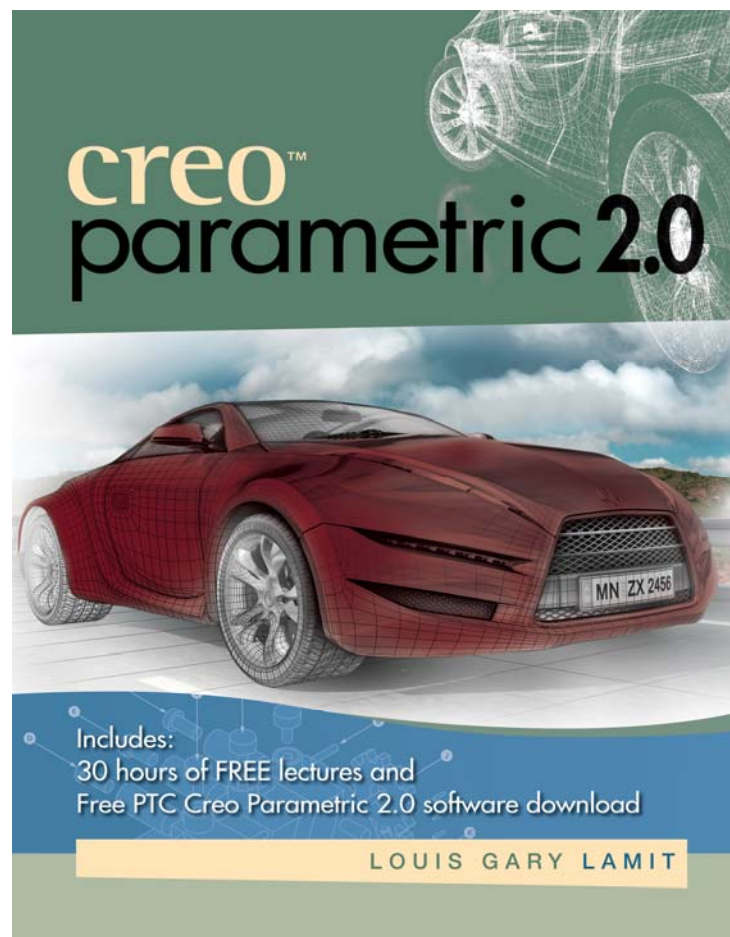


Creo Parametric & Creo Parametric 2.0

Projects



Watch the Project Lecture Video before you start

Angle Block Complete after Lesson 4

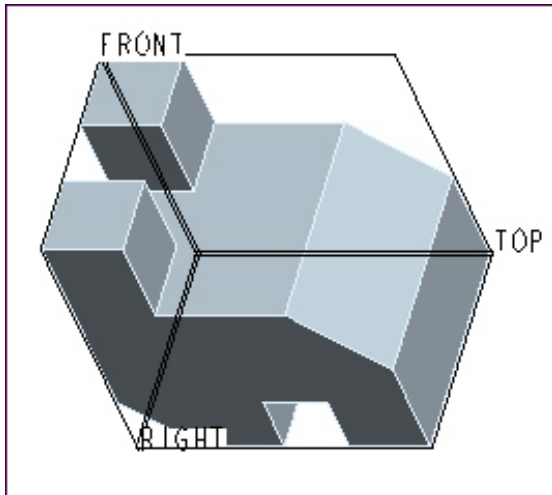


Figure Angle Block 1 Angle Block

Angle Block

This lesson project is a simple block that requires many of the same commands as the Clamp. Using the default datums create the part. Sketch the protrusion on datum FRONT. Sketch the cut on datum RIGHT and align it to the upper surface/plane of the protrusion.

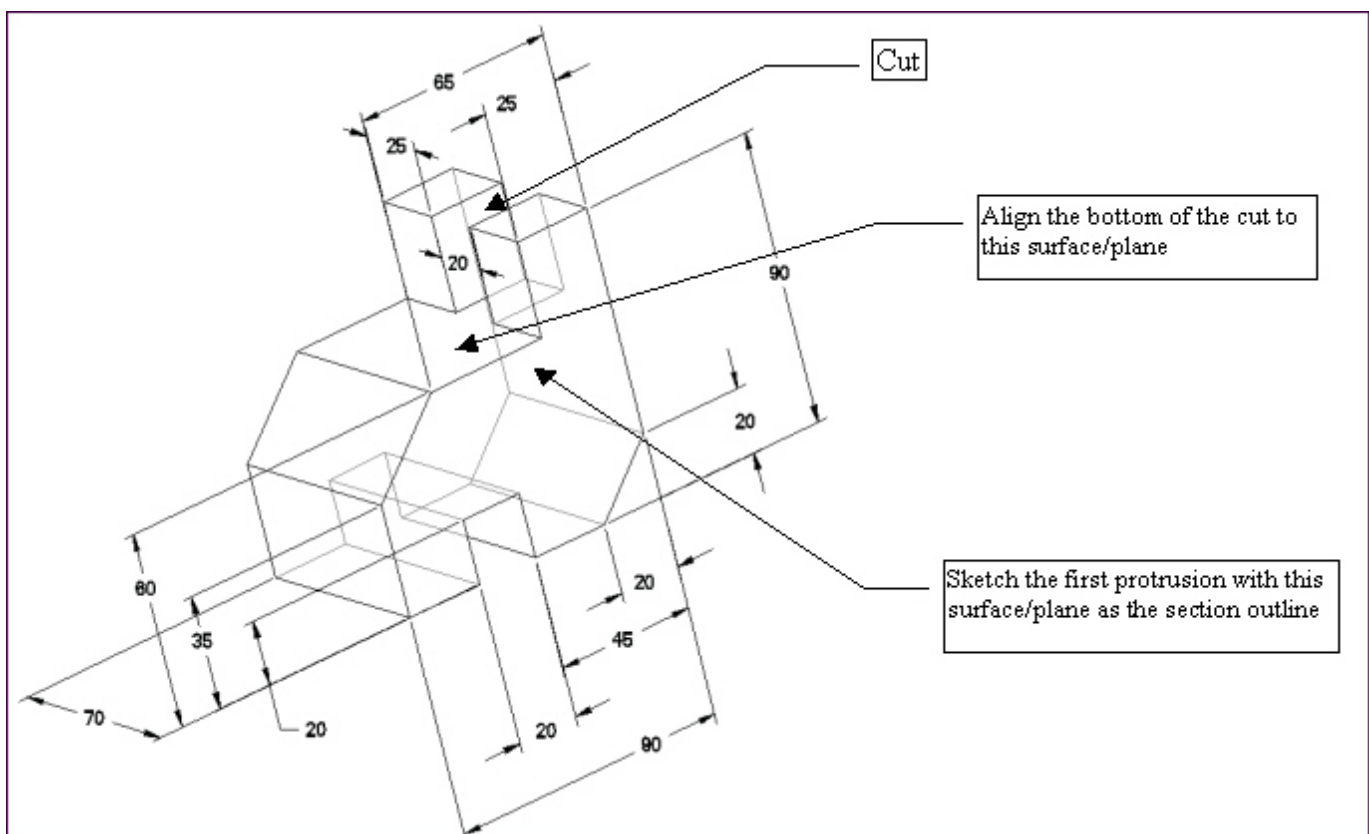


Figure Angle Block 2 Dimensions

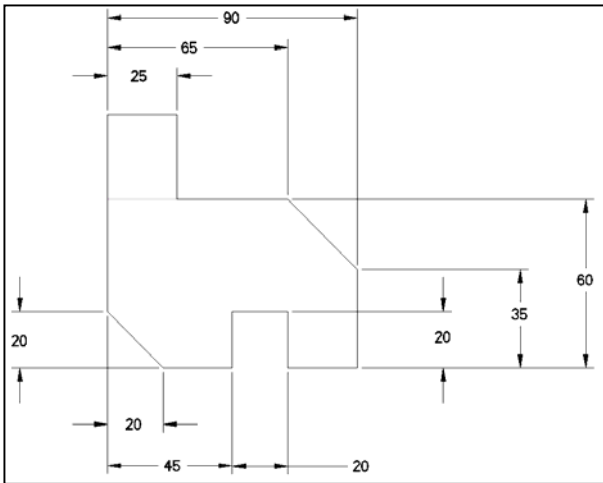


Figure Angle Block 3 Protrusion Sketch Dimensions

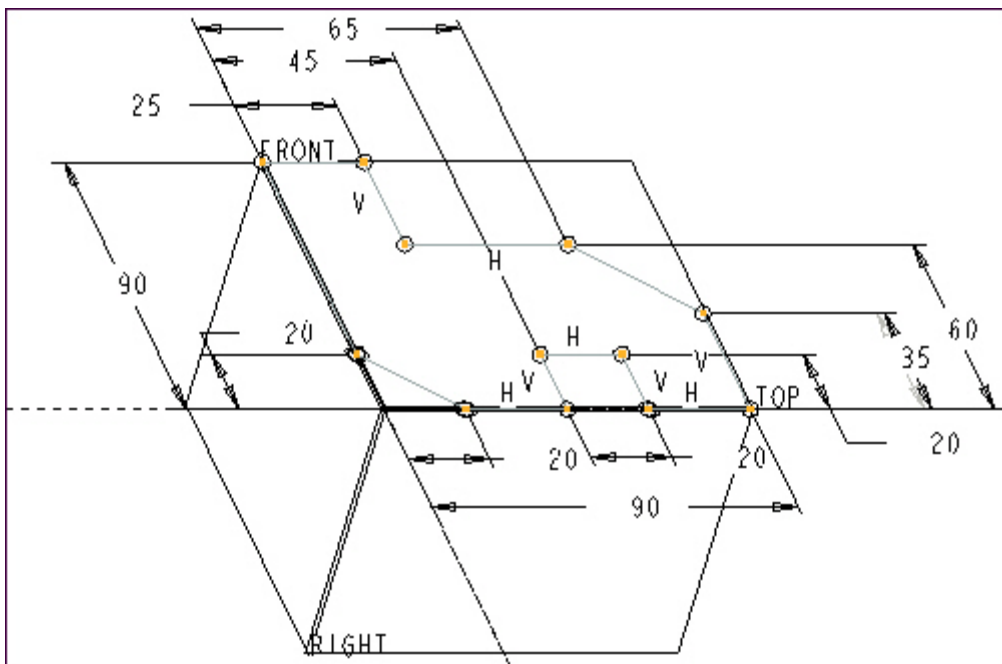


Figure Angle Block 4 Sketch

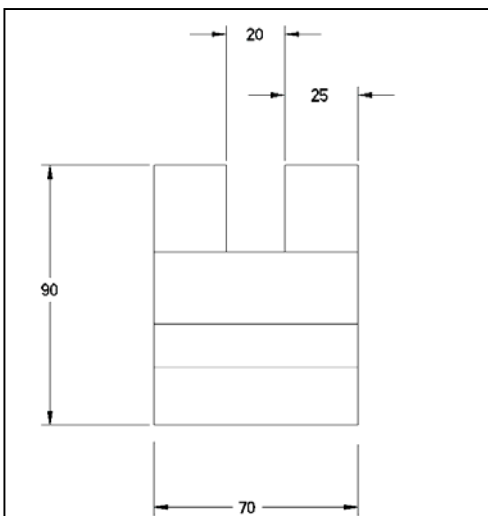


Figure Angle Block 5 Cut Drawing Dimensions

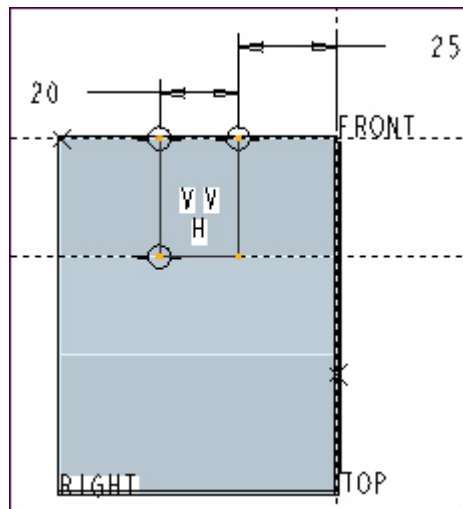


Figure Angle Block 6 Cut Sketch Dimensions

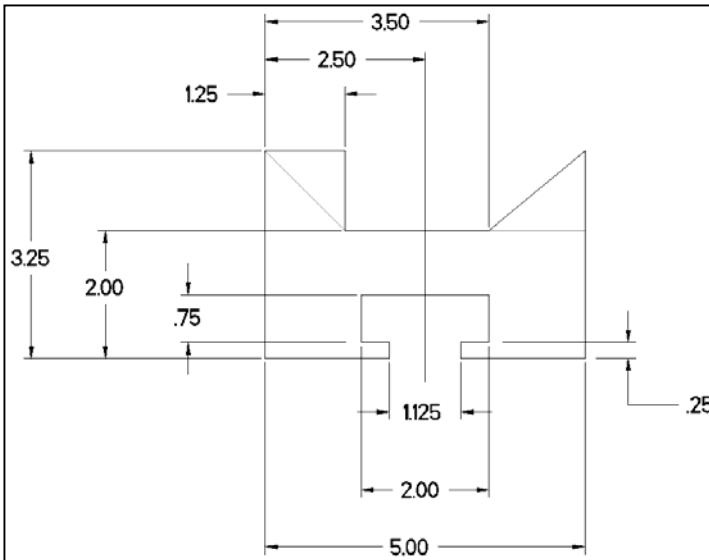


Figure T-Block 5 Front View

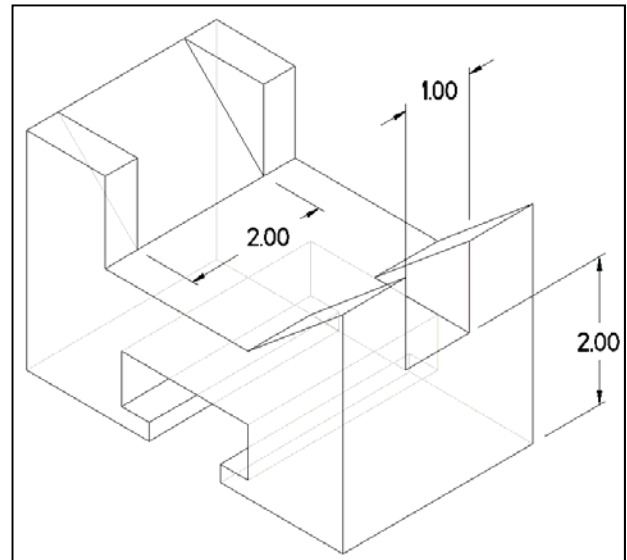


Figure T-Block 6 Pictorial View

ECO

Use Edit Definition and Edit to complete the ECO after you save it to another name. The T-shaped slot is symmetrical and is located at the center of the part. When completing the ECO, be careful not to assume that this condition still applies.

- Change the cut to the configuration shown in Figure T-Block 8-11
- Change the height and the depth of the part to **4.00**.
- Change the T-slot to that shown in Figure T-Block 8-11
- Figure T-Block 7 ECO

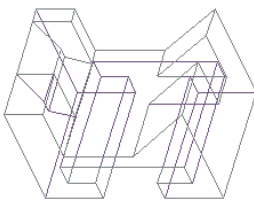
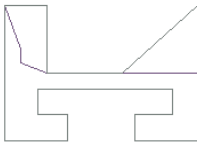
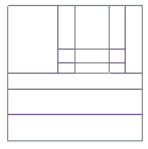
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ECO Form		Requestor: eco.initr												
Form Name: eco.name		Request Date: eco.date												
		Current Submission Status: eco.stat												
														
Action	User	Date	Comment											

Figure T-Block 8 ECO

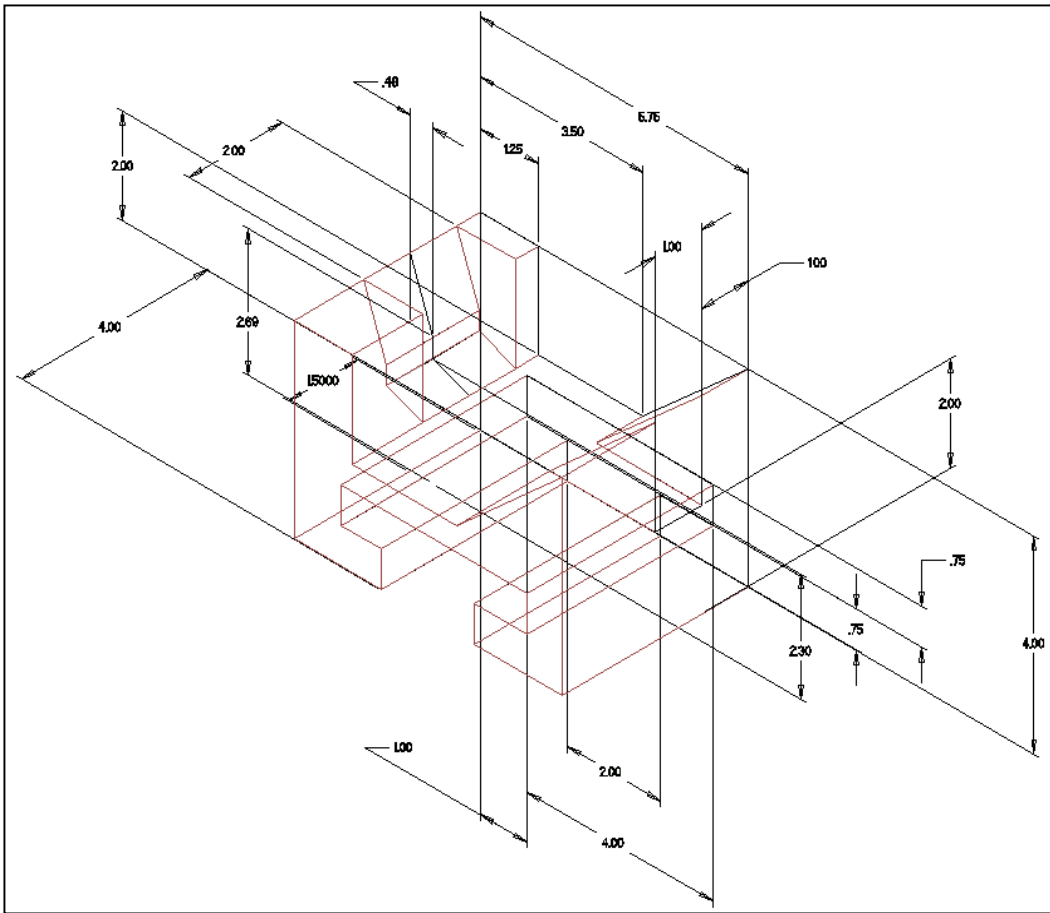


Figure T-Block 8 Modified Dimensions

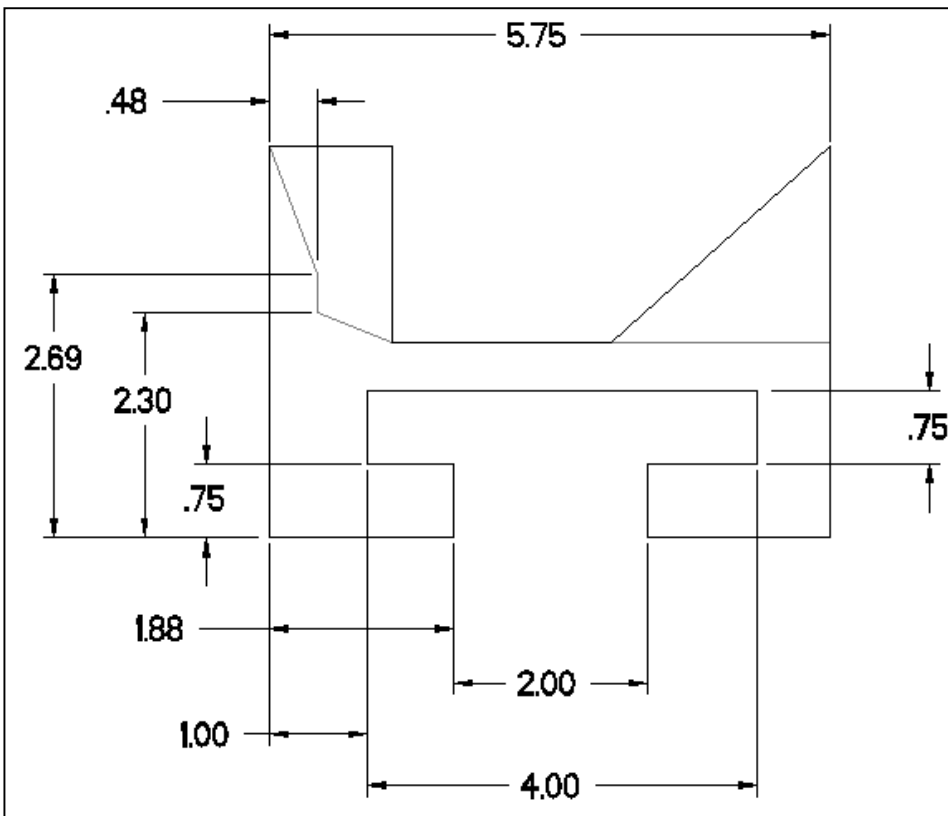


Figure T-Block 9 ECO Dimensions

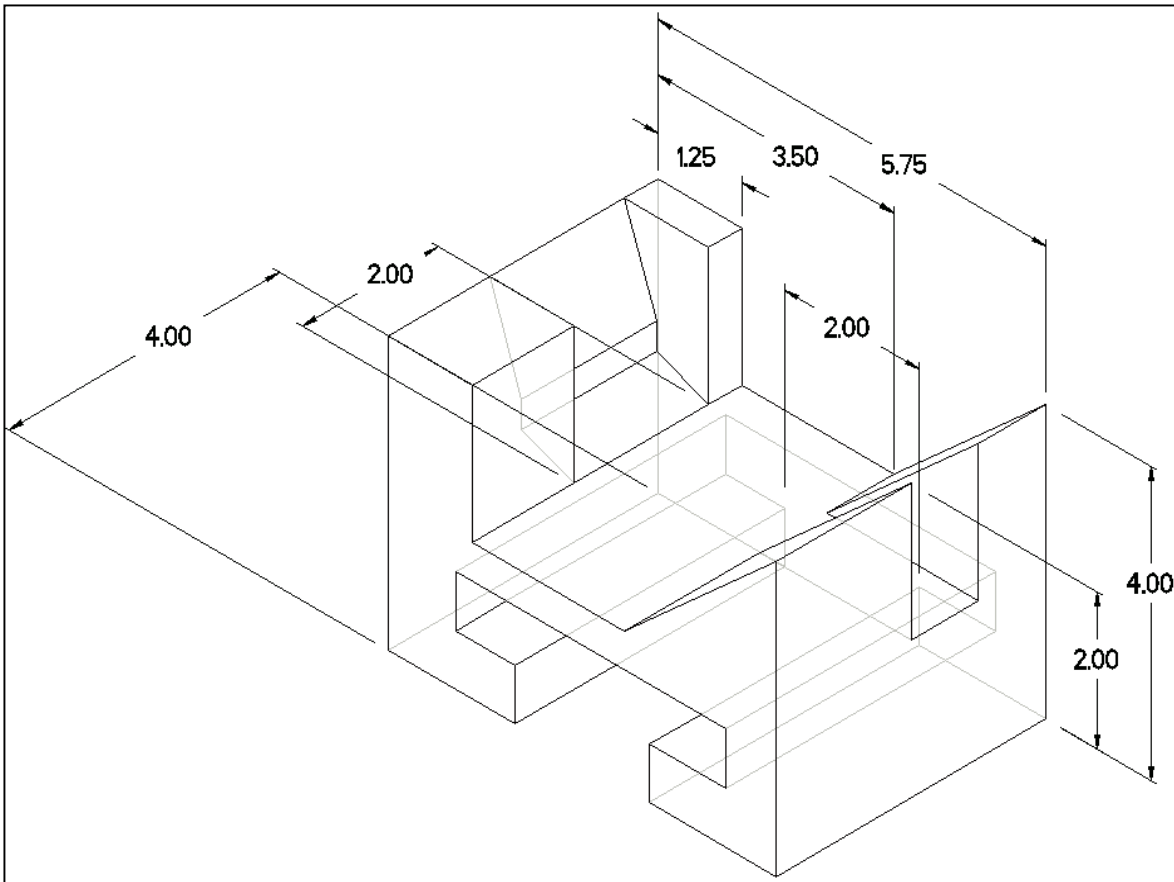


Figure T-Block 10 Pictorial View

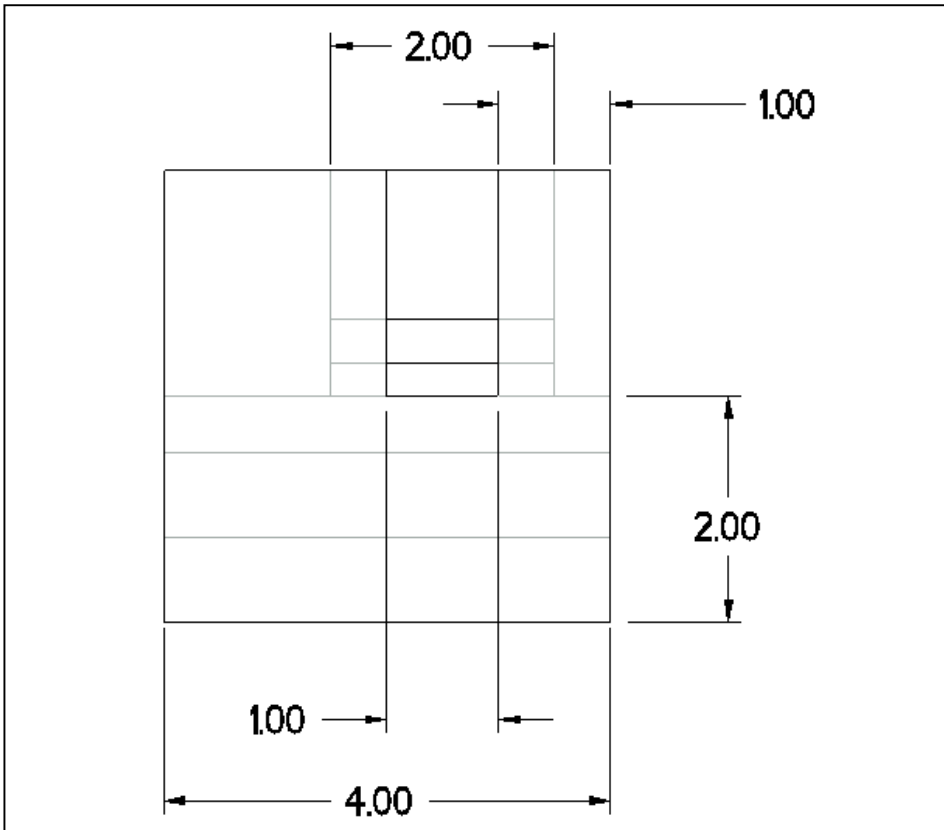


Figure T-Block 11 Cut Dimensions

Guide Bracket Complete after Lesson 6

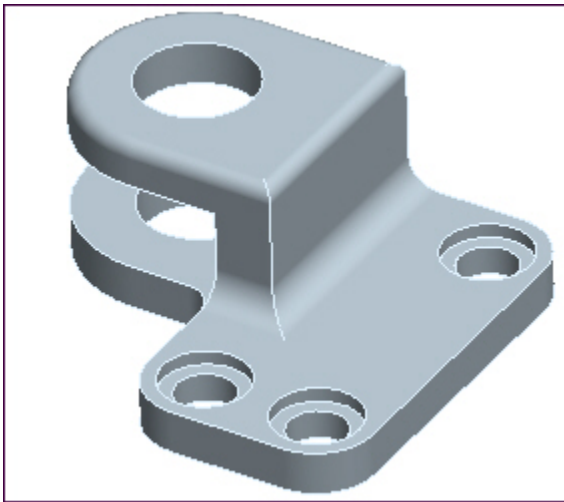


Figure Guide Bracket 1 Guide Bracket

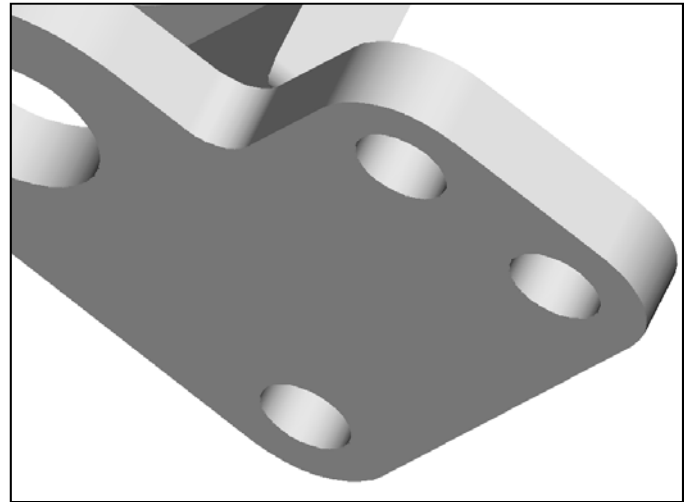


Figure Guide Bracket 2 Bottom

Guide Bracket

The Guide Bracket is a machined part that requires commands similar to the Breaker. Simple rounds and straight and sketched holes are part of the exercise. At this stage in your understanding of Creo or Pro/E, you should be able to analyze the part and plan the steps and features required to model it. You must use the same dimensions and dimensioning scheme, but the choice and quantity of datum planes and the sequence of modeling features can be different.

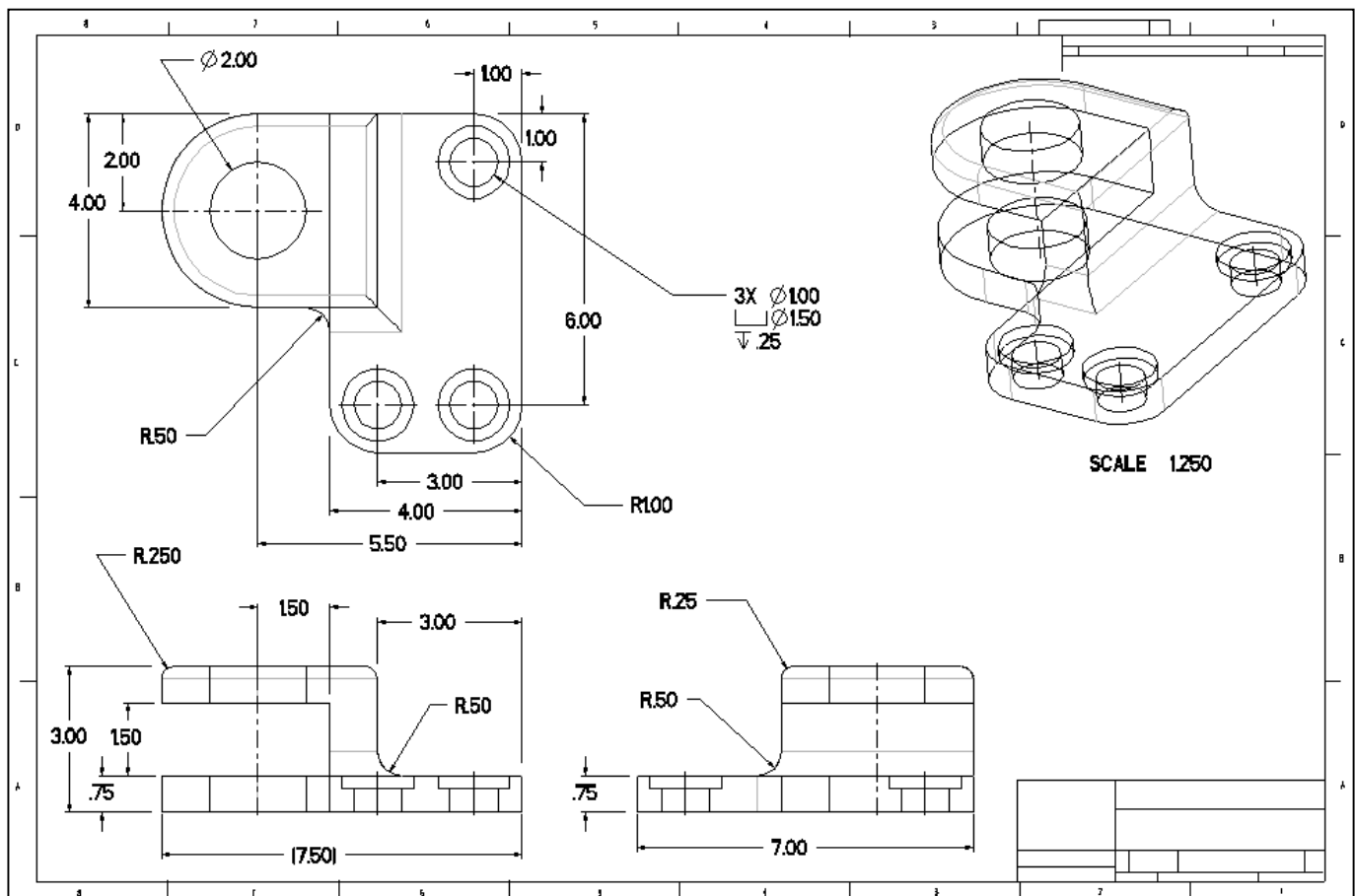


Figure Guide Bracket 3 Drawing

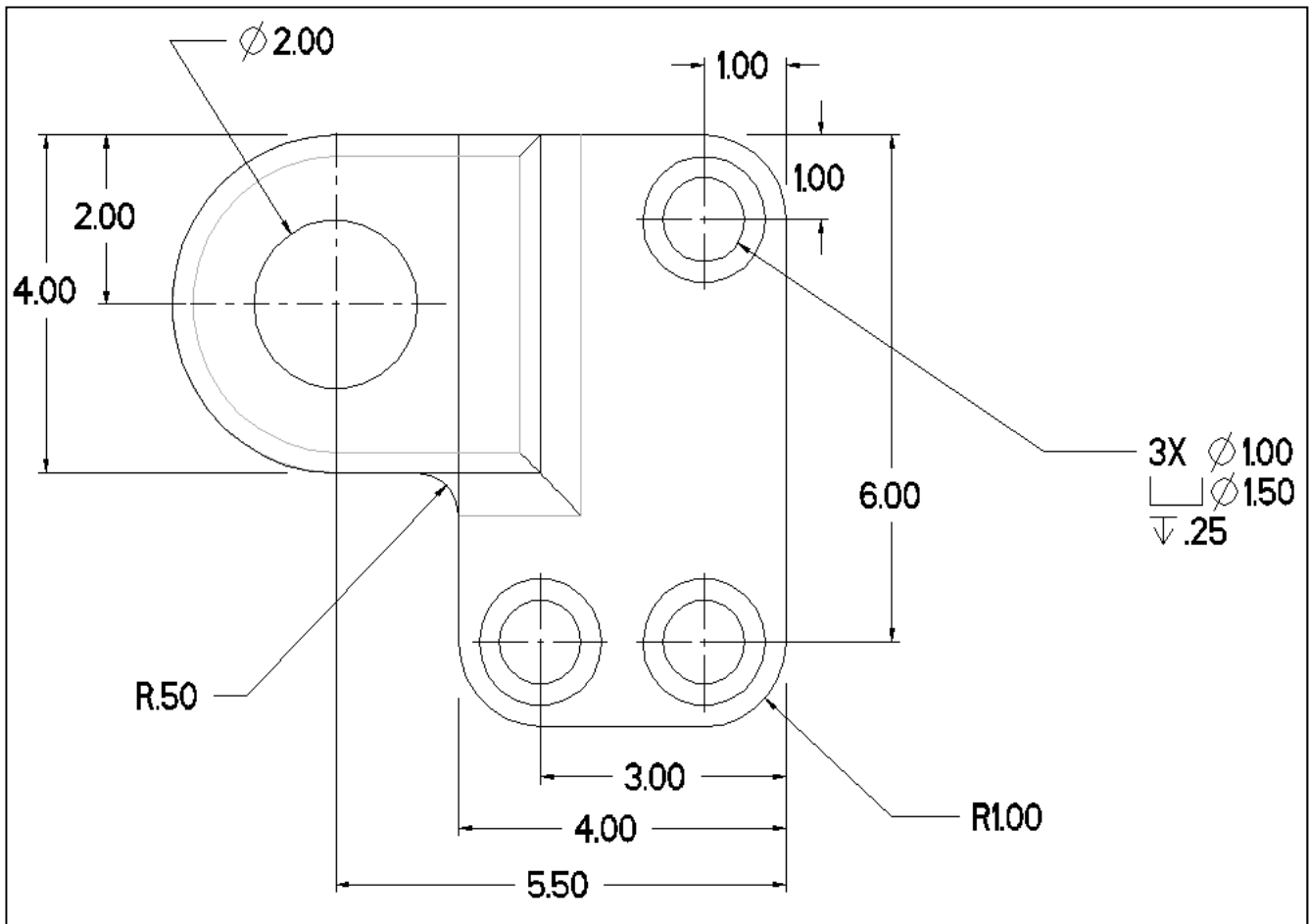


Figure Guide Bracket 4 Drawing, Top View

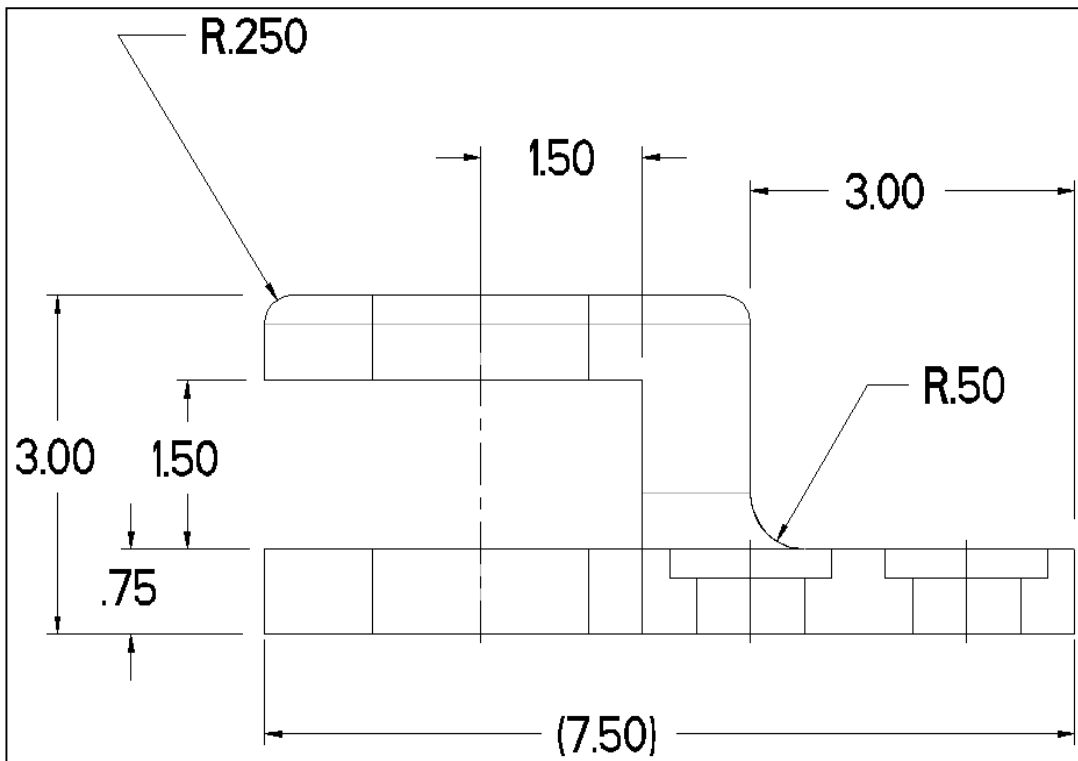


Figure Guide Bracket 5 Drawing, Front View

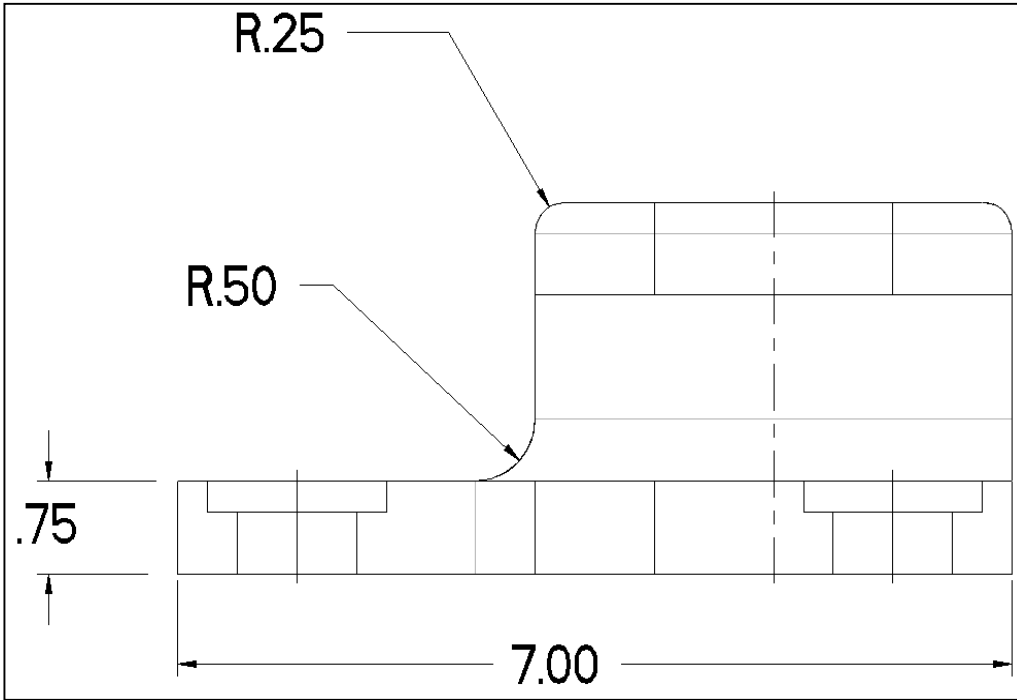


Figure Guide Bracket 6 Guide Bracket Drawing, Right Side View

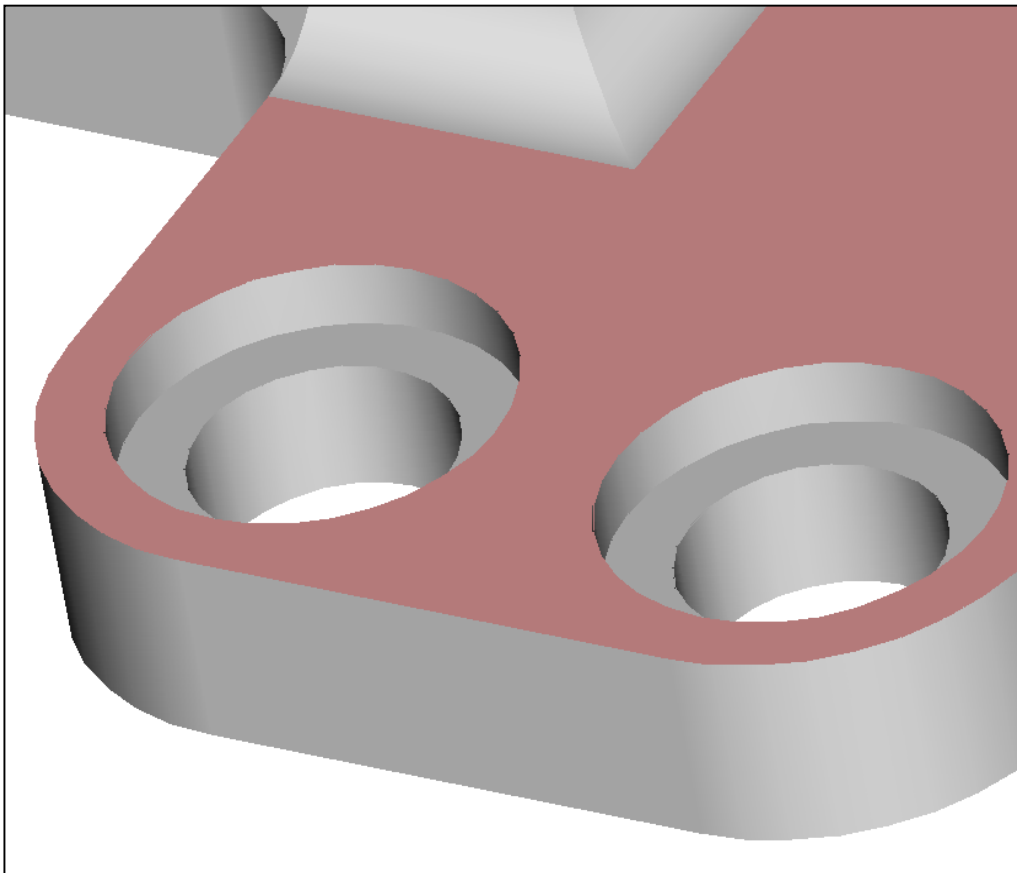


Figure Guide Bracket 7 Guide Bracket Counterbore Holes

Angle Frame Complete after Lesson 7

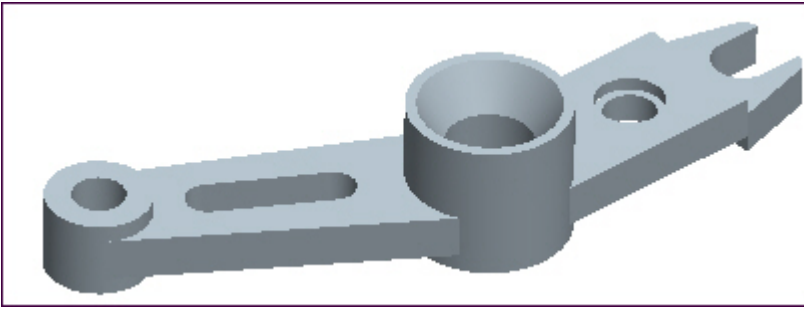


Figure Angle Frame 1 Angle Frame

Angle Frame

The Angle Frame is a machined part that requires the use of a variety of datum planes and a layering scheme. You will also add a relation to control the depth of the large countersink hole at the part's center. Analyze the part and plan the steps and features required to model it. Set the units and the material (aluminum 6061) for the part. Set the datums as Basic, and rename to A, B, C, and so on.

