

| Feature Selection  | Recommended Setting            | Notes   |
|--|--------------------------------|---|
| <b>POLARITY</b>  | DC                             | Automatically sets output to DCEN   |
| <b>PROCESS</b>   | TIG HF Impulse                 | Standard setup for high-frequency (HF) starts   |
| <b>OUTPUT</b>  | RMT STD                        | Standard setting for remote foot control  |
| <b>PULSER*</b>   | OFF                            | Advanced control — see <i>Pulsed TIG</i> section  |
| <b>SEQUENCER*</b>  | N/A                            | Not used in RMT STD. Select RMT 2T Hold output to enable internal weld sequence control.  |
| <b>GAS/DIG</b>   | PREFLOW** : 0.2 sec            | Provides gas shielding before the arc start   |
|  | POSTFLOW: AUTO                 | Automatically adjusts postflow time for maximum weld amps   |
| <b>AC WAVESHAP</b>   | DIG: N/A                       | STICK welding function — NOT used for TIG   |
|  | N/A                            | AC TIG function — NOT used in DC  |
| <b>Tungsten Selection</b><br>See <i>Tungsten Selection and Prep</i> section. | Cerium<br>Lanthanum<br>Thorium | <b>PURE TUNGSTEN (green) is NOT recommended!</b><br>For best results use a sharpened cerium or lanthanum electrode when welding these alloys. |

Tip: Select memory (if desired), then set up weld parameters from left to right.

Standby Button\*\*\*

Memory Card Port\*\*\*

Turn to Adjust Selected Parameter

Press to Select Memory\*\*

Press to View and Adjust Main Amps

LEDs indicate Polarity, Process and Output. | Select parameter above to view and adjust set value.

| Feature Selection  | Recommended Setting                        | Notes   |
|--|--|---|
| <b>POLARITY</b>  | AC   | Automatically sets output to AC   |
| <b>PROCESS</b>   | TIG HF Impulse                             | Standard setup for high-frequency (HF) starts   |
| <b>OUTPUT</b>  | RMT STD                                    | Standard setting for remote foot control  |
| <b>PULSER*</b>   | OFF  | Advanced control — see <i>Pulsed TIG</i> section  |
| <b>SEQUENCER*</b>  | N/A  | Not used in RMT STD. Select RMT 2T Hold output to enable internal weld sequence control.  |
| <b>GAS/DIG</b>   | PREFLOW** : 0.2 sec                        | Provides gas shielding before the arc start   |
|  | POSTFLOW: AUTO                             | Automatically adjusts postflow time for maximum weld amps   |
| <b>AC WAVESHAP</b>   | DIG: N/A                                   | STICK welding function — NOT used for TIG   |
|  | EN/EP Amps**<br>AC Balance<br>AC Frequency | 1:1 Ratio<br>70–75% EN<br>120 Hz           } See <i>AC Waveshape</i> section for complete descriptions.                                       |
| <b>Tungsten Selection</b><br>See <i>Tungsten Selection and Prep</i> section. | Cerium<br>Lanthanum                        | <b>PURE TUNGSTEN (green) is NOT recommended!</b><br>For best results use a sharpened cerium or lanthanum electrode when welding these alloys. |

Note: Last procedure recall function stores settings for AC and DC welding in each memory level.

Standby Button\*\*\*

Memory Card Port\*\*\*

Turn to Adjust Selected Parameter

Press to Select Memory\*\*

Press to View and Adjust Main Amps

LEDs indicate Polarity, Process and Output. | Select parameter above to view and adjust set value.

\* Feature only available on DX models.  
 \*\* Feature only available on 350 and 700 models.  
 \*\*\* Feature only available on 280 model.



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.

## AC Waveshape Controls

| Feature  | Setting                | Arc Effect  | Weld Effect   |
|--|------------------------|---|---|
| <b>AC Balance Control</b><br>Controls arc cleaning action. Adjusting the % EN of the AC wave controls the width of the etching zone surrounding the weld.<br><br><i>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.</i>  | 75% EN<br>             | Reduces balling action and helps maintain point<br>                                   | <br>Bead<br>Minimum visible oxide removal (etching) |
|  | 50% EN<br>             | Increases balling action of the electrode<br>   | <br>Bead<br>Visible oxide removal (etching)         |
| <b>AC Frequency Control</b><br>Controls the width of the arc cone. Increasing the AC Frequency provides a more focused arc and increased directional control.<br><br><i>Note: Decreasing the AC Frequency softens the arc and broadens the weld puddle for a wider weld.</i>   | 60 Hz<br>              | Wider profile ideal for buildup work<br>  | <br>Bead<br>Visible oxide removal (etching)         |
|  | 120 Hz<br>             | Narrower profile for fillet welds and automated applications<br>                      | <br>Bead<br>Visible oxide removal (etching)         |
| <b>Independent AC Amperage Control</b><br>Allows the EN and EP amperage values to be set independently. Adjusts the ratio of EN to EP amperage to precisely control heat input to the work and the electrode. EN amperage controls the amount of heat directed to the work, while EP amperage dramatically affects the arc cleaning action (along with the AC Balance control). Increased EN amperage also provides deeper penetration and allows for increased travel speeds. | 100A EP<br>200A EN<br> | More current in EN than EP:<br>Faster travel speeds and deeper penetration<br>        | <br>Bead<br>Minimum visible oxide removal (etching) |
|  | 200A EP<br>100A EN<br> | More current in EP than EN:<br>Shallow penetration, increased balling and etching<br> | <br>Bead<br>Visible oxide removal (etching)         |

## AC Waveshape Options

| Default: Soft Squarewave | AC Wave Options and Benefits: See Owner's Manual for instructions. |
|--------------------------|--|
|                          | Advanced Squarewave: Travel faster                                 |
|                          | Soft Squarewave: Max puddle control                                |
|                          | Sine Wave: Traditional arc   |
|                          | Triangle Wave: Reduced heat input                                  |

*Tip: Soft Squarewave is recommended for most applications. It provides good puddle control and arc stability.*

## 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" | 5–20<br>10–80<br>10–150        |
| 1.5–2% Lanthanum | Excellent low amp starts for AC and DC welding.      | 3/32"<br>1/8"             | 60–250<br>100–400              |
| 2% Thorium       | Commonly used for DC welding, not ideal for AC.      | 5/32"<br>3/16"<br>1/4"    | 160–500<br>190–750<br>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  | INCORRECT   | IDEAL GRIND ANGLE RANGE  |
|--|---|--|
| Ideal preparation—stable arc<br><br>Straight ground<br>Stable arc<br>Blunt tip<br>Grinding wheel | Wrong preparation—wandering arc<br><br>Radial ground<br>Arc wander<br>Pointed tip<br>Grinding wheel | <br>15° to 30°<br><br><b>AC EFFECT</b><br><br>Slight meltback of electrode tip |

*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.*

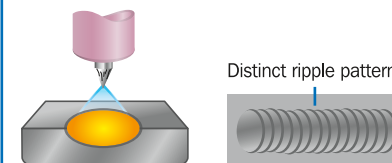
## Pulsed TIG Controls

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 |
| Peak Time         | Peak t                     | % of pulse cycle at peak amps        |
| Background Amps   | BKGND A                    | % of peak amperage                   |

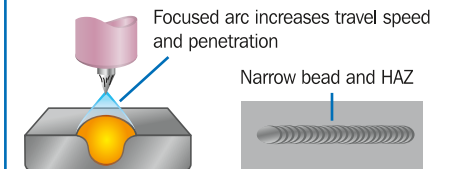
### Low-Speed Pulse

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.*