

EVERLAST

POWER i-TIG 200



Operator's Manual for the Power i-Tig 200

Safety, Setup and General Use Guide

Rev. 1 0 00315-13

everlastwelders.com

EVERLAST

1-877-755-9353

329 Littlefield Ave. South San Francisco, CA 94080 USA

Specifications and Accessories subject to change without notice.

TABLE OF CONTENTS

Section.....	Page
Letter to the Customer	3
Everlast Contact Information.....	4
Safety Precautions.....	5
Introduction and Specifications.....	9
Unit Specifications.....	10
General Overview.....	11
General Use and Care.....	11
Quick Setup Guide, TIG Torch/Cooler Connection	12
Quick Setup Guide, Stick Polarity.....	13
Rear Panel Gas Connection and Wiring.....	14
Front Panel Features and Controls.....	15
Rear Panel Features and Controls.....	18
Welder Function Summary and Explanations.....	19
Tungsten Preparation.....	23
Lift Start and High Frequency Start.....	24
Stick Starting Methods.....	25
Recommendations for Polarity/Amps/Tungsten..	26
Expanded View of TIG torch.....	27
7 Pin Connector Pin-out.....	28
Troubleshooting.....	29

NOTE: Product Specifications and features are subject to change without notice. While every attempt has been made to provide the most accurate and current information possible at the time of publication, this manual is intended to be a general guide and not intended to be exhaustive in its content regarding safety, welding, or the operation/maintenance of this unit. Everlast Power Equipment INC. does not guarantee the accuracy, completeness, authority or authenticity of the information contained within this manual. The owner of this product assumes all liability for its use and maintenance. Everlast Power Equipment INC. does not warrant this product or this document for fitness for any particular purpose, for performance/accuracy or for suitability of application. Furthermore, Everlast Power Equipment INC. does not accept liability for injury or damages, consequential or incidental, resulting from the use of this product or resulting from the content found in this document or accept claims by a third party of such liability.

Dear Customer,

THANKS! You had a choice, and you bought an Everlast. We appreciate you as a customer and hope that you will enjoy years of use from your welder.

Please go directly to the Everlast website to register your unit and receive your warranty information. Your unit registration is important should any information such as product updates or recalls be issued. It is also important so that we may track your satisfaction with Everlast products and services. If you are unable to register by website, contact Everlast directly through the sales department through the main customer service number in your country. Your unit will be registered and warranty will be issued and in full effect. Keep all information regarding your purchase. **In the event of a problem you must contact technical support before your welder can be a candidate for warranty service and returned.**

Please review the current online warranty statement and information found on the website of the Everlast division located in or nearest to your country. Print it for your records and become familiar of its terms and conditions.

Everlast offers full technical support, in several different forms. We have online support available through email, and a welding support forum designed for customers and noncustomer interaction. Technical advisors are active on the forum daily. We also divide our support into two divisions: technical and welding performance. Should you have an issue or question concerning your unit, please contact performance/technical support available through the main company headquarters available in your country. For best service call the appropriate support line and follow up with an email, particularly during off hours, or in the event you cannot reach a live person. In the event you do not reach a live person, particularly during heavy call volume times, holidays, and off hours, leave a message and your call will normally be returned within 24 hours. Also, for quick answers to your basic questions, join the company owned forum available through the website. You'll find knowledgeable, helpful people and staff available to answer your questions, and perhaps find a topic that already addresses your question at <http://www.everlastgenerators.com/forums/>.

Should you need to call or write, always know your model name, purchase date and welder manufacturing inspection date. This will assure the quick and accurate customer service. **REMEMBER: Be as specific and informed as possible. Technical and performance advisors rely upon you to carefully describe the conditions and circumstances of your problem or question. Take notes of any issues as best you can. You may be asked many questions by the advisors to clarify problems or issues that may seem very basic. However, diagnosis procedures MUST be followed to begin the warranty process. Advisors can't assume anything, even with experienced users, and must cover all aspects to properly diagnose the problem. Depending upon your issue, it is advisable to have basic tools handy such as screwdrivers, wrenches, pliers, and even an inexpensive test meter with volt/ohm functions before you call.**

Let us know how we may be of service to you should you have any questions.

Sincerely,

Everlast Customer Service

Serial number: _____
Model number: _____
Date of Purchase _____



Contact Information

Everlast US:

Everlast consumer satisfaction email: sales@everlastwelders.com

Everlast Website: everlastwelders.com

Everlast Technical Support: support@everlastwelders.com

Everlast Support Forum: <http://www.everlastgenerators.com/forums/index.php>

Main toll free number: 1-877-755 WELD (9353) 9am—5pm PST M-F
11am-4pm PST Sat.

FAX: 1-650-588-8817

Everlast Canada:

Everlast consumer satisfaction email: sales@everlastwelders.ca

Everlast Website: everlastwelders.ca

Everlast Technical Support: sales@everlastwelders.ca

Telephone: 905-637-1637 9am-4:30pm EST M-F
10am-1pm EST Sat.

FAX: 1-905-639-2817

Everlast Austrailia:

Sydney: 5A Karloo Parade Newport NSW 2106

(02) 9999 2949

Port Macquarie: 2B Pandorea Place Port Macquarie

(02) 8209 3389

After hours support: 0413 447 492

Everlast Technical Support: support@pickproducts.com

SAFETY PRECAUTIONS

Everlast is dedicated to providing you with the best possible equipment and service to meet the demanding jobs that you have. We want to go beyond delivering a satisfactory product to you. That is the reason we offer technical support to assist you with your needs should an occasion occur. With proper use and care your product should deliver years of trouble free service.



Safe operation and proper maintenance is your responsibility.

We have compiled this operator's manual, to instruct you in basic safety, operation and maintenance of your Everlast product to give you the best possible experience. Much of welding and cutting is based upon experience and common sense. As thorough as this welding manual may be, it is no substitute for either. Exercise extreme caution and care in all activities related to welding or cutting. Your safety, health and even life depends upon it. While accidents are never planned, preventing an accident requires careful planning.

Please carefully read this manual before you operate your Everlast unit. This manual is not only for the use of the machine, but to assist in obtaining the best performance out of your unit. Do not operate the unit until you have read this manual and you are thoroughly familiar with the safe operation of the unit. If you feel you need more information please contact Everlast Support.

The warranty does not cover improper use, maintenance or consumables. **Do not attempt to alter or defeat any piece or part of your unit, particularly any safety device.** Keep all shields and covers in place during unit operation should an unlikely failure of internal components result in the possible presence of sparks and explosions. If a failure occurs, discontinue further use until malfunctioning parts or accessories have been repaired or replaced by qualified personnel.



Note on High Frequency electromagnetic disturbances:

Certain welding and cutting processes generate High Frequency (HF) waves. These waves may disturb sensitive electronic equipment such as televisions, radios, computers, cell phones, and related equipment. High Frequency may also interfere with fluorescent lights. Consult with a ***licensed*** electrician if disturbance is noted. Sometimes, improper wire routing or poor shielding may be the cause.



HF can interfere with pacemakers. See EMF warnings in following safety section for further information. Always consult your physician before entering an area known to have welding or cutting equipment if you have a pacemaker.

SAFETY PRECAUTIONS



These safety precautions are for protection of safety and health. Failure to follow these guidelines may result in serious injury or death. Be careful to read and follow all cautions and warnings. Protect yourself and others.



Welding and cutting processes produce high levels of ultraviolet (UV) radiation that can cause severe skin burn and damage. There are other potential hazards involved with welding such as severe burns and respiratory related illnesses. Therefore observe the following to minimize potential accidents and injury:



Use appropriate safety glasses with wrap around shields while in the work area, even under welding helmets to protect your eyes from flying sparks and debris. When chip-ping slag or grinding, goggles and face shields may be required.



When welding or cutting, always use an approved shielding device, with the correct shade of filter installed. Always use a welding helmet in good condition. Discard any broken or cracked filters or helmets. Using broken or cracked filters or helmets can cause severe eye injury and burn. Filter shades of no less than shade 5 for cutting and no less than shade 9 for welding are highly recommended. Shades greater than 9 may be required for high amperage welds. Keep filter lenses clean and clear for maximum visibility. It is also advisable to consult with your eye doctor should you wear contacts for corrective vision before you wear them while welding.



Do not allow personnel to watch or observe the welding or cutting operation unless fully protected by a filter screen, protective curtains or equivalent protective equipment. If no protection is available, exclude them from the work area. Even brief exposure to the rays from the welding arc can damage unprotected eyes.



Always wear hearing protection because welding and cutting can be extremely noisy. Ear protection is necessary to prevent hearing loss. Even prolonged low levels of noise has been known to create long term hearing damage. Hearing protection also further protects against hot sparks and debris from entering the ear canal and doing harm.



Always wear personal protective clothing. Flame proof clothing is required at all times. Sparks and hot metal can lodge in pockets, hems and cuffs. Make sure loose clothing is tucked in neatly. Leather aprons and jackets are recommended. Suitable welding jackets and coats may be purchased made from fire proof material from welding supply stores. Discard any burned or frayed clothing. Keep clothing away from oil, grease and flammable liquids.



Leather boots or steel toed leather boots with rubber bottoms are required for adequate foot protection. Canvas, polyester and other man made materials often found in shoes will either burn or melt. Rubber or other non conductive soles are necessary to help protect from electrical shock.



Flame proof and insulated gauntlet gloves are required whether welding or cutting or handling metal. Simple work gloves for the garden or chore work are not sufficient. Gauntlet type welding gloves are available from your local welding supply companies. Never attempt to weld with out gloves. Welding with out gloves can result in serious burns and electrical shock. If your hand or body parts comes into contact with the arc of a plasma cutter or welder, instant and serious burns will occur. **Proper hand protection is required at all times when working with welding or cutting machines!**

SAFETY PRECAUTIONS



WARNING! Persons with pacemakers should not weld, cut or be in the welding area until they consult with their physician. Some pacemakers are sensitive to EMF radiation and could severely malfunction while welding or while being in the vicinity of someone welding. *Serious injury or death may occur!*



Welding and plasma cutting processes generate electro-magnetic fields and radiation. While the effects of EMF radiation are not known, it is suspected that there may be some harm from long term exposure to electromagnetic fields. Therefore, certain precautions should be taken to minimize exposure:

- Lay welding leads and lines neatly away from the body.
- Never coil cables around the body.
- Secure cables with tape if necessary to keep from the body.
- Keep all cables and leads on the same side the body.
- Never stand between cables or leads.
- Keep as far away from the power source (welder) as possible while welding.
- Never stand between the ground clamp and the torch.
- Keep the ground clamp grounded as close to the weld or cut as possible.



