# Maxstar® 161 Quick Reference

*STH Model Interface Shown*

## Set Up Machine in 3 Easy Steps

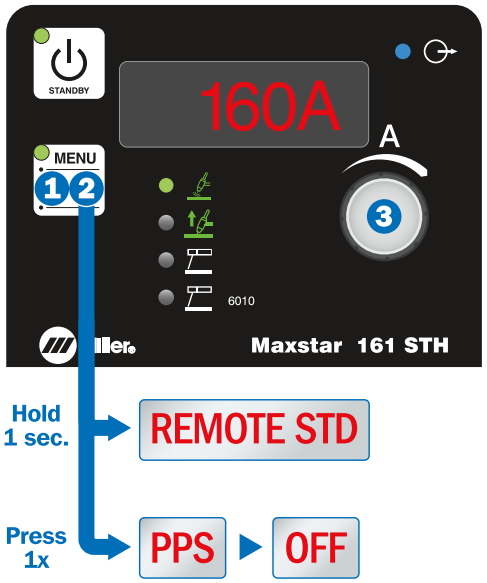
**Menu Button**

1. Press to select process.
2. Press and hold 1 second to access user menu.
   Press and hold 1 second to exit menu.

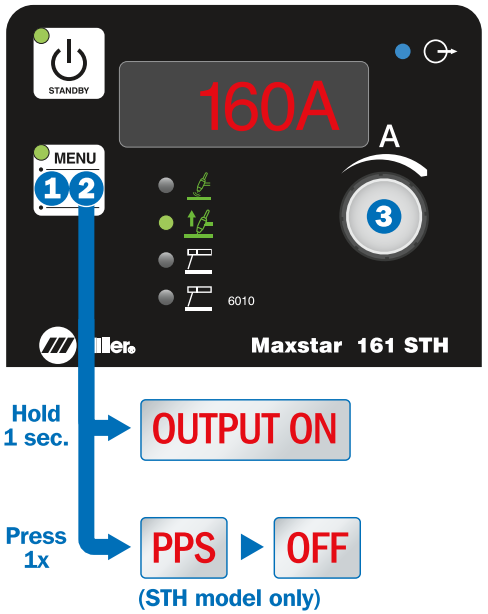
**Encoder Control**

3. Turn to adjust selected parameter.

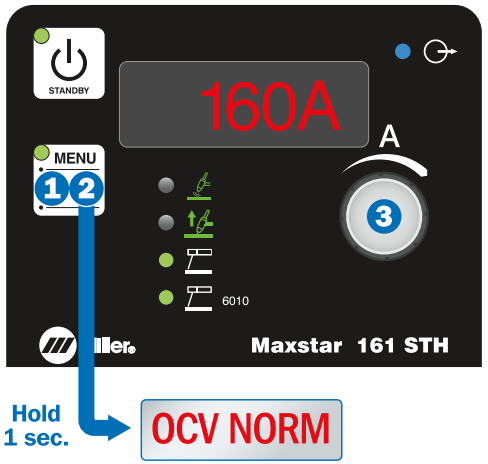
### STH Model Only
### High Frequency (TIG)




### STH and STL Models Only
### Lift Arc™ (TIG)




### All Models
### Stick/6010 Stick




### Amperage Control

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

***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. See back page for additional information on pulsed TIG controls.*

## User Menu—Hold Down Menu Button for 1 Second to Access

### Remote

[REMOTE STD] Remote Standard — (All TIG modes)
Controls the welding amperage through a remote potentiometer, or it can be set at the control panel.

[REMOTE HOLD] Remote Hold — (HF TIG mode only)
Allows the operator to weld without holding the trigger closed. Amperage must be set at the control panel.

[OUTPUT ON] Output On — (Lift Arc TIG mode only)
Turns machine output on. Welding amperage is set at the control panel.

### [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%.

### [OCV] Open Circuit Voltage

Voltage present at terminals while not welding. Select either [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

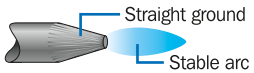
| Tungsten Type | Application Notes | Diameter | Amp Range |
|---|---|---|---|
| 2% Cerium | Good all-around tungsten for both AC and DC welding. | 0.020"<br>0.040"<br>1/16"<br>3/32"<br>1/8"<br>5/32"<br>3/16"<br>1/4" | 5–20<br>10–80<br>10–150<br>60–250<br>100–400<br>160–500<br>190–750<br>325–1100 |
|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

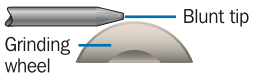
***PURE TUNGSTEN (green) is NOT recommended!***
For best results in most applications use a sharpened cerium or lanthanum electrode for AC and DC welding.

***See Owner's Manual for more information.***

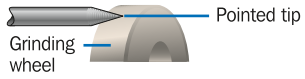
### Tungsten Preparation: Sharpen tungsten for AC and DC welding with the Dynasty.

**CORRECT**
Ideal preparation—stable arc



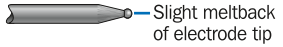

**INCORRECT**
Wrong preparation—wandering arc


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

**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.*

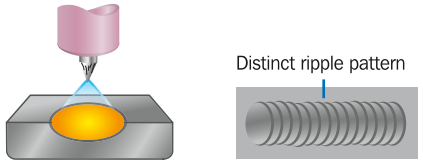
## Pulsed TIG Controls

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:

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

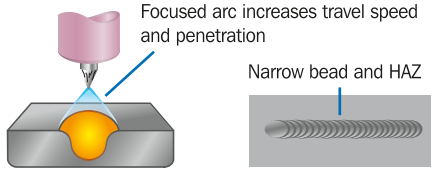
### Low-Speed Pulse

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. Adjust the frequency (PPS) to change width and appearance.*

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