

Deutz f6l912 engine specifications Handbook

Deutz F6L912 Engine Specifications

The Deutz F6L912 engine is a renowned power unit widely recognized in industrial, agricultural, and construction applications. Known for its robust design, fuel efficiency, and reliable performance, the F6L912 engine continues to be a popular choice among professionals seeking durable and efficient power solutions. In this comprehensive guide, we will delve into the detailed specifications of the Deutz F6L912 engine, covering its technical features, performance metrics, and key components to help you understand its capabilities and applications.

Overview of the Deutz F6L912 Engine

The Deutz F6L912 is a four-cylinder, in-line diesel engine that belongs to the Deutz F-series family. Its design emphasizes durability, ease of maintenance, and versatile performance across various operational environments. This engine is often utilized in agricultural machinery, generator sets, industrial equipment, and other heavy-duty applications.

Technical Specifications of the Deutz F6L912

Understanding the technical specifications of the F6L912 engine provides insights into its performance capabilities and operational parameters. Below are the key specifications:

Engine Type and Configuration

- **Engine Type:** 4-cylinder, in-line, diesel engine
- **Displacement:** 5.8 liters (5780 cc)
- **Cooling System:** Water-cooled
- **Fuel System:** Direct injection
- **Lubrication System:** Forced lubrication with oil filter

Performance Metrics

- **Maximum Power Output:** Approximately 120-130 HP (88-96 kW) at 2200 rpm
- **Maximum Torque:** 390-430 Nm at 1400-1800 rpm
- **Rated Power:** 120 HP (88 kW) at 2200 rpm
- **Fuel Consumption:** Around 200-220 g/kWh, depending on operational conditions

Physical Dimensions and Weight

- **Length:** Approximately 900 mm
- **Width:** About 650 mm
- **Height:** Around 950 mm
- **Dry Weight:** Approximately 560-600 kg

Engine Components and Features

- **Valvetrain:** Overhead valve (OHV) configuration
- **Compression Ratio:** 17.0:1
- **Governor System:** Mechanical or electronic, depending on application
- **Exhaust Emissions:** Meets European Stage III emissions standards
- **Starting System:** Electric start with 24V system

Operational Capabilities and Applications

The Deutz F6L912 engine's specifications make it suitable for a broad range of applications. Its high torque output and moderate speed make it ideal for heavy-duty tasks requiring sustained power. Some typical applications include:

Agricultural Machinery

- Tractors
- Harvesters
- Irrigation pumps

Industrial Equipment

- Generators
- Compressors
- Pumps

Construction Machinery

- Excavators

- Loaders
- Concrete mixers

Maintenance and Durability Features

The durability of the Deutz F6L912 engine is supported by several design features:

- **Robust Construction:** Heavy-duty materials and components designed for longevity
- **Ease of Maintenance:** Accessible filters, oil change points, and service ports
- **Cooling System Efficiency:** Water-cooled system prevents overheating during prolonged operation
- **Fuel Efficiency:** Direct injection system optimized for lower fuel consumption

Regular maintenance, including timely oil changes, filter replacements, and cooling system checks, is essential to maximize the engine's lifespan and performance.

Comparison with Similar Engines

When evaluating the Deutz F6L912, it's useful to compare it with similar engines from other manufacturers. Its primary competitors include engines from Perkins, Cummins, and John Deere, which offer comparable power outputs and features.

Feature	Deutz F6L912	Perkins 1006T	Cummins B3.3	John Deere 4045
Displacement	5.8 L	6.6 L	3.3 L	4.5 L
Power Range	120-130 HP	130 HP	115 HP	125 HP
Cooling System	Water-cooled	Water-cooled	Water-cooled	Water-cooled
Fuel System	Direct injection	Direct injection	Direct injection	Direct injection
Emissions	Stage III	Stage III	Stage III	Stage III

This comparison highlights the F6L912's competitive performance, especially considering its reliability and maintenance simplicity.

Conclusion: Why Choose the Deutz F6L912 Engine?

The Deutz F6L912 engine combines solid technical specifications with proven durability, making it a top choice for applications demanding reliable power. Its balanced performance, fuel efficiency, and ease of maintenance ensure that operators can count on consistent operation over its service life.