Welding and cutting processes pose certain inhalation risks. Be sure to follow any guidelines from your chosen consumable and electrode suppliers regarding possible need for respiratory equipment while welding or cutting. Always weld with adequate ventilation. Never weld in closed rooms or confined spaces. Fumes and gases released while welding or cutting may be poisonous. Take precautions at all times. Any burning of the eyes, nose or throat are signs that you need to increase ventilation.

- Stop immediately and relocate work if necessary until adequate ventilation is obtained.
- Stop work completely and seek medical help if irritation and discomfort persists.



WARNING! Do not weld on galvanized steel, stainless steel, beryllium, titanium, copper, cadmium, lead or zinc without proper respiratory equipment and or ventilation.



WARNING! This product when used for welding or cutting produces fumes and gases which contains chemicals known to the State of California to cause birth defects and in some cases cancer. (California Safety and Health Code §25249.5 *et seq.*)



WARNING! Do not weld or cut around Chlorinated solvents or degreasing areas. Release of Phosgene gas can be deadly. Consider all chemicals to have potential deadly results if welded on or near metal containing residual amounts of chemicals.



Keep all cylinders upright and chained to a wall or appropriate holding pen. Certain regulations regarding high pressure cylinders can be obtained from OSHA or local regulatory agency. Consult also with your welding supply company in your area for further recommendations. The regulatory changes are frequent so keep informed.



All cylinders have a potential explosion hazard. When not in use, keep capped and closed. Store chained so that overturn is not likely. Transporting cylinders incorrectly can lead to an explosion. Do not attempt to adapt regulators to fit cylinders. Do not use faulty regulators. Do not allow cylinders to come into contact with work piece or work. Do not weld or strike arcs on cylinders. Keep cylinders away from direct heat, flame and sparks.

SAFETY PRECAUTIONS

continued



WARNING! Electrical shock can kill. Make sure all electrical equipment is properly grounded. Do not use frayed, cut or otherwise damaged cables and leads. Do not stand, lean or rest on ground clamp. Do not stand in water or damp areas while welding or cutting. Keep work surface dry. Do not use welder or plasma cutter in the rain or in extremely humid conditions. Use dry rubber soled shoes and dry gloves when welding or cutting to insulate against electrical shock. Turn machine on or off only with gloved hand. Keep all parts of the body insulated from work, and work tables. Keep away from direct contact with skin against work. If tight or close quarters necessitates standing or resting on work piece, insulate with dry boards and rubber mats designed to insulate the body from direct contact.



All work cables, leads, and hoses pose trip hazards. Be aware of their location and make sure all personnel in area are advised of their location. Taping or securing cables with appropriate restraints can help reduce trips and falls.



WARNING! Fire and explosions are real risks while welding or cutting. Always keep fire extinguishers close by and additionally a water hose or bucket of sand. Periodically check work area for smoldering embers or smoke. It is a good idea to have someone help watch for possible fires while you are welding. Sparks and hot metal may travel a long distance. They may go into cracks in walls and floors and start a fire that would not be immediately visible. Here are some things you can do to reduce the possibility of fire or explosion:

- Keep all combustible materials including rags and spare clothing away from area.
- Keep all flammable fuels and liquids stored separately from work area.
- Visually inspect work area when job is completed for the slightest traces of smoke or embers.
- If welding or cutting outside, make sure you are in a cleared off area, free from dry tender and debris that might start a forest or grass fire.
- Do not weld on tanks, drums or barrels that are closed, pressurized or anything that held flammable liquid or material.



Metal is hot after welding or cutting! Always use gloves and or tongs when handling hot pieces of metal. Remember to place hot metal on fire-proof surfaces after handling. Serious burns and injury can result if material is improperly handled.



WARNING! Faulty or poorly maintained equipment can cause injury or death. Proper maintenance is your responsibility. Make sure all equipment is properly maintained and serviced by qualified personnel. Do not abuse or misuse equipment. Keep all covers in place. A faulty machine may shoot sparks or may have exploding parts. Touching uncovered parts inside machine can cause discharge of high amounts of electricity. **Do not allow employees to operate poorly serviced equipment.** Always check condition of equipment thoroughly before start up. Disconnect unit from power source before any service attempt is made and for long term storage or electrical storms.



Further information can be obtained from The American Welding Society (AWS) that relates directly to safe welding and plasma cutting. Additionally, your local welding supply company may have additional pamphlets available concerning their products. Do not operate machinery until you are comfortable with proper operation and are able to assume inherent risks of cutting or welding.

Power i-TIG 200



Air-Cooled, 26 Series Torch Assembly
12.5 ft (Style may Vary)



Argon Regulator



Consumable Kit
(Does not include Tungsten)



Work Clamp



47K Ω
Foot Pedal Assembly



Stick Electrode Holder

NOTE: Accessory and consumable style and quantities are subject to change without notice.

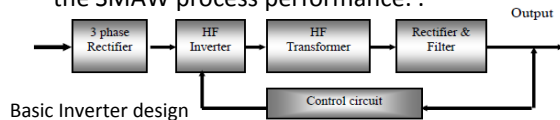
Power i-TIG 200 TIG/Stick Welder	Specification
Process	DC GTAW-P/DC SMAW
Inverter Type	Analog, Fairchild IGBT construction
Minimum/Maximum Rated Output TIG	DC: 5 A/10.2 V - 200 A/18V
Minimum/Maximum Rated Output Stick	5 A/20.2 V - 160 A/26.4 V
Start Type	HF and Lift Start
HF Point Gap	.030"-.045" (.035" suggested)
TIG Duty Cycle @ Rated Amps 240 V (120V)	35% @ 200 A (35% @ 100 A) 60% @ 160 A (60% @ 85 A) 100% @ 130 A (100% @ 55 A)
Stick Duty Cycle @ Rated Amps/Volts	35% @ 160 A (35% @ 85 A) 60% @ 130 A (60% @ 55 A) 100% @ 100 A (100% at 40 A)
OCV (U ₀)	70 V
Voltage Input (U ₁)	110/120/220/230/240 V; 50/60Hz 1 Ph
Maximum Inrush Amps (I _{1MAX})	30A @ 220 V /27.5 @ 240 V/ 34 A @ 120 V
Maximum Operating Amps (Rated Effective) (I _{1EFF})	24 A @ 220 V /22 A @ 240 V/ 29 A @ 120 V
Gas Pre-Flow /Post Flow Time	0-10 Seconds/ 0-25 Seconds
Start Amps/End Amps	15 A fixed/15 A fixed (2T/4T torch switch arc initiation)
Up/Down Slope	0-5/0-5 Seconds
Pulse Frequency Hz (Pulses Per Second)	.5-250 Hz
Pulse Amps (Ratio)	5-95%
Pulse Time On (Balance)	10-90%
Stick Arc Force Control	0-100%
Minimum Water Ingress Protection Standard	IP21S
Efficiency	>85%
Cooling Method	Full Time High Velocity Fan with Tunnel design
Dimensions	7.5" W x 12.5" H x 16.5" W
Weight (Bare Unit)	32 lbs

SECTION 1


INTRODUCTION AND SPECIFICATIONS

General overview: The Power i-TIG 200 is a DC Pulse TIG/ Stick inverter welder. It's small size and portability make it a favorite for use in almost any steel or stainless application. It features a 5 amp start capability and up to 250 Hz pulse rate, if desired. The arc stability and control make desirable for use in many specialty applications such as gun smithing, restaurant repair, or food processing facilities. The DC only machine will weld almost any metal except aluminum and magnesium. Some of the main features are as follows:

- A. Fairchild IGBT components provide excellent reliability while retaining an inexpensive design. Most parts are standard components reducing the cost of long term repair.
- B. Full bridge design features soft switching technology which further extends IGBT component life and extends its capabilities.
- C. Improved HF point design offers better and more stable arc starts, even at lower amperages.
- D. Features automatic over-voltage, over current and duty cycle protection (over-heat).
- E. Arc force control and built in hot start helps improve the SMAW process performance. .





General Use and Care: The welder is designed for use in many industrial environments such as ship yards, fabrication shops and pipelines. However, care should be taken to keep the unit out of direct contact with water spray. The unit is rated IP21S, which rates it for light contact with dripping water. It is a good idea to remove the welder from the vicinity of any water or moisture source to reduce the possibility of electrocution or shock. Never operate in standing water.

 Every 1-2 months, depending upon use, the welder should be unplugged, opened up and carefully cleaned with compressed air. Regular maintenance will extend the life of the unit.

IMPORTANT: Before opening the unit for any reason, make sure the unit has been unplugged for at least 10 minutes to allow time for the capacitors to fully discharge. Severe shock and/or death can occur. Remove rear panel first. Then remove metal cover. Do not remove the front panel unless absolutely necessary. The front panel is an integral part of the welder framework and requires intensive effort to remove and replace.

