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› ANDELI TIG-200 ACDC AC/DC Aluminum TIG Welder Instruction Manual

ANDELI TIG-200 ACDC

ANDELI TIG-200 ACDC AC/DC Aluminum TIG Welder Instruction Manual

Model: TIG-200 ACDC | Brand: ANDELI

1. INTRODUCTION

This manual provides essential information for the safe and effective operation of your ANDELI TIG-200 ACDC multi-process welding machine. This unit is designed for various welding applications, including Stick, DC TIG, DC Pulse TIG, AC TIG, AC Pulse TIG, Lift TIG, Cold Welding, and Spot Welding. It is suitable for welding aluminum, carbon steel, stainless steel, and titanium.

Please read this manual thoroughly before operating the equipment and retain it for future reference.

2. SAFETY INFORMATION

Welding operations involve significant risks. Always adhere to safety precautions to prevent injury or damage to equipment. This machine is engineered with triple-layer safety safeguards: over-voltage, over-current, and over-heat protection.

- **Electrical Safety:** Ensure proper grounding. Do not operate in wet conditions. Verify input voltage (110V/220V) matches the power supply.
- **Fume Hazards:** Weld in well-ventilated areas. Avoid inhaling welding fumes.
- **Arc Rays:** Wear appropriate welding helmets with proper shade filters to protect eyes and face from intense light and UV/IR radiation.
- **Burn Prevention:** Wear protective clothing, gloves, and footwear to prevent burns from hot metal and sparks.
- **Fire Prevention:** Keep flammable materials away from the welding area. Have a fire extinguisher readily available.
- **Gas Cylinders:** Secure gas cylinders properly. Use correct regulators and hoses.

3. PACKAGE CONTENTS

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

- ANDELI TIG-200 ACDC Welding Machine
- WP-26 Aluminum TIG Torch (4m)
- Grounding Clamp (2m)
- Electrode Holder

- 10 x Nozzles
- 10 x Collets
- 2 x Tungsten Electrodes
- Air Hose
- 110V/220V Power Adapter



Figure 3.1: Included accessories for the ANDELI TIG-200 ACDC welder.

4. SETUP

4.1 Power Connection

The TIG-200 ACDC supports dual voltage input (110V/220V). Use the provided power adapter to connect the machine to a suitable power outlet. Ensure the power source matches the machine's requirements and is properly grounded.

4.2 Connecting Welding Accessories

- **TIG Torch:** Connect the WP-26 TIG torch to the designated TIG torch connector on the front panel. Ensure it is securely fastened.
- **Ground Clamp:** Attach the ground clamp cable to the workpiece and the corresponding terminal on the welding machine.
- **Electrode Holder:** For Stick welding, connect the electrode holder cable to the appropriate terminal.
- **Gas Connection:** Connect the air hose from your inert gas cylinder (e.g., Argon for TIG welding) to the gas inlet on the machine. Ensure all connections are tight to prevent gas leaks.

5. OPERATING INSTRUCTIONS

5.1 Control Panel Overview

The machine features a 5.2-inch LED display for clear parameter monitoring and adjustment. The user interface is designed for ease of use, simplifying setup and operation.



Figure 5.1: Detailed view of the 5.2-inch LED control panel.

5.2 Welding Modes

The TIG-200 ACDC offers 8-in-1 multi-process welding capabilities:

- **Stick Welding (MMA):** For general purpose welding with coated electrodes.
- **DC TIG:** For welding stainless steel, carbon steel, copper, and other DC-weldable metals.
- **DC Pulse TIG:** Provides enhanced control for thinner materials and reduced heat input.
- **AC TIG:** Essential for welding aluminum and magnesium alloys, providing cleaning action.
- **AC Pulse TIG:** Combines AC TIG benefits with pulse control for precise aluminum welding.
- **Lift TIG:** A simplified TIG start method, reducing tungsten contamination.
- **Cold Welding:** Designed for low-heat welding and thin materials, minimizing thermal distortion and spatter.
- **Spot Welding:** For quick, localized welds.



Figure 5.2: Overview of the 8 welding modes.

