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AZZUNO MIG250F

AZZUNO Aluminum 250Amp MIG Welder Instruction Manual

Model: MIG250F | Brand: AZZUNO

1. Introduction and Product Overview

The AZZUNO MIG-250A Aluminum Welder is a state-of-the-art 6-in-1 multi-process welding machine designed for both professional and hobbyist use. It supports Gas MIG, Gasless Flux Core MIG, Stick/MMA, Lift TIG, Spot Welding, and is compatible with a spool gun. Featuring dual 110V/220V voltage input and a large LED display, this welder offers precise control and ease of use for a wide range of welding applications.



Figure 1.1: AZZUNO Aluminum 250Amp MIG Welder and included accessories.

1.1. 6-in-1 Multi-Process Capability

This versatile machine combines multiple welding functions into one compact unit, allowing you to tackle various projects with different materials and techniques.



Figure 1.2: Overview of the 6 welding processes supported by the machine.

1.2. Large LED Display and Control

The large LED display provides clear and intuitive feedback on current settings, making operation straightforward for both beginners and experienced welders. Digital controls allow for precise adjustments.



Figure 1.3: Detailed view of the welder's large LCD display and control interface.

▶ **Watch video online**

AZZUNO 200A MIG Welder,110V 220V Dual Voltage multiprocess

Video 1.1: Demonstration of the AZZUNO 200A MIG Welder's features and dual voltage capability. This video provides a visual guide to the machine's operation and versatility.

▶ **Watch video online**

Azzuno 200A MIG Welder- Perfect for your welding projects

Video 1.2: An overview of the Azzuno 200A MIG Welder, highlighting its suitability for various welding projects and ease of use.

2. Safety Information

Always prioritize safety when operating welding equipment. Failure to follow safety guidelines can result in serious injury or death.

- **Eye and Face Protection:** Always wear a welding helmet with appropriate shade lenses to protect your eyes and

face from arc rays and sparks.

- **Body Protection:** Wear flame-resistant clothing, welding gloves, and safety shoes to protect against burns and electrical shock.
- **Ventilation:** Ensure adequate ventilation to remove welding fumes and gases from the work area. Use local exhaust ventilation or respiratory protection if necessary.
- **Electrical Safety:** Never operate the welder in wet conditions. Ensure all electrical connections are secure and properly grounded. Do not touch live electrical parts.
- **Fire Prevention:** Keep a fire extinguisher nearby. Remove all flammable materials from the welding area. Be aware of hot metal and sparks.
- **Cylinder Safety:** Secure gas cylinders properly to prevent them from falling. Handle cylinders with care and ensure valves are closed when not in use.
- **Read the Manual:** Familiarize yourself with all instructions and warnings in this manual before operating the welder.

