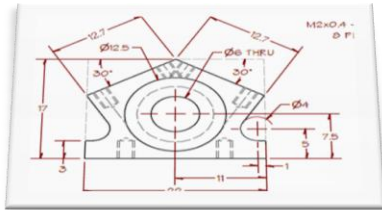


From the Trenches with Autodesk Inventor

Tips, tricks & solutions from daily life with Inventor



<http://inventortrenches.blogspot.com/>



This PDF contains 24 detailed drawings of miscellaneous parts, to be used for practice with Autodesk Inventor (or any 3D CAD package for that matter). Some of the parts are a bit more challenging than others, but none of them are meant to be difficult. However, some are intended for specific modeling tools, and hints have been provided in those cases.

In the event that you find a missing dimension or two, please accept my apologies in advance, but don't let it stop you from modeling the part. Instead, you can consider this an opportunity to exercise "designer's choice" and provide a dimension according to your liking, as there are no right or wrong answers for these practice files.

As you work your way through these, keep in mind the best practice of creating simple sketches, to build well constructed features, which add up to a more complex part. You can reference the [Inventor 101: Simple Fully Constrained Sketches](#) blog article for more on the concept of building complex parts from simple sketches.

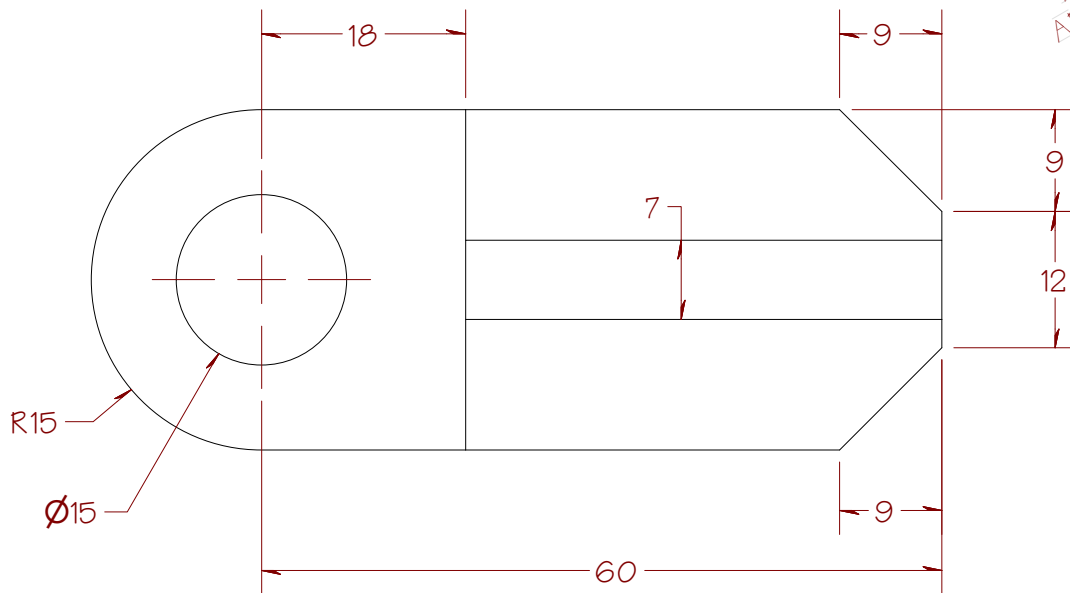
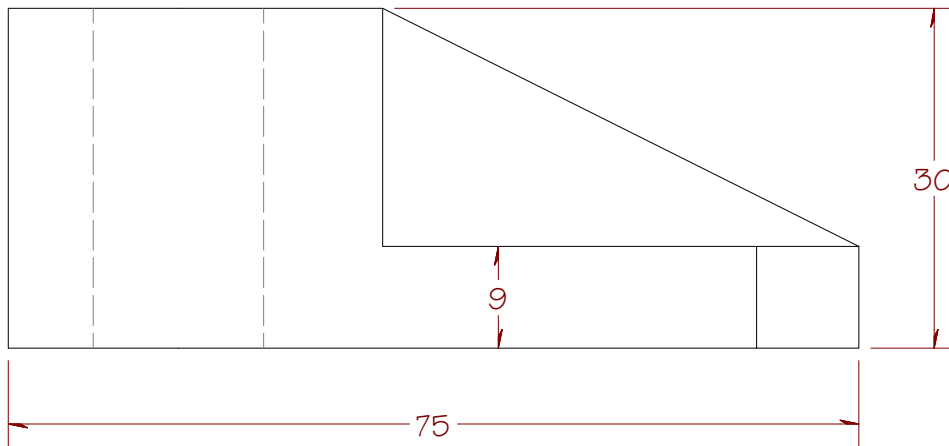
These files are released "as is" and no official support is offered for them, but if you get stuck you can probably find someone to offer a helping hand online at the [Autodesk Inventor forum](#), provided you post a good description of your issue and attach the part file you are struggling with.

Best of luck to you in all of your Inventor and design pursuits,

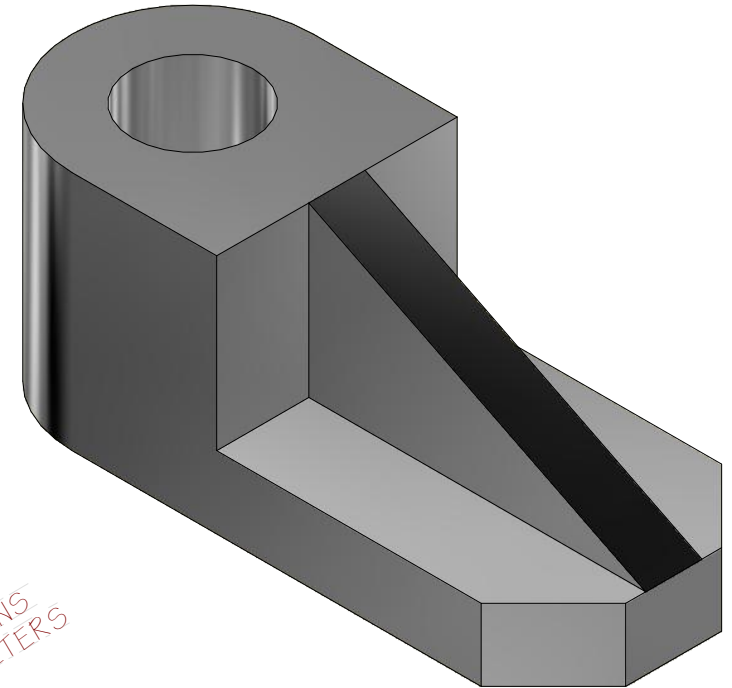
Curtis Waguespack

Author: Mastering Autodesk Inventor

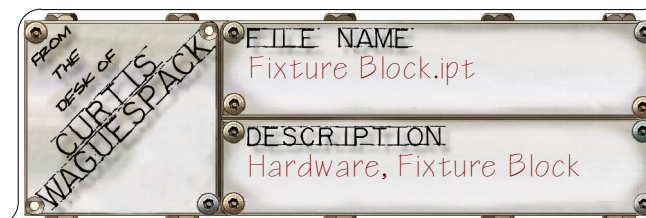


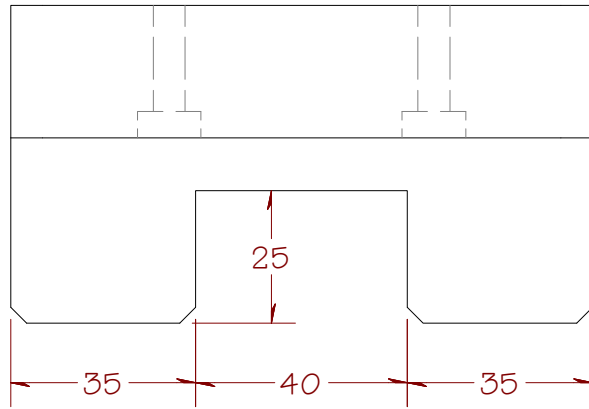


ALL DIMENSIONS
ARE IN MILLIMETERS

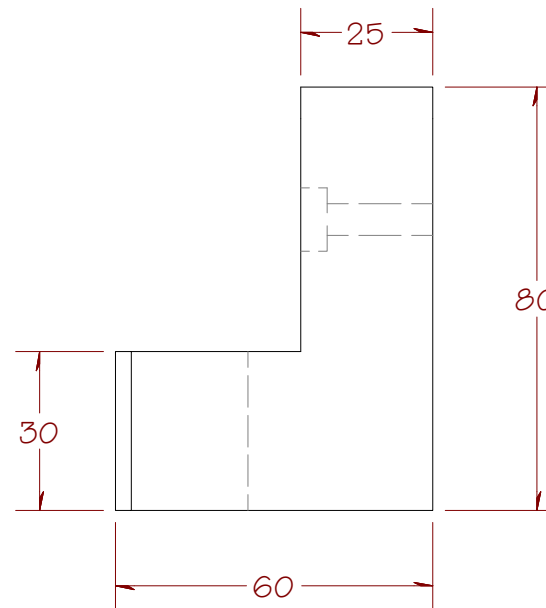
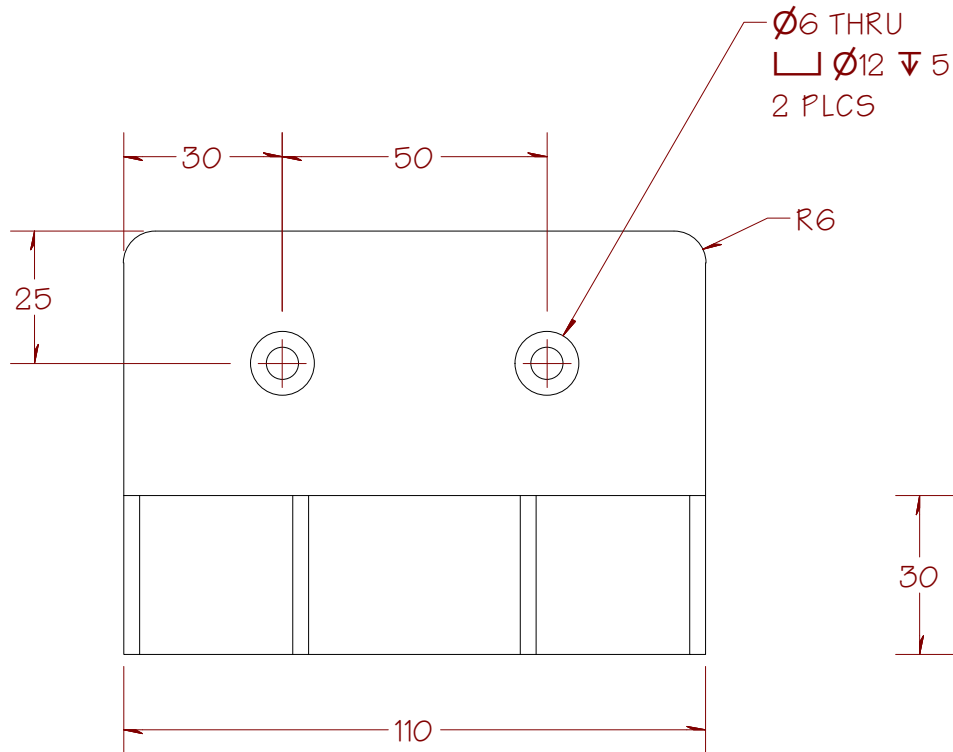
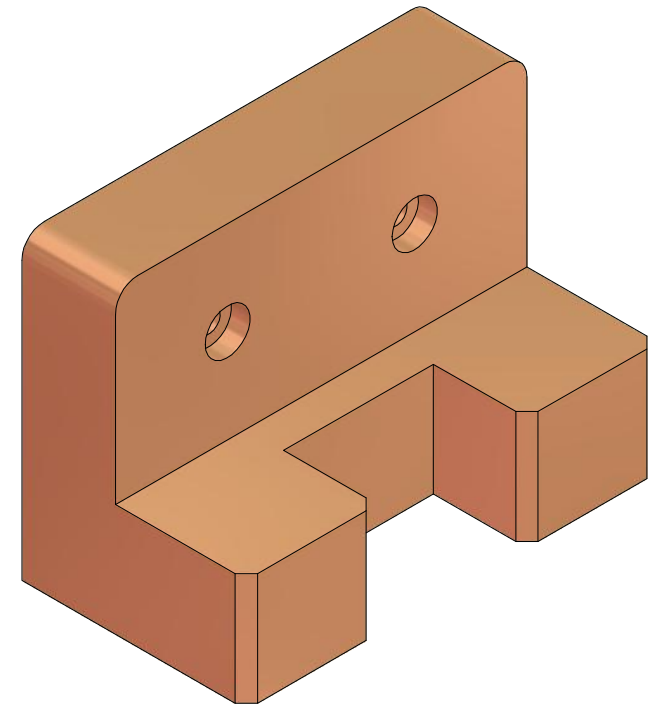


SHEET 2 OF 25



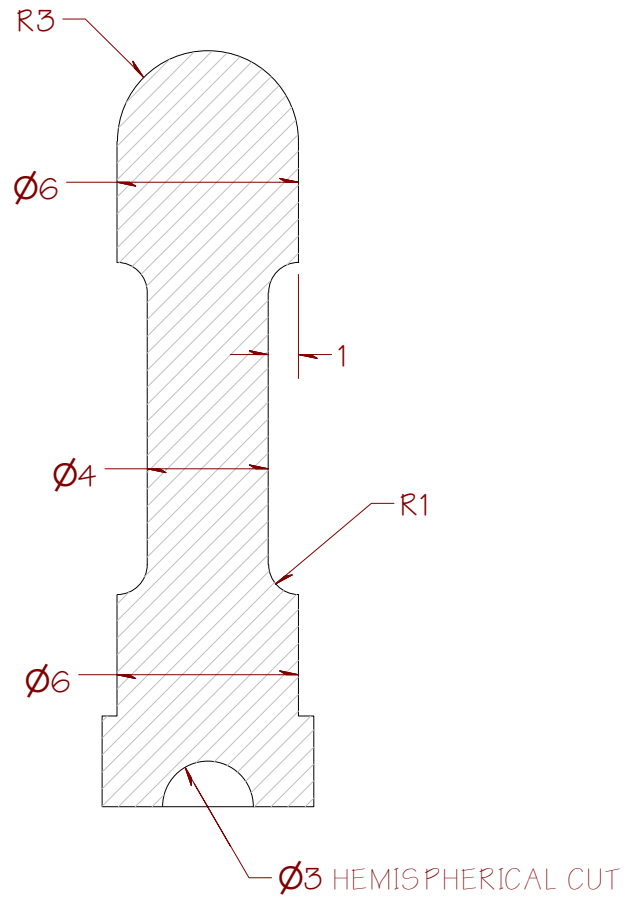
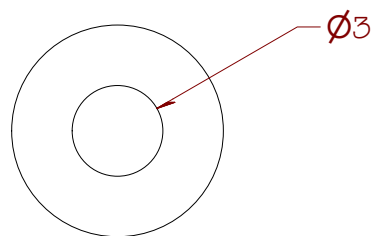
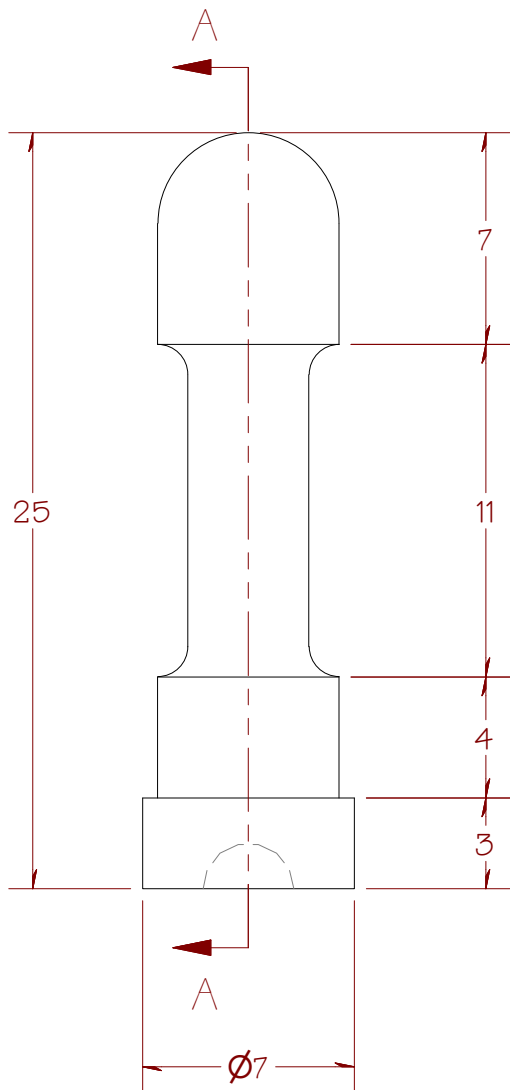


