



Item #73882

# TIG 225 AC/DC WELDER

## ASSEMBLY AND OPERATING INSTRUCTIONS



The **EASTWOOD ELITE TIG 225 AC/DC WELDER** is an easy-to-use, highly programmable AC and DC TIG welding machine that also features stick welding capability. The Eastwood-exclusive, color LCD user interface is quick to navigate, and easily configurable for the welding scenario at hand. Five user-programma-ble presets enable you to easily retrieve settings for frequent jobs. AC or DC output enables you to weld steel, stainless steel, aluminum and more while the fully configurable pulse modes, AC balance and frequency let you dial in your welds at a professional level. This package includes a flex-head WP-17 type TIG welding torch with “gas lens” style consumables. The latest in inverter technology keeps the unit lightweight and portable while still offering a peak output capable of welding 1/4” material and beyond. This welder is a dual-voltage machine that can plug into a normal household outlet or unlock full power with a dedicated welder outlet. Level up your shop’s welding capability with this versatile TIG machine.

**READ AND UNDERSTAND ALL INSTRUCTIONS AND PRECAUTIONS BEFORE PROCEEDING.**

This unit emits a powerful high voltage and extreme heat which can cause severe burns, electrical shock and death.

### STATEMENT OF LIMITED WARRANTY

The Eastwood Company (hereinafter “Eastwood”) warrants to the end user (purchaser) of all new Eastwood-branded tools and chemicals (collectively called the “products”) that each 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 product delivery 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 135 Welder
- Eastwood MIG 250 Welder
- Eastwood Versa-Cut 20
- Eastwood Versa-Cut 60
- Concours Pro HVLP Paint Gun

- Eastwood TIG 200 DC
- Eastwood MP140i Welder
- Eastwood Elite MP250i Welder
- Eastwood ARC 80 Stick Welder
- Eastwood TIG 200 LCD

- Eastwood MIG 175 Welder
- Eastwood TIG 200 Digital
- Eastwood Versa-Cut 40
- Eastwood Rotisserie
- Eastwood Elite TIG 225 AC/DC Welder

- Eastwood TIG 200 AC/DC
- Eastwood MP200i Welder
- Eastwood 90A Flux Core Welder
- Eastwood Contour SCT®

**Items not covered under this warranty:** Consumables, unless deemed defective, are not covered by the 3-year warranty. Abuse, neglect, and lack of maintenance is not covered under this warranty. All other components are covered by the warranty and will be repaired or replaced at the discretion of Eastwood.

**2-Year Warranty on Material, Workmanship and Defects:**

- Eastwood Air QST-30/60 Scroll Compressor
- Eastwood 60 Gal. 3.7 HP Compressor
- Eastwood Lg View Welding Helmet

- Eastwood 80 Gal. 7.5 HP Compressor
- Eastwood Panoramic Welding Helmet
- Eastwood Auto Darkening Helmet

- Eastwood 80 Gal. 5 HP Compressor
- Eastwood 30 Gal. 1.9 HP Compressor
- Concours 2 HVLP Paint Gun

- Eastwood 60 Gal. 4.7 HP Compressor
- Eastwood XL View Welding Helmet

**Items not covered under this warranty:** Consumables, unless deemed defective, are not covered by the 2-year warranty. Abuse, neglect, and lack of maintenance is not covered under this warranty.

**1-Year Warranty on Material, Workmanship and Defects:**

- Eastwood Tools Not Included Above

- Fairmount Tools

**Items not covered under this warranty:** Consumables, unless deemed defective, are not covered by the 1-year warranty. Abuse, neglect, and lack of maintenance is not covered under this warranty.

**90-Day Warranty on Material, Workmanship and Defects:**

- Eastwood Paints & Chemicals

- Rockwood Tools

**Items not covered under this warranty:** Consumables, unless deemed defective, are not covered by the 90-day warranty. Abuse, neglect, and lack of maintenance is not covered under this warranty.

**Lifetime Warranty on Material, Workmanship and Defects:**

- Selected Eastwood Hand Tools carry a Limited Lifetime Warranty

**Items not covered under this warranty:** Abuse, neglect, and lack of maintenance is not covered under this warranty.

**CONDITIONS TO OBTAIN WARRANTY COVERAGE:**

- Proof of purchase must be provided for all warranty claims

- Purchaser must first contact Eastwood at 1-800-343-9353 for an RMA Number before Eastwood will accept any warranty 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 COR-RECTING 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.

## TABLE OF CONTENTS

INCLUDES .....

SPECIFICATIONS .....

DUTY CYCLE .....

OVERLOAD PROTECTION .....

SAFETY INFORMATION .....

CONNECTING THE WELDER TO A POWER SOURCE .....

CONTROL AND DISPLAY PANEL .....

GRAPHICAL USER INTERFACE (GUI) NAVIGATION .....

PRESETS .....

TIG WELDING SET-UP .....

INSTALLING THE TIG TORCH .....

INSTALLING THE GROUND CABLE AND CLAMP .....

INSTALLING THE SHIELDING GAS SUPPLY .....

TUNGSTEN SELECTION .....

TUNGSTEN SHARPENING .....

TIG TORCH DISASSEMBLY (FIG 13) .....

TIG TORCH ASSEMBLY (FIG 14) .....

TIG SHIELDING GAS FLOW ADJUSTMENT .....

FILLER ROD SELECTION .....

TRIGGER MODE .....

DC TIG WELDING PARAMETERS .....

AC TIG WELDING PARAMETERS .....

4

5

5

5

6

8

9

10

10

11

11

11

12

13

13

14

14

14

15

15

16

17

TIG WELDING OPERATION .....

TIG WELDING .....

STICK WELDING SET-UP .....

POLARITY SELECTION .....

ARC (DCEN) .....

ARC (DCEP) .....

ELECTRODE SELECTION .....

STICK SETTINGS .....

DC AND AC STICK WELDING PARAMETERS .....

STICK WELDING OPERATION .....

STICK WELDING .....

DATA CHART .....

TROUBLESHOOTING .....

TIG WELDING TROUBLESHOOTING .....

STICK WELDING TROUBLESHOOTING .....

ADDITIONAL ITEMS .....

18

18

20

20

20

20

21

22

22

22

22

24

25

25

27

28

2

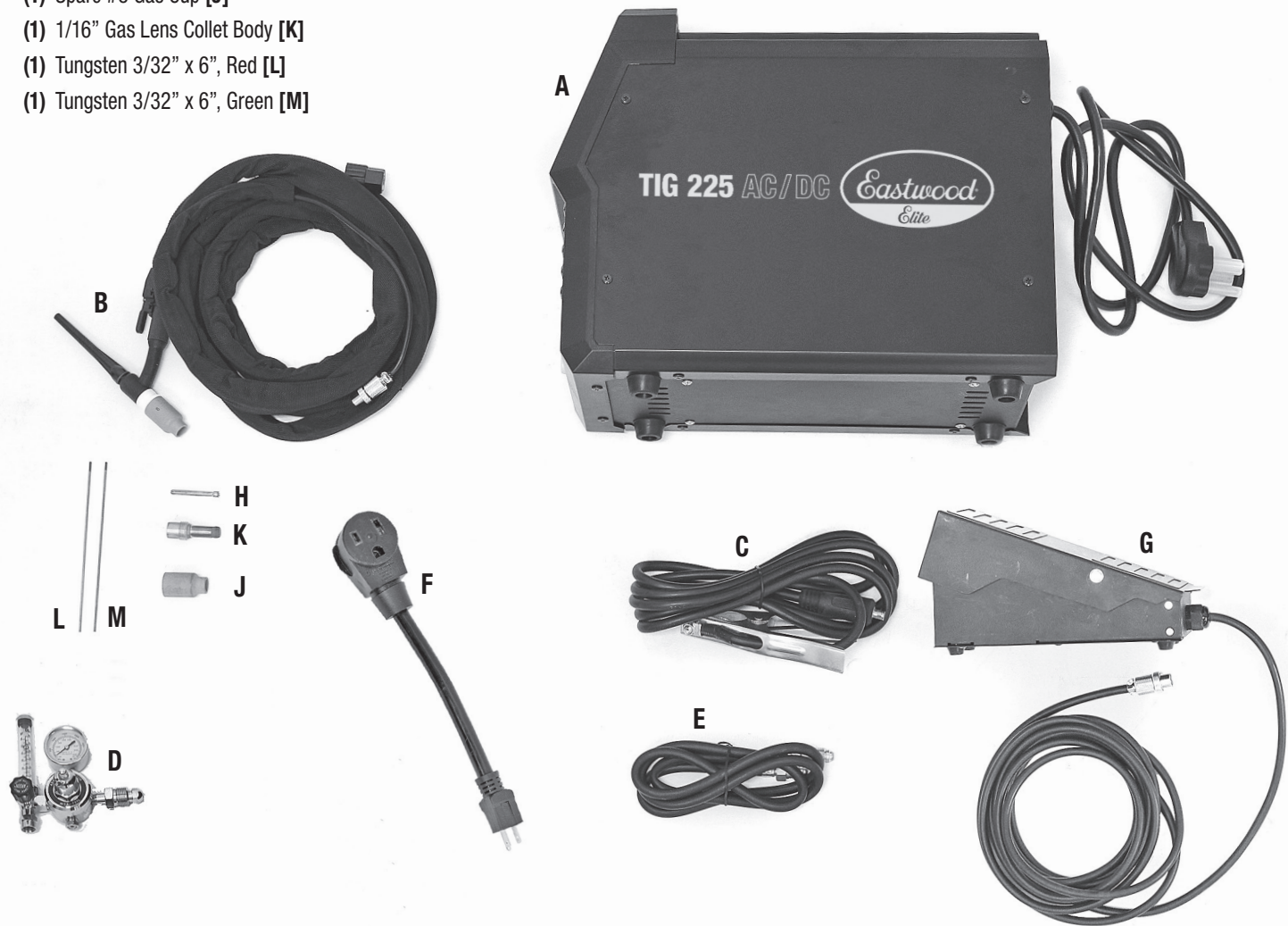
Eastwood Technical Assistance: 800.343.9353 >> tech@eastwood.com

To order parts and supplies: 800.343.9353 >> eastwood.com

3

CONTENTS

- (1) TIG 225 AC/DC Welder [A]
- (1) Flex Head TIG Welding Torch and Cable Assembly, 12 ft. [3.65m] with 3/32" Gas Lens Collet Body and Collet, #8 Gas Cup and Long Back Cap pre-installed [B]
- (1) Ground Cable/Clamp Assembly, 9.5 ft. [2.9m] [C]
- (1) Argon Regulator/Flowmeter [D]
- (1) Shielding Gas Hose, 4.6' [1.4m] [E]
- (1) Adapter Cord, 8" [0.2m] [F]
- (1) Foot Pedal with Cable Assembly, 16 ft. [4.85m] [G]
- (1) 1/16" Collet [H]
- (1) Spare #8 Gas Cup [J]
- (1) 1/16" Gas Lens Collet Body [K]
- (1) Tungsten 3/32" x 6", Red [L]
- (1) Tungsten 3/32" x 6", Green [M]



