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AWT MMA-120

AWT MMA-120 Inverter Welding Machine User Manual

Model: MMA-120

1. INTRODUCTION

This manual provides essential instructions for the safe and efficient operation, setup, maintenance, and troubleshooting of your AWT MMA-120 Inverter Welding Machine. Please read this manual thoroughly before using the machine to ensure proper function and to prevent injury or damage. Keep this manual in a safe place for future reference.

2. SAFETY INSTRUCTIONS

Welding operations involve significant risks. Always adhere to the following safety precautions to prevent electric shock, fire, burns, and other hazards.

- **Electric Shock:** Ensure the machine is properly grounded. Do not touch live electrical parts. Wear dry welding gloves and protective clothing.
- **Fumes and Gases:** Weld in a well-ventilated area. Use fume extractors if necessary. Avoid breathing welding fumes.
- **Arc Rays:** Protect your eyes and skin from arc rays. Always use a welding helmet with appropriate shade filter and wear protective clothing.
- **Fire and Explosions:** Keep flammable materials away from the welding area. Have a fire extinguisher readily available.
- **Burns:** Hot metal and electrodes can cause severe burns. Wear protective gloves and clothing. Allow welded materials to cool before handling.
- **Machine Placement:** Place the welding machine on a stable, level surface. Ensure adequate ventilation around the machine to prevent overheating.

3. PRODUCT OVERVIEW

The AWT MMA-120 is a compact and efficient inverter welding machine designed for Manual Metal Arc (MMA) welding. Familiarize yourself with its components and controls.



Figure 3.1: Front view of the AWT MMA-120 Inverter Welding Machine. This image displays the overall design, including the control panel, output terminals, and carrying handle.



Figure 3.2: Close-up of the control panel. This view highlights the digital display, the current adjustment knob (ranging from 20A to 120A), and indicator lights for power and fault status.



Figure 3.3: Top view showing the robust carrying handle. The handle is designed for easy portability of the welding machine.

3.1. Components and Controls

- **Digital Display:** Shows the welding current (Amperes).
- **Current Adjustment Knob:** Used to set the desired welding current from 20A to 120A.
- **Power Indicator Light:** Illuminates when the machine is powered on.
- **Fault/Overheat Indicator Light:** Illuminates if the machine experiences an error or overheats.
- **Positive Output Terminal (+):** Connects to the electrode holder cable.
- **Negative Output Terminal (-):** Connects to the ground clamp cable.
- **Carrying Handle:** For easy transport of the unit.
- **Ventilation Grilles:** Located on the sides and rear to ensure proper cooling.

4. SETUP

Proper setup is crucial for safe and effective welding. Follow these steps before beginning any welding task.

4.1. Unpacking and Inspection

1. Carefully remove the welding machine and all accessories from the packaging.
2. Inspect the machine for any signs of damage during transit. If damage is found, do not operate the machine and contact your supplier.
3. Ensure all components listed in the packing list are present.

4.2. Power Connection

- Ensure the power supply matches the voltage requirements specified on the machine's rating plate.
- Connect the power cord to a suitable, grounded electrical outlet.
- Avoid using extension cords unless absolutely necessary, and if used, ensure they are rated for the machine's current draw and are fully uncoiled.

4.3. Connecting Welding Cables



Figure 4.1: Close-up of the positive (+) and negative (-) output terminals on the front panel. These are where the electrode holder and ground clamp cables connect.

1. Connect the electrode holder cable to the **Positive (+)** output terminal. Insert the connector and twist

clockwise to secure.

2. Connect the ground clamp cable to the **Negative (-)** output terminal. Insert the connector and twist clockwise to secure.
3. Attach the ground clamp securely to the workpiece or a metal workbench that is in direct contact with the workpiece. Ensure a clean, bare metal connection for optimal conductivity.

4.4. Electrode Selection

- Choose an electrode type and diameter appropriate for the material thickness and type of weld.
- Insert the electrode firmly into the electrode holder.

5. OPERATING INSTRUCTIONS

Once the machine is set up and safety precautions are in place, you can begin welding.

5.1. Powering On

1. Ensure all connections are secure.
2. Turn on the main power switch, usually located on the rear of the machine. The power indicator light on the front panel should illuminate.

5.2. Adjusting Welding Current

1. Rotate the current adjustment knob on the front panel to set the desired amperage.
2. Refer to the electrode manufacturer's recommendations for appropriate current settings based on electrode diameter and material.

5.3. Welding Process

1. Put on your welding helmet and all other personal protective equipment.
2. Strike an arc by lightly touching the electrode to the workpiece and quickly lifting it slightly to establish a stable arc.
3. Maintain a consistent arc length and travel speed to create a uniform weld bead.
4. When finished, break the arc by quickly pulling the electrode away from the workpiece.

5.4. Powering Off

1. Turn off the main power switch on the machine.
2. Disconnect the power cord from the outlet.
3. Allow the machine to cool down before storing.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance 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 grilles. Ensure the machine is unplugged before cleaning.
- **Cable Inspection:** Regularly inspect welding cables, electrode holder, and ground clamp for damage, fraying, or loose connections. Replace damaged components immediately.

- **Storage:** Store the welding machine in a clean, dry, and dust-free environment when not in use. Protect it from moisture and extreme temperatures.
- **Ventilation:** Ensure the ventilation openings are clear and unobstructed during operation to prevent overheating.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your AWT MMA-120 welding machine.

Problem	Possible Cause	Solution
Machine does not power on	No power supply; Power switch off; Faulty power cord/outlet	Check power connection; Turn on power switch; Test outlet/cord
No arc or weak arc	Poor ground connection; Incorrect current setting; Wet/damaged electrode; Loose cable connections	Ensure clean, secure ground; Adjust current; Use dry electrode; Tighten cable connections
Overheat/Fault indicator light on	Machine overheated; Internal fault	Allow machine to cool down (fan will run); Ensure proper ventilation; If problem persists, contact support
Unstable arc	Incorrect current; Improper arc length; Contaminated workpiece	Adjust current; Maintain consistent arc length; Clean workpiece surface

8. SPECIFICATIONS

Technical specifications for the AWT MMA-120 Inverter Welding Machine:

- **Model:** MMA-120
- **Manufacturer:** AWT
- **Welding Process:** MMA (Manual Metal Arc)
- **Current Range:** 20A - 120A
- **Package Dimensions:** 27 x 17 x 12 cm
- **Weight:** 2.4 kg
- **ASIN:** B0DHS9ZHSN
- **EAN:** 7908343304881
- **Availability Date:** September 23, 2024

9. WARRANTY AND SUPPORT

The AWT MMA-120 Inverter Welding Machine comes with a **12-month warranty** against manufacturing defects from the date of purchase. Please retain your proof of purchase for warranty claims.

For technical assistance, warranty claims, or spare parts, please contact your authorized AWT dealer or the customer support channel provided at the point of purchase. Do not attempt to repair the machine yourself, as this may void the warranty and pose safety risks.