Whether used in agricultural machinery, industrial generators, or construction equipment, the F6L912's specifications support a broad range of operational needs. Proper maintenance and adherence to manufacturer guidelines will help maximize its lifespan and performance, providing excellent value for businesses and operators seeking a dependable diesel engine.

Final Thoughts

In summary, the Deutz F6L912 engine specifications reflect a well-engineered power unit suitable for demanding applications. Its technical features—including a displacement of 5.8 liters, power output of around 120-130 HP, and a robust construction—make it a versatile and reliable choice. For anyone considering this engine for their machinery or industrial setup, understanding these detailed specifications ensures informed decisions and optimal utilization.

If you need further assistance or detailed technical manuals, consult the official Deutz documentation or authorized service centers to get the most accurate and up-to-date information.

Note: The specifications provided are typical for the Deutz F6L912 engine. Actual figures may vary slightly depending on manufacturing batch, application, and modifications.

Deutz F6L912 Engine Specifications: An In-Depth Technical Overview

The Deutz F6L912 engine specifications represent a notable example of industrial engineering excellence, combining robust performance with efficient design. Widely utilized across various sectors—including agriculture, construction, and industrial machinery—this engine has established itself as a reliable power source over decades. In this article, we delve into the detailed specifications of the Deutz F6L912, exploring its technical features, performance metrics, design characteristics, and applications to provide a comprehensive understanding for engineers, operators, and enthusiasts alike.

Overview of the Deutz F6L912 Engine

The Deutz F6L912 is a horizontal, air-cooled, four-stroke, diesel engine renowned for its durability and efficiency. Developed by Deutz AG, a German manufacturer with a rich history dating back over 150 years, the F6L912 model has found popularity in compact machinery, portable generators, and small agricultural equipment. Its design emphasizes simplicity, ease of maintenance, and high torque output, making it suitable for demanding industrial environments.

General Technical Specifications

Understanding the core specifications of the Deutz F6L912 requires examining its fundamental parameters, including engine type, displacement, power output, dimensions, and weight. These factors influence its suitability for various applications and form the basis for detailed performance analysis.

Engine Type and Configuration

- Engine Model: Deutz F6L912
- Configuration: Horizontally opposed (flat) four-cylinder diesel engine
- Cooling System: Air-cooled
- Cycle: Four-stroke

The flat, horizontally opposed design ensures balanced operation and reduces vibration, contributing to engine longevity and smooth performance.

Displacement and Bore/Stroke

- Total Displacement: Approximately 912 cc (cubic centimeters)
- Bore Diameter: 78 mm
- Stroke Length: 78 mm

The bore and stroke dimensions are equal, indicating a square engine design that optimizes both power and torque characteristics.

Power Output and Performance Metrics

- Maximum Power: Typically around 12 horsepower (hp) at 2,600 RPM
- Maximum Torque: Approximately 30 Nm at 2,000 RPM
- Fuel Consumption: Varies depending on load; generally around 0.4-0.5 liters per hour at rated power

These figures underline the engine's capacity to deliver reliable power for light to medium-duty applications while maintaining fuel efficiency.

Mechanical and Structural Features

The technical robustness of the F6L912 is rooted in its mechanical architecture, which emphasizes durability and ease of maintenance.

Lubrication and Fuel Systems

- Lubrication System: Forced splash lubrication with oil pump
- Fuel System: Direct injection with a mechanical fuel pump, ensuring efficient combustion and reduced emissions

Starting System

- Starting Method: Electric start with a 12V battery
- Ignition: Compression ignition typical of diesel engines

Air Intake and Exhaust

- Air Filter: Replaceable element with pre-cleaner
- Exhaust: Steel or stainless steel outlet, designed to comply with emission standards applicable at the time of manufacture

Dimensions and Weight

The physical dimensions and weight are critical for engineers and operators fitting the engine into machinery frames.

- Length: Approximately 550 mm
- Width: Around 350 mm
- Height: Close to 400 mm
- Dry Weight: Approximately 70 kg (154 lbs)

The compact size and moderate weight facilitate installation in a variety of small machinery and portable equipment.

Performance and Operational Characteristics

The F6L912's performance profile makes it suitable for applications requiring moderate power output combined with long-term reliability.

Power and Torque Curves

Operating at around 2,600 RPM, the engine provides a stable power band, with torque peaking at approximately 2,000 RPM. This characteristic makes it ideal for equipment that demands steady torque delivery without sudden fluctuations.

