

MANUAL

**SEAM
ROVER^{DD}**



This instruction manual is intended to be a guide when operating the Seamrover DD. To ensure optimal performance from your welder, please follow the recommendations and specifications precisely.

You can also subscribe to Miller Weldmaster Insiders to stay updated on tech tips, machine maintenance updates, and more at www.weldmaster.com/insiders.



Table of Contents

Chapter 1: Intended Use	Page 3
Chapter 2: Explanation of Warnings	Pages 4
Chapter 3: Electrical and Air Requirements	Page 5
Chapter 4: Principles of Heat Sealing	Page 5
Chapter 5: GPS Tracking and Data Logging System	Page 6
Chapter 6: Definition of Controls	Page 7-8
Chapter 7: Recommended Replacement Parts	Pages 9
Chapter 8: Machine Specifications	Pages 10
Chapter 9: Maintenance	Page 11-16
Chapter 10: Transportation Specs and Storage	Page 16
Chapter 11: Technical Requirements	Page 16
Chapter 12: Training	Page 17

1.0 Intended Use

The Seamrover DD is a rotary hot air welding machine intended to heat-seal weldable thermal plastics such as fabric or membrane. Includes PVC, TPO and other weldable material. Always test weld first.

The manufacturer does not approve of:

- Any other uses for these machines.
- The removal of any safety guards while in operation.
- Unauthorized modification of the machines.
- Using replacement parts that are not manufacturer-approved.



Only a properly-trained technician may operate and/or perform any routine maintenance or repairs to the machines.

NOTE: The manufacturer will not be held liable for any damage or injuries occurring from any inappropriate use of this machine.

2.0 Explanation of Warnings

There are several different warnings. The warnings are to alert the operator of potentially hazardous areas on the machine. Familiarize yourself with their meaning.



Caution: Hot

Areas near the nozzle are hazardous and unsafe to touch.



Caution: Unplug Machine

To prevent electrocution, the machine should always have the power disconnected before the cover is open.



Warning: Keep Hands Clear

To prevent any pinching or burns, be aware of the location of your hands at all times.



Warning: High Temperature Air

High temperature air is forced through the nozzle assembly and can burn the operator from a distance.




Caution: Electricity

This is a high voltage machine and proper precautions should be taken during operation and servicing.

3.0 Electrical and Air Requirements

Warning! Only a qualified electrician may connect the electrical power.

Preparation - World Power

1. Make sure the Power Supply is at 230v, 25amp.
2. Make sure the voltage and current is dedicated to the machine and to the above specification.
3.  Before operation of the machine be sure the surrounding area of the machine is free of flammable debris. Only authorized persons should be in the area of the machine while in use.

Electrical Supply

The Miller Weldmaster Seamrover DD requires the following electrical requirements:

- 25 Amp - Single phase - 230 Volts
- Recommend a 10k+ generator

4.0 Principals of Heat Sealing

Heat

Hot Air Heating System

The Heat required for the welding operation is created electrically by one heating element located inside the Heat Element Housing. The Internal Air Compressor pumps air over the heating element and carries the heat through the Hot Air Nozzle, applying the heat to the material to be welded. The hot air temperature ranges from 100 to 1350 Degrees Fahrenheit (25 to 730 Degrees Celsius).

Speed

The Speed of the Weld Rollers determines the amount of time the heat is applied to the material being welded. The slower the speed setting, the more the material will be heated. The faster the speed setting, the less the material will be heated. To achieve the best weld, a minimal amount of heat should be applied to the material while still achieving a full weld. Too much heat will cause distortion of the material; while not enough heat will prevent the material from welding.

Pressure

The pressure of the weld roller is determined by the weight of the machine on the surface and is the final step when creating a weld. The pressure of the weld roller compresses the heated material together completing the welding process.

