



Servicing the Front Mezzanine Module

This chapter includes the following topics:

- [Replacing a Drive, on page 1](#)
- [Basic Troubleshooting: Reseating a SAS/SATA Drive, on page 4](#)
- [Replacing the SuperCap Module, on page 7](#)

Replacing a Drive

You can remove and install some drives without removing the compute node from the chassis. All drives have front-facing access, and they can be removed and inserted by using the ejector handles.

The SAS/SATA or NVMe drives supported in this compute node come with the drive sled attached. Spare drive sleds are not available.

Before upgrading or adding a drive to a running compute node, check the service profile through Cisco UCS management software and make sure the new hardware configuration will be within the parameters allowed by the management software.



Caution

To prevent ESD damage, wear grounding wrist straps during these procedures.

NVMe SSD Requirements and Restrictions

For 2.5-inch NVMe SSDs, be aware of the following:

- NVMe 2.5 SSDs support booting only in UEFI mode. Legacy boot is not supported.
UEFI boot mode can be configured through Cisco UCS management software.
- NVMe U.3 SSDs connect to the RAID controller so RAID is supported for these drives.
- UEFI boot is supported in all supported operating systems.

Removing a Drive

Use this task to remove a SAS/SATA or NVMe drive from the compute node.

**Caution**

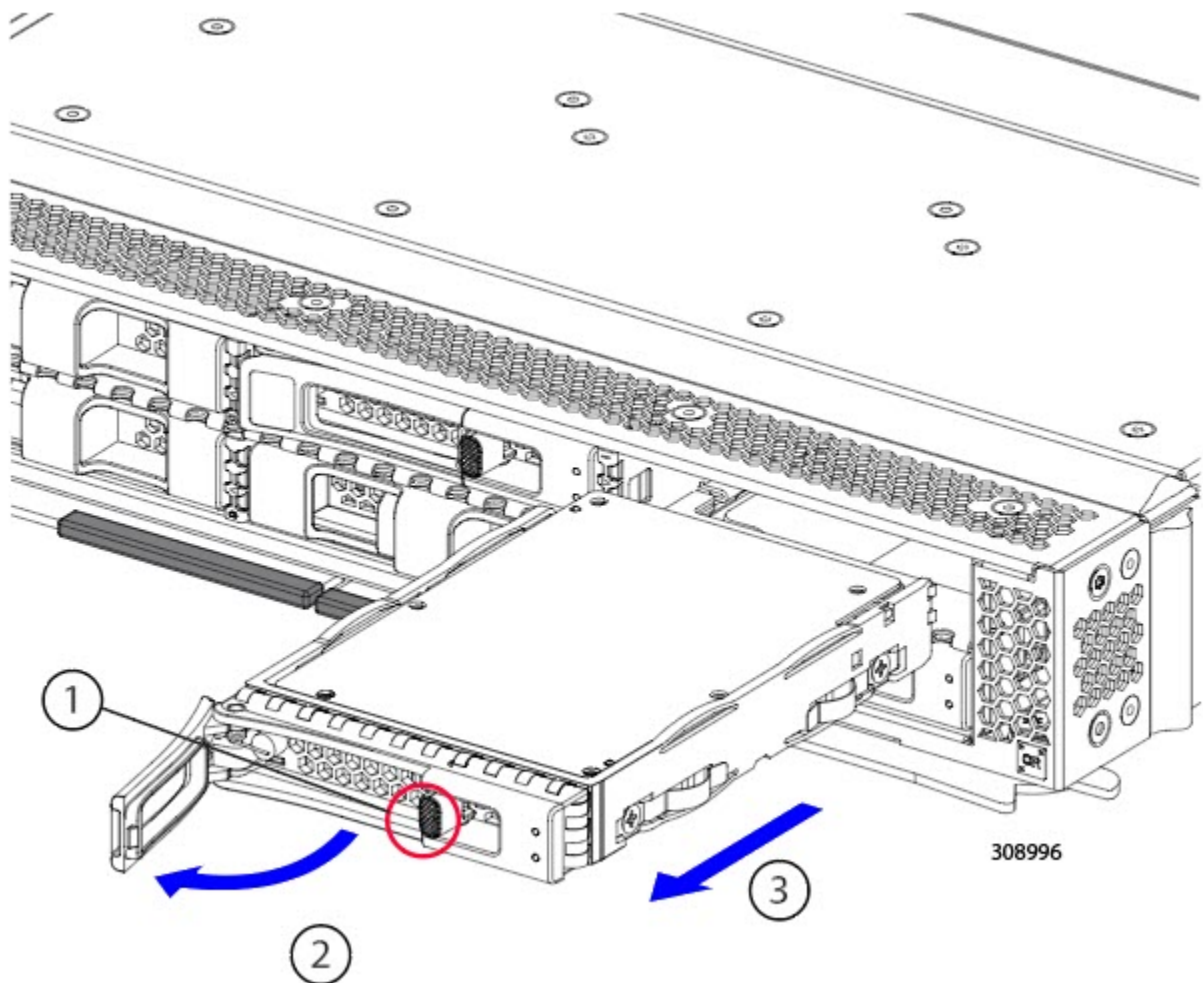
Do not operate the system with an empty drive bay. If you remove a drive, you must reinsert a drive or cover the empty drive bay with a drive blank.

