

YANMAR 4TNV88 DIESEL ENGINE SPECS

Academic PDF

yanmar 4tnv88 diesel engine specs

The Yanmar 4TNV88 diesel engine stands out as a reliable, efficient, and powerful power unit widely used across various industrial, agricultural, and construction applications. Known for its durability and fuel efficiency, the 4TNV88 is a part of Yanmar's renowned line of compact and high-performance diesel engines. This article provides a comprehensive overview of the Yanmar 4TNV88 diesel engine specs, detailing its technical features, performance parameters, and key characteristics to help users, technicians, and enthusiasts understand what makes this engine a preferred choice in its class.

Overview of the Yanmar 4TNV88 Diesel Engine

The Yanmar 4TNV88 is a four-cylinder, water-cooled diesel engine designed for versatility and dependable operation. It is part of Yanmar's 2.8-liter engine family, known for excellent fuel efficiency, low emissions, and robust construction. The 4TNV88 is often used in compact construction equipment, agricultural machinery, generators, and other industrial applications.

Key features include:

- Compact design for easy installation
- Low noise and vibration levels
- High torque output at low RPM
- Excellent fuel economy
- Long service intervals and ease of maintenance

Understanding its specifications helps in selecting the right application, performing maintenance, and ensuring optimal performance.

Technical Specifications of the Yanmar 4TNV88

Engine Type and Configuration

- Type: 4-cylinder, 4-stroke diesel engine

- Configuration: Vertical inline
- Cooling System: Water-cooled
- Fuel System: Direct injection

Displacement and Bore/Stroke

- Displacement: 2.8 liters (2783 cc)
- Bore: 88 mm
- Stroke: 100 mm

Power and Torque Output

- Rated Power: Typically ranges from 24.4 kW to 30.9 kW (33 hp to 42 hp) depending on specific model and application
- Peak Power: Up to 33.5 kW (45 hp)
- Rated RPM: Usually around 2200 to 2500 RPM
- Maximum Torque: Approximately 141 Nm (104 lb-ft) at 1800-2000 RPM

Performance and Efficiency

- Fuel Consumption: Approximately 210 g/kWh under standard load
- Specific Fuel Consumption: Around 0.25 kg/kWh
- Idle Speed: ~800 RPM

Lubrication and Cooling

- Lubrication System: Wet sump
- Cooling System: Thermostat-controlled water cooling with radiator compatibility
- Oil Capacity: About 4-5 liters

Dimensions and Weight

- Length: Varies by model, typically around 700-800 mm
- Width: Approximately 400-500 mm
- Height: Around 600-700 mm
- Dry Weight: Approximately 250-300 kg, depending on configuration

Additional Technical Features

Emission Standards

- Complies with Tier 4 Final (EPA) and Stage V (EU) emission regulations in modern versions
- Incorporates turbocharging and intercooling for improved emissions and efficiency

Starting System

- Type: Electric starter motor
- Battery Requirement: 12V system, typically 1.2 kW starter motor

Accessories and Compatibility

- Compatible with various transmission and drive systems
- Designed for easy integration with hydraulic systems, PTO, and other attachments

Performance Characteristics and Benefits

Reliability and Durability

Yanmar engines are renowned for their longevity, and the 4TNV88 is no exception. Its robust construction ensures minimal downtime and extended service life, even under demanding conditions.

Fuel Efficiency

Thanks to advanced fuel injection technology and optimized combustion chambers, the 4TNV88 offers excellent fuel economy, reducing operational costs over its lifespan.

Ease of Maintenance

Design features like accessible filters, straightforward oil changes, and modular components make maintenance simple, saving time and labor costs.

Low Emissions

Modern versions of the engine are designed to meet strict environmental standards, making them

suitable for applications requiring low emissions and sustainable operation.

