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› FEL-PRO MS 97103 Exhaust Manifold Gasket Set Instruction Manual

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FEL-PRO MS 97103 Exhaust Manifold Gasket Set Instruction Manual

Model: MS 97103

1. PRODUCT OVERVIEW

The FEL-PRO MS 97103 Exhaust Manifold Gasket Set provides a reliable sealing solution for automotive exhaust systems. These gaskets are engineered with application-specific materials to ensure optimal performance and durability in demanding repair environments.

- **Comprehensive Sealing:** Designed to provide 100% vehicle sealing for exhaust manifold applications.
- **Application-Specific Design:** Ensures a precise fit and superior seal tailored to specific vehicle requirements.
- **Premium Quality:** Manufactured with high-quality materials for trusted performance.
- **Engineered for Repair:** Specifically designed and manufactured for the repair environment, addressing common challenges.
- **Blow-Out Resistance:** Features high-density fiber-facing material attached to side-specific perforated steel to resist blow-out from high-temperature exhaust gases.
- **Proprietary Coating:** Includes an application-specific coating that facilitates easier removal during future engine maintenance.

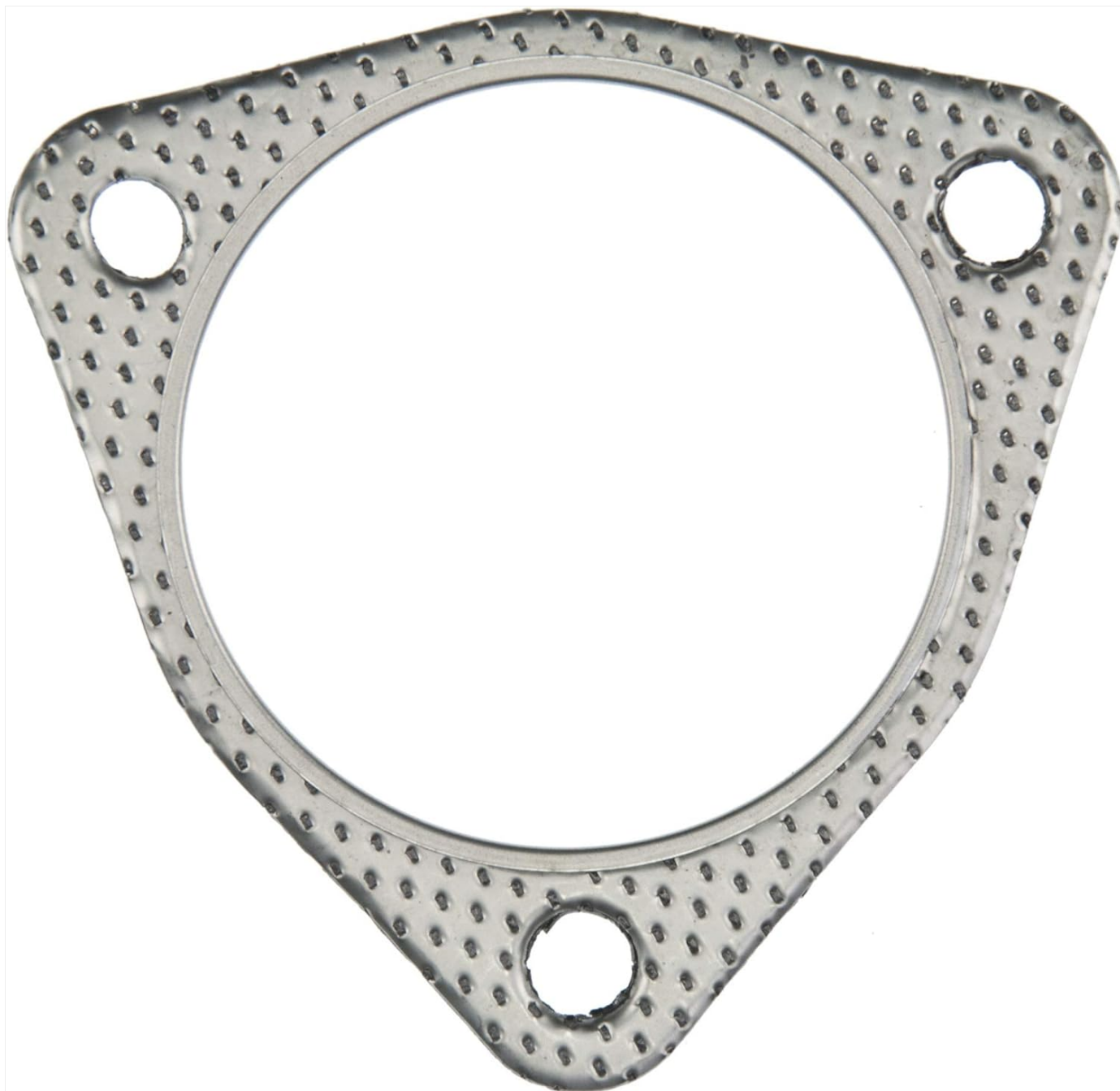
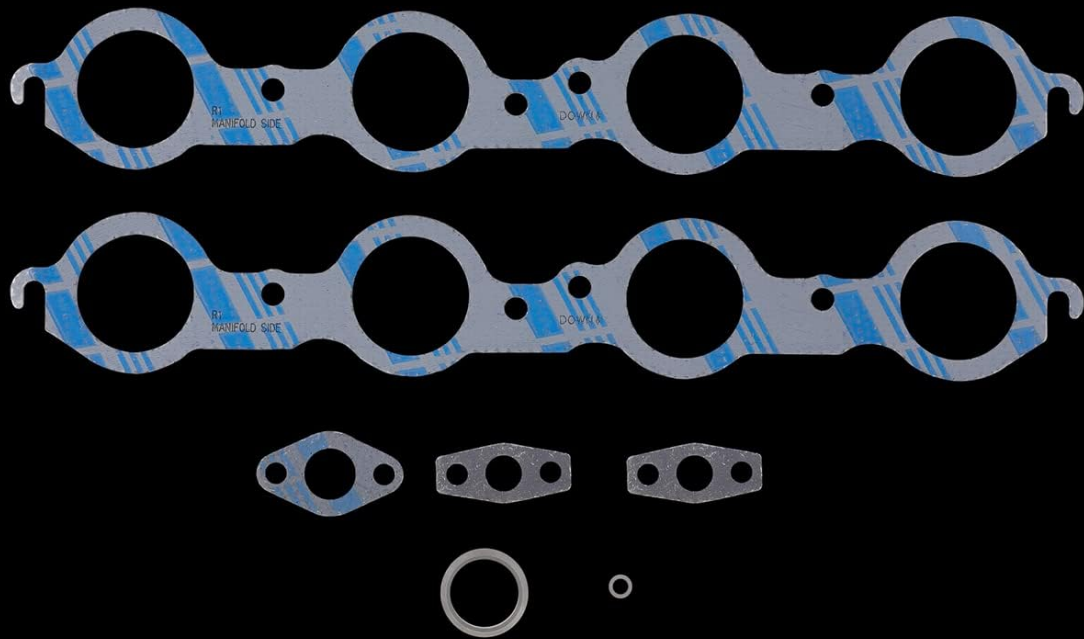


