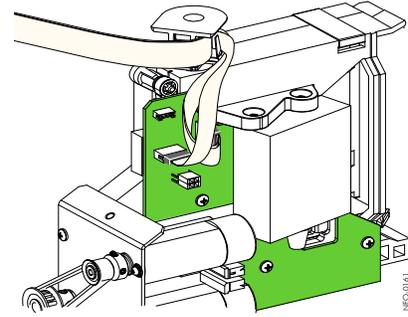


Spare Shuttle Assembly

Remove & Replace Instructions



Overview & Notes

IMPORTANT: Overland Storage requires that all NEO Series parts be removed and replaced by an Overland Storage authorized service provider. Improper installation may result in damage which voids existing warranties.

This document describes how to remove and replace the shuttle assembly in an Overland Storage NEO 2000E or 4000E library.

WARNING: The GUI touch screen does not completely shut off NEO SERIES system power. To reduce the risk of electric shock or damage, unplug both power cords.

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

NOTE: All positions stated (left, right, etc.) are with you facing the front of the library.

Unpacking the New Shuttle Assembly

Carefully unpack and verify that you have all the parts:

- Shuttle assembly in an anti-static bag
- These instructions

To service the library, you may need the following tools:

- Flat blade screwdriver
- #1 and #2 Phillips screwdrivers

Electrostatic Discharge Information

A discharge of static electricity can damage micro-circuitry or static-sensitive devices. To help prevent Electrostatic Discharge (ESD), observe standard ESD precautions.

Preparing the Library

1. If the library is operational, remove any **cartridges** in the drives using the touch-screen GUI or WebTLC.
2. Power off the **library** as follows:
 - a. Use the touch-screen **GUI** to power down the library.
 - b. Turn the power supply **switches** to OFF (O).
 - c. Remove the **power cords**.
3. Remove all **data cables**.
4. Remove all **drive assemblies**.
5. Using a mechanical lifter (or two people), remove the library from the **rack** and place it on a secure surface.

Remove the Existing Shuttle Assembly

1. Remove and retain the **two screws** securing the front top cover.
2. Lift and remove the **front top cover**, and set it aside.
3. Remove the **Power and Signal Controller cables** from the shuttle assembly by releasing them from the two clips that secure them to the printed circuit board (PCB) on the shuttle (**Figure 1**).

NOTE: The Signal Controller connector can be difficult to reach with your hand. If necessary, use a small flat blade screwdriver to press the connector release.

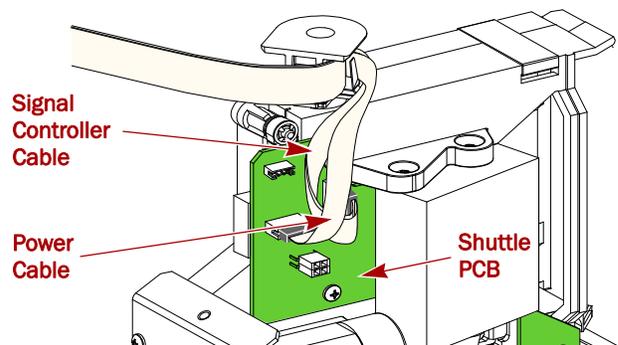


Figure 1. Front View of Shuttle Cables

- Remove and retain the **screw** from the top of the spooler assembly (Figure 2).

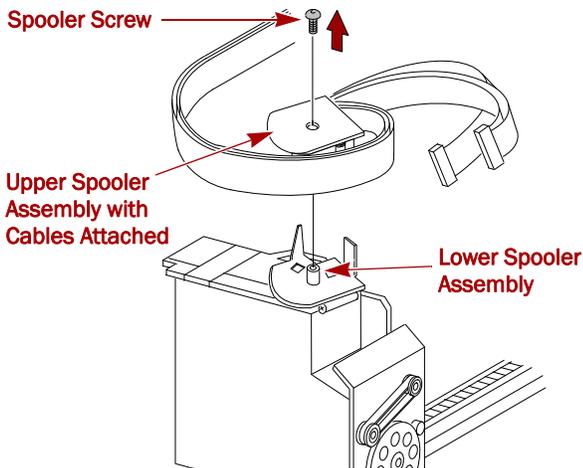


Figure 2. Removing the Spooler Attachment

- Pull out the **upper spooler assembly** with the flex cables still attached as shown in Figure 2, then carefully set them aside.

NOTE: Use care so that the flex cable is not bent and does not separate from the spooler top piece.

- Lift off the **lower spooler assembly** and set it aside, keeping the two pieces together.
- By hand, turn the **motor/track coupler** until the track is at a 45° angle (Figure 3).

