

# Spare Expansion Module Instructions

This document describes how to remove and replace a Expansion Module in a NEOxl 40 3U Tape Library from Overland-Tandberg.

**WARNING:** To reduce the risk of electric shock or damage to equipment, always remove any power cords while working with the library.

**WARNUNG:** Um das Risiko eines elektrischen Schlags oder Schäden am Gerät zu vermeiden, ziehen Sie stets den Netzstecker, bevor Sie an der Einheit arbeiten.

**AVERTISSEMENT:** Pour réduire le risque de choc électrique ou endommagement de l'équipement, retirez toujours les cordons électriques en travaillant avec l'appareil.



**CAUTION:** While working with the library, observe standard Electrostatic Discharge (ESD) precautions to prevent damage to micro-circuitry or static-sensitive devices.

## Special Handling Notice

Each NEOxl 40 Expansion Module weighs more than 44 lbs (20kg) without drives or tapes, and more than 77 lbs (35kg) with three tape drives and 40 tapes.

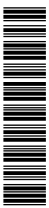
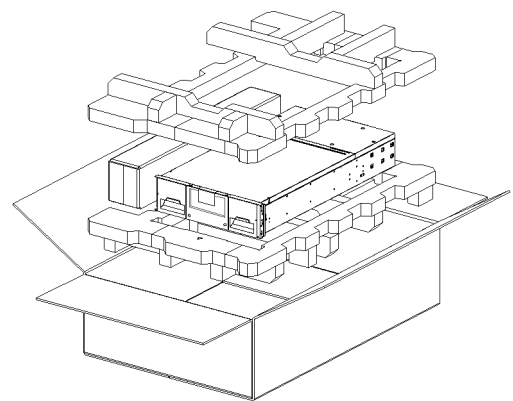
Before moving or lifting the Expansion Module, remove all tape drives and tapes to reduce the weight (see below).

## Overview

To replace an existing Expansion Module, the steps include:

1. Remove the tape magazines and any tape drives.
2. Remove the old Expansion Module from the rack.
3. If necessary, transfer the top or bottom cover from the old Expansion Module to the new one.
4. As needed, move power supplies, DC-DC board, and controller from the old Expansion Module to the new one.
5. Install the new Expansion Module in the rack and align the module with the library.
6. Reinstall tape magazines and drives into the new module.
7. Reconnect the cables and verify the installation.

You will need a small flat head or Torx screwdriver and a #2 Phillips screwdriver.



## Prepare the Library

### Power Off Library

If still running, power off the library from the Base Module front panel by pressing and holding down the power button for three (3) seconds.

*NOTE: If the library does not perform a soft shutdown, press and hold the power button for 10 seconds.*

Verify that the Robotic Assembly is in its parked position and that all host processes are idle.



### Remove the Magazines Manually

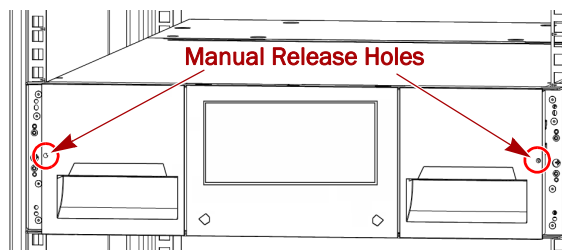
**IMPORTANT:** Overland recommends that you remove the magazines to reduce the unit's weight prior to removal from the rack.

To remove the magazines manually, use the holes located on the outer edges of the magazines to release them.

1. Insert a small flat head screwdriver or Torx driver into the appropriate magazine **release hole** and gently push the tab in.

**IMPORTANT:** Do not continue to exert force once you encounter resistance. Doing so can damage the device.

2. Supporting the bottom, gently pull the **magazine** out of the unit and place it on a secure surface.
3. Repeat [Steps 1–2](#) for the **other** magazine.



