

Miller-Exclusive Technology

Dynamic DIG™ on Big Blue® and Trailblazer® 330 Engine-Driven Welders

Big Blue® and new Trailblazer® 330 engine-driven welders are equipped with Dynamic DIG technology (arc control and DIG range) for stick welding processes.

What it is

Dynamic DIG is a technology that allows the operator to independently control the puddle characteristic and drive/penetration of the stick arc. This results in an arc that can be tailored to both downhill pipe applications in the XX10 process, as well as structural steel jobs that utilize the XX18 process.

The arc control adjustment allows the operator to change the arc sensitivity to changes in arc length (voltage). A soft arc control setting will result in an arc that is less reactive to changes in arc length (voltage), while a stiffer arc control setting will result in a very reactive arc in regards to arc length and voltage.

The DIG range setting controls the precise short clearing current the machine is able to go to when in a short clear. This effectively controls the amount of drive or penetration power of the arc. For example: if the preset current is 125 amps and the DIG range is set to 100 amps, when the machine enters a short clearing condition it will reach up to a maximum of 225 amps to clear that specific short.

How it works

Big Blue models*

Arc control is accessed by pressing the main control knob in and releasing it. The digital display will show "Arc Cntr." At the default setting the LED with light up as a yellow star. As you adjust to the left (Soft) of the default, the LED bar will move to the left and turn green, with each light representing five increments of change in softness. As you adjust to the right (Stiff) of the default, the LED bar will move to the right and turn red, with each light representing five increments of change in stiffness.

DIG range is accessed within the hidden menu of the machine. This is accessed by pressing and holding the main control knob until the display changes. Once within the hidden menu simply turn the main control knob until the display shows "DIG RNGE", then press the knob in to enter this setting.

Trailblazer 330 models

Arc control can be adjusted by simply pressing the main control knob in, which will highlight the arc control bar on the LCD screen, or by entering the weld settings menu. Adjusting your arc control to the left will result in softer settings, while adjusting to the right will result in stiffer settings.

DIG range can be adjusted by entering the weld setting menu. Simply press this button and scroll to the DIG range tab and press in to adjust.

**For models on software revision "M" and newer, arc control and DIG range settings should only be adjusted after ensuring proper amperage settings are being used for your specific electrode.*

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Arc control and DIG range settings for Big Blue and Trailblazer 330 models

- Arc control can be adjusted from -1 to -25 for soft settings and from 1 to 25 for stiff settings
- DIG range (XX10 process) default setting is 100 amps and can be adjusted from 0 to 200 amps
- DIG range (XX18 process) default setting is 50 amps and can be adjusted from 0 to 100 amps

Arc control adjustment	Left	Center	Right
	Soft: -1 to -25	★	Stiff: 1 to 25

Soft settings (-1 to -25)

As you increase from a soft setting of -1 to -25 changes in arc length will result in smaller changes to average current. This results in a flatter weld bead that feels more fluid and produces less spatter. This works great in structural-steel and general-purpose stick welding.

Stiff settings (1 to 25)

As you increase stiffness from 1 to 25 the current output becomes more reactive to small changes in arc length or voltage. This produces a more constricted, faster freezing arc that allows the operator to manipulate current output with changes in arc length. Stiffer settings can help with carrying larger puddles. These settings are typically used in any out-of-position welding.

DIG range adjustment	XX10	XX18
	Default: 100 amps Range: 0 to 200 amps	Default: 50 amps Range: 0 to 100 amps

The DIG range adjustment controls the amount of short clearing current or peak current available to the machine that it can deviate from its preset current to clear shorts. This controls the drive or penetrating power of the arc.

Increase DIG range

Increase your DIG range to increase the amount of drive/penetration of the arc. This is beneficial when welding tighter than optimal gaps in open root welds. Increasing your DIG range setting will also allow you to apply more pressure into the root with your electrode without snuffing out.

Decrease DIG range

Decrease your DIG range when encountering larger than optimal gaps, where the keyhole becomes too large to maintain or when welding on very thin materials.

Note: If the operator does not want to use the Dynamic DIG feature, they should leave the setting as programmed from the factory as these settings work great for most applications.

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The Power of Blue®

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