

INTRODUCTION TO AUTOCAD

By: David S. DeWolf

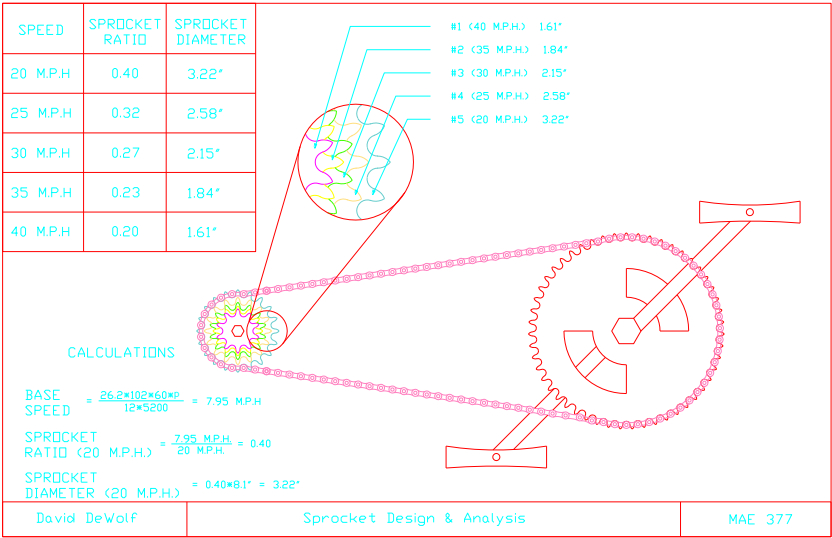
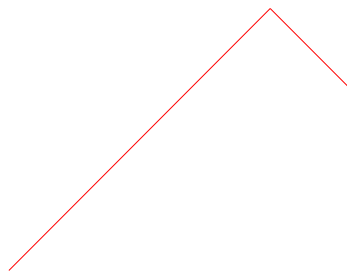
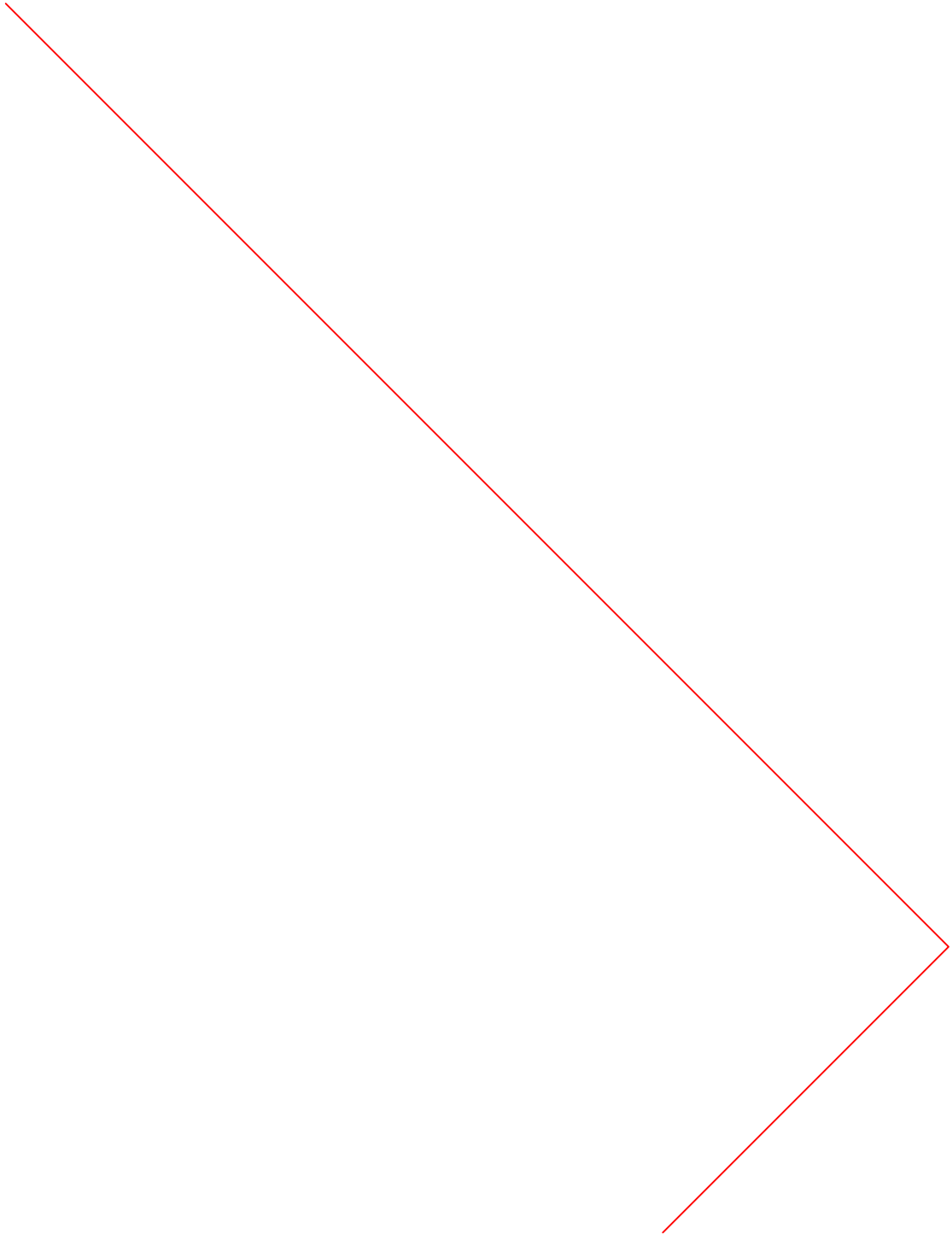


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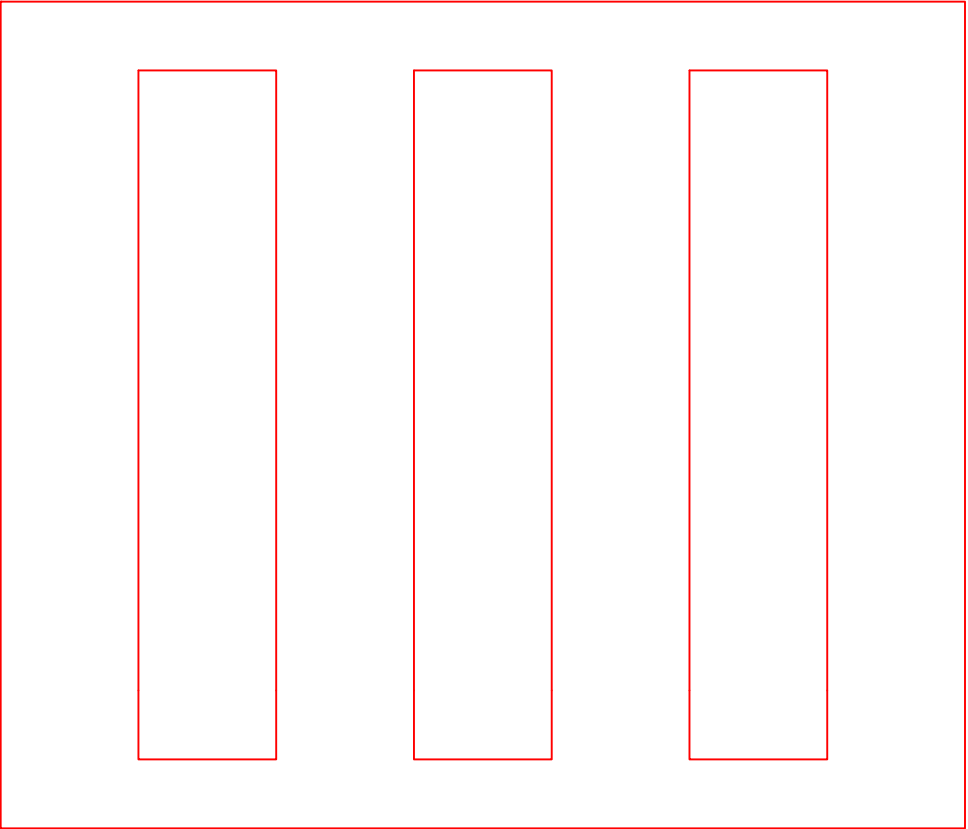
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SECTION 1 - Lines

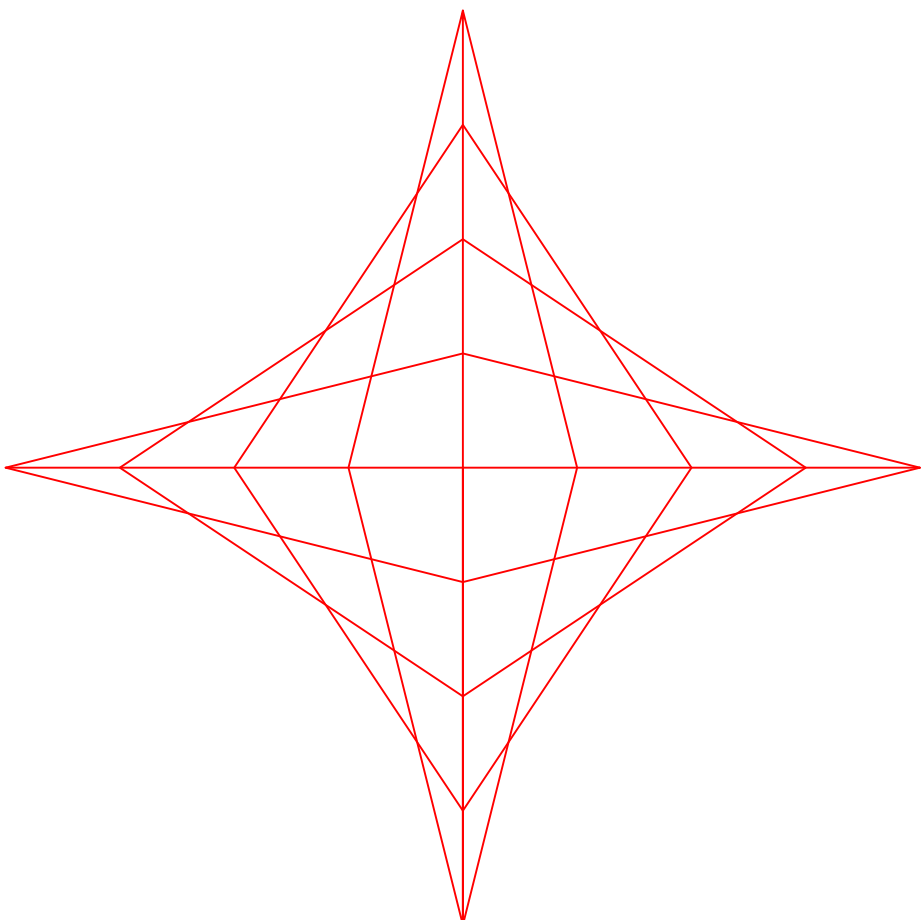




3,1

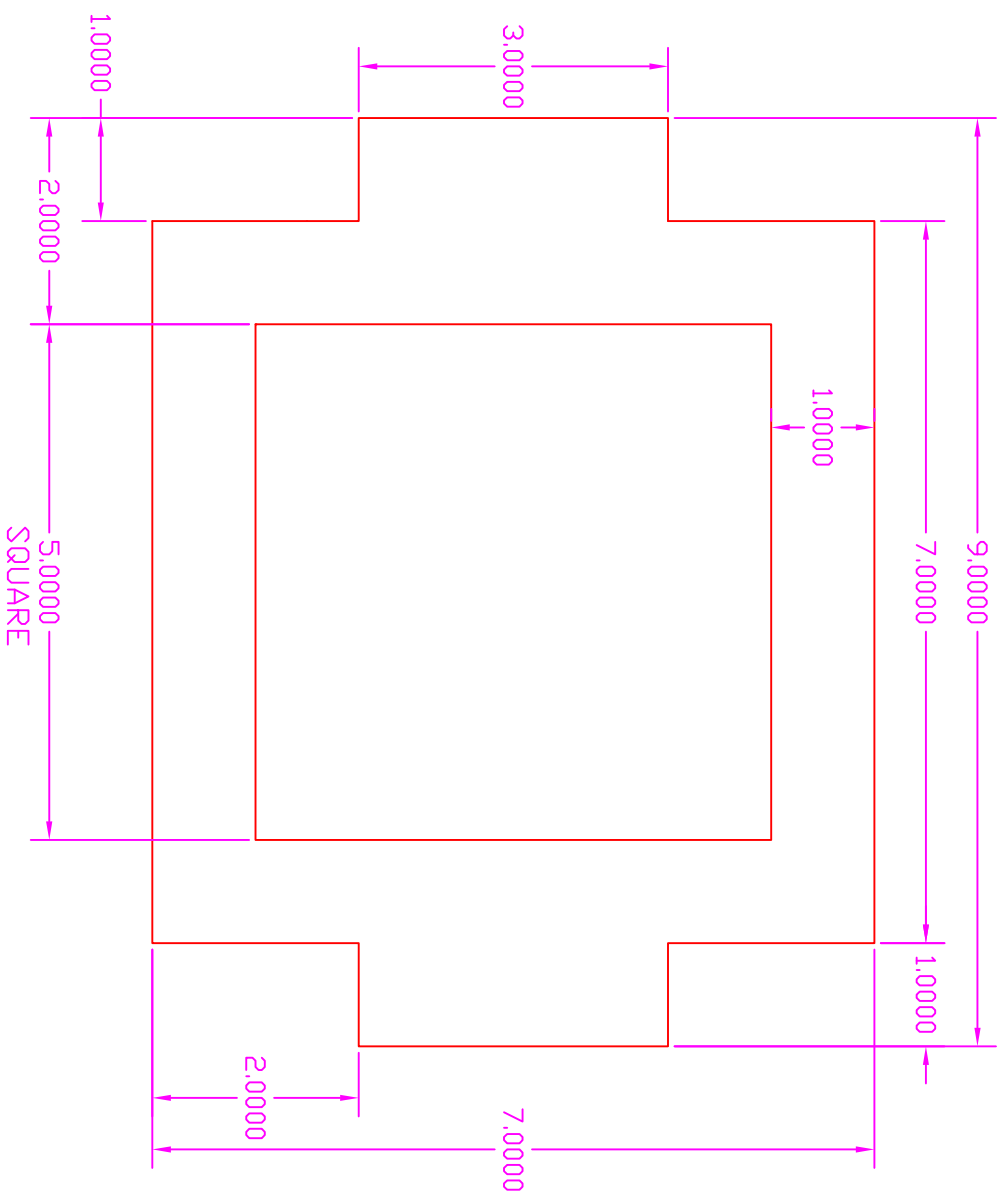


Grate



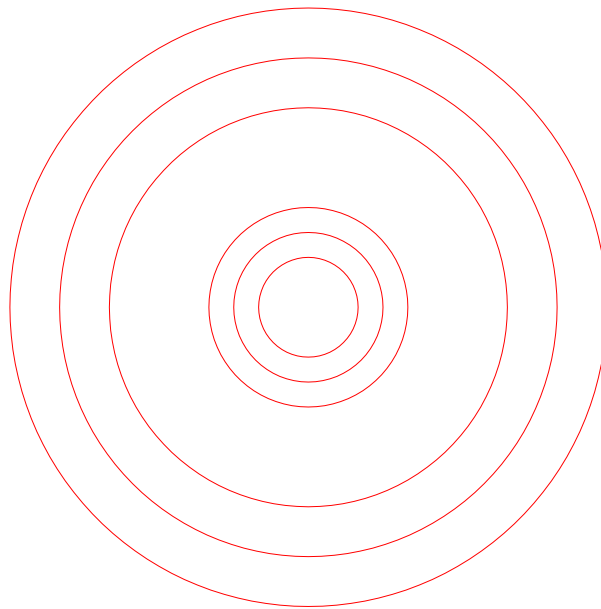
6,0,5

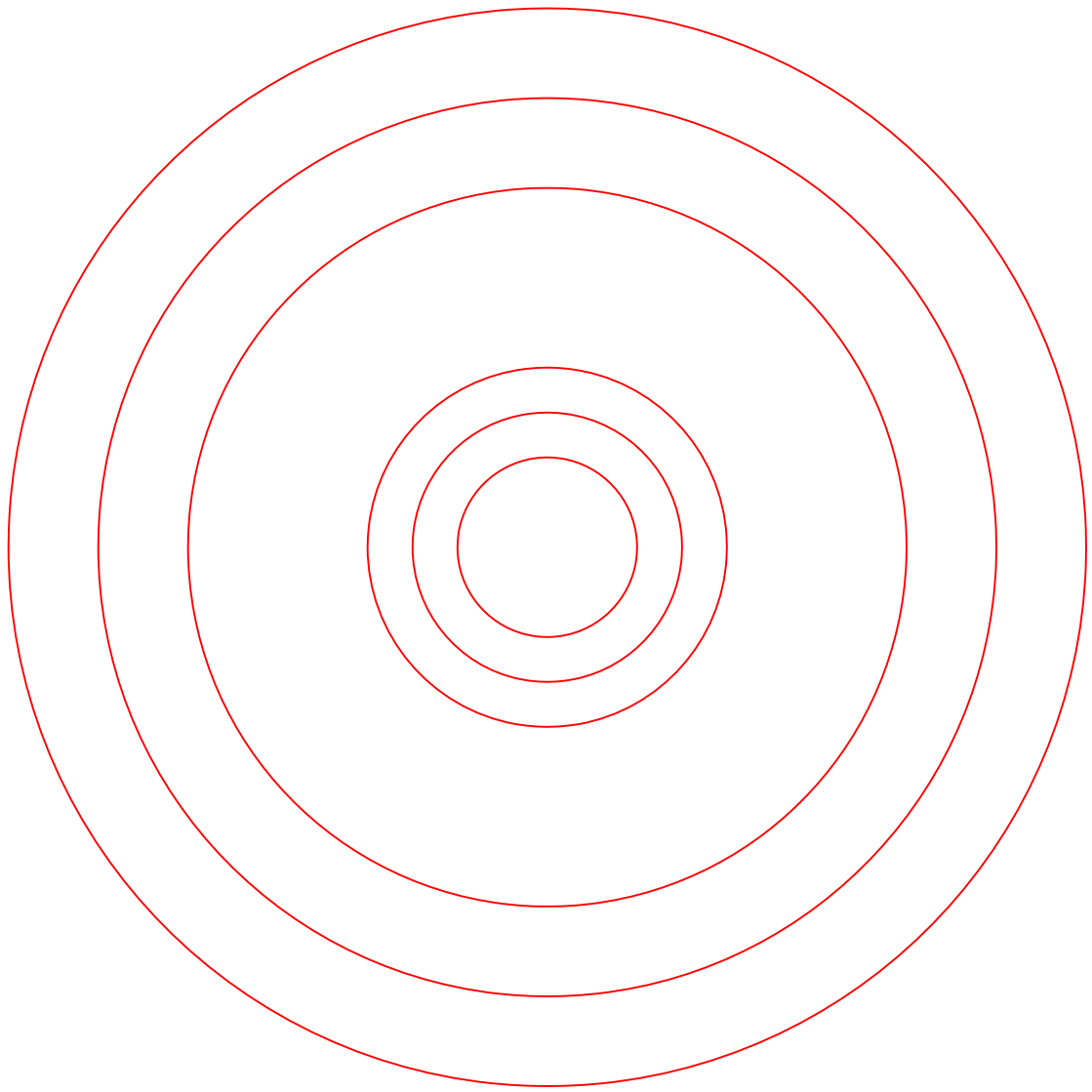
DESIGN #1

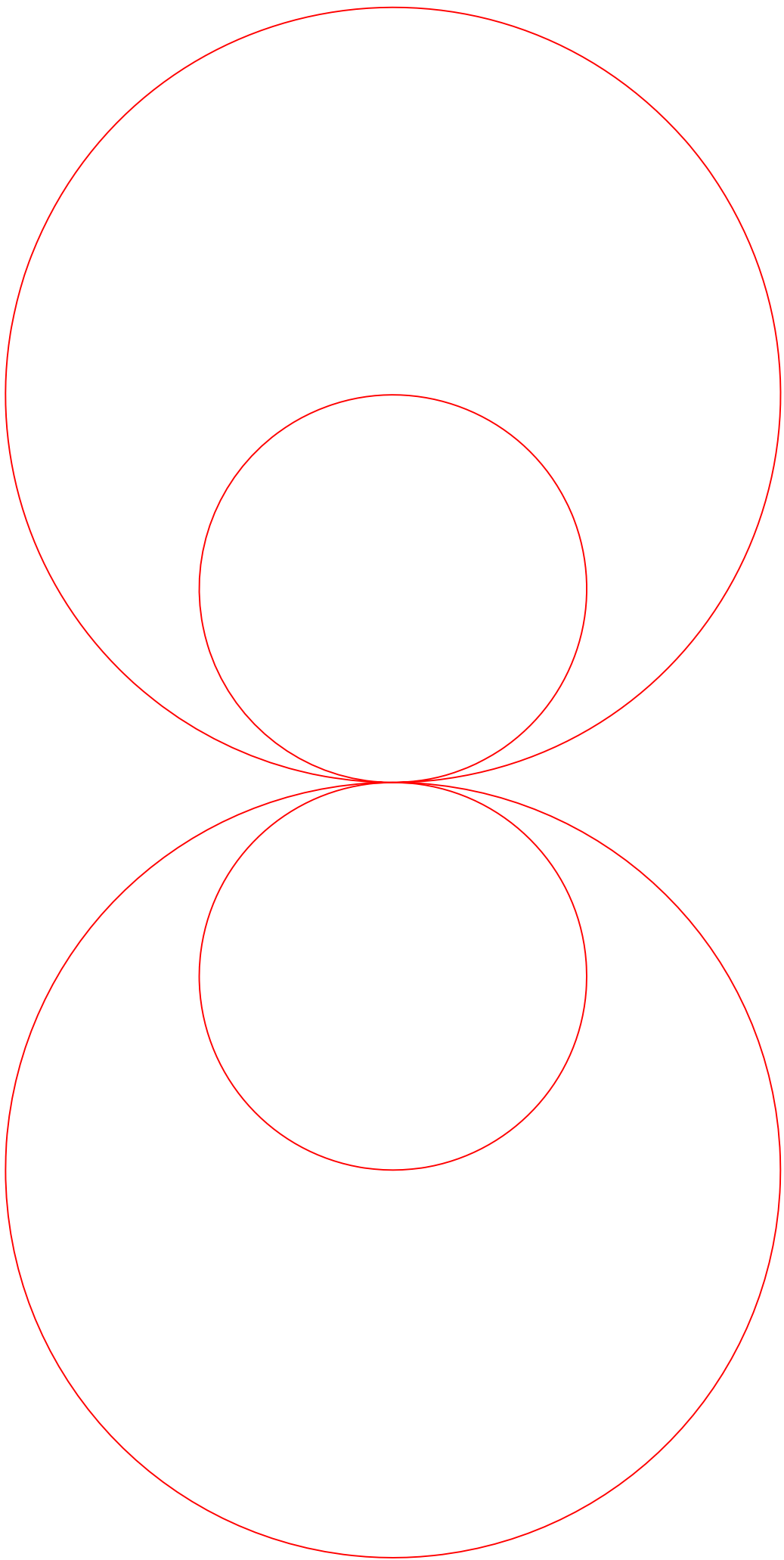


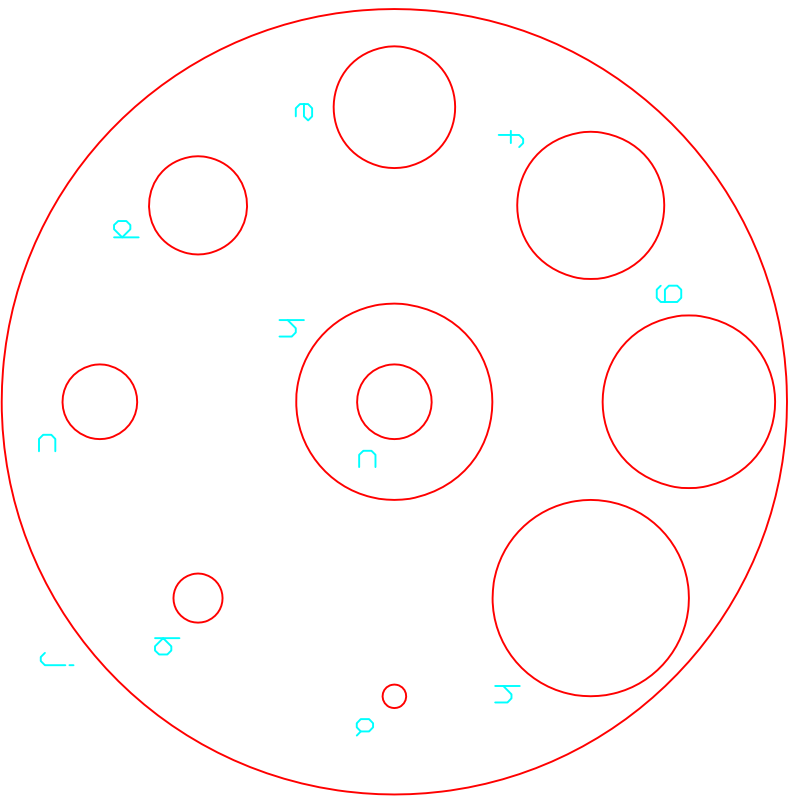
SHIM

SECTION 2 – Circle and Drawing Aids



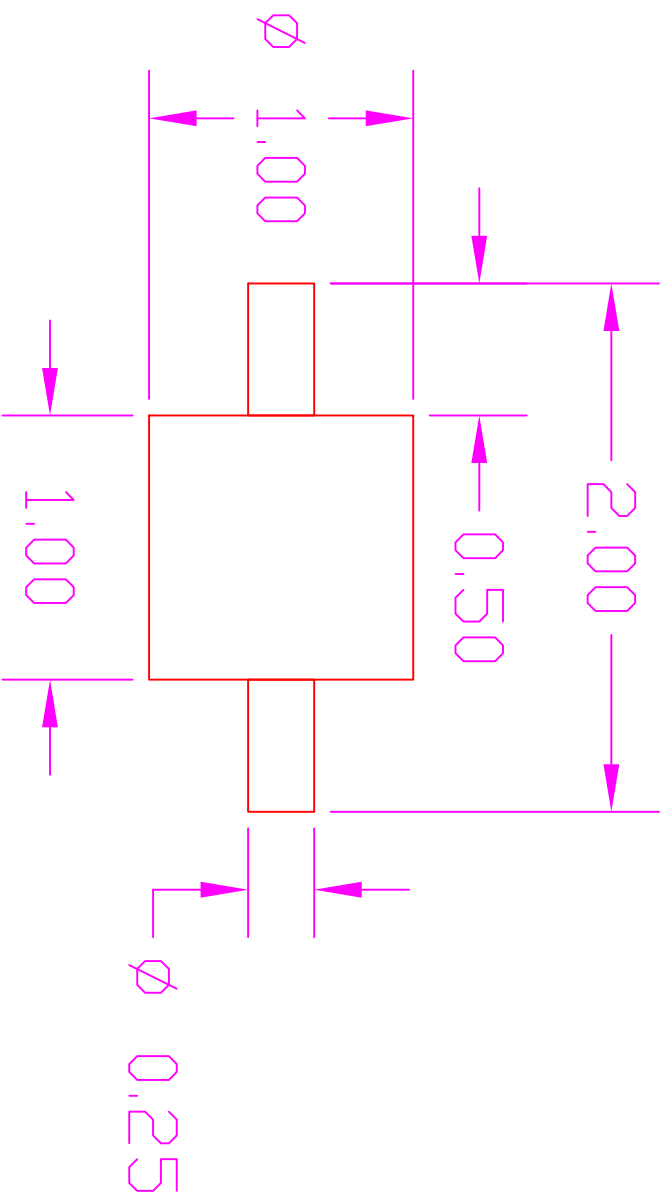
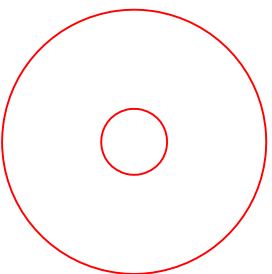




