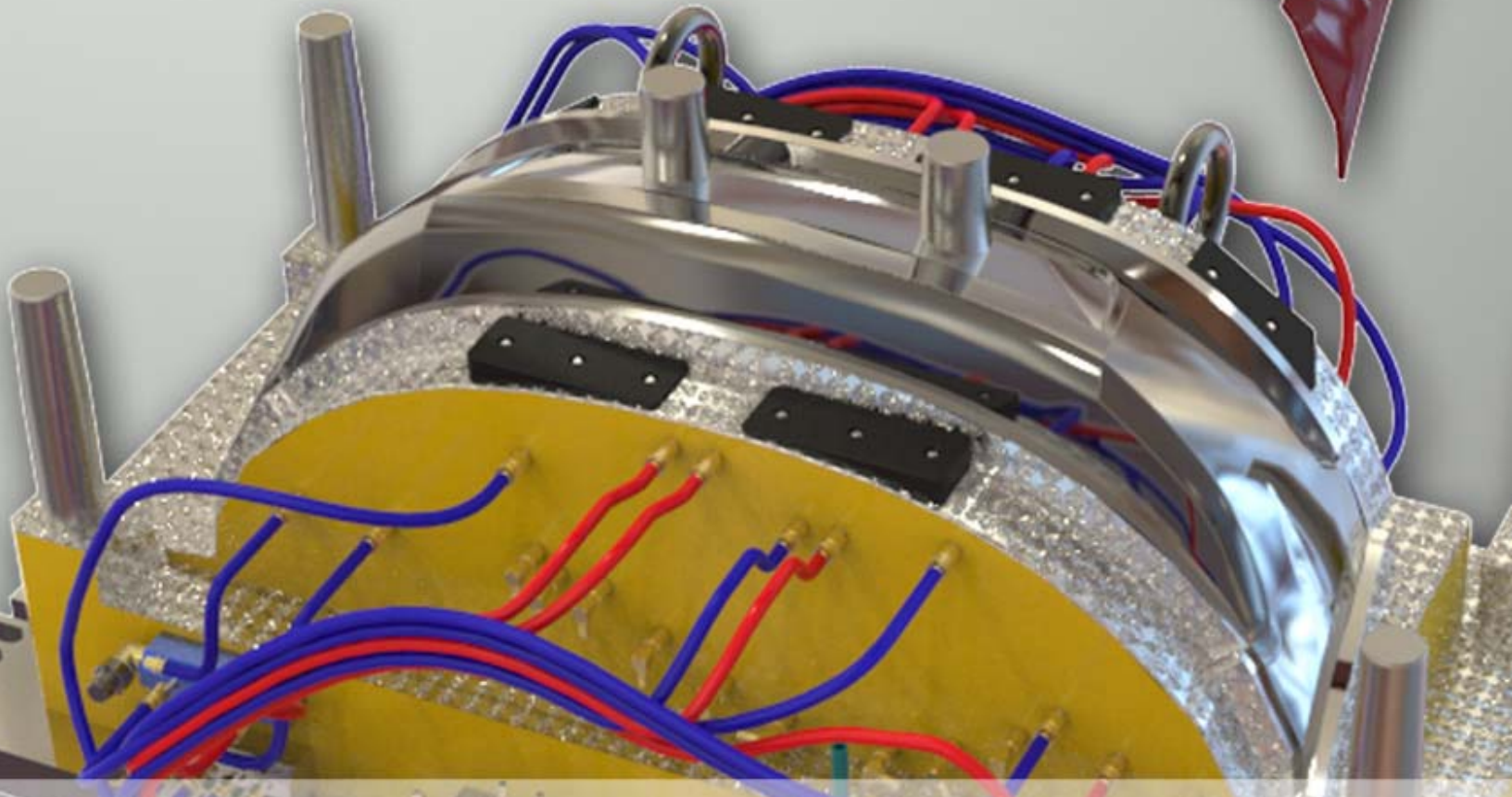
Doctor Walt's™

KEYCREATOR®

Tips & Tricks



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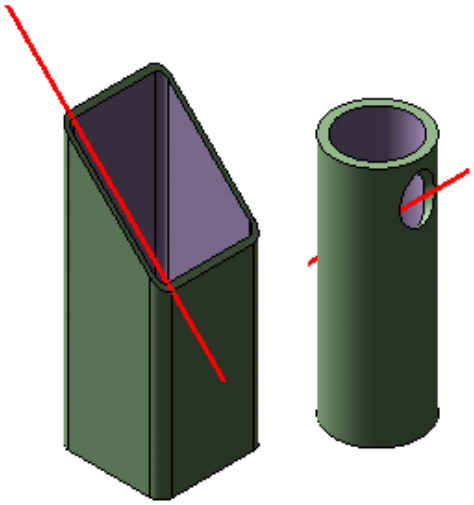
Tips & Tricks #73
Using Line Limits

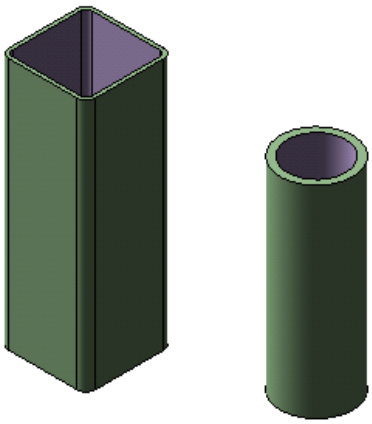
The Line Limits Switch is an extremely useful tool that is overlooked by many KeyCreator users. In fact, a common tech support call involves helping someone who inadvertently invokes the function and then thinks KeyCreator is broken! (KeyNugget KN118 in Kubotek University covers this exact scenario!)



