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Carter Mechanical Fuel Pump M3120 - Instruction Manual

Model: M3120 | Brand: Carter Fuel Systems

INTRODUCTION

This instruction manual provides essential information for the proper installation, operation, and maintenance of your Carter M3120 Mechanical Fuel Pump. Designed for specific Checker Aerobus and Chevrolet models, this pump ensures reliable fuel delivery. Please read this manual thoroughly before installation to ensure safety and optimal performance.

SAFETY INFORMATION

Working with fuel systems requires extreme caution. Always follow these safety guidelines:

- Ensure the vehicle's engine is off and cool before beginning any work.
- Disconnect the vehicle's battery to prevent accidental starting or electrical shorts.
- Work in a well-ventilated area to avoid inhaling fuel vapors.
- Keep open flames, sparks, and other ignition sources away from the work area.
- Wear appropriate personal protective equipment, including safety glasses and fuel-resistant gloves.
- Be aware that this product may contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm (Proposition 65 warning).
- Properly dispose of any drained fuel or contaminated materials according to local regulations.

PRODUCT OVERVIEW

The Carter M3120 Mechanical Fuel Pump is an automotive replacement part engineered for dependable and consistent fuel delivery. It is built with precision castings and rockers for durability and features advanced polymer diaphragms for compatibility with modern fuel blends, including ethanol mixes.

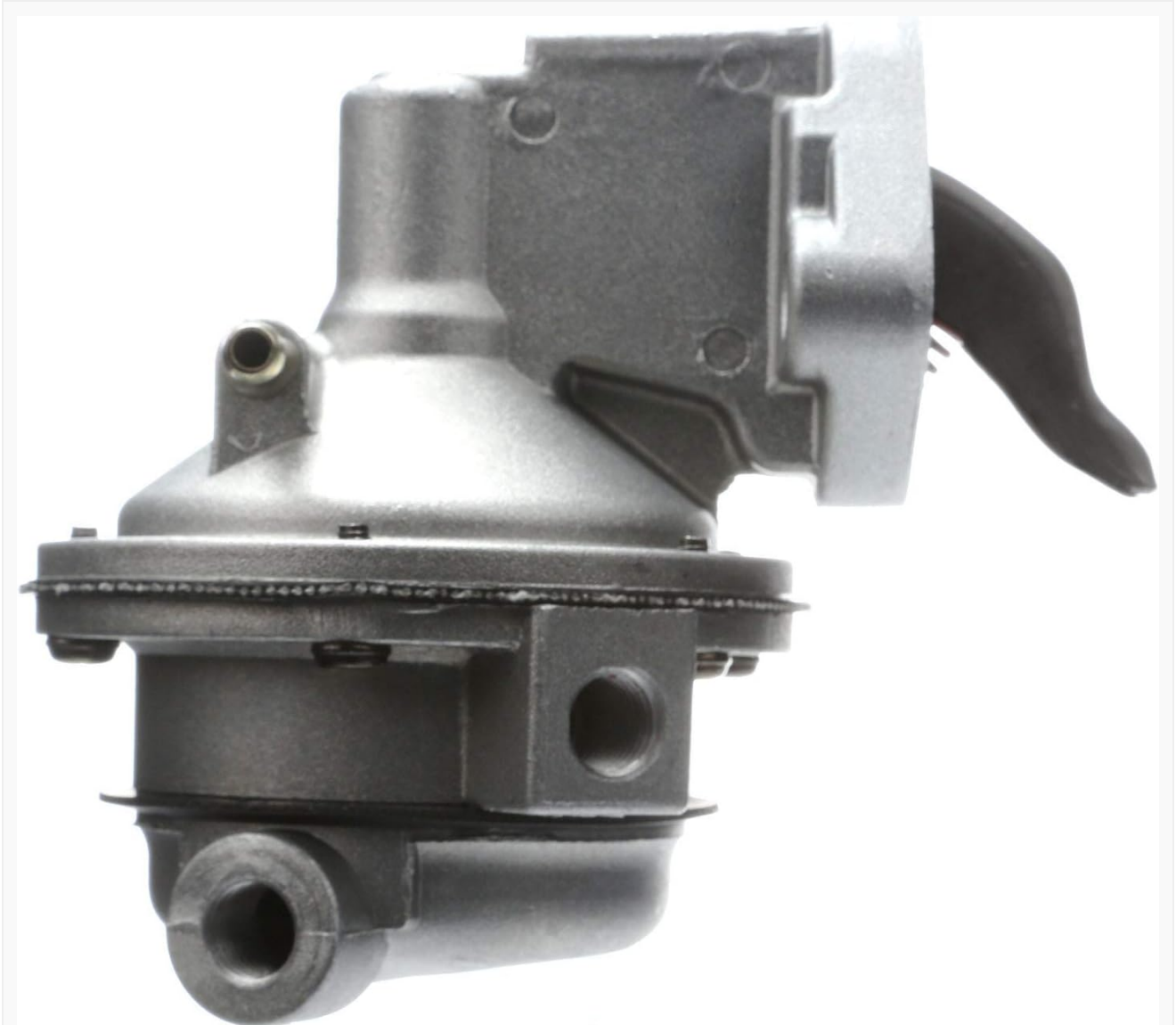
Key Features:

