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- › [NALsa](#) /
- › [NALsa Angular Contact Bearing User Manual](#)

NALsa 7201AC P5

NALsa Angular Contact Bearing User Manual

Model: 7201AC P5

1. PRODUCT OVERVIEW

The NALsa 7201AC P5 Angular Contact Bearing is a precision mechanical component designed to accommodate combined loads, i.e., simultaneously acting radial and axial loads. These bearings are particularly suitable for applications requiring high rotational speeds and high running accuracy.



Image 1.1: Front view of the NALsa 7201AC P5 Angular Contact Bearing, showing its outer ring, inner ring, and visible ball elements.

This specific model, 7201AC P5, features a 12mm inner diameter, 32mm outer diameter, and 10mm width, making it suitable for various machine tool and industrial applications where precise motion and reliable load support are critical.

2. KEY FEATURES

- **High-Quality Materials:** Constructed from premium steel, ensuring exceptional durability and reliability. Precision-machined and heat-treated for optimal performance in diverse industrial environments.
- **High Speed and Low Friction:** Engineered with advanced design and manufacturing techniques to achieve a low friction coefficient and high-speed capability, minimizing energy loss and promoting smooth rotational motion.
- **Load Carrying Capacity:** Designed to withstand significant radial, axial, or combined forces, reliably supporting and transferring loads in industrial equipment and machinery.
- **Long Service Life:** Specially designed and treated to extend operational life and enhance performance stability. Exhibits fatigue resistance and corrosion resistance, ensuring reliability in prolonged and demanding operating

conditions.



Image 2.1: Side view of the NALsa 7201AC P5 Angular Contact Bearing, highlighting its robust construction.

3. SPECIFICATIONS

Attribute	Value
Model Number	7201AC P5
Inner Diameter (d)	12 mm
Outer Diameter (D)	32 mm
Width (B)	10 mm
Bearing Type	Angular Contact Ball Bearing

Precision Class	P5
Compatible Lubricant	Grease
Item Weight	50 Grams (approx. 1.76 ounces)
Manufacturer	NALsa
Country of Origin	China



Image 3.1: NALsa 7201AC P5 Angular Contact Bearing, illustrating its precise dimensions (inner diameter, outer diameter, and width).

4. INSTALLATION AND SETUP

Proper installation is critical for the optimal performance and longevity of angular contact bearings. Follow these guidelines carefully:

4.1. Safety Precautions

- Always wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Ensure the work area is clean, well-lit, and free from obstructions.
- Handle bearings with clean hands or gloves to prevent contamination.

4.2. Preparation

- Inspect the bearing for any signs of damage or contamination before installation.
- Clean the shaft and housing thoroughly. Remove any burrs, rust, or old lubricant.
- Ensure the shaft and housing tolerances are within specifications for a proper fit.

4.3. Mounting Methods

Angular contact bearings are typically mounted with an interference fit on the shaft and/or in the housing. Common methods include:

1. **Mechanical Mounting:** For smaller bearings, a press or impact tool (using a mounting sleeve that applies force evenly to the inner ring) can be used. *Never strike the outer ring or ball cage directly.*
2. **Thermal Mounting (Heating):** For larger bearings, heating the bearing in an oil bath or induction heater to approximately 80-100°C (176-212°F) will expand the inner ring, allowing it to slide onto the shaft easily. Ensure the temperature does not exceed 120°C (248°F) to avoid material degradation or lubricant damage.



Image 4.1: NALsa 7201AC P5 Angular Contact Bearing, illustrating the distinct inner and outer ring components crucial for proper mounting.

4.4. Lubrication During Installation

Apply a thin, even layer of the recommended grease (as per specifications) to the bearing surfaces and raceways before mounting. This aids in installation and provides initial lubrication.

