

No-grind feature for Miter Cuts and Size-on-Size Holes and Saddles.

There are times when the torch cannot cut the exact cut desired because of bevel limitations. These limits are hit in these cases:

- When a torch is fixed at one angle, such as for a 2 axis machine, or by selection on a beveling torch head.
- When the required bevel angle exceeds the beveling capabilities of the torch.

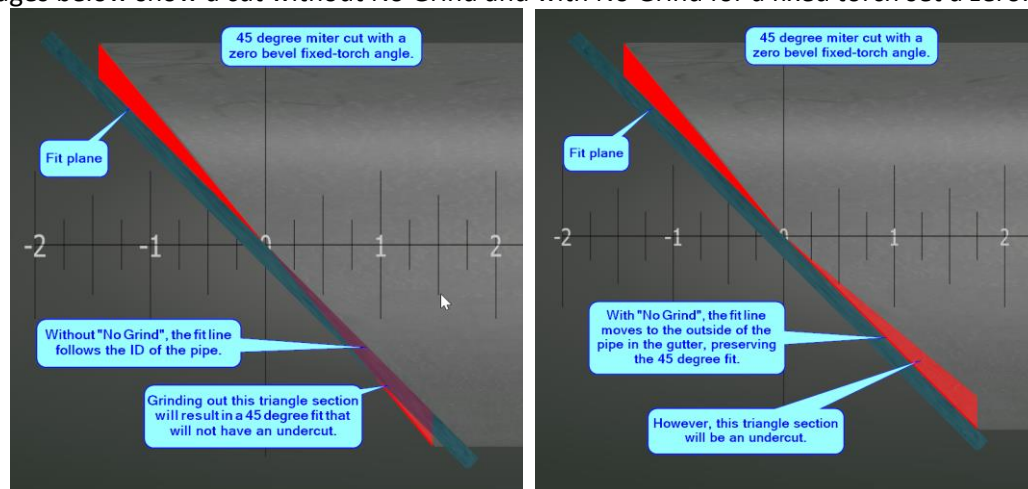
In these situations, there are two options to getting a correct fit.

- Without “No Grind”—Optimal fit. Leave the excess metal that could not be cut so that the excess can be ground out. This results in a fit with no undercut.
- With “No Grind”—a fit without grinding, but with an undercut. In this mode, PypeServer will shift the torch to keep the fit edge on the desired fit line, even though it will undercut the pipe.

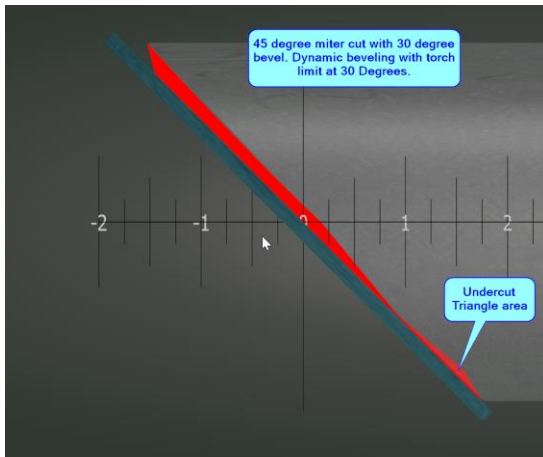
No Grind for Miter cuts

Note that you can set No Grind as a default in your Miter defaults.

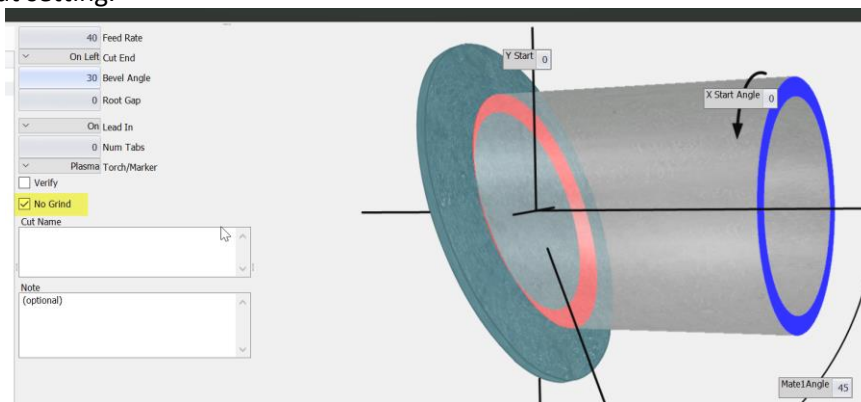
The images below show a cut without No Grind and with No Grind for a fixed torch set a zero.



Here is a similar example showing how this works when you have a beveling torch on a cut that exceeds the torch bevel limit. In this case the torch limit was set to 30 degrees to show the example:



The No Grind feature is selected for a cut as highlighted below, and can be set as a default in the default Miter cut setting.