Figure 1: FEL-PRO MS 97103 Exhaust Manifold Gasket. This image displays the primary gasket component, showcasing its shape and material texture.

2. WHAT'S IN THE BOX

The FEL-PRO MS 97103 package typically includes the following components:

- Exhaust Manifold Gasket Set (specific components may vary based on application, but generally includes all necessary gaskets for the manifold).



EVERY PART FOR THE REPAIR

Fel-Pro® exhaust manifold gasket sets include every part needed for the repair unless otherwise noted

Figure 2: Example of a complete Fel-Pro exhaust manifold gasket set. This image illustrates various gaskets and seals that may be included in a comprehensive set for a repair.

3. INSTALLATION GUIDELINES

Proper installation is crucial for the longevity and performance of your exhaust manifold gasket. It is recommended that installation be performed by a qualified technician. Always refer to your vehicle's specific service manual for detailed instructions and torque specifications.

1. **Preparation:** Ensure the engine is cool. Disconnect the battery. Carefully remove the existing exhaust manifold and old gasket material. Thoroughly clean both the cylinder head and exhaust manifold mating surfaces to remove any carbon deposits, rust, or old gasket residue. A clean, smooth surface is essential for a proper seal.
2. **Surface Inspection:** Inspect both mating surfaces for warpage, cracks, or damage. Imperfections can lead to leaks even with a new gasket. Fel-Pro gaskets are designed to help seal imperfect surfaces, but severe damage requires repair or replacement of components.
3. **Gasket Placement:** Position the new FEL-PRO MS 97103 gasket onto the cylinder head studs or manifold. Many

Fel-Pro gaskets feature slotted bolt holes for easier alignment and installation. Ensure the gasket is correctly oriented.

