

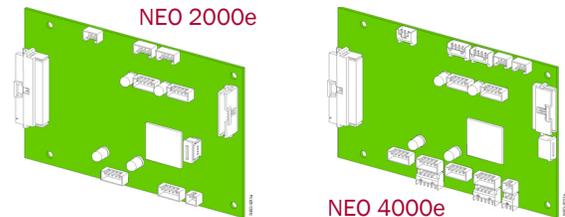
Spare Touchscreen Controller Card R&R

This document describes how to remove and replace a touchscreen controller card in a NEO 2000e or NEO 4000e tape library from Overland Storage.

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

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

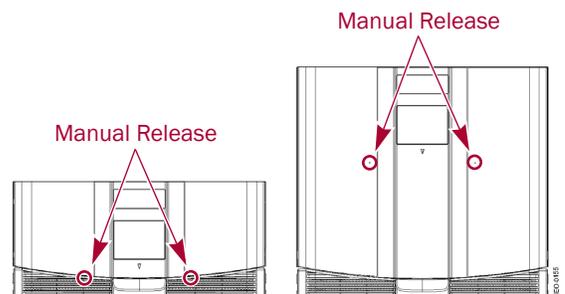
CAUTION: While working with the unit, observe standard Electrostatic Discharge (ESD) precautions to prevent damage to micro-circuitry or static-sensitive devices.



Prepare the Unit

Remove Cartridges

- If the **library** is operational:
 - a. Exit the **application software** and, if necessary, stop the software services.
 - b. Using the front panel or Web Management Interface, remove any **cartridges** from the drives.
 - c. Use the front panel to remove **all** the magazines.
- If the library is **non-operational** (and OFF), the doors can be manually opened by pushing a stiff wire against the mechanical releases behind the front panel.



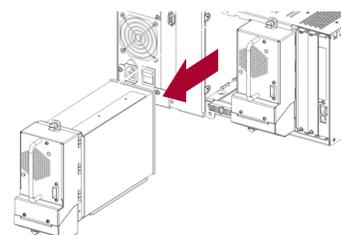
Power Off Library

1. At the **front panel**, press **Power > OK** (at Confirm).
2. Turn the **power supply** switch to OFF (O).
3. Remove the **power cord**.
4. Remove all **external cables**.
For SCSI drives, leave the terminators attached.
5. If XpressChannel is installed, release it by loosening the **two captive screws** on the back side and, if working on a Master unit, unplugging the **DB-15 cable**.



Remove Drive Assemblies

1. Loosen the captive **thumbscrews** at the top and bottom of the drive assembly.
2. Fully supporting the assembly, pull the handle to remove the **drive assembly**.
3. Label each drive assembly with the **bay number** and place it on its side on an **ESD surface** to prevent the bending of its tabs.



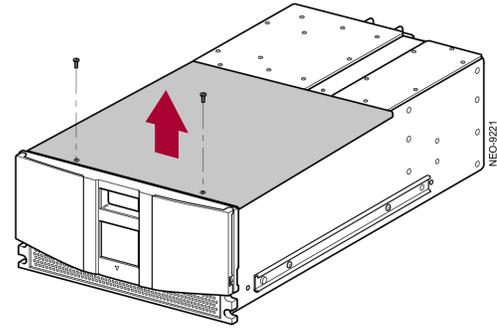
Remove Library from Rack

WARNING: It is recommended that a mechanical lifter (or at least two people) be used during rack installation or removal to prevent injury.

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'appareil.

1. Using a mechanical lifter (or two people), remove the **unit** from the rack and place on a secure ESD surface.
2. Remove and retain the **two screws** of the front cover.
On a NEO 2000e, the screws are inside the front doors.
3. Remove the **front top cover**, and set aside.

IMPORTANT: Depending on the model of your library, continue with either "Replace the NEO 2000/2000e Card" or "Replace the NEO 4000e Card".