Procedure

Step 1 Push the release button to open the ejector, and then pull the drive from its slot.

Caution

To prevent data loss, make sure that you know the state of the system before removing a drive.



Step 2 Place the drive on an antistatic mat or antistatic foam if you are not immediately reinstalling it in another compute node.

Step 3 Install a drive blanking panel to maintain proper airflow and keep dust out of the drive bay if the drive bay will remain empty.

What to do next

Cover the empty drive bay. Choose the appropriate option:

- [Installing a Drive, on page 3](#)
- [Installing a Drive Blank, on page 7](#)

Installing a Drive

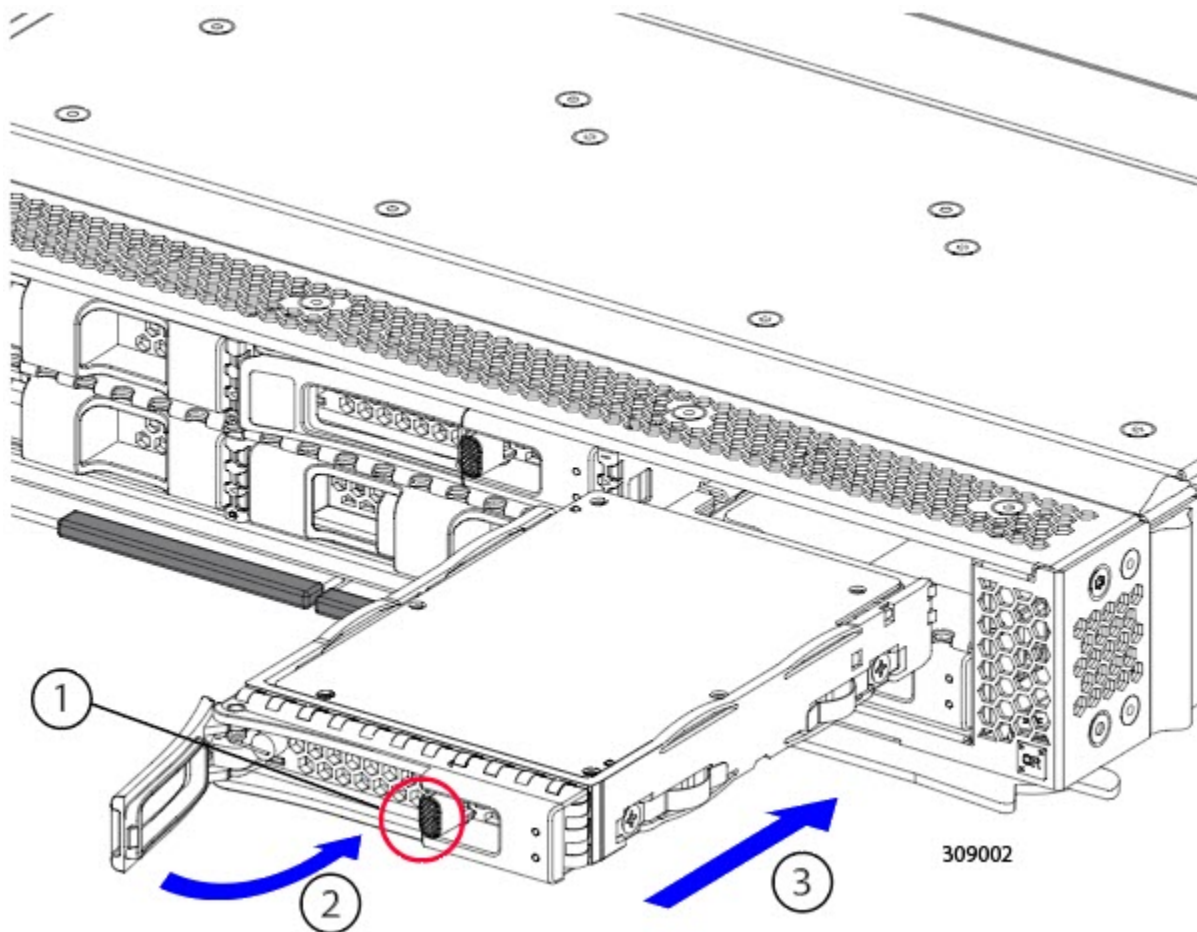
**Caution**

For hot installation of drives, after the original drive is removed, you must wait for 20 seconds before installing a drive. Failure to allow this 20-second wait period causes the Cisco UCS management software to display incorrect drive inventory information. If incorrect drive information is displayed, remove the affected drive(s), wait for 20 seconds, then reinstall them.

To install a SAS/SATA or NVMe drive in the compute node, follow this procedure:

Procedure

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- Step 1** Place the drive ejector into the open position by pushing the release button.
- Step 2** Gently slide the drive into the empty drive bay until it seats into place.
- Step 3** Push the drive ejector into the closed position.
- You should feel the ejector click into place when it is in the closed position.



Basic Troubleshooting: Reseating a SAS/SATA Drive

Sometimes it is possible for a false positive UBAD error to occur on SAS/SATA HDDs installed in the compute node.

- Drives can be affected regardless of whether they are configured for hot plug or not.
- The UBAD error is not always terminal, so the drive is not always defective or in need of repair or replacement. However, it is also possible that the error is terminal, and the drive will need replacement.

Before submitting the drive to the RMA process, it is a best practice to reseat the drive. If the false UBAD error exists, reseating the drive can clear it. If successful, reseating the drive reduces inconvenience, cost, and service interruption, and optimizes your compute node uptime.



