

STATEMENT OF LIMITED WARRANTY

The Eastwood Company (hereinafter "Eastwood") warrants to the end user (purchaser) of all new welding and cutting equipment (collectively called the "products") that it will be free of defects in workmanship and material. This warranty is void if the equipment has been subjected to improper installation, improper care or abnormal operations.

WARRANTY PERIOD:

All warranty periods begin on the date of purchase from Eastwood. Warranty Periods are listed below, along with the products covered during those warranty periods:

3 Year Warranty on Material, Workmanship, and Defects:

- Eastwood MIG/Stick200 Welder

Items not covered under this warranty: Contact tips, nozzles, wire, and ground clamp and cable.

All other components are covered by the warranty and will be repaired or replaced at the discretion of Eastwood.

2 Years:

- All Welding Helmets.

CONDITIONS OF WARRANTY TO OBTAIN WARRANTY COVERAGE:

Purchaser must first contact Eastwood at 1-800-345-1178 for an RMA# before Eastwood will accept any welder returns.

Final determination of warranty on welding and cutting equipment will be made by Eastwood.

WARRANTY REPAIR:

If Eastwood confirms the existence of a defect covered under this warranty plan, Eastwood will determine whether repair or replacement is the most suitable option to rectify the defect. At Eastwood's request, the purchaser must return, to Eastwood, any products claimed defective under Eastwood's warranty.

FREIGHT COSTS:

The purchaser is responsible for shipment to and from Eastwood.

WARRANTY LIMITATIONS:

EASTWOOD WILL NOT ACCEPT RESPONSIBILITY OR LIABILITY FOR REPAIRS UNLESS MADE BY EASTWOOD. EASTWOOD'S LIABILITY UNDER THIS WARRANTY SHALL NOT EXCEED THE COST OF CORRECTING THE DEFECT OF THE EASTWOOD PRODUCT. EASTWOOD WILL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (SUCH AS LOSS OF BUSINESS, ETC.) CAUSED BY THE DEFECT OR THE TIME INVOLVED TO CORRECT THE DEFECT. THIS WRITTEN WARRANTY IS THE ONLY EXPRESS WARRANTY PROVIDED BY EASTWOOD WITH RESPECT TO ITS PRODUCTS. WARRANTIES IMPLIED BY LAW SUCH AS THE WARRANTY OF MERCHANTABILITY ARE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY FOR THE EQUIPMENT INVOLVED. THIS WARRANTY GIVES THE PURCHASER SPECIFIC LEGAL RIGHTS. THE PURCHASER MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

SPECIFICATIONS

POWER SUPPLY

| Output Amperage | No Load Voltage | Min. Input Amperage | Input Voltage | Rated Duty Cycle | Weight | Overall Dimensions |
|-----------------|-----------------|---------------------|-----------------------|-------------------|-------------------|--|
| 30-200A DC | 78V | 30 | 1ph, 220 VAC 60 Hz | 30% @ 160 Amps | 44 lbs. (20kg) | 17.7"(450 mm) x 9.4"(239 mm) x 13.8"(351 mm) |

MIG WELDING WIRE

| Wire Type | Solid | Stainless | Flux Core |
|-----------|-----------------------------|-----------------------------|-----------------------------|
| Diameter | 0.023-0.035" (0.6-0.9mm) | 0.023-0.035" (0.6-0.9mm) | 0.030-0.035" (0.6-0.9mm) |

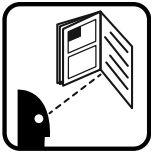
ARC WELDING RODS

| Type | E6010 | E6011 | E6013 | E7014 |
|----------|-----------------------|-----------------------|-----------------------|-----------------------|
| Diameter | 1/16", 3/32", 1/8" | 1/16", 3/32", 1/8" | 1/16", 3/32", 1/8" | 1/16", 3/32", 1/8" |
| Polarity | DCEN | DCEN | DCEN, DCEP | DCEN, DCEP |

DUTY CYCLE

The rated Duty Cycle refers to the amount of welding that can be done within an amount of time. It is easiest to look at your welding time in blocks of 10 Minutes and the Duty Cycle being a percentage of that 10 Minutes. If welding at 160 Amps with a 30% Duty Cycle, within a 10 Minute block of time you can weld for 3 Minutes with 7 Minutes of cooling for the welder. If the duty cycle is exceeded and the breaker is tripped, allow the unit to cool for a minimum of 15 Minutes. To increase the duty cycle you can lower the Voltage Output control.

SAFETY INFORMATION



READ INSTRUCTIONS!

- Thoroughly read and understand this instruction manual before using the welder.



ELECTRIC SHOCK CAN KILL!

- Improper use of an electric welder can cause electric shock, injury and death! Read all precautions described in this manual to reduce the possibility of electric shock.
- Do not touch any electrical components that may be live.
- Separate yourself from the welding circuit by using insulating mats to prevent contact from the work surface.
- The welder power switch is to be in the OFF position and the power supply is to be disconnected when performing any maintenance or consumable changes.
- **Always wear dry, protective clothing and leather welding gloves and insulated footwear.**
- Always operate the welder in a clean, dry, well ventilated area. Do not operate the welder in humid, wet, rainy or poorly ventilated areas.
- Be sure that the work piece is properly supported and grounded prior to beginning an electric welding operation.
- The electrode and work (or ground) circuits are electrically “hot” when the welder is on. Do not touch these “hot” parts with your bare skin or wet clothing.
- **Disconnect from power supply before assembly, disassembly or maintenance of the torch or contact tip or changing wire spools.**
- Always attach the ground clamp to the piece to be welded and as close to the weld area as possible. This will give the least resistance and best weld.



FUMES AND WELDING GASES CAN BE DANGEROUS!

- Do not breathe fumes that are produced by the welding operation. These fumes are dangerous. Keep your head and face out of welding fumes. Do not breathe the welding fumes
- Always work in a properly ventilated area. Wearing an OSHA-approved respirator when welding is recommended!
- Never weld coated materials including but not limited to: cadmium plated, galvanized, lead based paints.
- Refer to the MSDS (Material Safety Data Sheet) for any consumables or materials used during welding for additional safety instructions.



