



## Miller-Exclusive Technology

# Dynamic Dig™ on Big Blue® Welder/Generators

Big Blue engine driven welder/generators are now equipped with Dynamic Dig Arc Control. This feature can be found on all Big Blue models which are outfitted with the new controller interface (i.e. any model with a USB-port).

## What it is

Dynamic Dig for Big Blues is a method of controlling short-circuit response time to achieve optimal welding characteristics for XX10 stick electrode applications. Designed with the downhill pipeline welder in mind while having cross-disciplinary welding benefits, Dynamic Dig incorporates the Dig adjustability seen in our Trailblazer® products with an added layer of control called Dig Range.

Dig Range enables the end user to dictate the responsiveness of the arc based on how they manipulate the rod. Higher settings will amplify the natural tendencies of the arc to clear short-circuits when the operator forces a short arc-length. With Dig Range, the arc becomes more adaptive when manipulated; allowing a softer, more forgiving arc at longer arc lengths and a driving, stiffer arc at shorter lengths.

## How it works

Operators can change the effects that Dynamic Dig has on the arc by changing the Dig setting with the Arc Control knob on the front panel as well as the Dig Range within the hidden menu. 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.

When adjusted, the end user should begin to see changes in the performance of the arc depending on Dig and Dig Range settings.



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## Dig Adjustment

[Left: Soft 1-25    Center: ★    Right: Stiff 1-25]

### Soft 1-25 Settings:

In this range, the current ramp rate will decrease as the setting is moved from 0 to soft 25. The slower the response (ramp rate), the softer the arc will feel, reducing the chances of spatter and causing the overall weld to appear flatter. These settings are generally applicable in cases where the end user is welding in the flat position, does not need a lot of arc force, and wants to let the bead flow outward. When root pass welding with an open or wide gap, soft settings can be beneficial.

### Stiff 1-25 Settings:

In this range of settings, the current ramp rate will increase as the setting is moved from 0 to stiff 25. As the arc response (ramp rate) is increased, the arc pressure will increase resulting in more drive and a faster freezing puddle. Applications for this type of welding would typically be out-of-position welding and situations where the end user wants to carry a larger puddle. When root pass welding with a narrow or closed gap, stiff settings can be beneficial.

## Dig Range Adjustment

[Left: 50    Center: ★    Right: 150]

### 50-100 Settings

In this range, a large change in arc length will result in minimal change to the average current. The more Dig Range is decreased, the softer the arc will become, and spatter will reduce. These settings will typically work great in any structural, general purpose, or thin-wall pipe welding situations.

### 100-150 Settings

As settings get higher, from 100 to 150, smaller changes in arc length will result in higher deviation from your preset current settings. Settings in this range give the end user a greater ability to manipulate heat based on arc length. The higher this setting is, the stiffer and the more adaptive (based on arc-length) the arc will become. These settings will typically be used in downhill pipe welding, medium-to-thick wall pipe welding, or tight gap/full penetration welding situations.