ALL DIMENSIONS
ARE IN MILLIMETERS

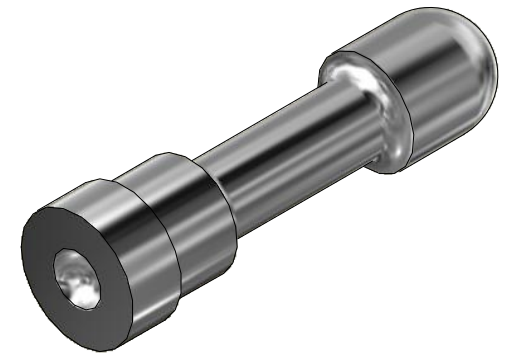


SHEET 3 OF 25





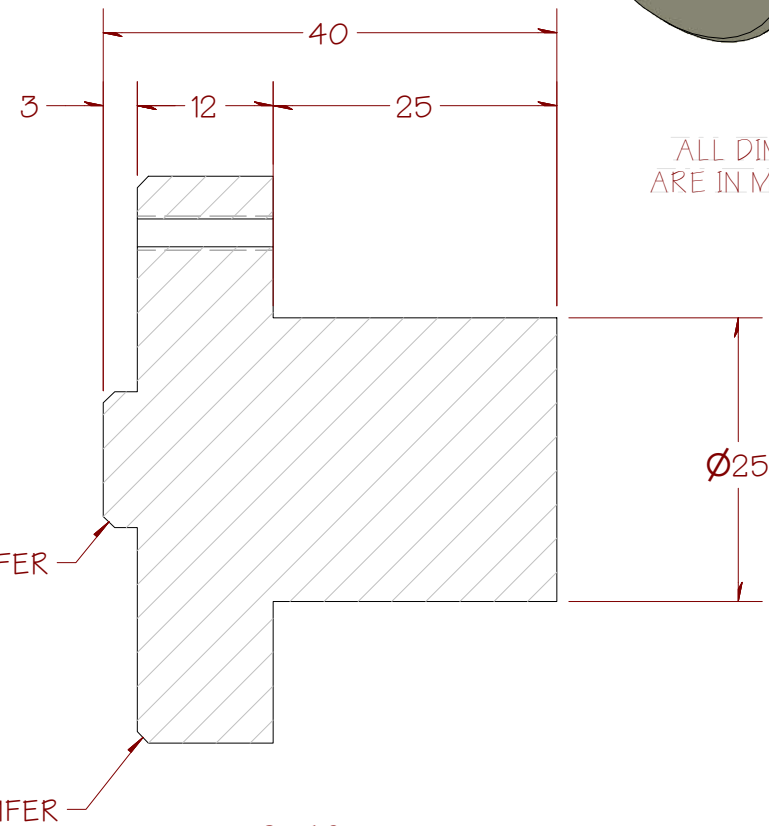
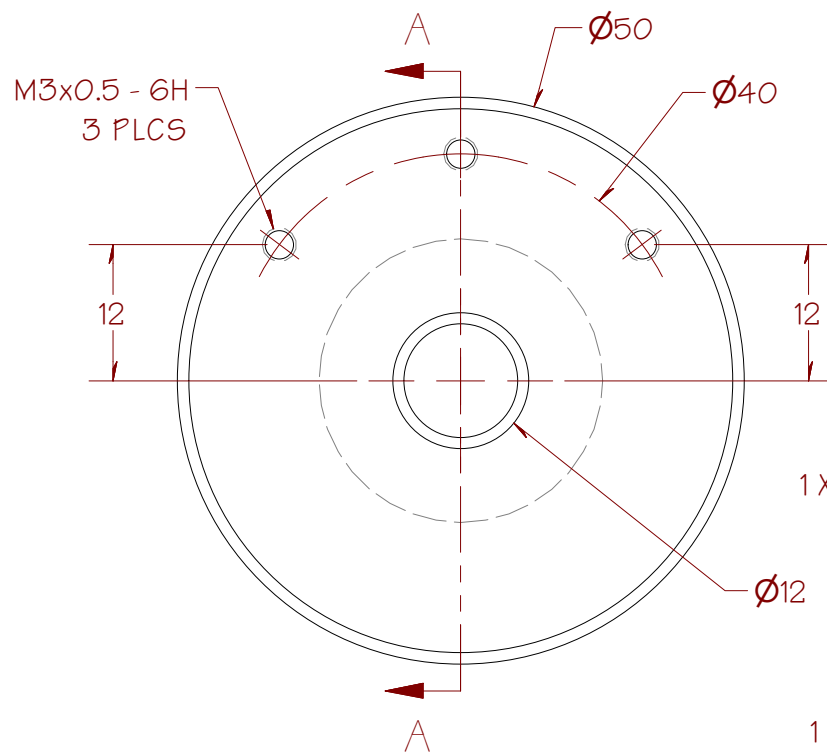
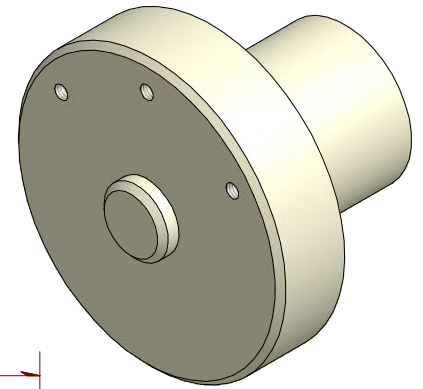
SECTION A-A



