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Suggested Technique for Creating a Spinal Bend Feature

This document outlines a procedure for creating a spinal bend feature. Spinal bends allow the bending of any geometry along a specified path. In order to help visualize surfaces being created, the config.pro option **mesh_spline_surf** was set to **yes** to allow u-v lines to be displayed in the surfaces.

Procedure

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1. The intended result of this procedure is to bend geometry along a trajectory as shown in Figure 1, using the sample model `spinal_bend_initial.prt`.

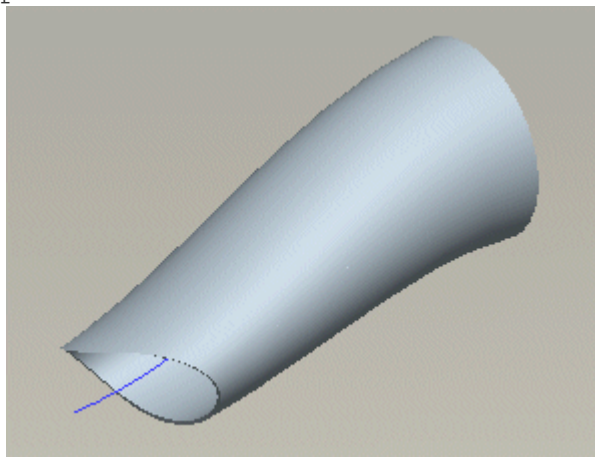


Figure 1

2. The solid geometry was created previously using parallel blends. Notice the blue datum curve in Figure 2. This datum curve will be used as the trajectory to bend the geometry in the spinal bend.

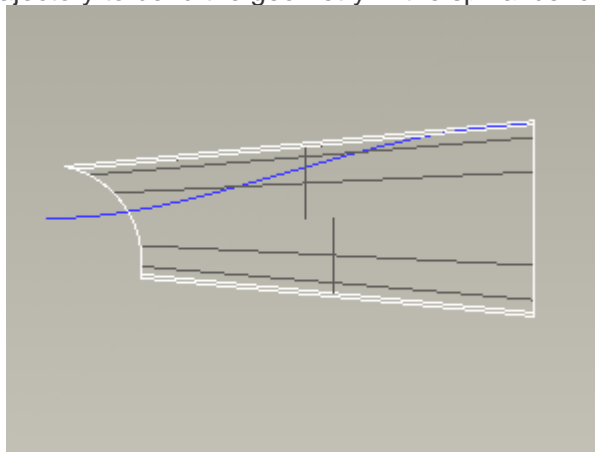


Figure 2

3. Create a spinal bend by selecting **Insert > Advanced > Spinal Bend**. Spinal bends have the option of selecting a datum curve or sketching new curves to bend around. In this example, an existing datum curve will be picked and the default menu picks are selected from the OPTIONS menu **Select Spine > No Prop Ctrl > Done**. Select the top

surface of the model and the CHAIN menu will open, select **Curve Chain**. Define the trajectory by selecting the desired datum curve and selecting **Select All > Start Point > Next** and place the start point on the **START_PLANE** plane **Accept > Done**. The Direction menu will then open select **Okay** to accept the default direction.

Pro/ENGINEER will prompt for an end plane to define the volume being bent and select **END_PLANE**. This volume is the geometry between a plane normal to the bending trajectory at its start point and end plane. Everything in the quilt or solid between these two planes will be bent.

See Figure 3 for an example of the start and end cap planes. The cross section of the spinal feature as it is bent along the trajectory can also be controlled using the optional section control properties. *For more information on control properties, see "Spinal Bend" in the Pro/ENGINEER Help System.*

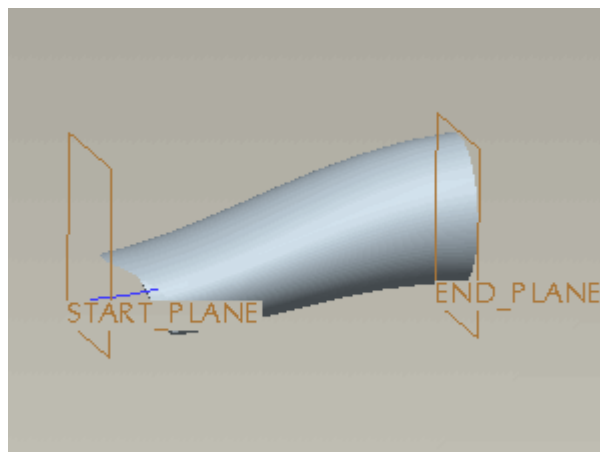


Figure 3

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4. The final geometry that is created by the spinal bend is shown in Figure 4.

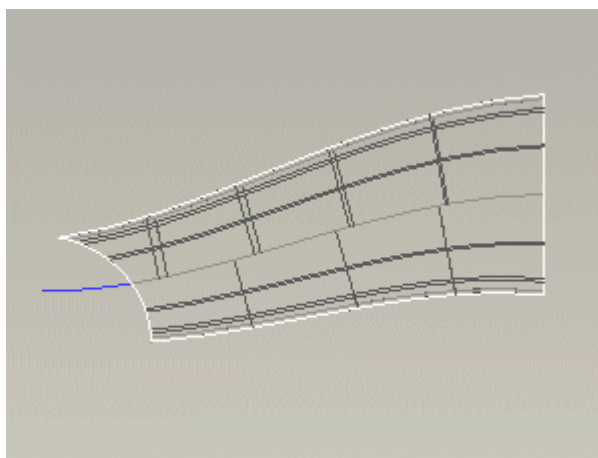


Figure 4

[Download Finished Files for this Technique](#)

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