

Spare Z-axis Motor Assembly Instructions

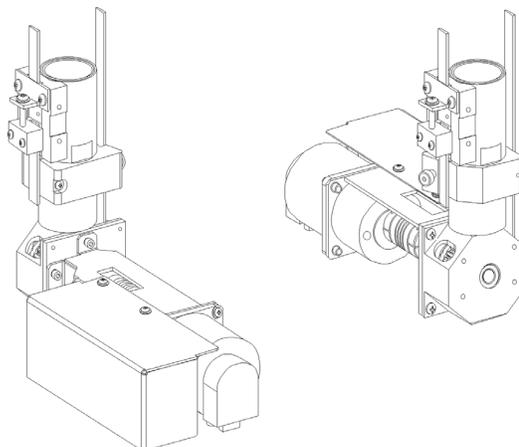
This document describes how to remove and replace a Z-axis motor assembly of a Belt Drive Assembly (BDA) in a NEO 8000e tape library from Overland Storage.

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.

IMPORTANT: Overland Storage requires that the Z-axis motors be removed and replaced by an Overland Storage authorized service provider. Improper installation may result in damage which voids existing warranties.



CAUTION: NEVER handle the BDA with your bare hands. Contamination from the oils on your skin can cause the BDA to stick. Always wear cotton gloves.

Prepare the Library

Prepare Media Drawers for Removal

To simplify the replacement of the motor, remove the media drawers to provide easier access to the inside of the library.

WARNING: Exercise care when removing the media drawers from the library units. Fully-loaded drawers weigh approximately 58 pounds (26.3 kg). Also, when the drawers are removed, the inner rails extend several inches beyond the back of the drawers. Tilting the drawers can result in the tapes falling out. Opening several drawers at once is a tip hazard.

AVERTISSEMENT: Soyez prudent lorsque vous retirez les tiroirs de support des unités de bibliothèque. À pleine charge tiroirs pèsent environ 26,3 kg. En outre, lorsque les tiroirs sont enlevés, les rails intérieurs s'étendent au-delà de quelques centimètres à l'arrière des tiroirs. Inclinant les tiroirs peuvent se traduire par des bandes de tomber. Ouverture de plusieurs tiroirs à la fois un danger pointe.

1. **Label** all the drawers (so they can be returned to their correct positions).
2. At the front panel, select **Drawer Access** (and password, if active) > **Unlock All** to release all the media drawers.

NOTE: If the library is partitioned, the partition selection option is displayed before the access option screen.

3. Pull **each drawer** out about 2 inches (5cm).

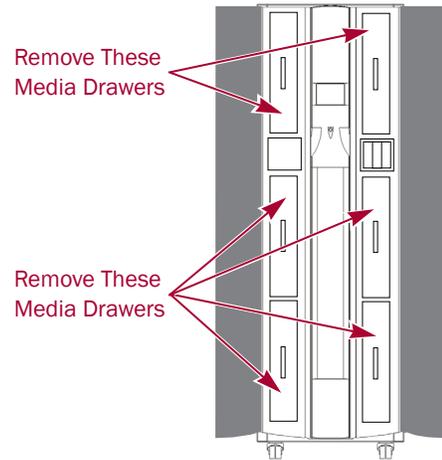


Remove Media Drawers

- To remove **each** media drawer:

 **IMPORTANT:** If removing tapes minimize the weight on a partitioned library, be sure to keep them together on a secure surface and labeled so they can be returned to the same drawer.

- Pull the **drawer** out until it stops.
 - Press the **drawer release** and slide the drawer out a couple more inches.
 - Carefully remove the **drawer**, label it, and set it aside.
- For safety, slide the **rails** back into the unit using the rear release buttons on the rails.