Applications of the Yanmar 4TNV88 Engine

The versatility of the Yanmar 4TNV88 engine makes it suitable for a wide range of applications:

- Construction Equipment: Mini excavators, skid steer loaders, compactors
- Agricultural Machinery: Tractors, harvesters, irrigation pumps
- Generators: Standby and prime power generators
- Industrial Equipment: Compressors, pumps, and material handling machines
- Marine Applications: Small boats and watercraft (with appropriate modifications)

Maintenance Tips for Optimal Performance

- Regularly check and replace engine oil and filters
- Keep radiator and cooling system clean to prevent overheating
- Monitor fuel quality and replace filters as needed
- Inspect belts, hoses, and electrical connections periodically
- Follow manufacturer guidelines for service intervals and parts replacement

Conclusion

The Yanmar 4TNV88 diesel engine offers a compelling combination of power, efficiency, and reliability. Its technical specifications reflect a well-engineered power unit capable of handling demanding industrial and agricultural tasks with ease. Whether used in compact construction equipment, agricultural machinery, or power generation, the 4TNV88 stands out as a versatile and durable engine choice. Understanding its detailed specs helps operators and technicians optimize its performance, ensure longevity, and meet operational requirements effectively.

For anyone considering a dependable diesel engine for their equipment, the Yanmar 4TNV88 is a proven option that balances performance with cost-efficiency, backed by Yanmar's reputation for quality and innovation.

Yanmar 4TNV88 Diesel Engine Specs: An In-Depth Analysis of Power, Performance, and Applications

The Yanmar 4TNV88 diesel engine specs represent a robust and reliable power unit renowned within the agricultural, industrial, and marine sectors. As a component of Yanmar's extensive lineup of compact and efficient engines, the 4TNV88 stands out for its durability, fuel efficiency, and

versatile performance. Whether you're a machinery operator, mechanic, or enthusiast seeking comprehensive technical insights, understanding the nuances of the 4TNV88's specifications is crucial for optimal application and maintenance.

Introduction to the Yanmar 4TNV88 Diesel Engine

Yanmar, a leader in diesel engine technology since 1912, has built a reputation on producing engines that combine innovation, reliability, and efficiency. The 4TNV88 model is a four-cylinder, naturally aspirated diesel engine designed primarily for small to medium-sized applications, including compact construction equipment, agricultural machinery, and marine vessels.

This engine exemplifies Yanmar's commitment to clean combustion, fuel economy, and long service life. Its specifications are tailored to meet the demands of various industries, ensuring it can deliver consistent performance under diverse operational conditions.

Overview of Key Features

Before diving into the detailed specs, it's helpful to understand the core features that define the Yanmar 4TNV88:

- Configuration: 4-cylinder, inline
- Aspiration: Naturally aspirated
- Fuel System: Direct injection
- Cooling System: Water-cooled
- Lubrication: Forced lubrication with oil filtration
- Engine Management: Mechanical or electronic options depending on application

These core features support the engine's reputation for simplicity, durability, and efficiency.

Detailed Technical Specifications

- Engine Displacement and Mechanical Data

The engine displacement is a foundational spec that impacts power output, fuel consumption, and overall efficiency.

- Displacement: 1.353 liters (or approximately 82.5 cubic inches)
- Number of cylinders: 4

- Cylinder bore: 80 mm (3.15 inches)
- Piston stroke: 88 mm (3.46 inches)
- Bore x stroke ratio: Slightly under-square design (bore

- Power Output and Performance Metrics

Understanding the engine's power ratings is essential for matching it to your machinery or project.

- Maximum Power: Approximately 25.8 HP (19.2 kW) at 2,600 RPM
- Maximum Torque: Around 71.7 Nm (52.9 lb-ft) at 1,600 RPM
- Rated RPM: 2,600 RPM (for maximum power), with a typical operating range between 1,200 ? 2,600 RPM

Note: Power figures may vary slightly depending on regional emissions standards and specific engine configurations.

- Fuel System and Consumption

Efficiency and fuel economy are key benefits of the Yanmar 4TNV88.

- Fuel System: Direct injection ensures precise fuel delivery, improving combustion efficiency
- Fuel Consumption: Approximate fuel consumption is 0.24 ? 0.28 liters per horsepower per hour, depending on load and operating conditions
- Fuel Type: Diesel with a cetane rating of at least 45

- Cooling and Lubrication

Proper cooling and lubrication are essential for engine longevity.

- Cooling System: Water-cooled with a thermostatic control for optimal operating temperature
- Cooling Capacity: Adequate to maintain temperatures within recommended limits during continuous operation
- Lubrication System: Forced splash or pressure lubrication with a high-quality oil filter

- Dimensions and Weight

Size and weight impact installation and operational flexibility.