SPECIFICATIONS

|                                            |                                             |                            |
|--------------------------------------------|---------------------------------------------|----------------------------|
| Input Voltage                              | 240 VAC, 50/60Hz, 1 Ph                      | 120 VAC, 50/60Hz, 1 Ph     |
| No Load Voltage                            | 69V                                         |                            |
| Rated Input Current: TIG (I1max / I1eff)   | 30.5A / 13.6A                               | 25.3A / 11.3A              |
| Rated Input Current: Stick (I1max / I1eff) | 40.0A / 17.9A                               | 42.5A / 19A                |
| Output Current Adjustment: TIG (DC)        | 5A (10.2V) - 225A (19V)                     | 5A (10.2V) - 120A (14.8V)  |
| Output Current Adjustment: TIG (AC)        | 10A (10.4V) - 225A (19V)                    | 10A (10.4V) - 120A (14.8V) |
| Output Current Adjustment: Stick           | 20A (20.8V) - 200A (28.0V)                  | 20A (20.8V) - 120A (24.8V) |
| Rated Duty Cycle: TIG                      | 20% @ 225A (19V)                            | 20% @ 120A (14.8V)         |
|                                            | 60% @ 130A (15.2V)                          | 60% @ 70A (12.8V)          |
|                                            | 100% @ 101A (14.0V)                         | 100% @ 54A (12.2V)         |
| Rated Duty Cycle: Stick                    | 20% @ 200A (28.0V)                          | 20% @ 120A (24.8V)         |
|                                            | 60% @ 115A (24.6V)                          | 60% @ 70A (22.8V)          |
|                                            | 100% @ 89A (23.6V)                          | 100% @ 54A (22.2V)         |
| Starting Method: TIG                       | High Frequency                              |                            |
| Power Factor                               | 0.73                                        |                            |
| Efficiency                                 | 80%                                         |                            |
| Pre-Flow Time                              | 0.1 - 1.0s                                  |                            |
| Post-Flow Time                             | 0 - 15s                                     |                            |
| Overall Dimensions                         | 18.27" x 8.39" x 15.94" [464 x 213 x 405mm] |                            |
| Weight                                     | 34.17 lbs. [15.5kg]                         |                            |

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 130 amps with a 60% duty cycle, within a 10-minute block of time you can weld for 6 minutes with 4 minutes of cooling for the welder.

If the duty cycle is exceeded, and the built-in breaker is tripped, allow the unit to cool for a minimum of 15 minutes. When a safe temperature has been reached, the welder will automatically enable welding again. To increase the duty cycle, turn down the welder output. Going above 130 amps will yield a lower duty cycle.

OVERLOAD PROTECTION

The Eastwood Elite TIG 225 AC/DC Welder is equipped with overload protection. This will protect the welder if the duty cycle is exceeded. If the duty cycle is exceeded, the welder will cut off the power supply to the welder's outputs and the display will flash **ERR** for overheat protection. The fan will still run to cool the unit. Allow the welder to cool for a minimum of 15 minutes or until the error display goes out.

# SAFETY INFORMATION

## IMPORTANT NOTE:

These instructions are intended only to provide the user with some familiarity of the Eastwood Elite TIG 225 AC/DC welder. Electric welding is a highly complex procedure with many variables. If you have no prior experience with electric welding, it is extremely important to seek the advice of someone experienced in electric welding for instruction, enroll in a local technical school welding course or study a comprehensive how-to video and obtain a good quality reference book on electric welding. There is a moderate learning curve necessary before achieving proficiency in welding different metals such as steel, stainless steel and aluminum. It is also strongly recommended that the user adhere to the American Welding Society guidelines, codes, and applications prior to producing welds where safety is affected.

Welding can be dangerous to you and other persons in the work area. Read and understand this instruction manual before using this Eastwood welding machine. Injury or death can occur if safe welding practices are not followed. Safety information is set forth below and throughout this manual. Save these instructions for future reference.

To learn more about welding safety, read OSHA Title 29 CFR 1910, available at [www.osha.gov](http://www.osha.gov); ANSI Z49.1, “Safety in Welding, Cutting and Allied Processes,” available at [www.aws.org](http://www.aws.org); and the consumable manufacturer’s Safety Data Sheets.

The following explanations are displayed in this manual, on the labeling, and all other information provided with this product:

### ⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

### ⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

### ⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

### ⚠ NOTICE

NOTICE is used to address practices not related to personal injury.



## ⚠ DANGER ELECTRIC SHOCK CAN CAUSE INJURY OR DEATH!

- Improper use of an electric welder can cause electric shock, injury, and death! Read all precautions described in the welder manual to reduce the possibility of electric shock.
- Disconnect welder from power supply before performing any assembly, disassembly, or maintenance of the welder.
- Always wear dry, protective clothing, leather welding gloves and insulated footwear. Use suitable clothing made from durable flame-resistant material to protect your skin.
- If other persons or pets are in the area of welding, use welding screens to protect bystanders from sparks.
- Always operate the welder in a clean, dry, well-ventilated area. Do not operate the Welder in humid, wet, rainy, or poorly ventilated areas.
- The electrode and work (or ground) circuits are electrically “hot” when the welder is on. Do not allow these “hot” parts to come in contact with bare skin or wet clothing.
- Separate yourself from the welding circuit by using insulating mats to prevent contact from the work surface.
- Be sure that the work piece is properly supported and grounded prior to beginning an electric welding operation.
- 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.



## ⚠ DANGER WELDING SPARKS CAN CAUSE FIRE OR EXPLOSION!

- Electric welding produces sparks which can be discharged considerable distances at high velocity igniting flammable or exploding vapors and materials.  
**DO NOT** operate electric arc welder in areas where flammable or explosive vapors are present.  
**DO NOT** use near combustible surfaces. Remove all flammable items from the work area where welding sparks can reach (minimum of 35 feet).
- Always keep a fire extinguisher nearby while welding.
- Use welding blankets to protect painted and or flammable surfaces, rubber weather-stripping, dash boards, engines, etc.



## ⚠ WARNING ELECTROMAGNETIC FIELDS CAN BE A HEALTH HAZARD!

- 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 the electromagnetic fields generated while welding may have other health effects which are not known.



## ⚠ WARNING ARC RAYS CAN INJURE EYES AND BURN!

- Arc rays produce intense ultraviolet radiation which can burn exposed skin and cause eye damage. 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 (long pants, long sleeves, closed toe shoes, gloves) made from durable flame-resistant material for skin protection.
- If other persons or pets are in the area of welding, use welding screens to protect bystanders from sparks and arc rays.



## ⚠ WARNING FUMES AND WELDING GASES CAN BE A HEALTH HAZARD!

- Fumes and gases released during welding are hazardous. Do not breathe fumes that are produced by the welding operation.
- Prolonged inhalation of welding fumes above safety exposure limits can injure the lungs and other organs.
- Use enough ventilation and/or exhaust at the arc to keep fumes and gases from your breathing area.
- Use an OSHA approved respirator when welding in confined spaces or where there is inadequate ventilation.
- Never weld coated materials including but not limited to: cadmium plated, galvanized, lead based paints, powder coat.



## ⚠ WARNING BUILDUP OF GAS CAN INJURE OR KILL!

- Shut off gas supply when not in use.
- Ensure adequate ventilation of the welding area.
- Do not weld in confined areas.
- Always turn your face away from valve outlet when opening cylinder valve.



## ⚠ WARNING CYLINDERS CAN EXPLODE IF DAMAGED!

- Shielding gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. As gas cylinders are a normal component of the welding process, use extra care to handle them carefully.
- Protect compressed gas cylinders from excessive heat, mechanical shocks, physical damage, slag, open flames, sparks, and arcs. Keep away from any welding or other electrical circuits.
- Install cylinders in an upright position by securing to a specifically designed rack, cart, or stationary support to prevent falling or tipping over.
- Never weld on a pressurized cylinder or explosion will occur.
- Use only correct shielding gas cylinders, regulators, hoses, and fittings designed for the specific application; maintain them and all related components in good condition.
- Keep protective cap in place over valve except when cylinder is in use.
- Use proper equipment, procedures and have adequate help when moving or lifting cylinders.

SAFETY INFORMATION



CAUTION HOT METAL AND TOOLS WILL BURN!!

- Electric welding heats metal and tools to temperatures that will cause severe burns!
- Use protective, heat resistant gloves and clothing when using Eastwood or any other welding equipment. Never touch welded work surface, the welding torch gas cup, tungsten, or rod until they have completely cooled.



CAUTION FLYING METAL CHIPS CAN CAUSE INJURY!

- Grinding and sanding will eject metal chips, dust, debris, and sparks at high velocity. To prevent eye injury wear approved safety glasses.
- Wear an OSHA-approved respirator when grinding or sanding.
- Read all manuals included with specific grinders, sanders or other power tools used before and after the welding process.
- Be aware of all power tool safety warnings.



NOTICE FIRST AID

- If exposed to excessive fumes move to an area with fresh air. Follow safety information on the welding wire, tungsten electrode, filler rod and stick electrode manufacturers' Safety Data Sheets.
- For other injuries follow basic first aid techniques and call physician or emergency medical personnel.

CONNECTING THE WELDER TO A POWER SOURCE

The Eastwood Elite TIG 225 AC/DC Welder requires a dedicated 240 VAC, 50 AMP, circuit breaker protected outlet. The plug installed on the welder is a NEMA 6-50P and should be used with a NEMA 6-50R receptacle. If unsure about your electrical setup contact a licensed electrician.

As an alternative, by using the included Adapter Cord, the TIG 225 AC/DC can be used with a 120 VAC, 20 AMP grounded NEMA 5-15R outlet protected by a circuit breaker.

If using an extension cord is required, we recommend using our welder extension cords for optimal performance: Eastwood items #31739 25ft Heavy Duty 110V Extension Cord, #20029 25ft Heavy Duty 220V Extension Cord, and #20285 40ft Heavy Duty 220V Extension Cord.

CONTROL AND DISPLAY PANEL

FRONT UPPER PANEL (FIG 1)

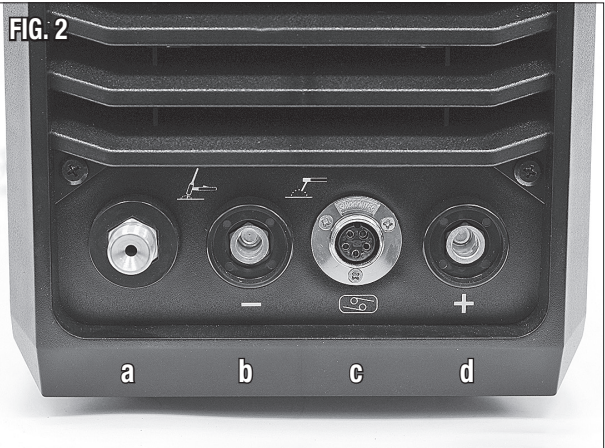
1. **Navigation Knob.** Rotate knob clockwise and counterclockwise to scroll right and left, respectively. Press knob to select or confirm highlighted option.
  2. **Return Button.** Press button to return to the previous screen or exit an option.
  3. **LCD Screen.** The color liquid crystal display (LCD) screen is where all welder settings and options are accessed.
- NOTE:** The display is NOT a touch screen. Excessive pressure to the screen may result in damage.

