

Set Up Machine in 3 Easy Steps

1 Process Selection Control

Turn to select process.

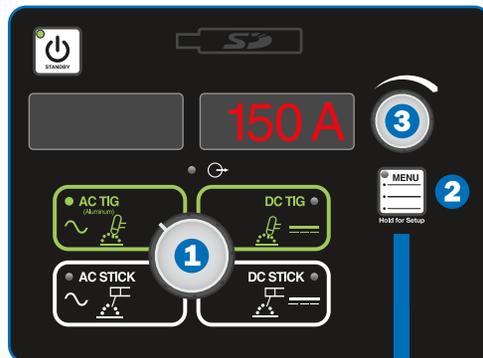
2 Menu Button

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

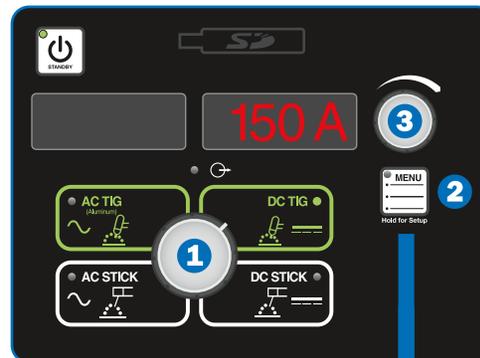
3 Encoder Control

Turn to adjust selected parameter.

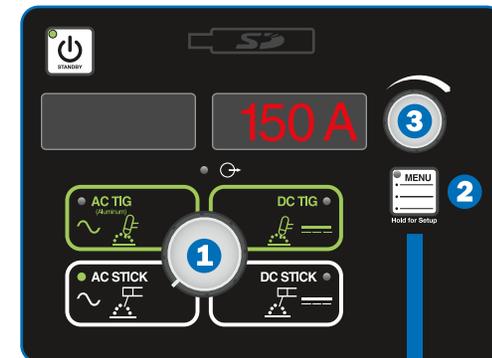
AC TIG (Aluminum)



DC TIG



AC/DC Stick



Amperage Control

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

[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).

[FREQ] Frequency Control*

Increasing setting narrows arc width. Range is 70–150 Hz. Pro-Set value is 120 Hz. (See tips on back).

[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.

[PPS] Pulse Control*

Reduces heat input to minimize distortion and increase travel speed. Set PPS (pulses per second). The range is OFF–250 PPS. Pro-Set value is 100 PPS. The background amperage and peak amperage are not adjustable. Background amperage = 25% of peak amperage. Peak amperage time = 40%.

[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%. Pro-Set values are 65% for 6010 electrodes and 30% for 7018 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.*



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.

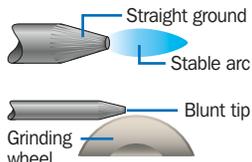
Tungsten Selection and Prep

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 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 with the Dynasty.

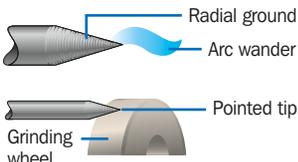
CORRECT

Ideal preparation—stable arc



INCORRECT

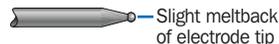
Wrong preparation—wandering arc



IDEAL GRIND ANGLE RANGE



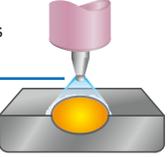
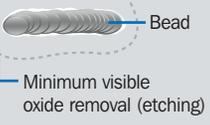
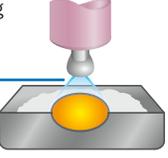
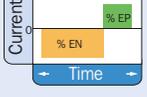
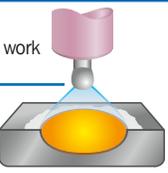
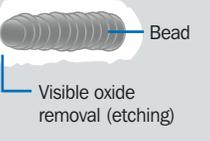
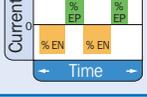
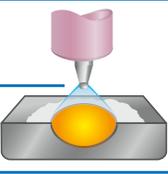
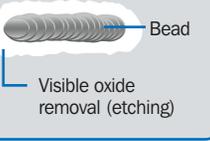
AC EFFECT



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

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.

AC Waveshape Controls

Feature	Setting	Arc Effect	Weld Effect
AC Balance Control Controls arc cleaning action. Adjusting the % EN of the AC wave controls the width of the etching zone surrounding the weld. Note: Set the AC Balance control for adequate arc cleaning (etching) action at the sides and in front of the weld puddle. AC Balance should be fine-tuned according to the amount of etching desired.	75% EN 	Reduces balling action and helps maintain point 	 <p>Minimum visible oxide removal (etching)</p>
	50% EN 	Increases balling action of the electrode 	 <p>Visible oxide removal (etching)</p>
AC Frequency Control Controls the width of the arc cone. Increasing the AC Frequency provides a more focused arc and increased directional control. Note: Decreasing the AC Frequency softens the arc and broadens the weld puddle for a wider weld.	60 Hz 	Wider profile ideal for buildup work 	 <p>Visible oxide removal (etching)</p>
	120 Hz 	Narrower profile for fillet welds and automated applications 	 <p>Visible oxide removal (etching)</p>

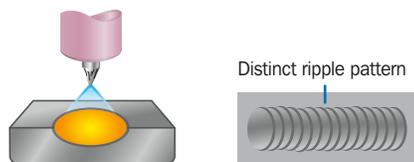
Pulsed TIG Controls

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:

Parameter	Control Panel Abbreviation	Adjustment
Pulses Per Second	PPS	Rate of pulsing between high and low

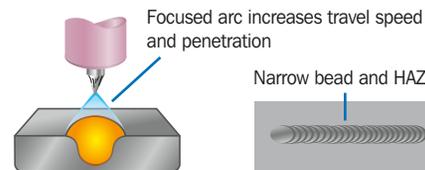
Low-Speed Pulse

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.