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ANDELI MIG-270SE

ANDELI MIG-270SE 200Amp 3-in-1 Multi-Function Welder Instruction Manual

Model: MIG-270SE

1. Introduction

Thank you for choosing the ANDELI MIG-270SE 3-in-1 Multi-Function Welder. This machine is designed for versatile welding applications, supporting MIG (Gas/Gasless), Lift TIG, and MMA (Stick) welding processes. It features automatic current and voltage adjustment for ease of use across various materials. This manual provides essential information for safe operation, setup, maintenance, and troubleshooting to ensure optimal performance and longevity of your welding machine.



Image 1: The ANDELI MIG-270SE Multi-Function Welder, a compact and versatile welding unit.

2. Safety Information

Welding operations involve significant risks. Always adhere to safety precautions to prevent injury or damage. Read and understand all safety warnings before operating the machine.

2.1 General Safety Precautions

- **Electric Shock:** Welding current can cause fatal electric shock. Ensure proper grounding, wear dry welding gloves, and insulate yourself from the workpiece and ground.
- **Fumes and Gases:** Welding fumes and gases can be hazardous to your health. Work in a well-ventilated area or use an approved respirator.
- **Arc Rays:** Arc rays can burn eyes and skin. Wear a welding helmet with appropriate shade filter and protective clothing.
- **Fire and Explosion:** Welding sparks and hot metal can cause fires. Keep flammable materials away from the welding area. Have a fire extinguisher readily available.
- **Burns:** Hot metal and equipment can cause severe burns. Wear protective gloves and clothing.

- **Noise:** Excessive noise can damage hearing. Wear ear protection.

3. Package Contents

Verify that all items listed below are included in your package. If any items are missing or damaged, please contact your supplier.

- MIG-270SE Welding Machine
- Earth Clamp (2 units)
- 15AK MIG Torch
- Gas Pipe (3m)
- Hose Clamps (2 units)
- Flux-cored Wire (1kg)
- Nozzles (30 units)
- Nozzle Shields (2 units)
- MMA Holder (3m)
- Welding Rods (5 units)
- Welding Gloves
- Collets (10 units)
- Tungsten Electrodes (10 units)
- WP-17V TIG Torch



Image 2: Visual representation of the items included in the MIG-270SE package.

4. Product Overview

Familiarize yourself with the components and controls of your ANDELI MIG-270SE welding machine.

4.1 Front Panel Controls and Connections



Image 3: Detailed view of the MIG-270SE front panel, showing function buttons, display, adjustment knob, and welding interfaces.

- **Screen:** Digital display for welding parameters (voltage, current, wire speed).
- **Function Buttons:** Select welding mode (MIG/MAG, Lift TIG, MMA) and other settings (e.g., 2T/4T, VRD).
- **Wire Diameter Selector:** Adjusts settings based on wire diameter (0.6mm, 0.8mm, 0.9mm, 1.0mm).
- **Adjustment Knob:** Fine-tunes welding parameters such as current, voltage, and wire feed speed.
- **Gas Check / Wire Check Buttons:** For testing gas flow and wire feed without striking an arc.
- **MIG Torch Interface:** Connection point for the MIG welding torch.
- **Positive Pole (+):** Connection for the workpiece clamp in MMA/Lift TIG, or for the MIG torch depending on polarity.
- **Negative Pole (-):** Connection for the workpiece clamp in MMA/Lift TIG, or for the MIG torch depending on polarity.

4.2 Rear Panel Connections



Image 4: Rear view of the MIG-270SE, showing the power cable, ON/OFF switch, and gas tube connector.

- **Power Cable:** Connects the machine to the main power supply (AC 110V/220V).
- **ON/OFF Switch:** Main power switch for the welding machine.
- **Gas Tube Connector:** Inlet for shielding gas supply (for Gas MIG and TIG welding).

5. Setup

Proper setup is crucial for safe and effective welding. Follow these steps carefully.

5.1 Power Connection

1. Ensure the ON/OFF switch on the rear panel is in the 'OFF' position.
2. Connect the power cable to a suitable 100V or 200V AC power outlet. The machine automatically detects the input voltage.
3. Ensure the power outlet is properly grounded and can handle the machine's power requirements (refer to specifications).