Note Reseat the drive only if a UBAD error occurs. Other errors are transient, and you should not attempt diagnostics and troubleshooting without the assistance of Cisco personnel. Contact Cisco TAC for assistance with other drive errors.

To reseat the drive, see [Reseating a SAS/SATA Drive, on page 5](#).

Reseating a SAS/SATA Drive

Sometimes, SAS/SATA drives can throw a false UBAD error, and reseating the drive can clear the error.

Use the following procedure to reseat the drive.



Caution This procedure might require powering down the server. Powering down the server will cause a service interruption.

Before you begin

Before attempting this procedure, be aware of the following:

- Before reseating the drive, it is a best practice to back up any data on it.
- When reseating the drive, make sure to reuse the same drive bay.
 - Do not move the drive to a different slot.
 - Do not move the drive to a different server.
 - If you do not reuse the same slot, the Cisco UCS management software (for example, Cisco IMM) might require a rescan/rediscovery of the server.
- When reseating the drive, allow 20 seconds between removal and reinsertion.

Procedure

Step 1 Attempt a hot reseat of the affected drive(s).

For a front-loading drive, see [Removing a Drive, on page 1](#).

Note

While the drive is removed, it is a best practice to perform a visual inspection. Check the drive bay to ensure that no dust or debris is present. Also, check the connector on the back of the drive and the connector on the inside of the server for any obstructions or damage.

Also, when reseating the drive, allow 20 seconds between removal and reinsertion.

Step 2 During boot up, watch the drive's LEDs to verify correct operation.

Step 3 If the error persists, cold reseat the drive, which requires a server power down. Choose the appropriate option:

- a) Use your server management software to gracefully power down the server.
See the appropriate Cisco UCS management software documentation.
- b) If server power down through software is not available, you can power down the server by pressing the power button.
See [Front Mezzanine Module](#).
- c) Reseat the drive as documented in Step 1.
- d) When the drive is correctly reseated, restart the server, and check the drive LEDs for correct operation as documented in Step 2.

