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› WnewTools CT312 3-in-1 TIG MMA CUT Welder Instruction Manual

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Model: CT312

1. INTRODUCTION

Thank you for choosing the WnewTools CT312 3-in-1 Inverter Welding Machine. This versatile equipment combines TIG welding, MMA (Stick) welding, and Plasma Cutting functionalities into a single, portable unit. Designed for efficiency and ease of use, the CT312 is suitable for a wide range of applications, from DIY projects to professional tasks. Please read this manual thoroughly before operation to ensure safe and effective use of the machine.

2. SAFETY INFORMATION

WARNING: Welding and plasma cutting can be dangerous. Always follow safety precautions to prevent injury or death.

- Always wear appropriate personal protective equipment (PPE), including welding helmet, gloves, protective clothing, and safety shoes.
- Ensure adequate ventilation to avoid inhaling fumes and gases.
- Protect bystanders from arc rays and sparks.
- Never operate the machine in wet conditions or near flammable materials.
- Ensure proper grounding of the equipment.
- Disconnect power before performing any maintenance or changing accessories.
- Keep children and unauthorized personnel away from the operating area.

3. PACKAGE CONTENTS

Verify that all items listed below are included in your package:

- 1 x WnewTools CT312 3-in-1 Welder Unit
- 1 x 2.5M TIG Torch
- 1 x 2.5M Cutting Torch (PT31)
- 1 x 1.5M MMA Clamp & Cable
- 1 x 1.5M Ground Clamp & Cable
- 1 x Regulator
- 1 x Consumables (3 sets)



Image 3.1: Overview of the WnewTools CT312 welding machine and its complete set of accessories, including torches, clamps, cables, and regulator.

4. PRODUCT OVERVIEW

The CT312 features a compact design with a robust handle for portability. The front panel includes controls for mode selection (TIG, MMA, CUT), current adjustment, and indicator lights.



Image 4.1: Detailed view of the CT312's front panel, displaying the power switch, mode selector, current adjustment knob, and connection ports for torches and ground clamp.



Image 4.2: The CT312 unit being held by its handle, illustrating its compact size and portability for easy transport.

5. SETUP

5.1 Power Connection

1. Ensure the power switch on the CT312 is in the 'OFF' position.
2. Connect the power cord to a suitable 220V $\pm 15\%$ power outlet. Verify the outlet can handle the machine's rated input current.

5.2 Gas and Air Connections (for TIG and CUT)

1. **For TIG Welding:** Connect a suitable inert gas cylinder (e.g., Argon) to the regulator. Attach the regulator to the gas inlet on the machine.
2. **For Plasma Cutting:** Connect an air compressor to the regulator. Attach the regulator to the air inlet on the machine. Ensure the compressed air is clean and dry.

5.3 Torch and Clamp Connections

1. **Ground Clamp:** Connect the ground clamp cable to the negative (-) terminal on the front panel. Securely attach the ground clamp to the workpiece.
2. **TIG Torch:** For TIG welding, connect the TIG torch to the positive (+) terminal and the gas hose to the gas outlet.
3. **MMA Clamp:** For MMA welding, connect the MMA electrode holder to the positive (+) terminal.
4. **Cutting Torch:** For Plasma Cutting, connect the cutting torch to the positive (+) terminal and the air hose to the air outlet.

6. OPERATING MODES

6.1 TIG Welding (Tungsten Inert Gas)

TIG welding provides high-quality welds on various metals, especially stainless steel, nickel alloys, copper, brass, and bronze. It uses a non-consumable tungsten electrode and an inert shielding gas.

- **Current Output:** 10-120A DC
- **Procedure:** Select 'TIG' mode. Adjust current using the knob. Ensure gas flow is set correctly. Use HF start for improved tungsten life.

6.2 MMA Welding (Manual Metal Arc / Stick Welding)

MMA welding is a versatile process suitable for various basic electrodes and conditions. It is known for its ease of arc start and stable welding arc.

- **Current Output:** 10-120A DC
- **Procedure:** Select 'MMA' mode. Insert the appropriate electrode into the MMA clamp. Adjust current. The machine features adjustable hot striking arc current for improved arc-starting.

6.3 Plasma Cutting (CUT)

Plasma cutting uses an electric arc and compressed air to cut through conductive materials quickly and cleanly.

- **Current Output:** 10-30A
- **Materials:** Stainless steel, alloy steel, mild steel, copper, aluminum, etc.
- **Procedure:** Select 'CUT' mode. Ensure compressed air is connected and regulated. Adjust current based on material thickness.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your CT312 welder.

- **Cleaning:** Periodically clean the machine's exterior and ventilation openings to prevent dust buildup. Use dry, compressed air to clear internal components if necessary (ensure power is disconnected).
- **Consumables:** Regularly inspect and replace TIG electrodes, plasma cutting nozzles, electrodes, and shields as they wear out. Refer to the included consumables for replacement types.
- **Cables and Connections:** Check all cables and connections for damage or loose fittings before each use. Replace damaged cables immediately.
- **Air Filter (for CUT):** If your regulator includes an air filter, clean or replace it as needed to ensure clean, dry air supply for plasma cutting.

8. TROUBLESHOOTING

If you encounter issues, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No power	Power cord disconnected, circuit breaker tripped	Check power connection, reset circuit breaker
No arc (TIG/MMA)	Poor ground connection, incorrect current setting, worn electrode	Ensure good ground, adjust current, replace electrode
Poor cut quality (CUT)	Insufficient air pressure, worn plasma consumables, incorrect current	Check air supply/pressure, replace consumables, adjust current
Overheat indicator on	Exceeded duty cycle, blocked ventilation	Allow machine to cool, clear ventilation openings

If the problem persists, contact customer support.

9. SPECIFICATIONS

Technical specifications for the WnewTools CT312 3-in-1 Welder:

Feature	Specification
Model Number	CT312 (Item model number: ATOOL1536671)
Rated Input Voltage	220V ±15%
Pulse Frequency	50/60Hz
Rated Duty Cycle	60%
Dimensions (L x W x H)	340 x 160 x 240mm (13.39 x 6.30 x 9.45 inches approx.)
Product Dimensions (Amazon)	8.66 x 3.15 x 5.91 inches
Weight	13 kg (28.66 lb) / 23 pounds (Amazon)
Technology	Latest Invert Technology
TIG Output Current Range	10-120A
MMA Output Current Range	10-120A
CUT Output Current Range	10-30A
Input Current (TIG/MMA/CUT)	10A / 15.87A / 14.7A
Output Current (TIG/MMA/CUT)	15A / 92A / 25A
UPC	769902979844



Image 9.1: The CT312 welding machine with its key dimensions (length, width, height) labeled for reference.

10. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the documentation provided with your

purchase or contact WnewTools customer service directly. Keep your purchase receipt as proof of purchase.

ASK A QUESTION ABOUT THIS MANUAL

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