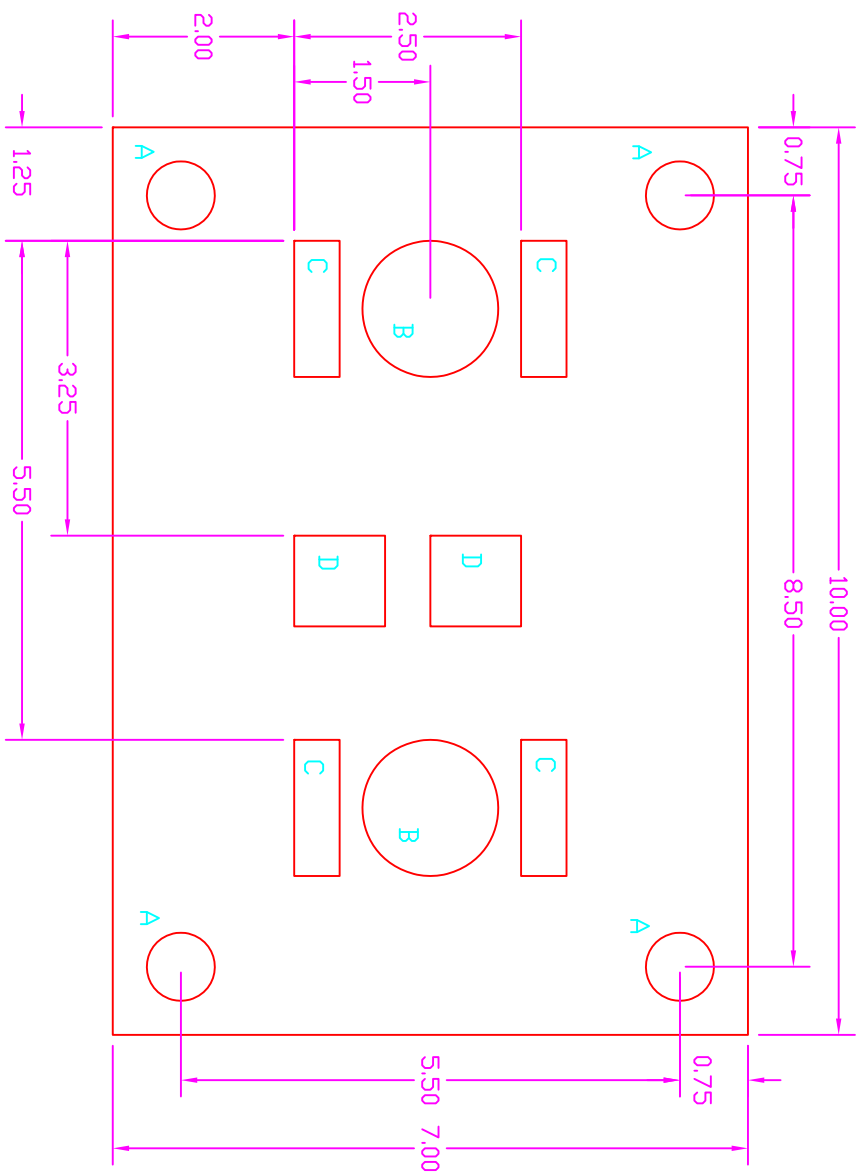


LETTER	a	b	c	d	e	f	g	h	i	j	k	l
RADIUS	.12	.25	.38	.50	.62	.75	.88	1.00	4.00			

APERTURE WHEEL



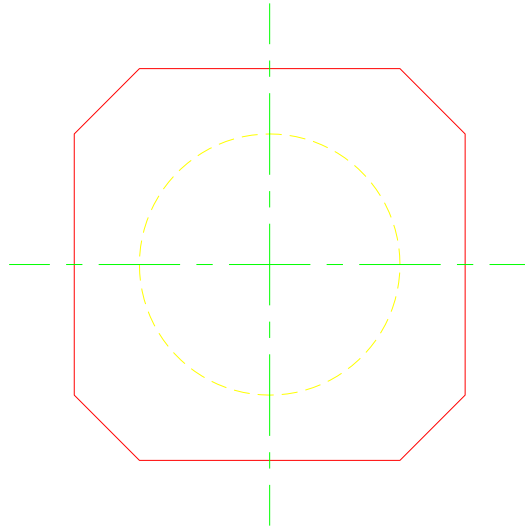
ROLLER

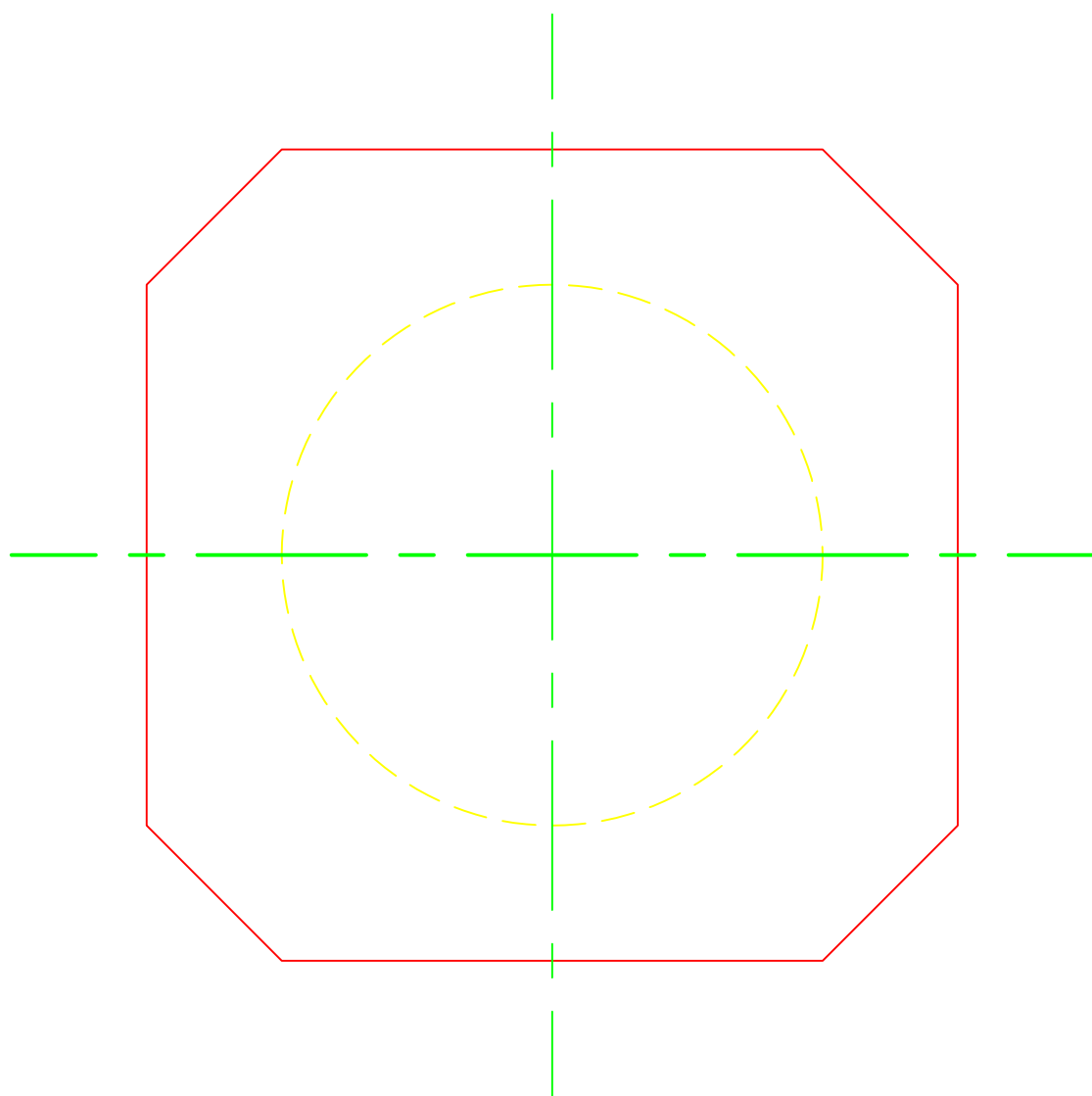


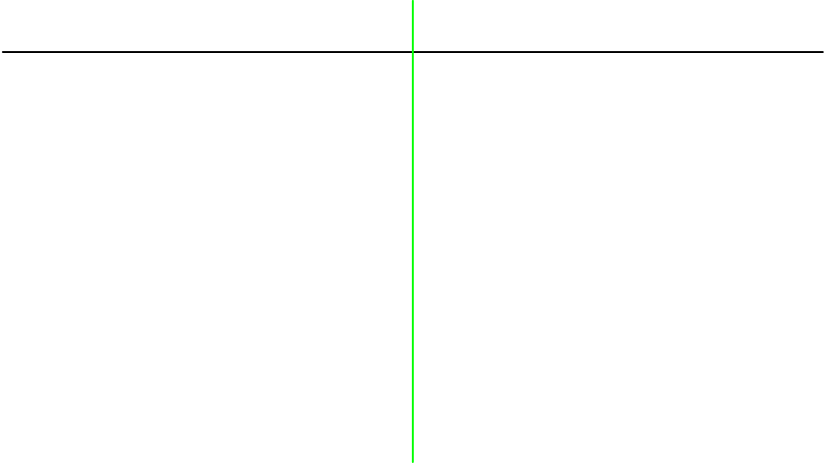
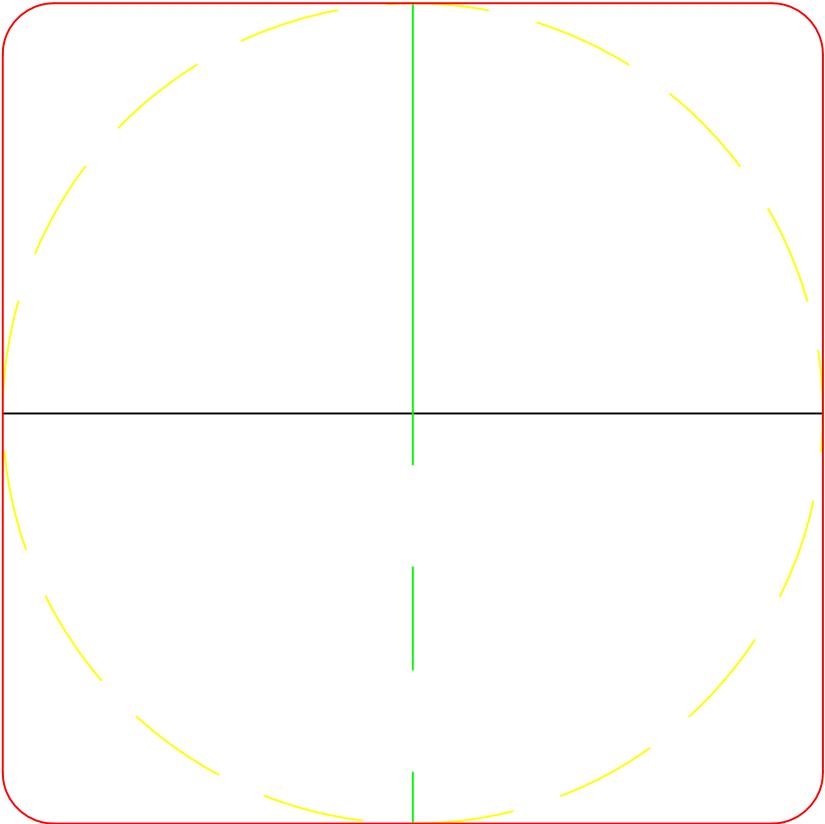
SWITCH PLATE

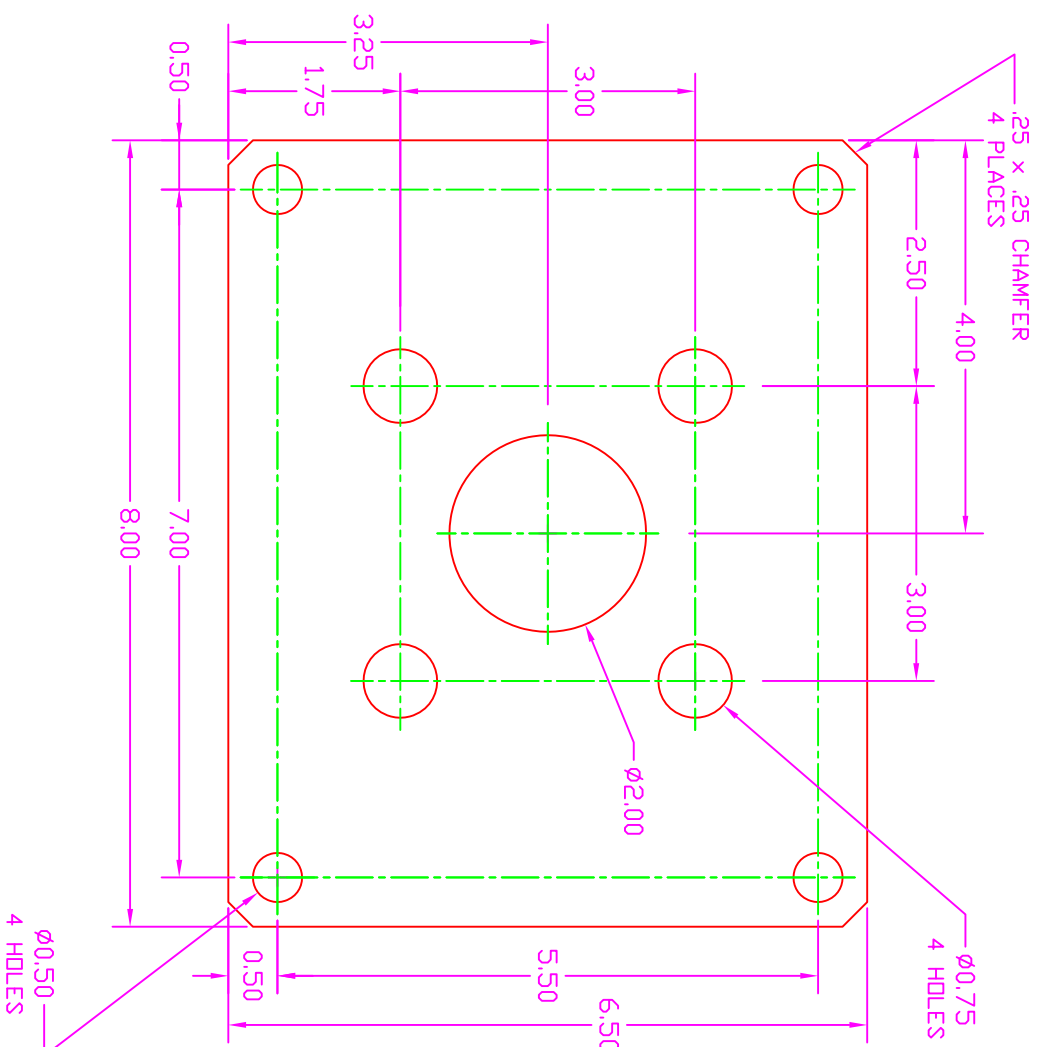
HOLE	SIZE
A	ø.75
B	ø1.50
C	.50 H x 1.50 W
D	1.00 SQ