5.3 Parameter Adjustments

The control panel allows for fine-tuning of various welding parameters:

- **Pre-flow:** Duration of gas flow before arc ignition.
- **Initial Current:** Starting amperage for the weld.
- **Up-slope:** Time taken to ramp up from initial current to peak current.
- **Peak Current:** Maximum welding amperage.
- **Base Current:** Minimum amperage during pulse welding.
- **Down-slope:** Time taken to ramp down from peak current to crater current.
- **Crater Current:** Amperage at the end of the weld to fill the crater.
- **Post-flow:** Duration of gas flow after arc extinction to protect the weld puddle.
- **Pulse Duty:** Percentage of time spent at peak current during pulse welding.
- **AC Frequency:** Controls the arc cone width and direction for AC TIG.
- **AC Balance:** Adjusts the cleaning action and penetration for AC TIG.
- **Pulse Frequency:** Number of pulses per second.

MORE ADVANCED ARC CONTROL

Pre-flow

Initial current

Up-slope

Peak current

Base current

Down-slope

Crater current

Post-flow

Pulse duty

AC frequency

AC balance

Pulse Frequency



Figure 5.3: Advanced arc control parameters.

5.4 Remote Control

The TIG torch is equipped with a built-in remote control button, allowing for on-the-fly amperage adjustments without interrupting the welding process. This enhances efficiency, especially for high-volume or precision tasks.



Figure 5.4: Remote control functionality via welding torch and optional foot pedal.

5.5 Cold TIG Welding

The Cold TIG feature is specifically designed for welding thin materials with minimal heat input. This reduces thermal distortion and ensures spatter-free results, making it ideal for heat-sensitive applications.

REAL WELDING EFFECT

Beautiful weld

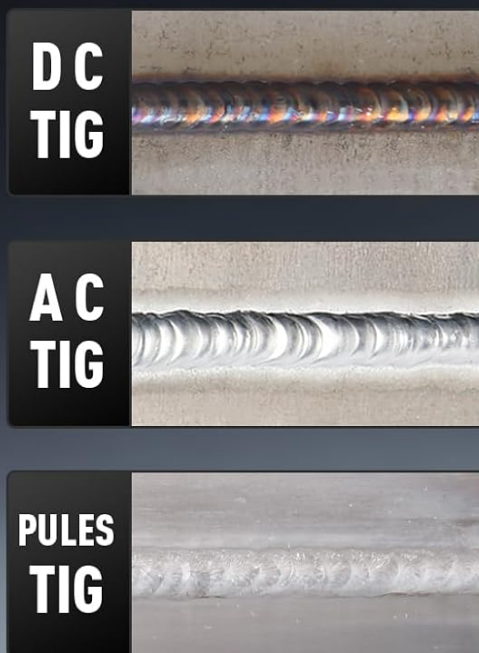


Figure 5.5: Examples of welding effects for different modes.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your welding machine.

- **Cleaning:** Periodically clean the machine's exterior and ventilation openings to prevent dust and debris buildup. Use compressed air to clear internal components if necessary, ensuring the machine is unplugged.
- **Cable Inspection:** Regularly inspect all cables, hoses, and connections for wear, damage, or loose fittings. Replace damaged components immediately.
- **TIG Torch Maintenance:** Clean the collet, collet body, and gas lens. Replace worn tungsten electrodes and ceramic nozzles as needed.
- **Storage:** Store the welder in a dry, clean environment when not in use.

7. TROUBLESHOOTING

If you encounter issues, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
No power	Power cable disconnected, circuit breaker tripped, machine fault	Check power connections, reset circuit breaker, contact support if issue persists.
No arc	Poor ground connection, incorrect settings, faulty torch switch	Ensure ground clamp is secure, verify welding parameters, check torch connections.
Poor weld quality	Incorrect parameters, insufficient gas flow, contaminated tungsten/material	Adjust welding parameters, check gas supply and flow rate, clean tungsten and workpiece.
Overheat protection activated	Exceeded duty cycle, blocked ventilation	Allow machine to cool down, ensure clear ventilation paths.

For issues not resolved by these steps, please contact ANDELI customer support.

8. SPECIFICATIONS

Feature	Detail
Manufacturer	ANDELI
Model Number	TIG-200 ACDC
Item Weight	36 pounds
Package Dimensions	25 x 13.6 x 13.6 inches
Power Source	AC/DC
Included Components	WP-26 aluminum torch (4m), 10 nozzles & collets, 10 tungsten electrodes, 2m grounding clamp, and 2 house clamps
Batteries Included?	No
Batteries Required?	No

9. WARRANTY & SUPPORT

The ANDELI TIG-200 ACDC welding machine is backed by a two-year warranty, ensuring long-term reliability. For warranty claims, technical assistance, or any product-related inquiries, please contact the ANDELI Official Store US.

Contact Information: Refer to your purchase documentation or the official ANDELI website for the most current support contact details.

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