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NEO TOOLS 10-300

NEO TOOLS Ratchet 10-300 Instruction Manual

Model: 10-300

1. PRODUCT OVERVIEW

The NEO TOOLS Ratchet 10-300 is a high-quality hand tool designed for efficient tightening and loosening of fasteners. Constructed from durable Chrome-Vanadium and Molybdenum-Chrome steel, it offers reliability and strength for various applications. Its 90-tooth mechanism provides fine ratcheting action, ideal for working in confined spaces.

- **Material:** Chrome-Vanadium Steel, Molybdenum-Chrome Steel
- **Square Drive:** 12.5 mm (1/2 inch)
- **Ratchet Mechanism:** 90 teeth
- **Maximum Torque:** 1000 Nm
- **Handle:** 2-component ergonomic handle



Figure 1: General view of the NEO TOOLS Ratchet 10-300 in use.

2. SAFETY INFORMATION

Always observe the following safety precautions when using the NEO TOOLS Ratchet 10-300:

- Wear appropriate personal protective equipment, such as safety glasses, to protect against flying debris.
- Ensure the correct size socket is used for the fastener to prevent slippage and damage.
- Do not exceed the maximum specified torque of 1000 Nm. Over-torquing can damage the tool or the fastener.

- Do not use the ratchet as a pry bar or hammer.
- Keep the tool clean and free from grease or oil to maintain a secure grip.
- Store the tool in a dry, safe place, out of reach of children.

3. COMPONENTS

The NEO TOOLS Ratchet 10-300 consists of the following main components:

- **Ratchet Head:** Contains the 90-tooth mechanism and the direction switch.
- **Square Drive:** The 1/2-inch square post for attaching sockets.
- **Direction Switch:** Allows selection between tightening (clockwise) and loosening (counter-clockwise) modes.
- **Handle:** Ergonomically designed 2-component handle for comfortable and secure grip.



Figure 2: Close-up of the ratchet head showing the 90-tooth indicator and direction switch.

4. SETUP

Setting up your NEO TOOLS Ratchet 10-300 is straightforward:

1. **Select the Correct Socket:** Choose a socket that perfectly fits the fastener you intend to work with.
2. **Attach the Socket:** Firmly push the selected socket onto the 1/2-inch square drive of the ratchet head until it clicks into place. Ensure it is securely seated.
3. **Set the Direction:** Use the direction switch on the ratchet head to select the desired operation mode. Move the switch to the left for loosening (counter-clockwise) or to the right for tightening (clockwise).

5. OPERATING INSTRUCTIONS

Follow these steps for effective use of your ratchet:

1. **Position the Socket:** Place the attached socket onto the fastener, ensuring a snug fit.
2. **Apply Force:** Hold the ratchet firmly by the handle. Apply steady, controlled force in the desired direction (tightening or loosening). The 90-tooth mechanism allows for small arcs of movement, which is beneficial in tight spaces.

3. **Ratcheting Action:** Once the fastener begins to turn, release pressure on the handle, rotate the handle back to a comfortable starting position, and re-engage the fastener. Repeat this ratcheting action until the fastener is adequately tightened or loosened.
4. **Torque Application:** While this ratchet is robust and can handle up to 1000 Nm, it is not a precision torque wrench. For applications requiring specific torque values, use a calibrated torque wrench.