5.2 Gas Connection (for Gas MIG and TIG)

1. Attach the gas pipe to the gas tube connector on the rear panel.
2. Connect the other end of the gas pipe to your shielding gas cylinder (e.g., CO2, Argon, or Argon/CO2 mix) via a

pressure regulator.

3. Secure all connections with hose clamps to prevent gas leaks.
4. Open the gas cylinder valve and adjust the flow rate on the regulator. Use the 'Gas Check' button on the front panel to verify gas flow.

5.3 Torch and Workpiece Clamp Connection

1. **MIG Welding:** Connect the MIG torch to the MIG Torch Interface. Connect the earth clamp to the appropriate terminal (usually negative for gas MIG, positive for flux-cored wire) and attach it securely to the workpiece.
2. **Lift TIG Welding:** Connect the WP-17V TIG torch to the negative (-) terminal. Connect the earth clamp to the positive (+) terminal and attach it securely to the workpiece. Ensure a tungsten electrode is correctly installed in the TIG torch.
3. **MMA (Stick) Welding:** Connect the MMA holder to the appropriate terminal (positive or negative, depending on the electrode type and desired penetration). Connect the earth clamp to the remaining terminal and attach it securely to the workpiece.

6. Operating Modes

The ANDELI MIG-270SE offers three primary welding modes: MIG/MAG, Lift TIG, and MMA.