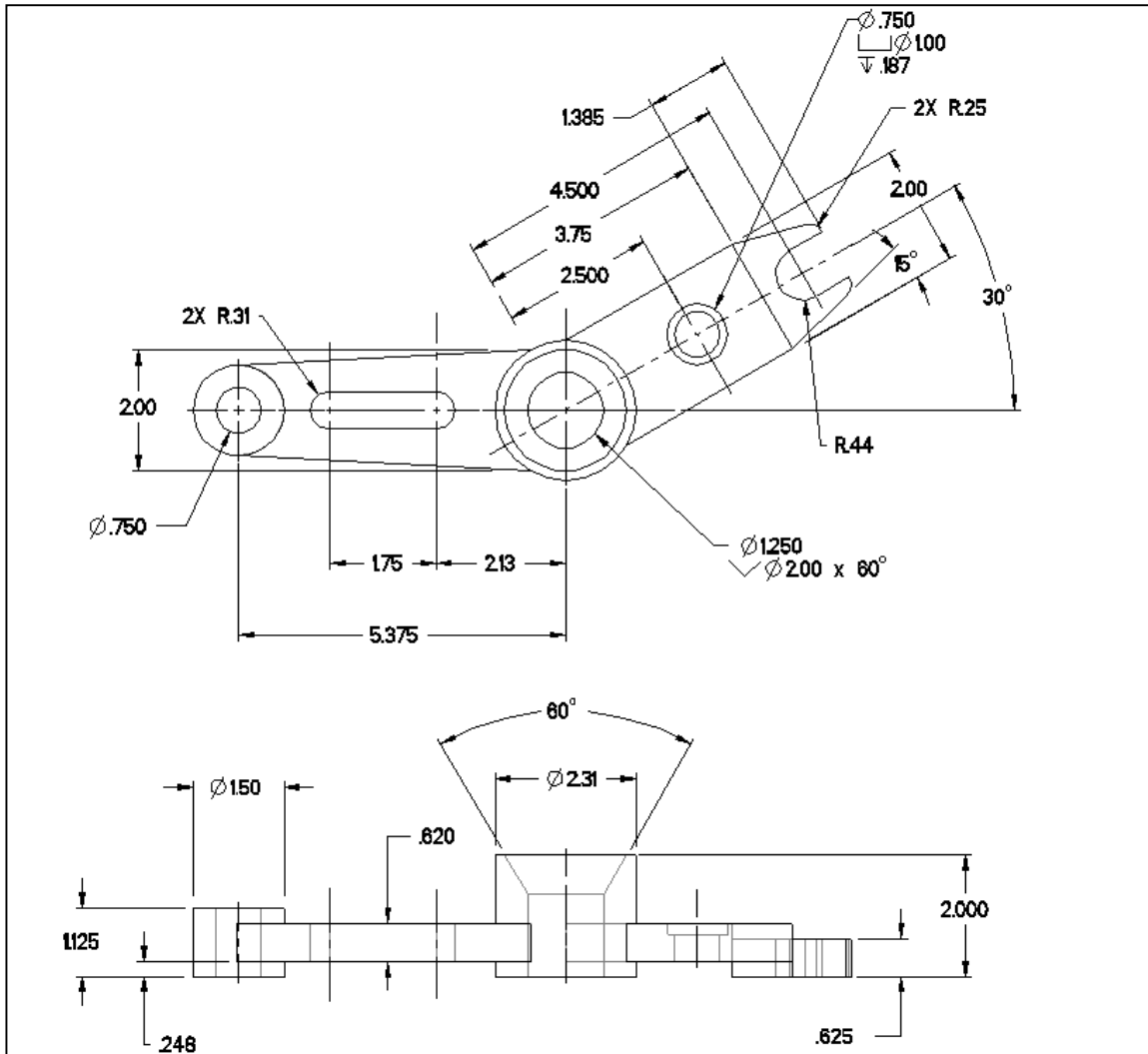


Figure Angle Frame 2 Drawing

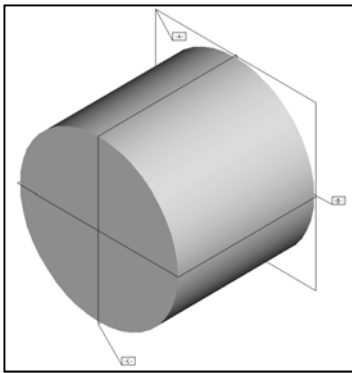


Figure Angle Frame 3 1st Feature
5 3rd and 4th
(Create separately)

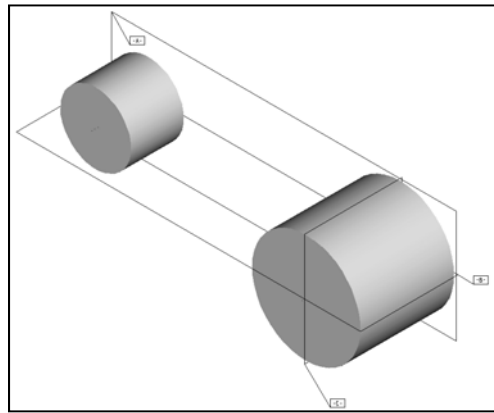


Figure Angle Frame 4 2nd Feature

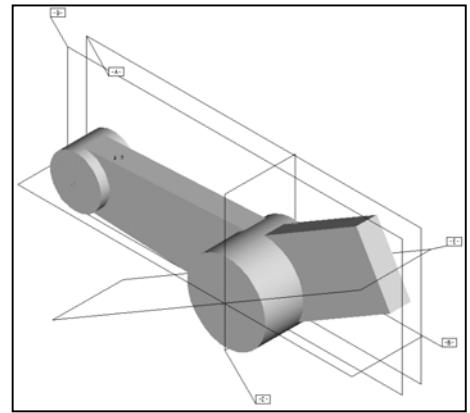


Figure Angle Frame 5 3rd and 4th Features

Set the datums with the appropriate geometric tolerance names: A, B, C, and so on. Create two sections through the Angle Frame to be used later in a Drawing Lesson. For the sections, use datum planes B and E, which pass vertically through the center of the part. Name the cross sections A (SECTION A-A) and B (SECTION B-B).

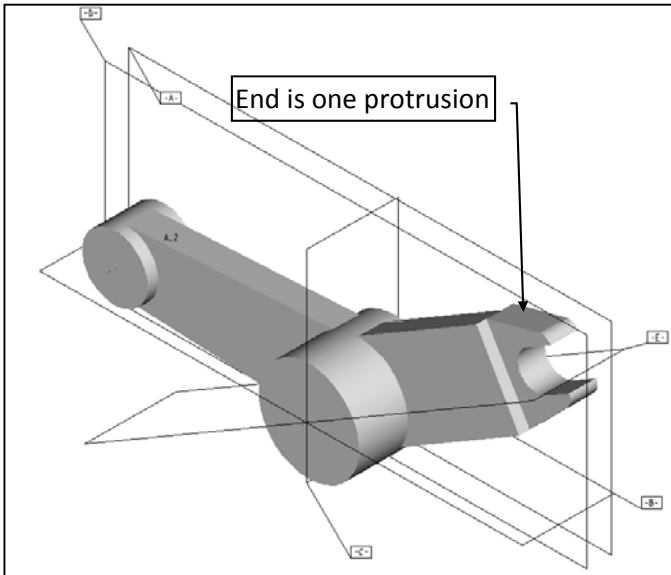


Figure Angle Frame 6 Steps

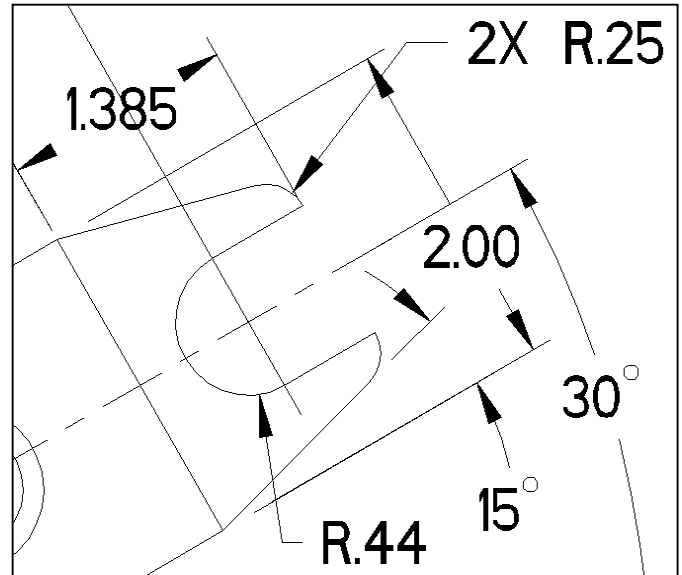


Figure Angle Frame 7 Dimensions

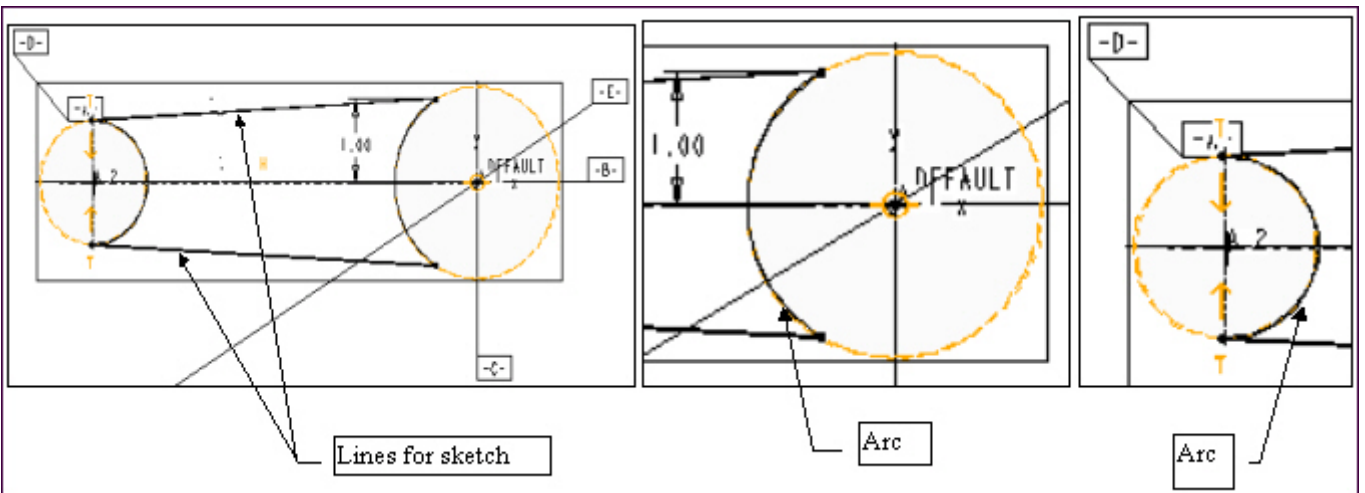


Figure Angle Frame 8 Sectioning

Figure Angle Frame 9 Web Sketch

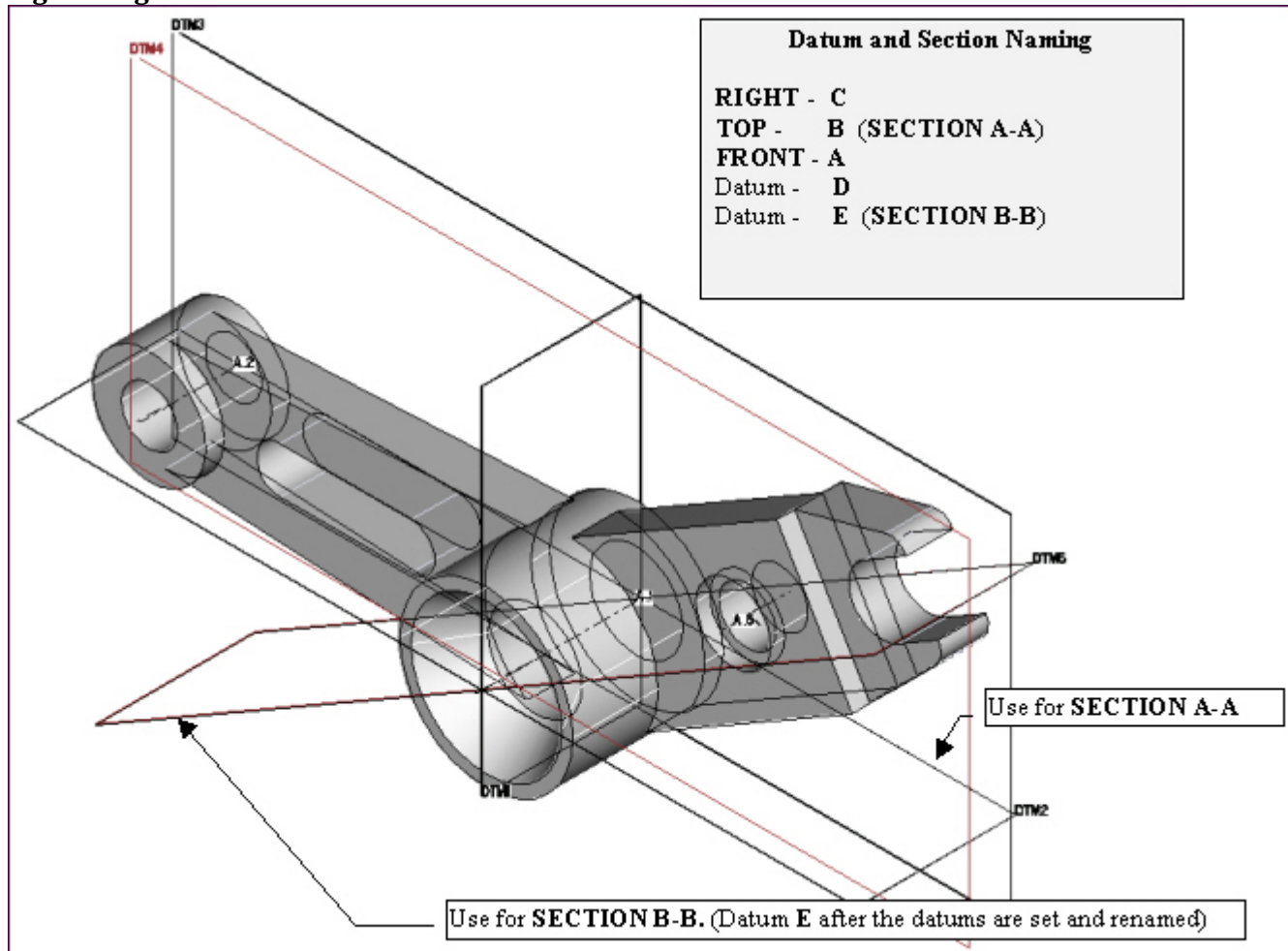


Figure Angle Frame 9 Datums. Datum E is through the axis of the first protrusion, and at an angle to Datum B.

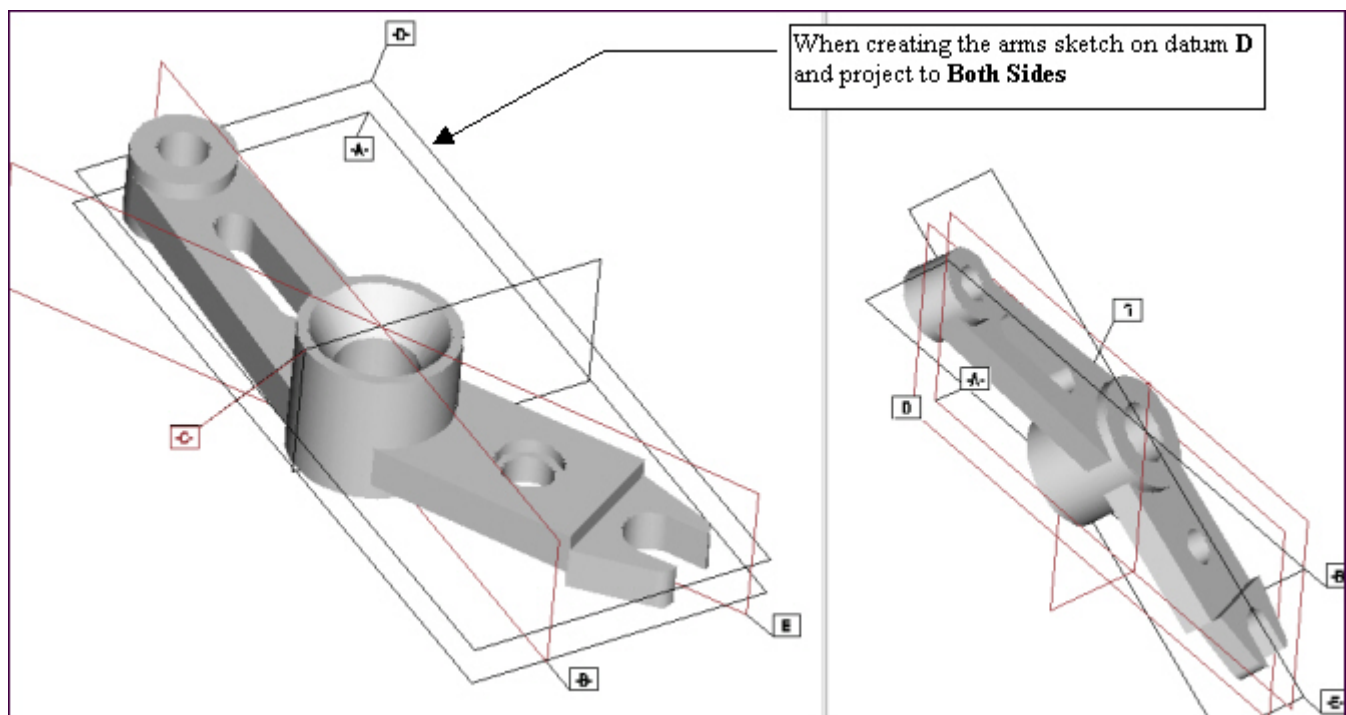


Figure Angle Frame 10 Set the datum planes and change their names to A, B, C.

Modify the thickness of the boss from **2.00** to **2.50**. Note that the hole does not go through the part. Modify the boss back to the original design dimension of **2.00**. Add a relation to say that the depth of the hole should be equal to the thickness of the boss.

Your **d#** symbols will probably be different from the ones shown here. Change the thickness of the boss (original protrusion) to see that the hole still goes through the part. No matter what the boss thickness dimension changes to, the hole will always go completely through it. This relation controls the design intent of the hole.

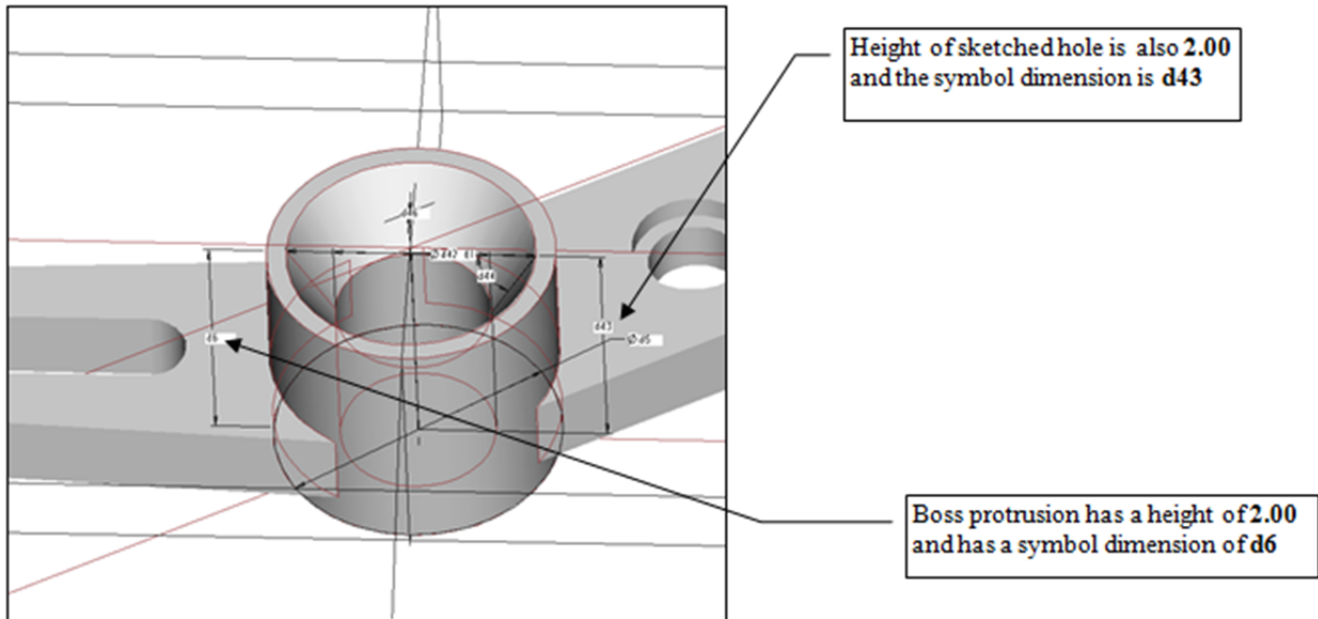


Figure Angle Frame 11 Adding a Relation to Control the Hole Depth

Boss protrusion has a height of **2.00** and has a symbol dimension of d6. Relations are used to control features and preserve the design intent of the part. Create the sections required to describe the part while you are in Part Mode so that they will be available for use when you are detailing the part in Drawing Mode.

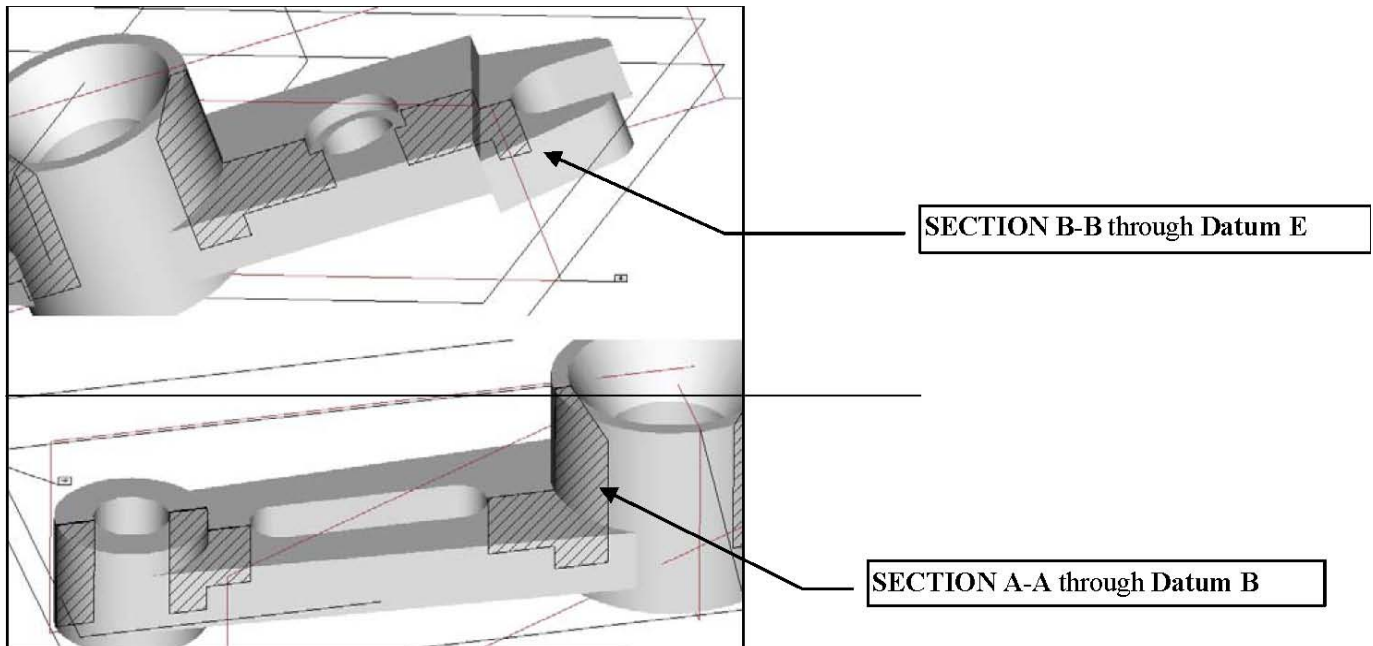


Figure Angle Frame 12 X-Sections Through Datums

Convex Compression Spring Complete After Lesson 16

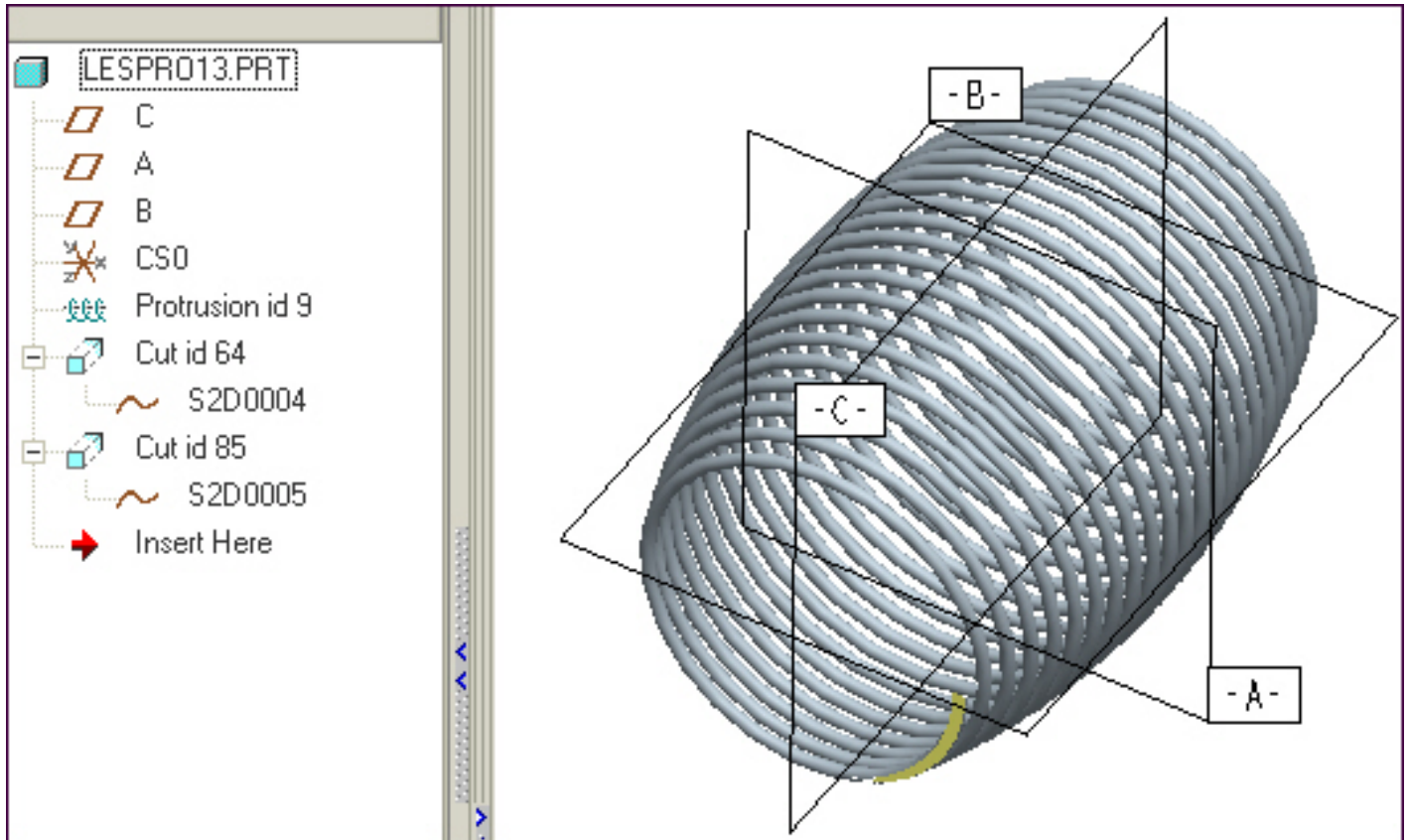


Figure Convex Compression Spring 1

Convex Compression Spring

This lesson project is a Convex Compression Spring. This project uses commands similar to those for the Helical Compression Spring. Analyze the part and plan the steps and features required to model it. The spring is made of *spring steel*. Add 3D Notes describing the spring.

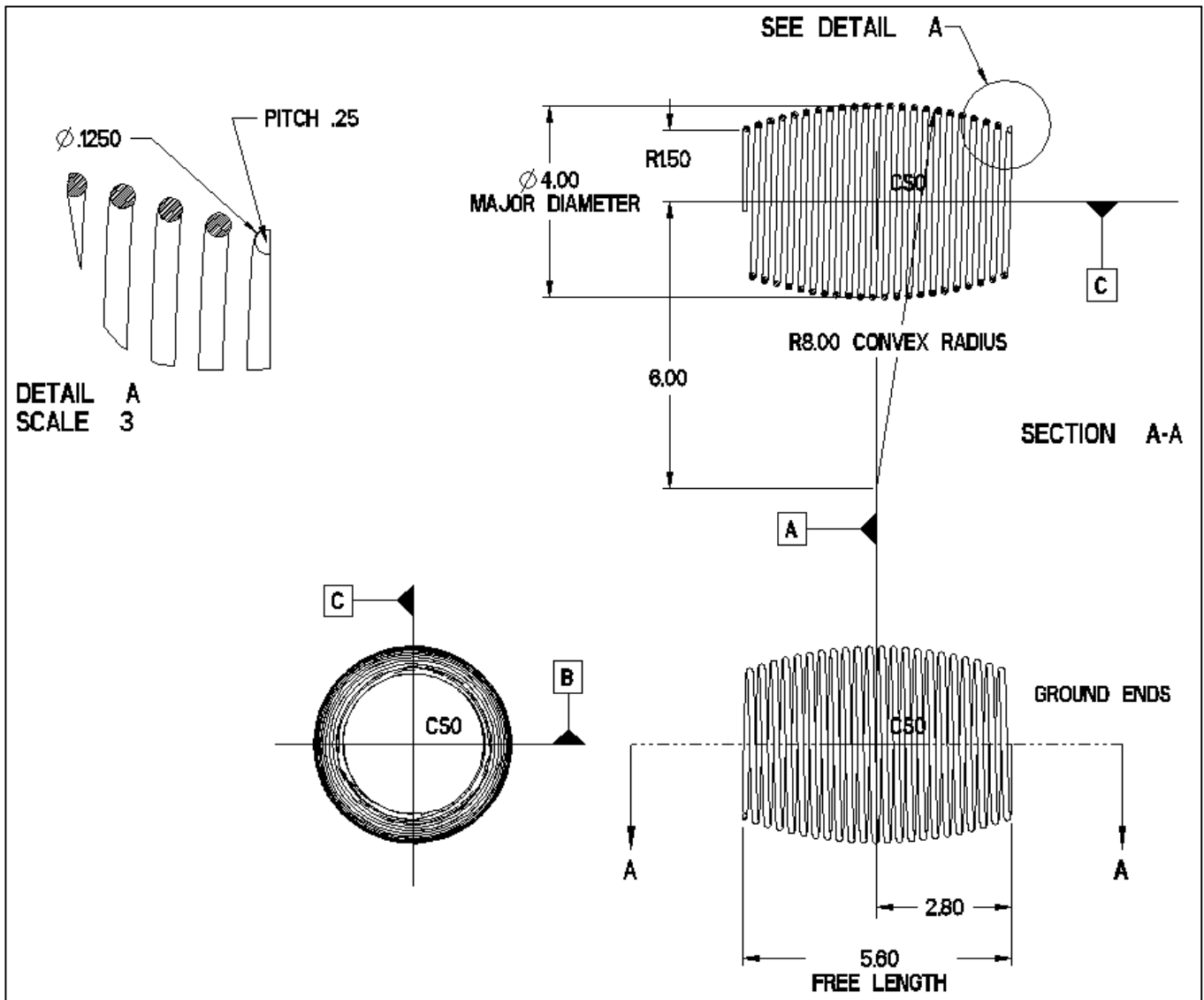


Figure Convex Compression Spring 2 Detail Drawing (ground ends)

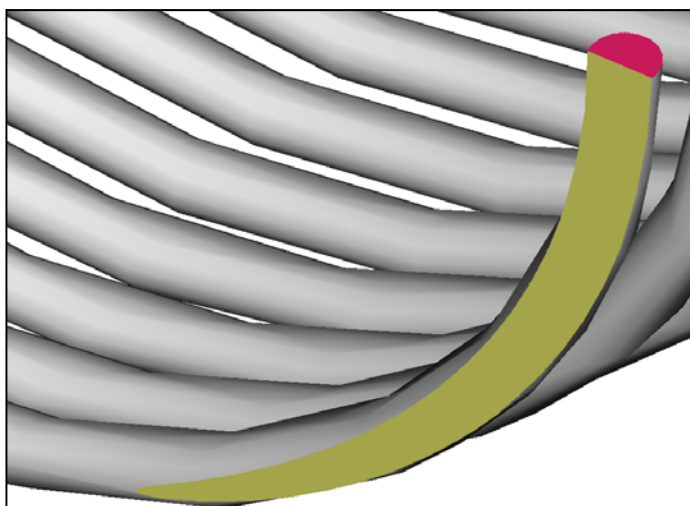


Figure Convex Compression Spring 3 Ground Ends

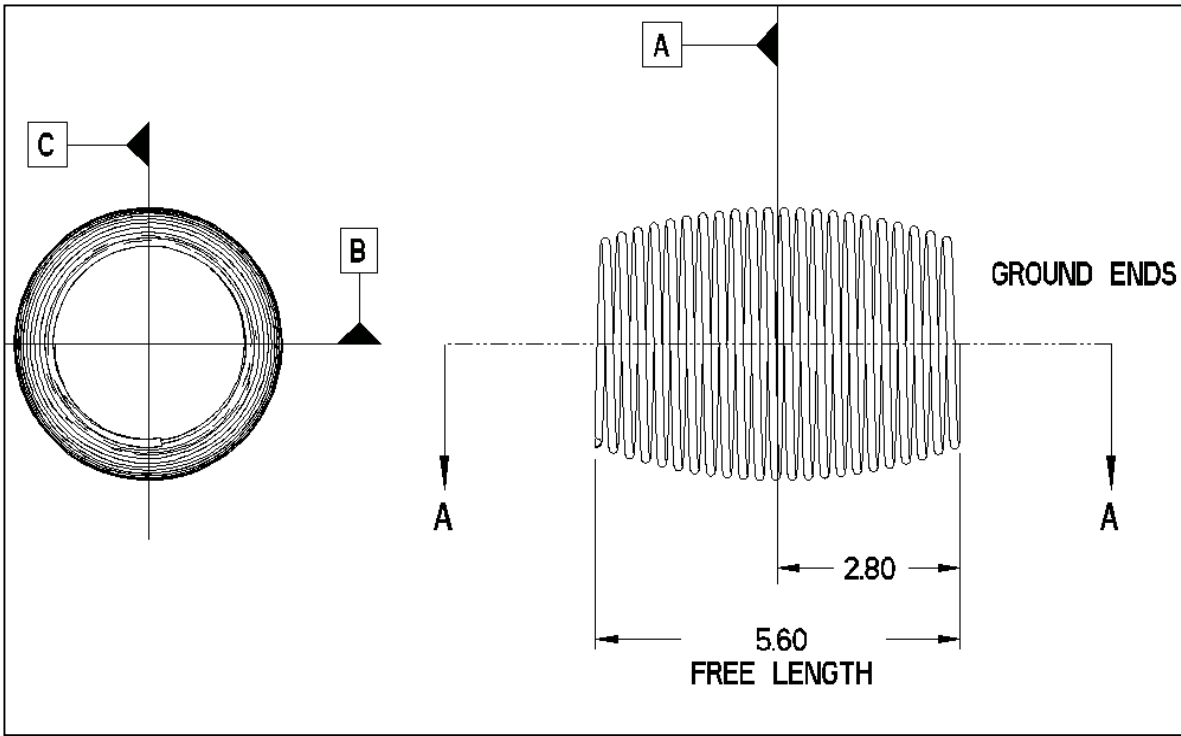


Figure Convex Compression Spring 4 Front and Left Side Views

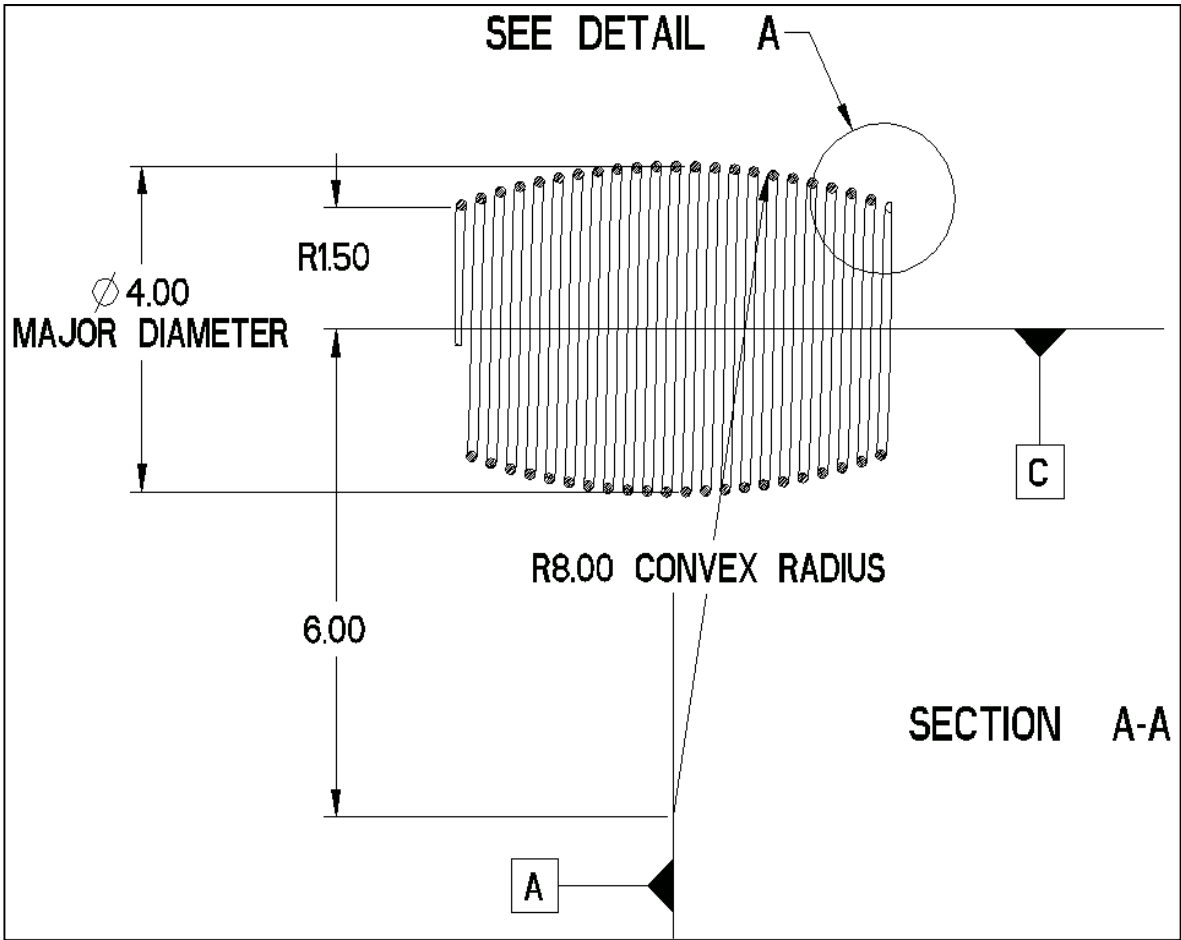


Figure Convex Compression Spring 5 Top View

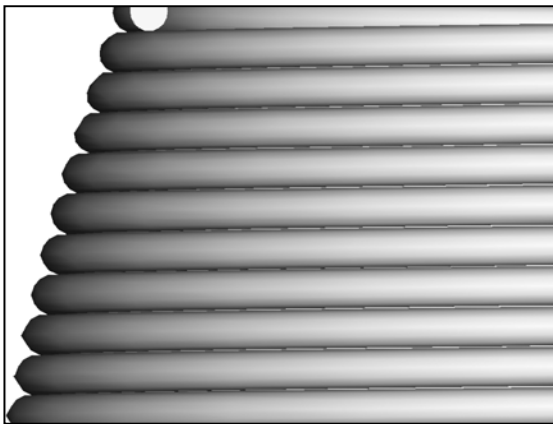
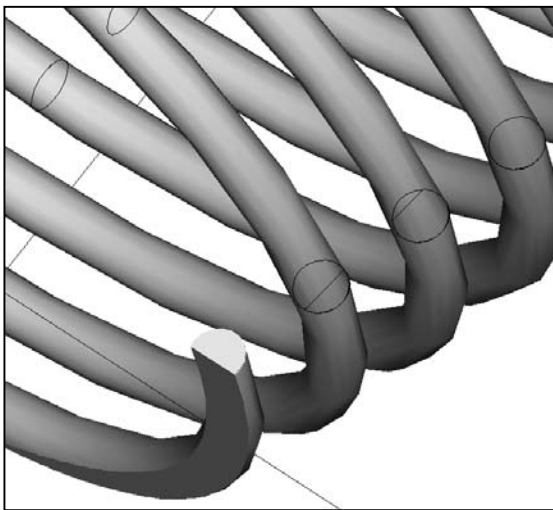
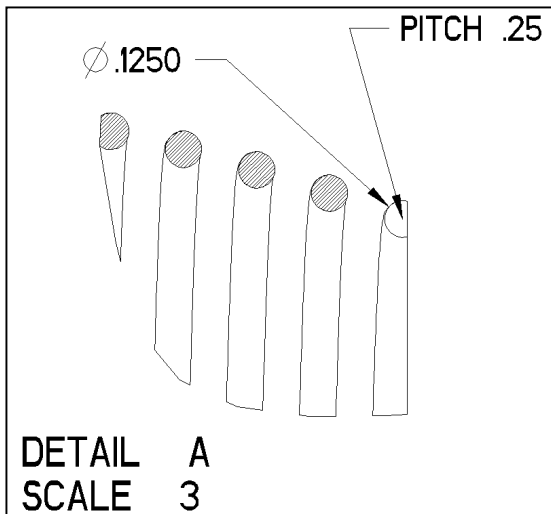


Figure Convex Compression Spring 6 DETAIL A, and Shaded Views

The ECO does *not* alter the *Convex Compression Spring* you just created. The ECO requests that a *different extension spring* be designed with hook ends instead of ground ends. The same size and dimensions required in the *Convex Compression Spring* are to be used in the new spring.

Save the Convex Compression Spring under a new name-- **CONVEX_COM_SPR_GRND_ENDS**. Rename the active part to something like **CON_EXT_SPR_HOOK_ENDS**. Delete the ground ends, and design machine hooks for both ends of the new spring. Refer to your Machinery's Handbook or your engineering graphics text for acceptable design options and dimensions for the hook ends. Create **3D Notes** to describe the spring.

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Form Name: eco.name		Request Date: eco.date		
		Current Submission Status: eco.stat		
List	Approval List	Notify List	Objects attached for reference	Description of Change

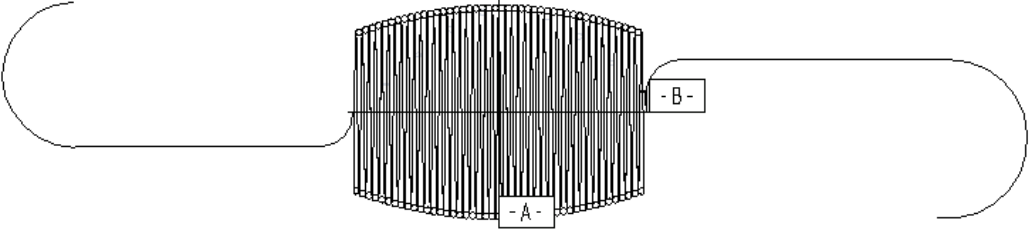
				
	User	Date	Comment	
			<p>Design a convex extension spring with machine hook ends.</p> <p>Use the same dimensions as those for the <i>Convex Compression Spring</i></p> <p>Design the hook ends using your own dimensions.</p> <p>Pitch to be .125</p>	

Figure Convex Compression Spring 7 ECO for New *Convex Extension Spring*

Cellular Phone Bottom Complete after Lesson 17

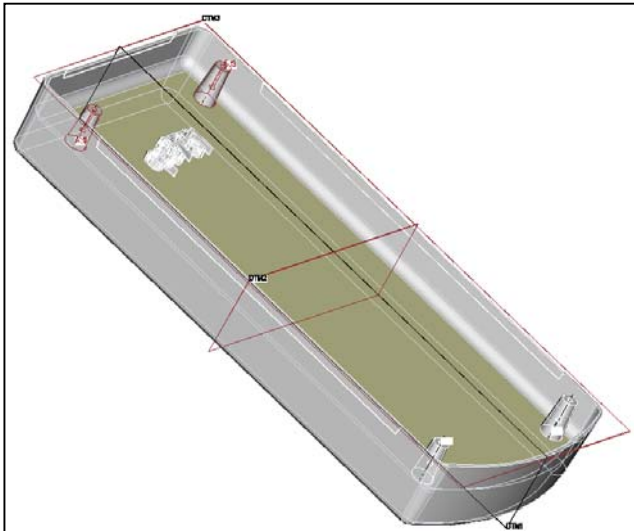
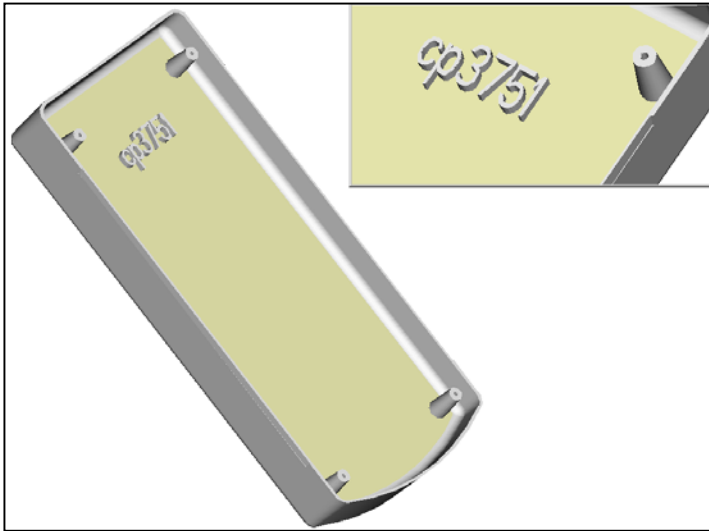


Figure Cellular Phone 1 Cellular Phone Bottom

Figure Cellular Phone 2 Datum Features

Cellular Phone Bottom

The Cellular Phone Bottom requires commands similar to those used in the Enclosure. Analyze the part and plan the steps and features required to model it. Plan the feature creation sequence and the parent-child relationships for the part. Thickness is .040 on its sides and .500 on its inside bottom.

