

E	ROCKLER SIGN CLAMPS
D	CUTTER ASSY
C	MODULE (Z-AXIS) ASSY
B	GANTRY (Y-AXIS) ASSY
A	FOUNDATION (X-AXIS) ASSY
ITEM NO.	DESCRIPTION

	NAME	DATE	TITLE: CNC ASSY	
DRAWN	V. ESPINOSA	2/9/2015		
CHECKED				
ENG APPR.				
MFG APPR.				
Q.A.			SIZE B	
COMMENTS:				
			DWG. NO.	REV 3
SCALE: 1:6		WEIGHT:	SHEET 1 OF 22	

EXPLODED VIEW

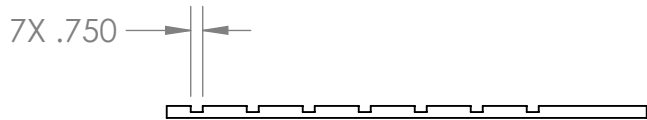
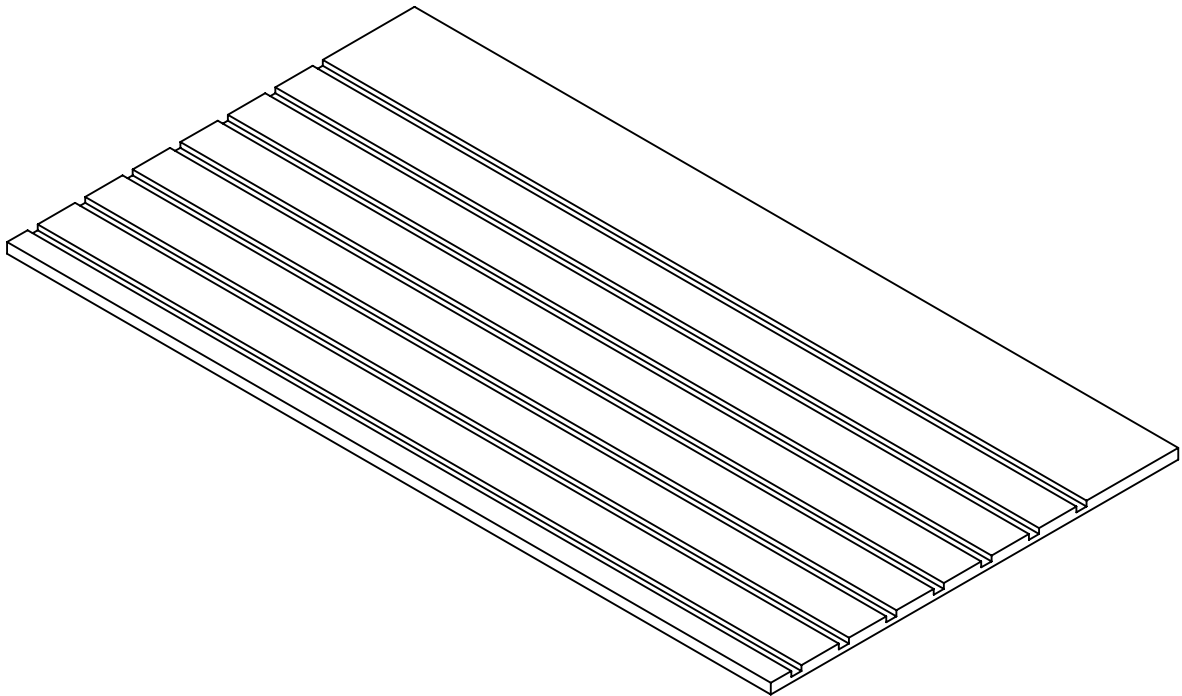
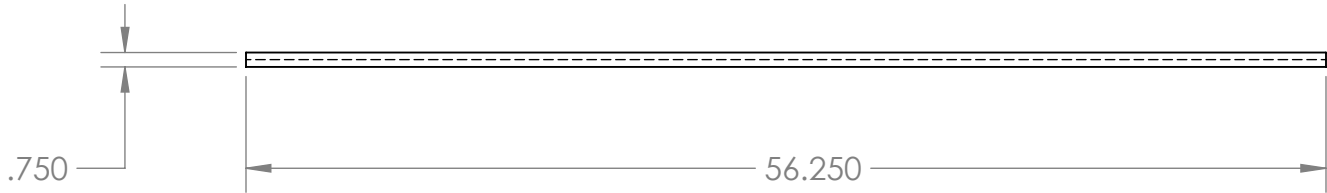
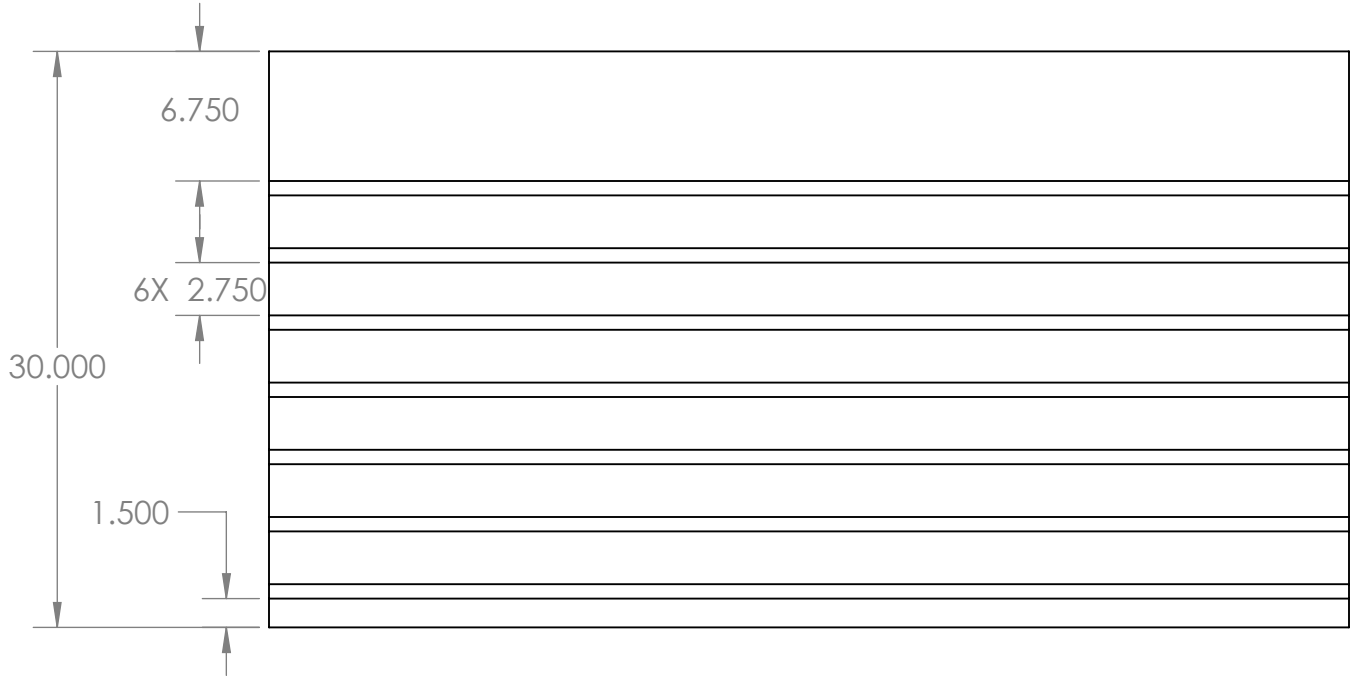
31	4	47065T182	SIDE T-SLOTTED EXTRUSION TEE BRACKET
30	1	460010	ELECTRONICS IMPACT CASE
29	2	1635A24	ELECTRONICS IMPACT COVER HINGE
28	1	6741K410	EMO SWITCH
27	1	460009	ELECTRONICS HOUSING
26	2	47065T11	STRUT T-SLOTTED EXTRUSION, 28.5 L, TAPPED ENDS
25	2	9687T32	SHAFT COLLAR, 1/2" ID D-PROFILE
24	1	2938T2	BRONZE FLANGE BUSHING, SAE 863, 1/4" ID, 3/8" L
23	1	H5-32-NE-S	US DIGITAL INCREMENTAL SHAFT ENCODER
22	2	2500T122	ROLLER CHAIN SPROCKET, 1/2" ID
