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› TONE PG86S 3/8-Inch Drive Spark Plug Socket Set Instruction Manual

TONE PG86S

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Model: PG86S

INTRODUCTION

This manual provides instructions for the proper use and maintenance of the TONE PG86S 3/8-inch Drive Spark Plug Socket Set. This 4-piece set is specifically designed for efficient spark plug replacement in horizontal opposed engines, commonly found in vehicles such as the 86/BRZ, where space is often restricted.

The set includes specialized sockets and extension bars to navigate narrow engine compartments and facilitate the removal and installation of spark plugs.

PRODUCT COMPONENTS

The TONE PG86S Spark Plug Socket Set includes the following components:

- 1 x Spark Plug Socket (14mm, 3/8" Drive)
- 2 x Extension Bars (EX32-32)
- 1 x Extension Bar (EX32-50)

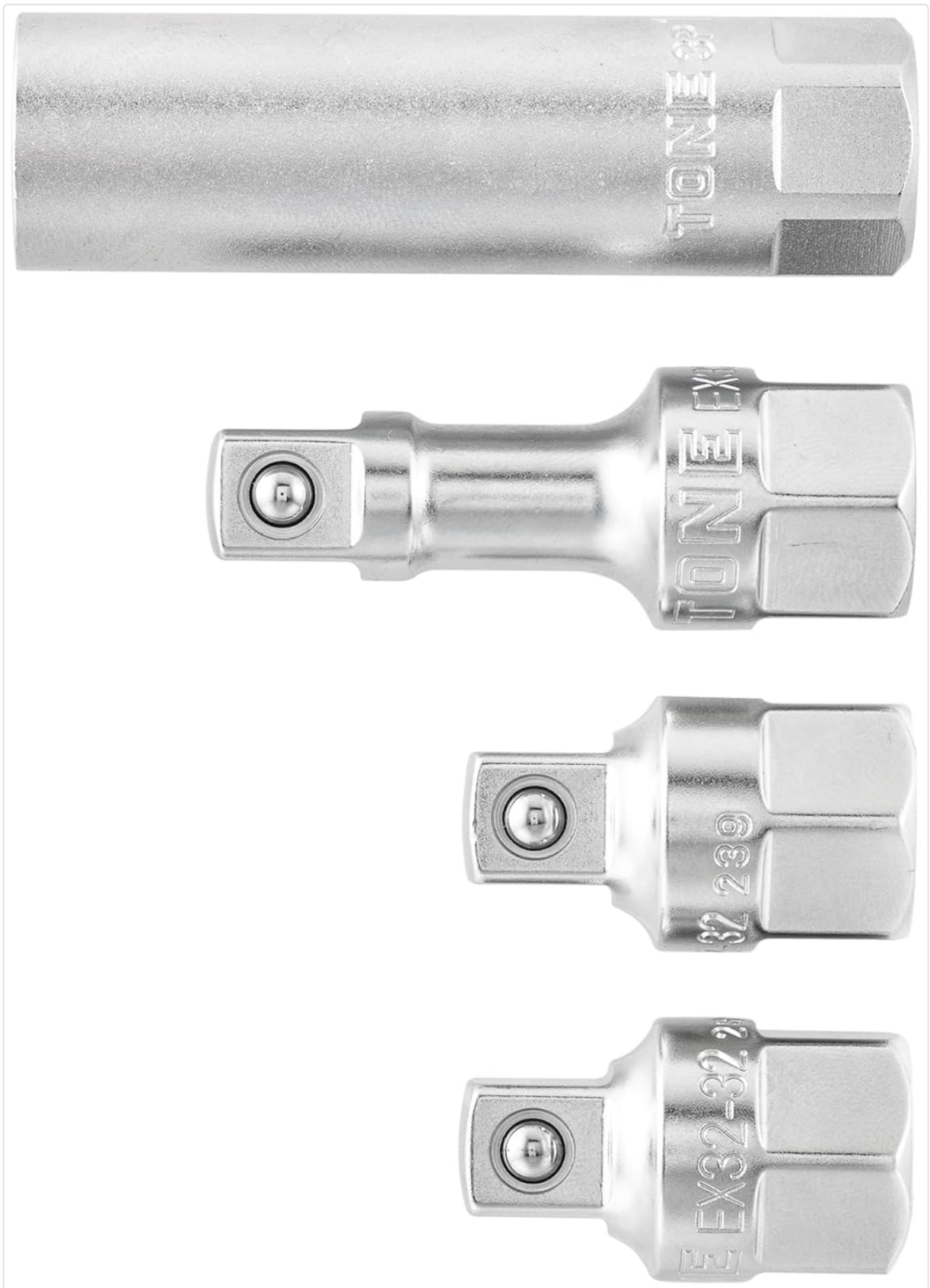


Image 1: Overview of the TONE PG86S 4-piece spark plug socket set, showing the 14mm spark plug socket and three extension bars.

