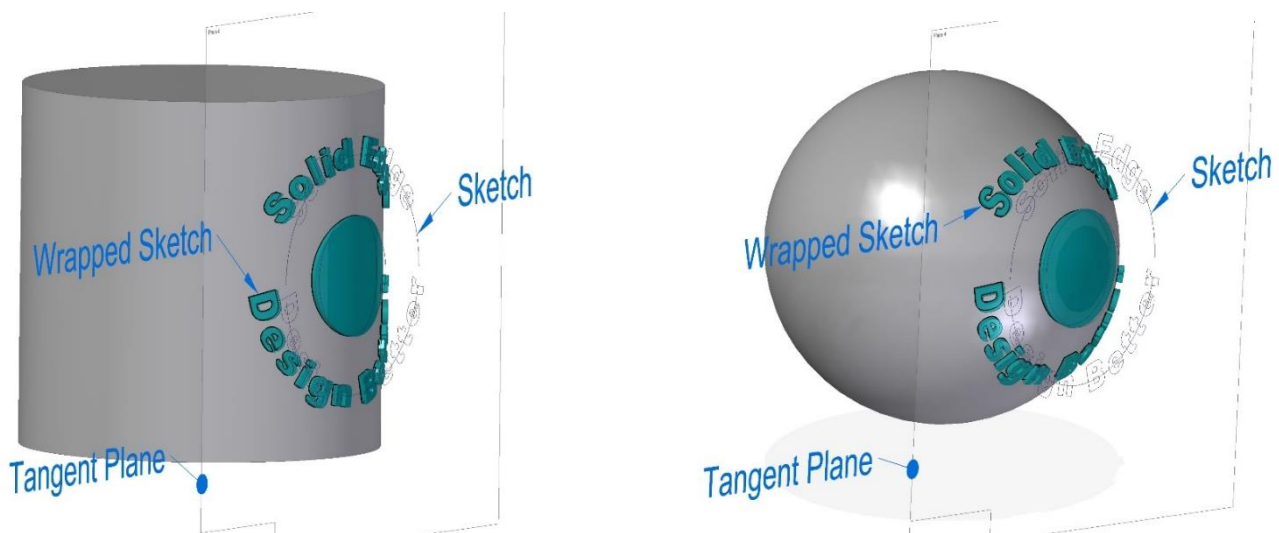# Wrapping Sketches on Non-Planar Faces in Solid Edge
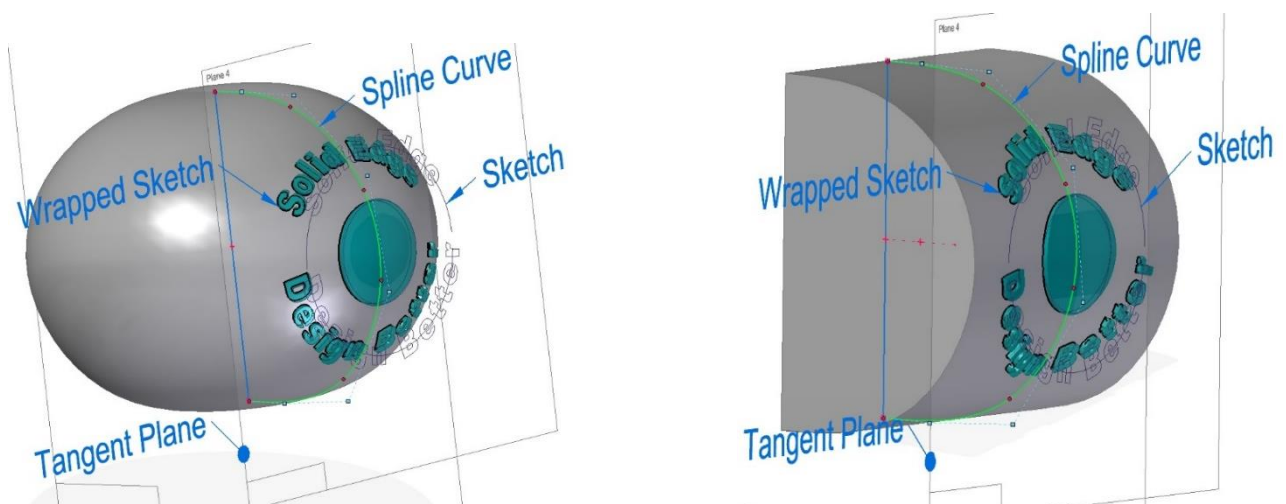
This Tech Tip looks at what types of surfaces work with Wrap Sketch and the required inputs to make the command work properly.

