

# Mitsubishi 4m51 engine parts

mitsubishi 4m51 engine parts are essential components that ensure the optimal performance, durability, and reliability of vehicles equipped with this powerful diesel engine. Known for its robust design and efficiency, the Mitsubishi 4M51 engine is widely used in various Mitsubishi models, including SUVs, pickups, and commercial vehicles. Proper maintenance and understanding of its parts are crucial for vehicle owners, mechanics, and enthusiasts aiming to extend the lifespan of their engines and maintain peak performance. In this comprehensive guide, we will explore the key parts of the Mitsubishi 4M51 engine, their functions, common issues, and tips for replacement and maintenance.

### Overview of Mitsubishi 4M51 Engine

The Mitsubishi 4M51 engine is a 2.0-liter turbocharged diesel engine renowned for its power-to-weight ratio, fuel efficiency, and durability. It features a direct injection system, variable geometry turbocharger, and advanced fuel management technology. These features contribute to its popularity in Mitsubishi's lineup of utility and off-road vehicles.

### Key Parts of the Mitsubishi 4M51 Engine

Understanding the primary components of the Mitsubishi 4M51 engine is vital for proper maintenance and troubleshooting. Below are the main parts and their roles:

- 1. Cylinder Block** The foundation of the engine, housing the cylinders and other components. Made from cast iron or aluminum alloy for strength and heat dissipation. Supports the pistons, crankshaft, and cylinder head.
- 2. Pistons** Move up and down within the cylinders. Convert combustion energy into mechanical motion. Made of aluminum alloy for lightweight and thermal conductivity.
- 3. Connecting Rods** Connect the pistons to the crankshaft. Transmit the force from combustion to rotate the crankshaft. Typically forged for strength and durability.
- 4. Crankshaft** Converts reciprocating motion of pistons into rotational motion. Critical for engine timing and power delivery. Usually made from forged steel or cast iron.
- 5. Cylinder Head** Seals the top of the cylinders. Contains intake and exhaust valves, fuel injectors, and other components. Houses the camshaft(s) in some configurations.
- 6. Valves (Intake and Exhaust)** Regulate the air-fuel mixture intake and exhaust gases outflow. Operated by the camshaft(s).
- 7. Camshaft(s)** Control valve timing. In some engines, there may be single or dual camshafts.
- 8. Fuel Injection System** Delivers fuel directly into the combustion chamber. Includes fuel injectors, fuel pump, and control modules.
- 9. Turbocharger** Boosts engine power by forcing more air into the combustion chamber. Features a turbine and compressor, often with variable geometry.
- 10. Oil Pump and Oil System** Circulates engine oil to lubricate moving parts. Ensures proper cooling and reduces wear.
- 11. Cooling System Components** Radiator, water pump, thermostat, and hoses. Regulate engine temperature to prevent overheating.
- 12. Exhaust System** Includes exhaust manifold, catalytic converter, and muffler. Reduces emissions and noise.
- 13. Timing Belt/Chain** Synchronizes the rotation of the crankshaft and camshaft(s). Critical for proper valve timing.

### Common Mitsubishi 4M51 Engine Parts and Their Maintenance

Regular inspection and maintenance of engine parts are essential for longevity and efficiency. Below are some of the most important parts to monitor:

- 1. Fuel Injectors** Responsible for delivering precise fuel amounts. Common issues include clogging and leaks. Maintenance Tip: Use fuel injector cleaner and replace if faulty.
- 2. Turbocharger** Critical for power boost. Common problems: oil leaks, turbine damage, or wastegate failure. Maintenance Tip: Regular oil changes and inspect for

leaks.3. Timing Belt/ChainEnsures proper engine timing.Replacement intervals vary, usually every 60,000 to 100,000 miles.Warning Signs: Unusual noises or engine misfires.4. Cylinder Head GasketSeals the cylinder head to the engine block.Failure can cause coolant leaks, overheating, and compression loss.Maintenance Tip: Replace if signs of leakage or overheating occur.5. Oil PumpMaintains lubrication.Failure can lead to engine seizure.Maintenance Tip: Regular oil changes and monitoring oil pressure.

Where to Find Mitsubishi 4M51 Engine Parts

Accessing genuine and high-quality parts is crucial for maintenance and repair. Here are some options:

- Authorized Mitsubishi DealershipsOffer OEM parts designed specifically for the 4M51 engine.Guarantee quality and compatibility.
- Reputable Auto Parts StoresProvide aftermarket parts that meet or exceed OEM standards.Useful for cost-effective replacements.
- Online MarketplacesPlatforms like eBay, Amazon, and specialized auto parts websites.Wide selection but verify seller credibility.
- Salvage Yards and Used Parts DealersCost-effective options for older or hard-to-find parts.Ensure parts are in good condition before purchase.

Tips for Maintaining Mitsubishi 4M51 Engine Parts

Proper care extends the lifespan of engine components and enhances performance. Consider the following maintenance tips:

- Regular Oil Changes: Use recommended oil grades and change at manufacturer intervals.
- Monitor Coolant Levels: Prevent overheating by maintaining proper coolant levels and replacing coolant periodically.
- Inspect Belts and Hoses: Look for cracks, wear, or leaks and replace as needed.
- Check Turbocharger Health: Listen for unusual noises and ensure oil supply is clean and sufficient.
- Monitor Engine Performance: Pay attention to misfires, loss of power, or unusual noises that may indicate part failure.
- Follow Manufacturer Maintenance Schedule: Adhere to recommended service intervals for timing belt, filters, and other components.

Common Issues with Mitsubishi 4M51 Engine Parts and How to Address Them

While the 4M51 engine is known for durability, certain parts may experience problems over time:

1. Turbocharger FailureSymptoms: Reduced power, excessive smoke, or whining noise.Solution: Repair or replace the turbocharger; ensure oil supply is clean.
2. Injector CloggingSymptoms: Rough idling, poor acceleration.Solution: Clean or replace injectors; use fuel additives.
3. Cooling System LeaksSymptoms: Overheating, coolant loss.Solution: Replace damaged hoses, radiator, or water pump.
4. Timing Belt WearSymptoms: Squealing noise, engine misfire.Solution: Replace per schedule to avoid serious engine damage.

Conclusion

Understanding the various Mitsubishi 4M51 engine parts is fundamental for maintaining the engine's performance, efficiency, and longevity. From the cylinder block and pistons to the turbocharger and fuel injection system, each component plays a vital role in the smooth operation of the engine. Regular maintenance, timely replacement of worn parts, and sourcing genuine components are key strategies to ensure your Mitsubishi vehicle runs reliably for years to come. Whether you are a professional mechanic or a car enthusiast, knowing your engine parts and their functions enables you to make informed decisions about repairs and upgrades, ultimately enhancing your driving experience.

Keywords for SEO Optimization:Mitsubishi 4M51 engine parts, Mitsubishi 4M51 components, 4M51 engine maintenance, 4M51 turbocharger, 4M51 fuel injectors, Mitsubishi engine repair, genuine Mitsubishi parts, 4M51 engine troubleshooting, engine gasket replacement, turbocharger issues, timing belt replacement.

**Mitsubishi 4M51 Engine Parts: An In-Depth Review**

The Mitsubishi 4M51 engine parts are crucial components that define the performance, reliability, and longevity of vehicles equipped with this engine series. As a popular choice in Mitsubishi's lineup, especially within their SUV and commercial vehicle range, the 4M51 engine is known for its robust construction and efficient operation. Understanding the various parts that comprise this engine is essential for vehicle owners, mechanics, and enthusiasts who aim to maintain or upgrade their vehicles properly. This comprehensive review delves into the key components, their functions, common issues, and maintenance tips to help you make informed decisions regarding Mitsubishi 4M51 engine parts.

**Overview of the Mitsubishi 4M51 Engine**

The Mitsubishi 4M51 is a 2.0-liter turbocharged diesel engine designed primarily for utility and SUV segments. It belongs to Mitsubishi's 4M series engines, renowned for their durability and fuel efficiency. The engine features direct injection technology and a turbocharger, which contribute to its power output and torque delivery. Its design emphasizes low emissions, strong performance, and ease of maintenance, making it a popular choice in markets worldwide.

**Major Components of the Mitsubishi 4M51 Engine**

Understanding the core parts of the 4M51 engine provides insight into its operation and potential points of failure. Here are the main engine parts:

- 1. Cylinder Block**  
The foundation of the engine, the cylinder block houses the cylinders, pistons, and crankshaft. Made typically from cast iron or aluminum alloys, it must withstand high pressure and temperature variations.  
**Features:** Reinforced structure for durability. Integrated oil passages for lubrication.  
**Common Issues:** Cracks due to overheating. Warping from thermal stress.
- 2. Pistons and Piston Rings**  
Pistons move within the cylinders, transferring force from combustion to the crankshaft. Piston rings seal the combustion chamber, control oil consumption, and aid in heat transfer.  
**Features:** Pistons are usually made from aluminum alloys for lightweight strength. Rings consist of compression rings and oil rings.  
**Potential Problems:** Wear and scoring. Ring failure leading to compression loss and oil consumption.
- 3. Cylinder Head and Valvetrain**  
The cylinder head houses the valves, camshaft(s), and injectors. It plays a vital role in air intake, exhaust, and fuel injection.  
**Features:** Multi-valve design (typically 4 valves per cylinder). Direct injection system for fuel.  
**Common Issues:** Warping or cracking under heat stress. Valve seat recession.
- 4. Fuel Injection System**  
The 4M51 engine employs a common rail direct injection system for efficient fuel delivery.  
**Features:** High-pressure fuel pump. Electronic control module (ECU) for precise injection.  
**Potential Problems:** Injector clogging. Pump failure.
- 5. Turbocharger**  
Boosts air intake to improve power and efficiency.  
**Features:** Variable geometry or fixed turbine design. Intercooler to cool compressed air.  
**Common Issues:** Turbo lag. Bearing wear or failure.
- 6. Crankshaft and Connecting Rods**  
Convert the pistons' linear motion into rotational force.  
**Features:** Made from forged steel or cast iron. Balanced for smooth operation.  
**Problems:** Bearing wear. Cracks from over-revving.
- 7. Oil Pump and Lubrication System**  
Ensures all moving parts are adequately lubricated.  
**Features:** Gear-driven pump. Oil filter for debris removal.  
**Issues:** Pump failure. Oil leaks.