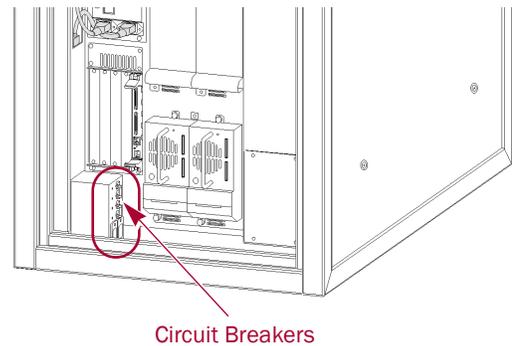
Power Off and Disconnect

- On the front GUI panel, press **Power** to turn the library OFF.

The shuttle/track assembly moves to the library floor as the unit shuts down.

NOTE: If the library is non-functional, wait until the shuttle/track assembly finishes drifting to the bottom automatically.

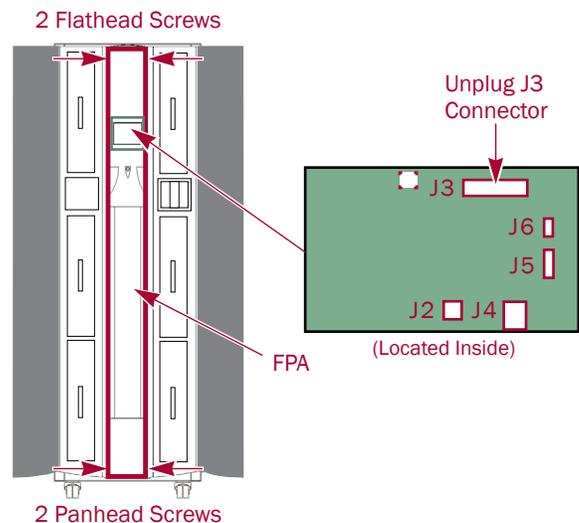
- At the rear, in the bottom left corner, turn OFF the **circuit breakers**.
- Remove and retain all **power cords**.



Front Panel Assembly Removal

The Front Panel Assembly (FPA) is held in place with four screws. The two at the bottom are panhead screws and the two at the top are flathead.

- Open both front **doors**.
- At the bottom on the **left** side of the FPA (in front of the bottom trim) remove the **bottom screw**.
- Repeat **Step 2** for the right-side **bottom FPA screw**.
- Also on the right, remove the **top FPA screw**.
- While holding the FPA to prevent stress on the inside cables, carefully remove the left-side **top FPA screw**
- Carefully move the FPA out and reach inside to disconnect the **J3 Connector** from the top of the old controller card.
- Open the **retainer clamps** above the controller card to release the J3 cable from the FPA.
- Carefully remove the **FPA** and set it on a secure surface.



Replace Motor

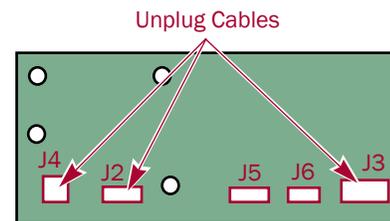
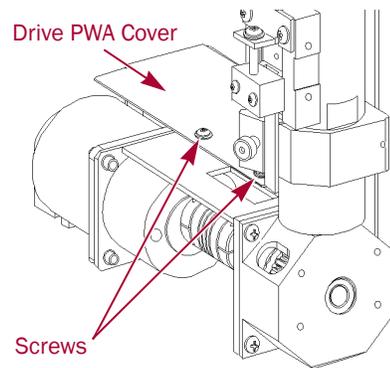
NOTE: The instructions are the same for both the front or rear motors.

