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› JUGJCKJL Needle Roller Bearing NK50-25 Instruction Manual

## JUGJCKJL NK50-25

# JUGJCKJL Needle Roller Bearing NK50-25 Instruction Manual

## 1. INTRODUCTION

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This manual provides essential information for the proper installation, operation, and maintenance of your JUGJCKJL NK50-25 Needle Roller Bearing. Adhering to these instructions will help ensure optimal performance and extend the lifespan of the bearing. Please read this manual thoroughly before use.

## 2. PRODUCT OVERVIEW

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The JUGJCKJL NK50-25 is a high-quality needle roller bearing designed for applications requiring high load capacity within a small radial space. It features a compact design with rollers that are long and thin, resembling needles, which allows for a larger contact area compared to traditional roller bearings. This design contributes to its high radial load capacity and rigidity.



Figure 2.1: JUGJCKJL NK50-25 Needle Roller Bearing. This image displays a single bearing, highlighting its robust outer ring and the precision-engineered needle rollers within.

# Needle roller bearing



Figure 2.2: Detailed view of the JUGJCKJL NK50-25 Needle Roller Bearing. This perspective provides a closer look at the arrangement of the needle rollers and the inner surface of the outer ring.

## 3. SETUP AND INSTALLATION

Proper installation is crucial for the performance and longevity of the needle roller bearing. Incorrect installation can lead to premature failure, noise, and reduced efficiency.

### 3.1 Preparation

- Ensure the shaft and housing bores are clean, free from burrs, and within specified tolerances.
- Use appropriate tools for handling and installation to prevent damage to the bearing surfaces.
- Lubricate the bearing and mating surfaces with the recommended lubricant before installation.

### 3.2 Installation Procedure

1. **Press Fitting:** For interference fits, use a hydraulic press or a suitable bearing installation tool. Apply pressure evenly to the face of the bearing ring that is being fitted. Never strike the bearing directly with a hammer.

2. **Heating:** For larger bearings or tight fits, heating the bearing to a maximum of 120°C (248°F) in an oil bath or induction heater can facilitate installation. Ensure the temperature does not exceed this limit to avoid material degradation.
3. **Shaft Installation:** When installing onto a shaft, apply force to the inner ring. When installing into a housing, apply force to the outer ring.
4. **Verification:** After installation, ensure the bearing rotates smoothly without binding or excessive play.

## Needle roller bearing



Figure 3.1: Two JUGJCKJL Needle Roller Bearings. This image shows two bearings, emphasizing the need for careful handling during the setup and installation process to prevent damage.

## 4. OPERATING PRINCIPLES

Needle roller bearings utilize small-diameter cylindrical rollers to support radial loads. The rollers are guided by an outer ring and, in some designs, an inner ring or directly by a hardened shaft. Their design allows for a high load-carrying capacity and rigidity in applications where space is limited. The NK50-25 bearing is designed to accommodate radial loads and is suitable for various industrial and mechanical applications.

## 5. MAINTENANCE

Regular maintenance is essential to maximize the service life and reliability of your JUGJCKJL needle roller bearing.

### 5.1 Lubrication

- Use a high-quality grease or oil recommended for needle roller bearings.
- Follow the equipment manufacturer's lubrication schedule and quantity recommendations.

- Avoid over-lubrication, which can lead to overheating and seal damage.

## 5.2 Inspection

- Periodically inspect the bearing for signs of wear, corrosion, or damage.
- Check for unusual noise, vibration, or excessive heat during operation.
- Examine seals for integrity and replace if damaged to prevent contamination.

## 5.3 Cleaning

- If cleaning is necessary, use a clean, lint-free cloth and a suitable solvent.
- Ensure all cleaning agents are thoroughly removed and the bearing is re-lubricated before reassembly.

# Needle roller bearing



Figure 5.1: JUGJCKJL Needle Roller Bearings during inspection. This image illustrates the visual examination of bearings for any signs of wear or damage as part of routine maintenance.

## 6. TROUBLESHOOTING

This section addresses common issues that may arise during the operation of your needle roller bearing.

Symptom	Possible Cause	Solution
Excessive Noise	Lack of lubrication, contamination, improper installation, bearing damage.	Check lubrication, clean bearing, verify installation, inspect for damage and replace if necessary.
Overheating	Over-lubrication, insufficient lubrication, excessive load, misalignment, tight fit.	Adjust lubrication, reduce load, check alignment, verify fit tolerances.
Premature Wear	Contamination, insufficient lubrication, excessive load, vibration, improper fit.	Improve sealing, ensure proper lubrication, reduce load, address vibration sources, correct fit.
Vibration	Bearing damage, imbalance in rotating components, misalignment.	Inspect and replace damaged bearing, balance components, correct alignment.

## 7. SPECIFICATIONS

The following specifications apply to the JUGJCKJL NK50-25 Needle Roller Bearing:

- **Model:** NK50-25
- **Inner Diameter:** 50 mm (based on model number interpretation)
- **Outer Diameter:** (Not explicitly provided, typically larger than inner diameter)
- **Width:** 25 mm (based on model number interpretation)
- **Package Dimensions:** 1.18 x 0.79 x 0.39 inches
- **Item Weight:** 7.1 ounces
- **Number of Pieces:** 1
- **Assembly Required:** No

# Needle roller bearing



Figure 7.1: Assortment of JUGJCKJL Needle Roller Bearings. This image illustrates the range of sizes and types available within the JUGJCKJL needle roller bearing product line, though the manual focuses on the NK50-25 model.

## 8. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries regarding your JUGJCKJL NK50-25 Needle Roller Bearing, please refer to the official JUGJCKJL website or contact your authorized dealer. Keep your purchase receipt as proof of purchase.