

KEYCREATOR 3D Direct Modeling Software

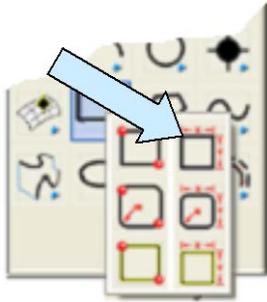
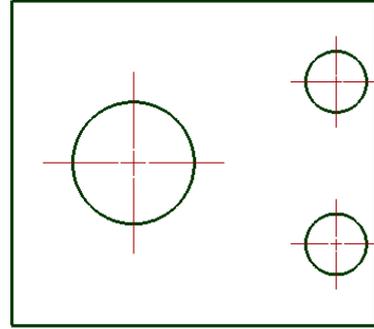
KeyCreator Lesson KC4632

Creating Centerlines

Centerlines add snap and clarity to a drawing, especially when there are a large number of details present.

While you can certainly create centerlines manually using the line functions and a centerline line style, the parametric centerline function is both faster and more accurate.

It has the added benefit of making the centerlines created children of the parent entities so that if you move an entity like a circle at a later date, the centerlines automatically migrate with it. Let's quickly review how to use this important function.



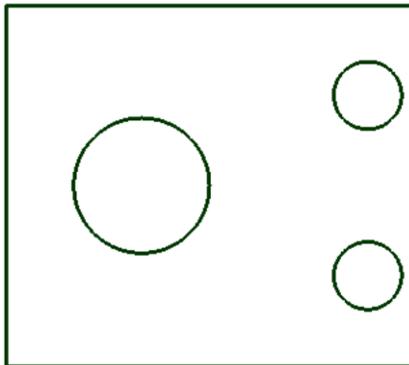
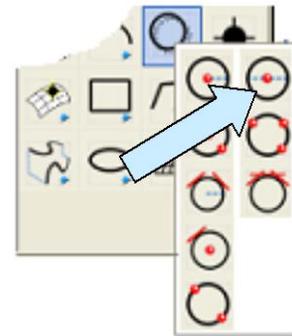
Start with a new file in View 1. (The Top View.)

Click on the CREATE RECTANGLE BY WIDTH HEIGHT Icon. Use the Bot Left Anchor Option. Type 2.25 for the Width and 2 for the Height.

Using the KeyIn Option, hit the ENTER Key three times to place the rectangle at the origin.

Next, click on the CREATE CIRCLE BY DIAMETER Icon. Create a 0.75 diameter circle and place it using the KeyIn Option at 0.75, 1,0 position.

Then create two 0.375 diameter circles positioned at 2,0.5,0 and 2,1.5,0 respectively.



Your screen should now look like this.

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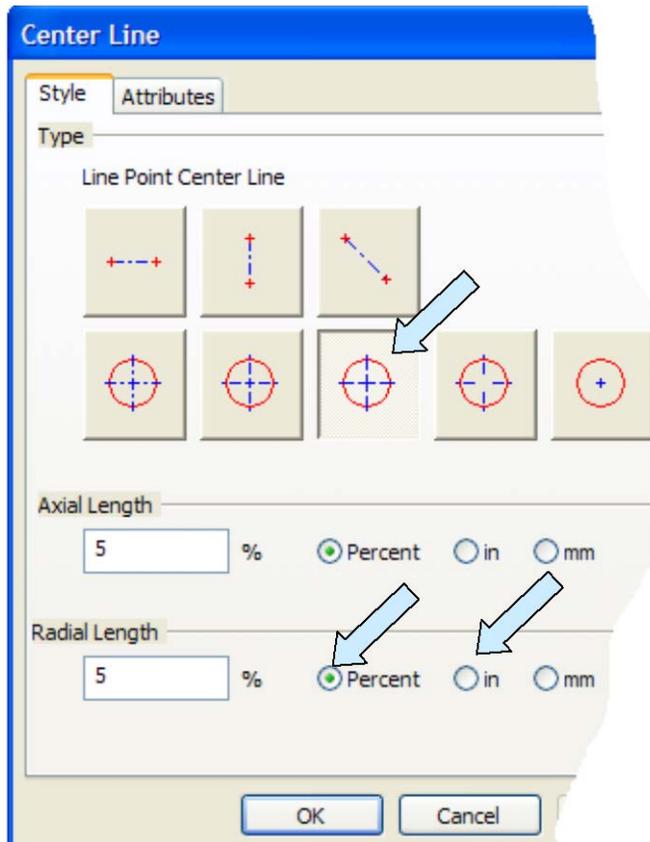
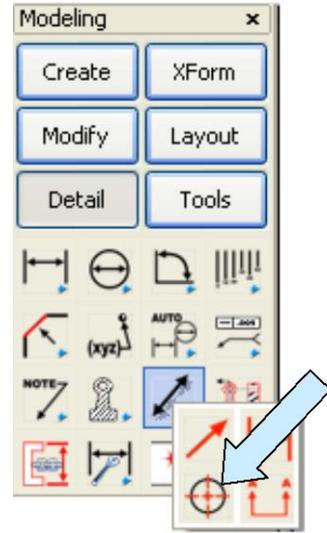
Select a new construction color.

