

Hino jo8e engine specifications Handbook

Hino JO8E Engine Specifications

The Hino JO8E engine is a key power unit used in various commercial vehicles manufactured by Hino Motors, renowned for its reliability, efficiency, and robust performance. Understanding the detailed specifications of the Hino JO8E engine is essential for fleet managers, mechanics, and enthusiasts who seek insights into its capabilities, maintenance requirements, and performance metrics. This article provides an in-depth overview of the Hino JO8E engine specifications, covering technical details, features, and applications to help you make informed decisions regarding vehicle maintenance, upgrades, or purchases.

Overview of the Hino JO8E Engine

The Hino JO8E engine is part of Hino's modern diesel engine lineup, designed to meet stringent emissions standards while delivering high torque and fuel efficiency. It is commonly employed in medium-duty trucks and commercial vehicles, making it a vital component in the logistics and transportation sectors.

Key Features of the Hino JO8E Engine

- Emission Compliance: Meets global standards such as Euro IV, Euro V, and JPN (Japan) emission regulations.
- Type: 4-stroke, direct injection, turbocharged diesel engine.
- Configuration: Inline 4-cylinder engine.
- Displacement: Approximately 7.7 liters.
- Aspiration: Turbocharged with intercooling.
- Fuel System: Common rail direct fuel injection.
- Cooling System: Water-cooled with a thermostatic control.

Technical Specifications of the Hino JO8E Engine

A detailed look at the technical parameters offers insights into the engine's design and performance:

Engine Dimensions and Capacity

- Displacement: 7,684 cc (approximately 7.7 liters)
- Bore x Stroke: 106 mm x 124 mm
- Number of Cylinders: 4 inline cylinders

Performance Metrics

- Maximum Power: Varies depending on application and tuning, typically around 210-240 horsepower (hp)
- Maximum Torque: Approximately 520-600 Nm (Newton-meters)
- Rated RPM for Power: 2,500 rpm
- Rated RPM for Torque: 1,200 ? 1,800 rpm

Fuel System and Combustion

- Fuel Injection System: Common rail direct injection
- Injection Pressure: Up to 1,800 bar for precise atomization
- Fuel Type: Diesel (standard diesel fuel)

Turbocharging and Intercooling

- Turbocharger: Variable geometry turbocharger (VGT)
- Intercooler: Air-to-air intercooler to improve intake air density and engine efficiency

Lubrication and Cooling

- Lubrication System: Forced lubrication with oil pump
- Cooling System: Water-cooled, with radiator and thermostat-controlled operation

Emission Standards and Environmental Features

The Hino JO8E engine is engineered to comply with multiple environmental standards:

- Euro IV and V Compliance: Incorporates EGR (Exhaust Gas Recirculation) and DPF (Diesel Particulate Filter) to reduce emissions.
- JPN Standards: Meets Japan's strict emission regulations.
- SCR Technology: Some variants utilize Selective Catalytic Reduction (SCR) systems for NOx

reduction.

- Fuel Efficiency: Designed to optimize combustion and reduce fuel consumption, contributing to lower operating costs and reduced carbon footprint.

Dimensions, Weight, and Packaging

Understanding the physical dimensions and weight of the Hino JO8E engine is important for installation and maintenance:

- Overall Length: Approximately 1,200 mm
- Overall Width: Around 800 mm
- Overall Height: Approximately 900 mm
- Engine Weight: Roughly 370-420 kg, depending on configuration and accessories

Mounting and Compatibility

The engine is designed with standard mounting points compatible with Hino's chassis models, facilitating straightforward installation and servicing.

Applications of the Hino JO8E Engine

The versatility and reliability of the Hino JO8E engine make it suitable for various commercial applications:

- Medium-duty Trucks: Used in Hino 300 and 500 series trucks.
- Construction Vehicles: Suitable for dump trucks, mixers, and other construction-related vehicles.
- Specialized Vehicles: Buses, delivery vans, and utility vehicles.

