

Mitsubishi 4d56 Engine Specs

mitsubishi 4d56 engine specs are a popular topic among automotive enthusiasts, mechanics, and vehicle owners interested in this robust and reliable diesel engine. Known for its durability, efficiency, and versatility, the Mitsubishi 4D56 engine has been a staple in various Mitsubishi models and even in some aftermarket applications globally. Whether you're considering purchasing a vehicle equipped with this engine, planning an engine rebuild, or simply looking to understand its technical specifications, this comprehensive guide covers everything you need to know about the Mitsubishi 4D56 engine specs.

Overview of Mitsubishi 4D56 Engine

The Mitsubishi 4D56 is a 2.5-liter, four-cylinder, turbocharged diesel engine renowned for its rugged performance and longevity. First introduced in the late 1980s, it has been widely used in models such as the Mitsubishi Pajero, L200, Delica, and other utility vehicles. Its reputation for durability makes it a favorite among off-road enthusiasts and commercial vehicle operators.

Technical Specifications of Mitsubishi 4D56 Engine

Understanding the core specs of the Mitsubishi 4D56 engine is essential for maintenance, upgrades, or troubleshooting. Below, we detail the primary technical features:

Engine Type and Configuration

1. **Engine Type:** 4-cylinder, four-stroke diesel
2. **Configuration:** Inline (straight) engine
3. **Displacement:** 2.5 liters (2498 cc)

Dimensions and Weight

1. **Overall Length:** Approximately 700 mm
2. **Width:** Around 620 mm
3. **Height:** About 600 mm
4. **Dry Weight:** Typically between 220-240 kg depending on configuration

Cylinder and Bore/Stroke

1. **Cylinder Configuration:** Inline 4
2. **Bore:** 91.1 mm
3. **Stroke:** 100 mm
4. **Number of Cylinders:** 4

Performance Specifications

Performance parameters define the engine's power output, torque, and efficiency, which are crucial for understanding its capabilities.

Power and Torque

1. **Maximum Power:** Ranges from 86 to 88 horsepower (64-66 kW) at 4,000 rpm depending on the model and market
2. **Maximum Torque:** Approximately 160-200 Nm (118-147 lb-ft) at around 2,000-2,500 rpm

Fuel System and Injection

1. **Fuel System:** Common Rail Direct Injection (varies with model and year)
2. **Injection Pump:** Electronic-controlled or mechanical, depending on the version

Compression Ratio

1. **Compression Ratio:** 20.0:1, contributing to efficient combustion and power delivery

Engine Performance and Fuel Efficiency

The Mitsubishi 4D56 engine is celebrated for its fuel economy and low emissions, making it suitable for both personal and commercial use.

Fuel Consumption

1. Average fuel consumption varies between 8 to 12 liters per 100 km, depending on driving conditions and vehicle load
2. In urban driving: approximately 10-12 L/100 km
3. On highways: approximately 8-9 L/100 km

Turbocharging and Intercooler

1. The engine features a turbocharger to boost power and torque
2. An intercooler is typically used to cool the compressed air, improving efficiency and reducing the risk of knocking

Physical and Mechanical Features

Knowing the physical features of the Mitsubishi 4D56 engine can help when considering replacements, repairs, or modifications.

Valvetrain

1. **Valves per Cylinder:** 2 (one intake, one exhaust)
2. **Valvetrain Type:** SOHC (Single OverHead Camshaft)

Cooling System

1. **Cooling Method:** Liquid-cooled with radiator and thermostat
2. **Cooling Capacity:** Approximately 8-10 liters

Lubrication System

1. **Oil Pump:** Mechanical
2. **Oil Capacity:** Around 4-5 liters

Engine Variants and Versions

Over its production lifespan, the Mitsubishi 4D56 engine has seen several variants and updates to improve performance, emissions, and reliability.