- Built for Durability: Features precision castings and rockers for long-lasting operation.
- Fuel Blend Compatible: Equipped with advanced polymer diaphragms for reliable performance with various modern fuel blends, including ethanol.
- OE-Level Performance: Engineered to meet or exceed original equipment specifications.

What's in the Box:

- 1 x Carter M3120 Mechanical Fuel Pump

Product Images:



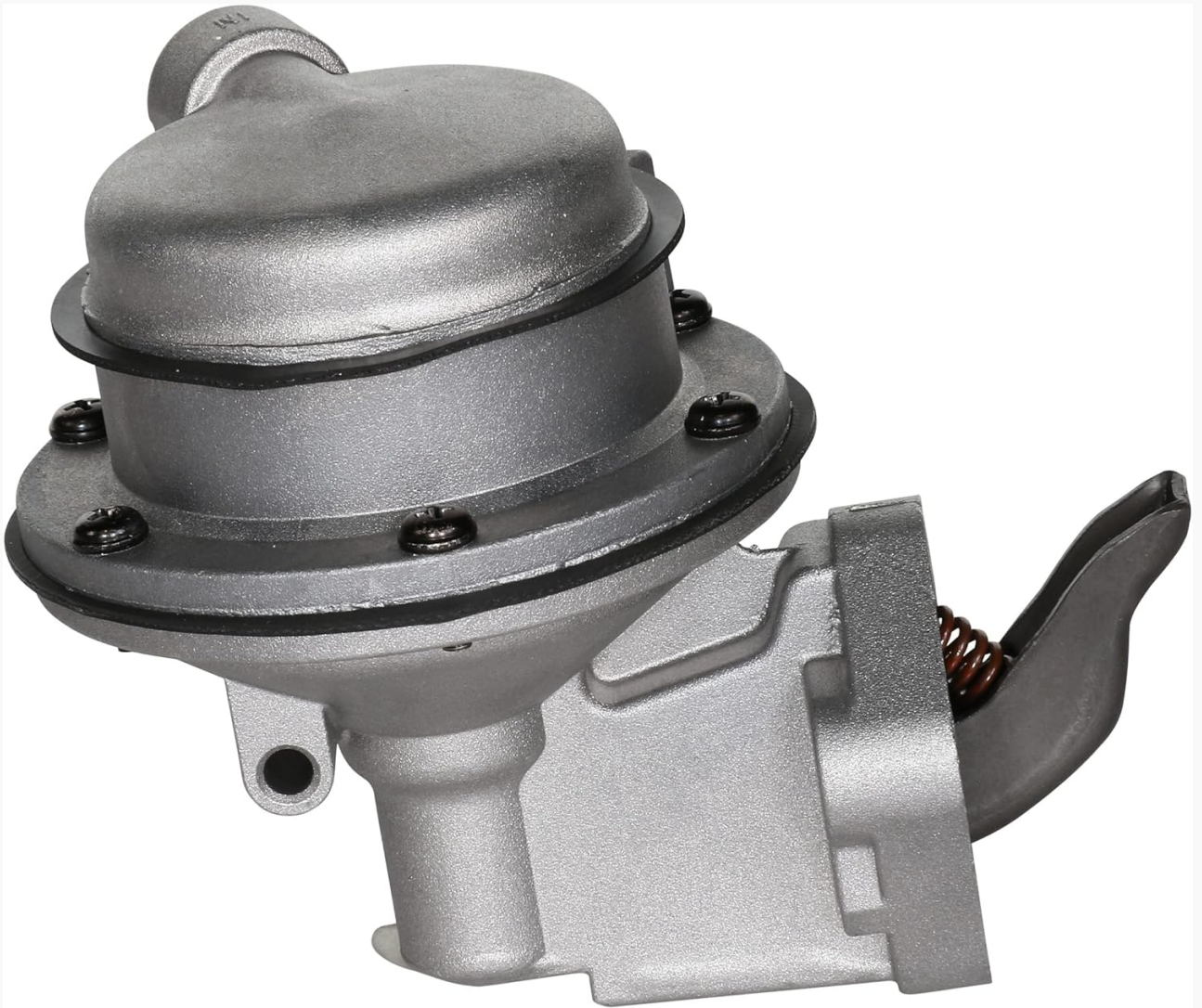
Main view of the Carter M3120 Mechanical Fuel Pump, showcasing its overall design and components.



