into the library as a user with superuser or administrator privileges.
2. From the toolbar menu, select **General** > **General Status** to display the library's General Status screen (see [Figure 1 on page 7](#)).
3. Click **Robotics** to display the Robotics Status screen and select the **Service Frames** tab.

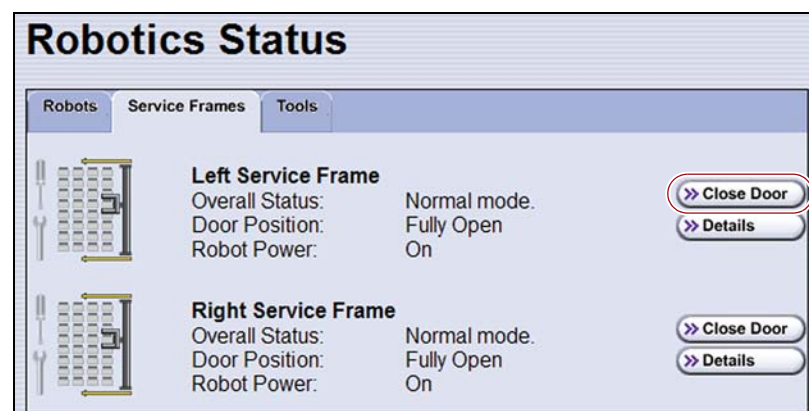


Figure 3 The Robotics Status screen.

4. Click **Close Door** next to the robot that is in its service bay ready for the service operation. The library disengages the solenoid lock on the service bay safety door so that it can be closed. Directions to close and lock the service bay safety door display.

**Important**

Close the service bay safety door, as described in [Close the Service Bay Safety Door](#), prior to clicking **OK**.

5. Continue with [Close the Service Bay Safety Door](#).

Close the Service Bay Safety Door

The manually operated service bay safety door slides closed to isolate the TeraPorter in the service bay, making it possible to continue library operations while you service the TeraPorter. Use the following steps to physically close and lock the service bay safety door.

**WARNING**

Risk of electrical shock. Do not remove the service frame access panel until you have closed the service frame safety door.

**Important**

There are three doors on the back of the service frame. Only open the full-length door, shown in [Figure 4](#), which provides access to the service bay safety door.

Do not open the service access door until after the service bay safety door is closed. A safety interlock on this door immediately turns off the 24 VAC power to the TeraPorter, which prevents the other TeraPorter from performing backup operations.

1. Lift and rotate the latch on the full-length access door on the service frame where the TeraPorter is parked, then pull the door open.

Note: You may need to unlock the latch before you can open it.

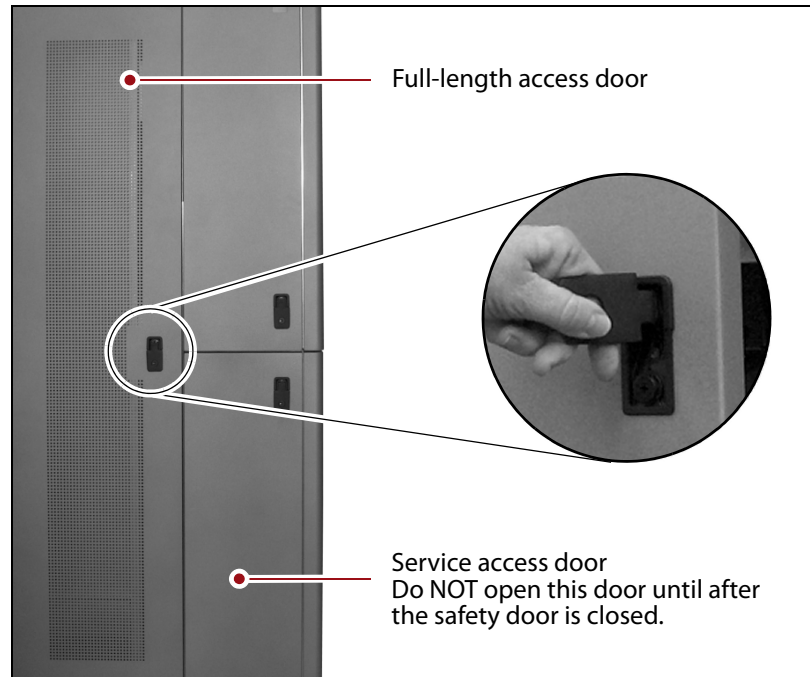


Figure 4 Open the full-length service frame access door (service frame for TeraPorter 1 shown).

2. Locate the handle on the service bay safety door. Loosen the captive screw at the top of the handle and rotate it downward to a horizontal position.

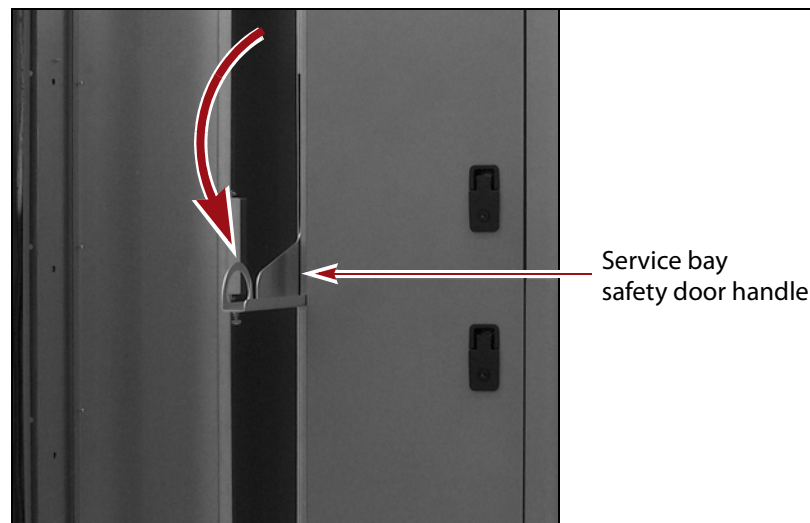


Figure 5 Rotate the handle on the service bay safety door down to horizontal.

- Using the handle, slide the service bay safety door inward as far as it goes toward the interior of the library.

Note: Closing the service bay safety door removes power to the TeraPorter while it is in the service bay.

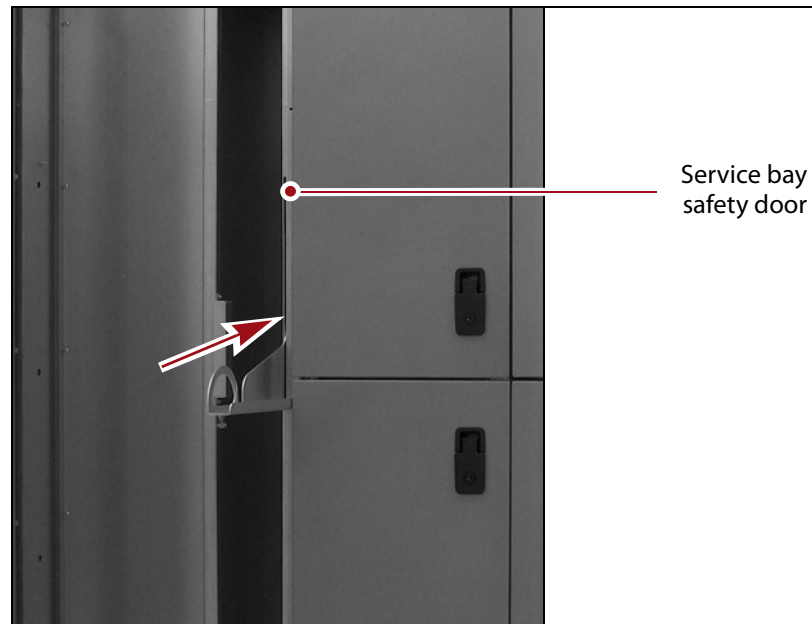


Figure 6 Slide the service bay safety door inward to its closed position.

- Raise the handle to the vertical position and tighten the captive screw to secure the handle in its upright position.
- Return to the front of the library and click **OK** in response to the safety door closed confirmation message. A status message displays.
- Click **OK** in response to the safety door closed status message. If the status message indicates that the safety door did not close correctly, contact Spectra Logic Technical Support (see [Contacting Spectra Logic on page 2](#)).

Remove the Service Bay Access Panel

1. Remove the window panel.
 - a. Use a 1/8-inch Allen wrench or hex screwdriver, or a #2 Phillips screwdriver, to remove the screw at the bottom of the window panel.
 - b. While holding the panel steady, slide it up to disengage the panel from the hangers on each side of the chassis (three per side).
 - c. Lift the panel off of the hangers, out and away from the frame.
2. Set the panel aside.



Figure 7 Remove the screw at the bottom of the window panel.



Figure 8 Slide the panel up to disengage the hangers.



Figure 9 Lift the panel out and away from the frame.

REMOVE THE TRANSPORTER

The transporter is mounted on the front of the TeraPorter VAX column. It must be removed before removing the VAX column. See “Remove the Transporter” in the *Spectra TFinity Library Transporter Replacement* guide for instructions.



Important

If you installed a binder clip on the VAX belt while removing the transporter, remove it now.

REMOVE THE VAX COLUMN

The procedure for removing the VAX column is the same for both TeraPorters.

Install the VAX Column Stand

Note: The VAX column stand consists of the following components:

- A base with adjustable-height feet
 - A threaded extension rod
 - movable locking collars
1. Assemble the VAX column stand.
 - a. Slide the base onto the extension rod so that there is approximately 4-inches between the base and one end of the rod.
 - b. Using a 5/32-inch Allen wrench, loosen the captive screws in two hinged locking collars and then open the collars.
 - c. Place a hinged locking collar on each side of the base to keep it from sliding off the rod.

- d. Using a 5/32-inch Allen wrench, tighten the captive screws in the locking collars to secure them.

Once the base is installed, the threaded extension rod is now split into short and long sections, which are referenced in the following instructions.

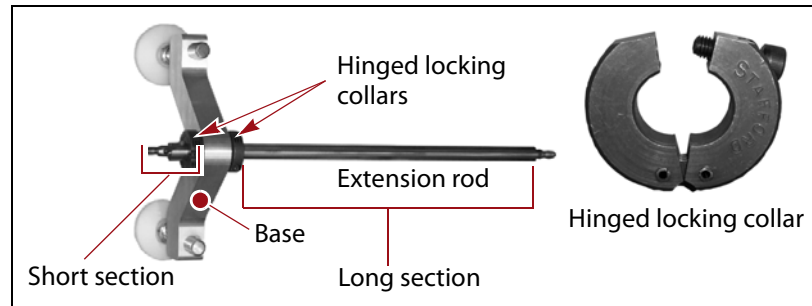


Figure 10 The assembled VAX column stand.