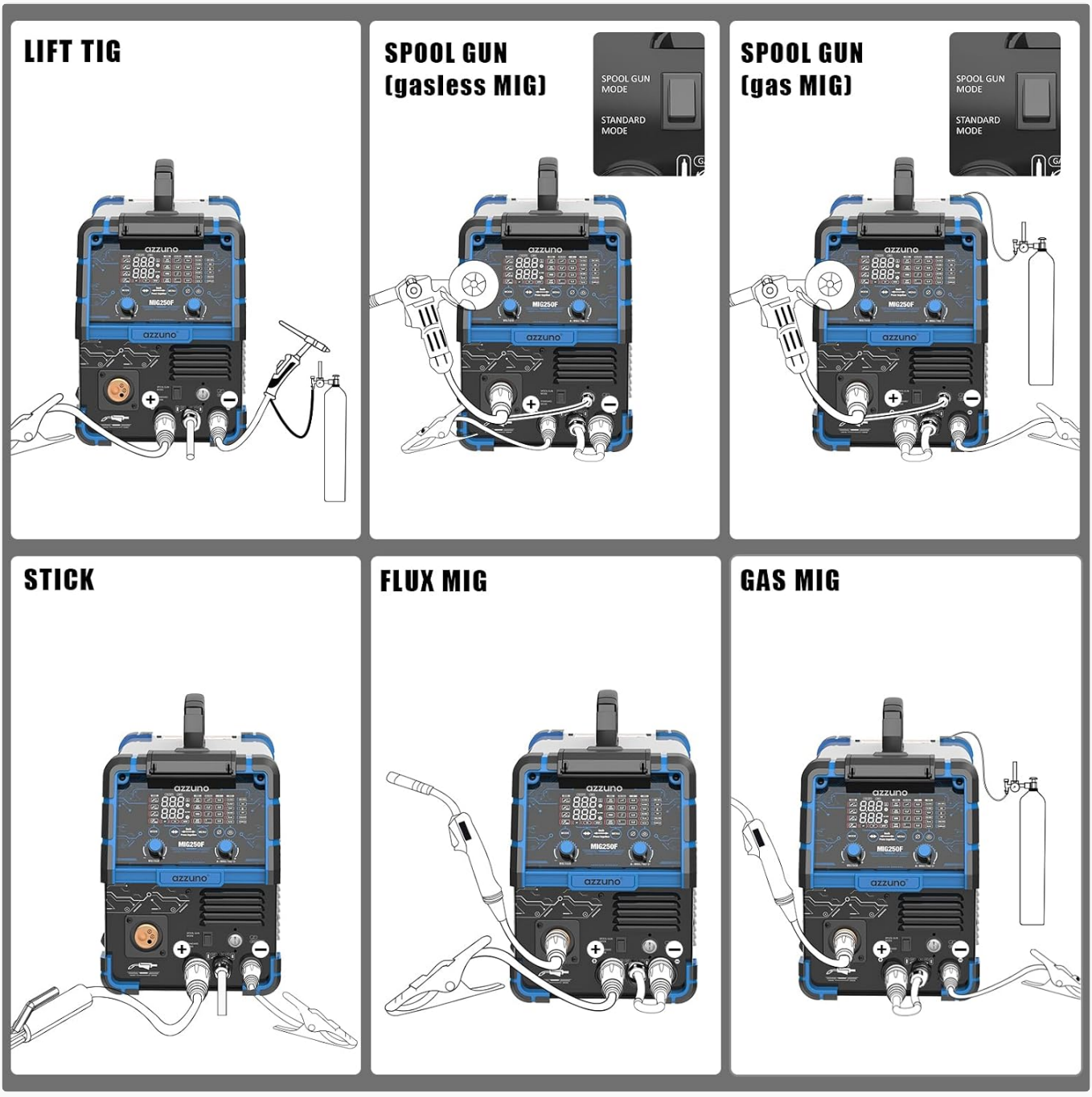


Figure 2.1: Built-in safety protections of the AZZUNO welder, including IGBT, over-current, over-voltage, and over-heating systems.

3. Setup and Installation

3.1. Unboxing and Component Check

Upon receiving your AZZUNO welder, carefully unpack all components and verify that all items listed in the packaging are present and undamaged. The standard package includes the welder unit, MIG torch, Teflon feed liner, electrode holder, ground clamp, brush, gas hose, drive roll, adapter cord, and contact tips.

3.2. Power Connection (110V/220V)

The AZZUNO MIG-250A supports dual voltage input (110V/220V). Use the appropriate adapter cord for your power supply. Ensure the power source meets the welder's requirements as detailed in the specifications section.

3.3. Wire and Gas Installation

Install the welding wire (solid, flux core, aluminum, or copper) into the wire feeder compartment. Ensure the correct drive roll is used for the wire diameter. For Gas MIG and Lift TIG, connect the gas hose to your shielding gas cylinder (e.g., CO2, Argon, or a mix) and the welder's gas inlet.



Figure 3.1: Compatible welding wire types for the AZZUNO welder.

3.4. Spool Gun Compatibility

The MIG-250A is compatible with a spool gun (not included) for enhanced aluminum welding performance. Connect the spool gun torch with a 2-pin aviation plug to the designated port on the welder.



Figure 3.2: The welder's Euro connector for spool gun compatibility, ideal for aluminum welding.



Figure 3.3: Two methods for welding aluminum: using a Teflon feed liner or a spool gun.

4. Operating Instructions

4.1. Front Panel Controls

Familiarize yourself with the front panel controls for optimal operation:

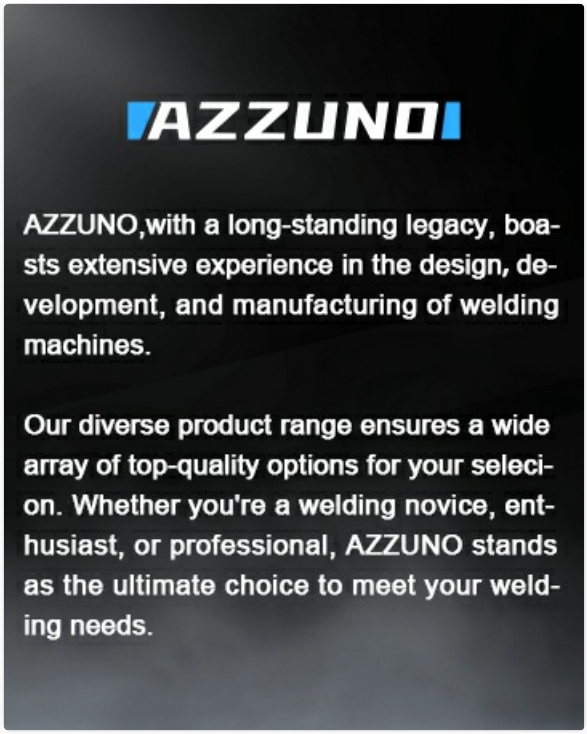


Figure 4.1: Front Panel Instruction Diagram.

