

Installation Guide: NexBot Robotics 713-001 O-Ring And Gasket Kit

SKU: NXB-GEN-713-001 | 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

- Metric hex key set
- Calibrated torque wrench with appropriate sockets
- Non-marring plastic pick and scraper set
- Lint-free industrial wipes
- Isopropyl alcohol (99% pure)
- Approved FKM-compatible lubricant (e.g., silicone grease)
- Personal Protective Equipment (Safety glasses, chemical-resistant gloves)
- Container for organizing hardware

2. Pre-Installation Checks

1. Verify the robot is powered down using approved Lockout/Tagout (LOTO) procedures.
2. Confirm the robot arm is resting in the designated maintenance position and is mechanically secured.
3. Unpack the NXB-GEN-713-001 kit and verify all components are present and undamaged by cross-referencing the included manifest.
4. Ensure the work area is clean, dry, and adequately illuminated to prevent contamination of internal components.
5. Review the specific robot model's master service manual for detailed axis disassembly and reassembly instructions.
6. Confirm all required tools, cleaning agents, and lubricants are available at the worksite before beginning.

3. Installation Procedure

Step 1: Unpack and Verify Kit Contents

Carefully open the sealed NexBot Robotics 713-001 O-Ring And Gasket Kit. Lay out all included FKM seals and gaskets on a clean, lint-free surface and visually inspect them for any defects, nicks, or deformities.

Warning: Handle new seals with clean gloves to prevent contamination from skin oils, which can degrade the material over time.

Step 2: Access Serviceable Axes

Following the procedures in the robot's master service manual, remove the necessary access covers and cowlings to gain access to the J2 axis housing and the J3 axis shaft seal area.

Step 3: Disassemble J2 Axis Housing

Systematically loosen and remove the retaining bolts for the J2 axis housing cover. Place all hardware in an organized container to prevent loss and ensure correct reassembly.

Warning: Note the position and length of different bolts if they are not uniform.

Step 4: Remove Old J2 Housing Gasket

Using a non-marring plastic scraper, carefully lift and remove the old J2 Axis Housing Gasket from its groove. Be cautious not to scratch or gouge the metal sealing surfaces during removal.

Warning: Do not use metal tools like screwdrivers or picks, as this can permanently damage the precision mating surfaces and cause leaks.

Step 5: Prepare Sealing Surfaces

Thoroughly clean the gasket groove and the corresponding mating surface on the housing cover using isopropyl alcohol and a lint-free wipe. Ensure all old sealant, oil residue, and debris are completely removed for a proper seal.

Step 6: Install New J2 FKM Gasket

Take the new J2 Axis Housing Gasket from the kit and carefully press it into the clean groove. Ensure the gasket is fully seated and not twisted or stretched at any point.

Step 7: Replace J3 Axis Shaft O-Ring

Following the robot's service manual, access and remove the old J3 Axis Shaft O-Ring using a non-marring pick. Lightly lubricate the new FKM O-ring from the kit with an approved lubricant and carefully install it into its groove, ensuring it is not rolled or twisted.

Warning: Using excessive or unapproved lubricant can cause seal failure or contaminate the system.

Step 8: Reassemble and Torque

Re-install the J2 axis housing cover, hand-tightening the bolts in a star or cross pattern to ensure even pressure. Use a calibrated torque wrench to tighten the bolts to the specification listed in the robot's master service manual.

Warning: Improper or uneven torque can lead to leaks or component damage.

4. Post-Installation Verification

1. Visually inspect the newly installed gasket and O-ring to ensure they are properly seated and no portion is pinched or protruding.
2. Remove all tools, supplies, and old parts from the robot work envelope.

3. Following proper procedure, remove LOTO devices and restore power to the robot.
4. Perform a low-speed manual movement test of the serviced J2 and J3 axes to check for smooth, unobstructed motion.
5. Run a pre-defined test routine and monitor the serviced areas for any signs of fluid weeping or leakage.
6. Document the maintenance event, including the date and the use of kit NXB-GEN-713-001, in the robot's official service log.

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