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HIRINTOL MD997688 MD997689

HIRINTOL 3G83 Water Pump User Manual

Model: MD997688, MD997689

1. Introduction and Product Overview

This manual provides essential information for the installation, operation, maintenance, and troubleshooting of the HIRINTOL 3G83 Water Pump, designed for Mitsubishi Minicab vehicles with 660cc engines (models U19T, U41T, U42T, U41TP, U42TP, U41V, U42V). This aftermarket part, made from durable metal, serves as a direct replacement for original part numbers MD997688 and MD997689.
The water pump is a critical component in your vehicle's engine cooling system, ensuring a constant flow of coolant to maintain optimal operating temperatures and prevent overheating.

Key Features:

- **Direct Replacement:** Specifically designed to replace part numbers MD997688 and MD997689.
- **Vehicle Compatibility:** Compatible with Mitsubishi 3G83 660cc Engine Minicab models U19T, U41T, U42T, U41TP, U42TP, U41V, U42V.
- **High Performance:** Circulates coolant to maintain normal engine operating temperature.
- **Precision Manufacturing:** Constructed from high-quality materials for reliability, durability, and consistent performance.
- **Easy Maintenance:** Designed for straightforward installation and disassembly, reducing the need for specialized tools.



Figure 1.1: Front view of the HIRINTOL 3G83 Water Pump, showing the main body and the included gasket.

2. Specifications

Attribute	Detail
Part Type	Water Pump W/ Gasket
Reference Numbers	MD997688, MD997689
Engine Model Compatibility	3G83 660cc Engine
Vehicle Application	Mitsubishi Minicab U19T, U41T, U42T, U41TP, U42TP, U41V, U42V
Fuel Type	Diesel (as per product description, though 3G83 is typically gasoline)
Material	Metal (Cast Iron)
Item Weight	1.52 pounds
Package Dimensions	4.92 x 4.41 x 4.41 inches
Manufacturer	HIRINTOL

3. Setup and Installation

Installation of a water pump requires mechanical aptitude and specific tools. If you are not confident in your abilities, it is highly recommended to seek professional assistance from a qualified mechanic.

General Installation Steps (Consult Vehicle Service Manual for Specifics):

1. **Safety First:** Ensure the engine is cool and the vehicle is securely supported on jack stands. Disconnect the negative battery terminal.
2. **Drain Coolant:** Place a drain pan under the radiator and open the drain cock to completely drain the engine coolant.
3. **Remove Obstructions:** Carefully remove any components that obstruct access to the water pump, such as belts, hoses, and pulleys. Label hoses and connectors for reassembly.
4. **Remove Old Water Pump:** Unbolt and remove the old water pump. Be prepared for residual coolant to spill. Clean the mounting surface thoroughly, removing all traces of old gasket material.
5. **Install New Water Pump:** Apply a thin, even coat of RTV sealant (if recommended by vehicle manufacturer or pump instructions) to both sides of the new gasket. Position the gasket onto the new water pump. Carefully align the new water pump with the engine block and secure it with the bolts. Tighten bolts to the manufacturer's specified torque settings in the correct sequence.
6. **Reassemble Components:** Reattach all hoses, belts, and pulleys that were removed. Ensure all connections are secure.
7. **Refill Coolant:** Refill the cooling system with the appropriate type and amount of coolant as specified by your vehicle manufacturer.
8. **Bleed Air:** Start the engine and allow it to reach operating temperature with the heater on full. Monitor the coolant level and add more as needed to bleed air from the system. Check for leaks.
9. **Final Check:** After the engine cools, recheck the coolant level and top off if necessary. Inspect all connections for leaks.



Figure 3.1: Side profile of the water pump, illustrating its mounting points and the shape of the accompanying gasket.

4. Operating Principles

The water pump is a centrifugal pump that circulates coolant through the engine's cooling system. It is typically located at the front of the engine and is driven by a belt connected to the crankshaft.

How it Works:

- **Coolant Circulation:** The main function of the water pump is to create a constant flow of coolant fluid. It draws hot coolant from the engine block and pushes it towards the radiator.
- **Heat Dissipation:** As the coolant passes through the radiator, it releases heat to the ambient air.
- **Return to Engine:** The cooled fluid then returns to the engine block, where it absorbs more heat, and the cycle repeats.
- **Impeller Action:** Inside the water pump, an impeller rotates rapidly, creating centrifugal force that propels the coolant through the system.

This continuous circulation is vital for maintaining the engine's optimal operating temperature, preventing both overheating and undercooling, which can lead to engine damage and reduced efficiency.

