

Dimensioning Tech Tips

This Tech Tip looks at some of the not-so-common functions in the Solid Edge dimensioning tools.

Smart Dimension

Smart dimension can be used as a dimension element tool or as a distance between tool.

When you dimension a line, the dimension will stay parallel to the line selected (Figure 1), but if you want to have the dimension vertical or horizontal, hold down the Shift while placing the dimension and the orientation will alter depending on the direction of the move (Figures 2 and 3).

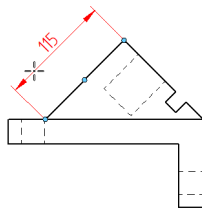


Figure 1

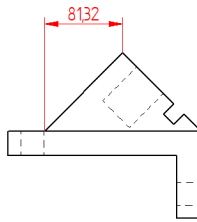


Figure 2

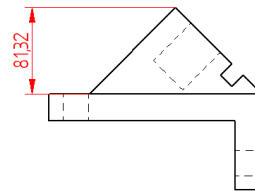
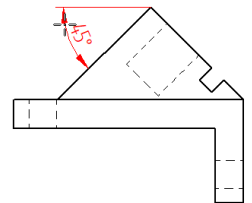
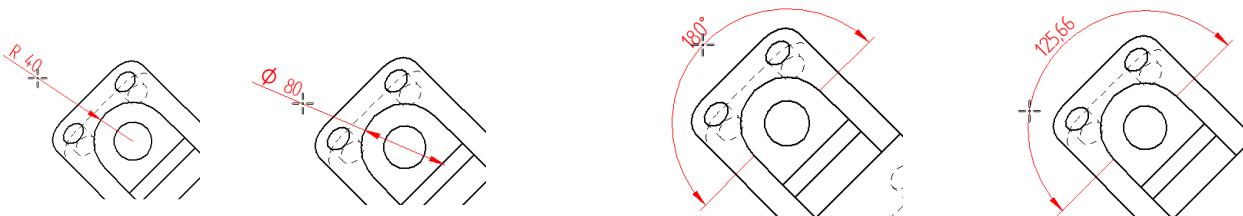


Figure 3

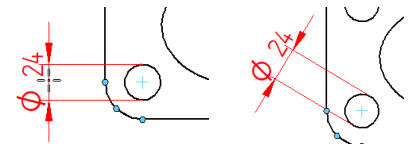


On the above example, we can change the distance dimension to an angular dimension by clicking the A key after selecting the line to dimension, but before placing the actual dimension. Clicking the A key again will switch back to the distance dimension.

When dimensioning an arc or circle, smart dimension allows you to place both types of dimension. As above, click the D key to switch between a diametric dimension and a radial dimension. If, while dimensioning an arc, you click the A key, the dimension will switch to the arc angle and clicking the A key again will switch to dimensioning the arc length.



If you hold down the Shift key while placing a diametric dimension where the dimension has two dimension lines (ie vertical or horizontal), you can rotate the view around, at any angle.

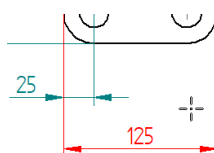


Distance Between Dimension

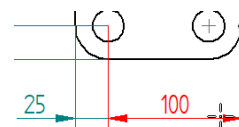
This type of dimension is used to place multiple dimensions from a datum. The first line/element you select will become the datum and all subsequent elements will be dimensioned from that point. When you place the second dimension from a datum, you can choose whether all subsequent dimensions will be chained or stacked. To start from a new datum, right mouse click to reset and start from the beginning.