The Line Limits function is a simple toggle. Normally, when you create a line parallel to another line, the new line is the same length. Also, when you create a line between two positions, the line ends at each position. Similar behavior exists for all the line creation functions.

However, if you hit the Line Limits Toggle, the new created line extends to the current limits of the viewport.

You can see two examples of this in the illustration above right.

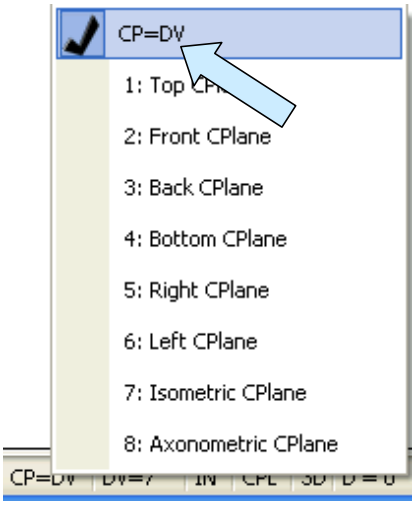


The file "LineLimits1" available for download also contains the untrimmed square tube and round tube without hole for this exercise. (Illustrated to the left.)

We'll use the tubes to illustrate two great uses for the Line Limits function.

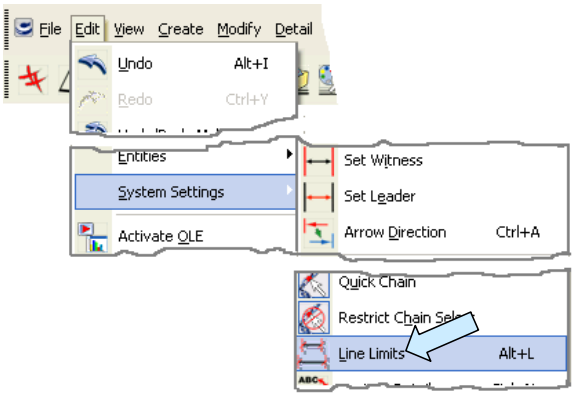
Let's start with the square tube. Suppose we want to miter the end at 45 degrees so we can mate it with another mitered tube and then weld the corner. (A common construction approach.)

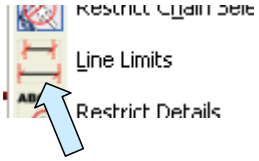
Start by switching to View 2. (The Front View.)
Set the Construction Plane equal to the Drawing View. (CP=DV.)



Now, toggle the Line Limits Switch to the extended option.

You'll find the Line Limits Switch in the EDIT Pulldown Menu in SYSTEM SETTINGS.

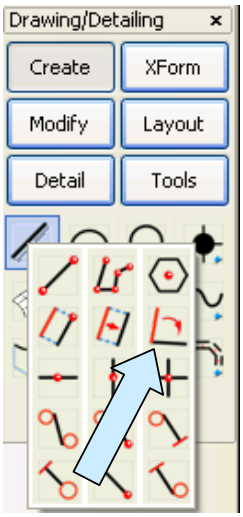




MAKES A NORMAL SHORT LINE

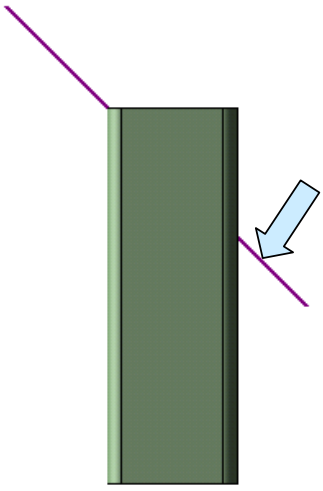
MAKES AN EXTENDED LINE

When the Icon is active, you get the extended behavior.



Click on the CREATE LINE AT AN ANGLE Icon and type –45 degrees.

Select the top edge of the square tube and then using the EndEnt Option, the top, left corner.

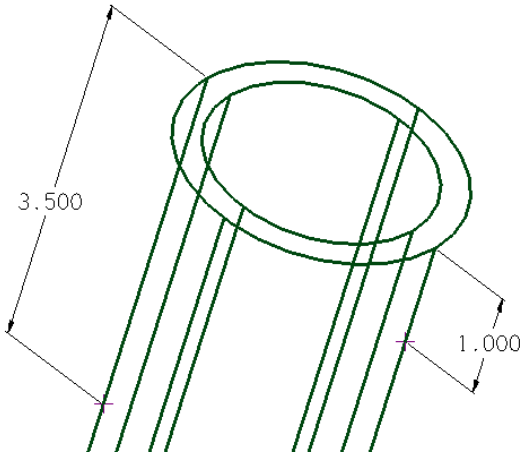


A line is created that extends past the left and right boundaries of the tube. (Without the Line Limits action, the right end of the line would be buried in the tube.)

