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› Daihatsu DM950 DM950D Diesel Engine Complete Rebuild Kit User Manual

ATVWorks DM950, DM950D

Daihatsu DM950 DM950D Diesel Engine Complete Rebuild Kit User Manual

Model: DM950, DM950D

Brand: ATVWorks

1. PRODUCT OVERVIEW

This complete engine rebuild kit is designed to restore the performance and reliability of Daihatsu DM950 and DM950D diesel engines. It includes all necessary gaskets, seals, pistons, and piston rings required for a comprehensive engine overhaul. The components are manufactured to meet or exceed OEM specifications, ensuring a precise fit and durable repair.

The kit addresses common wear points in diesel engines, providing a cost-effective solution for extending engine life and maintaining optimal operational efficiency. Proper installation of these components is critical for engine longevity and performance.

2. COMPATIBILITY

This rebuild kit is compatible with the following engine models and equipment:

- Compatible with Daihatsu DM950 DM950D Diesel Engines
- Compatible with Briggs & Stratton 825527
- Compatible with Toro 107-9906, 74268 60" Z Master Zero-Turn Mower (2004-2009, 2011-2013)
- Compatible with Toro 74269 72" Z Master Zero-Turn Mower (2006-2013)

3. KIT CONTENTS

The complete rebuild kit includes the following components:

- **Pistons:** 3 units
- **Piston Pins:** 3 units
- **Piston Clips:** 6 units
- **Piston Ring Sets:** 3 sets
- **Gaskets:**
 - Oil Pan Gasket

- Rear End Plate Gasket
- Head Gasket
- Exhaust Manifold Gasket
- Oil Filter Gasket
- Rocker Case Gasket
- Timing Cover Gasket
- Exhaust Pipe Gasket
- Water Pump Gasket
- Timing Gear CA Gasket
- Elbow Inlet Gasket
- Elbow Outlet Gasket
- Injection Nozzle Gasket
- Intake Manifold Gasket
- Muffler Gasket

- **Seals:**

- Injection Nozzle Washer
- Washer Seal
- Oil Drain Bolt Gasket
- O-Ring
- Oil Seal (multiple)
- Valve Stem Seal



Figure 3.1: Overview of the complete engine rebuild kit components, including various gaskets, seals, pistons, and piston rings.



Figure 3.2: Close-up view of the three new pistons included in the kit, designed for precise fit and optimal engine compression.



Figure 3.3: Detailed view of the three piston ring sets, essential for sealing the combustion chamber and controlling oil consumption.



Figure 3.4: Close-up of the head gasket and valve stem seals, critical components for maintaining engine compression and preventing oil leaks.

4. INSTALLATION GUIDELINES

Installation of this engine rebuild kit requires specialized knowledge and tools. It is highly recommended that installation be performed by a certified mechanic or an experienced professional with expertise in diesel engine repair.

Key considerations for installation include:

- **Cleanliness:** Ensure all engine components and work areas are meticulously clean and free of debris, old gasket material, and contaminants.
- **Component Inspection:** Thoroughly inspect all engine parts for wear, damage, or cracks before reassembly. Replace any components that are not part of this kit but show signs of excessive wear.
- **Lubrication:** Apply appropriate engine assembly lubricant to moving parts, such as piston skirts, cylinder walls, and bearing surfaces, during assembly.
- **Torque Specifications:** Adhere strictly to the manufacturer's torque specifications for all fasteners. Incorrect torque can lead to leaks, component failure, or engine damage. Refer to the specific service manual for your Daihatsu DM950/DM950D engine.
- **Gasket and Seal Placement:** Ensure all gaskets and seals are correctly oriented and seated. Use appropriate gasket sealants where specified by the engine manufacturer.
- **Piston Ring Orientation:** Install piston rings with the correct orientation and gap spacing as per engine specifications.
- **Timing:** Verify correct engine timing during reassembly to ensure proper valve and ignition synchronization.

Failure to follow proper installation procedures can result in engine malfunction, reduced performance, or severe damage.