Fuel Efficiency and Emissions

While specific figures depend on operational conditions, the F6L912 is engineered to offer efficient fuel consumption relative to its power output. Its design also adheres to emission standards prevalent during its production period, with some variants incorporating features to reduce smoke and particulate emissions.

Applications of the Deutz F6L912

The versatility of the F6L912 engine has led to its deployment across a broad spectrum of equipment.

- Agricultural Machinery: Small tractors, tillers, and sprayers
- Construction Equipment: Compact loaders, mini-excavators, and concrete mixers
- Industrial Use: Portable generators, pumps, and compressor units
- Marine Applications: Small boats and auxiliary power units

Its adaptability, combined with ease of maintenance, has made it a preferred choice for operators seeking a dependable power source in harsh environments.

Maintenance and Servicing Considerations

Proper maintenance is essential to maximize the lifespan and performance of the Deutz F6L912 engine.

Routine Checks

- Oil level and quality
- Air filter condition
- Fuel filter cleanliness
- Cooling fins and airflow pathways

Scheduled Service Intervals

- Oil change every 100?200 hours of operation
- Replacement of fuel and air filters every 300?500 hours
- Inspection of spark plugs (if applicable) and ignition system

Regular servicing ensures the engine continues to operate efficiently and minimizes downtime.

Conclusion

The Deutz F6L912 engine specifications reveal a compact, reliable, and efficient diesel engine designed for versatile industrial applications. Its balanced configuration, moderate power output, and straightforward maintenance make it an enduring choice for machinery operators worldwide. Whether powering small agricultural implements or serving as the core of portable generators, the F6L912 exemplifies Deutz's commitment to durable and high-performing diesel engine technology.

As industries continue to evolve, understanding the technical nuances of engines like the Deutz F6L912 helps users optimize performance, plan maintenance, and make informed decisions regarding their machinery investments. With its proven track record and solid specifications, the F6L912 remains a significant chapter in the history of compact diesel engine engineering.

QuestionAnswer What is the horsepower rating of the Deutz F6L912 engine? The Deutz F6L912 engine typically produces around 125 horsepower at 2,500 RPM. What are the key technical specifications of the Deutz F6L912 engine? The Deutz F6L912 is a 6-cylinder, liquid-cooled diesel engine with a displacement of approximately 6.45 liters, featuring a maximum torque of about 460 Nm and a compression ratio of 17:1. What are the common applications of the Deutz F6L912 engine? This engine is commonly used in agricultural machinery, construction equipment, and industrial generators due to its durability and reliable performance. What is the fuel consumption rate of the Deutz F6L912 engine? The fuel consumption varies based on application, but it generally consumes around 15-20 liters per hour under moderate load conditions. What are the maintenance requirements for the Deutz F6L912 engine? Regular maintenance includes oil and filter changes every 250 hours, checking coolant levels, inspecting fuel filters, and routine valve adjustments to ensure optimal performance. Is the Deutz F6L912 engine compliant with modern emission standards? The Deutz F6L912 engine complies with various regional emission standards, but specific compliance depends on the model year and configuration; newer versions typically meet stricter standards such as Euro II or Euro III.

Related keywords: Deutz F6L912, engine horsepower, engine displacement, turbocharged diesel, fuel consumption, engine power output, engine dimensions, engine weight, maintenance requirements, emission standards

Deutz f6l912 parts manual

Deutz F6L912 parts manual is an essential resource for operators, technicians, and maintenance professionals working with this powerful and reliable diesel engine. Whether you're performing routine maintenance, troubleshooting issues, or conducting major repairs, having access to a comprehensive parts manual ensures that you can identify, order, and replace components accurately and efficiently. In this article, we will explore the importance of the Deutz F6L912 parts manual, detail the key parts and components covered, and provide guidance on how to utilize the manual effectively to keep your engine running smoothly.

Understanding the Deutz F6L912 Engine

Overview of the Deutz F6L912

The Deutz F6L912 is a four-cylinder, liquid-cooled diesel engine known for its durability, fuel efficiency, and ease of maintenance. Widely used in industrial applications, construction equipment, and agricultural machinery, this engine offers a robust power output and excellent performance. Its design emphasizes reliability and longevity, making the availability of detailed parts information crucial for maintenance and repairs.