2. Position the assembled VAX column stand so that the short end of the extension rod is toward the inside of the library. Using the adjustment screws on each leg of the base, adjust the height of the base so that the threaded end of the extension rod is even with the threaded opening in the end of the Thomson rod. Final adjustments to the height are made in [Step 5 on page 16](#).



Caution

Make sure that the extension rod on the VAX column support stand is exactly aligned with the Thomson rod or you run the risk of bending the Thomson rod.



Important

The extension rod must be exactly aligned with the Thomson rod mounted on the floor of the library or you are not able to move the VAX column onto the stand.

Note: Do not screw the extension rod into the Thomson rod at this time.

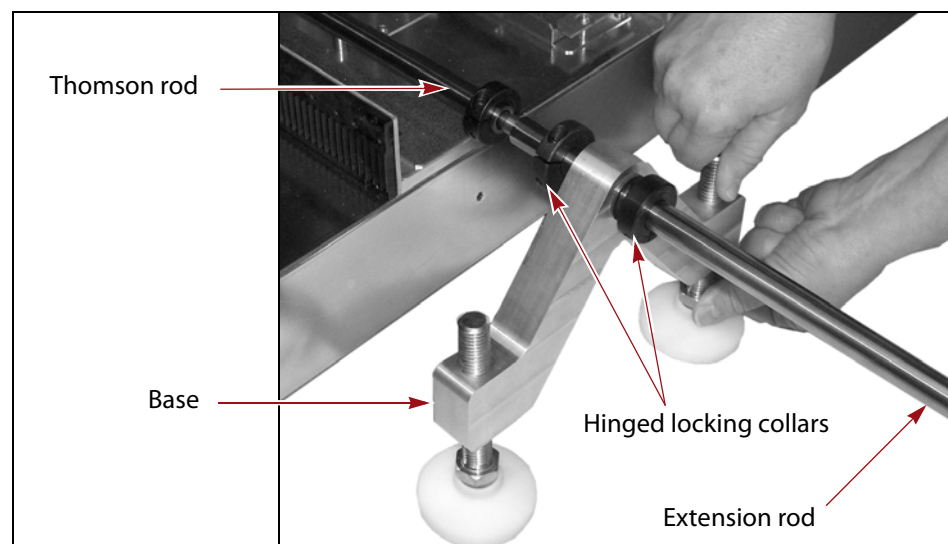


Figure 11 Adjust the height of the base to align the extension rod with the library's Thomson rod.

- Using the 5/32-inch Allen wrench, loosen the screw securing the locking collar to the end of the Thomson rod and slide the collar off the rod. Set the collar aside to be reinstalled later.

Note: The locking collar on the end of the Thomson rod is not hinged. Loosen the screw just enough so that you can slide the collar off the end of the Thomson rod.

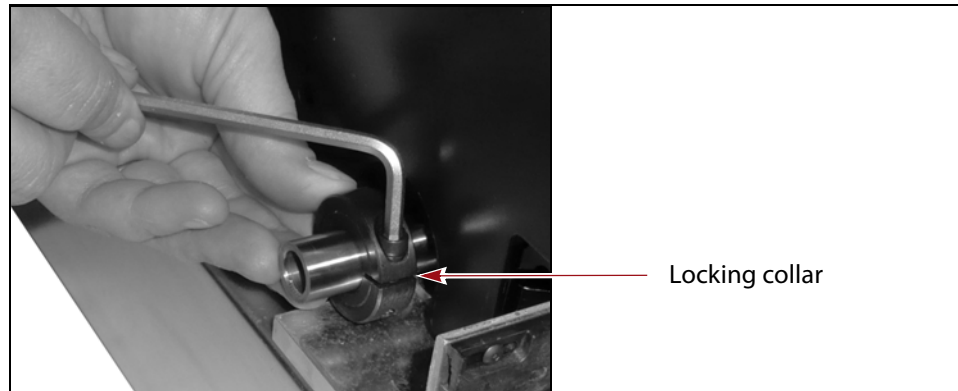


Figure 12 Remove the locking collar from the Thomson rod.

- Reposition the VAX column stand so that the threading on the long end of the extension rod aligns with the threaded opening in the end of the Thomson rod.
- Insert a T-handle hex wrench or a screwdriver through the hole in the free end of the extension rod and use it to tighten the rod until it fits flush against the Thomson rod. A very slight gap, up to the thickness of a business card, is acceptable.

Note: If necessary, make fine adjustments to the height of the base so that the threads mesh without binding.

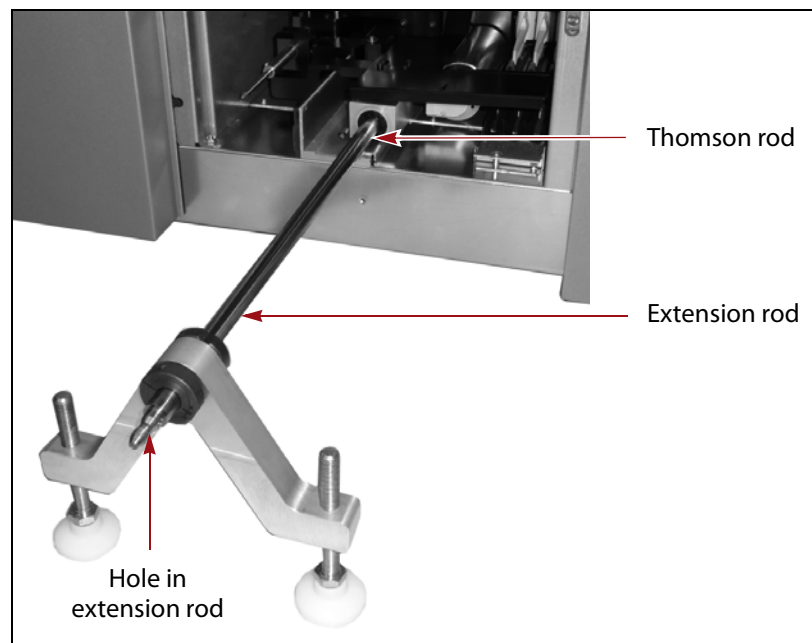


Figure 13 Attach the extension rod to the library's Thomson rod.

Remove the VAX Column

⚡ WARNING Some library components are heavy and could be awkward to handle. Use caution and proper equipment or two people to move these.

⚡ WARNING Use caution when handling the VAX column. When the VAX column is removed from the library, protruding metal rods on the top and bottom are exposed.

1. Lift the three power rail brush contacts, attached to the base plate on the bottom of the VAX column, up and out of the power rails, and then slide the VAX column out of the service bay and onto the VAX column stand extension rod.

⚠ Caution Make sure that the brush contacts do not get pinched when you slide the VAX column out of the service bay. Failure to do so can potentially damage the brush contacts or the rails.

⚠ Important If you are performing this procedure without assistance, you can rotate the VAX column so that the top is resting on the floor while you install the locking collar and disconnect the VAX column support from the library.

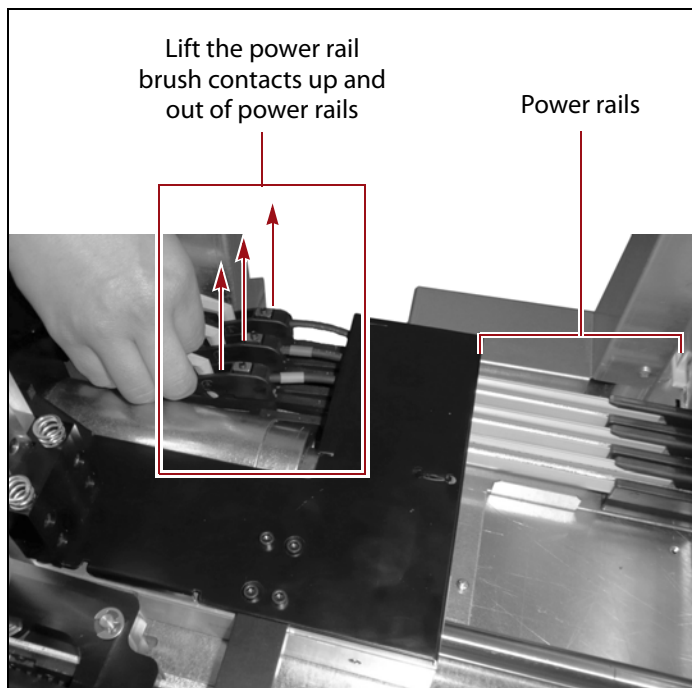


Figure 14 Lift the power rail brush contacts up and away from the power rail.

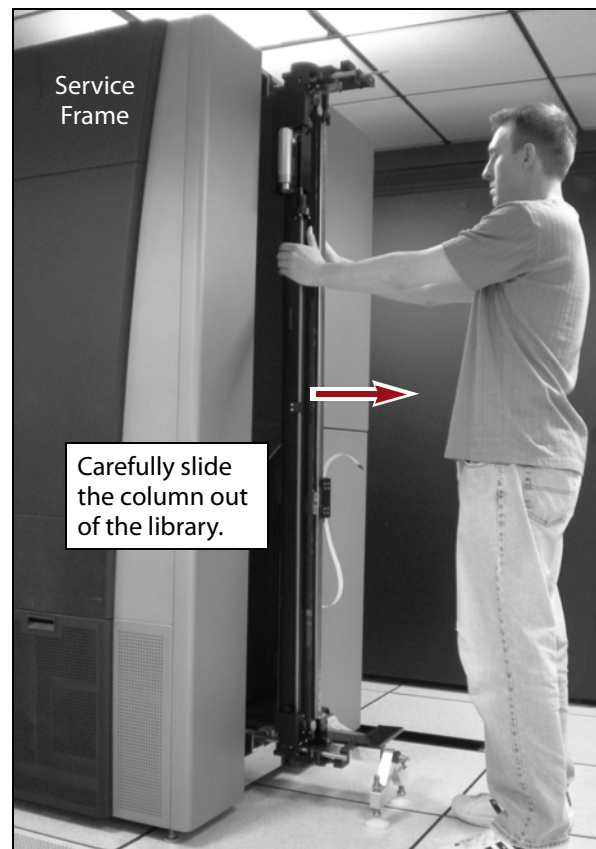


Figure 15 Slide the VAX column out of the library, onto the extension rod.

2. Use a 5/32-inch Allen wrench to loosen the captive screw in a hinged locking collar and open the collar.
3. With another person supporting the VAX column in a vertical position, place the locking collar over the extension rod attached to the Thomson rod.