Select Datum

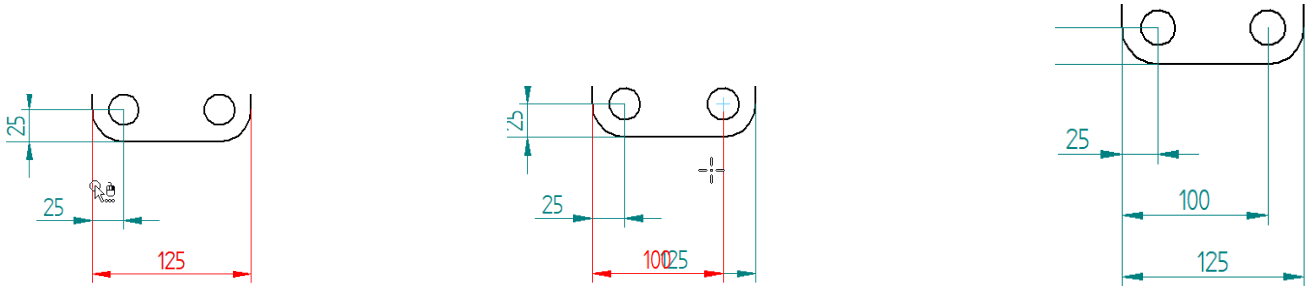


Stacked

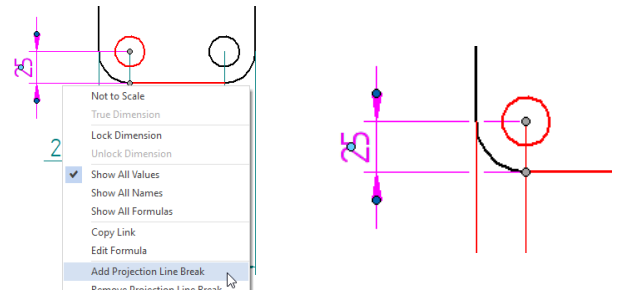


Chained

You can also add dimensions into an existing stack of dimensions. Start by selecting the dimension datum line and then select the element to dimension to. Place the dimension over one of the others and the other dimensions will shuffle over to place it in the correct location.

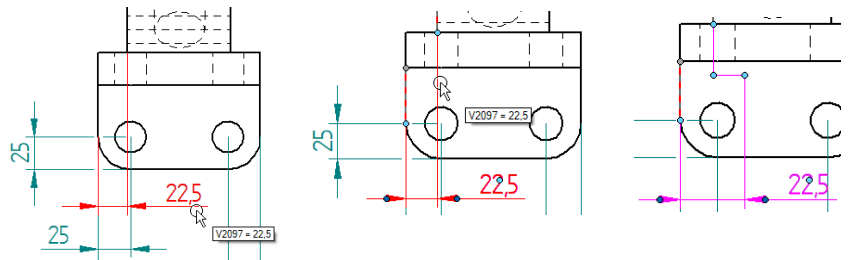


Another option with Solid Edge dimensions is to add projection line breaks so that the projection lines do not cross other lines. Once the dimension has been placed, right click on the dimension projection line and select "Add Projection Line Break".



Jogs

Adding jogs in the projection lines is also useful when there a lot of them in the same area. To add a joggle, select the dimension to make it active and then select the projection where you would like the joggle to be added.

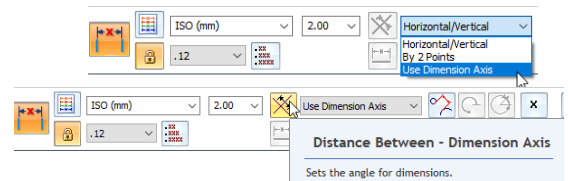


Dimension Axis

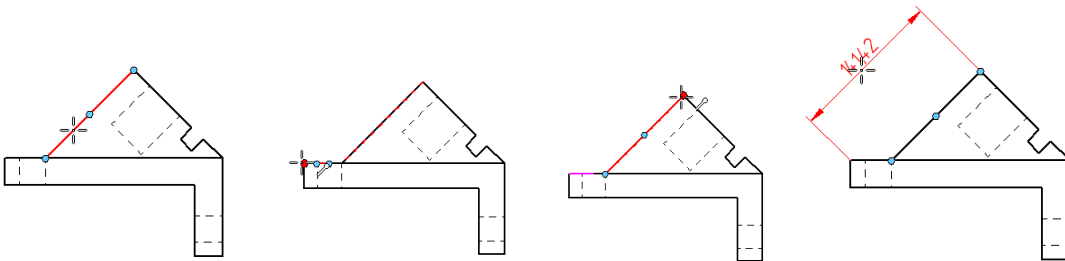
There will be times when you dimension between different elements, but want to have the dimension positioned in a different plane. In this case, you can set the axis for the dimension before you place the dimension.

Start by setting the dimension option to "Use Dimension Axis".

On the options box, click the dimension axis button and then select a line that you wish make the dimension parallel to.



Then pick the two points for the dimension and then when you place the dimension, it will position parallel to the defined axis.



Dimension Axis

Point 1

Point 2