ALL DIMENSIONS
ARE IN MILLIMETERS

SHEET 4 OF 25



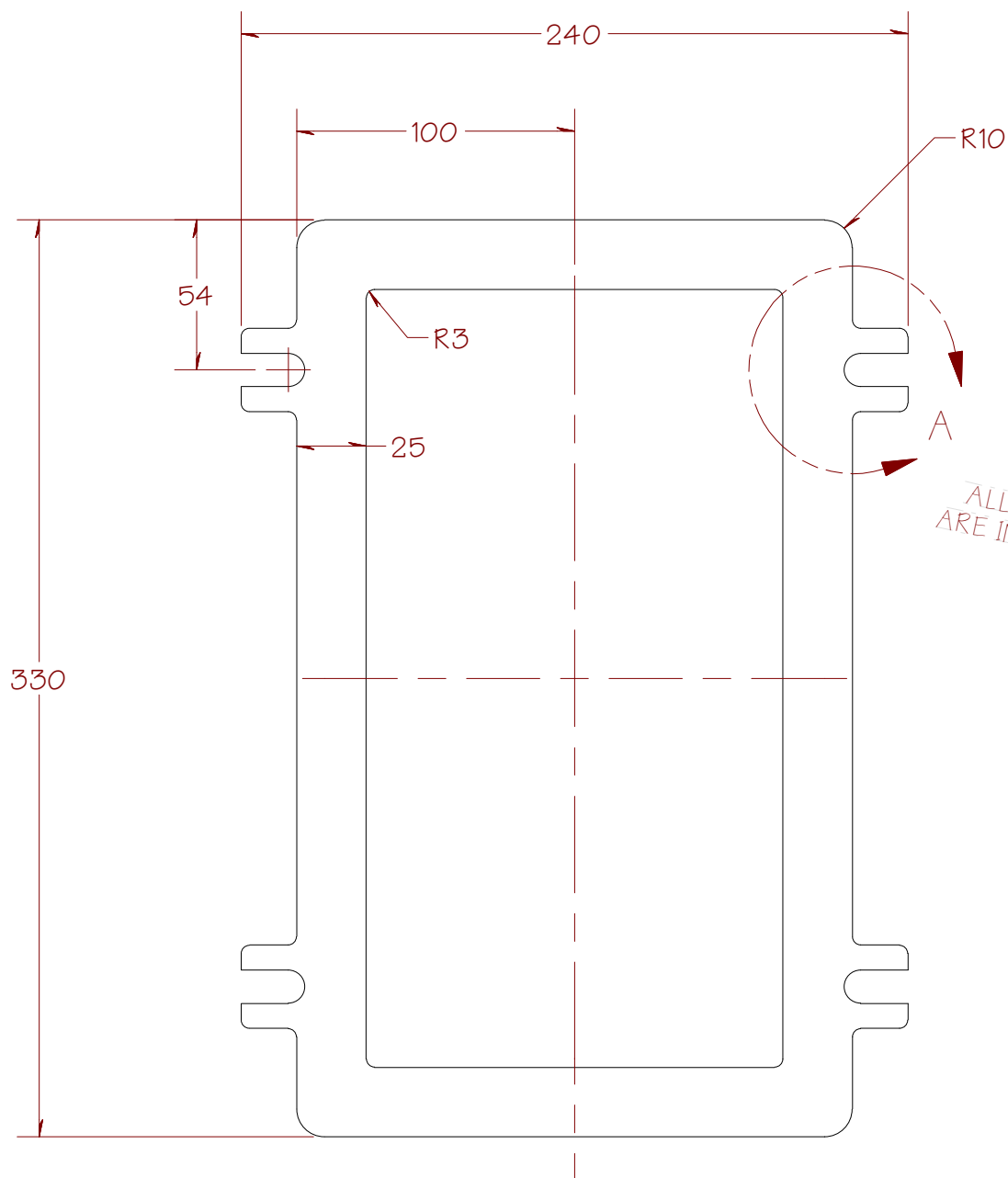


ALL DIMENSIONS
ARE IN MILLIMETERS

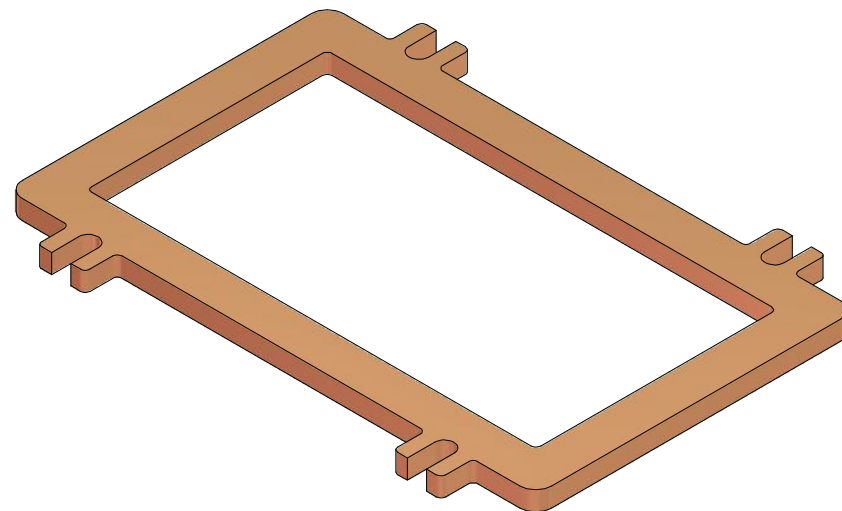
SECTION A-A

SHEET 5 OF 25

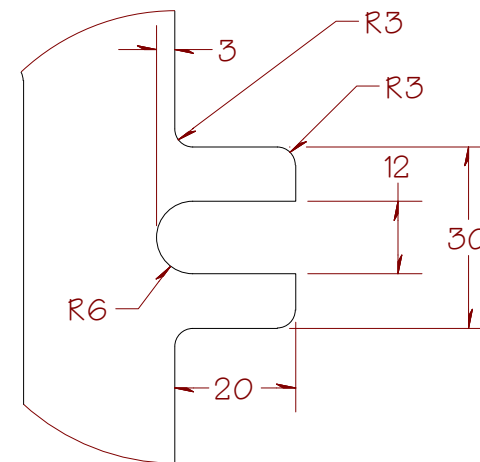




ALL DIMENSIONS
ARE IN MILLIMETERS

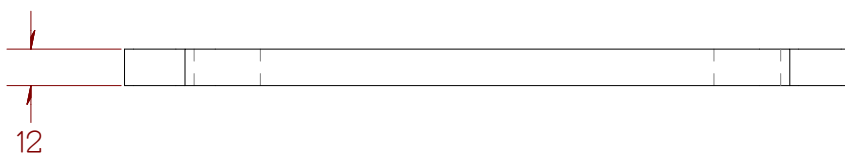


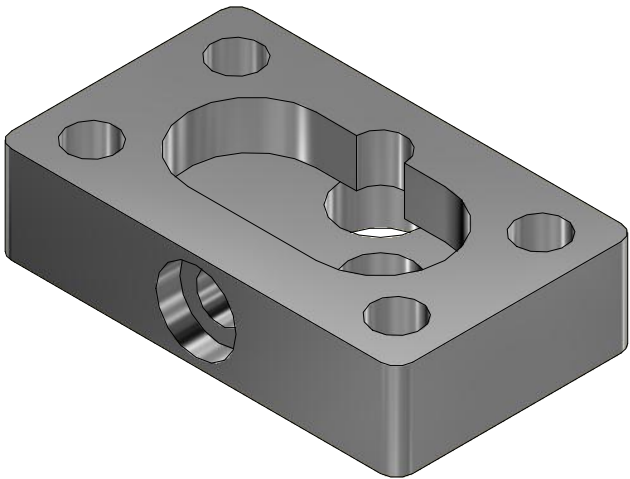
NOTCH DETAIL TYPICAL
4 PLCS



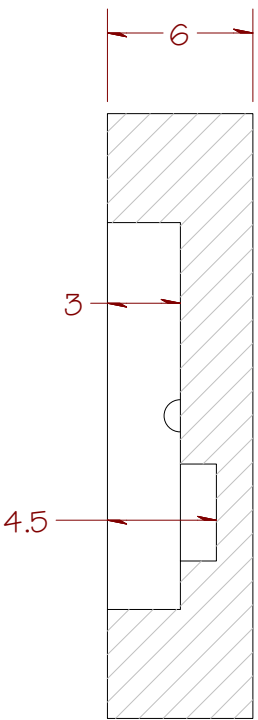
DETAIL A

SHEET 6 OF 25



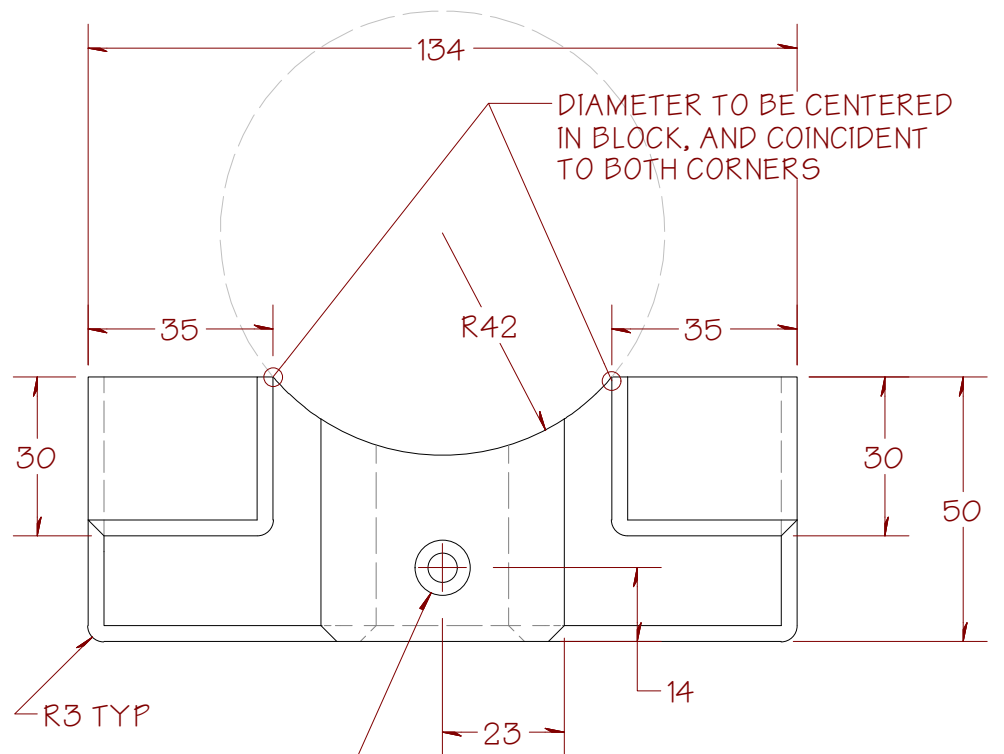


ALL DIMENSIONS
ARE IN MILLIMETERS



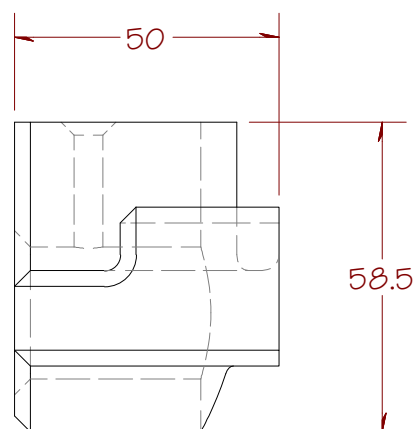
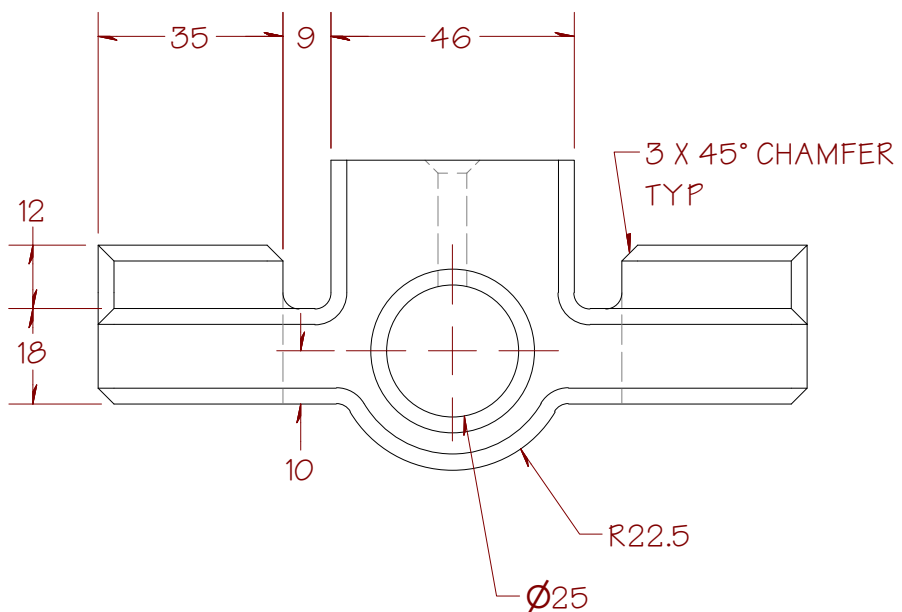
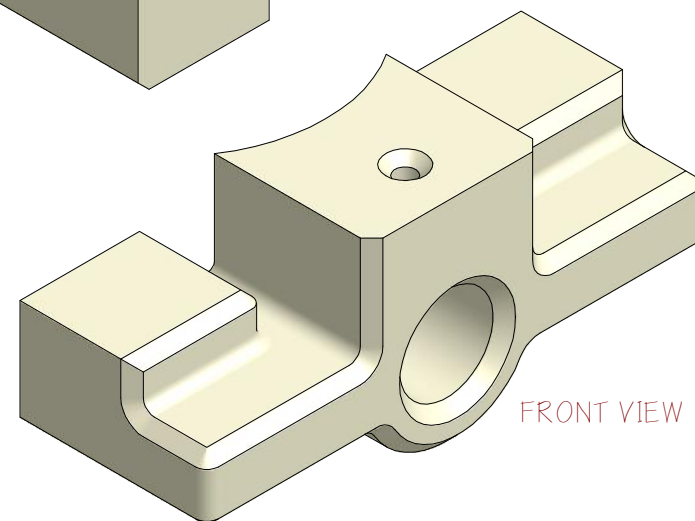
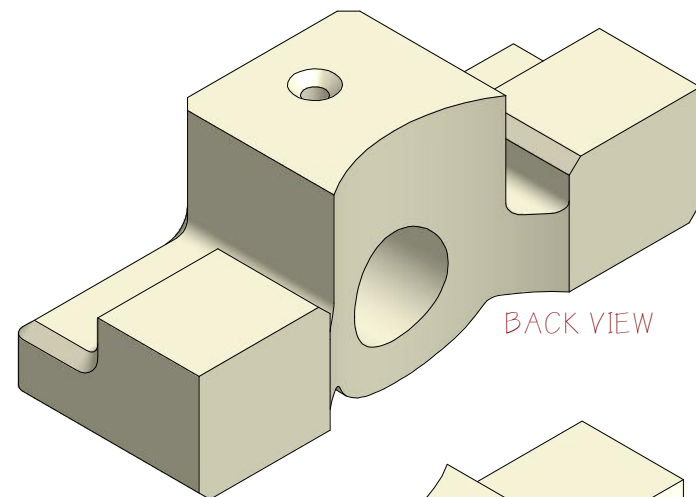
SHEET 7 OF 25





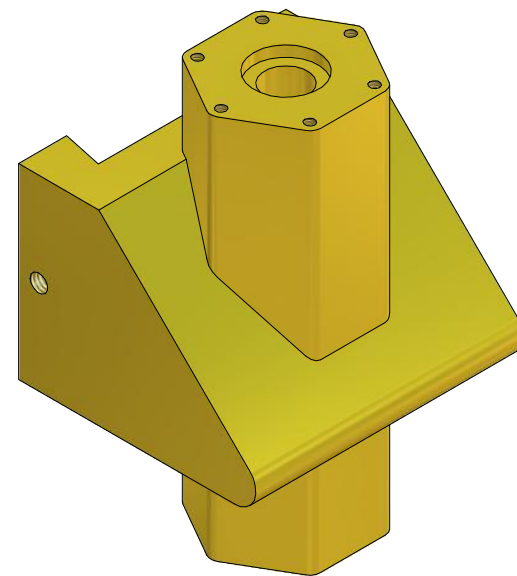
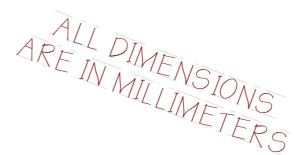
Ø5.5 ∇ 23.81
 ✓ Ø 10.4 X 90°

ALL DIMENSIONS
 ARE IN MILLIMETERS

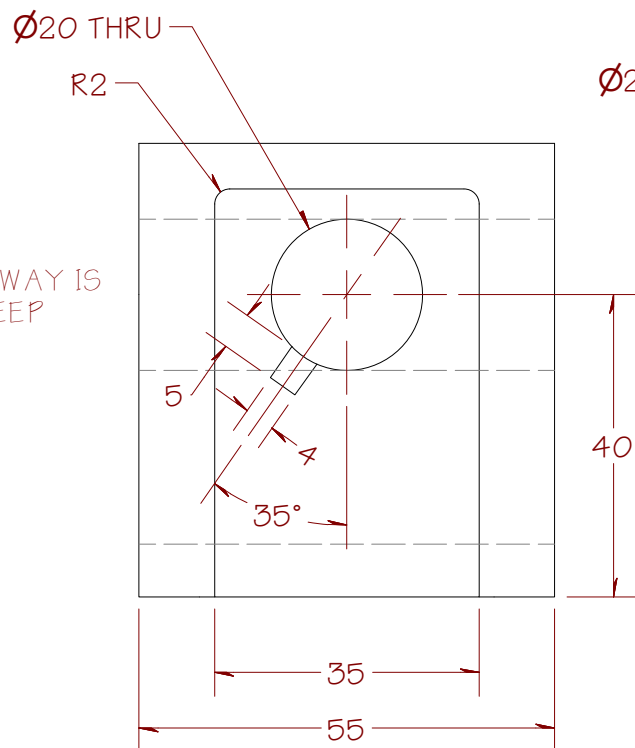
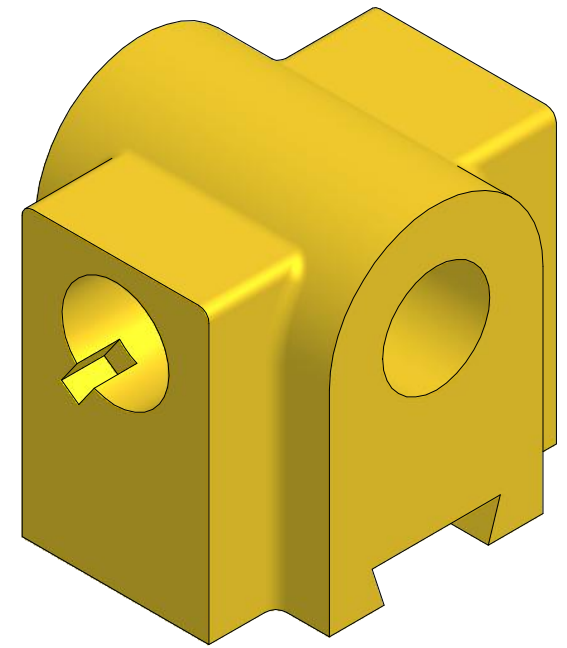
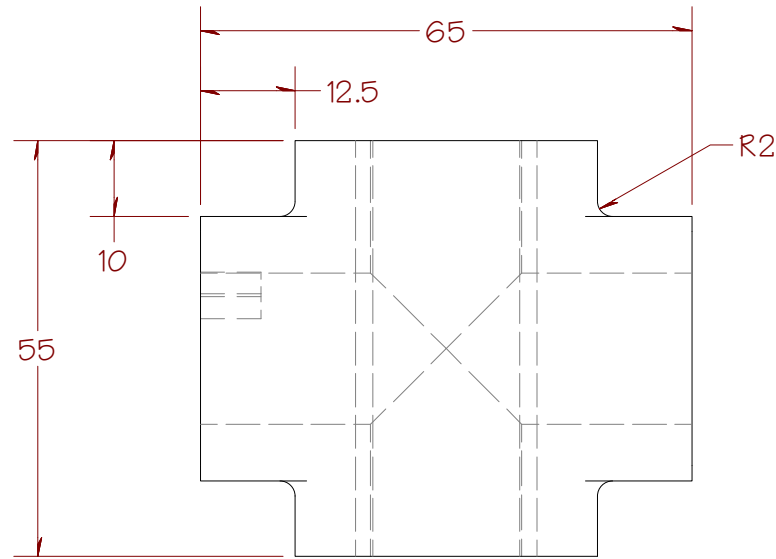


SHEET 8 OF 25

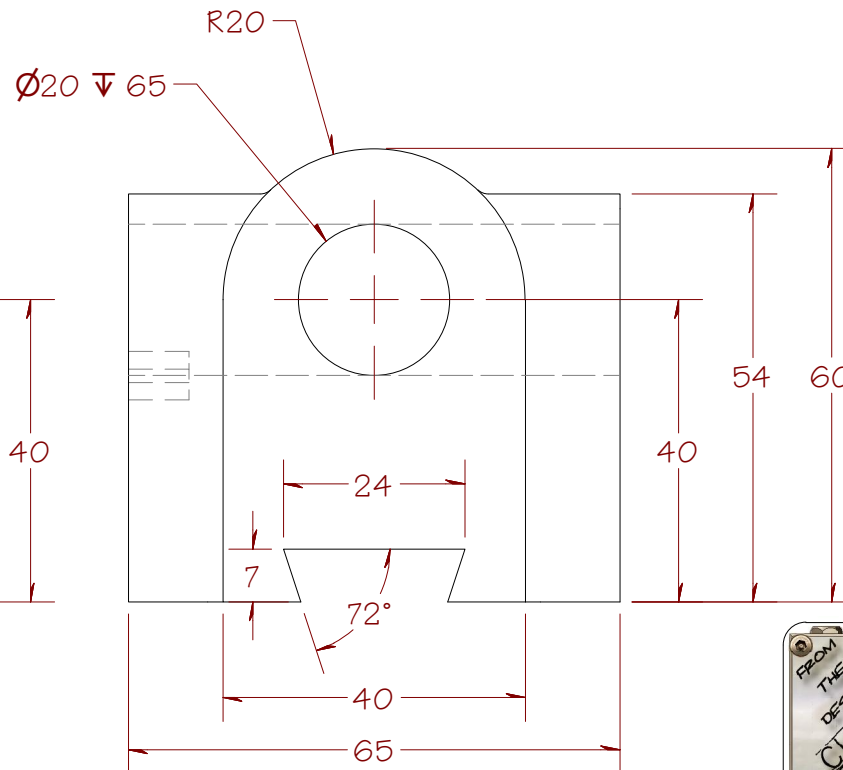




ALL DIMENSIONS
ARE IN MILLIMETERS

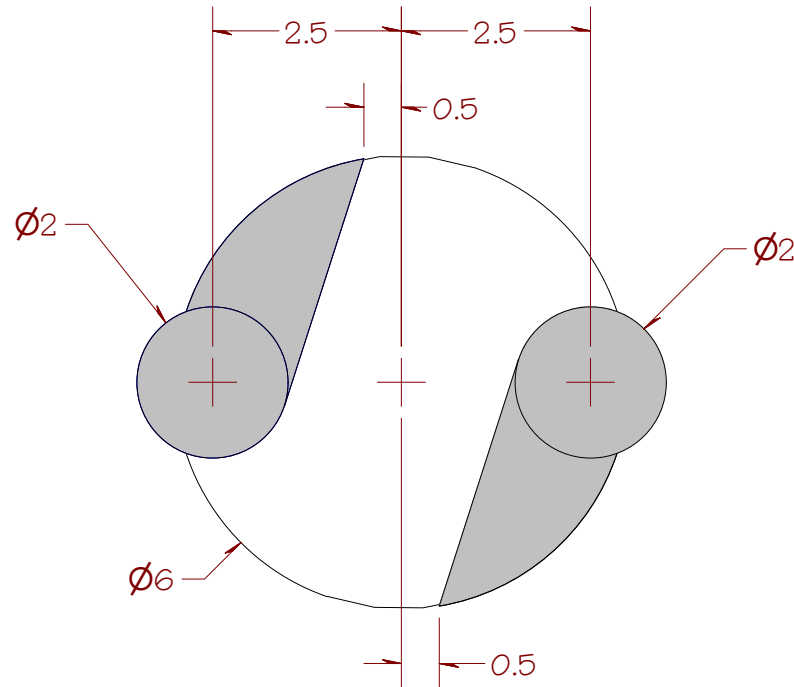
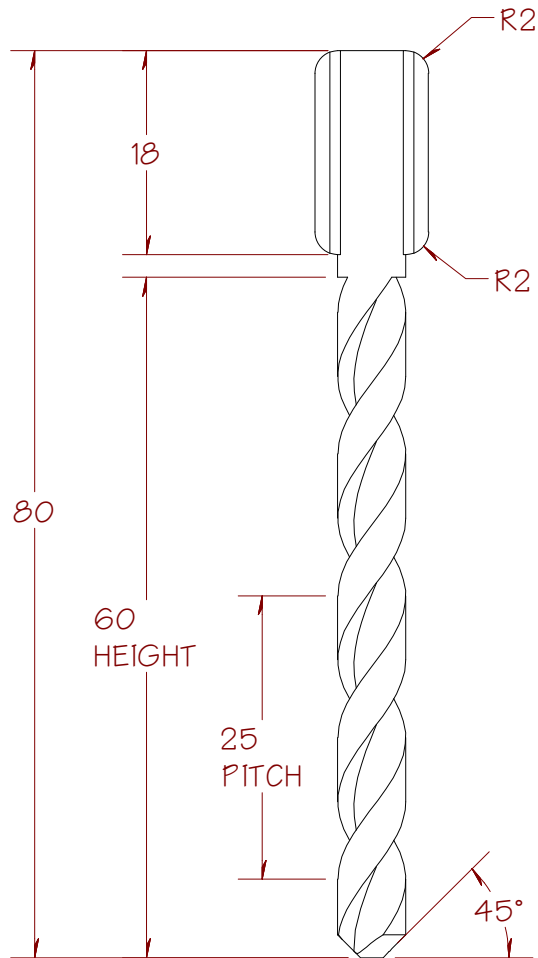
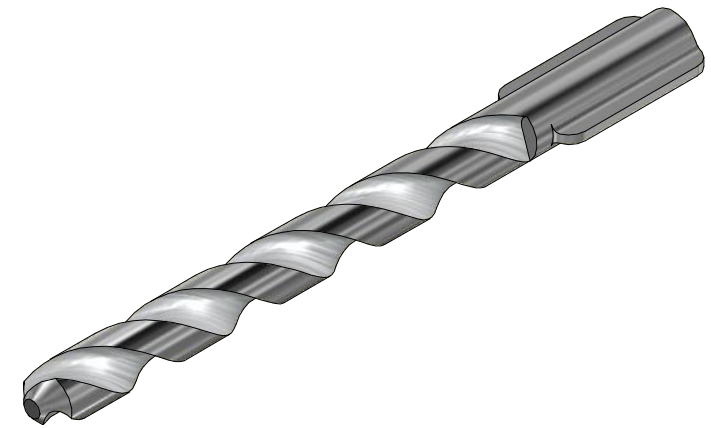
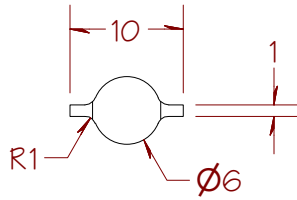