WELDING SPARKS CAN CAUSE FIRE OR EXPLOSION!

- Do not operate electric arc welder in areas where flammable or explosive vapors are present.
- Always keep a fire extinguisher nearby while welding.
- Use welding blankets to protect painted surfaces, dash boards, engines, etc.
- Ensure power supply has properly rated wiring to handle power usage.
- Do not use on or near combustible surfaces.
- Remove all flammable items within 35 feet of the welding area.
- Do not weld frozen pipes.

SAFETY INFORMATION



ARC RAYS CAN BURN!

- Use a shield with the proper filter (a minimum of #11) to protect your eyes from sparks and the rays of the arc when welding or when observing open arc welding. (see ANSI Z49.1 and Z87.1 for safety standards)
- Use suitable clothing made from durable flame-resistant material to protect your skin. Protect nearby individuals with a non-flammable barrier.
- Wear safety glasses under your welding helmet with side shields
- If other persons are in the area of welding use welding screens to protect bystanders from sparks and arc rays.



HOT METAL WILL BURN!

- Electric welding operations cause sparks and heat metal to temperatures that will cause severe burns!
- Use protective gloves and clothing when performing any welding operations. Always wear long pants, long-sleeved shirts and leather welding gloves.
- Make sure that all persons in the welding area are protected from heat, sparks and ultraviolet rays. Use additional face shields and flame resistant barriers as needed.
- Never touch work piece until it has completely cooled.



ELECTROMAGNETIC FIELDS MAY BE DANGEROUS!

- The electromagnetic field that is generated during arc welding may interfere with various electrical and electronic devices such as cardiac pacemakers. Anyone using such devices should consult with their physician prior to performing any electric welding operations.
- Exposure to electromagnetic fields while welding may have other health effects which are not known.



WELDING WIRE CAN BE DANGEROUS!

- Never point the welding gun at any part of the body, other people, or metal surfaces.
- Wear safety glasses and handle welding wire safety as it can be sharp and cause injury.



MOVING PARTS CAN BE DANGEROUS!

- Use care when working near the drive motor assembly as it can pinch.
- Do not put fingers or other body parts between moving parts.



FLYING METAL CHIPS CAN CAUSE INJURY!

- Welding, brushing, hammering, chipping, and grinding can cause flying metal chips and sparks.
- To prevent injury wear approved safety glasses.



MAGNETIC FIELDS CAN AFFECT PACEMAKERS!

- Any user with a pacemaker should consult their doctor before use.
- Anyone with a pacemaker should stay away from any welding without consultant from a doctor.



NOTICE!

- Do not touch the contact tip with the unit turned "ON". Turn the unit "OFF" before changing tips or cleaning the nozzle.

UNPACKING

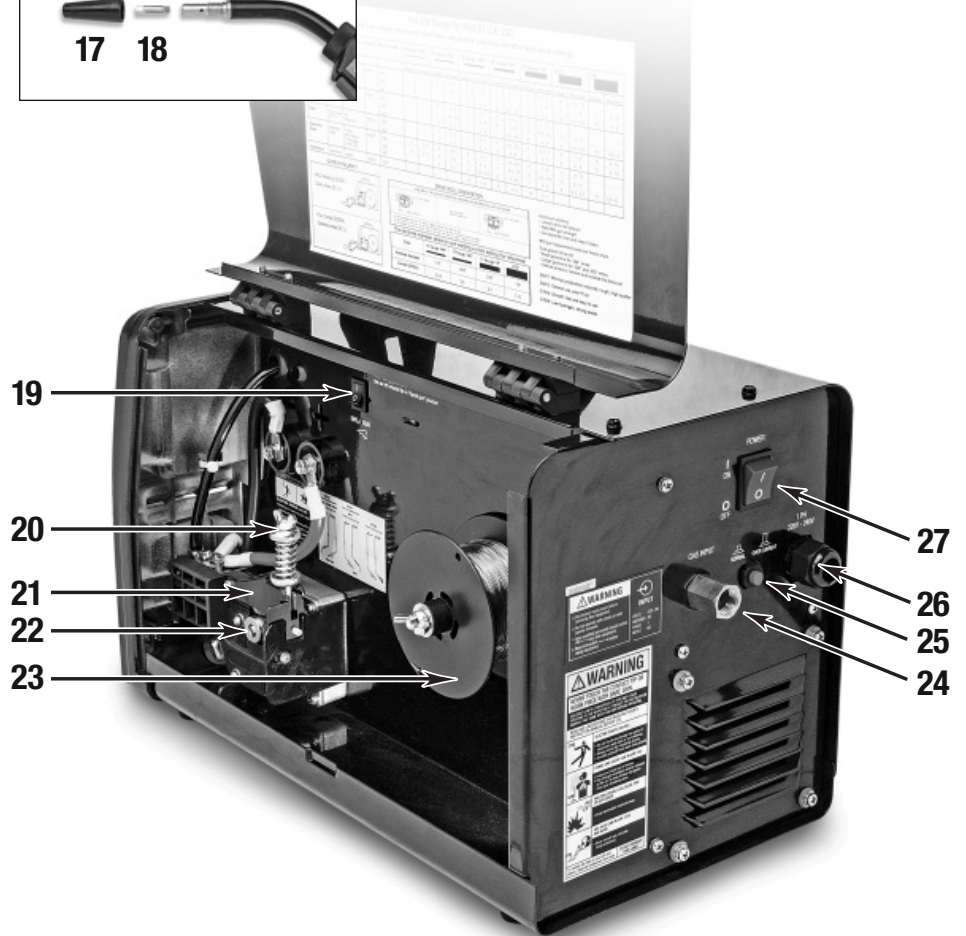
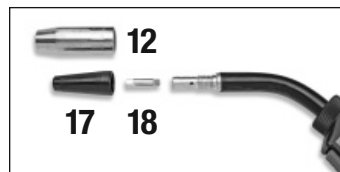
When unpacking your Eastwood MIG/STICK 200, check to make sure all of the parts listed below are included:

- MIG/STICK 200 Welder
- MIG Welding Gun
- Shielding Gas Regulator & Hose
- Ground Cable with Clamp
- Electrode Holder with Cable
- Spare Consumable Kit
- 8 inch Wire Spool Adaptor
- MIG Wire
- Flux Wire
- Rods
- Instruction Manual



COMPONENTS & CONTROLS

1. Stick Holder Connection
2. MIG Torch Electrical Connection
3. Ground Cable Input
4. Gun Input
5. Voltage Control
6. Stick / MIG Selector Switch
7. Wire Speed Control
8. Flux Core Spool
9. MIG Wire Spool
10. Stick Rods
11. Argon/CO2 Regulator
12. Nozzle & Contact Tips
13. Wire Spindle Adapter
14. Ground Clamp
15. Electrode Holder
16. MIG Welding Gun
17. Plastic Nozzle
18. Flux Core Contact Tip
19. Spool Gun/MIG Selector
20. Drive Motor Tension Spring
21. Drive Motor Tension Arm
22. Drive Roller
23. Wire Spool
24. Gas Connector
25. Overload Button
26. 220VAC Input Cable
27. On/Off Switch



CONNECTING THE WELDER TO A POWER SOURCE

The Eastwood MIG/Stick 200 welder requires a dedicated 220 VAC, 30 Amp, 60 Hz grounded outlet protected by a circuit breaker. If using an extension cord, use a minimum 8 AWG cord for up to 25 feet.

SET UP & OPERATION

SET UP FOR MIG WELDING

Installing the MIG Welding Gun

1. Open the side door of the welder and loosen the Torch Tensioner located on the Drive Motor (Fig. B1).
2. Slide the brass body of the Welding Gun in through the front of the unit in the designated hole. Be sure to insert until it bottoms against the drive assembly or a gas leak may occur (Fig. A1).
3. Tighten the Torch Tensioner (Fig. B1). **NOTE:** Make sure that the gun end is tight against the drive assembly or gas may either leak or not be able to pass through the connections to the end of the Welding Gun.
4. Connect the black cannon plug to the cannon plug connection on the front of the welder (Fig. A2).
5. Switch the selector switch to the Welding Gun position (Fig. B2).

Installing the Ground Cable and Clamp

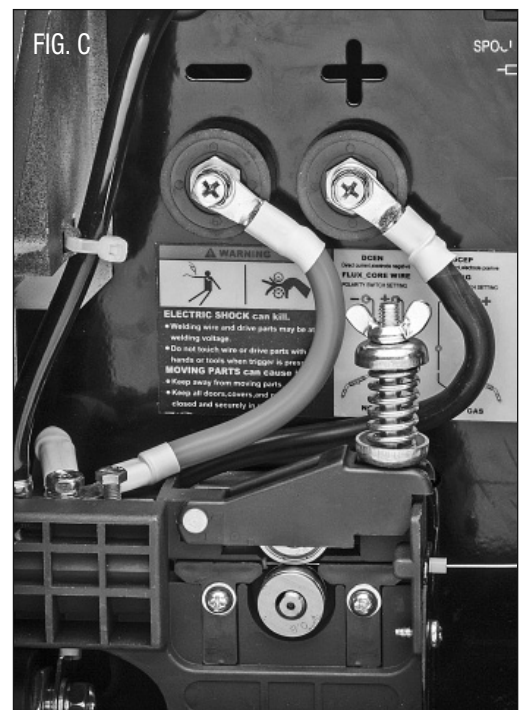
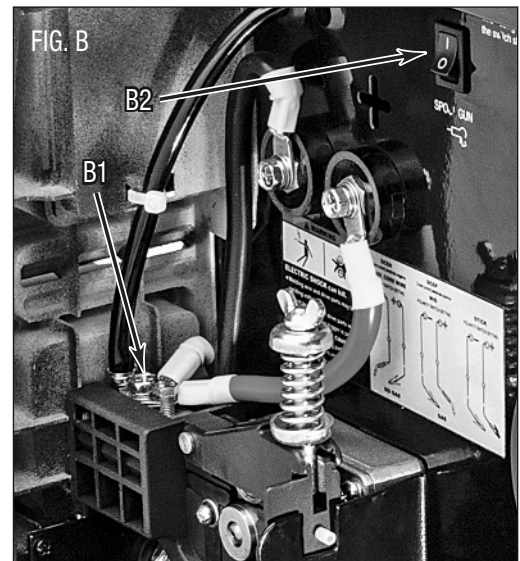
1. Locate the Ground Clamp with Cable and connect the plug on the cable end to the Ground Cable Connector (-) on the welder. To connect the plug line up the key on the plug with the keyway on the socket of the welder, insert the plug and twist until it is tight (Fig. A3).

Changing the Polarity

The Eastwood MIG/STICK 200 comes set up to weld with Solid Wire, to use Flux Cored wire the Polarity must be changed (Fig. C).

NOTE: Disconnect power from Welder!

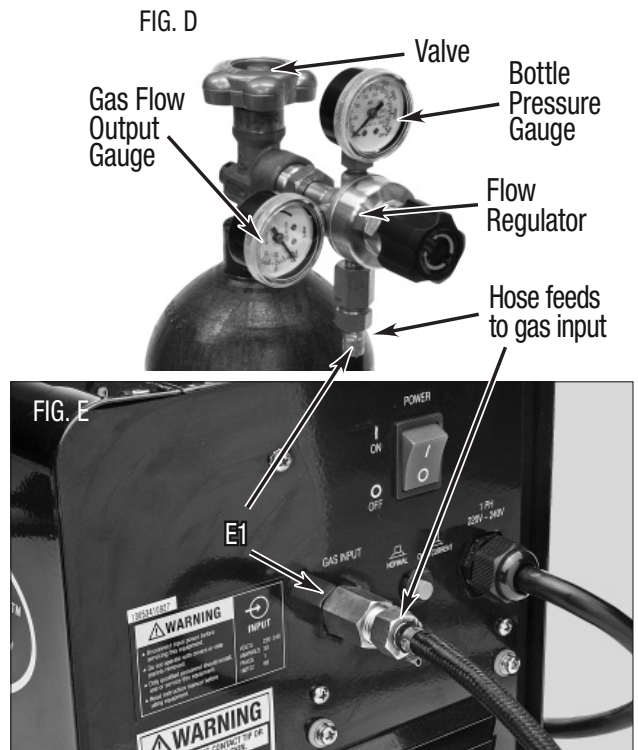
1. Disconnect the Positive Wire Lead coming from the MIG Gun by removing the Screw.
2. Remove the lead from the stud.
3. Remove the Negative Ground Screw and its associated lead.
4. Install the lead from the drive motor onto the Negative (-) Stud and replace the Screw.
5. Install the lead from the ground clamp onto the Positive (+) Stud and replace the Screw.



