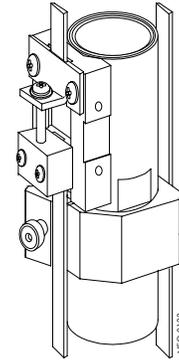


NEO 8000™ Library

Remove & Replace Instructions

Z-Axis Belt Spare



Overview & Notes

Introduction

IMPORTANT: Overland Storage requires that all NEO 8000 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 belt of a Z-Axis Belt Drive Assembly (BDA) in a NEO 8000 Library from Overland Storage.

NOTE: This belt kit is for newer NEO 8000 units that use the tensioner bracket-and-screw system to connect the two ends of the Z-Axis belt.

Unpacking the Spare

Carefully unpack the spare kit and verify that you have all the parts:

- 12-foot Kevlar belt
- Two shims
- Cable ties
- These instructions

NOTE: When replacing both belts in a NEO 8000 library, a separate belt kit is needed for each belt.

Electrostatic Discharge Information

A discharge of static electricity can damage micro-circuitry or static-sensitive devices. To help prevent electrostatic damage, observe the following precautions:

- Transport and store items in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free stations.
- Use a wrist strap and properly-grounded tools.
- Make sure you are always properly grounded when touching a static-sensitive component or assembly.
- Keep the work area free of non-conductive materials.
- Avoid touching pins, leads, or circuitry.



WARNING: The GUI touch screen does not completely shut off NEO 8000 system power. To reduce the risk of electric shock or damage to equipment, unplug both power cords.

Preparing a Library for Internal Access

To replace the belt on either BDA, it is necessary to remove the side panel and some media drawers from the left side of the library.

NOTE: If the left side panel cannot be accessed when replacing the belt on the rear BDA, it is necessary to remove the Front Panel Assembly (FPA) and some rear access covers. Refer to the *NEO 8000 Z-Axis Robotics Retrofit Remove & Replace Instructions* (Part No. 104380-101) for details. This document is available at the Overland Storage Technical Support website.



WARNING: Exercise care when removing media drawers from the library. Fully-loaded drawers weigh approximately 60 pounds (27 kg).

1. Release and remove the **top-left** and the **bottom-left** media drawers.

NOTE: Label the media drawers so they can be returned to their correct places when they are reinserted.

2. **Power down** the library at the front panel.
3. Set the library circuit breakers to the **OFF** (“O”) position.
4. Remove and retain the **power cords**.
5. Remove the **left side** panel and set aside.

Remove the Old BDA Belt

Use this procedure to replace a belt on either of the BDAs (Figure 1).

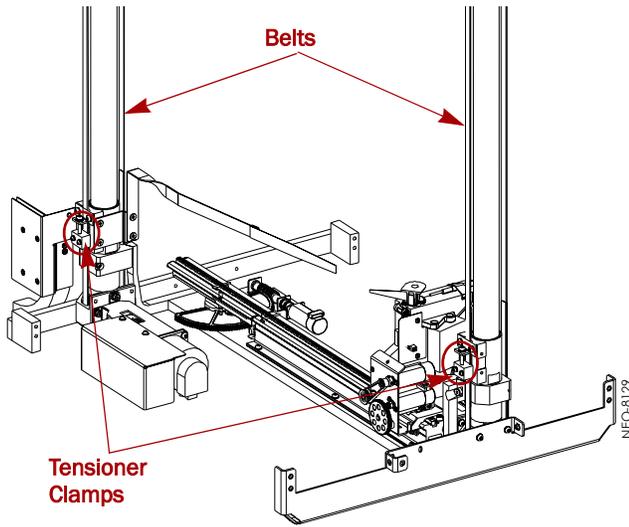


Figure 1. BDA Belt & Tensioner Locations

1. At the top Pulley Spring Tensioner assembly (Figure 2), hand tighten the **Spring Retainer Guide** until it is flush against the Belt Tensioner Ramp.

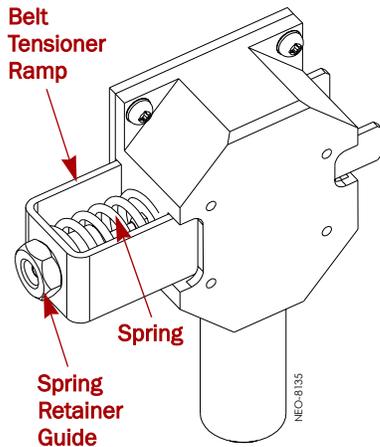


Figure 2. Top Pulley Spring Tensioner

2. Using a 5/8" wrench, continue tightening the **Spring Retainer Guide** until the spring is fully compressed.

CAUTION: Do not overtighten the spring. Stop when the gaps between the coils are no longer visible.