Early Versions

1. Produced in the late 1980s and early 1990s
2. Mechanical fuel injection systems
3. Lower power and torque outputs compared to later models

Later Versions

1. Incorporated electronic fuel injection (EFI)
2. Enhanced turbocharging systems and intercooling
3. Increased power output up to 88 horsepower
4. Improved emissions compliance

Common Market Variants

1. Different emission standards and specifications based on regional regulations
2. Some models equipped with intercoolers and upgraded turbochargers for better performance

Maintenance and Common Issues

Understanding the specs helps in identifying maintenance needs and troubleshooting common issues.

Regular Maintenance

1. Oil changes every 5,000 to 10,000 km
2. Replacing fuel filters and air filters regularly

3. Checking and replacing timing belts or chains as per manufacturer recommendations

Common Problems

1. Glow plug failure in cold climates
2. Turbocharger wear or failure over time
3. Injection system issues leading to rough idling or power loss
4. Cooling system leaks or radiator corrosion

Performance Upgrades and Modifications

Many enthusiasts seek to enhance the performance of the Mitsubishi 4D56 engine through various modifications.

Possible Upgrades

1. Turbocharger upgrades for increased boost pressure
2. Intercooler improvements for better cooling and efficiency
3. High-flow air filters and exhaust systems to improve airflow
4. Engine remapping or ECU tuning for optimized power and torque

Considerations

1. Ensure compatibility with existing engine components
2. Monitor engine temperatures and stress levels after modifications
3. Consult professionals for safe tuning and upgrades

Conclusion

The Mitsubishi 4D56 engine remains a highly regarded diesel powerplant due to its durability, efficiency, and adaptability. Its technical specifications—such as a 2.5-liter inline four-cylinder configuration, turbocharged setup, and reliable performance—make it a favorite for various vehicles and applications. Whether used in stock form or upgraded for enhanced performance, understanding its specs helps owners and mechanics maintain and optimize this engine effectively. Proper maintenance, awareness of common issues, and thoughtful modifications can extend the lifespan and performance of the Mitsubishi 4D56 engine, ensuring it continues to serve reliably for years to come.

Mitsubishi 4D56 Engine Specs The Mitsubishi 4D56 engine is an iconic powerplant renowned within the automotive industry, especially among enthusiasts and mechanics who value durability, versatility, and performance. As part of Mitsubishi's long-standing series of diesel engines, the 4D56 has earned a reputation for its robustness and adaptability across various vehicle models, ranging from pickup trucks to SUVs and even some commercial applications. This comprehensive review delves into the technical specifications, design features, performance metrics, and applications of the Mitsubishi 4D56 engine, providing a detailed understanding of what makes this engine a noteworthy choice in its class.

Overview of the Mitsubishi 4D56 Engine

The Mitsubishi 4D56 is a 4-cylinder, 2.5-liter turbocharged diesel engine introduced in the late 1980s and produced through the early 2000s. It belongs to the 4D family of engines, which includes various displacements and configurations, but the 4D56 remains one of the most popular and widely used variants. Its core design emphasizes simplicity, durability, and efficiency, making it a favorite among those seeking a reliable diesel powerplant. Historical Context and Development Launched in the late 1980s, the 4D56 was designed to meet increasing demand for fuel-efficient and durable diesel engines, especially in markets where diesel fuel was more economical and accessible. Its design drew inspiration from earlier Mitsubishi diesel engines but incorporated modern features such as turbocharging and indirect injection to improve performance and emissions. Common Applications The 4D56

engine found its way into numerous Mitsubishi models, including: - Mitsubishi Pajero/Montero - Mitsubishi L200/Strada pickup trucks - Mitsubishi Delica vans - Mitsubishi Space Gear - Various export models and conversions Its adaptability also led to use in some non-Mitsubishi vehicles and aftermarket modifications.

Technical Specifications of Mitsubishi 4D56

Understanding the technical specifications of the 4D56 provides insight into its capabilities, strengths, and potential limitations.