21	1	7332K110	ROLLER CHAIN PRING TENSIONER
20	3	6261K294	ROLLER CHAIN #35, 4' LOOP
19	4	92320A917	DC GEARMOTOR SPACER
18	1	460008	DC GEARMOTOR MOUNTING PLATE
17	3	2938T13	BRONZE FLANGE BUSHING, SAE 863, 1/2" ID, 3/8" L
16	2	9861T826	HELICAL FLEXIBLE SHAFT COUPLING
15	1	61422	DRIVEN LEAD SCREW, 1/2" - .125 ACME, 57.25 L
14	4	47065T202	FOUNDATION MOUNTING FEET
13	8	47065T175	SIDE T-SLOTTED EXTRUSION BRACKET
12	2	47065T122	SIDE T-SLOTTED EXTRUSION, 55.75 L, TAPPED ENDS
11	1	460007	SUPPORT WORK SURFACE
10	1	GM9236S014	PITTMAN DC GEARMOTOR, 2" FRAME SIZE
9	7	20054	UNIVERSAL T-TRACK, 48 L
8	1	460006	TOP HARD STOP, MAPLE, 5/8" X 3/4" X 53.5 L
7	1	460005	LEFT HARD STOP, MAPLE, 5/8" X 3/4" X 27.5 L
6	1	460004	RIGHT PANEL
5	1	61422	DRIVING LEAD SCREW, 1/2" - .125 ACME, 56.25 L
4	2	6061K65	GUIDE ROD, X-AXIS, 1" OD, 58" L
3	1	460003	LEFT PANEL
2	2	460002	SIDE ANGLE BAR
1	1	460001	SLOTTED WORK SURFACE
ITEM NO.	QTY.	PART NO.	DESCRIPTION