**Common Mitsubishi 4M51 Engine Parts and Their Maintenance**

Proper maintenance of engine parts is key to prolonging their lifespan and ensuring optimal performance. Here is an overview of essential parts and tips for maintenance:

- 1. Engine Oil and Filter**  
Regular oil changes (every 5,000 to 10,000 km depending on driving conditions). Use Mitsubishi-recommended synthetic or mineral

oils. Replace oil filter during each oil change.

2. Timing Belt/Chain Typically a timing chain, which requires inspection every 100,000 km. Replace if signs of wear or slack are observed to prevent engine damage.

3. Turbocharger Components Check for oil leaks, as turbos rely on oil lubrication. Clean or replace the air filter regularly to prevent debris from damaging the turbo.

4. Fuel Injectors Use quality fuel to prevent clogging. Periodic cleaning or professional servicing recommended.

5. Cylinder Head Gasket Monitor for signs of coolant loss or oil contamination. Replace if blown to avoid engine overheating.

6. Sensors and Electronic Components Regular diagnostic scans to identify sensor malfunctions. Replace faulty sensors promptly.

### Pros and Cons of Mitsubishi 4M51 Engine Parts

Understanding the strengths and weaknesses of the 4M51 engine parts can help in making maintenance or replacement decisions.

**Pros:**

- Durability:** Built with high-quality materials, many parts are designed for long service life.
- Efficiency:** Direct injection and turbocharging enhance fuel economy and power.
- Ease of Maintenance:** Many parts are accessible, simplifying repairs.
- Availability:** Parts are widely available in markets where Mitsubishi vehicles are popular.

**Cons:**

- Cost of Replacement:** Turbo components and electronic sensors can be expensive.
- Sensitive to Maintenance:** Neglecting regular oil changes or filter replacements can lead to turbo and injector failures.
- Potential for Cracking:** Cylinder head and block cracking if overheating occurs.
- Complexity of Electronic Components:** Diagnosing electronic issues may require specialized tools.

### Aftermarket and OEM Parts for Mitsubishi 4M51

For vehicle owners seeking replacements or upgrades, the choice between OEM (Original Equipment Manufacturer) and aftermarket parts is vital.

**OEM Parts:** Guarantee compatibility and quality. Usually more expensive. Ideal for maintaining original performance.

**Aftermarket Parts:** Often more affordable. Wide range of options, sometimes with performance enhancements. Quality varies; choose reputable brands.

### Popular Brands for Mitsubishi 4M51 Parts:

- Mitsubishi Genuine Parts
- Mahle (filters and gaskets)
- Bosch (electronic components and sensors)
- Garrett (turbochargers)
- ACL (bearings)

### Conclusion

The Mitsubishi 4M51 engine parts are critical to the performance and longevity of vehicles equipped with this diesel engine. From the robust cylinder block and pistons to the sophisticated fuel injection system and turbocharger, each component plays a vital role in delivering power, efficiency, and reliability. Proper understanding, regular maintenance, and timely replacements are essential to keep the engine running smoothly. While the parts are generally durable and well-designed, neglecting maintenance can lead to costly repairs and engine failure. Whether you're a mechanic working on repairs or a vehicle owner performing routine maintenance, sourcing quality parts and adhering to recommended service schedules will ensure your Mitsubishi 4M51 engine continues to perform at its best for years to come.

## QuestionAnswer

What are the common replacement parts for the Mitsubishi 4M51 engine?

Common replacement parts include the timing belt, fuel filter, oil filter, spark plugs, pistons, and the

cylinder head gasket. Regular maintenance of these components ensures optimal engine performance.

Where can I find genuine Mitsubishi 4M51 engine parts?

Genuine Mitsubishi 4M51 engine parts can be purchased from authorized Mitsubishi dealerships, official parts distributors, or trusted automotive parts retailers online.

Are aftermarket parts suitable for the Mitsubishi 4M51 engine?

While aftermarket parts can be more affordable, it is recommended to use OEM (Original Equipment Manufacturer) parts for the Mitsubishi 4M51 engine to ensure compatibility, reliability, and longevity.

What are the signs of a failing Mitsubishi 4M51 engine part?

Signs include unusual engine noises, decreased fuel efficiency, loss of power, engine misfires, or warning lights on the dashboard. Prompt diagnosis and replacement of faulty parts are crucial.

How often should I replace parts on the Mitsubishi 4M51 engine?

Routine maintenance intervals vary, but typically, components like the oil filter and spark plugs should be replaced every 10,000 to 15,000 km, while timing belts may require replacement every 60,000 to 100,000 km, depending on usage.

Can I upgrade parts on the Mitsubishi 4M51 engine for better performance?

Yes, performance upgrades such as high-performance air filters, exhaust systems, or ECU tuning can enhance the engine's output. However, consult with a professional mechanic to ensure compatibility and reliability.

What are the most durable parts for the Mitsubishi 4M51 engine?

Durable parts include the engine block, crankshaft, and pistons, especially if they are made from high-quality materials like forged steel. Regular maintenance also prolongs the lifespan of engine components.

Are there any known issues with Mitsubishi 4M51 engine parts?

Some known issues include timing belt wear, oil leaks from gaskets, and sensor failures. Regular inspections can help identify these problems early and prevent major engine damage.

How do I troubleshoot faulty Mitsubishi 4M51 engine parts?

Start with a diagnostic scan to identify error codes, check for leaks, unusual noises, or performance drops. Visual inspections of belts, hoses, and filters can also help pinpoint faulty components.

What is the approximate cost of replacing key parts of the Mitsubishi 4M51 engine?

Costs vary depending on the part and location. For example, a timing belt replacement may cost between \$300-\$600, while other parts like sensors or filters are generally less expensive. Always get a detailed quote from a trusted mechanic.

Related keywords: Mitsubishi 4M51 engine components, 4M51 engine repair parts, Mitsubishi 4M51 cylinder head, 4M51 turbocharger parts, Mitsubishi 4M51 oil filter, 4M51 timing belt, Mitsubishi 4M51 piston set, 4M51 engine gasket kit, Mitsubishi 4M51 fuel injectors, 4M51 crankshaft parts

## Mitsubishi 4m51 engine service manual

mitsubishi 4m51 engine service manual is an essential resource for technicians, mechanics, and vehicle owners who seek to understand the intricacies of this robust diesel engine. Whether you are performing routine maintenance, troubleshooting issues, or planning a complete overhaul, having a comprehensive service manual is crucial to ensure optimal performance and longevity of your Mitsubishi vehicle equipped with the 4M51 engine. This article provides an in-depth overview of the Mitsubishi 4M51 engine service manual, covering key features, maintenance procedures, common issues, repair tips, and where to find authentic manuals. By the end, you'll gain valuable insights to keep your engine running smoothly and efficiently.

### Overview of the Mitsubishi 4M51 Engine

#### Introduction to the 4M51 Model

The Mitsubishi 4M51 is a 4-cylinder diesel engine renowned for its durability, fuel efficiency, and power output. It is commonly used in various Mitsubishi vehicle models, including SUVs, pickup trucks, and commercial vehicles. The engine features advanced technology designed to meet emissions standards while delivering reliable performance under demanding conditions.

#### Technical Specifications

Understanding the specifications of the Mitsubishi 4M51 engine is vital for maintenance and repair. Some key specs include:

- Displacement:** Approximately 2.3 liters
- Configuration:** 4-cylinder, inline
- Fuel System:** Direct injection
- Turbocharged:** Yes
- Cooling System:** Water-cooled
- Power Output:** Varies depending on model and year, typically around 120-150 horsepower
- Torque:** Approximately 250-350 Nm
- Emission Standards:** Compliant with Euro 4 or higher, depending on the model

#### Importance of the Mitsubishi 4M51 Service Manual

##### Why You Need a Service Manual

A service manual is an indispensable tool that provides detailed instructions, diagrams, and specifications necessary for troubleshooting and repairs. It

offers: Step-by-step repair procedures Maintenance schedules Torque specifications Wiring diagrams Troubleshooting flowcharts Parts lists and diagrams Having an authentic Mitsubishi 4M51 engine service manual ensures that repairs are performed correctly, reducing the risk of damage and costly mistakes.