3. When replacing the **rear belt** (Figure 3):
 - Remove and retain the **cable clip** that holds the Flex cable in position on the Rotary SPI bracket.
 - Cut the **cable tie** that secures the Flex cable to the Rotary SPI bracket.
 - Cut the **cable tie** that secures the Rotary Motor and Optical Sensor cables to the belt under the clamps.

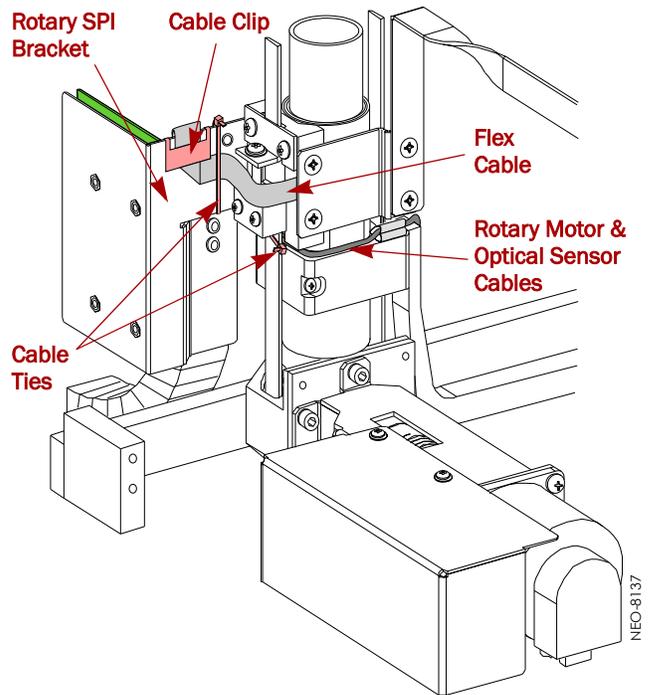


Figure 3. Remove Flex Cable Tie Down and Clip

4. At the Shuttle Mount Assembly (SMA), carefully and accurately **measure the gap** between the Fixed belt clamp and the Tensioner belt clamp (Figure 4).

NOTE: The gap measurement is needed to preset the belt tension during the installation of the new belt.

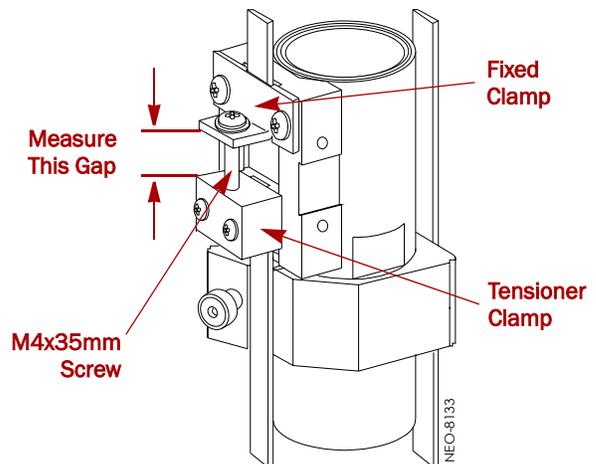


Figure 4. Shuttle Mount Assembly

5. Remove the vertical **M4x35mm screw and washer** releasing the tension on the belt clamps.

6. Remove the **old belt** noting the number of teeth in the clamp grooves (Figure 5).
 - a. Remove and retain the **two screws** from the bottom Tensioner clamp.
 - b. Remove the **Tensioner clamp** noting the number of belt teeth that are in the clamp grooves.
The correct number is three teeth in the grooves.
 - c. Remove and retain the **two screws** from the top Fixed clamp.
 - d. Remove the **Fixed clamp** noting the number of teeth that extend beyond the two grooves.
The correct number is one tooth beyond the two teeth in the grooves.

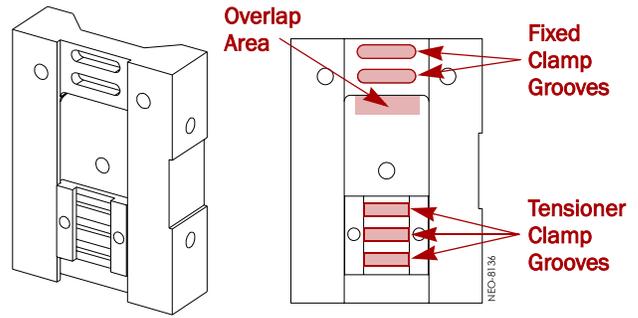


Figure 5. Clamp Grooves on the Backplate

7. Remove the **belt** from the BDA.

Install the New BDA Belt

The replacement belt must be cut to length, matching the number of teeth of the old belt and any adjustments.