Exploded view diagram of the Foundation (X-axis) Assy. The diagram shows various components numbered 1 through 31, including extrusions, brackets, gears, and structural members, arranged in an exploded perspective view.

	NAME	DATE	TITLE: FOUNDATION (X-AXIS) ASSY		
DRAWN	V. ESPINOSA	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.					
COMMENTS:			SIZE B	DWG. NO.	REV 3
			SCALE: 1:12		SHEET 2 OF 22

NOTES:

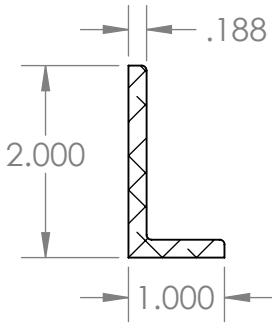
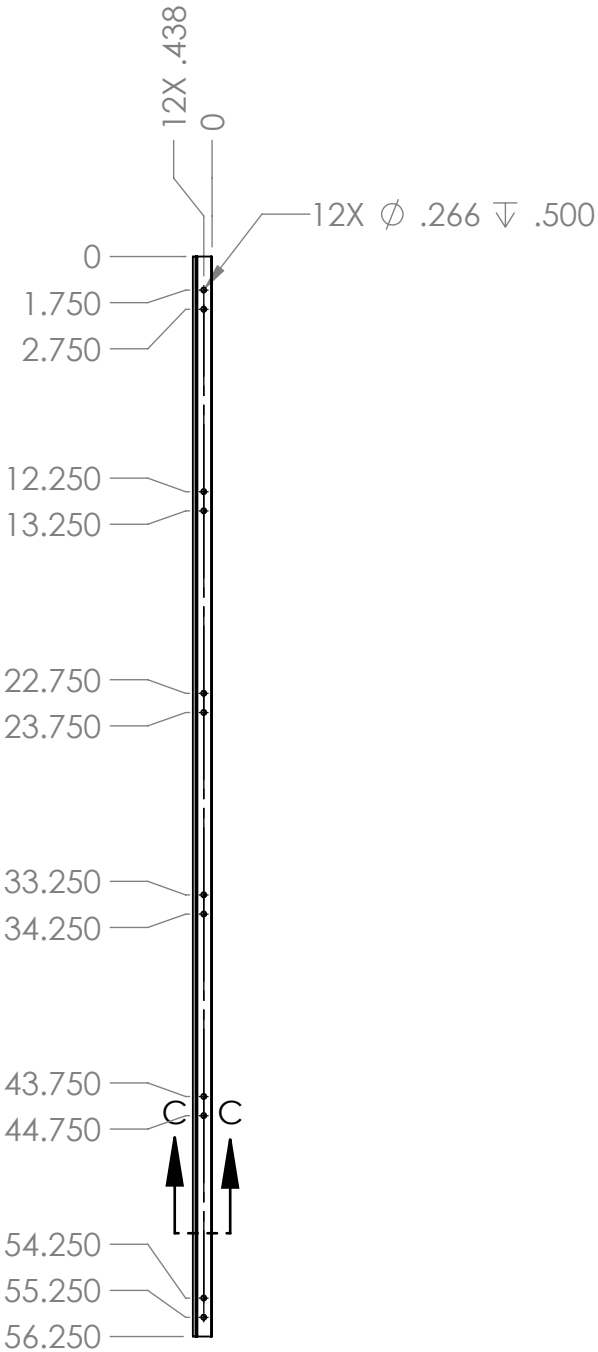
- 1. MATERIAL: MAPLE HARDWOOD, .75 THK
- 2. SLOTS ARE TO BE CUT EITHER BY USING A PALM ROUTER OR TABLE SAW.
- 3. GRAIN IS TO RUN LENGTHWISE, PARALLEL WITH THE SLOTS.