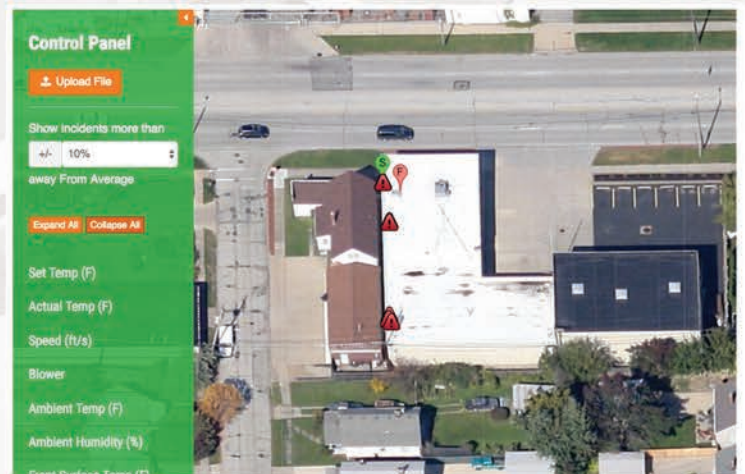
Summary

When heat sealing, the correct combination of heat, speed, and pressure will allow you to achieve a properly welded seam.

ALWAYS PERFORM A TEST WELD!

How It Works?

- > Upload file on the SD card into your computer to view all welding parameters in an easily readable format.
- > The data will be plotted on a graph for quick identification of any anomalies in welding parameters.
- > The GPS data will be plotted onto a satellite printable map for tracking of welds and data. As GPS accuracy may vary based upon your location, roof objects and surroundings, ENSURE You Document a known start point and path on the roof.
- > The GPS location data will help identify the location on the roof where the suspect weld may have occurred based upon corresponding parameters.
- > Saved data can be printed or forwarded for quick data access, sharing and warranty support.



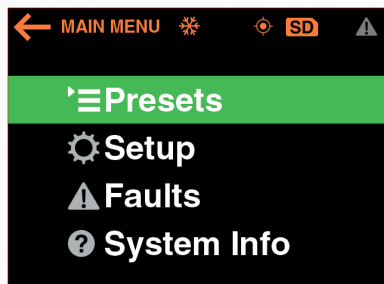
Miller Weldmaster makes no warranties, representations or guarantees with respect to the performance of its Data logging, GPS and SD Card recording equipment in terms of its accuracy in identifying defects or errors at any specific rate or level of performance. The Data Logging, GPS and SD Card equipment will assist customer in its inspection for seam integrity and is not to be relied upon to detect all defects or errors.

Contact details | 330-970-9353 | roofing@weldmaster.com | www.usaroofer.com

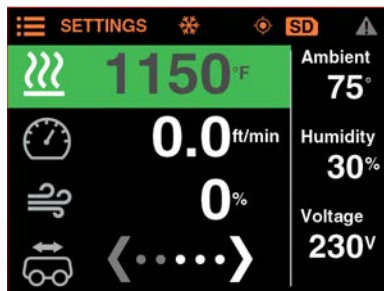
6.0 Definition of Controls



Home Screen



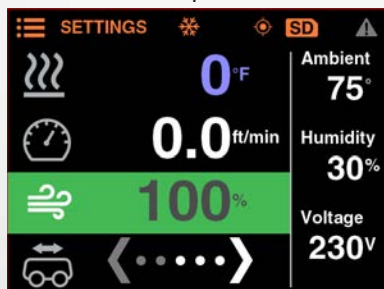
Menu



Set Heat



Set Speed



Set Blower

Main Screen - HMI Operation

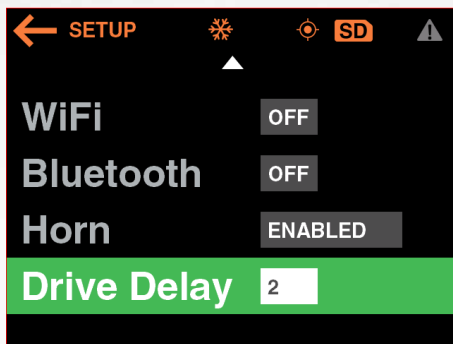
Presets: This is a particular combination of the parameters of heat and speed used to weld different types of fabric. This shows which recipe you're currently using on the machine. 0 - 15 Available recipe settings.