## Remove Old Expansion Module

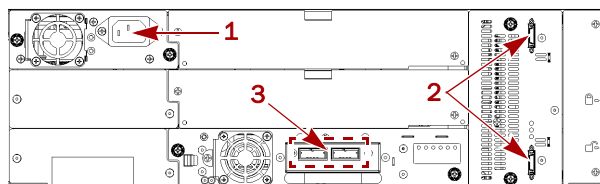
### Remove Cords and Cables

Before removing the Expansion Module from the rack, disconnect all the cables and cords, noting where they connect.

1. If power supplies exist, unplug any **AC power cords** (1).
2. Remove the **expansion interconnect cables** (2) from the Expansion Module and any modules to which it is connected.

*NOTE: Completely remove the expansion interconnect cables from the modules to prevent damaging the cables during module removal and replacement.*

3. If the Expansion Module has drives, label and remove all the **SAS/FC cables** (3) from them.



## Remove Tape Drives

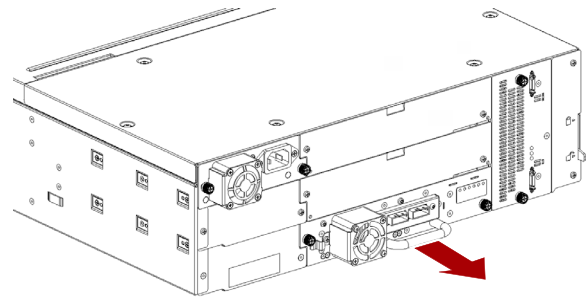
**IMPORTANT:** Overland recommends that you remove the tape drives to reduce the unit's weight prior to removal from the rack.

**NOTE:** Because the library tracks the drive locations and may report event notifications if the drives aren't in the expected locations, label the drives so they can be reinstalled in the same drive bays.

1. Use your fingers to loosen the **blue thumbscrews** on the tape drive.
2. While supporting the bottom of the drive, pull straight back on the **drive handle** to remove it.

**CAUTION:** Support the bottom of the tape drive when removing it to avoid damaging any internal connections.

3. Place the drive on a secure **ESD surface** and label it.
4. Repeat **Steps 1–3** for any **additional drives**.



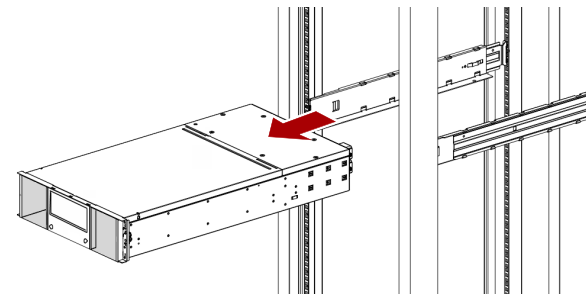
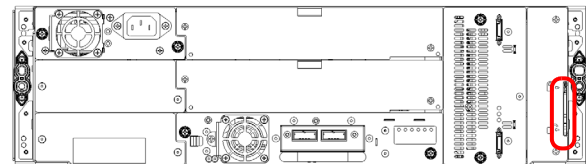
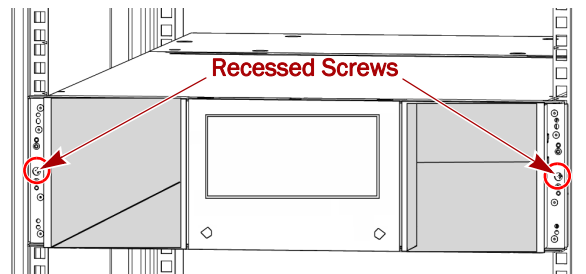
## Remove Expansion Module from Rack

**WARNING:** To avoid injury, it is recommended that a mechanical lifter (or at least two people) be used for rack installation or removal. Use care during rack installation or removal to avoid accidentally tilting or tipping the rack, causing damage or personal injury.

**WARNUNG:** Um Verletzungen zu vermeiden, empfehlen wir zur Rack-Installation oder -Deinstallation die Nutzung einer mechanischen Hebehilfe (oder mindestens zwei Personen). Seien Sie vorsichtig bei der Rack-Installation oder -Entnahme, um ein versehentliches Kippen des Racks zu vermeiden und das Rack nicht zu beschädigen bzw. sich selbst zu verletzen.