INSTALLING SHIELDING GAS SUPPLY

A Shielding Gas Bottle is not included with your Eastwood MIG/Stick 200 but is necessary for welding using Solid Wire. Eastwood recommends the use of 75% Argon/25% CO₂ for shielding gas when MIG welding Steel; 100% Argon for Aluminum.

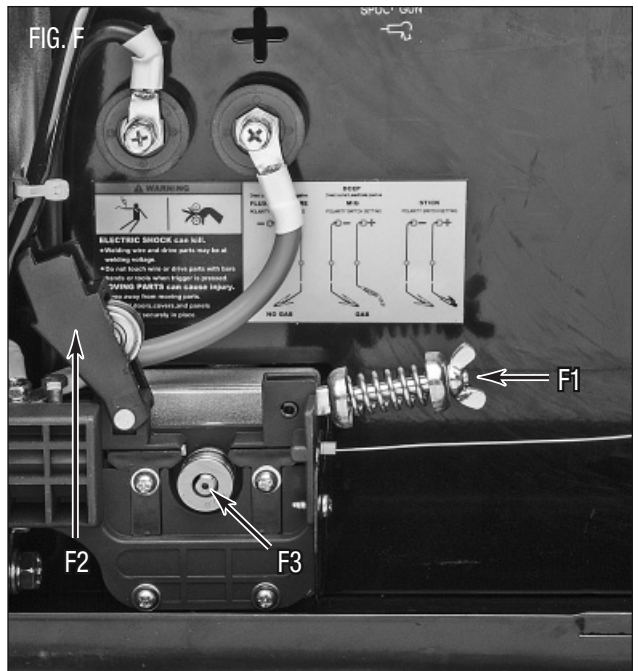
1. Place the Eastwood MIG/Stick 200 in its dedicated area or on a welding cart.
2. Secure your Shielding Gas Bottle to a stationary object or mount to your welding cart if it is equipped to hold one so that the cylinder cannot fall over.
3. Remove the cap from the Shielding Gas Bottle.
4. Insert the large brass male fitting on the Shielding Gas Regulator into the female fitting on the Shielding Gas Bottle.
NOTE: Do not use White Teflon Tape on this connection as it is a tapered thread and does not require it, if you have a leak check for burrs or dirt in the threads. If the leak persists, use gas type sealing tape.
5. Tighten the fitting with a wrench till snug, do not over tighten.
6. Connect either end of the Gas Line included with your MIG/Stick 200 to the fitting on the regulator and wrench tighten till snug (Fig. E1).
7. Connect the other end of the gas line to the fitting on the rear of the MIG/Stick 200 and wrench-tighten until snug.
8. Check the gas line for leaks by slowly opening the valve on the gas bottle. When welding the valve on the bottle should always be all the way open.



CHANGING THE DRIVER ROLLER

The MIG/STICK 200 is set up ready to use 0.023" (0.6mm) wire. If 0.030" (0.8mm) wire is to be used, the drive roller needs to be changed. Adjust the drive roller according to the following procedure:

1. Open the side door of the welder to access the drive motor compartment.
2. Lift the Pressure Adjuster (Fig. F1) out of the way and move the Tension Arm away from the Drive Roller (Fig. F2).
3. Loosen Set Screw on the Drive Roller (Fig. F3).
4. Remove the Drive Roller and view the wire sizes stamped on each side of the Roller.
5. Install the Drive Roller in the orientation so that the size of the wire you are using is facing you on the side of the drive roller.
6. Reinstall the Drive Roller Set Screw.
7. Put the Tension Arm back in place and reset the Pressure Adjuster.



INSTALLING WIRE SPOOL

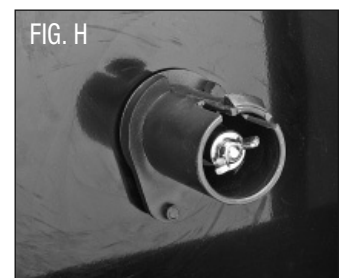
The Eastwood MIG/STICK 200 can be used with either a 4" or an 8" Wire Spool. To use the larger 8" spool an included adaptor is necessary.

To install a 4" Wire Spool:

1. Open the door of the welder and remove the wing nut, spacer and 8" Spool Adaptor from the Wire Spool Spindle.
2. Slide the 4" Wire Spool onto the spindle and reinstall the spacer and the wing nut and place the 8" Spool Adaptor in a safe place if it is needed in the future.
3. To set the tension on the wire, tighten the wing nut till there is a slight resistance to spinning the wire spool on the spindle. If the tension is set too loose the wire spool will spin on the shaft and unspool all of the wire. If the tension is too tight, the drive roller will have issues pulling the wire off the spool and some slipping may occur.