SETUP AND PREPARATION

Before beginning any work on your vehicle, ensure the engine is cool and the battery is disconnected to prevent accidental starting or electrical hazards. Gather all necessary tools, including a 3/8-inch drive ratchet wrench and any additional extensions or universal joints that may be required for your specific vehicle model.

This socket set is designed for spark plug replacement in horizontal opposed engines, particularly where access is limited due to the engine head and tire housing clearance.

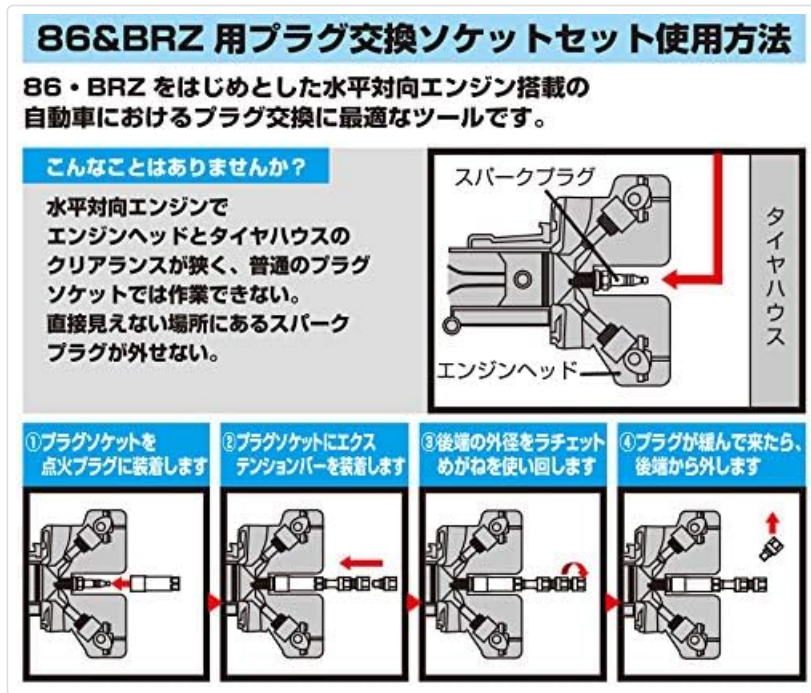


Image 2: Diagram showing the typical challenge of spark plug access in a horizontal opposed engine (e.g., 86/BRZ) due to limited clearance between the engine head and tire housing.

OPERATING INSTRUCTIONS

Follow these steps for spark plug removal and installation using the TONE PG86S socket set:

- Attach the Spark Plug Socket:** Carefully place the 14mm spark plug socket onto the spark plug. Ensure it seats fully and securely.
- Connect Extension Bars:** Attach the appropriate extension bars (EX32-32 or EX32-50) to the spark plug socket. The modular design allows for flexible length adjustments to reach deeply recessed plugs.
- Attach Ratchet Wrench:** Connect a 3/8-inch drive ratchet wrench to the extension bar. For extremely narrow spaces, the outer hexagonal part of the extension bars (17mm) can be used with a 17mm ratchet glasses wrench to initially loosen or tighten the plug.
- Loosen/Tighten Spark Plug:**
 - **Removal:** Turn the ratchet wrench counter-clockwise to loosen the spark plug. Once loosened, you may remove the ratchet wrench and continue turning the extension by hand if space is very tight.
 - **Installation:** Hand-thread the new spark plug into the engine to avoid cross-threading. Then, use the socket and extension to gently tighten the plug clockwise. Finish tightening with the ratchet wrench to the manufacturer's specified torque.
- Remove Tools:** Once the spark plug is installed or removed, carefully detach the tools. If the socket remains on the spark plug due to tight fit or magnetic retention, gently wiggle and pull the extension to release it.



