SKF 27394

SKF 27394 LDS & Small Bore Seal Instruction Manual

Model: 27394 | Brand: SKF

1. Product Overview

The SKF 27394 LDS & Small Bore Seal is an essential component designed for sealing applications, specifically featuring an R Lip Code and HM21 Style. This seal is engineered to prevent leakage of lubricants and exclude contaminants in rotating shaft applications. Its precise dimensions ensure a proper fit and reliable performance in industrial and automotive systems.

Figure 1: The SKF 27394 LDS & Small Bore Seal. This image displays the circular seal with a teal-colored outer casing and a black inner sealing lip, designed for effective sealing in various applications.

2. Installation Guidelines

Proper installation is crucial for the optimal performance and longevity of the SKF 27394 seal. Follow these general guidelines:

1. **Preparation:** Ensure the shaft and bore surfaces are clean, free from burrs, scratches, and foreign particles. Lubricate the shaft and the seal's lip with the system's operating lubricant or a compatible grease before installation.
2. **Alignment:** Carefully align the seal with the bore. Avoid cocking the seal during insertion, as this can damage the sealing lip or the seal's outer diameter.
3. **Pressing:** Use an appropriate installation tool (e.g., a seal driver or press) that applies even pressure to the outer diameter of the seal. Never strike the seal directly with a hammer or use tools that apply pressure only to the inner lip.
4. **Depth:** Press the seal into the bore to the correct depth as specified by the equipment manufacturer. Ensure it is seated squarely.
5. **Inspection:** After installation, visually inspect the seal to ensure the lip is not inverted or damaged and that the seal is fully seated.

Note: Always refer to the specific equipment manufacturer's service manual for detailed installation procedures and torque specifications.

3. Operating Principles

The SKF 27394 seal operates by creating a dynamic seal between a rotating shaft and a stationary housing. The primary sealing lip (R Lip Code) maintains continuous contact with the shaft surface, preventing the escape of internal fluids (lubricants) and blocking the ingress of external contaminants (dust, dirt, moisture). The HM21 style refers to the seal's construction, which typically includes a metal case for rigidity and a rubber sealing element for flexibility and sealing effectiveness.

- **Dynamic Sealing:** The lip maintains a thin film of lubricant between itself and the shaft, which is essential for reducing friction and wear while still providing an effective seal.
- **Contaminant Exclusion:** The design helps to keep abrasive particles and moisture out of the bearing or system, protecting internal components.
- **Material Compatibility:** The seal materials are selected for compatibility with common industrial lubricants and operating environments.

4. Maintenance

Seals are wear components and require periodic inspection and replacement. While the SKF 27394 seal is designed for durability, proper maintenance practices can extend its service life and prevent premature failure.

- **Regular Inspection:** Periodically check for signs of leakage around the seal. Early detection of leaks can prevent more significant damage to the system.
- **Environmental Factors:** Ensure the operating environment is as clean as possible to minimize exposure to abrasive contaminants that can accelerate lip wear.
- **Lubrication:** Maintain proper lubrication levels within the system. Insufficient lubrication can lead to increased friction and heat, causing the seal lip to harden or crack.
- **Replacement:** Replace seals during routine maintenance or whenever signs of wear, hardening, cracking, or leakage are observed. Always use a new seal when servicing a component that requires seal removal.

5. Troubleshooting

Common issues related to shaft seals and potential solutions:

Problem	Possible Cause	Solution
Oil Leakage	Damaged or worn seal lip, improper installation, shaft surface damage, excessive shaft runout, incorrect lubricant.	Replace seal, ensure correct installation, inspect shaft for damage and repair if necessary, check shaft alignment, verify lubricant compatibility.
Premature Seal Wear	Abrasive contaminants, high operating temperature, insufficient lubrication, excessive shaft speed, improper seal material.	Improve contamination control, check operating temperature, ensure adequate lubrication, verify seal is rated for shaft speed, confirm correct seal material.
Seal Extrusion/Blowout	Excessive system pressure, incorrect seal design for pressure application, damaged housing bore.	Verify system pressure is within seal limits, select a pressure-rated seal if necessary, inspect and repair housing bore.

6. Specifications

Key technical specifications for the SKF 27394 LDS & Small Bore Seal:

- **Model Number:** 27394
- **Seal Type:** LDS & Small Bore Seal
- **Lip Code:** R
- **Style:** HM21
- **Shaft Diameter:** 2.75 inches (69.85 mm)
- **Bore Diameter:** 3.751 inches (95.275 mm)
- **Width:** 0.25 inches (6.35 mm)
- **Item Weight:** 0.353 ounces (approximately 10 grams)
- **Product Dimensions:** 9.84 x 0.25 x 3.94 inches (packaging dimensions)
- **Manufacturer:** SKF

7. Warranty Information

For detailed warranty information regarding the SKF 27394 LDS & Small Bore Seal, please refer to the official SKF warranty policy available on their corporate website or contact an authorized SKF distributor. Warranty terms typically cover manufacturing defects under normal use conditions.

8. Customer Support

Should you require further assistance, technical support, or have questions regarding the SKF 27394 seal, please contact SKF customer service or an authorized SKF dealer. Contact information can typically be found on the official SKF website.

SKF Official Website: www.skf.com