To install an 8" Wire Spool:

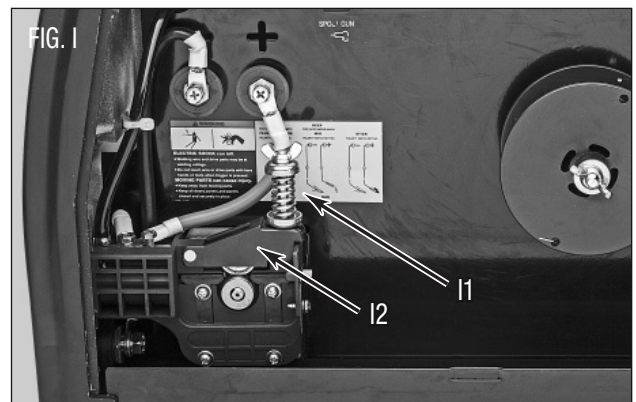
1. Open the door of the welder and remove the wing nut, spacer, and 8" Spool Adaptor from the Wire Spool Spindle.
2. Slide the 8" Wire Spool Adaptor into the center of the wire spool (Fig. H).
3. Slide the 8" Wire Spool Adaptor with the wire spool installed onto the spindle and reinstall the spacer and the wing nut.
4. To set the tension on the wire, tighten the wing nut till there is a slight resistance to spinning the wire spool on the spindle. If the tension is set too loose the wire spool will spin on the shaft and unspool all of the wire. If the tension is too tight, the drive roller will have issues pulling the wire off the spool and some slipping may occur.



THREADING WELDING WIRE THROUGH THE DRIVE MOTOR TO THE WELDING GUN

This welder uses wire sizes ranging from 0.023" or 0.035" (0.8mm or 0.9mm). To install the welding wire follow the procedure outlined below:

1. Turn the power switch to the off position and unplug the welder from the power supply.
2. Set the process selector switch to 'MIG'
3. Remove the contact tip and nozzle from the end of the torch.
4. Ensure that the drive roller is installed in the proper position for the wire size being used (Fig. I).
5. Unlock the Pressure Adjuster (Fig. I1) and lift up the Tension Arm (Fig. I2).
6. Pull out the welding wire from the wire spool carefully.
NOTE: Do not let go of the wire or the entire spool could unravel.
7. Cut off the small piece of the curved segment at the front of welding wire and straighten the welding wire approximately 3.0" long.
8. Thread the welding wire through the Guide Pipe and over the Drive Roller and into the torch hole.
9. Reattach the Tension Arm and reset the Pressure Adjuster.
10. Connect the welder to a power supply and turn on the machine. Set the wire speed to about "5".
11. With the gun pointed away from you and others, depress the trigger to begin feeding wire. **NOTE:** Watch the drive roller to see if any slipping is occurring between the roller and the wire. If so, turn the machine off and tighten the Pressure Adjuster 1/4 turn and test again.
12. Once the wire exits the end of the torch, reinstall the contact tip and nozzle. Cut the wire about 1/4" from the end of the contact tip.



MIG WELDING OPERATION

Your Eastwood MIG/STICK 200 can be used to form a large number of different joints and welds all of which will require practice and testing before using on an actual project piece. This following welding process is just a baseline to get you started.

1. Refer to the 'Suggested Settings' chart which is located inside the side door of your Eastwood Welder. From the chart select your baseline starting point for the recommended settings described in the chart.
2. Connect your ground clamp to the work pieces that are to be welded. Make sure the ground clamp contacts are placed on a clean piece of metal free of paint, grease, rust, oils, etc. It is recommended to place your ground clamp as close to the weld area as possible.
3. Assess your weld area and make sure the welding area is also cleaned of any paint, grease, rust, oils, etc.
4. Plug in the welder and switch to the ON position.
5. Depress the Welding Gun Trigger pointing the welding gun away from your body and then let go of the trigger and cut the wire back to ~1/4" stick out length.
6. Wearing your welding helmet, gloves and long sleeve shirt and pants, put the end of the wire sticking out of the gun into the joint to be welded.
7. Position the MIG Gun so that it is perpendicular to the base metal with ~20° tilt back.
8. Depress the trigger to start the wire feed which starts the arc. **NOTE:** A push, perpendicular, or drag technique can be used to weld the pieces together; the type used depends on the type of joint as well as other influential conditions.
9. Once you depress the trigger and the arc has started, you will notice a molten puddle will form; this puddle is the weld bead and will follow the motion of the MIG Gun. Watching the size of the puddle dictates how fast you should be moving with the torch. If you burn through the material you are either moving too slow or you need to make some setting adjustments to the welder settings. If you're not penetrating the base metal you're either moving too fast or you need to make adjustments to the welder settings.
10. Release the trigger on the MIG Gun to stop the weld.
11. After finished welding, turn off the welder.

Sheet Metal Welding Techniques

When welding sheet metal a different approach is usually taken to account for how thin the metal is and how susceptible to warping it is. The technique most often used is called Stitch Welding and this process is described below:

1. Clean the metal to be welded of any paint, rust, oil, grease, dirt or any other contaminants that may be on the surface of the piece.
2. Secure the pieces to be welded in place using clamps. Be sure to leave a small gap between the two pieces of sheet metal for the weld to flow into, as this will result in a lower bead height which will require minimal finishing.
3. Consult the Suggested Settings Chart and set the Voltage and Wire Speed knobs appropriately.
4. Get some pieces of scrap metal of the same thickness and verify that the settings will work for the specific weld you will be making.
5. Once the settings have been fine-tuned, tack weld your final pieces in places and remove the clamps if they are in the way of the weld.
6. The Stitch Welding technique can now be utilized which is basically a series of tacks connected together. To perform the technique, trigger the gun to form a tack weld and then continue to trigger the gun (on and off) making a series of connected tack welds following along the path of the weld joint. Continue the series of tacks for an inch or so and then move to a different section of the weld and perform the process there. It is essential to keep moving around to spread out the heat making sure not to get one section too hot and warp the metal.
7. Once the entire weld has been completed, allow the metal to cool. If necessary, follow up with a flap disc to grind the weld bead flush.