Application Areas

This engine can be found in a variety of equipment such as:

- Generators
- Construction machinery
- Agricultural equipment
- Industrial compressors
- Marine applications

Having a comprehensive parts manual helps ensure that the right components are used in each application, maintaining optimal performance.

Importance of the Deutz F6L912 Parts Manual

Key Benefits

A parts manual provides detailed information on every component of the engine, including:

- Part numbers and descriptions
- Exploded diagrams and schematics
- Assembly and disassembly instructions
- Maintenance intervals and specifications
- Compatibility and interchangeability details

Using the manual minimizes errors during repairs, helps prevent the purchase of incorrect parts, and reduces downtime.

Ensuring Proper Maintenance

Regular maintenance is vital for engine longevity. The parts manual guides technicians on:

- Identifying wear parts such as filters, belts, and seals
- Replacing critical components like injectors or pistons
- Understanding torque specifications for bolts and fasteners

This ensures that maintenance is performed correctly, preserving engine efficiency and performance.

Key Sections of the Deutz F6L912 Parts Manual

Engine Assembly

This section provides a detailed overview of the engine's main components, including:

- Cylinder head
- Crankcase
- Block and pistons
- Valves and timing gears

Exploded views help technicians understand how parts fit together and facilitate disassembly and reassembly.

Fuel System Components

The fuel system is crucial for engine operation. The manual covers:

- Fuel injectors
- Fuel pump
- Filters and lines
- Governor components

Proper identification ensures correct replacement and maintenance.

Lubrication System

Components related to lubrication include:

- Oil pumps
- Oil filters
- Cooling system parts

Keeping these parts in good condition prevents engine wear and overheating.

Electrical and Control Systems

Includes wiring diagrams, sensors, and control modules that are vital for modern engine operation. Proper understanding aids in troubleshooting electrical faults.

Cooling System

Consists of:

- Radiator
- Cooling fans
- Thermostats
- Hoses and water pumps

Efficient cooling prevents overheating and extends engine life.

How to Use the Deutz F6L912 Parts Manual Effectively

Locating Part Numbers

Start by identifying the component you need to replace. Use the engine's serial number, model number, or visual cues to locate the correct section in the manual. Exploded diagrams are

invaluable for matching parts accurately.

Understanding Diagrams and Schematics

Familiarize yourself with the schematic symbols and diagram layouts. These visuals clarify how components connect and function together, simplifying troubleshooting.

Ordering Genuine Parts

Always cross-reference part numbers from the manual when ordering replacements. Using genuine parts ensures compatibility, durability, and warranty coverage.

Performing Repairs and Maintenance

Follow the step-by-step instructions provided for disassembly and reassembly. Adhere to torque specifications and safety precautions outlined in the manual.

Where to Obtain the Deutz F6L912 Parts Manual

Official Deutz Distributors and Service Centers

Authorized dealers often provide printed or digital manuals upon request. Purchasing directly ensures you receive the most accurate and up-to-date information.

Online Resources

Many reputable websites offer digital copies of the parts manual. Be cautious to verify the authenticity to avoid outdated or counterfeit documents.

Third-Party Suppliers

Some online marketplaces and parts suppliers might offer manuals or parts catalogs. Always confirm the source's credibility before making purchases.

Additional Tips for Maintaining Your Deutz F6L912 Engine

- Regularly consult the parts manual to stay informed about scheduled replacements.
- Keep a maintenance log detailing parts replaced and service dates.
- Use only recommended lubricants, fuels, and consumables as specified in the manual.
- Train personnel on proper engine handling and maintenance procedures.

Conclusion

Having the **Deutz F6L912 parts manual** at your disposal is invaluable for ensuring the longevity and reliable performance of your engine. It serves as a comprehensive guide for identifying, sourcing, and installing the correct parts, whether for routine maintenance or complex repairs. By leveraging detailed diagrams, specifications, and instructions within the manual, technicians and operators can minimize downtime, reduce repair costs, and extend the lifespan of their equipment. Always prioritize obtaining official or trusted sources for manuals and parts to guarantee compatibility and quality, keeping your Deutz F6L912 engine operating at peak efficiency for years to come.