Step 4 If hot and cold reseating the drive (if necessary) does not clear the UBAD error, choose the appropriate option:

- a) Contact Cisco Systems for assistance with troubleshooting.
- b) Begin an RMA of the errored drive.

Removing a Drive Blank

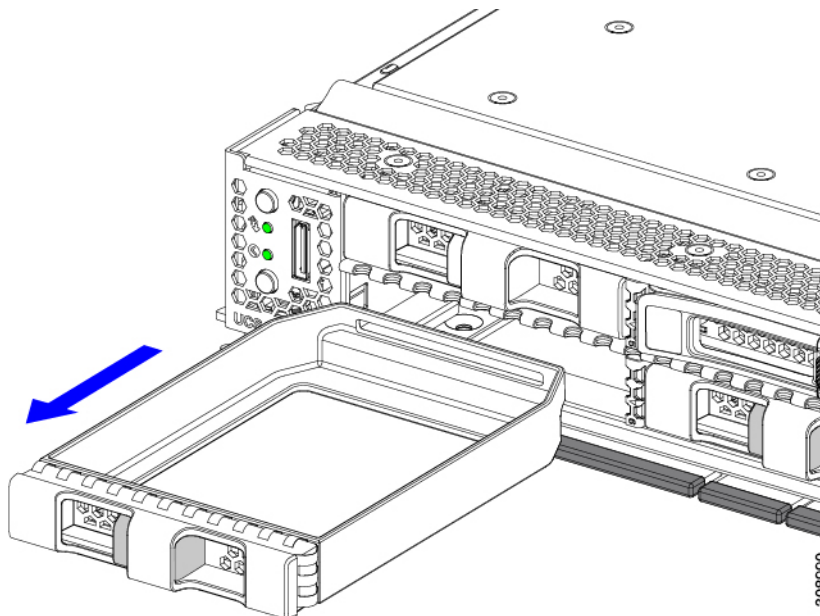
A maximum of six SAS/SATA or NVMe drives are contained in the front mezzanine storage module as part of the drive housing. The drives are front facing, so removing them does not require any disassembly.

Use this procedure to remove a drive blank from the compute node.

Procedure

Step 1 Grasp the drive blank handle.

Step 2 Slide the drive blank out of the slot.



What to do next

Cover the empty drive bay. Choose the appropriate option:

- [Installing a Drive, on page 3](#)
- [Installing a Drive Blank, on page 7](#)

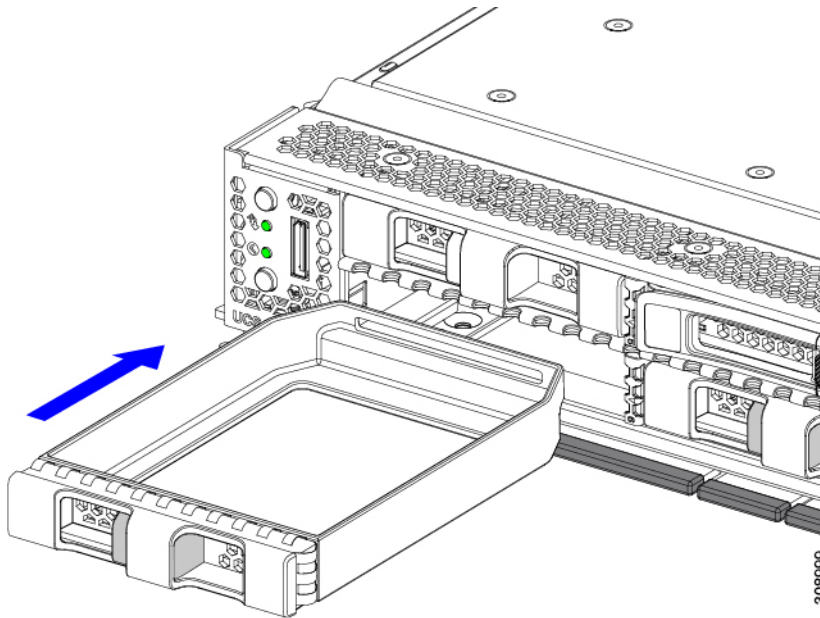
Installing a Drive Blank

Use this task to install a drive blank.