Heavy Gauge Metal Welding Techniques

When welding heavy gauge metal, a continuous bead is formed using a 'push' method. This process is described below:

1. Clean the metal to be welded of any paint, rust, oil, grease, dirt or any other contaminants that may be on the surface of the piece.
2. Secure the pieces to be welded in place using clamps. Be sure to leave a small gap between the two pieces of metal for the weld to flow into, this will result in a lower bead height which will require minimal finishing. Any material thicker than 1/8" should be beveled using an angle grinder.
3. Consult the Suggested Settings Chart and set the Voltage and Wire Speed knobs appropriately.
4. Get some pieces of scrap metal of the same thickness and verify that the settings will work for the specific weld you will be making.
5. Once the settings have been fine-tuned, tack weld your final pieces in places and remove the clamps if they are in the way of the weld.
6. When welding heavy gauge metal, there are two basic approaches to creating the weld. The first, is a continuous bead with steady gun movement along the length of the joint. The second type of weld is a Stringer or Weave bead. This is accomplished by moving the torch in a circular or zig zag pattern. Either of these techniques will create strong welds but in some cases the Stringer or Weave type will create a more aesthetically pleasing weld bead.
7. Once the entire weld has been completed, allow the metal to cool. If necessary, follow up with a flap disc to grind the weld bead flush.

SET UP & OPERATION FOR STICK WELDING

SET UP FOR STICK WELDING

1. Set the welder on a flat surface in the general area where the welder will be used.
2. Set the Process Selector Switch to 'Stick'
3. Locate the Ground Clamp with Cable and connect the plug on the cable end to the Ground Cable Connector (-) on the welder. To connect the plug line up the key on the plug with the keyway on the socket of the welder, insert the plug and twist until it is tight.
4. Locate the Electrode Holder with Cable and connect the plug on the cable end to the Electrode Holder Connector (+) on the welder. To connect the plug, line up the key on the plug with the keyway on the socket of the welder, insert the plug and twist until it is tight.
5. Connect the welder to a power source. This welder requires a minimum 30 Amp, 220 VAC, 50/60 Hz Protected Circuit.
6. Insert the electrode to be used into the electrode holder.
7. Connect the ground clamp to a clean bare metal surface of the part to be welded.
8. Turn on the Power Switch.
9. The welder is now ready to use and you can begin welding.

STICK WELDING OPERATION

Electrode Selection

Before beginning welding with your Eastwood MIG/STICK 200, you will need to purchase electrodes as these are a consumable item in the ARC welding process. There are a variety of different types of rods available and should be selected depending upon the project at hand. The chart below is an overview of some of the most popular electrodes.

| Electrode | Polarity | Usage |
|-----------|------------|---|
| E6010 | DCEP | This electrode works well for welding rusty, dirty, painted, or greasy steels. |
| E6011 | DCEP | This electrode is a general purpose rod used for carbon and galvanized steel. It is recommended for use when deep penetration is necessary. |
| E6013 | DCEP, DCEN | This electrode is a general purpose rod used for welding carbon steel with poor fitting joints. It is capable of light to medium penetration. |
| E7014 | DCEP, DCEN | This electrode can be used where a high deposition is necessary along with fast travel speed. It is capable of light penetration. |

Polarity Selection

The Eastwood MIG/STICK 200 can weld in both Direct Current Electrode Positive (DCEP) and Direct Current Electrode Negative (DCEN). The electrode, or rod, when welding in DCEP is positive and the grounded surface is negative. This polarity is used with electrodes that specify it and is usually the most commonly used polarity when ARC welding for general purpose use. The electrode when welding in DCEN is negative and the grounded surface is positive. This polarity is used with electrodes that require using this polarity and is usually used for building up heavy deposits of material with less penetration.

To use the Eastwood MIG/STICK 200 in DCEP:

1. Locate the Ground Clamp with Cable and connect the plug on the cable end to the Ground Cable Connector (–) on the welder. To connect the plug, line up the key on the plug with the keyway on the socket of the welder, insert the plug, and twist until it is tight.
2. Locate the Electrode Holder with Cable and connect the plug on the cable end to the Electrode Holder Connector (+) on the welder. To connect the plug, line up the key on the plug with the keyway of the socket on the welder, insert the plug, and twist until it is tight.

To use the Eastwood MIG/STICK 200 in DCEN:

1. Locate the Ground Clamp with Cable and connect the plug on the cable end to the Positive Connector (+) on the welder. To connect the plug, line up the key on the plug with the keyway on the socket of the welder, insert the plug, and twist until it is tight.
2. Locate the Electrode Holder with Cable and connect the plug on the cable end to the Negative Connector (–) on the welder. To connect the plug, line up the key on the plug with the keyway on the socket of the welder, insert the plug, and twist until it is tight.

WELDING

1. Set up a clean, well lit work area.
2. Prepare the parts to be welded by cleaning the weld joint area of any rust, dirt, grease or paint.
3. Select the proper electrode for the weld joint.
4. Turn on the welder and select the appropriate amperage. To determine proper amperage, it is best to practice on some similar metals to set up the machine before welding on an actual part of value.
5. Attach the ground clamp to a clean bare metal section on the work piece.
6. Insert the electrode into the electrode holder being careful not to allow the electrode to contact the grounded area.
7. To start welding, an arc must be struck. To do this, a motion similar to striking a match will have to be performed with the electrode. Slowly bring the electrode closer to the weld joint and then contact and drag the electrode across the piece to strike the arc. Once the arc has been struck, you can continue feeding the electrode into the weld joint.
8. While moving along the weld joint, the electrode will burn down. While it is burning you will need to continue moving the electrode closer to the joint trying to keep a 1/8" gap between the end of the electrode and the weld joint. The electrode holder must be held so that the electrode is in a downward angle moving in the direction of the weld joint.
9. To stop welding, simply lift the electrode away from the work piece. When finished welding, remove the electrode from the holder and turn off the welder.

SET UP & OPERATION FOR SPOOL GUN WELDING

SET UP FOR SPOOL GUN WELDING

The Eastwood MIG/STICK 200 is set up to use a spool gun which allows for easy feeding of aluminum wire to expand your welding capabilities. This is an optional accessory and can be purchased separately from Eastwood.

1. Turn off welder and unplug from power source.
2. Switch the selector switch to the Spool Gun position.
3. Switch the process selector switch to MIG.
4. Open the side door of the welder and loosen the Torch Tensioner located on the side of the drive roller. If the standard welding gun is installed remove it and its associated connector.
5. Slide the brass body of the Spool Gun in through the front of the unit in the designated hole. Be sure to insert until it bottoms against the drive assembly or a gas leak may occur.
6. Connect the black cannon plug to the cannon plug connection on the front of the welder.
7. Tighten the Torch Tensioner finger tight.