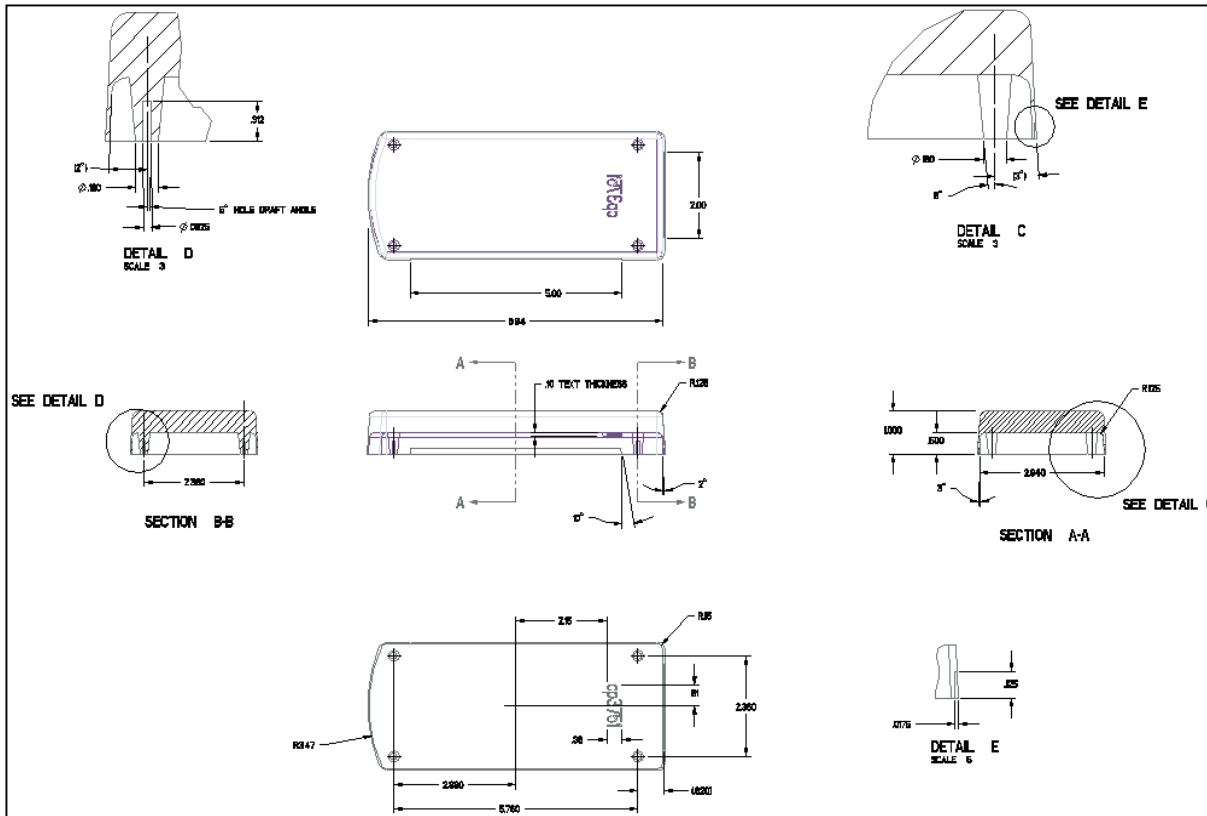


Figure Cellular Phone 3 Bottom Drawing

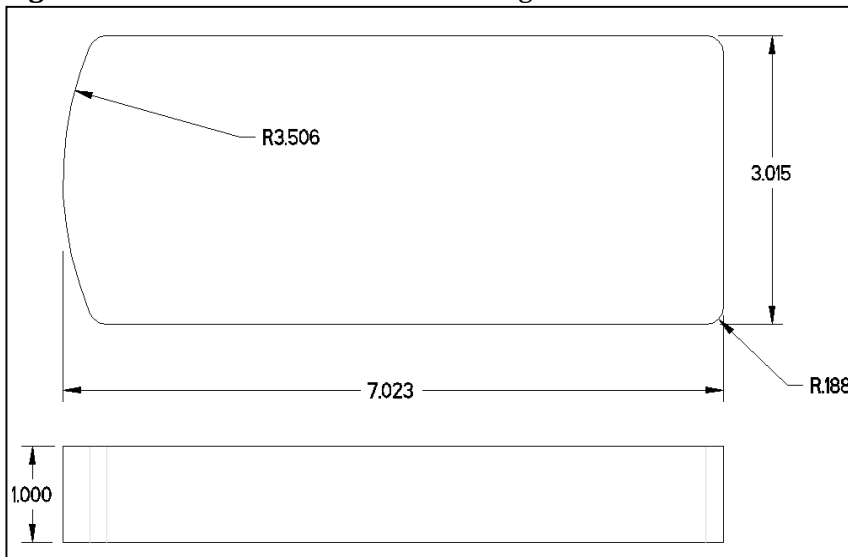


Figure Cellular Phone 4 Dimensions for First Protrusion

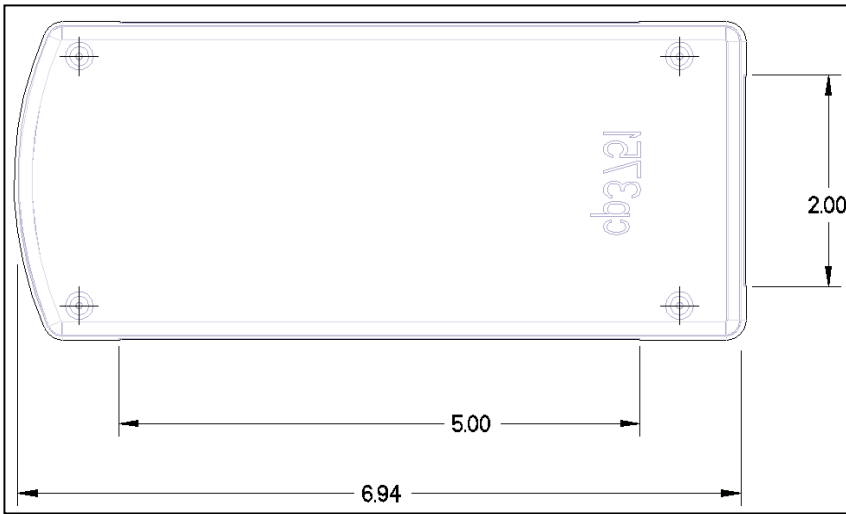


Figure Cellular Phone 5 Bottom Drawing, Top View

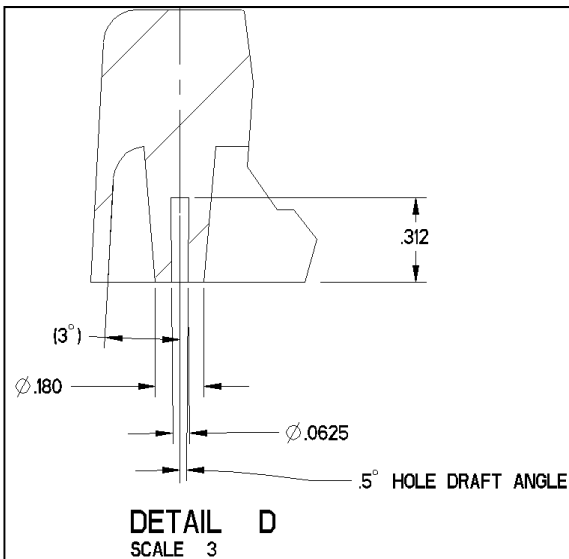
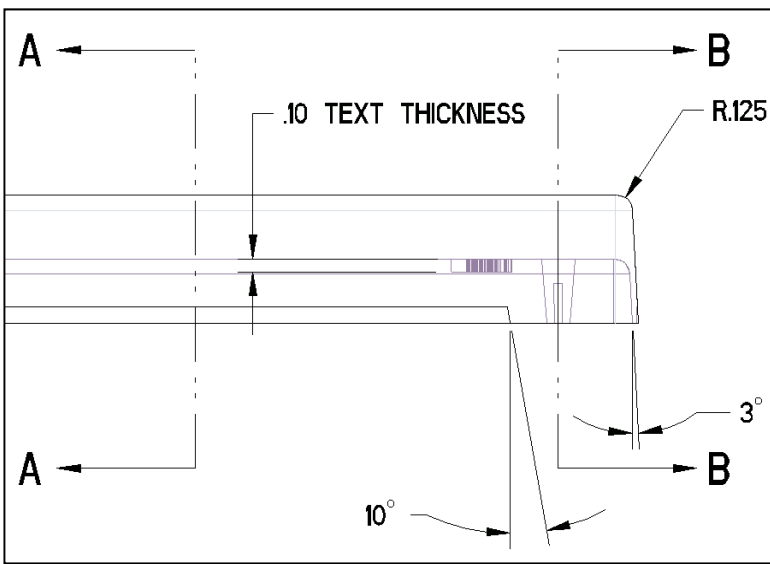


Figure Cellular Phone 6 Bottom Drawing, Front View

Figure Cellular Phone 7 DETAIL D

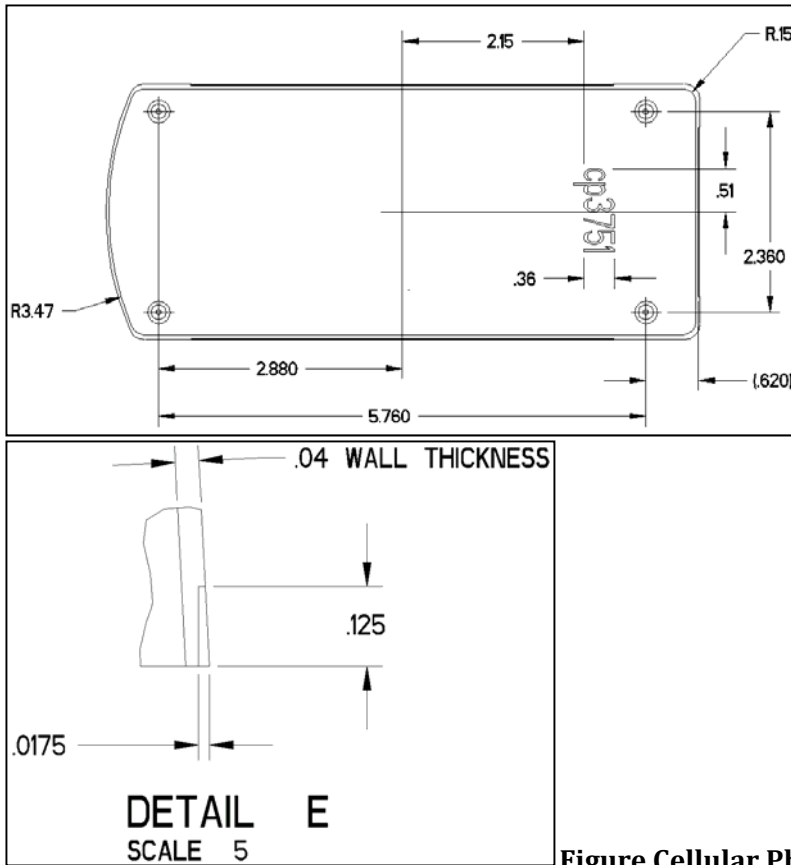


Figure Cellular Phone 8 Drawing, Bottom View

Figure Cellular Phone 9 DETAIL E

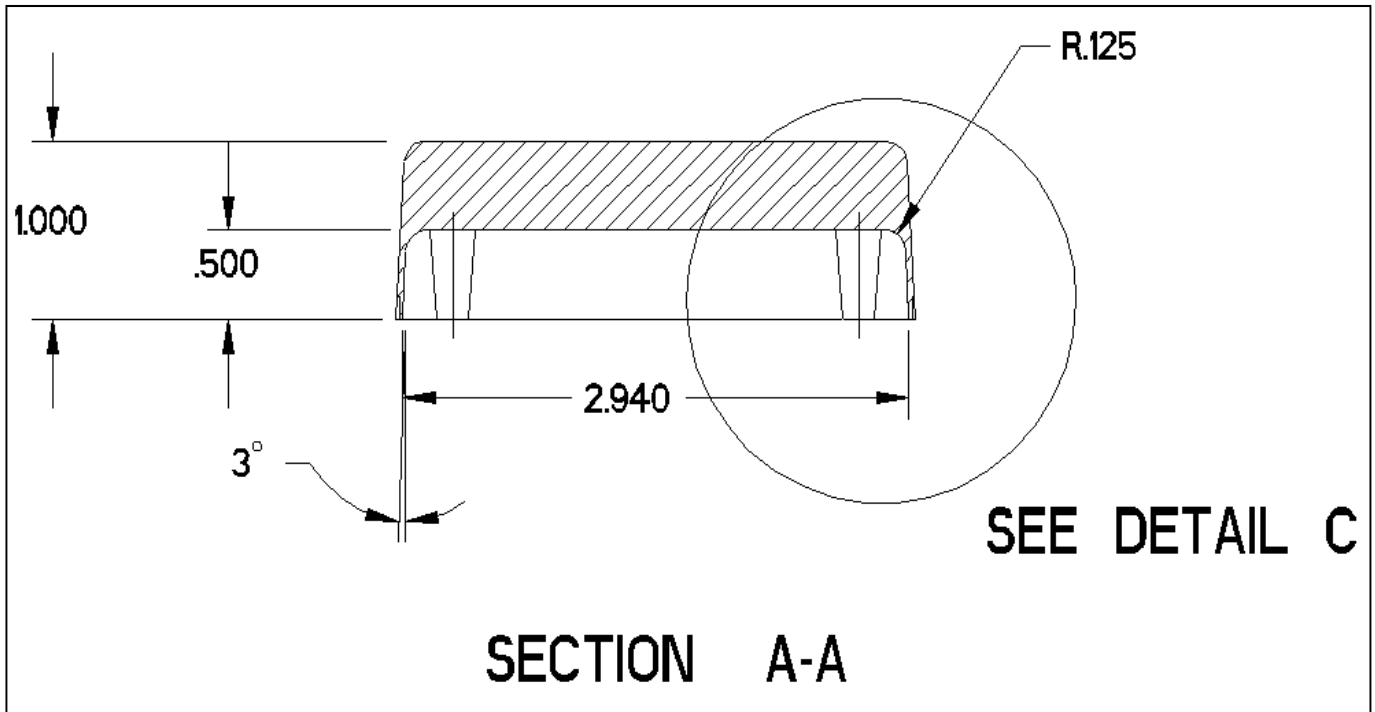


Figure Cellular Phone 10 SECTION A-A

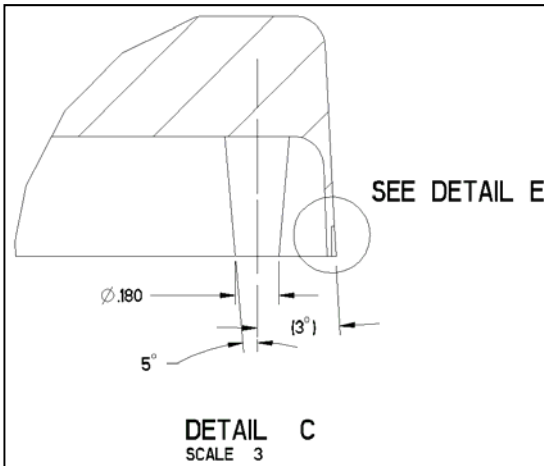
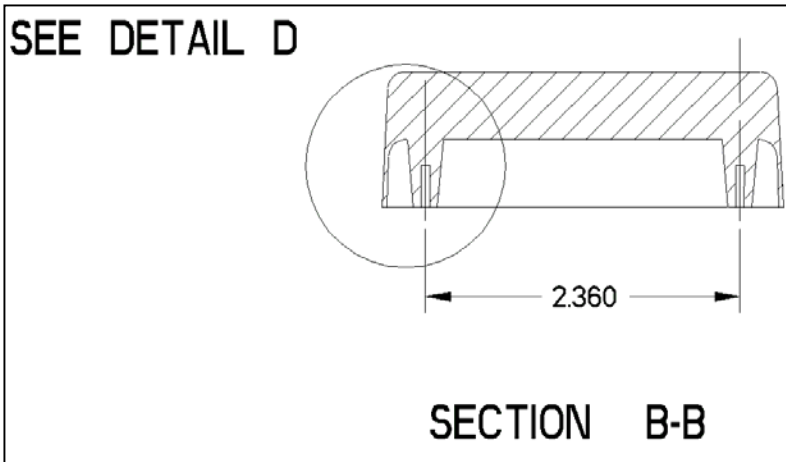


Figure Cellular Phone 11 SECTION B-B

Figure Cellular Phone 12 DETAIL C

Cellular Phone Top Complete after Lesson 18

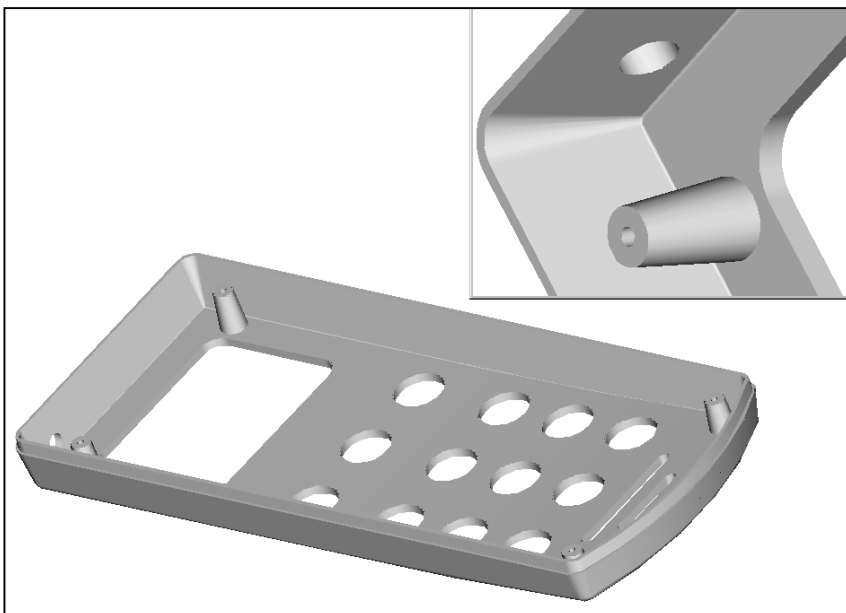


Figure Cell Phone 1 Cellular Phone Top

The Cell Phone Top is one of two major components for a cellular phone. The part is made of the same plastic as the Cellular Phone Bottom. If time permits, try to assemble the two pieces (you may need to modify these parts to attain a proper fit). Analyze the part and plan the steps and features required to model it.

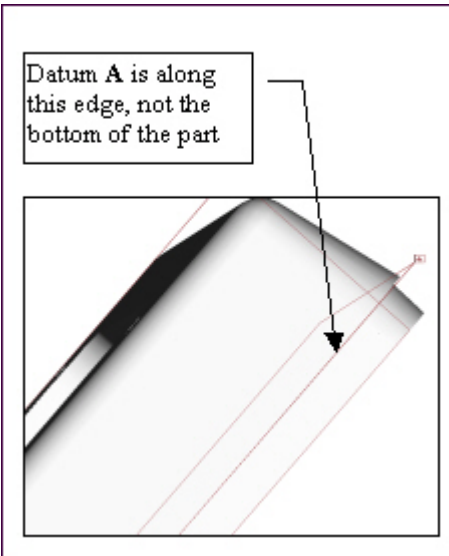
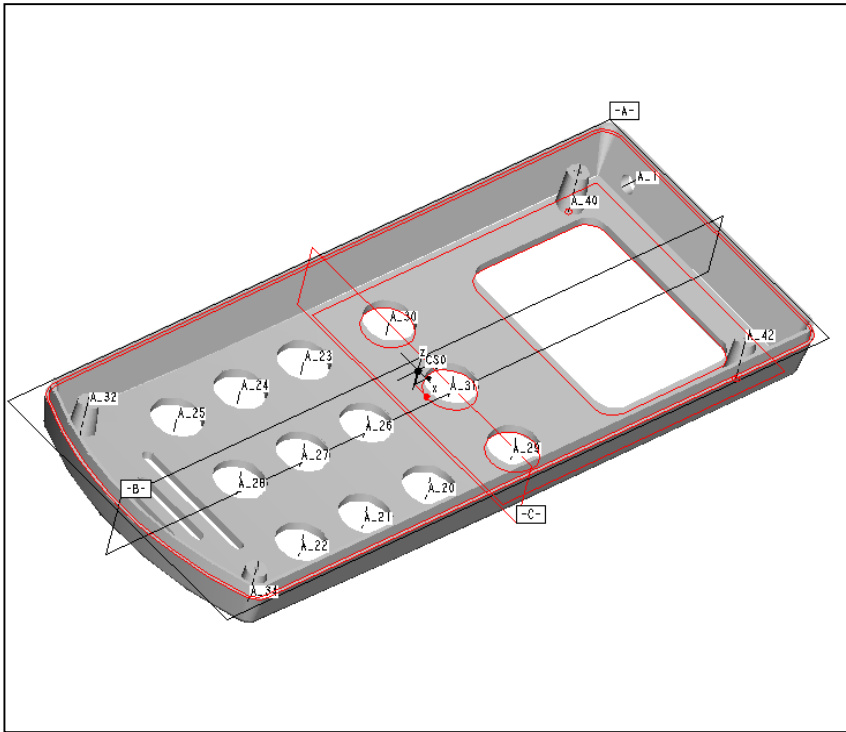


Figure Cell Phone 2 Top Showing Datum Planes

Figure Cell Phone 3 Datum A

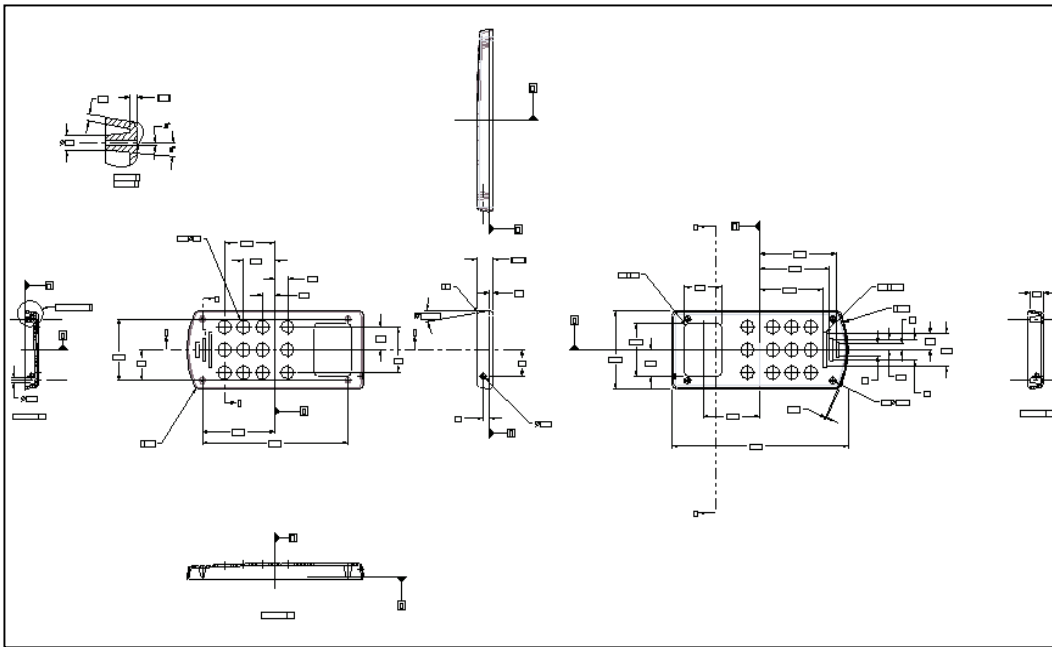


Figure Cell Phone 4 Detail Drawing

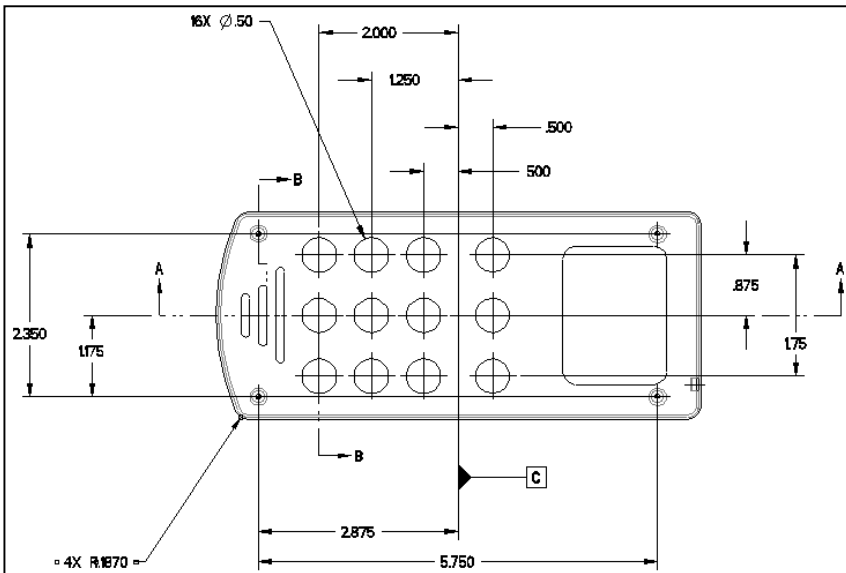


Figure Cell Phone 5 Front View

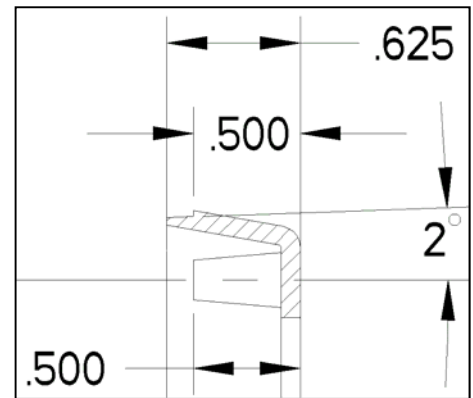


Figure Cell Phone 6 Section

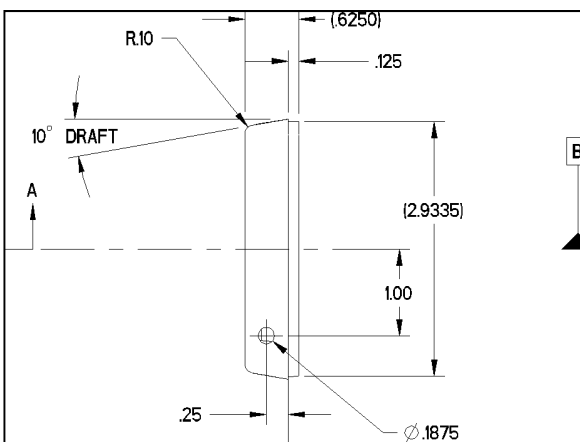


Figure Cell Phone 7 Right Side View

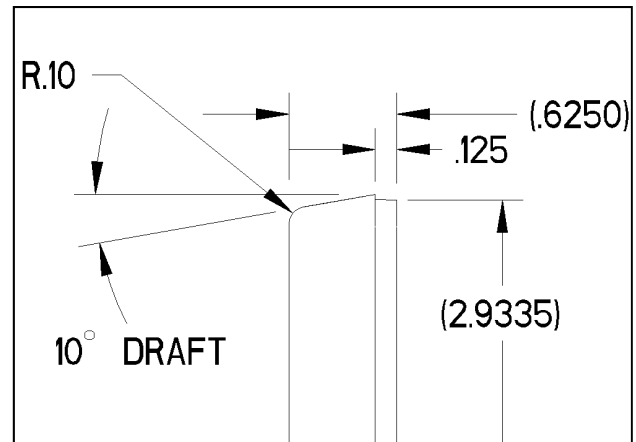


Figure Cell Phone 8 Section

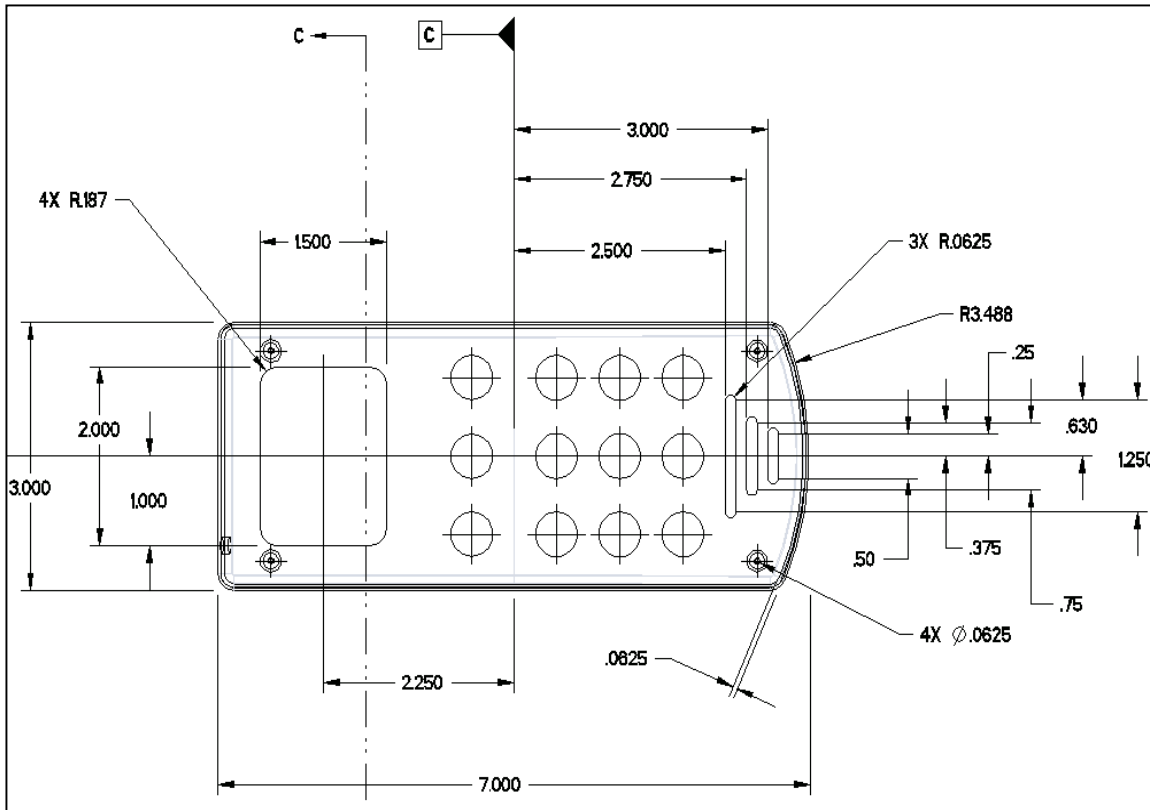


Figure Cell Phone 9 Bottom View

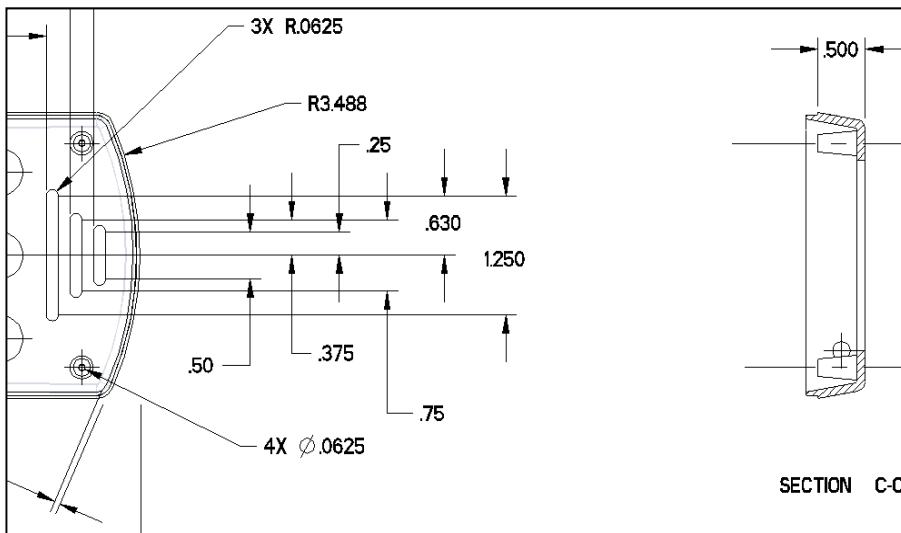


Figure Cell Phone 10 SECTION C-C

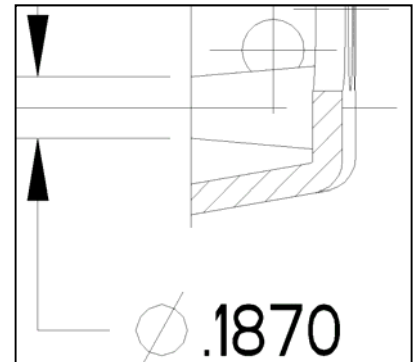


Figure Cell Phone 11 Diameter

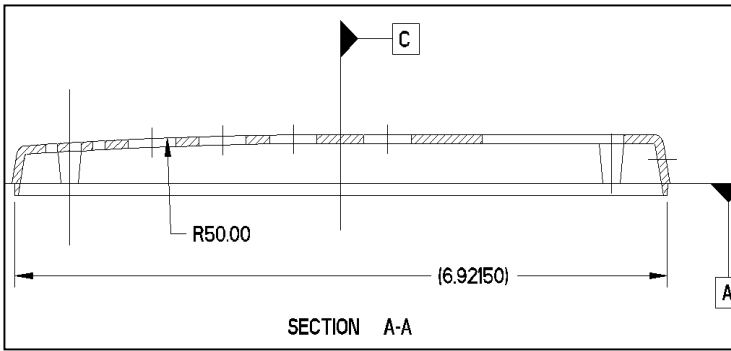


Figure Cell Phone 14 SECTION A-A

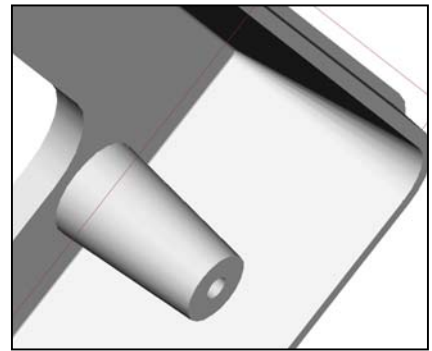


Figure Cell Phone 15 Boss

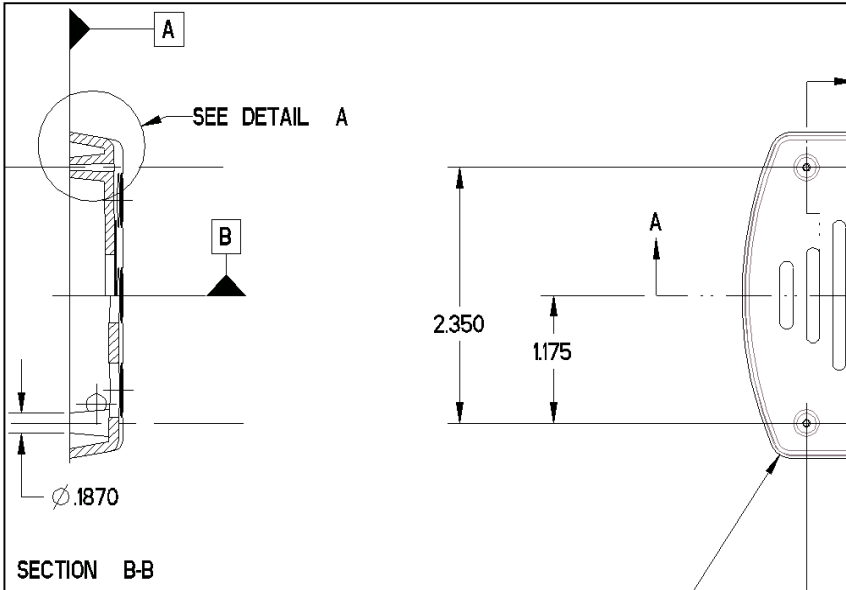


Figure Cell Phone 14 SECTION B-B



Figure Cell Phone 15 Grill

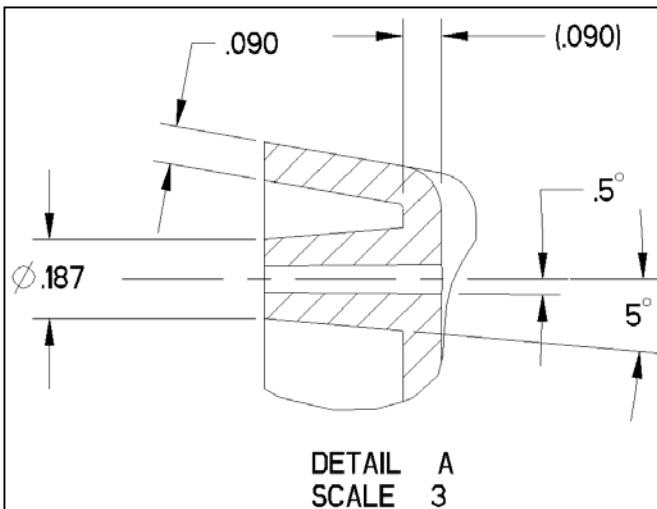


Figure Cell Phone 16 DETAIL A

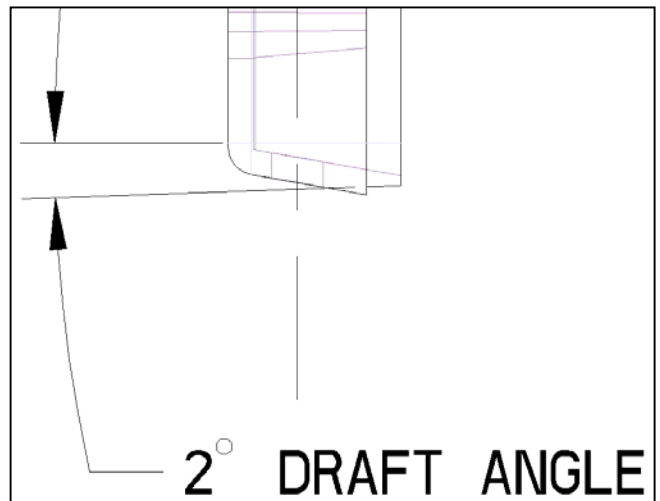


Figure Cell Phone 17 Draft Angle

Creo Parametric

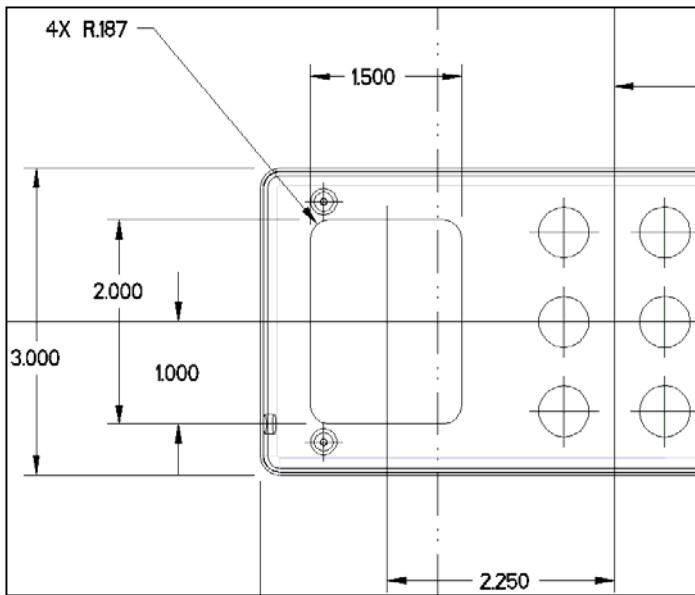


Figure Cell Phone 18 Opening

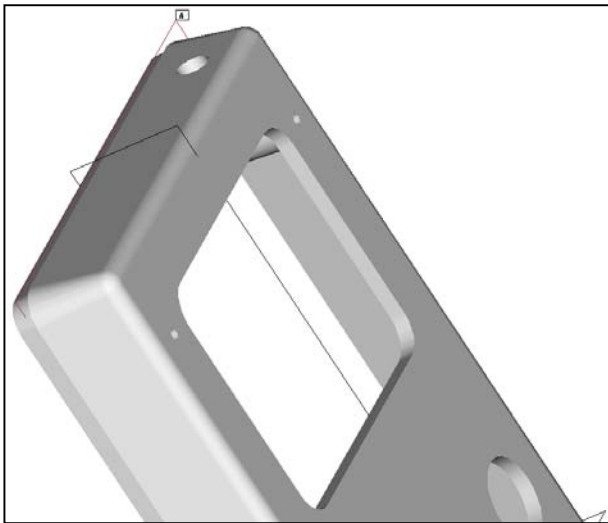


Figure Cell Phone 19 Opening

Cover Plate Complete after Lesson 18

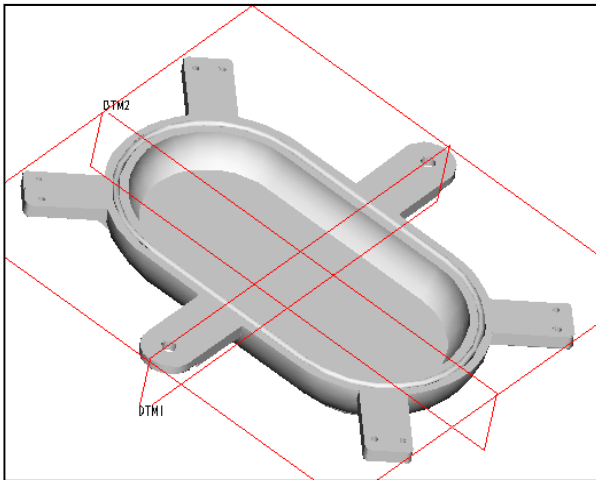
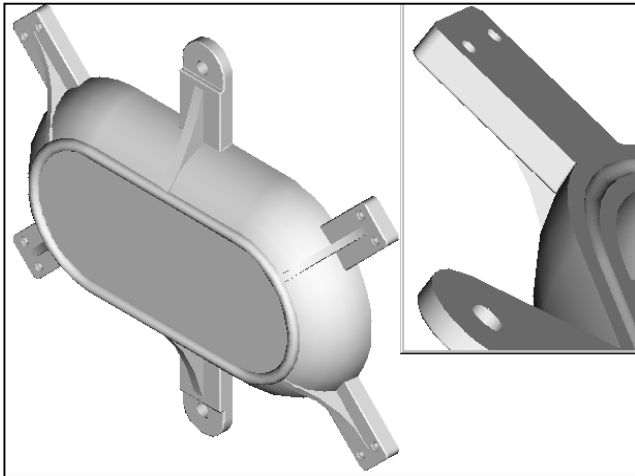


Figure Cover Plate 1 Cover Plate

Figure Cover Plate 2 Bottom

Cover Plate

The Cover Plate is a cast-iron part. The sweep will have a closed trajectory with inner faces included. Analyze the part and plan the steps and features required to model it. Establish the feature creation sequence and the parent-child relationships for the part. Add rounds on all non-machined edges.