SECTION 3 – Layers, Colors, and Linetypes

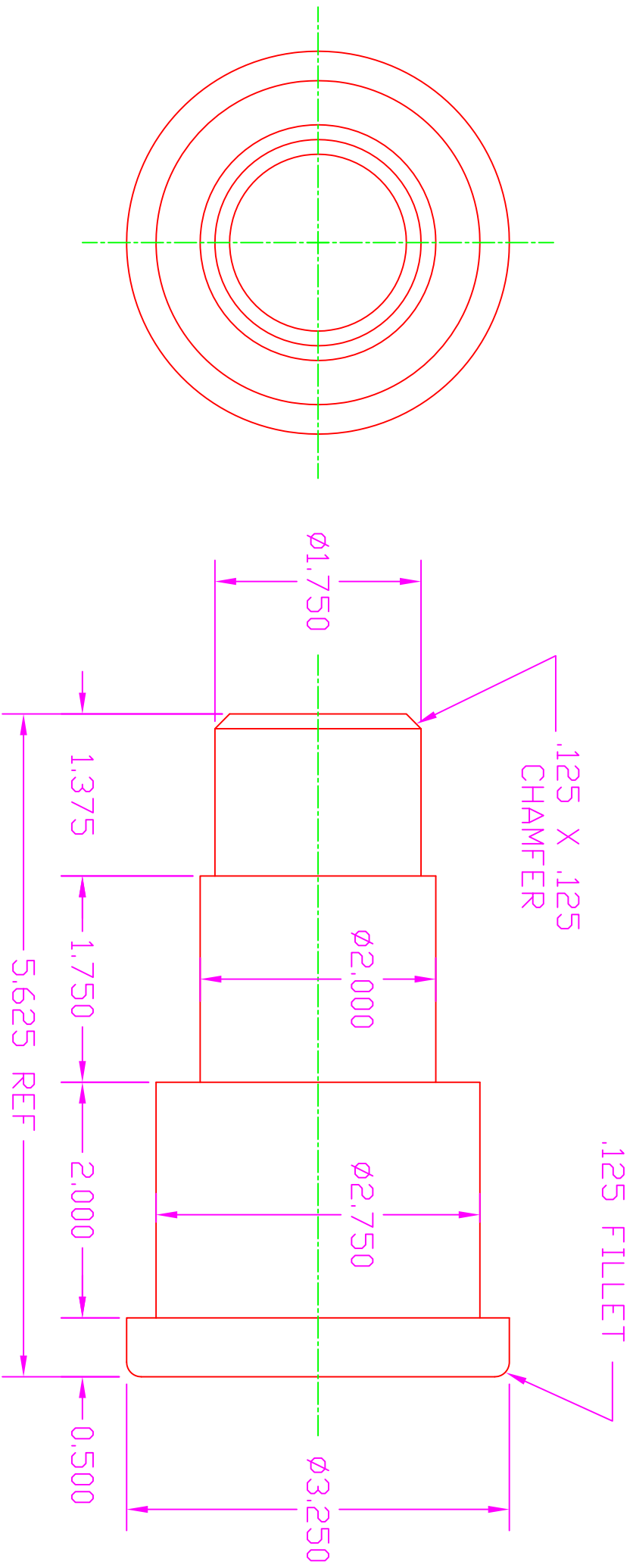




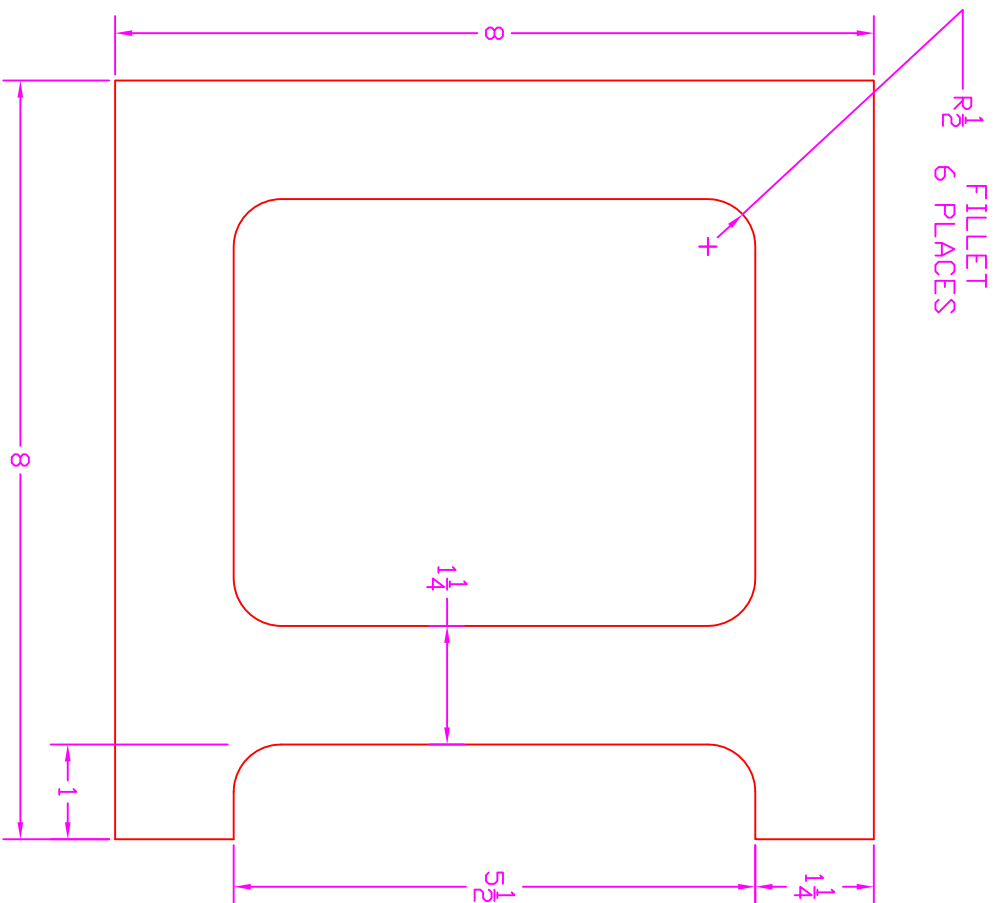




MOUNTING PLATE

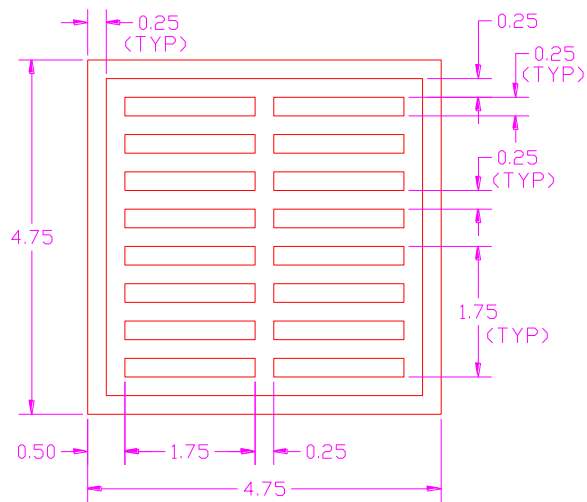


STEPPED SHAFT



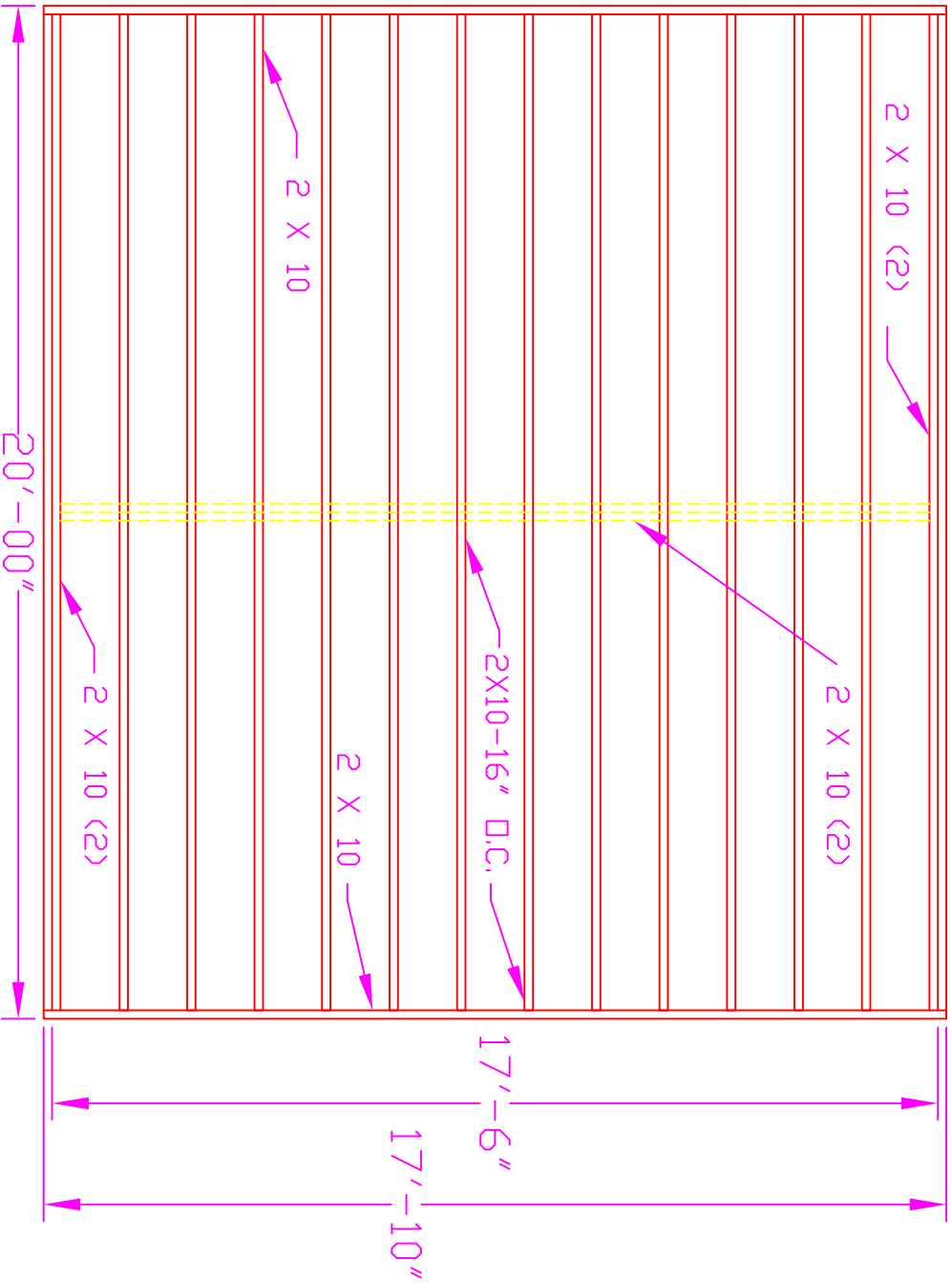
HALF BLOCK

SECTION 4 – Template Drawings



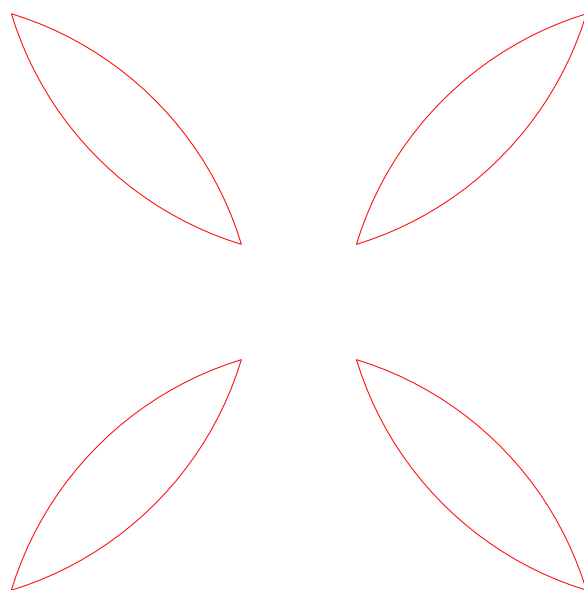
GRILL

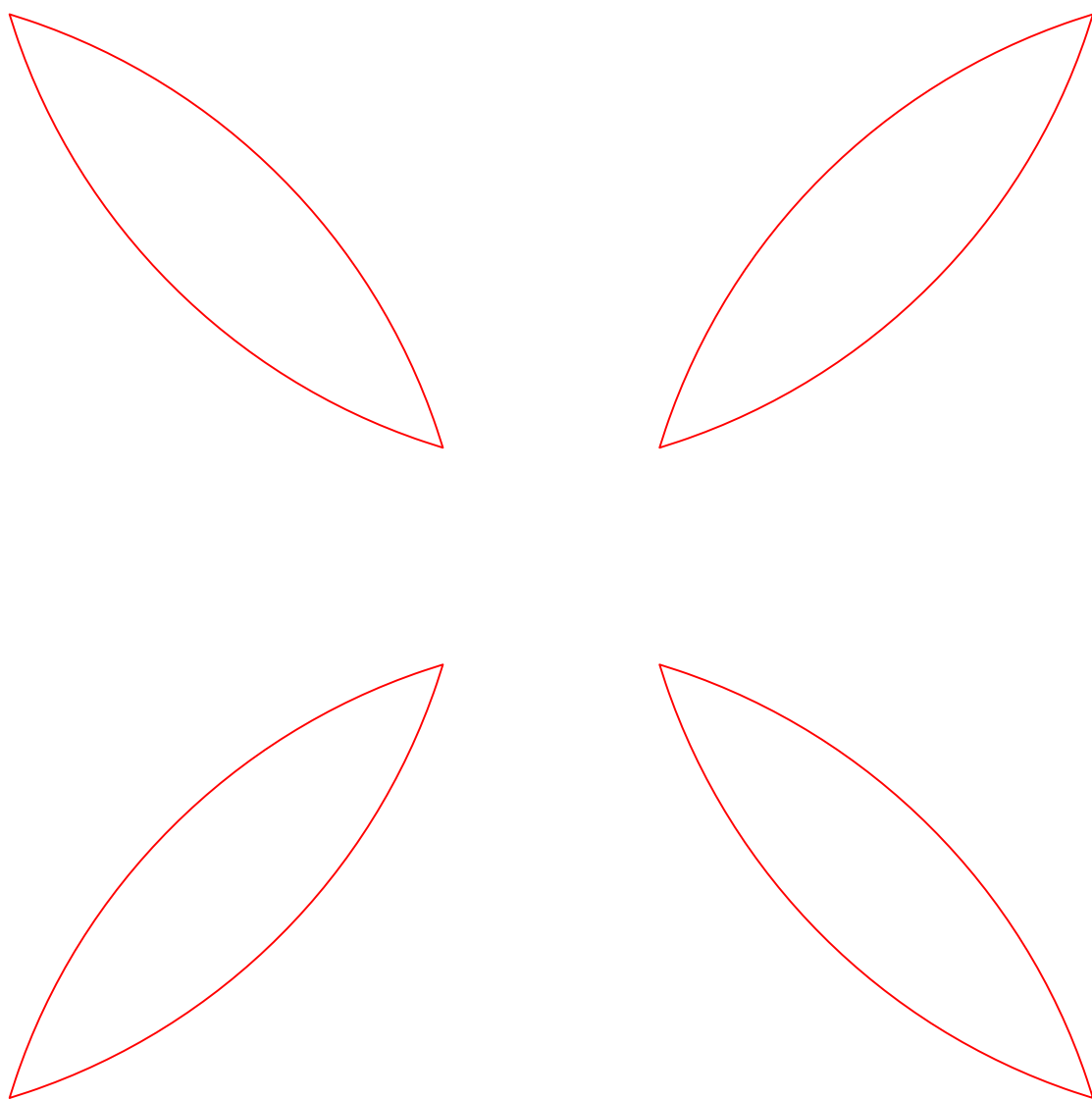


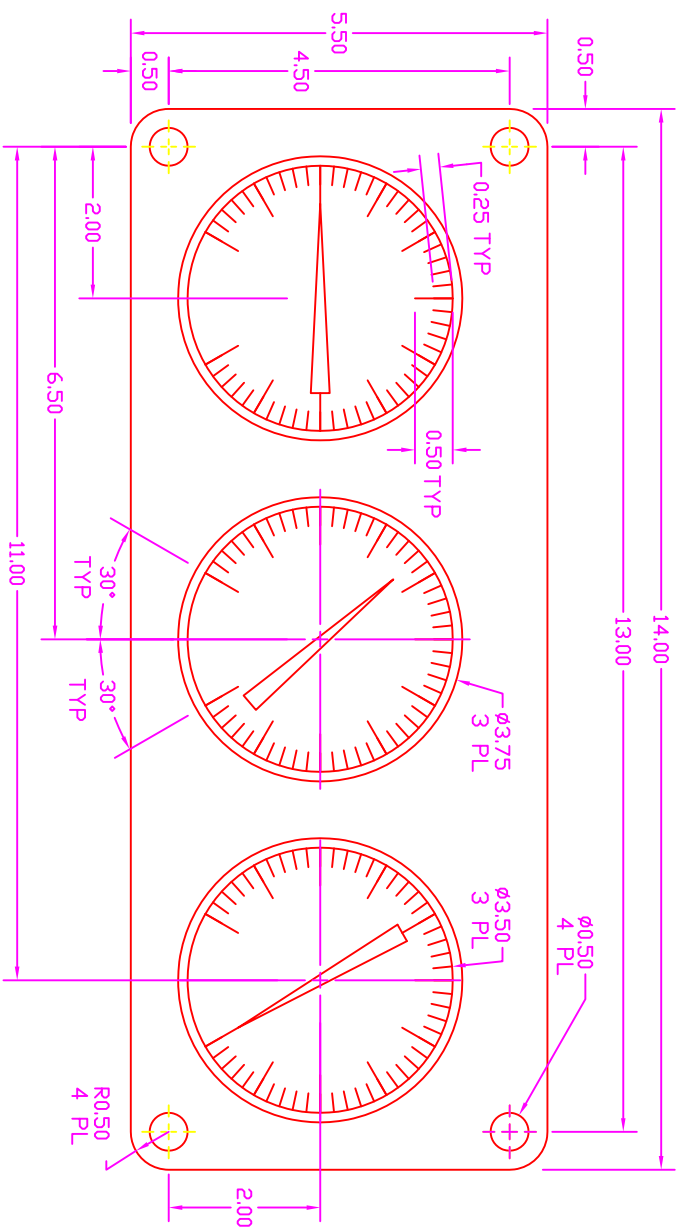
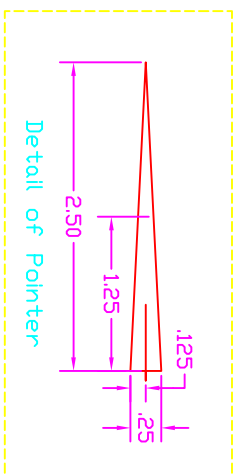


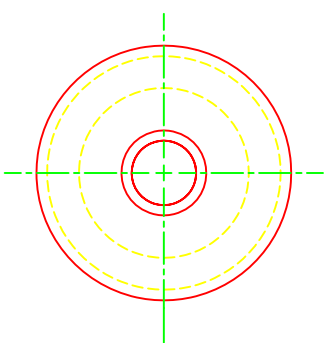
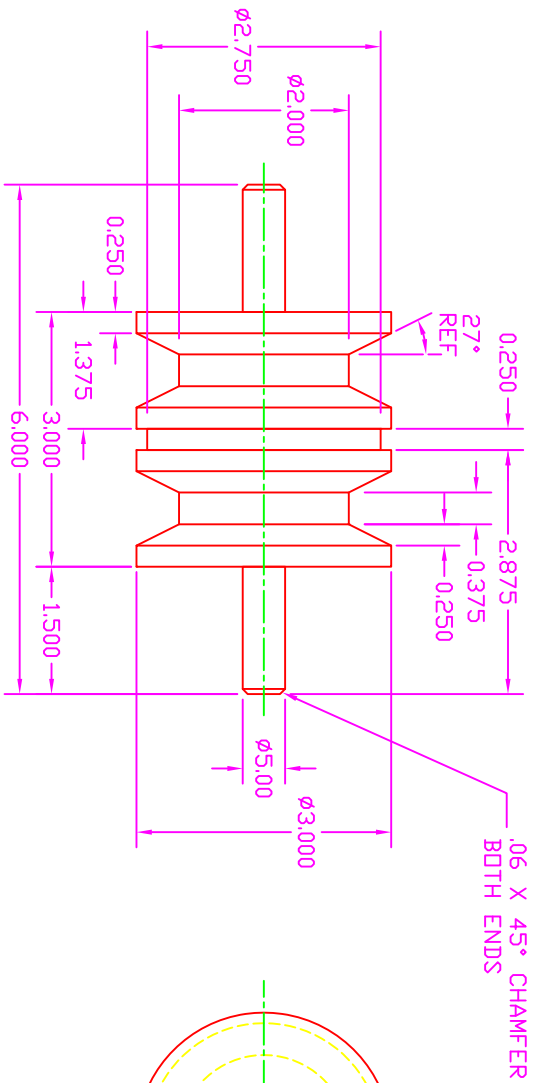
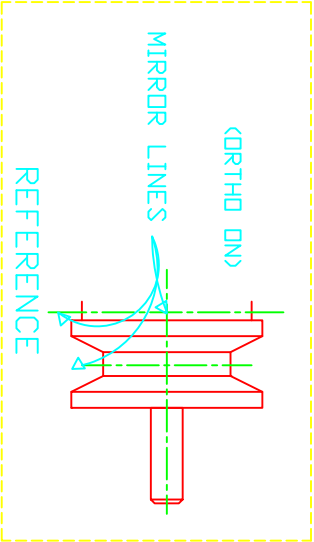
FLOOR FRAMING

SECTION 5 – Arcs and Polar Arrays

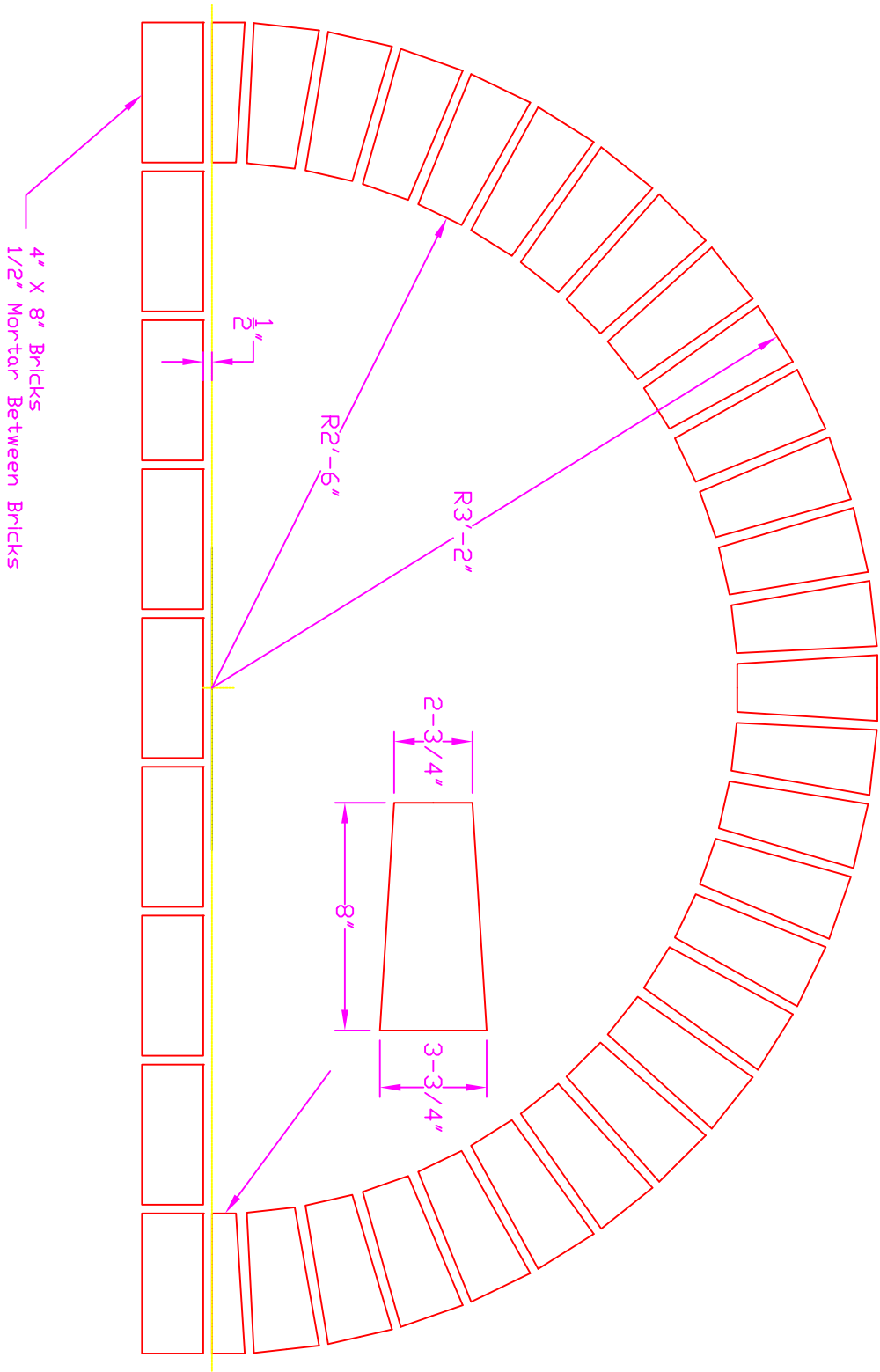






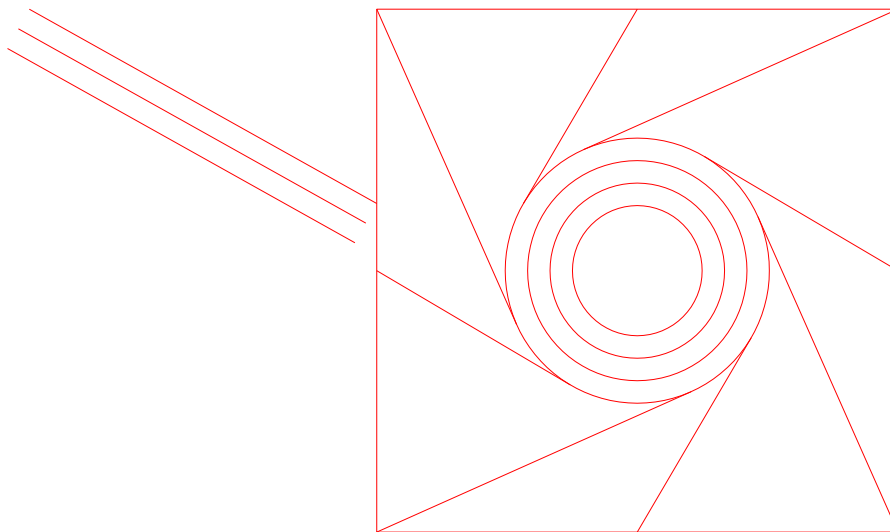


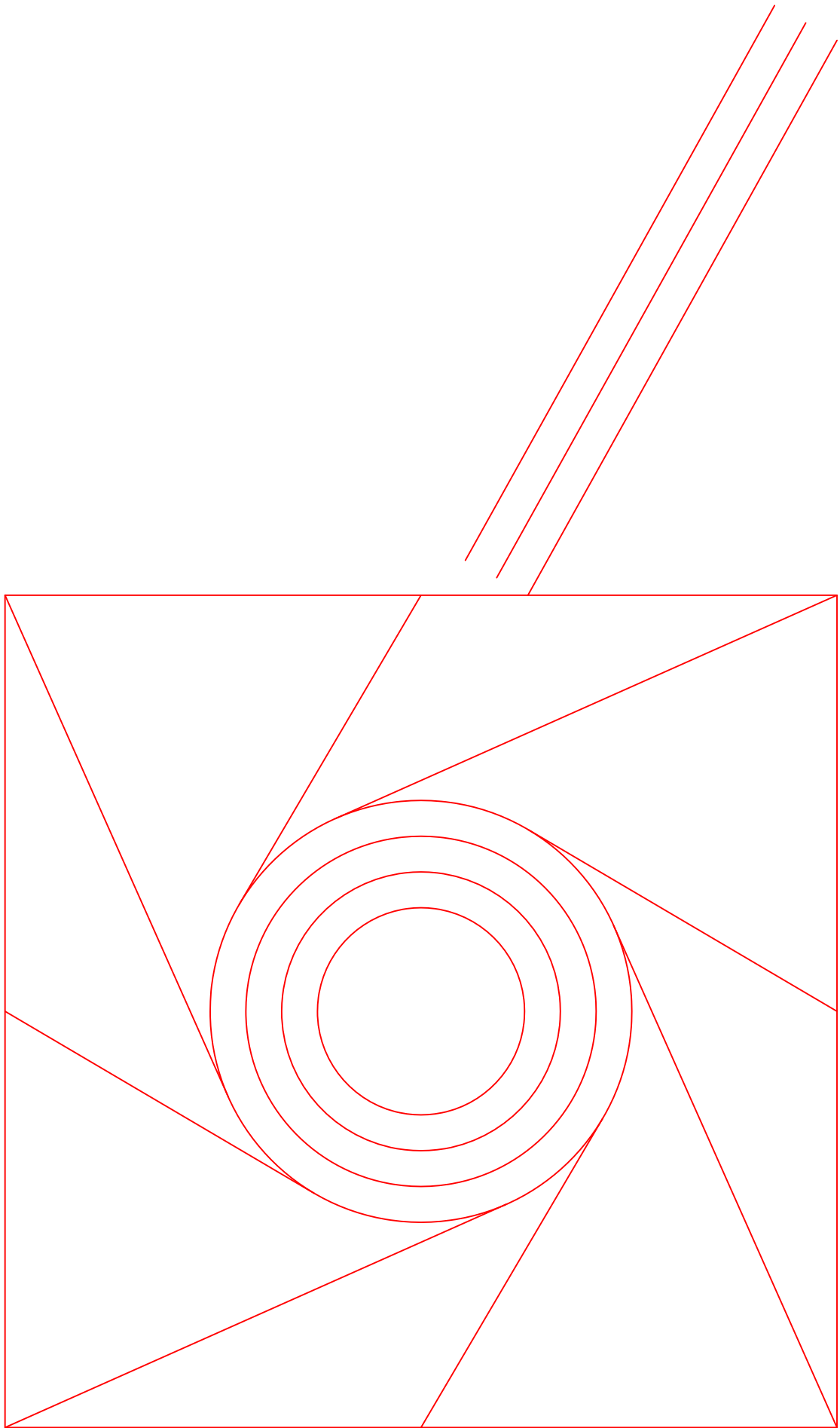
ALIGNMENT WHEEL

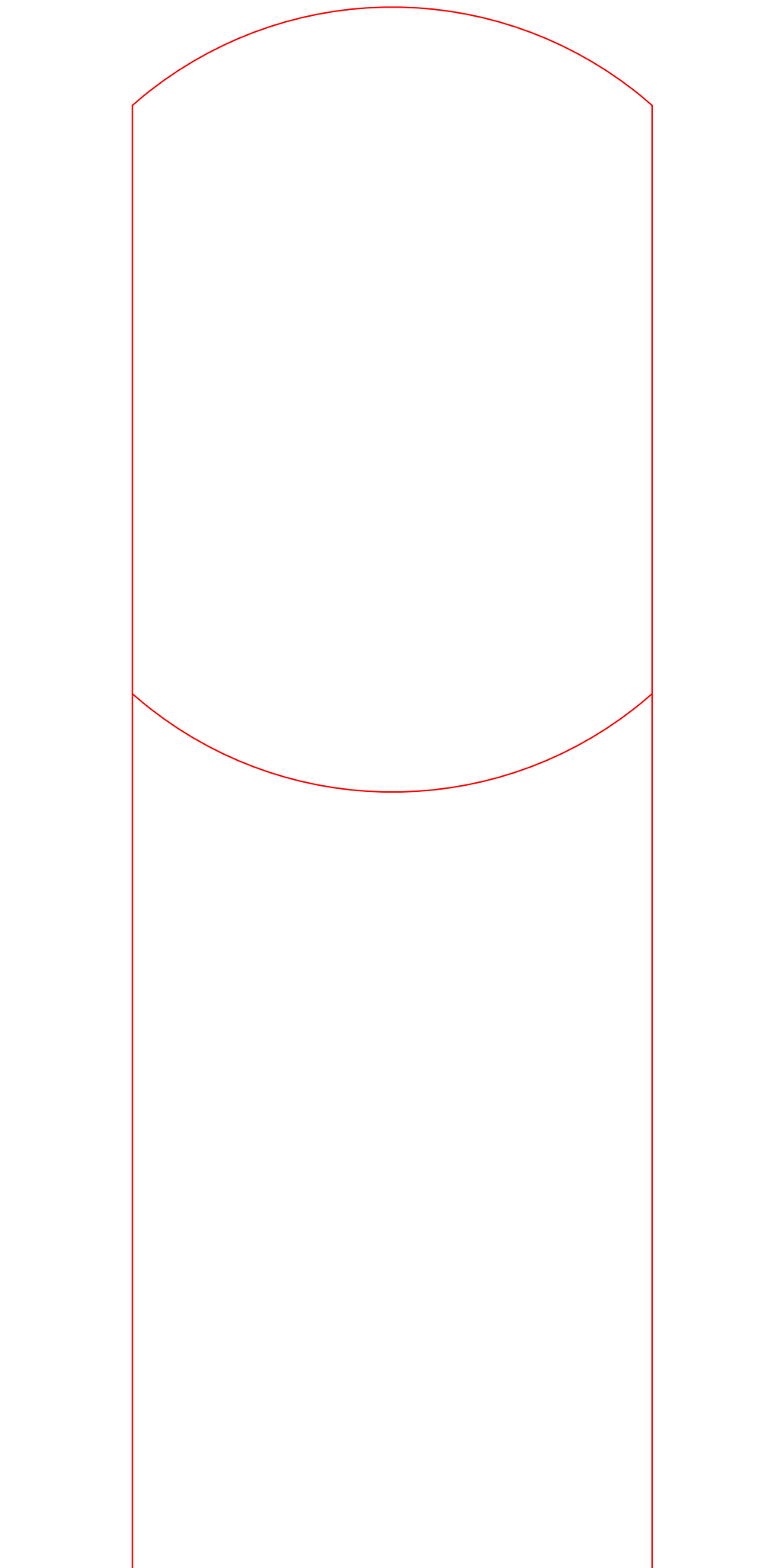


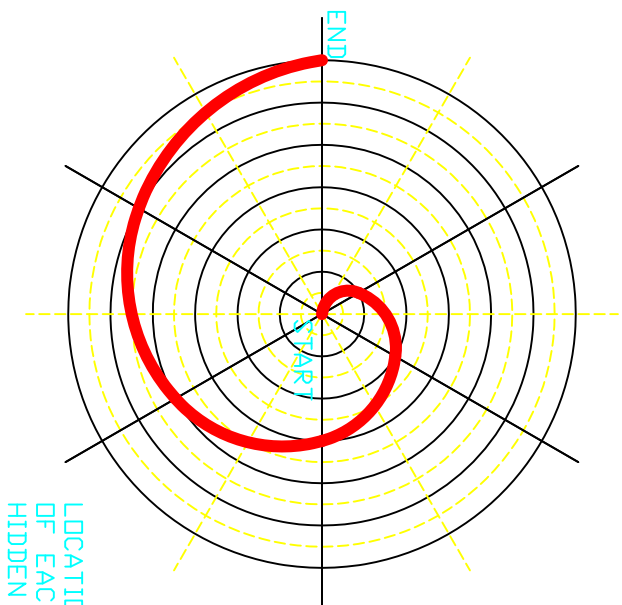
HEARTH

SECTION 6 – Object Snap





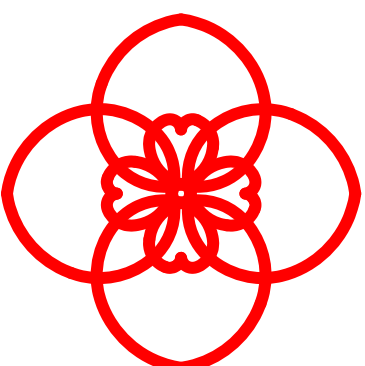
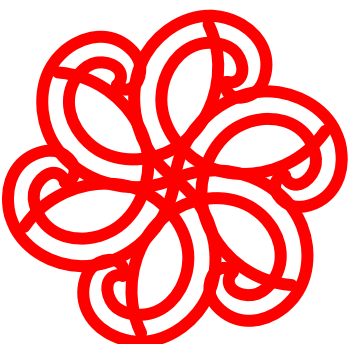
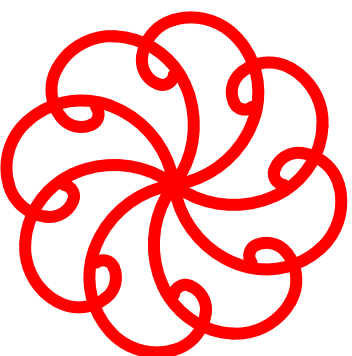




