Stanley 460960

Stanley First 160 MMA Inverter Welding Machine Kit User Manual

Model: 460960

1. Introduction

This manual provides essential information for the safe and effective operation, setup, and maintenance of your Stanley First 160 MMA Inverter Welding Machine Kit. Please read this manual thoroughly before using the product and retain it for future reference.

Image 1.1: The Stanley First 160 MMA Inverter Welding Machine, showcasing its compact design and digital display.

2. Safety Information

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

- **Electric Shock:** Can kill. Do not touch live electrical parts. Wear dry welding gloves and protective clothing. Ensure the welding machine is properly grounded.
- **Fumes and Gases:** Can be hazardous to your health. Keep your head out of the fumes. Use ventilation or exhaust to remove fumes from the breathing zone.
- **Arc Rays:** Can burn eyes and skin. Wear a welding helmet with a proper shade filter. Wear safety glasses with side shields underneath your helmet. Wear protective clothing to cover exposed skin.

- **Fire and Explosion:** Welding sparks can cause fire or explosion. Keep flammable materials away from the welding area. Have a fire extinguisher readily available.
- **Hot Parts:** Can cause severe burns. Allow the welding machine and workpieces to cool before handling.

3. Package Contents

Verify that all items listed below are included in your Stanley First 160 MMA Inverter Welding Machine Kit:

- Stanley First 160 MMA Inverter Welding Machine
- Electrode Holder with Cable
- Earth Clamp with Cable
- Automatic LCD Welding Hood (DIN 11)
- Brush Hammer
- 10 Steel Electrodes (initial set)

Image 3.1: The complete Stanley First 160 Welding Kit, including the machine, welding mask, electrodes, brush hammer, electrode holder, and earth clamp.

Image 3.2: Close-up view of the included accessories: automatic LCD welding mask, steel electrodes, brush hammer, and earth clamp.

4. Product Overview and Features

The Stanley First 160 is an ultra-compact and lightweight MMA Inverter Welding Machine designed for various metalworking tasks. It incorporates advanced IGBT inverter technology for efficient and stable welding performance.

Key Features:

- **Digital Screen:** For precise current adjustment and monitoring.
- **IGBT Inverter Technology:** Ensures stable arc and efficient power usage.
- **Anti Stick Function:** Prevents the electrode from sticking to the workpiece, simplifying arc striking.
- **Arcforce Function:** Modulates the welding current to maintain arc stability, especially during short arc welding.
- **Hotstart Function:** Provides an initial surge of current for easy arc ignition.
- **Linear Intensity Adjustment:** Allows for smooth and precise control of welding current from 30A to 160A.
- **Thermostatic Protection:** Automatically shuts down the machine in case of overheating.
- **Forced Ventilation:** Ensures efficient cooling during operation.
- **Compatible Electrodes:** Designed for rutile coated electrodes with diameters from 1.6mm to 4.0mm.
- **Versatile Application:** Suitable for welding steel, cast iron, and stainless steel. Ideal for ironwork, locksmithing, sheet metal work, and metal part repairs.

5. Setup

Follow these steps to set up your welding machine:

1. **Placement:** Place the welding machine on a stable, level surface in a well-ventilated area, away from flammable materials.
2. **Power Connection:** Ensure the machine's power switch is in the 'OFF' position. Connect the power cable to a suitable 230V/50Hz power outlet. The machine is compatible with 7KVA generators.
3. **Earth Clamp Connection:** Connect the earth clamp cable to the negative (-) terminal on the front panel of the welding machine. Securely attach the earth clamp to the workpiece or a clean, bare metal part of the welding table, ensuring good electrical contact.
4. **Electrode Holder Connection:** Connect the electrode holder cable to the positive (+) terminal on the front panel of the welding machine.
5. **Electrode Insertion:** Insert a suitable electrode into the electrode holder. Ensure it is firmly gripped.
6. **Welding Hood:** Adjust the automatic LCD welding hood for a comfortable and secure fit. Ensure the shade setting is appropriate for your welding current.

Image 5.1: Close-up of the earth clamp and its cable, ready for connection to the workpiece.

Image 5.2: The automatic LCD welding mask, an essential safety accessory for eye and face protection during welding.

6. Operating Instructions

Before operating, ensure all safety precautions are understood and followed.

6.1. Preparing for Welding

- **Workpiece Preparation:** Clean the workpiece thoroughly to remove rust, paint, oil, or other contaminants that can affect weld quality.
- **Electrode Selection:** Choose an electrode type and diameter suitable for the material thickness and welding position. The Stanley First 160 is compatible with rutile coated electrodes from 1.6mm to 4.0mm.
- **Current Setting:** Refer to the electrode manufacturer's recommendations for the appropriate welding current. Adjust the current using the digital display and control knob on the machine.

6.2. Welding Process

1. Turn on the welding machine. The digital display will illuminate.
2. Position yourself comfortably and ensure a clear view of the welding area through your welding hood.
3. Bring the tip of the electrode into contact with the workpiece at an angle (typically 70-80 degrees).
4. Quickly scratch or tap the electrode against the workpiece to strike an arc. The Hotstart function assists in easy ignition.
5. Once the arc is established, maintain a consistent arc length and travel speed. The Anti Stick and Arcforce functions help maintain a stable arc and prevent electrode sticking.
6. Guide the electrode along the joint, maintaining the desired weld pool.
7. When finished, break the arc by quickly pulling the electrode away from the workpiece.
8. Allow the weld and workpiece to cool before handling. Use the brush hammer to remove slag.

