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> [SKF 6004-2RSH 6004-2RS Deep Groove Ball Bearing Instruction Manual](#)

SKF 6004-2RSH

SKF 6004-2RSH 6004-2RS Deep Groove Ball Bearing Instruction Manual

Model: 6004-2RSH | Brand: SKF

1. INTRODUCTION

This manual provides essential information for the proper handling, installation, operation, and maintenance of your SKF 6004-2RSH 6004-2RS deep groove ball bearing. Adhering to these instructions will help ensure optimal performance and extend the service life of the bearing. This bearing is designed for applications requiring reliable rotational support with moderate radial and axial loads.

2. SAFETY INFORMATION

Always observe general safety precautions when working with machinery and components. Improper handling or installation can lead to bearing damage or personal injury.

- Wear appropriate personal protective equipment (PPE), such as safety glasses and gloves.
- Ensure machinery is de-energized and secured before installation or maintenance.
- Use correct tools and techniques for mounting and dismounting bearings.
- Avoid direct impact on bearing rings or rolling elements.
- Keep bearings clean and free from contaminants.

3. PRODUCT OVERVIEW

The SKF 6004-2RSH 6004-2RS is a single-row deep groove ball bearing, sealed on both sides with rubber seals (2RSH/2RS). These seals provide protection against contaminants and retain lubricant, making the bearing suitable for environments where dust and moisture are present.

Key Features:

- **Type:** Single-row deep groove ball bearing
- **Sealing:** Rubber seals on both sides (2RSH/2RS)
- **Material:** Bearing steel for rolling elements and rings, steel cage
- **Dimensions:** Inner diameter 20 mm, Outer diameter 42 mm, Width 12 mm



Figure 1: SKF 6004-2RSH 6004-2RS Deep Groove Ball Bearing. This image shows multiple sealed ball bearings of various sizes, with the 6004-2RSH being one of them, featuring a metallic outer ring and black rubber seals on both sides.

4. SETUP AND INSTALLATION

Proper installation is crucial for bearing performance and longevity. Follow these general guidelines:

1. **Preparation:** Ensure the shaft and housing seats are clean, free from burrs, and within specified tolerances. Check for any damage to the bearing packaging or the bearing itself before installation.
2. **Mounting Method:**
 - **Cold Mounting:** For small bearings, press the bearing onto the shaft or into the housing using a mounting tool that applies force evenly to the ring being fitted. Never apply force through the rolling elements.
 - **Hot Mounting (Induction Heater):** For larger bearings or tight fits, heat the bearing to approximately 80-100°C (176-212°F) using an induction heater. This expands the inner ring, allowing it to slide onto the shaft easily. Do not exceed 120°C (248°F) to avoid damaging seals or lubricant.
3. **Alignment:** Ensure the bearing is correctly aligned with the shaft and housing to prevent premature wear and failure.
4. **Lubrication:** This bearing is pre-lubricated and sealed for life. No additional lubrication is typically required during installation.

5. OPERATING INSTRUCTIONS

Once correctly installed, the SKF 6004-2RSH 6004-2RS bearing operates passively, facilitating smooth rotation and supporting loads. It is designed for continuous operation within its specified load and speed limits.

- **Load Capacity:** Do not exceed the maximum radial and axial load capacities specified for this bearing model.
- **Speed Limits:** Operate within the recommended speed limits to prevent excessive heat generation and premature wear.
- **Temperature Range:** Ensure the operating temperature remains within the bearing's design limits, typically -30°C to +100°C (-22°F to +212°F) for standard rubber seals.

Video 1: Overview of ball bearings. This video demonstrates various types of ball bearings, highlighting their smooth rotational capabilities

and sealed designs, similar to the SKF 6004-2RSH model.

6. MAINTENANCE

The SKF 6004-2RSH 6004-2RS bearing is sealed and pre-lubricated, designed to be maintenance-free under normal operating conditions. However, periodic inspection of the surrounding environment and mounting is recommended.

- **Visual Inspection:** Regularly check for signs of damage, corrosion, or lubricant leakage around the bearing.
- **Contamination:** Ensure the seals are intact and effectively preventing ingress of dust, dirt, or moisture.
- **Noise and Vibration:** Listen for unusual noises or feel for excessive vibration, which could indicate bearing wear or damage.
- **Replacement:** If significant wear, damage, or seal failure is observed, the bearing should be replaced promptly to prevent further machinery damage.

7. TROUBLESHOOTING

Common issues related to ball bearings and potential causes:

Symptom	Possible Cause	Solution
Excessive Noise	Contamination, insufficient lubrication (unlikely for sealed), improper mounting, bearing damage.	Inspect for contamination, check mounting, replace bearing if damaged.
Overheating	Excessive speed, over-tightening during mounting, misalignment, inadequate internal clearance.	Verify operating conditions, check mounting, ensure proper fit.
Vibration	Bearing wear, imbalance in rotating components, misalignment.	Inspect bearing for wear, check system balance and alignment.
Premature Failure	Improper installation, overloading, contamination, material fatigue.	Review installation procedures, ensure correct load application, maintain clean environment.

8. SPECIFICATIONS

Detailed technical specifications for the SKF 6004-2RSH 6004-2RS bearing:

- **Manufacturer:** SKF
- **Bearing Type:** Single-row deep groove ball bearing
- **Model Number:** 6004-2RSH (also known as 6004-2RS)
- **Inner Diameter (d):** 20 mm
- **Outer Diameter (D):** 42 mm
- **Width (B):** 12 mm
- **Rolling Element Material:** Bearing Steel
- **Cage Material:** Steel
- **Seal Type:** Rubber seals on both sides (2RSH/2RS)
- **Radial Clearance:** Normal
- **Material:** Alloy Steel
- **Standard:** ISO 1206

9. WARRANTY AND SUPPORT

For specific warranty information and technical support, please refer to the official SKF website or contact your authorized SKF distributor. Keep your purchase receipt as proof of purchase.

SKF Official Website: www.skf.com

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