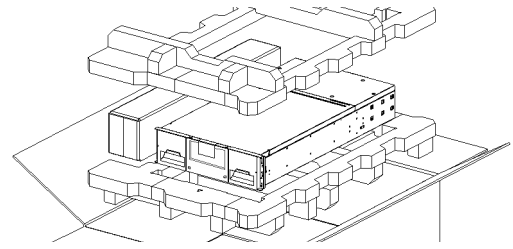
**AVERTISSEMENT:** Afin d'éviter des blessures pendant l'installation, il est recommandé d'utiliser un monte-charge (ou au moins deux personnes) pour élever ou aligner l'module. Faites attention lorsque vous insérez ou retirez l'module d'un support, pour empêcher le déversement accidentel de la crémaillère causant des dommages et des blessures.

1. If **other modules** are located immediately above and/or below the Expansion Module, disconnect and loosen them before extracting the Expansion Module:
  - From the front of the library, use a Phillips #2 screwdriver to loosen the **recessed screws** two full turns on the Expansion Module and the adjacent modules.
  - From the back of the library, unlock the **alignment mechanisms** connecting the Expansion Module with the adjacent modules.
2. Position the **mechanical lifter** in front of and even with the Expansion Module.
3. Slide the Expansion Module out of the **rack** onto the lifter.
4. Place the old Expansion Module on a secure **ESD surface**.  
Leave enough room to place the new module next to it.



## Unpack New Expansion Module

1. Using two people, remove the **new** Expansion Module from its box and set it on the secure ESD surface next to the old unit.
2. Remove and save the **packaging materials and tape** from the new Expansion Module.



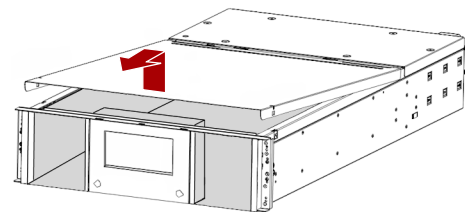
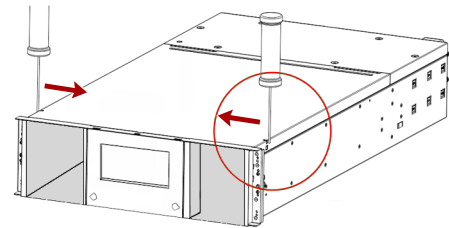
## Swap Components

### Move Covers

**IMPORTANT:** When replacing an Expansion Module in either the top or bottom position, you must move the cover from the old Expansion Module to the new one.

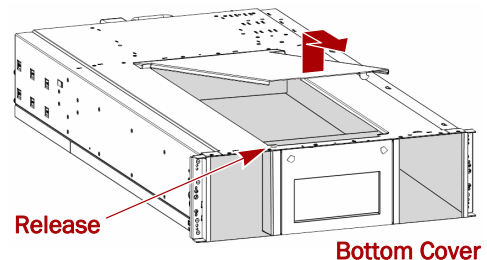
If necessary, move the **top** cover:

1. At the **old** Expansion Module, unlock the top cover by pushing **two small screwdrivers** down and inward in both slots.
2. Lift the top cover **front edge** by about 4.75 in. (12cm) and pull the cover gently forward to disengage from the pivot point at the module center.
3. At the **new** Expansion Module, with the cover at the same angle, reengage the **rear of the cover** at the pivot point.
4. Lower the front of the top cover until the **latches** engage on both sides.



