

# Installation Guide: NexBot Robotics 821-005 IP67 Joint Cover

SKU: NXB-GEN-821-005 | 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

- Torque wrench with a suitable range for M5/M6 fasteners
- Metric hex key set (4mm, 5mm, 6mm)
- Lint-free industrial wipes
- Isopropyl alcohol (99% purity) or approved NexBot cleaning solvent
- Gasket scraper (non-marring plastic)
- Personal Protective Equipment (PPE): Safety glasses and nitrile gloves
- Flashlight or headlamp for inspection

## 2. Pre-Installation Checks

1. Verify the robot is powered down and all energy sources are isolated per Lockout/Tagout (LOTO) procedures.
2. Confirm the received part is SKU NXB-GEN-821-005 and inspect it for any damage sustained during shipping, such as cracks or deep scratches.
3. Check that the integrated gasket on the new 821-005 cover is properly seated in its channel and is free of defects.
4. Ensure the work area around the target robot joint is clean, well-lit, and free of obstructions.
5. Review the specific robot model's service manual to identify the correct joint and any model-specific prerequisites.
6. Prepare a clean surface to place the old cover and any removed hardware.

### 3. Installation Procedure

#### Step 1: Step 1: Power Down and Isolate Robot

Ensure all power to the robot controller and manipulator arm is disconnected. Apply appropriate Lockout/Tagout (LOTO) devices to all energy sources to prevent accidental startup.

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

#### Step 2: Step 2: Remove Existing Joint Cover

Carefully loosen and remove the mounting fasteners from the old or damaged joint cover. Store the fasteners for reuse if they are in good condition, or use new hardware as specified in the service manual.

**Warning:** The old cover may be under slight tension. Support it as the last fastener is removed to prevent it from dropping.

#### Step 3: Step 3: Inspect Joint Mating Surface

Once the old cover is removed, thoroughly inspect the robot's mating surface for any signs of damage, corrosion, or residual gasket material. Any imperfections can compromise the IP67 seal.

#### Step 4: Step 4: Clean and Prepare Surface

Using a non-marring scraper, gently remove any old gasket residue. Clean the entire mating surface with a lint-free wipe and isopropyl alcohol to remove all grease, oil, and particulates.

**Warning:** Ensure adequate ventilation when using cleaning solvents. Avoid allowing solvents to drip into the open joint mechanism.

### Step 5: Step 5: Position the 821-005 Cover

Carefully align the new NexBot Robotics 821-005 Joint Cover over the joint. Ensure the mounting holes are perfectly aligned and the gasket makes even contact with the mating surface all the way around.

### Step 6: Step 6: Install and Hand-Tighten Fasteners

Insert the mounting fasteners into the holes and thread them in by hand until they are snug. This ensures the cover is seated correctly without cross-threading the hardware.

**Warning:** Do not use power tools for initial threading to prevent damage to the threads on the robot arm.

### Step 7: Step 7: Torque Fasteners to Specification

Using a calibrated torque wrench, tighten the fasteners in a star or crisscross pattern to the torque value specified in the robot's primary service manual. This ensures even pressure on the gasket for a proper seal.

**Warning:** Over-torquing can crack the Glass-Reinforced Nylon cover or damage the gasket. Under-torquing will result in a failed IP67 seal.

## 4. Post-Installation Verification

1. Verify that all fasteners have been tightened to the specified torque value.
2. Perform a visual inspection around the entire perimeter of the 821-005 cover to ensure the gasket is uniformly compressed and no gaps are visible.
3. Account for all tools and materials, ensuring none are left on or inside the robot work cell.
4. Complete the relevant sections of the maintenance log, noting the date and joint where the cover was replaced.
5. Properly remove LOTO devices and restore power to the robot according to established site procedures.
6. Jog the robot arm at a slow speed through the affected joint's full range of motion, listening and watching for any signs of binding, rubbing, or interference.

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