Displacement and Dimensions - Engine Type: 4-cylinder, 4-stroke diesel - Displacement: 2477 cc (2.5 liters) - Bore x Stroke: 91.1 mm x 94 mm - Compression Ratio: Typically around 21.0:1 to 21.5:1, depending on the model year and application - Valvetrain: Overhead Valve (OHV) with 2 valves per cylinder - Cooling System: Water-cooled

Power and Torque Output The output of the 4D56 varies depending on the specific model, turbocharging, and emissions regulations, but typical figures include: - Power: Ranges from approximately 86 to 86.4 horsepower (64 to 64.5 kW) at 4000 rpm - Torque: Between 137 to 200 Nm (101 to 147 lb-ft) at 2000 rpm, with turbocharged versions offering higher torque figures

Turbocharging and Intercoolers Most 4D56 engines are turbocharged, which significantly enhances power and torque. Many models include an intercooler to improve intake air density, leading to better combustion efficiency and power delivery.

Fuel System The engine utilizes indirect injection technology, using a pre-combustion chamber to promote more complete combustion and better fuel economy. Some later models incorporated electronic fuel injection (EFI), but most early versions relied on mechanical fuel injection systems.

Emissions and Fuel Efficiency The 4D56 was designed with emissions standards in mind, leading to variations across markets. Fuel efficiency is generally good for a diesel of its era, with typical consumption around 8-10 liters per 100 km, depending on load and driving conditions.

Design Features and Engineering Aspects

The engineering design of the Mitsubishi 4D56 emphasizes longevity and ease of maintenance.

Cylinder Head and Valvetrain The engine employs an overhead valve (OHV) configuration with two valves per cylinder—one intake and one exhaust valve—driven by pushrods. This design simplifies manufacturing and maintenance while providing reliable performance.

Block and Materials The

engine block is made from cast iron, ensuring durability and resistance to wear. The cylinder head is also cast iron, facilitating heat dissipation and strength. Turbocharger and Intercooler Turbocharging is a key feature, with many models equipped with a variable-geometry turbocharger (VGT) in later versions, optimizing boost pressure across a range of engine speeds. The intercooler cools the compressed air, increasing its density before entering the combustion chamber, which improves power and efficiency.

Lubrication and Cooling The 4D56 features a pressurized lubrication system with oil filtration to prolong engine life. Its cooling system incorporates a radiator, water pump, and thermostatic controls to maintain optimal operating temperatures.

Durability and Reliability One of the hallmark features of the 4D56 is its robust construction. Many units have surpassed 300,000 km with proper maintenance, thanks to its sturdy block, reliable turbo components, and straightforward design.

Performance Analysis

The Mitsubishi 4D56 is celebrated for its balance of performance, economy, and longevity. Here's a breakdown of its driving characteristics:

Power Delivery While not a high-performance engine by modern standards, the 4D56 provides ample torque at low to mid-range RPMs, making it excellent for towing, off-road driving, and heavy-duty applications. Turbocharged versions significantly improve acceleration and overall responsiveness.

Fuel Economy Compared to larger diesel engines, the 4D56 offers commendable fuel efficiency, especially considering its age and displacement. Its indirect injection system, combined with turbocharging, ensures reasonable economy without sacrificing too much power.

Emissions and Regulatory Compliance Depending on the model year and market, the 4D56 meets various emissions standards, from Euro II to Euro IV. Later versions incorporate catalytic converters and other emission control devices to adhere to stricter regulations.

Common Performance Issues Although highly durable, some common issues include:

- Turbocharger wear or failure
- Injector clogging or failure
- Head gasket leaks
- Oil leaks from seals and gaskets
- EGR valve clogging in some models

Regular maintenance and quality fuel can mitigate many of these issues.

Variants and Evolution

Over its production span, the 4D56 engine underwent several modifications to improve performance, emissions, and reliability.

Early Versions (1980s-1990s) - Mechanical fuel injection - No intercooler or basic intercooling - Slight variations in compression ratios

Later Versions (2000s) - Electronic fuel injection (EFI) - Incorporation of intercoolers in most models - Improved turbocharger technology (VGT) - Better emissions control systems to meet stricter standards

Performance Enhancements Some aftermarket tuners have modified the 4D56 with larger turbochargers, remapped ECU settings, and upgraded intercoolers to boost power output significantly, sometimes exceeding 150 horsepower in heavily modified setups.