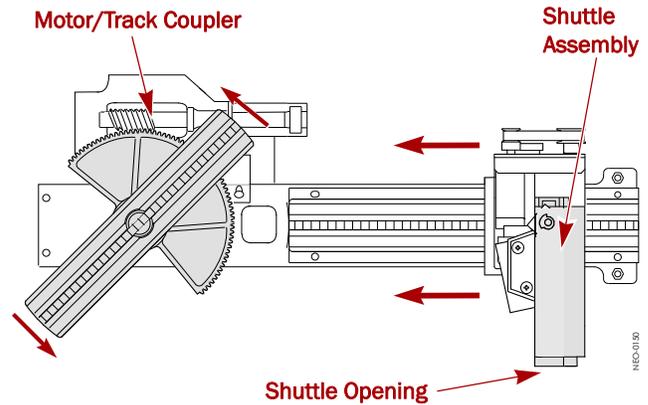


Figure 3. Top View of Shuttle Track Showing Movable Section

- With one hand supporting the top of the shuttle, grasp the shuttle base and carefully **slide the shuttle** off the track, setting it aside.

Installing the New Shuttle Assembly

- With the PCB of the replacement shuttle facing the rear of the library, place the shuttle on the edge of the **track** and slide it towards the front of the chassis.

NOTE: The shuttle cartridge opening should be on the left.

- Place the retained two-piece **lower spooler assembly** on the spooler mounting post (see Figure 4) of the new shuttle.

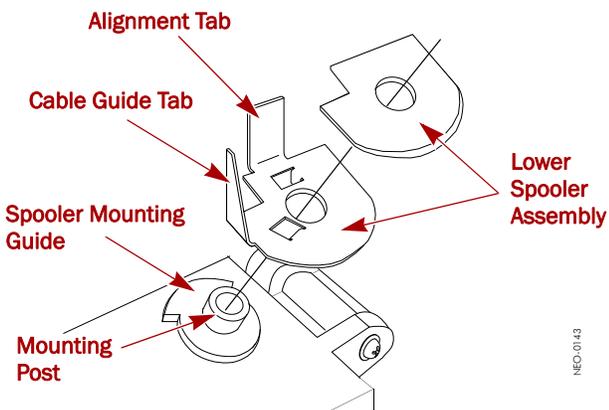


Figure 4. Installing the Lower Spooler Assembly

NOTE: Align the two tabs underneath the lower spooler assembly with the spooler mounting guide on the base of the mounting post.

- Position the **cable and upper spooler assembly** for attachment:

CAUTION: Be sure there are no twists in the cable between the cable's guide tab and the spooler.

- Fully extend the **cable and spooler** assembly, verifying that the cable is flat and not twisted.

IMPORTANT: If the cable separates from the spooler top, when reattaching it, you **MUST** verify that the end of the polycarbonate stiffener is **EVEN** with the edge of the spooler top rear slot to provide the correct amount of strain relief on the cable.

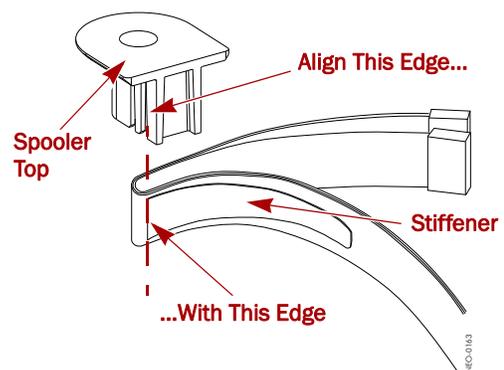


Figure 5. Polycarbonate Stiffener Alignment

- b. Rotate the spooler and cable **counter-clockwise** one full turn (Figure 6).

NOTE: If the flex cable is not looped properly as shown, the shuttle will jam when operated.

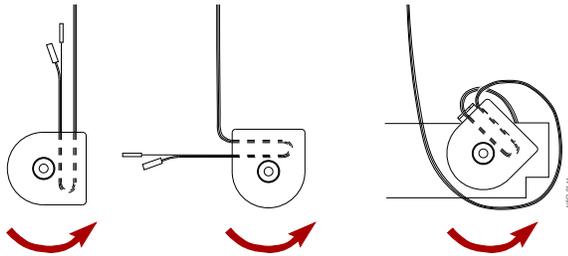


Figure 6. Wrapping the Cable Around the Spooler

- c. Align the wrapped lower spooler assembly over and slide it onto the shuttle **mounting post** (Figure 8). Make sure that both the Signal Controller and the Power cables are threaded **outside** of the angled edge of the cable guide tab.

