

GearWrench 81670

GEARWRENCH 13mm 12 Point Long Pattern Combination Wrench - 81670 User Manual

Model: 81670

INTRODUCTION

This manual provides essential information for the proper use and maintenance of your GEARWRENCH 13mm 12 Point Long Pattern Combination Wrench, model 81670. Please read these instructions carefully before use to ensure safe and effective operation and to prolong the life of your tool.



Figure 1: GEARWRENCH 13mm 12 Point Long Pattern Combination Wrench (Model 81670)

This image displays the GEARWRENCH 13mm 12 Point Long Pattern Combination Wrench, model 81670. It features a polished chrome finish and clearly visible "GEARWRENCH 13mm" branding on the shaft. The wrench has an open end on one side and a 12-point box end on the other, designed for metric fasteners.

KEY FEATURES

- **Long Pattern Length:** Provides extended reach for fasteners in confined spaces.
- **Surface Drive Plus™ Technology:** Located on the open end, this design provides a stronger grip on fasteners, reducing rounding and delivering up to 25% more torque.
- **12 Point Box End:** Offers multiple engagement angles for easier access to fasteners.
- **Offset Box End:** The 15-degree offset angle allows for improved hand clearance and access in tight areas.
- **Durable Construction:** Made from chrome vanadium steel for strength and a high polish nickel chrome finish for corrosion resistance and long tool life.
- **Clear Markings:** Size is stamped on both sides and the head for quick identification.

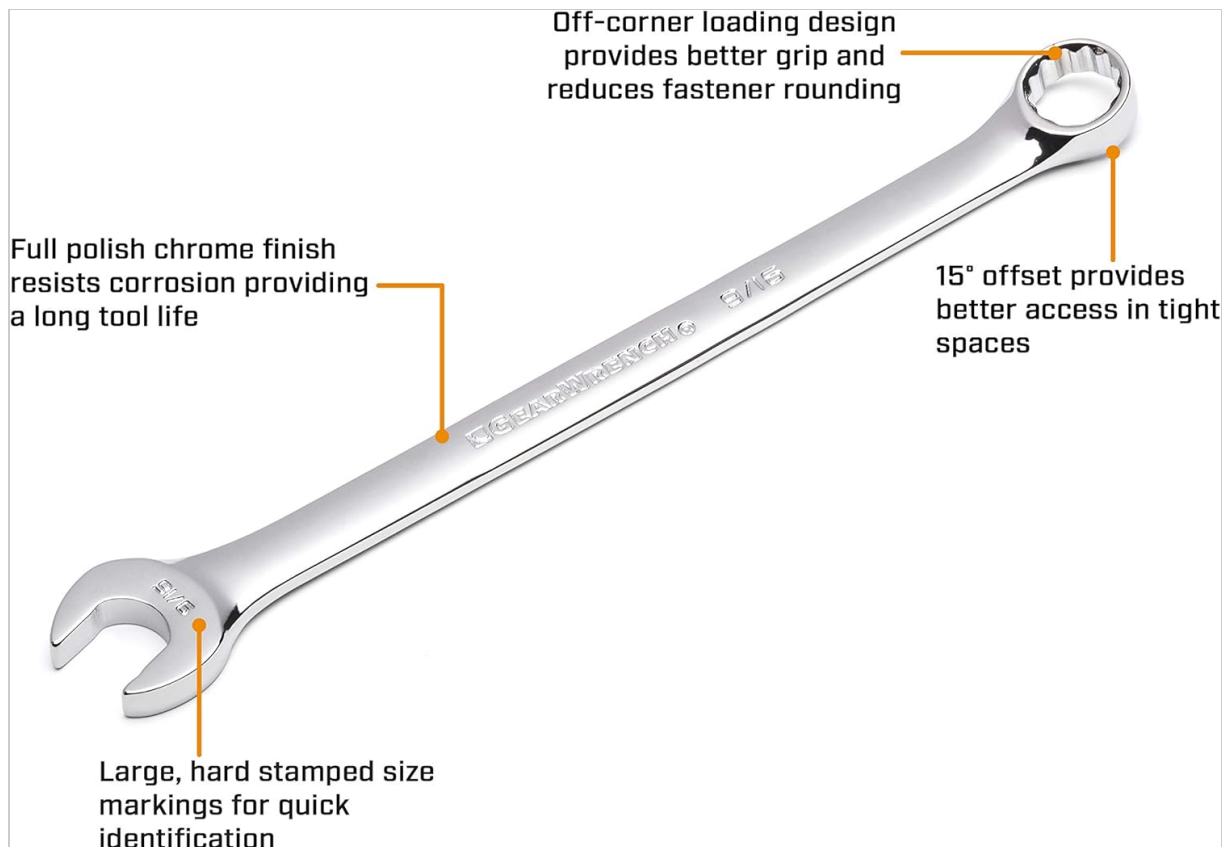


Figure 2: Key Features of the GEARWRENCH Combination Wrench

This diagram highlights the key features of the wrench. It points out the full polish chrome finish for corrosion resistance, the 15-degree offset box end for better access, the off-corner loading design for improved grip and reduced fastener rounding, and the large, hard-stamped size markings for quick identification.