Disconnect BDA Wiring

1. Put on the supplied **cotton gloves**.

 **IMPORTANT:** Always wear cotton gloves while working around the BDA to prevent contamination of the guide pole.

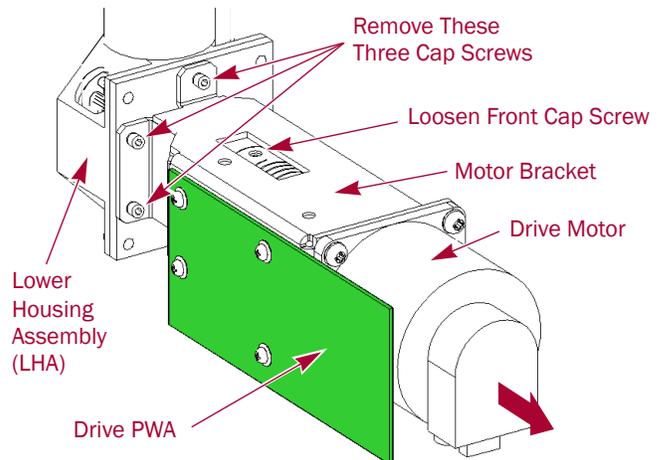
2. Disconnect the **BDA wiring**:
 - a. At the front, remove and retain the **two screws** securing the Drive PWA cover.
 - b. Unplug the **J2, J3, and J4** connectors from the Drive PWA.
 - c. For protection, loosely reattach the Drive PWA **cover** using the retained screws (don't fully tighten).



Replace Drive Motor

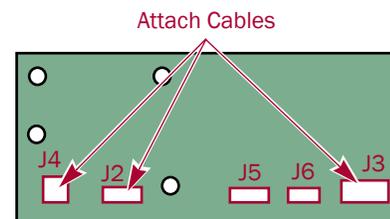
Remove the **motor assembly** from the LHA:

1. Rotate the drive's **helical coupling** until the cap screws are visible.
2. Using a 7/64" hex key, loosen (but don't remove) the **front cap screw** on the helical coupling.
3. Using a 3mm ballhead hex key, remove and retain the **three cap screws** holding the motor bracket to the LHA.
4. Set the **motor assembly** aside on a secure ESD surface.
5. Slide the **motor helical coupling** of the new motor onto the LHA shaft.
Make sure the shaft flat side is properly aligned under the helical coupling cap screws.
6. Using a 3mm ballhead hex key, attach the motor bracket to the LHA using the three retained **cap screws**.
7. Using a 7/64" hex key, tighten the **front cap screw** on the drive's helical coupling.



Reconnect BDA Wiring

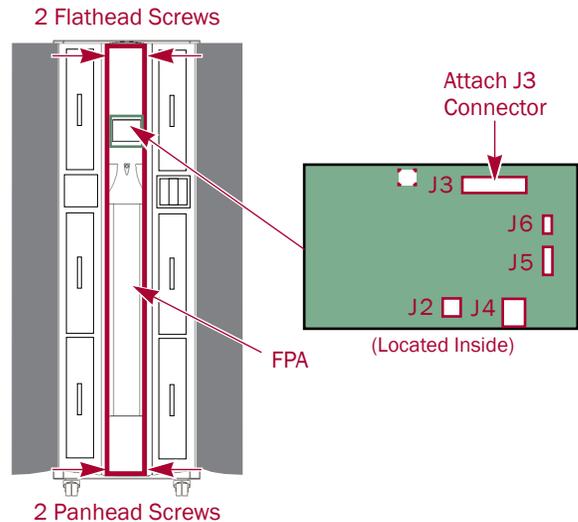
1. Remove and retain the **two screws** securing the Drive PWA cover on the new motor assembly.
2. Attach the **J2, J3, and J4** cables to the Drive PWA.
3. Reattach the **cover** the Drive PWA using the retained screws (don't fully tighten).



Reassemble the Library & Test

Reattach the FPA

1. At the front of the library, position the **FPA** in front of the center opening.
2. Reach inside and reattach the **J3 cable** to the top of the controller card.
3. Close the **retainer clamps** over the J3 cable to secure it.
4. Move the J3 cable **behind** the BDA top tensioner to keep it out of the way of the robotics.
Check that the cable is flat against the FPA.
5. Position the FPA so that the **screw holes** are visible.
6. At the top of the FPA, reinstall the **two flathead screws**.
7. At the bottom of the FPA reinstall the **two panhead screws**.

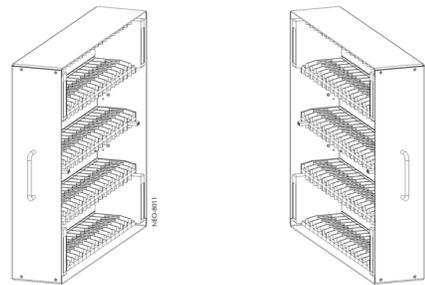


Reinsert Media Drawers

NOTE: Verify that the tape media is flush in the drawers before pushing them into the library.

