uxcell 30202

uxcell 30202 Tapered Roller Bearing Cone and Cup Set User Manual

Model: 30202

Introduction

The uxcell 30202 Tapered Roller Bearing Cone and Cup Set is engineered for applications requiring high load capacity and precise rotational accuracy. This bearing set consists of a cone (inner ring assembly) and a cup (outer ring), designed to accommodate combined radial and axial loads. Its separable components facilitate easier mounting and dismounting.

Figure 1: Assembled uxcell 30202 Tapered Roller Bearing, showing the complete unit ready for installation.

Product Components

The 30202 tapered roller bearing is comprised of two main parts: the cone assembly and the cup. The cone assembly includes the inner ring, rollers, and cage, while the cup is the outer ring. This design allows for independent installation of the cone and cup, simplifying assembly and maintenance procedures.

Figure 2: Separated components of the uxcell 30202 Tapered Roller Bearing, illustrating the cone (right) and cup (left).

Key Features

- **Model:** 30202 (Bore: 15mm, Outer Diameter: 35mm, Total Thickness: 11mm)
- **Configuration:** Single row tapered roller bearings, designed for use with a second bearing or as a matched pair.
- **Separable Components:** Cone and cup are separable and interchangeable for ease of maintenance.
- **Performance:** Features low friction and low noise, ensuring operational reliability.
- **Load Ratings:** Static Load Rating of 13.4kN and Dynamic Load Rating of 14.9kN.

Setup and Installation

Proper installation is crucial for the optimal performance and longevity of the tapered roller bearing. Ensure that all mating surfaces are clean and free from burrs or contaminants. The cone and cup should be pressed into place using appropriate tools to avoid damage to the bearing components. Never use a hammer directly on the bearing surfaces.

For single row tapered roller bearings, it is essential to use them either with a second bearing or as a matched pair to properly manage axial loads and set the correct internal clearance. Consult specific equipment manuals for precise installation instructions and recommended preload settings.

Figure 3: Close-up view of the tapered rollers within the bearing, highlighting the precision components.

Operating Principles

Tapered roller bearings are designed to carry both radial and axial loads simultaneously. The tapered design of the rollers and raceways allows the bearing to handle these combined loads efficiently. The angle of the taper enables the bearing to support higher axial loads compared to cylindrical roller bearings. The precise geometry ensures smooth rotation with minimal friction and noise, contributing to the overall reliability of the system.

Maintenance

Regular maintenance is vital for extending the service life of your uxcell 30202 tapered roller bearing. Key maintenance practices include:

- **Lubrication:** Ensure adequate and appropriate lubrication. The type and amount of lubricant depend on the operating conditions (speed, temperature, load). Refer to equipment manufacturer guidelines for specific lubrication requirements.
- **Inspection:** Periodically inspect the bearing for signs of wear, corrosion, or damage. Look for unusual noise, vibration, or excessive heat during operation.
- **Cleaning:** If the bearing needs to be cleaned, use a suitable solvent and ensure it is thoroughly dried before re-lubrication and reassembly. Prevent foreign particles from entering the bearing.

Troubleshooting

If you experience issues with your tapered roller bearing, consider the following common problems and their potential causes:

Problem	Possible Cause	Solution
Excessive Noise	Insufficient lubrication, contamination, improper installation, worn components.	Check lubrication, clean bearing, verify installation, replace if worn.
Overheating	Over-lubrication, insufficient lubrication, excessive preload, misalignment.	Adjust lubrication, check preload, correct alignment.
Vibration	Contamination, damage to raceways or rollers, loose fit.	Clean bearing, inspect for damage, ensure proper fit.

If troubleshooting steps do not resolve the issue, it is recommended to consult a qualified technician or contact uxcell support.

Specifications

Attribute	Value
Model Number	30202
Bore Diameter	15mm
Outer Diameter	35mm
Total Thickness	11mm
Static Load Rating (Cr)	13.4kN
Dynamic Load Rating (Cor)	14.9kN
Material	Bearing Steel
Product Dimensions	5.51 x 3.94 x 0.79 inches; 2.05 ounces

Note: The material listed as "Rubber" in some product specifications may refer to packaging or a general category. Tapered roller bearings are typically made from high-quality bearing steel.

Warranty and Support

For information regarding product warranty, technical support, or any inquiries not covered in this manual, please contact uxcell customer service. Ensure you have your product model number (30202) available when seeking support.

You can typically find support contact information on the official uxcell website or through the retailer where the product was purchased.