When you work with planar faces, Wrap Sketch is not really needed as you can place your sketch on any planar face and use it to create features, split faces, etc. Wrap Sketch becomes useful as the faces you are working with are not planar.

The two examples below show how Wrap Sketch was used on a cylinder and a sphere. The sketch contains text profiles and a circle. Wrap Sketch requires that the sketch being wrapped is located on a plane that is tangent to the face it will be wrapped onto. If that is not the case, an error message is shown. In this cases, the plane and sketch used are displayed. A Normal Protrusion was added to the model using the resulting wrapped sketch.
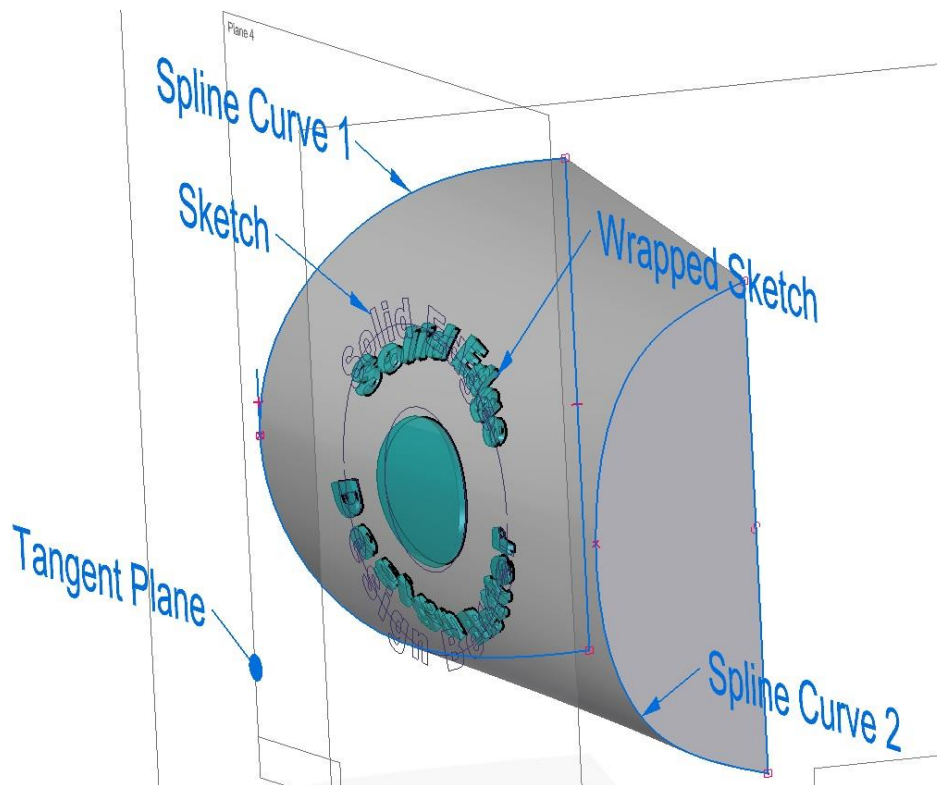

The next two examples use the same sketch, but in these cases it was wrapped onto spline faces. One of the parts was created by revolving a sketch containing a spline curve (image on the left) and the other by extruding this same sketch (image on the right).

This last example was created using the Loft command. Wrap Sketch works on spline faces as long as one of the directions of such faces is analytical. A spline surface always have two directions, also called U and V directions of the surface. In this case, the two cross sections which are splines, were connected linearly by the loft command, so in one of the directions, the lofted spline face is analytical.

If spline guide curves were used to connect the two cross sections in this case, the Wrap Sketch command would not select the surface as input as it would be non-analytical in both directions.

TIP: If you are unable to select a face as input for the Wrap Sketch command, it is safe to say the surface is probably non-analytical in both directions.

Hopefully these scenarios were able to show Wrap Sketch is a powerful command that can be very useful when modeling complex features on non-planar faces of solid models.