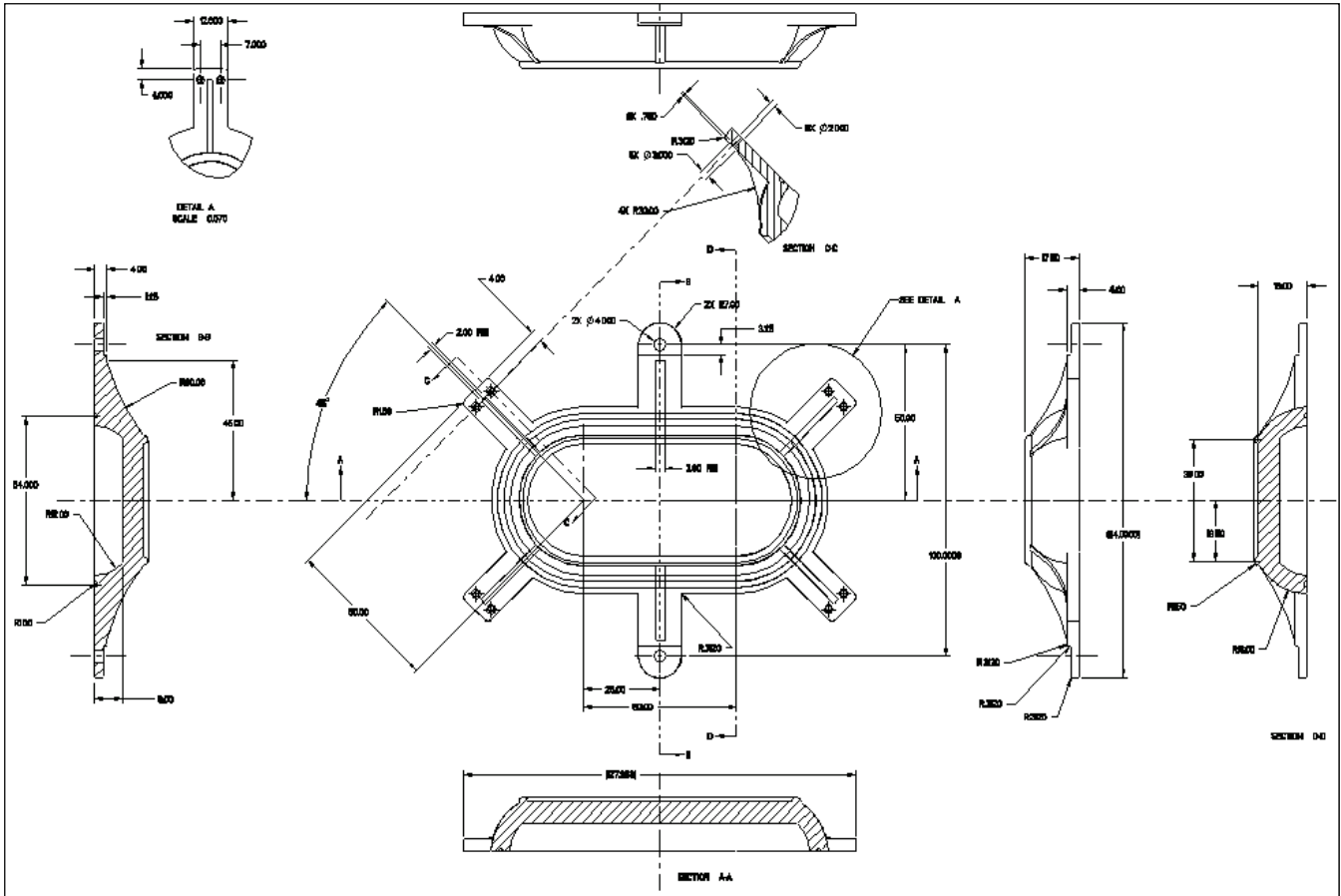


Figure Cover Plate 3 Detail Drawing, Sheet One

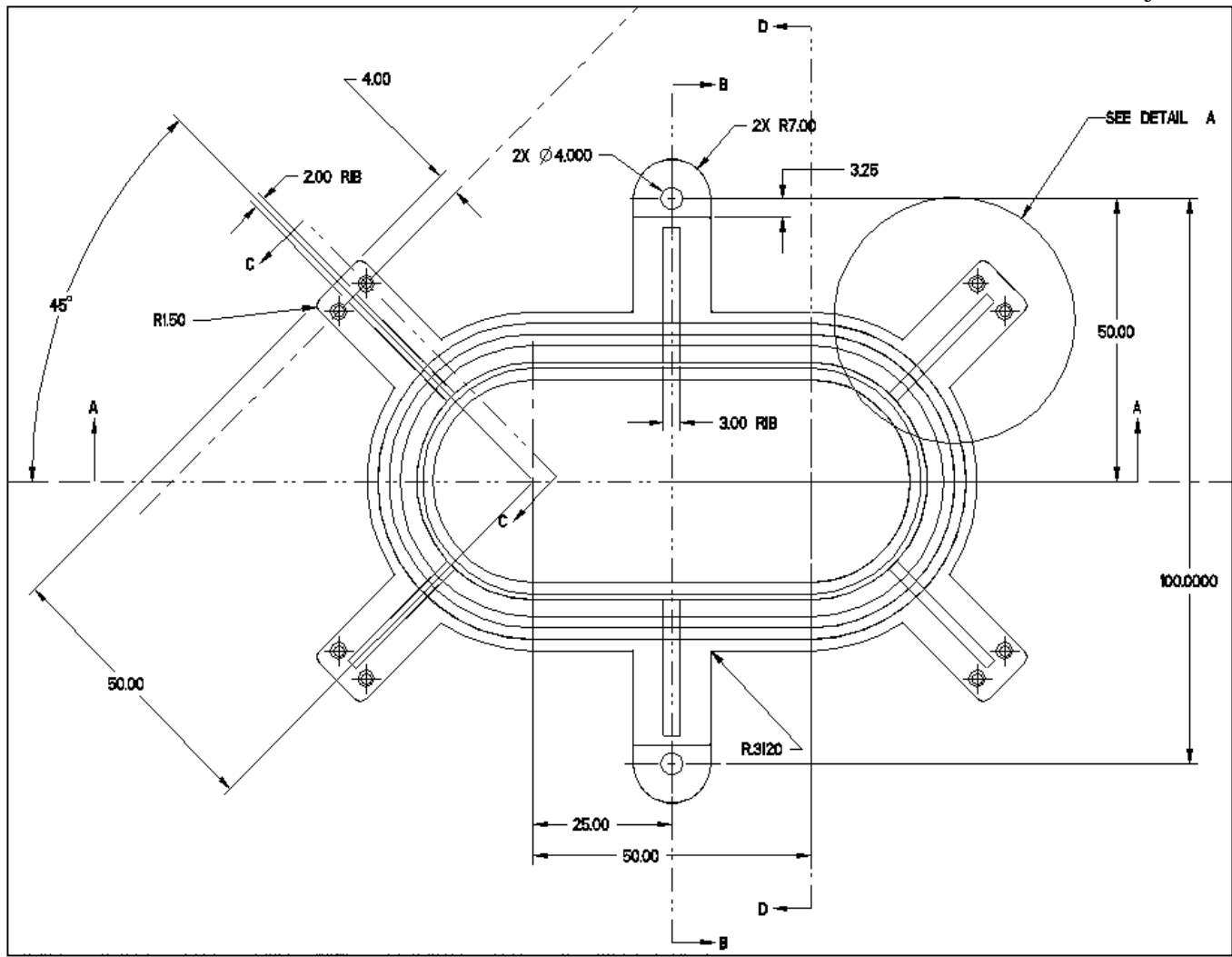


Figure Cover Plate 4 Drawing, Top View

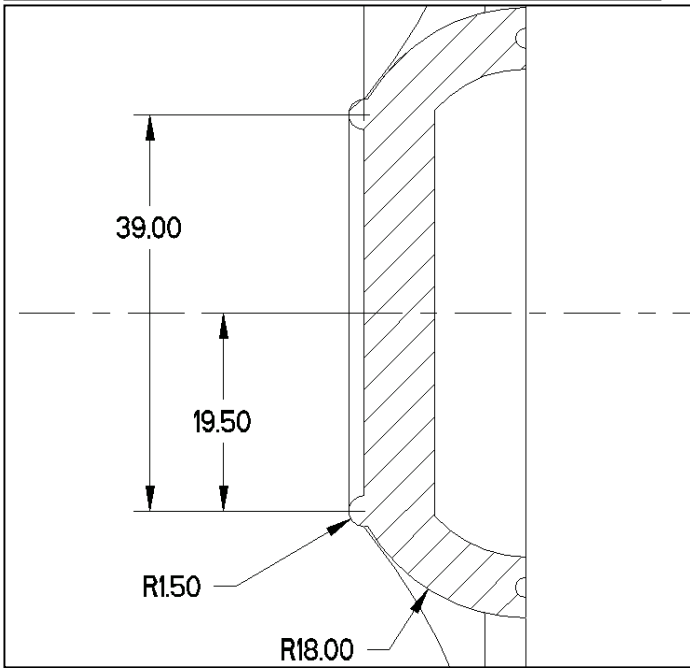
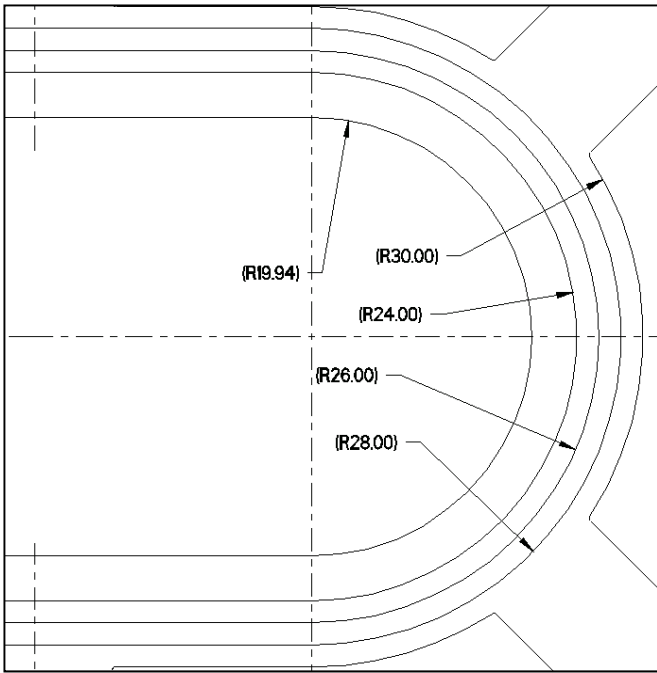


Figure Cover Plate 6 SECTION D-D

Figure Cover Plate 5 Sheet Two, Bottom View

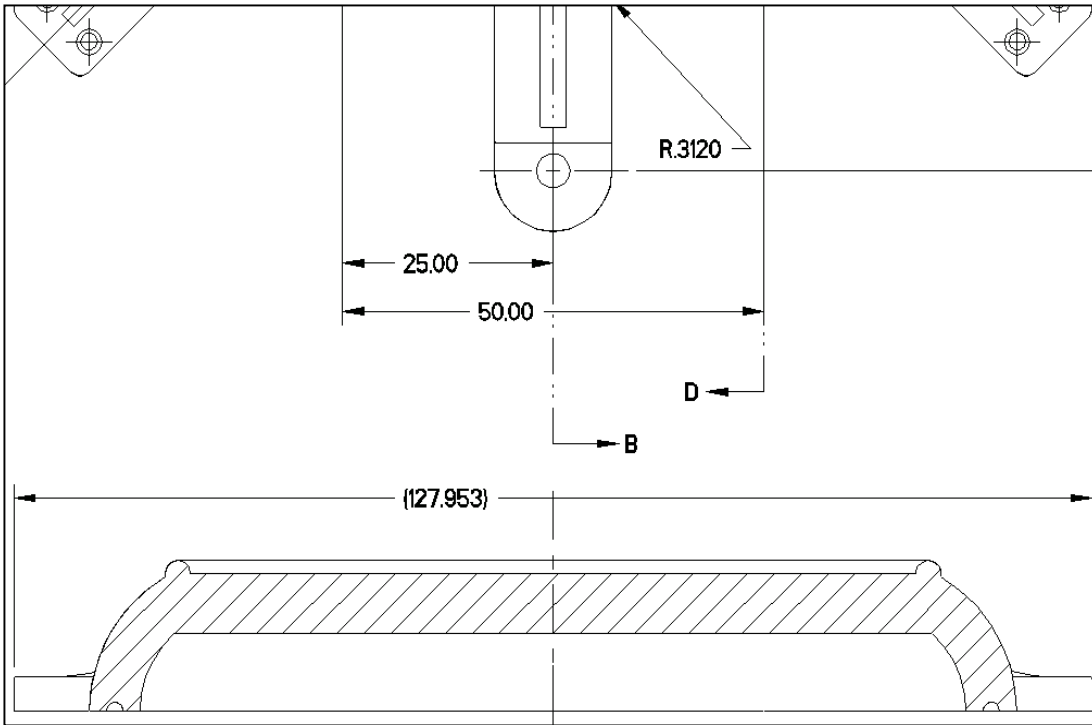


Figure Cover Plate 7 SECTION A-A

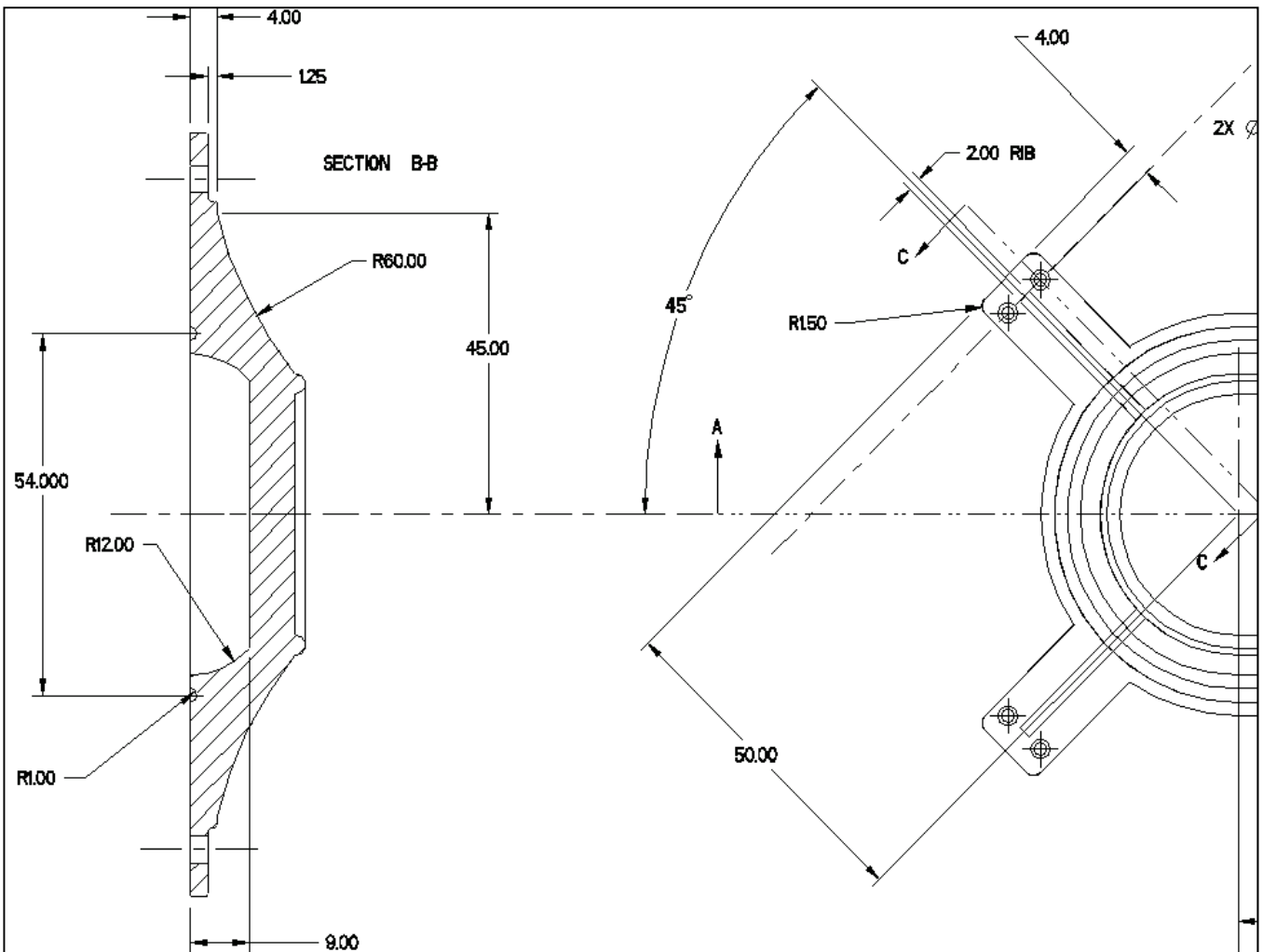


Figure Cover Plate 8 SECTION

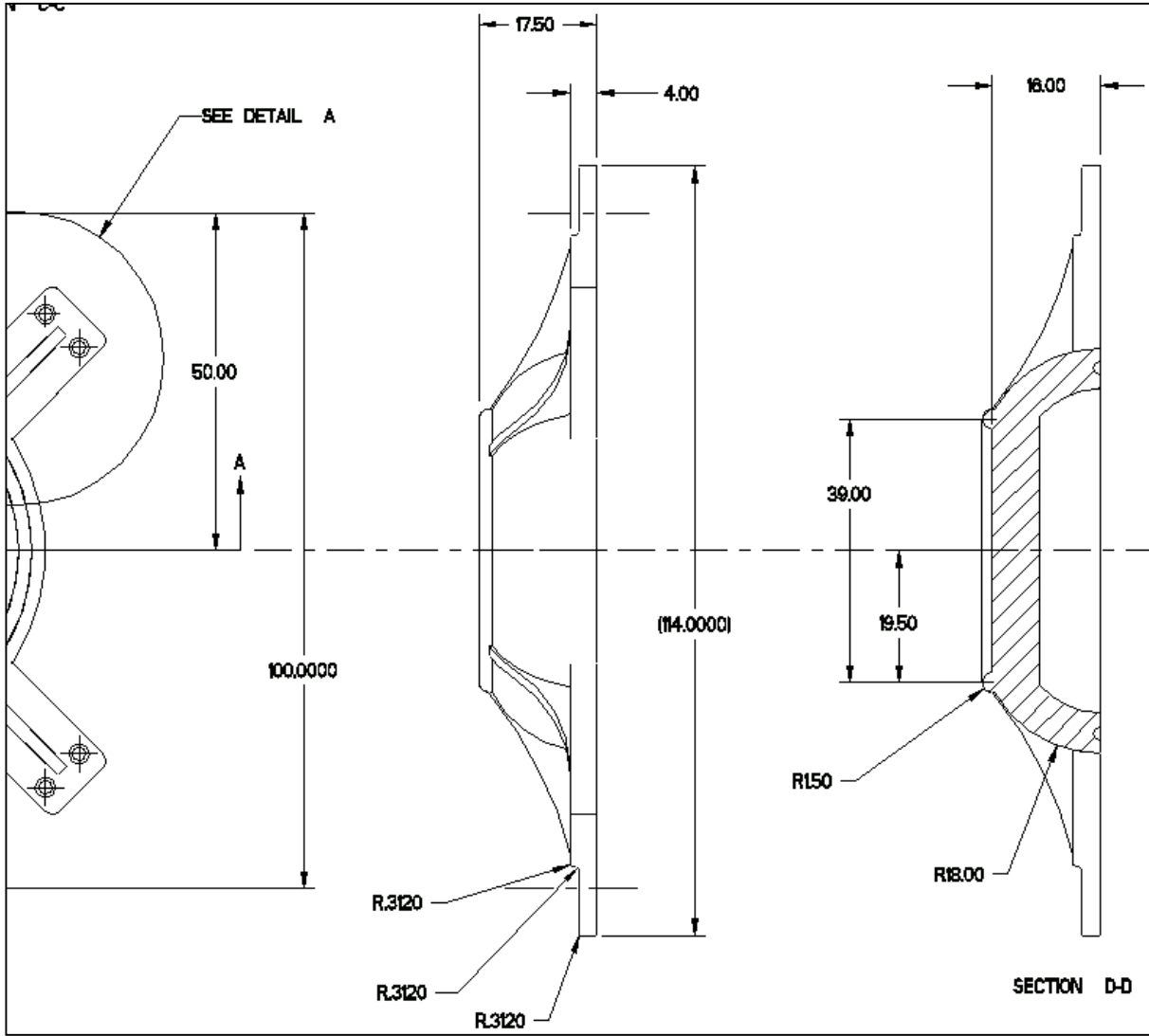


Figure Cover Plate 9 SECTION D-D

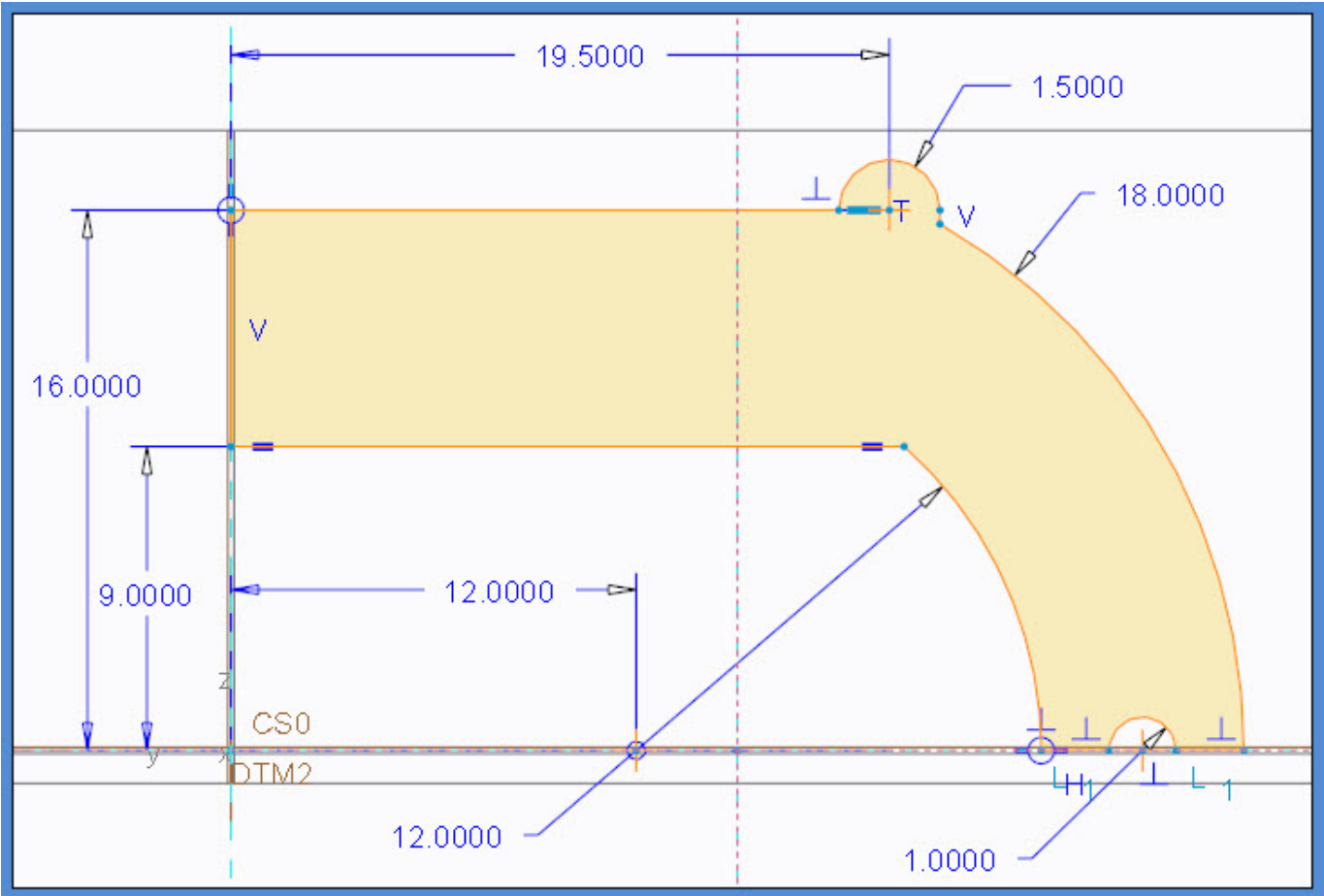


Figure Cover Plate 10 (a) Cover Plate Sweep Section Sketch (Use a "closed section")

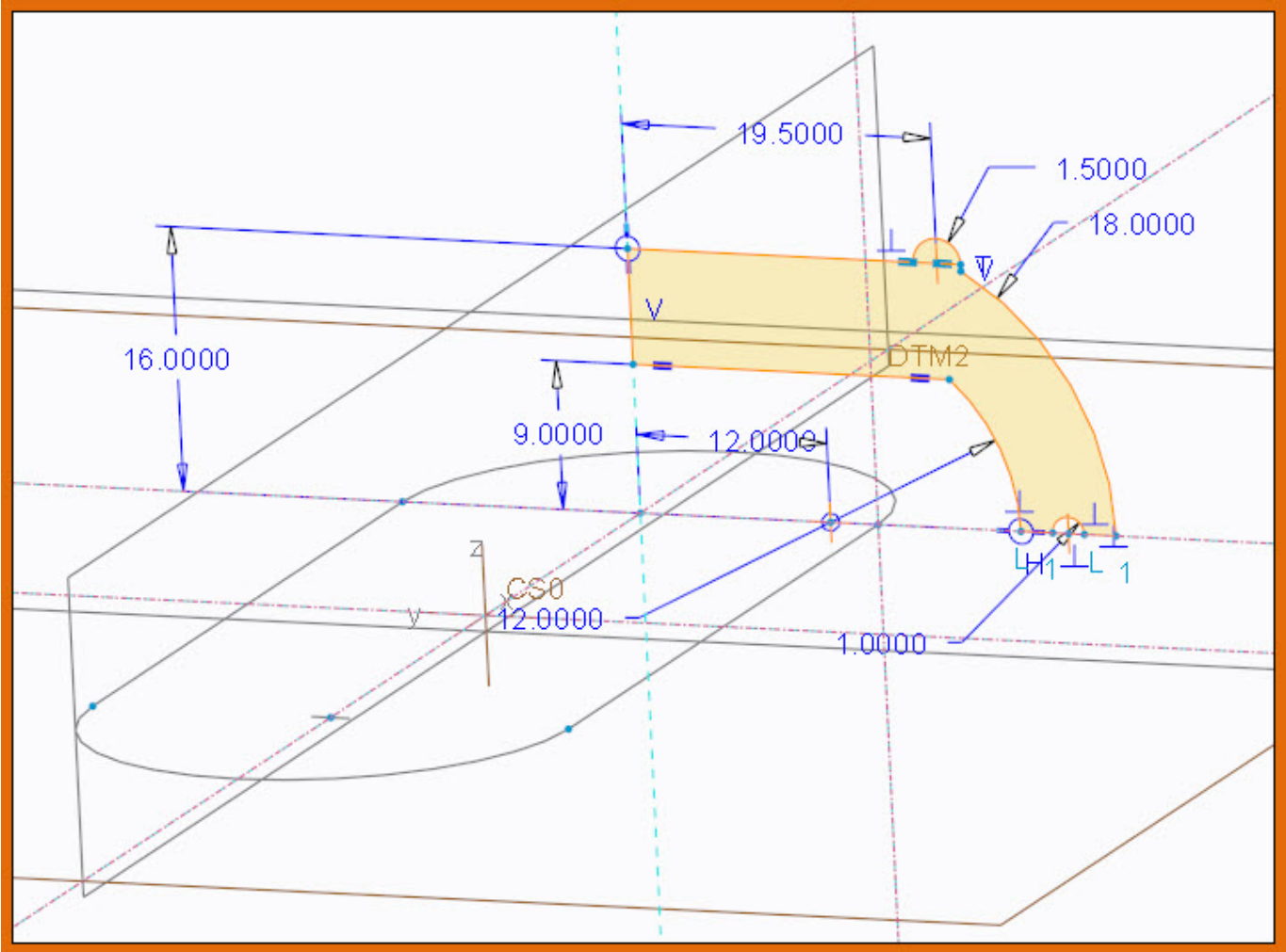


Figure Cover Plate 10 (b) Cover Plate Sweep Section Sketch

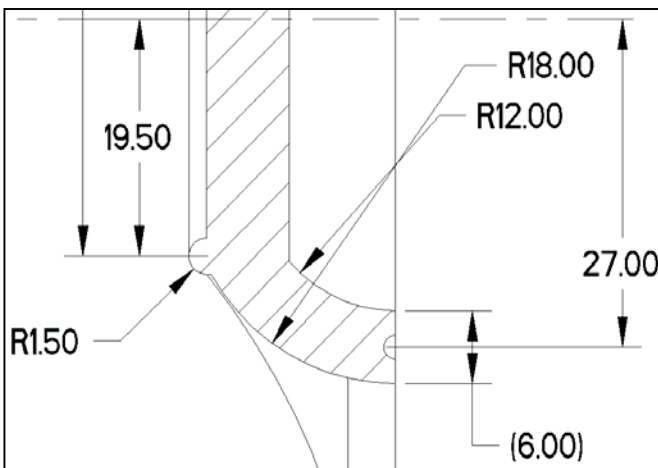


Figure Cover Plate 11 Section

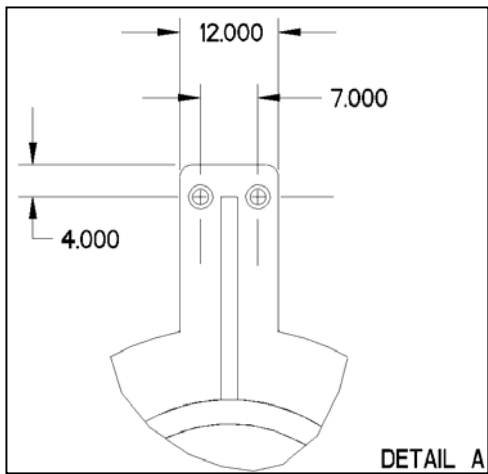


Figure Cover Plate 12 DETAIL A

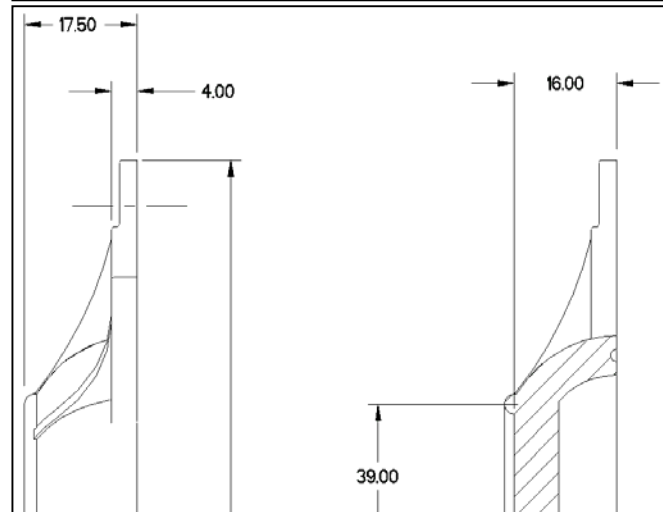
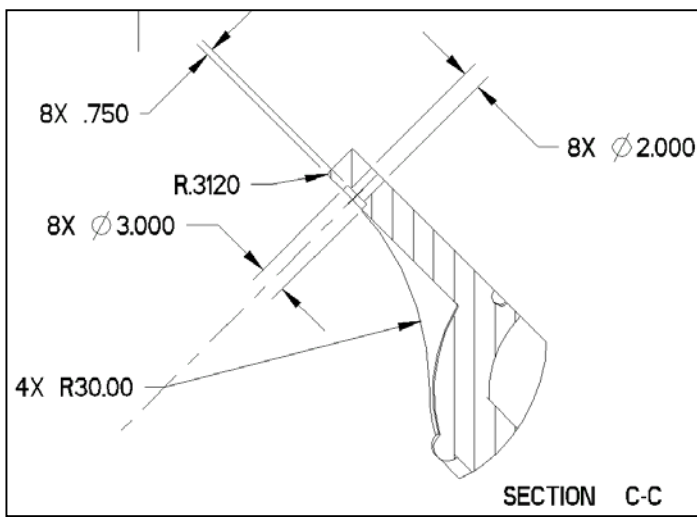


Figure Cover Plate 13 SECTION C-C

Figure Cover Plate 14 Dimensions

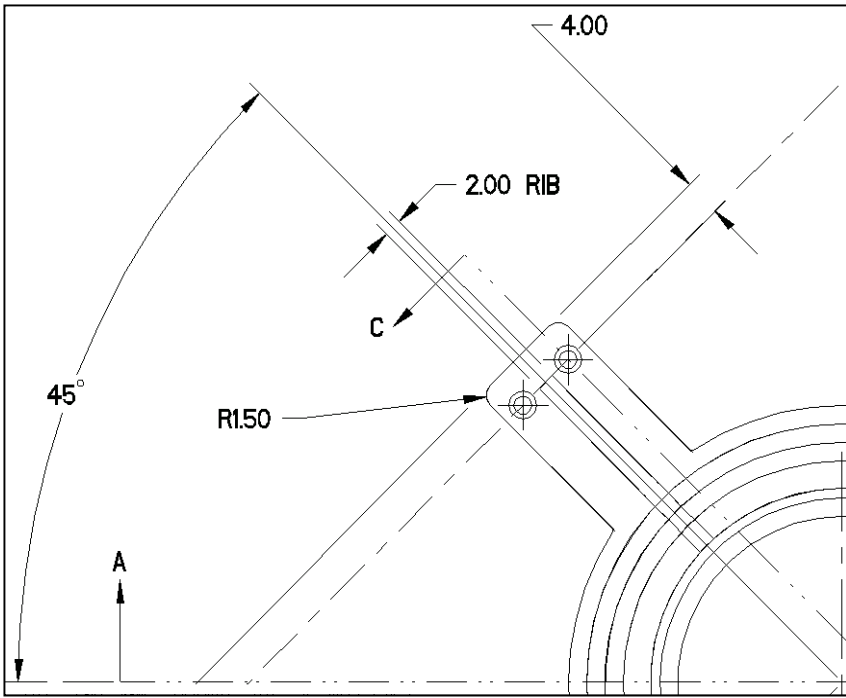


Figure Cover Plate 15 Close-up of Top Left

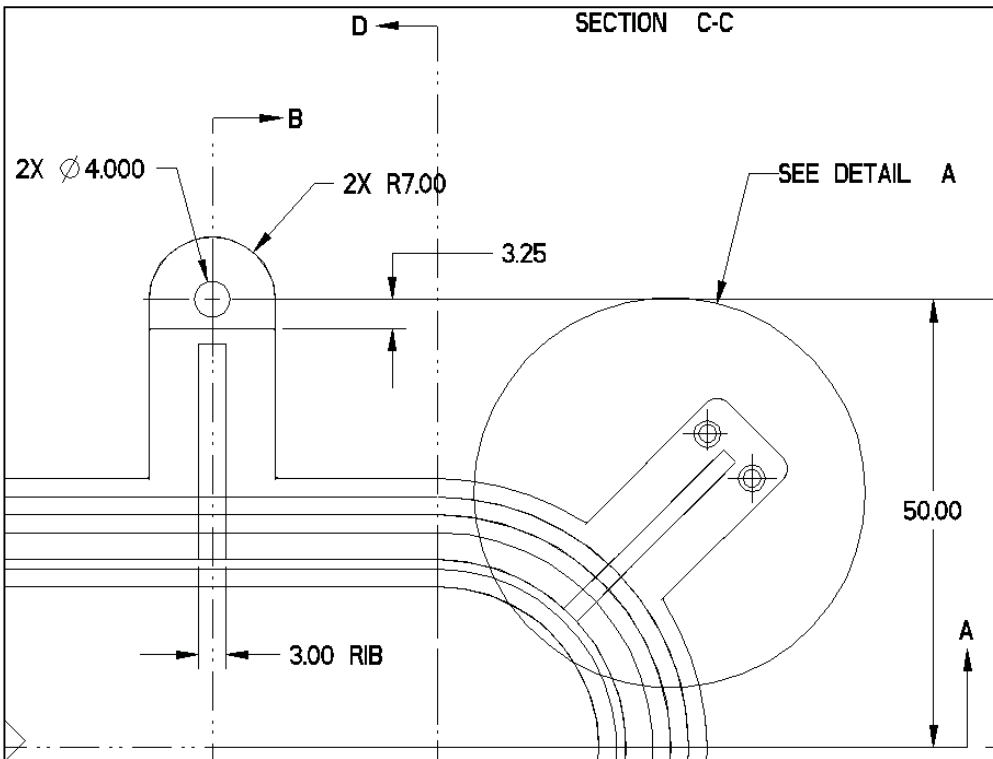


Figure Cover Plate 16 Close-up of Top Right

Creo Parametric

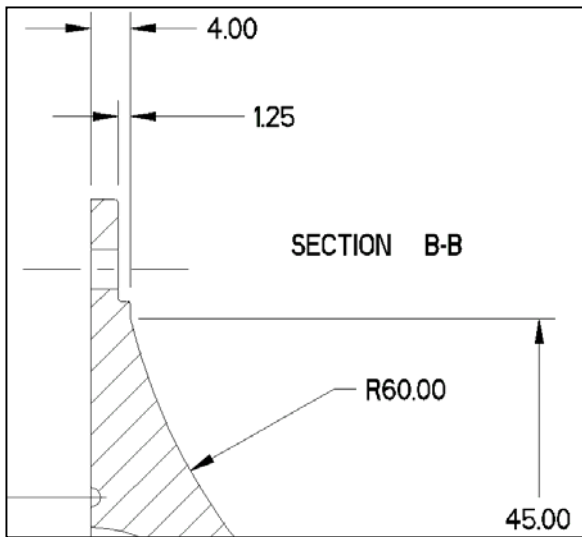


Figure Cover Plate 17 SECTION B-B

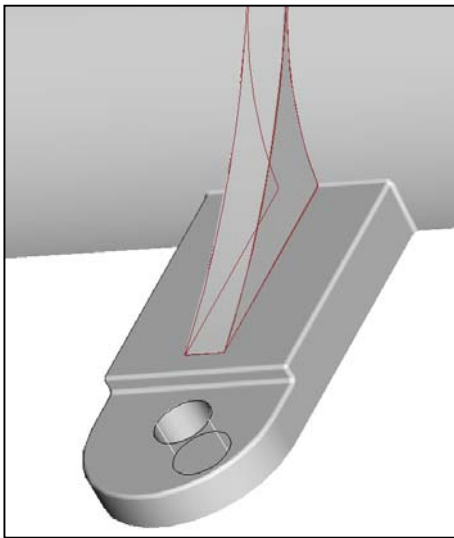


Figure Cover Plate 18 Rounded Leg

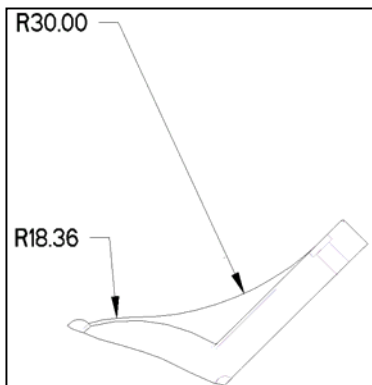


Figure Cover Plate 19 Legs

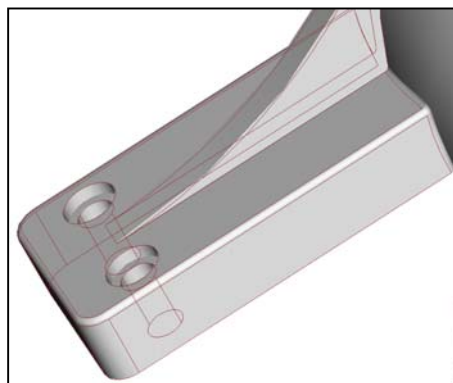


Figure Cover Plate 20 Rectangular Leg

Advanced Project Faucet

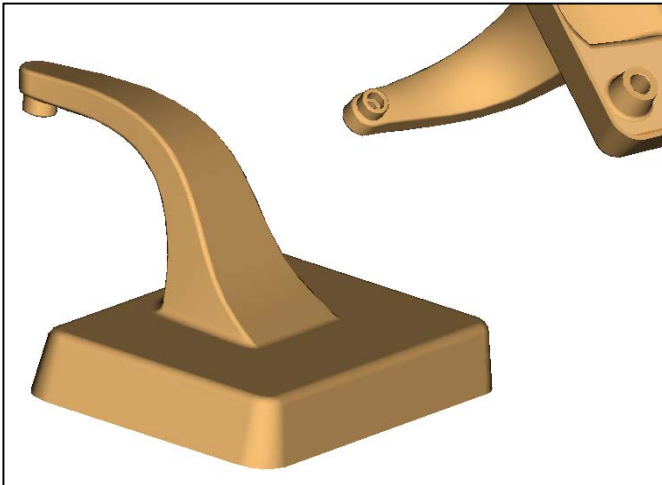


Figure Bathroom Faucet 1 Bathroom Faucet

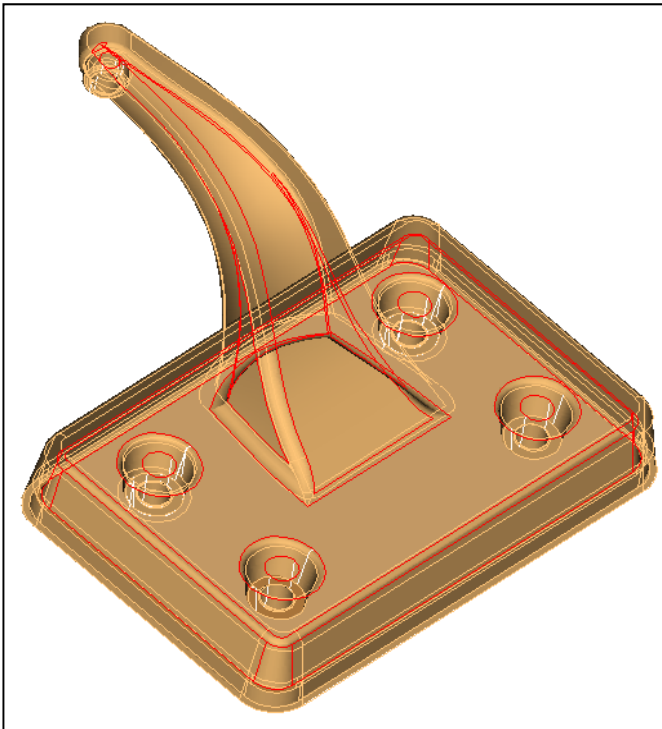


Figure Bathroom Faucet 2 Bottom

Bathroom Faucet

This is an advanced lesson project. Because you have created over twenty parts, you should be able to use that knowledge to model the Sweep Blend required to create the Bathroom Faucet. Some instructions accompany this lesson project, but you will be required to research documentation (HELP) and learn about Splines and Sweep Blends. After the model is complete, create a number of sections that can be used in Drawing mode when you are detailing the Faucet.