Procedure

Step 1 Align the drive blank so that the sheet metal is facing down.

Step 2 Holding the blank level, slide it into the empty drive bay.



Replacing the SuperCap Module

The SuperCap module (UCSX-SCAPM1C) is a battery bank which connects to the front mezzanine storage module board and provides power to the RAID controller if facility power is interrupted. The front mezzanine with the SuperCap module installed is UCSX-RAID-M1L6.



Note To remove the SuperCap Module you must remove the front mezzanine module.

To replace the SuperCap module, use the following topics:

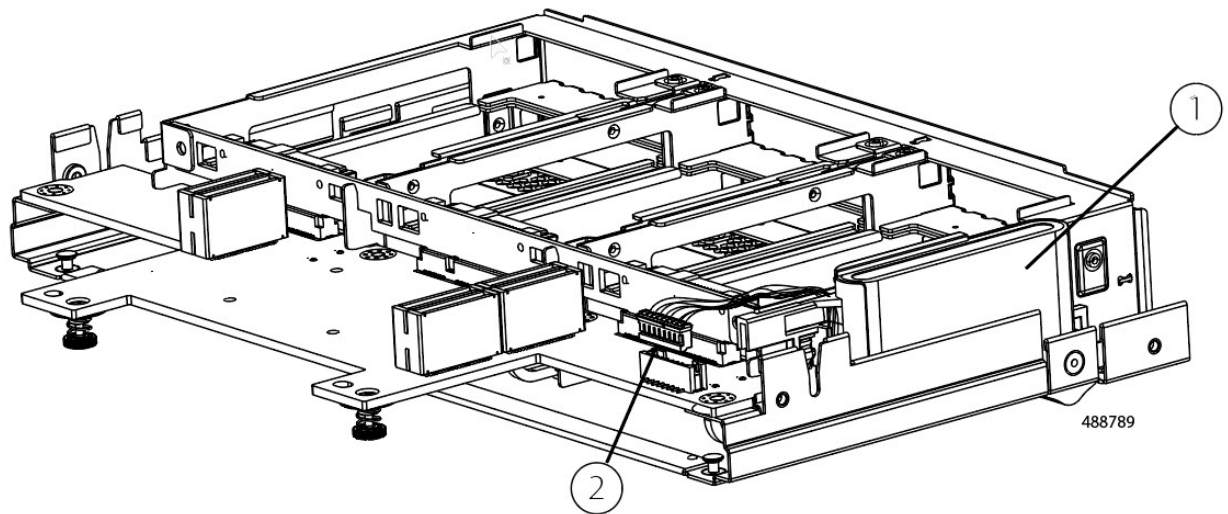
- [Removing the SuperCap Module, on page 8](#)
- [Installing the SuperCap Module, on page 10](#)

Removing the SuperCap Module

The SuperCap module is part of the Front Mezzanine Module, so the Front Mezzanine Module must be removed from the compute node to provide access to the SuperCap module.

The SuperCap module sits in a plastic tray on the underside of the front mezzanine module. The SuperCap module connects to the board through a ribbon cable with one connector to the module.

