

User Manual: NexBot Robotics 713-001 O-Ring And Gasket Kit

SKU: NXB-GEN-713-001 | Version: 1.0 | Brand: NexBot Robotics

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1. Safety Information

READ ALL SAFETY INSTRUCTIONS BEFORE OPERATION. Failure to follow safety procedures may result in serious injury or equipment damage.

DANGER: Hazardous voltage and unexpected motion present. Always perform full Lockout/Tagout (LOTO) on the robot controller and release all stored energy before opening any access panels or beginning service.

WARNING: Robot components can be heavy and may shift during service. Ensure the robot arm is in a stable, mechanically supported position before disassembling any load-bearing components.

CAUTION: Use only non-marring tools made of plastic or brass when removing old seals. Scratching the precision-machined sealing surfaces will result in component damage and fluid leaks.

NOTICE: The FKM (Viton) material in this kit requires specific lubricants for proper installation and longevity. Use of incompatible

lubricants will cause the seals to swell, harden, or degrade, leading to premature failure.

NOTICE: The NexBot Robotics 713-001 O-Ring And Gasket Kit is intended for single-use only. Do not attempt to reuse any of the old seals or gaskets that have been removed from the robot.

2. Product Overview

NexBot Robotics 713-001 O-Ring And Gasket Kit (NXB-GEN-713-001) is a complete multi-part maintenance kit assembled for planned service on compatible NexBot robot platforms at the scheduled service interval. The kit is intended to be received, opened, and used as a single service package rather than as a single replacement part. Included components typically cover the main wear and service items required for the maintenance event, including J2 Axis Housing Gasket (FKM), J3 Axis Shaft O-Ring (FKM, 45mm ID), J5 Axis Cover Plate Gasket (FKM), J5 Axis Encoder O-Ring (FKM, 22mm ID), Fastener Seal Washers (x8), Assembly Lubricant Packet (Silicone-based). This structure helps maintenance planners order one kit for the service window and ensures technicians have the core consumables and replacement parts on hand before shutdown begins. The kit is appropriate for preventive maintenance execution, planned overhauls, and standardized service handoff where parts completeness and interval accuracy matter.

3. Getting Started

1. Kit Identification and Purpose

The NexBot Robotics 713-001 O-Ring And Gasket Kit (SKU: NXB-GEN-713-001) is a curated set of wear parts for scheduled preventative maintenance. It contains all the necessary FKM seals to service the J2 and J3 axes as specified in the robot's maintenance schedule, ensuring reliability and performance.

2. Required Documentation

This kit is a component of a larger service procedure. Before beginning work, you must have the official NexBot Robotics Service Manual for your specific robot model. This manual contains critical information, including disassembly steps, torque specifications, and lubricant types.

3. Contents Inspection

Upon receipt, inspect the sealed packaging for damage. Before installation, open the kit and verify its contents against the list provided in the service manual. Ensure all seals are pliable and free of any manufacturing defects.

4. Proper Storage

If the kit will not be used immediately, store it in its original sealed packaging in a cool, dry environment away from direct sunlight, UV light, and ozone sources. Proper storage is essential to preserve the integrity of the FKM material.

4. Operation

Scheduled Maintenance Integration

This kit is designed to be used as a single package during a major planned maintenance event. Replacing all included seals simultaneously, rather than individually as they fail, minimizes downtime and ensures consistent performance across serviced joints. Adherence to the robot's recommended service interval is critical for preventing unplanned failures.

Tip: Order maintenance kits ahead of the scheduled service date to ensure availability and prevent delays.

FKM Material Properties

The seals in this kit are made from FKM (Viton), a high-performance fluoroelastomer chosen for its excellent resistance to heat, oils, and industrial chemicals. This material provides a durable, long-lasting seal in demanding robotic applications, but it requires careful handling and chemical compatibility checks.

Lubrication Best Practices

Proper lubrication is essential for O-ring installation to prevent tearing and to ensure a proper seal. Apply a thin, uniform layer of an approved, FKM-compatible grease to the O-ring before installation. Do not lubricate flat gaskets unless explicitly instructed by the master service manual.

Tip: A small amount of lubricant applied to the mating surfaces can also aid in smooth assembly.

Disposal of Used Components

Used seals and gaskets removed from the robot are considered industrial waste. They should not be reused. Dispose of all old components in accordance with your facility's waste management policies and local environmental regulations.

5. Maintenance Schedule

Interval	Task	Notes
Per Robot Service Schedule	Install the complete NXB-GEN-713-001 kit as part of the scheduled major service interval (e.g., every 10,000 operating hours).	Refer to your specific robot's service manual for the exact service interval.
Pre-Use	Inspect the sealed kit packaging for tears or punctures that could compromise sterility and seal integrity.	Do not use a kit from a damaged package.

Interval	Task	Notes
Annually (for stored kits)	Check inventory of spare kits. Ensure they are stored correctly and implement a First-In, First-Out (FIFO) usage policy.	While FKM has a long shelf life, proper stock rotation is a best practice.
Post-Installation (24 Hours)	Perform a follow-up visual inspection of the J2 and J3 axis service areas for any signs of fluid leaks.	Seals may take a full thermal cycle to seat perfectly.
Quarterly	During routine robot inspections, visually check the serviced areas for cleanliness and any indication of weeping fluids.	Early detection of a slow leak can prevent costly secondary damage.

6. Troubleshooting

Symptom	Possible Cause	Solution
Fluid leak from a serviced axis after maintenance.	Gasket was pinched or twisted during installation; sealing surface was dirty or damaged; fasteners were incorrectly torqued.	Disassemble the joint, inspect the seal for damage and replace if necessary. Thoroughly re-clean mating surfaces and reassemble, ensuring proper torque sequence and values are used.
New O-ring was cut or nicked during installation.	O-ring was rolled over sharp threads or edges without protection; insufficient lubrication was used.	Discard the damaged O-ring. Use a new O-ring, lubricate it properly, and use plastic shims or tape to shield it from sharp edges during installation.
The new gasket does not seem to fit properly in its groove.	Incorrect kit (NXB-GEN-713-001) for the robot model; debris remaining in the groove; thermal expansion of components.	Verify robot compatibility. Re-clean the groove meticulously. Allow the robot and new gasket to acclimate to the same ambient temperature before attempting installation again.
Serviced axis feels stiff or makes noise during motion test.	A seal was pinched between moving parts during reassembly, causing a mechanical bind.	Immediately stop all robot motion. Disassemble the affected axis, inspect for a trapped or damaged seal, replace if necessary, and

Symptom	Possible Cause	Solution
		carefully reassemble per the manual.
Seals appear swollen or feel soft after a short time in service.	Exposure to an incompatible fluid, solvent, or lubricant.	Identify and remove the source of the incompatible chemical. Replace the seals using a new kit and ensure only approved, FKM-compatible fluids are used on or near the robot.
Difficulty removing the old, brittle gasket.	The gasket has exceeded its operational life and has become hardened from heat and age.	Use a non-marring plastic scraper to carefully chip away the old gasket material. Be patient and methodical to avoid damaging the metal sealing surface.

7. Technical Specifications

Parameter	Value	Unit
Weight	0.25	kg
Material	Viton (FKM)	
Country of Origin	IT	