Applications and Compatibility

The 4D56's widespread use and proven performance have made it a popular choice for various vehicle configurations.

Vehicle Models - Mitsubishi Pajero/Montero (various generations) - Mitsubishi L200/Strada - Mitsubishi Delica - Mitsubishi Space Gear -

Some commercial vehicles and conversions Aftermarket and Swap Options Due to its robustness, the 4D56 is often used in engine swaps, especially in off-road vehicles and custom builds. Its compatibility with various intercoolers, turbochargers, and ECU remapping options makes it versatile for performance upgrades.

Maintenance and Longevity

Proper maintenance is crucial for maximizing the lifespan and performance of the Mitsubishi 4D56 engine.

Recommended Maintenance Practices - Regular oil changes with quality diesel oil - Timely replacement of filters (air, fuel, oil) - Monitoring and maintaining the cooling system - Ensuring proper turbocharger functioning - Using high-quality fuel and additives as needed

Typical Lifespan With diligent upkeep, many 4D56 engines have reached 300,000 to 500,000 km, demonstrating their durability and engineering excellence.

Conclusion

The Mitsubishi 4D56 engine stands out as a reliable, efficient, and durable diesel powerplant that has served a broad spectrum of vehicles globally. Its straightforward design, combined with turbocharging and intercooling in later models, provides a good balance of power and economy. While it may not deliver the high horsepower figures of modern engines, its proven track record, ease of maintenance, and adaptability make it a favorite among off-road enthusiasts, commercial users, and those seeking a long-lasting diesel engine. Understanding its specifications and engineering nuances allows users and mechanics alike to optimize its performance and extend its operational life, cementing its legacy in Mitsubishi's engine lineup.

Questions & Answers About mitsubishi 4d56 engine specs

No	Question	Answer
1	What are the key specifications of the Mitsubishi 4D56 engine?	The Mitsubishi 4D56 is a 2.5-liter (2477cc) inline-4 diesel engine known for its durability and efficiency, featuring a SOHC (Single Overhead Cam) design, with power output around 85-105 horsepower and torque ranging from 140 to 240 Nm depending on the model and application.
2	What is the fuel type and efficiency of the Mitsubishi 4D56 engine?	The 4D56 engine runs on diesel fuel and is recognized for good fuel economy, typically achieving around 8-10 km/liter depending on vehicle condition, driving habits, and load.
3	Which vehicles commonly use the Mitsubishi 4D56 engine?	The 4D56 engine has been used in various Mitsubishi models such as the Pajero, Colt, L200, and Montero, as well as in some aftermarket conversions and other vehicles requiring reliable diesel power.
4	What are the common issues associated with the Mitsubishi 4D56 engine?	Common issues include injector problems, turbocharger wear, overheating, and head gasket failure. Regular maintenance and timely repairs can mitigate these problems.

5	What is the bore and stroke measurement of the Mitsubishi 4D56 engine?	The engine has a bore of approximately 91.1 mm and a stroke of 76 mm, contributing to its reliable performance and torque characteristics.
6	Is the Mitsubishi 4D56 engine suitable for modifications?	Yes, the 4D56 engine is popular among tuners and off-road enthusiasts due to its robust build and potential for performance upgrades like turbocharging, intercooling, and remapping.
7	What is the typical lifespan of the Mitsubishi 4D56 engine with proper maintenance?	With proper care, regular oil changes, and maintenance, the 4D56 engine can last over 300,000 kilometers or more, making it a durable choice for long-term use.
8	How does the Mitsubishi 4D56 engine compare to other diesel engines in its class?	The 4D56 is renowned for its reliability, simplicity, and fuel efficiency, often outperforming similar engines in durability and ease of maintenance, making it a popular choice in rugged and commercial applications.

Mitsubishi 4D56, 4D56 engine horsepower, 4D56 fuel economy, Mitsubishi 4D56 turbo, 4D56 engine dimensions, Mitsubishi diesel engine specs, 4D56 engine reliability, Mitsubishi 4D56 maintenance, 4D56 engine performance, Mitsubishi 4D56 applications