FRONT LOWER PANEL (FIG 2)

- [a] TIG Torch Connection
- [b] Negative Connection
- [c] TIG Trigger and Foot Pedal Connection
- [d] Positive Connection

REAR PANEL (FIG 3)

- [e] Power Cord
- [f] Shielding Gas Connection
- [g] ON/OFF Switch



# GRAPHICAL USER INTERFACE (GUI) NAVIGATION

Navigation of the GUI is controlled by the navigation knob and the return button. Rotating the navigation knob clockwise scrolls the selection right, and counterclockwise scrolls the selection left. Pressing the navigation knob will select the option highlighted in blue. Pressing the return button will revert to the previous screen or cancel the selected option. An overview of the setup process is described in detail below.

- Upon powering up the welder the screen will briefly show a loading screen (FIG 4). After loading, the last used mode and settings will be loaded.
- If you need to change the process or configuration press the return button until back at the process selection screen (FIG 5). DC Stick, AC Stick, DC TIG, AC TIG, and presets can be selected via the navigation knob. In (FIG 5) the highlighted process is DC TIG because the DC TIG icon is shown enlarged in bright white at the center of the screen and the small DC TIG icon at the bottom is also bright white.
- To select the highlighted process or the presets menu, press the navigation knob.
- After selecting your welding process continue to **TIG WELDING SET-UP OR STICK WELDING SET-UP** for the process-specific parameter details. **PRESETS** are covered below.  
**NOTE:** When scrolling through or adjusting the setting parameters, if no activity is detected for ten seconds the machine will automatically return to the peak amps setting.

## PRESETS

The Eastwood Elite TIG 225 AC/DC is equipped with five fully programmable preset slots. The first two presets are configured from the factory for a quick start into AC or DC welding 1/8" material with the foot pedal. The default settings of these profiles are listed in **TIG WELDING SET-UP**.

- To save your current welding settings as a preset: scroll to the **Save to Preset** parameter in the bottom right of any process settings screen and press the navigation knob to select it. Now the mode and settings can be saved to any of the five slots. Note that it will overwrite presets *without* asking for confirmation.
- To load a preset: access the preset selection menu (FIG 6) from the process selection screen (FIG 5) by scrolling and selecting "Presets". The preset selection menu will open, and any saved preset can be loaded by selecting it and pressing the navigation knob.

FIG. 4

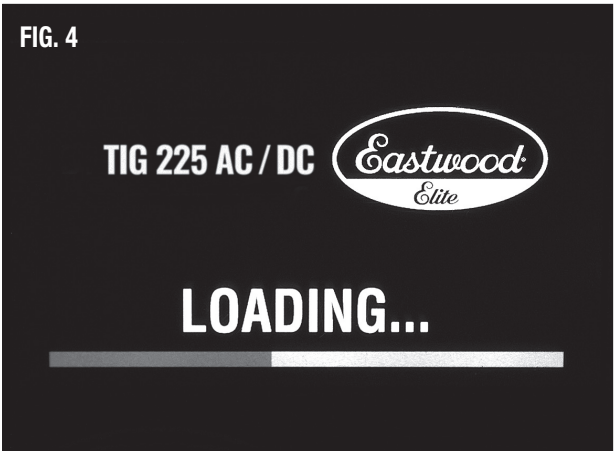


FIG. 5

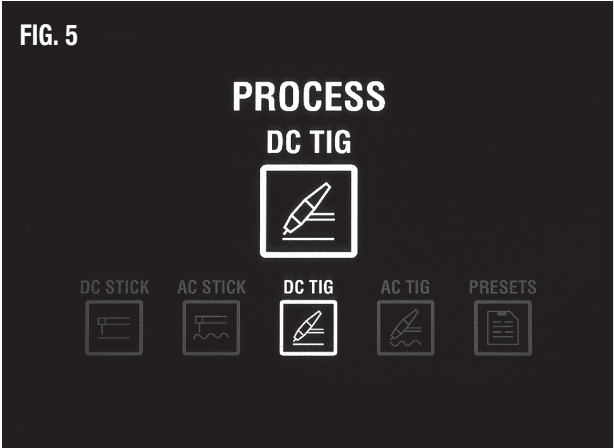


FIG. 6



# TIG WELDING SET-UP

The Eastwood Elite TIG 225 AC/DC is factory set-up for TIG welding use with a 3/32" tungsten (included, not installed) and 100% argon shielding gas (not included).

The procedure for configuring to stick welding use is covered further on in this manual.

## INSTALLING THE TIG TORCH

- Retrieve the flex head TIG welding torch [B] and thread the power/gas lead onto the TIG torch power/gas connection [a] snugly (FIG 7).
- Plug the TIG trigger plug into the TIG trigger and foot pedal connection [c] at the Front Panel and fasten the security lock (FIG 7).  
**IMPORTANT NOTE:** The connection of the TIG torch hose/wire cable [B] MUST BE fully threaded and snugged onto gas/power connection [a] or gas may leak.

## INSTALLING THE GROUND CABLE AND CLAMP

- Locate the ground cable/clamp assembly [C] and connect the plug on the brass end to the (+) positive connection [d]. Align the key of the brass ferrule with the notch of the receptacle at the 12:00 position, insert the plug and twist clockwise 1/2 turn until it is tight (FIG 7).

## INSTALLING THE FOOT PEDAL

An alternative to the on/off hand trigger attached to the TIG Torch, the included foot pedal [G] enables you to trigger the output and vary the amperage in real time. This foot pedal works just like a car's throttle pedal: rocking your foot down will gradually increase the amperage output up to the peak amperage setting, and letting off will gradually decrease to minimum output.

Skilled bench welders can make artwork with the foot pedal, but beginners may find it overwhelming. Furthermore, it might not always be practical to lug around and spend time positioning the foot pedal.

- Unfasten the TIG trigger plug security lock and unplug.
- Insert the foot pedal plug. Fasten the security lock (FIG 8).

FIG. 7



FIG. 8



INSTALLING THE SHIELDING GAS SUPPLY

- ⚠ WARNING BUILDUP OF GAS CAN INJURE OR KILL!**

  - Shut off shielding gas supply when not in use.
  - Always ventilate confined spaces or use approved air-supplied respirator.
  - Always turn your face away from valve outlet when opening cylinder valve.

- ⚠ WARNING CYLINDERS CAN EXPLODE IF DAMAGED!**

Shielding gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. As gas cylinders are a normal component of the welding process, use extra care to handle them carefully.

  - Protect compressed gas cylinders from excessive heat, mechanical shocks, physical damage, slag, open flames, sparks, and arcs. Keep away from any welding or other electrical circuits.
  - Install cylinders in an upright position by securing to a specifically designed rack, cart, or stationary support to prevent falling or tipping over.
  - Never weld on a pressurized cylinder or explosion will occur.
  - Use only correct shielding gas cylinders, regulators, hoses, and fittings designed for the specific application; maintain them and all related components in good condition.
  - Keep protective cap in place over valve except when cylinder is in use.
  - Use proper equipment, procedures and have adequate help when moving or lifting cylinders.

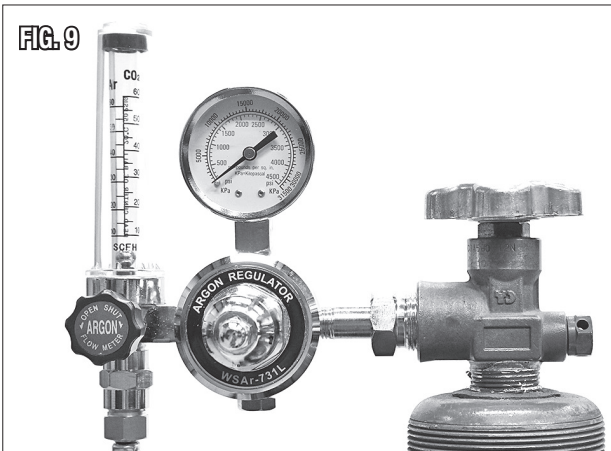
A shielding gas cylinder is **NOT INCLUDED** with the Eastwood Elite TIG 225 AC/DC but is necessary to TIG weld. It can be bought at most local welding supply stores. 100% argon is recommended for all TIG welding applications.

- Place the Eastwood Elite TIG 225 AC/DC in a secure dedicated area or on a welding cart (not included).
- Secure the shielding gas cylinder to a stationary object or mount to a specifically designed welding cart, equipped to hold one so that the cylinder cannot fall over.
- Remove the cap from the shielding gas cylinder.
- Insert the large male fitting on the argon regulator/flowmeter **[D]** into the female fitting on the shielding gas cylinder (not included).

- ⚠ NOTICE**

Do not use White Thread Sealing Tape on this connection as it is an inert gas fitting and does not require it, if you have a leak check for burrs or dirt in the threads or on the spherical joint.

- Tighten the fitting with a wrench until snug, do not over tighten **(FIG 9)**.
- Connect either end of the shielding gas hose, 4.6' [1.4m] **[E]** to the fitting on the regulator and tighten it until snug **(FIG 9)**.
- Connect the other end of the shielding gas hose to the shielding gas connection **[f]** on the rear of the Eastwood Elite TIG 225 AC/DC and tighten until snug.
- Check the gas lines for leaks by slowly opening the valve on the gas cylinder. When welding, the valve on the cylinder should always be fully open. Close it when done welding to avoid loss of gas.



TUNGSTEN SELECTION

Before welding, you will need to select a tungsten electrode. There are a variety of different types and sizes available, and they should be selected depending on the material at hand.

- The most popular tungsten types for AC and DC welding are color-coded pink multi-mix (lanthanum, cerium, yttrium), blue (lanthanum), grey (ceriated), red (thoriated, included **[L]**), green (pure, included **[M]**). Multi-mix and lanthanated are some of the best general purpose mixes available, but always research which tungsten may enable the best results for your particular welding situation and material.
- Higher welding currents require a larger tungsten. Generally, a 3/32" tungsten is suitable for most hobbyist jobs. If welding thin-gauge steel at double-digit amperage often, you may find a 1/16" gives you a better start. Frequent welding around 200A may justify stepping up to a 1/8" tungsten.

