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Bosch 4478

Bosch Platinum+4 Spark Plug User Manual

Model: WGR8DQP (4478)

PRODUCT OVERVIEW

The Bosch Platinum+4 spark plug (Model WGR8DQP, part number 4478) is engineered for optimal engine performance and fuel efficiency. It features a unique revolutionary firing technology that combines surface air gap technology with four yttrium-enhanced ground electrodes and a heat-fused center electrode made of pure platinum.





Image: A single Bosch Platinum+4 Spark Plug, showing its platinum core and four ground electrodes. The plug is silver-colored with a white ceramic insulator section featuring "BOSCH PLATINUM" text.

This design ensures the longest, most powerful spark for ultimate engine performance, smoother acceleration, and top fuel efficiency. The yttrium alloy ground electrodes are designed to reduce gap wear and oxidation, contributing to an extended performance life.

INSTALLATION GUIDE

The Bosch Platinum+4 spark plugs are factory-set and **do not require gapping**. This ensures ease of installation and eliminates the need for manual adjustment.

Required Tools:

- Spark plug socket (commonly 13/16 inch or 21mm, verify for your specific vehicle)
- Torque wrench (recommended setting: 252 inch-lbs or 21 ft-lbs, consult your vehicle's service manual for exact specifications)
- Ratchet and extensions
- Anti-seize compound (optional, for threads)
- Dielectric grease (optional, for spark plug boot)

Installation Steps:

1. **Safety First:** Ensure the engine is cool before beginning work. Disconnect the negative terminal of the vehicle's battery.
2. **Access Spark Plugs:** Locate the spark plug wires or coil packs. Carefully remove them by pulling on the boot, not the wire. Note the order of removal to ensure correct reinstallation.
3. **Remove Old Plugs:** Use the appropriate spark plug socket and ratchet to loosen and remove the old spark plugs. Turn counter-clockwise. Inspect the old plugs for signs of wear or engine issues.
4. **Prepare New Plugs:** The Bosch Platinum+4 spark plugs come pre-gapped and do not require adjustment. Apply a small amount of anti-seize compound to the threads of the new spark plug (optional, but recommended to prevent seizing).
5. **Install New Plugs:** Carefully thread the new spark plugs into the cylinder head by hand to avoid cross-threading. Once finger-tight, use the torque wrench to tighten them to the manufacturer's recommended specification (e.g., 252 inch-lbs or 21 ft-lbs). *Do not overtighten.*
6. **Reinstall Wires/Coils:** Apply a small amount of dielectric grease inside the spark plug boots (optional). Reconnect the spark plug wires or coil packs, ensuring they click securely into place. Double-check that all connections are firm and in the correct order.
7. **Final Steps:** Reconnect the negative battery terminal. Start the engine and check for smooth operation.

Note: If you encounter difficulty fitting the spark plug socket due to the hex body size (e.g., 13/16 inch), ensure you have the correct tool for your vehicle's specific application. Consult a professional mechanic if unsure about the installation process.

OPERATION AND PERFORMANCE

The Bosch Platinum+4 spark plug is designed to deliver consistent and reliable ignition, contributing to enhanced vehicle performance. Its multi-ground electrode design provides multiple paths for the spark, ensuring efficient combustion and reducing misfires.

- **Optimized Combustion:** The unique surface air gap firing technology and four ground electrodes provide superior access to the air/fuel mixture, leading to more complete and efficient combustion.
- **Smoother Acceleration:** Consistent and powerful sparks contribute to a more responsive engine and smoother acceleration.
- **Improved Fuel Efficiency:** Efficient combustion helps maximize fuel economy.
- **Extended Performance Life:** The yttrium-enhanced ground electrodes resist wear and oxidation, maintaining optimal performance over a longer period.

MAINTENANCE

The Bosch Platinum+4 spark plug is engineered for long-lasting performance with minimal maintenance requirements.

- **No Gapping Required:** As mentioned, these spark plugs are pre-gapped at the factory and should not be adjusted. Attempting to gap them may damage the electrodes.
- **Replacement Interval:** While specific replacement intervals vary by vehicle manufacturer and driving conditions, many users report excellent performance for up to 60,000 miles or more. Always refer to your vehicle's owner's manual for recommended spark plug replacement schedules.
- **Inspection:** During routine vehicle maintenance, you may visually inspect the spark plugs for any signs of damage or excessive fouling. However, due to their design, they are built for extended service life.

TROUBLESHOOTING

If you experience issues after installing new spark plugs or suspect your current spark plugs are failing, consider the following common symptoms and potential causes:

Symptom	Possible Cause	Action
Engine Misfires or Rough Idle	Incorrect installation, faulty spark plug wire/coil, engine issues.	Verify spark plug installation, check connections, consult a mechanic.
Reduced Fuel Economy	Worn spark plugs, engine tuning issues.	Ensure spark plugs are within their service life, check other engine components.
Difficulty Starting Engine	Weak spark, battery issues, fuel system problems.	Check spark plugs, battery, and fuel system.
Check Engine Light On	Various engine issues, including misfires detected by the vehicle's computer.	Scan for diagnostic trouble codes (DTCs) to identify the specific problem.

If troubleshooting steps do not resolve the issue, it is recommended to seek assistance from a qualified automotive technician.

TECHNICAL SPECIFICATIONS

Feature	Specification
Brand	Bosch
Model Number	4478 (WGR8DQP)
Core Material	Platinum
Top Material Type	Nickel
Item Weight	1.6 ounces
Manufacturer Part Number	4478
OEM Part Numbers	BOSCH 4478, CHAMPION 7332, ACDelco 41602, AUTOLITE XP64, AutoZone 41602, HONDA 980795514G
UPC	028851019101, 028851019255, 028851019606
Vehicle Service Type	UTV (Universal, check vehicle compatibility)

WARRANTY AND SUPPORT

For detailed information regarding the warranty of your Bosch Platinum+4 Spark Plug, please refer to the official Bosch website or contact Bosch customer support directly. Warranty terms and conditions may vary.

For additional product information, support, or to explore other Bosch automotive products, please visit the official Bosch store:

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