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Bosch 450906508

Bosch N6508 Diesel Fuel Filter (Model 450906508) Instruction Manual

Reliable Filtration for Optimal Engine Performance

1. Product Overview

The Bosch N6508 Diesel Fuel Filter is engineered to protect your vehicle's diesel injection system. This high-quality replacement filter effectively separates harmful particles and water from the diesel fuel, ensuring only clean fuel reaches your engine. This process is critical for maintaining engine efficiency, preventing wear on sensitive components, and extending the lifespan of your vehicle's fuel system.



Figure 1.1: Bosch N6508 Diesel Fuel Filter. This image shows the complete fuel filter unit, highlighting its robust metal construction.

2. Safety Information

Please read and understand all safety precautions before attempting any work on your vehicle's fuel system. Failure to follow these instructions may result in personal injury or damage to the vehicle.

- **Professional Installation:** All installation and maintenance work on fuel system components should be performed by qualified automotive professionals.
- **Engine Off and Cool:** Always ensure the vehicle's engine is turned off and has cooled down completely before beginning any work.
- **Personal Protective Equipment (PPE):** Wear appropriate safety gear, including safety glasses and chemical-resistant gloves, to protect against fuel exposure and potential injury.
- **Flammable Materials:** Diesel fuel is flammable. Keep away from open flames, sparks, and other ignition sources. Work in a well-ventilated area.
- **Fuel System Pressure:** The fuel system may be under pressure. Follow vehicle manufacturer guidelines for safely relieving fuel pressure before disconnecting any fuel lines.

- **Proper Disposal:** Dispose of old fuel filters and any spilled fuel according to local environmental regulations.

3. Compatibility

Ensuring the correct fuel filter is used for your vehicle is crucial for proper function and safety. The Bosch N6508 Diesel Fuel Filter is designed for specific vehicle models.
To verify compatibility:

1. Consult your vehicle's owner's manual or service manual for the recommended fuel filter part number.
2. Use the vehicle compatibility checker tool available on the product's online listing by entering your vehicle's make, model, and year, or its Vehicle Identification Number (VIN).
3. Cross-reference the Bosch part number (0450906508) with your vehicle manufacturer's specifications or equivalent OEM part numbers.



Figure 3.1: Guide to checking product compatibility with your vehicle online.

4. Setup and Installation

Installation of the Bosch N6508 Diesel Fuel Filter requires specific tools and technical expertise. It is strongly recommended that this procedure be carried out by a certified mechanic or a qualified automotive technician.

General Installation Steps (for professional reference):

1. **Prepare the Vehicle:** Park the vehicle on a level surface, engage the parking brake, and turn off the engine. Allow the engine to cool.
2. **Relieve Fuel Pressure:** Follow the vehicle manufacturer's instructions to safely relieve pressure from the fuel system.
3. **Locate the Filter:** Identify the location of the existing fuel filter. It is typically found in the engine bay or along the chassis.
4. **Disconnect Fuel Lines:** Carefully disconnect the fuel lines from the old filter. Be prepared for some fuel spillage and have a suitable container to catch it. Note the orientation of the fuel lines (inlet/outlet).
5. **Remove Old Filter:** Remove the old fuel filter from its mounting bracket.
6. **Install New Filter:** Install the new Bosch N6508 filter, ensuring it is correctly oriented according to the fuel flow direction (usually indicated by an arrow on the filter housing). Secure it in the mounting bracket.
7. **Reconnect Fuel Lines:** Reconnect the fuel lines to the new filter, ensuring all connections are secure and leak-free.
8. **Prime the Fuel System:** Follow the vehicle manufacturer's procedure for priming the fuel system to remove any air. This may involve cycling the ignition key or using a hand primer pump.
9. **Check for Leaks:** Start the engine and carefully inspect all connections around the new filter for any fuel leaks.



Figure 4.1: A professional installing a fuel filter in an engine bay.