5. OPERATING CONSIDERATIONS AFTER REBUILD

After a complete engine rebuild, it is crucial to follow a proper break-in procedure to ensure optimal performance and longevity of the newly installed components. Consult your engine's service manual for specific break-in recommendations.

General operating considerations include:

- **Initial Start-up:** Ensure the engine is properly primed with oil before the first start. Monitor oil pressure and coolant temperature closely during the initial run.
- **Break-in Period:** Avoid heavy loads, high RPMs, and prolonged idling during the initial break-in period (typically the first 20-50 hours of operation). Vary engine speed and load to properly seat piston rings.
- **Fluid Checks:** Regularly check engine oil, coolant, and fuel levels. Inspect for any leaks around new gaskets and seals.
- **First Oil Change:** Perform an early oil and filter change after the break-in period to remove any assembly lubricants or wear particles.

6. MAINTENANCE

Regular maintenance is essential for the continued reliable operation of your Daihatsu DM950/DM950D diesel engine after a rebuild. Adhere to the engine manufacturer's recommended maintenance schedule.

- **Oil and Filter Changes:** Perform oil and filter changes at recommended intervals using the correct grade of engine oil.
- **Fuel System Maintenance:** Regularly replace fuel filters and drain water separators to prevent fuel system contamination.
- **Air Filter Inspection/Replacement:** Check and replace the air filter as needed to ensure proper air intake and prevent engine wear.
- **Coolant System:** Maintain proper coolant levels and ensure the cooling system is free of leaks and blockages.
- **Belt and Hose Inspection:** Periodically inspect all belts and hoses for signs of wear, cracking, or leaks.
- **Valve Clearance:** Check and adjust valve clearance according to the engine manufacturer's specifications.

7. TROUBLESHOOTING

If you encounter issues after the engine rebuild, consider the following general troubleshooting steps. For complex problems, consult a qualified diesel engine technician.

Symptom	Possible Cause	Action
Oil Leaks	Improperly seated gaskets/seals, incorrect torque, damaged components.	Inspect all new gaskets and seals for proper installation. Check torque on fasteners. Identify source of leak and replace affected component if necessary.
Low Compression	Improperly installed piston rings, damaged pistons, valve issues, head gasket leak.	Perform a compression test. Re-check piston ring installation and orientation. Inspect valves and valve seats.
Excessive Smoke	Incorrect piston ring installation, worn valve stem seals, fuel system issues.	Identify smoke color (blue for oil, black for fuel, white for coolant). Re-check piston rings and valve stem seals. Inspect fuel injectors and pump.

Symptom	Possible Cause	Action
Unusual Engine Noises	Improperly torqued components, incorrect clearances, damaged internal parts.	Immediately shut down engine. Re-check all torque specifications. Investigate source of noise; may require engine disassembly.

Always prioritize safety. If you are unsure about any repair, seek professional assistance.

8. SPECIFICATIONS

Key specifications for the rebuild kit and general engine information:

- **Product Type:** Complete Diesel Engine Rebuild Kit
- **Compatible Engines:** Daihatsu DM950, DM950D
- **Kit Weight:** 2 Pounds (approximate)
- **Manufacturer:** ATVWorks
- **ASIN:** B0F391TB2G
- **First Available:** April 1, 2025

For detailed engine specifications (e.g., bore, stroke, displacement, compression ratio), refer to the official Daihatsu DM950/DM950D service manual.

9. WARRANTY AND SUPPORT

For information regarding the warranty of this product, please refer to the seller's or manufacturer's warranty policy at the time of purchase. Warranty terms typically cover manufacturing defects but may not cover damage due to improper installation, misuse, or normal wear and tear.

For technical support or inquiries regarding the kit components, please contact ATVWorks directly through their official channels or the platform where the product was purchased. When contacting support, please have your purchase details and the product ASIN (B0F391TB2G) readily available.

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Answered questions about this manual

Where can I find the timing setup diagram for the Daihatsu DM950D diesel engine?

The provided documentation for the Daihatsu DM950D (ATVWorks Rebuild Kit) emphasizes that verifying correct engine timing is critical during reassembly to ensure proper valve and ignition synchronization. However, the specific visual timing diagram is...

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