

Set Up Machine in 3 Easy Steps

1 Process Selection Control

Turn to select process.

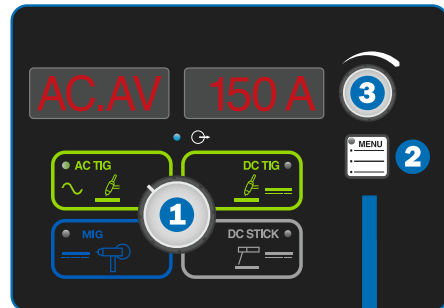
2 Menu Button

Press to access process parameters. Menu automatically returns to amperage setting 15 seconds after adjustment.

3 Encoder Control

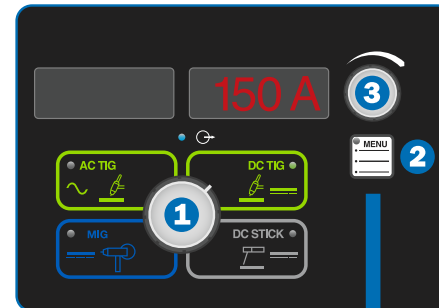
Turn to adjust selected parameter.

AC TIG (Aluminum)



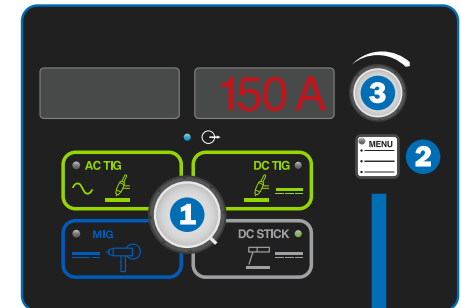
BAL	75%	Press 1x
FREQ	120	Press 2x
PPS	OFF	Press 3x
To Access User Menu		
STRT	HF	Hold 3 sec.
TUNG	3/32	Press 1x
POST	AUTO	Press 2x

DC TIG



PPS	OFF	Press 1x
To Access User Menu		
STRT	HF	Hold 3 sec.
TUNG	3/32	Press 1x
POST	AUTO	Press 2x

DC Stick



DIG	30%	Press 1x
To Access User Menu		
OCV	NORM	Hold 3 sec.

Amperage Control

Controls the welding amperage output. Limits the maximum output of a remote amperage device.

[AC.AV] AC Average

Indication of the average AC output current.

[FREQ] AC Frequency

Controls the width of the arc cone. Increasing the AC Frequency provides a more focused arc and increased directional control. Pro-Set value is 120 Hz.

[BAL] Balance Control (% EN)*

Controls oxide cleaning. Increasing setting reduces oxide cleaning. Range is 60–80%. Pro-Set value is 75%. (See tips on back).

[PPS] Pulse Control

Reduces heat input to minimize distortion and increase travel speed. Set PPS (pulses per second). The range is

OFF–150 PPS. The background amperage and peak amperage are not adjustable. Background amperage = 25% of peak amperage. Peak amperage time = 40%. Pro-Set value is 100 Hz.

[DIG] Arc Force Control*

Controls the amount of additional amperage at low voltage (short arc length) conditions. Adjust the force of the arc for different joint configurations and electrodes. Range is OFF–100%. Features Pro-Set values for both 6010 (65%) and 7018 (30%) electrodes.

** Pro-Set™ selectable parameter. Provides professional settings developed for the weld process. To use Pro-Set, press the menu button to display the parameter and adjust the encoder control until PRO-SET flashes on the display. PRO-SET flashes one time and reveals the professional setting for the parameter.*

User Menu — Hold Down Menu Button for 3 Seconds to Access

[STRT] Starts

Determines the method used to initiate the arc. Choose the appropriate start by using the Encoder Control. Select from [HF] high-frequency starts and [LIFT] lift starts.

[TUNG] Tungsten Selection

Each tungsten diameter requires specific preset parameters for optimized starting. Choose the correct tungsten electrode size you are welding with using the Encoder Control. Select from 1/8, 3/32, 1/16 and .040 diameters.

[POST] Post Flow Control

Controls the length of time gas flows after welding stops. Range is [AUTO] or [OFF–50T (seconds)]. AUTO calculates the time based on the maximum amperage of each welding cycle. The minimum time is 8 seconds. Auto = maximum amperage/10.

[OCV] Open Circuit Voltage

Voltage present at terminals while not welding. Select [NORM] normal or [LOW] low.







Read and follow all labels and the Owner's Manual carefully before installing, operating, or servicing unit.