5. Operating Principles

The Bosch N6508 Diesel Fuel Filter operates as a critical component in your vehicle's fuel delivery system. Its primary function is to purify diesel fuel before it reaches the high-precision components of the injection system, such as the fuel pump and injectors.

- **Particle Separation:** The filter utilizes a multi-layered, microporous filter medium designed to trap microscopic solid particles, such as dirt, rust, and debris, that may be present in the diesel fuel.
- **Water Separation:** Diesel fuel can contain water, which is highly detrimental to the fuel system and engine. The filter's advanced media effectively separates water droplets from the fuel, preventing corrosion and damage to fuel system components.
- **Protection of Injection System:** By removing contaminants, the filter safeguards the delicate and expensive components of the diesel injection system from premature wear and failure, ensuring optimal fuel atomization and combustion.

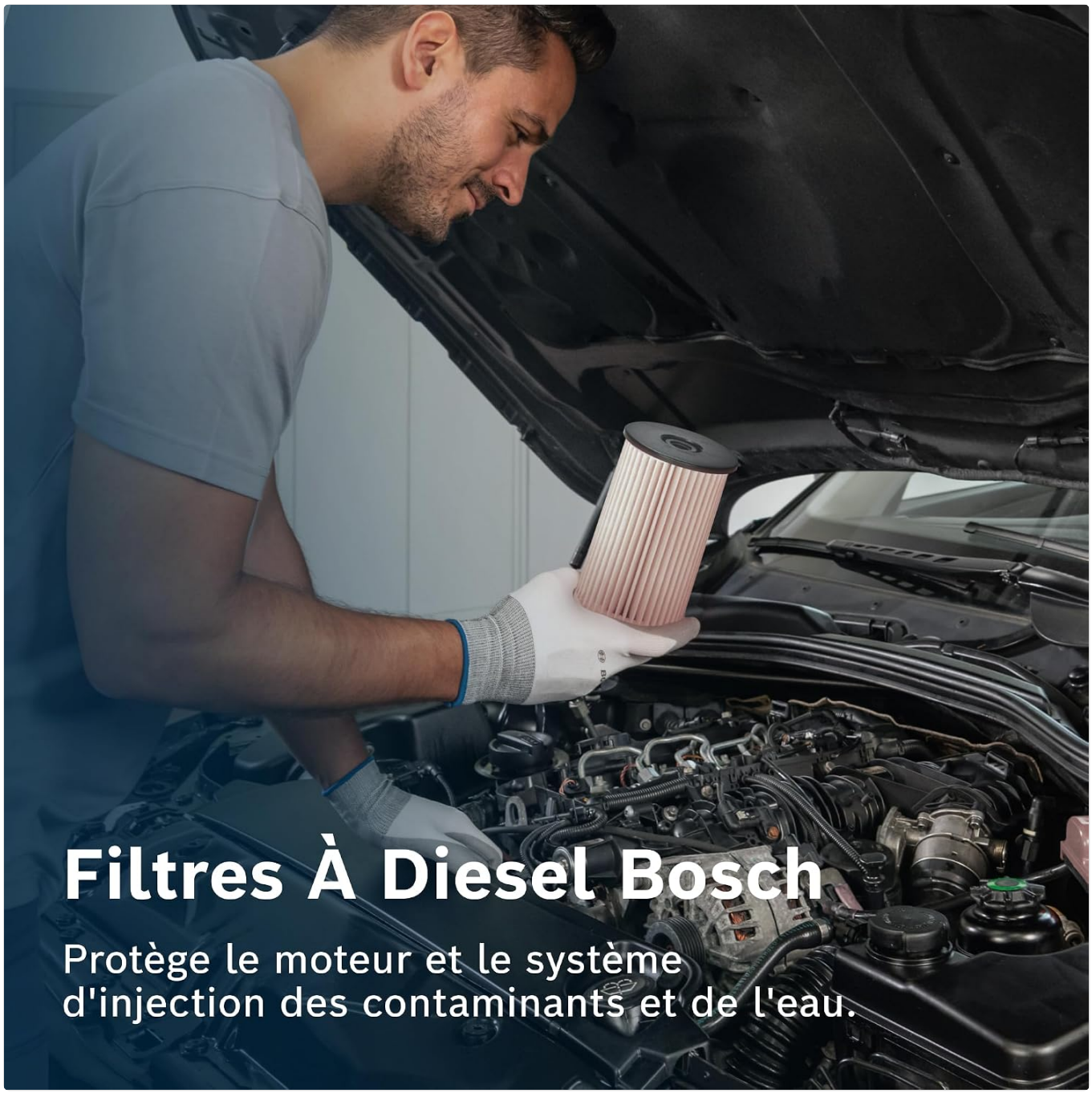


Figure 5.1: Visual representation of the fuel filter's key benefits: contaminant prevention, water separation, durability, and efficient filtration.

