Installation Guide: NexBot Robotics 713-009 O-Ring And Gasket Kit

SKU: NXB-GEN-713-009 | Revision: 1.0 | Category: Wear Parts & Consumables > Bearings & Seals > O-Rings & Gaskets

DANGER: Disconnect all power sources before beginning installation. Follow lockout/tagout (LOTO) procedures per OSHA 1910.147.

1. Required Tools & Materials

- Calibrated torque wrench (metric)
- Hex key set (metric)
- Socket set with extension (metric)
- Non-marring plastic or brass gasket scraper
- Lint-free industrial wipes
- Isopropyl alcohol (99% pure)
- Non-metallic O-ring pick set
- NexBot-approved FKM-compatible lubricant

2. Pre-Installation Checks

1. Verify the robot is powered down and in a full Lockout/Tagout (LOTO) state before beginning any work.
2. Confirm the SKU on the package (NXB-GEN-713-009) matches the work order for the scheduled maintenance event.
3. Inspect the sealed kit packaging for any signs of damage or tampering that could compromise component sterility.
4. Open the kit in a clean, well-lit work area to prevent contamination of the new seals and gaskets.
5. Lay out all kit components and verify against the included packing list to ensure the kit is complete.
6. Have the official NexBot service manual for the specific robot model on hand for detailed disassembly procedures and torque values.

3. Installation Procedure

Step 1: Prepare Robot Axis for Service

With the robot in a LOTO state, safely vent any stored pneumatic or hydraulic pressure from the system. Disconnect all relevant electrical and data cables from the axis housing being serviced, labeling them for correct reassembly.

> **Warning:** Failure to de-energize and lock out the robot can result in unexpected motion, leading to severe injury or death.

Step 2: Disassemble Axis Housing

Following the procedure in the robot's primary service manual, carefully loosen and remove the fasteners securing the axis housing cover. Keep fasteners organized as some may be of different lengths.

Step 3: Remove Old Gasket and Seals

Carefully remove the old housing gasket and any O-rings from their grooves. Use non-marring scrapers and picks to avoid scratching or gouging the metal sealing surfaces, which could cause leaks.

> **Warning:** Do not use a flathead screwdriver or other hardened steel tool to pry off old seals, as this will permanently damage the mating surfaces.

Step 4: Clean and Inspect Mating Surfaces

Thoroughly clean all sealing surfaces, grooves, and mating faces with isopropyl alcohol and lint-free wipes. Inspect the cleaned surfaces for any scratches, corrosion, or warping that would prevent a proper seal.

Step 5: Install New Gasket from Kit

Take the new housing gasket from the NXB-GEN-713-009 kit. Carefully align it with the bolt holes and features on the housing, ensuring it sits completely flat and is not pinched or twisted.

Step 6: Install New FKM O-Rings

Apply a very thin, even film of approved lubricant to the new FKM O-rings from the kit. Using a non-metallic pick or clean, gloved fingers, gently press the O-rings into their respective grooves, making sure they are not twisted.

Step 7: Reassemble Axis Housing

Carefully place the housing cover back into position, ensuring it does not dislodge the new gasket or seals. Insert fasteners and hand-tighten, then use a calibrated torque wrench to tighten them to the specified value in a star or crisscross pattern to ensure even pressure.

> **Warning:** Over-torquing or uneven torquing can warp the housing and damage the new gasket, leading to premature failure.

Step 8: Complete Service for All Kit Components

Repeat the installation process for any other gaskets and seals included in the NXB-GEN-713-009 kit that are designated for replacement during this specific maintenance interval. Ensure each component is installed in its correct location.

4. Post-Installation Verification

1. Conduct a full accounting of all tools, hardware, and old parts to ensure nothing is left inside the robot housing.
2. Double-check that all fasteners on the serviced components are tightened to the correct torque specification.
3. Reconnect all electrical, data, and pneumatic lines to the serviced axis.
4. Following facility safety procedures, remove all LOTO devices and restore power to the robot.
5. Perform a low-speed manual jog of the serviced axis, listening for any unusual noises and watching for smooth motion.
6. Run a system leak check (if applicable) and visually inspect the new seals for any signs of weeping or leakage after a brief operational test.

> **Note:** For technical support, contact your authorized service provider or visit *https://robotics.barca.group/support*.