Replace the NEO 2000/2000e Card

Remove Old Card

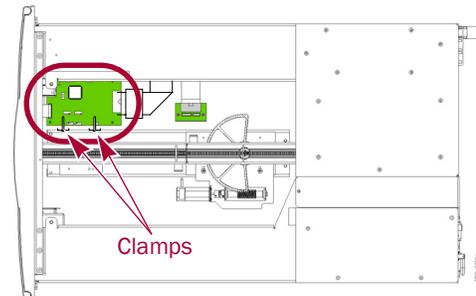
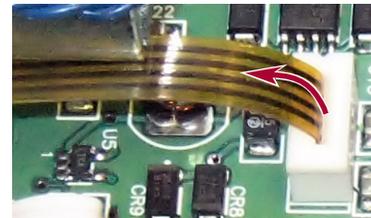
IMPORTANT: Some models of the NEO 2000e used a "slim" version of the controller card. Refer to "Special Slim Card Removal Steps" for special removal instructions.

The NEO 2000/2000e regular-sized Controller card (part number **606851-005**) is located on the chassis floor near the front on the left side.

NOTE: Some cables are positioned, labeled, or numbered differently in the different libraries. Always follow cable labeling and type to match the new positions on the replacement card.

1. Disconnect the touchscreen zero insertion force **flex cable (J21)** by pulling out the connector body to release the cable, and then gently remove the flex cable from it.
2. If necessary, either release the **two cable clamps** holding the cables to the edge of the card or cut the **cable tie** holding the Front Panel cables.
3. Label and disconnect the remaining **cables** from the card.
4. Remove the **four screws** securing the card to the chassis floor, remove the card, and set it aside.

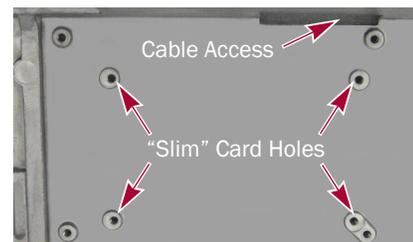
Continue with "Install New Card."



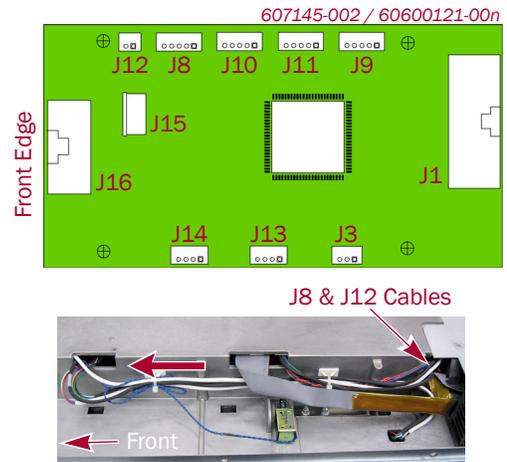
Special Slim Card Removal Steps

Some models of the NEO 2000e used a "slim" version of the Controller card (part number **607145-002** or **60600121-00n**). Certain extra steps must be performed:

1. Move the **four jack spacers**:
 - a. Unscrew the spacers from the **baseplate holes** used by the slim card.
 - b. Screw the **spacers** into the holes further away that will be used by the new card.



2. Sensor **right magazine cables** need to be lengthen by removing the slack from them so they reach the appropriate connectors on the new card:
 - a. Carefully turn the **library** over.
 - b. Retaining the screws, remove the **left bottom panel**.
It is located next to the area where the Controller card is located.
 - c. Carefully slide the **cables** for the right magazine sensors toward the front of the library (606851-005 / 60600121-00n or 607145-002):
 - **J4 / J9** Right SDLT Sensor (black)
 - **J7 / J11** Right LTO Sensor (white)
 - d. Replace the **bottom panel** using the retained screws.
 - e. Carefully turn the **library** back over.