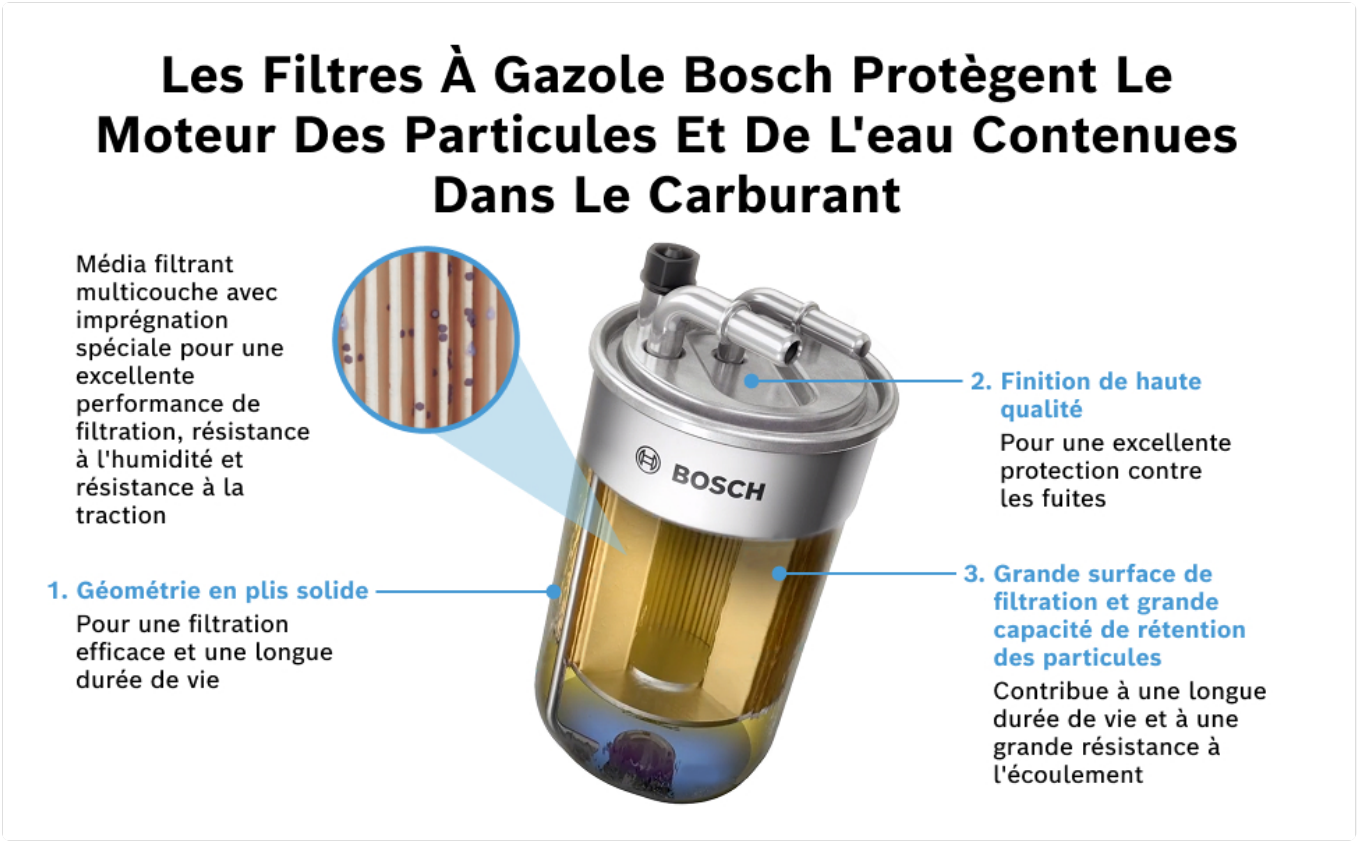


Figure 5.2: Cutaway view illustrating the internal structure and filtration technology of a Bosch diesel fuel filter.

6. Maintenance

Regular replacement of the diesel fuel filter is essential for maintaining engine health, fuel efficiency, and preventing costly repairs to the fuel injection system.

- **Replacement Interval:** Bosch recommends replacing diesel fuel filters according to the vehicle manufacturer's specified service intervals. These intervals can typically be found in your vehicle's owner's manual or service schedule.
- **Factors Affecting Interval:** Driving conditions (e.g., dusty environments), fuel quality, and vehicle age can influence the need for more frequent filter replacement.
- **Signs of a Clogged Filter:** A clogged fuel filter can lead to reduced engine performance, difficulty starting, rough idling, decreased fuel economy, and engine stalling. Do not wait for these symptoms to appear; adhere to the recommended maintenance schedule.