If necessary, move the **bottom** cover:

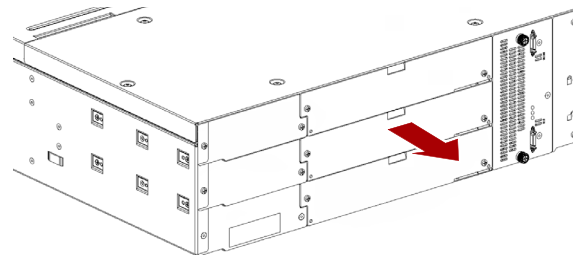
1. Gently turn both Expansion Modules **upside-down**.
2. At the **old** Expansion Module, insert a small flathead or Torx **screwdriver** into the release hole and slide it about 1/4 in. (4mm) sideways to unlock the spring loaded lock.
3. Raise the **cover front end** by about 4 in. (10cm) and gently pull it forward to disengage it from the pivot point at module center and remove.
4. At the **new** Expansion Module, with the cover at the same angle, reengage the **rear of the cover** at the pivot point.
5. Lower the front of the cover until the **latch** engages.



Release Bottom Cover

### Move Drive Bay Covers

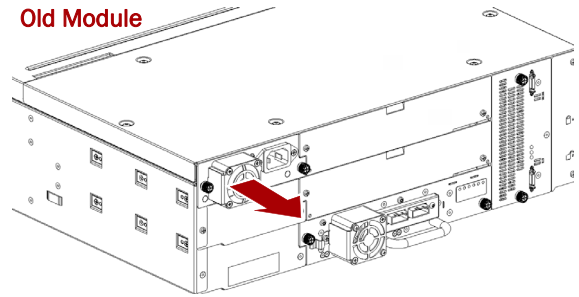
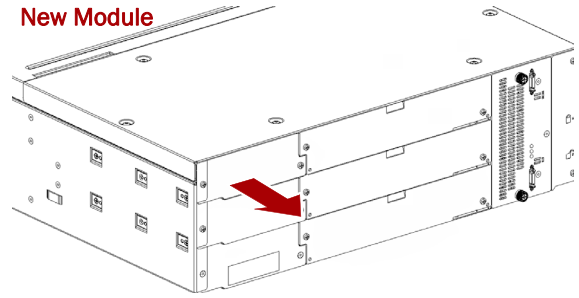
Where tape drives were removed from the old Expansion Module, the same drive bay covers need to be removed from the new Expansion Module and installed on the old Expansion Module covering all the now empty tape drive bays.



## Move Power Supplies

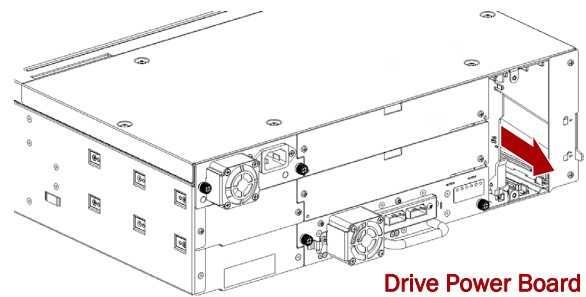
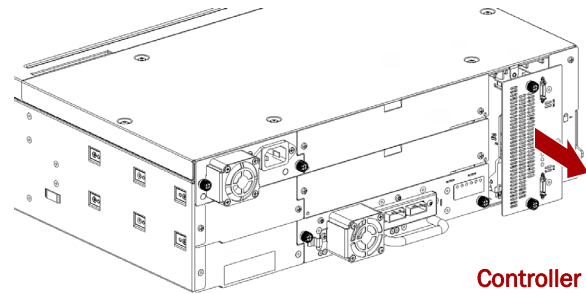
*NOTE: If any power supplies are installed, they need to be moved to the new Expansion Module.*

1. At the **new** Expansion Module, remove and retain the power supply **screws and covers** where the existing power supplies will go.
2. At the **old** Expansion Module, on the power supply, loosen the **two blue thumbscrews** with your fingers.
3. While supporting the bottom, pull the **power supply** straight back to remove it from the module.
4. At the **new** Expansion Module, position the power supply onto the **alignment rails**.
5. Slide the power supply into the **module** until it is flush with the rear panel of the module.
6. Finger-tighten the **thumbscrews** to secure it.
7. If necessary, repeat these steps for a **redundant power supply**.
8. Install the retained power supply **covers** on the **old** Expansion Module.