Machine Speed: This is the speed of the Weld Roller. The speed can be adjusted by spinning the control knob. Each detent of the knob increases or decreases the speed by .1ft/min.

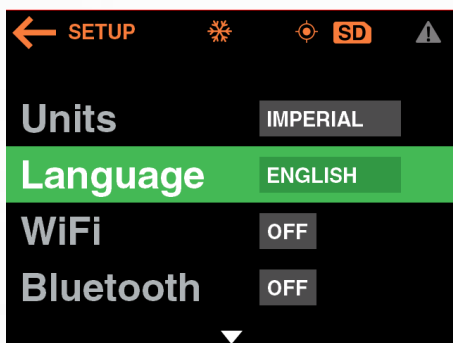
Actual Temperature: This is how hot the machine is currently.

Temperature Set Point: This is how hot you want the machine to be for the purpose of welding your thermal plastics.

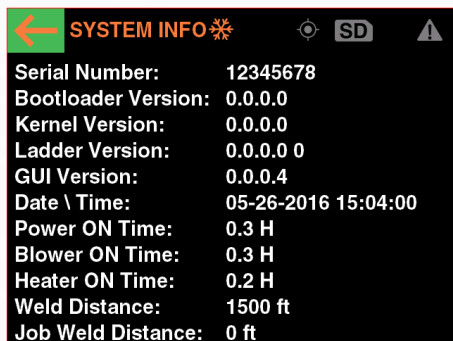
6.0 Definition of Controls



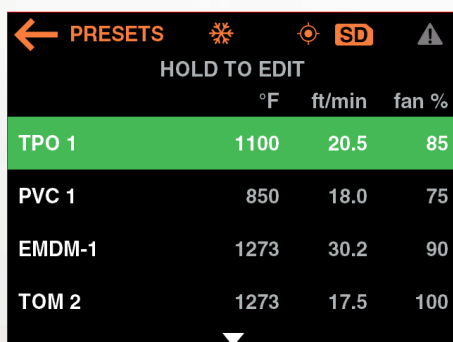
Drive Delay



Language



Hour Meter



Presets

Delay Settings: These are used to eliminate voids in seam. Remember to test various drive delay settings to ensure quality welds. If the drive delay is too long the material may be burnt.

Drive Start Delay Time: Once the nozzle swings into position, the Drive Start Delay Time will delay the weld rollers from turning until the set point is reached. The Drive Start Delay Time will be adjusted by the operator to the desired setting.

Language: Select the language according to demand.

MAX Output: 1350 °F 32ft/min 50-100% blower.

Hour Meter: The hour meter will count total time of which the heating system is on.

Presets: When changing parameters, pressing the SAVE button will save the adjusted settings to the selected recipe.

7.0 Recommended Replacement Parts

Miller Weldmaster recommends keeping the following spare parts in stock:



NOTE: The manufacturer will not be held liable for any damage or injuries occurring from any inappropriate use of this machine.

8.0 Machine Specifications

Principles of Operation

The Seamrover DD is a heat sealing machine which welds thermal plastic fabrics or films by Hot Air, through applying pressure, consistent speed, and accurate temperature for perfectly sealing thermal plastic materials.

Technical Specifications

- **Amp Rating** - 25amp at 230volt
- **Rated Power** - 4600 W
- **Rated Voltage** - 230v AC, 50/60hz
- **Maximum Temperature** - 1350°F (730°C)
- **Machine Speed** - 1-32 ft/min
- **Overall Dimensions** - 27" x 14" x 13"
- **Seam Width** - up to 2"
- **Net Weight** - 88lbs



Operator Controls Section

- **Control Panel:** The HMI (Human Machine Interface) Digital Screen allows you to set system controls.
- **Power On/Off Switch:** Power switch turns the machine on and off.

