Norstar M140-M

Norstar M140-M MIG Welder User Manual

Model: M140-M

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Important Safety Information

Always read and understand all safety warnings and instructions before operating the Norstar M140-M MIG Welder. Failure to follow these instructions may result in electric shock, fire, serious injury, or death.

- **Electric Shock Can Kill:** Do not touch live electrical parts. Wear dry insulating gloves and protective clothing. Insulate yourself from work and ground.
- **Fumes and Gases Can Be Hazardous:** Keep your head out of the fumes. Use ventilation or exhaust to remove fumes from the breathing zone.
- **Welding Rays Can Burn Eyes and Skin:** Wear a welding helmet with a proper shade filter. Wear protective clothing to protect skin.
- **Fire and Explosion Hazard:** Remove all flammables from the welding area. Have a fire extinguisher nearby.
- **Hot Parts Can Cause Severe Burns:** Allow hot parts to cool before handling. Use insulated gloves and tongs.
- **Magnetic Fields Can Affect Pacemakers:** Consult your doctor before operating welding equipment if you have a pacemaker.

Product Overview and Components

The Norstar M140-M is a compact and versatile MIG welder designed for various welding applications. Understanding its components is crucial for safe and effective operation.

Image Description: A Norstar M140-M MIG Welder shown with its included accessories. The welder unit is blue and black, featuring control knobs and a display. Surrounding it are the welding gun, work clamp, gas regulator with flow gauge, gas hose, and a spool of welding wire. This image provides a visual representation of the complete product package.

Included Contents:

- Norstar M140-M Welder Unit
- Welding Gun
- Work Cable & Clamp
- Shielding Gas Regulator Flowgauge
- Shielding Gas Hose
- 2 Lb. Spool .023-.025 Solid Steel Welding Wire
- Contact Tips (1- .023, 1- .030)
- Instruction Manual (this document)

Setup Instructions

Proper setup ensures optimal performance and safety. Follow these steps carefully.

1. **Unpacking:** Carefully remove all components from the packaging. Inspect for any shipping damage. Report any damage to your dealer immediately.
2. **Power Connection:** Ensure the welder is connected to a 115 Volt, 60 Hz single-phase power supply with a dedicated 20 Ampere circuit. Use a grounded outlet.
3. **Work Cable & Clamp Connection:** Connect the work cable to the appropriate terminal on the welder. Securely attach the work clamp to the workpiece, ensuring good electrical contact.
4. **Welding Gun Connection:** Connect the welding gun to the front panel of the welder. Ensure it is securely fastened.
5. **Wire Spool Installation:** Open the wire compartment. Place the wire spool onto the spindle, ensuring it rotates freely. Thread the welding wire through the drive rollers and into the gun liner. Ensure the correct wire size (.023-.030 solid steel, .030-.035 flux core) is used with the corresponding contact tip.
6. **Shielding Gas Connection (for MIG welding):**
    - Attach the shielding gas regulator flowgauge to your gas cylinder (e.g., Argon/CO2 mix for solid wire).
    - Connect the shielding gas hose from the regulator to the gas inlet on the back of the welder.
    - Slowly open the gas cylinder valve. Adjust the flow rate on the regulator to the recommended setting (typically 15-25 CFH).

7. **Contact Tip Installation:** Ensure the correct contact tip size matches your welding wire diameter. Screw the contact tip firmly into the welding gun nozzle.

Operating Instructions

Before operating, ensure all safety precautions are observed and the setup is complete.