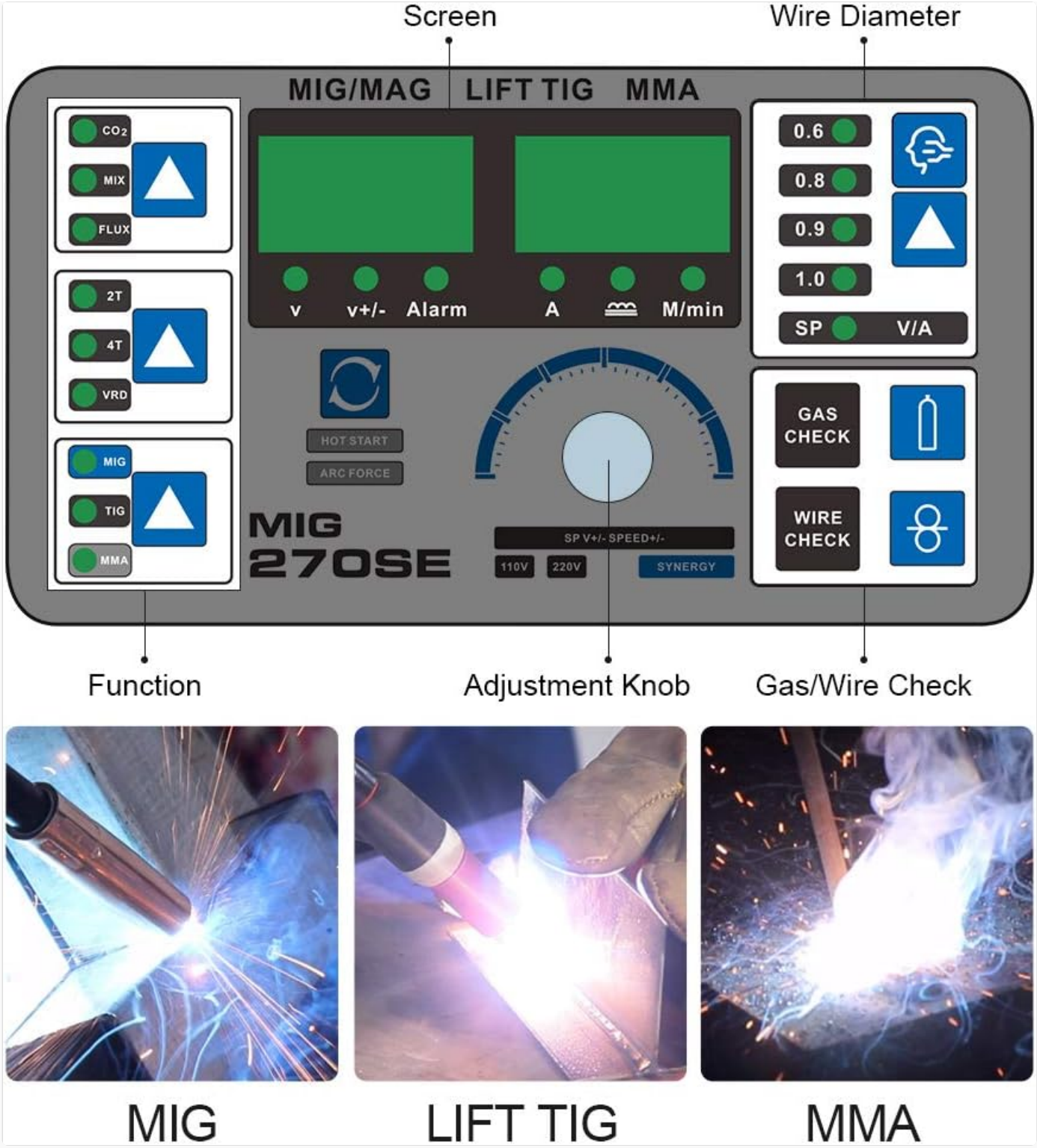


Image 5: Diagram illustrating the control panel layout and the three main welding functions: MIG, Lift TIG, and MMA.

6.1 MIG/MAG Welding

MIG (Metal Inert Gas) and MAG (Metal Active Gas) welding uses a continuously fed wire electrode and a shielding gas to protect the weld pool from atmospheric contamination. This machine supports CO2, Mixed Gas, and Flux-cored (gasless) welding.

- **Process:** Select MIG/MAG mode using the function buttons. Choose the appropriate gas type (CO2, MIX, FLUX) if applicable.
- **Wire Feed:** Load the welding wire into the wire feeder mechanism. Ensure the correct wire diameter is selected on the control panel. Use the 'Wire Check' button to feed the wire through the torch.
- **Parameter Adjustment:** The machine offers automatic adjustment based on current and material thickness. Use the adjustment knob to fine-tune voltage and wire feed speed for optimal results.

- **Applicable Materials:** Iron, Stainless Steel, Low Carbon Steel.
- **Not Suitable For:** Aluminum welding.

6.2 Lift TIG Welding

Lift TIG (Tungsten Inert Gas) welding provides precise control and high-quality welds, especially on thinner materials. This machine uses a 'Lift Arc' start method.

- **Process:** Select Lift TIG mode. Connect the TIG torch and gas supply.
- **Arc Start:** Gently touch the tungsten electrode to the workpiece and then lift it slightly to initiate the arc.
- **Parameter Adjustment:** Adjust the welding current using the adjustment knob.
- **Applicable Materials:** Iron, Stainless Steel, Low Carbon Steel.
- **Not Suitable For:** Aluminum welding.

6.3 MMA (Stick) Welding

MMA (Manual Metal Arc) welding, also known as stick welding, uses a consumable electrode coated in flux. It is versatile and suitable for outdoor use and thicker materials.

- **Process:** Select MMA mode. Connect the MMA holder and earth clamp with appropriate polarity.
- **Electrode:** Insert the welding rod into the MMA holder.
- **Parameter Adjustment:** Adjust the welding current using the adjustment knob based on the electrode type and diameter.
- **Applicable Materials:** Iron, Stainless Steel, Low Carbon Steel, Mold Repair.