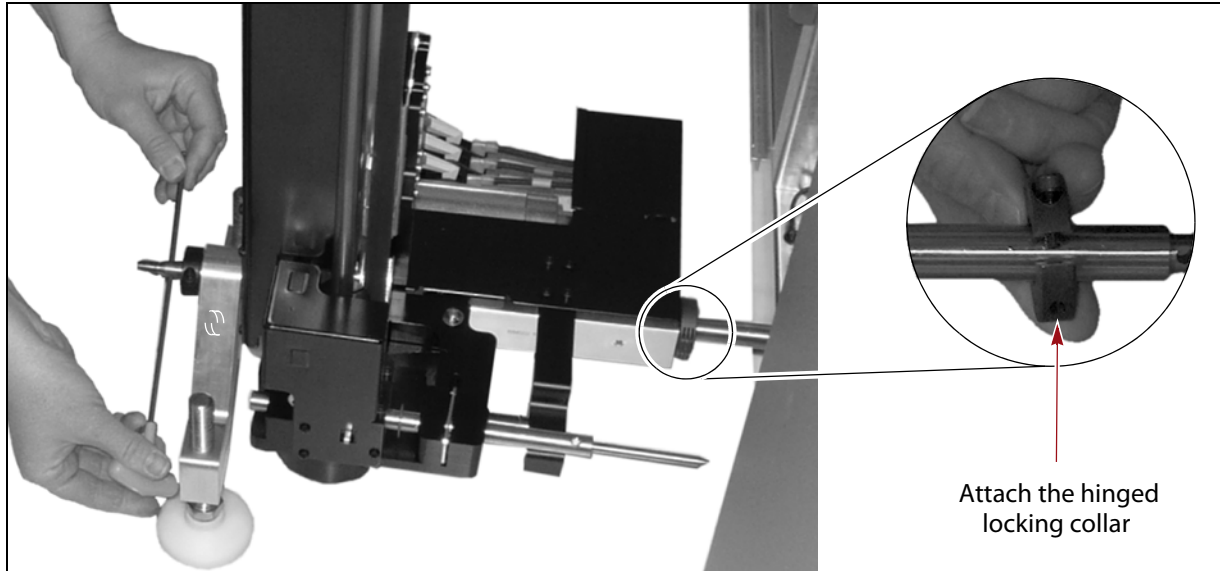


Figure 16 Install the hinged locking collar and disconnect the VAX column stand extension rod from the Thomson rod.

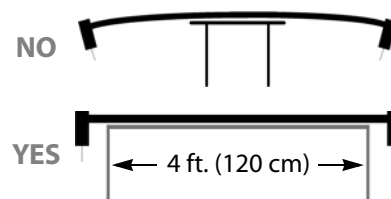
4. Use the 5/32-inch Allen wrench to tighten the screw securing the locking collar to the extension rod.
5. While continuing to support the VAX column in a vertical position, insert the T-handle hex wrench or a screwdriver through the hole in the free end of the extension rod and unscrew the extension rod from the Thomson rod.
6. Carefully lift the VAX column away from the library and place it horizontally on a sturdy, flat working surface with the flat side of the VAX column down.



Caution

Do not let the VAX column bend by allowing it to hang over a short work surface during this procedure.

The work surface must be approximately 4 feet long x 2 feet wide (120 cm x 60 cm) to adequately support the VAX column.



7. Remove the locking collar from the free end of the extension rod closest to the base so that you can remove the base of the VAX column stand from the extension rod.



Important Do not remove the extension rod from the linear bearing on the VAX column.

Note: Leave the locking collars on each side of the extension rod in place to prevent the extension rod from slipping out of the linear bearing on the VAX column.

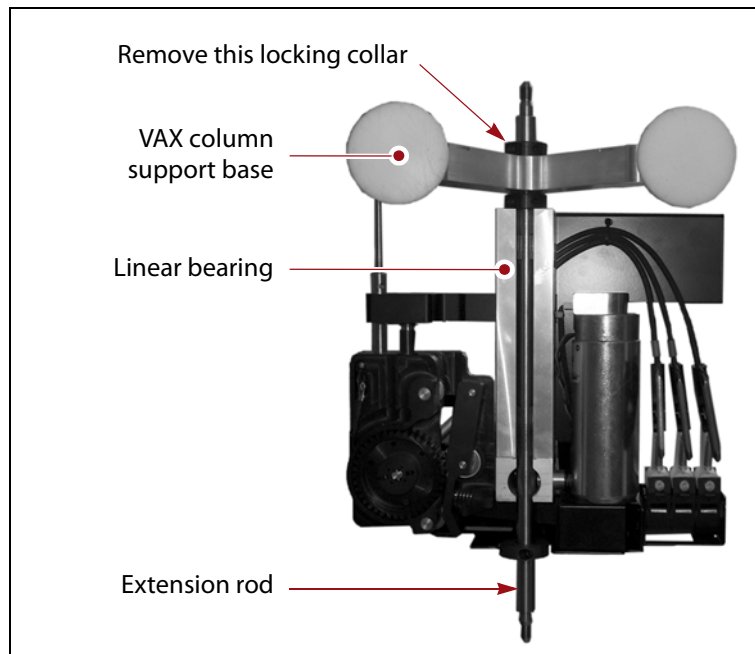


Figure 17 Remove the base of VAX column stand from the extension rod (bottom view).

INSTALL THE VAX COLUMN

Except where noted, the steps for installing the two VAX columns are identical.

Prepare the New VAX Column

In preparation for installing the new VAX column, attach the VAX column stand, latch the drive mechanisms, and loosen the alignment coupler.

Attach the VAX Column Stand

1. Carefully lift the new VAX column out of its shipping crate and place it horizontally on a sturdy, flat working surface with the flat side down.

**WARNING**

Some library components are heavy and could be awkward to handle. Use caution and proper equipment or two people to move these.

**WARNING**

Use caution when handling the VAX column. When the VAX column is removed from the library, protruding metal rods on the top and bottom are exposed.

- Carefully slide the base of the VAX column stand onto the extension rod shipped with the new VAX column. The position where the base is installed depends on which VAX column you are replacing

Note: For VAX column 2, you may need to loosen the locking collars on the extension rod and move the extension rod to provide sufficient length to install the base on the correct side of the VAX column.

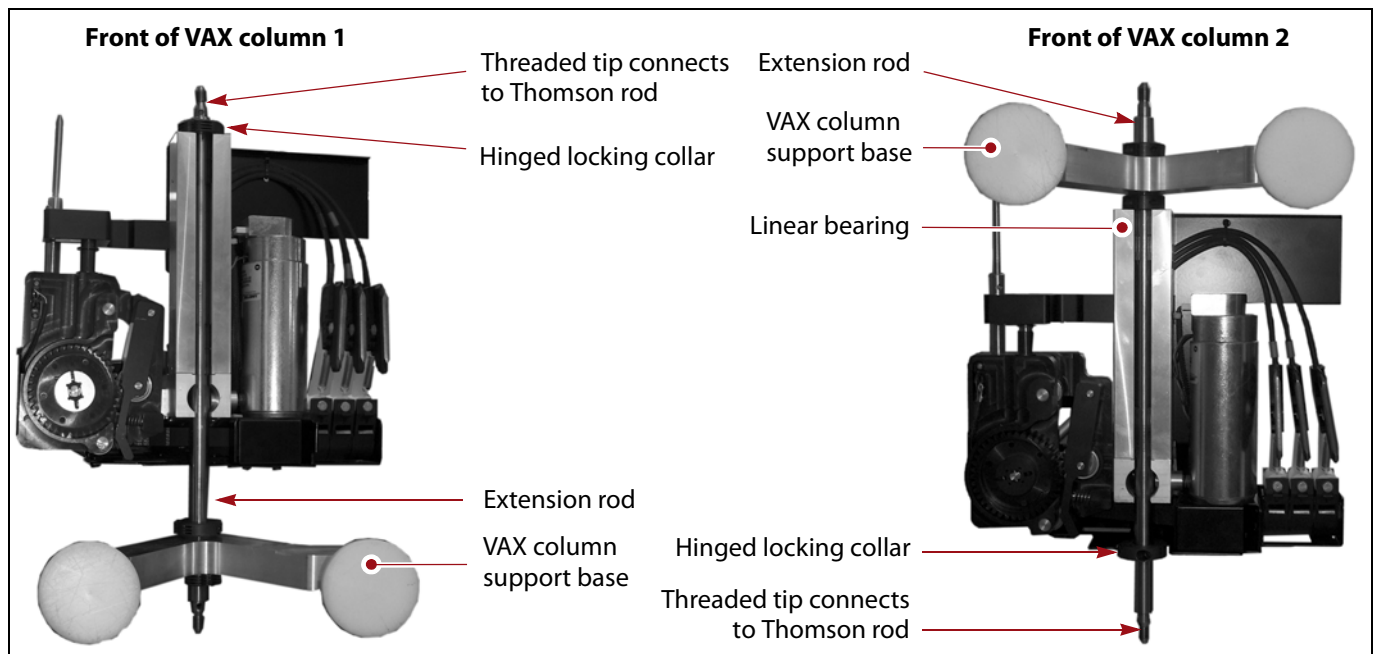


Figure 18 Install the VAX column stand on the VAX column (bottom view).

- Slide a hinged locking collar over the end of the extension rod closest to the base.
- Use a 5/32-inch Allen wrench to tighten the screw securing the hinged locking collar to the rod to prevent the base from falling off.



Important

Make sure that a hinged locking collar is on the end of the extension rod that screws into the Thomson rod. Be careful not to install the locking collar you removed from the Thomson rod. It is not hinged; you are not able to remove it after the extension rod is screwed into the Thomson rod.



Important

Make sure that the hex screw in the locking collar is oriented toward the top of the VAX column. Otherwise you are not able to reach the screw when the VAX column is installed.

- If you loosened the screws in the other locking collars, tighten them.

Latch the Drive Mechanisms

Latching the drive mechanism is done by feel. While the VAX column is out of the library, practice the latching procedure described here several times so that you know how it feels.

When VAX column 1 (left side) is installed in the library, the drive mechanism is toward the interior of the library. You cannot see the top drive mechanism while latching it closed and you must reach up and around the left side of the VAX column to access the tension arm and tension release rod. It may be easier to latch the drive mechanism before installing the VAX column in the library; however, this can make the VAX column alignment more difficult.

1. Examine the drive mechanisms at the top and bottom of the VAX column. The following figure shows the latching components of the bottom drive mechanism. The components of the top drive mechanism are similar.