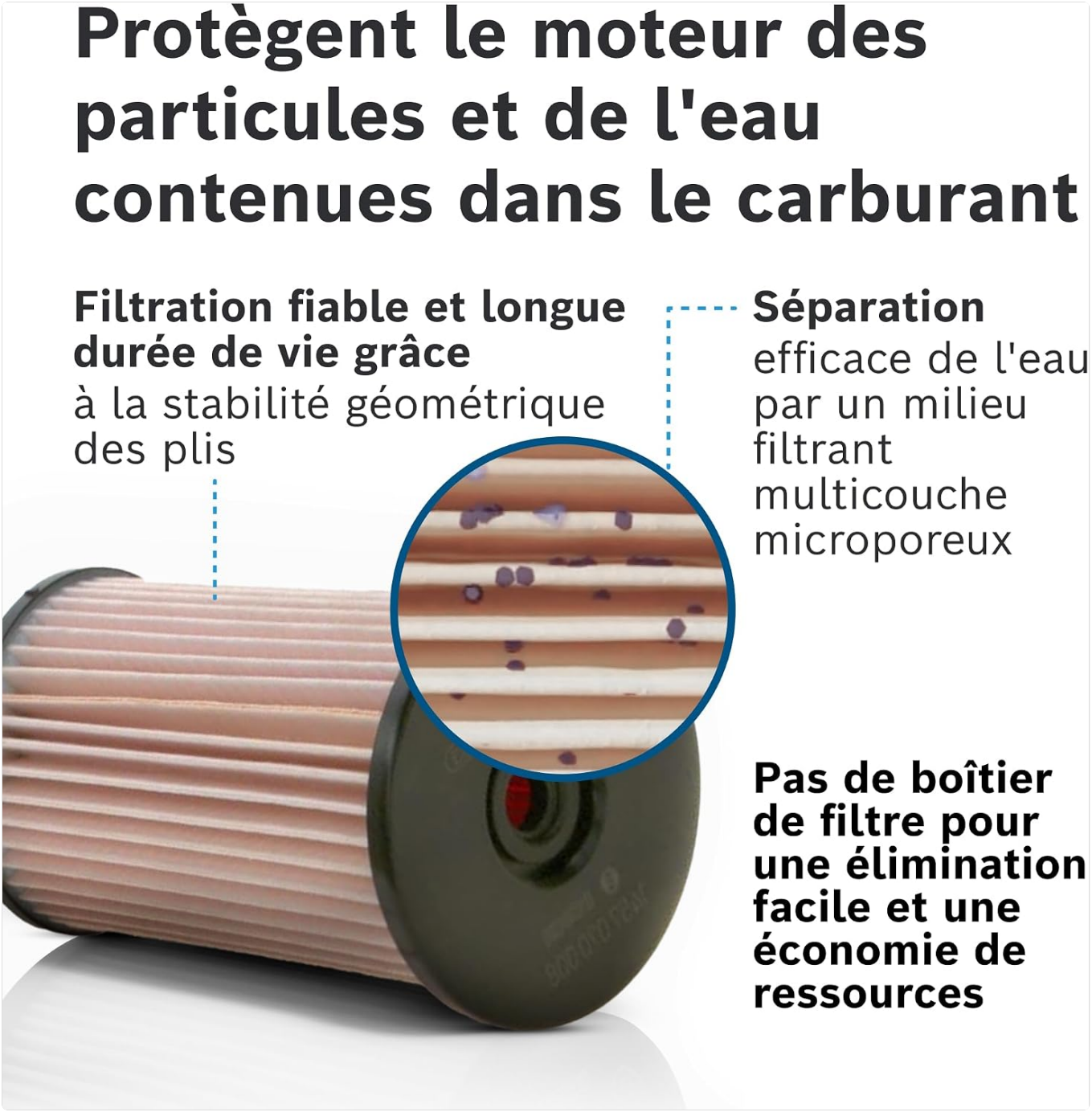


Figure 6.1: A mechanic preparing to install a new fuel filter, emphasizing the importance of regular maintenance.

7. Troubleshooting

If you experience issues related to fuel delivery or engine performance, a clogged or faulty fuel filter could be a contributing factor. Below are common symptoms and general advice:

Symptom	Possible Cause (Fuel Filter Related)	Action
Reduced Engine Power/Acceleration	Restricted fuel flow due to clogged filter.	Inspect filter, replace if due or suspected.
Difficulty Starting Engine	Insufficient fuel pressure reaching the engine.	Check fuel pressure, replace filter.
Rough Idling or Stalling	Inconsistent fuel supply to injectors.	Replace filter, check for air in fuel lines.
Increased Fuel Consumption	Engine working harder to compensate for poor fuel delivery.	Replace filter, ensure proper fuel system function.

Symptom	Possible Cause (Fuel Filter Related)	Action
Engine Misfires	Contaminated fuel reaching injectors.	Replace filter, consider fuel system cleaning.

Note: These symptoms can also be caused by other issues. Always consult a qualified mechanic for accurate diagnosis and repair.

8. Specifications

Brand	Bosch
Model Number	0450906508
Product Type	Diesel Fuel Filter
Material	Metal
Dimensions (Approx.)	Diameter: 80.4 mm, Height: 186.5 mm
Filtration Capability	Separates particles and water from fuel
Vehicle Service Type	Car
Country of Origin	Germany



Figure 8.1: Detailed dimensions of the Bosch N6508 Diesel Fuel Filter.

9. Warranty Information

The Bosch N6508 Diesel Fuel Filter is covered by a **2-year manufacturer's warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use and service.
To make a warranty claim, please retain your proof of purchase (receipt or invoice). For full terms, conditions, and exclusions, please refer to the official Bosch warranty documentation provided with the product or visit the Bosch Automotive website.

10. Support and Contact

For technical assistance, product inquiries, or warranty support, please utilize the following resources:

- **Official Bosch Automotive Website:** Visit the official Bosch Automotive website for comprehensive product information, FAQs, and contact details for your region.
- **Bosch Store on Amazon:** For product details and purchasing, you can visit the Bosch Automotive Store on Amazon.
- **Customer Service:** Refer to your product packaging or the Bosch website for specific customer service contact numbers

or email addresses.

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