

Delphi MF0109

Delphi MF0109 Mechanical Fuel Pump Instruction Manual

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the Delphi MF0109 Mechanical Fuel Pump. Designed for older-model carbureted systems, this pump ensures reliable fuel delivery. Please read this manual thoroughly before attempting any installation or service.

2. SAFETY INFORMATION

Always prioritize safety when working on automotive systems. Failure to follow these safety guidelines may result in personal injury or damage to the vehicle.

- **Wear Protective Gear:** Always wear safety glasses, gloves, and appropriate protective clothing.
- **Work in a Well-Ventilated Area:** Fuel vapors are flammable and hazardous. Ensure adequate ventilation.
- **Disconnect Battery:** Before starting any work, disconnect the vehicle's battery to prevent accidental electrical shorts.
- **Relieve Fuel System Pressure:** Consult your vehicle's service manual for proper procedures to relieve fuel system pressure before disconnecting fuel lines.
- **Handle Fuel Carefully:** Fuel is highly flammable. Keep away from open flames, sparks, and hot surfaces. Have a fire extinguisher readily available.
- **Secure Vehicle:** Ensure the vehicle is safely supported on jack stands if working underneath. Do not rely solely on a jack.
- **Consult Service Manual:** Refer to your vehicle's specific service manual for detailed instructions and torque specifications relevant to your make and model.

3. PACKAGE CONTENTS

Verify that all components are present before beginning installation.

- Delphi MF0109 Mechanical Fuel Pump

- Gasket (typically included)



Image 3.1: Delphi MF0109 Mechanical Fuel Pump with gasket.

4. INSTALLATION (SETUP)

The Delphi MF0109 is designed for vehicle-specific fit. Always refer to your vehicle's service manual for precise installation steps.

4.1. Preparation

1. Park the vehicle on a level surface and engage the parking brake.
2. Disconnect the negative terminal of the battery.

3. Relieve fuel system pressure according to your vehicle's service manual.
4. Locate the existing mechanical fuel pump, typically mounted on the engine block.

4.2. Removal of Old Fuel Pump

1. Place a drain pan beneath the fuel pump to catch any residual fuel.
2. Carefully disconnect the fuel lines (inlet and outlet) from the old pump. Cap or plug the lines to prevent fuel leakage and contamination.
3. Remove the mounting bolts securing the old fuel pump to the engine block.
4. Gently remove the old fuel pump, ensuring the actuating lever clears the camshaft eccentric.
5. Clean the mounting surface on the engine block thoroughly, removing any old gasket material.



Image 4.1: Top view of the Delphi MF0109 pump, showing the 'IN' (inlet) port and outlet port.

4.3. Installation of New Fuel Pump

1. Position the new gasket onto the clean mounting surface.
2. Carefully align the new Delphi MF0109 fuel pump with the mounting holes. Ensure the actuating lever is correctly positioned against the camshaft eccentric. It may be necessary to rotate the engine slightly by hand to allow the lever to seat properly.
3. Install the mounting bolts and tighten them to the torque specifications provided in your vehicle's service manual. Do not overtighten.
4. Reconnect the fuel lines to the appropriate inlet and outlet ports on the new pump. Ensure connections are secure and leak-free. The inlet connection type is typically a hose barb.
5. Reconnect the negative battery terminal.





Image 4.2: Bottom view of the Delphi MF0109 pump, highlighting the actuating lever.

4.4. Post-Installation Check

1. Start the engine and check for any fuel leaks around the pump and fuel line connections.
2. Allow the engine to run for a few minutes, rechecking for leaks.

3. Verify proper engine operation.

5. OPERATING PRINCIPLES

The Delphi MF0109 is a mechanical, lever-operated fuel pump designed for carbureted systems. Its operation relies on the engine's camshaft.

- **Lever Actuation:** The pump's actuating lever rides on an eccentric lobe of the engine's camshaft. As the camshaft rotates, it moves the lever up and down.
- **Diaphragm Movement:** This lever movement is transmitted to an internal diaphragm within the pump.
- **Fuel Intake:** On the intake stroke, the diaphragm creates a vacuum, drawing fuel from the vehicle's fuel tank through the fuel lines into the pump's inlet.
- **Fuel Delivery:** On the return stroke, the diaphragm pushes the fuel under pressure through the outlet port and into the carburetor.