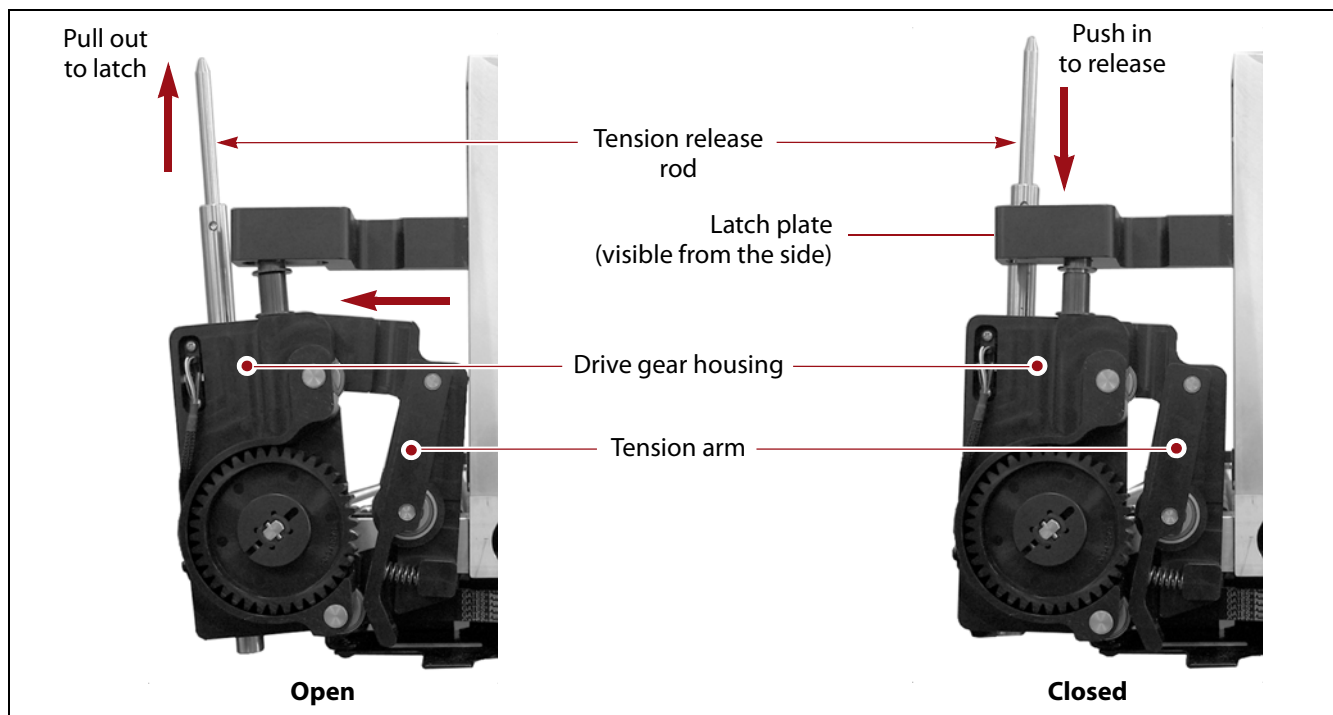


Figure 19 VAX column drive mechanism (bottom mechanism shown).

2. Use the following steps to close the latching mechanism. Otherwise continue to [Install the VAX Column on page 20](#).
Notes:
 - Latching the drive mechanisms is most easily accomplished with the VAX column out of the library; however, this can make the VAX column alignment more difficult.
 - To unlatch the drive mechanism, push in on the tension release rod.
 - Latching the drive mechanism requires considerable hand strength. In addition, latching the top mechanism can be awkward when the VAX column is installed in the library. The rack and pinion latching tool simplifies the latching process by eliminating the need to compress the tension arm while adjusting the position of the tension release rod.
3. Using one hand, squeeze the tension arm toward the drive gear housing, compressing the spring between the housing and the tension arm.

—OR—

Use the following steps to install the rack and pinion latching tool on the drive mechanism.

Note: The drive mechanisms are latched one at a time. It does not matter whether you latch to top or bottom mechanism first.

- a. Using the knob on the side of the latching tool, open the clamping jaws as far as they go.

Note: Do not turn the knob past the point at which it becomes difficult to turn.

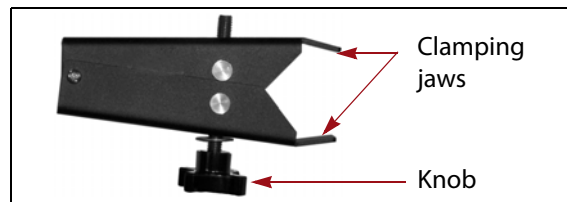


Figure 20 Rack and pinion latching tool.

- b. Orient the latching tool so that the knob is toward the inside of the VAX column and position the jaws so that they grasp tension rod and the drive gear housing.



Important

Make sure that the jaws do not cover the latch plate on the side of the drive mechanism (see Figure 21).

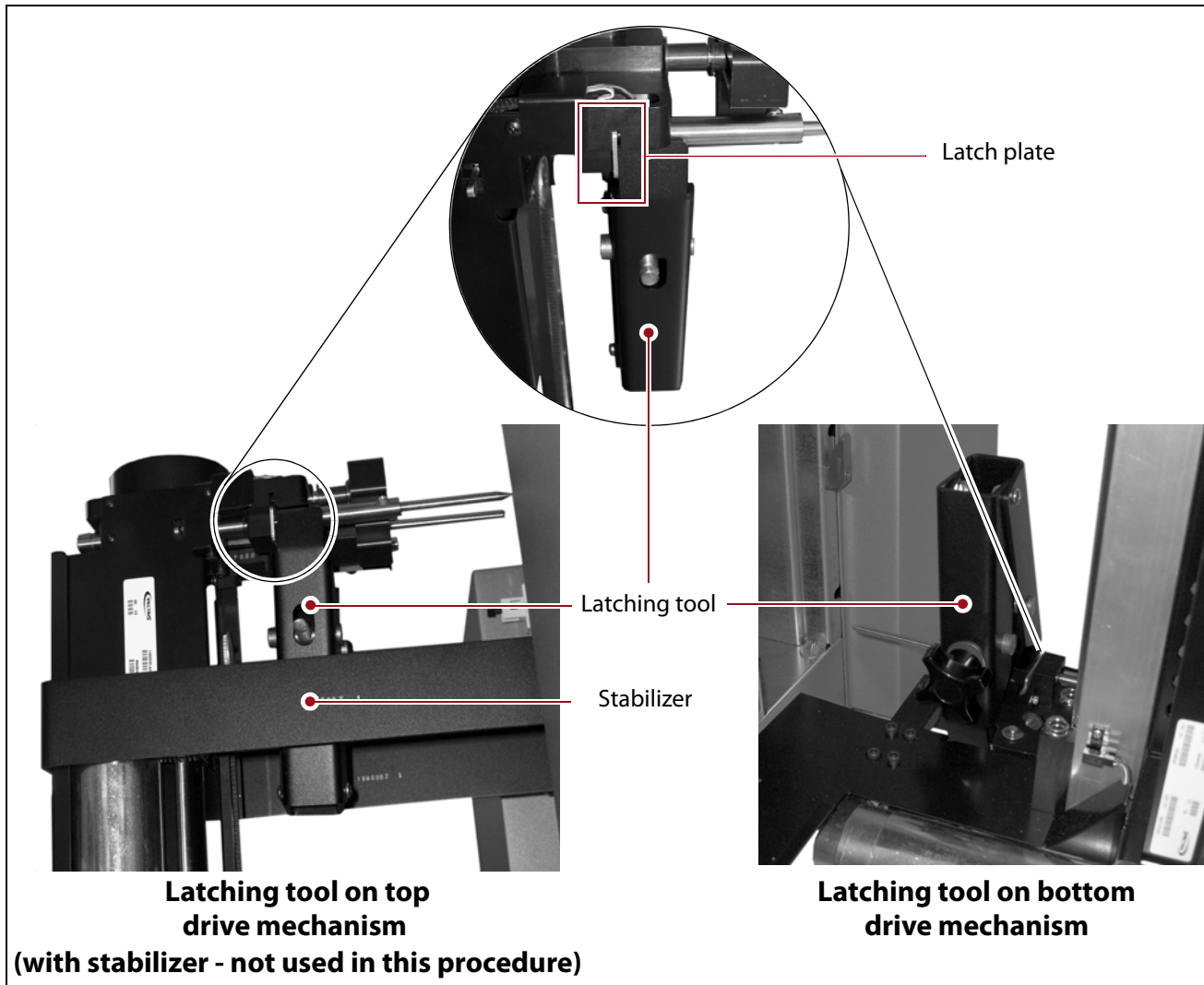


Figure 21 Install the latching tool over the drive mechanism.

- c. Tighten the knob on the latching tool to squeeze the tension arm toward the drive gear housing, compressing the spring between the housing and the tension arm.

Note: You may need to move the tension release rod in or out slightly before you can squeeze the tension arm toward the drive gear.

4. When the tension rod moves freely, position it so that the grooves around it are flush with the surface of the drive gear housing.

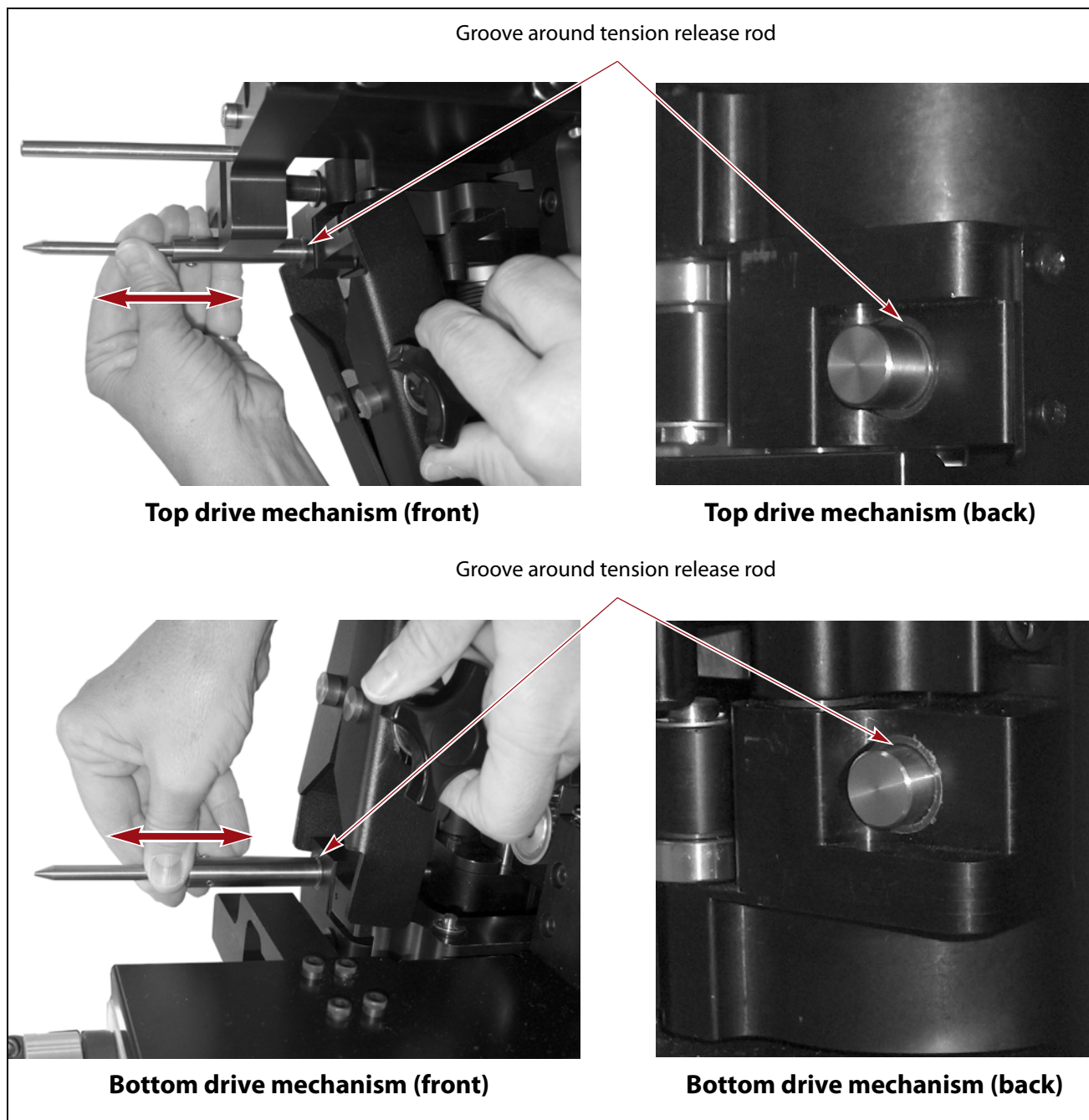


Figure 22 Adjust the position of the tension release rod to latch the drive mechanism closed.