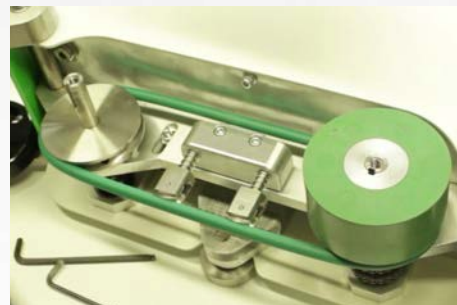
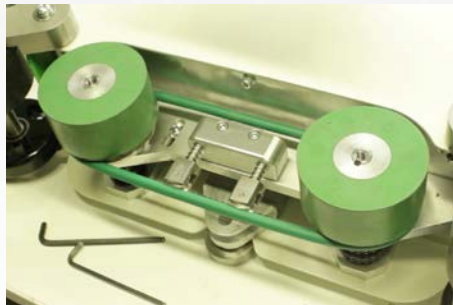
Other

- **Power Supply Outboard Fuses:** Used for the protective control of the General Power Supply of the complete machine.
- **Start/Stop Switch:** Controls the starting and stopping of the seaming operation. (Nozzle Swing)

9.0 Maintenance



Warning! The operator must disconnect the power from the machine before proceeding.



Weld Roller: To replace weld roller remove the fasteners on the drive shaft. Slide the weld roller off the drive shaft and remove key from key-way. Installation is reverse of removal.



Fig. 1



Fig. 2

Nozzle Position (Horizontal): To adjust horizontal nozzle position loosen the four flat head bolts located on the nozzle mounting bracket. When all four bolts are slightly loose, slide the nozzle into place while applying downward pressure on the nozzle mounting bracket. Once the nozzle placement is satisfactory, tighten the bolts in a crisscross pattern starting with one of the bolts closest to the element housing (Fig. 2).

9.0 Maintenance



Nozzle Position (Vertical): To adjust vertical nozzle position locate the socket head cap screw and jam nut underneath the nozzle float assembly. Break the jam nut loose and drive the socket head cap screw in or out to adjust the resting position of the nozzle. Once the nozzle placement is satisfactory, tighten the jam nut. Fine tune the vertical nozzle position such that the nozzle can easily swing into the seam to be welded.

Thermocouple: Replace the thermocouple by removing the four socket head cap screws on the side of the element housing. This allows removal of the thermocouple guard. Break the thermocouple free using a wrench. Cut and remove the protective heat shrink from the thermocouple plug and unplug the thermocouple. Installation is reverse of removal.



9.0 Maintenance

Element: To replace the element loosen and remove the four socket head cap screws from the top of the element housing cap. Slowly pull the cap directly out of the element housing. Remove the element insulating tube and the element housing cap gasket and set aside. Now, the element can be unplugged from the element housing cap. Installation is reverse of removal.



Step 1



Step 2



Step 3



Step 4



Step 5



9.0 Maintenance

Electrical Circuits

1. When replacing parts and components, you must use the part or components of the same type as the original or equivalent to the original type. Original equipment replacement parts should be purchased through Miller Weldmaster and or a Miller Weldmaster authorize distributor.
2. To avoid damaging the control module, Display and Operating Panel, never plug or unplug the cables connecting the PLC, Display and Operating Panel while the power is on.
3. If there is any fault that cannot be removed, please immediately contact the service department at Industrial Heat Sources (IHS) at +1 (330) 970-9353.