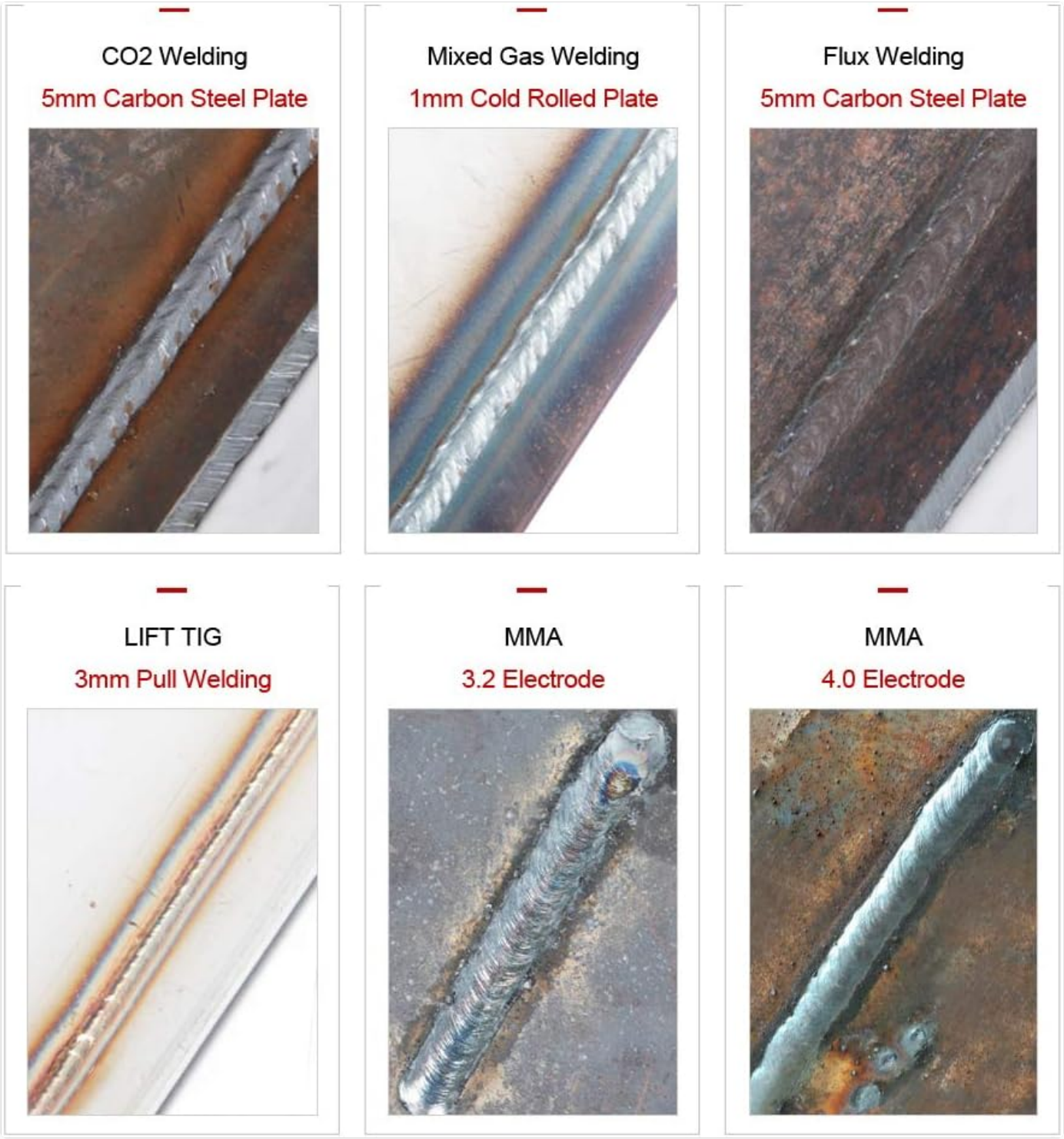


Image 6: Visual examples of weld beads produced by CO2 MIG, Mixed Gas MIG, Flux Welding, Lift TIG, and MMA (3.2mm and 4.0mm electrodes).

7. Specifications

Technical specifications for the ANDELI MIG-270SE welding machine.

MIG-270SE

Power Supply Voltage(V)	110V			220V		
Function	MIG	LIFT TIG	MMA	MIG	LIFT TIG	MMA
Rated Input Power(KW)	4.7	3.4	4.2	7.7	5.5	6.6
Rated Input Current(A)	43	31	38	35	25	30
Effective Input Current(A)	27	19	24	16	11	13
Welding Current Range(A)	50-140	10-140	10-110	50-200	10-200	10-160
No-Load Voltage(V)	51			51		
Frequency(Hz)	42			42		
Efficiency(%)	82			82		
Rated Duty Cycle (% 40°C 10min)	40 % 140A	40 % 140	40 % 110	20 % 200	20 % 200	20 % 160
	60 % 114A	60 % 114	60 % 90	60 % 115	60 % 115	60 % 92
	100 % 89A	100 % 89	100 % 70	100 % 89	100 % 89	100 % 72
Power Factor	0.76			0.76		
Load Voltage(V)	21	15.6	24.4	24	18	26.4
Wire Diameter(mm)	0.6/0.8/0.9/1.0	/	/	0.6/0.8/0.9/1.0	/	/
Protection Class	IP21S					
Insulation Class	H					
Cooling	FAN					
Dimension(MM)	460x170x310					
Net Weight(KG)	10					

Image 7: Detailed table outlining the technical specifications for the MIG-270SE under 110V and 220V power supplies.