## Move Controller

1. At the **old** Expansion Module, loosen the **two blue thumbscrews** on the controller.
2. Slowly remove the **controller** from the Expansion Module, setting it aside on an ESD surface.
3. Move the **drive power board**:
  - a. Push down the drive power board **latch** to release it.
  - b. Slowly slide the **drive power board** out of the module.
  - c. At the **new** Expansion Module, position the drive power board onto the **alignment rails**.
  - d. Slide the **drive power board** in until seated firmly.
  - e. Push the board **latch** up until it snaps into place.
4. At the **new** Expansion Module, position the **controller** on the alignment rails and slide it in until it is flush with the rear panel of the module.
5. Finger-tighten the **thumbscrews** to secure it.



# Install New Expansion Module

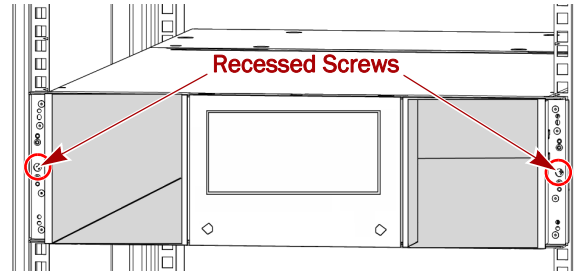
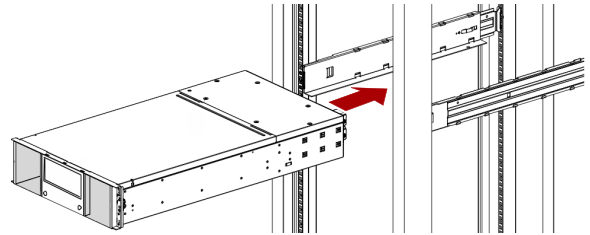
## Insert Module in Rack

**WARNING:** To avoid injury, it is recommended that a mechanical lifter (or at least two people) be used for rack installation or removal.

**WARNUNG:** Um Verletzungen zu vermeiden, empfehlen wir zur Rack-Installation oder -Deinstallation die Nutzung einer mechanischen Hebehilfe (oder mindestens zwei Personen).

**AVERTISSEMENT:** Afin d'éviter des blessures pendant l'installation, il est recommandé d'utiliser un monte-charge (ou au moins deux personnes) pour élever ou aligner l'module.

1. Using the mechanical lifter, position the **module** in front, aligned with the rack rails.
2. Slide the module onto the **rail flanges** and into the rack.
3. For now, tighten the **recessed screws** on the Expansion Module flanges only one turn to hold it.

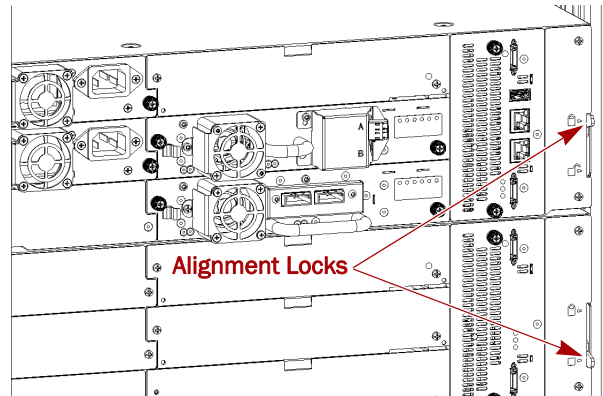


## Aligning and Connecting the Module

Aligning the Expansion Module with the other library modules ensures that the robotics can move freely between the modules.

**NOTE:** The library will not operate unless the alignment mechanism is in the locked position (except the bottom module).