SETUP AND PREPARATION

The GEARWRENCH combination wrench is ready for immediate use upon receipt. No assembly is required.

Pre-Use Inspection:

- Inspect the wrench for any signs of damage, such as cracks, bends, or excessive wear. Do not use a damaged tool.
- Ensure the wrench size (13mm) matches the fastener you intend to work with. Using an incorrect size can damage both the fastener and the tool.
- Clean any grease or debris from the wrench to ensure a secure grip.

OPERATING INSTRUCTIONS

This combination wrench is designed for tightening and loosening 13mm metric fasteners (nuts and bolts).

General Use Guidelines:

1. Select the Correct End:

- Use the **open end** for quick engagement and disengagement of fasteners, especially when access is limited from the top. The Surface Drive Plus™ design helps prevent rounding.
- Use the **12-point box end** for maximum grip and torque application, particularly when breaking loose stubborn fasteners or for final tightening. The 15-degree offset provides knuckle

clearance.

2. **Ensure Proper Fit:** Always ensure the wrench is fully seated on the fastener. A loose fit can lead to slippage, fastener damage, and potential injury.
3. **Apply Force Correctly:**
 - Pull on the wrench rather than push, when possible, to reduce the risk of injury if the wrench slips.
 - Apply steady, even pressure. Avoid sudden jerking motions.
 - For stubborn fasteners, apply penetrating oil and allow it to work before attempting to loosen.
4. **Leverage:** The long pattern length provides increased leverage. Use this advantage for fasteners requiring higher torque, but always be mindful of over-tightening.
5. **Safety:** Wear appropriate personal protective equipment (PPE), such as safety glasses, when using hand tools.

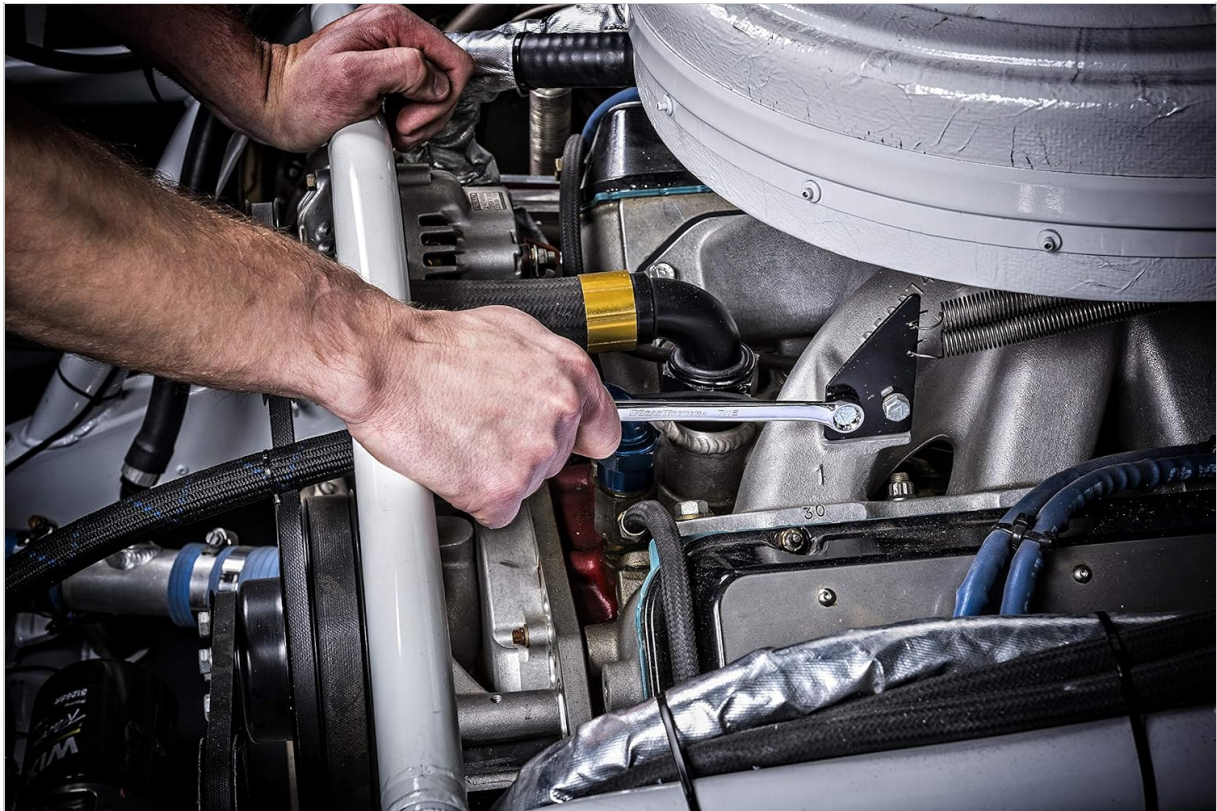


Figure 3: Wrench in use in an engine compartment

This image shows the GEARWRENCH 13mm combination wrench being used to access a fastener within a complex engine compartment. The long pattern design facilitates reaching fasteners in tight or recessed areas, demonstrating its practical application.