Threading Welding Wire through the Spool Gun

1. Turn off welder and unplug from power source.
2. Set the switch above the drive motor to the spool gun setting.
3. Remove the thumb screw and clear plastic wire spool cover.
4. Remove the thumb screw and spring tensioner that holds the wire spool on.
5. Place wire spool on spindle and replace the thumb screw with spring tensioner and tighten until the spool has some tension.
6. Loosen the Brass Tensioner Thumb Screw until it is possible to feed the welding wire through the drive roller grooves.
7. Feed the wire by hand from the spool into the inlet guide, past the drive rollers and into the wire inlet.
8. Tighten the Brass Tensioner Thumb Screw until it applies light pressure onto the welding wire. If this is too tight, it will deform the wire and cause feeding issues. If it is too loose, the drive roller will slip on the wire.
9. Remove the nozzle and contact tip.
10. Replace the wire spool cover.
11. Plug in welder to your power source and turn on the welder.
12. Trigger the Spool Gun to feed the wire and adjust the Brass Tensioner Thumb Screw so that the wire does not slip.
13. Replace Contact Tip and Nozzle.
14. Feed wire through the gun and cut the wire exposing a 1/4" length out of the contact tip.

SPOOL GUN WELDING OPERATION

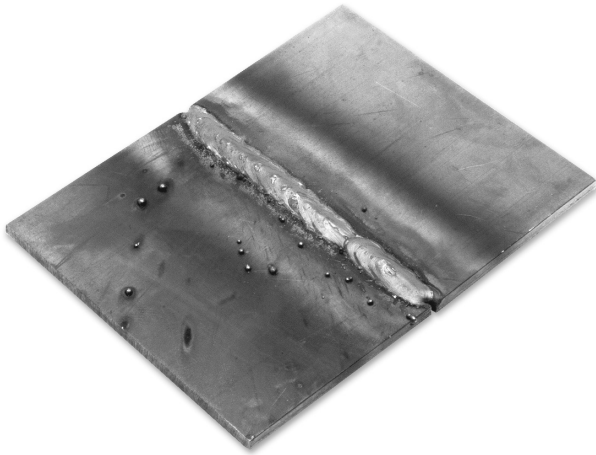
Your Eastwood MIG/STICK 200 can be used to weld aluminum utilizing a spool gun. The spool gun is sold as an accessory to the MIG/STICK 200, and you will also need to purchase a cylinder of 100% Argon gas from your local welding supplier. This following welding process is just a baseline to get you started.

1. Refer to the 'Suggested Settings' chart which is located inside the side door of your welder. Select your baseline starting point for the recommended settings described in the chart.
2. Ensure that the polarity is configured for DCEP welding.
3. Set the process selector switch to MIG.
4. Set the MIG / Spool Gun Selector Switch to 'Spool Gun' (inside unit)
5. Connect your ground clamp to the work pieces that are to be welded. Make sure the ground clamp contacts are placed on a clean piece of metal free of paint, grease, rust, oils, etc. It is recommended to place your ground clamp as close to the weld area as possible.
6. Assess your weld area and make sure the welding area is also cleaned of any paint, grease, rust, oils, etc. Aluminum has a layer of oxide on the surface that should be removed prior to welding.
7. Plug in the welder and switch to the ON position.
8. Open your gas valve on the bottle and adjust the flow rate if necessary.
9. Depress the spool gun trigger for a few seconds pointing the welding gun away from your body and then let go of the trigger and cut the wire back to ~3/4" stick out length.
10. Wearing your welding helmet, gloves and long sleeve shirt and pants, put the end of the wire sticking out of the spool gun into the joint to be welded.
11. Position the welding gun so that it is perpendicular to the base metal with 10-15° angle in the direction of push travel.
12. Depress the trigger to start the wire feed which starts the arc. **NOTE:** When welding aluminum with a Spool Gun it is recommended to use a push technique. Using a drag technique will result in poor, dirty welds.
13. When welding aluminum a spray arc transfer is preferred rather than short arc transfer that can be more commonly used on steels. This method involves using a longer wire stick out (~3/4"). When the welder settings and technique have been dialed in the spray arc transfer should create a hissing sound and little or no spatter. Once positioned, the trigger can be pulled and the weld started.
14. Release the trigger on the welding gun to stop the weld.
15. After finished welding, close the valve completely on the Shielding Gas Bottle.

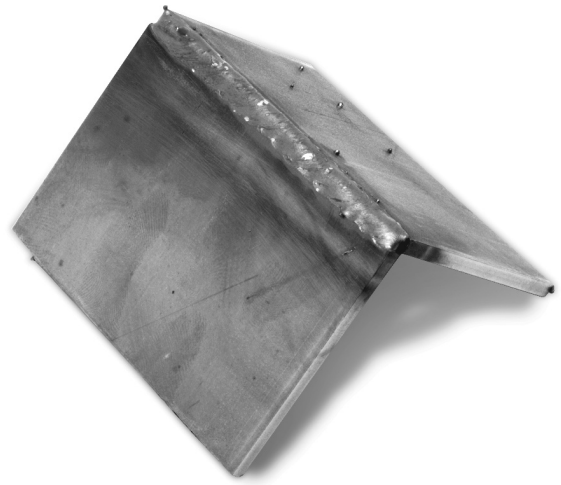
OVERLOAD PROTECTION

Your Eastwood MIG/STICK 200 Welder is equipped with an overload breaker. This device will protect your welder if the duty cycle is exceeded. If the output is exceeded, the internal breaker will trip and stop power supply to the drive motor although the fan will still run to cool the unit. If the breaker tripped resulting from an overload, the circuit breaker button under the side door of the welder will extend out. This circuit breaker must be reset manually. Before resetting the circuit breaker button allow the welder to cool for a minimum of 15 minutes.