**Benefits of Using the Correct Service Manual**

- Accurate diagnosis of engine issues
- Proper maintenance intervals to prolong engine life
- Correct replacement of parts with OEM specifications
- Efficient troubleshooting of common problems
- Guidance on adjusting and calibrating engine components

**Key Sections of the Mitsubishi 4M51 Engine Service Manual**

- Engine Disassembly and Assembly**  
Detailed procedures for removing and installing engine components, including:
  - Cylinder head
  - Pistons and connecting rods
  - Crankshaft
  - Timing belt or chain
  - Turbocharger components
- Maintenance Procedures**  
Regular maintenance tasks covered in the manual include:
  - Oil and filter changes
  - Coolant replacement
  - Fuel system checks
  - Air filter replacement
  - Valve clearance adjustment
  - Inspection of belts and hoses
- Troubleshooting and Diagnostics**  
Flowcharts and symptom-based troubleshooting guides for issues like:
  - Engine misfires
  - Loss of power
  - Excessive smoke
  - Overheating
  - Unusual noises
- Electrical System and Wiring Diagrams**  
Comprehensive wiring diagrams for sensors, actuators, and control modules to facilitate troubleshooting of electrical faults.
- Engine Specifications and Adjustments**  
Detailed specifications for setting timing, adjusting fuel injection, and other calibration procedures.

**Maintenance Tips from the Mitsubishi 4M51 Service Manual**

Maintaining your Mitsubishi 4M51 engine according to the guidelines in the service manual ensures optimal performance. Some key maintenance tips include:

- Regular Oil Changes:** Use recommended engine oil type and change at intervals specified in the manual to prevent wear and tear.
- Coolant System Maintenance:** Check coolant levels regularly and replace coolant as per the schedule to prevent overheating.
- Air and Fuel Filter Replacement:** Keep filters clean to maintain combustion efficiency and reduce emissions.
- Timing Belt Inspection:** Replace timing belts before the recommended interval to avoid catastrophic engine damage.
- Turbocharger Checks:** Inspect for leaks or damage, ensuring proper boost pressure and avoiding engine damage.

**Common Issues and How the Service Manual Helps**

The Mitsubishi 4M51 engine, like any mechanical system, can develop issues over time. The service manual provides troubleshooting steps to resolve common problems such as:

- Engine Overheating:** Diagnosed through coolant system inspection, radiator checks, and thermostat testing.
- Loss of Power:** Often related to fuel injection problems, clogged air filters, or turbocharger issues.
- Excessive Smoke:** Manual guides identify whether the problem stems from fuel misfire, piston ring wear, or turbocharger failure.
- Unusual Noises:** Diagnosed by inspecting engine mounts, bearings, and timing components.

Having access to the detailed procedures in the manual helps in identifying root causes quickly and implementing effective repairs.

**Where to Find Authentic Mitsubishi 4M51 Engine Service Manuals**

- Official Mitsubishi Resources**
  - Mitsubishi authorized dealerships
  - Official Mitsubishi parts and service centers
  - Mitsubishi's official website and digital service manuals
- Online Platforms and Third-Party Vendors**
  - Specialized automotive manual websites
  - E-commerce platforms like eBay and Amazon offering printed and PDF versions
  - Automotive repair forums and community groups sharing scanned manuals

**Tips for Purchasing the Right Manual**

- Ensure the manual matches your vehicle's year, model, and engine variant
- Prefer official or authorized sources for accuracy
- Look for PDFs or printed copies based on your preference
- Verify the manual's edition date to access the latest information

**Conclusion**

The Mitsubishi 4M51 engine

service manual is an invaluable resource for maintaining, repairing, and troubleshooting this powerful diesel engine. With detailed instructions, specifications, diagrams, and troubleshooting guides, the manual empowers vehicle owners and technicians to perform repairs confidently and efficiently. Regular use of the manual can extend the engine's lifespan, enhance performance, and reduce repair costs. Whether you are a professional mechanic or an experienced DIY enthusiast, securing an authentic Mitsubishi 4M51 service manual is a wise investment for keeping your engine in prime condition.

**Final Tips for Using the Service Manual**

- Always follow safety precautions outlined in the manual
- Use the specified tools and parts for repairs
- Keep the manual accessible during maintenance tasks
- Cross-reference diagrams and specifications for accuracy
- Update your manual collection with the latest editions or revisions

Investing in the Mitsubishi 4M51 engine service manual not only simplifies maintenance but also ensures that your vehicle remains reliable and efficient for years to come. Proper knowledge and adherence to manufacturer guidelines are key to maximizing the lifespan and performance of your Mitsubishi engine.

**Mitsubishi 4M51 Engine Service Manual: An Expert Guide to Maintenance, Repair, and Performance Optimization**

The Mitsubishi 4M51 engine is a prominent powerplant used predominantly in Mitsubishi's SUV and pickup truck lineup, renowned for its durability, fuel efficiency, and robust performance. As with any high-performance engine, proper maintenance and a thorough understanding of its technical specifications are essential for ensuring longevity and optimal operation. The Mitsubishi 4M51 engine service manual serves as an indispensable resource for mechanics, technicians, and enthusiasts aiming to perform accurate repairs, routine maintenance, or performance upgrades. In this comprehensive overview, we explore the key features of the manual, its contents, and how it empowers users to maintain the engine effectively.

**Understanding the Mitsubishi 4M51 Engine**

Before delving into the service manual specifics, it's vital to comprehend what the Mitsubishi 4M51 engine is and its role within Mitsubishi's vehicle lineup.

**Overview and Applications**

The Mitsubishi 4M51 is a 2.4-liter, turbocharged diesel engine that features common rail direct fuel injection technology. It was designed primarily for use in utility vehicles and SUVs like the Mitsubishi Pajero Sport, Triton (L200), and other models requiring a balance of power, efficiency, and durability.

**Key Characteristics:**

- Engine Type: 4-cylinder, Turbocharged Diesel
- Displacement: 2.4 liters (2,442 cc)
- Fuel System: Common Rail Direct Injection
- Power Output: Approximately 147-178 horsepower (varies by model and tuning)
- Torque: 280-430 Nm (depending on configuration)
- Emission Standards: Compliant with modern standards, such as Euro IV or V

This engine's design emphasizes longevity and fuel economy, making it a favorite among fleet operators and off-road enthusiasts alike.

**The Importance of the Service Manual**

A vehicle's service manual is often regarded as the ultimate technical resource. For the Mitsubishi 4M51 engine, the manual provides detailed information necessary for:

- Routine maintenance (oil changes, filter replacements)
- Troubleshooting and diagnostics
- Repair procedures and component replacement
- Performance tuning and modifications
- Technical specifications and torque settings

Having access to the official service manual ensures that repairs are performed



correctly, safety standards are maintained, and the engine's lifespan is maximized. Contents of the Mitsubishi 4M51 Engine Service Manual

The manual is meticulously organized into sections, each dedicated to specific aspects of the engine's maintenance and repair. Here's an overview of what you can expect:

- 1. General Information and Introduction**  
Engine specifications and features  
Outline of the manual's scope  
Safety precautions  
Tools and equipment required for servicing
- 2. Engine Identification and Specifications**  
Serial numbers and engine codes  
Displacement, bore, stroke  
Compression ratio  
Fuel system details  
Emission control components
- 3. Engine Mechanical Components**  
Cylinder head assembly  
Pistons, connecting rods, and crankshaft  
Timing belt/chain systems  
Valve train components  
Lubrication system parts
- 4. Fuel System**  
Common rail injection system  
Fuel pump and injectors  
Fuel filter location and replacement procedures  
Troubleshooting fuel delivery issues
- 5. Cooling System**  
Radiator, thermostat, and water pump  
Coolant specifications  
Flushing and bleeding procedures  
Troubleshooting overheating issues
- 6. Lubrication System**  
Oil pump operation  
Oil filter replacement  
Oil specifications and change intervals  
Troubleshooting oil pressure problems
- 7. Intake and Exhaust Systems**  
Turbocharger details  
Intercooler specifications  
Exhaust manifold and catalytic converter  
EGR system components
- 8. Electrical System and Sensors**  
Wiring diagrams  
Sensor locations (mass airflow, oxygen sensors, throttle position)  
ECU (Engine Control Unit) information  
Troubleshooting electrical faults
- 9. Starting and Charging System**  
Battery specifications  
Starter motor and alternator details  
Wiring and relay diagrams
- 10. Engine Removal and Installation**  
Step-by-step procedures  
Mounting and alignment tips  
Precautions during engine handling
- 11. Troubleshooting and Diagnostics**  
Common fault codes  
Testing procedures for sensors and actuators  
Engine performance assessment
- 12. Appendices and Technical Data**  
Torque specifications  
Replacement part numbers  
Fluids and lubricants charts  
Wiring diagrams

This comprehensive content allows technicians to perform accurate repairs, reduce diagnostic time, and ensure compliance with manufacturer standards.

**Key Features and Benefits of the Manual**

**Precise Torque Specifications**  
The manual provides detailed torque settings for bolts and fasteners, which are critical for ensuring proper assembly and avoiding damage. For instance, the cylinder head bolts, turbocharger mounting, and oil pan bolts all have specified torque values.

**Step-by-Step Repair Procedures**  
Complex procedures such as timing belt replacement, turbocharger overhaul, or injector removal are broken down into clear, sequential steps, often accompanied by diagrams and photographs.

**Diagnostic Trouble Codes (DTCs) and Testing Protocols**  
The manual includes a comprehensive list of DTCs specific to the 4M51 engine, along with troubleshooting flowcharts to diagnose issues like misfires, poor fuel economy, or excessive smoke.

**Replacement Part Numbers and Specifications**  
For parts such as pistons, valves, sensors, and filters, the manual provides exact part numbers, ensuring compatibility and ease of sourcing replacements.

**Electrical Wiring Diagrams**  
Complex electrical systems, including sensor wiring, ECU connections, and actuator controls, are illustrated in detailed diagrams, simplifying troubleshooting of electrical faults.

