

Installation Guide: NexBot Vision 821-011 Joint Cover for R-Series/C-Series Robots

SKU: NXB-GEN-821-011 | Revision: 1.0 | Category: Accessories & Mounting > Covers & Shields > Joint Covers

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 (2mm - 6mm)
- Calibrated Torque Wrench with Hex Bit Sockets
- Lint-Free Industrial Wipes
- Isopropyl Alcohol (99% Purity)
- Non-Marring Pry Tool
- Safety Glasses with Side Shields
- Cut-Resistant Gloves (ANSI A2/ISO B)
- Flashlight or Headlamp

2. Pre-Installation Checks

1. Verify the robot is powered down and Lockout/Tagout (LOTO) procedures are fully engaged.
2. Confirm the received part number is NXB-GEN-821-011 and visually inspect the new joint cover for any shipping damage, cracks, or deformities.
3. Ensure the work area around the target robot joint is clean, dry, and well-lit.
4. Review the specific maintenance manual for the R-Series or C-Series robot model to identify the correct joint and fastener torque specifications.
5. Prepare a clean surface to place the old cover and any removed hardware.
6. Confirm that the robot arm is in a safe, stable position for service, preferably the home or maintenance position.

3. Installation Procedure

Step 1: Power Down and Apply LOTO

Ensure all power sources to the robot and its controller are de-energized. Apply personal Lockout/Tagout devices to the main electrical disconnect as per facility safety protocols.

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

Step 2: Remove Existing Joint Cover

Carefully loosen and remove the mounting fasteners from the old or damaged joint cover. Use a non-marring pry tool to gently break the seal if necessary, taking care not to damage the robot's mounting surface.

Step 3: Clean Mounting Surfaces

Thoroughly clean the robot joint's mounting surface and sealing gasket area using a lint-free wipe and isopropyl alcohol. Remove all old sealant, grease, and debris to ensure a proper seal for the new cover.

Warning: Inadequate cleaning can compromise the IP65 rating, leading to moisture or particulate ingress and subsequent joint failure.

Step 4: Inspect Robot Joint Gasket

Visually inspect the robot's integrated sealing gasket for any signs of damage, compression set, or degradation. If any damage is found, replace the gasket according to the robot's service manual before proceeding.

Step 5: Align the New 821-011 Cover

Position the new NexBot Vision 821-011 Joint Cover over the joint. Align the mounting holes on the cover with the threaded inserts on the robot arm, ensuring its 155 x 120 x 120 mm profile is oriented correctly without pinching any cables.

Step 6: Seat and Secure the Cover

Gently press the cover into place, ensuring it sits flush against the mounting surface and evenly compresses the gasket. Insert the mounting fasteners and hand-tighten them in a star or crisscross pattern to ensure even seating.

Warning: Do not use power tools for initial threading to avoid cross-threading the fasteners.

Step 7: Torque Fasteners to Specification

Using a calibrated torque wrench, tighten the fasteners to the value specified in the robot's primary service manual. Continue using a crisscross pattern to apply even pressure and guarantee the integrity of the IP65 seal.

4. Post-Installation Verification

1. Visually inspect the seam between the 821-011 cover and the robot arm to ensure there are no visible gaps.
2. Gently attempt to move the cover by hand to confirm it is rigidly mounted and does not shift.
3. Wipe down the new cover and surrounding area to remove any fingerprints or residual cleaning agents.
4. Remove all tools and old parts from the work area.
5. Following all safety procedures, remove LOTO devices and restore power to the robot.
6. Perform a slow, manual-mode robot motion test for the affected joint, checking for any interference, rubbing, or unusual noises from the new cover.

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