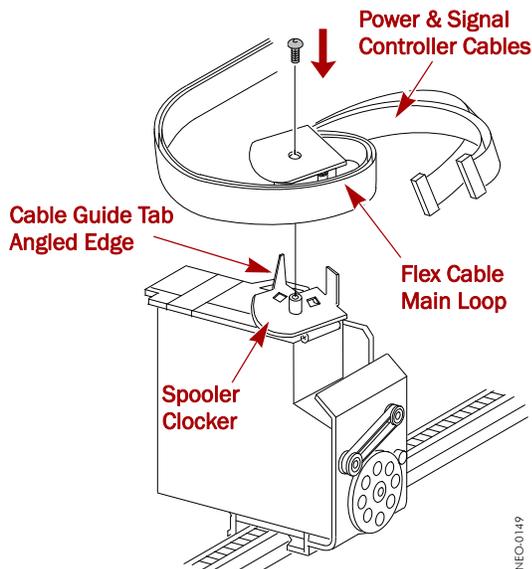


Figure 7. Rotating the Flex Cable into a Loop

4. Use the **retained screw**, secure the spooler.

NOTE: To align the screw to the plastic mounting post threads, make a half turn counter-clockwise before tightening the screw.

5. Attach the flex cable to the shuttle PCB:
 - a. Without bending the cable, carefully loop and insert the **Power cable** into the Power cable connector (Figure 8).

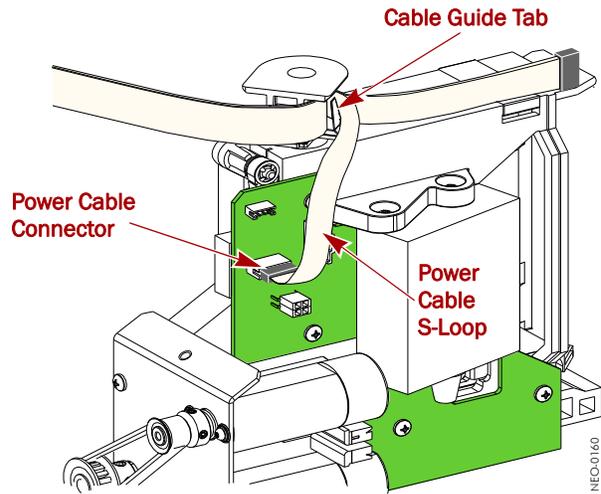


Figure 8. Connect the Shuttle Power Cable

- b. Without bending the cable, carefully loop and insert the **Signal Controller cable** into the Signal Controller cable connector (Figure 9).

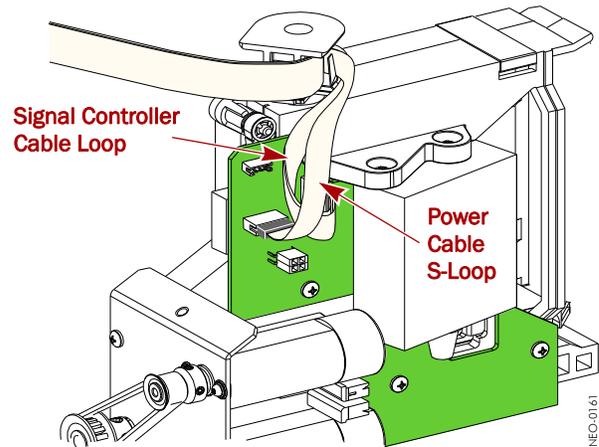


Figure 9. Connect the Shuttle Signal Controller Cable

- c. Position the Signal Controller cable **underneath** the **Power cable** to prevent damage.

CAUTION: Failure to secure the Shuttle Controller cable can result in damage to the cable when using the XpressChannel.

6. Using a mechanical lifter (or two people), reinstall the **library** into the rack.
Leave the front top cover off until the unit is tested.
7. Reinstall all **drive assemblies**.
8. Reattach all **data cables**.

Power On and Test the Library



WARNING: Use care when extending the library out of a rack to the maintenance position to prevent tipping of the unit causing damage or personal injury.

Power On the Library

1. With the library in the extended maintenance position, plug the **power cords** back in.
2. Turn the power supply **switches** to ON (I).
3. Observe the inside of the library during the POST process to verify the **shuttle** assembly installation:
 - Watch the **shuttle assembly and track** movement.
 - Make sure that nothing interferes with the flex cable assembly through its **full range of motion**.

NOTE: If problems occur, contact Overland Storage Technical Support.

Replace the Cover

1. In the maintenance position, 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.
3. Carefully slide the **library** back into the rack and secure it.

Run a Drive Cycle Diagnostic

Library diagnostics test the library's operational mechanisms to make sure they are running and operating properly. The Drive Cycle diagnostic randomly fetches cartridges from slots and inserts them into the drives.

To run the Drive Cycle diagnostic, follow these steps:

1. From the touch-screen GUI, press **Menu > Diagnostics**.
2. From the Diagnostics screen, press **Drive Cycle**.
3. Press **Start**.
4. When the diagnostic is done, check the **error status**.
 - If there are **no errors**, the library is ready to run.
 - If you do receive **errors**, note them and contact Overland Storage Technical Support.

Additional Help

You can get additional technical support on the Internet at <http://support.overlandstorage.com>, or call 1-877-654-3429 (toll-free U.S. & Canada), +44 (0) 118-9898050 (Europe), or +1 (858) 571-5555 Option 5 (International).