- Engine Length: Approximately 720 mm (28.3 inches)
- Width: About 520 mm (20.5 inches)
- Height: Around 700 mm (27.6 inches)
- Dry Weight: Approximately 250 kg (551 lbs)

Additional Technical Details

- Emissions and Compliance

Yanmar engines are designed with emissions standards in mind.

- Emissions Standard: Complies with Tier 4 Final / Stage IIIB depending on model and region
- Exhaust After-treatment: Some configurations include DOC (Diesel Oxidation Catalyst) or DOC + DPF (Diesel Particulate Filter)

- Mounting and Compatibility

- Mounting Points: Designed for standard industrial mounting brackets
- Flywheel and PTO: Compatible with common attachments and drive systems

Applications of the Yanmar 4TNV88

Given its specifications, the Yanmar 4TNV88 is suited to a range of applications:

- Agricultural Machinery
 - Compact tractors
 - Harvesters
 - Irrigation pumps

- Construction Equipment

- Mini excavators
- Compact loaders
- Concrete mixers

- Marine Applications

- Small boats
- Marine generators

- Industrial Use

- Compressors
- Generators
- Small-scale processing equipment

Maintenance and Performance Tips

To maximize the lifespan and efficiency of the Yanmar 4TNV88, consider the following:

- Regular Oil Changes: Every 100-200 hours or as recommended
- Coolant Checks: Ensure proper water levels and radiator cleanliness
- Fuel Filter Replacement: Every 250 hours or as needed to prevent clogging
- Air Filter Maintenance: Keeps combustion efficient
- Periodic Inspection: Check for leaks, corrosion, or worn parts

Adhering to the manufacturer's service schedule is crucial for consistent performance.

Conclusion

The Yanmar 4TNV88 diesel engine specs highlight a compact yet powerful engine designed to meet diverse operational needs with reliability and efficiency. Its balanced combination of power output, fuel economy, and durability makes it a preferred choice across multiple industries. Whether powering agricultural equipment, construction machinery, or marine vessels, the 4TNV88

exemplifies Yanmar's commitment to quality engineering.

Understanding its detailed specifications allows users and technicians to optimize performance, plan maintenance, and ensure compatibility with various applications. As with any engine, proper care and adherence to recommended operational parameters will extend its service life and ensure consistent, reliable operation for years to come.

QuestionAnswer What is the horsepower rating of the Yanmar 4TNV88 diesel engine? The Yanmar 4TNV88 diesel engine typically produces around 49.3 horsepower (36.8 kW) at 2600 RPM. What are the main specifications of the Yanmar 4TNV88 engine in terms of displacement and bore x stroke? The Yanmar 4TNV88 has a displacement of approximately 2.17 liters, with a bore and stroke of 86 mm x 88 mm. What is the fuel consumption rate of the Yanmar 4TNV88 diesel engine? Under standard operating conditions, the Yanmar 4TNV88 consumes approximately 2.2 liters of diesel per hour at rated power. What are the cooling and lubrication system specifications for the Yanmar 4TNV88? The engine uses a water-cooled system with a forced circulation pump, and it features a splash and pressure lubrication system to ensure optimal performance. Is the Yanmar 4TNV88 engine suitable for agricultural and industrial applications? Yes, the Yanmar 4TNV88 is widely used in agricultural machinery, generators, and industrial equipment due to its reliable performance and compact design. What are the dimensions and weight of the Yanmar 4TNV88 engine? The engine measures approximately 1,200 mm in length, 700 mm in width, and 1,000 mm in height, with a weight of around 250 kg, making it suitable for various equipment installations.

Related keywords: Yanmar 4tnv88, diesel engine specifications, 4tnv88 engine power, 4tnv88 engine torque, Yanmar 4tnv88 dimensions, 4tnv88 fuel consumption, Yanmar 4tnv88 maintenance, 4tnv88 engine cooling system, Yanmar 4tnv88 emissions, 4tnv88 engine applications

NDC ENGINE BEARINGS NISSANSHOP

ndc engine bearings nissanshop: Your Ultimate Guide to High-Quality Engine Bearings for Nissan Vehicles

When it comes to maintaining the performance and longevity of your Nissan vehicle, choosing the right engine components is crucial. Among these, engine bearings play a vital role in ensuring smooth operation and preventing costly engine damage. **ndc engine bearings nissanshop** stands out as a trusted source for high-quality engine bearings designed specifically for Nissan models. In this comprehensive guide, we'll delve into everything you need to know about NDC engine bearings, their benefits, installation tips, and why purchasing from NissanShop is the smart choice for Nissan enthusiasts and professional mechanics alike.