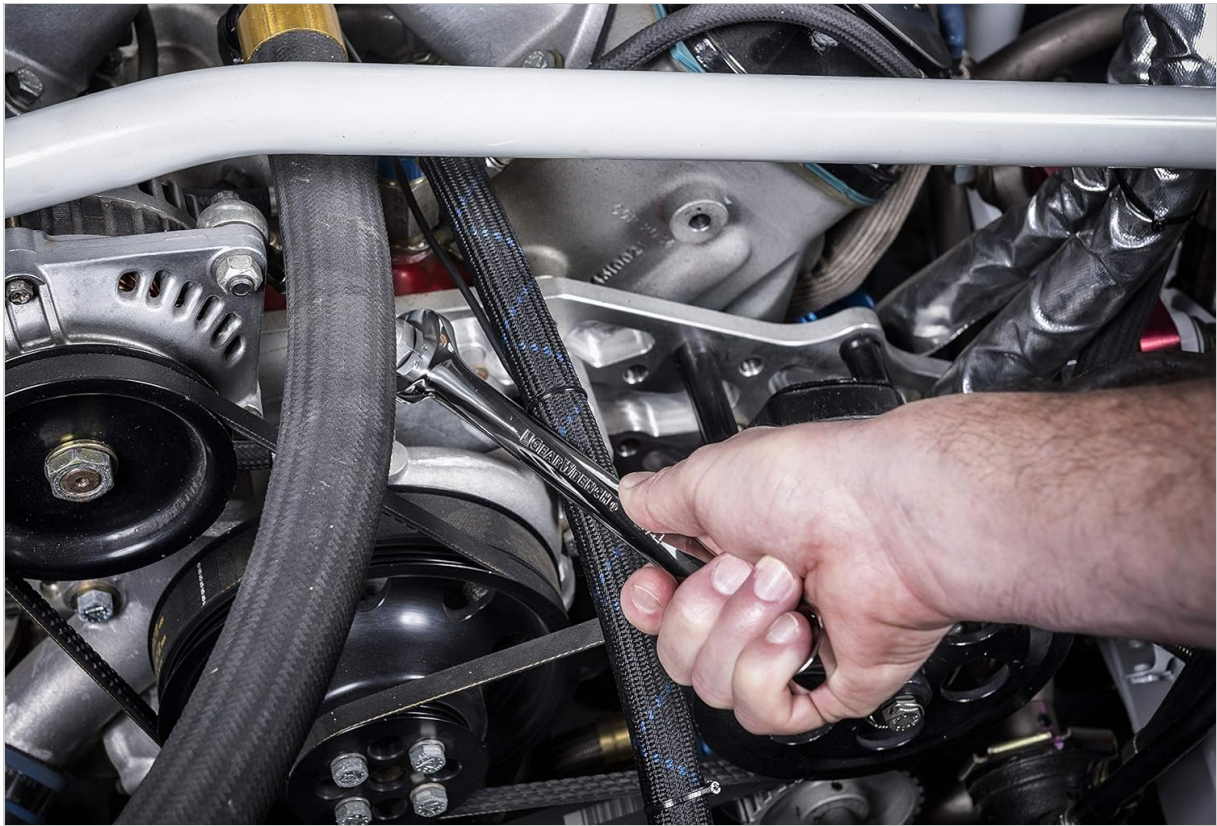


Figure 4: Close-up of wrench application

A closer view of the wrench in operation, illustrating how the user grips the tool and applies force to a fastener. This highlights the ergonomic design and the clearance provided by the wrench's shape.

MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your GEARWRENCH combination wrench.

- **Cleaning:** After each use, wipe the wrench clean with a cloth to remove dirt, grease, and grime. For stubborn residue, use a mild degreaser.
- **Drying:** Ensure the wrench is completely dry before storage to prevent rust, especially in humid environments.
- **Storage:** Store the wrench in a dry, clean environment, away from corrosive chemicals. A tool roll, drawer, or toolbox is recommended to protect the finish and prevent damage.
- **Inspection:** Periodically inspect the wrench for any signs of wear, damage, or corrosion. Address any issues promptly.