**Practical Applications of the Service Manual**

**Routine Maintenance**  
Using the manual, owners and technicians can perform scheduled oil changes, filter replacements, and coolant flushes with confidence, adhering to the recommended service intervals and specifications.

**Engine Repairs and Overhauls**  
In cases of engine knocking, loss of power, or abnormal noise, the manual guides through disassembly, component inspection, and reassembly

procedures, ensuring repairs restore engine integrity. **Performance Tuning and Upgrades** For enthusiasts seeking increased power or efficiency, the manual provides insights into modifying components such as intercoolers, injectors, or turbochargers, along with the necessary calibration steps. **Troubleshooting Electrical or Sensor Issues** From diagnosing sensor faults to rectifying wiring harness problems, the manual's wiring diagrams and testing procedures streamline diagnostics. **Where to Find the Mitsubishi 4M51 Engine Service Manual** Official Mitsubishi service manuals are typically available through authorized dealerships or directly from Mitsubishi's technical support. However, many third-party publishers and automotive documentation websites also offer digital or printed copies. When sourcing the manual, ensure it's the latest edition compatible with your engine model and vehicle year. **Final Thoughts: Why a Service Manual Is Essential** The Mitsubishi 4M51 engine is a complex, high-performance powerplant that benefits immensely from detailed technical documentation. The service manual not only facilitates routine maintenance but also empowers technicians to perform complex repairs with confidence, ensuring safety, reliability, and longevity. Whether you're a professional mechanic, a DIY enthusiast, or a fleet operator, investing in an official or high-quality reproduction of the Mitsubishi 4M51 engine service manual is a prudent decision. It serves as a technical roadmap that minimizes downtime, reduces repair costs, and enhances your understanding of one of Mitsubishi's most dependable diesel engines. In conclusion, the Mitsubishi 4M51 engine service manual is an invaluable asset for maintaining, repairing, and optimizing this robust diesel engine. Its detailed content, precise specifications, and step-by-step procedures make it the definitive guide for ensuring your engine performs at its best over the years.

## QuestionAnswer

**What are the key maintenance procedures outlined in the Mitsubishi 4M51 engine service manual?**  
The manual details essential procedures such as oil and filter changes, valve adjustments, timing belt replacement, coolant system maintenance, and troubleshooting common issues to ensure optimal engine performance.

**Where can I find the official Mitsubishi 4M51 engine service manual?**  
The official service manual can typically be obtained through Mitsubishi authorized dealerships, official Mitsubishi service websites, or authorized parts and service distributors. Some manuals may also be available in automotive repair databases or online forums.

**What are common problems and their solutions covered in the Mitsubishi 4M51 engine manual?**  
The manual covers common issues such as overheating, low power output, unusual noises, and

starting difficulties, along with troubleshooting steps and recommended repairs to resolve these problems effectively.

Does the Mitsubishi 4M51 engine service manual include specifications for parts replacement?

Yes, the manual provides detailed specifications for various engine components, including torque settings, part numbers, and replacement procedures to ensure correct installation and maintenance.

Is it necessary to have specialized tools to perform maintenance on the Mitsubishi 4M51 engine as per the service manual?

While many maintenance tasks can be performed with basic tools, certain procedures outlined in the manual may require specialized tools such as torque wrenches, timing belt tensioners, or compression testers for proper service and safety.

Related keywords: Mitsubishi 4M51 engine, 4M51 engine repair, Mitsubishi engine manual, 4M51 diesel engine, Mitsubishi engine service guide, 4M51 engine troubleshooting, Mitsubishi engine maintenance, 4M51 engine specifications, Mitsubishi engine parts, 4M51 engine diagnostics

## Mitsubishi s4s engine parts manual

mitsubishi s4s engine parts manual is an essential resource for mechanics, car enthusiasts, and Mitsubishi S4S engine owners seeking detailed information on engine components, maintenance procedures, and troubleshooting techniques. The S4S engine, renowned for its durability and performance, powers a variety of Mitsubishi trucks and commercial vehicles. Proper knowledge of its parts and their functions is crucial for effective repairs, optimal performance, and extending the engine's lifespan. This comprehensive manual serves as a vital guide, providing in-depth insights into each component, their specifications, and replacement procedures.

**Understanding the Mitsubishi S4S Engine**

**Overview of the Mitsubishi S4S Engine**

The Mitsubishi S4S engine is a 4-cylinder, water-cooled diesel engine widely used in Mitsubishi vehicles, especially in trucks and commercial applications. Known for its robustness and fuel efficiency, the S4S engine has become a popular choice among fleet operators and owners who prioritize reliability and longevity.

**Key features include:**

- Displacement:** Approximately 4.9 liters
- Configuration:** Inline 4-cylinder
- Turbocharged and naturally aspirated variants**
- Common rail fuel injection system**
- Mechanical and electronic components designed for heavy-duty use**

**Importance of a Detailed Parts Manual**

Having access to a comprehensive Mitsubishi S4S engine parts manual is vital for:

- Accurate identification of engine components**
- Proper maintenance and servicing**
- Efficient troubleshooting and repair**
- Sourcing genuine**

replacement parts Ensuring compatibility and optimal engine performance

### Key Components of the Mitsubishi S4S Engine

#### Major Engine Parts and Their Functions

Understanding the core components is fundamental for maintenance and repairs. Below is a detailed list of essential parts:

- Engine Block:** The core structure housing cylinders, pistons, and crankshaft.
- Cylinder Head:** Contains the combustion chambers, valves, and injectors.
- Pistons:** Move within cylinders to convert combustion energy into mechanical motion.
- Connecting Rods:** Connect pistons to the crankshaft, transferring motion.
- Crankshaft:** Converts reciprocating motion into rotational motion to drive the vehicle.
- Camshaft:** Controls valve timing for intake and exhaust valves.
- Fuel Injection System:** Delivers diesel fuel into combustion chambers, critical for engine efficiency.
- Turbocharger (if equipped):** Increases air intake for improved power output.
- Cooling System Components:** Includes the radiator, water pump, and thermostat to prevent overheating.
- Lubrication System:** Ensures smooth operation of moving parts with oil pumps, filters, and galleries.
- Auxiliary Parts and Accessories**

In addition to core components, the manual details auxiliary parts such as:

- Alternator
- Starter motor
- Timing belt/chain
- Sensors (temperature, pressure, position)
- Exhaust components
- Gaskets and seals

#### How to Use the Mitsubishi S4S Engine Parts Manual

##### Locating Specific Parts

The manual typically provides:

- Part numbers for each component
- Diagrams illustrating assembly and disassembly
- Descriptions of each part's function and specifications
- Step-by-step removal and installation instructions

##### Identifying Genuine Replacement Parts

Using the manual ensures:

- Correct part identification
- Sourcing authentic Mitsubishi parts
- Avoiding compatibility issues
- Maintaining warranty and performance standards

#### Maintenance and Troubleshooting

The manual offers guidance on:

- Routine inspection schedules
- Common issues and symptoms
- Diagnostic procedures
- Repair and replacement procedures

### Benefits of a Mitsubishi S4S Engine Parts Manual for Different Users

#### For Mechanics and Service Centers

- Accelerates repair times with detailed diagrams
- Ensures accurate parts replacement
- Helps in training new technicians
- Reduces error and rework

#### For Vehicle Owners and Enthusiasts

- Empowers owners to perform basic maintenance
- Provides a better understanding of engine health
- Assists in sourcing parts during repairs
- Enhances overall vehicle care

#### For Fleet Managers

- Facilitates preventive maintenance scheduling
- Reduces downtime by quick repairs
- Extends engine life and reduces costs

#### Where to Find the Mitsubishi S4S Engine Parts Manual

Accessing an authentic Mitsubishi S4S engine parts manual is crucial. Resources include:

- Official Mitsubishi dealership and service centers
- Authorized parts distributors
- Certified online manuals and digital repositories
- Mitsubishi official website (if available)
- Specialty automotive manuals and repair guides

Ensure that the manual matches your engine's specific model and year to avoid discrepancies.

#### Tips for Maintaining Your Mitsubishi S4S Engine Using the Parts Manual

- Regular Inspection and Maintenance:** Follow the recommended service intervals outlined in the manual. Check key components such as filters, belts, and seals. Monitor fluid levels and replace as specified.
- Using Proper Tools and Genuine Parts:** Use recommended tools to avoid damaging components. Always replace worn parts with genuine Mitsubishi parts listed in the manual.
- Documenting Repairs and Maintenance:** Keep records of all procedures. Note part numbers and replacement dates for future reference.

### Conclusion

A comprehensive Mitsubishi S4S engine parts manual is an indispensable resource for anyone involved in maintaining, repairing, or understanding this robust diesel engine. It ensures that repairs

are performed accurately, parts are sourced correctly, and the engine continues to operate at peak performance. Whether you are a professional mechanic, a vehicle owner, or a fleet manager, having access to detailed diagrams, specifications, and procedures will significantly enhance your ability to care for your Mitsubishi S4S engine. Investing in or acquiring the right manual not only saves time and money but also prolongs the lifespan of your engine, ensuring reliable operation for years to come.

**Mitsubishi S4S Engine Parts Manual: An In-Depth Review and Guide**

The Mitsubishi S4S engine parts manual serves as an essential resource for mechanics, enthusiasts, and fleet managers working with Mitsubishi's renowned S4S engine series. As a comprehensive guide, it provides detailed information about engine components, maintenance procedures, troubleshooting tips, and replacement parts. In this review, we will explore the manual's structure, content quality, usability, and overall value to users seeking to understand or work on Mitsubishi S4S engines.

