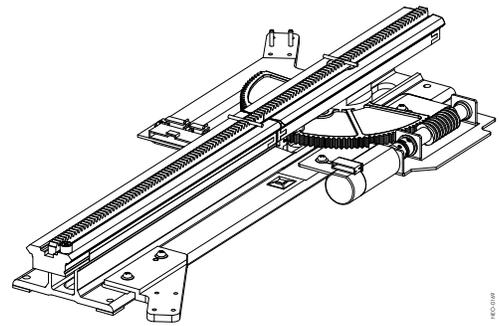


Spare Shuttle Track Assembly

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 Track assembly in a NEO 4000E 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:

- NEO 4000E Shuttle Track assembly
- Eight (8) M3x20mm panhead Phillips screws
- Eight (8) M3 cup washers
- 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**:
 - a. Using the Graphical User Interface (GUI) or the application software, remove any **cartridges** from the drives to prevent damage.
 - b. Exit the **application software** and, if necessary, stop the software services.
 - c. Use the GUI to remove **all** the magazines.

IMPORTANT: If the library is non-operational, the doors can be manually opened by pushing a stiff wire against the mechanical releases ([Figure 1](#)) directly behind the front panel to remove the magazines.

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 **external host cables**.
4. Also, to reduce weight, we recommend removing the **drive assemblies** at this time.

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

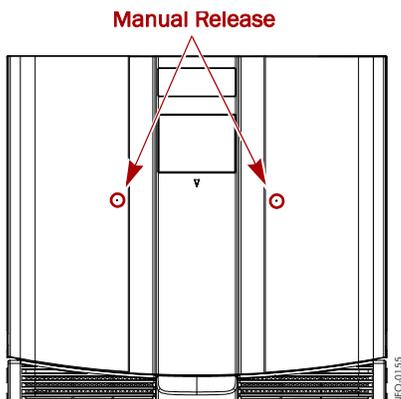


Figure 1. Manual Door Release Locations

5. Using a mechanical lifter (or two people), remove the **unit** from the rack and place on a secure ESD surface.
6. Remove and retain the **two screws** securing the front top cover.
7. Lift and remove the **front top cover**, and set aside.

Removing the Old Assembly

1. Remove the shuttle:

- By hand, turn the **motor/track coupler** until the track section is at a 45° or larger angle (Figure 2).
- With one hand supporting the top of the shuttle, grasp the shuttle base and carefully **slide the shuttle** off the track.

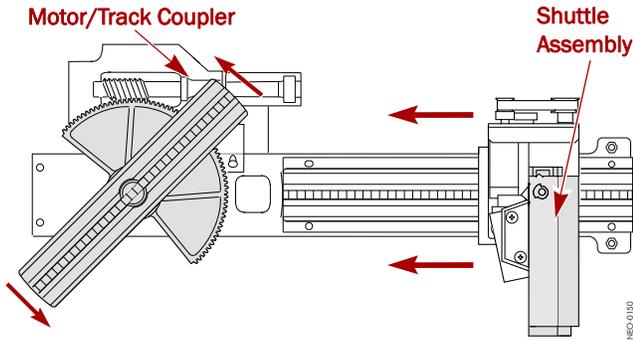


Figure 2. Top View of Track Showing Movable Section

- Without twisting the shuttle flex cable, set the **shuttle assembly** (with the PCB up) on the top edge of the unit (Figure 3).