Understanding NDC Engine Bearings

What Are Engine Bearings?

Engine bearings are crucial components that support the crankshaft and connecting rods within the engine. They facilitate smooth rotation, reduce friction, and absorb vibrations, ensuring efficient engine performance. Typically made from durable metals and composites, these bearings are designed to withstand high pressures and temperatures.

Who Is NDC?

NDC (Nissan Distribution Center) is renowned for manufacturing high-precision engine bearings tailored specifically for Nissan vehicles. Known for their durability and perfect fit, NDC bearings meet or exceed OEM specifications, making them a popular choice among mechanics and Nissan owners.

Why Choose NDC Engine Bearings?

Choosing NDC engine bearings offers numerous benefits:

- High-Quality Materials: Ensures durability and long service life.
- OEM Compatibility: Perfect fit with Nissan engines.
- Enhanced Performance: Reduces friction and wear, improving engine efficiency.
- Cost-Effective: Prevents costly repairs caused by bearing failure.
- Availability: Widely stocked at NissanShop for quick procurement.

Features of NDC Engine Bearings Available at NissanShop

Product Range

NissanShop offers an extensive selection of NDC engine bearings compatible with various Nissan models, including:

- Sentra
- Altima
- Maxima
- 370Z
- Pathfinder
- Frontier

- And many more

Types of NDC Engine Bearings

The product lineup includes:

- **Main Bearings:** Support the crankshaft within the engine block.
- **Connecting Rod Bearings:** Support the connecting rods during engine operation.
- **Thrust Bearings:** Control axial movement of the crankshaft.

Material Composition and Construction

NDC bearings are manufactured using advanced materials such as:

- Aluminum alloys for lightweight strength
- Bronze and copper layers for excellent wear resistance
- Polymer overlays for reducing friction

This combination offers optimal durability, heat resistance, and performance.

Benefits of Purchasing NDC Engine Bearings from NissanShop

Authenticity and Quality Assurance

NissanShop ensures all NDC engine bearings are genuine products, meeting strict OEM standards. Buying from a trusted dealer guarantees you're receiving authentic parts, reducing the risk of counterfeit components.

Competitive Pricing

NissanShop offers competitive prices on all NDC bearings, often providing discounts and bundle deals, making it affordable to maintain your Nissan's engine.

Expert Guidance and Support

The NissanShop team comprises knowledgeable professionals who can assist you in selecting the right bearings for your specific Nissan model and engine type.

Fast and Reliable Shipping

With efficient logistics, NissanShop ensures quick delivery, minimizing downtime during repairs or upgrades.

Installation and Maintenance Tips for NDC Engine Bearings

Pre-Installation Checks

Before installing new NDC engine bearings:

- Inspect the crankshaft and connecting rods for damage or wear.
- Ensure the engine block is clean and free of debris.
- Verify the bearings are the correct size and type for your engine.

Installation Process

While professional installation is recommended, the basic steps include:

- Removing the old bearings and cleaning the bearing surfaces.
- Applying assembly lube to the new bearings.
- Positioning the bearings correctly, aligning with the oil holes.
- Reassembling the engine components carefully, ensuring proper torque specifications.

Post-Installation Maintenance

Regular oil changes, using high-quality oil, and periodic engine inspections can prolong the lifespan of your engine bearings.

Common Symptoms of Worn or Failing Engine Bearings

Being vigilant about engine health can prevent severe damage. Watch out for:

- Unusual knocking or ticking noises from the engine.
- Increased oil consumption or oil leaks.
- Decreased engine performance or power loss.
- Engine overheating.
- Metal debris in the oil during changes.

If you notice any of these symptoms, consult a mechanic promptly to assess whether your engine

bearings need replacement.