Top view of the fuel pump, highlighting the diaphragm housing and screw placements.



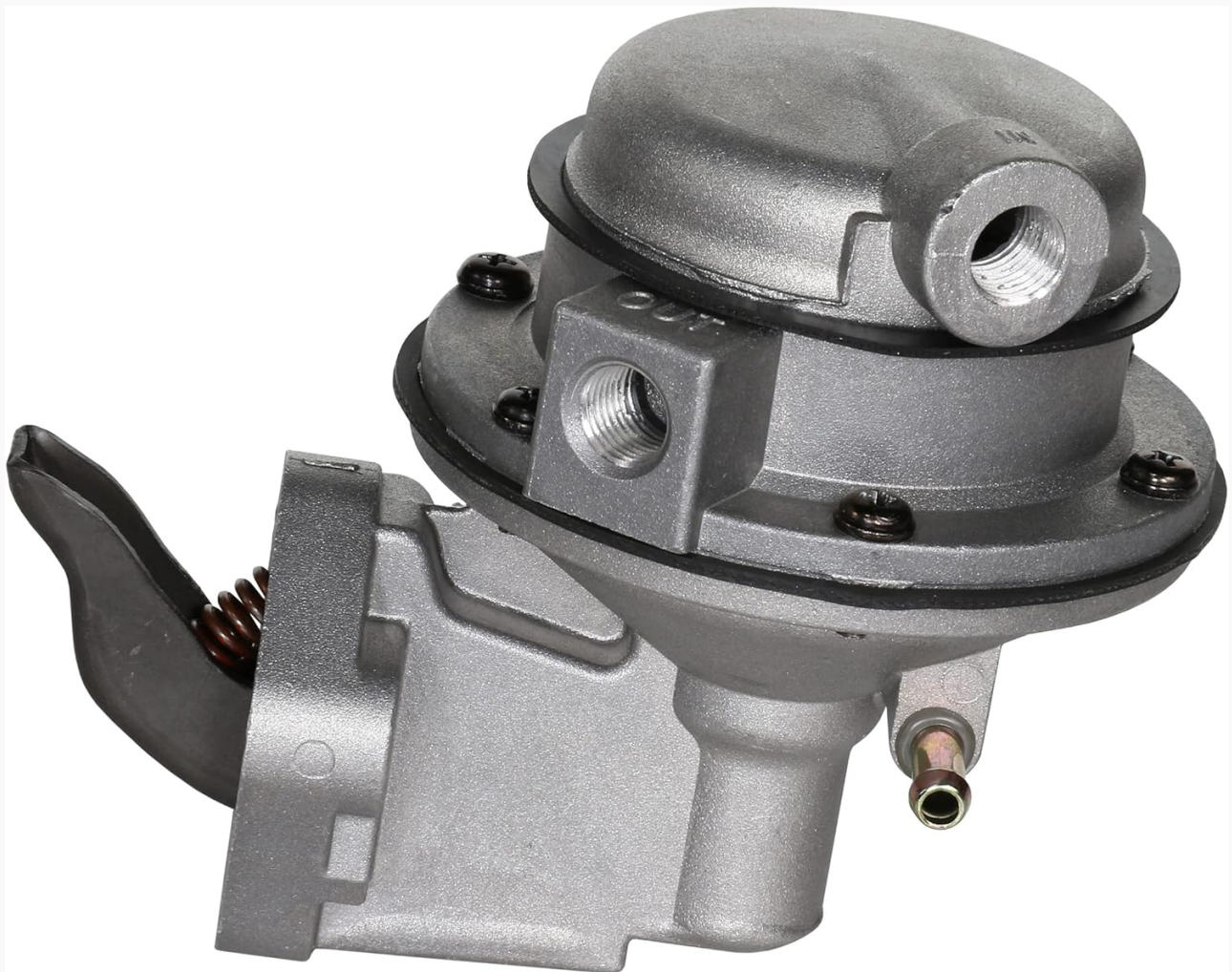
Close-up of the mounting flange and actuator arm, showing the bolt holes for engine attachment.