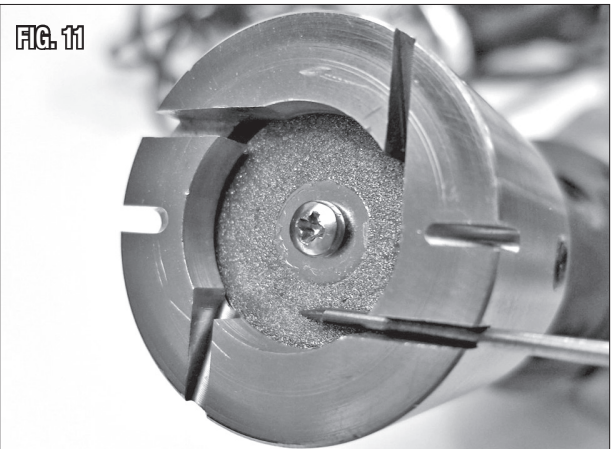
TUNGSTEN SHARPENING

The geometry and quality of the tungsten's sharpened point is as important as the size and type. To avoid contamination of the tungsten and ultimately the weld, it is imperative to have a dedicated grinding wheel used for tungsten grinding only. A fine-grit standard 6" synthetic stone grinding wheel on a bench-top grinder is sufficient, or a dedicated tungsten grinder (#33307 Corded or #58878 Cordless) are optionally available.

- Shut off the welder.
- Make sure the tungsten and torch are sufficiently cooled for handling, then loosen and remove the back cap. Remove the tungsten from the front of the torch (removing from the rear could damage the collet if the tip is distorted). Remove the Collet.
- If the tungsten is used and the end is contaminated, use pliers or a suitable tool to grip the tungsten above the contaminated section and snap off the end of the tungsten.

**NOTE:** Tungsten is brittle and often splinters if snapped. To avoid splintering, grind a notch in the tungsten before snapping it off or grind fully through.
- Holding the tungsten tangent to the surface of the grinding wheel, rotate the tungsten while exerting light pressure until a point is formed **(FIGS 10 & 11)**.
- Point geometry affects arc wander and the "cone" of the welding arc.
  - Longer, pointed tips (shallow angle 5° - 35°) will give the least arc wander, easiest start and generally shallower penetration with a slightly wider weld puddle. Extremely shallow angles may melt off under high amps. 22.5° is one of the most common sharpening angles.
  - Shorter tips (wider angle 40° - 60°) have significantly better longevity with increased penetration, but a narrower weld puddle. It is also more likely to encounter arc wander and might not start as smoothly.
  - Blunt tips (90° - 180°) further exaggerate the effects of a shorter tip. Typically found when welding thick material at high amperage.

**TECH TIP:** Grinding the point off of a tip (aka blunting or flat spotting it) **(FIG 12)** will typically increase penetration and durability of any given sharpening angle at cost of increased likelihood of arc wander. It may also narrow the weld puddle.
- Replace the tungsten in the TIG Torch.



TIG TORCH DISASSEMBLY (FIG 13)

- Make sure the welder is turned **OFF** and unplugged.
- Remove the back cap from the torch.
- If there is a tungsten installed in the Torch, pull it out from the front of the Torch.
- Slide the collet out of the torch rear.
- Unscrew and remove the gas cup.
- Unscrew and remove the collet body.

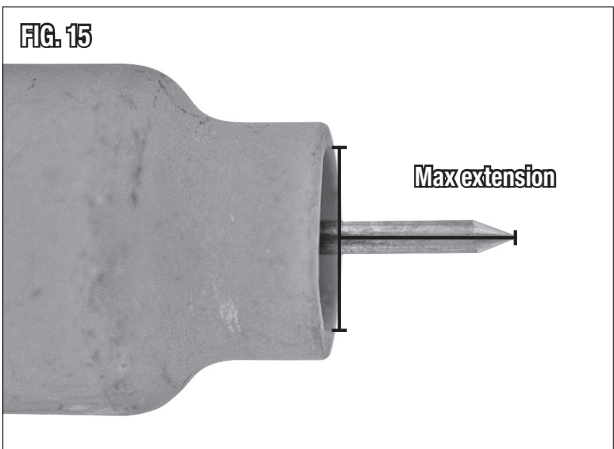
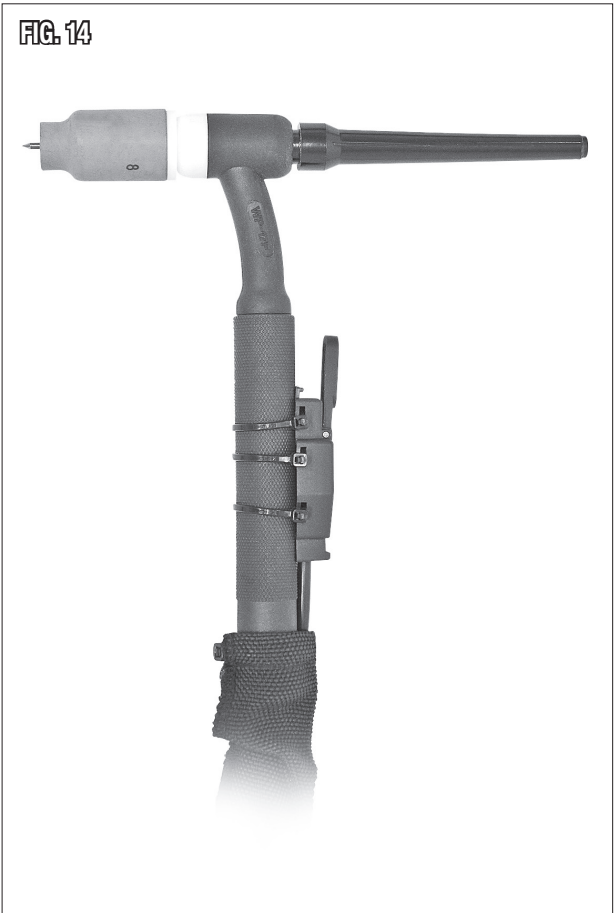
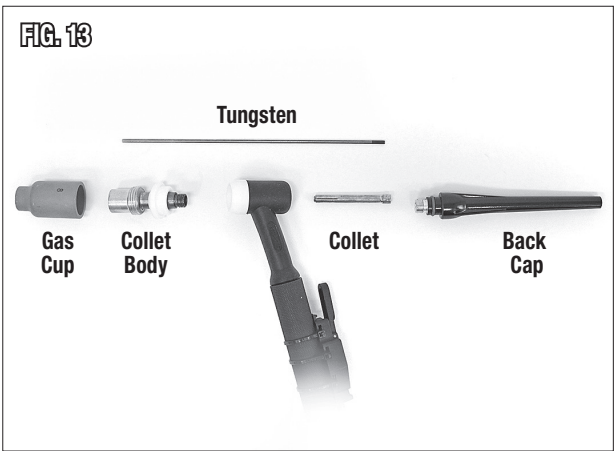
TIG TORCH ASSEMBLY (FIG 14)

- Select the collet body that matches your tungsten diameter and thread it into the front of the torch.
- Select a collet that matches your tungsten diameter. Insert the tungsten into the collet and put the collet and tungsten back into the torch.
- Reinstall the gas cup to the collet body. The gas cup size should be selected according to shielding gas requirements for the material being welded. Generally, aluminum and carbon steel do not require as much shielding effect as stainless steel does. Selection also depends on the joint being welded (large cups will not fit in tight corners). Smaller cups are more economical on shielding gas because they need less flow.
- Reinstall the back cap to lock the tungsten in place. The general rule of thumb for tungsten “stick out” distance is to not extend further than the inner diameter of the gas cup (**FIG 15**). However, this is only a general rule and can vary depending on your particular setup and joint. For example, the pre-installed gas lens kit encourages laminar gas flow that will provide shielding effect beyond this rule.

TIG SHIELDING GAS FLOW ADJUSTMENT

Before welding, the gas flow rate needs to be adjusted so that the proper amount of shielding gas is flowing over the weld. If there is too little gas flow, there will be porosity in the resulting welds as well as contamination/discoloration of the tungsten. If there is too much gas flow, this will be a waste of gas and may also result in turbulent flow that negatively affects the weld quality. The included regulator has 2 indicators on it; the gauge on the right is tank pressure while the indicator on the left is the gas flow meter.

- Open the gas cylinder valve all the way.
- After the welder is turned on and set to a TIG mode, the trigger of the TIG torch or foot pedal will control the internal gas solenoid.
- As the unit is triggered, the gas flow meter ball will rise to a steady reading. The CFH (cubic feet per hour) can be read from the scale. Take the read at the middle of the ball.
- The general rule of thumb is to set gas flow in cubic feet per hour (CFH) at 1.5 - 2 times the cup number size (eg. #8 gas cup start with 12 - 16 CFH) while flowing. If the shielding effect is not great enough, adjust up in increments of two until satisfactory.
- Once set, close the valve on the TIG torch to avoid wasting gas.
- When finished welding, the valve on the gas cylinder must be closed.



FILLER ROD SELECTION

The addition of a filler metal rod to the welding puddle is required for most joints. As with **TUNGSTEN SELECTION**, there are a variety of types and sizes available, and the rod must be suited for the material being welded.

- The most popular common rod for welding mild steel is ER70S-2, stainless steel is ER308L, and aluminum is ER4043. Specialty materials might require a different filler rod and TIG brazing will require a brazing specific silicon bronze rod.
- Generally, higher welding currents will require a larger filler rod. 1/16” or 3/32” diameter rod is suitable for most welding with the TIG 225 AC/DC. If welding thin gauge material at low amps, stainless steel exhaust pipe for example, or a particularly small weld bead is desired, stepping down to 0.045” or thinner can help (in a pinch solid MIG wire can be straightened out and used). If you’re maxing the output of this machine on thick plate, you might find stepping up to a 1/8” rod to work better.
- Rod that is too thick for your application will have a greater tendency to “stick” in the welding puddle. It can reduce penetration due to the cooling effect it has on the weld puddle, and will result in a larger weld bead. If the rod is too thin you will have to feed it very fast, and the end might melt before even reaching the weld puddle.

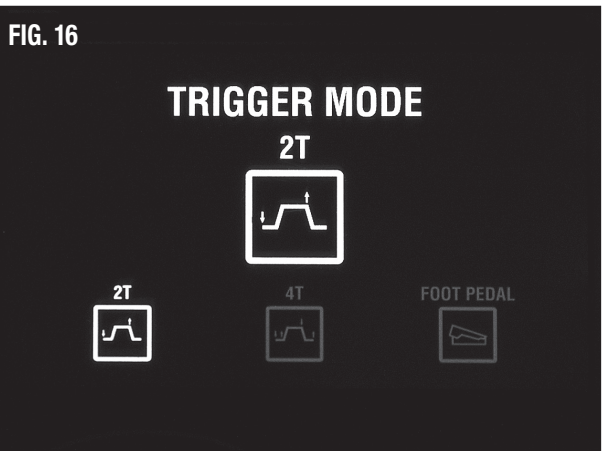
TRIGGER MODE

- After selecting DC or AC TIG welding, the screen will prompt the trigger mode to be selected (**FIG 16**).

**2T:** Normal operation for short welds: Depress trigger and hold. Arc begins and continues until trigger is released, which terminates arc.

**4T:** “Cruise control” for welding, less fatigue on long passes: Depress trigger and hold until arc is initiated, then release trigger. Arc continues until trigger is pressed again, which terminates arc.