5. OPERATING CONDITIONS

To ensure optimal performance and extend the life of your NALsa 7201AC P5 bearing, consider the following operating parameters:

- **Load:** Do not exceed the bearing's dynamic and static load ratings. Excessive loads can lead to premature fatigue and failure.
- **Speed:** Operate within the specified speed limits. High speeds generate heat, which can degrade lubricant and bearing materials.
- **Temperature:** Maintain operating temperatures within the recommended range. Extreme temperatures can affect

lubricant viscosity and bearing material properties.

- **Alignment:** Ensure proper shaft and housing alignment. Misalignment can cause uneven load distribution and increased wear.
- **Vibration:** Minimize excessive vibration, which can lead to brinelling or false brinelling, especially during static conditions.

6. MAINTENANCE

Regular maintenance is essential for maximizing bearing life and ensuring reliable operation.

6.1. Lubrication

The NALsa 7201AC P5 bearing is designed for grease lubrication. The frequency and amount of relubrication depend on operating conditions (speed, temperature, load, environment). Consult a lubrication chart or bearing manufacturer's guidelines for specific recommendations.

- Use only compatible, high-quality grease.
- Avoid over-lubrication, which can lead to excessive heat generation and seal damage.
- Ensure lubrication points are clean before applying new grease.



Image 6.1: NALsa 7201AC P5 Angular Contact Bearing, illustrating the internal structure where lubrication is critical.

6.2. Inspection

Periodically inspect bearings for signs of wear, damage, or contamination. Look for:

- Unusual noise or vibration.
- Excessive heat generation.
- Discoloration of bearing surfaces.
- Leakage of lubricant.
- Corrosion or pitting.

If any of these signs are present, investigate the cause and replace the bearing if necessary.

7. TROUBLESHOOTING COMMON ISSUES

Symptom	Possible Cause	Solution
Excessive Noise/Vibration	<ul style="list-style-type: none"> • Insufficient or incorrect lubrication • Contamination (dirt, debris) • Improper mounting or alignment • Overload or excessive speed • Bearing damage (pitting, spalling) 	<ul style="list-style-type: none"> • Check and correct lubrication • Clean environment, inspect seals • Re-mount bearing correctly, check alignment • Reduce load/speed or use a higher capacity bearing • Replace bearing
Overheating	<ul style="list-style-type: none"> • Over-lubrication or under-lubrication • Excessive speed or load • Misalignment • Tight fit (excessive interference) • Seal friction 	<ul style="list-style-type: none"> • Adjust lubrication quantity/type • Reduce speed/load • Correct alignment • Check shaft/housing tolerances • Inspect seals
Premature Failure	<ul style="list-style-type: none"> • Improper installation • Contamination • Overload • Fatigue (normal wear beyond expected life) • Corrosion 	<ul style="list-style-type: none"> • Review installation procedures • Improve sealing, maintain clean environment • Verify load calculations • Replace bearing, consider higher capacity • Improve sealing, use appropriate lubricants

8. STORAGE

Proper storage of bearings is crucial to prevent damage and contamination before use.

- Store bearings in their original, unopened packaging in a clean, dry environment.
- Maintain a stable temperature and humidity to prevent condensation and corrosion.
- Avoid storing bearings in areas with high vibration or direct sunlight.
- Do not store bearings directly on the floor; use shelves or pallets.

9. SAFETY INFORMATION

Always prioritize safety when handling and working with mechanical components. Failure to follow safety guidelines can result in injury or damage to equipment.

- Ensure all machinery is de-energized and locked out before performing any installation, maintenance, or inspection tasks.
- Use appropriate tools for bearing installation and removal. Never use excessive force that could damage the bearing or surrounding components.
- Dispose of old bearings and lubricants responsibly according to local regulations.
- If you are unsure about any procedure, consult a qualified professional or the equipment manufacturer's manual.

10. WARRANTY AND SUPPORT

For information regarding warranty coverage or technical support for your NALsa bearing, please refer to the purchase documentation or contact your supplier. NALsa is committed to providing high-quality products and support.

For general inquiries or further assistance, please visit the official NALsa website or contact their customer service department. Specific contact details may vary by region.

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