**Overview of the Mitsubishi S4S Engine Series**

Before delving into the manual itself, it's important to understand the significance of the Mitsubishi S4S engine series. The S4S engines are a range of diesel engines produced primarily during the late 20th century, known for their durability, efficiency, and widespread use in trucks, buses, and industrial applications.

**Key features of Mitsubishi S4S engines include:**

- Four-cylinder diesel configuration
- Common rail or direct injection systems (depending on the model)
- Designed for heavy-duty applications
- Known for robust performance and longevity

The manual tailored for this engine series is indispensable for those looking to maintain, repair, or overhaul these engines effectively.

**Structure and Content of the Manual**

**Comprehensive Coverage**

The Mitsubishi S4S engine parts manual is structured to provide a logical flow from general engine overview to specific component details. It typically includes:

- Engine specifications and technical data
- Exploded views of engine assemblies
- Parts lists with diagrams
- Maintenance and service procedures
- Troubleshooting guides
- Repair instructions
- Original part numbers and cross-reference information

This organized approach helps users locate necessary information efficiently, reducing downtime and errors during repairs.

**Detailed Diagrams and Illustrations**

One of the standout features of the manual is its high-quality diagrams. These visual aids include:

- Exploded views of engine components
- Cross-sectional diagrams
- Wiring and electrical schematics
- Assembly and disassembly instructions

The clarity of these illustrations makes it easier for technicians to identify parts, understand their placement, and perform precise repairs or replacements.

**Parts Identification and Ordering**

The manual provides detailed parts lists with corresponding illustrations, which are crucial for:

- Accurate identification of replacement parts
- Verifying part numbers
- Ensuring compatibility
- Facilitating efficient ordering processes

This feature minimizes errors that might arise from misidentification, especially for complex assemblies.

**Features and Benefits of the Mitsubishi S4S Engine Parts Manual**

**Ease of Use and Accessibility**

**User-Friendly Layout:** Clear headings, indexed sections, and logical flow make it simple to navigate.

**Comprehensive Indexing:** Quick access to specific parts, procedures, or diagrams.

**Compatibility:** Usually available in printed and digital formats, allowing flexibility for users.

**Technical Accuracy and Reliability**

The manual is created

by Mitsubishi or authorized publishers, ensuring the information is accurate and authoritative. Up-to-date with factory specifications and part numbers, which is critical for effective maintenance. Cost-Effectiveness Having a detailed parts manual reduces the risk of ordering incorrect parts. Proper maintenance prolongs engine life, decreasing long-term repair costs. Facilitates DIY repairs for knowledgeable enthusiasts, saving labor costs.

**Pros and Cons of the Mitsubishi S4S Engine Parts Manual**

**Pros**

- Comprehensive Documentation:** Covers all engine components with detailed diagrams and instructions.
- Accurate Part Information:** Ensures correct ordering and replacement, reducing errors.
- Versatile Format Options:** Available in print and digital formats for convenience.
- Facilitates Maintenance and Repairs:** Helps both professional mechanics and experienced DIYers.
- Supports Troubleshooting:** Offers guides to diagnose common engine issues.

**Cons**

- Technical Complexity:** May be overwhelming for beginners without prior mechanical knowledge.
- Limited to Specific Models:** Primarily covers S4S series, so not suitable for other Mitsubishi engines.
- Availability:** Original manuals might be costly or hard to find outside authorized channels.
- Potential for Outdated Information:** Older manuals may not reflect recent engine modifications or updates.

**How to Use the Mitsubishi S4S Engine Parts Manual Effectively**

**Preparation** Gather necessary tools and safety equipment. Identify the specific engine model and serial number to ensure compatibility.

**Locating Information** Use the index to find the section relevant to your task. Refer to diagrams for visual confirmation of parts.

**Performing Repairs or Maintenance** Follow step-by-step procedures outlined in the manual. Cross-reference part numbers before ordering replacement components. Use illustrations to verify correct assembly during reinstallation.

**Troubleshooting** Utilize diagnostic guides to identify issues. Confirm part conditions and connections as per manual instructions.

**Additional Tips for Maximizing the Manual's Value**

- Keep a digital copy:** For quick searches and easy sharing.
- Update regularly:** Stay informed about revisions or updates from Mitsubishi.
- Supplement with other resources:** Use service bulletins, forums, and professional advice for complex issues.
- Maintain an organized workspace:** Keep manuals accessible for ongoing maintenance.

**Conclusion: Is the Mitsubishi S4S Engine Parts Manual Worth It?**

The Mitsubishi S4S engine parts manual is undeniably a valuable asset for anyone involved with these engines. Its detailed diagrams, precise parts information, and comprehensive maintenance procedures make it a must-have for professional technicians and dedicated DIY enthusiasts alike. While it may present a learning curve for newcomers, its benefits in ensuring accurate repairs, reducing downtime, and extending engine life are significant. Investing in this manual can lead to cost savings, improved engine reliability, and a deeper understanding of Mitsubishi's engineering. Whether you are maintaining an existing fleet of Mitsubishi trucks or restoring an older engine, this manual provides the guidance necessary to perform quality work with confidence. In summary, the Mitsubishi S4S engine parts manual stands out as an essential reference that aids in the proper care and repair of these durable diesel engines, ultimately ensuring their optimal performance for years to come.

## QuestionAnswer

What does the Mitsubishi S4S engine parts manual cover?

The manual provides detailed information on all components, parts lists, assembly instructions, and maintenance procedures for the Mitsubishi S4S engine.

Where can I find a digital copy of the Mitsubishi S4S engine parts manual?

You can access the manual through authorized Mitsubishi service centers, official dealerships, or reputable online parts and manual providers.

Are the parts listed in the Mitsubishi S4S engine manual interchangeable with other Mitsubishi engines?

Some parts may be compatible with other Mitsubishi engine models, but it is essential to consult the manual or a professional to verify compatibility before substitution.

How often should I refer to the Mitsubishi S4S engine parts manual for maintenance?

The manual should be consulted regularly during routine maintenance, repairs, or when replacing parts to ensure correct procedures and part specifications.

Does the Mitsubishi S4S engine parts manual include troubleshooting guides?

Yes, it contains troubleshooting sections that help identify common issues and provide recommended solutions for the Mitsubishi S4S engine.

Can I use the Mitsubishi S4S engine parts manual to identify the correct replacement parts?

Absolutely, the manual provides detailed part numbers, diagrams, and descriptions to help you identify and order the correct replacement parts.

Is the Mitsubishi S4S engine parts manual suitable for DIY repairs?

Yes, the manual offers detailed instructions that can assist experienced DIY enthusiasts in performing repairs and maintenance safely.

What are the common issues addressed in the Mitsubishi S4S engine parts manual?

Common issues include fuel system problems, overheating, oil leaks, and timing belt replacements, with detailed guidance on troubleshooting and repairs.

How can I ensure I am using the most updated Mitsubishi S4S engine parts manual?

Always obtain the manual from official Mitsubishi sources or authorized distributors to ensure you have the latest version with updated part information.

Are there online resources or forums for questions related to the Mitsubishi S4S engine parts manual?

Yes, many automotive forums and online communities discuss Mitsubishi engines, where you can find tips, shared manuals, and advice from experienced technicians.

Related keywords: Mitsubishi S4S engine diagram, Mitsubishi S4S engine specifications, Mitsubishi S4S rebuild kit, Mitsubishi S4S engine repair, Mitsubishi S4S parts catalog, Mitsubishi S4S engine service manual, Mitsubishi S4S cylinder head, Mitsubishi S4S piston parts, Mitsubishi S4S valve components, Mitsubishi S4S engine troubleshooting

## Mitsubishi canter 4d33 parts

Mitsubishi canter 4d33 parts are essential components that ensure the reliable performance, durability, and efficiency of Mitsubishi Canter trucks equipped with the 4D33 engine. Whether you're a mechanic, a truck owner, or a parts supplier, understanding the various parts available for the Mitsubishi Canter 4D33 engine can help you maintain your vehicle effectively, troubleshoot issues efficiently, and source genuine replacements to extend the lifespan of your truck. This article provides an in-depth overview of Mitsubishi Canter 4D33 parts, their functions, common issues, and tips for sourcing quality components, all optimized for SEO to help you find the information you need quickly.

**Understanding the Mitsubishi Canter 4D33 Engine** Before diving into parts specifics, it's important to understand what the Mitsubishi Canter 4D33 engine is. The 4D33 is a diesel engine manufactured by Mitsubishi Motors, known for its robustness and fuel efficiency. It's a 4-cylinder, 4-stroke engine popular in various light commercial vehicles, especially the Mitsubishi Canter series. Its design emphasizes durability, making it suitable for heavy-duty use, but like all engines, it requires regular maintenance and replacement parts to perform optimally.