5. Using a small flat-blade screwdriver, confirm that the tab that extends from the side of the drive mechanism moves freely up and down the full length the slot.

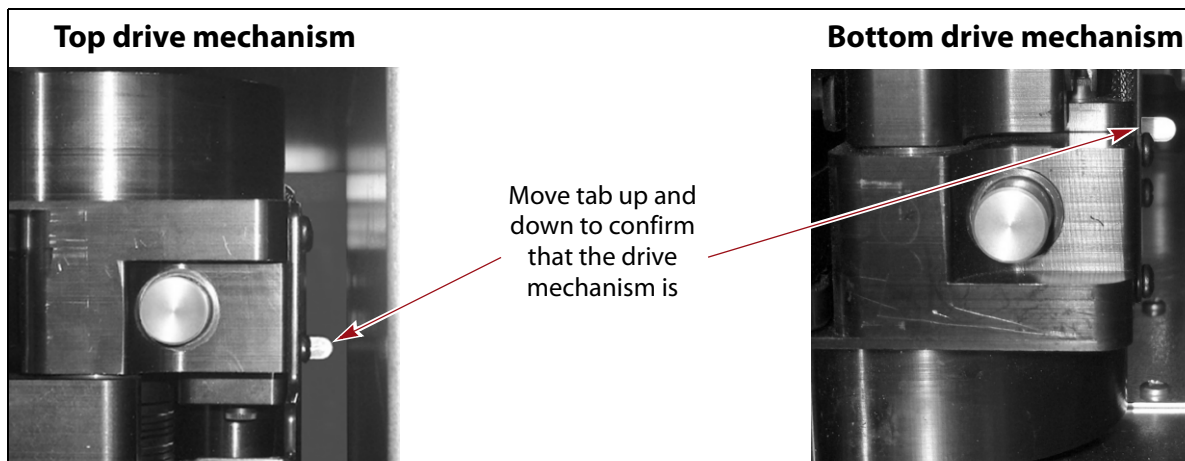


Figure 23 Confirm that the drive mechanisms are latched.

6. Confirm that the latch is correctly engaged using the following criteria:
 - The tab extending from the side of the drive mechanism moves freely.
 - A groove around the front of the tension rod is just visible above the edge of the latching arm. You may need to use your fingernail to detect the groove.
 - That the end of tension release rod is flush with the back edge of the drive mechanism (use your finger to confirm).
 - A groove around the back of the tension rod is just visible above the edge where the rod extends from the drive mechanism. You may need to use your fingernail to detect the groove.

If the latch is not correctly engaged, release the tension rod (see [Figure 19 on page 22](#)) and repeat [Step 4 on page 25](#) through [Step 6](#).

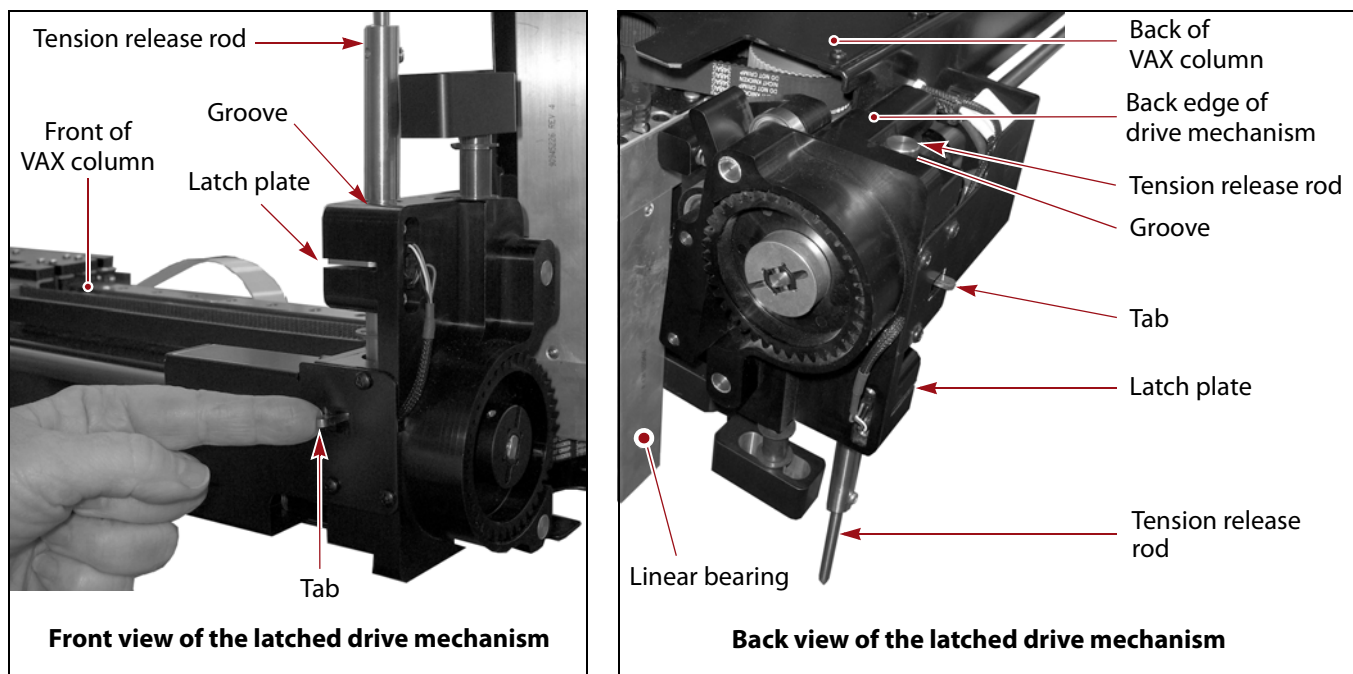


Figure 24 Confirm that the drive mechanism is latched (bottom drive mechanism shown).

7. If you used the latching tool, loosen the knob on the latching tool until you can remove it from the drive mechanism.
8. Repeat [Step 3 on page 23](#) through [Step 7](#) for the other drive mechanism.

Install the VAX Column

1. Move the prepared VAX column to the library.



WARNING

Some library components are heavy and could be awkward to handle. Use caution and proper equipment or two people to move these.



WARNING

Use caution when handling the VAX column. When the VAX column is removed from the library, protruding metal rods on the top and bottom are exposed.



Important

If you are performing this procedure without assistance, you can rotate the VAX column so that the top is resting on the floor while you connect the VAX column support to the library and remove the locking collar.

2. While supporting the VAX column vertically, position it so that the extension rod in the VAX column support stand aligns with the Thomson rod in the library.
 - **VAX column 1**—The front of the VAX column (where the transporter mounts) is toward the interior of the library.
 - **VAX column 2**—The front of the VAX column (where the transporter mounts) is toward the outside of the library.
3. Insert the T-handle hex wrench or a screwdriver through the hole in the free end of the extension rod and screw the rod into the Thomson rod to form a gapless extension. A very slight gap is acceptable.



Caution

Make sure that the extension rod on the VAX column support stand is exactly aligned with the Thomson rod or you run the risk of bending the Thomson rod.



Important

If extension rod is not aligned with the Thomson rod you are not able to move the VAX column off the stand and onto the Thomson rod.

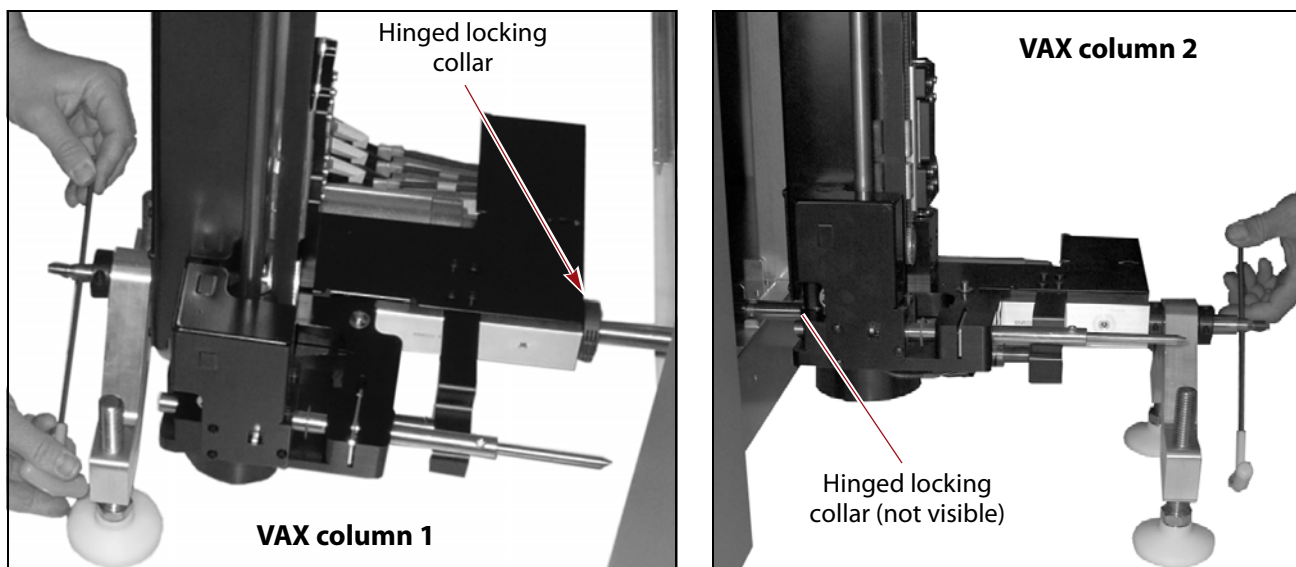


Figure 25 Connect the VAX column stand extension rod to the Thomson rod.