Why Choose NissanShop for Your NDC Engine Bearings?

Authorized Dealer

NissanShop is an authorized distributor and retailer of genuine Nissan parts, including NDC engine bearings. This guarantees authenticity and compatibility.

Extensive Inventory

With a vast stock of engine bearings for various Nissan models, NissanShop ensures quick availability and delivery.

Customer Satisfaction

NissanShop prioritizes customer service, offering expert advice, easy ordering processes, and after-sales support.

Warranty and Return Policies

All products come with warranties, and straightforward return policies ensure customer confidence and satisfaction.

Final Thoughts

Maintaining your Nissan's engine with high-quality components like NDC engine bearings is essential for optimal performance and durability. Purchasing from NissanShop guarantees access to genuine, reliable parts at competitive prices, backed by expert support. Whether you're performing routine maintenance or repairing engine damage, choosing the right bearings and sourcing them from a trusted supplier can make all the difference.

Investing in NDC engine bearings from NissanShop not only protects your vehicle but also enhances its efficiency and lifespan. Keep your Nissan running smoothly by selecting the best components, and enjoy peace of mind knowing you're using parts designed specifically for your vehicle.

Remember: Regular inspections and timely replacements of engine bearings can save you from costly repairs down the line. For the best quality NDC engine bearings and professional guidance, trust NissanShop – your one-stop shop for all Nissan parts and accessories.

NDC Engine Bearings Nissanshop: Your Comprehensive Guide to Ensuring Engine Longevity and Performance

When it comes to maintaining the health and performance of your Nissan engine, choosing the right components is paramount. One critical component that often goes unnoticed until it causes significant problems is the engine bearing. In particular, NDC engine bearings Nissanshop have garnered attention for their quality, reliability, and performance. Whether you're a professional mechanic, a dedicated DIY enthusiast, or a Nissan owner seeking to understand more about engine components, this guide will provide an in-depth look into NDC engine bearings, their role in your vehicle, and why sourcing them from Nissanshop is a smart choice.

What Are NDC Engine Bearings?

Understanding Engine Bearings

Engine bearings are small, vital components that facilitate smooth movement between the engine's moving parts, primarily supporting the crankshaft and connecting rods. They reduce friction, absorb shocks, and help maintain precise alignment within the engine block.

The Role of NDC Engine Bearings

NDC engine bearings are designed to meet or exceed OEM specifications, ensuring durability, optimal lubrication, and efficient load distribution. Manufactured with high-quality materials, they help prevent common engine issues such as knocking, excessive wear, and catastrophic failures.

Why Choose NDC Engine Bearings from Nissanshop?

Quality Assurance and Authenticity

Nissanshop specializes in providing genuine Nissan parts, and NDC engine bearings are no exception. Purchasing from a trusted source guarantees:

- Authenticity of parts
- Compatibility with your Nissan model
- High manufacturing standards
- Proven performance and longevity

Competitive Pricing

Nissanshop offers competitive prices without compromising quality, making it an economical choice

for repairs and replacements.

Wide Selection and Availability

From standard replacements to high-performance variants, Nissanshop stocks a comprehensive range of NDC engine bearings suited for various Nissan models, ensuring you find the right fit.

Key Features of NDC Engine Bearings

Material Composition

NDC engine bearings typically utilize advanced materials such as:

- Aluminum alloys for lightweight strength
- Copper-lead alloys for excellent conformability
- Composite materials for enhanced wear resistance

Design and Engineering

- Precision-machined surfaces for perfect fit and reduced friction
- Optimized oil grooves to improve lubrication
- Load-bearing capacity tailored to engine specifications

Durability and Reliability

Engine bearings are subjected to extreme forces and temperatures. NDC bearings are engineered to withstand such conditions, reducing the risk of premature failure.

Installation and Maintenance Tips

Proper installation and maintenance are crucial to maximizing the lifespan of your engine bearings. Here's a step-by-step guide:

Pre-Installation Checks

- Verify the part number and compatibility with your Nissan model.
- Inspect bearings for any damages or defects upon receipt.
- Gather necessary tools and lubricants as specified by manufacturer instructions.