For **each** drawer:

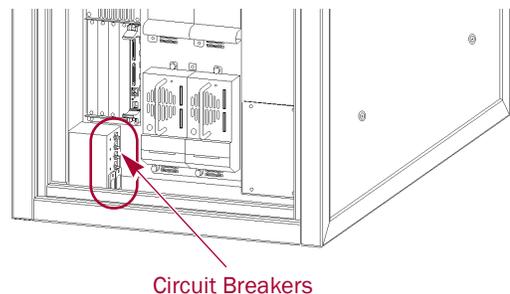
1. Extend the **rails** for the appropriate drawer and move the **bearings** to the front.
2. Using the identifying label, reinsert the **appropriate drawer** onto the rails.
3. Slide the drawer **80%** into the library and back out to check it.
4. Push the **drawer** all the way in until it locks.



Power On the Library

1. **Reattach** all the power cords.
2. Set the library circuit breakers to the **ON** ("I") position.
The library automatically powers on and completes a POST.

The touchscreen should show the POST progress indicating it is fully functioning. If not, contact Overland Technical Support.



Calibration Test

NOTE: The library uses Calibration Fiducial labels to accurately locate reference points on the Drawer Assemblies, the Fixed Drawer Assembly and the Mail Slot Track Assembly.

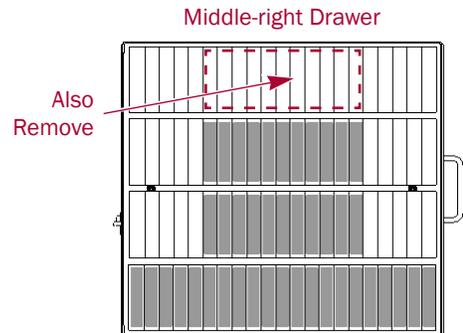
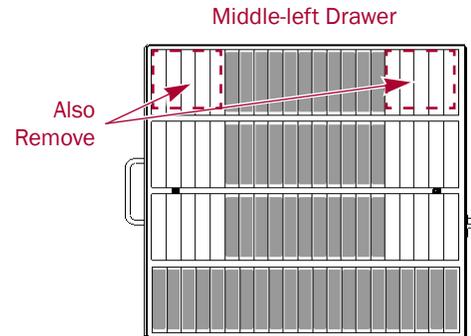
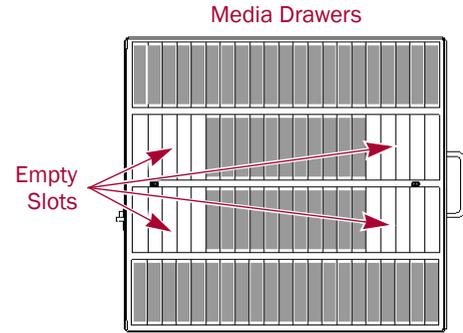
Calibration Fiducial Label locations:

- Two on the drive bay bulkhead
- Two on each Drawer
- Two on the Fixed Slots
- Two on the Mail Slot track

NEO 8000e libraries uses the picker to touch these fiducial label posts during a calibration routine to establish the reference points it needs.

1. Cartridges in the immediate area of the Fiducial labels must be removed to avoid any interference when touching or reading the labels:
 - Remove the cartridges in the first five and last five slots in rows numbered two and three in **each drawer** that has cartridges.
 - In addition, for the **middle-left drawer**, remove the first five and last five cartridges in the top row.
 - Also, for the **middle-right drawer**, remove all the cartridges in the top row.
 - Remove the cartridges in the first five and last five slots in the **Fixed Slots**.
 - Remove the **Mail Slot Magazine**.
2. At the default front panel menu, press **Maintenance > Calibrate Robot**.
3. Leave all elements **checked** for a full calibration of all drawers and magazines.

Test requires 30-35 minutes to complete.



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>