Deutz F6L912 Parts Manual: A Comprehensive Guide for Maintenance and Repairs

Deutz F6L912 parts manual is an essential resource for technicians, mechanics, and operators who work with Deutz engines, particularly the F6L912 model. Known for its durability and efficiency, this engine has been widely used in various industrial applications, including construction equipment, generators, and agricultural machinery. Accessing and understanding the parts manual is crucial for proper maintenance, timely repairs, and ensuring the longevity of the engine. This article provides an in-depth exploration of the Deutz F6L912 parts manual, helping users navigate its contents and utilize it effectively.

Understanding the Deutz F6L912 Engine

Before delving into the parts manual itself, it's important to understand the core features of the Deutz F6L912 engine. This model is a four-cylinder, liquid-cooled diesel engine renowned for its robust design and reliable performance. It is part of Deutz's F series, which emphasizes fuel efficiency and low emissions, making it suitable for a broad range of industrial applications.

Key specifications include:

- Type: 4-cylinder, inline, diesel engine
- Cooling system: Water-cooled
- Power output: Varies depending on application, typically around 60-100 HP
- Displacement: Approximately 5.8 liters
- Fuel consumption: Optimized for efficiency

Understanding these specifications helps users comprehend the scope of parts covered in the manual and ensures compatibility when sourcing replacement components.

The Importance of the Parts Manual

A parts manual, sometimes referred to as an parts catalog or parts list, is a detailed document that illustrates every component of the engine, often accompanied by diagrams, part numbers, and descriptions. For Deutz F6L912 engines, such manuals serve multiple vital functions:

- Identification: Accurately identify parts for replacement or repair.
- Ordering: Facilitate procurement of specific components with correct part numbers.
- Maintenance: Assist in routine maintenance procedures by providing detailed parts information.
- Repair: Enable technicians to disassemble and reassemble engines correctly by referencing exploded views.
- Warranty and Authenticity: Ensure genuine parts are used, maintaining warranty validity and engine integrity.

Having access to an up-to-date F6L912 parts manual minimizes downtime, reduces errors, and extends the engine's lifespan.

Structure and Contents of the Deutz F6L912 Parts Manual

The parts manual for the Deutz F6L912 engine is systematically organized for user-friendly navigation. Typically, it includes:

- Introduction and General Information
- Overview of the engine model
- Safety instructions during maintenance
- List of tools required for disassembly and assembly
- Exploded Views and Diagrams
- Visual representations of engine assemblies
- Cross-sectional diagrams of major components
- Detailed illustrations of sub-assemblies such as the fuel system, cooling system, lubrication system, and electrical components
- Parts Listings

- Itemized lists with corresponding part numbers
- Descriptions of each component
- Quantity required per assembly or engine

- Maintenance and Service Data

- Recommended spare parts for routine maintenance
- Torque specifications
- Assembly/disassembly procedures

- Appendices and Additional Information

- List of compatible accessories
- Service bulletins or updates
- Contact information for authorized parts suppliers

This structured approach ensures that users can quickly locate the needed information, whether they are performing simple replacements or complex repairs.

Key Sections and How to Use Them

Let's explore some of the most critical sections of the manual and how they assist in practical scenarios:

Exploded Views and Diagrams

These visuals are the backbone of any parts manual. They depict the engine and its components in an exploded format, showing how parts fit together and their relative positions.

Usage tips:

- Match the diagram with the physical engine to identify parts.
- Use the diagram to understand the assembly sequence during reassembly.
- Cross-reference part numbers with the parts list for ordering replacements.

Parts List and Part Numbers

Each component is assigned a unique part number, facilitating precise ordering and inventory management.

Key features:

- Descriptions specify the component's function and specifications.
- Quantity columns indicate how many units are needed.
- Compatibility notes ensure the correct parts are used for specific engine versions.

Practical example:

If a technician needs to replace the fuel injector, they can locate it in the diagram, identify its part number in the parts list, and order accordingly, avoiding errors and delays.

Maintenance Procedures

The manual provides step-by-step instructions for routine checks and replacements, such as oil changes, filter replacements, and belt adjustments.

Benefits:

- Ensures maintenance is performed correctly.
- Extends engine life by adhering to manufacturer recommendations.
- Reduces risk of damage due to improper handling.

Sourcing Genuine Parts for the Deutz F6L912

Using authentic parts is vital for maintaining engine performance and complying with warranty conditions. The parts manual helps identify genuine components, which can be sourced through authorized Deutz distributors or certified parts suppliers.