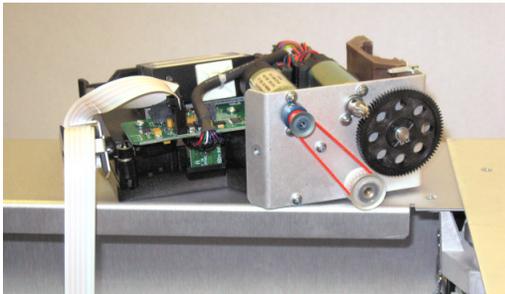


Figure 3. Set the Shuttle Aside; PCB Up

2. Disconnect the track flex cable from the track plate PCB (Figure 4):

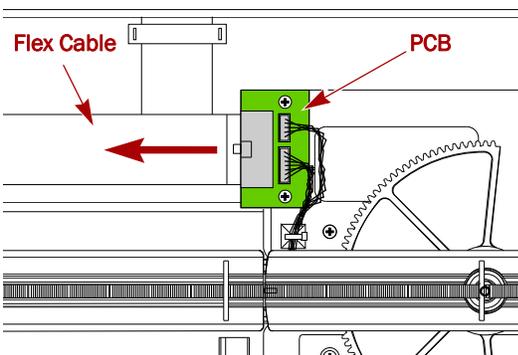


Figure 4. Cable Connections on Flex Cable Card

3. Remove the eight M3x20mm screws and washers (Figure 5) securing the two Z-Axis assemblies to the track plate.

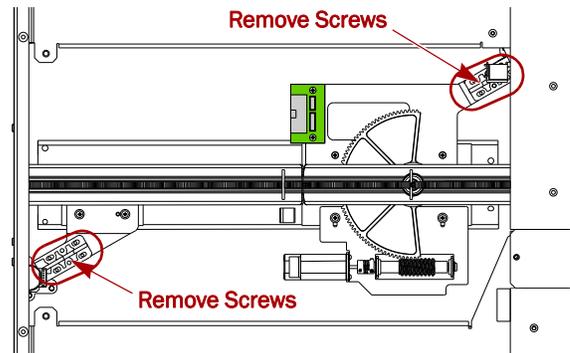


Figure 5. Remove the Z-Axis Screws

4. Raise the front Z-Axis about 1/2 inch by turning the motor coupler clockwise (Figure 6).

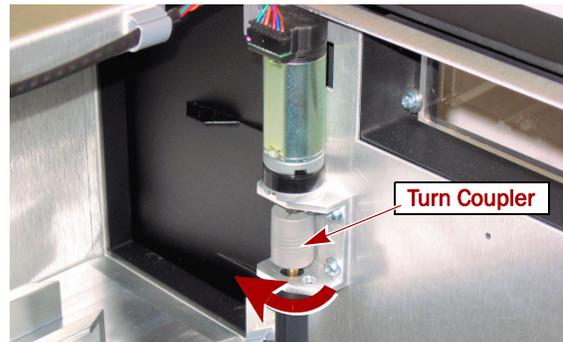


Figure 6. Turn Front Z-Axis Motor Coupler

5. Raise the rear Z-Axis about one inch by turning the pulley gear clockwise (Figure 7).

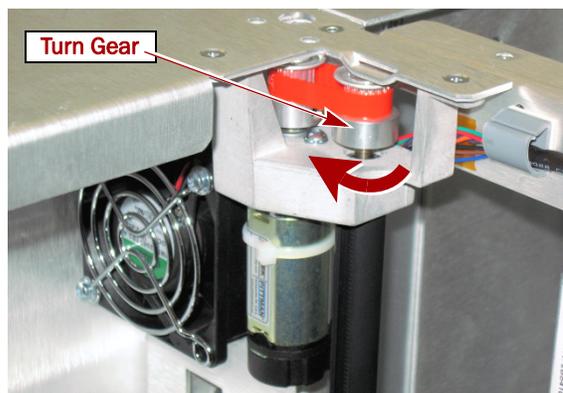


Figure 7. Turn Rear Z-Axis Pulley Gear

6. Verify that the Z-Axis has cleared the track plate **alignment pins** (Figure 8).
7. Carefully remove the **old track** and set it aside.

IMPORTANT: Check for loose hardware on the chassis floor. Remove it before continuing.

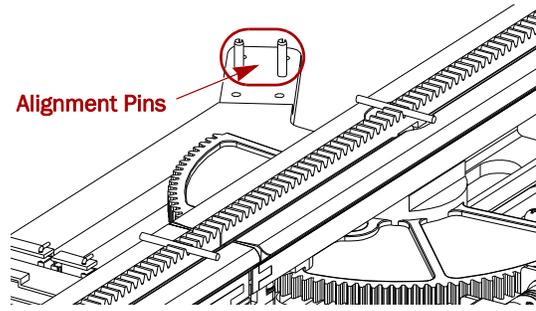


Figure 8. Shuttle Track Z-Axis Alignment Pins

Installing the New Assembly

1. Position the **new track assembly** on the chassis floor.
2. Attach the **rear Z-Axis**:
 - a. Lower the **rear Z-Axis bracket** onto the alignment pins on the track plate by turning the pulley gear counterclockwise.
 - b. Align both sides of the rear Z-Axis base to the **edges** of the track plate (Figure 9).

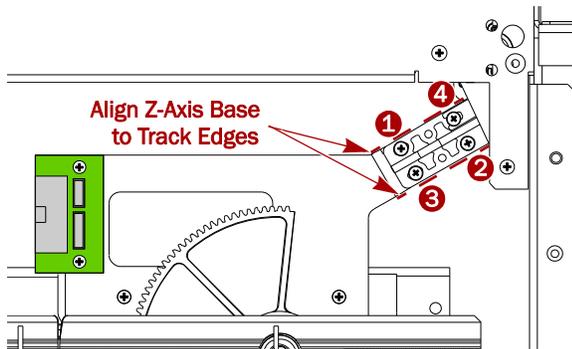


Figure 9. Align Rear Z-Axis Bracket & Tighten Screws in Order

- c. Using **four new M3x20mm screws** and **M3 cup washers**, secure the rear Z-Axis to the track plate using around 6 lbs of torque. Tighten the screws in the order shown in Figure 9. Be sure the cup washer is positioned correctly (Figure 10).

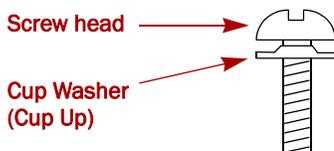


Figure 10. Screw and Cup Washer Assembly

3. Attach the **front Z-Axis**:
 - a. Lower the **front Z-Axis bracket** by turning the motor coupler counterclockwise until it contacts the track plate.