**Foot Pedal:** When utilizing the included foot pedal this mode must be used to enable the variable amperage control.



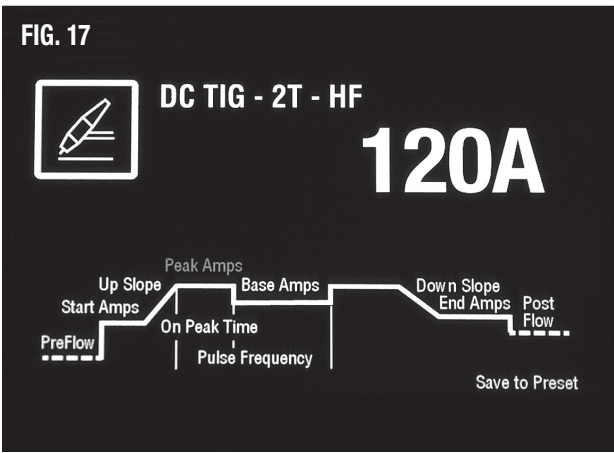
DC TIG WELDING PARAMETERS

Direct-current (DC) TIG welding is commonly used for steel and stainless steel. The parameter function **(FIG 17)** ranges are listed below **(FIG 18)**. To change a parameter setting scroll, using the navigation knob, until the parameter text is blue, indicating it is selected. Now the navigation knob can be pressed, and the displayed parameter setting will change from white text to blue text, indicating it can be changed via the navigation knob. Remember to press the navigation knob to confirm the setting before welding. Any change in progress can be cancelled using the return button. For suggested settings refer to **DATA CHART**.

- **Pre-Flow:** Amount of time gas flows out before the arc starts. This helps ensure the arc is fully shielded by gas in a steady flow state as it starts which minimizes workpiece contamination, tungsten contamination, and tungsten burnout.
- **Start Amps:** This is the amperage the arc will start with. It will ramp up until reaching the **Peak Amps** setting over the amount of time set by **Up Slope**.
- **Up Slope:** The amount of time over which the amperage will ramp to the **Peak Amps** setting. To turn this off set to zero and the arc will initiate at the set **Peak Amps**.
- **Peak Amps:** The main amperage setting at which the welder operates during the majority or all of the welding time, depending how the other amperage modifiers are set.
- **On Peak Time:** Percentage of time the welder is outputting the **Peak Amps** set point when pulsing between that and the **Base Amps**. For example, if at 60%, then 60% of the cycle time will be at the **Peak Amps**, and 40% will be at the **Base Amps**. With a 1Hz Pulse Frequency 0.6s will be at **Peak Amps** and 0.4s will be at **Base Amps**.
- **Pulse Frequency:** The frequency at which the welder will repeat the pulsing cycle. 0.5Hz is a two second cycle time, 1Hz is a one second cycle time, 2Hz is a half second cycle time, and so on. To turn off pulsing, scroll the number down until you see OFF.
- **Base Amps:** The alternate amperage setting as a percentage of the **Peak Amps** when using pulse mode.
- **Down Slope:** Similar to **Up Slope**, but after releasing the trigger this is the amount of time over which the amperage will ramp down to the **End Amps**. Once at the **End Amps**, the arc will be ended. Turn to zero for the arc to end immediately at the **Peak Amps**.
- **End Amps:** The amperage the arc will end with after the **Down Slope** is completed.
- **Post Flow:** Amount of time gas keeps flowing after the arc is closed. Like **Pre-Flow**, it minimizes workpiece contamination, tungsten contamination, and tungsten burnout. The continuation of gas flow also protects the weld puddle and electrode against oxidization while cooling after welding.

FIG. 18

| SETTING         | RANGE                            | ADJUSTMENT  | UNIT    | PRESET 1 |
|-----------------|----------------------------------|-------------|---------|----------|
| Pre-Flow        | 0.1 - 1.0s                       | 0.1s        | Second  | 0.5s     |
| Start Amps      | 120V: 5 - 120A<br>240V: 5 - 225A | 1A          | Ampere  | 30A      |
| Up Slope        | 0 - 15s                          | 1s          | Second  | 0s       |
| Peak Amps       | 120V: 5 - 120A<br>240V: 5 - 225A | 1A          | Ampere  | 100A     |
| On Peak Time    | 10 - 90%                         | 1%          | Percent | 50%      |
| Pulse Frequency | OFF, 0.5 - 1.0HZ,<br>1.0 - 200HZ | 0.1Hz, 1 Hz | Hertz   | OFF      |
| Base Amps       | 5 - 95%                          | 1%          | Percent | 70%      |
| Down Slope      | 0 - 25s                          | 1s          | Second  | 0s       |
| End Amps        | 120V: 5 - 120A<br>240V: 5 - 225A | 1A          | Ampere  | 30A      |
| Post Flow       | 0 - 15.0s                        | 0.1s        | Second  | 3.0s     |



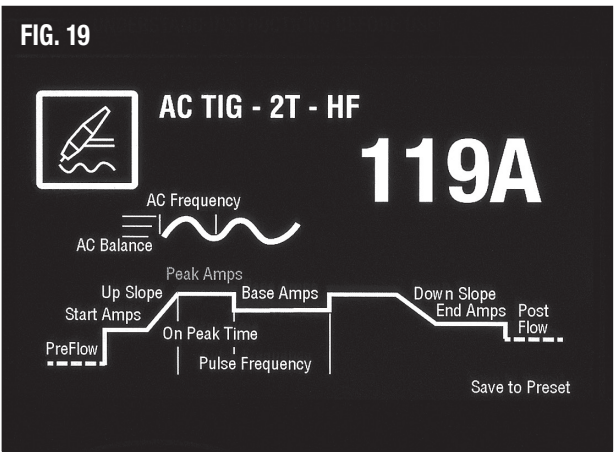
AC TIG WELDING PARAMETERS

Alternating-current (AC) TIG Welding is commonly used for aluminum. The parameter functions **(FIG 19)** are the same as described previously for DC TIG welding, but with the addition of two AC specific parameters described below and the adjustment ranges are listed in **(FIG 20)**. Minimum output in AC is slightly higher at 10A when compared to DC mode at min. 5A. For suggested settings refer to **DATA CHART**.

- **AC Balance:** This adjusts the percentage of time the current is electrode positive. High percentages result in more cleaning effect and a cleaner, smoother weld seam. However, weld penetration will be shallower. Also, the tungsten gets hotter and takes in more contaminants. If you wish to ball the tungsten end, set to 70%. Lower balance settings (25 - 35%) are suggested for most welding situations. If numerous black spots appear in the puddle, try adjusting the balance setting up in 2% increments until the black spots are minimized.
- **AC Frequency:** Higher frequency creates a more intense and concentrated arc with a smoother weld seam. This is great for working in a tight area or on thin material where you don't want to damage nearby features. A good starting frequency for these qualities is 120Hz. Lower AC frequencies create a wider, hotter weld seam. We recommend starting around 80Hz as a lower baseline to adjust from.

FIG. 20

| SETTING         | RANGE                              | ADJUSTMENT  | UNIT    | PRESET 2 |
|-----------------|------------------------------------|-------------|---------|----------|
| Pre-Flow        | 0.1 - 1.0s                         | 0.1s        | Second  | 0.5s     |
| Start Amps      | 120V: 10 - 120A<br>240V: 10 - 225A | 1A          | Ampere  | 30A      |
| Up Slope        | 0 - 15s                            | 1s          | Second  | 0s       |
| Peak Amps       | 120V: 10 - 120A<br>240V: 10 - 225A | 1A          | Ampere  | 120A     |
| On Peak Time    | 10 - 90%                           | 1%          | Percent | 50%      |
| Pulse Frequency | OFF, 0.5 - 1.0Hz,<br>1.0 - 200Hz   | 0.1Hz, 1 Hz | Hertz   | OFF      |
| Base Amps       | 5 - 95%                            | 1%          | Percent | 70%      |
| Down Slope      | 0 - 25s                            | 1s          | Second  | 0s       |
| End Amps        | 120V: 10 - 120A<br>240V: 10 - 225A | 1A          | Ampere  | 30A      |
| Post Flow       | 0 - 15.0s                          | 0.1s        | Second  | 3.0s     |
| AC Balance      | 20 - 80%                           | 1%          | Percent | 50%      |
| AC Frequency    | 40 - 200Hz                         | 1Hz         | Hertz   | 80Hz     |



TIG WELDING OPERATION

Set the welding parameters described in the previous section to your preference. One rule of thumb for amperage is 1A for every 0.01” of material thickness (eg. 0.050” start with 50A). If welding dissimilar thicknesses, you might need to split the difference and adjust technique to bias more heat in the thicker piece. Pulsed welding can also allow you to run higher peak amperage with lower base amps to avoid over penetration.

These instructions are intended only to provide the user with some familiarity of the TIG 225 AC/DC. TIG welding is a highly complex procedure with many variables. If you have no experience with TIG welding; it is extremely important to seek the advice of someone experienced in TIG welding for instruction, enroll in a local technical school welding course or study a comprehensive how-to video and obtain a good quality reference book on TIG welding as there is a moderate learning curve necessary before achieving proficiency in TIG Welding. Before attempting to use this unit on an actual project or object of value, practice on a similar material as there are many variables present and settings required when TIG welding different metals such as steel, stainless steel, and aluminum. It is also strongly recommended that the user adhere to the American Welding Society guidelines, codes and applications prior to producing welds where safety is affected.

TIG WELDING



**DANGER** ELECTRIC SHOCK CAN CAUSE INJURY OR DEATH!

- Disconnect welder from power supply before performing any assembly, disassembly, or maintenance of the welder.
- Always wear dry, protective clothing, leather welding gloves, and insulated footwear. Use suitable clothing made from durable flame-resistant material to protect your skin.
- Always operate the welder in a clean, dry, well-ventilated area. Do not operate the welder in humid, wet, rainy, or poorly ventilated areas.
- The electrode and work (or ground) circuits are electrically “hot” when the welder is on. Do not allow these “hot” parts to come in contact with bare skin or wet clothing.
- Separate yourself from the welding circuit by using insulating mats to prevent contact from the work surface.
- Be sure that the work piece is properly supported and grounded prior to beginning an electric welding operation.
- 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.



**DANGER** WELDING SPARKS CAN CAUSE FIRE OR EXPLOSION!

- Electric welding produces sparks which can be discharged considerable distances at high velocity igniting flammable or exploding vapors and materials.  
DO NOT operate electric arc welder in areas where flammable or explosive vapors are present.  
DO NOT use near combustible surfaces. Remove all flammable items from the work area where welding sparks can reach (minimum of 35 feet).
- Always keep a fire extinguisher nearby while welding.
- Use welding blankets to protect painted and or flammable surfaces, rubber weather-stripping, dash boards, engines, etc.



**WARNING** ELECTROMAGNETIC FIELDS CAN BE A HEALTH HAZARD!

- 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 the electromagnetic fields generated while welding may have other health effects which are not known.



**WARNING** ARC RAYS CAN BURN!

- Arc rays produce intense ultraviolet radiation which can burn exposed skin and cause eye damage. 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 (long pants, long sleeves, closed toe shoes, gloves) made from durable flame-resistant material for skin protection.



