NEO® 2000E
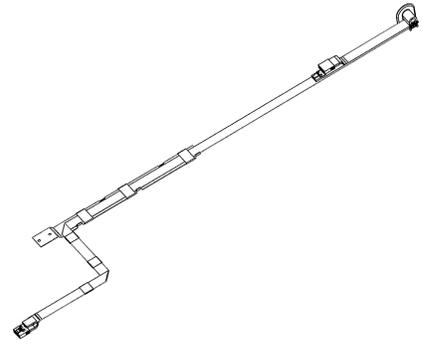
Spare Flex Cables

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 Flex Cable assembly in a NEO 2000E library from Overland Storage.

⚠ **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.**

Unpacking the Spare

Carefully unpack and verify that you have all the parts:

- Shuttle Flex Cable assembly (with upper Spooler component)
- Two M3x6mm Panhead Phillips screws
- One M3x20mm Panhead Phillips screw
- These instructions

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** from the drives using the Graphical User Interface (GUI) or the application software. Exit the application software and stop the software services if necessary.

2. **Power off** the library as follows:

   a. Use the **GUI** to power down the library.

   b. Turn the **power supply** switches to OFF (O).

   c. Remove the **power cord**.

3. Remove all **data cables**.

4. Remove all **drive assemblies**.

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

5. Using a mechanical lifter (or two people), remove the **unit** from the rack and place on a secure ESD surface.

6. Remove both **top covers**:

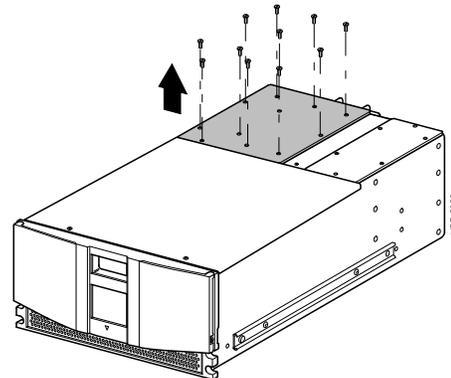   a. Remove and retain the **11 screws** that secure the Fan Cover assembly to the library chassis (Figure 1).

Figure 1. Remove Fan Cover Screws

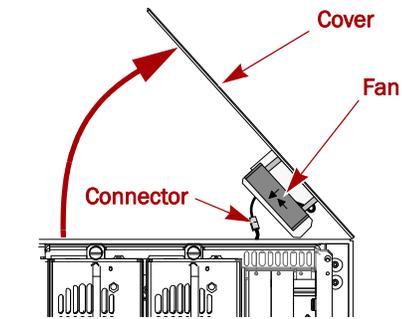   b. Lift the inside edge of the **Fan Cover assembly** and disconnect the cooling fan connector (Figure 2).

Figure 2. Fan Cover Assembly Removal

c. Lift the **Fan Cover** off and set aside.

Be sure the fan side is up to prevent damage to the fan assembly.

d. Remove and retain the **two screws** securing the top front cover.

e. Lift and remove the **front cover,** and set aside.