4. Using the 5/32-inch Allen wrench, loosen the screw securing the hinged locking collar on the end of extension rod connected to the Thomson rod. Open the collar and remove it from the rod.
5. Examine the top and bottom drive mechanisms to confirm that they are latched closed (see [Figure 24 on page 27](#)).

If either mechanism is not latched closed, follow the instructions in [Latch the Drive Mechanisms on page 22](#) to latch it before continuing.

6. Position the top and bottom drive mechanisms on the VAX column so that the guide rollers are aligned with the alignment rail and the drive rails are aligned between the drive gear and the tension arm.

[Figure 26](#) shows how the top drive mechanism engages on the drive rail and the guide rollers engage the alignment rail. The bottom drive mechanism is similar.

Note: You are not able to see the view shown in [Figure 26](#). It is intended to give you a frame of reference for determining whether the drive mechanisms are correctly aligned.

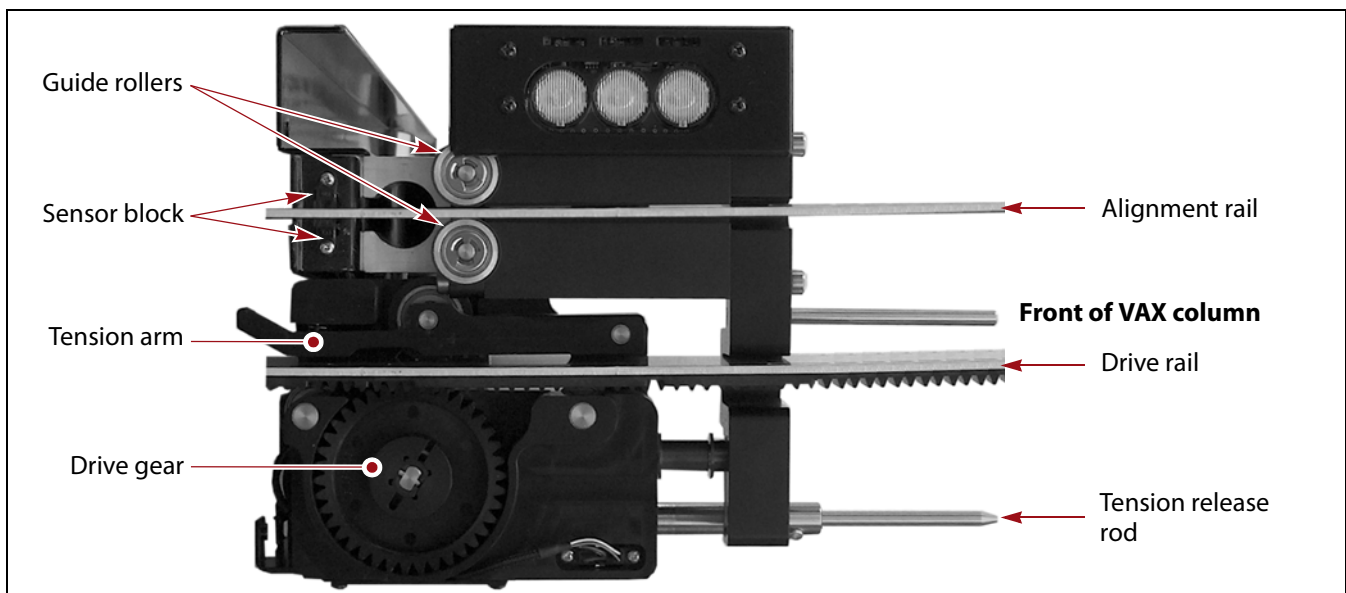


Figure 26 Position the VAX column so that the drive rail is aligned between the drive gear and the tension arm (looking down at the top mechanism from above).

7. Lift the three power rail brush contacts attached to the bottom of the VAX column up and away from the power rails. Grasp both sides of the VAX column at about shoulder height and carefully slide it off the extension rod and onto the Thomson rod in the service bay.

Note: As you slide the VAX column into place, watch the positioning of both the top and bottom drive mechanisms to ensure that the sensor block at the back of the column straddles the alignment rail (refer to [Figure 26 on page 29](#) for the location of the sensor block).

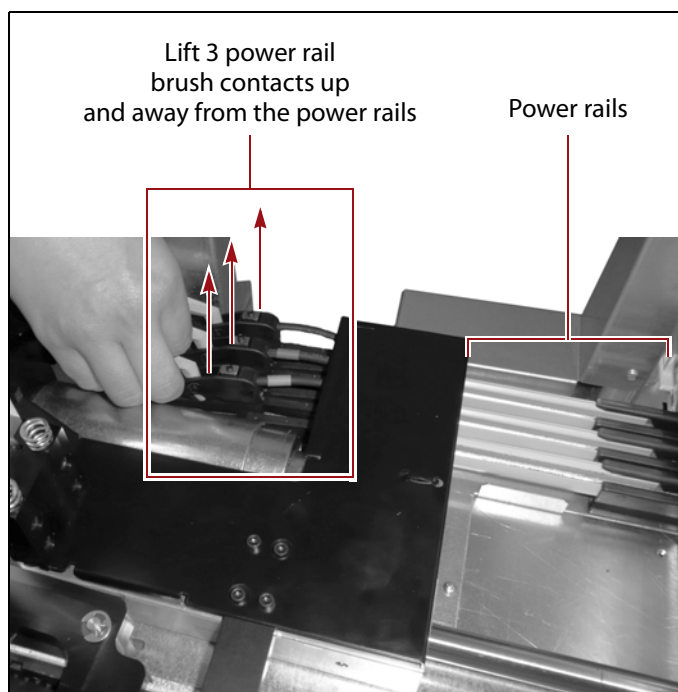


Figure 27 Lift the power rail brush contacts up and away from the power rail.

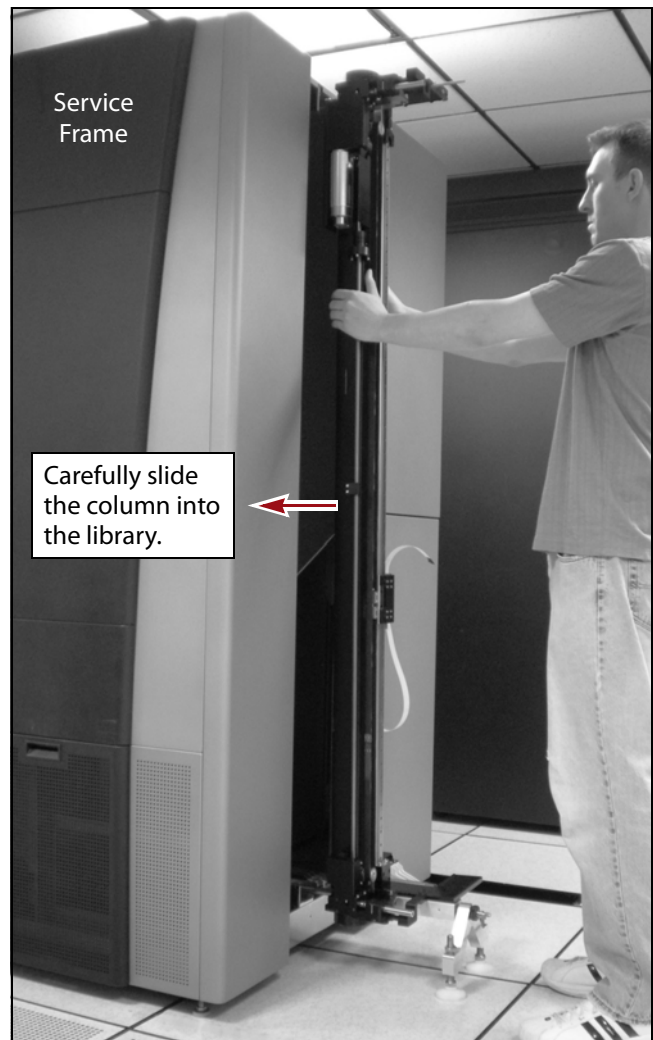


Figure 28 Slide the VAX column onto the Thomson rod in the service bay.

8. Push the VAX column all the way into the service bay.
 - **VAX column 1**—The back of the column is approximately even with the edge of the opening in the service bay.
 - **VAX column 2**—The back of the column is close to the service bay safety door.

9. Position the three power rail brush contacts so that they fit inside the power rails attached to the floor of the library.

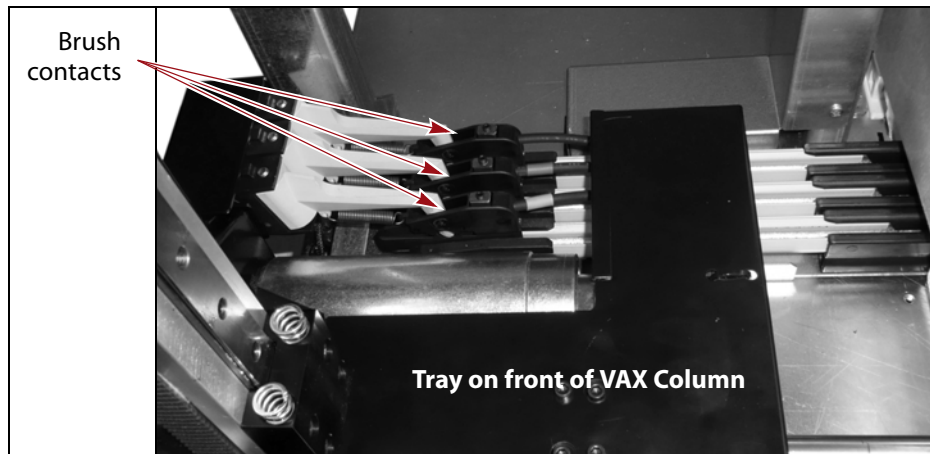


Figure 29 Position the power rail brush contacts in the power rails (VAX column 1 shown).

10. Install a VAX alignment block on the top drive rail.

- **VAX column 1**—Position the block so that the internal prongs fit into the outer set of two holes in the ridged side of the drive rail.
- **VAX column 2**—Position the block so that the internal prongs fit into the inner set of two holes in the ridged side of the drive rail.