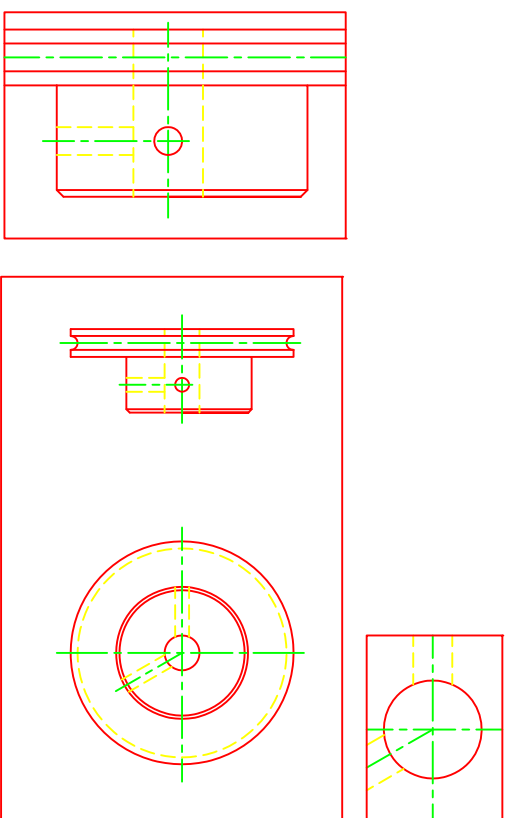
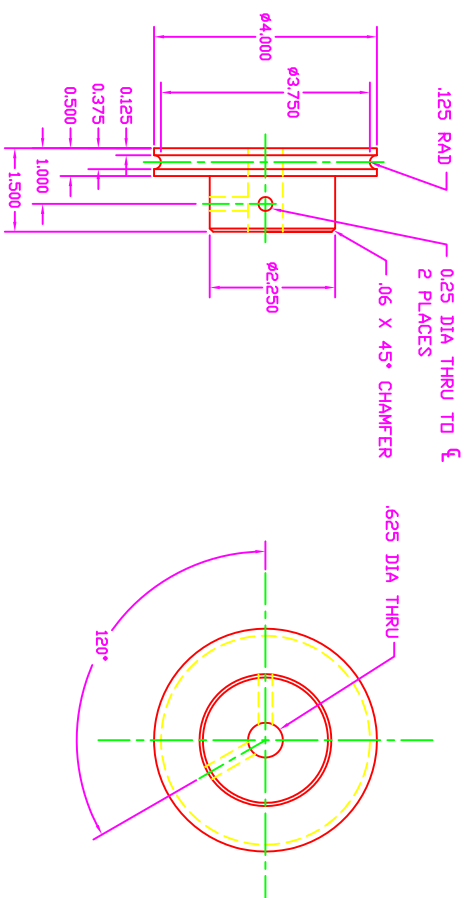
LOCATION OF SECOND POINT
OF EACH ARC IS WHERE
HIDDEN LINES INTERSECT

SOLID CIRCLE RADII	HIDDEN CIRCLE RADII
0.50	0.25
1.00	0.75
1.50	1.25
2.00	1.75
2.50	2.25
3.00	2.75

ARCHIMEDES SPIRAL



SPIRAL DESIGNS



GROOVED HUB

SECTION 7 – Text

vertical

Roman Duplex

left

Right

center

middle

Align

E i t

vertical

Roman Duplex

left_____

_____Right

_____center

_____middle

Align

Font (ROMANS)
Height (.12)
Fit

QTY

RECD

DESCRIPTION

PART NO.

ITEM NO.

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
REMOVE ALL BURRS & BREAK
SHARP EDGES

DRAWN BY:
Your Name
APPROVED BY:

DATE

DRAWING TITLE:
USA INU.

TOLERANCES
FRACTIONS ± 1/64
DECIMALS
XX ± .01
XXX ± .005

ISSUED:

DRAWING NO.

MATERIAL:

FINISH:

SIZE CODE INDENT NO.
C 38178

SCALE:

DATE:

SHEET OF

REV.

Style (ROMANS)
Height (.12)
Fit

Style (SCRIPTS)
Height (.12)
Left justified

4.00

3.50

3.00

2.56

2.13

1.00

10.75

9.19

8.00

6.06

5.25

4.75

3.50

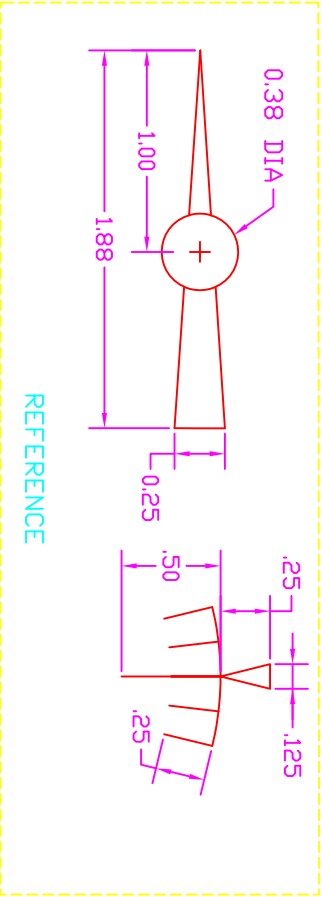
1.81

1.00

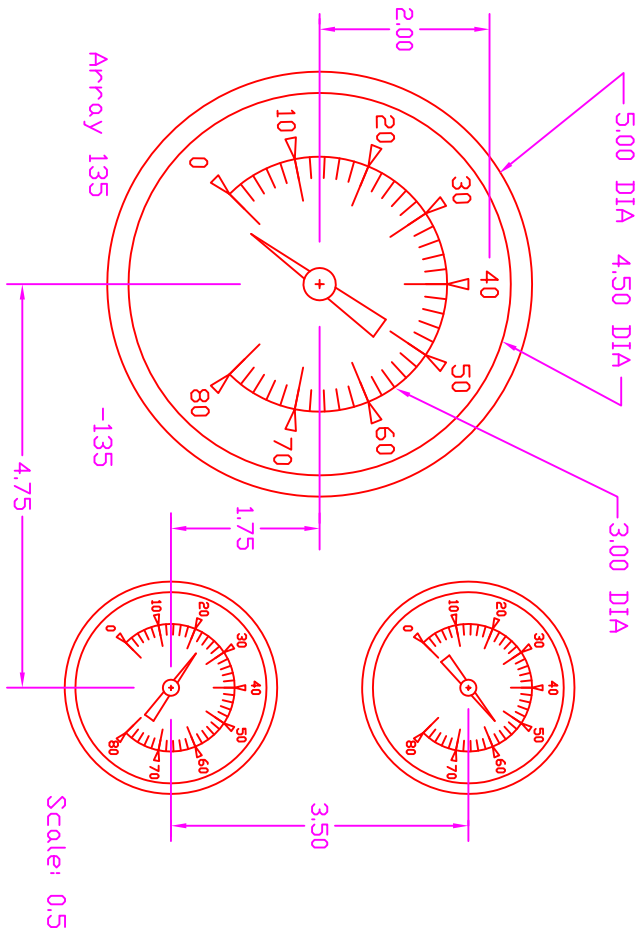
0.25

TITLE BLOCK

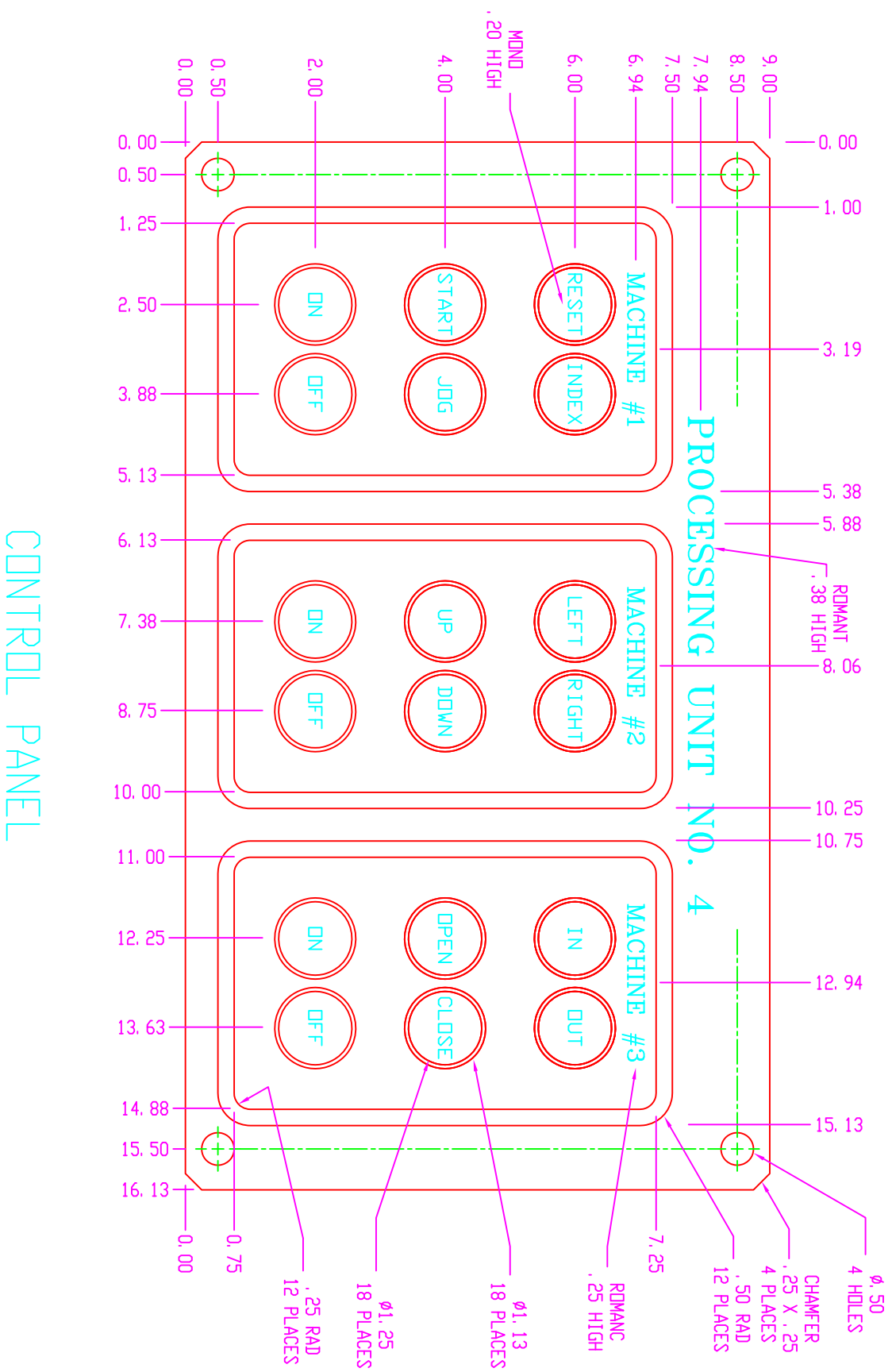
Font (ROMANT)	Font (GOTHICE)
Height (.25)	Height (.38)
Fit	Left justified
	Font (STANDARD)
	Height (.25)
	Left justified



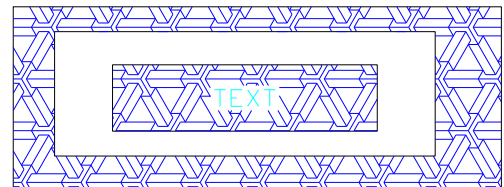
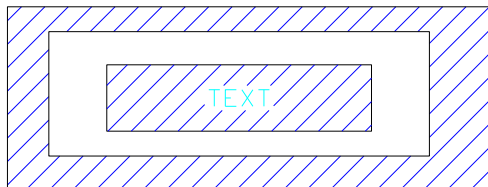
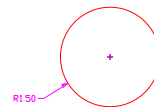
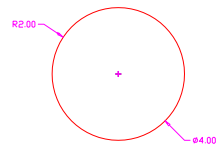
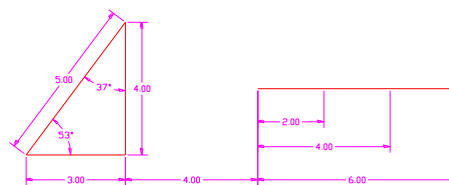
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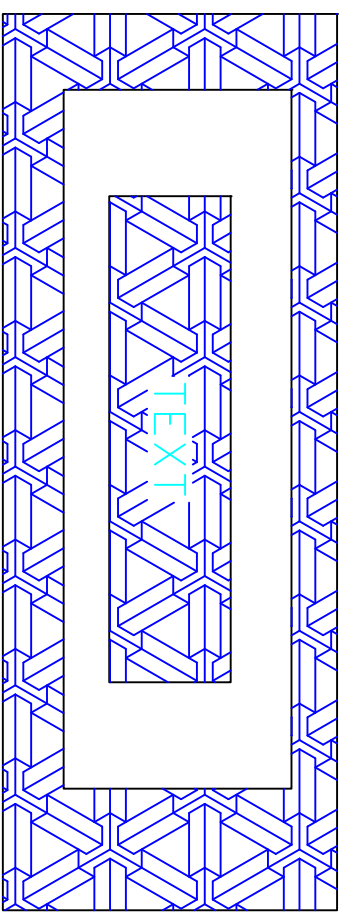
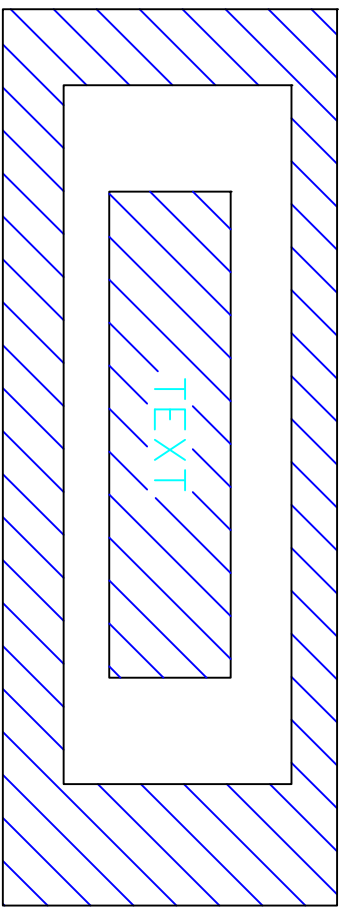
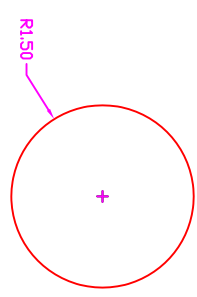
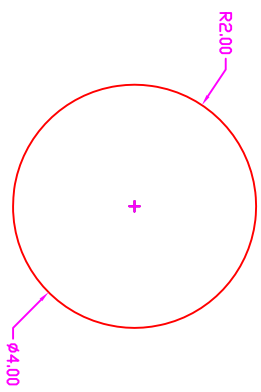
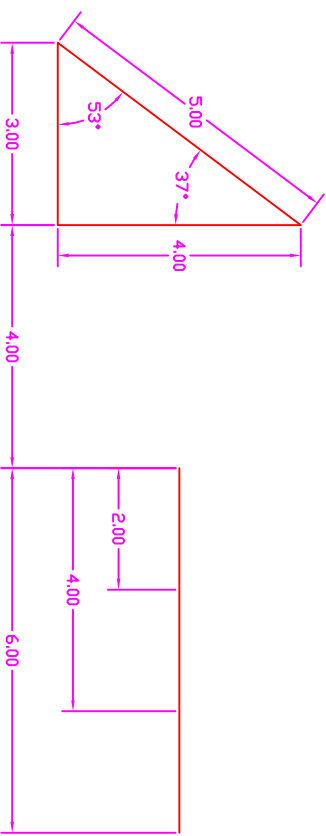


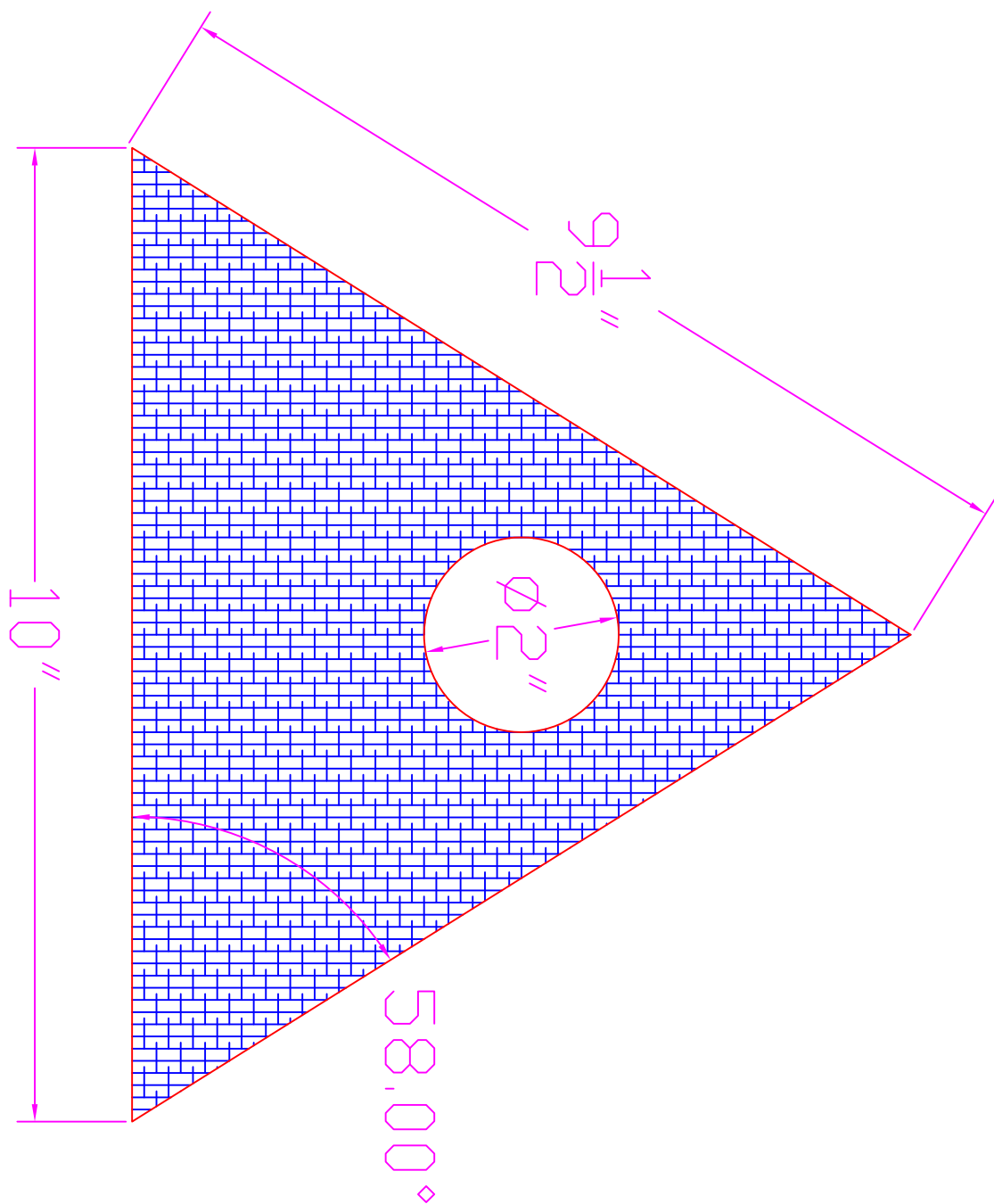
GAUGES

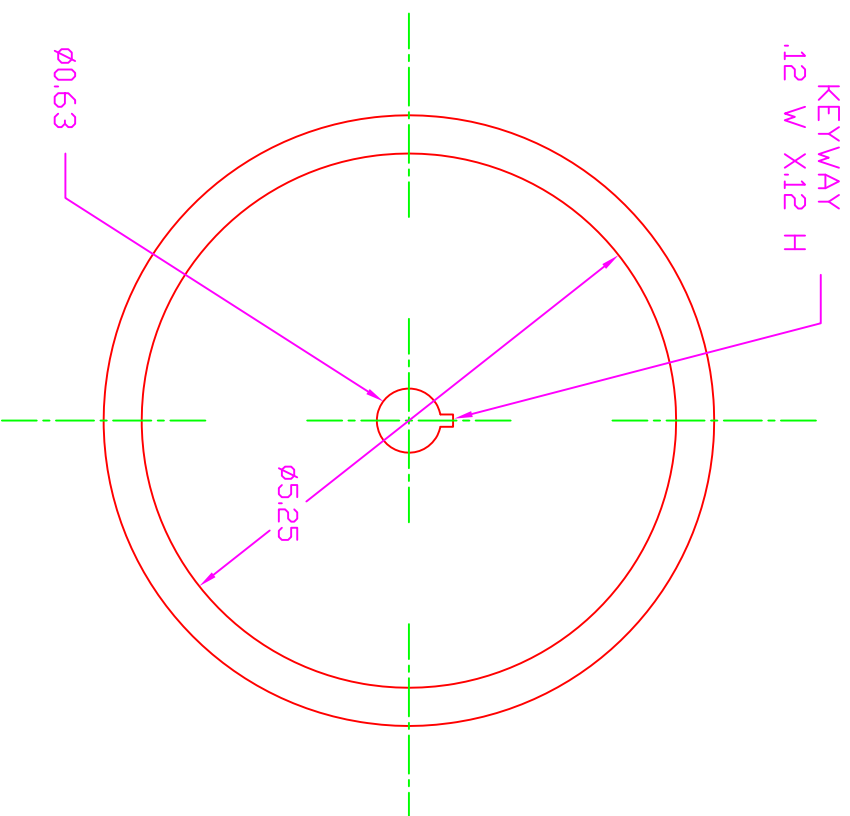
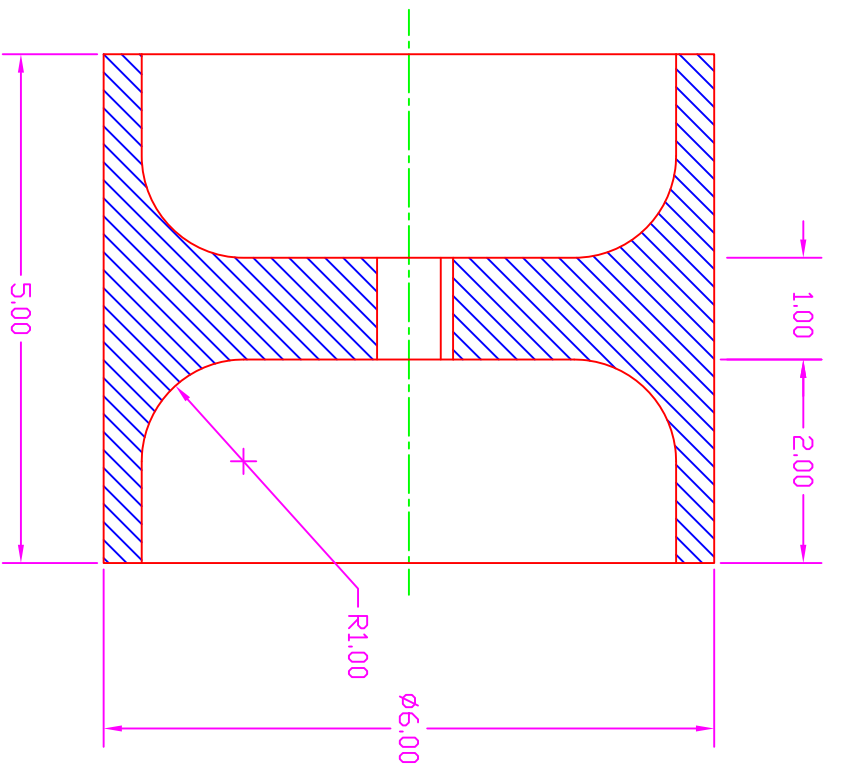