Remove the Old Cable

Disconnect From the Card Cage

1. Disconnect the **J5** and **J6 cables** (Figure 3) from Card Cage PWA.
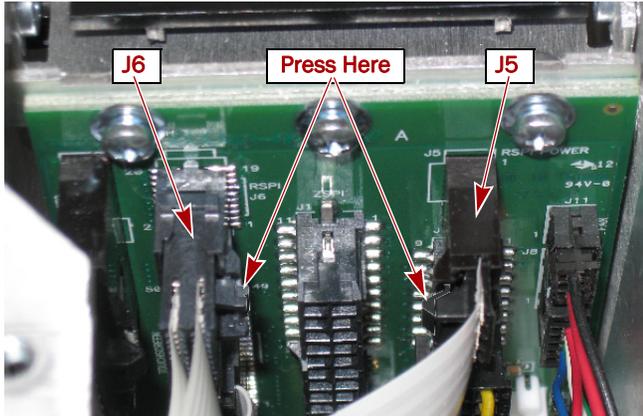

Figure 3. Press the J5 and J6 Release Latches to Release

2. Pull the two cables out of the Card Cage **access hole** (Figure 4).
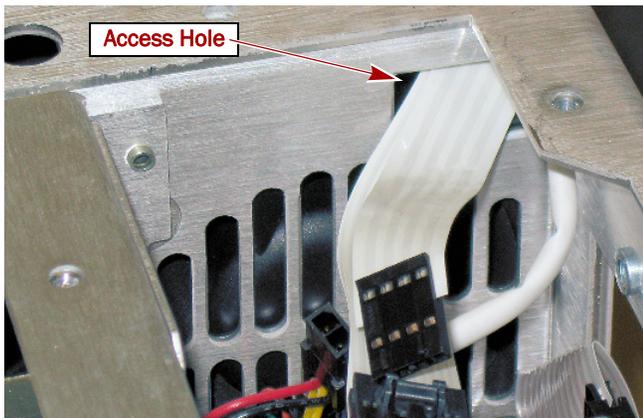

Figure 4. Access Hole Behind the Card Cage PWA

3. Unhook the cables from the **cable clamp** on the other side of the bulkhead above the fan (refer to Figure 12 on page 4).

Disconnect From the Shuttle

1. Disconnect the **cables** from Shuttle (Figure 5):

a. Release the **Signal Controller** cable.
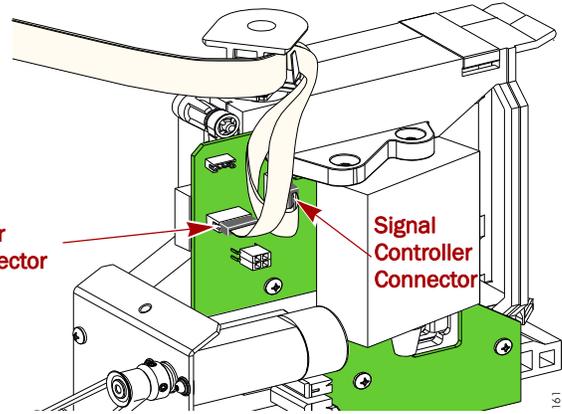
b. Release the **Power** cable.

Figure 5. Front View of Shuttle Cables

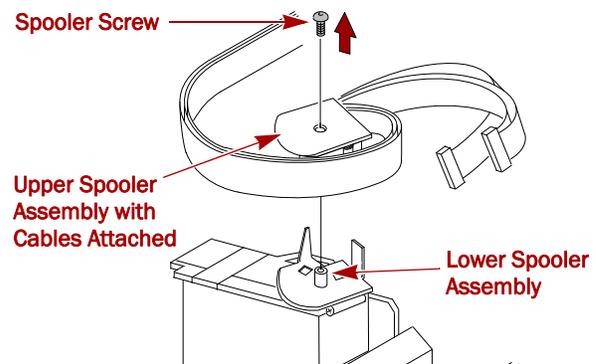**2.** Remove and discard the spooler **screw** (Figure 6).

Figure 6. Removing the Upper Spooler Assembly

3. Lift off the **upper** spooler assembly with the flex cables attached (Figure 6), and carefully set it aside.

NOTE: Do NOT remove either the middle (black) or bottom (silver) spooler components.

4. Remove and discard the two **screws** holding the Flex Cable brace to frame (Figure 7), and set it aside.
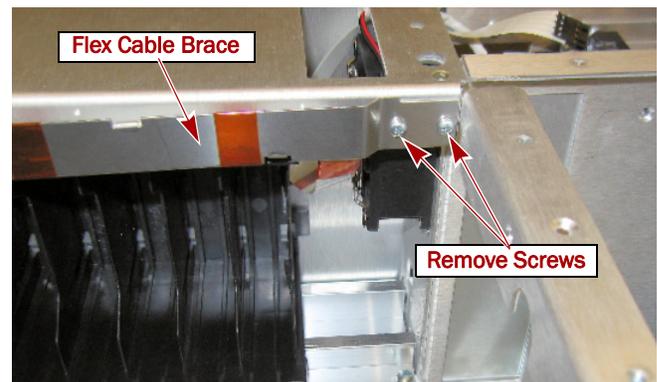

Figure 7. Location of the Flex Cable Brace Hexhead Screws

Install the New Cable

Attach the New Spooler

1. Using two new M3x6mm Hexhead screws, attach the new **Flex Cable Assembly** (Figure 7 on page 2) to the chassis frame.