Figure 1: Location of the SuperCap Module

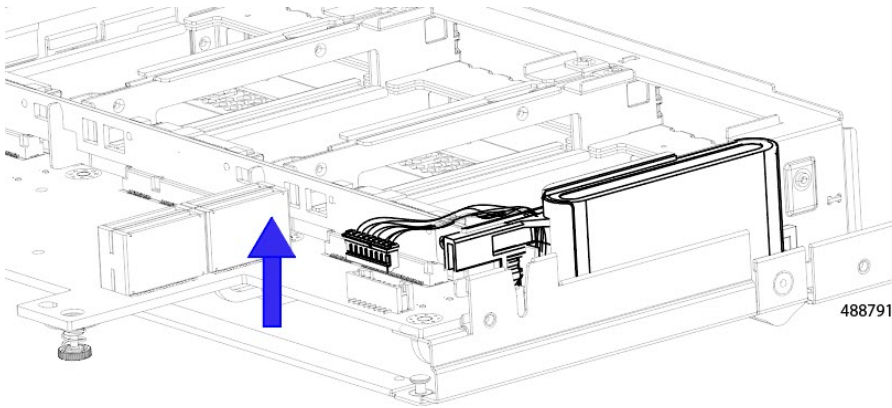


1	SuperCap Module	2	SuperCap Module Connector
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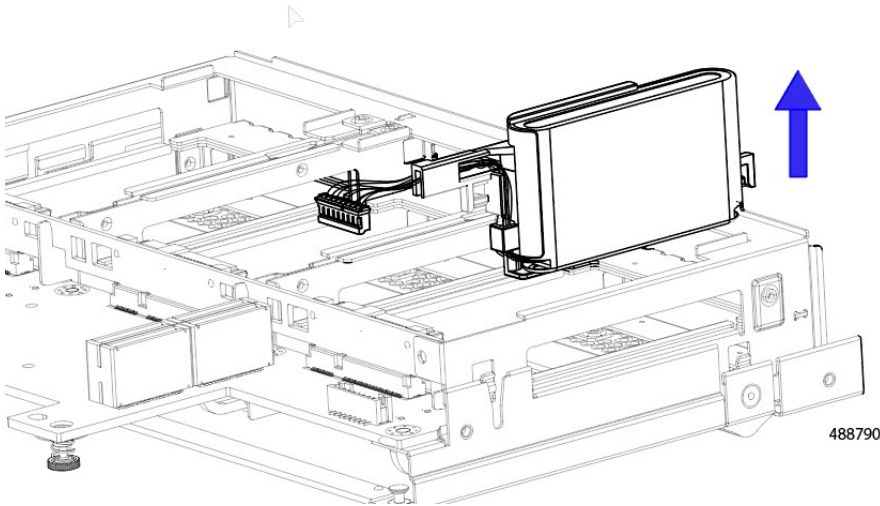
To replace the SuperCap module, follow these steps:

Procedure

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- Step 1** If you have not already removed the Front Mezzanine module, do so now.
See [Removing the Front Mezzanine Module](#).
- Step 2** Before removing the SuperCap module, note its orientation in the tray as shown in the previous image.
When correctly oriented, the SuperCap connection faces downward so that it easily plugs into the socket on the board.
You will need to install the new SuperCap module with the same orientation.
- Step 3** Grasp the cable connector at the board and gently pull to disconnect the connector.

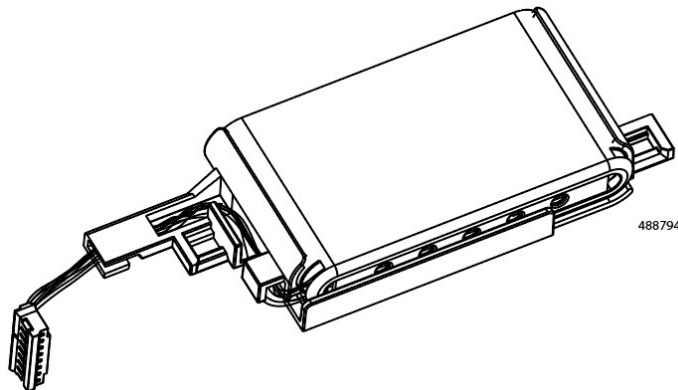


Step 4 Grasp the sides of the SuperCap module, and lift the SuperCap module out of the tray.

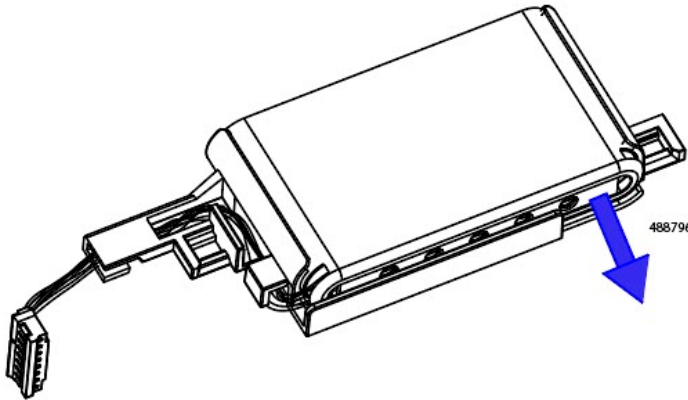


You might feel some resistance because the tray is curved to secure the module.