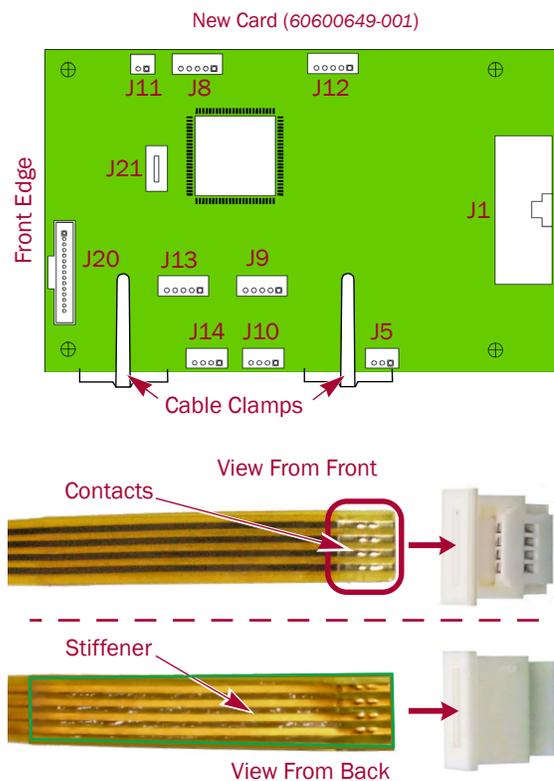
Install New Card

1. Using the four retained **M3x6mm panhead screws**, install the new card.
2. Reconnect these **cables** to the new NEO 2000e card:

NOTE: The first two cable J-numbers are from the regular old card/slim old card, followed by (→) the new card J-number.

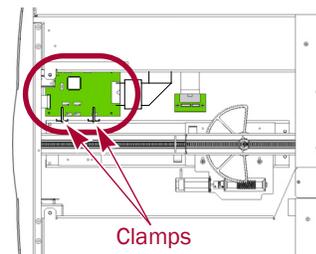
- **J1/J1** → **J1** Backplane Ribbon (gray)
 - **J3/J3** → **J5** Status/Fault LED (black)
 - **J5/J8** → **J8** Left LTO Sensor (white)
 - **J4/J9** → **J9** Right SDLT Sensor (black)
 - **J14/J14** → **J10** Right Door Latch (black)
 - **J2/J12** → **J11** Magazine Solenoid (black)
 - **J6/J10** → **J12** Left SDLT Sensor (black)
 - **J7/J11** → **J13** Right LTO Sensor (white)
 - **J13/J13** → **J14** Left Door Latch (black)
 - **J16/J16** → **J20** Front Panel LCD (white)
3. Reconnect the zero insertion force **flex cable** (from J15) to **J21** by sliding up the connector body, inserting the flex cable, and sliding the connector body back in to relock it.

CAUTION: The contacts on the flex cable must face the front. The plastic stiffener is on the back side.



4. Align the inside cables and bend the **cable clamps** over them to secure them to the edge of the PCB.
Verify that the cables are parallel to the card on the chassis floor and not in the way of the shuttle. All temporary labels should be removed.

IMPORTANT: Continue with [“Reactivate the Library”](#) on page 6.



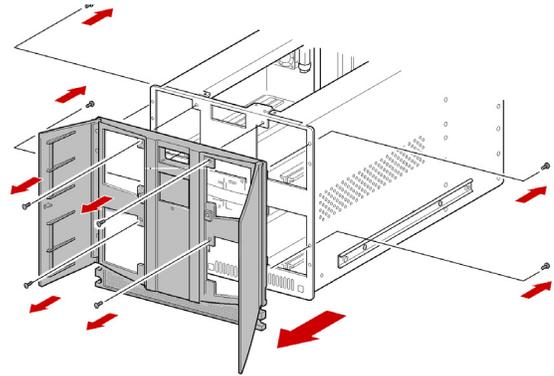
Replace the NEO 4000e Card

Remove Front Panel

1. Remove the **four screws** on the **back side** of the outer edge of the Front Panel.
2. Manually open the **magazine doors**.
3. Carefully remove the **Front Panel**:
 - a. While holding the Front Panel against the chassis, remove the **four screws** inside the doors.

 **IMPORTANT:** To prevent damage, continue to hold the front panel without putting strain on the cables.

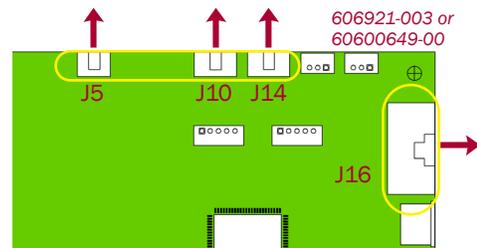
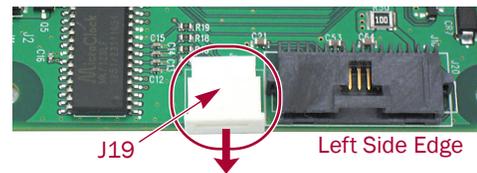
- b. Carefully pivot the **panel top** away from the chassis
- c. Lift the **panel bottom** out of the alignment holes.
- d. Set the **bottom edge** down just in front of the chassis and hold it there to remove the cables.