- **A: Voltage and Current Display Area:** Shows real-time voltage and current settings.
- **B: Welding Model Selection:** Press to switch between MIG (Manual), MIG (Synergy), Stick (MMA), and Lift TIG welding functionalities.
- **C: MIG Operation Mode Selection:** Press to switch between 2T/4T trigger modes or Spot welding.
- **D: Voltage Adjust Knob:** Adjusts welding voltage (10-27.5V in manual MIG). In synergic MIG, voltage auto-adjusts with amperage, with micro-adjustment of ±3V.
- **E: MIG/MMA Function Switch Button:** In MMA mode, switches between HOT START, ARC FORCE, VRD, and ANTI STICK. In MIG mode, switches between Inductance, Slow speed wire feeding control, Post flow control, and Spot welding time.
- **F: Material and Gas Selection Button:** Selects welding data based on material (Mild Steel, Aluminum, Copper, Iron, Stainless Steel) and gas type.
- **G: Welding Wire Diameter Selection:** Selects welding wire diameter (.023”/.030”/.035” solid, .030”/.035” flux core, .035”/.040”/.045” aluminum, .035”/.040” copper).
- **H: Current and Wire Feed Speed Adjust Knob:** Adjusts wire feed speed and current.

4.2. Welding Modes and Applications

The AZZUNO MIG-250A offers multiple welding modes to suit various applications:

- **Gas/Solid Wire MIG:** Uses shielding gas and solid wire for clean, precise welds.
- **Gasless Flux Core MIG:** Uses flux-cored wire, eliminating the need for external shielding gas, ideal for outdoor use.
- **Stick/MMA:** For welding with coated electrodes, suitable for thicker materials and outdoor conditions.
- **Lift TIG:** Provides high-quality, clean welds for thin materials (TIG gun not included).
- **Spot Welding:** For joining overlapping metal sheets.
- **Spool Gun Compatible:** Enhances aluminum welding capabilities (spool gun not included).



Figure 4.2: Different welding configurations and processes.

4.3. Material Compatibility

This welder is capable of welding a wide range of materials:

- Mild Steel (up to 10.0mm plate)
- Aluminum
- Copper
- Iron
- Stainless Steel



Figure 4.3: The AZZUNO welder's capability to weld copper and aluminum.

5. Maintenance

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

- **Cleaning:** Regularly clean the exterior of the machine and ensure ventilation openings are free from dust and debris. Use compressed air to blow out internal dust.
- **Wire Feeder:** Inspect the wire feeder mechanism for wear and tear. Clean the drive rolls and wire conduit to prevent feeding issues.
- **Torch and Cables:** Check the welding torch, electrode holder, and ground clamp for damage. Replace worn-out contact tips and nozzles as needed. Ensure all cable connections are tight.
- **Gas System:** If using shielding gas, regularly check the gas hose and connections for leaks.
- **Storage:** Store the welder in a dry, clean environment away from excessive dust and moisture.

6. Troubleshooting

This section provides solutions to common issues you might encounter. For more complex problems, contact customer support.

- **No Power:** Check power cord connection, circuit breaker, and ensure the power switch is ON. Verify correct voltage input (110V/220V).
- **No Arc:** Ensure the ground clamp is securely attached to the workpiece. Check welding cable connections. Verify correct welding mode and settings.
- **Wire Feeding Issues:** Check for tangled wire spool, correct drive roll size, proper tension on the drive rolls, and a clean wire liner.
- **Poor Weld Quality:** Adjust voltage and wire feed speed settings. Ensure proper gas flow (if applicable) and correct wire type for the material. Check for clean workpiece surface.
- **Overheat Protection Activated:** If the O.C. (Over Current/Overheat) light is on, allow the machine to cool down. Ensure proper ventilation and avoid exceeding the duty cycle.

7. Technical Specifications

Specification	Value
Manufacturer	AZZUNO
Part Number	A-2
Item Weight	23.8 pounds
Product Dimensions	0.19 x 0.1 x 0.13 inches
Country of Origin	China
Item model number	MIG250F
Color	Blue
Style	MIG-250A Aluminum
Supply Voltage	AC110/220V (±15%)
No-Load Voltage	60V
Rated Duty Cycle	40%
Enclosure Protection	IP21
Insulation Class	F
Applicable Electrode	Ø1.6-4.0 mm
MMA Welding Current (110V)	25-108A
MMA Welding Current (220V)	25-200A
MIG Welding Current (110V)	30-120A
MIG Welding Current (220V)	30-220A
TIG Welding Current (110V)	15-120A

Specification	Value
TIG Welding Current (220V)	15-220A

8. Warranty and Support

For warranty information, technical support, or service inquiries, please contact AZZUNO directly through their official channels or the retailer where the product was purchased. Keep your purchase receipt as proof of purchase.
Visit the AZZUNO Store on Amazon for more products and support.

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