SECTION 8 – Dimensions

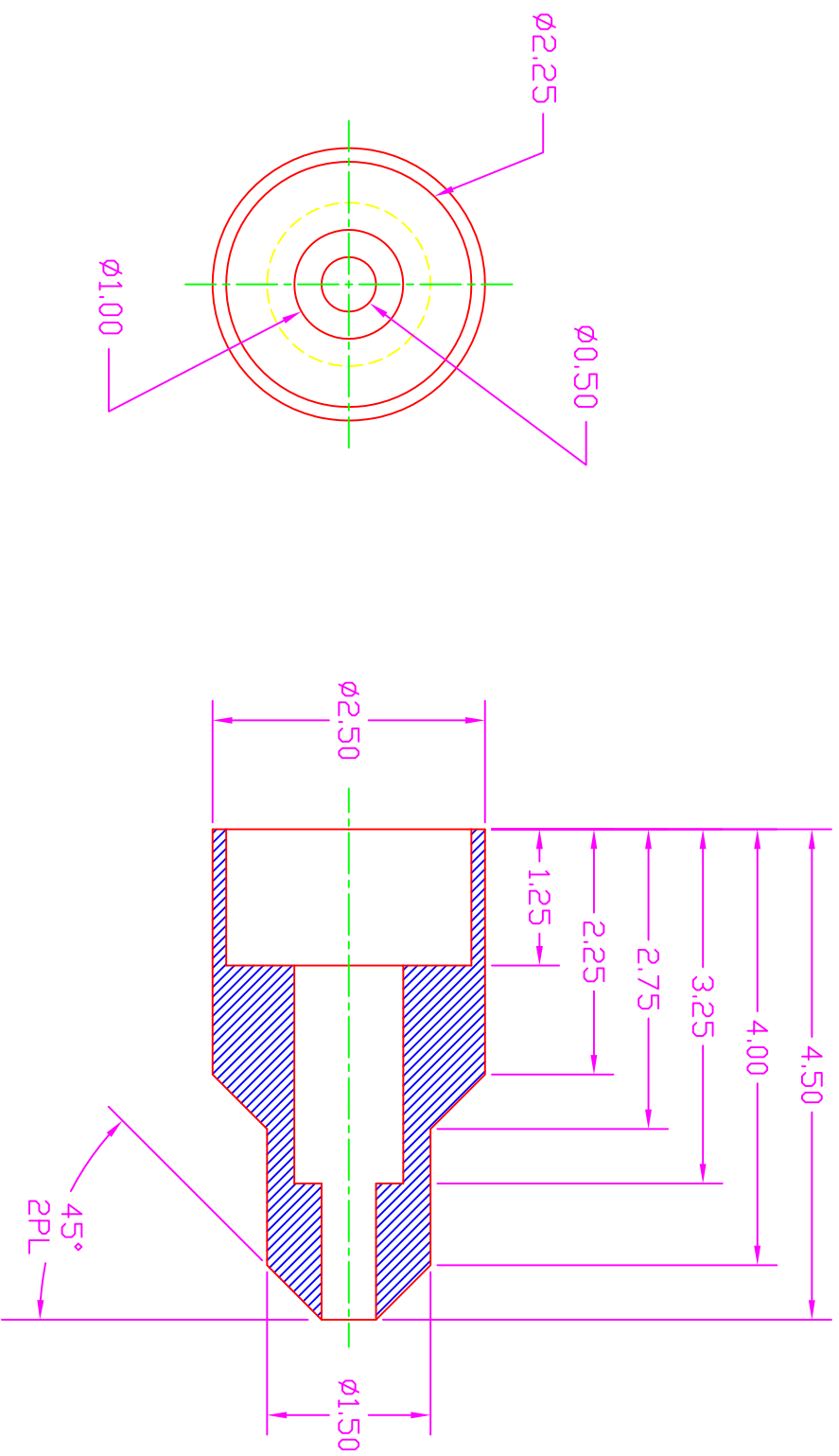




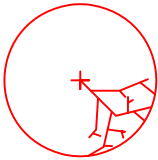




FLANGED WHEEL



SHOWER HEAD



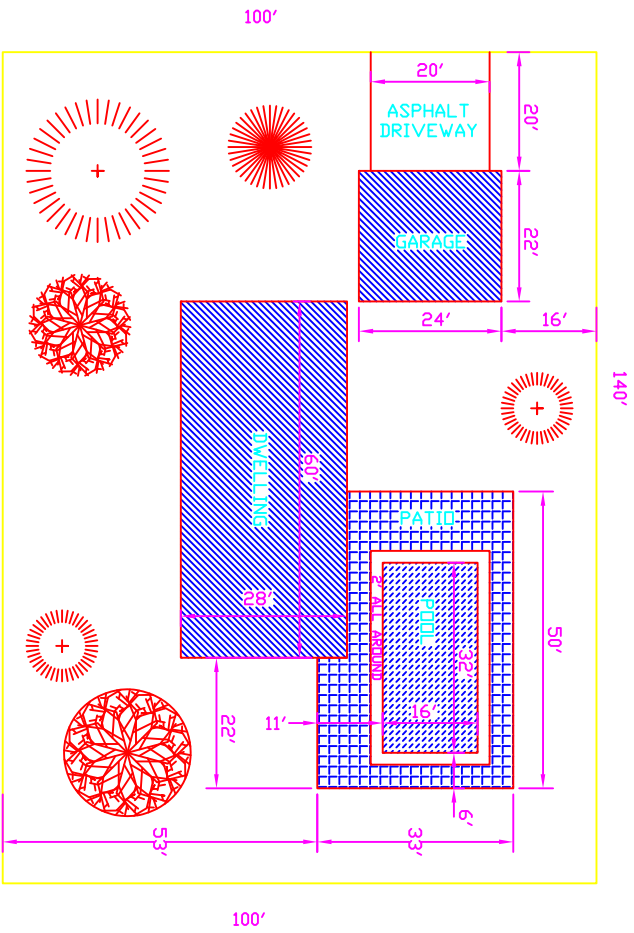
EXAMPLE OF TREES
Draw a pattern in
a circle as shown
and array

Limits = 180' , 120'
Ltscale = 2'
Text Height = 2'
Hatch = U , 45° , 2'
Hatch = Angle , 45° , 8'

DIMVAR SETTINGS

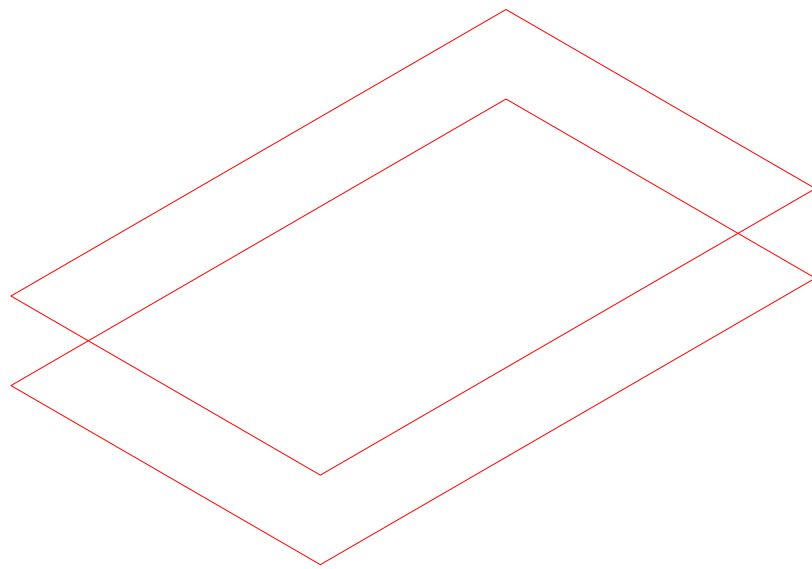
dimasz = 2'
dimtxt = 2'
dimtad = on
dimtih = off

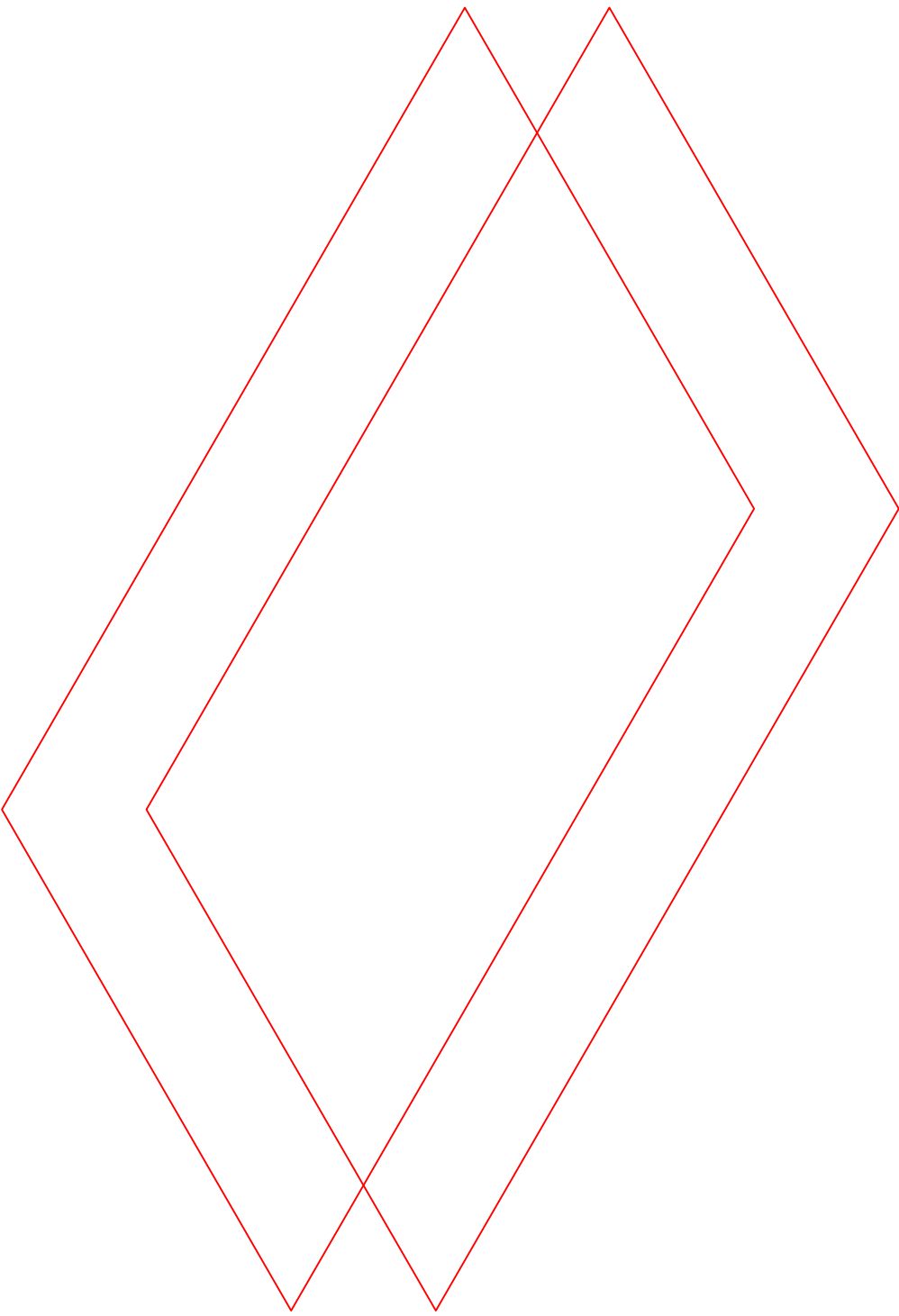
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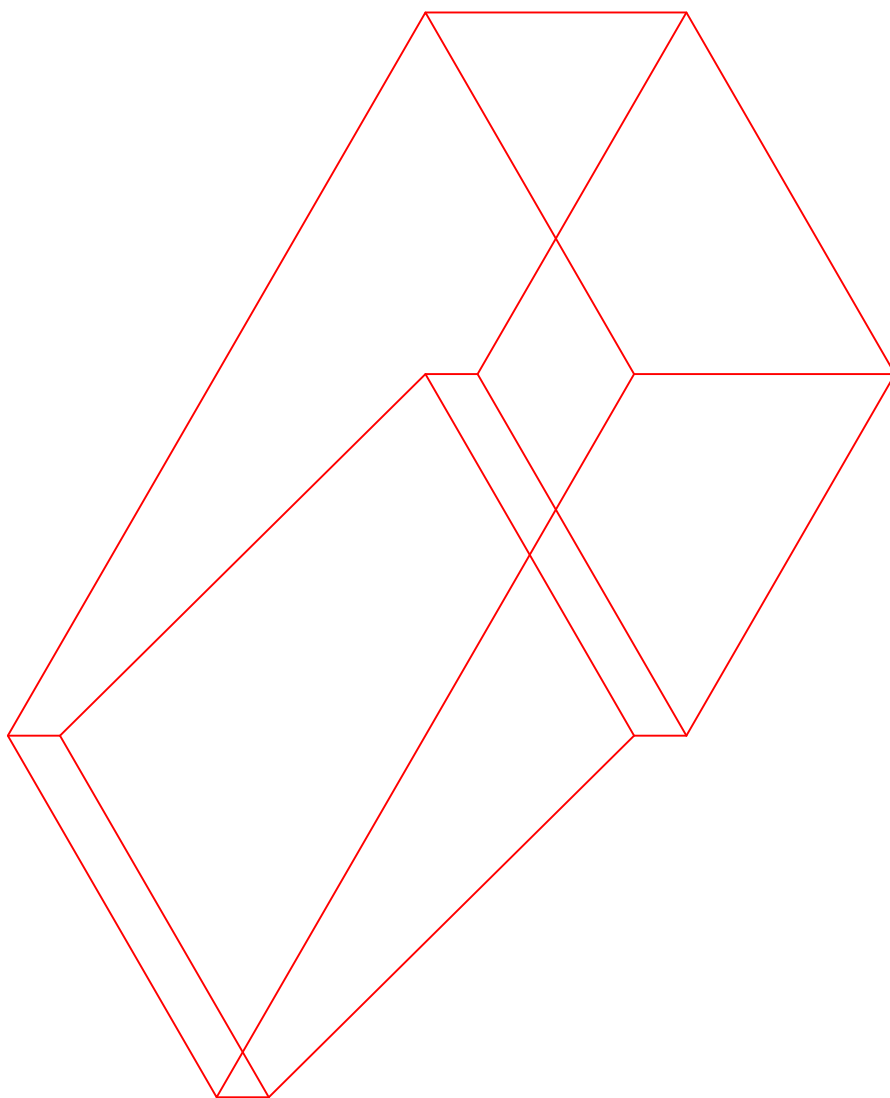


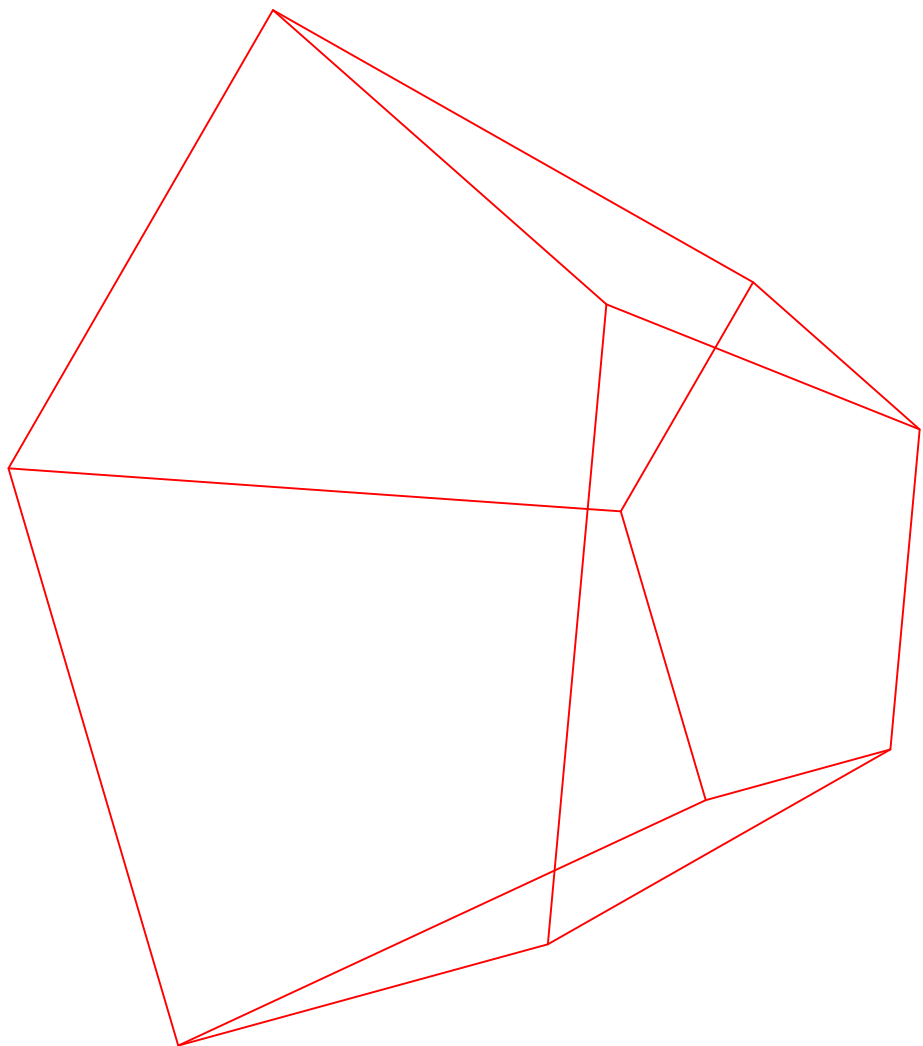
PLOT PLAN

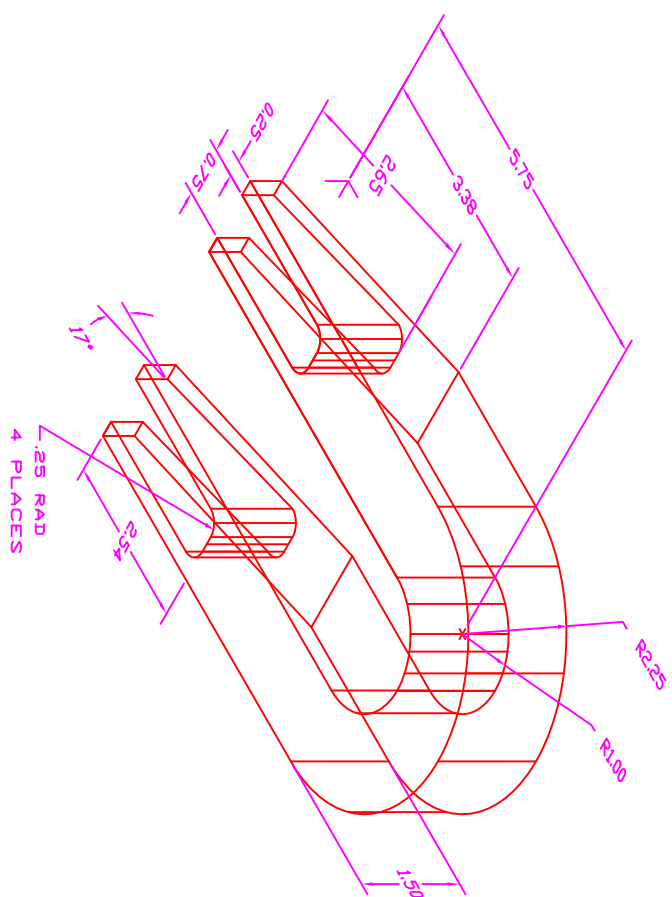
SECTION 9 – Wireframe and Surface Models