**Key Mitsubishi Canter 4D33 Parts** The parts associated with the Mitsubishi Canter 4D33 engine can be broadly categorized into engine components, mechanical parts, electrical components, and consumables. Here's a detailed overview:

**Engine Components** These are vital for the engine's operation and include:

- Cylinder Head** ? Houses the valves, spark plugs, and fuel injectors, playing a critical role in air intake and exhaust.
- Engine Block** ? The core structure of the engine, supporting other



components. **Pistons and Piston Rings** ? Facilitate combustion and transfer power to the crankshaft. **Crankshaft** ? Converts piston movement into rotational motion. **Camshaft** ? Controls valve timing and operation. **Mechanical Parts** These parts support the engine's operation and vehicle movement: **Timing Belt/Chain** ? Synchronizes engine components for proper operation. **Fuel Pump** ? Delivers fuel from the tank to the engine. **Oil Pump** ? Circulates engine oil to lubricate components. **Cooling System Parts** ? Includes the radiator, thermostat, water pump, and hoses. **Exhaust System Components** ? Includes the exhaust manifold, muffler, and catalytic converter. **Electrical Components** Electrical parts are vital for engine management and vehicle operation: **Fuel Injectors** ? Deliver precise amounts of fuel into the combustion chamber. **Glow Plugs** ? Aid cold-starting by preheating the combustion chamber. **Battery and Alternator** ? Power electrical systems and recharge the battery. **Engine Control Unit (ECU)** ? Manages engine operations and performance. **Consumables and Wear Parts** These parts need regular replacement: **Oil Filters** **Air Filters** **Fuel Filters** **Engine Oil** **Gaskets and Seals** **Common Issues and Replacement Parts for Mitsubishi Canter 4D33** Understanding common issues can help you identify which parts may need replacement: **Engine Misfires and Power Loss** Often caused by faulty fuel injectors or glow plugs. Replacement parts: Fuel injectors, glow plugs, or faulty sensors. **Overheating** Caused by cooling system failure. Replacement parts: Thermostat, water pump, radiator, hoses. **Oil Leaks and Low Oil Pressure** Often due to worn gaskets or oil seals. Replacement parts: Gaskets, seals, oil pump. **Starting Difficulties** Usually related to battery, glow plugs, or starter motor issues. Replacement parts: Glow plugs, starter motor, battery. **Where to Source Genuine Mitsubishi Canter 4D33 Parts** Choosing the right parts is crucial for vehicle longevity and performance. Here are tips for sourcing quality parts: **Official Mitsubishi Dealerships** Provide OEM (Original Equipment Manufacturer) parts. Guarantee compatibility and durability. Usually more expensive but reliable. **Authorized Auto Parts Retailers** Offer genuine parts with warranties. Can be found online or in-store. **Aftermarket Suppliers** Offer cost-effective alternatives. Quality varies; choose reputable brands. Suitable for less critical components. **Used and Rebuilt Parts** More affordable option. Ensure parts are inspected and tested before purchase. **Tips for Maintaining Mitsubishi Canter 4D33 Parts** Proper maintenance can extend the life of your parts and improve vehicle performance: Follow the manufacturer's recommended service schedule. Use high-quality lubricants and filters. Inspect belts, hoses, and seals regularly for wear and tear. Replace filters and fluids as per schedule to prevent engine damage. Address issues promptly to avoid further damage to engine components. **Conclusion** The Mitsubishi Canter 4D33 engine's performance and longevity heavily rely on the quality and timely replacement of its parts. Whether you're sourcing engine components, electrical parts, or consumables, always prioritize genuine or high-quality aftermarket parts to ensure optimal operation. Regular maintenance and prompt replacement of worn-out parts can save you significant repair costs and downtime. By understanding the key Mitsubishi Canter 4D33 parts and their functions, you can better manage your vehicle's health and ensure it continues to serve your business effectively. For reliable Mitsubishi Canter 4D33 parts, consult authorized dealers, trusted auto parts suppliers, and reputable online stores. Proper care and quality replacements will keep your Mitsubishi Canter running smoothly for years to come.

**Mitsubishi Canter 4D33 Parts: An In-Depth Analysis of Components, Maintenance, and Reliability**

The Mitsubishi Canter 4D33 engine has long been celebrated for its durability, efficiency, and versatility, making it a popular choice among commercial vehicle operators and fleet managers worldwide. As with any engine, the longevity and optimal performance of the Mitsubishi Canter 4D33 hinge on the quality and maintenance of its parts. Understanding the various components, their functions, common issues, and replacement strategies is essential for ensuring the vehicle's reliability and cost-effectiveness over its lifespan. This comprehensive review aims to delve into the critical parts of the Mitsubishi Canter 4D33, providing insights that vehicle owners, mechanics, and enthusiasts will find invaluable.

### Overview of the Mitsubishi Canter 4D33 Engine

The Mitsubishi 4D33 is a 3.9-liter, four-cylinder diesel engine renowned for its robustness and fuel efficiency. It belongs to the 4D series of engines, which have been used extensively in Mitsubishi's light commercial vehicles, especially the Canter series. The 4D33 typically features direct injection, a cast iron block, and a reliable diesel combustion process, making it suitable for demanding applications such as cargo transport, construction, and agriculture. The engine's design emphasizes simplicity and ease of maintenance, which contributes to its popularity in developing regions and among operators seeking dependable performance with manageable maintenance costs. However, like all mechanical systems, the engine comprises numerous parts, each with specific roles that collectively ensure smooth operation.

### Key Components and Parts of the Mitsubishi Canter 4D33

Understanding the main parts of the 4D33 engine is crucial for diagnostics, repairs, and routine maintenance. Here we explore the critical components grouped by their function.

- Engine Block and Cylinder Head**  
**Engine Block:** The foundation of the engine, made of cast iron for durability. Houses cylinders, coolant passages, and supports various components.  
**Cylinder Head:** Sits atop the engine block, containing the combustion chambers, valves, and camshaft (if overhead cam). It plays a pivotal role in sealing the combustion process and housing vital components like injectors and glow plugs.
- Pistons, Connecting Rods, and Crankshaft**  
**Pistons:** Move within the cylinders, converting combustion energy into mechanical motion.  
**Connecting Rods:** Connect pistons to the crankshaft, transmitting force.  
**Crankshaft:** Converts reciprocating motion into rotational energy, powering the vehicle.
- Fuel Injection System**  
**Fuel Injectors:** Precisely deliver diesel fuel into combustion chambers.  
**Fuel Pump:** Supplies pressurized fuel from the tank to injectors.  
**Common Rail System (if applicable):** Ensures consistent fuel pressure and atomization for efficient combustion.
- Intake and Exhaust Systems**  
**Air Filter:** Cleans incoming air to prevent debris from damaging internal components.  
**Intake Manifold:** Distributes air evenly to cylinders.  
**Exhaust Manifold:** Collects and directs exhaust gases out of the engine, often connected to emission control devices.
- Cooling System**  
**Radiator:** Dissipates heat from coolant.  
**Water Pump:** Circulates coolant through engine passages.  
**Thermostat:** Regulates coolant temperature to optimize performance.
- Lubrication System**  
**Oil Pump:** Circulates engine oil to reduce friction and wear.  
**Oil Filter:** Removes contaminants from engine oil.  
**Oil Pan:** Stores engine oil at the bottom of the engine.
- Valve Train Components**  
**Valves (Intake and Exhaust):** Control airflow into and out of cylinders.  
**Camshaft:** Opens and closes valves at correct timings.  
**Timing Gear/Chain:** Synchronizes camshaft and crankshaft rotation.
- Electrical and Ignition**

Components Glow Plugs: Aid cold starts by pre-heating the combustion chambers. Sensors (e.g., temperature, pressure): Provide data for engine control. ECU (if equipped): Manages fuel injection and other parameters.

### Common Parts and Replacement Items for Mitsubishi Canter 4D33

Routine maintenance and timely replacement of parts are vital for engine longevity. Below are the main parts that often require attention:

- Fuel System Parts**
  - Fuel injectors (cleaning or replacement)
  - Fuel filter (regular replacement)
  - Fuel pump (diagnostics required before replacement)
- Cooling System Components**
  - Thermostat
  - Water pump
  - Radiator hoses
  - Coolant (antifreeze)
- Lubrication System Elements**
  - Engine oil (specifically designed for diesel engines)
  - Oil filter
  - Oil seals and gaskets
- Air Intake System**
  - Air filter (replacement at regular intervals)
  - Intake manifold gaskets
- Valve Train and Timing Parts**
  - Valves (if bent or damaged)
  - Valve seals
  - Timing belt/chain (if applicable; note that some models may use timing gears)
- Electrical and Ignition System**
  - Glow plugs
  - Sensors (temperature, pressure)
  - Battery and alternator

### Common Issues and Troubleshooting Related to 4D33 Parts

While the Mitsubishi Canter 4D33 is known for durability, certain parts are prone to wear and failure over time, especially if maintenance schedules are neglected.

- Fuel System Problems**
  - Symptoms:** Hard starting, rough idling, decreased power.
  - Causes:** Clogged fuel filters, faulty injectors, worn fuel pump.
  - Solutions:** Regular filter replacement, cleaning or replacing injectors, fuel system diagnostics.
- Cooling System Failures**
  - Symptoms:** Overheating, coolant leaks, poor engine performance.
  - Causes:** Faulty thermostat, worn water pump, radiator clogging.
  - Solutions:** Flushing cooling system, replacing thermostats or water pumps, checking for leaks.
- Oil and Lubrication Issues**
  - Symptoms:** Increased engine noise, oil leaks, rapid oil consumption.
  - Causes:** Worn oil seals, neglecting oil changes, contaminated oil.
  - Solutions:** Regular oil changes, gasket replacements, using manufacturer-recommended oil.
- Valve and Timing Problems**
  - Symptoms:** Loss of power, misfiring, noisy engine operation.
  - Causes:** Worn valves, broken timing belt/chain.
  - Solutions:** Valve adjustments, replacing timing belt/chain as per schedule.
- Electrical Failures**
  - Symptoms:** Difficult starting, engine stalling, sensor errors.
  - Causes:** Faulty glow plugs, dead batteries, sensor failures.
  - Solutions:** Replacing glow plugs, testing and replacing faulty sensors, maintaining electrical connections.