Side profile of the fuel pump, illustrating the mechanical lever that interacts with the engine's camshaft.



An angled perspective of the fuel pump, showing the inlet and outlet ports along with the mounting bracket.



Another angled view, providing a different perspective of the pump's connections and overall form factor.

VEHICLE COMPATIBILITY

The Carter M3120 Mechanical Fuel Pump is compatible with the following vehicle models:

- Checker Aerobus: 1966-1968
- Checker Taxicab: 1969
- Checker Deluxe: 1969
- Checker Marathon: 1965-1969
- Chevrolet Sedan Delivery: 1958
- Chevrolet Chevelle: 1964-1968
- Chevrolet Bel Air: 1958-1969
- Chevrolet Caprice: 1966
- Chevrolet Corvette: 1962-1966
- Chevrolet Impala: 1958-1966
- Chevrolet Malibu: 1966
- Chevrolet Biscayne: 1958-1966
- Chevrolet Brookwood: 1958-1961
- Chevrolet Chevy II: 1965-1968
- Chevrolet Del Ray: 1958

- Chevrolet Nomad: 1958-1961

Note: Always verify fitment with your specific vehicle's year, make, and model before installation.

SETUP AND INSTALLATION

Professional installation is recommended. If performing the installation yourself, ensure you have the necessary tools and follow all safety precautions.

Pre-Installation Checklist:

- New Carter M3120 Mechanical Fuel Pump.
- New fuel filter (highly recommended).
- Appropriate wrenches, sockets, and screwdrivers.
- Drain pan for fuel.
- Shop rags and absorbent materials.
- Safety glasses and fuel-resistant gloves.
- Vehicle service manual for specific torque specifications and procedures.

Installation Steps:

1. **Prepare Vehicle:** Park the vehicle on a level surface, engage the parking brake, and block the wheels. Allow the engine to cool completely. Disconnect the negative terminal of the battery.
2. **Relieve Fuel System Pressure:** Consult your vehicle's service manual for the proper procedure to relieve fuel system pressure.
3. **Disconnect Fuel Lines:** Place a drain pan beneath the fuel pump. Carefully disconnect the inlet and outlet fuel lines from the old fuel pump. Be prepared for residual fuel to spill.
4. **Remove Old Fuel Pump:** Unbolt the old mechanical fuel pump from the engine block. Note the orientation of the pump and any gaskets or spacers.
5. **Inspect Mounting Surface:** Clean the engine block's mounting surface thoroughly, removing any old gasket material.
6. **Install New Fuel Pump:** Apply a thin layer of RTV sealant or use a new gasket (if supplied) on the mounting surface of the new Carter M3120 fuel pump. Carefully position the new pump, ensuring the actuator arm engages correctly with the camshaft eccentric. Bolt the pump into place, tightening fasteners to the manufacturer's specified torque.
7. **Connect Fuel Lines:** Reconnect the fuel inlet and outlet lines to the new pump. Ensure all connections are secure and free of leaks.
8. **Replace Fuel Filter:** *For optimal performance and protection, always replace the fuel filter when installing a new pump.* Locate and replace the old fuel filter according to your vehicle's service manual.
9. **Reconnect Battery:** Reconnect the negative battery terminal.
10. **Check for Leaks:** Start the engine and immediately check for any fuel leaks around the new pump and fuel lines. If leaks are present, shut off the engine immediately and rectify the issue.
11. **Test Operation:** Allow the engine to run for a few minutes, checking for smooth operation and proper fuel delivery.