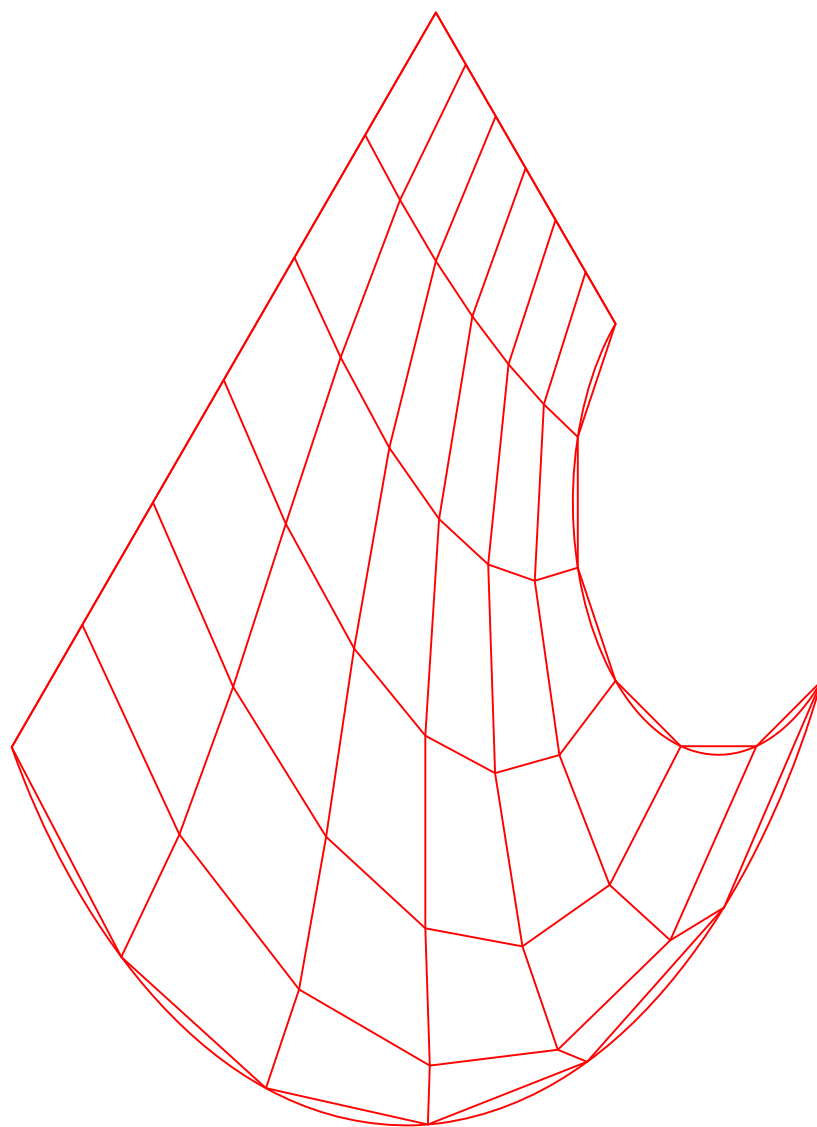


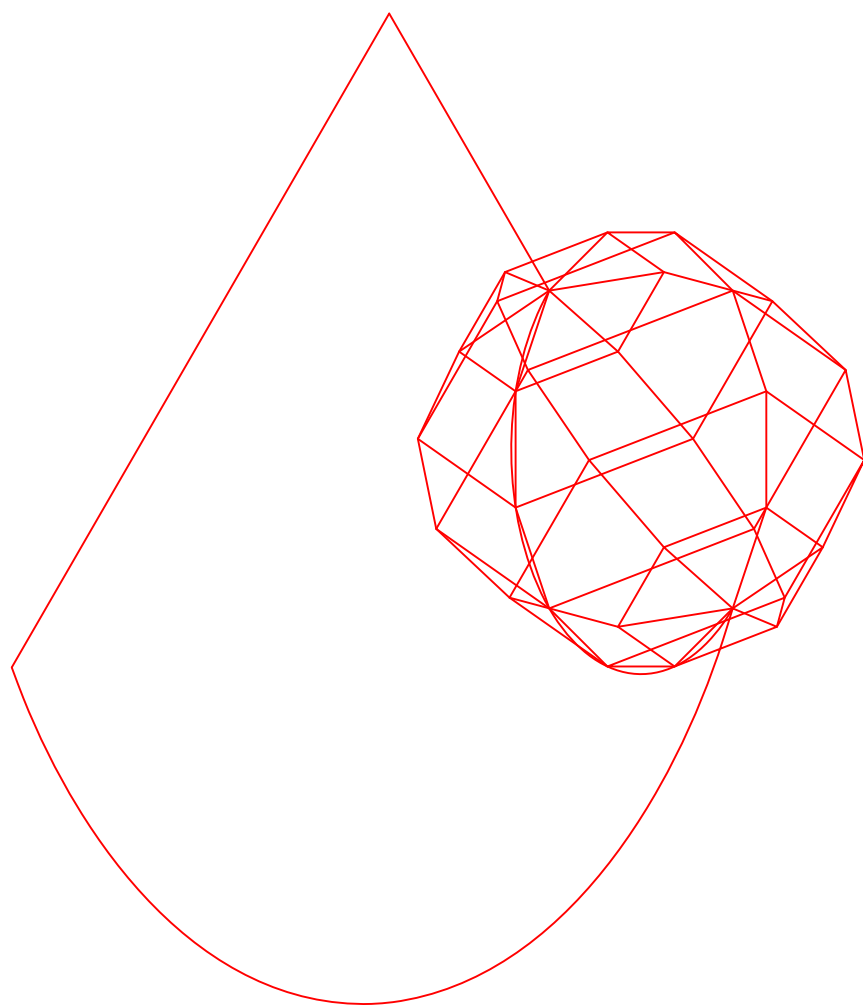


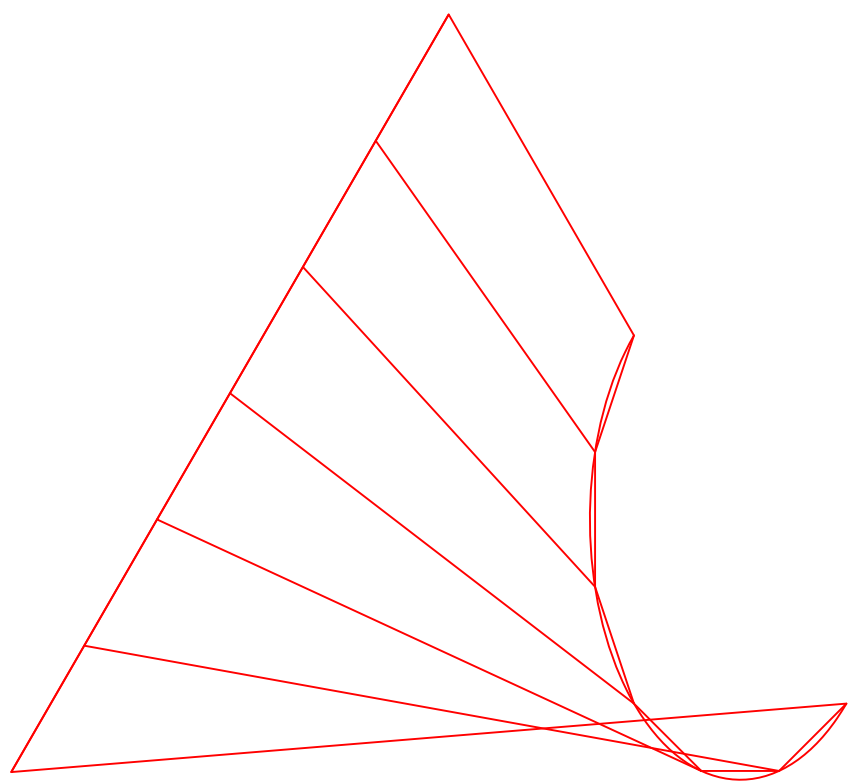


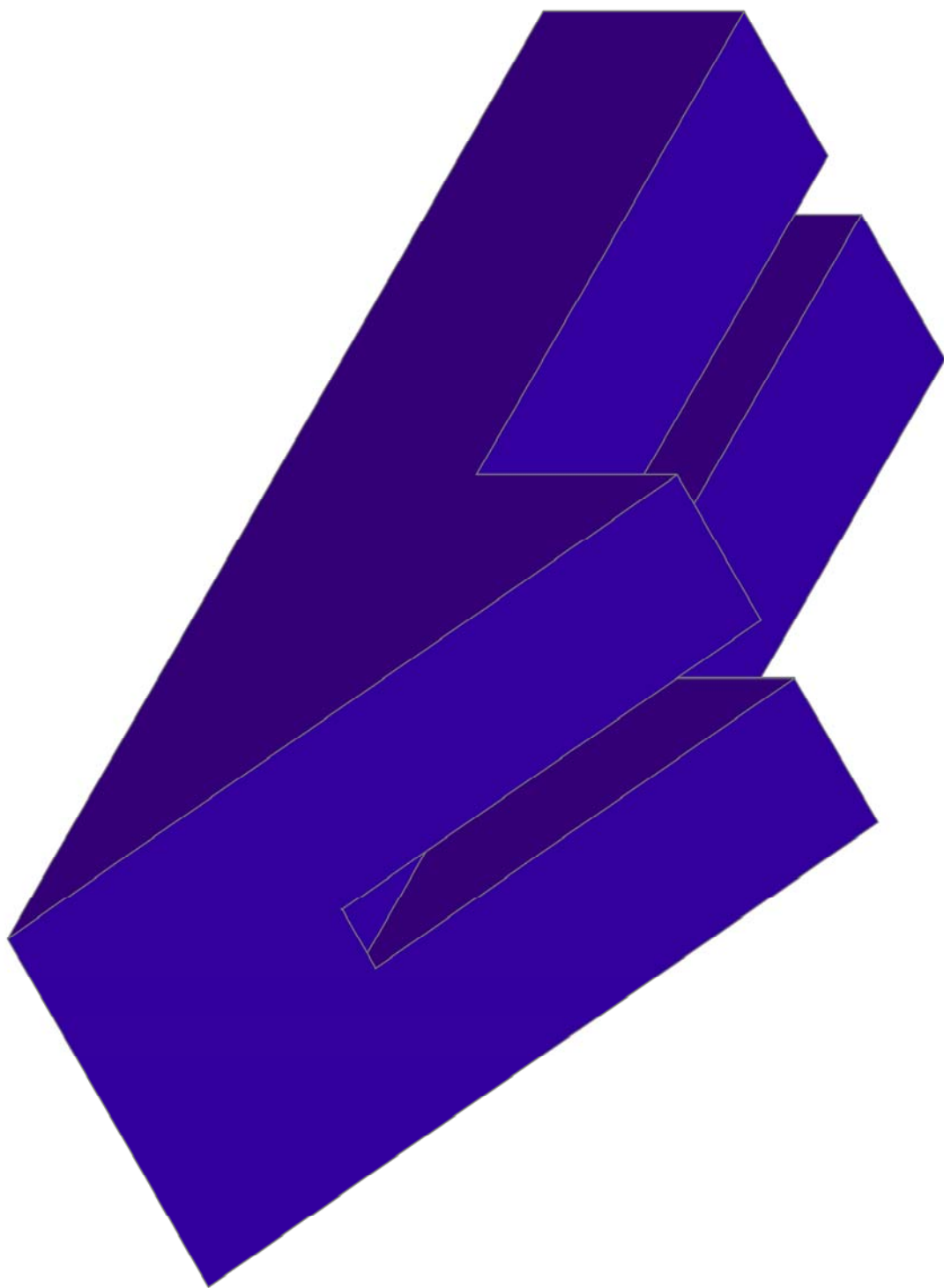


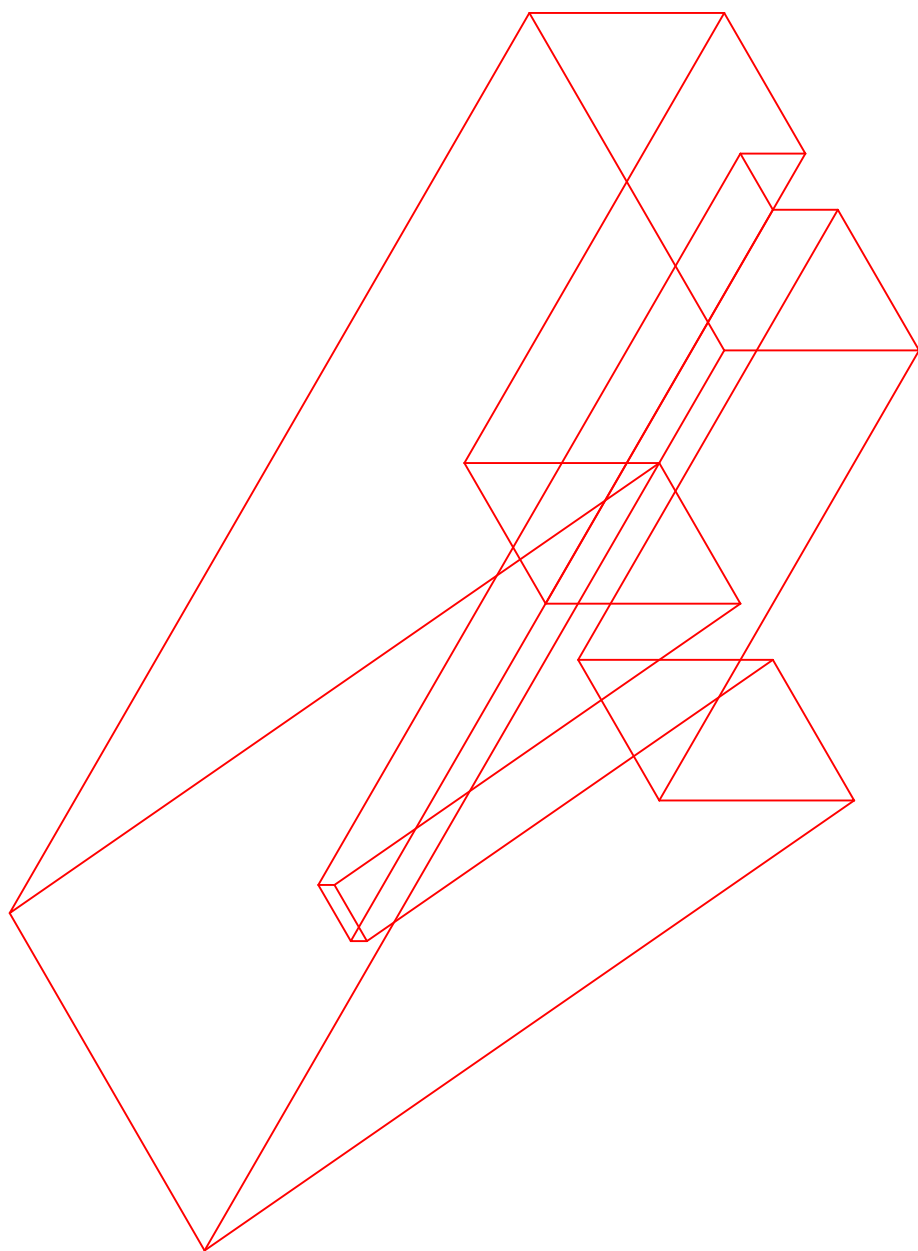
0
1
2
3
4

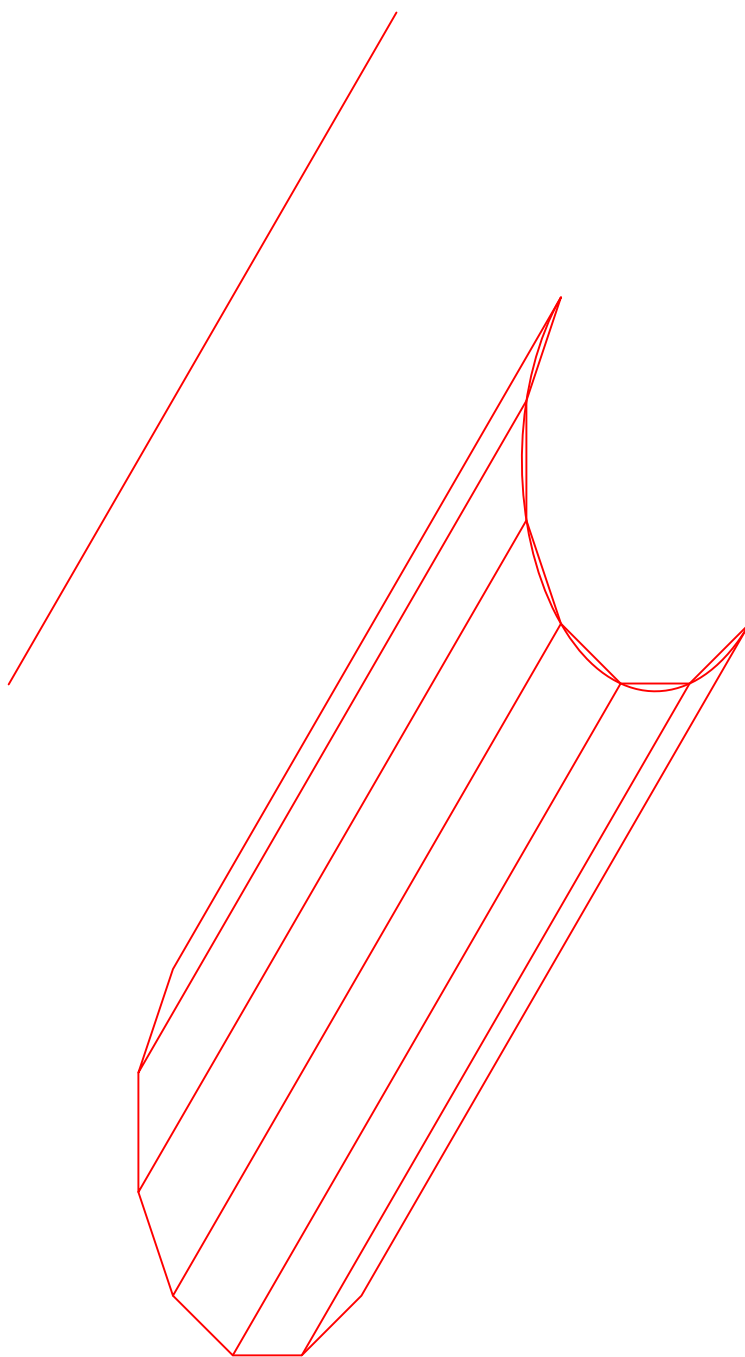




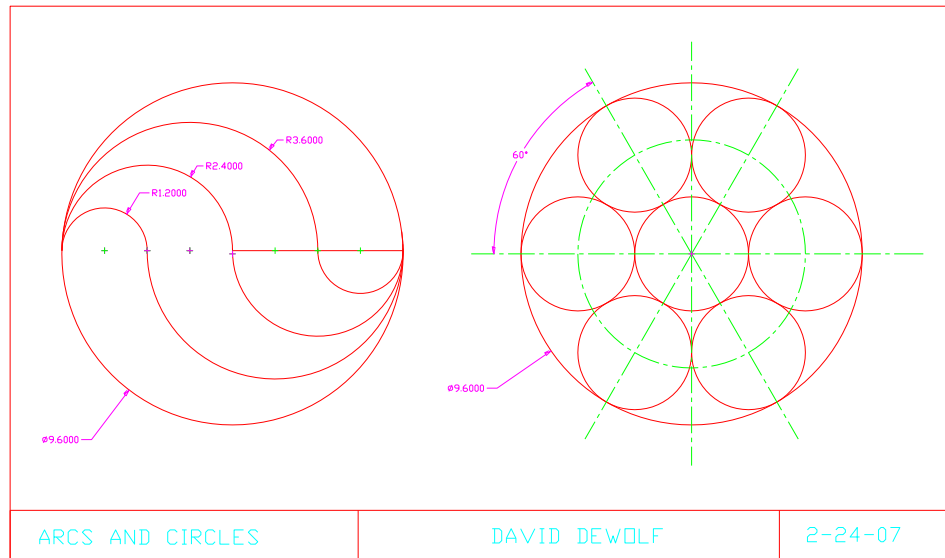


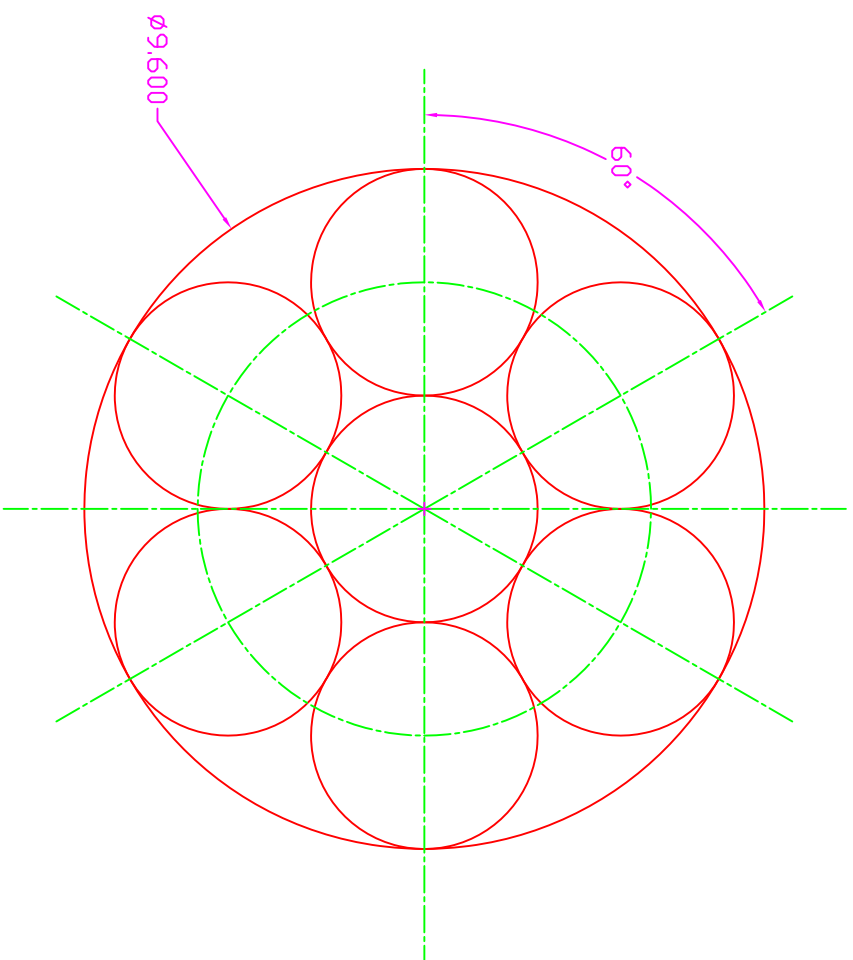
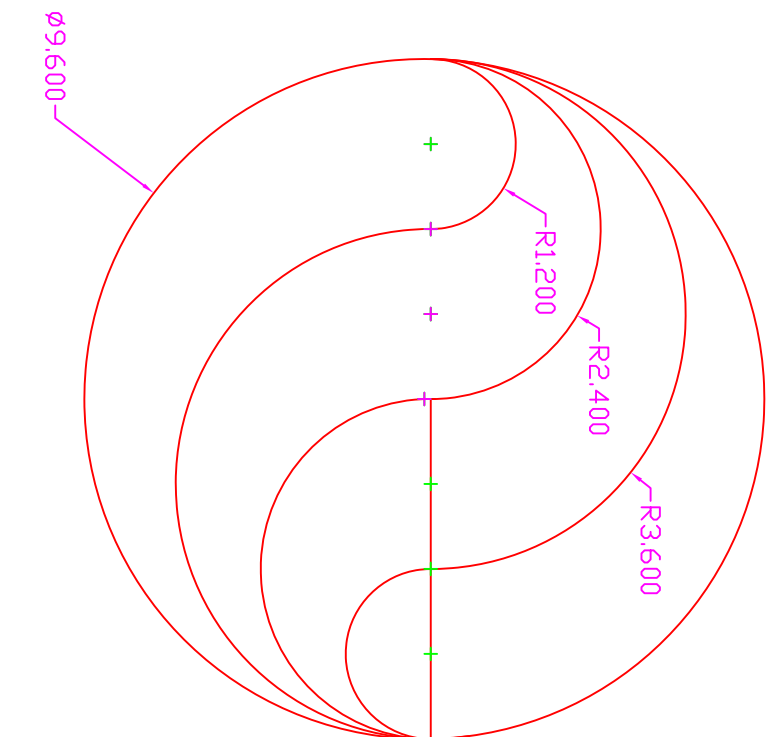