Image 6.1: A welder demonstrating the MMA welding process, highlighting the arc and sparks generated during operation.

Image 6.2: An individual using the welding machine to work on a metal frame, illustrating a typical application.

7. Maintenance

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

- **Cleaning:** Periodically clean the machine's exterior with a dry cloth. Use compressed air to clear dust from ventilation openings. Ensure the machine is unplugged before cleaning.
- **Cable Inspection:** Regularly inspect all cables (power, electrode holder, earth clamp) for cuts, cracks, or damaged insulation. Replace damaged cables immediately.
- **Terminal Connections:** Check that all cable connections to the machine are tight and free from corrosion.
- **Storage:** Store the welding machine in a dry, clean environment, away from direct sunlight and extreme temperatures.

Image 7.1: The included brush hammer, used for cleaning slag from welds and preparing surfaces.

8. Troubleshooting

This section addresses common issues you might encounter with your welding machine.

Problem	Possible Cause	Solution
No power/Machine does not turn on	No power supply; Faulty power cable; Internal fault	Check power outlet and circuit breaker; Inspect power cable; Contact qualified service personnel.
Arc difficult to strike or unstable	Improper current setting; Damp or incorrect electrode; Poor earth connection; Dirty workpiece	Adjust current; Use dry, correct electrodes; Ensure good earth connection; Clean workpiece.
Electrode sticks frequently	Low current setting; Incorrect electrode angle; Arc length too short	Increase current; Adjust electrode angle; Maintain proper arc length.
Machine overheats (thermal protection activates)	Exceeded duty cycle; Blocked ventilation; High ambient temperature	Allow machine to cool down; Clear ventilation openings; Operate in a cooler environment.
Poor weld quality (porosity, spatter)	Dirty workpiece; Incorrect current/travel speed; Damp electrodes	Clean workpiece thoroughly; Adjust welding parameters; Use dry electrodes.

9. Specifications

Technical specifications for the Stanley First 160 MMA Inverter Welding Machine:

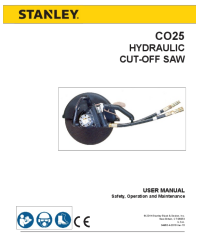
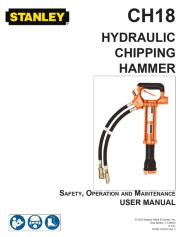
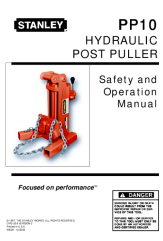
Specification	Value
Model Number	460960
Welding Current Range	30 - 160A (190A Max)
Compatible Electrode Diameter	1.6mm - 4.0mm
Absorbed Power	7.0 kVA / 5.0 kW
Normal Duty Cycle (20°C)	20% at 160A
CE Duty Cycle EN60974-1 (40°C)	10% at 160A
Supply Voltage	230V/50Hz
Open Circuit Voltage	60V
Protection Class	IP21S
Generator Compatibility	7KVA
Product Dimensions (L x W x H)	37 x 21 x 32 cm
Item Weight	5.4 Kilograms
Handle Material	Plastic
Special Features	Digital Screen, Anti Stick, Arcforce, Hotstart, Thermostatic Protection
Usage	Industrial and Domestic Use

10. Warranty and Support

Warranty information for the Stanley First 160 MMA Inverter Welding Machine Kit is not explicitly detailed in the provided product description. For specific warranty terms, conditions, and duration, please refer to the official documentation included with your purchase or contact Stanley customer support directly. Keep your proof of purchase for any warranty claims.

Related Documents - 460960

	Stanley MULTI 160 Inverter Welder User Manual This manual provides detailed instructions for the Stanley MULTI 160 inverter welder, covering product description, installation, operation, maintenance, and troubleshooting for MIG/MAG, MMA, and TIG LIFT welding processes.

	[Stanley E-PROTECTION 4000-E Auto Darkening Welding Helmet User Manual] Comprehensive user manual for the Stanley E-PROTECTION 4000-E Auto Darkening Welding Helmet, detailing operating instructions, maintenance, safety features, and troubleshooting for optimal protection during welding.
	[Stanley SRP 4960 Compaction Reversible Plate Parts Manual] Comprehensive parts manual for the Stanley SRP 4960 Compaction Reversible Plate, detailing all components, part numbers, quantities, and assembly kits. Includes technical specifications, adhesive torque conversions, and maintenance information.
	[STANLEY CO25 Hydraulic Cut-Off Saw User Manual] This user manual provides comprehensive safety, operation, and maintenance instructions for the STANLEY CO25 Hydraulic Cut-Off Saw. It includes specifications, troubleshooting, and parts information.
	[Stanley CH18 Hydraulic Chipping Hammer User Manual: Safety, Operation, and Maintenance] Comprehensive user manual for the Stanley CH18 Hydraulic Chipping Hammer, covering safety precautions, operating procedures, maintenance guidelines, troubleshooting, and specifications. Essential reading for safe and effective use.
	[Stanley PP10 Hydraulic Post Puller: Safety and Operation Manual] This manual provides essential safety, operation, and maintenance instructions for the Stanley PP10 Hydraulic Post Puller. Learn about proper usage, hydraulic requirements, troubleshooting, and warranty information to ensure safe and effective operation.