- b. Align both sides of the front Z-Axis base to the **edges** of the track plate (Figure 11).

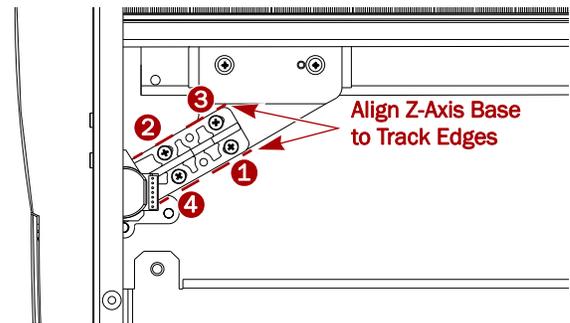


Figure 11. Align Front Z-Axis Bracket & Tighten Screws in Order

- c. Using **four new M3x20mm screws** and **M3 cup washers**, secure the front Z-Axis to the track plate using around 6 lbs of torque. Tighten the screws in the order shown in Figure 11.

4. Reconnect the **track flex cable** to the track assembly PCB (Figure 12).

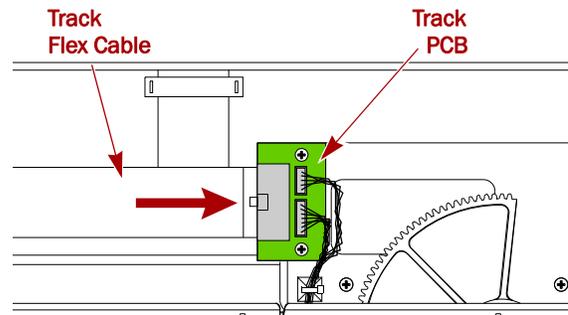


Figure 12. Cable Connections on Flex Cable Card

5. Reinstall the **shuttle**:
 - a. By hand, turn the track **motor/track coupler** until it is at a 45° or greater angle (Figure 13).

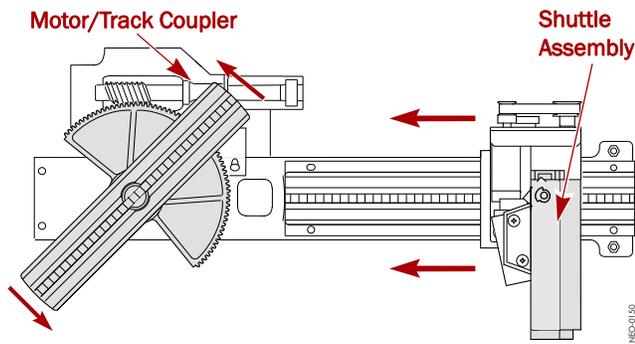


Figure 13. Top View of Track Showing Movable Section

- b. Carefully lift the **shuttle** and position it at the open end of the track, checking that there are NO twists in the flex cable (Figure 14).

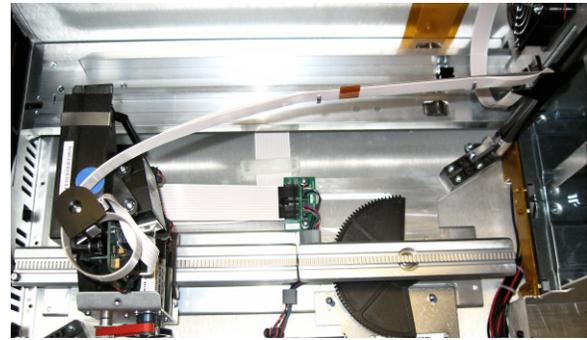


Figure 14. Flex Cable Position Around Shuttle Spooler

NOTE: The open side of the shuttle should be on the left.

- c. Slide the shuttle onto the **track** making sure the shuttle flex cable wraps around the spooler correctly.

Power On and Test the Library

Power On Library

Before returning the unit to the rack, **verify** that it works.

1. For SCSI systems, verify the **terminators** are still in place.
2. Plug in the **power cord**.
3. Turn the power supply **switch** to ON (I).
4. Tap the **GUI** to power on the library.
5. 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*.

Run Diagnostics

Test the library's operational mechanisms to make sure they are running and operating properly.

NOTE: If you do receive errors, note them and contact *Overland Storage Technical Support*.

1. From the touch-screen GUI, press **Menu > Diagnostics > Cartridge Cycle**.
2. Run the **Cartridge Cycle**:

- a. Press **Start**.
 - b. Allow the cycle to run at least **5 minutes**.
 - c. Press **Stop**.
3. Using the **Move Media** function, load and unload a cartridge from each drive.
4. **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**.

Reinstall the Library

1. Slide the **front top cover tabs** into their slots and gently set the cover into place.
2. Reinstall the **two retained cover screws**.
 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**.

Return Old Track Plate

1. Place removed parts in the **replacement part box**.
2. Follow **directions** included in the box for returning parts to Overland Storage.

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).