Do not restrict air flow or movement of air around the

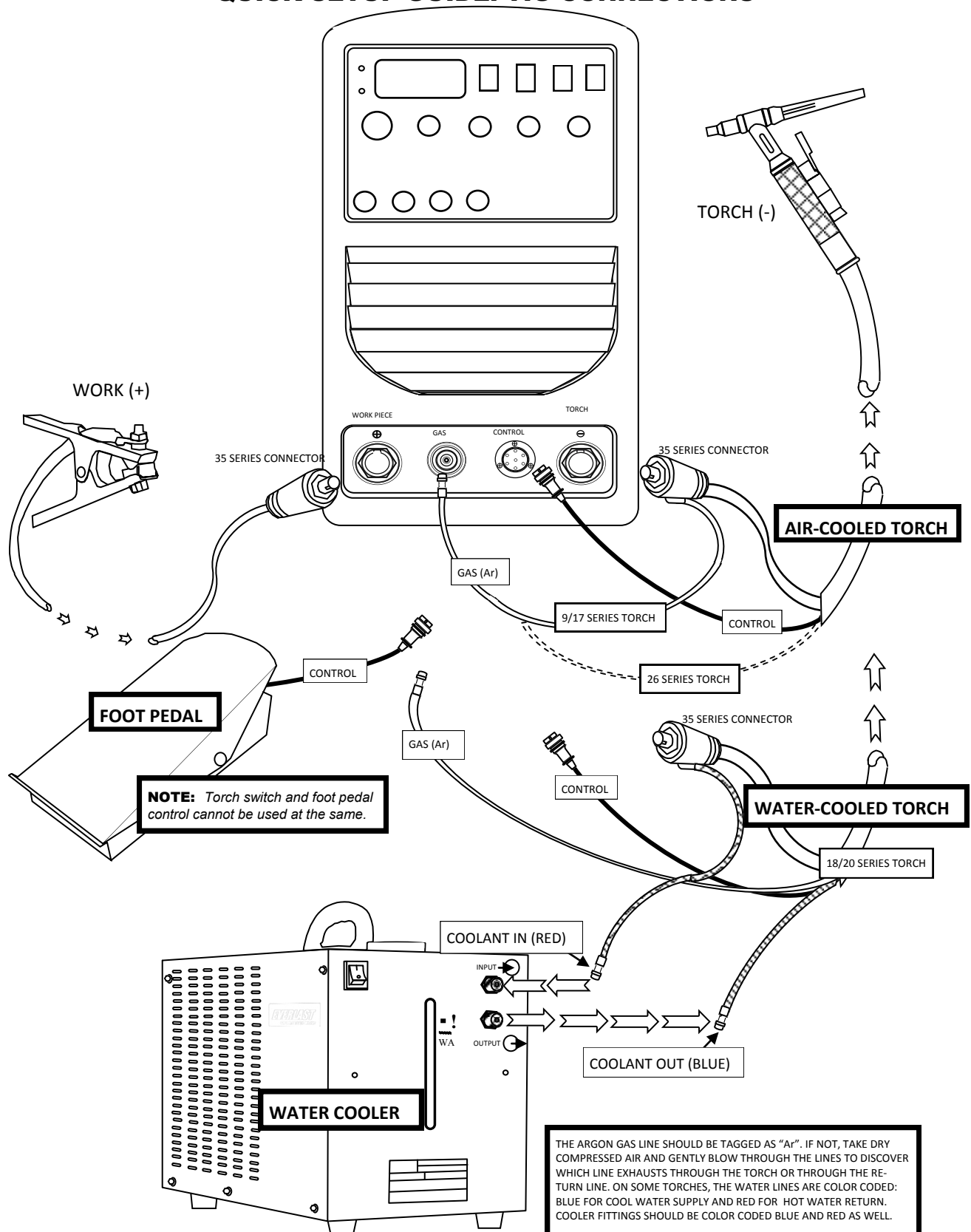
welder. Allow a buffer distance of 2 ft from all sides if possible, with a minimum distance of at least 18" clearance. Do not operate the welder immediately in the weld area or the force of the fan will cause welding issues such as unstable arc, or porosity. Do not mount in areas that are prone to severe shock or vibration. Lift and carry the welder by the handle. Do not direct metallic dust or any dirt intentionally toward the machine, particularly in grinding and welding operations. Make sure the panel is protected from damage during welding and cutting operations by flipping down the clear protective cover.

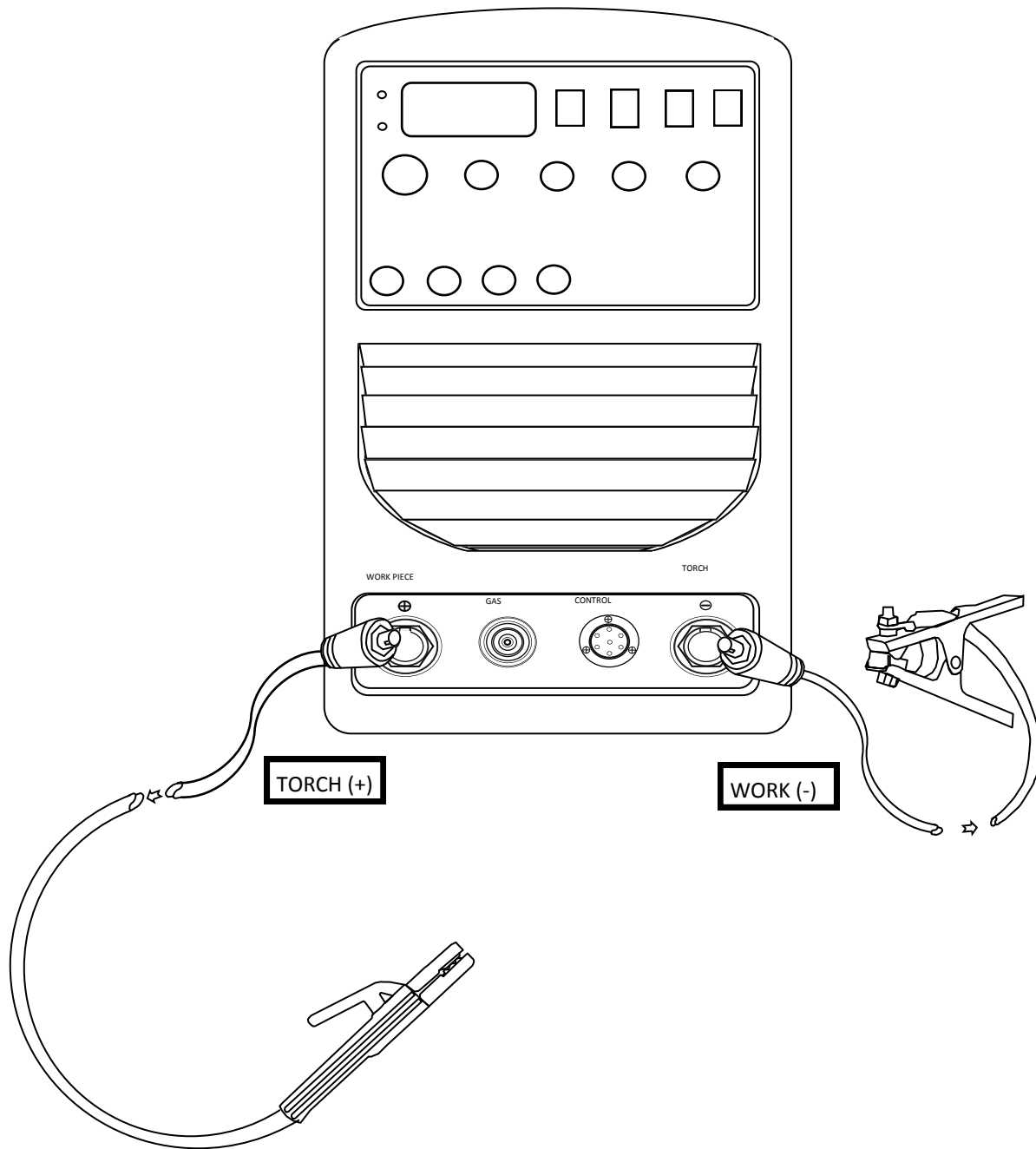
Duty Cycle. For the Power i-Tig 200, the duty cycle is rated for 35% at 200 amps for TIG and 35% at 160 amps for Stick on 240V. It is also rated for 35% at 100 amps for TIG and 35% at 80 amps for stick on 120V. The duty cycle is based off a 10 minute duty cycle rating at 40° C. This means that the unit is capable of being operated at the maximum stated amps for 3.5 minutes out of every 10 minutes without a break to cool down the unit. A full 7.5 minute rest (or more) should be given to the welder for maximum life. The  (green) temperature light will come on and the welder will automatically stop welding when an overheat condition has occurred. If the light is on but the unit does not stop welding, this does not necessarily mean that you have not exceeded duty cycle. Heat will continue to be generated by and transferred to the electronics after welding has ceased. Welding in humid, or hot conditions can affect duty cycle as well. Do not shut down an overheated welder until it has safely cooled. Once the overheated condition has cleared, welding can resume. If the  light is amber or red, an over current has occurred. Check for causes immediately.

HF Start. The welder uses High Frequency to start the arc. HF is generated by a point gap system similar to an older automotive point/coil system. A slight buzz, or hiss may be heard immediately upon start as the HF energizes. A bright blue light may be emitted from the front or side panel as the spark energizes. This is normal and safe as long as the covers are in place.

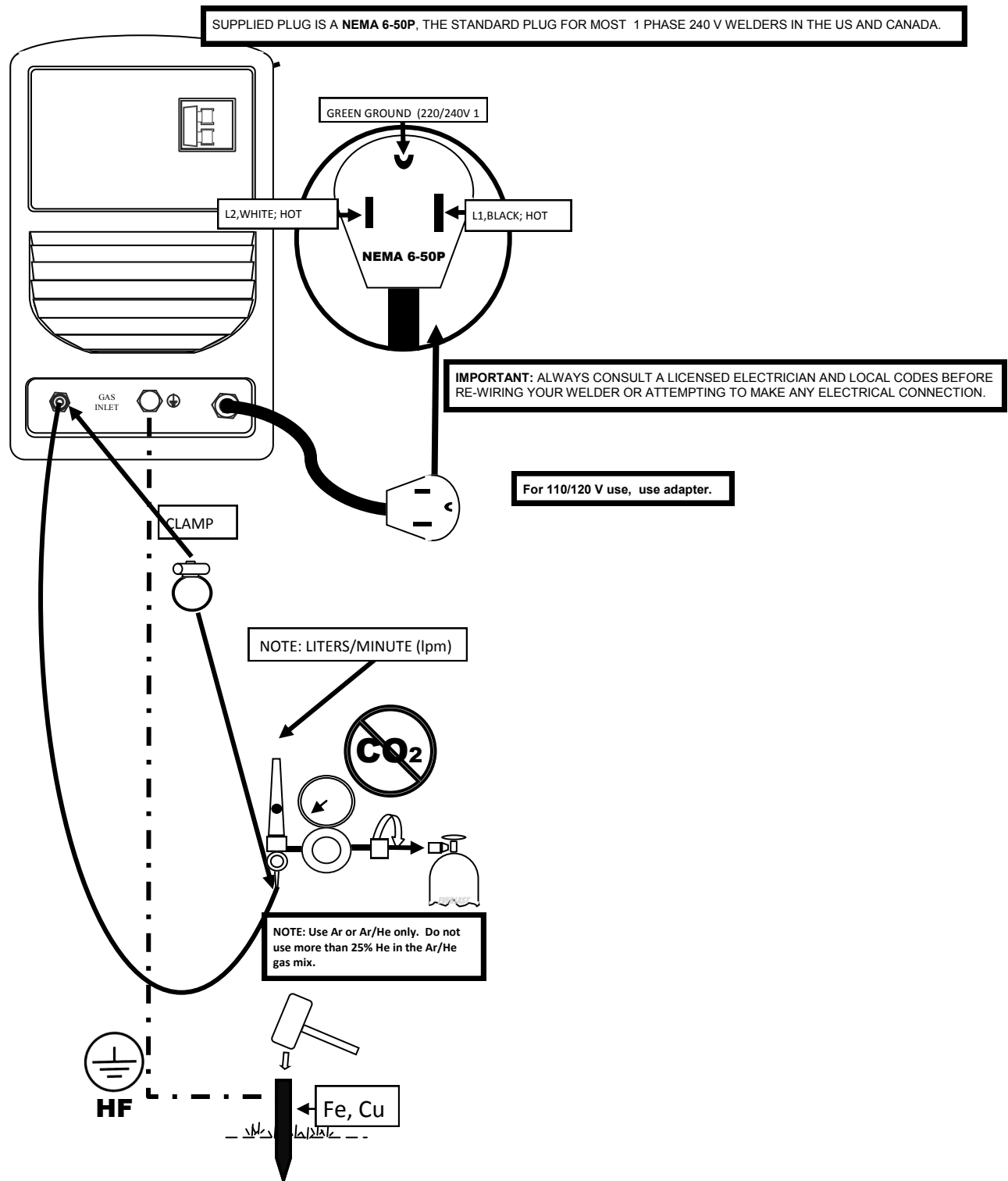
This manual has been compiled to give an overview of operation and is designed to offer information centered around safe, practical use of the welder. Welding is inherently dangerous. Only YOU, the operator of this welder, can ensure that safe operating practices are followed, through the exercise of common sense practices and training. Do not operate this machine until you have fully read the manual, including the safety section. If you think that you do not have the skill or knowledge to safely operate this welder, do not use this welder until formal training is received.