KEYWAY IS
8 DEEP



SHEET 10 OF 25





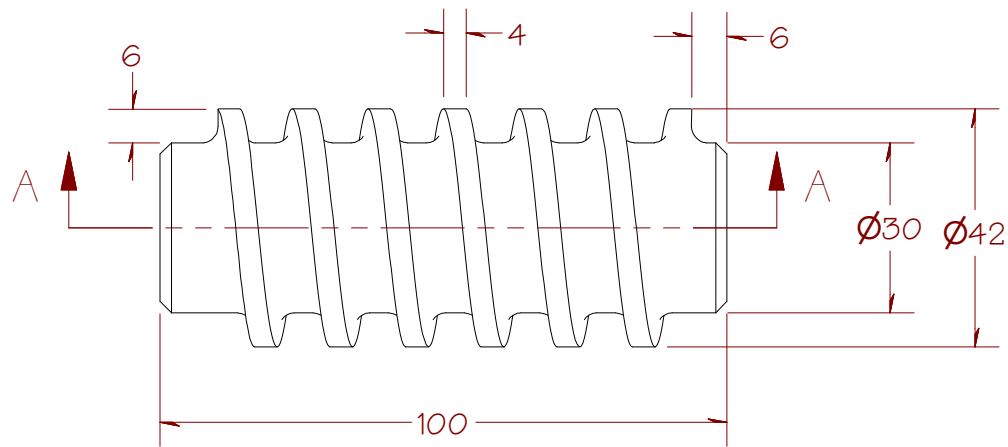
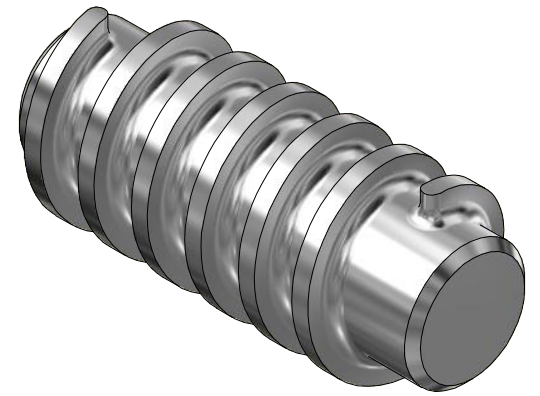
END VIEW WITH
CUT PROFILES
(SHOWN SHADED)

ALL DIMENSIONS
ARE IN MILLIMETERS

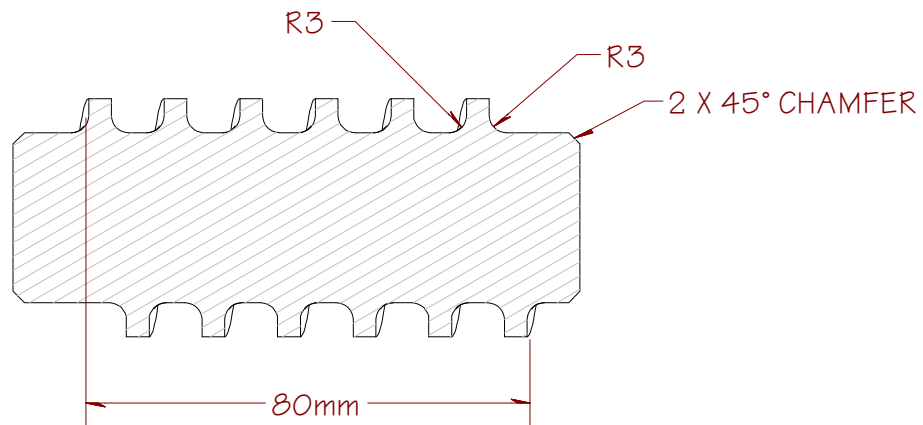
HINT:
CREATE A COIL CUT AND
THEN PATTERN THE CUT
AROUND THE AXIS

SHEET 11 OF 25





ALL DIMENSIONS
ARE IN MILLIMETERS

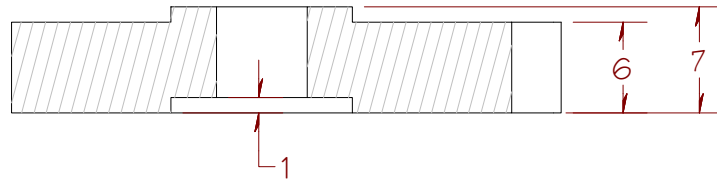


COIL 6 REVOLUTIONS AT 80 mm

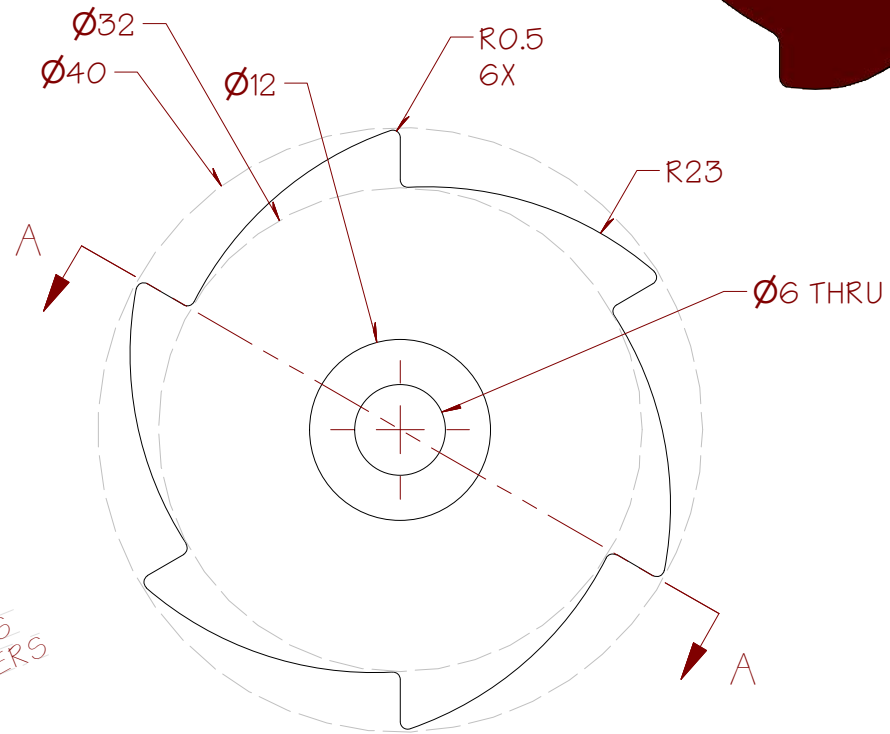
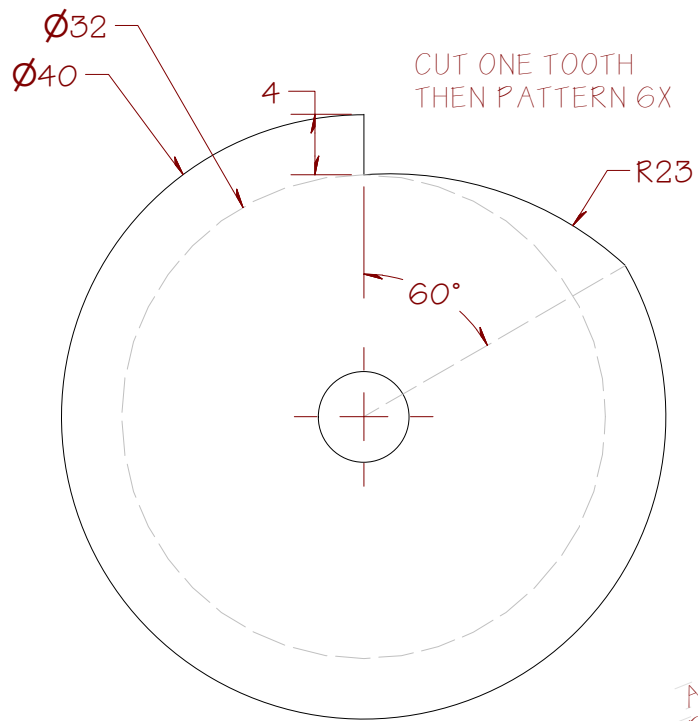
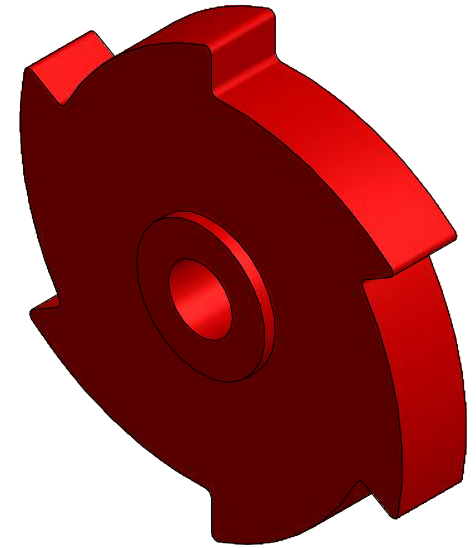
SECTION A-A

SHEET 12 OF 25





SECTION A-A

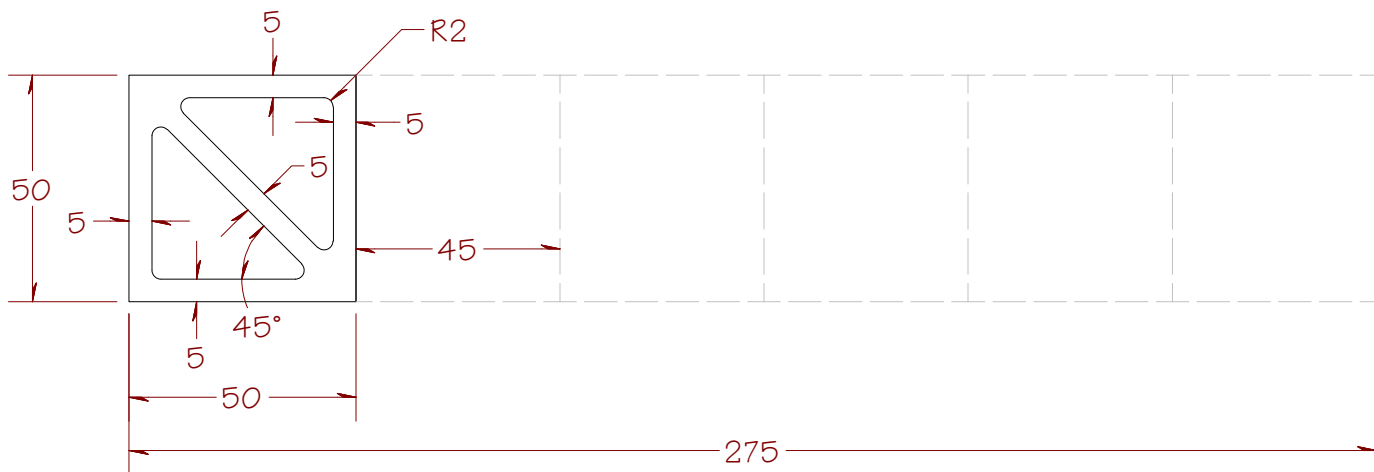


ALL DIMENSIONS
ARE IN MILLIMETERS

SHEET 13 OF 25

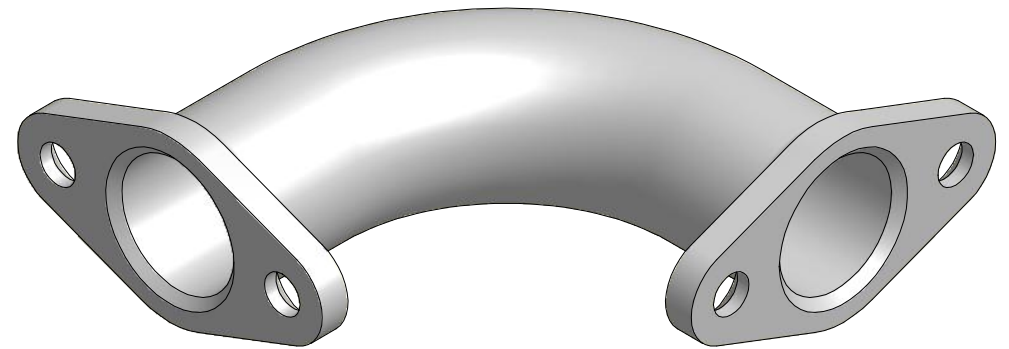
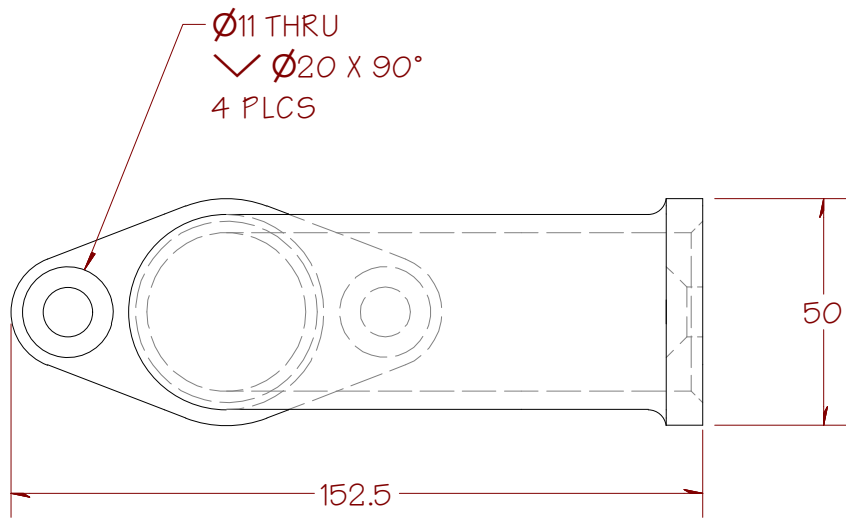
<p>FROM THE DESK OF CURTIS WAGUESPACK</p>	FILE NAME
	Ratchet Wheel.ipt
	DESCRIPTION
	Hardware, Ratchet Wheel, 6 Tooth

A 3D perspective drawing of a long, thin, yellow structural member, possibly a beam or a wall section. It features a series of rectangular openings along its length, each reinforced with a diagonal bracing element. The member is shown at an angle, highlighting its length and the repeating pattern of the openings. A scale bar is visible in the bottom left corner, indicating the size of the object.



