

National 471652

National 471652 Oil Seal Instruction Manual

Model: 471652

1. INTRODUCTION

This instruction manual provides essential information for the proper handling, installation, and maintenance of the National 471652 Oil Seal. Adhering to these guidelines will help ensure optimal performance and longevity of the product. National has a long-standing reputation for delivering premium sealing solutions, and this product is designed to meet rigorous automotive standards.

2. PRODUCT OVERVIEW

The National 471652 Oil Seal is a high-quality component designed for critical sealing applications within automotive systems, specifically as a crankshaft seal. It features a spring-loaded, multi-lip design engineered for reliable performance across a wide range of operating conditions.

- **Design Type:** Spring loaded; multi-lip for enhanced sealing capability.
- **Temperature Range:** Operates effectively from -40°F to 225°F (-40°C to 107°C).
- **Low Temperature Capability:** Exhibits good performance in cold environments.
- **Fluid Compatibility:** Designed for low swell in hydrocarbon fluids, ensuring seal integrity.
- **Reliability:** Delivers consistent quality and reliable performance for various repair needs.



Figure 1: The National 471652 Oil Seal, a multi-purpose seal designed for automotive applications.

3. SPECIFICATIONS

Manufacturer	National
Brand	National
Model Number	471652

Item Weight	0.48 ounces
Product Dimensions	2 x 0.63 x 0.1 inches
Position	Center
Design Type	Spring loaded; multi-lip
Temperature Range	-40°F to 225°F / -40°C to 107°C

4. INSTALLATION GUIDELINES

Proper installation is crucial for the effective performance and longevity of the National 471652 Oil Seal. It is highly recommended that installation be performed by a qualified automotive technician using appropriate tools and following vehicle manufacturer's service procedures.

4.1. General Preparation

- Ensure the mating surfaces are clean, dry, and free from any burrs, nicks, or contaminants.
- Inspect the shaft for wear, grooves, or damage that could compromise the seal's effectiveness. Consider using a Redi-Sleeve if shaft wear is present.
- Verify that the new seal matches the specifications of the old seal and the application.

4.2. Installation Steps

1. Apply a thin, even coat of clean engine oil or assembly lubricant to the sealing lips of the new oil seal.
2. Carefully position the seal onto the shaft, ensuring it is square to the bore.
3. Using a specialized seal installation tool or a suitable driver, gently and evenly press the seal into its bore until it is fully seated. Avoid cocking the seal.
4. Do not use excessive force or sharp objects, as this can damage the seal or the housing.
5. Once installed, visually inspect the seal to ensure it is flush and properly seated.



Figure 2: A variety of National oil seals, demonstrating the range of sealing solutions available. Proper selection and installation are key.

5. OPERATION AND FUNCTION

The National 471652 Oil Seal functions by creating a barrier that prevents the leakage of lubricants (such as engine oil) from a rotating shaft, while also preventing contaminants from entering the system. Once correctly installed, the seal maintains a tight fit around the shaft, with its multi-lip design and spring ensuring consistent contact and sealing pressure during engine operation.

No direct user operation is required for the oil seal itself; its function is passive and continuous as part of the engine or transmission system. Its performance is directly tied to proper installation and the overall health of the components it seals.

6. MAINTENANCE

Oil seals are wear components and do not typically require routine maintenance beyond periodic inspection. However, their lifespan can be extended by ensuring the surrounding components are in good condition.

- **Regular Inspections:** Periodically check the area around the seal for any signs of oil leakage. Early detection of a leak can prevent more significant damage.
- **Fluid Levels:** Maintain proper fluid levels in the system (e.g., engine oil, transmission fluid) as specified by the vehicle manufacturer. Low fluid levels can lead to overheating and premature seal wear.
- **Shaft Condition:** Ensure the shaft surface remains smooth and free of corrosion or damage. Any imperfections on the shaft can accelerate seal wear.
- **Replacement:** Oil seals should be replaced whenever the component they seal (e.g., crankshaft, transmission) is serviced or when signs of leakage are observed. It is generally recommended to replace seals as part of preventative maintenance during major overhauls.

7. TROUBLESHOOTING

Most issues related to oil seals manifest as leaks. If a leak is detected, consider the following common causes and solutions:

Symptom	Possible Cause	Solution
Oil Leakage	◦ Improper installation (cocked seal, damaged lip) ◦ Damaged shaft surface (grooves, wear) ◦ Seal material degradation due to age or extreme temperatures ◦ Incorrect seal size or type ◦ Excessive crankcase pressure	◦ Re-install seal correctly, or replace if damaged. ◦ Repair or replace shaft, or use a Redi-Sleeve. ◦ Replace the seal. ◦ Verify correct seal part number for application. ◦ Diagnose and repair source of excessive pressure (e.g., PCV system).
Premature Seal Wear	◦ Abrasive contaminants ◦ Lack of lubrication during installation ◦ Misalignment ◦ Excessive heat	◦ Ensure clean environment during installation. ◦ Lubricate seal lips thoroughly before installation. ◦ Ensure proper alignment during installation. ◦ Address source of excessive heat (e.g., engine cooling system).

If troubleshooting steps do not resolve the issue, it is recommended to consult with a professional automotive technician.

8. WARRANTY AND SUPPORT

For specific warranty information regarding the National 471652 Oil Seal, please refer to the documentation provided with your purchase or visit the official National brand website. National stands by the quality of its products and offers support for its sealing solutions.

For technical assistance, product inquiries, or warranty claims, please contact National customer support through their official channels.

Official Website: www.nationaloilseal.com

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