Figure 5: Chrome Plating for Corrosion Resistance

This diagram illustrates the chrome plating process, emphasizing its role in providing corrosion resistance to the tool. Regular cleaning and proper storage help maintain this protective layer.

TROUBLESHOOTING

Most issues with a combination wrench can be avoided by following proper usage and maintenance guidelines. However, if you encounter problems:

- **Wrench Slipping:**

- Ensure the wrench size matches the fastener exactly.
- Confirm the wrench is fully seated on the fastener.
- Check for excessive wear on the wrench jaws or box end. A worn tool should be replaced.

- **Fastener Rounding:**

- This often occurs due to using an oversized wrench, a worn wrench, or improper seating.
- Always use the correct size wrench and ensure it is fully engaged.
- The Surface Drive Plus™ feature on the open end is designed to minimize rounding; ensure you are utilizing it correctly.

- **Tool Damage (Bending/Breaking):**
 - Avoid using extension pipes (cheater bars) on wrenches, as this can apply excessive force beyond the tool's design limits and void the warranty.
 - Do not strike the wrench with a hammer or other tools unless it is specifically designed for striking applications (this wrench is not).
 - If the tool is damaged, discontinue use immediately and replace it.

SPECIFICATIONS

Model Number	81670
Size	13mm
Point Count	12 Point (Box End)
Wrench Length Style	Long Pattern
Material	Alloy Steel
Finish	Full Polish Nickel Chrome Plated
Item Length	8.11 Inches
Item Weight	2.89 ounces
Measurement System	Metric
UPC	099575816703

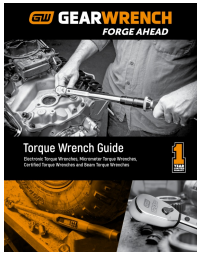
WARRANTY INFORMATION

GEARWRENCH products are manufactured to high-quality standards and are backed by a limited lifetime warranty against defects in material and workmanship. For specific warranty terms and conditions, including limitations and exclusions, please refer to the official GEARWRENCH website or contact their customer service directly. Keep your proof of purchase for warranty claims.

CUSTOMER SUPPORT

If you have any questions regarding the use, maintenance, or warranty of your GEARWRENCH 13mm 12 Point Long Pattern Combination Wrench, please contact GEARWRENCH customer support.

- **Website:** Visit the official [GEARWRENCH Store](#) for product information and support resources.
- **Contact Information:** Refer to the packaging or the official website for the most current customer service contact details.



[GEARWRENCH Torque Wrench Guide: Electronic, Micrometer, and Beam Models](#)

Comprehensive guide to GEARWRENCH torque wrenches, including electronic, micrometer, and beam types. Details features, specifications, and model numbers for precise torque application.



[GEARWRENCH MEGAMOD358 358-Piece Metric Mechanics Tool Set with Rolling Cabinet](#)

Discover the GEARWRENCH MEGAMOD358, a comprehensive 358-piece metric mechanics tool set designed for professional use. This set includes a premium quality collection of metric chrome and impact sockets, ratchets, and wrenches, all organized in modular foam trays within a durable rolling cabinet. Featuring award-winning 120XP Next Generation ratchets for superior access in tight spaces, this tool set enhances productivity and efficiency for demanding jobs.



[GEARWRENCH MEGAMODMRO 614-Piece Master Mechanics Tool Set with Mobile Workstation](#)

Discover the comprehensive GEARWRENCH MEGAMODMRO 614-piece Master Mechanics Hand Tool Set. This professional-grade set includes a mobile workstation, modular foam trays, and over 600 tools across 15 categories, designed for efficiency and organization. Features detailed lists of sockets, wrenches, pliers, screwdrivers, and more.



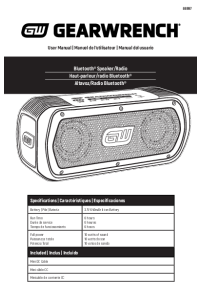
[GearWrench GWSMARTBT Professional Bidirectional Diagnostic Tool Quick Start Guide](#)

A concise guide to setting up and using the GearWrench GWSMARTBT Professional Bidirectional Diagnostic Tool, including product overview, getting started steps, and specifications.



[GEARWRENCH GWSMARTBT Professional Bidirectional Diagnostic Tool User Manual](#)

This manual provides instructions for setting up and using the GEARWRENCH GWSMARTBT Professional Bidirectional Diagnostic Tool. Learn how to connect the device, pair it with your smartphone, activate the software, and perform diagnostics.



[GEARWRENCH Bluetooth Speaker/Radio User Manual](#)

This user manual provides instructions for operating the GEARWRENCH Bluetooth Speaker/Radio, including charging, powering on/off, switching modes, microSD card playback, AUX mode, Bluetooth pairing, handshake mode, FM radio mode, and answering phone calls.