### Aftermarket and OEM Parts: Quality and Compatibility

For owners and mechanics, choosing the right parts—whether OEM (Original Equipment Manufacturer) or aftermarket—is crucial for maintaining engine performance.

**OEM Parts** Guaranteed compatibility and quality. Typically more expensive. Recommended for critical parts like injectors, timing components, and gaskets.

**Aftermarket Parts** Often less expensive. Wide variety in quality; requires careful selection. Suitable for non-critical parts such as filters, hoses, and some accessories.

### Maintenance Tips for Extending the Life of 4D33 Parts

Proper maintenance routines ensure that parts last longer and perform reliably. Here are essential tips:

- Follow manufacturer-recommended service intervals.
- Use high-quality fuel and lubricants.
- Regularly inspect and replace filters.
- Keep cooling and lubrication systems clean.
- Address warning signs promptly to prevent secondary damage.
- Maintain proper engine tuning and timing.

### Conclusion: Ensuring Reliability Through Proper Parts Management

The Mitsubishi Canter 4D33 engine's reputation for durability largely depends on the quality and timely replacement of its parts. From fuel injectors to cooling components, each part plays an integral role in the engine's performance and lifespan. By understanding the specific functions, common issues, and maintenance strategies associated with these parts, owners and

technicians can make informed decisions, reducing downtime and repair costs. Whether sourcing OEM components or trusted aftermarket alternatives, prioritizing quality and adherence to maintenance schedules will ensure that the Mitsubishi Canter 4D33 remains a dependable workhorse for years to come.

## QuestionAnswer

What are common replacement parts available for the Mitsubishi Canter 4D33 engine?

Common replacement parts for the Mitsubishi Canter 4D33 include piston rings, valves, timing belts, fuel injectors, oil filters, water pumps, and gaskets. It's important to use genuine or high-quality aftermarket parts to ensure optimal performance.

Where can I find authentic Mitsubishi Canter 4D33 parts online?

Authentic Mitsubishi Canter 4D33 parts can be purchased through official Mitsubishi dealerships, authorized parts distributors, and reputable online platforms specializing in truck and engine parts. Always verify the seller's credibility before making a purchase.

Are there compatible aftermarket parts for the Mitsubishi Canter 4D33 engine?

Yes, there are compatible aftermarket parts available that meet or exceed OEM standards. However, it's recommended to consult with a professional mechanic or part supplier to ensure compatibility and quality when choosing aftermarket components.

How can I identify the correct part number for Mitsubishi Canter 4D33 parts?

The correct part number can typically be found in the vehicle's service manual, on the existing part itself, or by contacting a Mitsubishi authorized dealer with your vehicle's VIN and engine details.

What are the signs that Mitsubishi Canter 4D33 engine parts need replacement?

Signs include unusual engine noises, decreased performance, increased fuel consumption, oil leaks, or engine warning lights. Regular maintenance and inspections can help identify worn or damaged parts early.

Are there specific tools required to replace Mitsubishi Canter 4D33 parts?

Yes, certain repairs may require specialized tools such as engine hoists, torque wrenches, and

timing belt tools. Always follow manufacturer instructions or consult a professional mechanic for proper tools and procedures.

What is the recommended maintenance schedule for replacing parts on the Mitsubishi Canter 4D33?

Maintenance schedules vary, but crucial parts like timing belts typically need replacement around 100,000 km or as specified in the manual. Regular oil changes, filter replacements, and inspections are essential for engine longevity.

Can I upgrade to performance parts for the Mitsubishi Canter 4D33?

Yes, performance upgrades such as high-flow fuel injectors or aftermarket turbochargers are possible, but should be done carefully to avoid engine damage. Consult with specialists to ensure compatibility and to optimize performance safely.

Related keywords: Mitsubishi Canter 4D33 engine parts, Mitsubishi Canter 4D33 spare parts, Mitsubishi Canter 4D33 engine components, Mitsubishi Canter 4D33 accessories, Mitsubishi Canter 4D33 replacement parts, Mitsubishi Canter 4D33 engine repair parts, Mitsubishi Canter 4D33 cylinder head parts, Mitsubishi Canter 4D33 fuel system parts, Mitsubishi Canter 4D33 engine seals, Mitsubishi Canter 4D33 piston parts

## Mitsubishi s6r diesel parts

**Mitsubishi S6R Diesel Parts** The Mitsubishi S6R series is renowned for its durability, efficiency, and performance in heavy-duty applications such as industrial machinery, power generation, and marine engines. To maintain the optimal operation of these engines, investing in genuine Mitsubishi S6R diesel parts is crucial. Quality components ensure longevity, fuel efficiency, and reduced downtime, making them a vital aspect of engine maintenance and repair. This comprehensive guide explores the essential Mitsubishi S6R diesel parts, their functions, and tips for sourcing authentic replacements.

**Overview of Mitsubishi S6R Engines** Before delving into specific parts, it's important to understand the Mitsubishi S6R engine series. These are turbocharged, six-cylinder diesel engines designed for heavy-duty applications. Known for their robustness, they feature advanced fuel injection systems and efficient combustion chambers. Proper maintenance with authentic parts is key to preserving their performance and reliability.

**Key Mitsubishi S6R Diesel Parts** Maintaining an Mitsubishi S6R engine requires a variety of components that work harmoniously. Below are the primary parts essential for engine operation and longevity:

- 1. Fuel System Components** The fuel

system ensures the delivery of clean, precise amounts of diesel fuel to the combustion chamber.

**Fuel Injectors:** Critical for delivering atomized fuel into the combustion chamber. High-quality injectors ensure efficient combustion and optimal power output.

**Fuel Pump:** Supplies high-pressure fuel from the tank to the injectors. A reliable fuel pump maintains consistent fuel pressure for smooth engine operation.

**Fuel Filters:** Remove impurities from diesel fuel, protecting injectors and fuel pumps from damage.

## 2. Air Intake and Exhaust System Components

Proper airflow is essential for engine efficiency and emissions control.

**Air Filters:** Prevent dust and debris from entering the engine, prolonging component life.

**Turbocharger:** Boosts air intake pressure, increasing power and efficiency.

**Intercoolers:** Cool the compressed air from the turbocharger, enhancing combustion efficiency.

**Exhaust Manifolds and Mufflers:** Manage exhaust gases, reduce emissions, and minimize noise.

## 3. Cooling System Parts

Effective cooling prevents overheating and maintains engine performance.

**Radiators:** Dissipate heat from the coolant to maintain optimal operating temperature.

**Water Pumps:** Circulate coolant through the engine and radiator.

**Thermostats:** Regulate coolant flow based on engine temperature.

## 4. Lubrication System Components

Lubrication reduces friction and wear among moving parts.

**Oil Pumps:** Circulate engine oil to critical components.

**Engine Oil Filters:** Remove contaminants from engine oil, ensuring smooth operation.

**Crankshaft and Camshaft Bearings:** Support rotating components and reduce wear.

## 5. Engine Management and Electrical Parts

Modern diesel engines rely on electronic controls for optimal performance.

**ECUs (Engine Control Units):** Manage fuel injection timing, turbo boost, and other parameters.

**Sensors:** Include temperature sensors, pressure sensors, and oxygen sensors to provide real-time data.

**Glow Plugs:** Facilitate cold starts by preheating the combustion chamber.

## 6. Mechanical and Wear Parts

These parts are subject to wear and require regular inspection and replacement.

**Pistons and Rings:** Critical for compression and power generation.

**Valves and Valve Seats:** Control intake and exhaust gases.

**Timing Gears and Chains:** Synchronize camshaft and crankshaft movements.

## Benefits of Using Genuine Mitsubishi S6R Diesel Parts

Choosing authentic Mitsubishi S6R parts offers numerous advantages that contribute to engine health and overall operational efficiency.

**Guaranteed Compatibility:** Designed specifically for Mitsubishi S6R engines, ensuring perfect fit and function.

**Enhanced Durability:** Original parts are built to withstand harsh operating conditions, reducing the frequency of replacements.

**Maintained Performance:** Genuine components help sustain the engine's original power output and fuel efficiency.

**Warranty and Support:** Authentic parts often come with manufacturer warranties and technical support.

**Reduced Downtime:** Reliable parts minimize unexpected failures and costly repairs.

## How to Source Mitsubishi S6R Diesel Parts

Finding high-quality Mitsubishi S6R diesel parts requires careful consideration. Here are some tips to ensure you get genuine and reliable components:

**Authorized Distributors and Dealerships:** Always purchase from authorized Mitsubishi parts distributors or dealerships. They stock original parts and can verify authenticity.

**Online Retailers:** Many reputable online stores specialize in Mitsubishi engine parts. Ensure they provide genuine parts, clear specifications, and return policies.

**Local Auto Parts Stores:** Consult with trusted local auto parts outlets that carry Mitsubishi parts or can order them directly from the manufacturer.

**Parts Identification:** Identify the exact part numbers and specifications for your Mitsubishi S6R engine model to avoid mismatched components.

## Maintenance Tips for Mitsubishi S6R Diesel Parts

Proper maintenance extends the

lifespan of your engine parts. Follow these best practices: Regularly inspect and replace filters to prevent contamination. Use high-quality diesel fuel to avoid injector clogging and wear. Change engine oil and oil filters at manufacturer-recommended intervals. Ensure cooling system components are clean and functioning properly. Monitor sensor readings and engine performance for early signs of issues. Perform periodic engine diagnostics to identify potential problems early.