Read the safety information at the beginning of the manual and in each section.

Note: These settings are intended to be a starting point for control panel setup — this is not a welding procedure specification nor a substitute for procedure qualification.

Tungsten Selection and Prep

Tungsten Type	Application Notes	Diameter	Amp Range
 2% Cerium	Good all-around tungsten for both AC and DC welding.	0.020" 0.040" 1/16"	5-20 10-80 10-150
 1.5-2% Lanthanum	Excellent low amp starts for AC and DC welding.	3/32" 1/8"	60-250 100-400
 2% Thorium	Commonly used for DC welding, not ideal for AC.	5/32" 3/16" 1/4"	160-500 190-750 325-1100

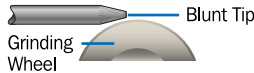
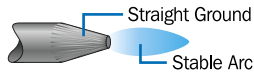
 **PURE TUNGSTEN (green) is NOT recommended for inverters!**
For best results in most applications use a sharpened cerium or lanthanum electrode for AC and DC welding.

See owner's manual for more information.

Tungsten Preparation: Sharpen tungsten for AC and DC welding.

CORRECT

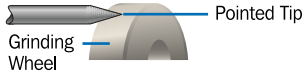
Ideal Preparation—Stable Arc



Note: Do not use wheel for other jobs or tungsten can become contaminated.

INCORRECT

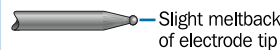
Wrong Preparation—Wandering Arc



IDEAL GRIND ANGLE RANGE



AC EFFECT



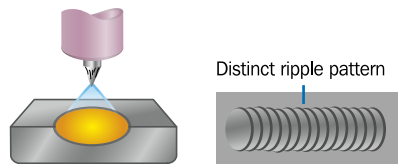
Tip: Blunting the tip of the electrode is sometimes done to help maintain consistent geometry and resist tungsten erosion. This is especially helpful in AC when melt-back of the tungsten electrode is common.

Pulsed TIG Controls

The Pulsed TIG function switches the amperage from a high (peak) to a low (background) at a set rate (PPS). Pulsing can reduce heat input by lowering the average amperage, increasing control of the weld puddle, penetration and distortion. The following parameters can be adjusted for desired results:

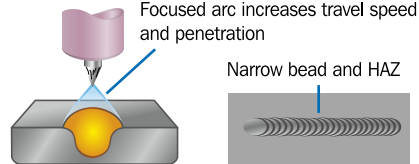
Low-Speed Pulse

1 to 10 pulses per second (PPS) will produce a distinct ripple pattern in the weld bead. Can be used to time filler addition, reduce distortion and improve control.



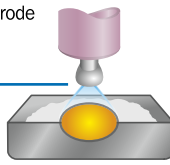
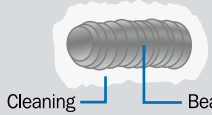
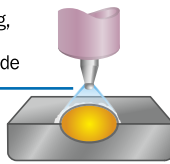
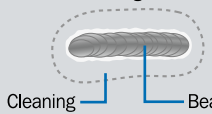
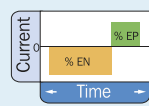
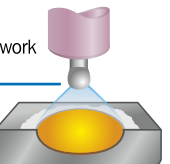
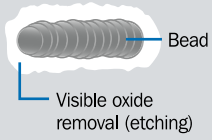
High-Speed Pulse

100 pulses per second (PPS) and higher helps to focus the arc for increased stability, penetration and travel speed. Increased puddle agitation improves weld microstructure.



Tip: Begin welding at factory default settings of 100 PPS, 40% peak and 25% background amps. Adjust the frequency (PPS) to change width and appearance, fine-tune with peak and background.

AC Waveshape Controls

Feature	Setting	Arc Effect	Weld Effect
AC Balance AC balance controls arc cleaning action. If floating black spots appear in the puddle, the balance setting is too high. Turn the balance down until puddle becomes clear.	60%	Increases electrode balling action	Wider bead and cleaning action
			
	75%	Reduces balling, helps maintain point of electrode	Narrow bead with reduced cleaning
			
AC Frequency Control Controls the width of the arc cone. Increasing the AC Frequency provides a more focused arc and increased directional control. <i>Note: Decreasing the AC Frequency softens the arc and broadens the weld puddle for a wider weld.</i>	60 Hz	Wider profile ideal for buildup work	Visible oxide removal (etching)
			
	120 Hz	Narrower profile for fillet welds and automated applications	Visible oxide removal (etching)
	