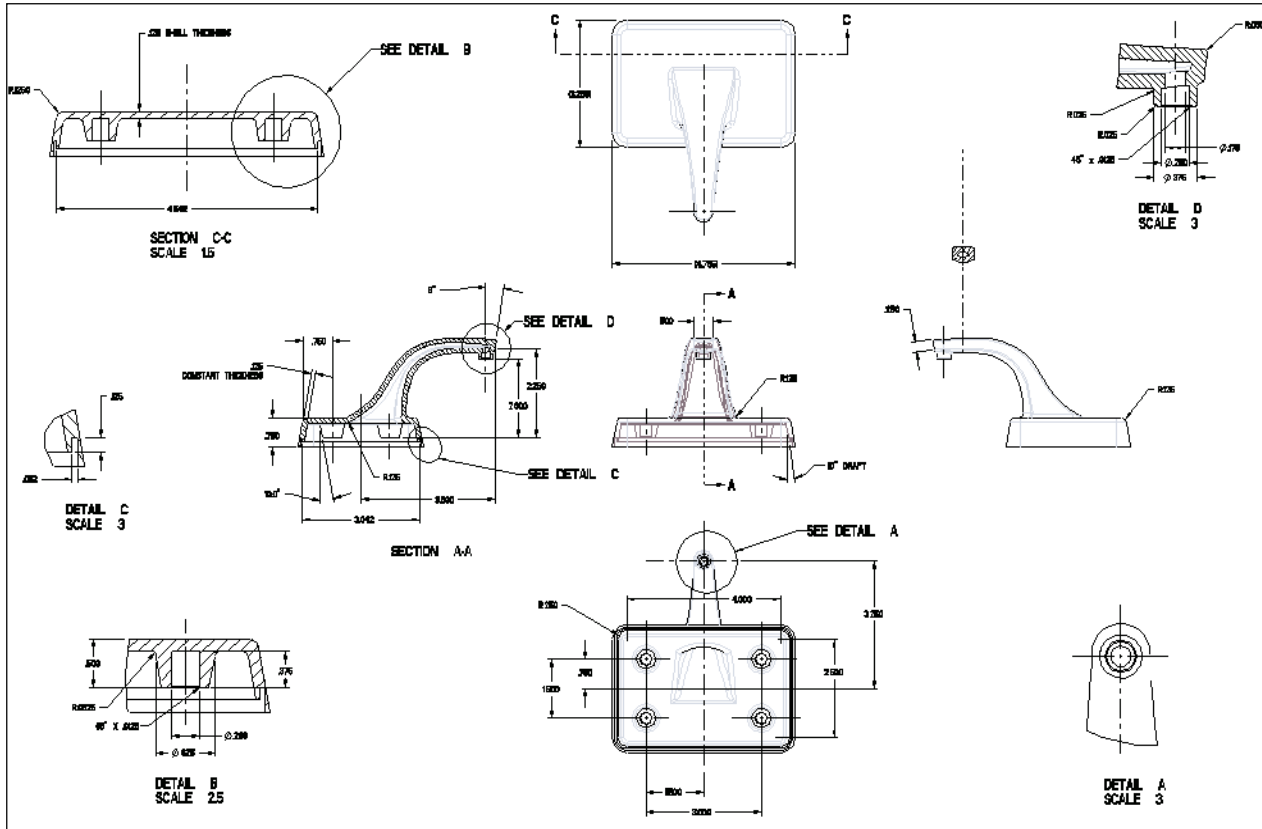


Figure Bathroom Faucet 3 Detail Drawing

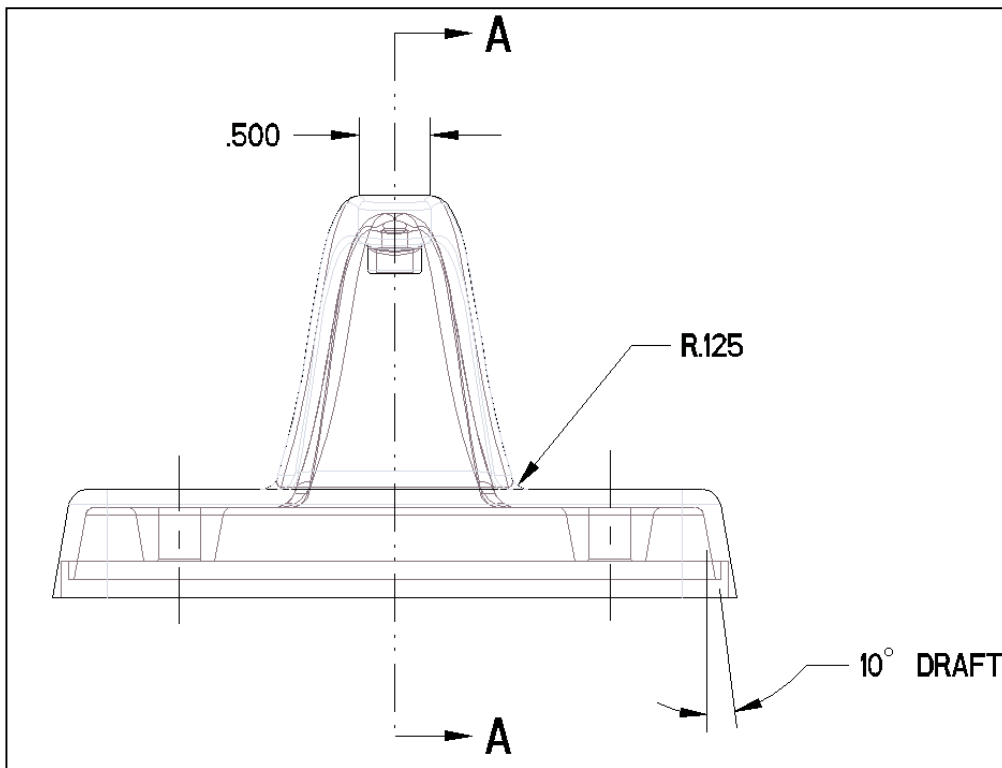


Figure Bathroom Faucet 4 Front View

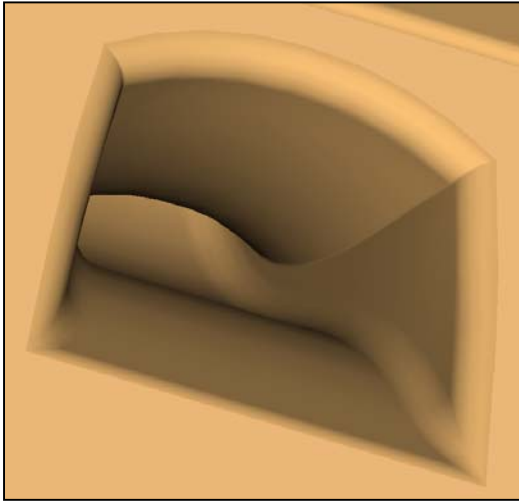


Figure Bathroom Faucet 5 Internal View

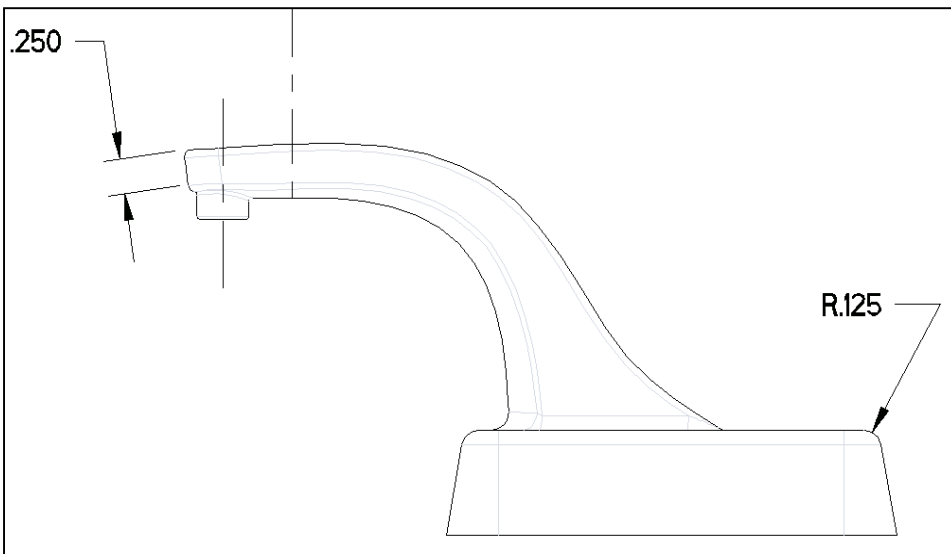


Figure Bathroom Faucet 6 Right Side View

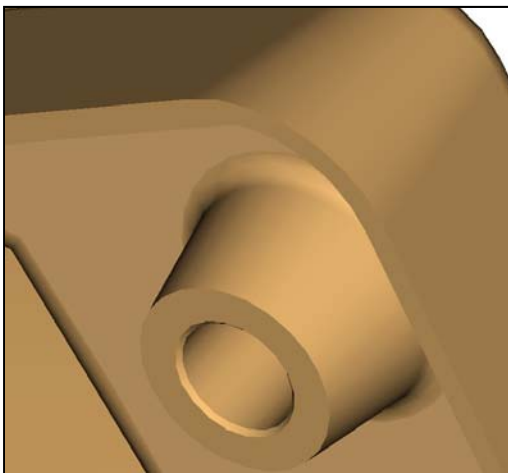


Figure Bathroom Faucet 7 Boss

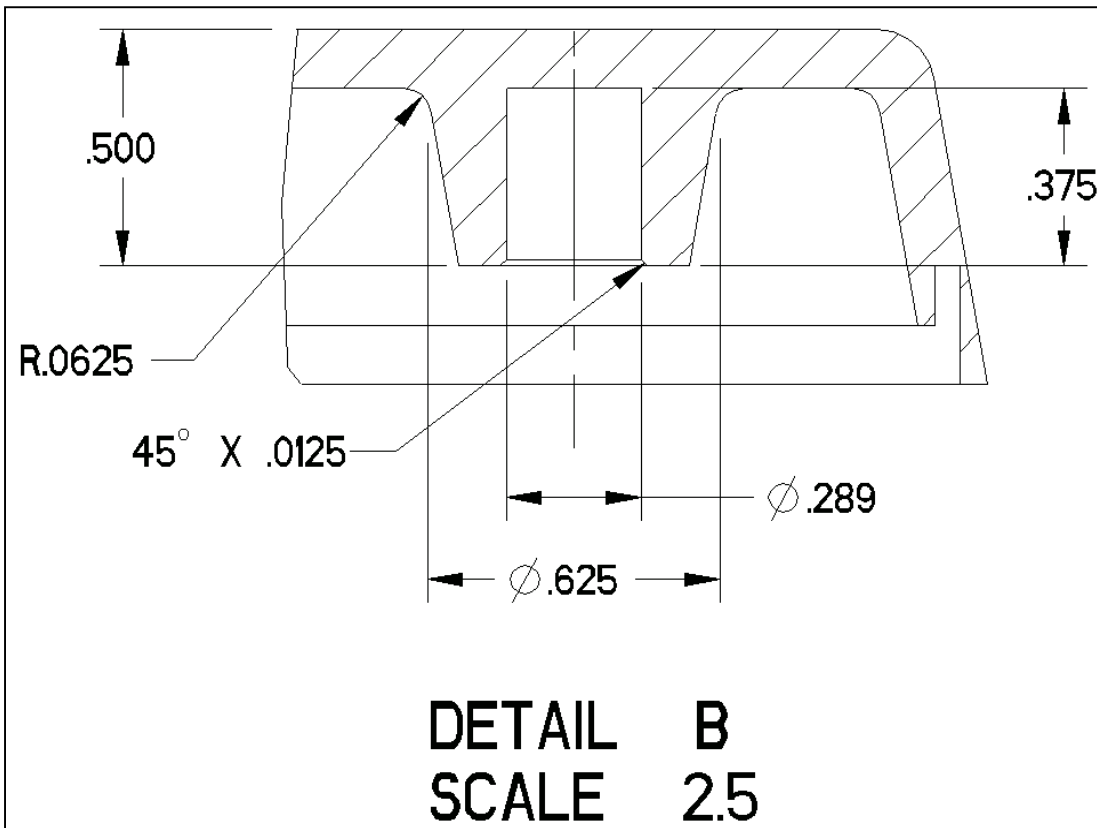


Figure Bathroom Faucet 8 DETAIL B

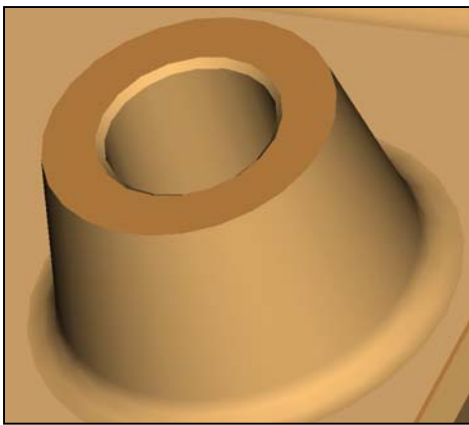


Figure Bathroom Faucet 9 Draft

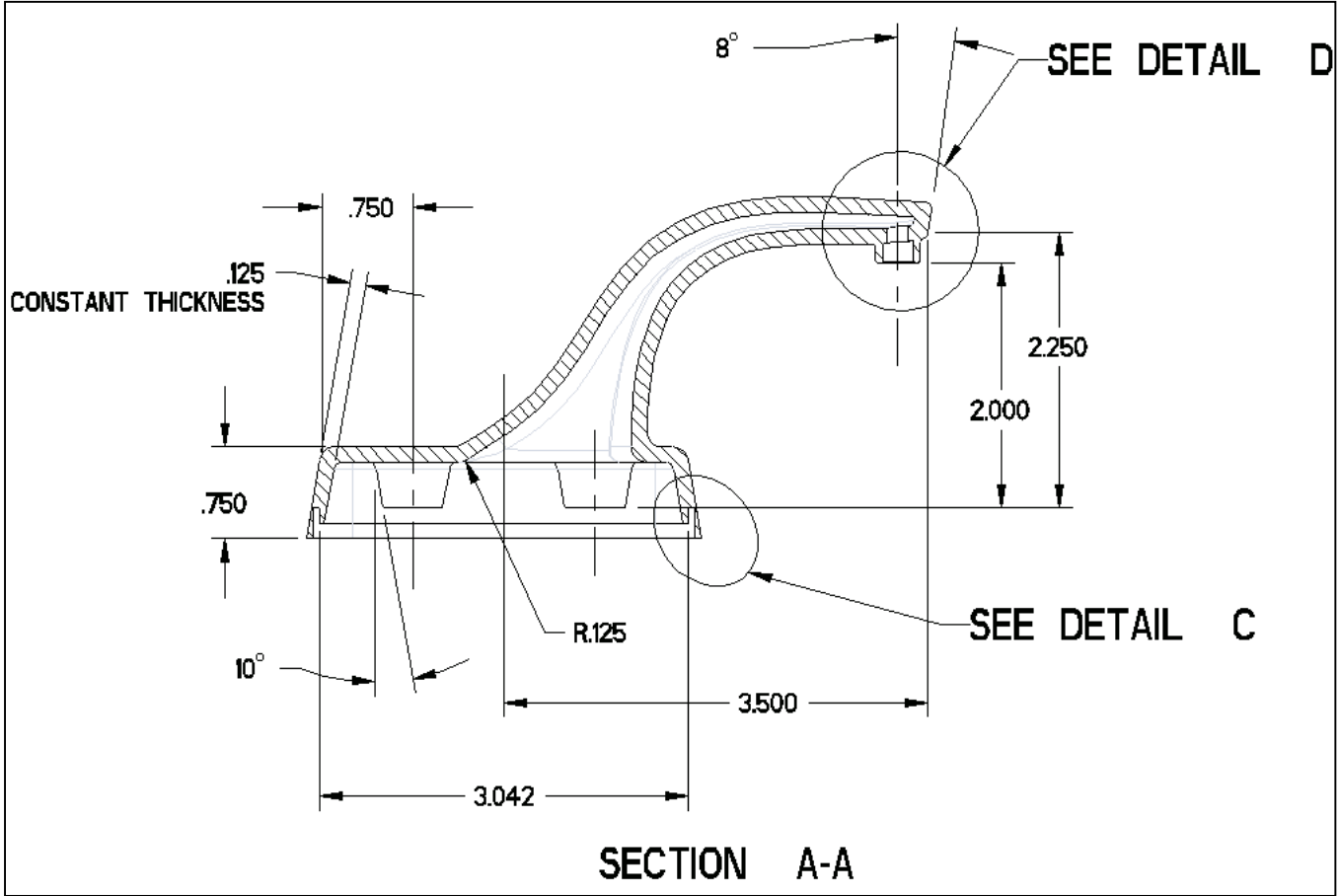


Figure Bathroom Faucet 10 SECTION A-A

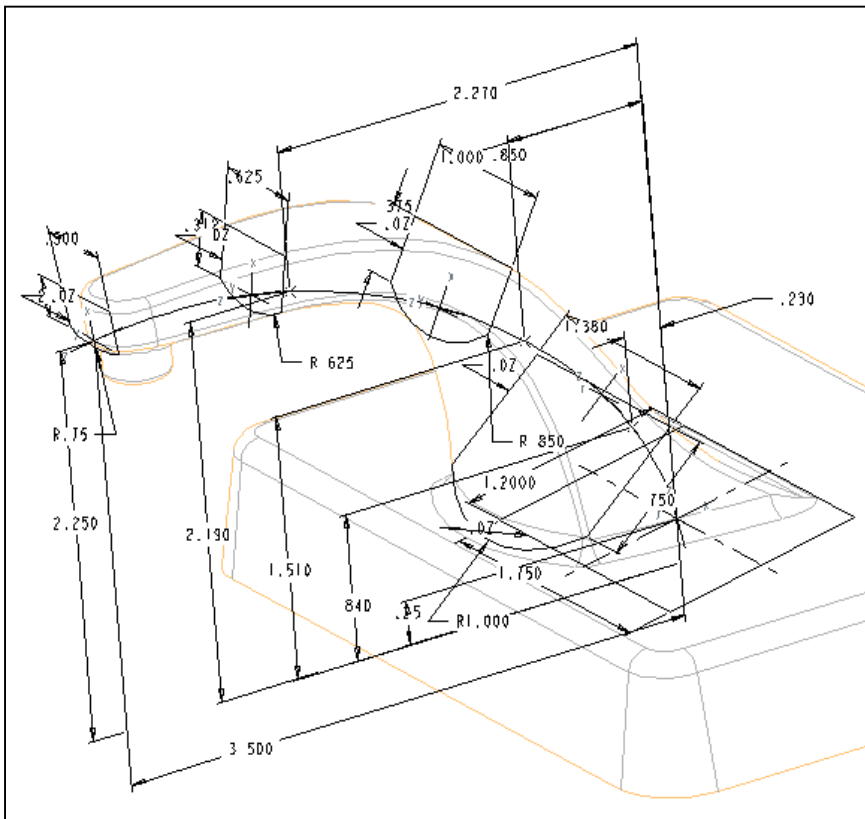


Figure Bathroom Faucet 11 Sweep Sections

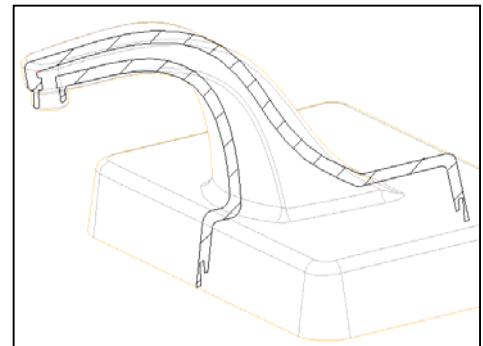


Figure Bathroom Faucet 12 Sectioned Spout

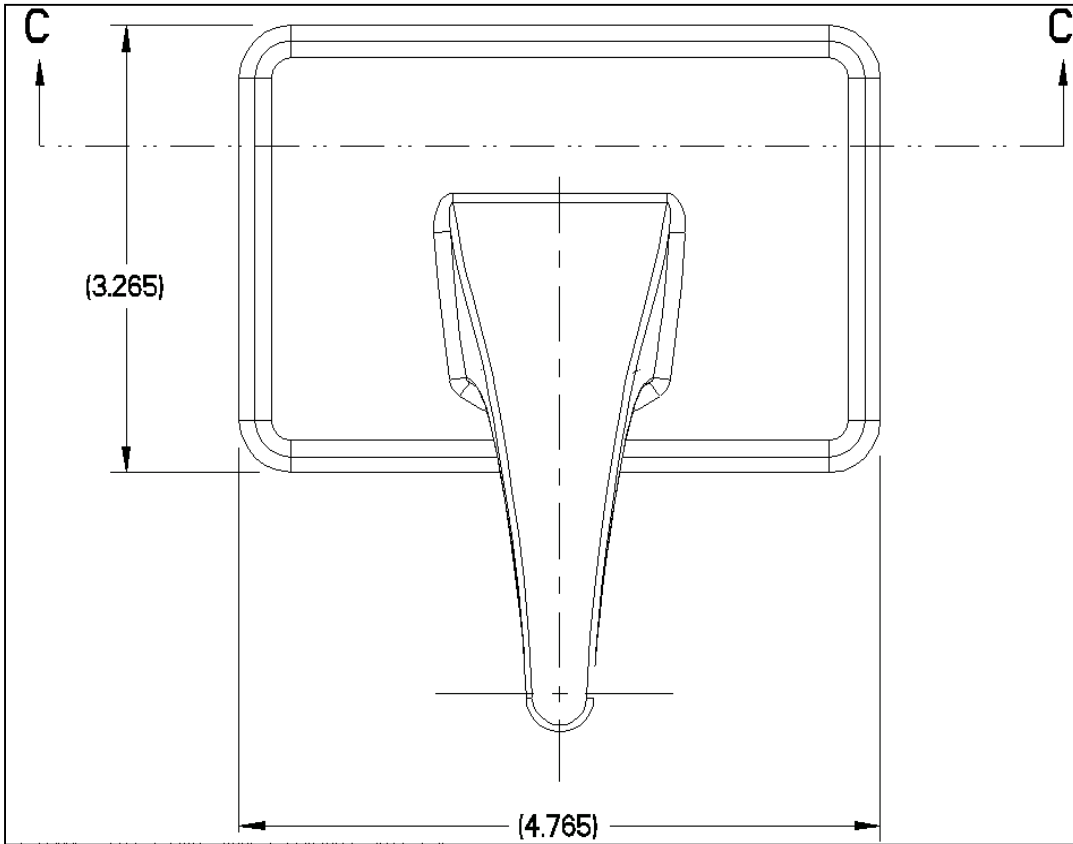


Figure Bathroom Faucet 13 Top View

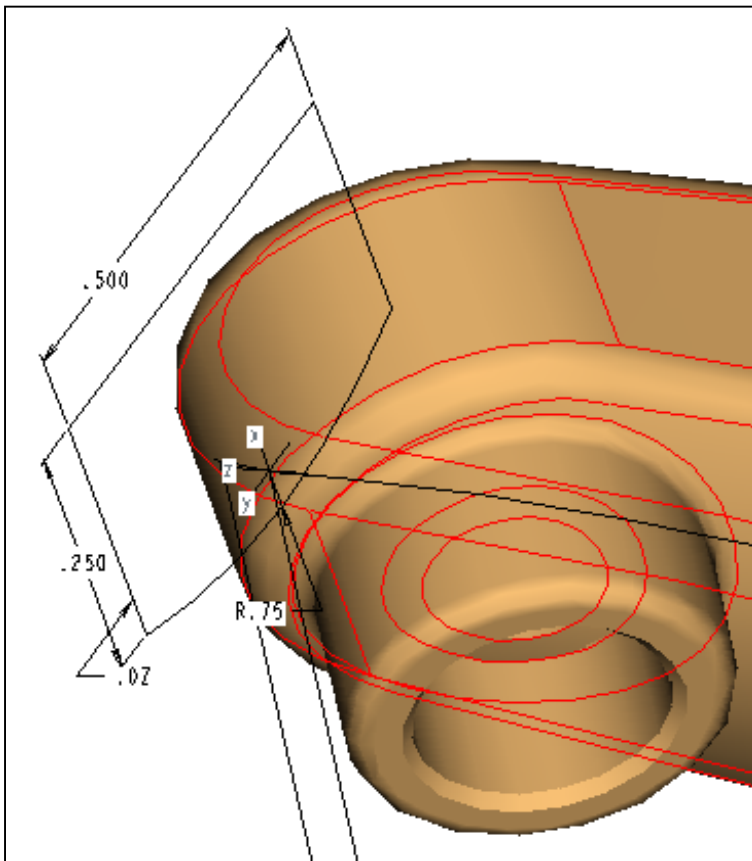


Figure Bathroom Faucet 14 End Section

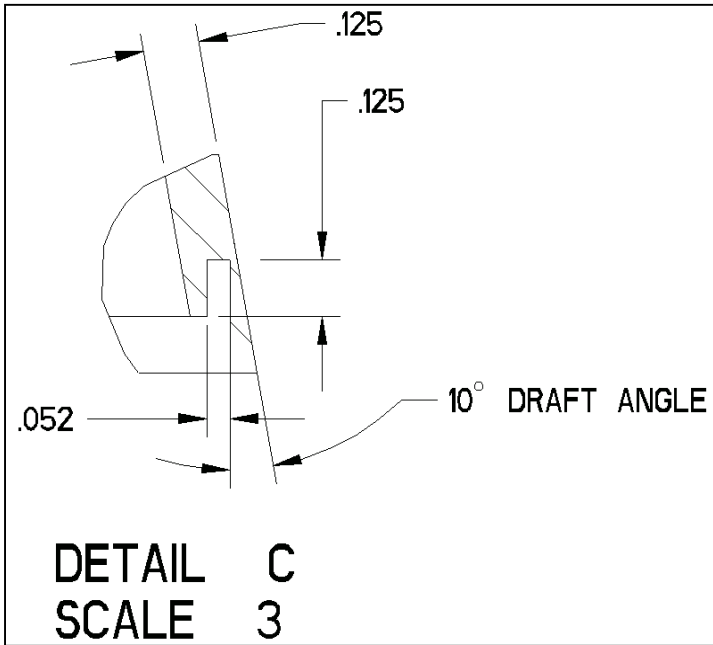


Figure Bathroom Faucet 15 DETAIL C

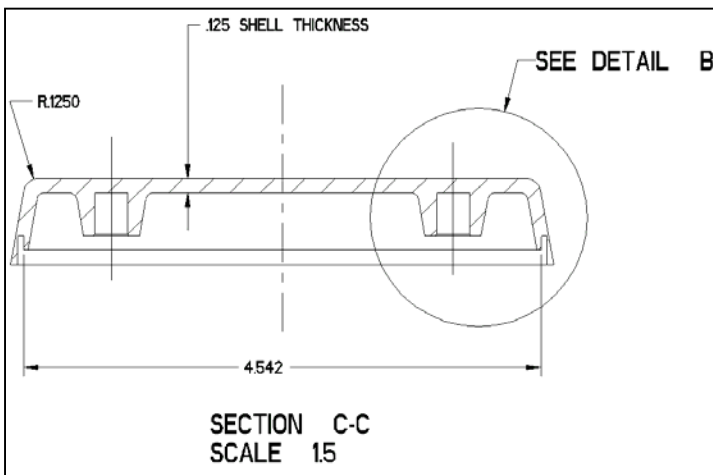


Figure Bathroom Faucet 16 SECTION C-C

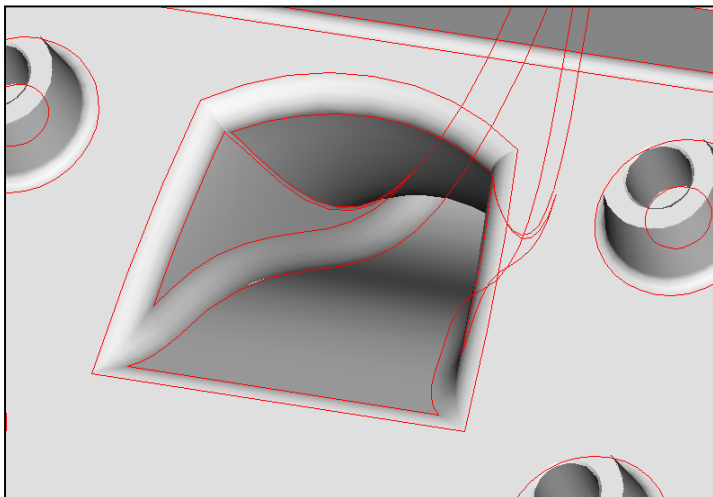


Figure Bathroom Faucet 17 Internal View of Spout

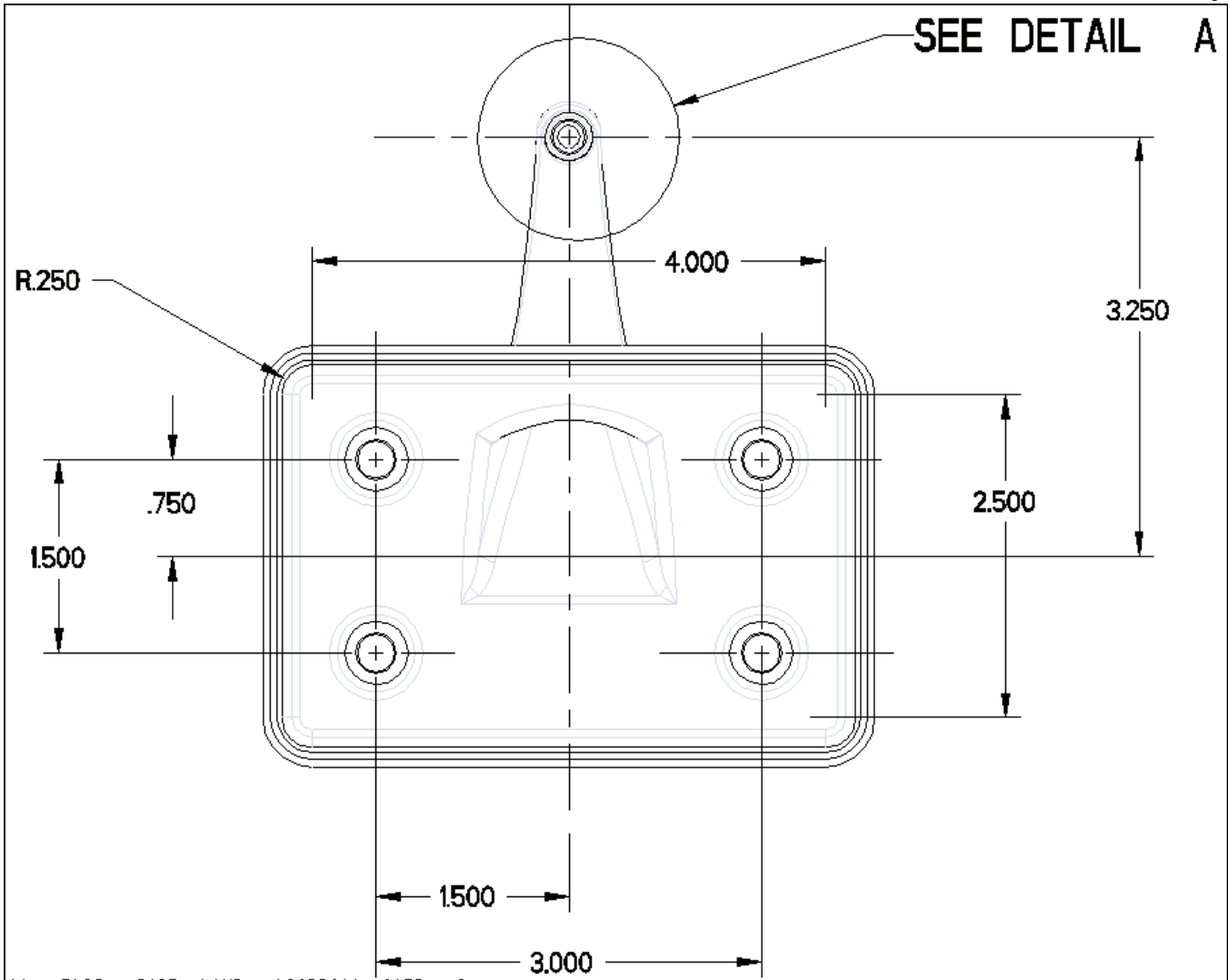


Figure Bathroom Faucet 18 Bottom View

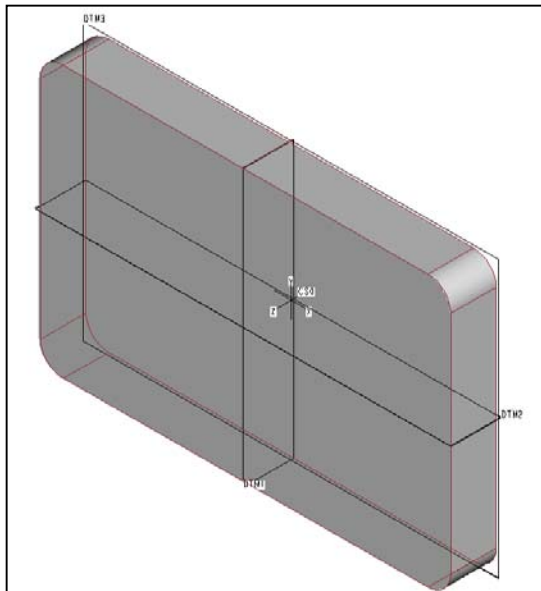


Figure Bathroom Faucet 20 Previewed Draft

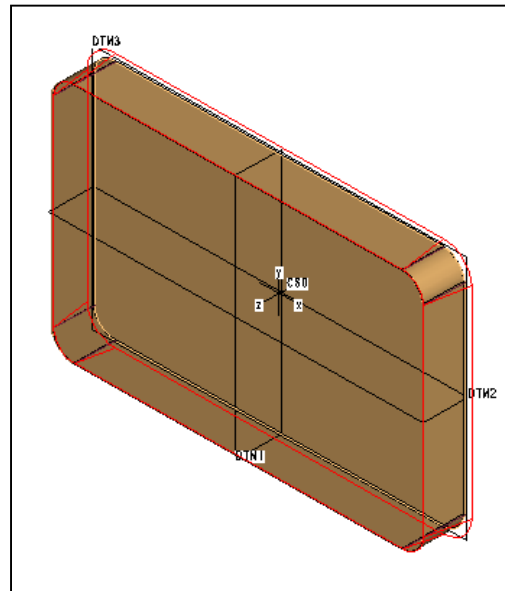


Figure Bathroom Faucet 19 First Protrusion

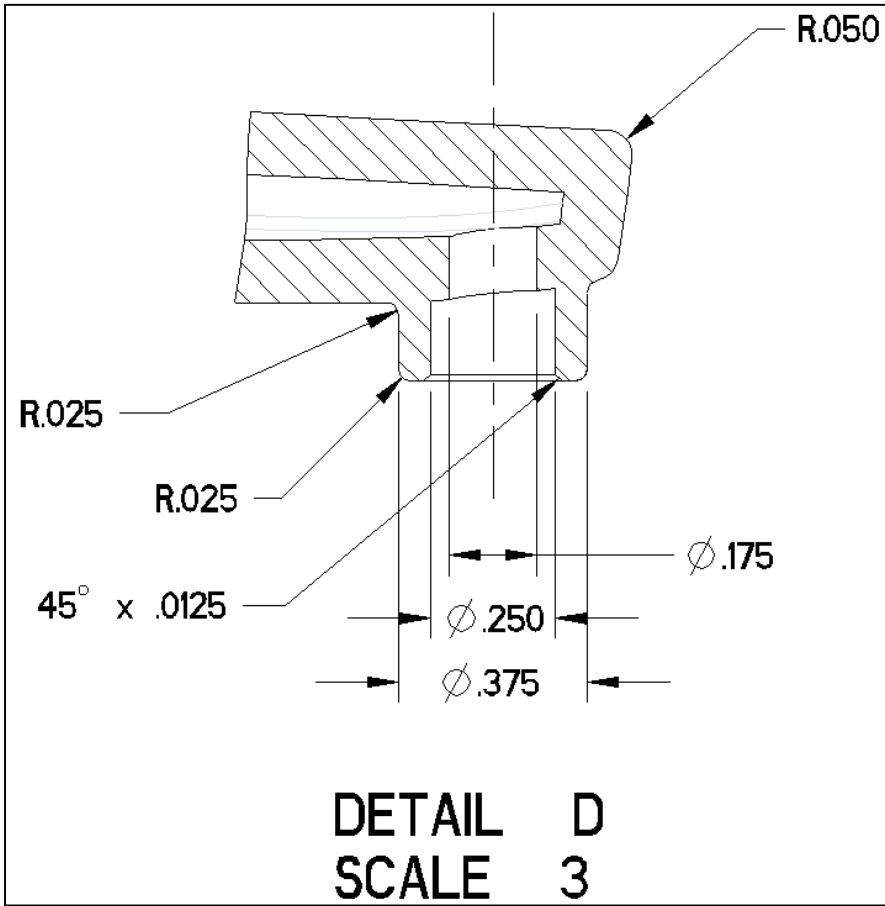


Figure Bathroom Faucet 21 DETAIL D

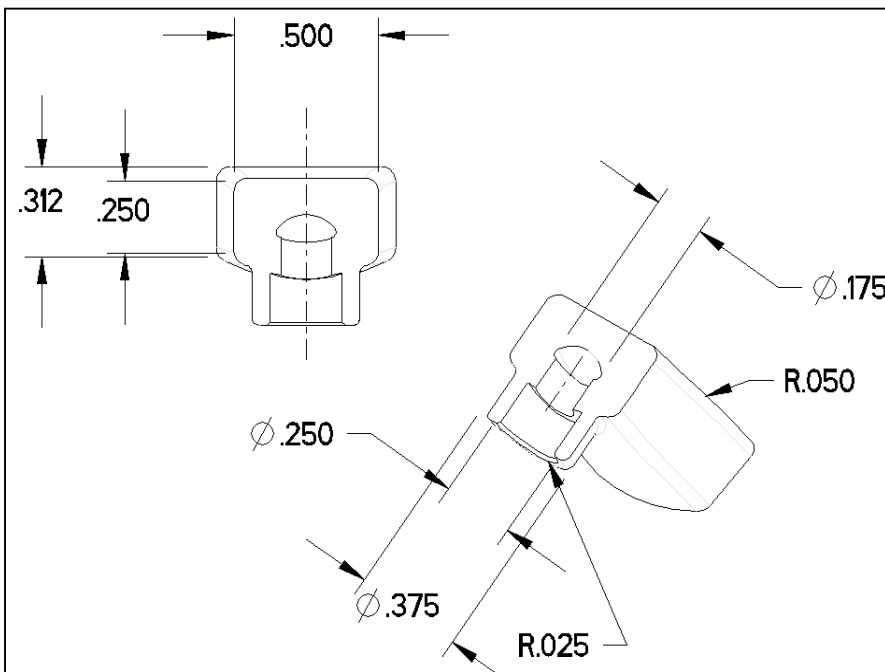


Figure Bathroom Faucet 22 Bathroom Faucet Drawing, Spout Section

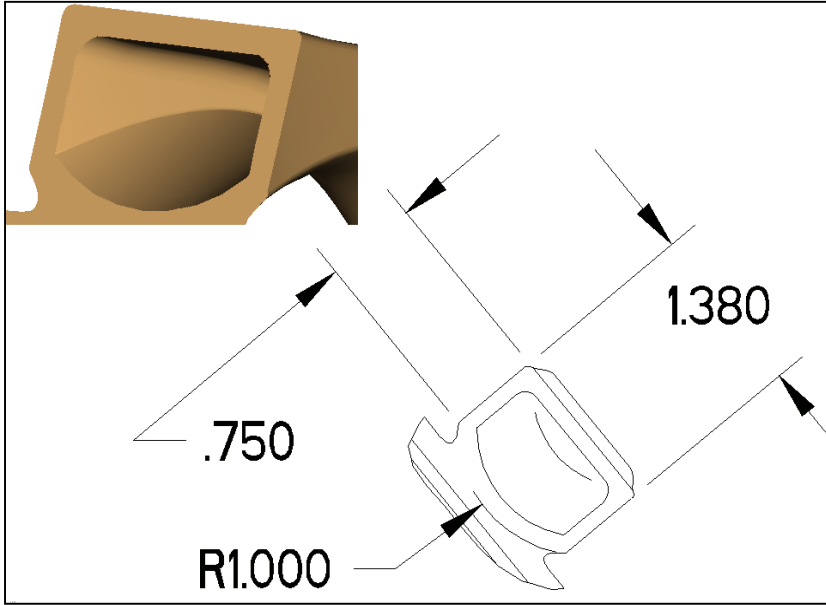


Figure Bathroom Faucet 23 Second Blend Section

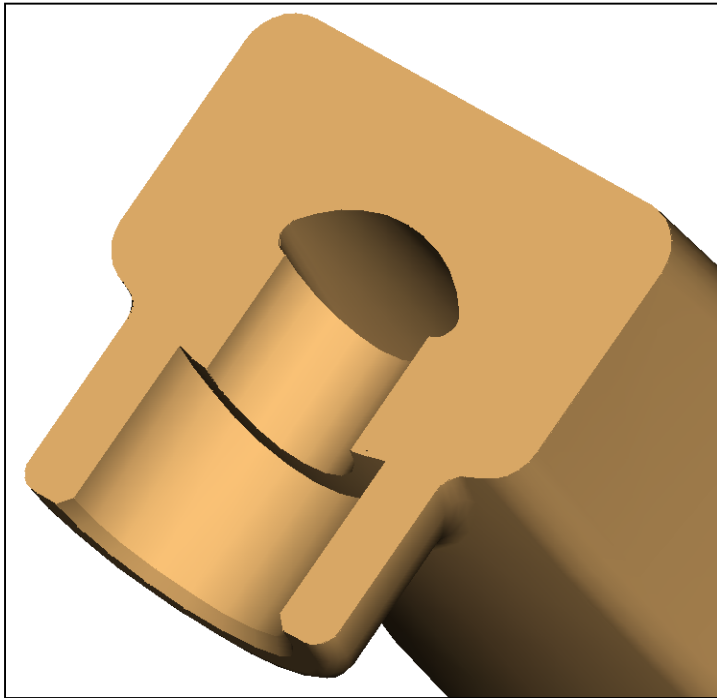


Figure Bathroom Faucet 24 Sectioned End

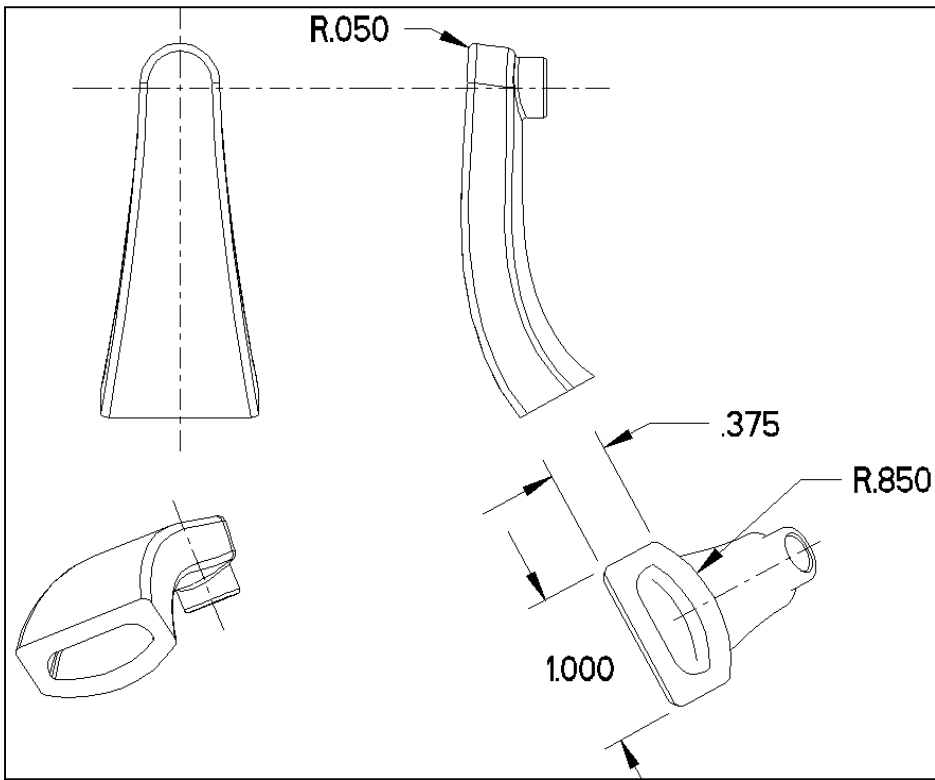


Figure Bathroom Faucet 25 Third Blend Section

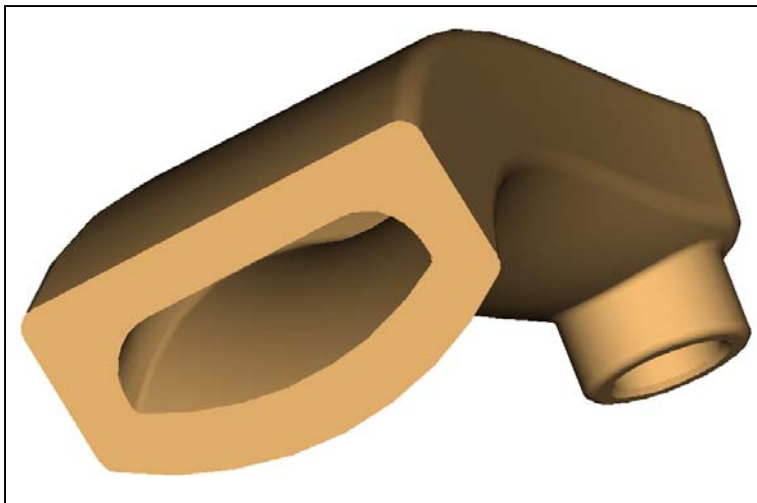


Figure Bathroom Faucet 26 Third Section