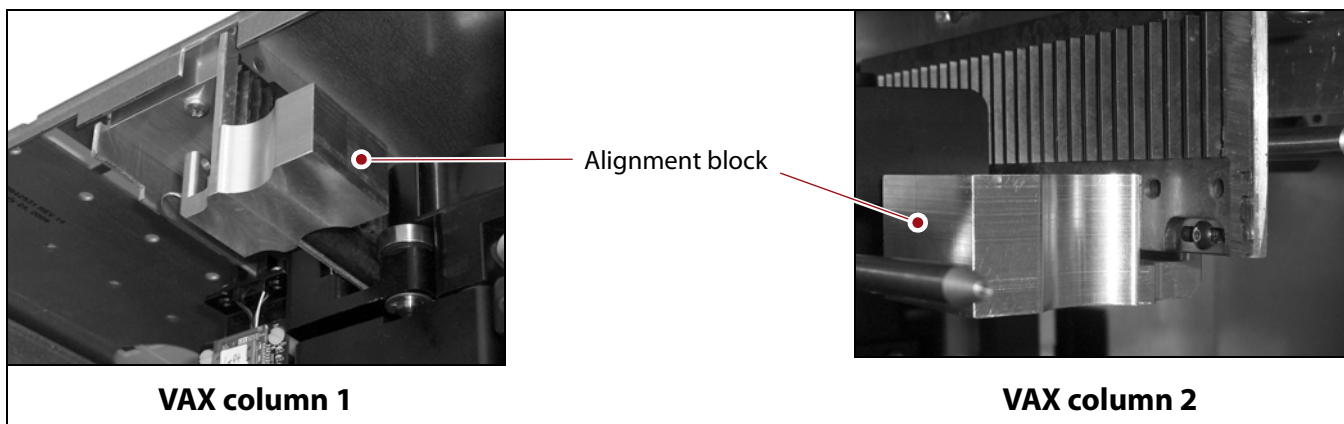


Figure 30 Install the top VAX alignment block (note different positions on the drive rail).

11. Use your fingers to tighten the thumb screw against the metal side of the drive rail to secure the block in place.

12. Install a VAX alignment block on the bottom drive rail.

- **VAX Column 1**—Position the block so that the internal prongs fit into the outer set of two holes in the ridged side of the drive rail.
- **VAX Column 2**—Position the block so that the internal prongs fit into the inner set of two holes in the ridged side of the drive rail. The outer holes remain visible

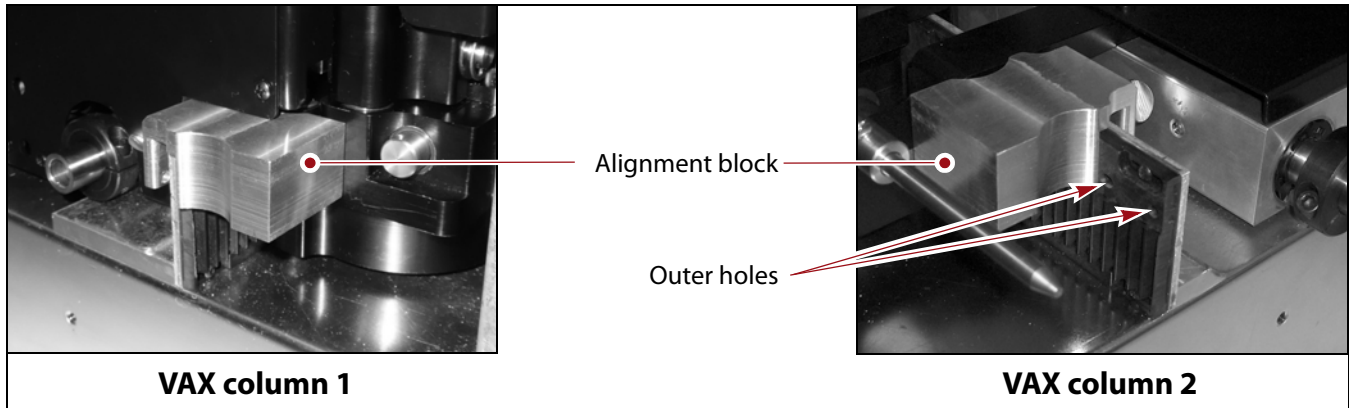


Figure 31 Install the bottom VAX alignment block (note different positions on the drive rail).

- 13.** Use your fingers to tighten the thumb screw against the metal side of the drive rail to secure the block in place.
- 14.** If the drive mechanisms are not already latched, pull the VAX column against the alignment blocks and latch the drive mechanisms as described starting in [Step 2 on page 23](#).

- Notes:**
- The drive mechanisms on VAX column 1 are toward the interior of the library.
 - When latching the top drive mechanism on VAX column 1, you must reach up and around the left side of the VAX column to access the tension arm and tension release rod. You are not able to see what you are doing; the process must be done entirely by feel. A step-stool is helpful.
 - You can reach through the service access bay if you need to latch the bottom drive mechanism on VAX column 1.

ALIGN THE VAX COLUMN

Use the steps in the following sections to check and adjust the VAX column alignment.

1. Check the alignment of the VAX column. Both the top and bottom drive mechanisms must touch the inside face of their respective alignment blocks simultaneously.

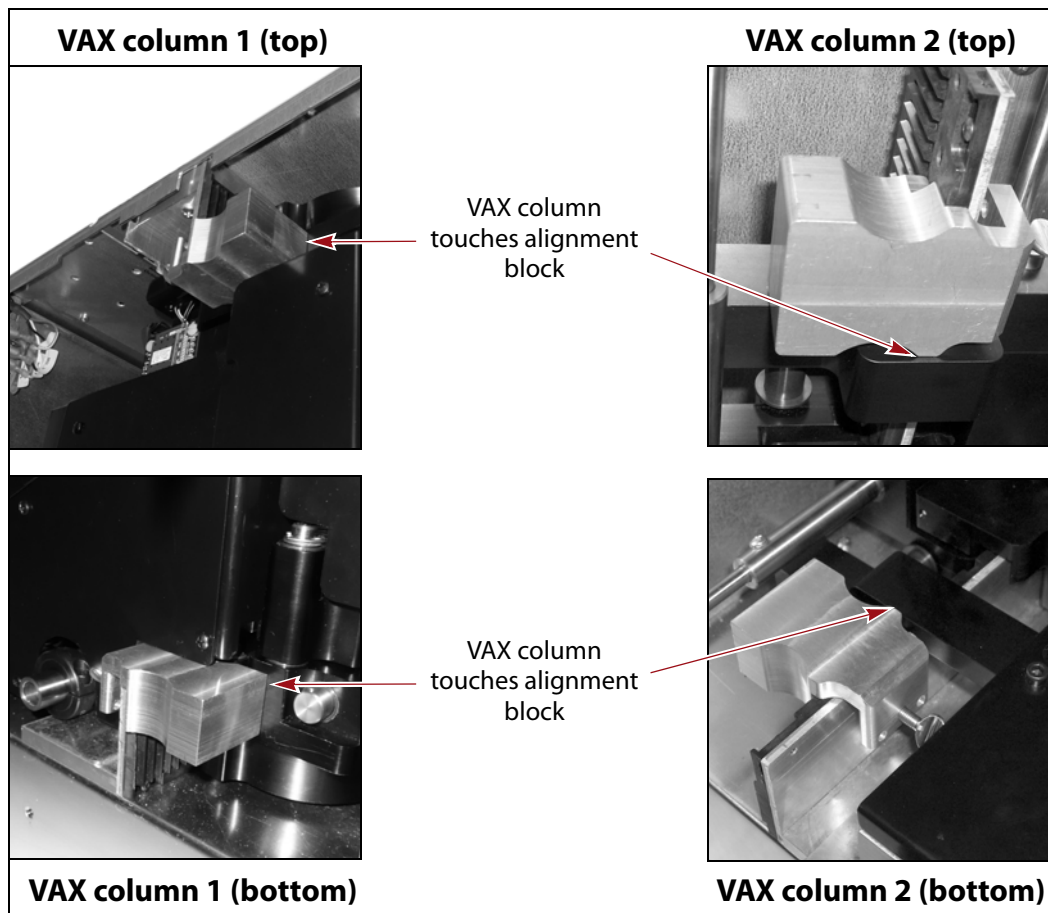


Figure 32 Check the VAX column alignment.

2. If either the top or bottom drive mechanism does not touch its alignment block, use the following steps to adjust the alignment. If the VAX column touches both alignment blocks, skip to [Remove the Alignment Blocks and VAX Column Support Stand on page 36](#).
 - a. Position the VAX column until either the top or the bottom drive mechanism is touching its alignment block.

- b.** Using a 7/64-inch hex wrench, loosen the bottom two screws on each side of the alignment coupler.
- **VAX column 1**— The alignment coupler is on the right-hand side of the VAX column when viewed from the back, about 12 inches (30.5 cm) down from the top.
 - **VAX column 2**— The alignment coupler is on the left-hand side of the VAX column when viewed from the front, about 12 inches (30.5 cm) down from the top.



Figure 33 Loosen the screws on the alignment coupler.

- c. While holding in place the end of the VAX column that is already touching its alignment block, use a 3/32-inch Allen wrench to turn one of the adjustment screws on the bottom of the coupler alignment collar until both drive mechanisms are touching their alignment blocks.



Important

If you can not get both ends of the VAX column to touch the alignment blocks by turning the adjustment screw, disengage one of the tension release rods, pull the VAX column against the alignment blocks, re-latch the drive mechanism, and then turn the adjustment screw (see [Latch the Drive Mechanisms on page 22](#)).

Note: It does not matter which adjustment screw you use.