Installation Process

- Prepare the engine block: Clean thoroughly to remove debris and old bearing material.
- Inspect crankshaft and connecting rods: Check for wear or damage; replace if necessary.
- Apply proper lubrication: Use assembly lube to prevent dry starts.
- Install the bearings: Ensure correct orientation and alignment with oil holes.
- Reassemble engine components: Follow torque specifications meticulously.
- Perform a thorough engine check: Monitor oil pressure and temperature during initial startup.

Post-Installation Maintenance

- Regularly check oil levels and quality.
- Change oil and filter at manufacturer-recommended intervals.
- Listen for unusual noises or vibrations that may indicate bearing wear.

Common Issues Related to Engine Bearings and How NDC Bearings Help

Symptoms of Worn or Damaged Bearings

- Engine knocking or rumbling sounds
- Low oil pressure
- Metal shavings in oil filter
- Excessive engine vibration

How NDC Engine Bearings Address These Issues

- High-quality materials resist wear and deformation
- Precise manufacturing ensures a snug fit, reducing movement
- Enhanced lubrication channels minimize friction and heat buildup

Choosing the Right NDC Engine Bearings for Your Nissan

Model Compatibility

Ensure you select bearings designed specifically for your Nissan model and engine type. Nissanshop provides detailed catalogs and guidance.

Performance Needs

Consider whether your vehicle needs standard replacement bearings or high-performance variants for racing or heavy-duty use.

Budget Considerations

While quality is paramount, Nissanshop offers options across different price ranges, allowing you to balance cost and performance.

Final Thoughts: Investing in Quality for Longevity

Your vehicle's engine is its heart, and engine bearings are among its most vulnerable components. Investing in NDC engine bearings Nissanshop means choosing reliability, efficiency, and peace of mind. Proper maintenance, timely replacements, and sourcing genuine parts are key to ensuring your Nissan runs smoothly for years to come.

Remember, always consult with qualified professionals or refer to your vehicle's service manual when replacing engine bearings. With the right parts and proper care, your Nissan can deliver optimal performance and durability, mile after mile.

In summary, NDC engine bearings Nissanshop represent a blend of quality engineering and trusted sourcing, making them an excellent choice for Nissan enthusiasts and mechanics alike. Prioritize genuine parts, adhere to best installation practices, and stay vigilant with maintenance?your engine will thank you.

Question What are NDC engine bearings available at Nissanshop? NDC engine bearings at Nissanshop are high-quality replacement components designed to ensure optimal performance and durability for Nissan engines. They are essential for maintaining engine integrity and smooth operation. **Answer** How do I identify the right NDC engine bearings for my Nissan vehicle? To identify the correct NDC engine bearings, check your vehicle's model, engine type, and serial number. Nissanshop provides detailed compatibility charts and support to help you select the right bearings for your Nissan. Are NDC engine bearings at Nissanshop compatible with all Nissan models? NDC engine bearings are compatible with a wide range of Nissan models, but compatibility varies by engine type and year. Always verify your vehicle details with Nissanshop's compatibility guide before purchasing. What are the benefits of choosing NDC engine bearings from Nissanshop? NDC engine bearings from Nissanshop offer superior quality, precise fitment, and enhanced engine performance. They also contribute to reduced engine wear and longer service life. How do I install NDC engine bearings from Nissanshop? Installation of NDC engine bearings should be performed by a professional mechanic or experienced technician, following manufacturer guidelines to ensure proper fitment and engine safety. Are NDC engine bearings at Nissanshop covered by warranty?

Yes, Nissanshop typically offers warranties on NDC engine bearings, covering manufacturing defects and ensuring peace of mind with your purchase. Check specific warranty details at the time of purchase. What is the price range for NDC engine bearings at Nissanshop? The price of NDC engine bearings varies depending on the model and engine type but generally ranges from affordable to premium. For exact pricing, visit Nissanshop's website or contact their customer service. Why should I choose NDC engine bearings over other brands at Nissanshop? NDC engine bearings are known for their high quality, precise engineering, and reliable performance, making them a trusted choice for Nissan owners seeking durability and optimal engine function.

Related keywords: NDC engine bearings, Nissan shop parts, engine bearing replacement, Nissan engine repair, NDC engine components, Nissan engine bearing kit, Nissan engine maintenance, NDC automotive parts, Nissan engine service, engine bearing supplier

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