IMPORTANT: If the old belt did not have three teeth under each of the clamps, you must increase the number of teeth when you cut the new belt to ensure three teeth under each clamp.

1. Lay the **old belt** next to the **new belt** and match up the teeth.
If the old belt is stretched, move the new belt as necessary.
2. If the old belt did NOT have three teeth engaged under each clamp, **add** extra teeth to the calculated length of the new belt to make up for the missing teeth.
For example, if the Fixed clamp only had two teeth engaged, include one more tooth when calculating the new belt's length (Figure 6).

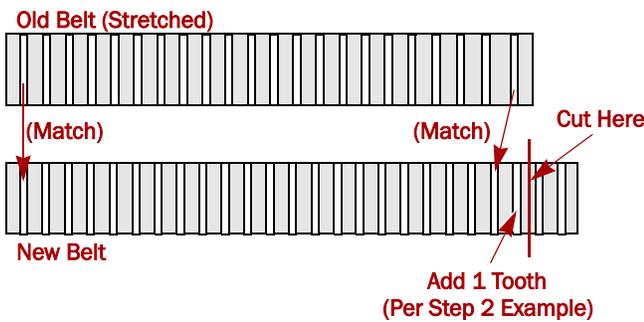


Figure 6. Calculating Where to Cut the New Belt

3. Place one end of the new belt into the **two Fixed clamp grooves** making sure the last tooth overlaps beyond the grooves (Figure 7).
4. Using the retained screws, reattach the **Fixed clamp**.
5. Feed the **belt** through the top pulley assembly, down the outside of the BDA, and through the bottom pulley assembly.

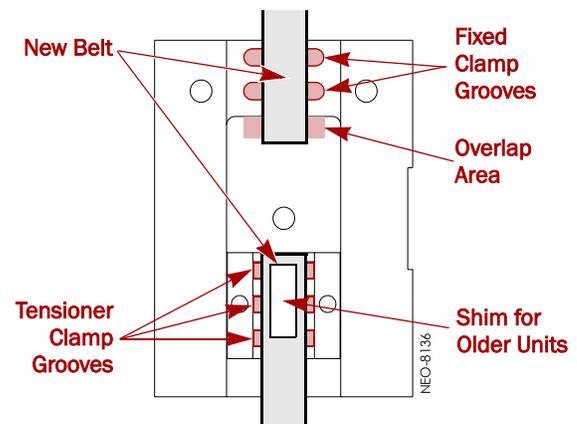


Figure 7. Attaching the New Belt to the Fixed Clamp

NOTE: Units with serial numbers below 1R542nnnnn have an older style of bracket and require a shim under the Tensioner clamp.

6. Depending on the style of bracket you have, do one of the following:
 - **Newer brackets**—place the other end of the new belt into the three Tensioner clamp grooves and, using the retained screws, reattach the clamp.
 - **Older brackets**—place the other end of the new belt into the three Tensioner clamp grooves, place the shim spacer on top of the belt (Figure 7) and, using the retained screws, reattach the clamp.
7. Using the retained M4x35mm **screw and washer**, reconnect the two clamps and tighten them until the previously measured gap is obtained.
8. When replacing the **rear belt** (Figure 3):
 - Use the **retained cable clip** to hold the Flex cable onto the Rotary SPI bracket.
 - Use a **new cable tie** to secure the Flex cable to the Rotary SPI bracket.
 - Use a **new cable tie** to secure the Rotary Motor and Optical Sensor cables to the belt under the clamps.
9. At the top pulley assembly, loosen the **Spring Retainer Guide** all the way out.

Verify the Library Operation

Once the new parts are installed, reassemble the library and validate the functionality of the system using the Cartridge Cycle Diagnostic test.

NOTE: This test randomly moves and redistributes the tape cartridges in the library requiring that it be re-inventoried before putting it back in service. In lieu of this automated test, you can manually move selected tapes to validate the functionality of the library.

1. Use the retained screws to reattach the **left side** panel.
2. Using the labels to determine the proper position, reinsert the **media drawers** into the library. Push them inward until they latch.

3. Reattach both **power cords**.
4. Set the library circuit breakers to the **ON** (“|”) position. Wait while the library completes its POST program.
5. Verify that **5 or more cartridges** are available from an enabled drawer or Mail Slot.
6. Select **Menu > Diagnostics > Cartridge Cycle > Start**.
7. Allow the test to run for **30 minutes** or 20-25 cartridge move iterations.

NOTE: If the test fails, contact [Overland Storage Technical Support](#).

Getting Help

You can get technical support on the Internet at support.overlandstorage.com, or call 1-877-654-3429 (toll-free U.S. & Canada) or 858-571-5555x5 (International).

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