QUICK SETUP GUIDE: TIG CONNECTIONS



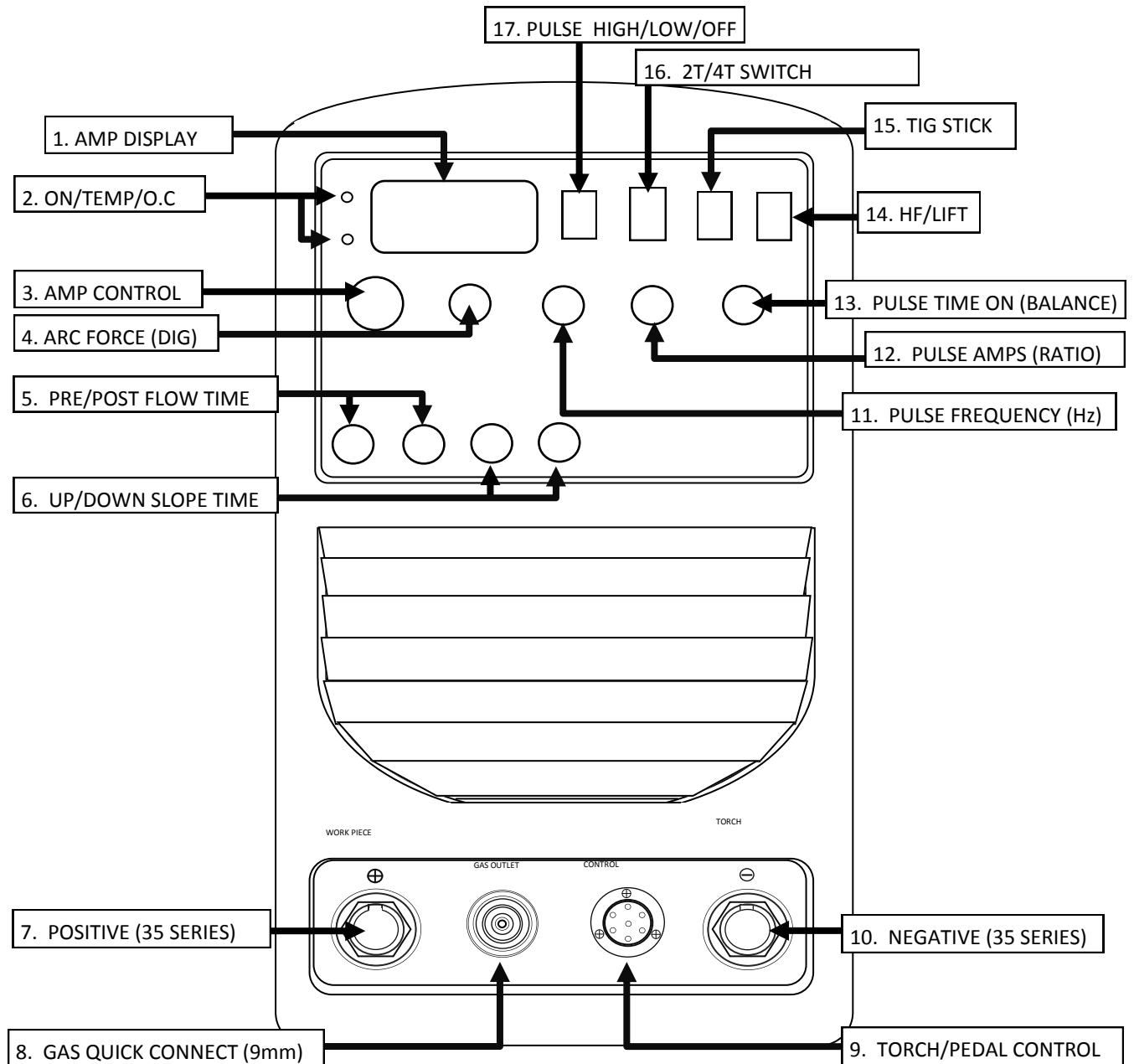
QUICK SETUP GUIDE: STICK POLARITY AND CONNECTIONS

QUICK SETUP GUIDE: REAR CONNECTIONS FOR TIG / WIRING (US/Canada)



NOTE: TO PREVENT STRAY HIGH FREQUENCY INTERFERENCE, THIS UNIT PROVIDES AN ADDITIONAL GROUNDING POINT AT THE REAR OF THE UNIT. IT SHOULD BE DIRECTLY GROUNDED THROUGH A SEPARATE WIRE TO AN OUTSIDE METAL ROD DRIVEN IN THE GROUND. THIS HELPS PREVENT BLEEDBACK OF HF INTO THE POWER GRID, AND HELPS MUTE HF INTERFERENCE. ADDITIONALLY, ALL SURROUNDING METAL OBJECTS SHOULD BE GROUNDED INCLUDING THE TABLE, PIPES, WALLS ETC. TO PREVENT ELECTRICAL INTERFERENCE WITH OTHER CIRCUITS. DO NOT COUPLE THIS WIRE TO THE GROUND PROVIDED IN THE ELECTRICAL CIRCUIT OR PANEL BOX.

FRONT PANEL FEATURES AND CONTROLS



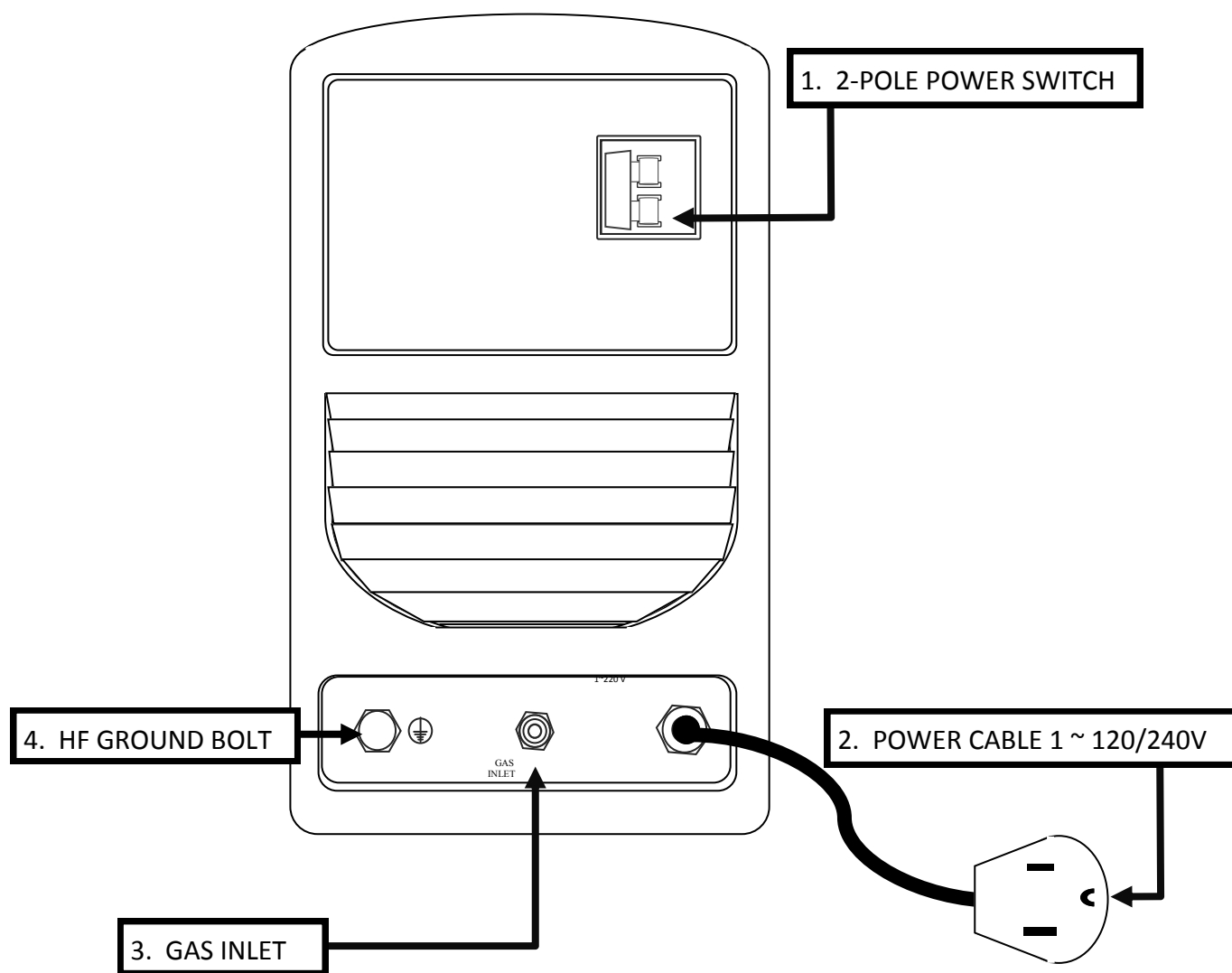
FRONT PANEL FEATURES AND CONTROLS CONTINUED