4. **Manifold Reinstallation:** Carefully reinstall the exhaust manifold, ensuring it aligns with the gasket and cylinder head. Start all bolts by hand to prevent cross-threading.
5. **Torque Specifications:** Tighten the exhaust manifold bolts to the manufacturer's specified torque values, typically in a specific sequence (e.g., center-out pattern) to ensure even pressure. Over-tightening or under-tightening can cause gasket failure.
6. **Final Checks:** Reconnect any removed components and the battery. Start the engine and check for exhaust leaks.

DESIGNED FOR IMPERFECT SEALING SURFACES

Engineered and manufactured specifically for the repair environment to help seal imperfect sealing surfaces



Figure 3: Fel-Pro gaskets positioned on a rusty exhaust manifold, illustrating their design for sealing imperfect surfaces.

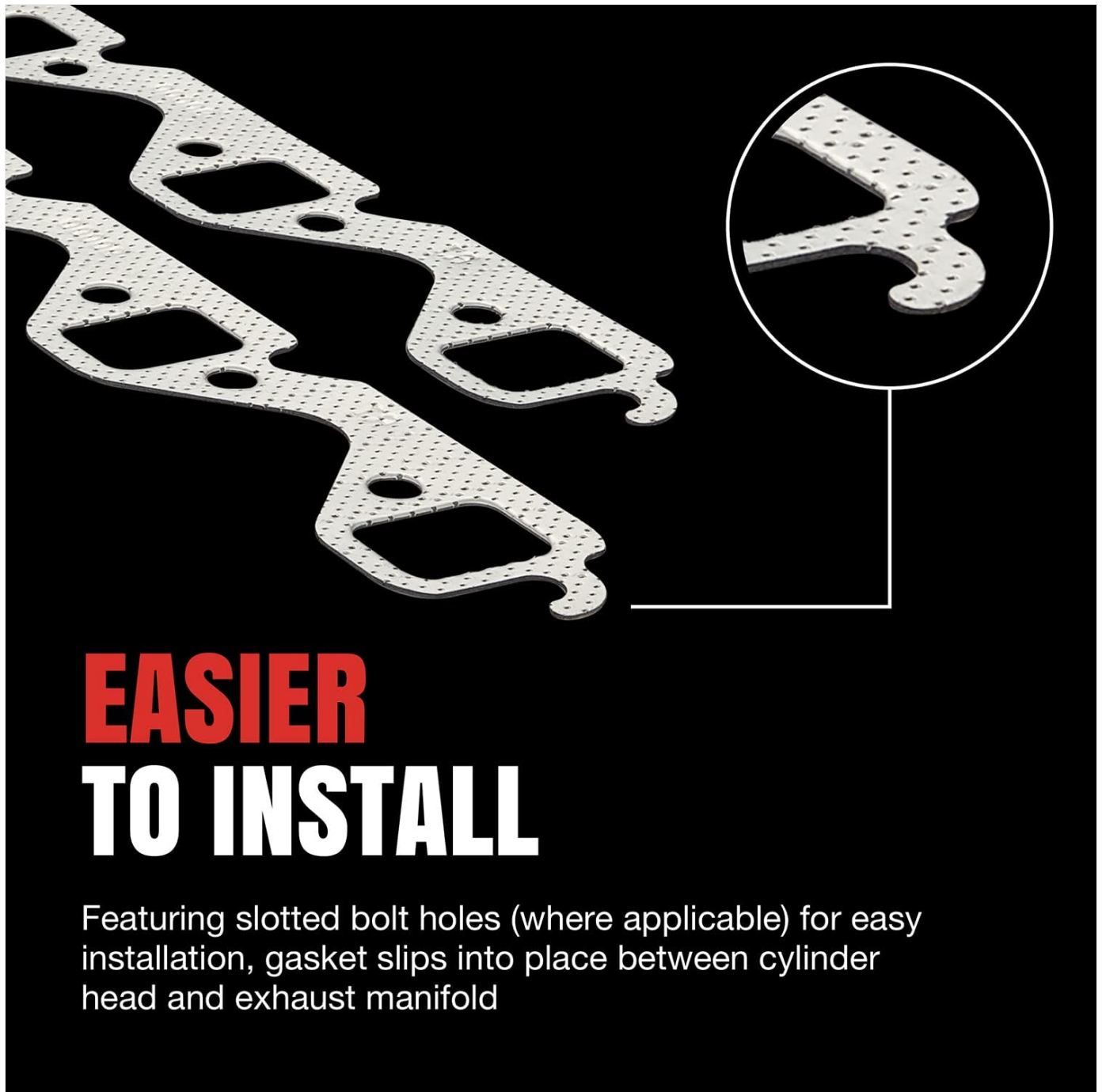


Figure 4: Close-up view of a gasket showing slotted bolt holes, designed to simplify installation and alignment.