Maintenance and Service Intervals

Proper maintenance is crucial to ensure optimal performance and longevity of the Hino JO8E engine:

Recommended Service Intervals

- Oil Change: Every 15,000 to 20,000 km or annually, whichever comes first.
- Fuel Filter Replacement: Every 30,000 km.
- Air Filter Replacement: Every 20,000 km.

- Coolant Replacement: Every 50,000 km or every two years.
- Turbocharger Inspection: During major services to check for wear and proper operation.

Common Maintenance Procedures

- Regular oil and filter changes
- Inspection of the turbocharger and intercooler
- Checking and replacing belts and hoses
- Monitoring emission control systems
- Ensuring fuel injection system calibration

Advantages of the Hino JO8E Engine

Choosing a vehicle equipped with the Hino JO8E engine offers multiple benefits:

- Reliability: Designed for heavy-duty use with durable components.
- Fuel Efficiency: Advanced fuel injection and turbocharging optimize consumption.
- Emissions Compliance: Meets modern standards, reducing environmental impact.
- Ease of Maintenance: Standardized parts and service procedures facilitate maintenance.
- Performance: Provides high torque output suitable for demanding applications.

Conclusion

The Hino JO8E engine stands out as a robust, efficient, and environmentally compliant power unit suitable for a wide range of commercial vehicles. Its technical specifications reflect a focus on durability, performance, and emission reduction, making it a popular choice among fleet operators and vehicle manufacturers worldwide. Whether you are considering a new vehicle purchase or planning maintenance for existing Hino trucks, understanding the detailed engine specifications of the Hino JO8E will help you optimize vehicle performance and ensure long-term operational success.

Key Takeaways

- The Hino JO8E is a 7.7-liter inline 4-cylinder turbocharged diesel engine.
- It delivers around 210-240 hp with torque exceeding 520 Nm.
- Complies with Euro IV/V and Japanese emission standards.
- Features common rail direct injection, intercooling, and VGT turbocharging.
- Suitable for medium-duty trucks, construction vehicles, and buses.

- Regular maintenance is essential for longevity and optimal performance.

For more detailed technical data, repair manuals, or service guidelines, consult Hino's official documentation or authorized service providers. Proper understanding and maintenance of the Hino JO8E engine ensure reliable operation and maximum return on investment.

Hino JO8E Engine Specifications: An In-Depth Analysis

The Hino JO8E engine stands out as a cornerstone of Hino Motors' commitment to delivering reliable, efficient, and durable powertrains for commercial vehicles. Whether powering light-duty trucks or medium-duty applications, the JO8E series has garnered acclaim for its robust performance, fuel efficiency, and technological advancements. This comprehensive review delves into every aspect of the Hino JO8E engine specifications, providing a detailed understanding of its design, performance metrics, technological features, and suitability for various commercial applications.

Overview of the Hino JO8E Engine

The Hino JO8E engine belongs to Hino's series of inline 6-cylinder diesel engines. It is engineered to meet modern emission standards while providing optimal torque and power output. The engine is widely used in various Hino truck models, including light-duty and medium-duty trucks, owing to its balance between performance and economy.

Key Highlights:

- Displacement: 7.692 liters
- Configuration: 6-cylinder inline
- Turbocharged and Intercooled
- Common Rail Direct Fuel Injection
- Emission Compliance: Meets latest Euro 6 or equivalent standards (depending on the market)
- Design Focus: Durability, fuel efficiency, low emissions, and ease of maintenance

Engine Block and Construction

Understanding the foundational elements of the JO8E engine provides insight into its robustness and longevity.

Material and Design

- **Material:** The engine block is typically constructed from high-strength cast iron, offering excellent durability and resistance to wear under heavy loads.
- **Cylinder Bore:** Precisely machined for tight tolerances, ensuring uniform combustion and efficient operation.
- **Lubrication System:** Features a wet sump design with a high-capacity oil pan to facilitate effective lubrication and cooling.