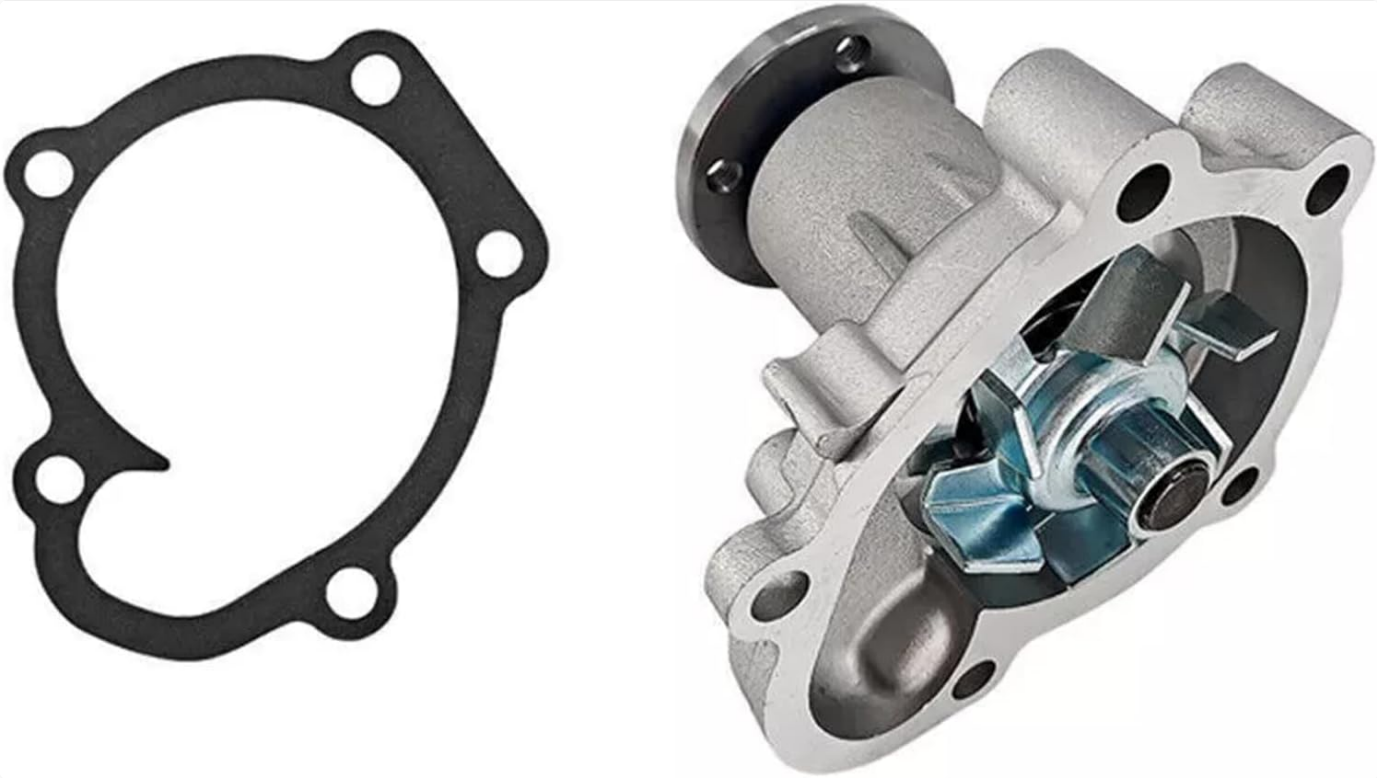


Figure 4.1: View of the water pump's impeller, responsible for circulating coolant within the engine's cooling system.

5. Maintenance

Regular maintenance of your vehicle's cooling system, including the water pump, is crucial for its longevity and performance. While the water pump itself is a sealed unit and generally not serviceable, its proper function relies on the overall health of the cooling system.

Maintenance Tips:

- **Coolant Level Check:** Regularly check the coolant level in the reservoir and radiator (when cool). Top up with the

correct type of coolant as needed.

- **Coolant Quality:** Follow your vehicle manufacturer's recommendations for coolant flush and replacement intervals. Old or contaminated coolant can lead to corrosion and premature wear of cooling system components, including the water pump.
- **Hose Inspection:** Periodically inspect all cooling system hoses for cracks, leaks, or swelling. Replace any damaged hoses promptly.
- **Belt Inspection:** Check the drive belt that powers the water pump for proper tension and signs of wear (cracks, fraying). A loose or worn belt can reduce pump efficiency.
- **Leak Detection:** Visually inspect the water pump and surrounding areas for any signs of coolant leaks. A common sign of a failing water pump is a leak from the weep hole.



Figure 5.1: An internal view of the water pump, highlighting the impeller and internal structure, which are critical for coolant circulation.

6. Troubleshooting

Identifying issues with your water pump early can prevent more significant engine damage. Here are common symptoms of a failing water pump and potential causes:

Symptom	Possible Cause	Solution
Engine Overheating	Insufficient coolant circulation due to a failing pump, low coolant level, or clogged radiator.	Check coolant level. Inspect water pump for leaks or unusual noises. Consider professional diagnosis and replacement if pump is faulty.
Coolant Leaks	Leak from the water pump's weep hole, loose connections, or damaged gasket.	Locate the source of the leak. If from the weep hole, the pump bearings or seal have failed, requiring replacement. Tighten connections or replace gasket if necessary.
Unusual Noises (Grinding, Whining, Squealing)	Worn bearings inside the water pump, loose or worn drive belt.	Inspect the drive belt tension and condition. If the noise persists and originates from the pump, it likely needs replacement.

Symptom	Possible Cause	Solution
Steam from Engine Bay	Severe overheating, often due to complete water pump failure or major coolant loss.	Immediately pull over safely and shut off the engine. Do not open the radiator cap when hot. Allow engine to cool completely before inspecting. Professional assistance is recommended.

If you experience any of these symptoms, it is important to address them promptly to prevent further damage to your engine. Consult a qualified mechanic if you are unsure about diagnosing or repairing the issue.



Figure 6.1: Top view of the water pump, showing the pulley mounting surface and overall casting, which should be inspected for cracks or leaks.

7. Warranty and Support

Warranty Information:

This HIRINTOL water pump comes with a**12-month warranty period**. During this period, repair or replacement service will be provided for any problems arising from manufacturing defects or material failures under normal use conditions. Please retain your proof of purchase for warranty claims.

Customer Support:

HIRINTOL is committed to providing a good buying experience and excellent after-sales service. For any inquiries, technical assistance, or warranty claims, please contact our customer support team through the platform where you purchased the product.
Please note that any custom or import taxes are the buyer's responsibility and are not covered by the product price or warranty.

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