Now, use the TRIM FIRST Function. Select the tube below the line and then the line.

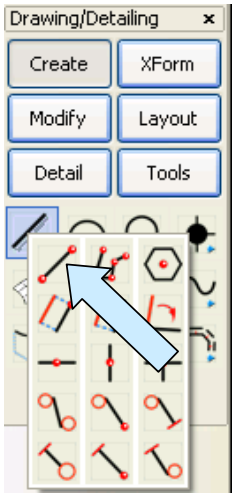
This trims the tube at a perfect 45 degree miter.

Next, let's work with the round tube.



Suppose we want to drill a hole through the tube on an angle.

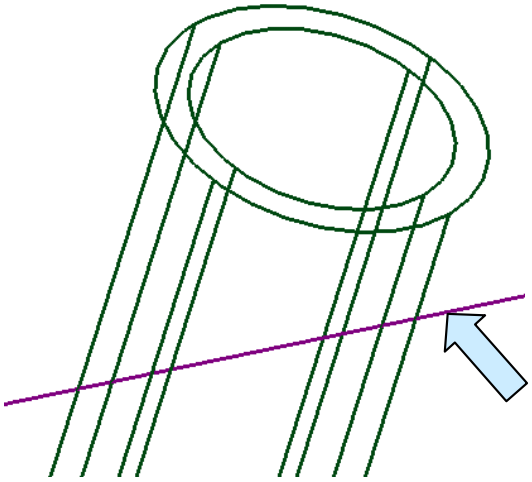
We'll start the hole on the right side at 1 inch down from the top edge and exit the tube on the left side at the midpoint (3.5 inches from the top edge.)



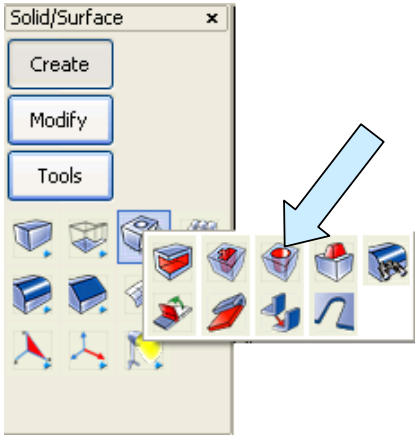
Click on the CREATE LINE BY ENDPOINTS Icon.

With the Line Limits Toggle Active (Extended length.), use the AlongE Option and click on the top end of the right, outside tiebar.

Type "1" for the distance. Then, using the CtrMid Option, click on the left, outside tiebar.



This creates a line that extends through the tube.

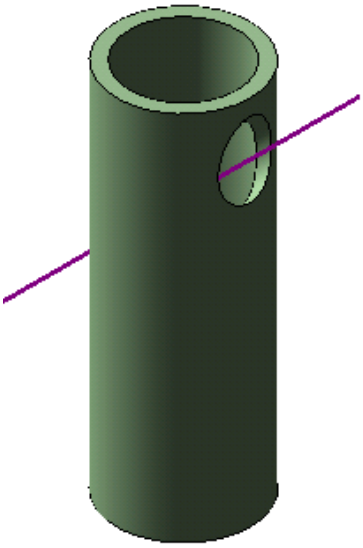


Click on the DRILL Icon.

Let's make a Through Hole 1inch in Diameter.
We'll use the Select Axis Centerline Option.

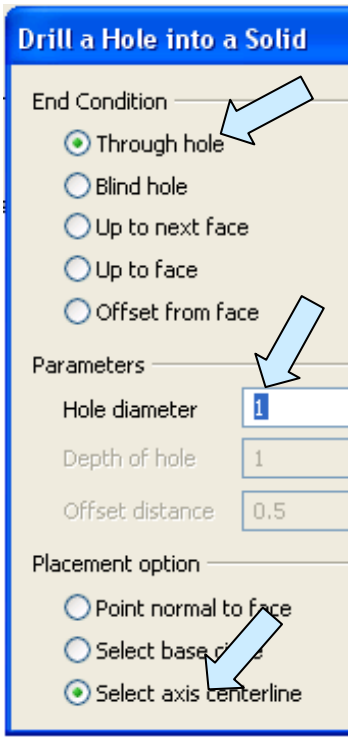
Click on the outer face of the tube.

Then, click on the line that you just created.



You get a hole drilled through the tube as illustrated to the right.

Remember to toggle the Line Limits Switch back to the inactive state since most of the time you'll want your created lines to be the shorter, exact length!



There are many other uses for this versatile function. The next time you find yourself lengthening a line that you just created to make it more visible or to extend it past the edge of a solid, think about whether you could have saved the extra effort by just toggling Line Limits!