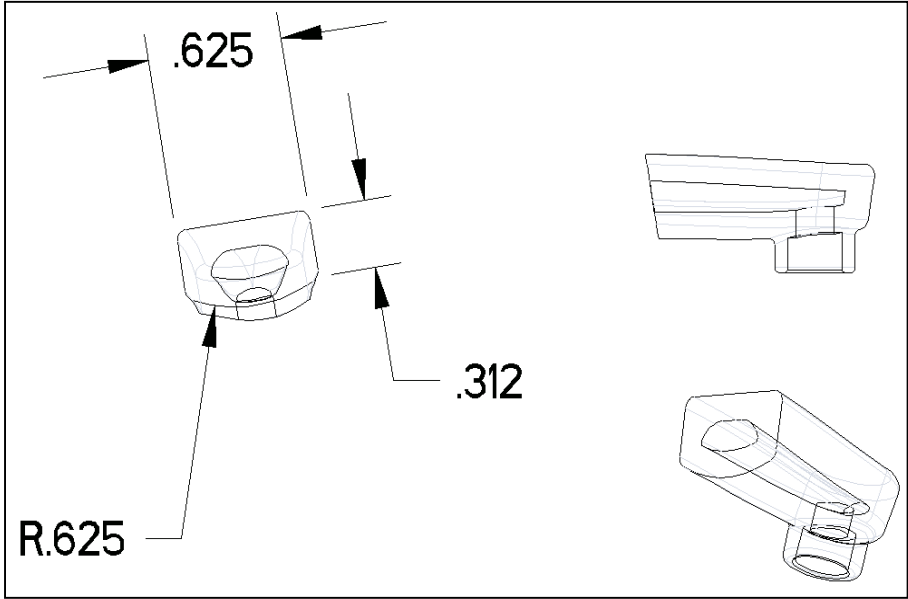


Figure Bathroom Faucet 27 Fourth Blend Section

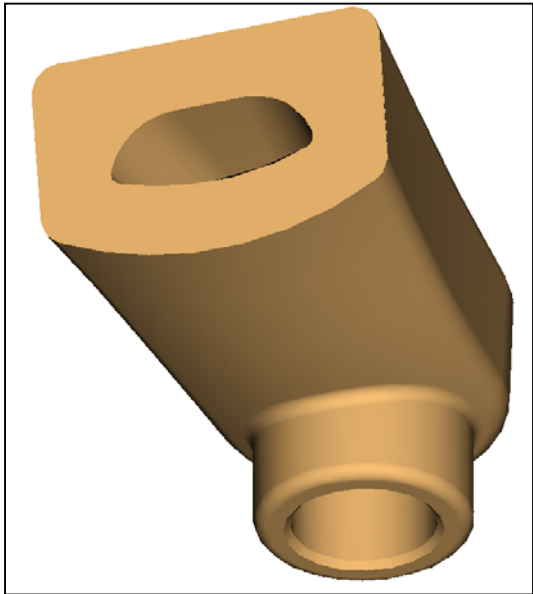


Figure Bathroom Faucet 28 Fourth Section

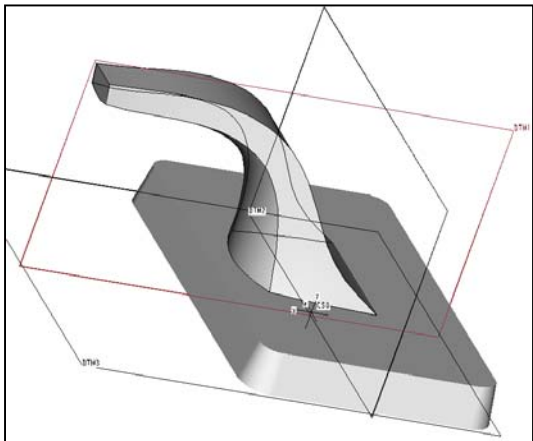


Figure Bathroom Faucet 29 Swept Protrusion

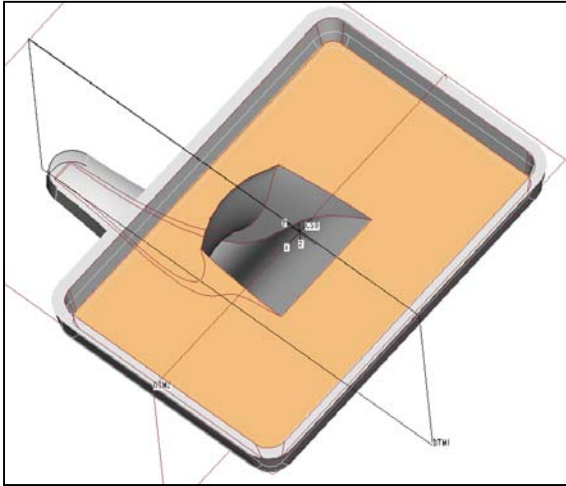


Figure Bathroom Faucet 30 Shell

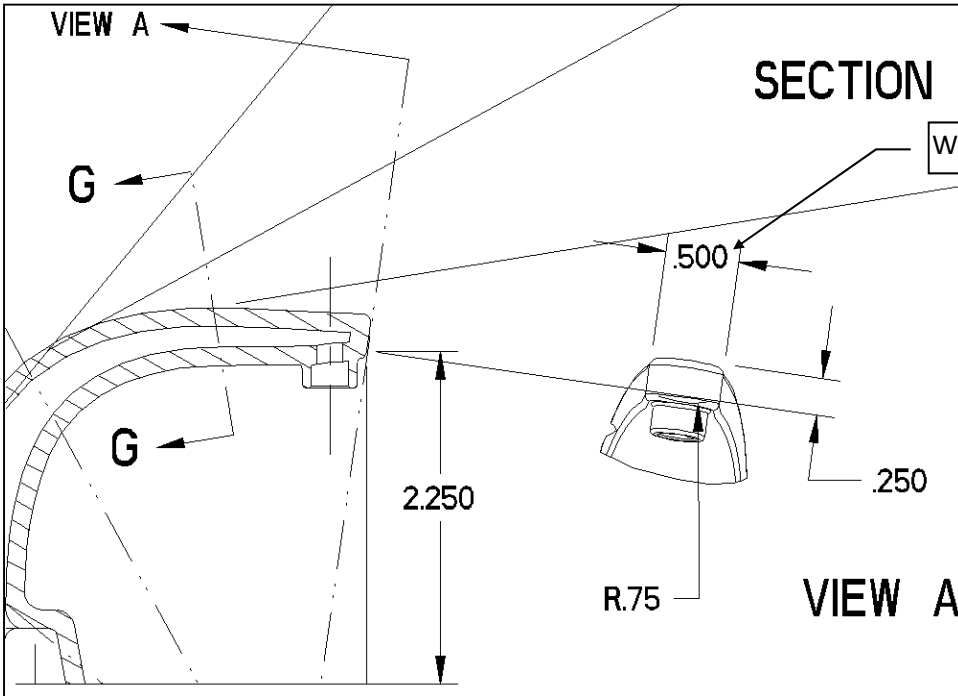


Figure Bathroom Faucet 31 Fifth Blend Section

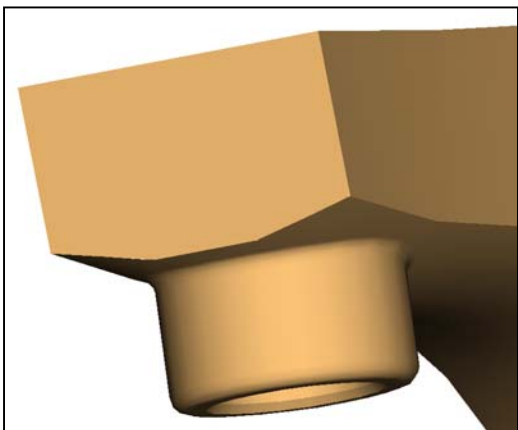


Figure Bathroom Faucet 32 End

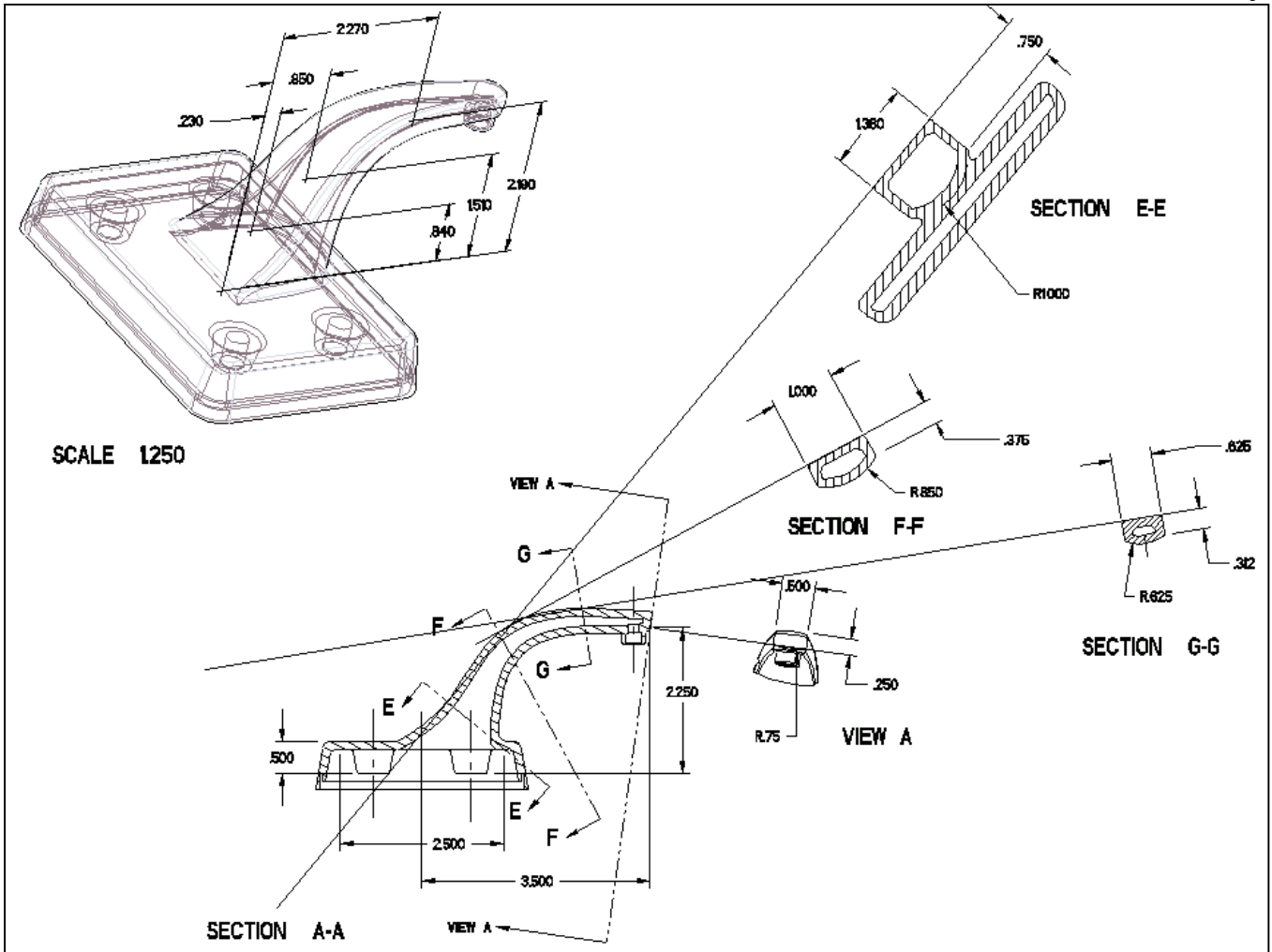


Figure Bathroom Faucet 33 Sections

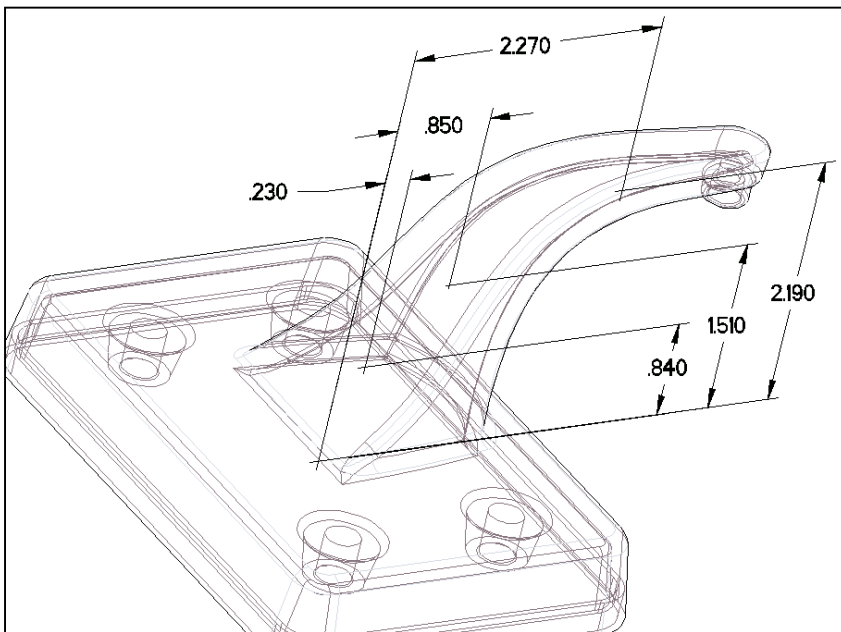


Figure Bathroom Faucet 34 First Three Blend Section Locations

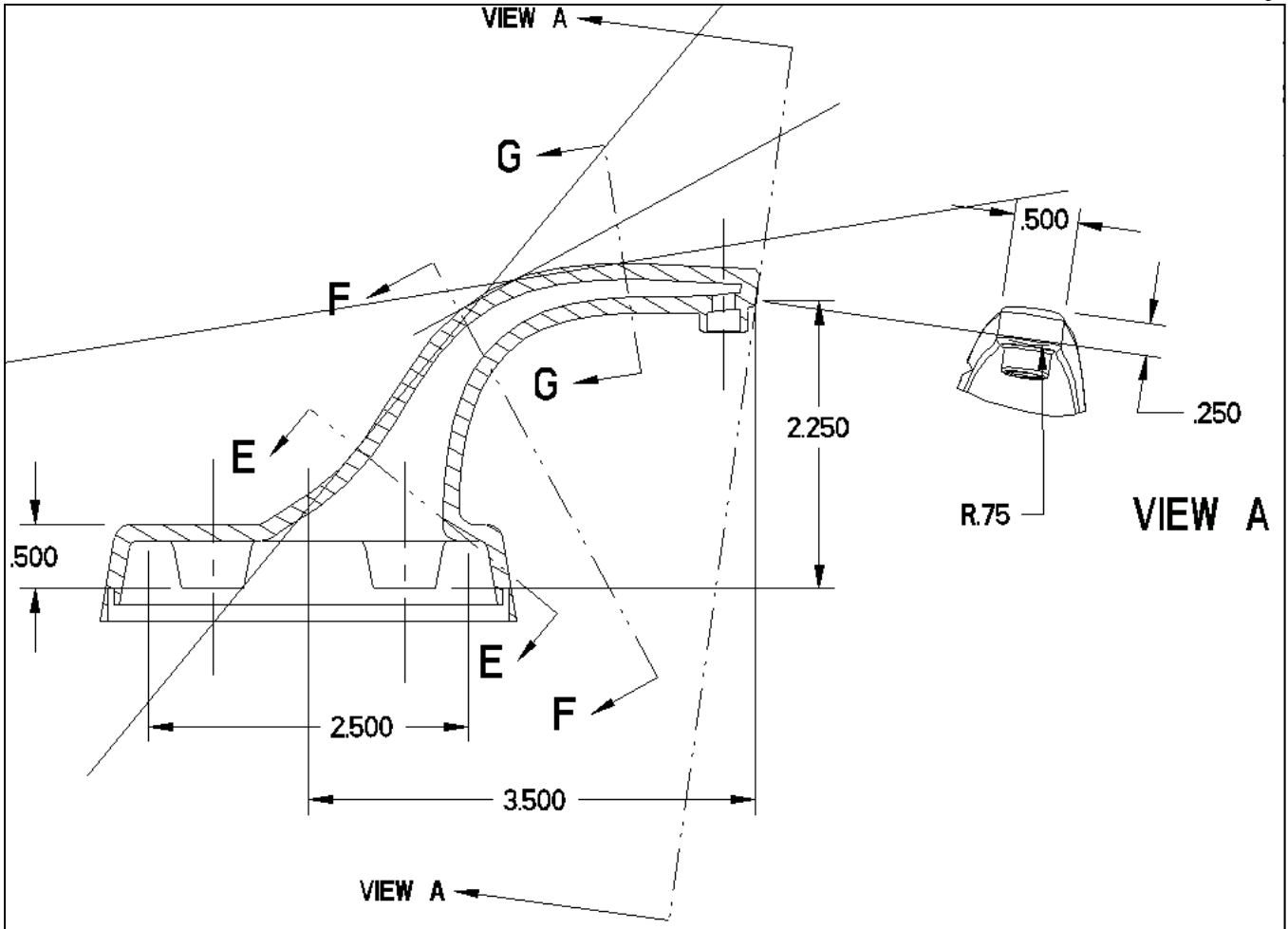


Figure Bathroom Faucet 35 SECTION A-A

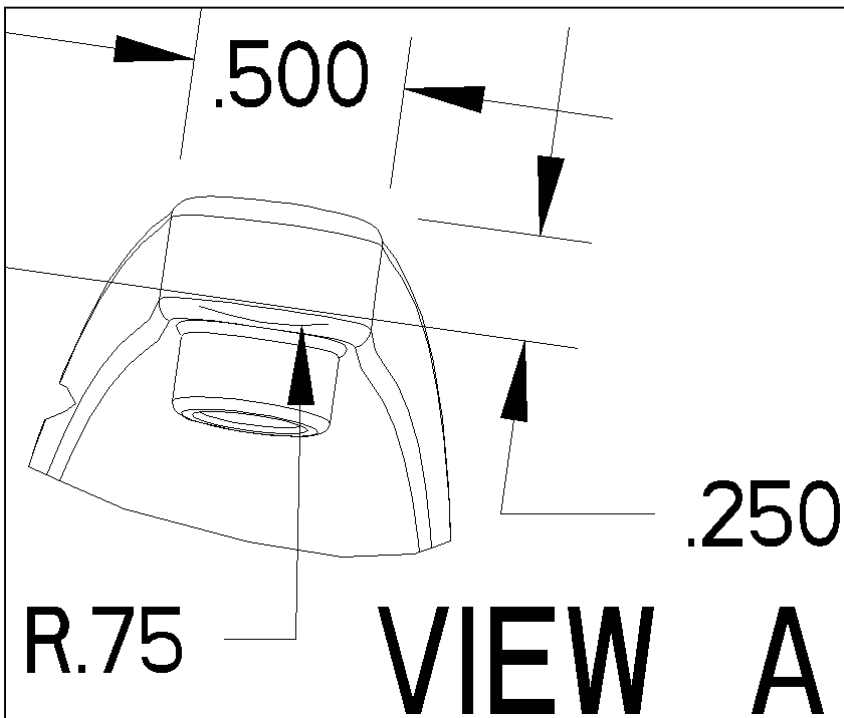


Figure Bathroom Faucet 36 VIEW A

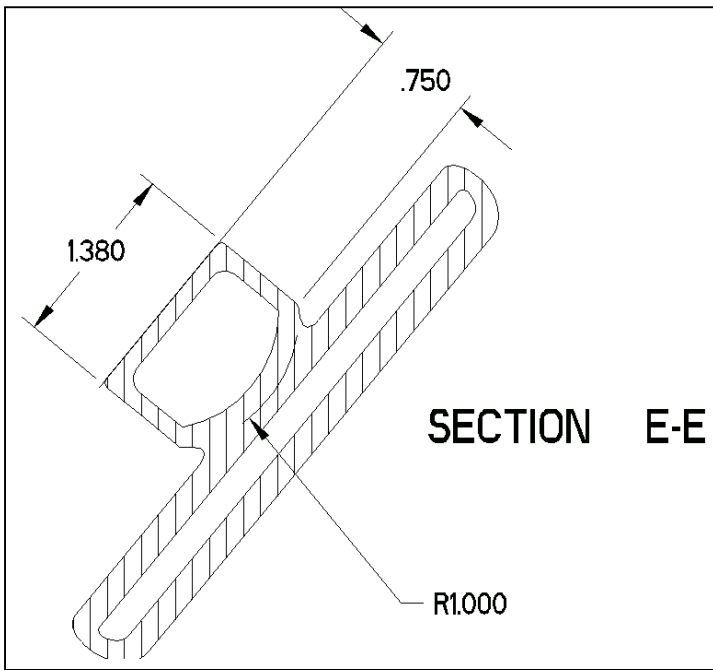


Figure Bathroom Faucet 37 SECTION E-E

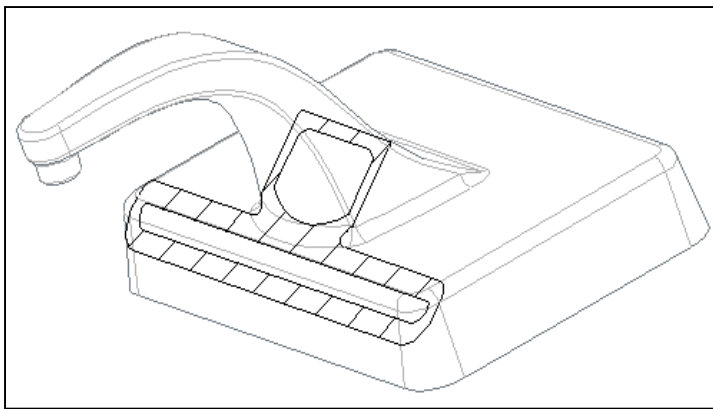


Figure Bathroom Faucet 38 Pictorial of SECTION E-E

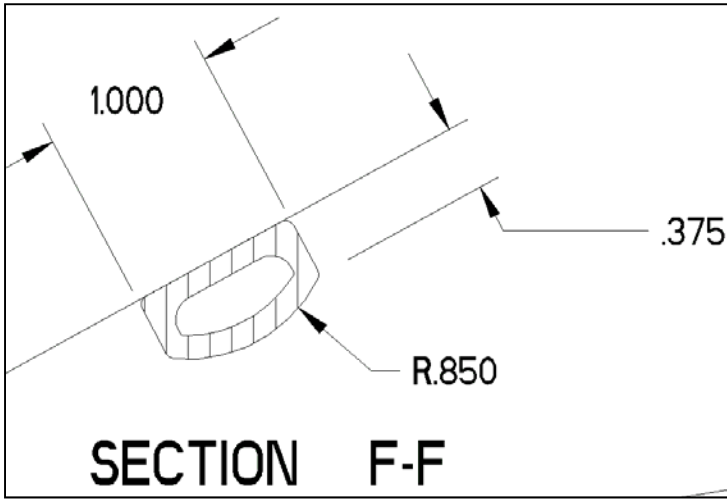


Figure Bathroom Faucet 39 SECTION F-F

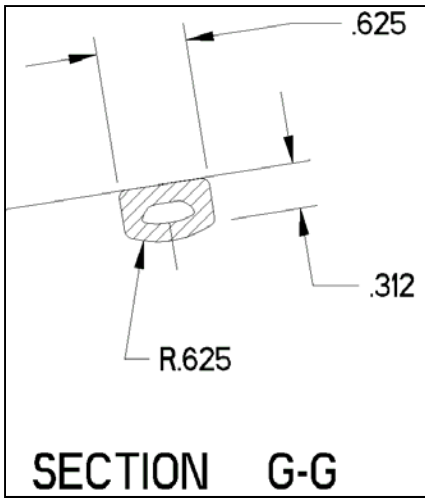
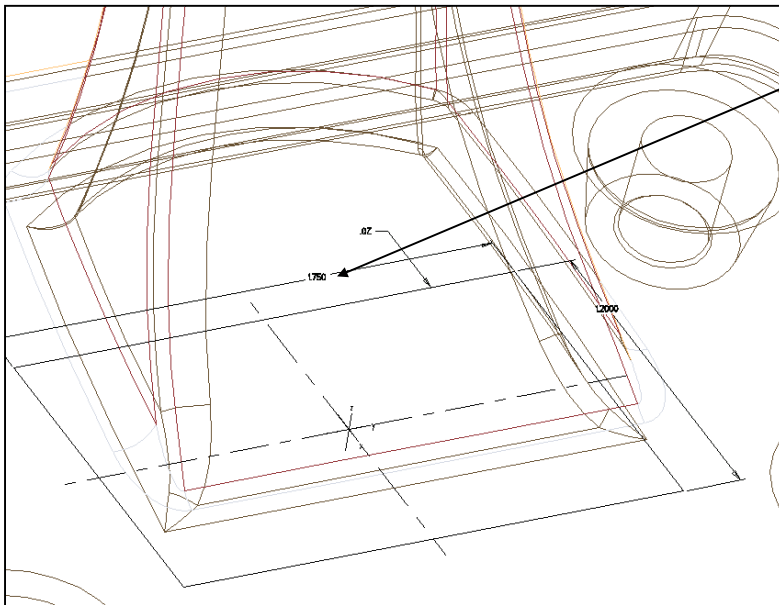


Figure Bathroom Faucet 40 SECTION G-G



Length of first blend section is 1.75

Figure Bathroom Faucet 41 Bathroom Faucet Drawing, First Section

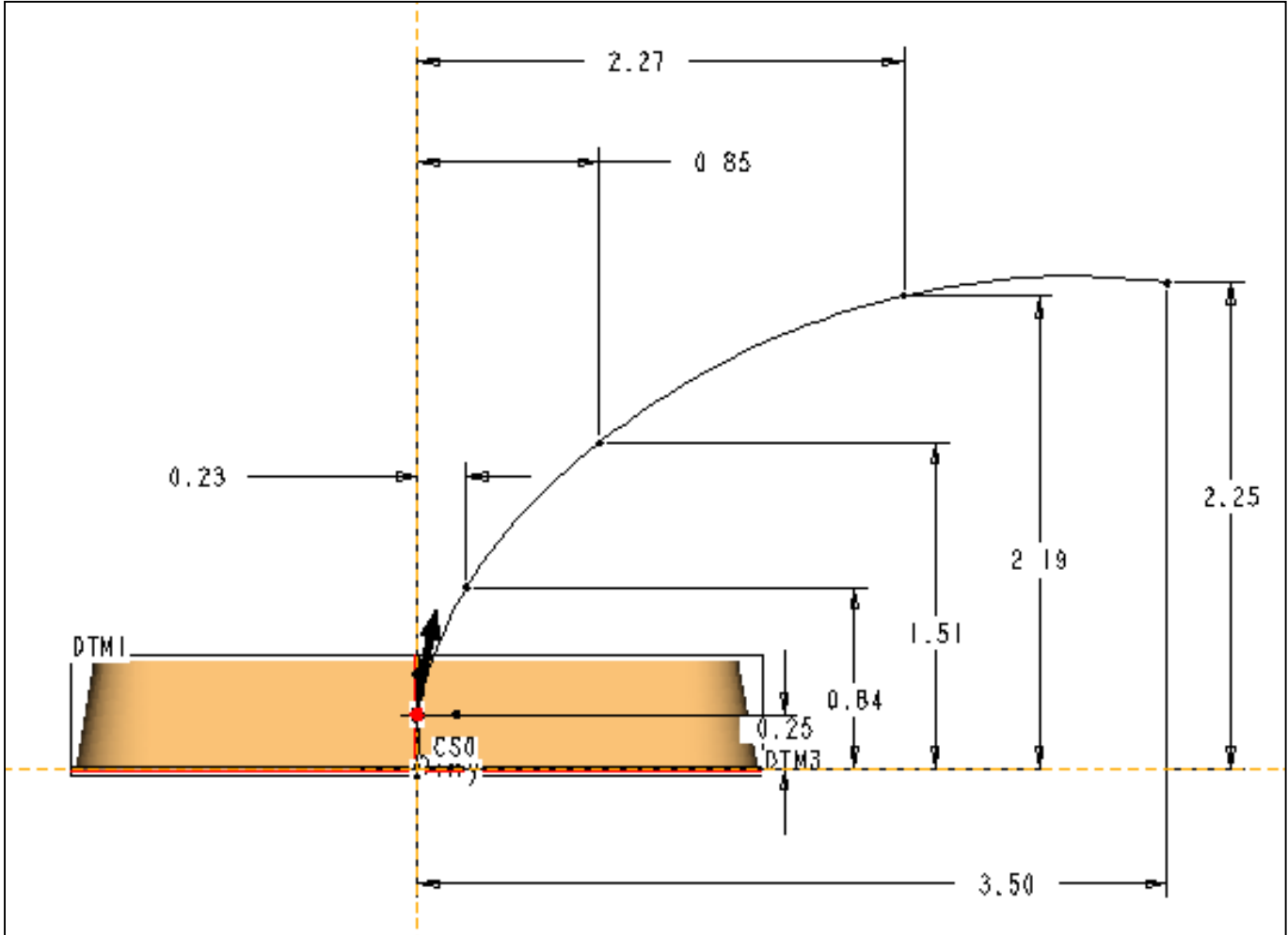


Figure Bathroom Faucet 42 Trajectory Dimensions

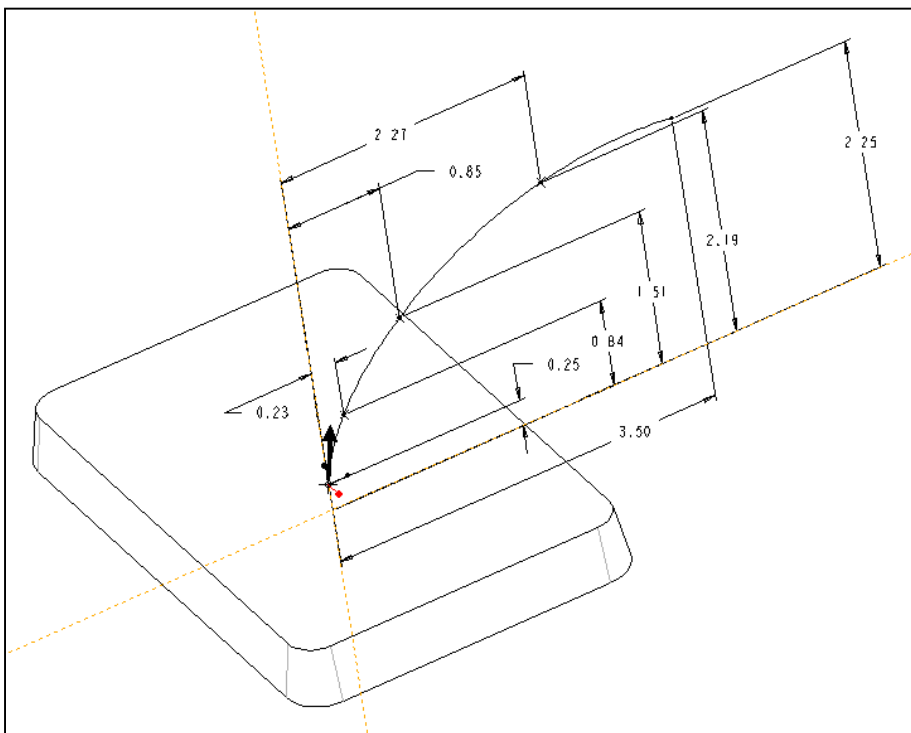


Figure Bathroom Faucet 43 First Section: Pictorial

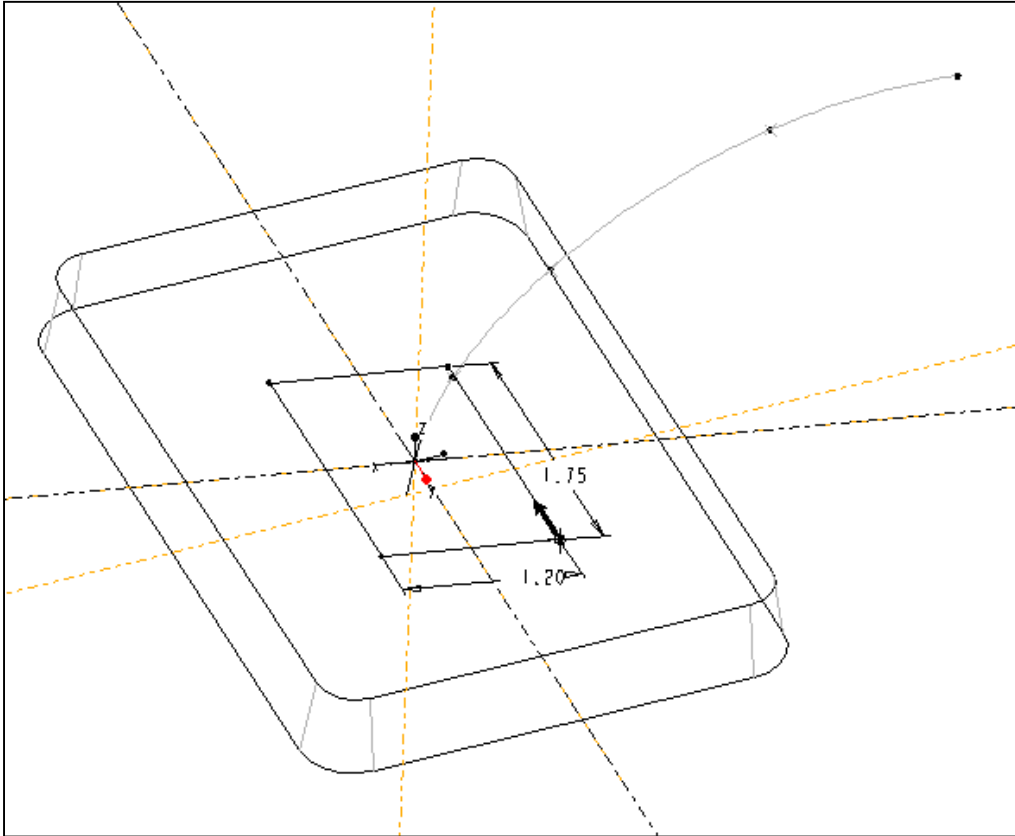


Figure Bathroom Faucet 44 First Section Dimensions

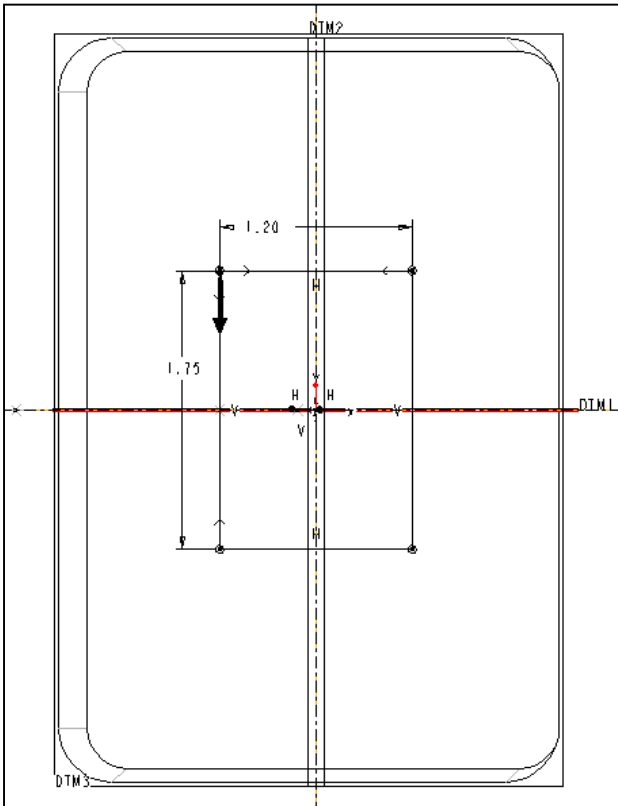


Figure Bathroom Faucet 45 First Section: 1.75 X 1.20 X .75 X R1.00

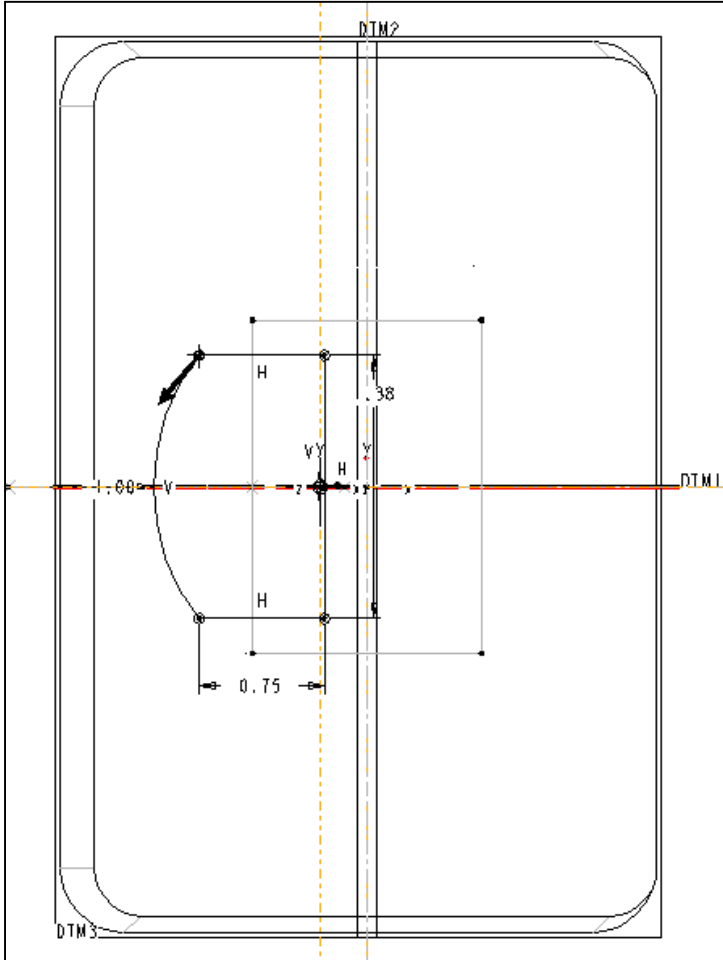


Figure Bathroom Faucet 46 Second Section: 1.380

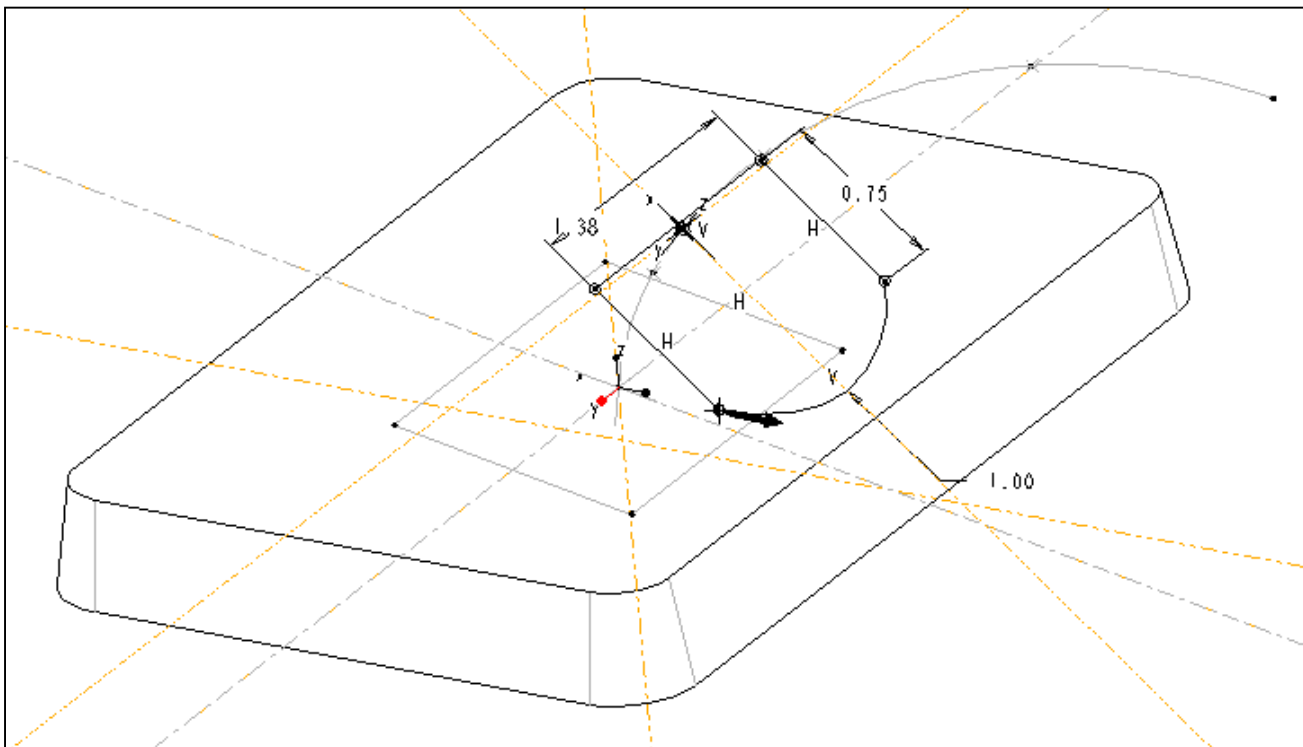


Figure Bathroom Faucet 47 Second Section: Pictorial for the second section, align the arc center to the colored crosshairs (starting point)