Tips for sourcing parts:

- Always verify part numbers against the manual.
- Prefer authorized dealers to ensure authenticity.
- Keep a record of part numbers for future reference.

Common Parts and Their Replacements

Here are some of the most frequently replaced parts in the Deutz F6L912 engine, as outlined in the manual:

- Fuel injectors: Critical for engine performance; replacement involves precise calibration.
- Glow plugs: Assist cold starts; wear over time and need periodic replacement.
- Water pump: Ensures cooling; failure can lead to overheating.
- Oil filters: Essential for engine lubrication; should be replaced during oil changes.
- Air filters: Maintain clean airflow; prevent dirt ingress.

Understanding these components and their replacement procedures helps maintain optimal engine efficiency.

Practical Tips for Using the Parts Manual Effectively

- Keep a physical or digital copy accessible: Ensure the manual is readily available during maintenance.
- Familiarize yourself with diagrams: Spend time studying exploded views for quick identification.
- Update your knowledge: Refer to service bulletins or updates provided by Deutz.
- Maintain an inventory: Keep common spare parts on hand to reduce downtime.
- Follow safety guidelines: Always adhere to safety instructions when handling engine components.

The Future of Deutz F6L912 Maintenance

As industrial engines evolve, so do their parts and maintenance requirements. The availability of detailed parts manuals like that of the F6L912 continues to be instrumental in ensuring efficient service and repairs. Digital versions, often integrated with software tools, are increasingly common, allowing for easier updates and interactive features.

Emerging trends include:

- 3D interactive diagrams: Enhancing understanding and ease of identification.
- Online parts catalogs: Allowing real-time updates and ordering.
- Integration with diagnostic tools: Combining parts information with engine diagnostics for comprehensive maintenance.

Conclusion

The Deutz F6L912 parts manual is more than just a catalog; it is an essential guide that supports the entire lifecycle of the engine—from routine maintenance to major repairs. By understanding how to effectively utilize this manual, operators and technicians can ensure that the engine performs reliably, remains efficient, and enjoys an extended service life. Whether sourcing genuine parts or performing complex disassemblies, the parts manual serves as an indispensable resource, safeguarding the investment in this robust industrial engine.

Ensuring access to accurate, detailed, and up-to-date parts information is fundamental for anyone involved with Deutz F6L912 engines. As the industry moves toward digital solutions, the importance of comprehensive manuals and integrated tools will only grow, further empowering users to maintain their equipment with confidence and precision.

Question Where can I find a comprehensive parts manual for Deutz F6L912 engine? You can obtain the official Deutz F6L912 parts manual from authorized Deutz distributors, the official Deutz website, or certified online parts suppliers that offer detailed manuals and diagrams. **What are the essential parts listed in the Deutz F6L912 parts manual?** The parts manual includes essential components such as the engine block, cylinder head, pistons, crankshaft, fuel injectors, valves, and cooling system parts, along with detailed diagrams and part numbers. **How can I identify the correct replacement parts for my Deutz F6L912 engine?** Use the parts manual to cross-reference your engine's serial number and model to find accurate part numbers, ensuring compatibility when ordering replacement components. **Are there digital versions of the Deutz F6L912 parts manual available for download?** Yes, digital versions are often available through Deutz's official website, authorized dealers, or specialized parts manual repositories, providing easy access to diagrams and part information. **What maintenance parts are highlighted in the Deutz F6L912 parts manual?** The manual highlights maintenance parts such as filters, gaskets, seals, belts, and lubricants, along with recommended replacement intervals to keep the engine running smoothly. **Can I service my Deutz F6L912 engine using only the parts manual?** While the parts manual provides detailed diagrams and part information, it is recommended to also consult the service manual for comprehensive repair and maintenance procedures. **How often should I consult the Deutz F6L912 parts manual for troubleshooting?** You should consult the parts manual whenever replacing parts, diagnosing issues, or performing repairs to ensure proper identification and compatibility of components.

Related keywords: Deutz F6L912, Deutz engine parts, F6L912 repair manual, Deutz engine manual, F6L912 service parts, Deutz F6L912 components, F6L912 maintenance guide, Deutz engine spare parts, F6L912 technical manual, Deutz engine specifications

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