Parameter	**110V**			**220V**		
	MIG	**LIFT TIG**	**MMA**	**MIG**	**LIFT TIG**	**MMA**
Rated Input Power (KW)	4.7	3.4	4.2	7.7	5.5	6.6
Rated Input Current (A)	43	31	38	35	25	30
Effective Input Current (A)	27	19	24	16	11	13
Welding Current Range (A)	50-140	10-140	10-110	50-200	10-200	10-160
No-Load Voltage (V)	51			51		
Frequency (Hz)	42			42		
Efficiency (%)	82			82		
Rated Duty Cycle (% 40°C 10min)	40% 140A	40% 140A	40% 110A	20% 200A	20% 200A	20% 160A
	60% 114A	60% 114A	60% 90A	60% 115A	60% 115A	60% 92A
	100% 89A	100% 89A	100% 70A	100% 89A	100% 89A	100% 72A
Power Factor	0.76			0.76		
Load Voltage (V)	21	15.6	24.4	24	18	26.4
Wire Diameter (mm)	0.6/0.8/0.9/1.0	/	/	0.6/0.8/0.9/1.0	/	/

Parameter	110V			220V		
	MIG	LIFT TIG	MMA	MIG	LIFT TIG	MMA
Protection Class	IP21S					
Insulation Class	H					
Cooling	FAN					
Dimension (MM)	460x170x310					
Net Weight (KG)	10					

8. Maintenance

Regular maintenance ensures the longevity and reliable operation of your welding machine.

- **Cleaning:** Periodically clean the machine's exterior with a dry, soft cloth. Use compressed air to blow out dust and debris from the ventilation openings. Ensure the machine is unplugged before cleaning.
- **Wire Feeder:** Inspect the wire feeder rollers for wear and cleanliness. Ensure the wire guide tube is free of kinks and blockages.
- **Torch and Cables:** Check welding torches, cables, and connections for damage, fraying, or loose contacts. Replace worn parts immediately.
- **Gas System:** For gas welding, regularly check gas hoses and connections for leaks.
- **Storage:** Store the welding machine in a clean, dry environment, away from excessive dust, moisture, and corrosive substances.

9. Troubleshooting

This section addresses common issues you might encounter during operation.

Problem	Possible Cause	Solution
Machine does not power on	No power supply; ON/OFF switch is off; Faulty power cable	Check power outlet; Turn ON/OFF switch to 'ON'; Inspect and replace power cable if damaged
No welding arc	Loose connections; Incorrect welding mode; Workpiece clamp not properly attached; Incorrect parameters	Check all cable connections; Select correct welding mode; Ensure good contact with workpiece; Adjust current/voltage settings
Poor wire feed (MIG)	Wire tangled; Worn drive rollers; Incorrect roller tension; Clogged liner; Incorrect wire diameter selected	Untangle wire; Replace worn rollers; Adjust roller tension; Clean or replace liner; Select correct wire diameter
Porosity in weld (MIG/TIG)	Insufficient shielding gas; Gas leak; Contaminated workpiece; Incorrect gas flow rate	Check gas cylinder level; Inspect gas lines for leaks; Clean workpiece thoroughly; Adjust gas flow rate

Problem	Possible Cause	Solution
Overheating / Alarm light on	Exceeded duty cycle; Insufficient ventilation	Allow machine to cool down; Ensure clear ventilation paths; Reduce welding time or current

10. Warranty and Support

The ANDELI MIG-270SE welding machine is designed and manufactured to high-quality standards.

- **Certification:** This product is CE certified, ensuring compliance with European safety, health, and environmental protection requirements.
- **Warranty:** ANDELI provides a **Two-Year Warranty** for parts replacement from the date of purchase.
- **Returns/Exchanges:** A 30-day return or exchange policy is offered from the date of product arrival.
- **Customer Support:** For any technical assistance, warranty claims, or inquiries, please contact ANDELI customer service through your purchase platform or the official ANDELI website.

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