Remove Front Panel Cables

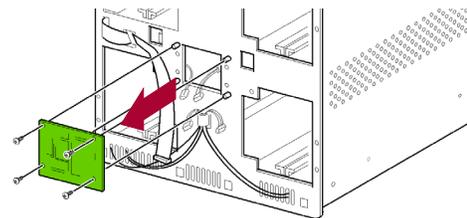
Disconnect the **Front Panel** cables from the Controller card (606921-003):

1. Disconnect the touchscreen zero insertion force **flex cable (J19)** by sliding out the connector body to release the cable, and then gently removing the flex cable from the connector.
2. Disconnect the other **Front Panel** cables:
 - **J5** Status/Fault LED (black)
 - **J10** Right Door Latch (black)
 - **J14** Left Door Latch (black)
 - **J16** LCD Display (white)
3. Set the Front Panel aside, face down on a **padded flat** surface.



Remove Old Card

1. Remove the **four screws** holding the card to the front of the chassis.
2. Disconnect the remaining **cables** from the card.
3. Remove the **card** and set it aside.

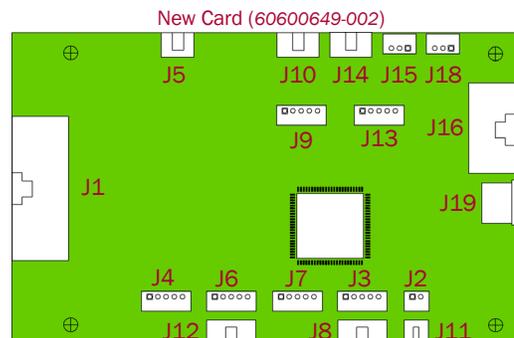


Install New Card

1. Following ESD precautions, position the **new card** at the center of the front side of the chassis and reconnect all the **cables** to the new 4000e Controller card:

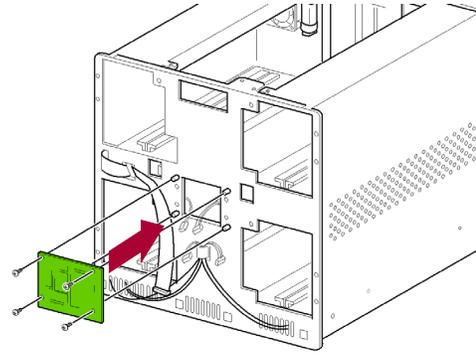
NOTE: The first cable J-number is from the old card followed by (→) the new card J-number.

- **J1** → **J1** Backplane Ribbon (gray)
- **J11** → **J11** Lower Magazine Solenoid (black)
- **J3** → **J3** Lower Left LTO Sensor (white)
- **J4** → **J4** Lower Right SDLT Sensor (black)



- **J5 → J5** Status/Fault LED (black)
- **J6 → J6** Lower Left SDLT Sensor (black)
- **J7 → J7** Lower Right LTO Sensor (white)
- **J8 → J8** Upper Left LTO Sensor (white)
- **J9 → J9** Upper Right SDLT Sensor (black)
- **J10 → J10** Right Door Latch (black)
- **J2 → J2** Upper Magazine Solenoid (black)
- **J12 → J12** Upper Left SDLT Sensor (black)
- **J13 → J13** Upper Right LTO Sensor (white)
- **J14 → J14** Left Door Latch (black)
- **J15 → J15** Upper Mail Slot Lockout (black)
- **J16 → J16** Front Panel LCD Display (white)
- **J18 → J18** Lower Mail Slot Lockout (black)

2. Using four **M3x6mm panhead screws**, secure the new card to the front of the chassis.
3. Verify that all wiring is dressed correctly and that the **Backplane** ribbon (J1) is looped on the right side.