FEATURES	PARAMETERS	PURPOSE
1. Amp Display	N/A	Displays maximum selected amps until the weld is started. Displays actual amps while welding. Display may cycle rapidly and randomly after pulse has been turned on. This is normal. The meter "samples" the pulse at a fixed rate and is not synchronized with the pulse. Immediately after the pulse is turned on, a short delay is built in that prevents the display from cycling to allow the pulse to be adjusted. Once the adjustment is finished, pulse will begin to cycle after a few seconds if no input is made.
22. On/  Indicator	Indicator/Warning Or Fault	On Indicator: Confirms unit is switched on.  Indicator: Lights up green or amber and stops welding output until the welder has cooled within normal limits. Allow 10 minutes before attempting to reset manually by cycling the power switch. If the light does not go out after the cool down period by cycling the switch, or if comes on again when the arc is struck, contact Everlast. The  lights up red when a voltage /amp surge has surpassed the units capabilities. Eliminate the source of the surge and manually cycle the power switch to reset. If the light remains on after cycling the switch, this may indicate a unit fault created during the over current event. In this case, contact Everlast.
3. Amp Control Knob	5-250 Amps	Sets Maximum limit for Amps with foot pedal or torch. Sets higher amp value for pulse.
4. Arc Force Control (DIG)	0-100%	Controls the arc response when an arc is held short and voltage begins to drop. Arc force automatically compensates by modifying the volt/amp curve to maintain the energy needed to weld. Represented as a percent of available amperage.
5. Pre/Post Flow Control	0-5/ 0-25 Seconds	Pre-Flow sets the amount of shielding gas flow time before arc starts. It is used to purge and flood the weld area with shielding gas so the arc start is stable and weld is porosity free. The pre-flow will delay the arc start. Set pre-flow for .5 ~1 second for best starting. Post-Flow sets the amount of shielding gas flow time after arc ends to shield the weld to prevent oxidation and cool the torch. Use 1 second post-flow or less for every 10 amps.
6. Up/Down Slope Control (Part of 2T/4T sequence)	0-5/ 0-5 Seconds	Ramps amps from start amp value to welding amp value (Up slope). Ramps amps from welding amp value to end amps value to fill crater (Down Slope).
7. Positive Connector	35-70 mm ²	Location of the positive terminal connection. Dinse-style connector. (35 Series) For Stick: Torch connection. For TIG: Work Clamp Connection.
8. Gas Quick Connect Outlet	9 mm	Connects the gas to the TIG torch. To connect: Push the torch fitting into the connector until the collar slides forward with a click. To Release: Slide the collar back.
9. Control Connector	7 Pin	Connect the foot pedal or torch switch to this socket to control the welder. Only the foot pedal or torch control connector can be plugged in at one time. If the torch has a torch switch feature, tie the loose connector back or leave it hanging while using the pedal.
10. Negative Connector	35-70 mm ²	Location of the negative terminal connection. Dinse-style. (35 series) For Stick: Work Clamp Connection. For TIG: Torch Connection.
11. Pulse Frequency Control	.5-500 Hz	Represented by Hertz (Hz), the pulse frequency adjusts the actual number of times per second the pulse makes one complete cycle between welding amps (Peak value) and pulse amps (Background (low) amp value). This is also commonly referred to as Pulses Per Second (PPS). Low pulse frequencies are ideal for timing when filler metal is added. This helps improve appearance and uniformity. Higher pulse frequencies are useful for welding seams and edges of thin material. Also it is useful for overall heat control for thicker metals. Higher pulse frequencies are useful for automated welding processes. WARNING: WELDING AT HIGH PULSE FREQUENCIES INCREASES THE DECIBEL /NOISE LEVEL OF THE ARC. HEARING PROTECTION IS RECOMMENDED! The adjustment is not 100% linear and symmetrical in adjustment. The further clockwise the control is turned, the more rapidly the value increases.
12. Pulse Amps (Ratio) Control	5-95%	Sets the lower Pulse Amp (base or background current) value during the pulse cycle by adjusting it as a percent of Welding Amps. When pulse mode is selected, the main amp welding knob determines the Welding Amp (upper /peak) value.
13. Pulse Time On (Balance) Control	10-90%	Sets the duty cycle (balance) of the pulse, by dividing or skewing the amount of time the pulse is in the lower or upper stage of the pulse. The pulse consists of two stages: Welding Amps (Peak) and Pulse amps (base/background current). This is represented by a % of total time the pulse spends in the pulse amp part of the cycle during one full pulse. The control can be used to increase or decrease pulse amp time relative to the Welding Amp time of the cycle to help manage heat input.

FRONT PANEL FEATURES AND CONTROLS CONTINUED

FEATURE	PARAMETERS	PURPOSE
14. HF Start/Lift Start	HF/Lift/ Stick	Selects type of TIG start. HF is touch free and activates during start only. Lift start requires brief touch to metal to draw an arc and is good for areas where sensitive electronics are present. Also selects Stick welding process.
15. TIG/Stick Selector Switch	N/A	Selects TIG or Stick process.
16. 2T/4T Sequencer Switch	2T -Pedal/4T	Used with the torch switch function. Select 2T for simple press and hold operation of the torch switch. Release the switch to cease operation. Select 4T for advanced use of the panel sequencer controls such as start/end amps, up/down slope. 1) Press and hold switch to start arc. 2) Release switch to begin current upslope to reach normal welding current. 3) Press and hold switch once again to begin downslope. 4) Release switch to terminate the arc. In 4T mode, if the puddle becomes too hot, it can be cooled by lightly tapping the switch to begin downslope and tapping again to restart upslope before end current is reached. Setting a long downslope helps improve heat control with this feature. IMPORTANT: For foot pedal use: Select 2T and turn up/down slope to minimum settings or the foot pedal will not operate correctly.
17. Pulse Off/High/Low Switch	Off/ Low/ High	Turns pulse on. Low range operates with a fine control from .5-25 Hz. High range operates with a more coarse range of control from 25-500 Hz

REAR PANEL FEATURES AND CONTROLS



REAR PANEL FEATURES AND CONTROLS CONTINUED

FEATURE	PARAMETERS	PURPOSE
1. 2-Pole Power Switch	On/Off	The breaker switch has 2 poles. It serves as the On/Off switch for the welder. Always turn the welder on and off by the switch first before using any disconnect.
2. Power Cord	120/220/240 V 1 Phase	The Power i-TIG 200 features dual voltage capability. The unit is equipped with a NEMA 6-50 Plug. This specific plug is designed for 220V use with welders. For use with 120V, use a pig tail adapter which steps down the unit to a standard 120 V power plug. If needed, contact Everlast to order one. Removal of the NEMA 6-50 Plug is not necessary. No other conversion is necessary as the unit automatically senses the lower input voltage.
3. HF Ground Bolt	N/A	HF energy can be devastating to surrounding electronic equipment. If the operating environment includes electronic equipment, this connection can serve as a direct path to an outdoor grounded metal rod that is isolated from the main electrical circuit to help bleed off excess HF circuit. All metal parts inside the building should be grounded as well, including pipes, tables, and even metal siding. HF energy has been known to bleed back into the power grid and disrupt electronic devices further down the grid. If the point gap becomes out of adjustment, more HF energy may build up, or even jump across circuitry within the welder. It is recommended that a small, separate ground wire (minimum 14 gauge) be attached at this point while in use.
5. Gas Input Connection	1/4-5/16"	This is the point where the shielding gas from the regulator connects. The unit is supplied with tubing and clamps which connect this fitting to the regulator. The hose barb design allows universal connection of the welder to almost any regulator or setup found throughout the world. Make sure the tubing is fully slid over the connector and thoroughly tighten the clamp. Use an additional clamp if necessary to prevent leaking. If you suspect leaking, test the connection with a solution of mild soapy water. If bubbles are seen, retighten or reinstall the tubing.

NOTES:

1. The gas input connection should be checked for tightness periodically, especially if the machine is moved.
2. Never operate welder on a generator that is not certified by its manufacturer to be "clean" power, which is less than 10% total harmonic distortion. Less than 5% is preferred. Operating the unit on square wave output or modified sine wave generator is strictly prohibited. Contact the manufacturer of the generator for this information. Everlast does not have an "approved" list of generators. But, if the generator is not listed as clean power by its manufacturer, then operation is prohibited. Generators that do not at least meet the operating input requirements of the welder are also forbidden to be used with the welders. Surge amp capability of the generator should equal or exceed the maximum inrush demand of the welder. But the surge capability should not be used as the only factor. The regular, running output of the generator should match or exceed the running or "rated" demand of the welder. Any damage done by operating the welder on a generator not specified by its manufacturer to be "clean", will not be covered under warranty. This also includes suspect power sources where voltage is below 208 V and above 250 V.

Welder Function Summary and Explanations.

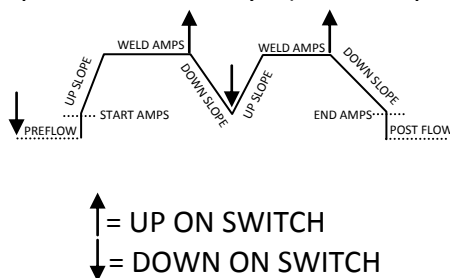
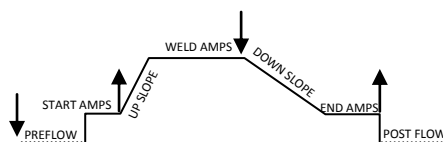
1. *2T/4T sequencer.* The 2T/4T feature allows operation of the TIG welder without a foot pedal. In many circumstances, a foot pedal is not practical for use. So, the 2T/4T function has been created to allow programming of the welder to simulate the activities of the foot pedal while providing more accurate control. The “T” refers to the number of “travels” of the remote switch required to operate the programming of the sequencer. 2T is essentially a “press and hold” operation and all programming is cycled automatically. Releasing the switch begins the final stage of programming. 4T operates differently in the fact that each touch activates a different stage of the programming, allowing for greater control. Also, in 4T, while actually welding at full amps, no finger contact with the switch is required. Following the graphic lines below, you can visually trace the activity and function of each part of the welding cycle. In either 2T or 4T operation the programming can be reset to “upslope” before reaching the end amp stage by pressing the switch once more. See the graphics below for further explanation. The up and down arrows indicate the switch travel direction.

The following features are exclusive features that can only be used with the 2T/4T sequencer function:

1) *Up Slope/Down Slope*

Pre-Flow and Post-Flow are features that work in conjunction with both the foot pedal and the 2T/4T sequencer. The start will be delayed until the pre-flow cycle has finished. Set for .5-1 seconds to reduce the arc start delay while providing adequate shielding for the tungsten and the weld at the beginning. Post flow time should be set longer and is used to provide shielding as the weld is cooling. Add more pre/post flow time for larger welds.

2. *Cooling.* When using the Power i-TIG, particularly during long periods of welding, even when not at maximum amps, leave the welder switched on to allow the unit to keep cooling. Switching the welder on and off while welding may saturate the heat sinks with heat and create an over temperature condition, triggering a thermal duty cycle shut down, even though very little welding has taken place.