Note: Some installations may require longer bolts or additional washers due to variations in flange thickness compared to original equipment. Also, the physical size of the pump may necessitate adjustments to fuel line routing, potentially requiring elbow fittings or flexible lines to clear obstructions like radiator hoses.

OPERATION

The Carter M3120 is a mechanical fuel pump, meaning it operates directly from the engine's camshaft. As the engine runs, the camshaft eccentric pushes against the pump's actuator arm, which in turn moves a diaphragm inside the pump. This diaphragm creates a vacuum to draw fuel from the fuel tank through the inlet line and then pushes it under pressure through the outlet line to the carburetor or fuel injection system. The pump is designed to maintain a consistent fuel pressure for optimal engine performance.

MAINTENANCE

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

- **Regular Inspection:** Periodically inspect the fuel pump and surrounding fuel lines for any signs of leaks, cracks, or damage.
- **Fuel Filter Replacement:** As mentioned in the installation, regularly replace your vehicle's fuel filter according to your vehicle manufacturer's recommendations. A clogged fuel filter can put undue strain on the fuel pump.
- **Hose and Clamp Check:** Ensure all fuel hoses are pliable and free of cracks, and that clamps are tight and secure.
- **Listen for Unusual Noises:** While mechanical pumps are not silent, any new or excessive clicking, grinding, or whining noises could indicate an issue.

TROUBLESHOOTING

If you experience issues with your fuel system, consider the following common problems and potential solutions:

Problem	Possible Cause	Solution
Engine Cranks but Won't Start	No fuel pressure; Clogged fuel filter; Defective fuel pump.	Check fuel lines for kinks. Replace fuel filter. Test fuel pressure. If pump is new and defective, contact supplier.
Low Fuel Pressure	Clogged fuel filter; Kinked fuel line; Worn pump diaphragm/valves.	Replace fuel filter. Inspect and clear fuel lines. If pump is old, consider replacement.
Fuel Leak at Pump	Improperly seated gasket; Loose fuel line connections; Cracked pump housing/diaphragm.	Ensure gasket is correctly installed and bolts are torqued. Tighten fuel line connections. If pump housing is cracked, replace pump.
Pump Does Not Fit Correctly	Flange thickness variation; Fuel line alignment issues.	May require longer mounting bolts and washers. Adjust fuel line routing with elbow fittings or flexible lines if original hard lines do not align.
Unusual Noises from Pump	Internal wear; Contamination.	If noises persist and performance is affected, pump replacement may be necessary.

If troubleshooting steps do not resolve the issue, consult a certified automotive mechanic.

SPECIFICATIONS

Attribute	Detail
Brand	Carter Fuel Systems
Model	M3120 (Carter M3120 Mechanical Fuel Pump)
Part Number	M3120
Fit Type	Vehicle Specific Fit
Vehicle Service Type	Car
Item Dimensions (L x W x H)	4.38 x 4.38 x 9.75 inches
Item Weight	1.5 pounds
Material	Metal Alloy
Operation Mode	Mechanical
Outlet Connection Type	Threaded
Inlet Connection Type	Threaded
Gas Type Compatibility	Diesel (Note: Product description also mentions ethanol blends, implying gasoline compatibility)
Specification Met	OE (Original Equipment)
UPC	724956015108

WARRANTY INFORMATION

Specific manufacturer warranty details for the Carter M3120 Mechanical Fuel Pump are typically provided with the product packaging or can be obtained directly from Carter Fuel Systems. For return or replacement policies related to your purchase, please refer to the retailer's terms and conditions (e.g., Amazon's 30-day refund/replacement policy if purchased through Amazon).

SUPPORT

For technical assistance, product inquiries, or further support regarding your Carter M3120 Mechanical Fuel Pump, please contact Carter Fuel Systems directly through their official website or customer service channels. You can also visit the official Carter Fuel Systems store on Amazon for more information and products:

[Visit the Carter Fuel Systems Store](#)