**WARNING** FUMES AND WELDING GASES CAN BE A HEALTH HAZARD!

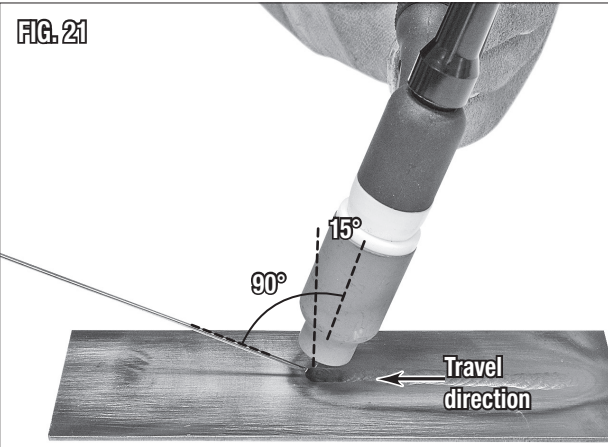
- Fumes and gases released during welding are hazardous. Do not breathe fumes that are produced by the welding operation.
- Prolonged inhalation of welding fumes above safety exposure limits can injure the lungs and other organs.
- Use enough ventilation and/or exhaust at the arc to keep fumes and gases from your breathing area.
- Use an OSHA approved respirator when welding in confined spaces or where there is inadequate ventilation.
- Never weld coated materials including but not limited to: cadmium plated, galvanized, lead based paints, powder coat.



**CAUTION** HOT METAL AND TOOLS WILL BURN!

- Electric welding heats metal and tools to temperatures that will cause severe burns!
- Use protective, heat resistant gloves and clothing when using Eastwood or any other welding equipment. Never touch welded work surface, the welding torch gas cup, tungsten, or rod until they have completely cooled.

- Turn the power switch at the rear panel to the **ON** position.
  - Slowly open the gas cylinder valve.  
**NOTE:** Always open valve fully to avoid shielding gas leakage.
  - Grounding is very important, place the ground cable clamp on a clean, bare area of your work piece as close to the welding area as possible to minimize the chance of shock. Scrape, wire brush, file or grind a bare area to achieve a good ground to assure safety.
  - Use a dedicated stainless steel brush or flap-disc to clean the areas to be welded. To avoid contamination, do not use the brush or flap-disc for any other purpose. Having a set dedicated to a particular material is ideal to minimize contamination.
  - Although there is much room for personal style and job specific constraints, a good starting point is to hold the torch perpendicular and centered over the weld joint with a 15° tilt back so the tungsten tip is visible and pointing in the direction of travel (**FIG 21**). When welding, try to keep the distance between the tungsten tip and material equal to the tungsten’s diameter. Avoid “dipping” the tungsten tip into the welding puddle because it will be contaminated, necessitating a clean break and resharpen.
  - Make sure all your safety gear is in place (welding mask, welding gloves, non-flammable long sleeve apparel) and the area is completely free of flammable material.
  - Start the welding arc by triggering the torch trigger or foot pedal. To stop welding, release the trigger or foot pedal. Keep in mind that after welding you should pause to allow the post-flow shielding gas to protect the tungsten and weld bead as they cool down. Failure to do so will oxidize the tungsten and welded area as they cool, compromising integrity.
  - We recommend starting without a filler metal rod and practicing “forming a puddle” in the workpiece a handful of times.
  - Once comfortable, move on to “stacking dimes” by “forming a puddle” and moving the torch then pausing in a rhythm to create a series of overlapping puddles. You can do this on a single piece or fusion weld (a weld without using filler material) two pieces together.
  - Constantly be aware that TIG welding quickly generates intense heat in the work piece and torch. Severe burns can quickly occur by contacting hot metal pieces.
  - The final challenge is integrating feeding of the filler metal rod. Again, this is a matter of personal preference and dictated by physical constraints, but practice with the rod at a 60° - 90° angle from the tungsten while welding (**FIG 21**). Dab a small amount of rod into the leading edge or center of the puddle when you pause for a dime. Too wide of an angle and you might melt or “blob” the rod end before it makes it to the welding puddle. Too shallow and it can be challenging to get the filler rod to the welding puddle before the arc cone melts it into the puddle which may compromise weld quality. Avoid hitting the tungsten tip with the filler rod because it will be contaminated, necessitating a clean break and resharpen.
  - Most welders feed filler by pinching the rod between their thumb and hand, feeding between the index and middle finger. Alternatively, a rod feeding pen (Eastwood #33996) will substitute for some technique.
  - When finished, switch the welder **OFF** and close the shielding gas cylinder valve completely.



STICK WELDING SET-UP

**DANGER**

ELECTRIC SHOCK CAN CAUSE INJURY OR DEATH!

Turn the ON/OFF Switch [g] on the Rear Panel to the OFF position and unplug the Welder from the power supply before beginning welder set-up.

POLARITY SELECTION

With an optional electrode holder (Eastwood #20517) the Eastwood Elite TIG 225 AC/DC can stick weld in both Direct Current Electrode Positive (DCEP) and Direct Current Electrode Negative (DCEN) or Alternating Current (AC). The electrode, or rod, when welding in DCEP is positive and the grounded surface is negative. Generally, DCEP is the most commonly used polarity when stick (aka ARC) welding. The electrode when welding in DCEN is negative and the grounded surface is positive. DCEN is typically used for building up heavy deposits of material with less penetration. AC stick welding is less common in modern applications, only select this if the rod or material dictates AC output should be used.

ARC (DCEN)

- Connect the ground cable/clamp assembly, 9.5 ft. [2.9m] [C] to the ( + ) positive connection [d] on the front panel of 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 clockwise until it is tight (FIG 22).
- Connect the electrode holder (not included, #20517) to the ( - ) negative connection [b] on the front panel of the welder. Connect plug as described above (FIG 20).

ARC (DCEP)

- Connect the ground cable/clamp assembly, 9.5 ft. [2.9m] [C] to the ( - ) negative connection [b] on the front panel of 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 clockwise until it is tight.
- Connect the electrode holder (not included, #20517) to the ( + ) positive connection [d] on the front panel of the welder. Connect plug as described above.



ELECTRODE SELECTION

Before beginning welding, 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 they should be selected depending on 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 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.           |
| E7018     | DCEP       | This electrode is best for use with clean, bare steel and is suitable for moderate penetration.                                             |

| Electrode/Amperage Chart |          |     |                |      |       |       |       |      |  |
|--------------------------|----------|-----|----------------|------|-------|-------|-------|------|--|
| Electrode                | Diameter |     | Amperage Range |      |       |       |       |      |  |
|                          | IN       | MM  | MIN.           | 50 A | 100 A | 150 A | 200 A | MAX. |  |
| 6010 & 6011              | 3/32     | 2.4 |                |      |       |       |       |      |  |
|                          | 1/8      | 3.2 |                |      |       |       |       |      |  |
|                          | 5/32     | 4.0 |                |      |       |       |       |      |  |
|                          | 3/16     | 4.8 |                |      |       |       |       |      |  |
| 6013                     | 1/16     | 1.5 |                |      |       |       |       |      |  |
|                          | 5/54     | 2.0 |                |      |       |       |       |      |  |
|                          | 3/32     | 2.4 |                |      |       |       |       |      |  |
|                          | 1/8      | 3.2 |                |      |       |       |       |      |  |
|                          | 5/32     | 4.0 |                |      |       |       |       |      |  |
| 7014                     | 3/32     | 2.4 |                |      |       |       |       |      |  |
|                          | 1/8      | 3.2 |                |      |       |       |       |      |  |
|                          | 5/32     | 4.0 |                |      |       |       |       |      |  |
| 7018                     | 3/32     | 2.4 |                |      |       |       |       |      |  |
|                          | 1/8      | 3.2 |                |      |       |       |       |      |  |
|                          | 5/32     | 4.0 |                |      |       |       |       |      |  |
| 7024                     | 3/32     | 2.4 |                |      |       |       |       |      |  |
|                          | 1/8      | 3.2 |                |      |       |       |       |      |  |
|                          | 5/32     | 4.0 |                |      |       |       |       |      |  |
| Ni-CI                    | 3/32     | 2.4 |                |      |       |       |       |      |  |
|                          | 1/8      | 3.2 |                |      |       |       |       |      |  |
|                          | 5/32     | 4.0 |                |      |       |       |       |      |  |
|                          | 3/16     | 4.8 |                |      |       |       |       |      |  |
| 308L                     | 3/32     | 2.4 |                |      |       |       |       |      |  |
|                          | 1/8      | 3.2 |                |      |       |       |       |      |  |
|                          | 5/32     | 4.0 |                |      |       |       |       |      |  |

STICK SETTINGS  
DC AND AC STICK WELDING PARAMETERS

Select either DC or AC output and the available parameters (FIG 23) will be the same. The parameter functions are detailed below (FIG 24). To change a parameter setting, scroll, using the navigation knob, until the parameter text is blue, indicating it is selected. Now the navigation knob can be pressed, and the displayed parameter will change from white text to blue text, indicating it can be changed via the navigation knob. Remember to press the navigation knob to confirm the setting before welding. Any change in progress can be cancelled using the return button.

- **Hot Start:** The hot start increases amperage over the set point when the arc is initiated. This makes it easier to start and maintain an arc, especially in adverse conditions.
- **Welding Amps:** Amperage output of the machine while welding.
- **Force:** The force setting, also known as arc force, or dig, allows for a tighter arc to the workpiece without extinguishing. This is accomplished by dynamically adjusting the amperage upward as the voltage of the arc drops when the stick is moved closer to the workpiece in order to maintain the same overall power output. The higher the set number, the greater this effect is.

STICK WELDING OPERATION

Configure the welder settings according to your setup and preference. Adjust the amperage based on material thickness and the electrode at hand. Beginner welders may find setting hot start and force around 5 to be helpful.

STICK WELDING

-  **DANGER**

ELECTRIC SHOCK CAN CAUSE INJURY OR DEATH!
- Disconnect welder from power supply before performing any assembly, disassembly, or maintenance of the welder.
  - Always wear dry, protective clothing, leather welding gloves, and insulated footwear. Use suitable clothing made from durable flame-resistant material to protect your skin.
  - Always operate the welder in a clean, dry, well-ventilated area. Do not operate the welder in humid, wet, rainy, or poorly ventilated areas.
  - The electrode and work (or ground) circuits are electrically “hot” when the welder is on. Do not allow these “hot” parts to come in contact with bare skin or wet clothing.
  - Separate yourself from the welding circuit by using insulating mats to prevent contact from the work surface.
  - Be sure that the work piece is properly supported and grounded prior to beginning an electric welding operation.
  - Always attach the ground c lamp to the piece to be welded and as close to the weld area as possible. This will give the least resistance and best weld.

-  **DANGER**

WELDING SPARKS CAN CAUSE FIRE OR EXPLOSION!
- Electric welding produces sparks which can be discharged considerable distances at high velocity igniting flammable or exploding vapors and materials.  
DO NOT operate electric arc Welder in areas where flammable or explosive vapors are present.  
DO NOT use near combustible surfaces. Remove all flammable items from the work area where welding sparks can reach (minimum of 35 feet).
  - Always keep a fire extinguisher nearby while welding.
  - Use welding blankets to protect painted and or flammable surfaces, rubber weather-stripping, dash boards, engines, etc.