Image 3: The TONE spark plug socket assembled with multiple extension bars, demonstrating how the modular design allows for customized length to reach spark plugs in confined spaces.



Image 4: Illustration demonstrating how a 17mm ratchet glasses wrench can be used on the outer hexagonal part of the extension bar for initial loosening or final tightening in extremely low-clearance situations.

MAINTENANCE

To ensure the longevity and optimal performance of your TONE PG86S socket set, follow these maintenance guidelines:

- **Cleaning:** After each use, wipe down all components with a clean cloth to remove dirt, oil, and grease. For stubborn grime, use a mild degreaser and dry thoroughly.
- **Lubrication:** Periodically apply a light coat of machine oil to the drive ends of the sockets and extension bars to prevent rust and ensure smooth operation.
- **Storage:** Store the socket set in a dry environment, preferably in a tool box or organizer, to protect it from moisture and physical damage.
- **Inspection:** Regularly inspect the tools for any signs of wear, cracks, or damage. Discontinue use of any damaged tools to prevent injury or further damage to components.

TROUBLESHOOTING

This section addresses common issues that may arise during the use of the spark plug socket set.

- **Socket not fitting spark plug:** Ensure you are using the correct 14mm socket size for your spark plugs. Verify the spark plug type and size required for your vehicle.

- **Socket getting stuck on spark plug:** This can occur due to tight clearances or strong magnetic retention. Gently twist and pull the extension bar to dislodge the socket. If persistent, try using a different extension or a universal joint to create a slight angle for removal.
- **Difficulty reaching spark plugs:** Utilize the various extension bar lengths provided in the set. Experiment with different combinations of extension bars to achieve the optimal length and angle for access. The 17mm hex on the extension bars allows for use with a ratchet glasses wrench in extremely tight spots.
- **Stripping spark plug threads:** Always hand-thread spark plugs initially to ensure they are properly seated before using a wrench. Apply appropriate torque as specified by the vehicle manufacturer.

SPECIFICATIONS

TONE PG86S Spark Plug Socket Set Specifications

Feature	Detail
Model Number	PG86S
Drive Size	3/8 inch (9.5 mm)
Spark Plug Socket Size	14mm
Number of Pieces	4 (1 socket, 3 extension bars)
Material	Alloy Steel
Finish	Polished
Item Weight	6.4 ounces (approx. 181 grams)
Product Dimensions	0.79 x 0.79 x 2.52 inches (approx. 20 x 20 x 64 mm)
Country of Origin	Japan
Compatibility	Designed for horizontal opposed engines, suitable for 86/BRZ vehicles.

PLUG SOCKET SET

Models **PG86S**

Contents **4 Items**

Descriptions	Models
Plug socket	3P-14S
Extension bar	EX32-32 (2), EX32-50

- Thin wall
- Only for spark plug



EXTENSION BAR

Models	Sq.dr. (mm)	Dimensions (mm)					Weight (g)
		W	L ₁	L ₂	L	d	
EX32-32	9.5	17	13	21.5	32	10.5	36
EX32-50	9.5	17	13	39.5	50	10.5	49

※ We do not sell parts by part.

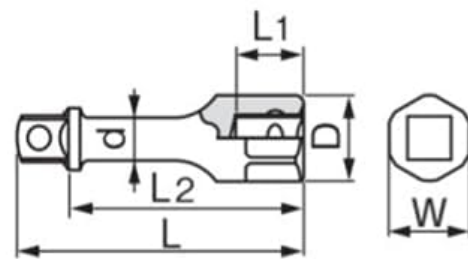


Image 5: Detailed specifications for the EX32-32 and EX32-50 extension bars, including square drive size, dimensions (width, L₁, L₂, L, d), and weight.

WARRANTY INFORMATION

Specific warranty details for TONE products are typically provided at the point of purchase or on the official TONE website. Please retain your proof of purchase for any warranty claims. TONE products are manufactured to high standards, and any defects in material or workmanship are generally covered under their standard warranty policy. For detailed information, please refer to the official TONE warranty statement or contact customer support.

CUSTOMER SUPPORT

For further assistance, technical support, or inquiries regarding the TONE PG86S Spark Plug Socket Set, please contact TONE customer service through their official website or authorized distributors. You can visit the official TONE Store on Amazon for more product information and support resources.

Official TONE Store: TONE Tools on Amazon