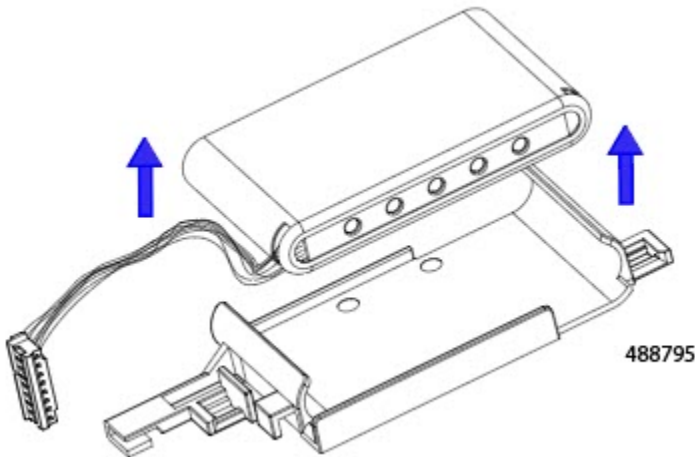
Step 5 Disconnect the ribbon cable from the SuperCap module:
a) On the SuperCap module, locate the lever that secures the ribbon cable to the battery pack.



- b) Gently pivot the securing lever downward to release the ribbon cable connection from the SuperCap module.



- Step 6** Remove the existing battery pack from its case, and insert a new one, making sure to align the new battery pack so that the connector aligns with the ribbon cable.



What to do next

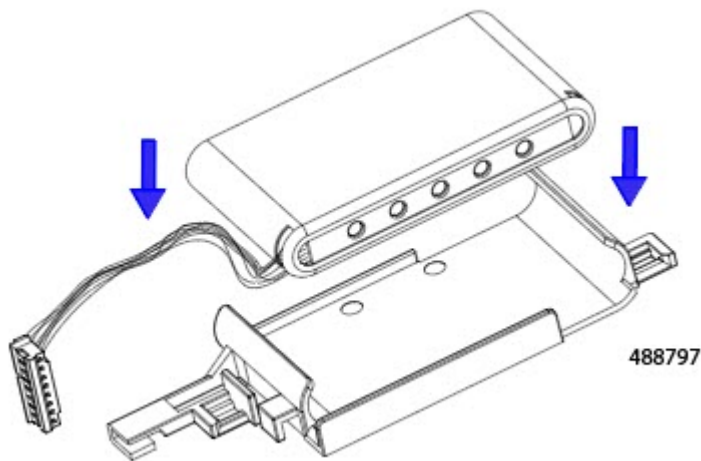
[Installing the SuperCap Module, on page 10](#)

Installing the SuperCap Module

If you removed the SuperCap module, use this procedure to reinstall and reconnect it.

Procedure

- Step 1** Insert the Super Cap module into its case.
- a) Align the SuperCap module so that the connector will meet the connector.