**Conclusion** Investing in genuine Mitsubishi S6R diesel parts is fundamental to maintaining engine performance, reliability, and efficiency. From fuel injectors to cooling system components, each part plays a vital role in the overall health of your engine. By sourcing authentic parts from reputable suppliers and adhering to a proper maintenance schedule, you can ensure your Mitsubishi S6R engine operates smoothly for years to come. Whether you're performing routine maintenance or major repairs, understanding the key components and their functions empowers you to make informed decisions that protect your investment and keep your machinery running at peak performance.

**Mitsubishi S6R Diesel Parts: A Comprehensive Guide to Maintenance, Replacement, and Performance Optimization**

When it comes to heavy-duty engines, particularly those used in marine, industrial, and power generation applications, the Mitsubishi S6R Diesel Parts are critical components that ensure optimal performance, reliability, and longevity. Recognized for their robust construction and efficiency, Mitsubishi's S6R series engines demand high-quality parts that meet or exceed OEM specifications. Whether you're a maintenance professional, a fleet operator, or an enthusiast keen on understanding the vital components that keep these engines running smoothly, this guide will explore everything you need to know about Mitsubishi S6R diesel parts—covering key components, maintenance tips, sourcing advice, and performance considerations.

**Understanding the Mitsubishi S6R Diesel Engine**

Before diving into specific parts, it's important to understand what makes the Mitsubishi S6R engine a popular choice in its class. The S6R series is a line of 6-cylinder, 4-stroke diesel engines designed for high power density, fuel efficiency, and durability. They are often used in marine propulsion, generators, and industrial machinery.

**Key features of Mitsubishi S6R engines include:**

- Turbocharged and Intercooled Design:** Enhances power output and fuel efficiency.
- Water-Cooled Cylinders:** Ensures optimal operating temperatures.
- Robust Construction:** Built to withstand harsh operational conditions.
- Compliance with Emission Standards:** Meets modern environmental regulations.

Given these features, the Mitsubishi S6R diesel parts must be equally durable and reliable.

**Essential Mitsubishi S6R Diesel Parts and Their Functions**

A comprehensive understanding of the core parts is essential for effective maintenance and troubleshooting. Below is a breakdown of the most critical components:

**Fuel System Components**

- a. Fuel Injectors:** Deliver precise amounts of fuel into the combustion chamber. Key for engine efficiency and emissions control.
- b. Fuel Pump:** Pressurizes and supplies fuel from the tank to injectors. Types include rotary, plunger, and electronic fuel pumps.
- c. Fuel Filters:** Remove contaminants from fuel to prevent damage and clogging.

**Lubrication System Parts**

- a. Oil Pump:** Circulates engine oil to reduce friction and wear. Critical for engine longevity.
- b. Oil Filters:** Trap debris and impurities from engine

oil.c. Oil CoolerMaintains optimal oil temperature for smooth operation.Air Intake and Exhaust Componentsa. TurbochargerIncreases air intake pressure for more power.Consists of turbine and compressor sections.b. Air FiltersProtect the engine from dust and debris.c. Exhaust Manifold and MufflerManage emissions and noise reduction.Engine Block and Internal Componentsa. Pistons and RingsConvert combustion energy into mechanical motion.Require precise tolerances and high durability.b. Cylinder HeadHouses valves, injectors, and other components.c. Valves and Valve SeatsControl intake and exhaust gases.d. Connecting Rods and CrankshaftTransmit power from pistons to the drivetrain.Cooling System Partsa. Radiator and Water PumpDissipate heat and maintain engine temperature.b. ThermostatRegulates coolant flow based on temperature.c. Coolant Hoses and ClampsEnsure proper flow and prevent leaks.Electrical and Control Componentsa. Engine Control Module (ECM)Manages fuel injection, timing, and other engine parameters.b. Sensors (Temperature, Pressure, RPM)Provide real-time data for optimal engine operation.c. Glow PlugsAid cold starts, especially in low temperatures.

**Maintenance Tips for Mitsubishi S6R Diesel Parts**Proper maintenance of Mitsubishi S6R diesel parts is paramount to maximizing engine lifespan and performance. Here are some essential tips:Regular Inspection and ReplacementFuel System: Check injectors and filters regularly for clogs or wear. Replace faulty injectors to prevent misfires and reduce emissions.Lubrication: Change engine oil and filters as per manufacturer recommendations?typically every 250-500 hours of operation.Cooling System: Flush coolant periodically and inspect hoses for leaks or deterioration.Air Intake: Replace air filters regularly to prevent dust ingress.Exhaust System: Inspect for leaks, corrosion, or blockages.Using Genuine PartsAlways opt for genuine Mitsubishi S6R diesel parts or high-quality OEM equivalents. Using counterfeit or substandard parts can lead to reduced efficiency, increased emissions, and potential engine failure.Monitoring Engine ParametersUtilize onboard diagnostics and sensors to monitor temperature, oil pressure, and other critical parameters. Early detection of anomalies can prevent costly repairs.Adhering to Scheduled MaintenanceFollow the manufacturer?s recommended maintenance schedule diligently, including timing belt replacements, valve adjustments, and other routine tasks.

**Sourcing Mitsubishi S6R Diesel Parts**Finding reliable parts is crucial for maintaining engine performance. Here are some tips:Authorized Dealers and Service CentersPurchase from Mitsubishi-authorized dealerships to ensure OEM quality.Benefit from professional installation and warranty coverage.Trusted Online SuppliersMany reputable suppliers specialize in industrial and marine diesel parts.Look for suppliers with positive reviews, transparent policies, and proven track records.

**Aftermarket Options**Some aftermarket manufacturers produce compatible parts at lower costs.Ensure they meet OEM specifications and standards.

**Spare Parts Management**Maintain an inventory of critical parts like filters, belts, and gaskets for quick replacements.Keep detailed records of maintenance and part replacement dates.

**Performance Optimization and Upgrades**Beyond routine maintenance, consider performance upgrades for the Mitsubishi S6R engine:Upgrading TurbochargersHigher-capacity turbochargers can boost power output.Requires compatible exhaust and intake components.Advanced Fuel Injection SystemsElectronic fuel injection (EFI) upgrades improve efficiency and emissions.Cooling System EnhancementsUpgraded radiators or thermostats can improve cooling capacity in demanding environments.

**Aftermarket Exhaust Systems**Reducing backpressure can lead to power gains and better fuel economy.

**Regular Software Updates**Keep



engine control modules updated for optimal performance and compliance.

Troubleshooting Common Issues Related to Mitsubishi S6R Diesel Parts

Understanding common problems can help in quick diagnosis and repairs:

| Issue                | Possible Causes                                           | Recommended Action                                                    |
|----------------------|-----------------------------------------------------------|-----------------------------------------------------------------------|
| Engine Loss of Power | Clogged injectors, worn piston rings, faulty turbocharger | Inspect and replace affected parts, perform fuel system cleaning      |
| Overheating          | Coolant leaks, water pump failure, clogged radiator       | Check coolant levels, replace faulty components, flush cooling system |
| Hard Starting        | Faulty glow plugs, low fuel pressure, clogged filters     | Test glow plugs, inspect fuel system, replace filters                 |
| Excessive Smoke      | Worn injectors, valve issues, incorrect timing            | Conduct engine diagnostics, replace injectors or valves as needed     |
| Unusual Noises       | Loose belts, worn bearings, internal component damage     | Perform detailed inspection, tighten or replace parts                 |

Conclusion: Ensuring Longevity and Performance of Mitsubishi S6R Diesel Engines

The Mitsubishi S6R Diesel Parts are the backbone of engine performance, efficiency, and durability. Proper understanding, diligent maintenance, and sourcing quality parts are vital to keep these powerful engines operating at peak condition. Whether you're replacing a worn-out injector, upgrading your turbocharger, or performing routine oil changes, prioritizing genuine parts and professional service will pay dividends in engine longevity and operational reliability. By staying proactive in maintenance and understanding the critical components involved, operators can ensure their Mitsubishi S6R engines remain robust, efficient, and ready to meet demanding operational needs for years to come.

QuestionAnswer

Where can I find genuine Mitsubishi S6R diesel parts online?

You can find genuine Mitsubishi S6R diesel parts through authorized Mitsubishi dealerships, official parts distributors, or reputable online retailers specializing in heavy equipment parts.

What are common issues with Mitsubishi S6R diesel engine parts?

Common issues include fuel injector problems, turbocharger wear, oil leaks, and worn-out piston rings. Regular maintenance and using quality parts can help prevent these issues.

Are aftermarket Mitsubishi S6R diesel parts reliable?

While some aftermarket parts offer cost savings, their reliability varies. It's recommended to use OEM Mitsubishi parts for critical components to ensure durability and optimal engine performance.

How do I identify the correct Mitsubishi S6R diesel parts for my engine?

Identify the correct parts by referencing your engine's serial number, model number, and consulting the official parts catalog or a certified Mitsubishi parts dealer.

What maintenance parts are essential for the Mitsubishi S6R diesel engine?

Essential maintenance parts include oil filters, fuel filters, air filters, turbochargers, and cooling system components. Regular replacement helps ensure engine longevity and performance.

Related keywords: Mitsubishi S6R diesel engine, S6R engine components, Mitsubishi diesel parts, S6R engine repair, Mitsubishi S6R turbocharger, S6R fuel system, Mitsubishi engine spare parts, S6R cooling system, Mitsubishi S6R oil filter, S6R piston assembly