	NAME	DATE	TITLE: SLOTTED WORK SURFACE		
DRAWN					
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE B		
COMMENTS:					
			SCALE: 1:10	DWG. NO. 460001	REV
				SHEET 3 OF 22	

NOTES:

- 1. MATERIAL: 6061-T6 ALUMINUM ANGLE BAR, 2" X 1" LEG LENGTH
- 2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
- 3. THE HOLE PATTERN IS MIRRORED ABOUT 45° PLANE
- 4. THE 1" LEG HOLES ARE INTENDED FOR USE WITH 1/4" T-SLOT HARDWARE
- 5. THE 2" LEG HOLES ARE INTEND ED FOR USE WITH WOOD SCREWS

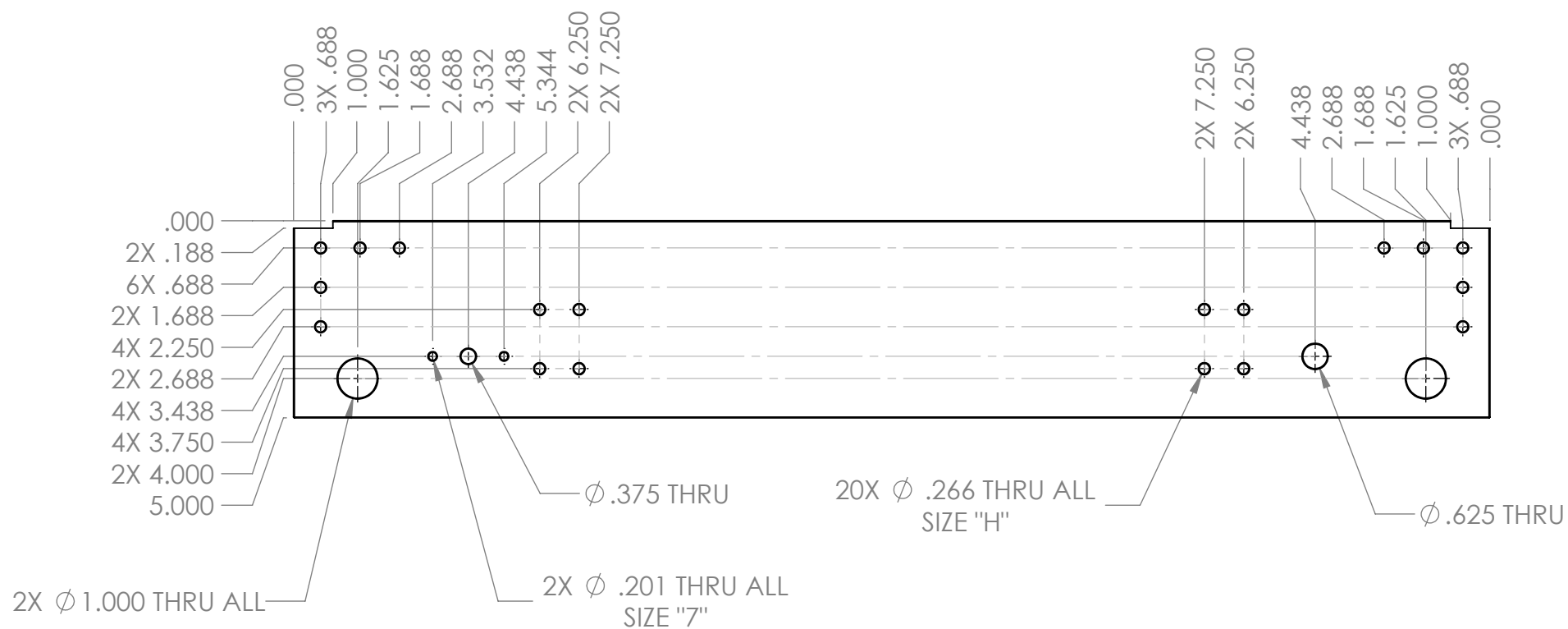
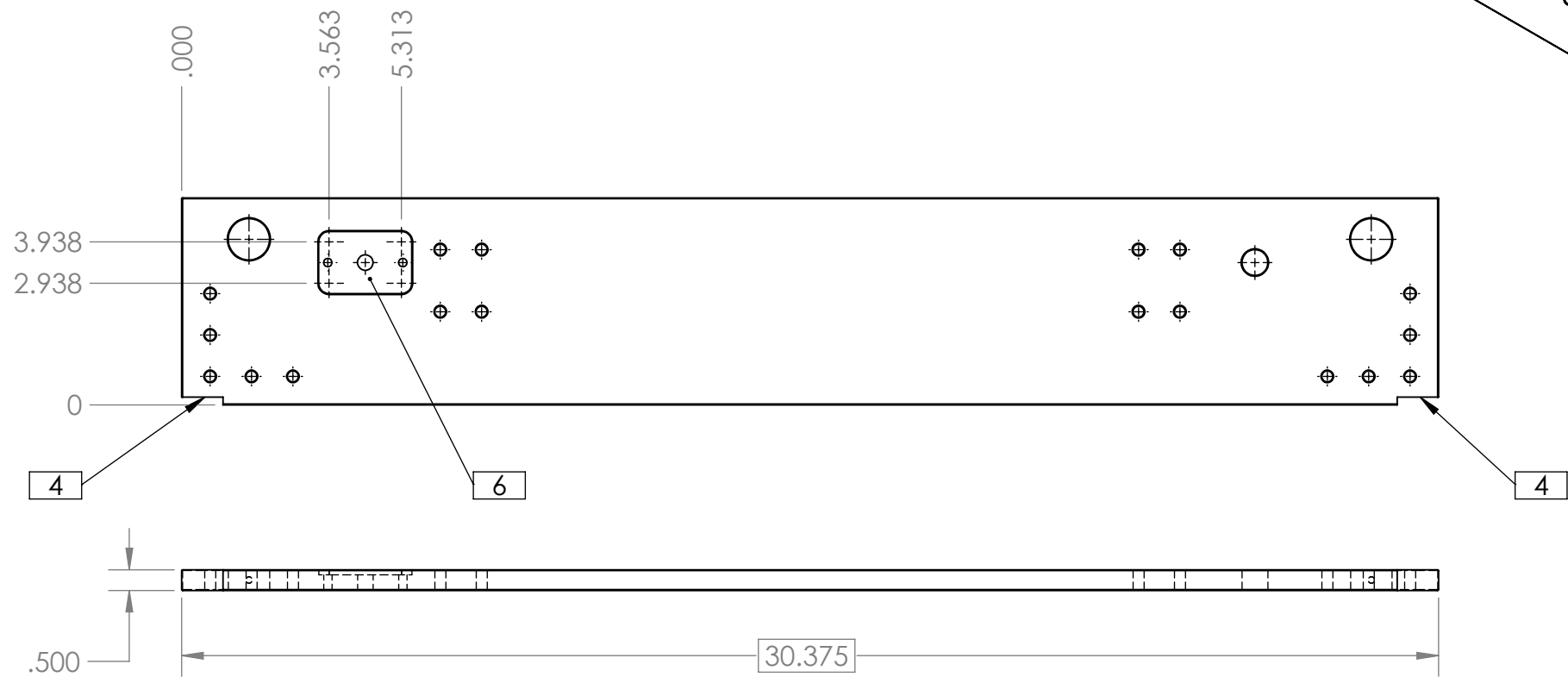


SECTION C-C
SCALE 1 : 2

	NAME	DATE	TITLE: SIDE ANGLE BAR		
DRAWN	VEE	2/9/2015			
CHECKED			SIZE B DWG. NO. 460002 REV 3		
ENG APPR.					
MFG APPR.					
Q.A.					
COMMENTS:			SCALE: 1:10 WEIGHT: SHEET 4 OF 22		