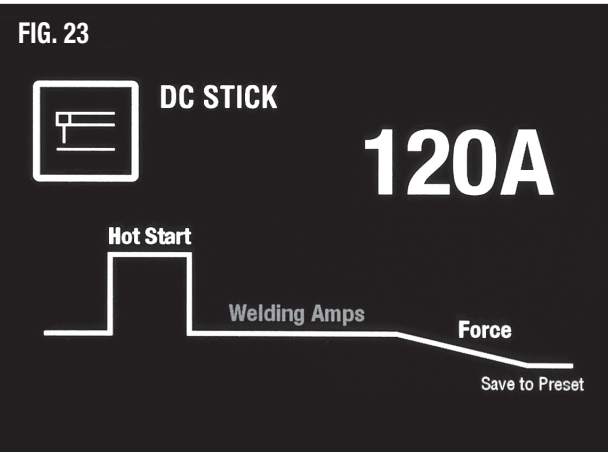


FIG. 24

| SETTING      | RANGE                              | ADJUST-<br>MENT | UNIT   |
|--------------|------------------------------------|-----------------|--------|
| Hot Start    | OFF, 1 - 10                        | 1               | -      |
| Welding Amps | 120V: 20 - 120A<br>240V: 20 - 200A | 1A              | Ampere |
| Force        | OFF, 1 - 10                        | 1               | -      |

-  **WARNING**

ELECTROMAGNETIC FIELDS CAN BE A HEALTH HAZARD!
- 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 the electromagnetic fields generated while welding may have other health effects which are not known.

-  **WARNING**

ARC RAYS CAN BURN!
- Arc rays produce intense ultraviolet radiation which can burn exposed skin and cause eye damage. 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 (long pants, long sleeves, closed toe shoes, gloves) made from durable flame-resistant material for skin protection.

-  **WARNING**

FUMES AND WELDING GASES CAN BE A HEALTH HAZARD!
- Fumes and gases released during welding are hazardous. Do not breathe fumes that are produced by the welding operation.
  - Prolonged inhalation of welding fumes above safety exposure limits can injure the lungs and other organs.
  - Use enough ventilation and/or exhaust at the arc to keep fumes and gases from your breathing area.
  - Use an OSHA approved respirator when welding in confined spaces or where there is inadequate ventilation.
  - Never weld coated materials including but not limited to: cadmium plated, galvanized, lead based paints, powder coat.

-  **CAUTION**

HOT METAL AND TOOLS WILL BURN!
- Electric welding heats metal and tools to temperatures that will cause severe burns!
  - Use protective, heat resistant gloves and clothing when using Eastwood or any other welding equipment. Never touch welded work surface, the welding torch tip, nozzle or tungsten until they have completely cooled.

- Always practice with a scrap piece before welding an actual project piece!
- Connect your ground clamp to the workpiece that is 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 welding area as possible.
- Assess the general work area and make sure the welding area is also cleaned of any paint grease, rust, oils, etc.
- Wearing protective welding helmet, gloves, long sleeve shirt and pants, closed-toe shoes, insert the electrode into the electrode holder being careful to not allow the electrode to contact the grounded area.
- To start welding an arc must be struck, to do this a similar motion 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.
- 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.
- To stop welding simply lift the electrode away from the workpiece. When finished welding remove the electrode from the holder and turn off the Welder.

DATA CHART

| MATERIAL        | MATERIAL THICKNESS | POLARITY | AMPERAGE  | TUNGSTEN COLOR                      | TUNGSTEN DIAMETER | FILLER METAL | FILLER METAL DIAMETER | PRE FLOW (seconds) | POST FLOW (seconds) | TORCH CUP SIZE | GAS FLOW RATE (scfh) | AC BALANCE | AC FREQUENCY |
|-----------------|--------------------|----------|-----------|-------------------------------------|-------------------|--------------|-----------------------|--------------------|---------------------|----------------|----------------------|------------|--------------|
| Aluminum        | 1/16"              | AC       | 55 - 75   | Pink, Purple, Blue, Green, Gray     | 1/16"             | 4043         | 1/16"                 | 0.4                | 5                   | 1/4 - 1/2"     | 15                   | 30 - 50%   | 80 - 120Hz   |
| Aluminum        | 3/32"              | AC       | 70 - 100  | Pink, Purple, Blue, Green, Gray     | 1/16"             | 4043         | 1/16"                 | 0.4                | 5                   | 1/4 - 1/2"     | 15                   | 30 - 50%   | 80 - 120Hz   |
| Aluminum        | 1/8"               | AC       | 90 - 140  | Pink, Purple, Blue, Green, Gray     | 3/32"             | 4043         | 3/32"                 | 0.4                | 6                   | 3/8 - 1/2"     | 17                   | 30 - 50%   | 80 - 120Hz   |
| Aluminum        | 3/16"              | AC       | 125 - 180 | Pink, Purple, Blue, Green, Gray     | 3/32"             | 4043         | 3/32"                 | 0.4                | 6                   | 7/16 - 1/2"    | 21                   | 30 - 50%   | 80 - 120Hz   |
| Steel           | 1/16"              | DC –     | 45 - 80   | Pink, Purple, Blue, Gray            | 1/16"             | ER70S-2      | 1/16"                 | 0.4                | 5                   | 1/4 - 1/2"     | 12                   | –          | –            |
| Steel           | 3/32"              | DC –     | 70 - 110  | Pink, Purple, Blue, Gray            | 1/16"             | ER70S-2      | 1/16"                 | 0.4                | 5                   | 1/4 - 1/2"     | 12                   | –          | –            |
| Steel           | 1/8"               | DC –     | 75 - 125  | Pink, Purple, Blue, Gray            | 1/16"             | ER70S-2      | 3/32"                 | 0.4                | 6                   | 1/4 - 1/2"     | 12                   | –          | –            |
| Steel           | 3/16"              | DC –     | 110 - 200 | Pink, Purple, Blue, Gray            | 3/32"             | ER70S-2      | 1/8"                  | 0.4                | 6                   | 1/4 - 1/2"     | 14                   | –          | –            |
| Stainless Steel | 1/16"              | DC –     | 50 - 90   | Pink, Purple, Red, Blue, Gray, Gold | 1/16"             | ER308/308L   | 1/16"                 | 0.4                | 5                   | 1/4 - 1/2"     | 12                   | –          | –            |
| Stainless Steel | 3/32"              | DC –     | 80 - 120  | Pink, Purple, Red, Blue, Gray, Gold | 1/16"             | ER308/308L   | 1/16"                 | 0.4                | 5                   | 1/4 - 1/2"     | 12                   | –          | –            |
| Stainless Steel | 1/8"               | DC –     | 85 - 140  | Pink, Purple, Red, Blue, Gray, Gold | 1/16"             | ER308/308L   | 3/32"                 | 0.4                | 6                   | 1/4 - 1/2"     | 12                   | –          | –            |
| Stainless Steel | 3/16"              | DC –     | 125 - 200 | Pink, Purple, Red, Blue, Gray, Gold | 3/32"             | ER308/308L   | 1/8"                  | 0.4                | 6                   | 1/4 - 1/2"     | 14                   | –          | –            |

TROUBLESHOOTING

| PROBLEM                    | CAUSE                                                 | CORRECTION                                                                                                                                                                   |
|----------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Welder Will Not Power Up   | Welder Not Plugged Into Proper Power Supply           | Check power supply. The Eastwood Elite TIG 225 AC/DC requires a properly grounded, 240 Volt AC, 50 amp power supply or a properly grounded 120 Volt AC, 20 amp power supply. |
|                            | Facility Power Source Breaker Tripped                 | Reset breaker.                                                                                                                                                               |
|                            | Power Switch Not Fully On                             | Check that power switch is fully <b>ON</b> .                                                                                                                                 |
|                            | Duty Cycle Exceeded                                   | Allow the welder to cool for a minimum of 15 minutes before attempting to use again.                                                                                         |
| Digital display shows: ERR | Unit Overheated and Went Into Thermal Protection Mode | Allow the welder to cool for a minimum of 15 minutes or until the error display goes out. If error is still flashing after 15 minutes, restart the welder.                   |
|                            | Input Current Limit Exceeded                          | Restart machine and check if issue persists. Contact Eastwood Technical Assistance at 800-343-9353 or help@eastwood.com.                                                     |

TIG WELDING TROUBLESHOOTING

| PROBLEM                                                           | CAUSE                                    | CORRECTION                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Arc Will Not Ignite                                               | Incomplete Circuit                       | Check ground connection. Make sure that the ground is on a freshly cleaned surface and close to the welding area.                                                                                                                               |
|                                                                   | Incorrect or Damaged Tungsten            | Consult <b>TUNGSTEN SELECTION</b> or welding handbook and make sure the tungsten is cleaned and well prepared.                                                                                                                                  |
|                                                                   | Wrong Polarity                           | Make sure polarity is set correctly. TIG welding is done with the electrode negative. See <b>TIG WELDING SET-UP</b> .                                                                                                                           |
|                                                                   | High Frequency Start Circuit Malfunction | Restart machine and check if issue persists. Contact Eastwood Technical Assistance at 800-343-9353 or help@eastwood.com.                                                                                                                        |
| Arc Wanders and it is Hard to Concentrate Heat in a Specific Area | Poorly Prepped Tungsten                  | See <b>TUNGSTEN SHARPENING</b> .                                                                                                                                                                                                                |
|                                                                   | Poor Gas Flow                            | Adjust the flow rate of the shielding gas (see <b>TIG SHIELDING GAS FLOW ADJUSTMENT</b> ). Check for loose fittings where gas could be leaking.                                                                                                 |
|                                                                   | Contaminated Tungsten                    | Remove tungsten from torch, cleanly break off contaminated section, and sharpen.                                                                                                                                                                |
|                                                                   | Incorrect Arc Length                     | Try to keep the distance between the tungsten tip and material equal to the tungsten's diameter.                                                                                                                                                |
|                                                                   | Incomplete Circuit                       | Check ground connection. Make sure that the ground is on a freshly cleaned surface and close to the welding area.                                                                                                                               |
|                                                                   | Contaminated Base Metal                  | Clean base metal to bare, shiny metal making sure to wipe away any oil, debris, coatings, or moisture.                                                                                                                                          |
| Porosity in Weld Bead                                             | Poor Gas Flow                            | Check for loose fittings where gas could be leaking. Adjust the flow rate of the shielding gas. The general rule of thumb is to set gas flow in CFH at 1.5 - 2 times the cup number size (eg. #8 gas cup start with 12 - 16 CFH) while flowing. |
|                                                                   | Contaminated Filler Metal                | Clean filler metal making sure to wipe away any oil, debris, or moisture.                                                                                                                                                                       |
|                                                                   | Contaminated Base Metal                  | Clean base metal to bare, shiny metal making sure to wipe away any oil, debris, coatings, or moisture.                                                                                                                                          |
|                                                                   | Poor Shielding Gas Coverage              | Make sure to be in an area with no wind and with any fans turned off. Wind or fans will blow the shielding gas away from the weld causing porosity.                                                                                             |
|                                                                   | Incorrect Tungsten “Stick Out”           | The general rule of thumb for tungsten “stick out” distance is to not extend further than the inner diameter of the Gas Cup ( <b>FIG 15</b> ).                                                                                                  |