Then, click on the CENTERLINE Icon.

A Dialog Box appears.

You'll notice that you can create both line point centerlines and circle centerlines.

You will also notice that there are several different styles for each. Most users standardize on one style so once you've used this function once you'll probably leave your selections at the same item.



Let's select the third option for circle centerlines

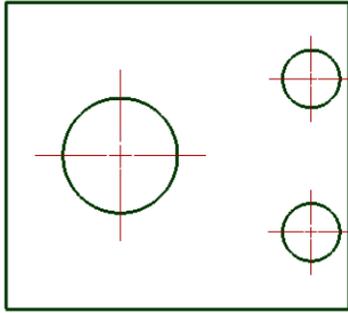
Notice that you can define the amount of "overhang" for the centerline by an absolute value or a percentage.

If you are using customary units (Your file is in inches.) and you select the "in" option, you would type the amount in inches that you want a centerline to overhang the circle edge. Then, all circles, regardless of size, would have the same centerline overhang.

If you select percentage, the overhang will be a percentage of the radius of the circle. So big circles would have larger overhangs than small circles.

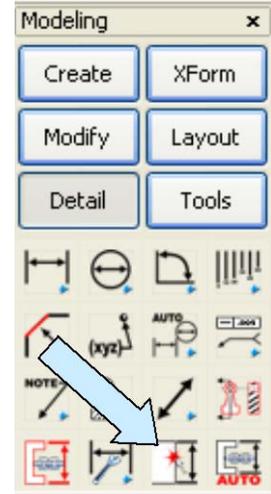
Once you select your options, click on the OK Button. You can select all of the circles on the screen by clicking on the ALL DSP Option and then on the ALL Option and hitting the ENTER Key.

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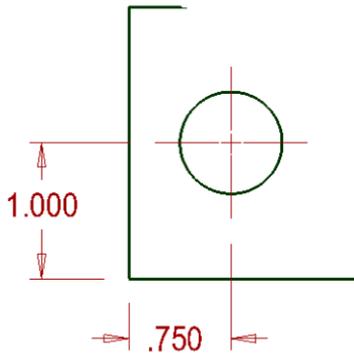


Let's apply centerlines to all of the circles on our screen using the approach outlined above. Use 50% for the Radial Length Percent.

Your screen should look like this:

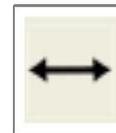


The centerlines are parametrically tied to the circles. This is extremely useful if you edit your design at a later time. Click on the QUICK DIMENSION Icon and place a vertical and horizontal dimension on the center of the large circle relative to the bottom, left corner of the rectangle. Click on the ends of the centerlines for the dimension positions.

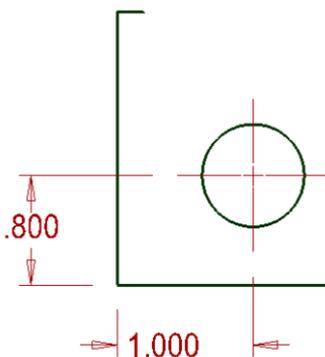


Your screen should look like this:

Now, click on the GENERIC MOVE Icon.



Select the large circle and using the CtrMid Option click on it again. Select the Offset Option on the Conversation Bar. Using the EndEnt Option, click on the bottom, left corner of the rectangle.



Type 1 for the X value, 0.8 for the Y value, and 0 for the Z value.

Notice that the circle moves to the new position, the centerlines follow the circle, and the dimensions follow the centerlines.