SECTION 10 – Extra Drawings

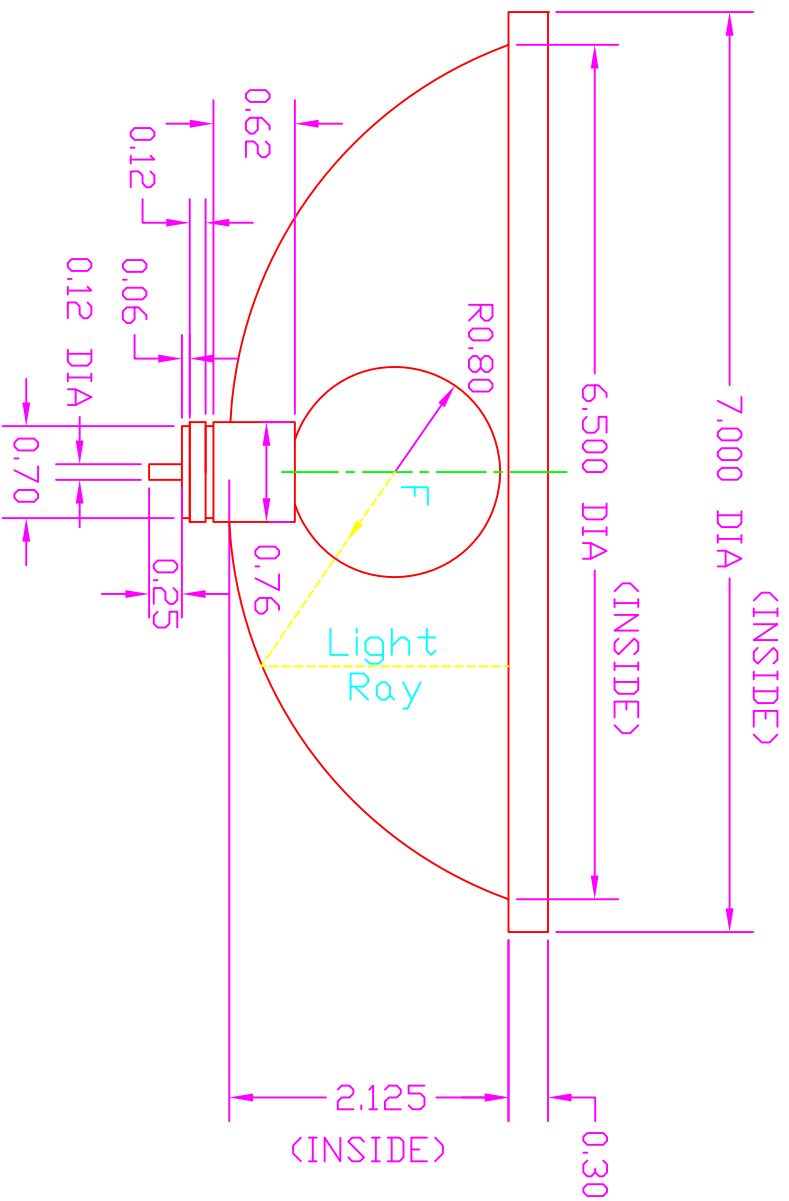




ARCS AND CIRCLES

DAVID DEWOLF

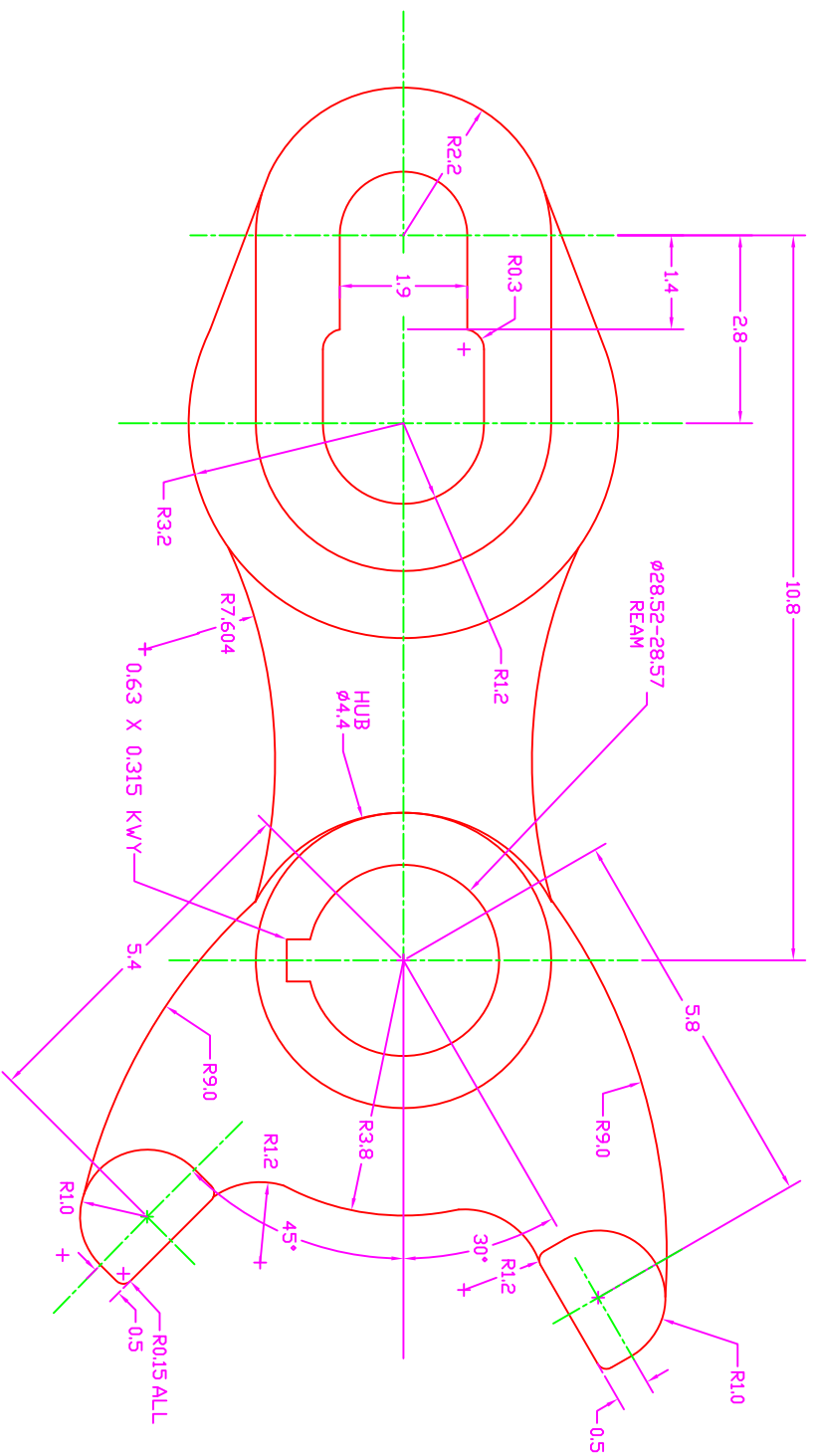
2-24-07



DAVID DEWOLF

AUTO HEADLIGHT REFLECTOR

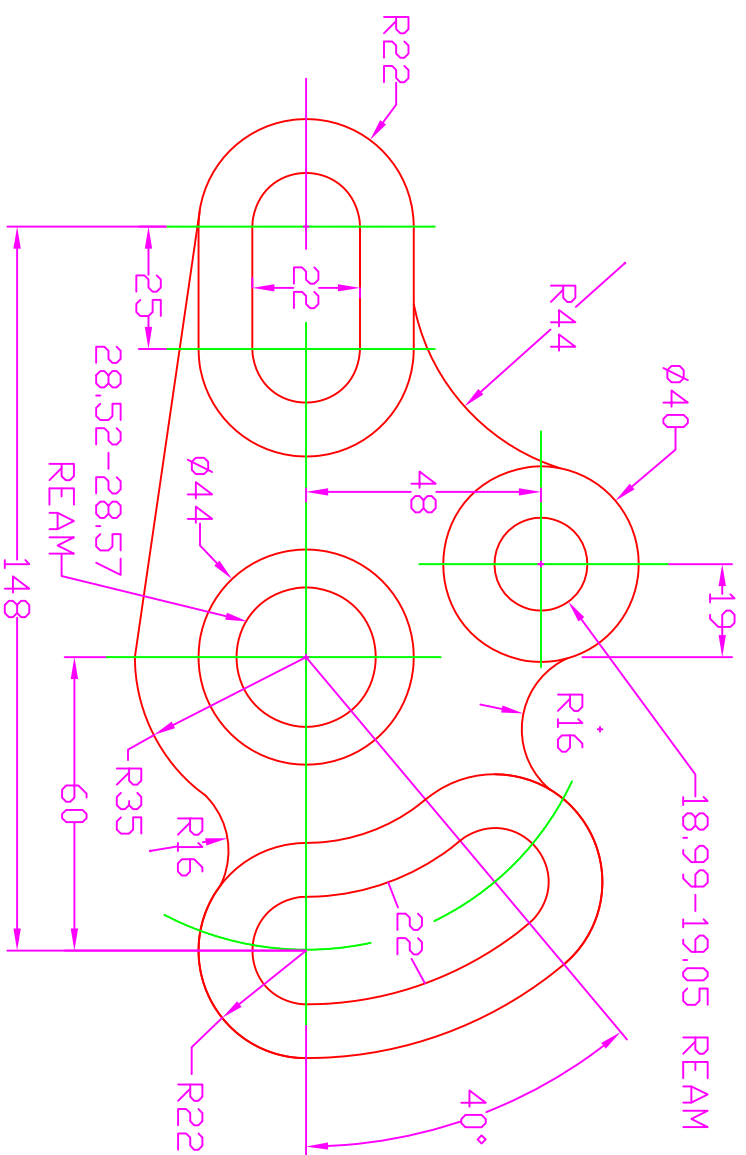
03-12-07



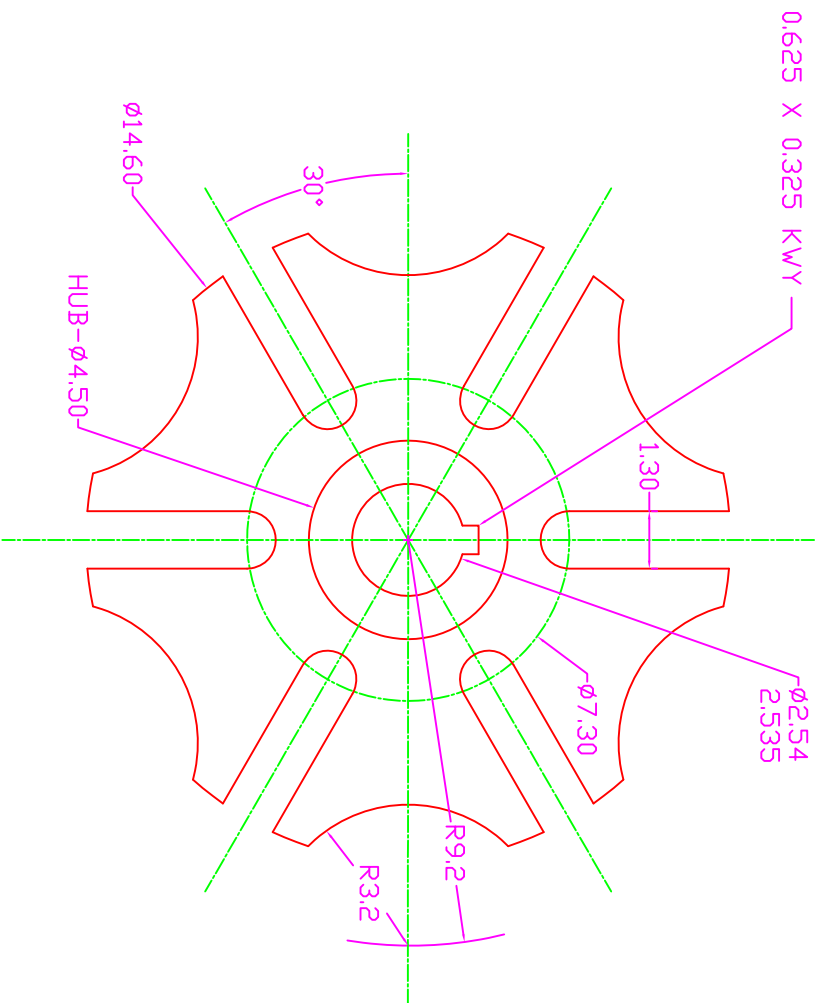
FORM ROLL LEVER

DAVID DEWOLF

2-24-07



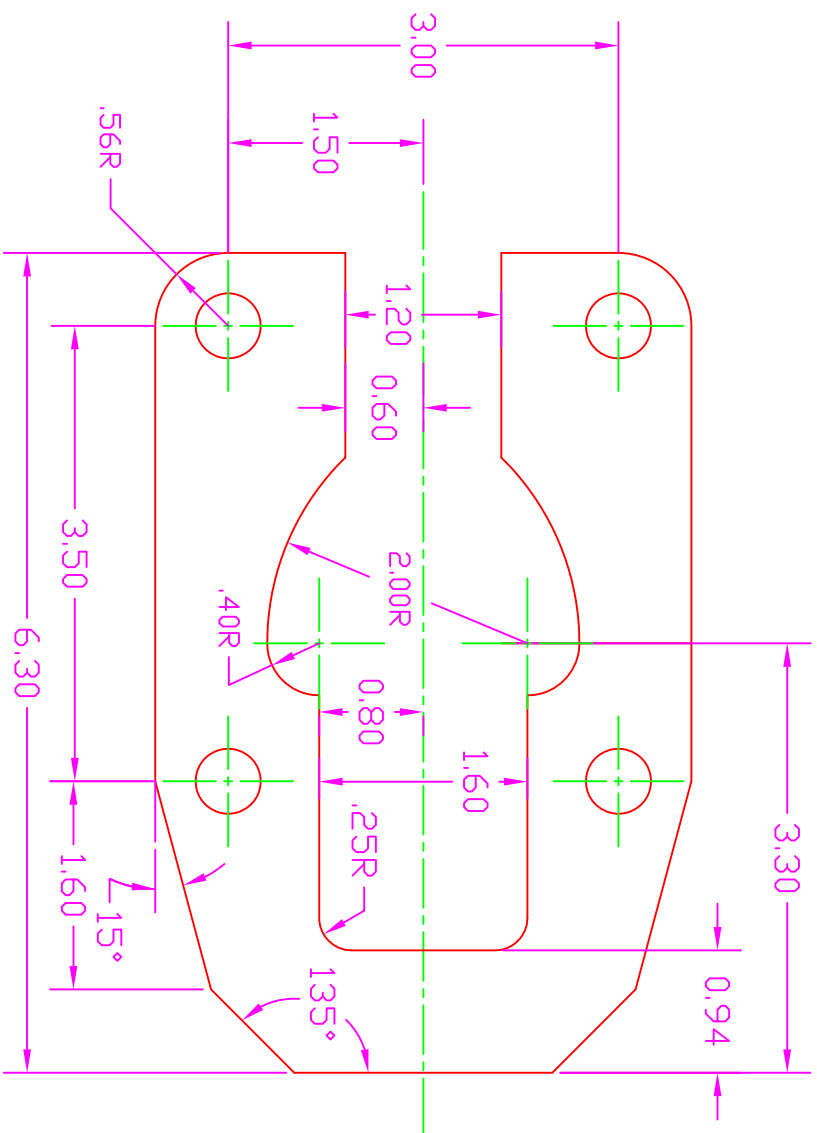
DAVID DEWOLF	GEAR ARM	MARCH 11, 2007
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GENEVA CAM

DAVID DEWOLF

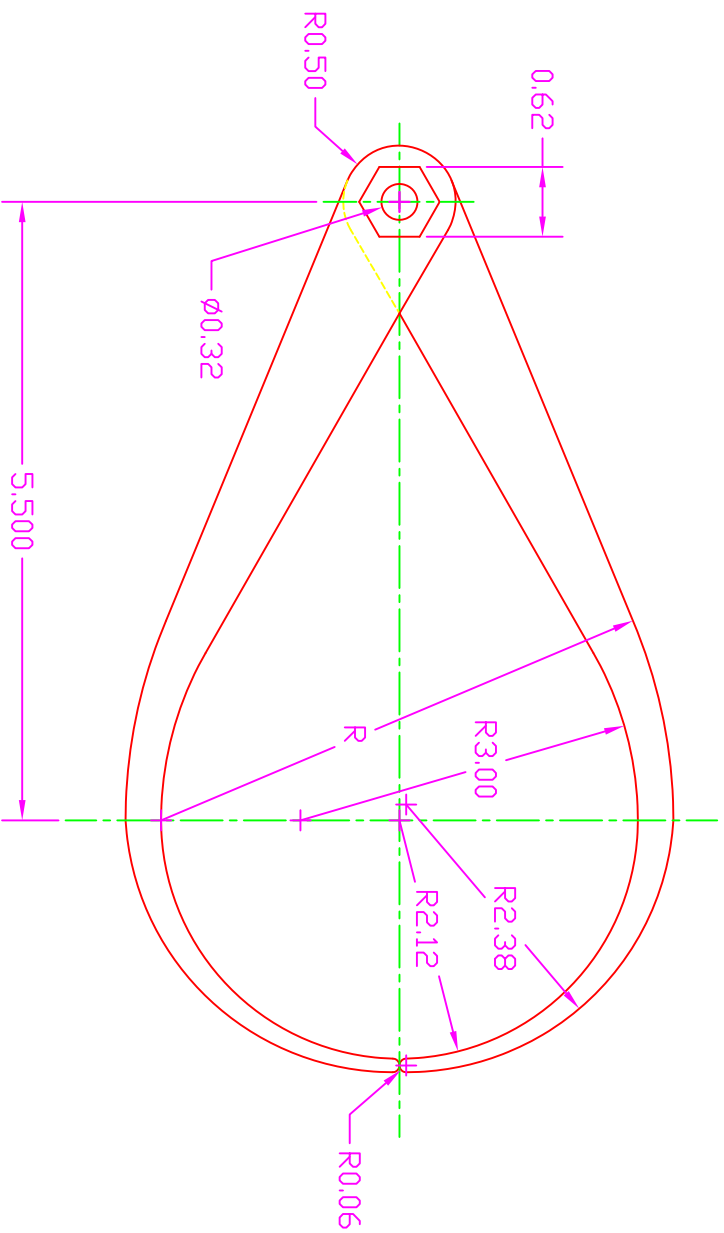
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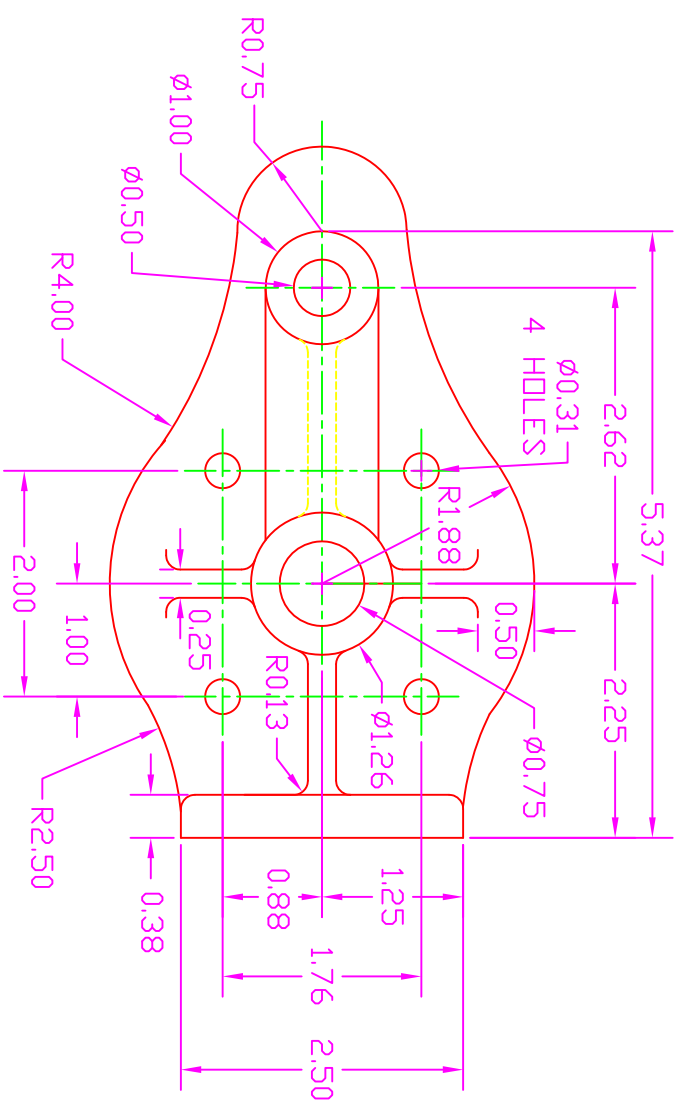
LATCH PLATE

DAVID DEWOLF

2-23-07



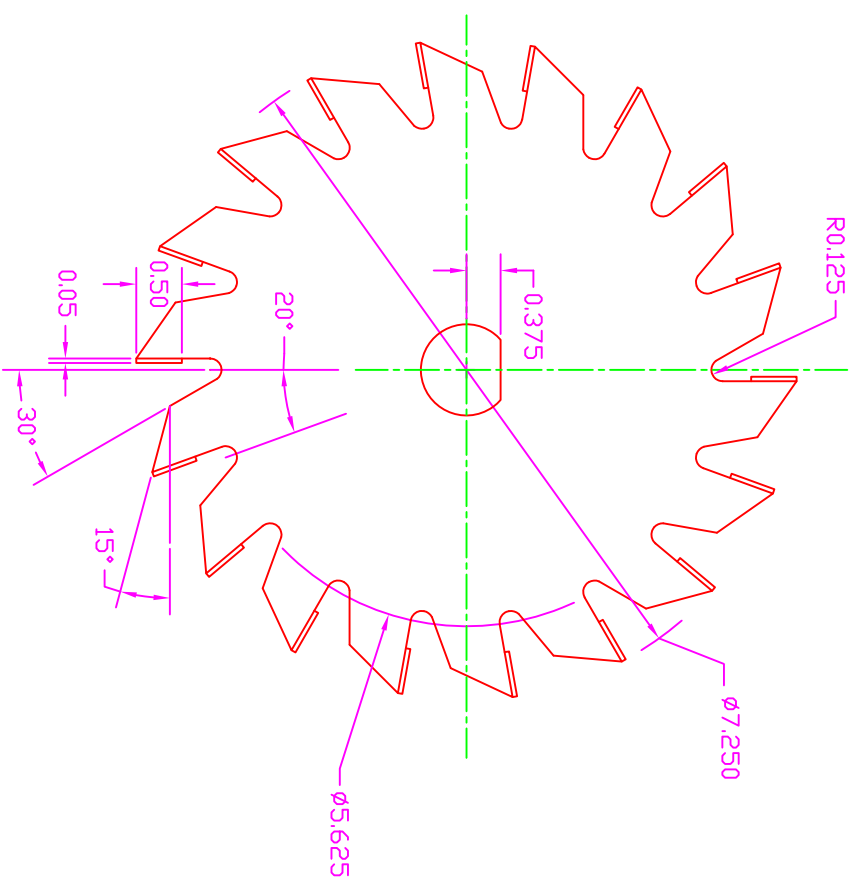
OUTSIDE CALIPER	DAVID DEWOLF	2-24-07
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DAVID DEWOLF

PRESS BASE

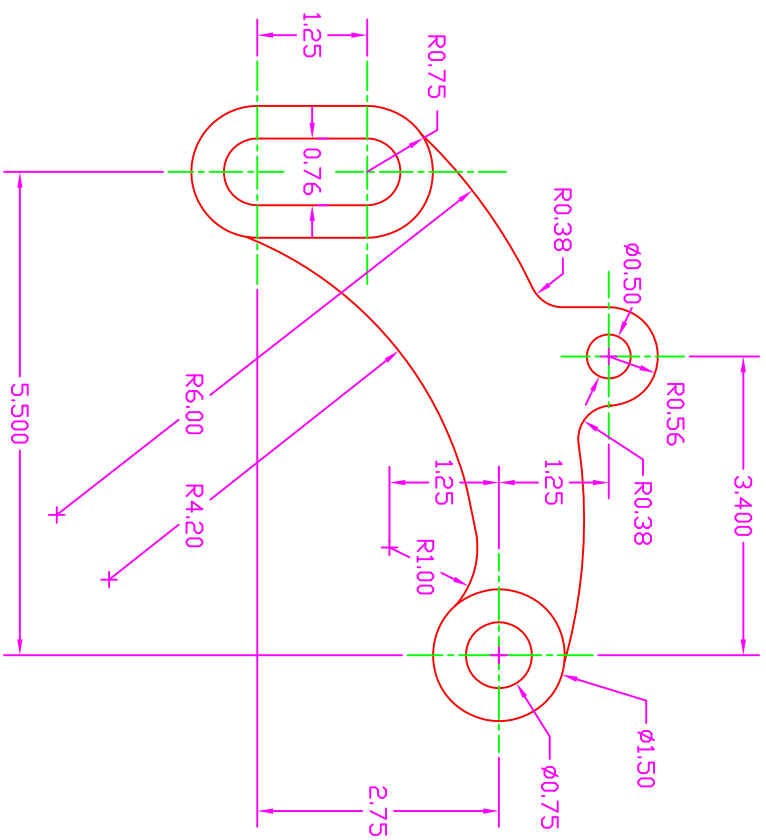
03-12-07



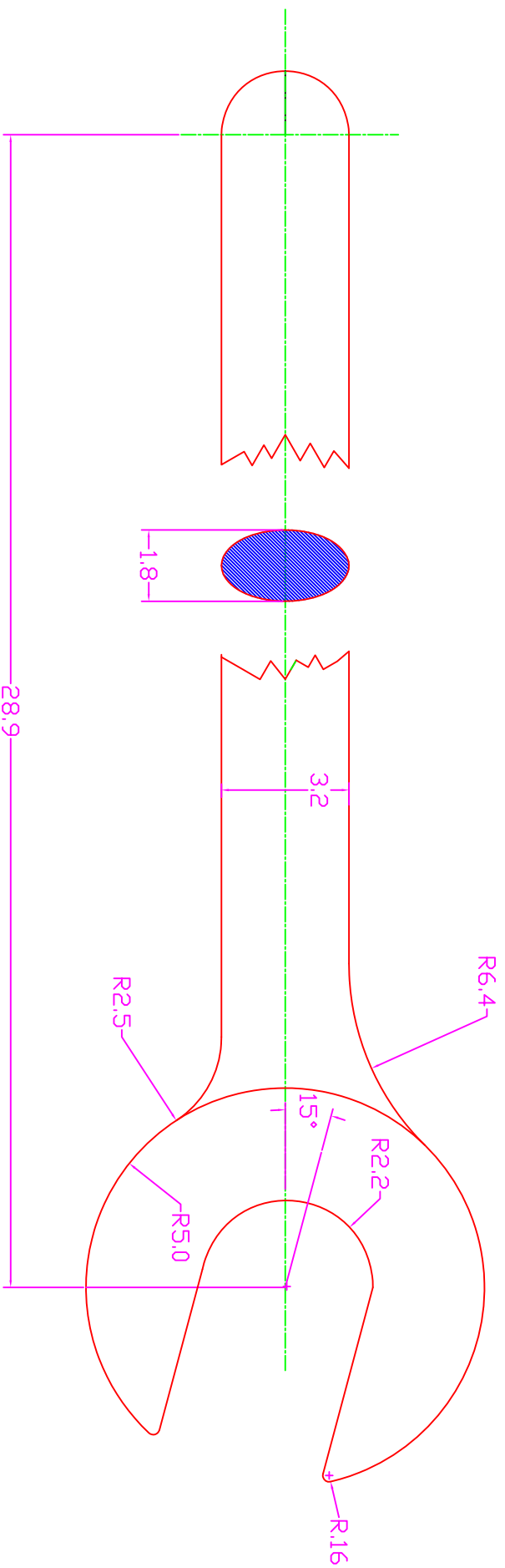
DAVID DEWOLF

SAW BLADE

MARCH 28, 2007



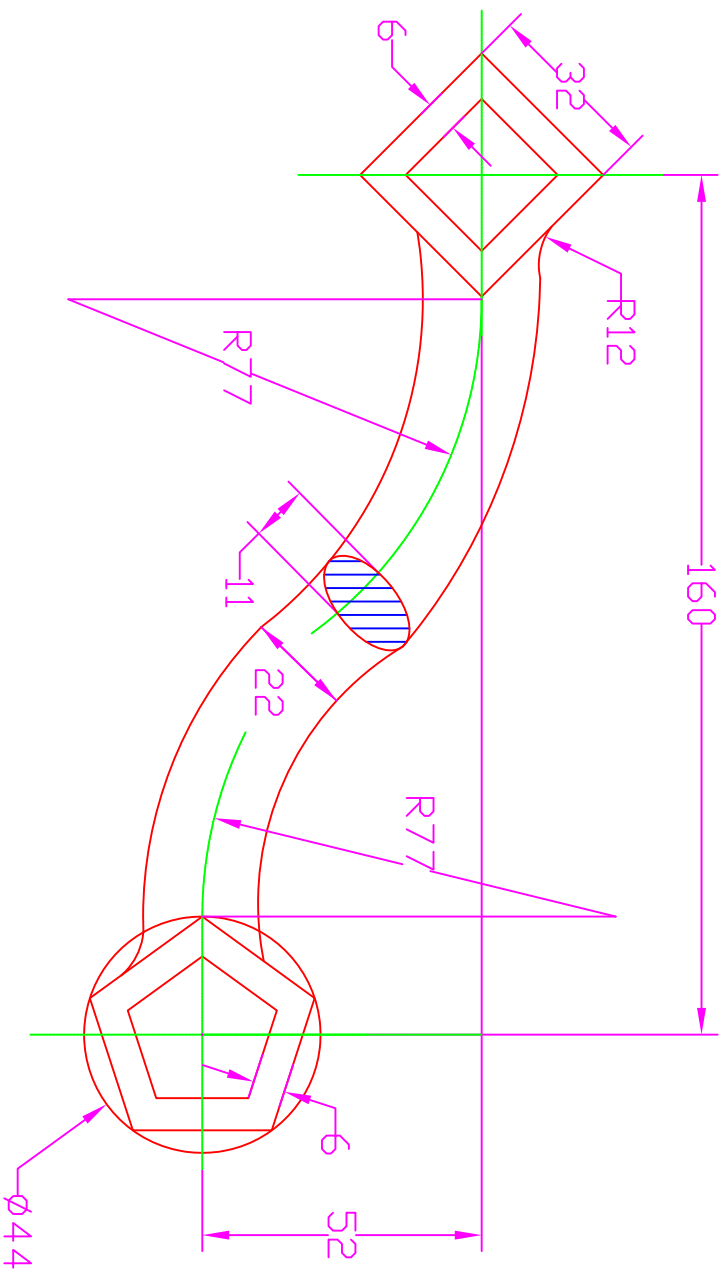
SHIFT LEVER	DAVID DEWOLF	2-24-07
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SPANNER