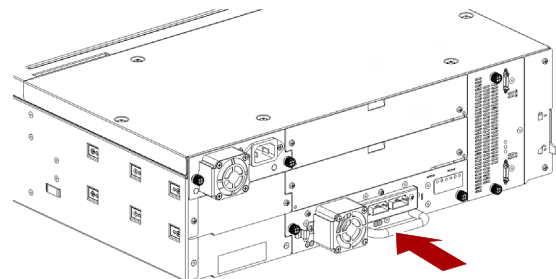
1. At the back of the library, using the **alignment lock lever**, align and lock the new Expansion Module to the other modules to which it connects.  
If you encounter resistance, adjust the upper module so that the alignment mechanism pin moves into the mating hole in the lower module.
2. Verify that, for the **lowest** module in the library, its alignment mechanism is in the **unlocked position**.
3. From the front of the library, tighten the **recessed flange screws** on the Expansion Module and the adjacent modules to secure them all to the rack.



## Reinstall Tape Drives

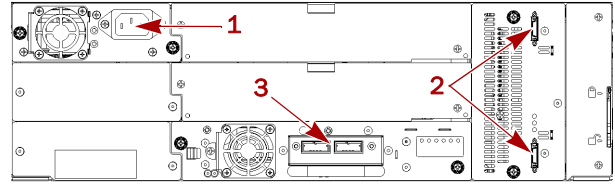
If any tape drives were in the old Expansion Module:

1. Holding a **tape drive** by the handle and supporting it from the bottom, position it on the alignment rails in front of the appropriate bay.
2. Slowly slide the tape drive into the **drive bay** until it is flush with the rear of the library.
3. Finger-tighten the **blue thumbscrews** to secure.
4. Repeat [Steps 1–3](#) for any **additional tape drives**.



### Reattach Cables and Cords

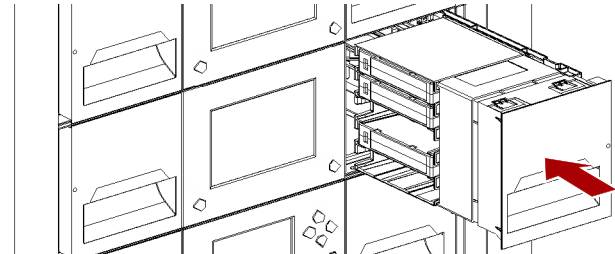
1. Reconnect the **expansion interconnect** cables (2) from the Expansion Module to the adjacent modules.
2. If the Expansion Module has drives, reconnect all the **SAS/FC cables** to the ports (3) on their same drives.
3. If power supplies exist, reconnect **AC power cords** (1).



### Reinstall Tape Magazines

Reinstall the previously removed tape magazines into the new Expansion Module.

1. Using the magazine **access handle** and supporting it underneath, position the magazine on the alignment rails.
2. Slide the **magazine** into the module.
3. Repeat **Steps 1–2** for the **other magazine**.



### Power on the Library

Power on the library from the Base Module front panel by pressing and holding down the power button for three (3) seconds until the green light on the front panel illuminates indicating the status is **Ready**.



## Complete the Procedure

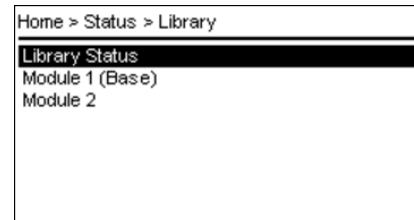
### Verifying the Installation and Configuration

Check the following:

- Verify that the library powers on and initializes correctly, and that the status is Ready.
- From the OCP or RMI, verify that the new Expansion Module is visible showing all the tape drives and both magazines.

The Base Module operates using the existing library firmware located on the Base Module Controller. It is recommended that you always update the library to the latest firmware version.

You can update firmware from either the RMI or by going to the OCP **Maintenance > Library Firmware Upgrade** screen.



### Return Replaced Part to Overland

For warranty replacements:

1. Place the **old module** in the anti-static bag and put it in the replacement part's box.
2. Use the existing **packing material** to secure it in the box.
3. Use an RMA to return the part to **Overland Storage**.

For return shipping details and RMA number, go to: <http://docs.overlandstorage.com/return-instructions>.