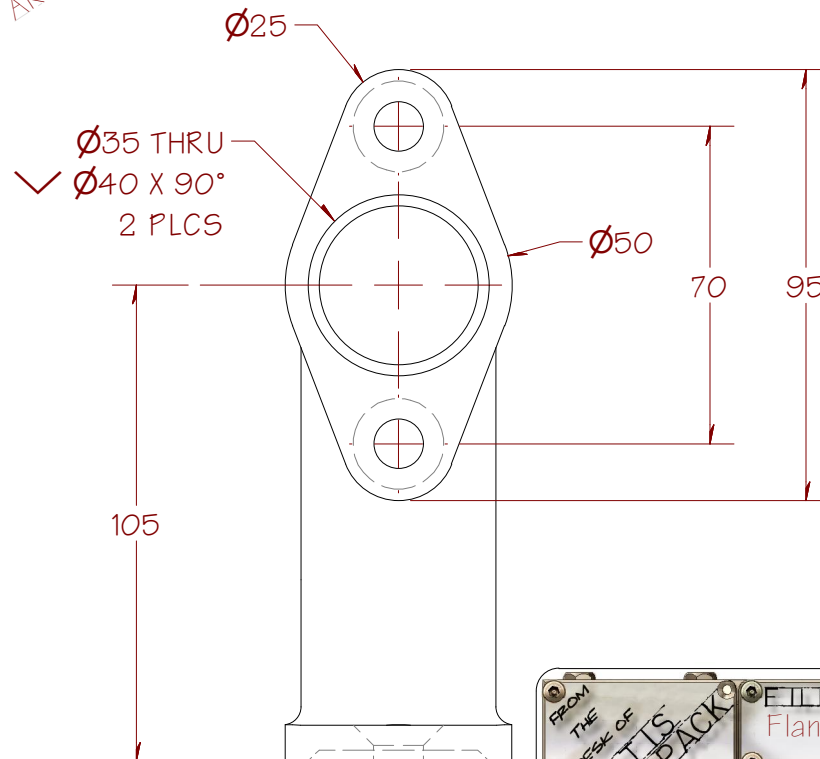
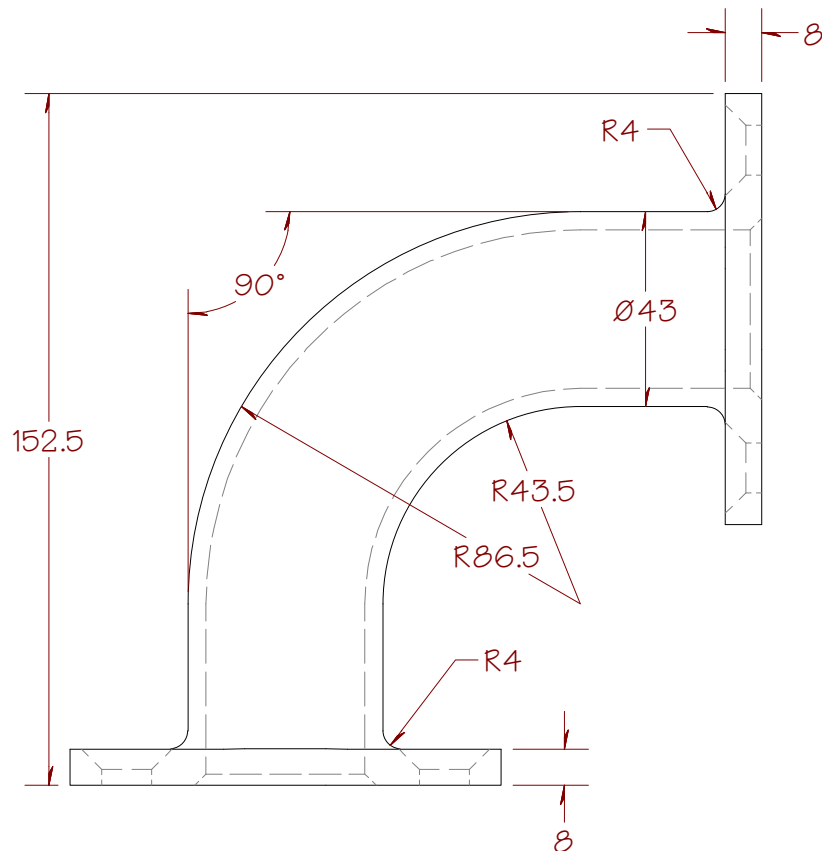
SHEET 14 OF 25





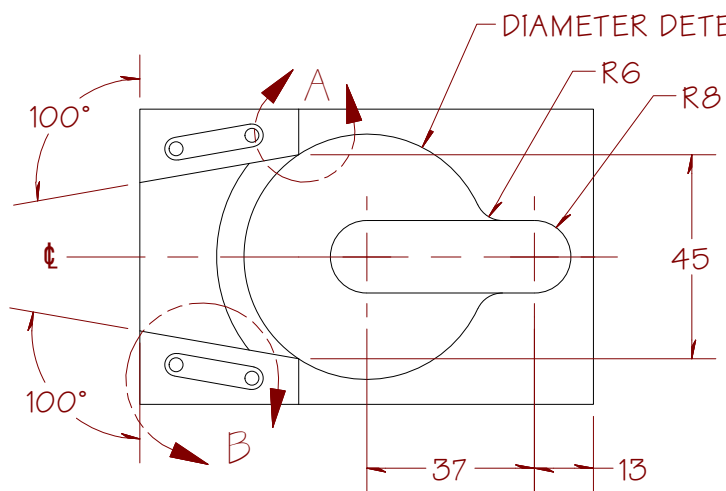
HINT: CREATE ONE HALF AND THEN MIRROR IT

ALL DIMENSIONS
ARE IN MILLIMETERS

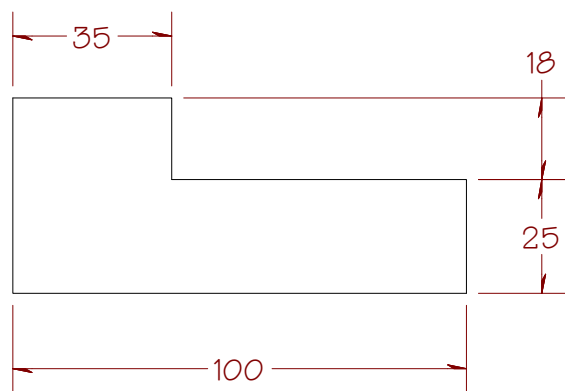


SHEET 15 OF 25

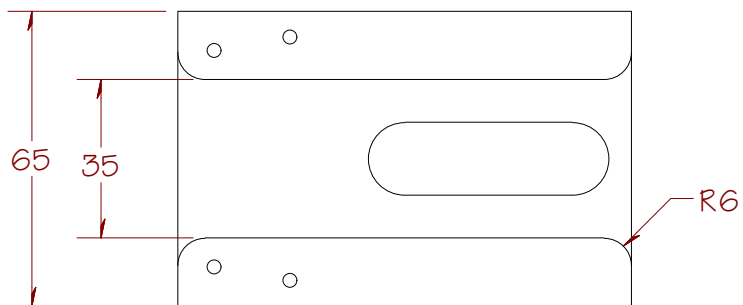




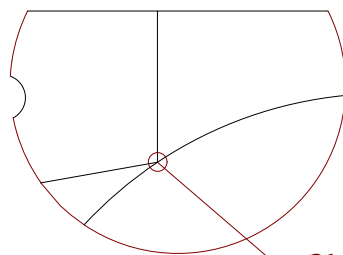
TOP



FRONT

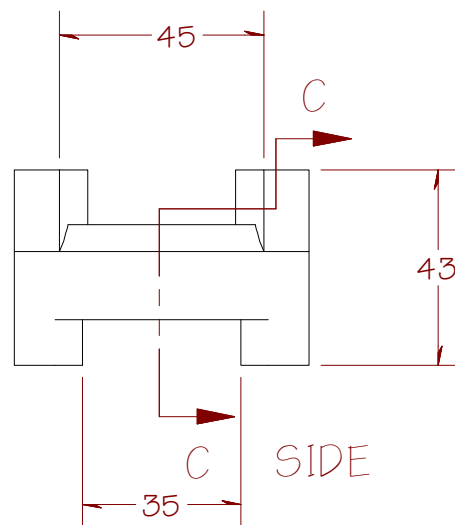


BOTTOM

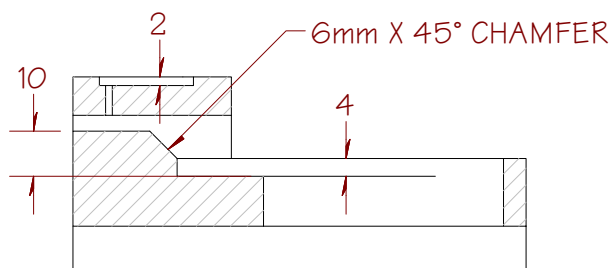


DETAIL A

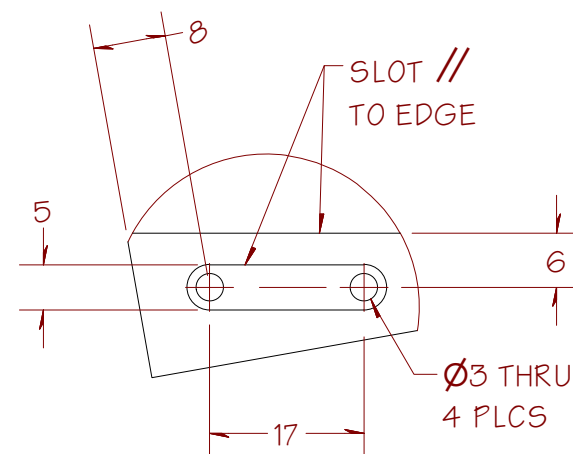
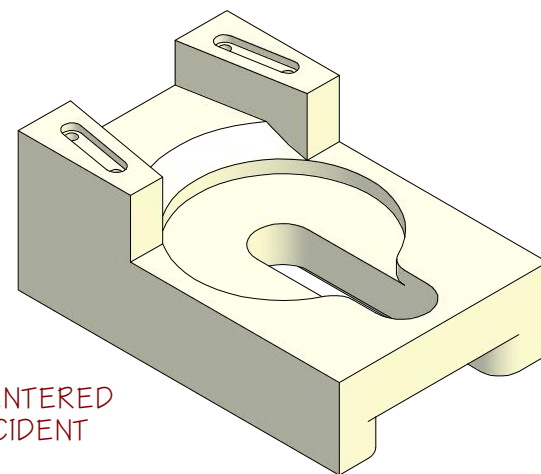
DIAMETER TO BE CENTERED IN BLOCK, AND COINCIDENT TO BOTH CORNERS



SIDE



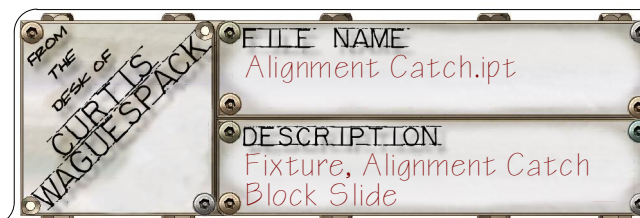
SECTION C-C

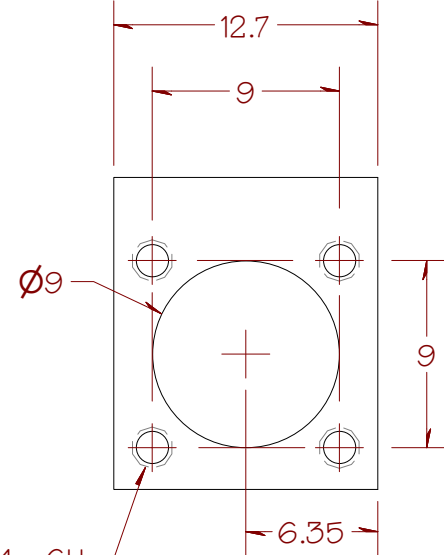
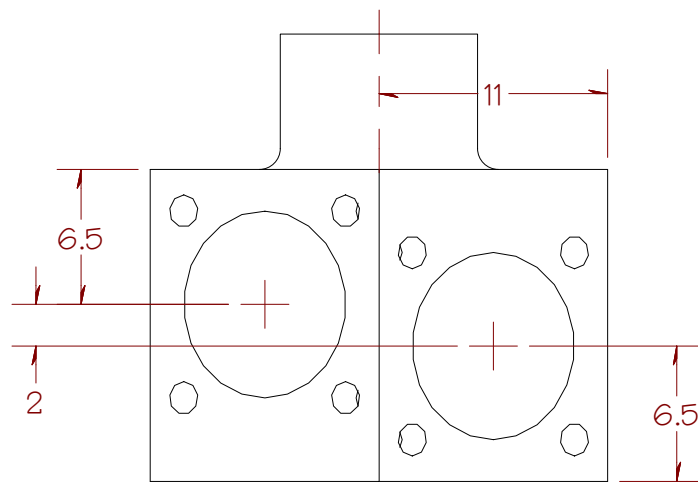


DETAIL B

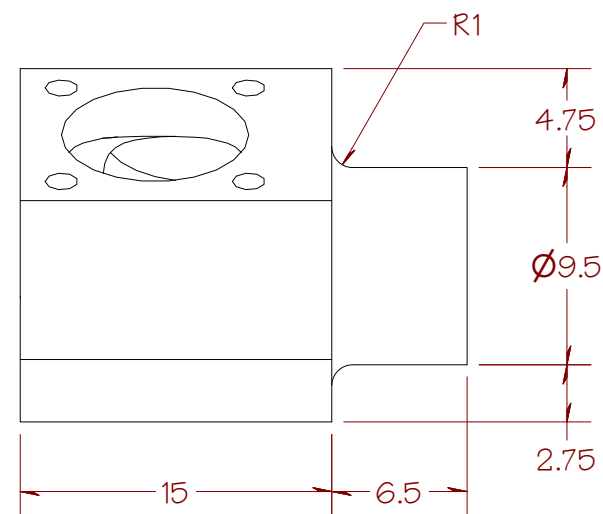
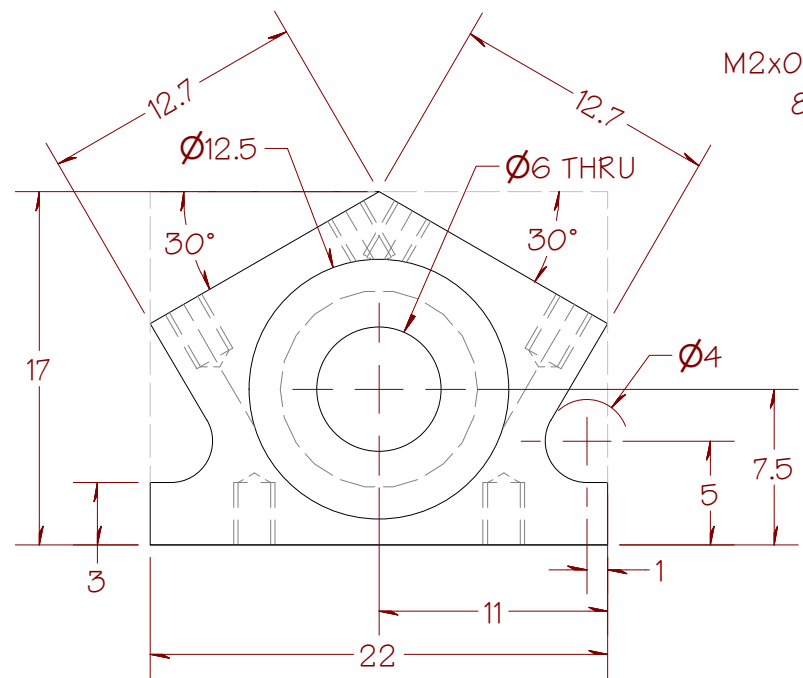
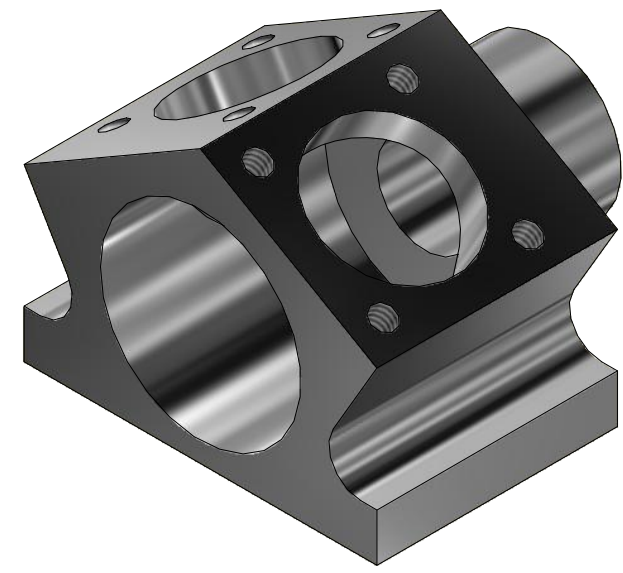
ALL DIMENSIONS ARE IN MILLIMETERS