2T Torch Operation Effect on Weld Cycle (Start/End Amps are fixed)**4T Torch Operation Effect on Weld Cycle (Start/End Amps are fixed)**

4. **Pulse.** The pulse creates two amp values, a high and a low value that cycle back and forth between each other while welding. The upper amperage is called the “welding amps” (sometimes called “peak” current) and the lower amperage is called “pulse amps” (sometimes called “background” or “base” current). This creates a situation where penetration can be achieved without overheating the metal, particularly on metals that are prone to structural deterioration or burn through. In effect you are creating an average of amps. The Power i-TIG 200 features three adjustable parameters concerning the pulse:

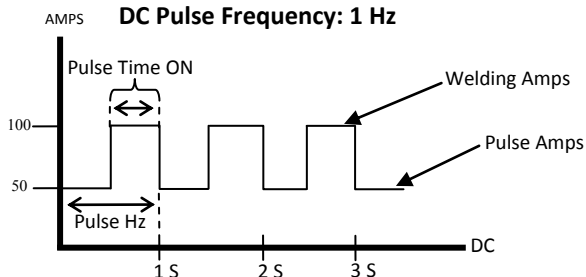
1. **Pulse Amps.** Both welding amps and pulse amps are independently set. Adjust the welding amps with the main control knob and the pulse amps with the pulse amp knob. However, when you adjust the pulse amps, you are actually setting a fixed ratio of amps expressed as a percentage of Welding Amps. When setting Welding Amps, the welder will display actual amp value when the pulse is turned on. However, after about 3-5 seconds, if you do not begin adjustment of the pulse amps, the meter will begin to fluctuate rapidly (depending upon frequency setting), sampling the pulse setting at odd points along the pulse cycle. To be able to read and set the pulse after the default setup time expires, turn the pulse frequency to the minimum setting first, then adjust the pulse amps. (If the default time expires before you are able to set the pulse amps, you may get a fairly accurate reading of the pulse amperage while it is pulsing slowly.) Alternatively, you can turn the pulse off and back on to reset the default display time. The display is not synchronized with the pulse so it samples at a set rate that is independent of pulse changes, which yields randomly fluctuating numbers. As you increase welding amperage, the pulse will maintain the same ratio of amps you have selected. To adjust the pulse amps to a desired setting using an example of 100 Welding Amps, setting the pulse amps to 50% yields a 50 amp value for the pulse amps. The foot pedal will control both Welding Amps and Pulse Amps according to the %(Ratio) selected on the panel.

2. **Pulse Frequency.** Pulse speed or frequency as it is referred to is measured in the standard unit “Hertz”. Simply, it is the number of pulses per second that occur. Pulse frequency controls the arc constriction and also helps with heat management.

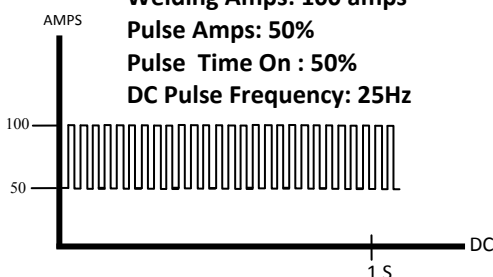
3. **Pulse Time On (Balance).** Pulse Balance is the percentage (%) of time that the pulse stays in the pulse

EXAMPLE 1

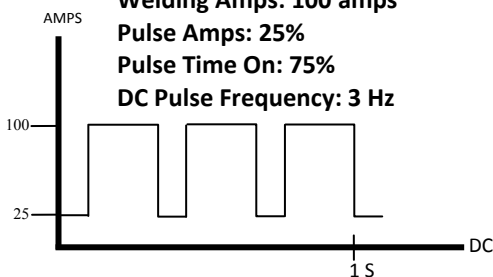
Welding Amps: 100 amps,
Pulse Amps: 50%
Pulse Time On: 50%
DC Pulse Frequency: 1 Hz

**EXAMPLE 2**

Welding Amps: 100 amps
Pulse Amps: 50%
Pulse Time On : 50%
DC Pulse Frequency: 25Hz

**EXAMPLE 3**

Welding Amps: 100 amps
Pulse Amps: 25%
Pulse Time On: 75%
DC Pulse Frequency: 3 Hz



amp stage of the cycle. Increasing the Pulse time on will increase the duration the pulse amp stage of the cycle which in turn will decrease heat and still allow good penetration. Pulse Balance is also known in the industry as duty cycle. For welding purposes the term “Pulse Time On” is used here.

Setting up the pulse is not a process with a fixed adjustment procedure. Changes to frequency, balance, and time will skew the final result. A slow pulse with an equal 50% pulse time on and somewhere around a

50-75% Pulse Amp setting is typically used to help with timing the addition of filler metal to the weld puddle. A higher pulse frequency level combined with variations in Pulse Time On and a narrow/wider ratio can be used to prevent burn through and speed up welding on thin materials. It can also help maintain a proper bead on a thin edge weld or prevent burn through on extremely thin metal. A fast pulse speed will make fine ripples in the weld while a slow pulse speed will give a much more coarse, but visually appealing result. There are limitless ways to adjust the pulse. Keep in mind though, that the basic purpose of the pulse is to average the heat input while maintaining penetration. **Do not attempt to use pulse while in stick mode.**

5. *Arc Force Control.* When stick welding, arc force is used to help improve performance of the welder with certain metals and welding rods. The arc force boosts current flow to match the demands of arc length and position. As an arc is held shorter, voltage tends to drop so extra amps are introduced to help maintain a steady arc.

6. *Foot Pedal. 22k Ω .* Select 2T on the panel. The foot pedal controls the full range of amps from 5 to 200 amps. The amps cannot be limited on the panel. The pedal will always have a maximum limit of 200 amps. The foot pedal also controls both Welding Amps, and Pulse Amps through the ratio established by selecting the pulse Amp % on the panel. Welding with pulse and the foot pedal takes practice, as it will seem the welder is welding at less amps than it is. Be sure to turn the up/down slope to the minimum settings or the 2T programming will be active and interfere with pedal operation. The pedal cannot override the 2T slope controls if they are turned up. **Do not attempt to control the stick function with the foot pedal. Foot pedal overrides amp control knob on panel and always has full range of amps at its disposal.**

8. *Water-cooled torch.* A water cooler is necessary for use with the PowerTIG 250 EX torch. The units are equipped with a WP 18 water-cooled torch. Using a water-cooled torch even briefly without water can seriously and permanently damage your torch. Torches used without water-coolers cannot be warranted unless cleared by Everlast. Everlast carries water-coolers designed to cool the maximum amp capacity of the welder. If you are not able to provide a water cooler or have not purchased a water cooler, you will need to use an air cooled (gas cooled) torch such as a 17 or 26

series, purchased separately.

All consumables should be interchangeable with other brand torches with similar designations. They should be available for local purchase. No special consumables are required. Although a small starter kit of consumables is included, you will need more consumables fairly quickly. **No Tungsten is included with the starter kit. Actual starter kit contents may vary.** Contact Everlast if you desire to purchase an air cooled torch that is complete, ready to go.

9. *DINSE style connector.* Everlast uses a 35/70mm² connector for both negative and positive connectors, which is a standard connector within the welding industry. This is commonly known as a 1/2" or 35 series DINSE-style connector. The connector allows the use of almost any brand or style of TIG torch.

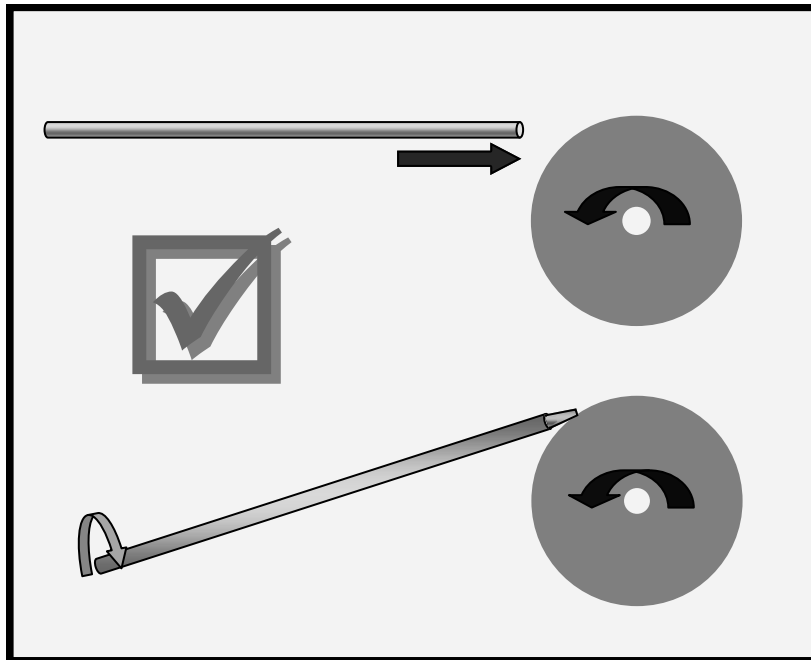
10. *7 pin remote/foot pedal connector.* This 7 pin connector is available from Everlast should it become damaged. See Pin-out reference found near the end of this manual.

11. *Argon quick connect.* This is a 9 mm size quick connect nipple. These are commonly available from Everlast or online sites which carry torches and fittings. Should you need a new one for your torch or damage yours, consult Everlast. Do not use a nipple that is scarred, bent or otherwise deformed. Damage to the female connector may result. Serious leaks may occur.

12. *Low amp starts.* The units have been configured to be able to start and weld at approximately 5(\pm 2) amps. However, to obtain the most stable starts, a slightly higher amp setting may be required, or a smaller tungsten may be necessary. After the arc is started, amps may be reduced to a minimum level. This is accomplished by pressing down more on the foot pedal until the arc stabilizes, then backing the amps down slowly until the arc stabilizes at the minimum selected amps.

13. *Argon Regulator.* The argon regulator is calibrated in lpm, not in cfh. (subject to change)

TUNGSTEN PREPARATION

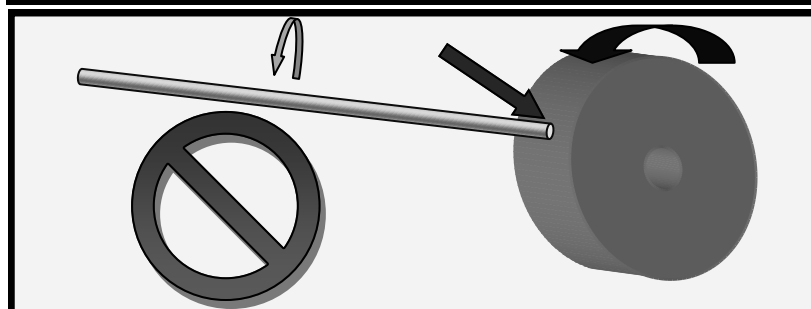


1. Use a dedicated grinding wheel or contamination may result. Do not breath grinding dust! Wear eye protection and gloves.