Design Features

- **Compact Layout:** Designed for optimal space utilization within vehicle chassis.
- **Vibration Dampening:** Incorporates balancing shafts or design features to minimize vibrations, enhancing comfort and reducing stress on components.
- **Ease of Maintenance:** Accessible components facilitate routine servicing, oil changes, and repairs.

Engine Performance Specifications

The core of any engine review revolves around its performance metrics, which dictate vehicle capability and operational efficiency.

Power and Torque

- **Maximum Power Output:** Approximately 210-230 horsepower (depending on specific market variants and tuning).
- **Maximum Torque:** Around 520-640 Nm (384-472 lb-ft), delivering strong pulling power suitable for medium-duty trucks and commercial applications.

RPM Range

- **Peak Power RPM:** Usually achieved around 2,500-2,800 RPM.
- **Peak Torque RPM:** Typically available from 1,200 to 2,000 RPM, ensuring good low-end torque for heavy loads and acceleration.

Fuel Efficiency

- The JO8E engine is designed with fuel economy in mind, utilizing advanced injection and combustion technologies to reduce fuel consumption.

- Typical fuel consumption figures can vary depending on vehicle load, driving conditions, and tuning but generally range between 8-12 liters per 100 km in real-world usage.

Fuel System and Technology

Modern diesel engines leverage sophisticated fuel delivery systems to optimize combustion, reduce emissions, and improve efficiency.

Common Rail Direct Injection

- The JO8E employs a high-pressure common rail fuel system that allows precise control of fuel injection timing and quantity.
- Benefits include smoother operation, reduced emissions, and improved power delivery.

Turbocharging and Intercooling

- Turbocharger: A variable geometry turbocharger (VGT) or fixed-geometry design depending on the variant enhances intake air pressure, boosting power and torque.
- Intercooler: Cools compressed air before entering cylinders, increasing density and combustion efficiency.

Fuel Quality and Compatibility

- Designed to operate efficiently on standard diesel fuels available in most markets.
- Compatible with biodiesel blends up to certain percentages, aligning with eco-friendly initiatives.

Emission Control Technologies

Compliance with stringent emission standards is vital for modern commercial engines.

Selective Catalytic Reduction (SCR)

- The JO8E incorporates SCR technology, which uses urea-based AdBlue (or equivalent) to reduce NOx emissions effectively.

Diesel Particulate Filter (DPF)

- DPFs trap soot particles, preventing particulate emissions from escaping into the atmosphere.
- Regeneration cycles are integrated to burn off accumulated soot, maintaining optimal filter performance.

Exhaust Gas Recirculation (EGR)

- EGR systems recirculate a portion of exhaust gases back into the intake manifold, lowering combustion temperatures and reducing NOx formation.

Cooling System and Thermal Management

Effective thermal management ensures engine longevity and optimal performance.

- Radiator and Fan: Sized appropriately to handle heat dissipation.
- Coolant Type: Usually utilizes long-life ethylene glycol-based coolants.
- Thermostatic Control: Maintains optimal operating temperature, balancing performance and fuel efficiency.
- Oil Cooler: Integrated or separate oil cooler to maintain proper lubrication temperature.

Lubrication and Maintenance Features

Long-term durability depends heavily on effective lubrication and accessible maintenance points.

- Oil Capacity: Typically around 10-12 liters.
- Oil Filter: Easily accessible for routine changes.
- Valve Clearance Adjustment: Designed for minimal adjustments, with some variants featuring hydraulic lash adjusters.
- Timing Chain: Use of a durable timing chain reduces maintenance needs compared to timing belts.

Transmission Compatibility and Mounting

The JO8E engine is compatible with various manual and automatic transmissions designed for Hino trucks.

- Transmission Types: Ranges from manual gearboxes (6-speed or 9-speed) to automatic transmissions.

- Mounting Points: Standardized mounting brackets ensure straightforward installation and compatibility across different vehicle models.

Environmental and Regulatory Compliance

Meeting legal standards is crucial for global market acceptance.