Size on Size for Saddles and Holes

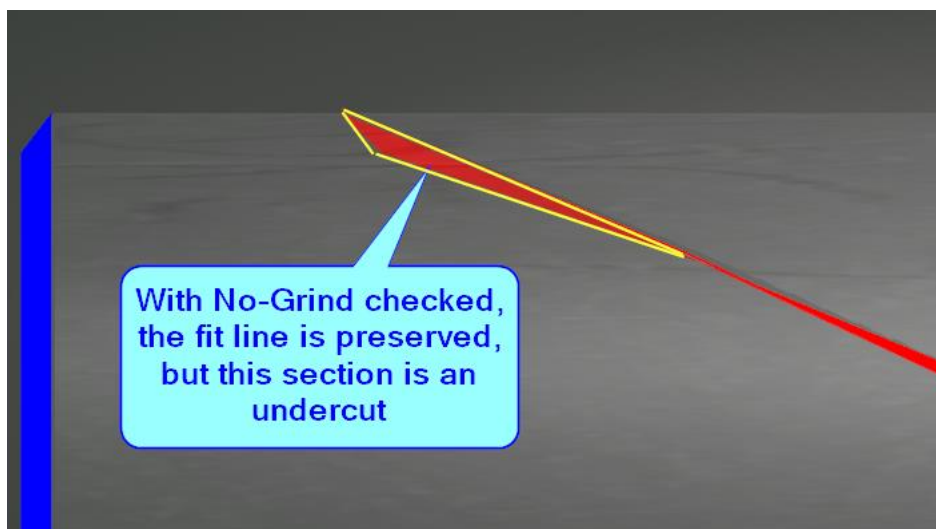
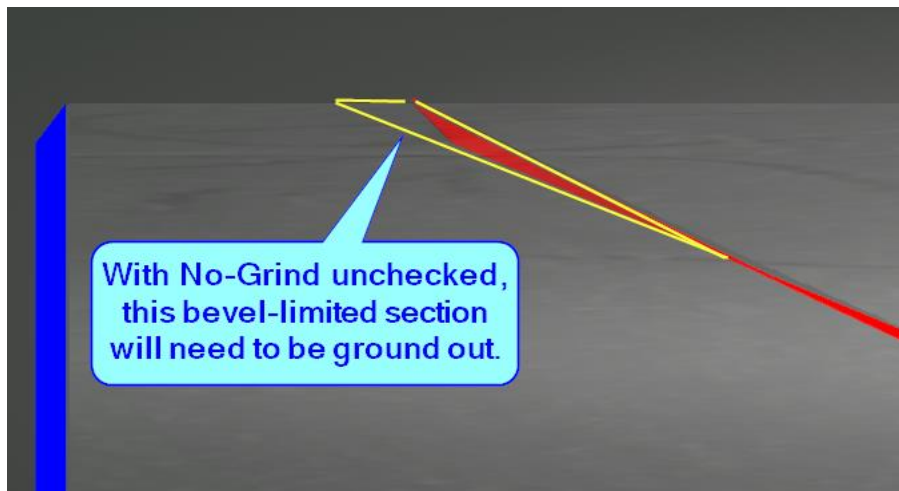
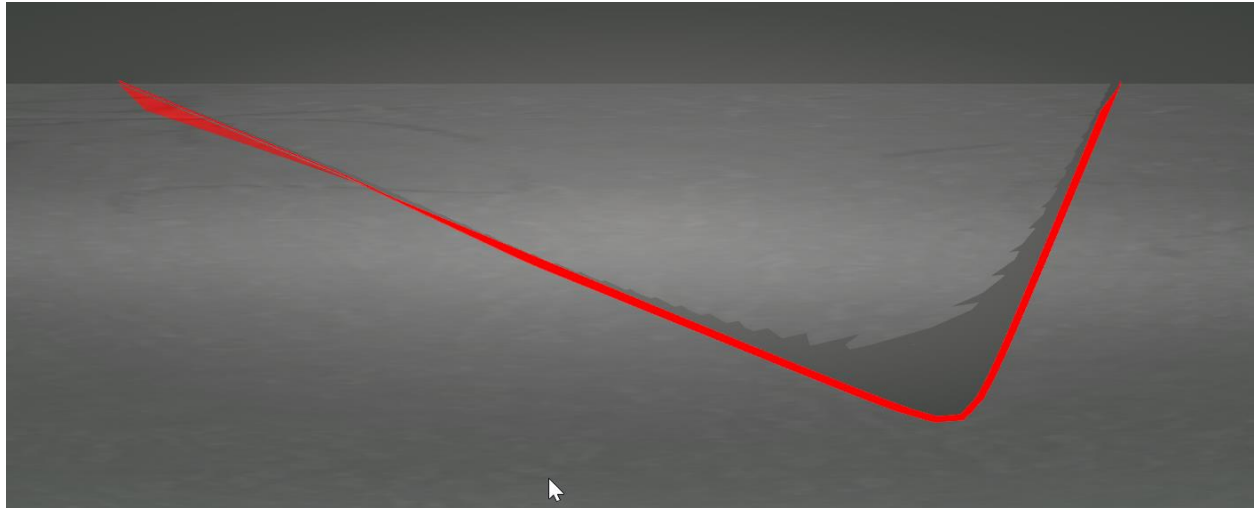
NOTE: Size on Size cuts for Saddles and Holes are only supported for machines with beveling both down and across the pipe. The cuts cannot be made with fewer beveling axes.

When checking "Size on Size" for a hole or saddle, various parameters are overridden to effect a fit along the inner edge of the pipe—where possible. When cutting a tilted saddle-hole mate, there will be bevel limiting for the cuts as the desired bevels exceed the maximum torch tilt. These limit sections must either be ground out, resulting in a surface-to-surface fit in those sections, or they can be cut with the No-Grind feature checked, resulting in no grinding requirements, but with an undercut section.

Note that the bevel angle you set for a size-on-size saddle or hole is from the flat of the pipe, such that if you specified 15 degree bevel on both saddle and hole, you will get a 30 degree bevel between cut surfaces—where not limited by bevel limits. See PypeServer documents or videos on Size on Size cuts.

No Grind for Size on Size Holes

Here is a 45 degree tilted Size on Size hole with the no-grind feature checked.



No Grind for Size on Size Saddles

Here is a 45 degree Size on Size saddle with the no-grind feature checked.