> ⮕ **IMPORTANT:** The Flex Cable brace MUST be BELOW the top edge of the chassis. To check this, temporarily position the Fan Cover upside down over the brace and visually check it.

2. Attach the Flex Cable and the upper spooler assembly to the **shuttle**:

    a. Verify the position of the **lower spooler** assembly (Figure 8) on the shuttle.

Alignment Tab

Cable Guide Tab

Lower Spooler Assembly

Spooler Mounting Guide

Mounting Post

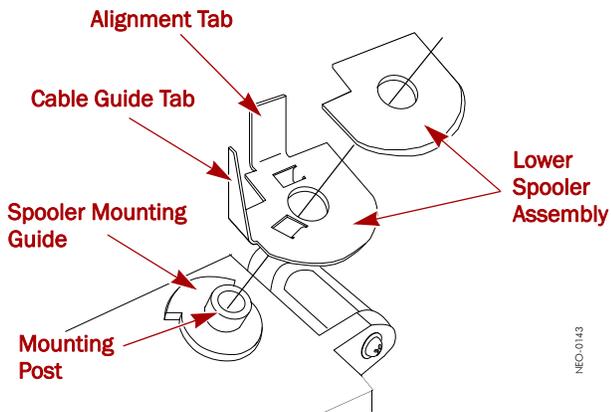*Figure 8. Shuttle Spooler Components*

   b. Fully extend the long end of the **cable and spooler** assembly, verifying that the cable is not twisted.

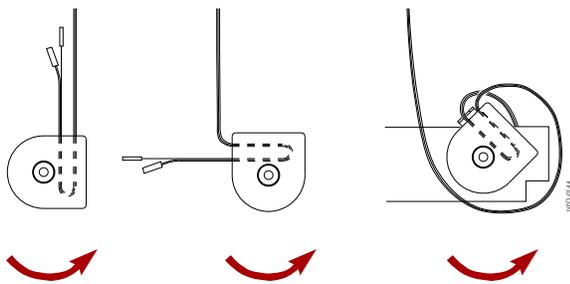   c. Rotate the spooler and cable **counter-clockwise** as shown in Figure 9.

Figure 9. Wrapping the Cable Around the Spooler

   d. When aligned with the lower spooler assembly, slide the upper assembly on the **mounting post**.

Connect the Flex Cables to the Shuttle

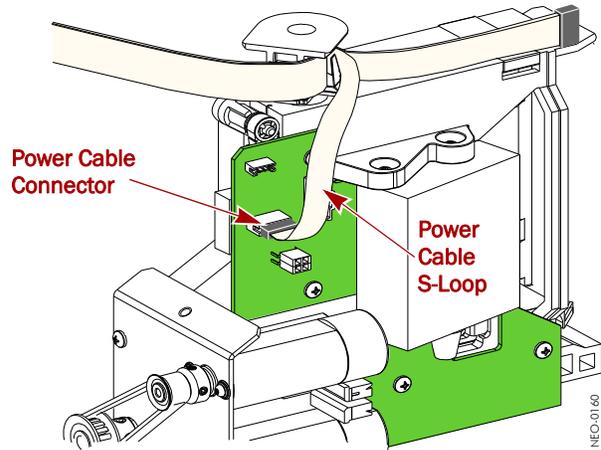1. Loop (do NOT bend) and connect the **Power cable** to the Power cable connector (Figure 10).