SHEET 16 OF 25

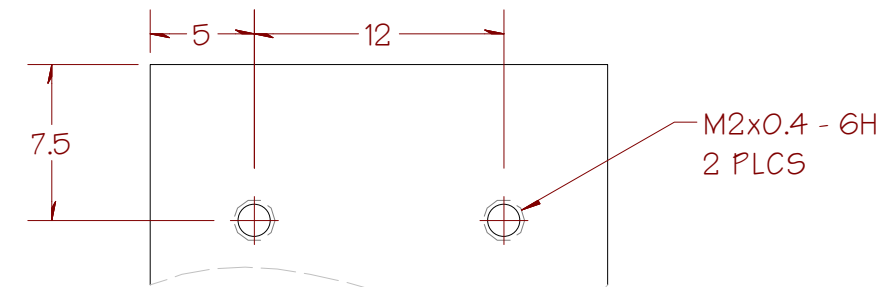




M2x0.4 - 6H
8 PLCS



HINT: START WITH A 17x22x15 BLOCK
THEN CUT FEATURES AS
IF MACHINING IN THE REAL WORLD



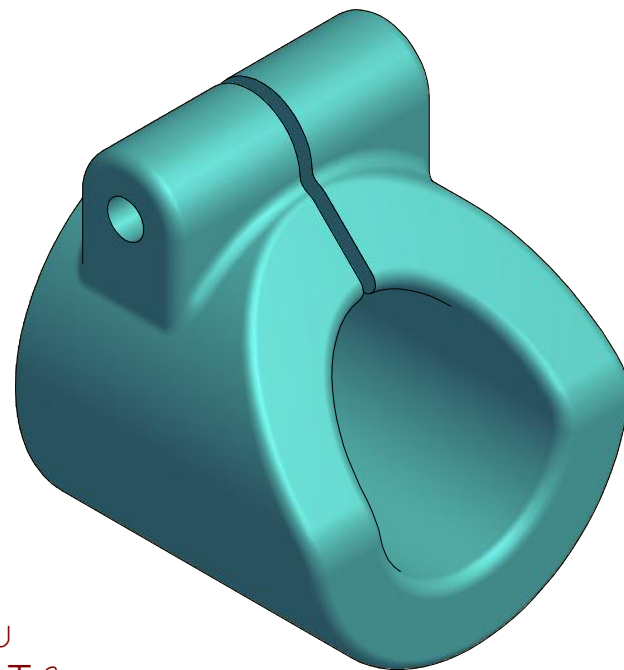
BOTTOM VIEW

M2x0.4 - 6H
2 PLCS

ALL DIMENSIONS
ARE IN MILLIMETERS

SHEET 17 OF 25

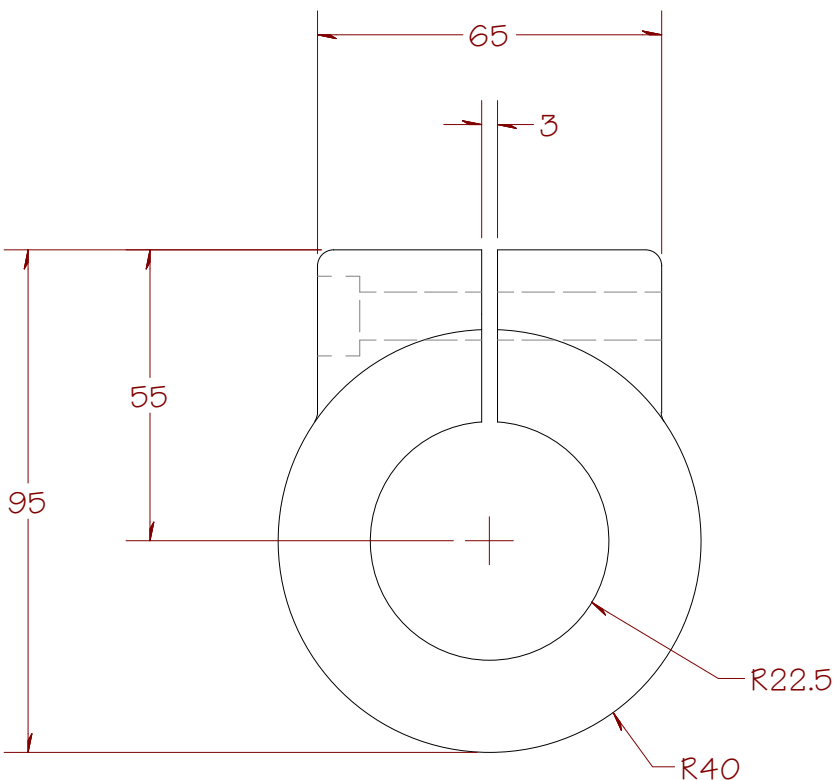
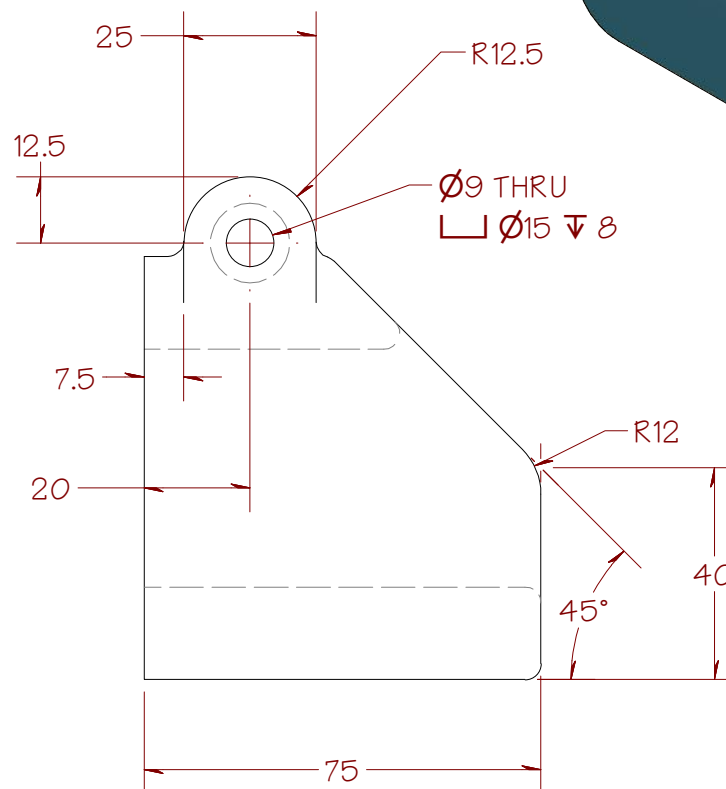




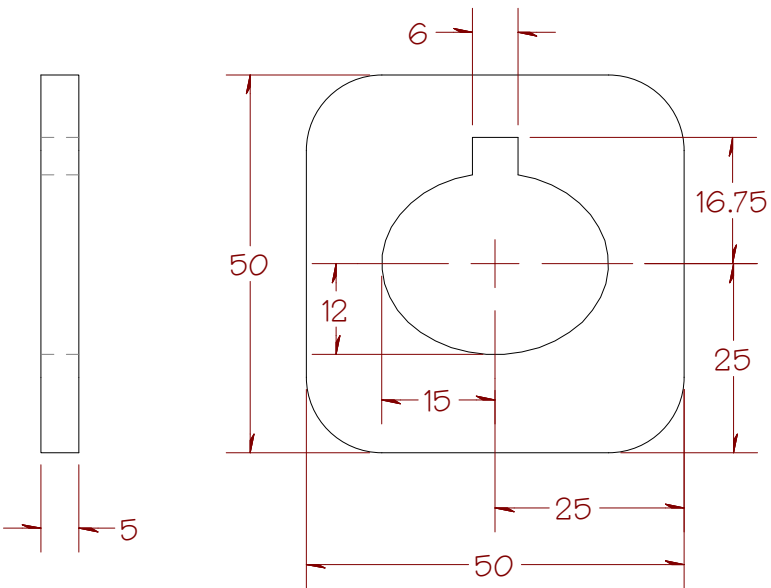
ALL DIMENSIONS
ARE IN MILLIMETERS

ALL FILLETS 3mm
UNLESS OTHERWISE
NOTED

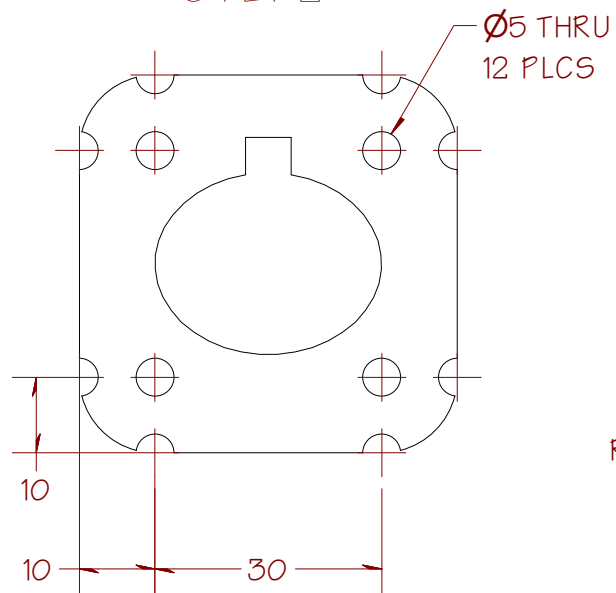
SHEET 18 OF 25



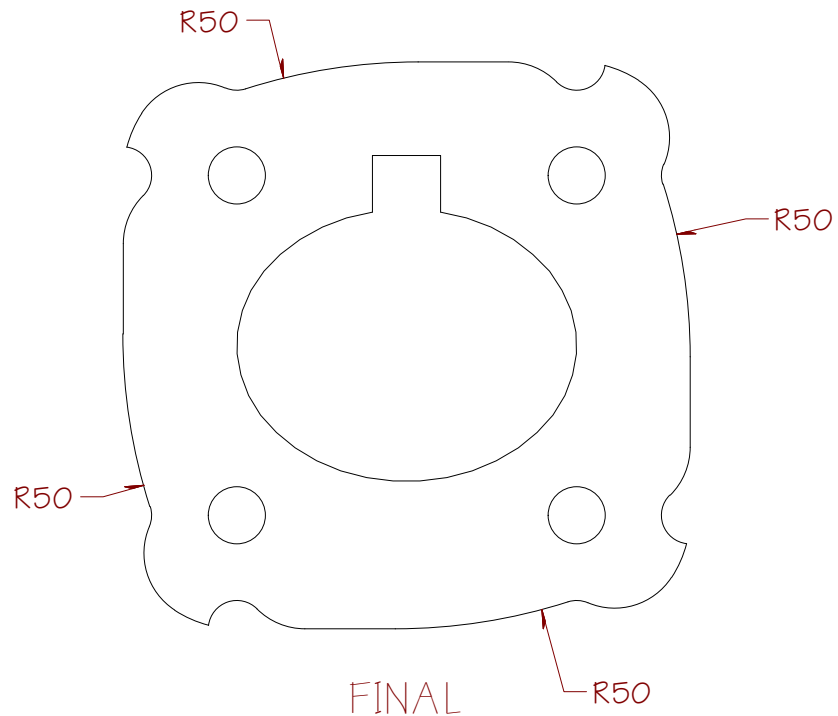
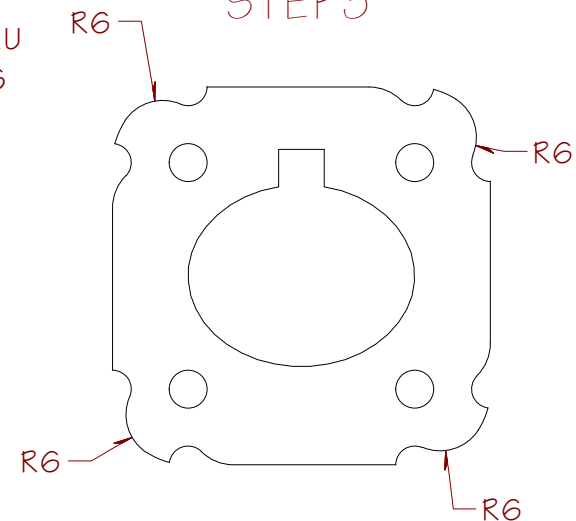
STEP 1



STEP2

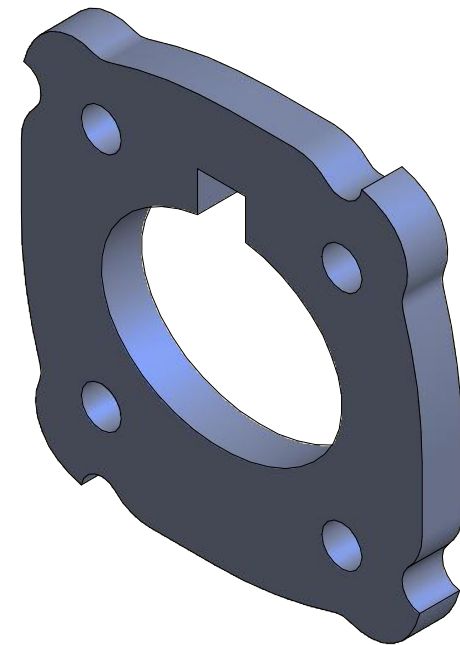


STEP3



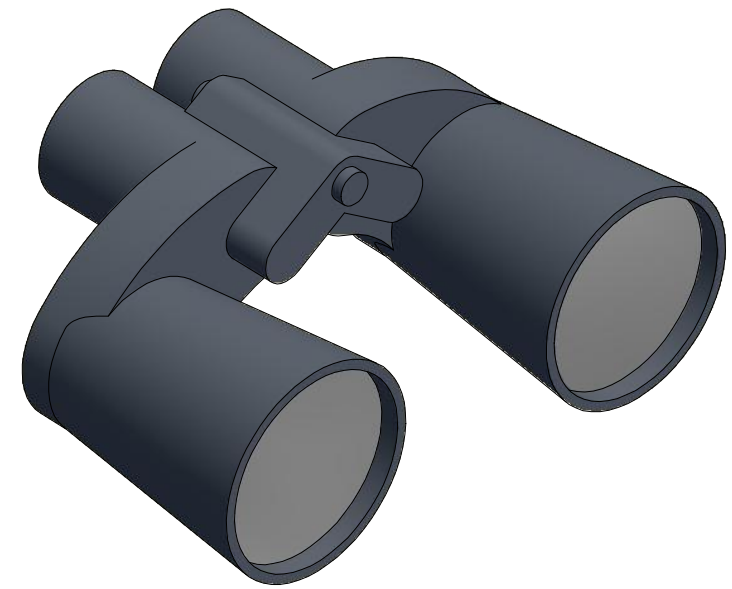
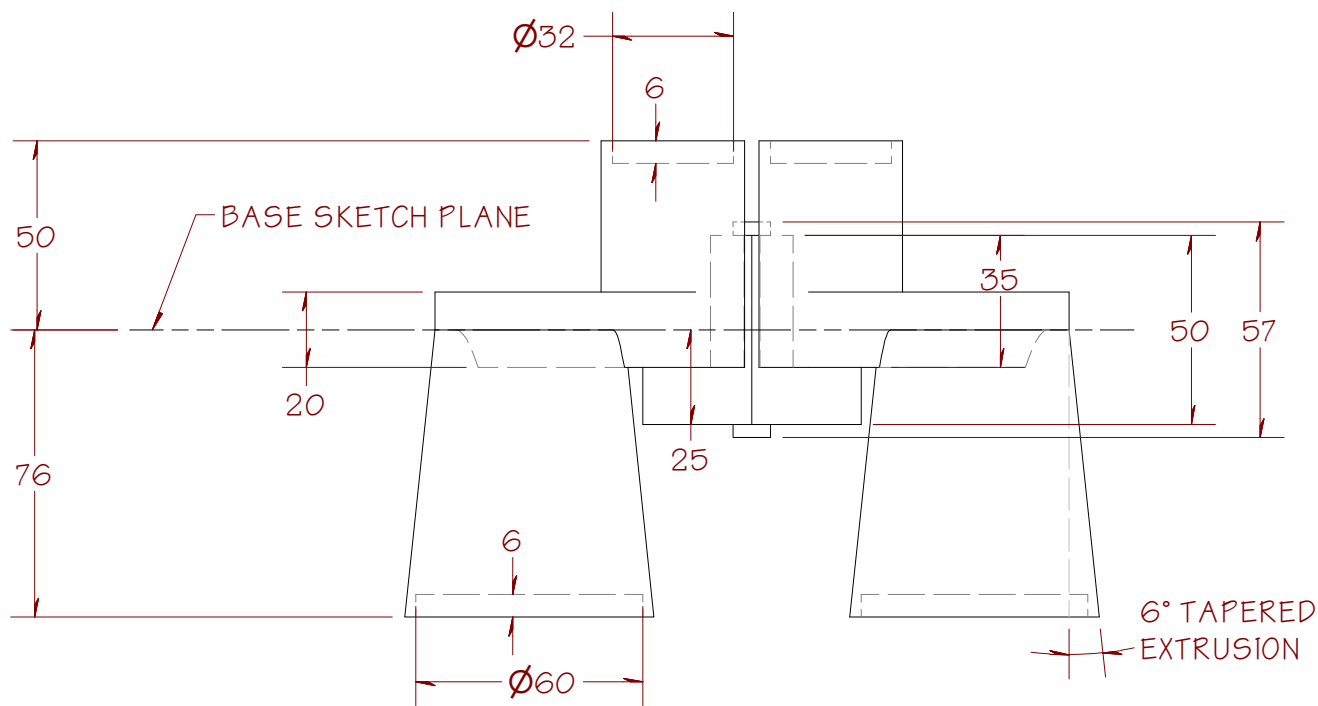
HINT: START SIMPLE AND ADD FEATURES IN MULTIPLE STEPS.

