NGK 90174

NGK 90174 DF8H-11B Laser Iridium Spark Plug Instruction Manual

Model: 90174 DF8H-11B

Introduction

This manual provides essential information for the proper installation, operation, and maintenance of your NGK 90174 DF8H-11B Laser Iridium Spark Plug. Adhering to these instructions will help ensure optimal performance and longevity of the product. The NGK Laser Iridium spark plug is designed for specific vehicle applications, offering consistent performance and durability.

Safety Information

Always prioritize safety when working on a vehicle. Improper installation or handling of spark plugs can lead to injury or damage to the vehicle. Consult your vehicle's service manual for specific procedures and torque specifications.

- Ensure the engine is cool before attempting spark plug replacement.
- Disconnect the negative battery terminal to prevent accidental electrical discharge.
- Wear appropriate personal protective equipment, including gloves and eye protection.
- Avoid cross-threading spark plugs during installation.
- Use a torque wrench to tighten spark plugs to the manufacturer's specifications.

Setup and Installation

Proper installation is crucial for the performance of your NGK spark plugs. Refer to your vehicle's service manual for detailed, model-specific instructions.

Tools Required:

- Spark plug socket (typically 16mm or 5/8 inch)
- Ratchet and extension
- Torque wrench

- Dielectric grease (optional, for spark plug boots)
- Anti-seize compound (optional, for spark plug threads, if not pre-applied)

Installation Steps:

1. **Locate Spark Plugs:** Identify the location of the spark plugs in your engine. This often involves removing engine covers or other components.
2. **Remove Ignition Coils/Wires:** Carefully disconnect and remove the ignition coils or spark plug wires from each spark plug. Note their original positions.
3. **Clean Area:** Before removing old spark plugs, clean any debris around the spark plug wells to prevent contaminants from entering the combustion chamber.
4. **Remove Old Spark Plugs:** Using a spark plug socket and ratchet, loosen and remove the old spark plugs. Turn counter-clockwise.
5. **Inspect New Spark Plugs:** Visually inspect the new NGK spark plugs for any damage. Ensure the electrode gap is correct for your vehicle (NGK Laser Iridium plugs are typically pre-gapped and should not be adjusted).
6. **Install New Spark Plugs:** Carefully thread the new spark plugs into the cylinder head by hand to avoid cross-threading. Once finger-tight, use a torque wrench to tighten them to the vehicle manufacturer's specified torque. Overtightening or undertightening can cause damage.
7. **Reattach Ignition Coils/Wires:** Reconnect the ignition coils or spark plug wires, ensuring a secure connection. Apply a small amount of dielectric grease to the inside of the spark plug boots if desired.
8. **Reassemble:** Reinstall any engine covers or components that were removed.





Figure 1: The NGK 90174 DF8H-11B Laser Iridium Spark Plug, showing its full length and construction.



Figure 2: A detailed view of the spark plug's electrode and ground strap, highlighting the iridium tip.

Operating Principles

Spark plugs are critical components in gasoline engines, responsible for igniting the air-fuel mixture in the combustion chamber. The NGK Laser Iridium spark plug utilizes a fine-wire iridium center electrode and a platinum ground electrode. This design provides a concentrated spark, improving ignition efficiency, reducing misfires, and contributing to better fuel economy and lower emissions. The iridium and platinum materials offer superior durability and resistance to wear compared to conventional spark plug materials.

Maintenance

NGK Laser Iridium spark plugs are designed for extended service intervals. However, periodic inspection is recommended as part of routine vehicle maintenance.

Inspection Guidelines:

- **Visual Check:** Look for signs of wear, such as a rounded center electrode, excessive carbon buildup, or oil fouling.
- **Gap Check:** While iridium plugs are typically pre-gapped and should not be adjusted, a visual check can confirm the gap is intact and not damaged.
- **Insulator Condition:** Inspect the ceramic insulator for cracks or chips, which can indicate a faulty plug.

Replacement Intervals:

Refer to your vehicle manufacturer's recommended service schedule for spark plug replacement intervals. NGK Laser Iridium plugs are engineered for long life, often exceeding 100,000 miles, but specific vehicle requirements may vary.

Troubleshooting

If you experience engine performance issues after spark plug installation, consider the following common troubleshooting steps:

Symptom	Possible Cause	Solution
Engine Misfire/Rough Idle	Incorrectly gapped plug, damaged plug, loose connection, faulty ignition coil.	Inspect spark plug gap (do not adjust iridium plugs), check for damage, ensure ignition coil/wire connections are secure.
Reduced Fuel Economy	Worn spark plugs, incorrect heat range.	Replace spark plugs if worn. Ensure correct spark plug type for your vehicle.
Difficulty Starting	Worn spark plugs, fouled spark plugs.	Inspect and replace spark plugs if necessary. Check for other ignition system issues.
Check Engine Light	Misfire detected by engine control unit.	Scan for diagnostic trouble codes (DTCs) to pinpoint the exact cause.

Specifications

Key technical specifications for the NGK 90174 DF8H-11B Laser Iridium Spark Plug:

Feature	Detail
Brand	NGK
Model Number	90174 (DF8H-11B)
Core Material	Iridium
Thread Size	12mm
Top Material Type	Metal
Vehicle Service Type	Car, Truck
Item Weight	0.64 ounces (approx. 18 grams)
Product Dimensions	9.4 x 2.4 x 2.1 inches (packaging)
UPC	087295901748
Country of Origin	Japan

Warranty and Support

For specific warranty information regarding your NGK spark plug, please refer to the official NGK website or contact NGK customer support directly. Keep your proof of purchase for any warranty claims.
For technical assistance or further inquiries, please visit the official NGK website or consult a certified automotive technician.

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Example: How do I reset this device or fix this error?

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