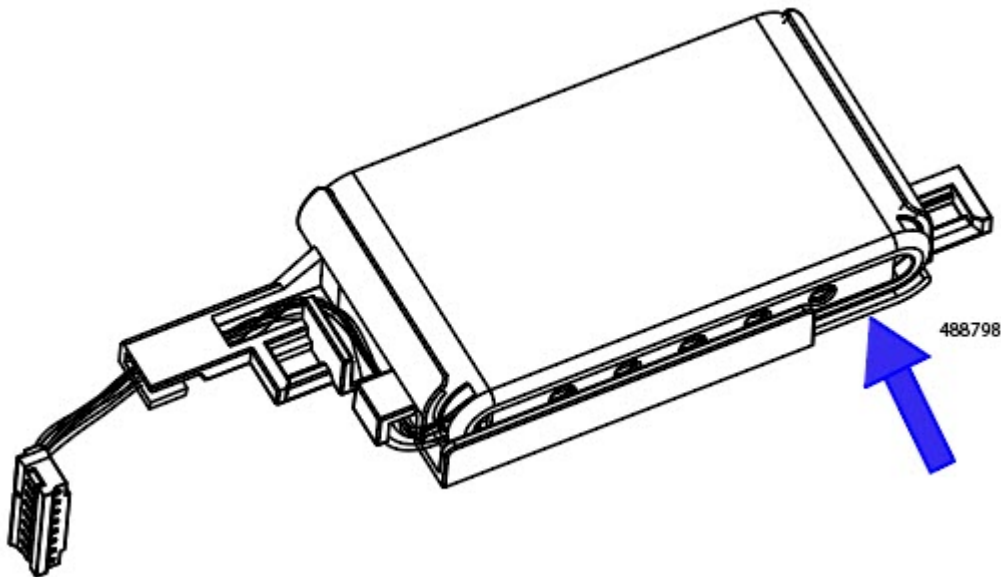


- b) Before seating the SuperCap module, make sure that the ribbon cable is not in the way. You do not want to pinch the ribbon cable when you install the SuperCap.
- c) When the ribbon cables are clear of the case, press the SuperCap module until it is seated in the case.

You might feel some resistance as the SuperCap snaps into place.

Step 2

When the SuperCap module is completely seated in its plastic case, pivot the securing lever to connect the ribbon cable to the SuperCap module.

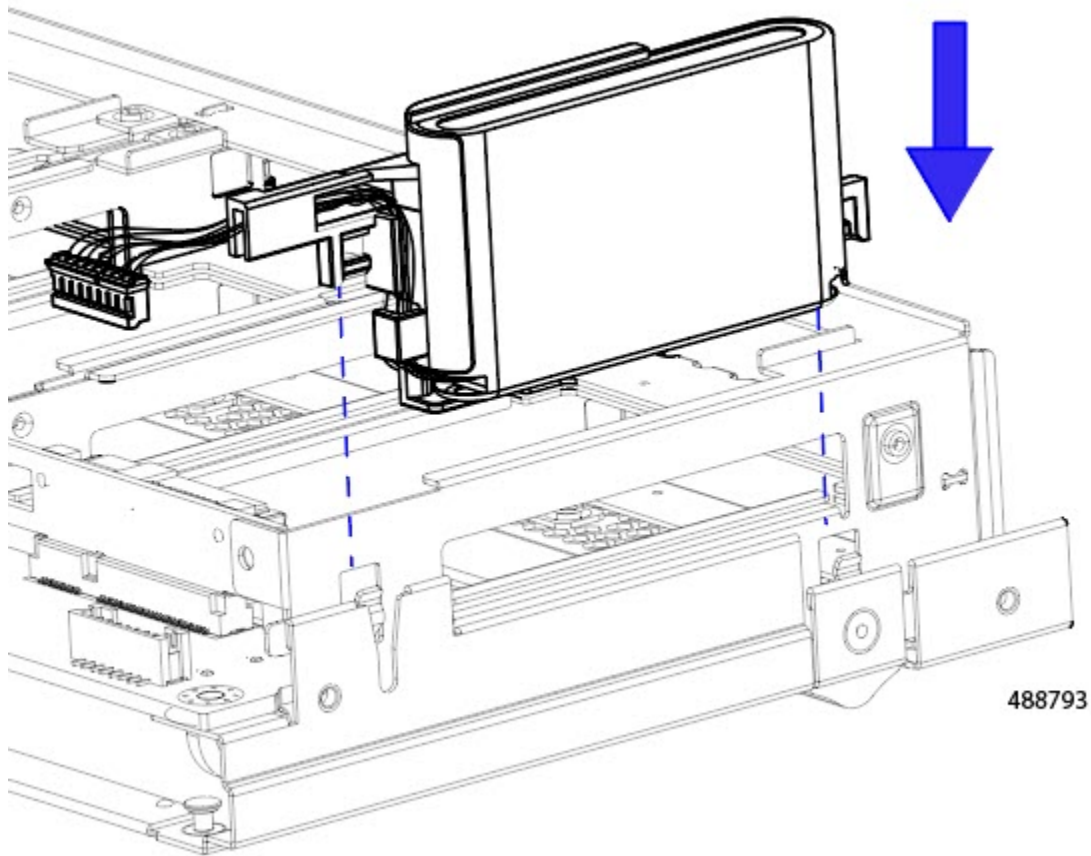


Step 3

Align the SuperCap module with its slot on the module and seat the module into the slot.

Caution

Make sure not to pinch the ribbon cable while inserting the SuperCap module into the slot.



When the SuperCap is securely seated in the slot, the module does not rock or twist.

Step 4 After the SuperCap module is seated, reconnect the ribbon cable to the board.