4. FUNCTION OF THE EXHAUST MANIFOLD GASKET

The exhaust manifold gasket creates a seal between the engine's cylinder head and the exhaust manifold. This seal is critical for preventing hot, corrosive exhaust gases from leaking out of the exhaust system prematurely. A proper seal ensures that all exhaust gases are directed through the exhaust system, allowing catalytic converters and oxygen sensors to function correctly, maintaining engine efficiency, and preventing harmful emissions from entering the engine bay or passenger compartment.



Figure 5: An exhaust manifold gasket correctly installed on an engine, demonstrating its position between the cylinder head and manifold.

5. MAINTENANCE AND LONGEVITY

Exhaust manifold gaskets are designed for long-term durability, but their lifespan can be affected by various factors:

- **Heat Cycles:** Constant heating and cooling of the engine can cause expansion and contraction, eventually leading to gasket wear.
- **Vibrations:** Engine vibrations can stress the gasket material over time.
- **Corrosion:** Exposure to exhaust gases and environmental elements can contribute to material degradation.
- **Proper Installation:** Correct installation, including proper surface preparation and torque, significantly extends gasket life.

Regular inspection of the exhaust system for signs of leaks (e.g., unusual noises, exhaust smell, soot around the manifold) can help identify potential issues early. While gaskets do not typically require routine maintenance, addressing underlying issues like manifold warpage or loose bolts can prevent premature failure.



PROPRIETARY COATING

Application-specific coating makes it easier to remove
for engine maintenance

Figure 6: A close-up of the gasket material, highlighting the proprietary coating designed for easier removal during maintenance.



RESISTS BLOW-OUT

High density fiber-facing material attaches to side-specific perforated steel to resist blow-out from high-temperature exhaust gasses

Figure 7: Detail of the gasket's construction, showing the high-density fiber-facing material and perforated steel for blow-out resistance.

6. TROUBLESHOOTING COMMON ISSUES

A failing exhaust manifold gasket can manifest several symptoms. If you experience any of the following, inspect your exhaust system:

- **Loud Exhaust Noise:** A distinct ticking or hissing sound, especially upon cold start, which may diminish as the engine warms up. This is often the most common symptom of an exhaust leak.
- **Exhaust Smell:** A strong exhaust odor in the engine bay or cabin, indicating gases are escaping before the tailpipe.
- **Reduced Engine Performance:** While less common, a significant exhaust leak can affect oxygen sensor readings, leading to incorrect air-fuel mixture and potentially reduced engine power or fuel efficiency.
- **Check Engine Light:** An exhaust leak can trigger the "Check Engine" light due to incorrect oxygen sensor readings or other emission-related issues.
- **Soot Deposits:** Visible black soot around the exhaust manifold flange indicates where gases are escaping.

If you suspect an exhaust leak, it is advisable to have the vehicle inspected by a professional to diagnose and repair the issue promptly.



Figure 8: An illuminated "Check Engine" light on a vehicle dashboard, which can be an indicator of an exhaust leak.

7. TECHNICAL SPECIFICATIONS

Feature	Specification
Brand	Fel-Pro
Model Number	MS 97103
Item Weight	1.02 ounces
Manufacturer Part Number	MS97103
UPC	019826065193
Shape	Round (referring to the general shape of the manifold port openings)
Material	High-density fiber-facing material with perforated steel core
Color	Assorted (referring to the various materials and coatings)

8. WARRANTY AND SUPPORT

For specific warranty information regarding the FEL-PRO MS 97103 Exhaust Manifold Gasket Set, please refer to the packaging or contact Fel-Pro customer support directly. Fel-Pro stands by the quality of its products, offering solutions trusted by professionals.

For technical assistance or inquiries, please visit the official Fel-Pro website or contact their customer service department. You can also find additional resources and product information on the [Fel-Pro Store on Amazon](#).

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