

Installation Guide: NexBot Safety 713-008 O-Ring And Gasket Kit

SKU: NXB-GEN-713-008 | 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)
- Non-marring gasket scraper (plastic or brass)
- Seal puller and hook set
- Metric socket and wrench set
- Metric hex key set
- Lint-free industrial cloths
- Approved FKM-compatible lubricating grease
- Isopropyl alcohol or approved cleaning solvent

2. Pre-Installation Checks

1. Verify the robot is de-energized and all safety procedures, such as Lockout/Tagout (LOTO), are properly applied.
2. Confirm the robot model and serial number are listed as compatible with the NexBot Safety 713-008 O-Ring And Gasket Kit in the official service manual.
3. Inspect the sealed kit packaging for any damage. Upon opening, verify all listed components are present and free of defects.
4. Ensure the work area is clean, well-lit, and free from dust, moisture, and other contaminants that could compromise sealing surfaces.
5. Review the specific disassembly and reassembly procedures for the target robot axes in the NexBot service manual.
6. Confirm that the shelf-life date on the kit packaging has not been exceeded.

3. Installation Procedure

Step 1: Kit Unpacking and Component Layout

Carefully open the NXB-GEN-713-008 kit package on a clean, designated surface. Lay out all FKM seals and gaskets, cross-referencing each item with the parts list in the robot's service manual to ensure you have the correct component for each step.

Warning: Handle FKM components with clean gloves to prevent contamination from oils and dirt. Do not use sharp tools to open packaging, as this may damage the seals.

Step 2: Axis Disassembly

Following the procedures in the official NexBot service manual, carefully disassemble the robot joint housing to access the seals and gaskets scheduled for replacement. Keep all fasteners and hardware organized for reassembly.

Step 3: Removal of Old Components

Use a professional seal puller to carefully extract the old o-rings and seals from their grooves, taking care not to scratch the metal housing. Utilize a non-marring scraper to completely remove all traces of the old gasket material from the mating surfaces.

Warning: Do not use a screwdriver or other sharp metal tool to pry out seals, as this can permanently damage the sealing surface, leading to leaks.

Step 4: Surface Preparation and Inspection

Thoroughly clean the seal grooves and gasket mating surfaces with isopropyl alcohol and a lint-free cloth. Inspect all cleaned surfaces for any scratches, corrosion, or nicks that could prevent a proper seal. Report any significant surface damage to a maintenance supervisor.

Step 5: New Gasket Installation

Carefully place the new FKM gasket from the kit onto the cleaned surface, ensuring all bolt holes and guide pins are perfectly aligned. Confirm the gasket is seated flat and is not pinched, twisted, or creased.

Step 6: New Seal and O-Ring Installation

Apply a thin, even layer of approved FKM-compatible grease to the new o-rings and the outer diameter of the new seals. Gently press the seals into place using a dedicated seal installation tool or a socket of the appropriate size, ensuring they are seated squarely and evenly in the bore.

Warning: Forcing a seal or installing it dry can cause tearing or deformation, leading to immediate failure.

Step 7: Component Reassembly and Fastener Torquing

Reassemble the robot axis components in the reverse order of disassembly. Tighten all fasteners in the star or crisscross pattern specified in the service manual to ensure even clamping pressure on the new gasket, using a calibrated torque wrench to achieve the specified torque values.

Warning: Uneven or incorrect torque can lead to gasket failure and fluid leaks.

Step 8: Final Kit Inventory

Once the service on a specific joint is complete, review the components of the NXB-GEN-713-008 kit. Ensure all parts designated for that maintenance task have been installed and account for any remaining parts intended for other joints or stages of the service.

4. Post-Installation Verification

1. Perform a final visual inspection to ensure all components are correctly assembled and no tools, hardware, or cloths are left in the work area.
2. Verify that all fasteners on the serviced components have been torqued to the specifications listed in the service manual.

3. After removing LOTO and powering on the robot, check the system for any new alarms or fault codes related to the serviced axis.
4. Under controlled, slow-speed manual operation, move the serviced axis through its full range of motion to check for binding, noise, or abnormal behavior.
5. Operate the robot under a light load or in a test cycle for a short period, then carefully inspect the serviced joint for any signs of fluid weeping or leaks.
6. Update the robot's official maintenance log, recording the date, service hours, and the use of kit NXB-GEN-713-008.

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