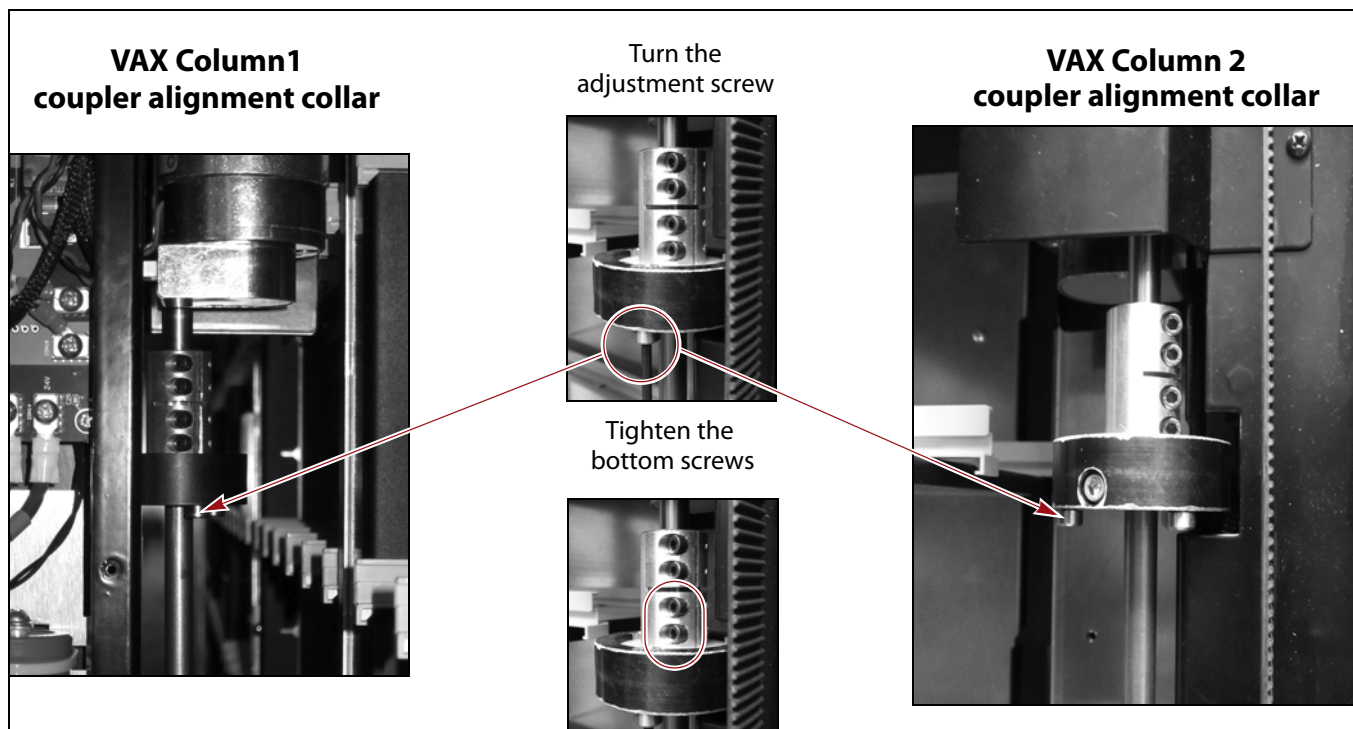


Figure 34 Adjust the VAX column alignment.

- d. Using a 7/64-inch hex wrench, tighten the bottom screws on each side of the neck of the alignment coupler (see [Figure 34](#)).
 - e. Confirm that both drive mechanisms touch their respective alignment blocks. If they do not, loosen the bottom screws on the neck of the alignment coupler and repeat [Step c](#) and [Step d](#).
 - f. Confirm that all screws in the neck of the alignment coupler are tight so that the coupler does not turn freely and that the vertical gap between the two halves of the coupler is even on both sides.
3. Confirm once again that both drive mechanisms are latched closed as described in [Step 13 on page 32](#).

Remove the Alignment Blocks and VAX Column Support Stand

1. Loosen the thumbscrews securing the top and bottom alignment blocks to the drive rails and remove the alignment blocks from the library.
2. Insert the T-handle hex wrench or a screwdriver through the hole in the free end of the extension rod.
3. Unscrew the extension rod from the Thomson rod.
4. Set the stand aside.
5. Slide the non-hinged locking collar you removed in [Step 3 on page 16](#) over the end of the Thomson rod until it is against the stop tab that extends up from the horizontal axis (HAX) mounting plate.

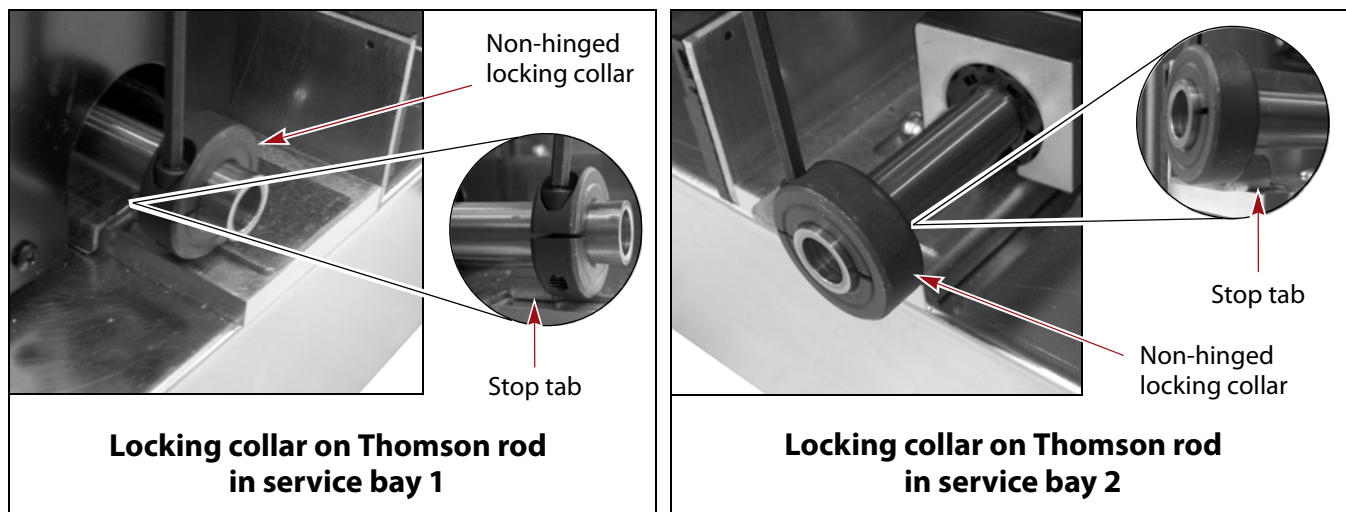


Figure 35 Install the non-hinged locking collar on the Thomson rod.

6. Using a 5/32-inch Allen wrench, tighten the screw on the locking collar to secure it to the end of the Thomson rod.



Caution

Make sure that the screw is tight. This locking collar provides the hard stop for the TeraPorter.

INSTALL THE TRANSPORTER

After you finish installing the VAX column, you must reinstall the transporter. See “Install the Transporter” in the *Spectra TFinity Library Transporter Replacement* guide for instructions.

COMPLETE THE REPLACEMENT

After the transporter is installed, pull the TeraPorter all of the way against the hard-stop locking collar.



Important

The TeraPorter **MUST** be pulled to the outside of the library, such that it is touching the hard-stop collar or the TeraPorter does not initialize when it is put back into service.

Then, follow the steps in the following sections to complete the replacement process.

Install the Service Bay Access Panel

Use the following steps to install the service bay access panel on the service frame.

1. Lift the panel and position the openings on the back of the panel on the hooks located along the sides of the opening in the end of the frame.
2. While holding the panel steady with one hand, slide the panel down into place.
3. Use a 1/8-inch Allen wrench or hex screwdriver, or a #2 Phillips screwdriver to install the screw at the bottom of the side panel.

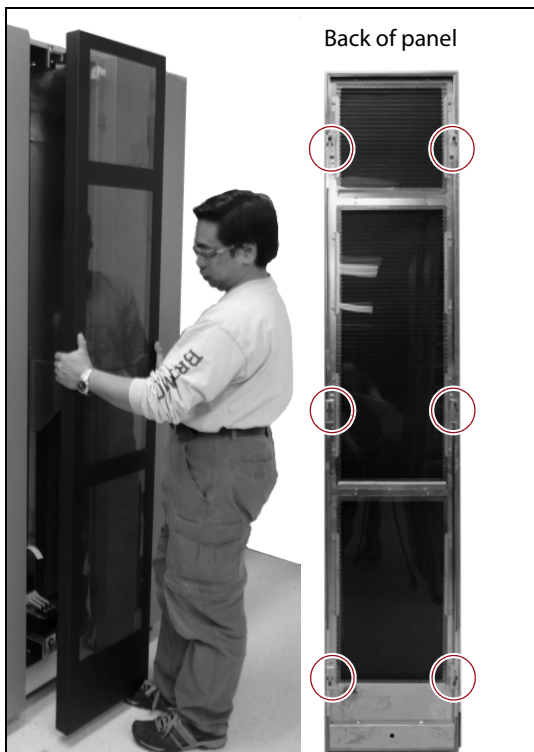


Figure 36 Lift the panel onto the hooks on the sides of the opening.



Figure 37 Slide the panel down into place.

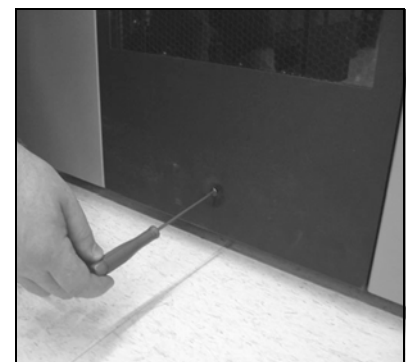


Figure 38 Install the screw to secure the panel.

Open the Service Bay Safety Door



WARNING

Risk of electrical shock. Do not open the service frame safety door until you have reinstalled the service frame access panel.

1. If it is not already displayed, click **Robotics** on the General Status screen to display the Robotics Status screen.
2. Select the **Robots** tab of the Robotics Status screen and then click **Complete Service**. Directions to unlock and open the service bay safety door display.



Important

Open the service bay safety door, as described in the following steps, prior to clicking **OK**.



Figure 39 The Robotics Status screen.

3. If necessary, open the full-length access door on the service bay where the TeraPorter is parked (see [Figure 4](#) on page 11).
4. Open the service bay safety door.
 - a. Loosen the captive screw securing the service bay safety door handle in its upright position, then rotate the handle downward to a horizontal position.

- b. Using the handle, carefully slide the door toward you, into its open position.



Figure 40 Slide the service bay safety door toward you to its open position.

- c. Lift the handle to its vertical position and use the captive screw to secure it to the edge of the door.
5. Close and latch the full-length access door on the back of the service frame where the TeraPorter is parked (see [Figure 4 on page 11](#)). Lock the door, if desired.
6. Return to the front of the library and click **OK** to confirm that the safety door is open.

As soon as you confirm that the safety door is open, the library applies power to the TeraPorter and puts it back into operation.

7. Click **OK** in response to the safety door closed status message.

RETURN THE COMPONENT

After you complete the replacement procedure, use the information in this section when returning the defective component to Spectra Logic.

Return Guidelines

Unless Spectra Logic Technical Support informs you otherwise, return the defective component to Spectra Logic following the guidelines in this section. If Spectra Logic Technical Support informs you that the component does not need to be returned, dispose of it in a manner appropriate for your company guidelines.

Return Procedures

After you complete the replacement procedure, return the defective component using ALL of the packaging material shipped with the replacement component (including any anti-static bags or foam inserts).



Caution

Severe damage can occur if the component is not packaged correctly, and you may be invoiced if it is received with damage due to improper or insufficient packaging.

Use the return label and instructions that were included with the replacement component when preparing to ship the replacement part. If you cannot locate these, contact Spectra Logic for another copy (see [Contacting Spectra Logic on page 2](#)). The return label and RMA printed on it are used to associate the returned part with your account. To avoid being invoiced for failure to return the part, do not ship the part back without the RMA return label.