TYPES OF WELD JOINTS



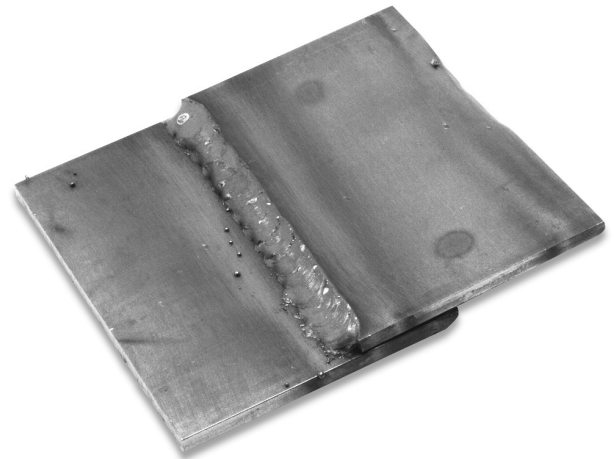
1. **Butt Weld** is a joint between two pieces that are laying in the same direction.



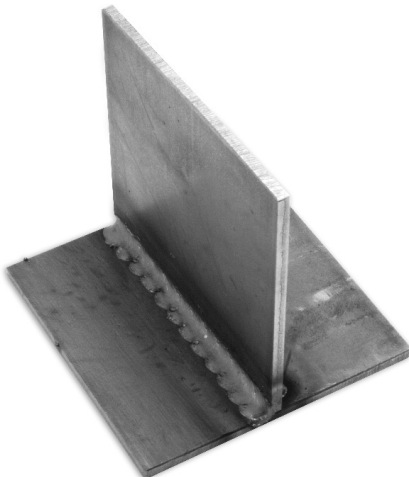
2. **Corner Weld** is a joint between two pieces that meet at or near perpendicular at their edges.



3. **Edge Weld** is a joint between two pieces where the edges are being joined.



4. **Lap Weld** is a joint between two overlapping pieces.



5. **Tee Weld** is a joint between two pieces where one is perpendicular to the other.



6. **Plug Weld** is a joint which joins two overlapping pieces by filling in a hole punched in the top piece.

STICK WELDING TROUBLESHOOTING

| Problem | Cause | Fix |
|--------------------------------------|------------------------|---|
| Electrode Sticking | Arc too short | While welding, keep the ignited end of the Electrode further from the weld joint. |
| | Current too low | Adjust the current on the front of the Welder to a higher current setting. |
| Holes in Weld Bead (Porosity) | Arc too long | While welding, keep the ignited end of the Electrode closer to the joint. |
| | Moisture in electrode | Replace Electrode with a new one. |
| Excessive Spatter | Arc too long | While welding, keep the ignited end of the Electrode closer to the weld joint. |
| | Current too high | Adjust the current on the front of the Welder to a lower setting. |
| Poor Penetration | Poor joint preparation | Clean the weld joint of any dirt, grease, paint or any possible contaminants. If the pieces being welded are of a heavy gauge, it may be necessary to bevel the edges of the piece. |
| | Current too low | Adjust the current on the front of the Welder to a higher current setting. |
| | Travel speed too fast | Slow down the travel speed of the Electrode while welding. |
| Overload Light On | Duty Cycle exceeded | Allow the Welder to cool for minimum of 15 minutes before attempting to use again. |

MIG WELDING TROUBLESHOOTING

| Problem | Cause | Fix |
|------------------------------|--------------------------|--|
| Burn Through | High Voltage | Adjust voltage output to lower setting. |
| | Fast Wire Speed | Adjust wire speed to slower setting. |
| | Slow Gun Travel | Increase your travel speed with the Welding Gun. |
| Lack of Penetration | Low Voltage | Adjust voltage output to higher setting. |
| | Slow Wire Speed | Adjust wire speed to faster setting. |
| | Fast Gun Travel | Slow your travel speed of the Welding Gun making sure to pull or drag the molten metal puddle. |
| | Excessive Wire Stick Out | Move the Contact Tip on the Welding Gun closer to the work piece to shorten the length of exposed wire. |
| | Material Too Thick | The Mig/Stick 200 is rated for a maximum thickness of 5/16", exceeding this will result in poor penetration. |
| | Poor Material Prep | If welding heavy gauge metals, it may be necessary to increase the welding gap between the two pieces and also bevel the edges on the weld side of the pieces. |
| Excessive Penetration | High Voltage | Adjust Voltage Output to a lower setting. |
| | Fast Wire Speed | Adjust Wire Speed to a lower setting. |
| | Slow Gun Travel | Increase your travel speed with the Welding Gun. |
| Warping | Lack of Tack Welds | Tack weld the pieces in multiple areas to keep the pieces from pulling apart. |
| | No Clamping | Use welding clamps to secure the pieces in the proper shape. |
| | Poor Technique | To prevent warping, allow the piece to cool after welding small sections at a time. Move your welding areas around by not completing all the welding in one section all at once, rather, welding a small amount in one area and then move to another section area to spread out the heat in the piece. |

ACCESSORIES

CONSUMABLE PARTS

- **12224** – 0.030" / 0.8mm Contact Tips (5 Pack)
- **12211** – 0.025" Contact Tips (5 Pack)
- **12210** – Nozzle
- **20000** – MIG Consumables Kit (2 Nozzles, 10 Contact Tips)
- **12225** – 0.030" Flux Core Wire, 2lbs, 4" Spool
- **12227** – 0.030" Solid MIG Wire, 2lbs, 4" Spool

OPTIONAL PARTS

- **12236** – Welding Cart
- **11616** – Deluxe MIG / TIG / Plasma Welding Cart

APPAREL

- **13203** – Auto Darken Welding Helmet
- **13212** – Large View Auto Darken Welding Helmet
- **12957** – Welding Helmet Bag
- **12589 / 12590** – Top Grain Cowskin 4" Cuff Welding Gloves (M/L)
- **12762** – L/XL/XXL Welding Jacket

See our complete line of consumables and parts at www.eastwood.com

If you have any questions about the use of this product, please contact

The Eastwood Technical Assistance Service Department: 800.544.5118 >> email: techelp@eastwood.com

PDF version of this manual is available online >> eastwood.com/14422manual

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