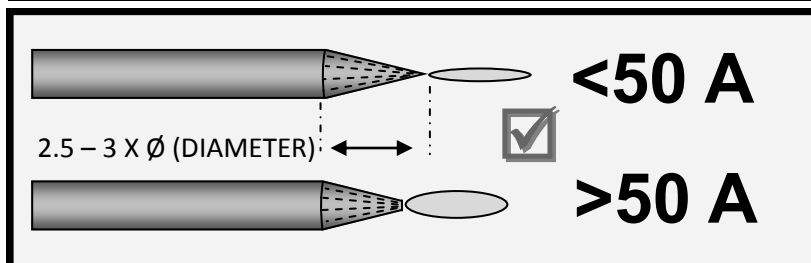
2. Hold Tungsten firmly.

3. Grind perpendicular to grinding wheel face. Allow tungsten to grind away slowly, creating point.

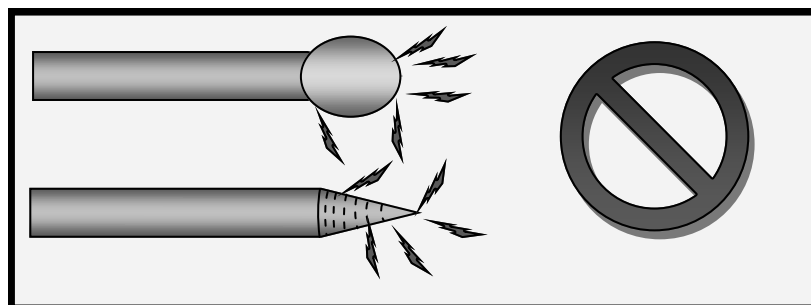
4. Rotate tungsten quickly as it is being ground to keep point even and symmetrical.



DO NOT GRIND TUNGSTEN PARALLEL TO WHEEL FACE OR AN UNSTABLE ARC WILL RESULT.



Use a point for low amp use to help control arc. Create a slight truncation on the tip for higher amp use for best arc stability. Grind the tip so that it is 2.5- 3 times longer than the tungsten is wide (Diameter).



DO NOT BALL TUNGSTEN WHILE USING AC. ERRATIC ARC WILL RESULT. MAKE SURE GRINDING MARKS RUN PARALLEL TO TIP. CONCENTRIC MARKS WILL CAUSE ERRATIC ARC.

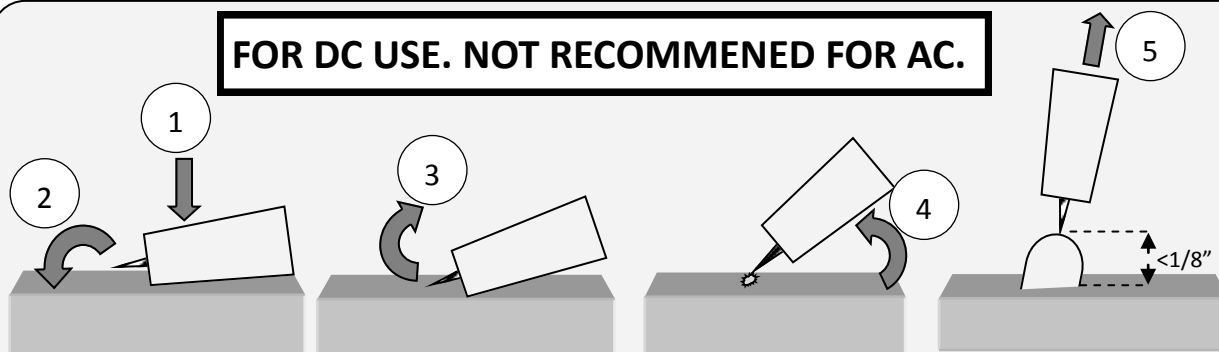
NEVER USE PURE (GREEN) TUNGSTEN IN AN INVERTER WELDER.

SEE FOLLOWING RECOMMENDATIONS ABOUT TUNGSTEN SELECTION FOUND IN THIS MANUAL ON NEXT PAGE.

LIFT START TIG OPERATION

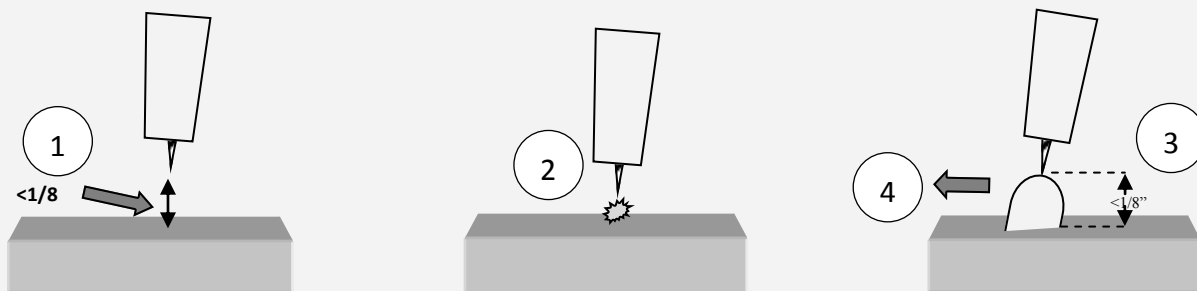
Note: A Lift TIG start should be done with a nearly seamless motion. Use a light touch and a quick motion for best results.

FOR DC USE. NOT RECOMMENDED FOR AC.



1. Position the edge of the ceramic cup on the metal. Press and hold the torch switch or press the foot pedal. Wait for the Pre-flow to start. (Make sure pre-flow is set for less than .5 seconds or start will be delayed.)
2. Quickly rotate cup so that the tungsten comes in brief contact (< .5 seconds) with the metal.
3. After contact with the metal, quickly rock the torch back so that the tungsten breaks contact with the metal.
4. An arc should form. As the arc grows, raise the cup up off the metal and slowly rotate the torch into welding position.
5. Leave 1/8" or less gap between the tungsten tip and the metal. Proceed with welding, leaving the torch inclined at a 15° angle.

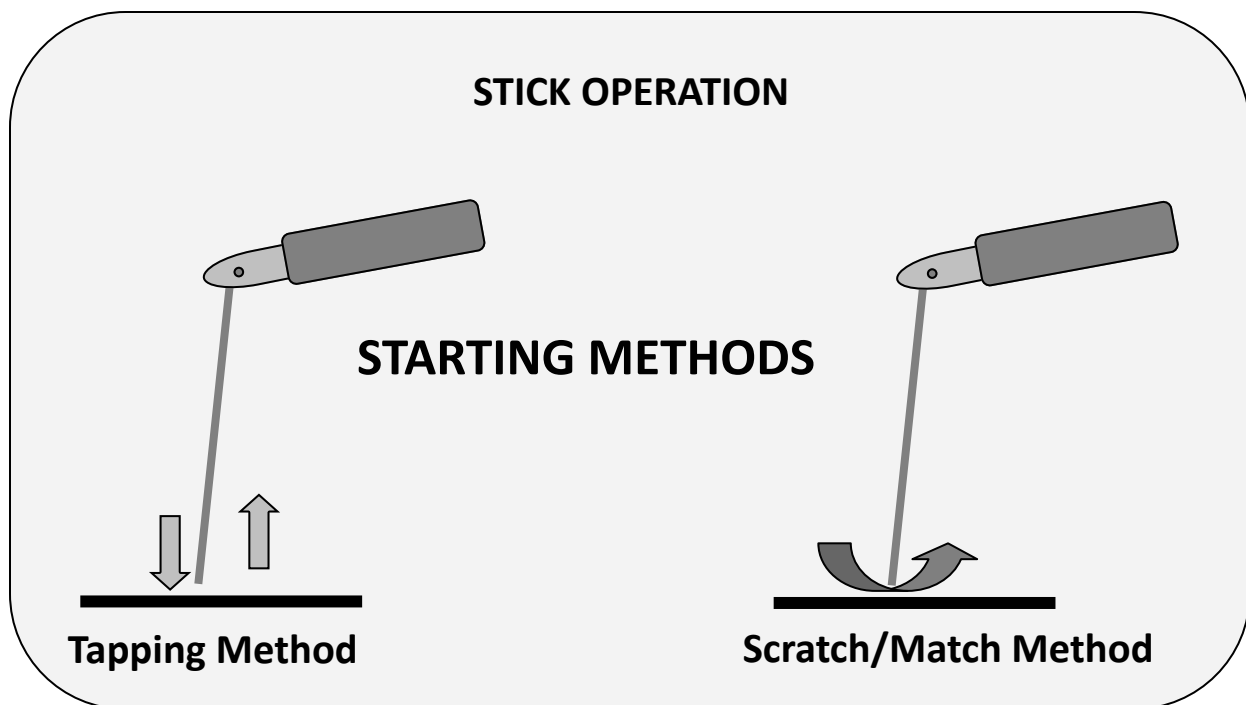
HIGH FREQUENCY START TIG OPERATION



1. Position the point of the sharpened tungsten about 1/8" or less above the metal.
2. Press the torch trigger or press the foot pedal to initiate the arc. The HF arc will be initiated. It may appear briefly as a blue spark.
3. An arc should form, almost immediately after the pre-flow cycle is completed. HF arc initiation will be delayed by the amount of pre-flow time used. If arc does not start after the pre-flow interval, and the HF is creating a spark, then check the work clamp contact with the work piece. Move the tungsten closer to the work. Repeat steps 1 and 2.
4. Leave 1/8" or less gap between the tungsten tip and the metal and proceed with welding, leaving the torch inclined at a 15° angle.

General TIG Arc Starting Steps

1. Turn unit on, allow time for power up cycle to complete its start up process.
2. Select either HF or Lift Start TIG with the HF/Lift Start/Stick selector switch. Select DC mode with the AC/DC torch switch.
3. Plug in Torch and select 4T or 2T mode with the selector switch **OR** plug in foot pedal and select 2T.
4. If using the torch switch, select up/ down slope time by rotating the knob to increase/decrease the ramp up or ramp down time of the amperage.
5. Adjust amps with amp control knob.
7. Start arc as depicted above.
7. If using 2T, continue to hold the torch switch until you are ready to stop welding. Release the switch. The Arc will then cease.
If using pedal raise foot fully off the pedal and arc will stop automatically.
8. If using 4T, release the switch, after arc initiates. Continue to weld without holding the switch down. To stop, press and release the switch again.



1. Turn on the power switch on the rear of the unit. Allow unit to cycle through its start up program.
2. Select the Stick mode with the HF/Lift Start/Stick selector switch.
3. Make sure electrode holder is hooked into the positive connector and the work clamp is hooked the negative connector.
4. Select the amps desired. Use the electrode diameter selection chart in this manual to determine the approximate range of amps suitable for the rod size selected. Consult the welding electrode manufacturer's recommendation for proper amperage range. Each manufacturer has specific recommendations for its electrodes.
5. Use the arc force control to select the desired arc characteristics, creating the desired arc characteristic and automatic amp response needed to maintain the arc when voltage falls below the threshold. 6011 Cellulose electrodes will require more arc force control than other rods, but each brand and size will weld a little differently. The arc force control setting will vary from person to person as well, with different rod angles, positions, and arc lengths all factoring into the arc force control performance.
6. (Available late 2013) Adjust surge current to create a hotter start than the actual weld current to prevent rod sticking and improve starting reliability.
6. Strike the arc with either the tapping method or the match strike method. Beginners usually find that the match strike method yields best results. Professionals tend to gravitate toward the tapping method because of its placement accuracy which helps prevent arc striking outside of the weld zone.