Basic Welding Procedure:

1. **Power On:** Turn on the main power switch on the welder.
2. **Set Voltage and Wire Speed:** Refer to the welding chart (often found inside the wire compartment door or in the manual) for recommended voltage and wire speed settings based on material thickness and wire type. Adjust the control knobs accordingly.
3. **Prepare Workpiece:** Clean the workpiece thoroughly to remove rust, paint, oil, or other contaminants. A clean surface ensures a quality weld.
4. **Position Work Clamp:** Securely attach the work clamp to the workpiece, ensuring good electrical contact.
5. **Welding Technique:**
    - Wear appropriate personal protective equipment (PPE), including a welding helmet, gloves, and protective clothing.
    - Position the welding gun at the desired starting point, maintaining a consistent stick-out (distance from contact tip to workpiece).
    - Press the trigger on the welding gun to initiate the arc and wire feed.
    - Move the gun steadily along the joint, maintaining a consistent travel speed and angle.
    - Release the trigger to stop welding.
6. **Post-Weld Inspection:** Inspect the weld for quality, penetration, and appearance.

Adjusting Settings:

Fine-tuning voltage and wire speed is crucial for different materials and thicknesses. Experiment on scrap material to find optimal settings. Higher voltage generally means more heat and penetration, while higher wire speed means more filler material.

Maintenance

Regular maintenance extends the life of your welder and ensures consistent performance.

- **Daily/Before Use:**
    - Inspect welding gun cable for cuts or damage.
    - Check contact tip for wear and replace if necessary.
    - Ensure work clamp is clean and makes good contact.
- **Weekly/After Heavy Use:**
    - Clean the drive rollers and wire guide with a dry brush to remove wire dust.
    - Check the gas nozzle for spatter buildup and clean as needed.
    - Inspect the power cord for damage.
- **Monthly/Periodically:**

- Use compressed air to blow out dust and debris from the welder's cooling vents. Ensure the welder is unplugged before doing this.
- Check all electrical connections for tightness.

Storage: Store the welder in a clean, dry environment, away from excessive dust and moisture. Disconnect the gas cylinder if applicable.

Troubleshooting

This section provides solutions to common issues you might encounter.

Problem	Possible Cause	Solution
Welder does not power on.	No power from outlet; circuit breaker tripped; power switch off.	Check power cord and outlet; reset circuit breaker; ensure power switch is ON.
No arc when trigger is pulled.	Poor work clamp connection; wrong contact tip; wire not feeding; thermal overload.	Ensure good work clamp contact; check contact tip size and condition; verify wire feed; allow welder to cool if thermal overload is active.
Wire feeds erratically.	Incorrect drive roller tension; clogged gun liner; wrong drive roller size; worn contact tip.	Adjust drive roller tension; clean or replace gun liner; ensure correct drive roller for wire size; replace contact tip.
Poor weld quality (porosity, spatter).	Insufficient shielding gas; contaminated workpiece; incorrect settings; worn contact tip.	Check gas flow and cylinder; clean workpiece; adjust voltage/wire speed; replace contact tip.

If problems persist after attempting these solutions, contact Norstar customer support.

Technical Specifications

Detailed specifications for the Norstar M140-M MIG Welder.

Standard Input Voltage: 115 Volt 60 Hz Single Phase

Input Current: 20 Amperes @ rated output

Rated Output: Duty Cycle 20% @ 90 Amps, 19 Volts

Output Range: 30 - 140 Amps

Open Circuit Voltage: 29 V

Wire Size and Type:

- Solid Steel: .023 - .030 inches
- Solid Stainless Steel: .023 - .030 inches
- Flux Core: .030 - .035 inches

Wire Speed: 45 - 425 IPM (Inches Per Minute)

Dimensions: 24.4 x 12.6 x 17 inches (620 x 320 x 430 mm)

Weight: 67 lbs. (25 kg)

Model Number: M140-M

Warranty and Customer Support

Norstar is committed to providing quality products and support. For specific warranty details, please refer to the warranty card included with your product or visit the official Norstar website.

Customer Support: For technical assistance, troubleshooting beyond this manual, or warranty claims, please contact Norstar customer support. Contact information can typically be found on the Norstar official website or on the product packaging.

Note: Always have your model number (M140-M) and purchase date ready when contacting support.