

[Manuals.plus](#) /

› [RATION](#) /

› RATION Fuel Pump Instruction Manual for Perkins Engines

RATION 403D-15, 404D-22, 404D-22T, 403C-15

RATION Fuel Pump Instruction Manual

For Perkins 103-07 KL, 103-10 KDC, 103-09 KC, 103-10 KD, 104-22 KR Engines

1. PRODUCT OVERVIEW

The RATION Fuel Pump is a precision-engineered replacement part designed to ensure reliable fuel delivery to your Perkins engine. This pump is specifically compatible with Perkins 103-07 KL, 103-10 KDC, 103-09 KC, 103-10 KD, and 104-22 KR engine models, providing the necessary fuel flow for optimal engine performance and efficiency.

Key features include:

- Direct compatibility with specified Perkins engine series.
- Designed for consistent and precise fuel supply.
- A critical component for maintaining engine operation.
- Engineered for durability and long-term reliability in demanding conditions.



Image 1.1: Front view of the RATION Fuel Pump, showing its main body and connection points. This image illustrates the overall design and primary components of the fuel pump.

2. SETUP AND INSTALLATION

Proper installation is crucial for the safe and effective operation of your new fuel pump. Always ensure the engine is cool and disconnected from its power source before beginning any installation work. It is recommended to wear appropriate personal protective equipment (PPE) such as gloves and eye protection.

2.1 Pre-Installation Checks

- Verify that the new fuel pump matches the specifications and model number of the original part.
- Inspect the new pump for any visible damage or defects.
- Ensure all necessary tools and replacement gaskets/seals are available.

2.2 Installation Steps

1. **Disconnect Battery:** Disconnect the negative terminal of the vehicle's battery to prevent accidental starting.
2. **Drain Fuel (if necessary):** If working on the fuel tank or lines, ensure proper fuel drainage and containment.
3. **Locate Old Pump:** Identify the existing fuel pump on your Perkins engine. Refer to your engine's service manual for exact location.
4. **Disconnect Fuel Lines:** Carefully disconnect the inlet and outlet fuel lines from the old pump. Be prepared for

residual fuel leakage and use appropriate containers.

5. **Remove Mounting Bolts:** Unscrew the bolts securing the old fuel pump to the engine block.
6. **Remove Old Pump:** Gently remove the old fuel pump and any old gaskets. Clean the mounting surface thoroughly.
7. **Install New Pump:** Place the new gasket (if applicable) onto the mounting surface. Position the new RATION Fuel Pump and secure it with the mounting bolts. Tighten bolts to the manufacturer's specified torque.
8. **Reconnect Fuel Lines:** Reconnect the fuel inlet and outlet lines to the new pump, ensuring all connections are secure and leak-free.
9. **Reconnect Battery:** Reconnect the negative battery terminal.



Image 2.1: Side view of the RATION Fuel Pump, highlighting the mounting flanges and fuel line connections. This image provides a clearer view of how the pump attaches to the engine and where fuel lines are connected.

3. OPERATING INSTRUCTIONS

Once the RATION Fuel Pump is correctly installed, the engine's fuel system should be primed before starting to

ensure proper fuel flow and prevent airlocks. This section outlines the general operating considerations.

3.1 Initial Start-Up and Priming

1. **Check for Leaks:** Before starting the engine, visually inspect all fuel line connections around the new pump for any signs of leakage.
2. **Prime the System:** Depending on your engine model, priming may involve using a manual primer pump (if equipped) or cycling the ignition key to allow the electric fuel pump (if present elsewhere in the system) to run for a few seconds. Consult your engine's specific manual for the recommended priming procedure.
3. **Start Engine:** Once primed, start the engine and allow it to idle.
4. **Monitor Performance:** Observe the engine's operation for any unusual noises, vibrations, or signs of fuel starvation. Re-check for leaks around the fuel pump and lines while the engine is running.

3.2 Normal Operation

The fuel pump operates continuously when the engine is running, delivering fuel from the tank to the engine's fuel injection system. No specific user intervention is required during normal operation beyond ensuring the fuel tank contains adequate, clean fuel.

4. MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your RATION Fuel Pump and the overall fuel system. While the fuel pump itself is largely maintenance-free, periodic checks of related components are recommended.

4.1 Routine Checks

- **Visual Inspection:** Periodically inspect the fuel pump and all connected fuel lines for signs of wear, cracks, kinks, or leaks. Address any issues promptly.
- **Connection Security:** Ensure all fuel line connections and mounting bolts remain tight and secure.
- **Fuel Filter:** Regularly check and replace the engine's fuel filter according to the engine manufacturer's recommendations. A clogged fuel filter can put undue strain on the fuel pump.
- **Fuel Quality:** Always use clean, high-quality fuel to prevent contaminants from damaging the fuel pump and other fuel system components.

5. TROUBLESHOOTING

This section provides guidance for common issues that may arise with the fuel pump or related fuel system components. If you encounter problems not listed here, or if solutions do not resolve the issue, consult a qualified mechanic or the engine manufacturer's service manual.

Problem	Possible Cause	Solution
Engine cranks but won't start (no fuel)	No fuel in tank; Clogged fuel filter; Air in fuel lines; Faulty fuel pump.	Check fuel level; Replace fuel filter; Bleed air from system; Inspect fuel pump for proper operation.
Engine runs rough or stalls	Low fuel pressure; Partially clogged fuel filter; Contaminated fuel.	Check fuel pressure; Replace fuel filter; Drain and refill with clean fuel.

Problem	Possible Cause	Solution
Fuel leaks around pump or lines	Loose connections; Damaged fuel lines; Worn gaskets/seals.	Tighten connections; Replace damaged lines; Replace gaskets/seals.
Unusual noise from pump area	Air in fuel system; Internal pump issue.	Bleed air from system; If noise persists, pump may require replacement.

6. SPECIFICATIONS

The following specifications are provided for the RATION Fuel Pump. These details are crucial for ensuring compatibility and proper application.

Attribute	Detail
Brand	RATION
Manufacturer	RATION
Item Model Number	403D-15, 404D-22, 404D-22T, 403C-15
Manufacturer Part Number	130506140
ASIN	B0F5GZQVNB
UPC	670340420259
First Available Date	April 18, 2025

7. WARRANTY AND SUPPORT

Specific warranty terms and conditions for the RATION Fuel Pump are not provided within this document. For detailed warranty information, including coverage period and claim procedures, please refer to the official RATION product packaging or visit the manufacturer's official website. For technical support or assistance with product-related inquiries, please contact RATION customer service through their official channels.