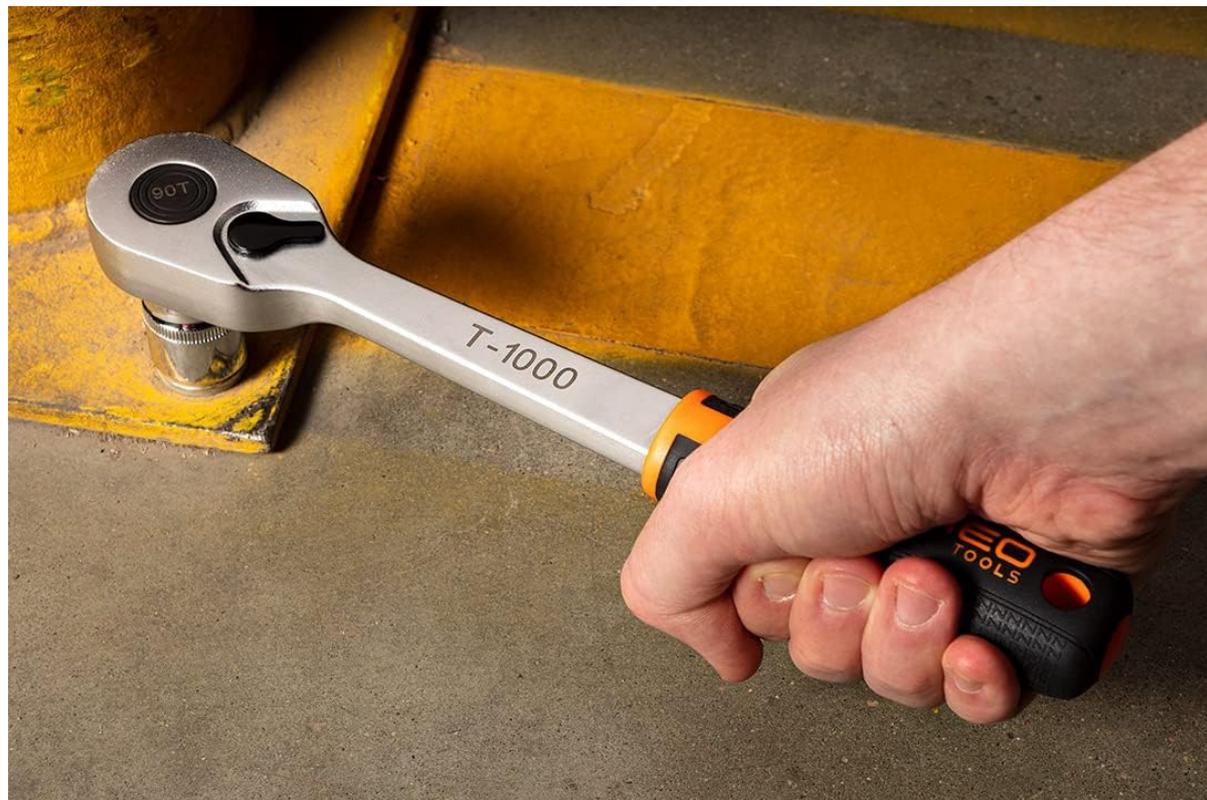


Figure 3: The ratchet positioned for operation on a work surface.

6. MAINTENANCE AND CARE

Proper maintenance ensures the longevity and optimal performance of your ratchet:

- **Cleaning:** After each use, wipe the ratchet clean with a dry cloth to remove dirt, grease, and debris. For stubborn grime, use a mild solvent and ensure the tool is thoroughly dried afterwards.
- **Lubrication:** Periodically apply a small amount of light machine oil to the ratchet mechanism to ensure smooth operation. Avoid over-lubrication, which can attract dirt.
- **Inspection:** Regularly inspect the ratchet head, square drive, and handle for any signs of wear, damage, or corrosion. Discontinue use if any significant damage is observed.
- **Storage:** Store the ratchet in a dry environment, away from excessive moisture and corrosive substances. The original plastic box (Figure 4) provides excellent protection.



Figure 4: The NEO TOOLS Ratchet 10-300 in its protective plastic box.

7. TROUBLESHOOTING

If you encounter issues with your ratchet, consider the following:

- **Ratchet Mechanism Sticking:** This can often be resolved by cleaning the ratchet head thoroughly and applying a small amount of lubricant. Ensure no debris is obstructing the gears.
- **Socket Slipping:** Verify that the socket is fully engaged on the square drive and that it is the correct size for the fastener. Worn sockets or fasteners can also cause slippage.
- **Reduced Torque Transfer:** Ensure the ratchet direction switch is fully engaged in either the tightening or loosening position. A partially engaged switch can lead to inefficient operation.
- **Visible Damage:** If the ratchet shows cracks, bends, or significant wear, it should be replaced to prevent injury or further damage.

8. SPECIFICATIONS

Feature	Specification
Manufacturer	NEO TOOLS
Model Number	10-300
Material	Chrome-Vanadium Steel, Molybdenum-Chrome Steel
Square Drive Size	12.5 mm (1/2 inch)
Number of Teeth	90
Maximum Torque	1000 Nm
Handle Type	2-component ergonomic handle
Finish	Polished
Power Source	Hand-powered
Operating Mode	Mechanical

9. WARRANTY

NEO TOOLS products are manufactured to high-quality standards. For specific warranty terms and conditions, please refer to the warranty information provided with your purchase or visit the official NEO TOOLS website. Keep your proof of purchase for any warranty claims.

10. CUSTOMER SUPPORT

If you have any questions, require technical assistance, or need to report an issue with your NEO TOOLS Ratchet 10-300, please contact your retailer or visit the official NEO TOOLS website for support resources and contact information.