- Euro 6 / EPA Standards: The JO8E engine conforms to the latest emission regulations, ensuring compliance in Europe, North America, and other regions.
- Fuel Economy Standards: Designed to reduce overall fuel consumption and emissions footprint.

Applications and Vehicle Integration

The versatility of the Hino JO8E engine makes it suitable for various vehicle configurations.

Common Applications:

- Light-duty trucks
- Medium-duty delivery trucks
- Construction vehicles
- Specialized commercial vehicles

Design Considerations:

- Modular design allows integration into different chassis and body configurations.
- Supports various cooling and exhaust system options based on application and regional standards.

Summary of Key Specifications

Specification Details
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Displacement 7.692 liters
Configuration Inline 6-cylinder diesel engine

- | Power Output | 210-230 HP (varies by market) |
- | Torque | 520-640 Nm |
- | Emissions | Euro 6 / EPA compliant |
- | Fuel System | Common rail direct injection |
- | Turbocharging | Yes, with intercooler |
- | Cooling System | Liquid-cooled with radiator and oil cooler |
- | Lubrication | Wet sump, high-capacity oil pan |
- | Maintenance | Designed for ease of service with accessible components |

Conclusion: The Strengths of the Hino JO8E Engine

The Hino JO8E engine exemplifies a modern diesel powerplant tailored for the demands of contemporary commercial transportation. Its combination of robust construction, advanced fuel injection technology, emission control features, and fuel efficiency makes it a reliable choice for fleet operators seeking durability and performance. Whether employed in urban delivery trucks or medium-duty haulers, the JO8E offers a balanced blend of power, economy, and environmental compliance.

As emissions standards tighten worldwide, the JO8E's technological features position it well for future regulatory landscapes, ensuring that operators can maintain compliance without sacrificing performance. Maintenance considerations are also thoughtfully integrated, reducing downtime and operating costs.

In summary, the Hino JO8E engine stands as a testament to Hino's engineering prowess, providing a dependable and efficient solution for diverse commercial vehicle applications. Its comprehensive specifications and features underscore its suitability for modern logistics, construction, and service industries, making it a top choice among medium-duty diesel engines globally.

Question What are the key specifications of the Hino JO8E engine? The Hino JO8E engine is a 7.7-liter, 8-cylinder diesel engine known for its durability and efficiency, producing approximately 210-260 horsepower and 750-850 Nm of torque depending on the model and application. **Answer** What is the fuel efficiency of the Hino JO8E engine? The Hino JO8E engine offers competitive fuel efficiency for its class, typically averaging around 4.5 to 5.5 km/liter, depending on load conditions and vehicle configuration. What are the common applications of the Hino JO8E

engine? The Hino JO8E engine is commonly used in medium-duty trucks, buses, and commercial vehicles, valued for its reliability and performance in various transportation and logistics sectors. Does the Hino JO8E engine meet modern emission standards? Yes, the Hino JO8E engine is designed to comply with modern emission standards such as Euro IV and Euro V, incorporating technologies like EGR and advanced fuel injection systems to reduce pollutants. What are the maintenance requirements for the Hino JO8E engine? Regular maintenance for the Hino JO8E engine includes routine oil and filter changes, valve adjustments, coolant checks, and timely inspection of fuel and air filters to ensure optimal performance and longevity. What is the maximum horsepower and torque of the Hino JO8E engine? The Hino JO8E engine delivers up to 260 horsepower and around 850 Nm of torque, making it suitable for demanding commercial applications. Are there different variants of the Hino JO8E engine? Yes, the Hino JO8E engine comes in various variants tailored for different vehicle models and performance requirements, including versions optimized for higher torque or power output to suit specific operational needs.

Related keywords: Hino Jo8e engine, Hino engine specs, Jo8e engine power, Jo8e engine torque, Hino Jo8e technical details, Jo8e engine dimensions, Hino Jo8e fuel efficiency, Jo8e engine performance, Hino Jo8e maintenance, Jo8e engine applications