Reinstall Front Panel Cables

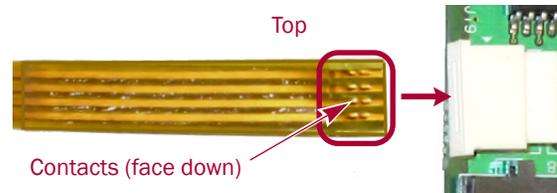
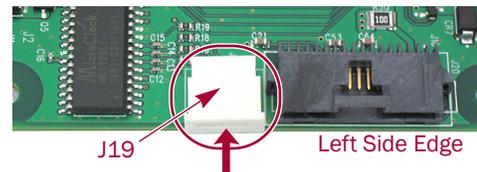
1. Position the **bottom edge** of the Front Panel next to the bottom edge of the chassis.

 **IMPORTANT:** To prevent damage, continue to hold the front panel in place without putting strain on the cables as you connect them to the Controller card.

2. Reconnect the zero insertion force **flex cable** at **J19** by sliding out the connector body, inserting the flex cable, and sliding the connector body back in to relock it.

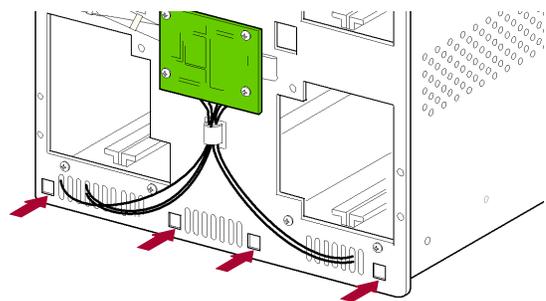
 **CAUTION:** The contacts on the flex cable must face down toward the card.

3. Reconnect the **remaining Front Panel cables** (J5, J10, J14, and J16).



Install New Front Panel

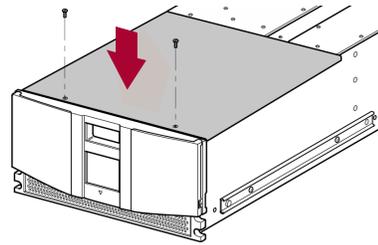
1. Carefully lift and insert the Front Panel bottom **four alignment tabs** into the chassis bottom.
2. Carefully pivot the **top** of the Front Panel up to the chassis.
3. While holding the Front Panel against the chassis, use the manual door releases to open the doors and install the **four new M4x10mm screws** inside to secure the panel.
4. Install the **four new M3x8mm screws** to the **back side** of the outer edge of the Front Panel.



Reactivate the Library

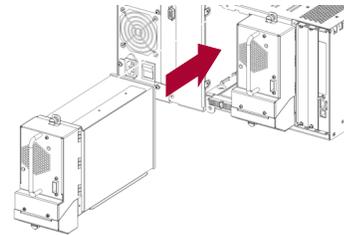
Replace Library into Rack

1. Slide the **cover tabs** into their slots and gently set the front top cover into place.
2. Insert the **two retained screws** and tighten them.
On a NEO 2000e, the screws are inside the front doors.
3. Using a mechanical lifter (or two people), reinstall the **library** into the rack.



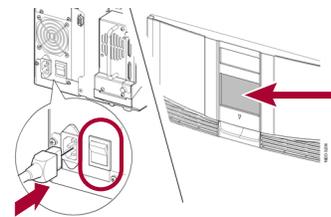
Reinstall Magazines and Drives

1. Reinstall the **magazines** into the same positions.
2. Using the attached labels, reinstall the **drive assemblies** in the same bay positions.
3. If used, reconnect the **XpressChannel**.
4. Reconnect the **external cables**.
5. For SCSI systems, verify the **terminators** are still in place.



Power On the Library

1. Plug in all the **power cords**.
2. Turn all the power supply **switches** to ON (I).
3. Press the **touchscreen** on the front of the library module to power the unit ON.



Test the Library

Verify the **Touchscreen** card:

- Verify the **screens** change when a button is touched.
- Verify the correct **front panel** functions are accessed based on the button pressed.

 **IMPORTANT:** If problems occur, contact Overland Storage Technical Support.



Return Old Parts to Overland

1. Place the **old part** in the anti-static bag and put it in the replacement part's box.
2. 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>