Drive System

1. Check if the Driving Sprockets are dislocated or loosened.
2. Check if the chains are too loose. Tighten as needed.

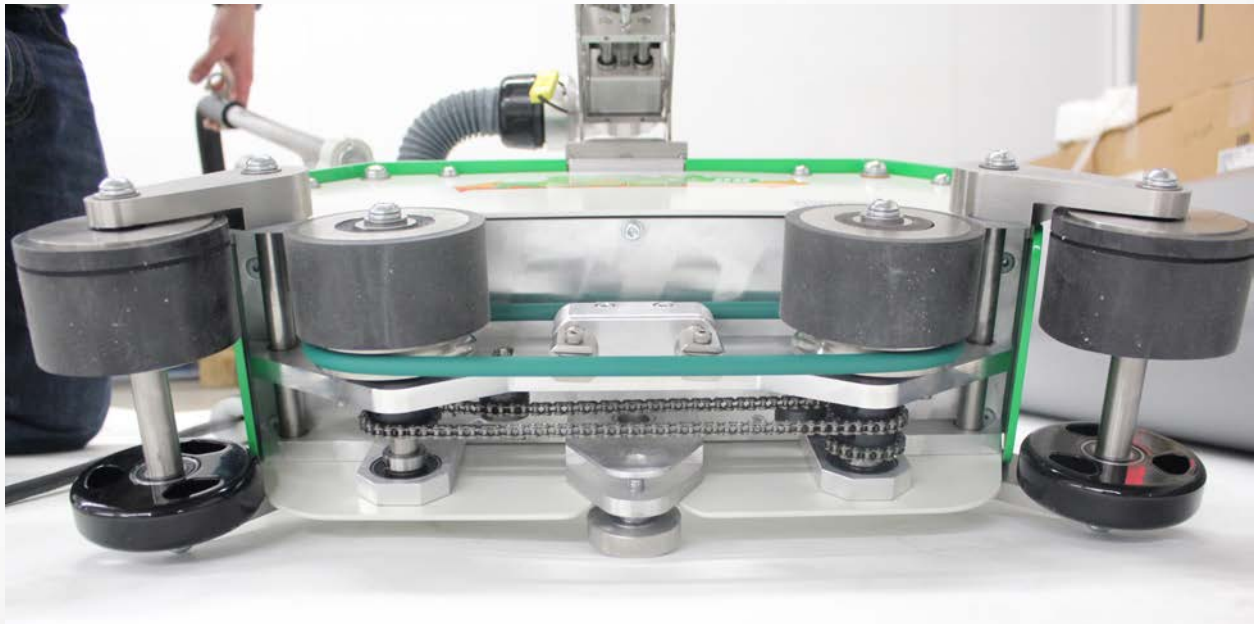
NOTICE: By not properly maintaining the machine, the performance may be effected. Please contact Miller Weldmaster with any questions.

9.0 Maintenance

Tightening/Oiling Chains

The Miller Weldmaster Seamrover DD has two chains that are used to drive weld rollers. Although not a high maintenance item, chains should be inspected once a year to ensure there is not excessive corrosion, rust, or dirt. Also inspect for any looseness or slack. If needed, lubricate chains once a year with 80w – 90w gear oil.

1. Turn the circuit breaker to the off position.
2. Disconnect the power cord from the power supply.
3. Tilt the machine on it's side and inspect the chains. Perform any maintenance to the chains as needed.





9.0 Maintenance

Hot Air Heat System Adjustments

Begin by turning your hot air on and setting to the desired temperature.

1. Depth of your nozzle should be at approximately $1\frac{3}{4}$ of an inch from the pinch point of your weld rollers. If the nozzle is aligned, perform a test weld. If not replace the nozzle or have machine serviced.

10.0 Transportation Specs and Storage

Storage

The manufacturer recommends that any time the machine is not in use, it must be protected from excess dust and moisture. The operator should familiarize themselves with the warning symbols on the machine to be alert to the potentially hazardous areas on the machine.

NOTE: The manufacturer will not be held liable for any damage or injuries occurring from any inappropriate use of this machine.

11.0 Technical Requirements

Technical Requirements

1. When the Weld Rollers are aligned properly, the edges of the two rollers should be parallel and aligned.
2. Heat System Swing: The swing in/out of the heat system should be smooth and natural at moderate speed.
3. Air lines and air fittings should be free of leaks.

NOTE: Changes in factors such as thickness of materials, qualifications of the operators and different environment and weather may directly affect the product. The operator should be able to understand the following adjustable factors particularly:

1. Heating Temperature
2. The pressure of the Weld Rollers
3. Air volume
4. Placement of heating system

12.0 Training



MILLER WELDMASTER
The First Choice Globally

Training Videos

Access online!
www.weldmaster.com/SRDDTraining

Watch training videos from anywhere in your facility, on any roof or in any environment with internet access for immediate, quick answers on operating your machine.

330-970-9353 www.usarroofwelder.com



NOTES:



NOTES: _____