Image 5.1: General side view of the Delphi MF0109 Mechanical Fuel Pump.

6. MAINTENANCE

Mechanical fuel pumps are generally low-maintenance components. However, periodic checks can help ensure longevity and proper function.

- **Inspect for Leaks:** Regularly check the fuel pump and fuel line connections for any signs of fuel leaks. Address leaks immediately.
- **Check Fuel Filter:** Ensure the fuel filter (if present in your system) is clean and not clogged. A clogged filter can strain the fuel pump.
- **Inspect Fuel Lines:** Check fuel lines for cracks, kinks, or deterioration. Replace damaged lines as needed.
- **Listen for Unusual Noises:** While mechanical pumps can make some noise, any new or excessive clicking or grinding sounds may indicate an issue.

The Delphi MF0109 is a sealed unit and is not designed for user-serviceable internal repairs. If the pump malfunctions, replacement is typically required.

7. TROUBLESHOOTING

If you experience issues with your fuel system, consider the following common troubleshooting steps. Always consult a qualified mechanic if you are unsure.

7.1. Engine Cranks but Does Not Start (No Fuel)

- **Check Fuel Level:** Ensure there is sufficient fuel in the tank.
- **Inspect Fuel Filter:** A clogged fuel filter can prevent fuel flow. Replace if necessary.
- **Check Fuel Lines:** Look for kinks, blockages, or leaks in the fuel lines from the tank to the pump and from the pump to the carburetor.
- **Verify Pump Operation:** With the engine cranking, disconnect the fuel line at the carburetor and observe if fuel is being pumped. (Exercise extreme caution due to fire hazard). If no fuel, the pump may be faulty or the camshaft eccentric is not engaging.

7.2. Engine Stalls or Runs Poorly

- **Fuel Starvation:** This can be caused by a weak fuel pump, clogged fuel filter, or restricted fuel lines.
- **Vapor Lock:** In hot conditions, fuel can vaporize in the lines, leading to fuel delivery issues. Ensure proper heat shielding for fuel lines.
- **Carburetor Issues:** Ensure the carburetor is functioning correctly and not clogged.

7.3. Fuel Leaks

- **Check Connections:** Ensure all fuel line connections are tight and properly sealed.
- **Inspect Gasket:** A damaged or improperly installed gasket at the pump's mounting surface can cause leaks.
- **Pump Body:** If the pump body itself is leaking, the pump must be replaced.

8. SPECIFICATIONS

Key specifications for the Delphi MF0109 Mechanical Fuel Pump:

Specification	Detail
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Specification	Detail
Brand	Delphi
Model Number	MF0109
Operation Mode	Mechanical
Fit Type	Vehicle Specific Fit
Material	Aluminum
Item Dimensions (L x W x H)	5 x 4.5 x 6 inches
Item Weight	1.2 pounds
Inlet Connection Type	Hose Barb
OEM Equivalent Part Number(s)	901, AMF0109, M4434
Specification Met	OE
Product Style	Gerotor
Included Components	Mechanical Fuel Pump
UPC / GTIN	689604234488

9. WARRANTY INFORMATION

Delphi warrants that its products will be free of defects in materials and workmanship. As its sole obligation under this limited warranty, Delphi will replace any non-conforming product. Delphi is not responsible for any incidental or consequential costs (including labor) to remove and install a product or to restore the vehicle to its proper operating condition. Furthermore, under no circumstances will Delphi be liable for any incidental or consequential damages under this warranty or any implied warranties.

Manufacturers' warranties may not apply in all cases, depending on factors such as use of the product, where the product was purchased, or who you purchased the product from. Please review the warranty carefully, and contact the manufacturer if you have any questions.

10. SUPPORT

For technical assistance or warranty inquiries regarding your Delphi MF0109 Mechanical Fuel Pump, please contact Delphi directly:

- **Phone:** 877-463-3574
- **Website:** www.delphi.com (for general product information and support resources)

When contacting support, please have your product model number (MF0109) and purchase information readily available.

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question