STEP 1, WOULD ACTUALLY BE STEP 3 OR 4 IF YOU STARTED WITH A RECTANGLE, THEN ADDED THE ELLIPSE, THEN ADDED THE KEY CUT, AND THEN ADDED THE FILLETS TO THE CORNERS.

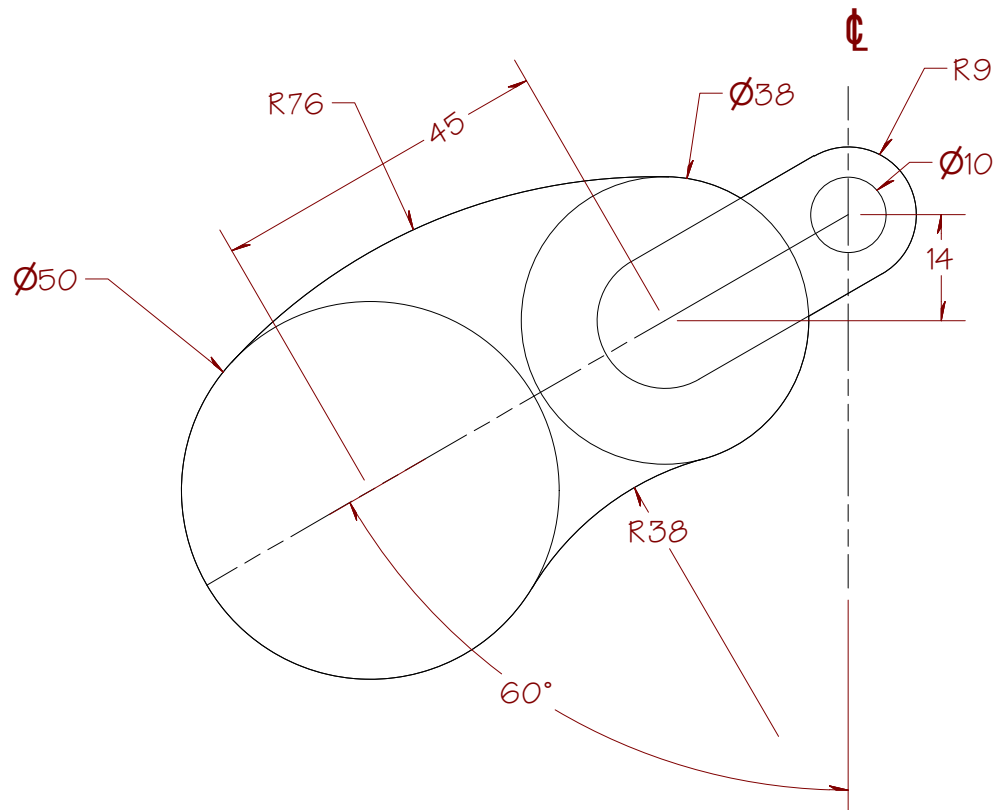


SHEET 19 OF 25





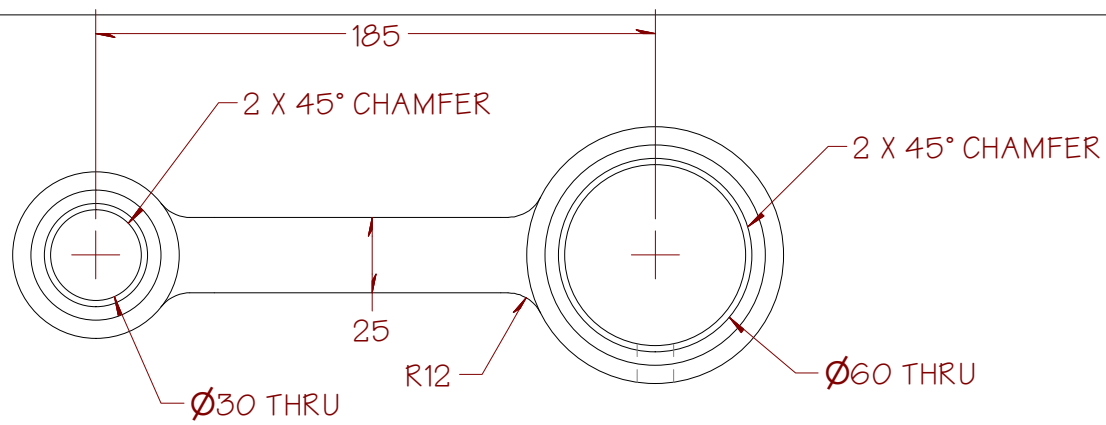
ALL DIMENSIONS
ARE IN MILLIMETERS



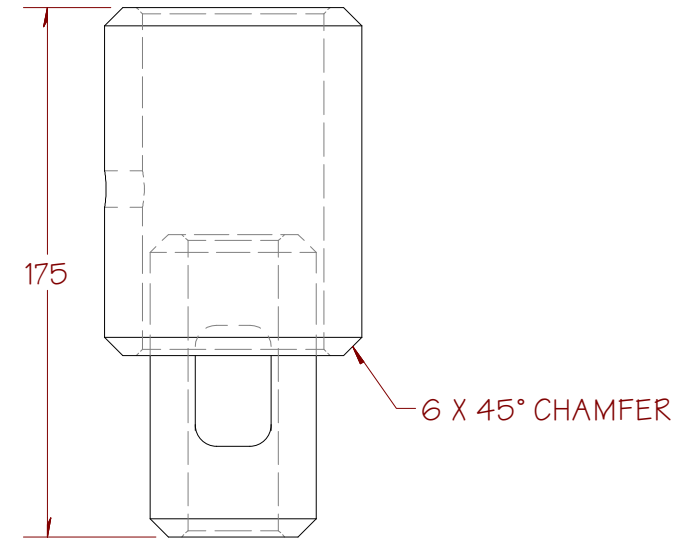
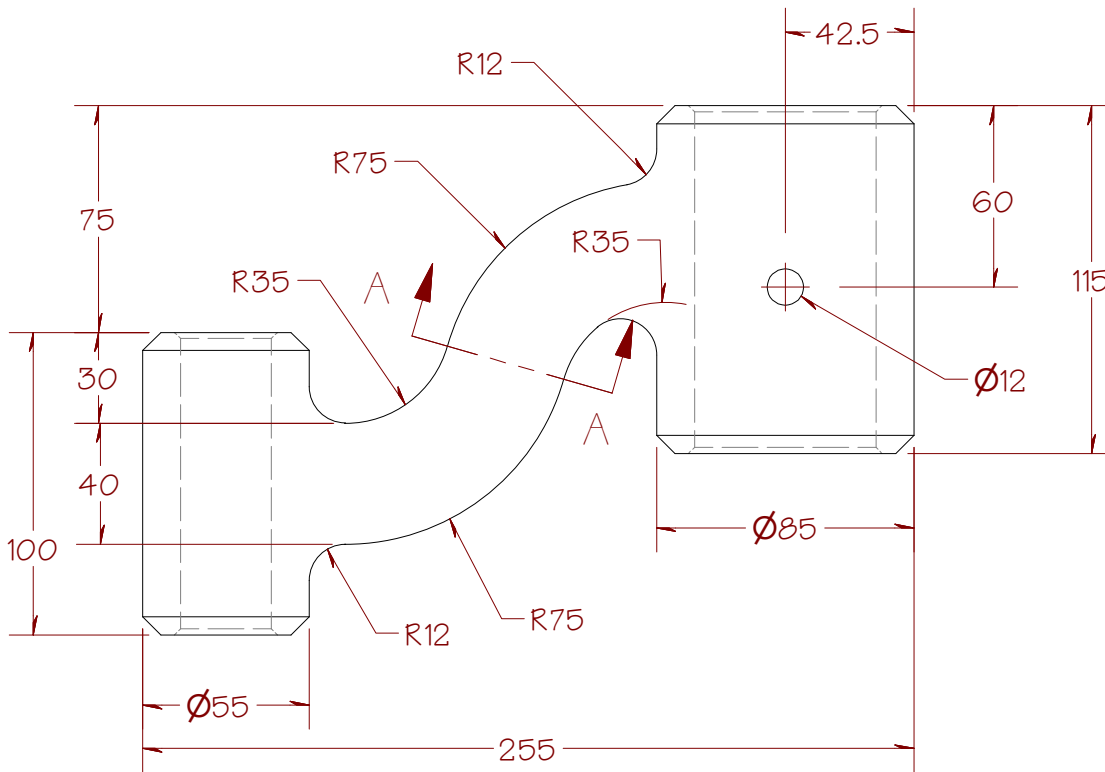
CREATE THIS BASE SKETCH
AND THEN CREATE THE
BINOCULARS BY SHARING THE
SKETCH AND EXTRUDING THE
VARIOUS PARTS OF THE
BINOCULARS AS SEPARATE
FEATURES. THEN MIRROR TO
COMPLETE.

SHEET 20 OF 25

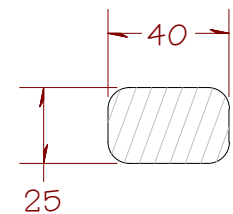
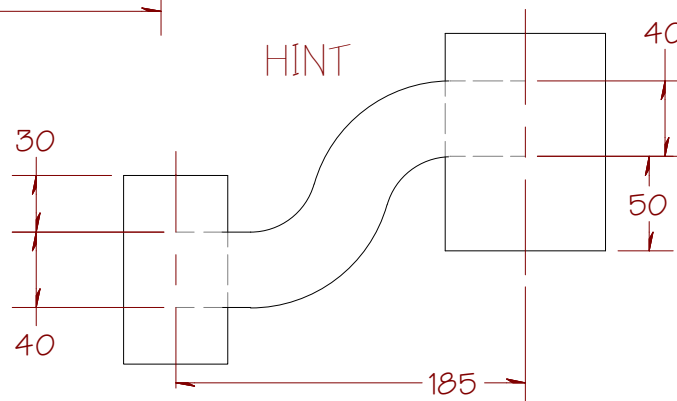




ALL DIMENSIONS
ARE IN MILLIMETERS



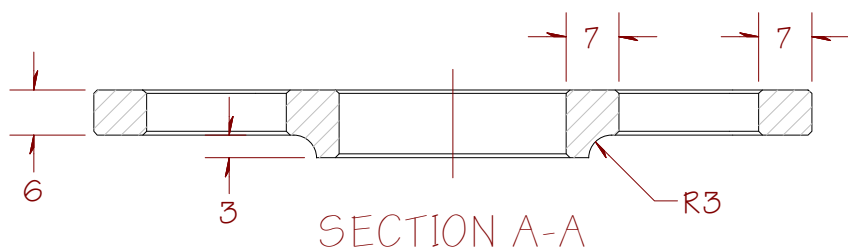
HINT



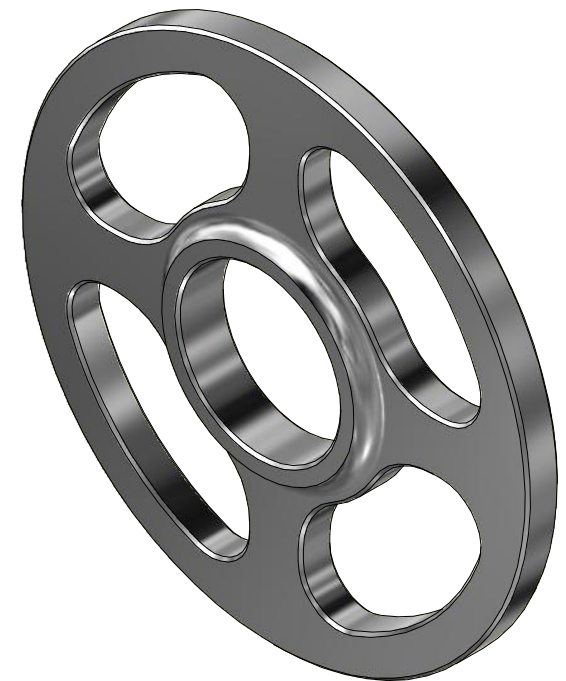
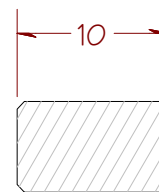
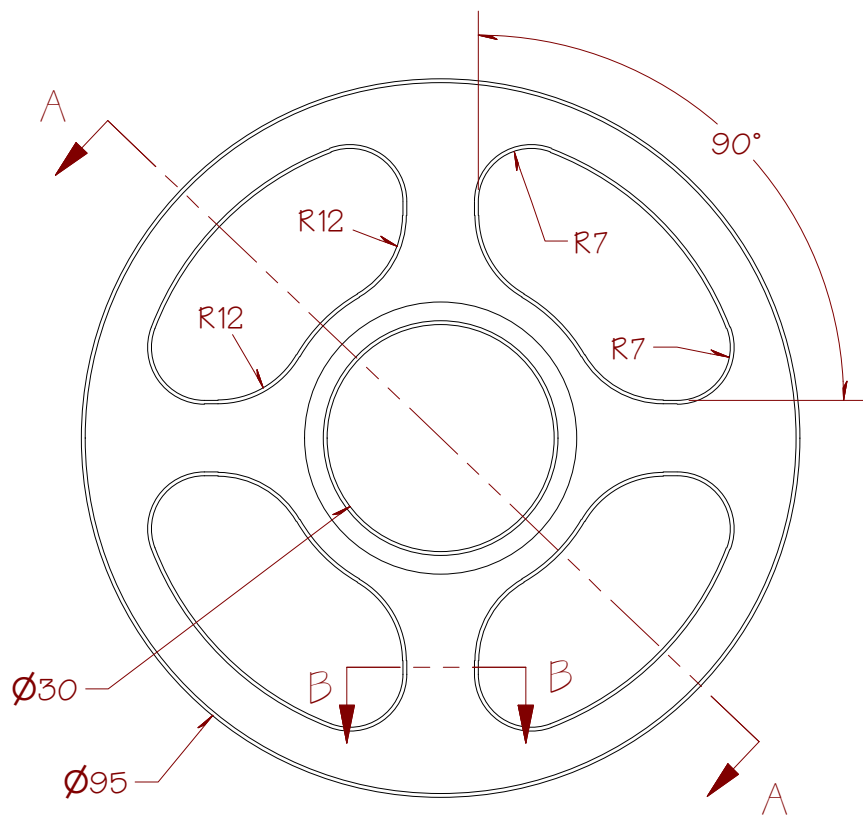
SECTION A-A