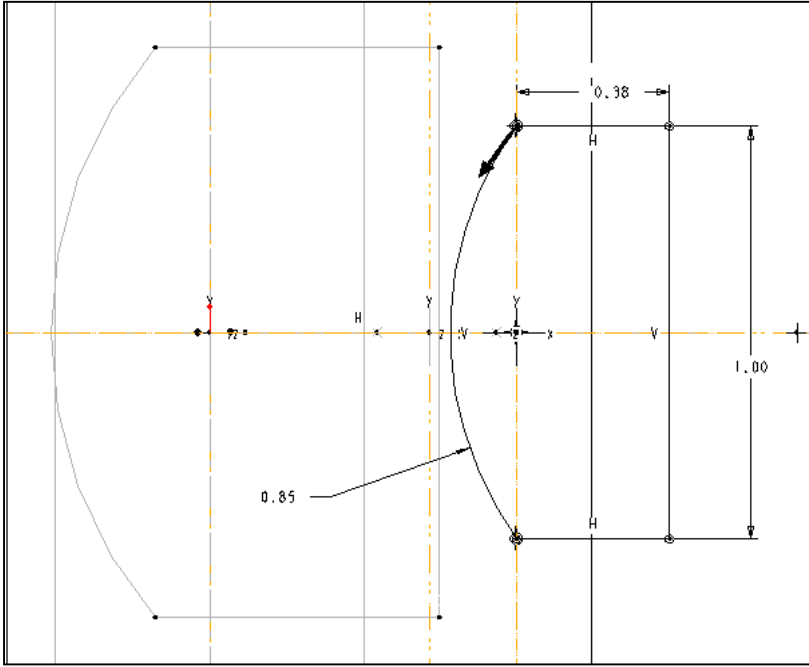


Figure Bathroom Faucet 48 Third Section: 1.00 X .375 X R.850

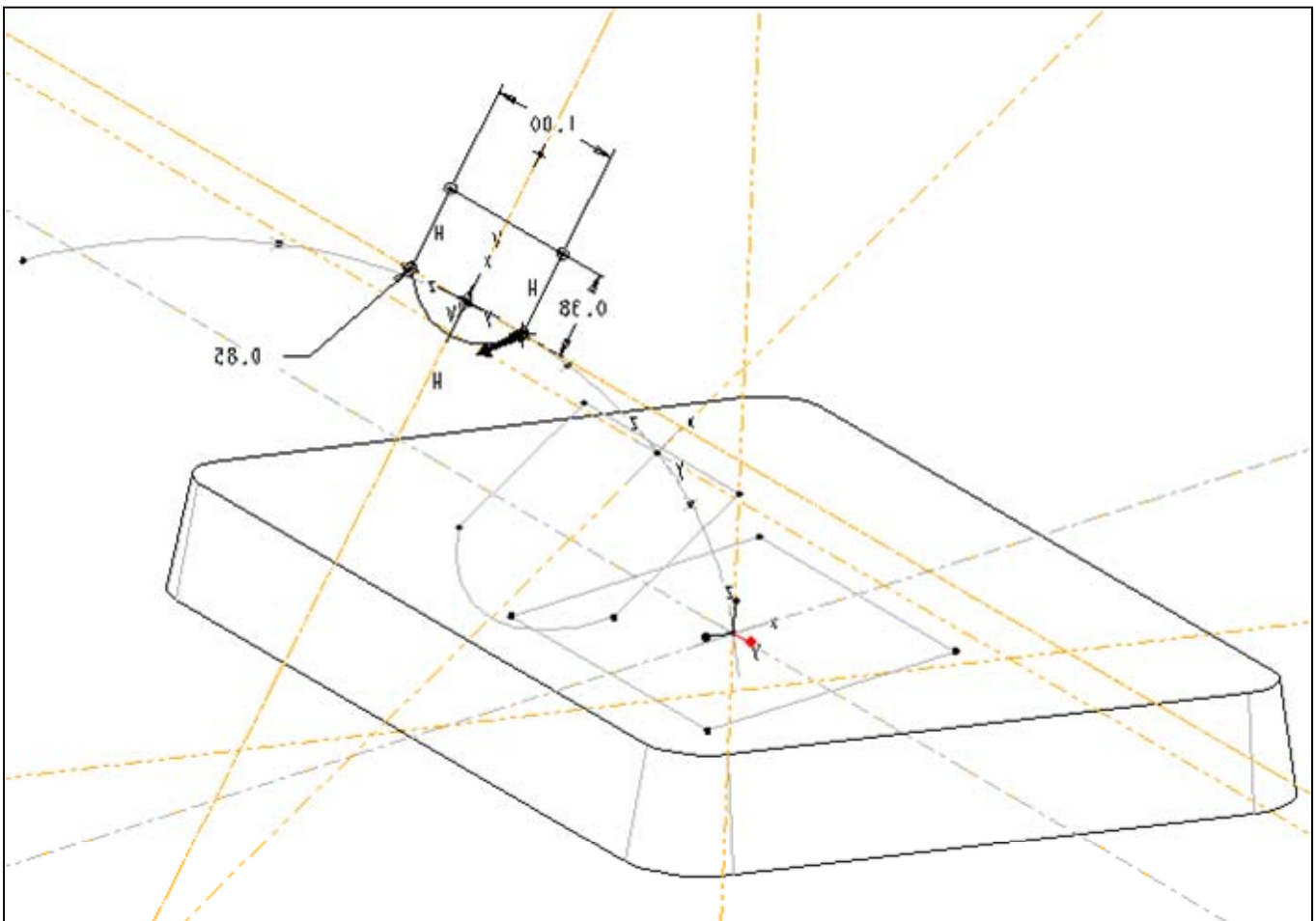


Figure Bathroom Faucet 49 Third Section: Pictorial

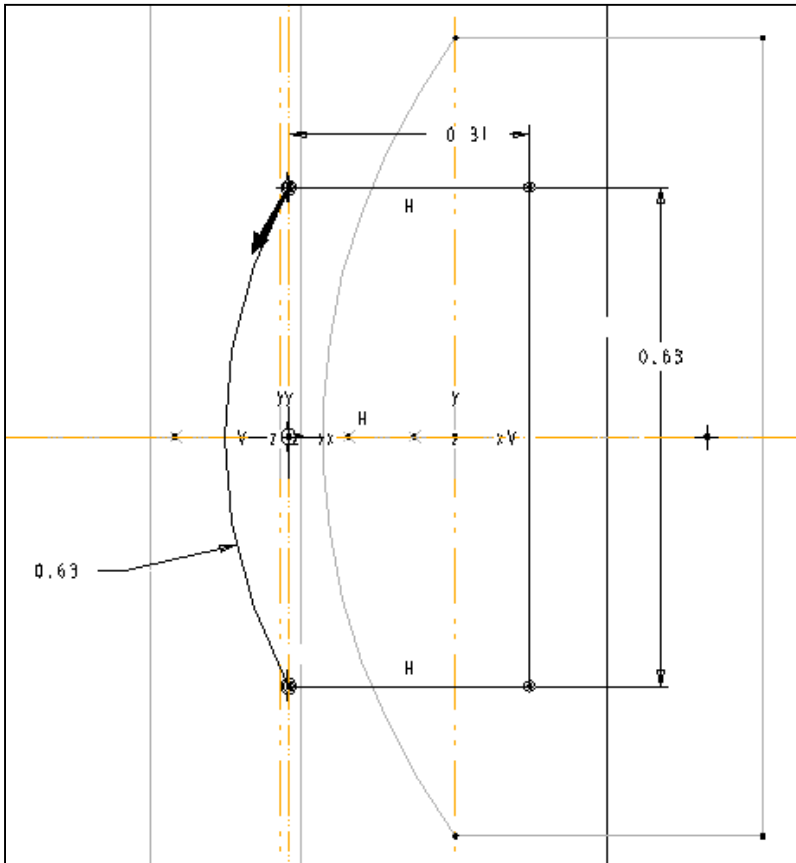


Figure Bathroom Faucet 50 Fourth Section: .625 X .312 X R.625

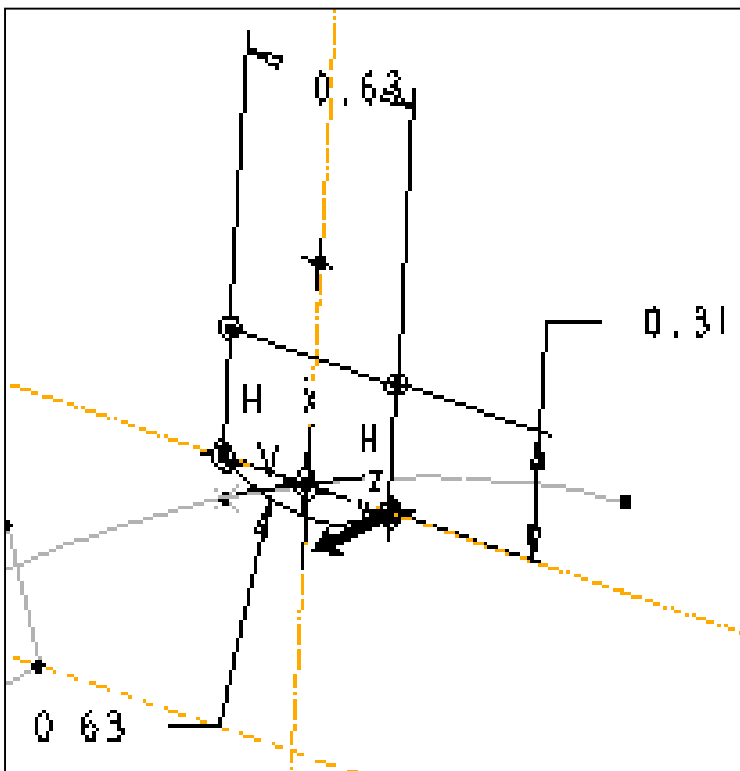


Figure Bathroom Faucet 51 Fourth Section

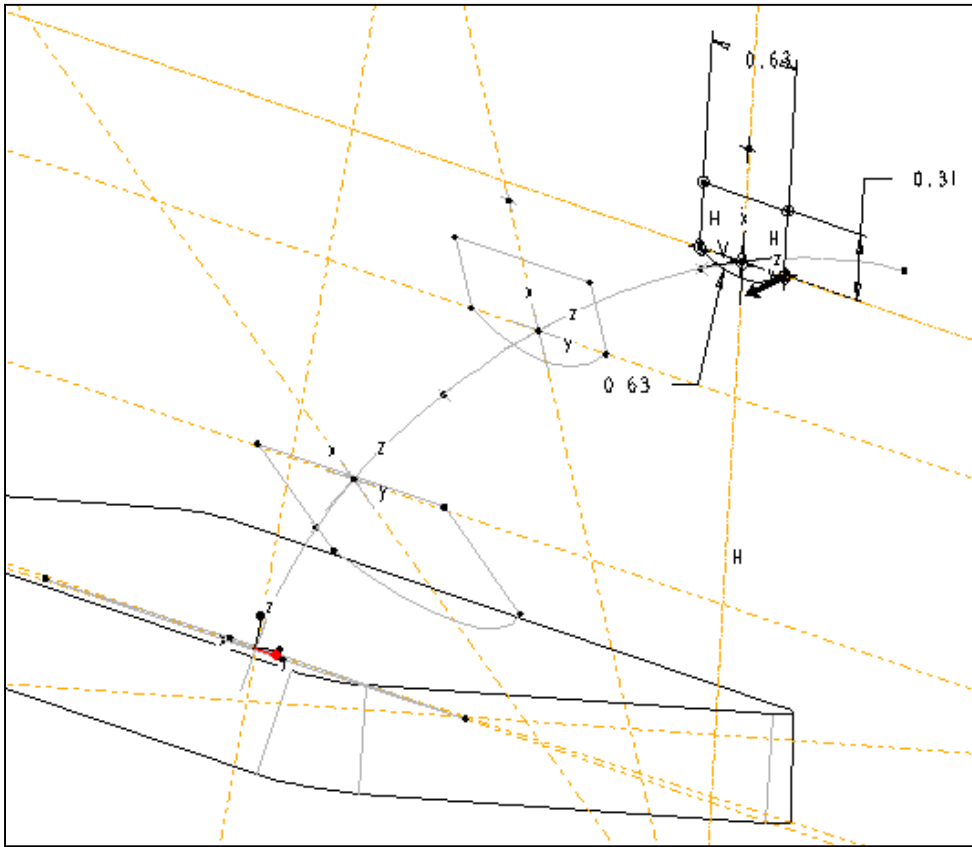


Figure Bathroom Faucet 52 Fourth Section: Pictorial

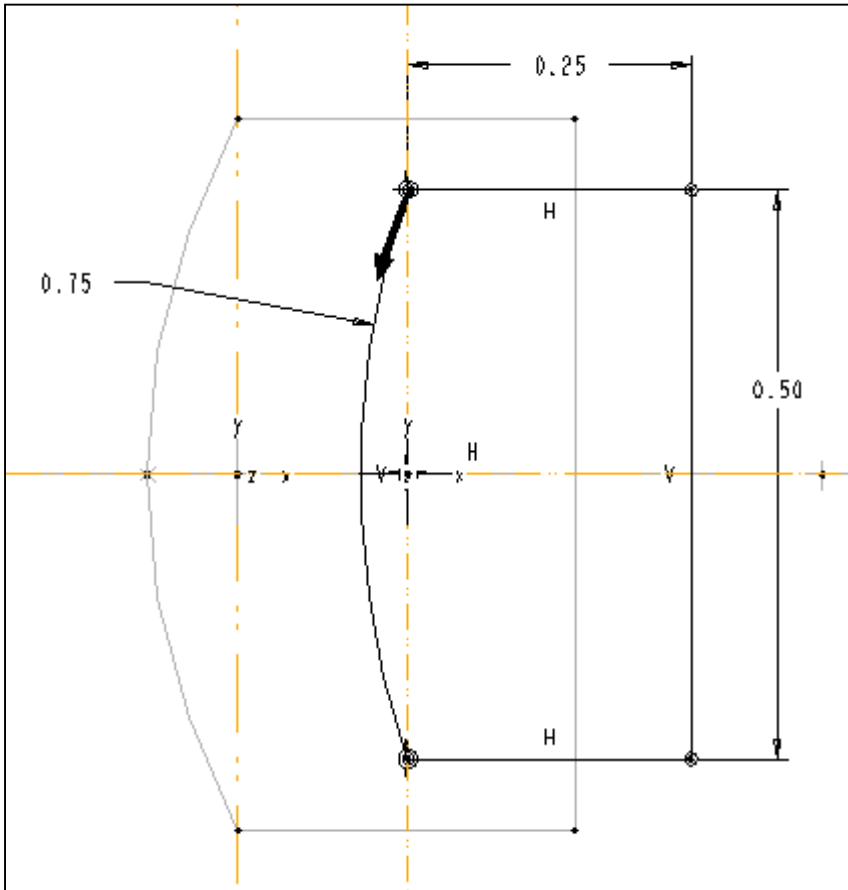


Figure Bathroom Faucet 53 Fifth Section: .500 X .25 X R.75

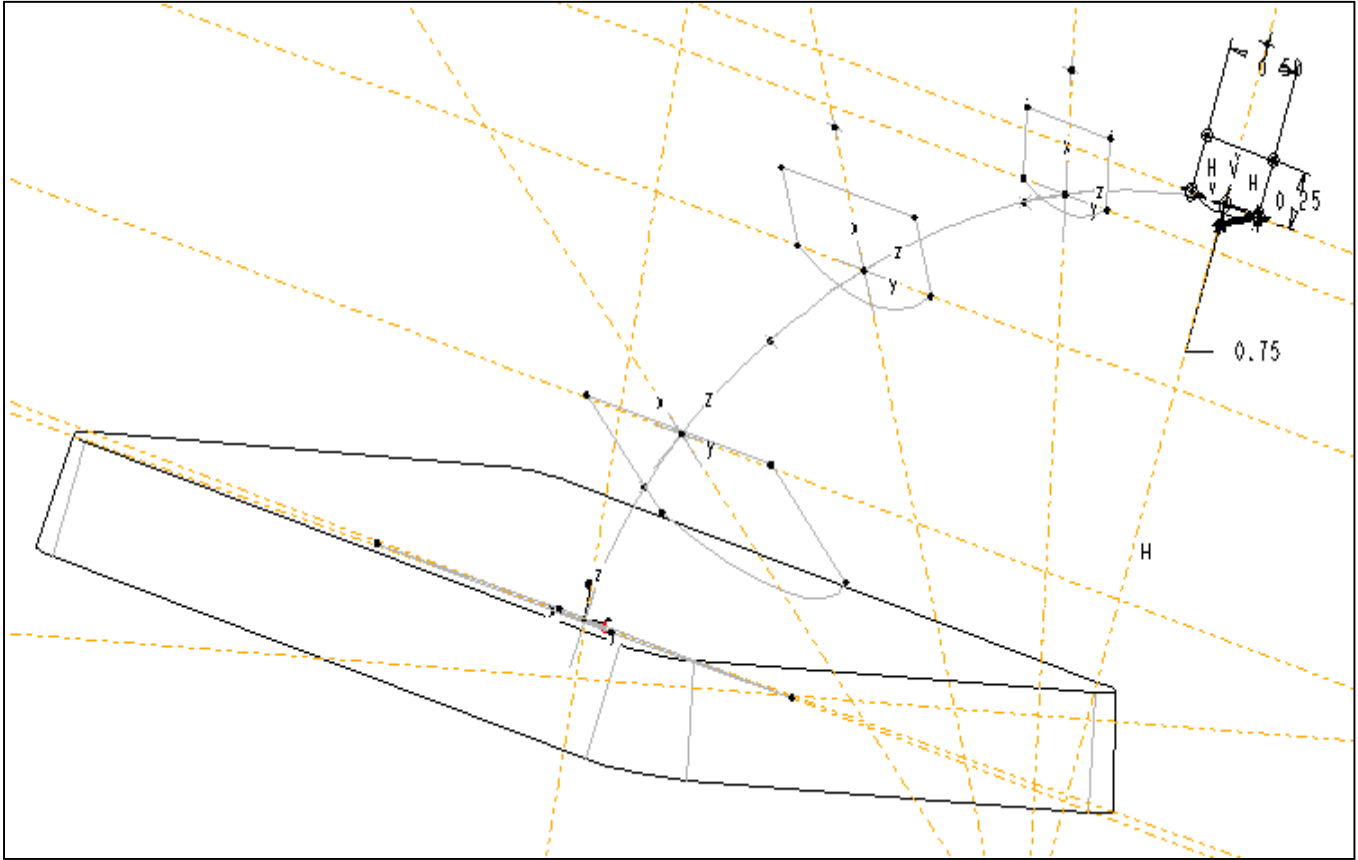


Figure Bathroom Faucet 54 Fifth Section: Pictorial

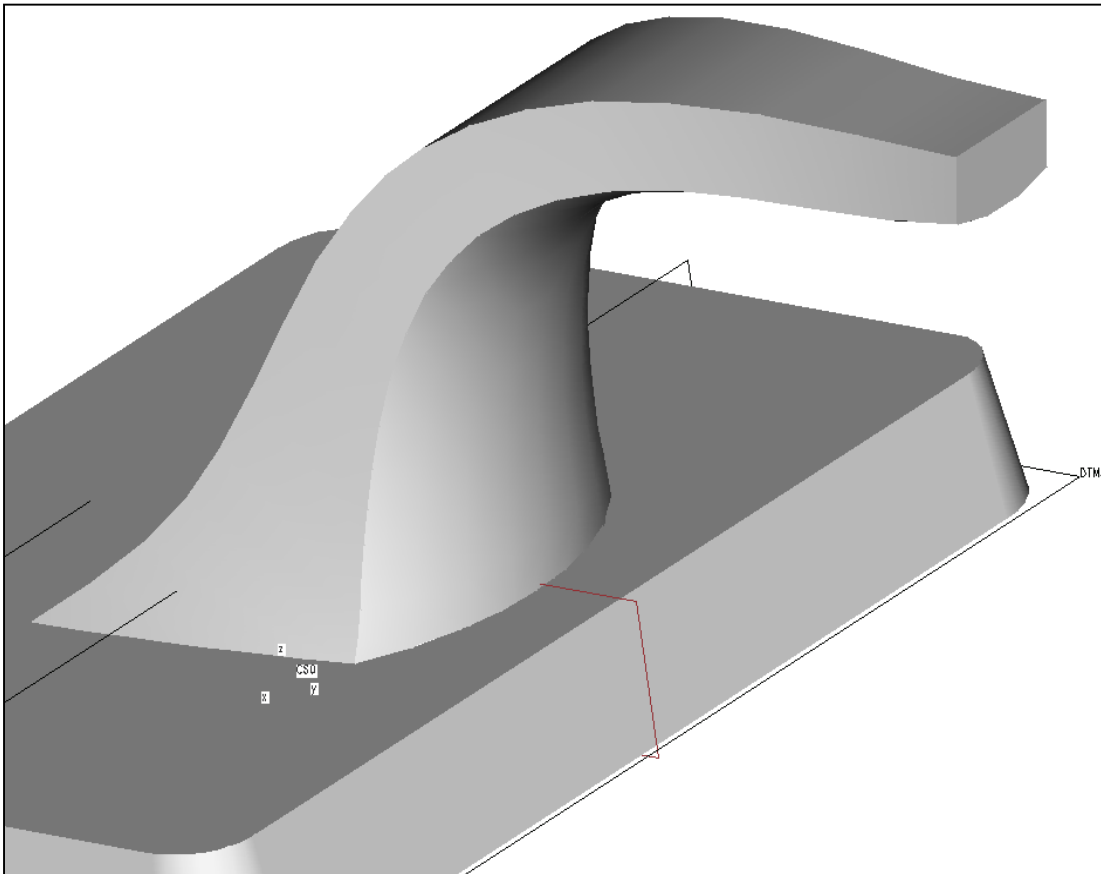
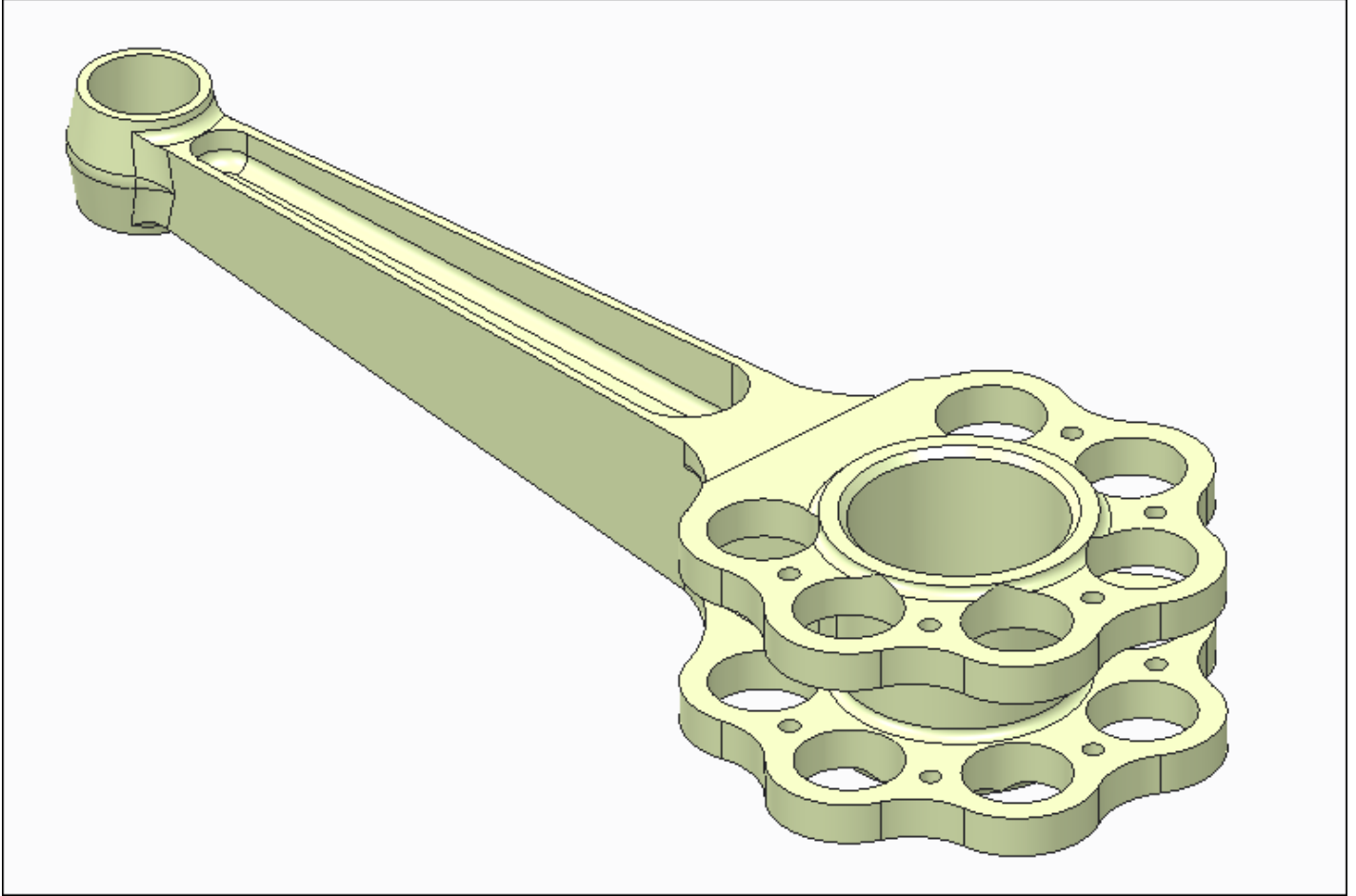
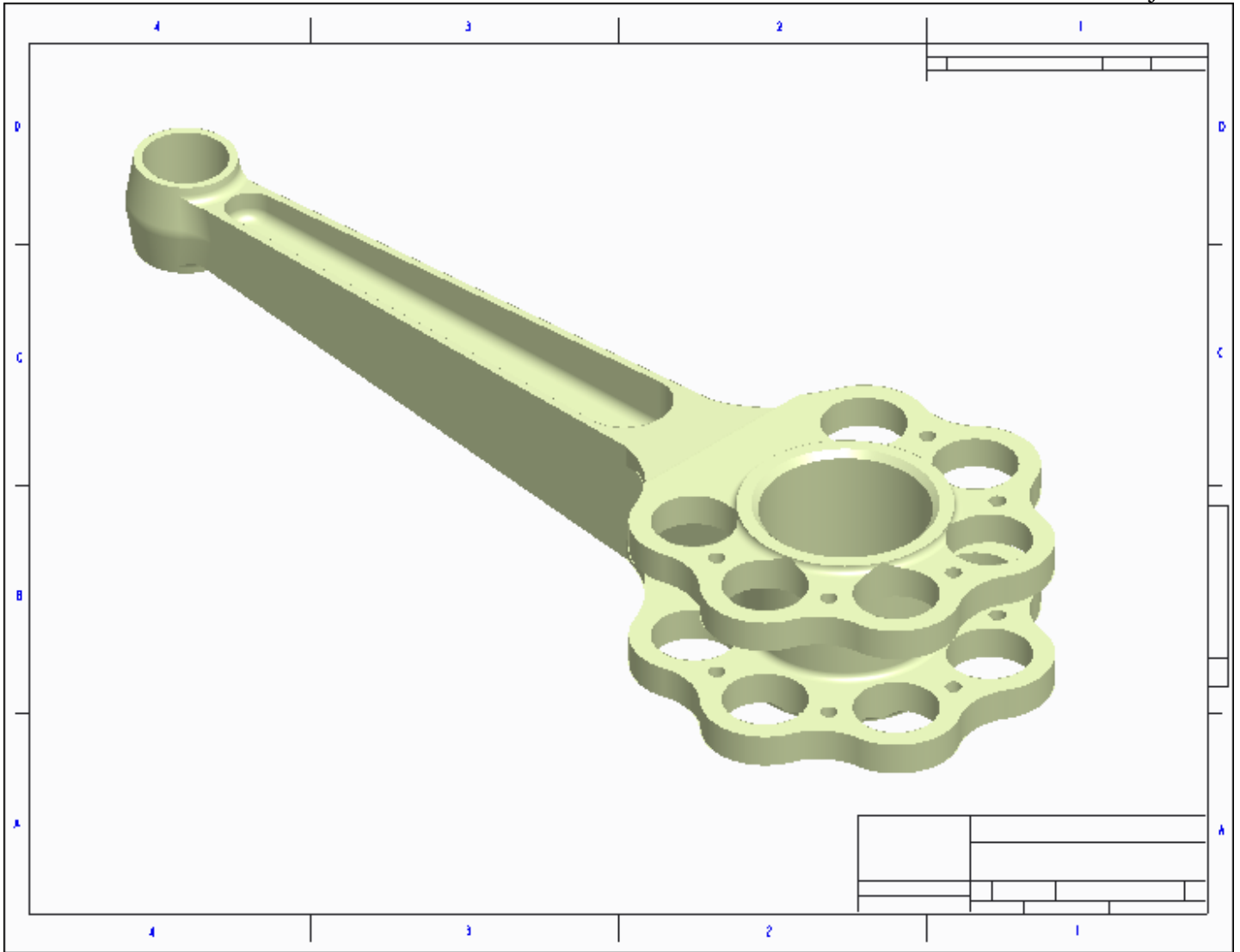
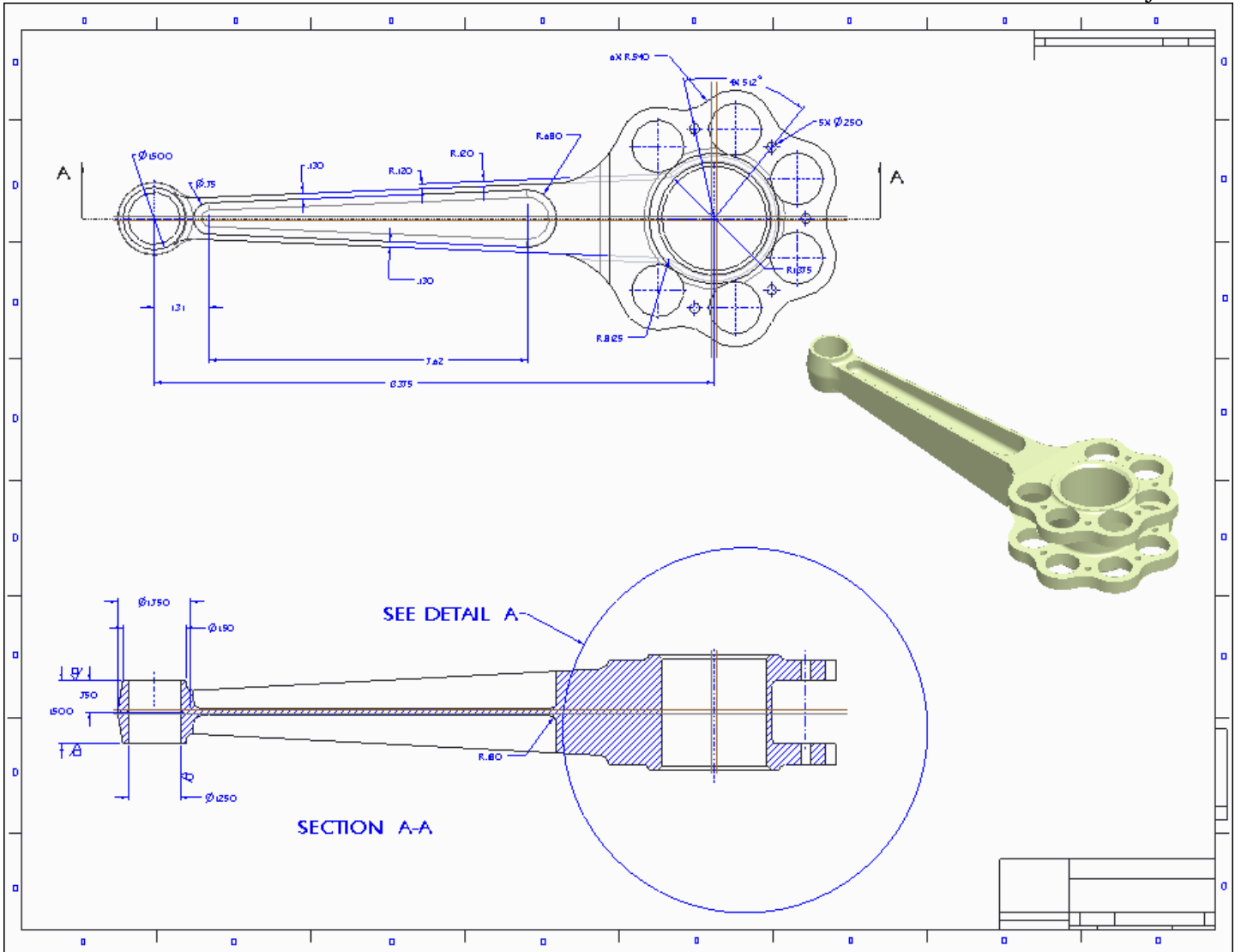


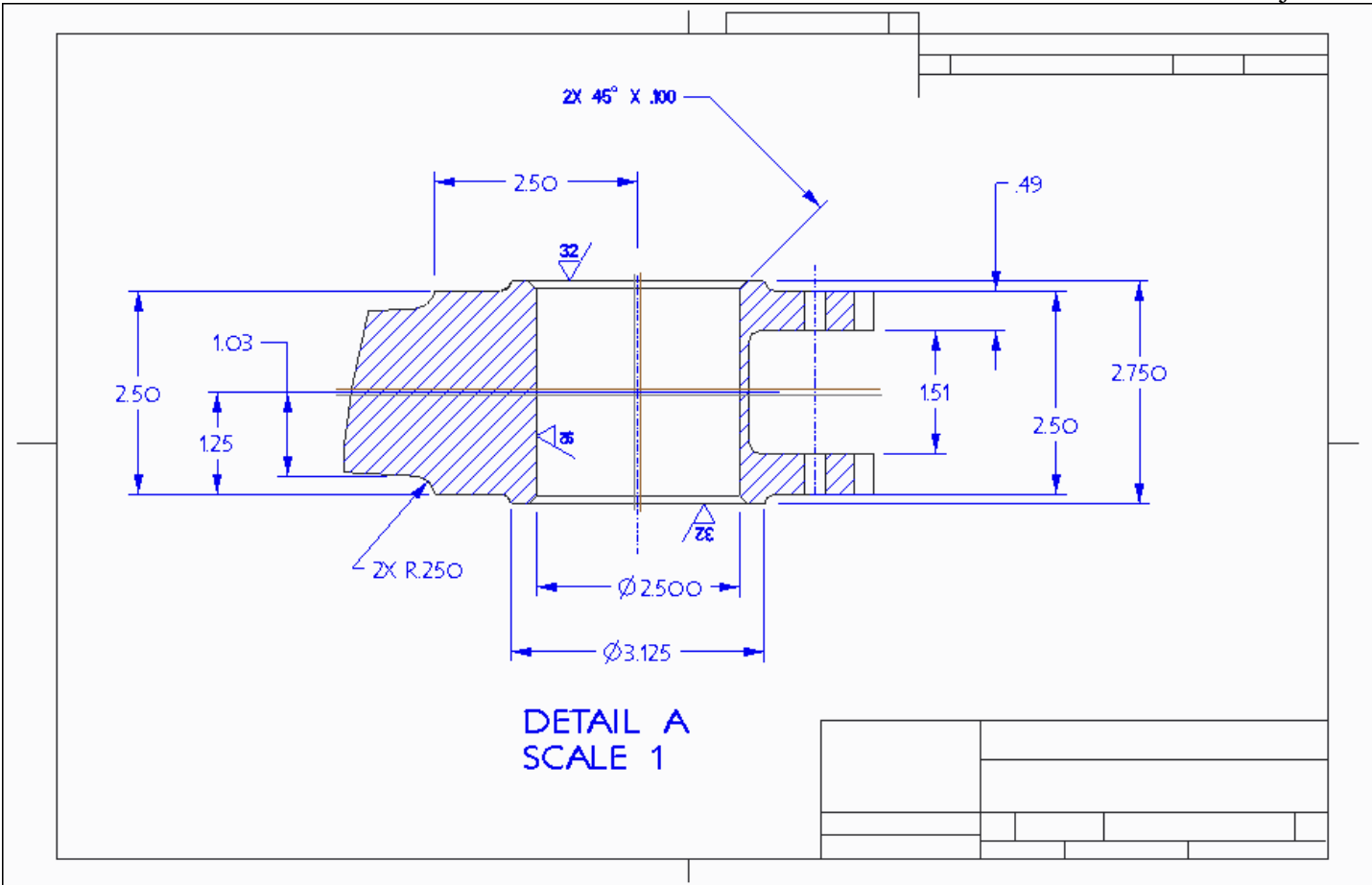
Figure Bathroom Faucet 55 Completed Swept Blend