IMPORTANT: Do not weld in the TIG mode with the stick electrode holder still attached.

SECTION 3**BASIC THEORY AND FUNCTION****GENERAL POLARITY RECOMMENDATIONS***

*Follow manufacturer of stick electrode for complete polarity recommendations

PROCESS	TORCH POLARITY	WORK POLARITY
TIG (GTAW)	-	+
STICK (SMAW)	+	-

TIG (GTAW) OPERATION GUIDE FOR STEEL

METAL THICKNESS	WELDING AMPS (A)	TUNGSTEN DIA.	Ar FLOW RATE
1-3 mm/.040"-1/8"	40-80	1-2 mm/.040"-3/32"	8-15 CFH /4-7 lpm
3-6 mm/ 1/8"-1/4"	80-200	2-3 mm/ 3/32"-1/8"	15-25 CFH/ 7-14 lpm
6-10 mm 1/4"-3/8"	150-200	3-6 mm/ 1/8"-1/4"	20+ CFH/10-15 lpm.

STICK (SMAW) OPERATION GUIDE

METAL THICKNESS	ELECTRODE SIZE	WELDING AMPS
< 1 mm/.040"	1.5 mm/ 1/16"	20-40
2 mm/.080"	2 mm/3/32"	40-50
3 mm/ 1/8"	3.2 mm/1/8"	90-110
4-5 mm/ 3/16"	3.2-4 mm/ 1/8"	90-130
6-10 mm/ 1/4"-3/8"	4-5 mm/ 1/8"-5/32"	130-200

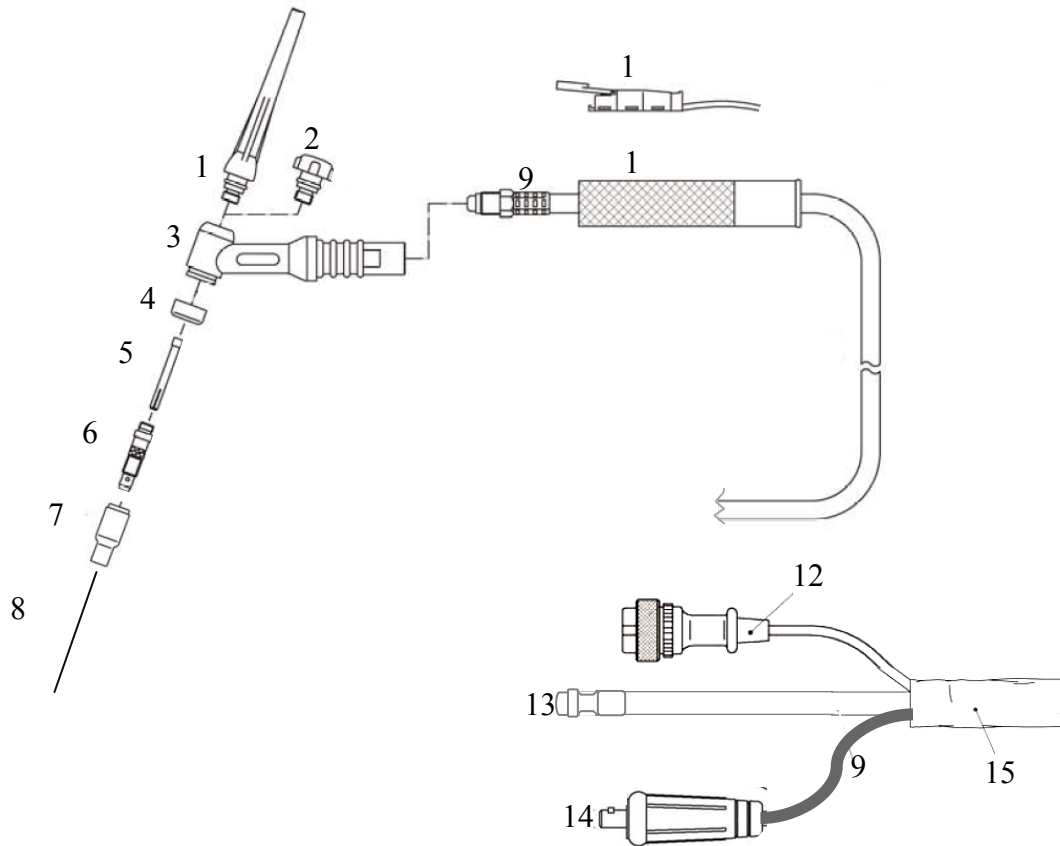
TUNGSTEN SELECTION GUIDE FOR AN INVERTER

TYPE	PERCENT	COLOR	PROCESS	RECOMMENDATION
Pure	100% Tungsten	Green	AC	NOT RECOMMENDED! Do not use in an inverter.
Thoriated (slightly radioactive)	2% Thorium	Red	AC/DC	YES. Great for all purpose welding. Most economical.
Ceriated	2% Ceria	Orange	AC/DC	YES. Good for low amp use.
Lanthanated	1.5% Lanthanum	Gold	AC/DC	YES. Best alternative to 2% Thoriated. Tough performer.
Lanthanated	2% Lanthanum	Blue	AC/DC	YES. Slight advantage over 1.5% Lanthanated.
Zirconiated	1% Zirconia	Brown	AC	NOT RECOMMENDED! Do not use in an inverter.

NOTE: Thoriated tungsten is slightly radioactive, but is commonly used in the US. Care should be used when grinding so as not to breath the dust. If you have concerns about Thoriated (red) tungsten, choose from Lanthanated or Ceriated tungsten.

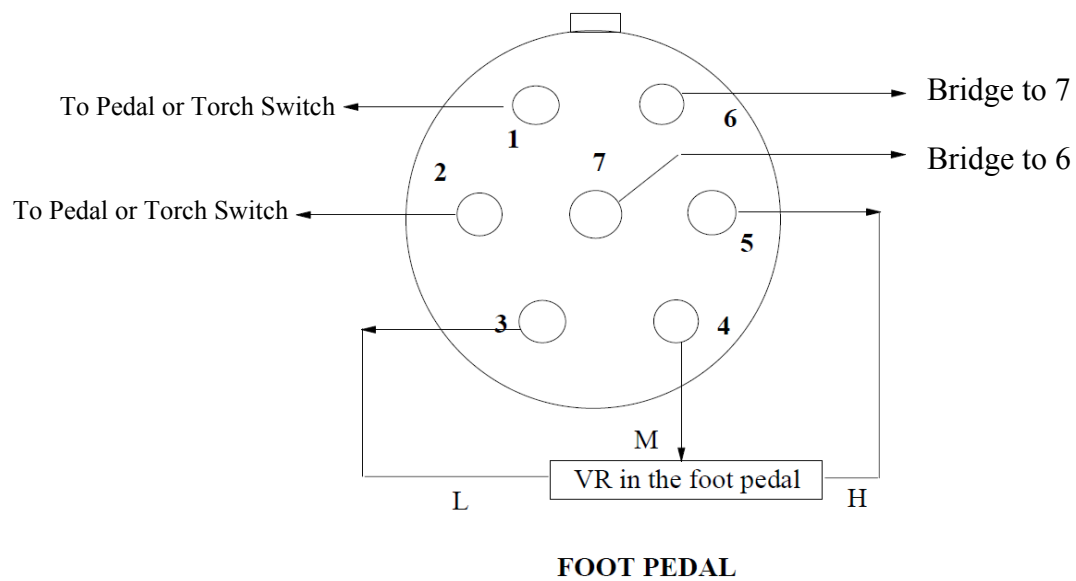
EXPANDED VIEW OF TIG TORCH

(Actual appearance may vary slightly from what is listed.)



NO.	PARTS FOR 17 Series Torch (STYLE MAY VARY)	QTY.
1	Long Back Cap with O-Ring	1
2	Short Back Cap	Opt.
3	Torch Head	1
4	Insulator	1
5	Collet 1/16 or 3/32	1
6	Collet Holder	1
7	Ceramic Cup #5,6, or 7	1
8	Tungsten (customer supplied)	0
9	Torch Cable	1
10	Torch Handle (Blue ergo handle std, not pictured)	1
11	Torch Switch (Built into ergo handle, separate on straight handle)	1
12	Torch Switch Connector	1
13	9mm (1/8") b quick connect coupling (male)	1
14	Power Connector	1
15	Protective Synthetic Rubber Cover	1

7 PIN CONNECTOR FOR 22K Ω FOOT PEDAL



TROUBLE:	CAUSE/SOLUTION
Machine will not turn on.	Check cords and wiring in the plug. Check circuit breaker.
Machine runs, but will not weld in either mode.	Check for sound work clamp and cable connections. Make sure work cable and TIG Torch are securely fastened to the Dinse style connector. Reset main power switch if overcurrent light is on. Contact Technical Support.
Arc will not start unless lift started.	Check HF point gap. Set to .035" See addendum or contact Technical Support. Make sure unit is set to HF
Tungsten is rapidly consumed.	Inadequate gas flow. Too small of tungsten. Wrong shielding gas. Use only Ar. Using green tungsten. Use red thoriated or other color. Wrong polarity.
Tungsten is contaminated, arc changes to a green color.	Tungsten is dipping into weld. Check and adjust stick out to minimum 1/8 inch. Tungsten is melting. Reduce amperage or increase tungsten size.
Porosity of the Weld. Discolored weld color. Tungsten is discolored.	Low flow rate of shielding gas. High flow rate of shielding gas. Too short of post flow period. Wrong TIG cup size. Possible gas leaks internally or externally due to loose fittings. Base metal is contaminated with dirt or grease.
Weld quality is poor. Weld is dirty/oxidized.	Eliminate drafts. Check if there is sufficient shielding gas left in tank. Check gas flow. Adjust for higher flow of gas. Listen for audible click of gas solenoid. If no click is heard, then contact Everlast Support. Clean weld properly. Too short of post flow. Check tungsten stick out.
Over current/Duty cycle LED illuminates. Machine runs, but no output.	Duty cycle exceeded or Over current. Allow machine to cool. Reset main power switch after full cool down period. Make sure fan is not blocked. Check wiring.
Unstable Arc.	Poorly ground or shaped tungsten. Regrind to proper point. Wrong polarity. Place torch in DC negative (-).
Other issues.	Contact Everlast support.