SHEET 21 OF 25





ALL DIMENSIONS
ARE IN MILLIMETERS

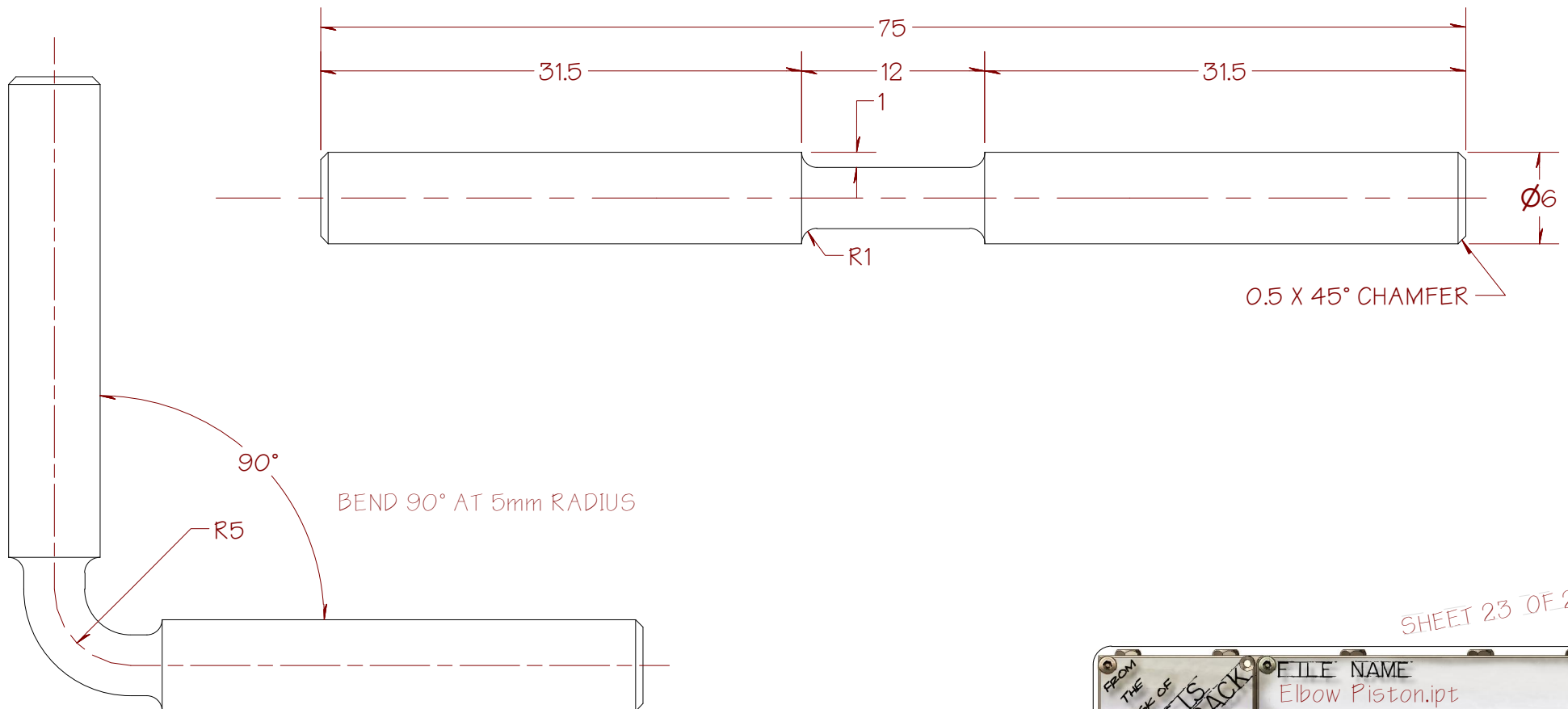
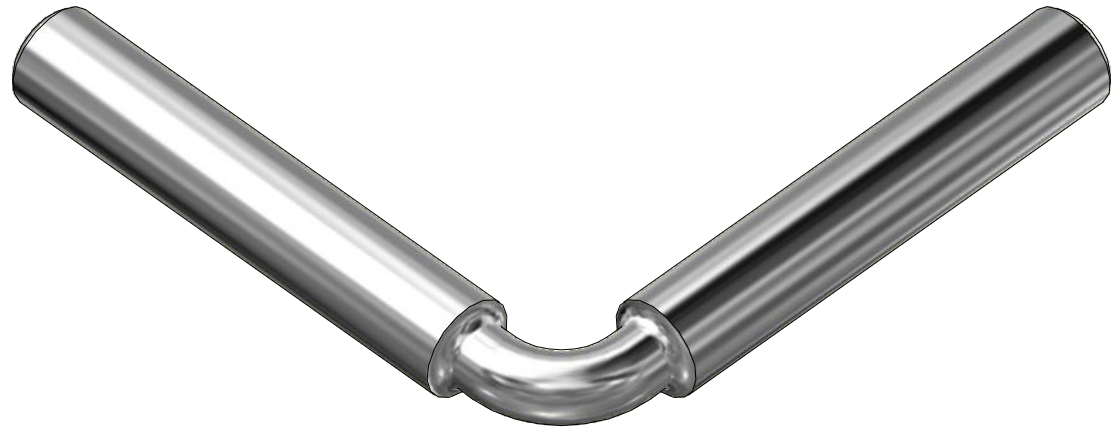


ALL CHAMFERS = 0.5 X 45°

SHEET 22 OF 25

FROM THE DESK OF CURTIS WAGUESPACK	FILE NAME Fly Wheel.ipt
	DESCRIPTION Machined, Aluminum Fly Wheel

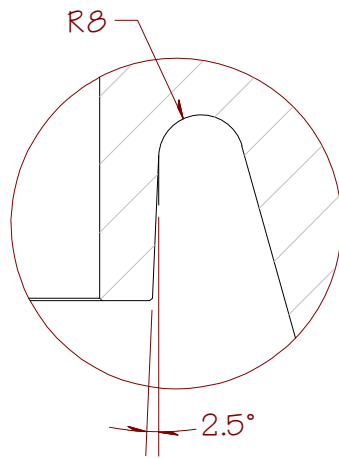
ALL DIMENSIONS
ARE IN MILLIMETERS



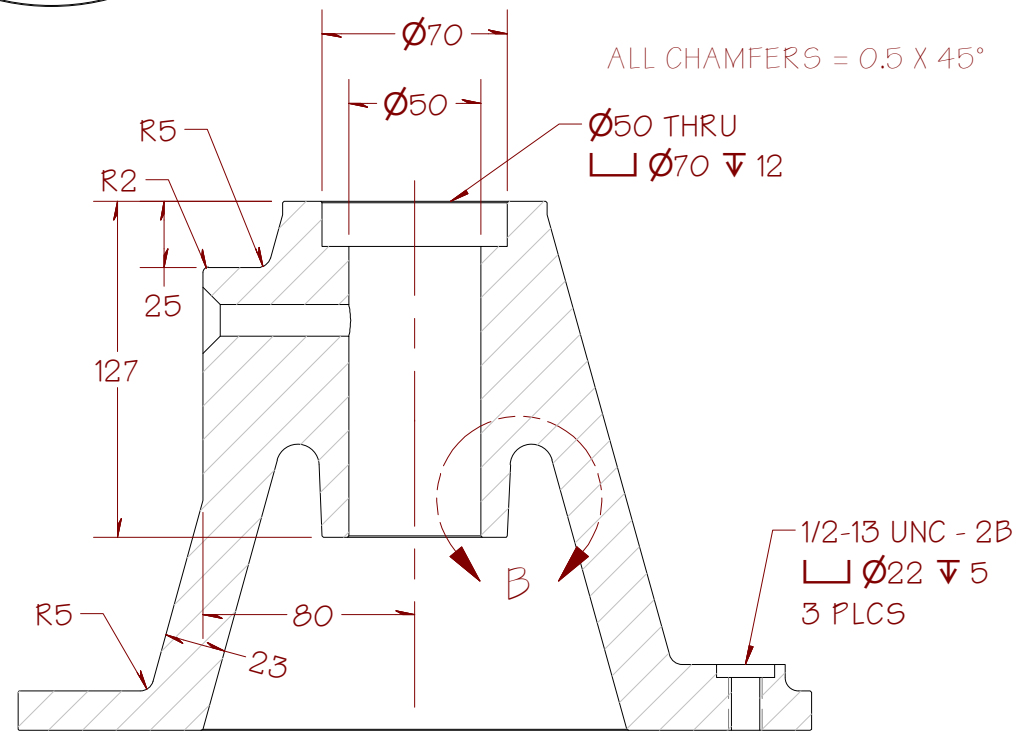
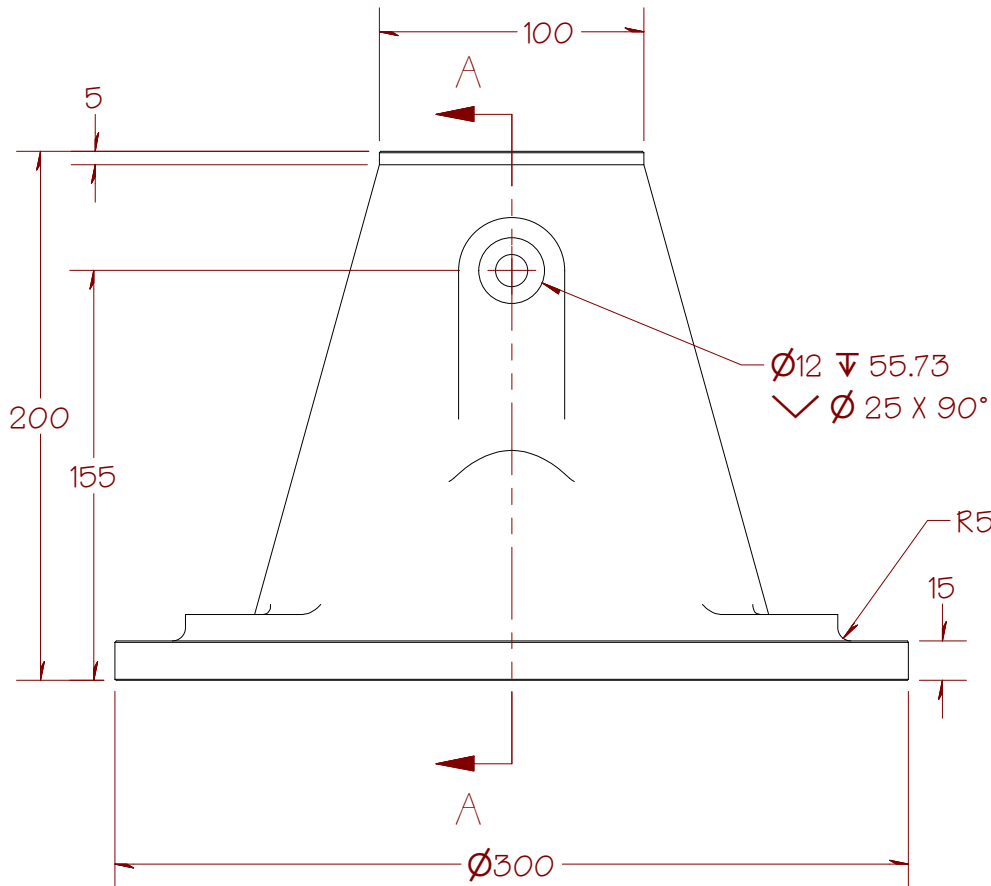
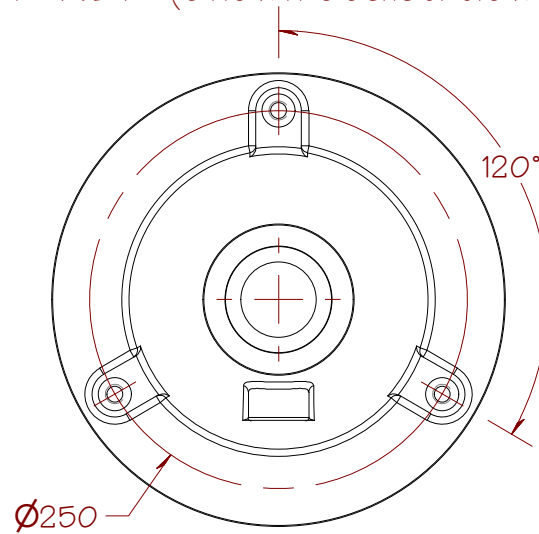
SHEET 23 OF 25

FROM THE DESK OF CURTIS WAGUESPACK	FILE NAME Elbow Piston.ipt
	DESCRIPTION Machined, Elbow Piston, Bend 90 Degrees

TOP VIEW (shown scaled down)



DETAIL B

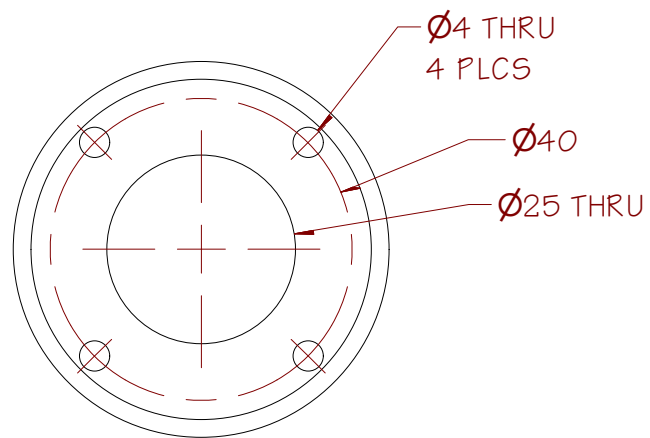


SECTION A-A

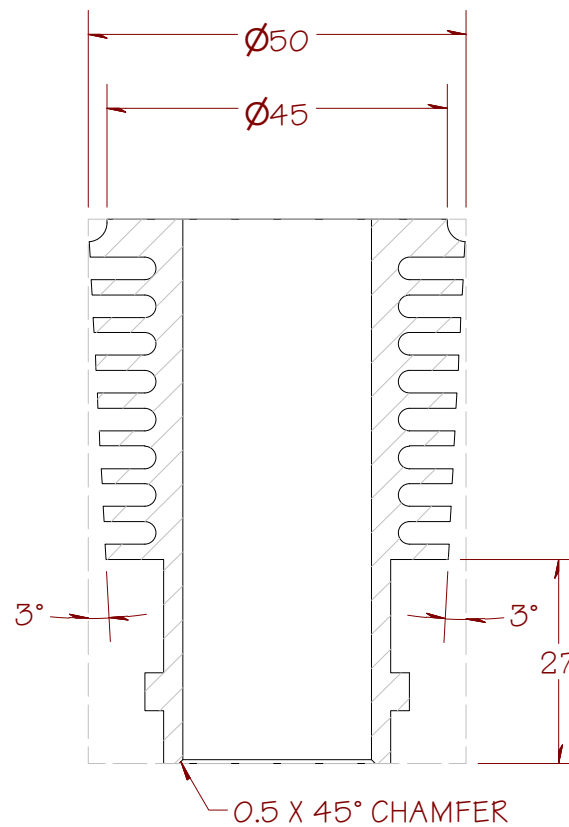
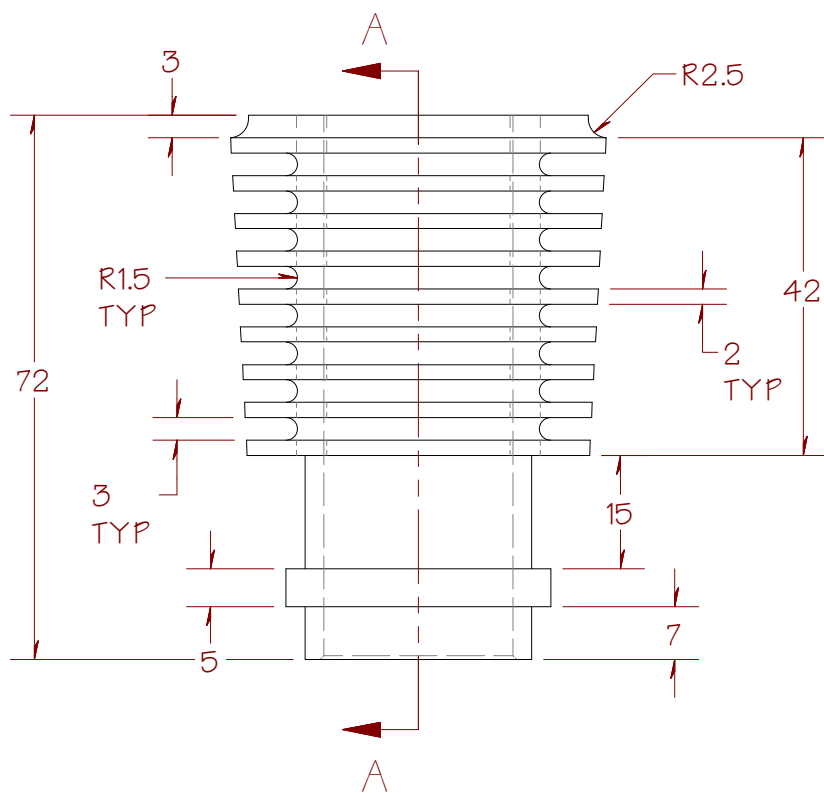
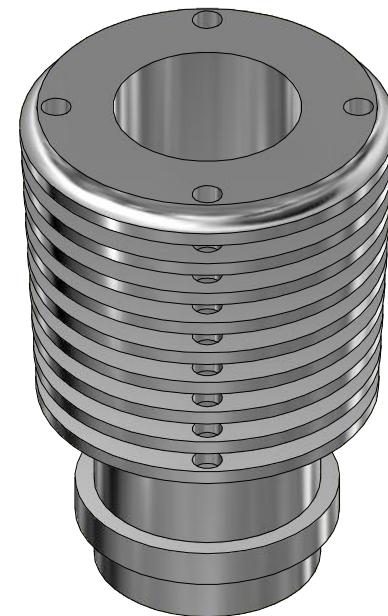
SHEET 24 OF 25

ALL DIMENSIONS
ARE IN MILLIMETERS





ALL DIMENSIONS
ARE IN MILLIMETERS



SECTION A-A

SHEET 25 OF 25