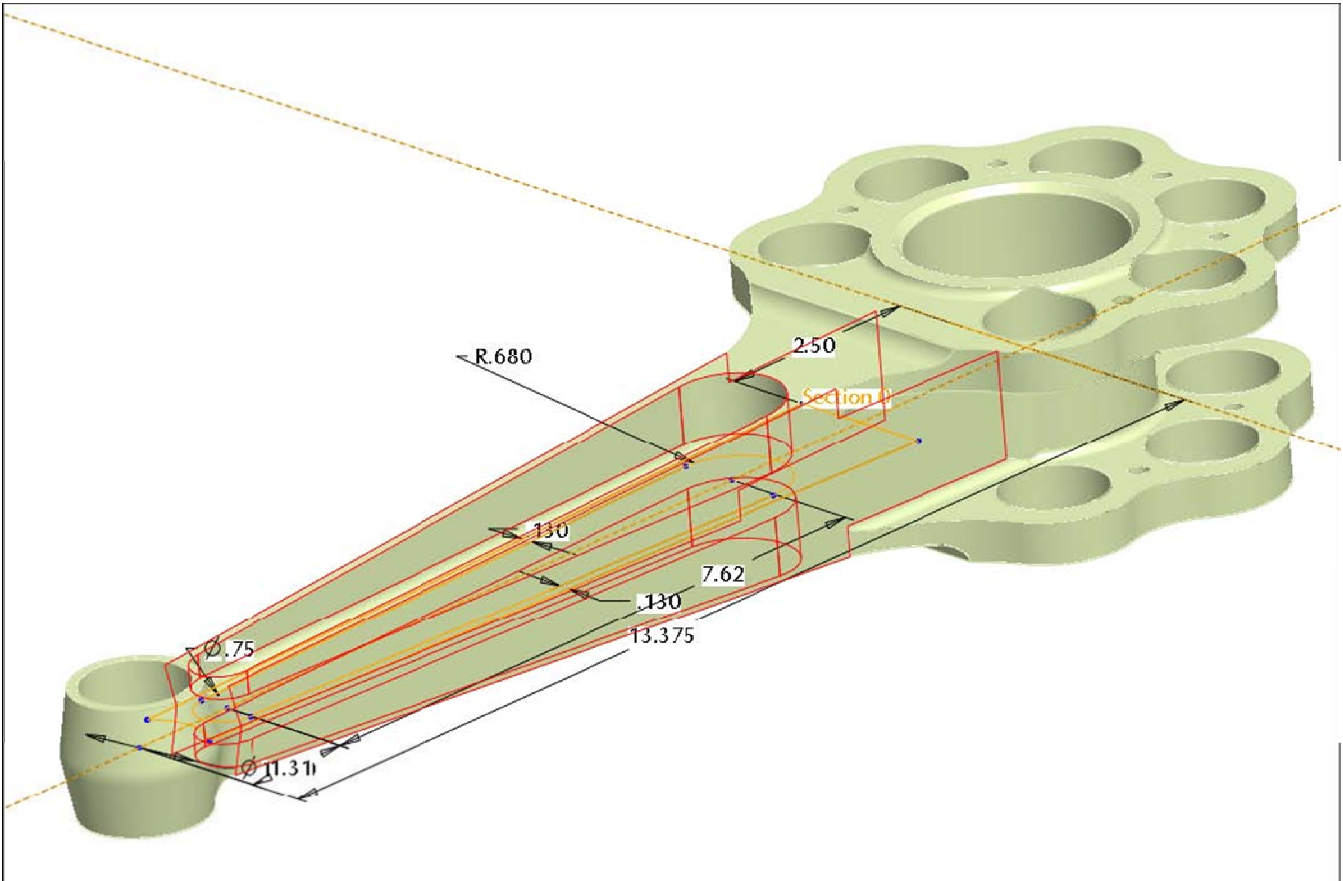
Advanced Project Arm

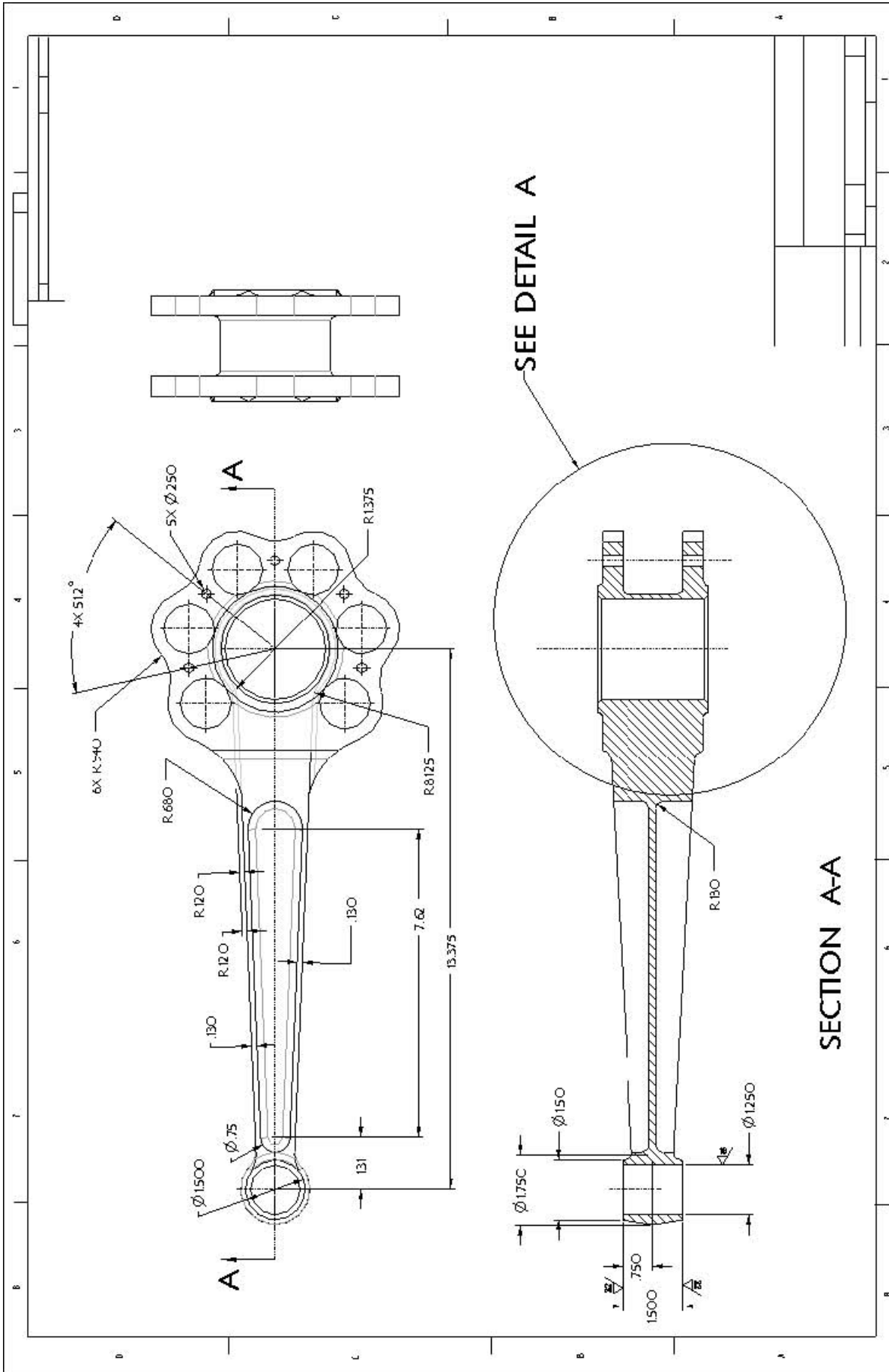


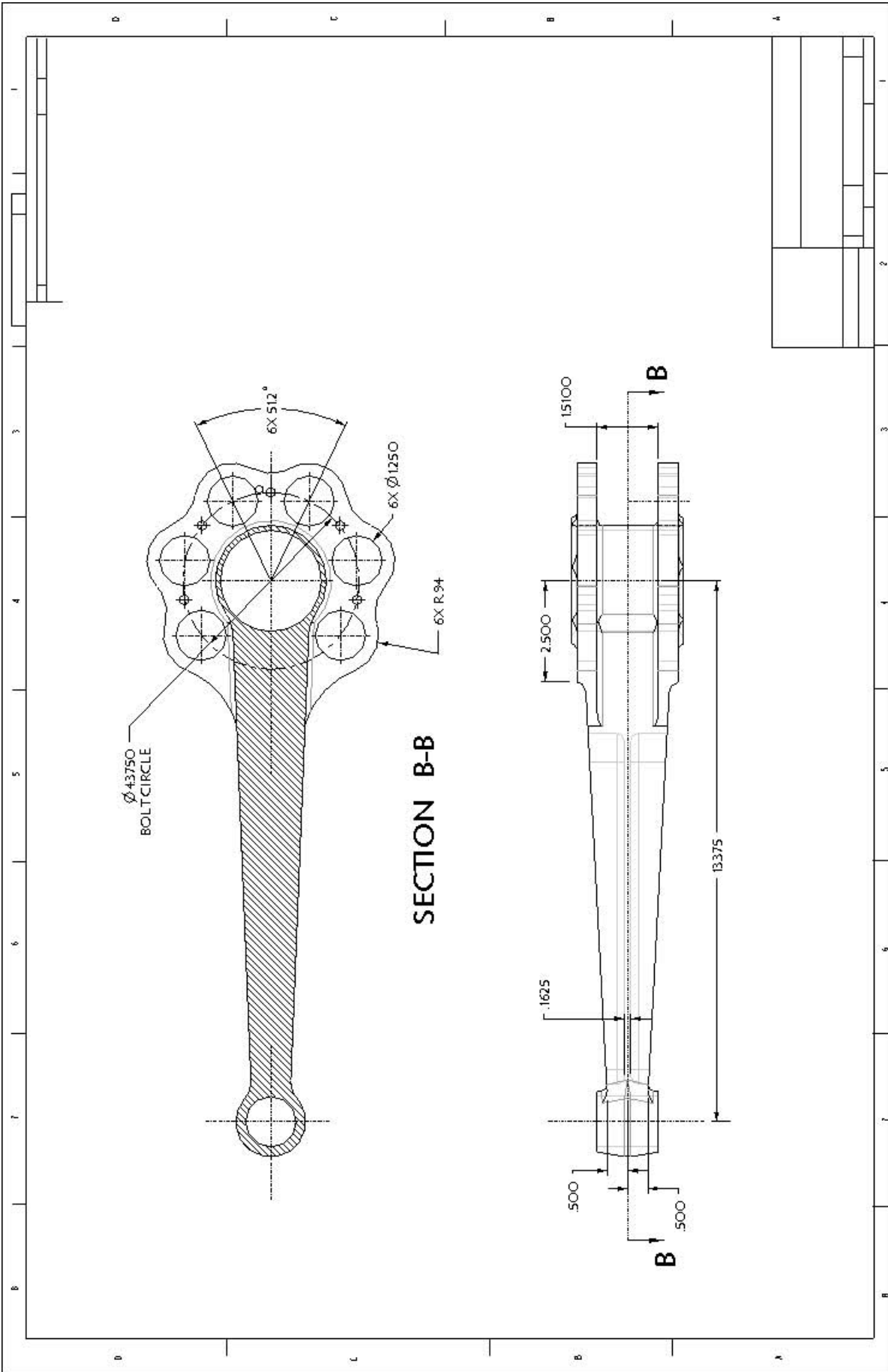


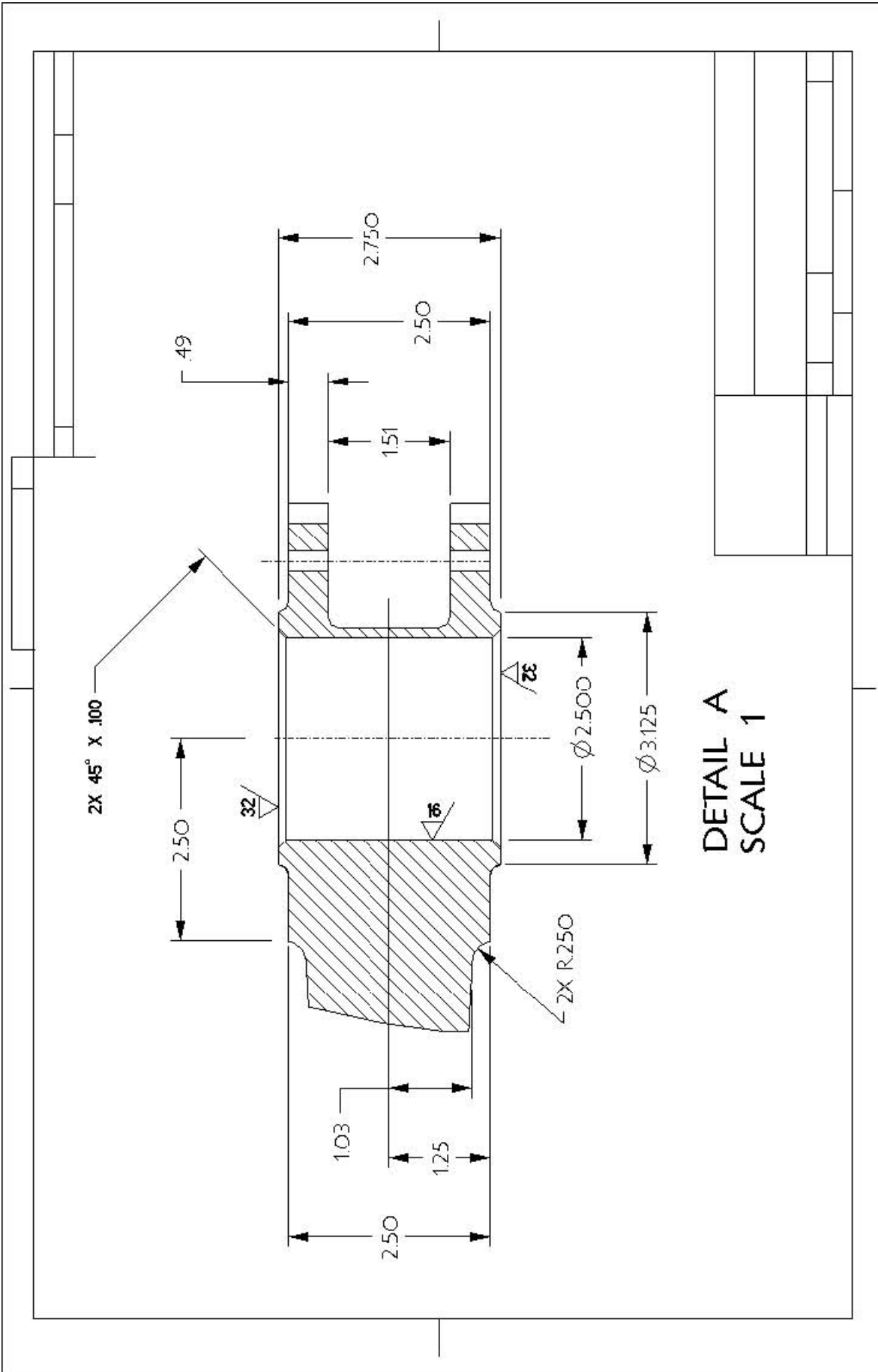


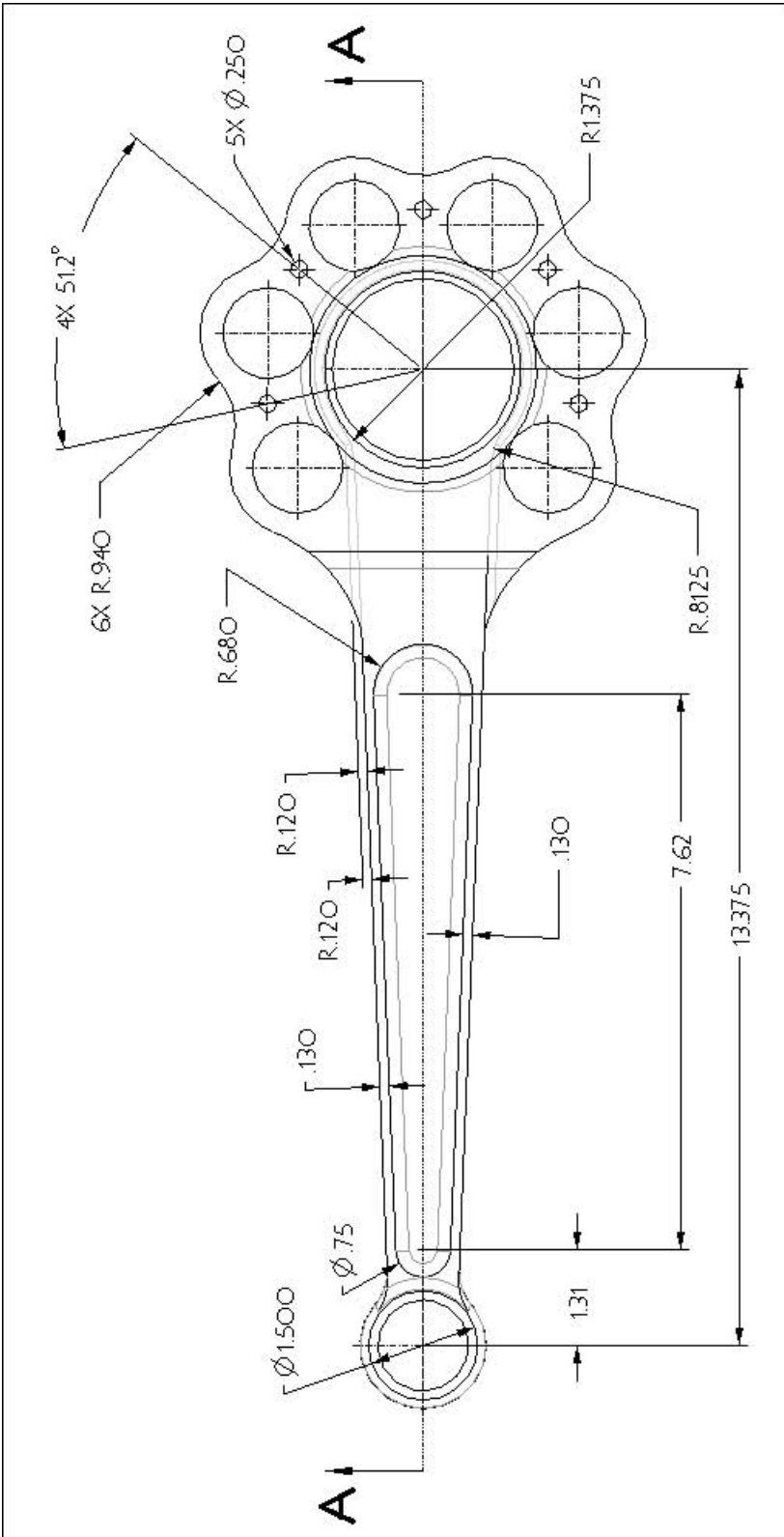


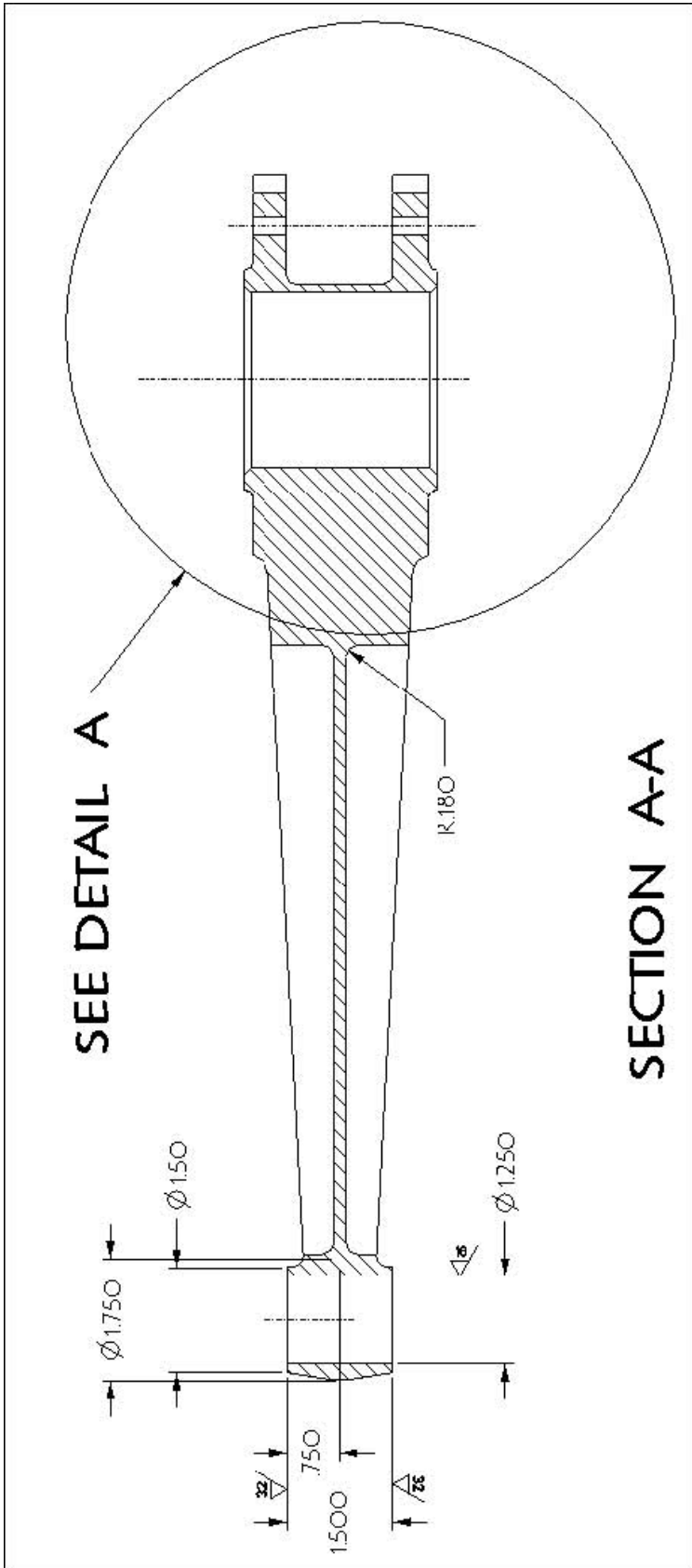


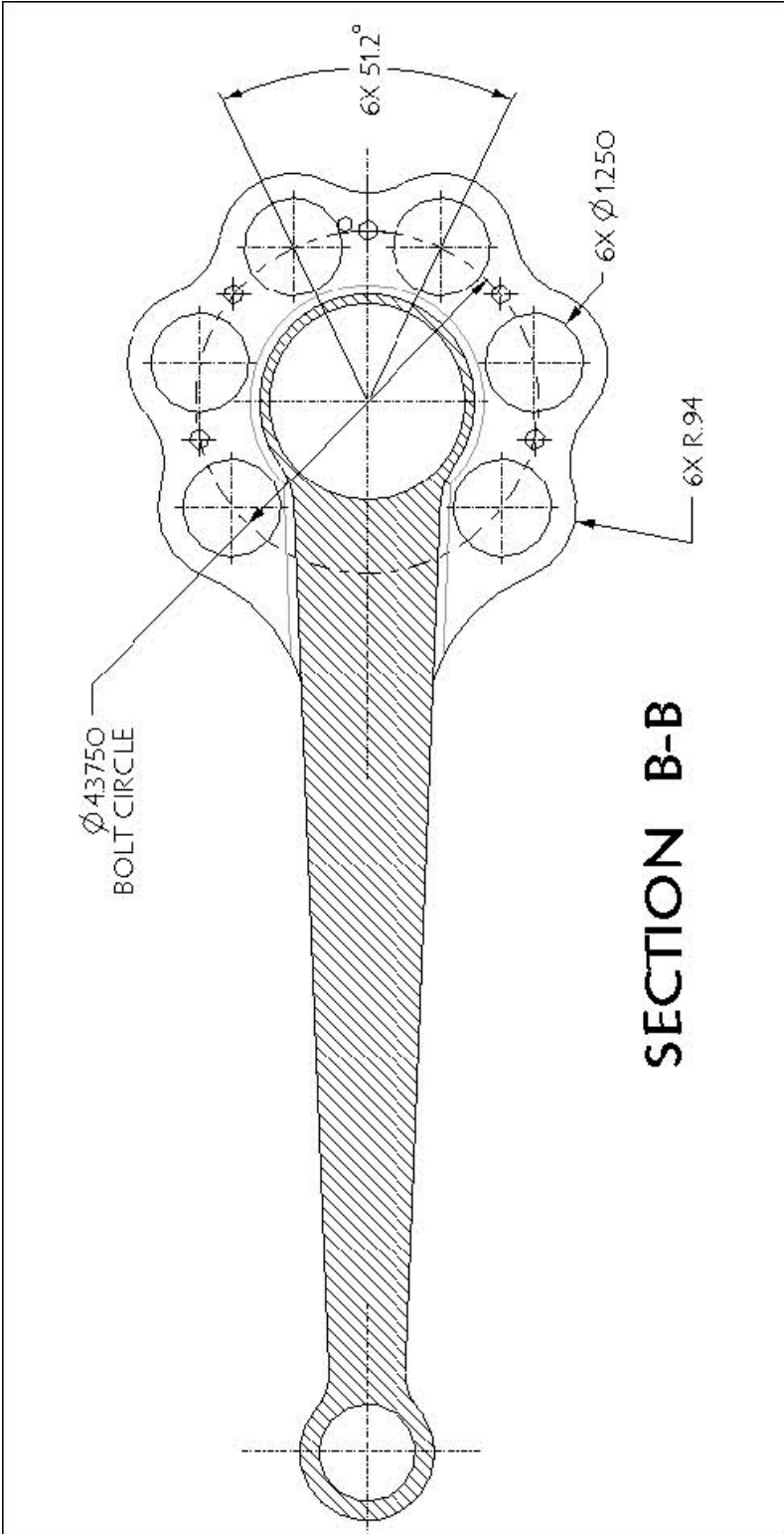


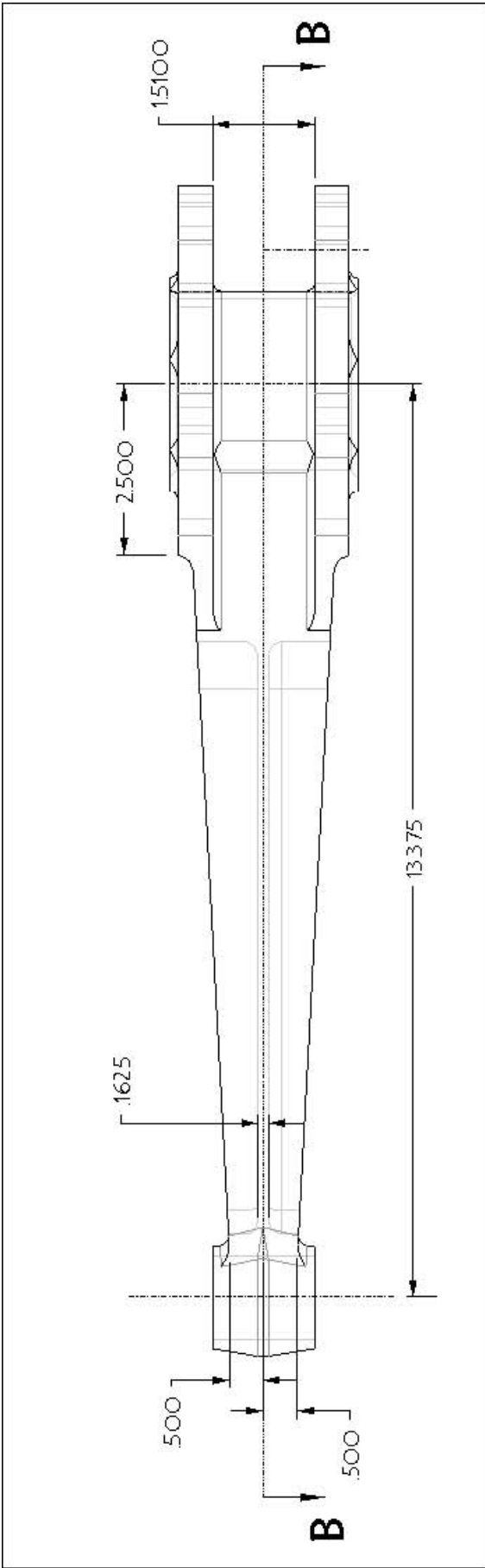


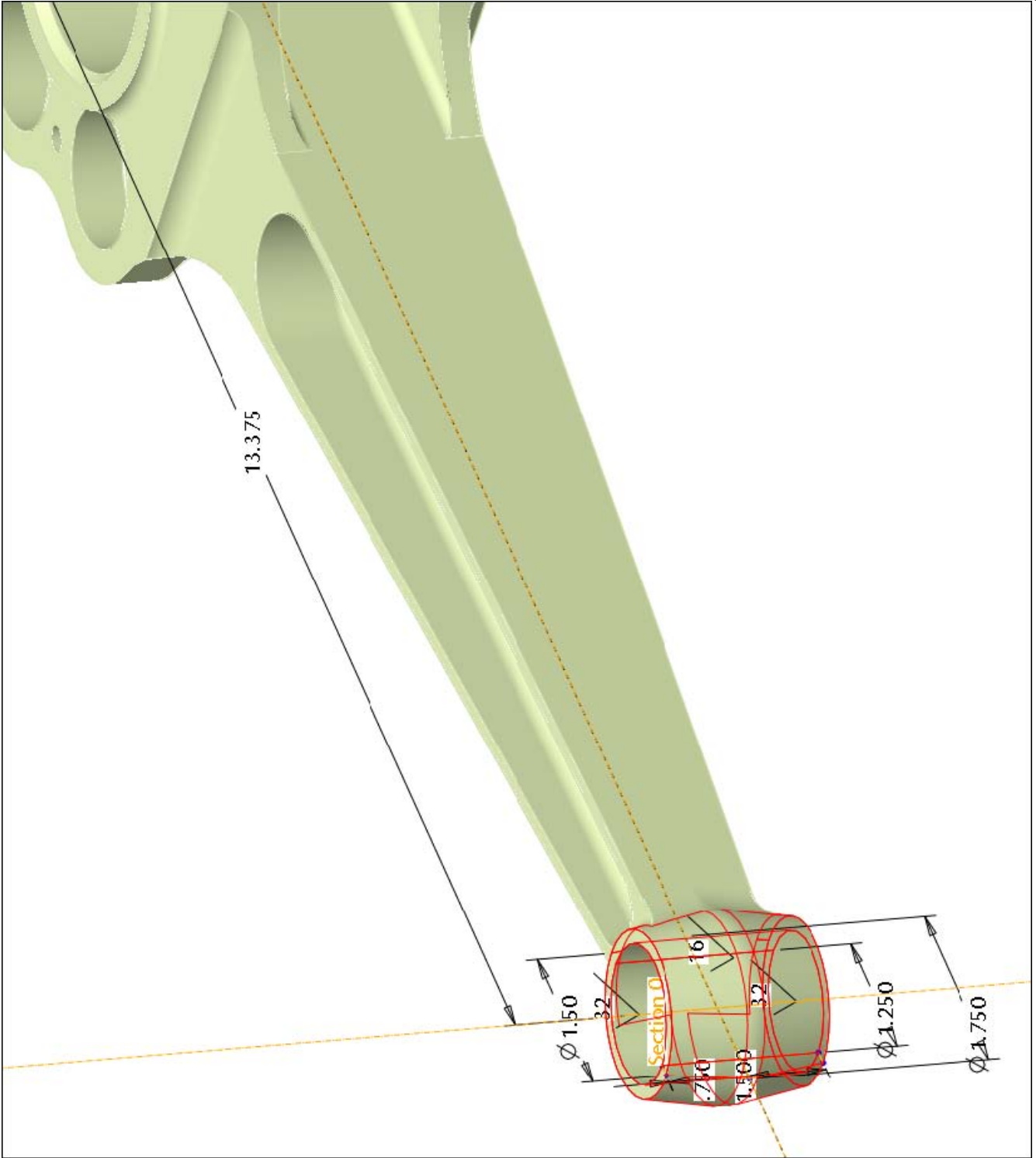


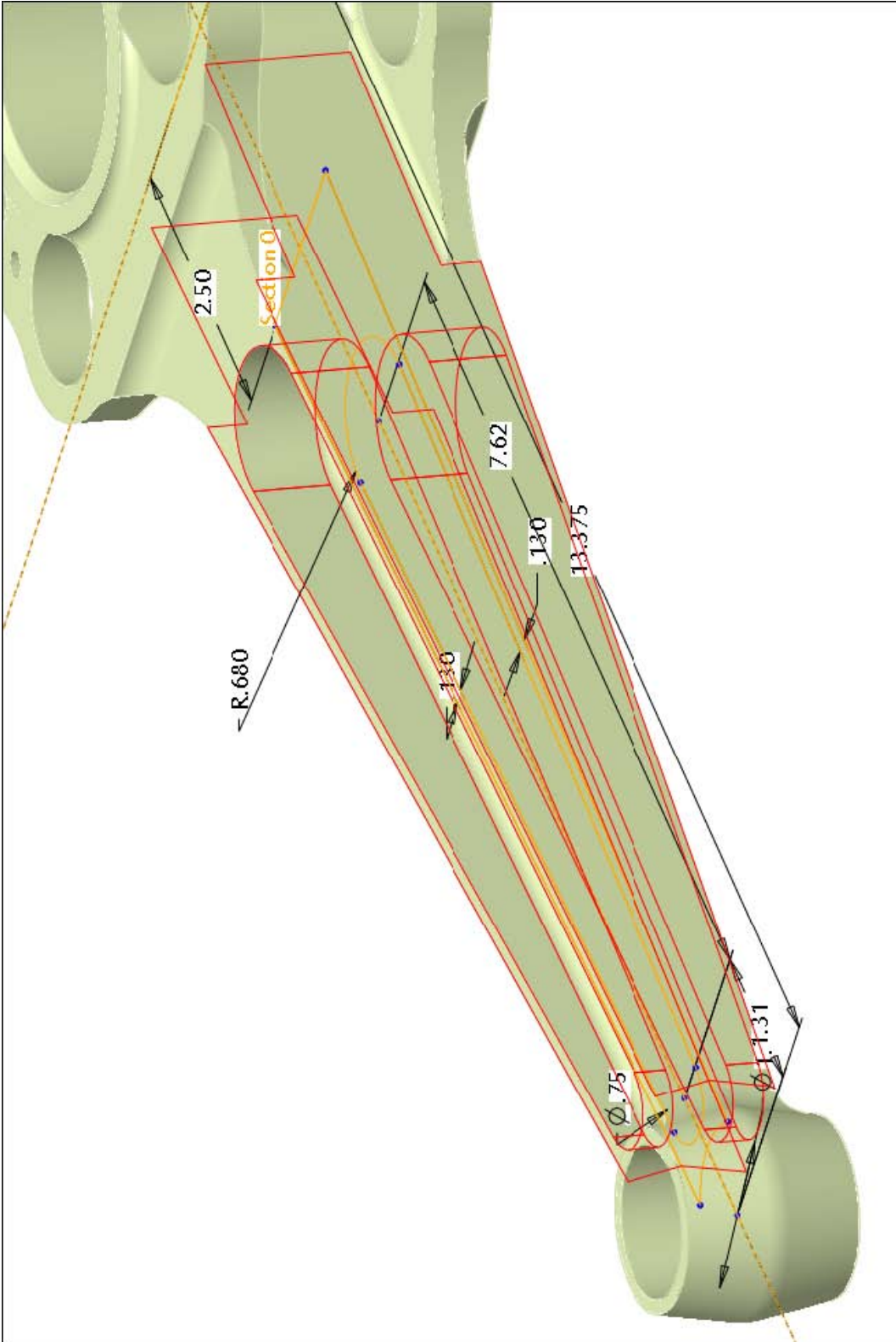


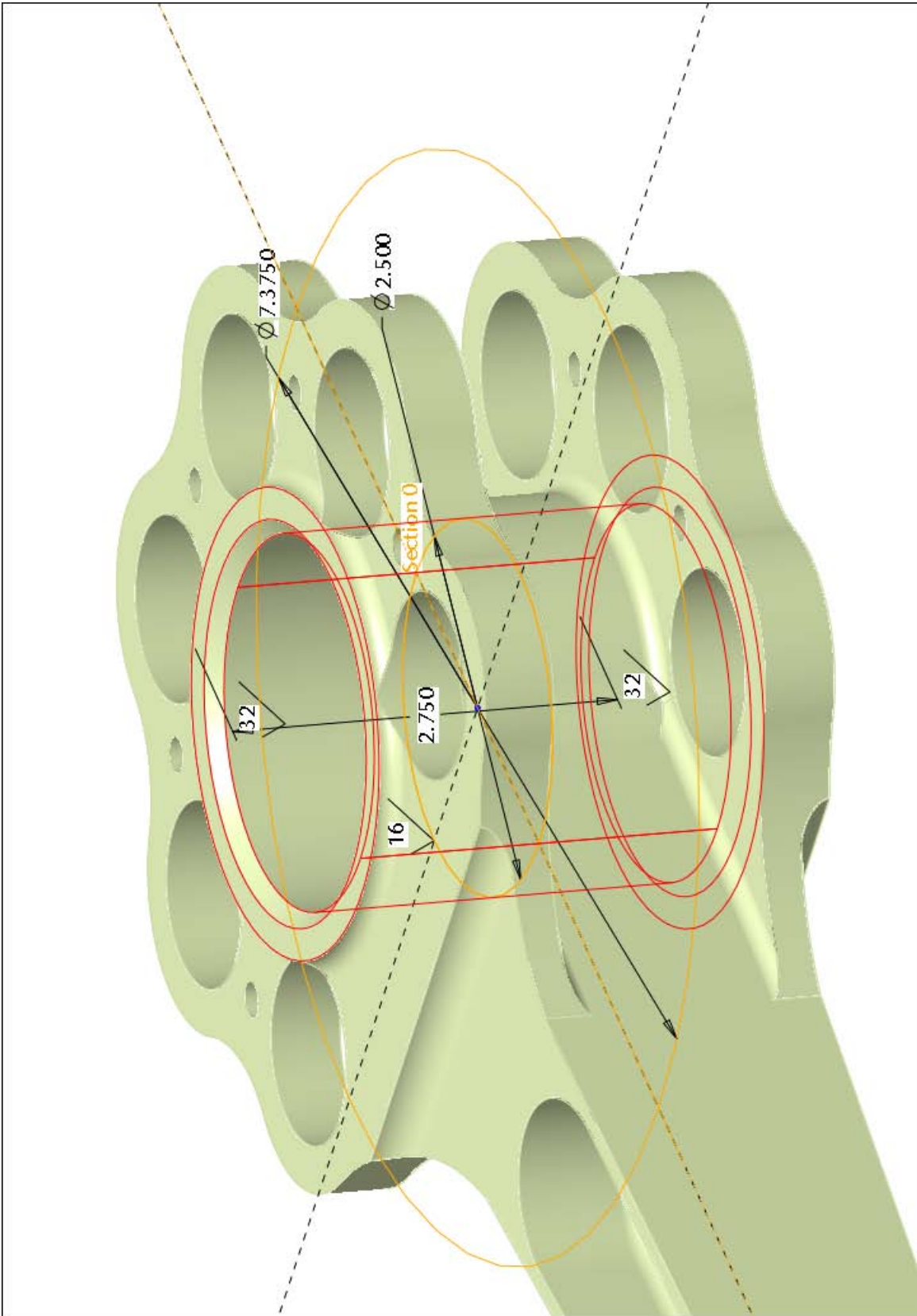


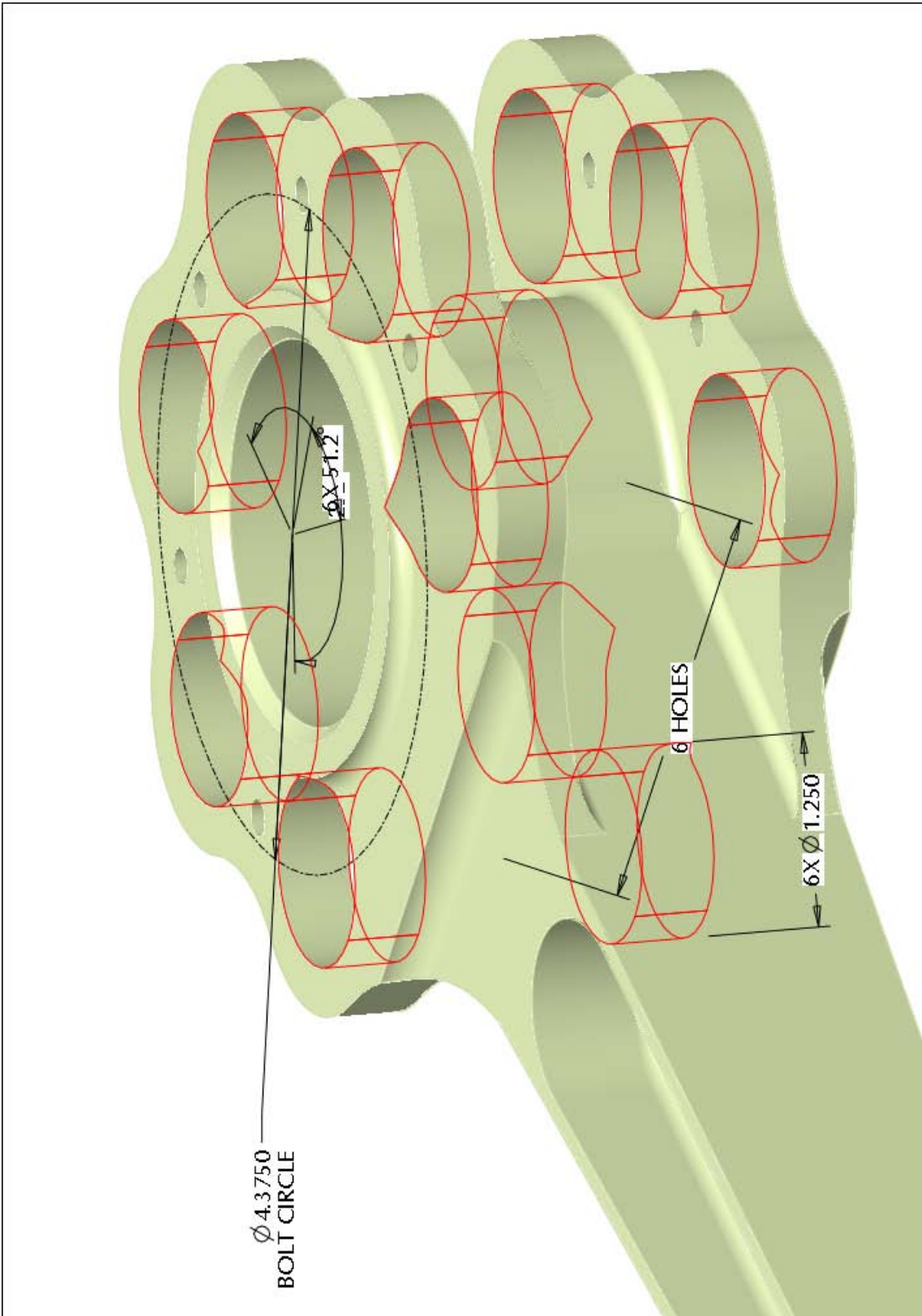


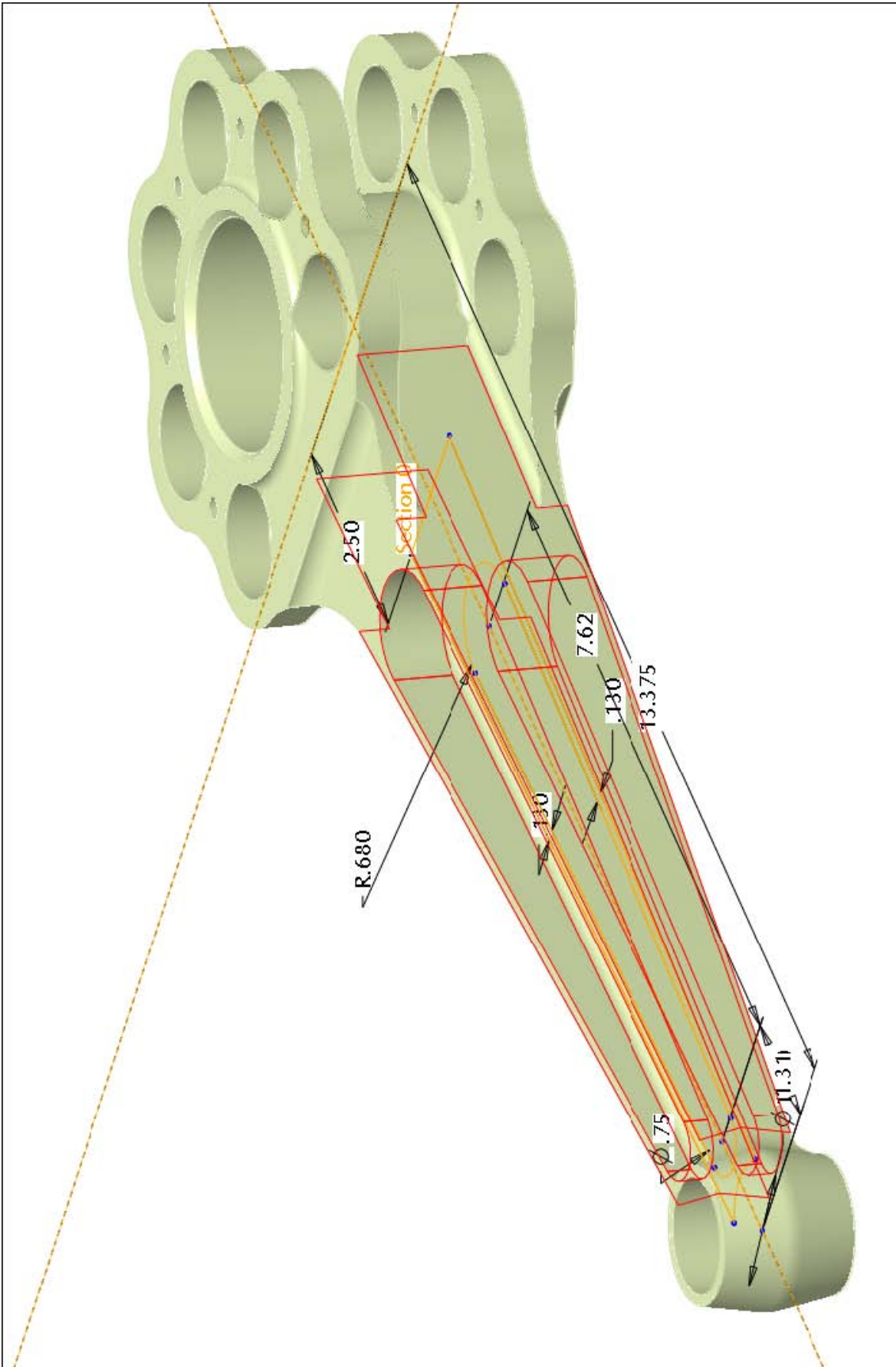


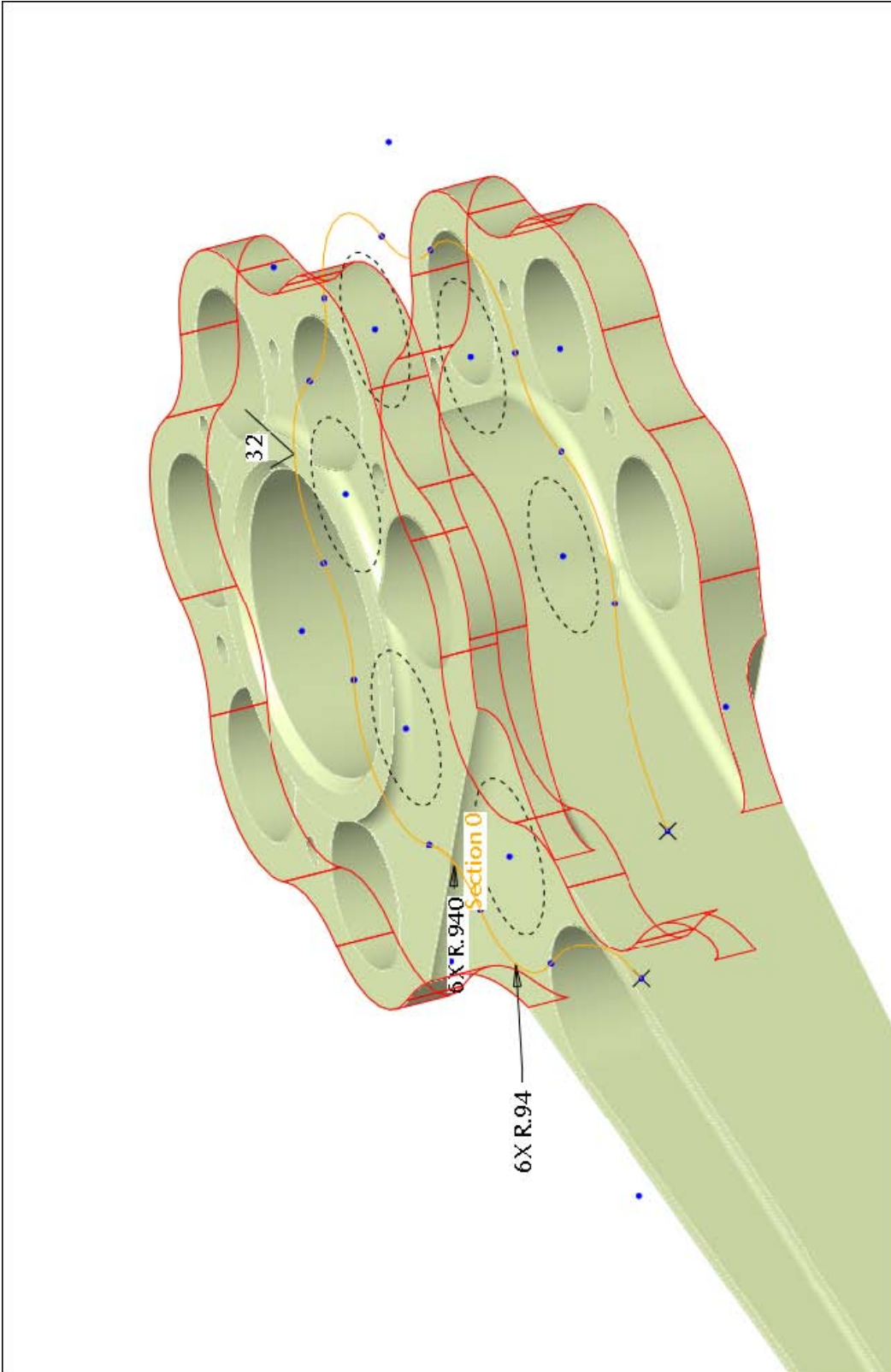




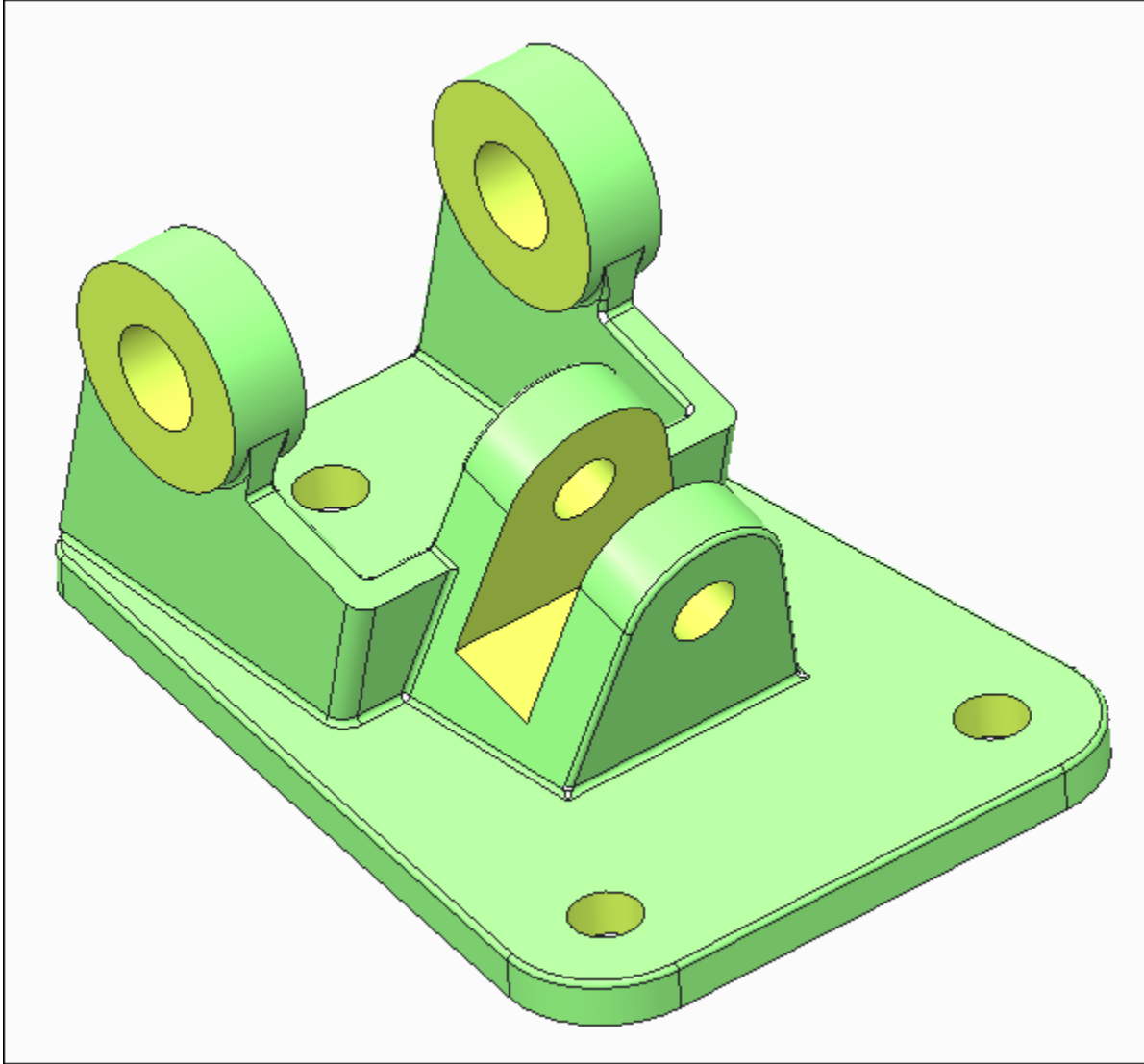


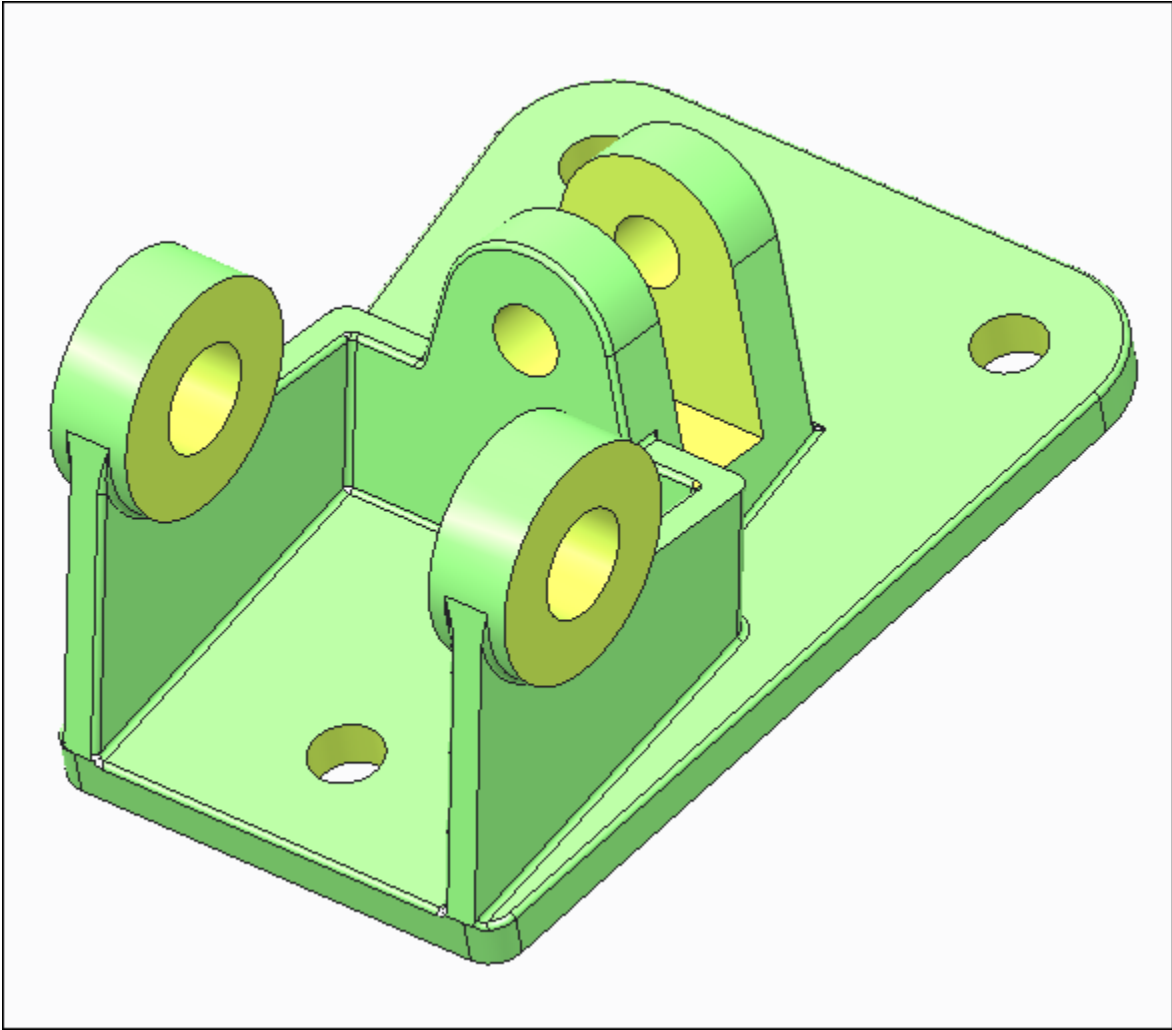


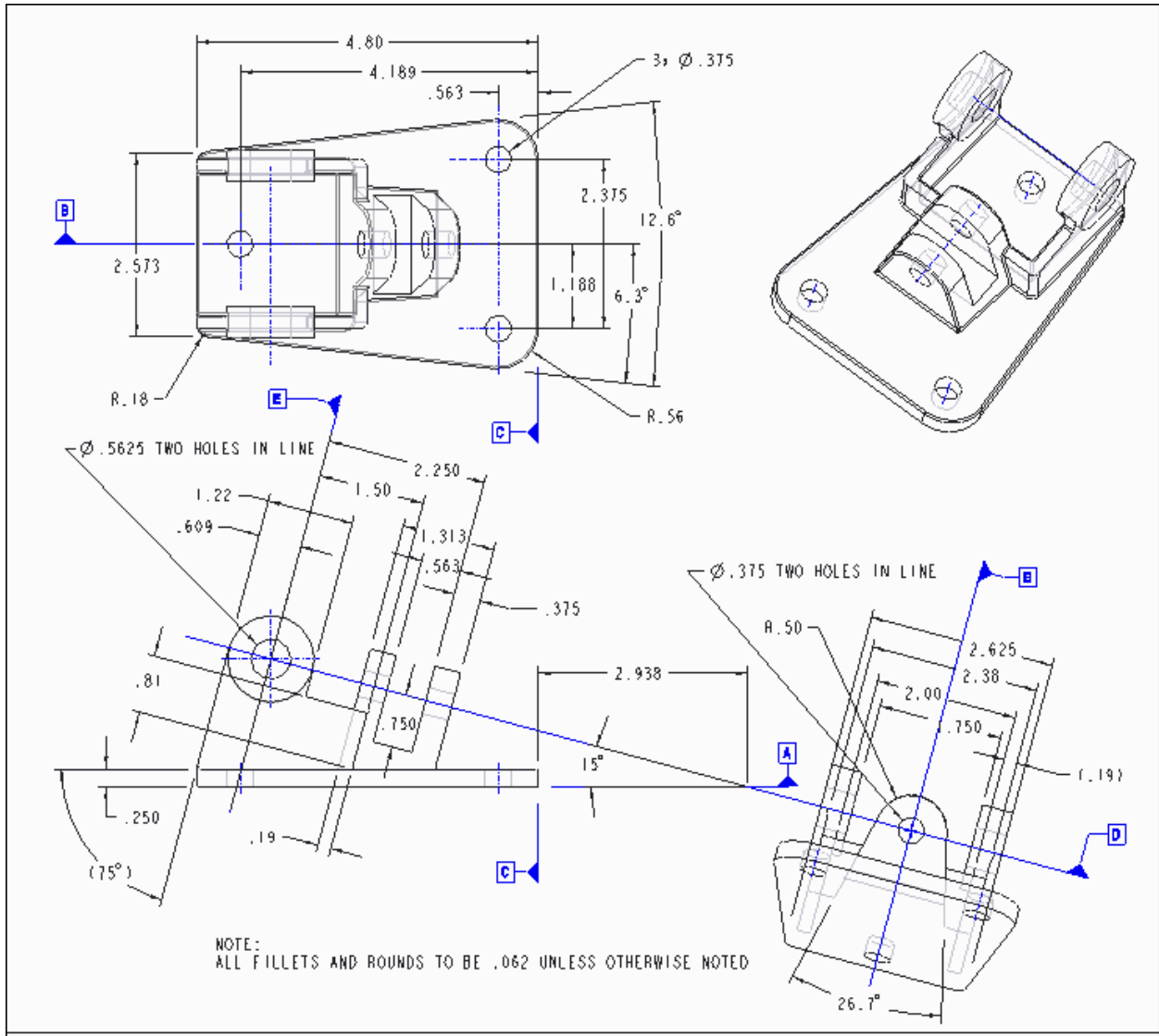


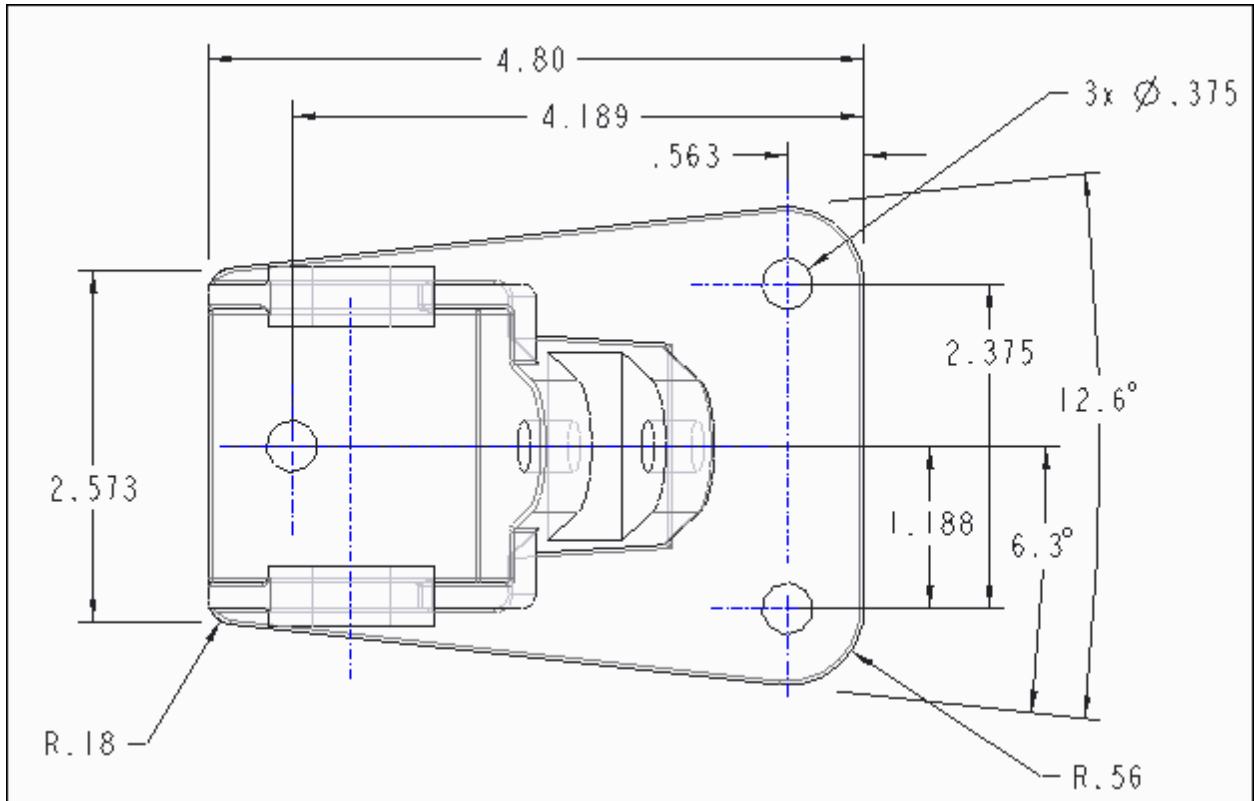


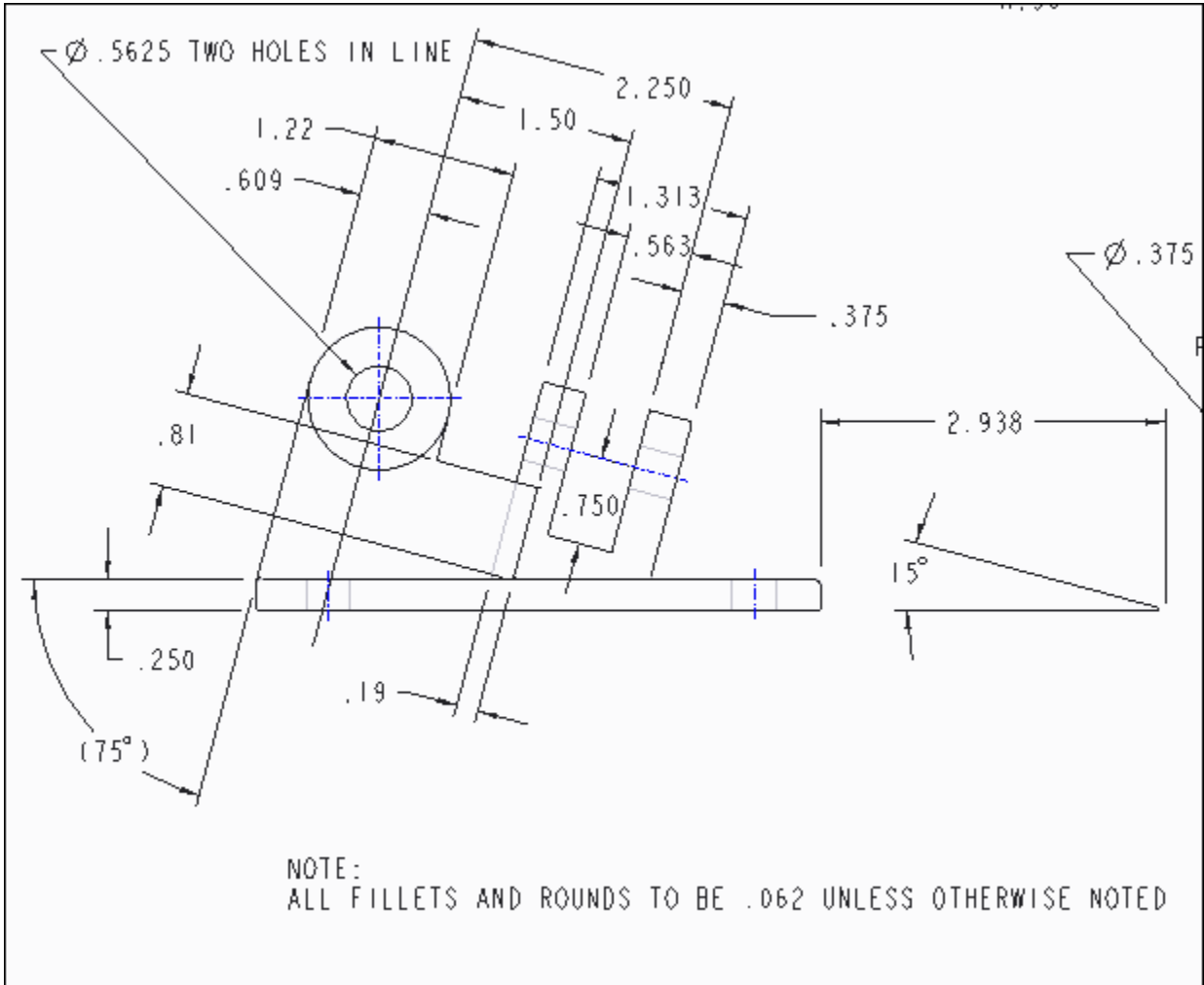
Advanced Project Bracket

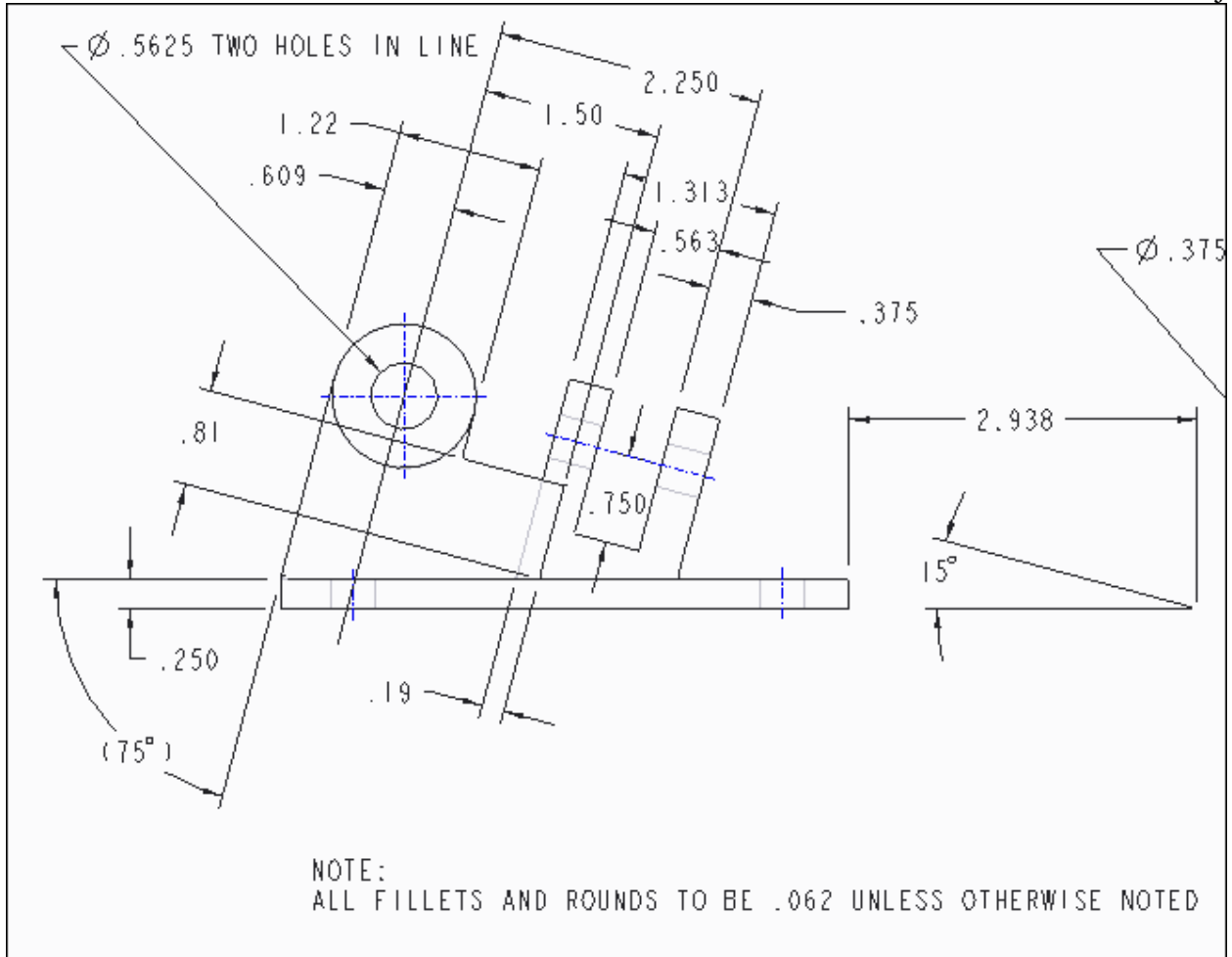


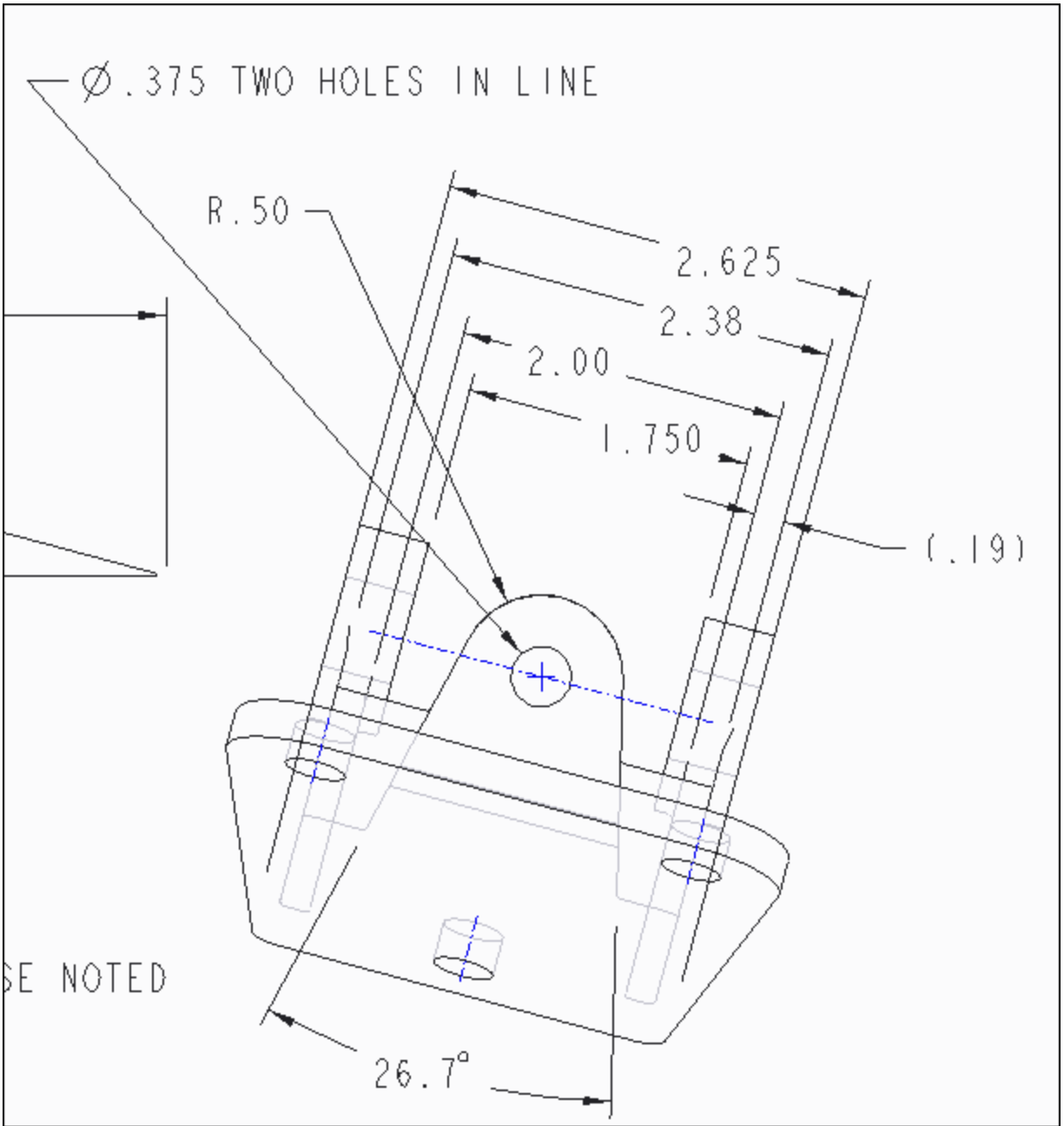












Advanced Project Cover