DAVID DEWOLF

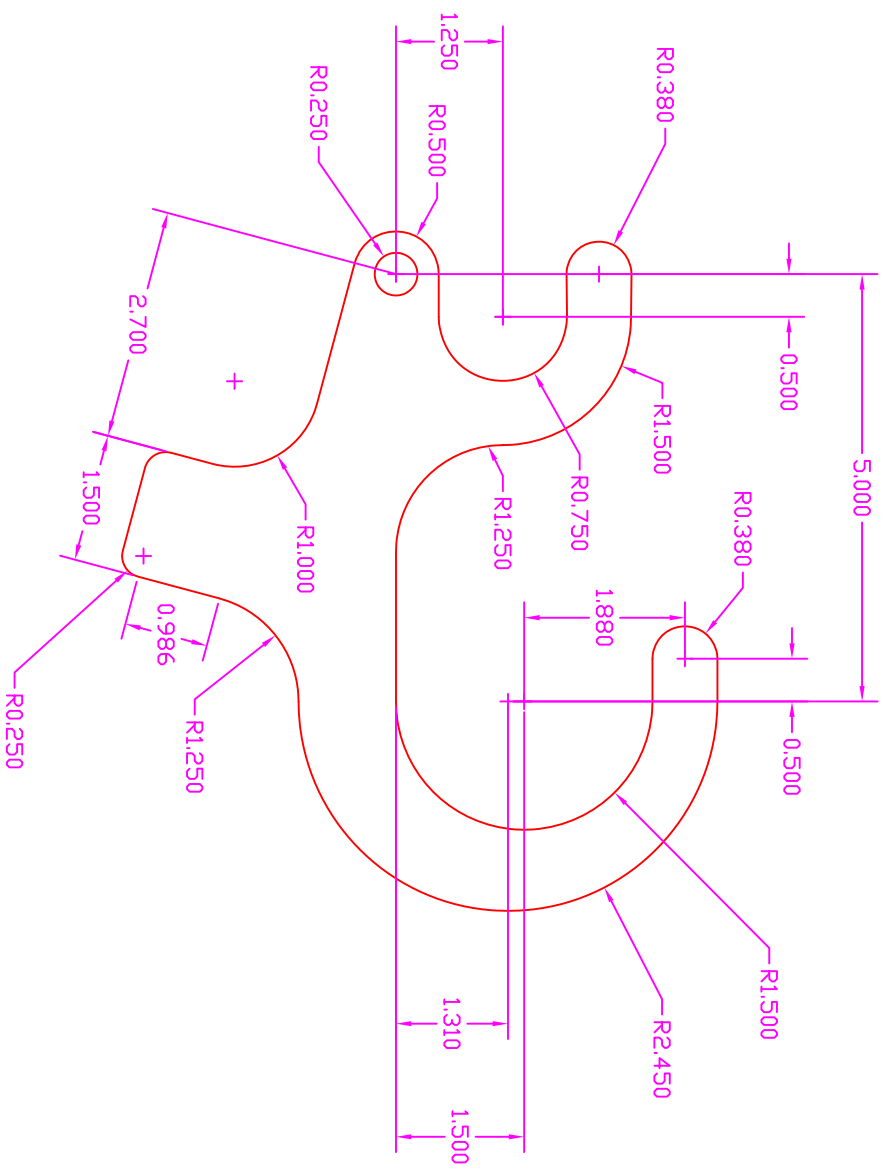
2-24-07



DAVID DEWOLF

SPECIAL S-WRENCH

MARCH 12, 2007

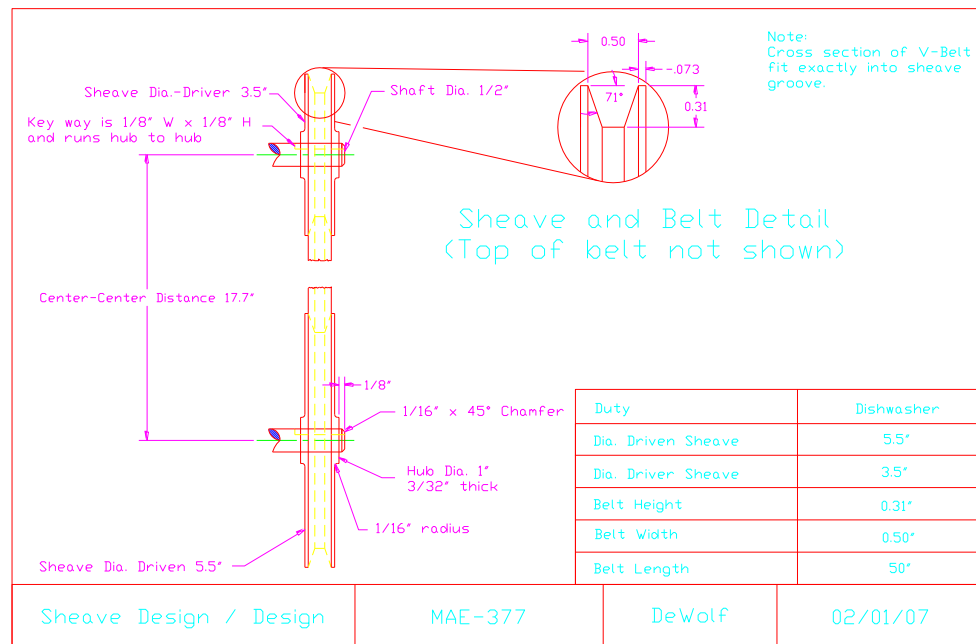


David DeWolf

Hanger

April 17, 2007

SECTION 11 – School Drawings



SPEED	SPROCKET RATID	SPROCKET DIAMETER
20 M.P.H	0.40	3.22"
25 M.P.H	0.32	2.58"
30 M.P.H	0.27	2.15"
35 M.P.H	0.23	1.84"
40 M.P.H	0.20	1.61"

- #1 (40 M.P.H.) 1.61"

#2 (35 M.P.H.) 1.84"

#3 (30 M.P.H.) 2.15"

#4 (25 M.P.H.) 2.58"

#5 (20 M.P.H.) 3.22"

CALCULATIONS

BASE SPEED

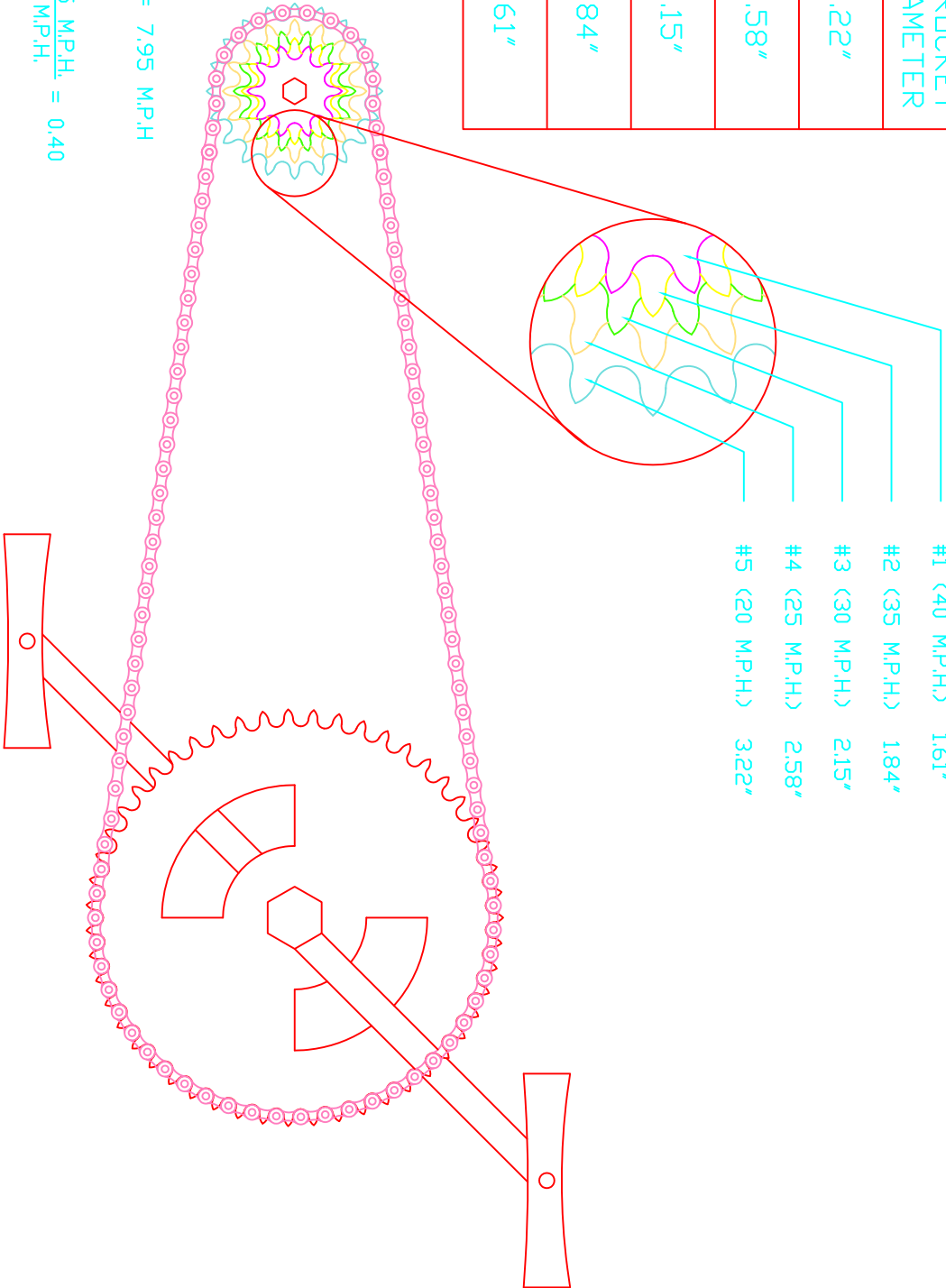
$$= \frac{26.2 \times 102 \times 60 \times \pi}{12 \times 5200} = 7.95 \text{ M.P.H}$$

SPROCKET RATID (20 M.P.H.)

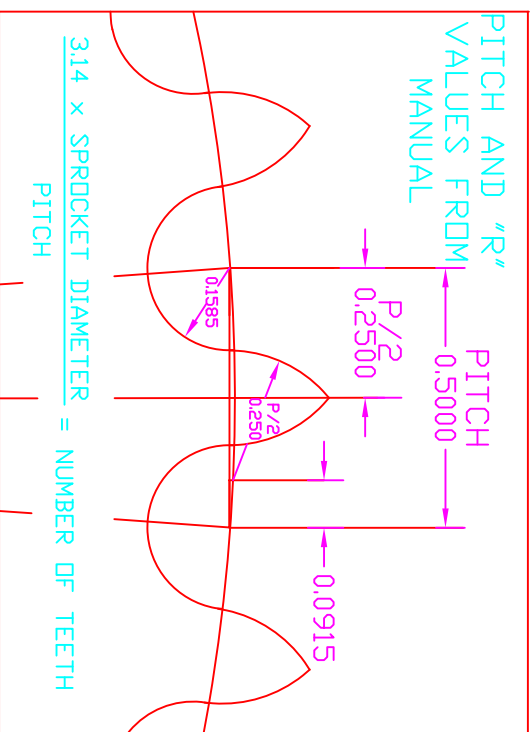
$$= \frac{7.95 \text{ M.P.H.}}{20 \text{ M.P.H.}} = 0.40$$

SPROCKET DIAMETER (20 M.P.H.)

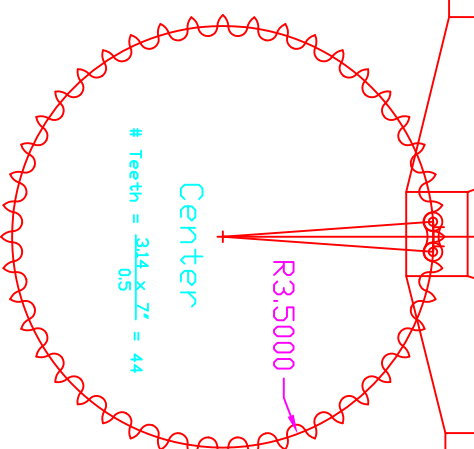
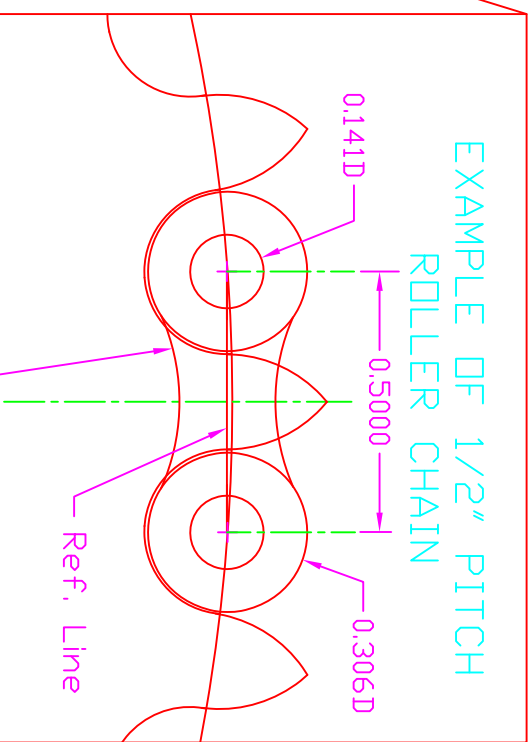
$$= 0.40 \times 8.1' = 3.22'$$



Sprocket Tooth



Pitch Based on 1/2" Roller Chain



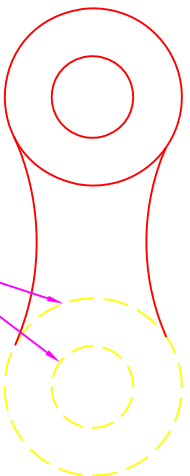
Reference lines may be superimposed when drawing the chain link around the sprocket.

Modified Sprocket and Chain Link Details

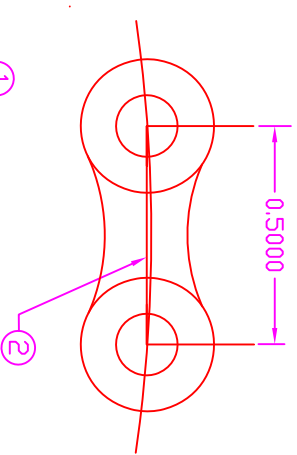
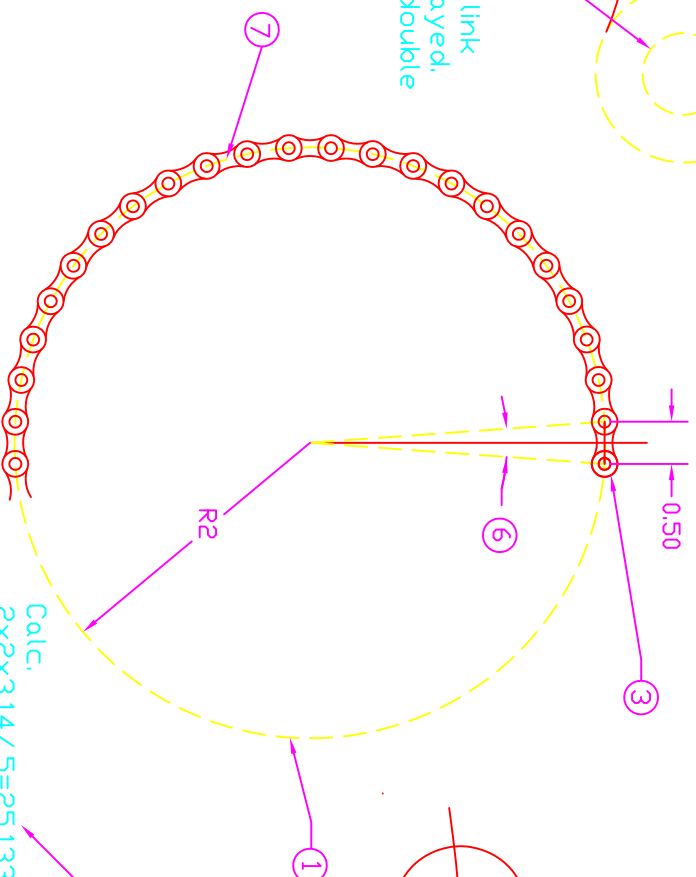
MAE-377

Revised 01/07

DeWolf



Note: Entire chain link should not be arrayed. Omit second pine (double circle).



Method One:

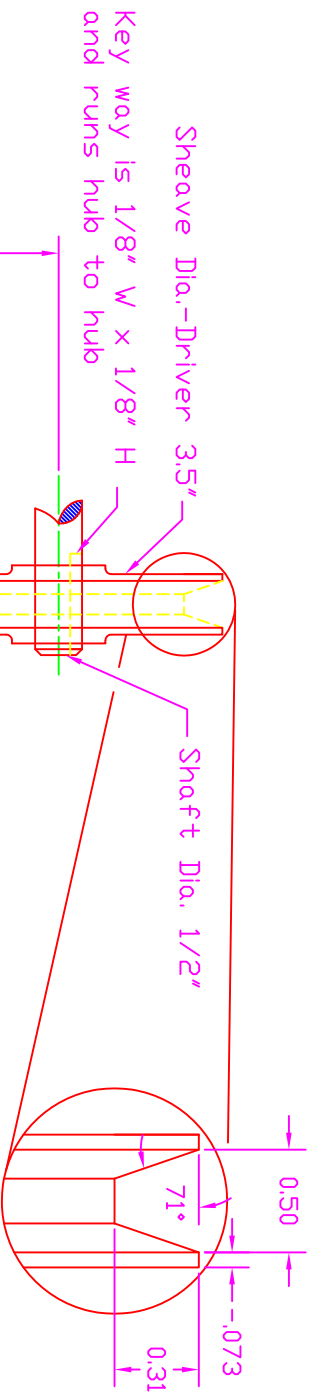
- 1) draw base circle
- 2) locate 1/2" reference line as shown
- 3) draw pin using the horizontal pitch line
- 4) calculate number of links per circumference
- 5) calculate number of links per 180 degrees (use as number of items to be copied)
- 6) determine delta angle (use measure) from vertex of circle to both center points of pins. (use as delta angle)
- 7) group of (fence) chain link and array the chain

Method Two:

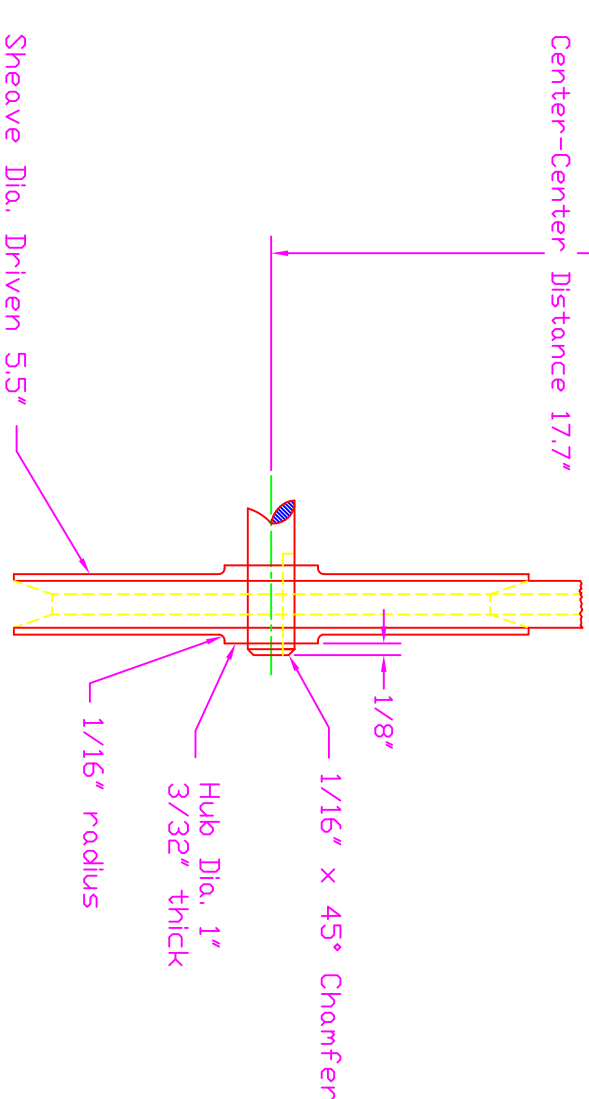
- a) Create a "block" of the chain link.
- b) Draw portion of base circle representing the desired chain array path.
- c) Use the "measure" command on the base circle segment inserting block name and segment length.

Calc.
 $2 \times 2 \times 3.14 / .5 = 25.133$
 $25.133 / 2 = 12.66$ or 13 chain links per 180°

Chain Link Array Methods	MAE-377	Revised 01/07	DeWolf
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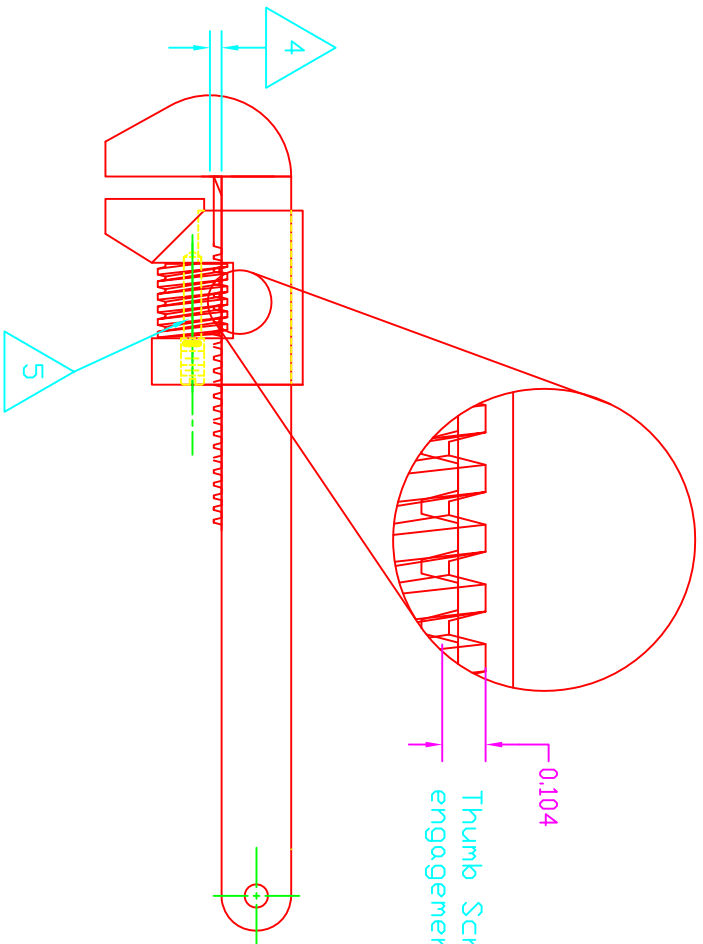
Sheave and Belt Detail (Top of belt not shown)



Note:
Cross section of V-Belt
fit exactly into sheave
groove.

Duty	Dishwasher
Dia. Driven Sheave	5.5"
Dia. Driver Sheave	3.5"
Belt Height	0.31"
Belt Width	0.50"
Belt Length	50"

Sheave Design / Design	MAE-377	DeWolf	02/01/07
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Thumb Screw Overlaps the 50% engagement requirement by 0.104

REVISION LIST

DRAFTING ERRORS

1 Movable jaw slider hole interferes with pin hole. Original shows no interference of the two.

2 These two lines don't line up as they do in original drawing.

DIMENSIONAL ERRORS

3 To Satisfy 50% engagement, change this dimension from 1 7/8 to 1.729

4 To satisfy a 3/8 R , it should be moved down 1/4 in the original drawing

PROPER FITTINGS

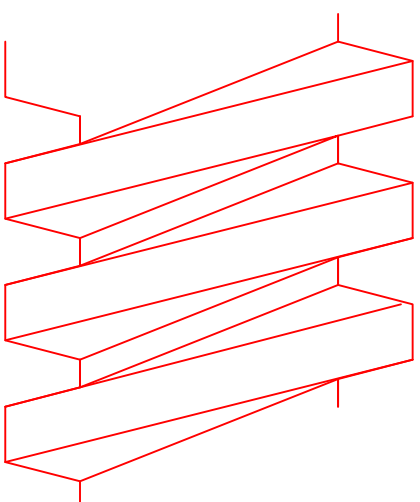
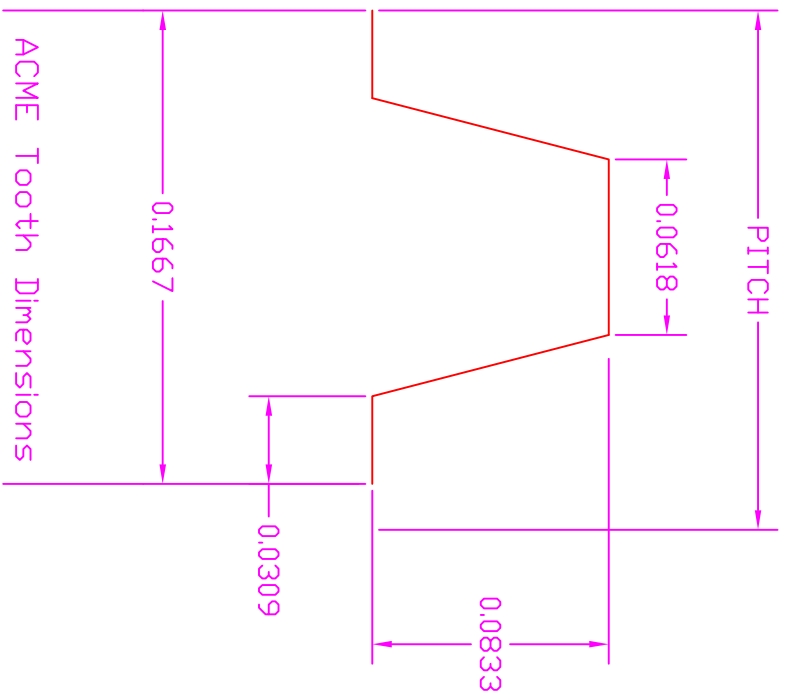
5 RC-3; Shaft (.1871/.1868)
Hole (.1880/.1875)

6 LN-3; (.1867/.1863)

DAVID DEWOLF

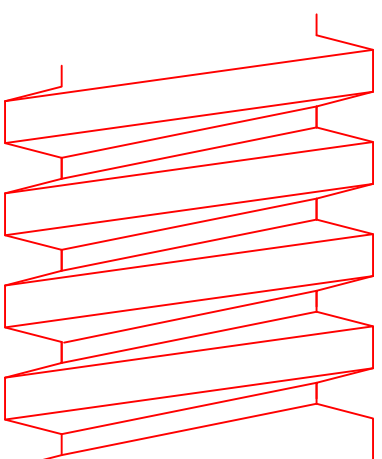
MONKEY WRENCH

MAE 377



1 Pitch Offset

Double Thread Design



1/2 Pitch Offset

Single Thread Design

Modified ACME Thread Dimensions / Thread Design

MAE-377

Revised 01/07

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