Power Cable Connector

Power Cable S-Loop

Figure 10. Connect the Shuttle Power Cable

2. Without bending the cable, carefully loop and insert the **Signal Controller cable** into the Signal Controller cable connector (Figure 11).

   NOTE: Be sure the Signal cable is under the Power cable.

Signal Controller Cable Loop
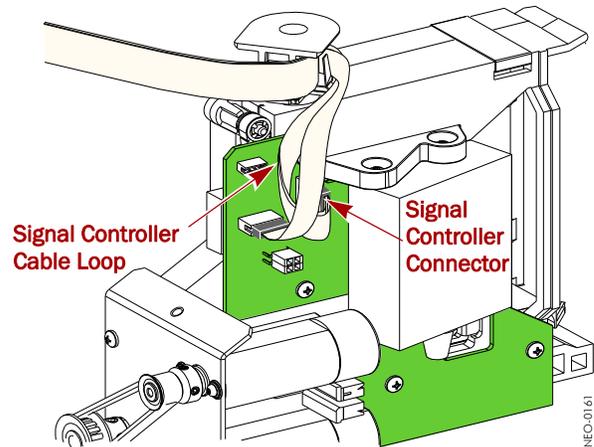
Signal Controller Connector

Figure 11. Connect the Shuttle Signal Controller Cable

Connect the Flex Cables to the Controller

1. Without bending the cable, carefully guide the **Flex Cable** to the access hole ([Figure 12](#)) and insert it.

   Verify that the cable is parallel to the backplane and the bend in the cable is directly behind the access hole.
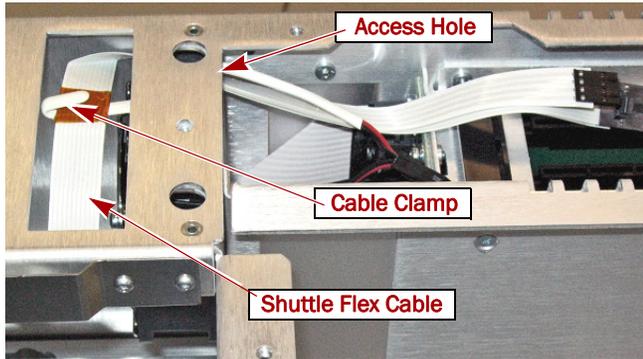

Figure 12. New Flex Cable Routed through the Access Hole

2. Position the flex cable above the **cable clamp hook** to keep the magazine from contacting it.

3. With the releases positioned inward, attach the **cable** to the connectors:
   - The **single** cable connects to **J5**.
   - The **dual** cable connects to **J6**.

Replace Fan Cover

1. Carefully reposition the **Fan Cover** assembly over its opening and moved slightly toward the front to permit the deflector to enter the cavity.

2. Reconnect the fan cable to the **backplane cable**.

3. Align the **Fan Cover** in place.

   NOTE: Verify that the cables are all clear before closing.

4. Using the retained **screws**, reattach the Fan Cover.

Power On and Test the Library

Power On the Library

1. Plug in the **power cords**.

2. Turn the power supply **switches** to ON (|).

3. Observe the POST process to verify the **shuttle** assembly installation:
   - Watch the **shuttle assembly and track** movement.
   - Make sure that nothing interferes with the cable assembly through its **full range of motion**.

   NOTE: If problems occur, contact Overland Storage Technical Support (see below).

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:

1. From the touch-screen GUI, press **Menu** > Utilities > **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.

5. **Power off** the library as follows:
   a. Use the **GUI** to power down the library.
   b. Turn the **power supply** switches to OFF (O).
   c. Remove the **power cord**.

6. Slide the **front top cover tabs** into their slots and gently set the cover into place.

7. Reinstall the **two retained cover screws**.

Reinstall the Library

1. Using a mechanical lifter (or two people), reinstall the **library** into the rack.

2. Reinstall any removed **drive assemblies**.

3. Reattach all **external host cables**.

4. For SCSI systems, verify the **terminators** are still in place.

Return Old Flex Cable

1. Place removed part in the **replacement part box**.

2. Return the part to Overland Storage.