TIG WELDING TROUBLESHOOTING

| PROBLEM                            | CAUSE                                               | CORRECTION                                                                                                                                                                                                                                                                                                 |
|------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contamination in Weld Bead         | Contaminated Tungsten                               | Remove tungsten from torch, cleanly break off contaminated section, and resharpen.                                                                                                                                                                                                                         |
|                                    | Contaminated Filler Metal                           | Clean filler metal making sure to wipe away any oil, debris, or moisture.                                                                                                                                                                                                                                  |
|                                    | Contaminated Base Metal                             | Clean base metal to bare, shiny metal making sure to remove any oil, debris, coatings, or moisture. If base metal is cold rolled steel, make sure to remove any mill scale.                                                                                                                                |
| Melting Tungsten                   | Poor Gas Flow                                       | Check for loose fittings where gas could be leaking. Adjust the flow rate of the shielding gas. The general rule of thumb is to set gas flow in CFH at 1.5 - 2 times the cup number size (eg. #8 gas cup start with 12 - 16 CFH) while flowing.                                                            |
|                                    | Wrong Polarity                                      | Make sure polarity is set correctly. TIG welding is done with the electrode negative. See <b>TIG WELDING SET-UP</b> .                                                                                                                                                                                      |
|                                    | Wrong Tungsten Too Small                            | Increase tungsten diameter.                                                                                                                                                                                                                                                                                |
|                                    | Incorrect Shielding Gas                             | Only use 100% argon when TIG welding.                                                                                                                                                                                                                                                                      |
| Poor Penetration                   | Low Amperage                                        | Amperage setting is too low for material/thickness. The general rule of thumb for amperage is 1A for every 0.01” of material thickness (eg. 0.050” start with 50A). If welding dissimilar thicknesses, you might need to split the difference and adjust technique to bias more heat in the thicker piece. |
| Tungsten Contaminated              | Contact of Tungsten with Base Metal or Filler Metal | If tungsten comes in contact with the base material or filler rod, cleanly break off the end and resharpen immediately.                                                                                                                                                                                    |
| Poor Weld Appearance               | Incorrect Positioning                               | The angle between the filler metal and the torch should be less than 90° otherwise the filler metal may prematurely melt and glob off, causing poor weld quality.                                                                                                                                          |
| Crater in the End of the Weld Bead | Insufficient Shielding Effect                       | Keep the torch on the base metal while the post flow shielding gas flows to protect and cool the metal and tungsten.                                                                                                                                                                                       |
|                                    | Not Enough Filler Material or Heat Saturation       | Reduce add more filler at end of weld and “back step” the torch 1/4” - 1/2” to reduce the chances of making a crater.                                                                                                                                                                                      |
| Weld Bead is Cracking              | Too Much Heat in Material                           | Reduce heat and allow more time between passes.                                                                                                                                                                                                                                                            |
|                                    | Base Metal is Absorbing Too Much Heat               | Some metals may require preheat of the base metal (consult welding codes for requirements).                                                                                                                                                                                                                |
|                                    | Incorrect Filler Rod                                | Use appropriate filler rod type and diameter for the joint being welded.                                                                                                                                                                                                                                   |
| Material is Warping                | Insufficient Clamping                               | Clamp work piece tightly and weld while clamps are in place.                                                                                                                                                                                                                                               |
|                                    | Insufficient Tack Welds                             | Add more tack welds until rigidity and stiffness is developed.                                                                                                                                                                                                                                             |
|                                    | Too Much Heat in Material                           | To reduce heat, it is best to spread the welding out around the area. This can be done by using stitch welding techniques, alternating sides, and/or taking your time and allowing the pieces to cool between passes.                                                                                      |

STICK WELDING TROUBLESHOOTING

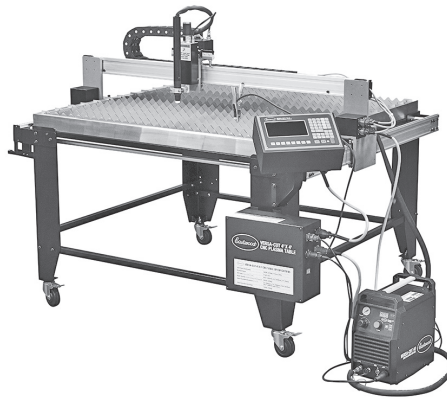
| PROBLEM                       | CAUSE                                                 | CORRECTION                                                                                                                                                                            |
|-------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 weld 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 current setting.                                                                                                             |
| Poor Penetration              | Poor Joint Preparation                                | Clean the weld joint of any dirt, grease, paint or other possible contaminants. If the pieces being welded are of a heavy gauge it may be necessary to bevel the edges of the pieces. |
|                               | 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.                                                                                                                            |
| Digital Display Shows: ERR    | Unit Overheated and Went Into Thermal Protection Mode | Allow the Welder to cool for a minimum of 15 minutes or until the error display goes out. If error is still flashing after 15 minutes, restart the welder.                            |
|                               | Input Current Limit Exceeded                          | Restart machine and check if issue persists. Contact Eastwood Technical Assistance at 800-343-9353 or help@eastwood.com.                                                              |

# ADDITIONAL ITEMS

## R&D MUST-HAVE ACCESSORIES



**#33996**  
Eastwood TIG Mate,  
TIG Filler Rod Feeder Pen



**#98077**  
Eastwood Versa Cut 4X4 CNC Plasma Table  
With CNC Cut 40 and Machine Torch



**#98274Z**  
HotCoat PCS-250 BenchTop Booth  
And Oven Powdercoating Kit

## TIG TUNGSTEN & FILLER ROD

|                       |                                             |
|-----------------------|---------------------------------------------|
| <b>#33331 / 33333</b> | 1/16" Multi-Mix Tungsten (3 Pack / 10 Pack) |
| <b>#33332 / 33334</b> | 3/32" Multi-Mix Tungsten (3 Pack / 10 Pack) |
| <b>#33337 / 33340</b> | 0.045" ER70S-2 Filler Rod (1lb / 10lb)      |
| <b>#33338 / 33341</b> | 1/16" ER70S-2 Filler Rod (1lb / 10lb)       |
| <b>#33339 / 33342</b> | 3/32" ER70S-2 Filler Rod (1lb / 10lb)       |
| <b>#33347 / 33349</b> | 1/16" ER308L Filler Rod (1lb / 10lb)        |
| <b>#33348 / 33350</b> | 3/32" ER308L Filler Rod (1lb / 10lb)        |
| <b>#33343 / 33345</b> | 1/16" ER4043 Filler Rod (1lb / 10lb)        |
| <b>#33344 / 33346</b> | 3/32" ER4043 Filler Rod (1lb / 10lb)        |
| <b>#33335</b>         | 1/16" Silicon Bronze Filler Rod 1lb         |
| <b>#33336</b>         | 3/32" Silicon Bronze Filler Rod 1lb         |

## TIG TORCH CONSUMABLE ITEMS

|               |                                                |
|---------------|------------------------------------------------|
| <b>#13953</b> | Standard TIG Consumables Kit                   |
| <b>#20284</b> | #6/8 Gas Lens Components Kit                   |
| <b>#20652</b> | #10/12 Gas Lens Components Kit                 |
| <b>#20653</b> | TIG Torch #6 "Gas Lens-Style" Gas Cup 10 Pack  |
| <b>#20654</b> | TIG Torch #8 "Gas Lens-Style" Gas Cup 10 Pack  |
| <b>#20655</b> | TIG Torch #10 "Gas Lens-Style" Gas Cup 10 Pack |
| <b>#12824</b> | 3/32" Collet                                   |
| <b>#12825</b> | Long Back Cap                                  |

## STICK WELDING ELECTRODES

|               |                                       |
|---------------|---------------------------------------|
| <b>#19001</b> | E6013 Electrode 1/16in x 14in x 3 lb  |
| <b>#59121</b> | E6013 Electrode 1/16in x 14in x 5 lb  |
| <b>#59120</b> | E6013 Electrode 1/8in x 14in x 10 lb  |
| <b>#59119</b> | E6013 Electrode 1/8in x 14in x 5 lb   |
| <b>#59117</b> | E6013 Electrode 3/32in x 14in x 5 lb  |
| <b>#59114</b> | E6013 Electrode 5/64in x 14in x 5 lb  |
| <b>#59112</b> | E7018 Electrode 1/8in x 14in x 5 lb   |
| <b>#59111</b> | E7018 Electrode 3/16in x 14in x 5 lb  |
| <b>#59110</b> | E7018 Electrode 3/32in x 14in x 10 lb |
| <b>#59109</b> | E7018 Electrode 3/32in x 14in x 5 lb  |
| <b>#59107</b> | E7018 Electrode 5/32in x 14in x 5 lb  |

## OPTIONAL ITEMS

|                       |                                                |
|-----------------------|------------------------------------------------|
| <b>#20517</b>         | Eastwood TIG Mate - TIG Filler Rod Feeder Pen  |
| <b>#55070 / 55071</b> | Leather MIG Welding Gloves (M / L)             |
| <b>#55068 / 55068</b> | Leather TIG Welding Gloves (M / L)             |
| <b>#12762</b>         | L, XL, XXL Cotton Welding Jacket               |
| <b>#55065</b>         | L, XL, XXL Leather Welding Jacket              |
| <b>#21484</b>         | XL View Auto Darkening Welding Helmet          |
| <b>#21483</b>         | Large View Auto Darkening Welding Helmet       |
| <b>#12418</b>         | Stainless Steel Wire Brush                     |
| <b>#33307</b>         | TG1800 Tungsten Grinder                        |
| <b>#58878</b>         | TG2000 Cordless Tungsten Grinder               |
| <b>#20640</b>         | 10' Long Ground Cable Extension                |
| <b>#31739</b>         | 25' Long 110V Heavy Duty Welder Extension Cord |
| <b>#20029</b>         | 25' Long 220V Heavy Duty Welder Extension Cord |
| <b>#20285</b>         | 40' Long 220V Heavy Duty Welder Extension Cord |

Visit [eastwood.com](http://eastwood.com) for complete info and pricing.

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

The Eastwood Technical Assistance Service Department: 800.343.9353 >> email: [tech@eastwood.com](mailto:tech@eastwood.com)

PDF version of this manual is available at [eastwood.com](http://eastwood.com)

The Eastwood Company 263 Shoemaker Road, Pottstown, PA 19464, USA 800.343.9353 [eastwood.com](http://eastwood.com)

© Copyright 2025 Eastwood Automotive Group LLC 7/25 Instruction item #73882Q Rev 2