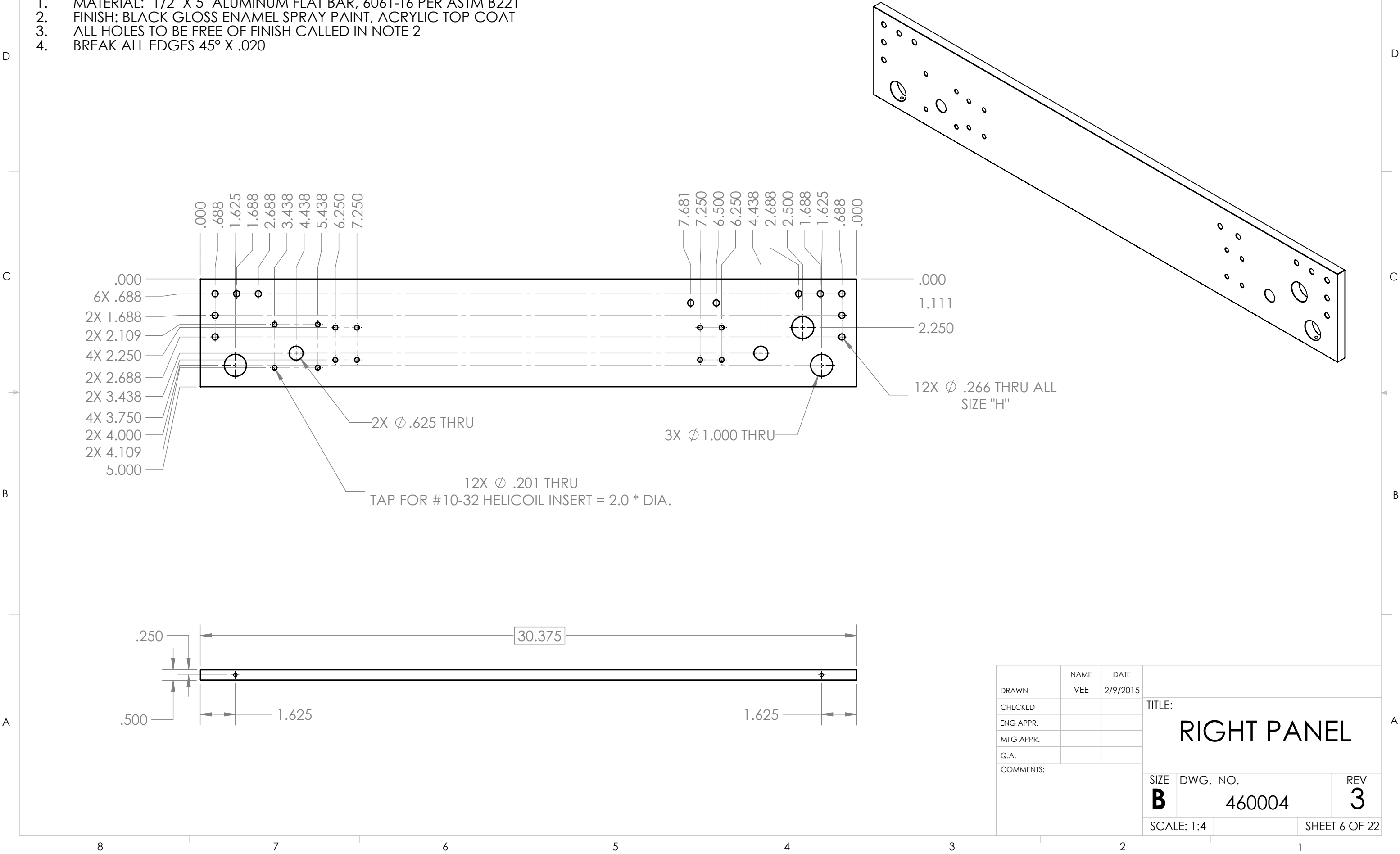
NOTES:

1. MATERIAL: 1/2" X 5" ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
4. CREATE THIS CUT SURFACE LAST ON THE VERTICAL MILL, AFTER HOLES PUNCHED
5. BREAK ALL EDGES 45° X .020
6. MACHINED SURFACE IS TO BE RECESSED .125 INCHES FROM TOP SURFACE
7. ALL FILLETS ARE R.25 UNLESS OTHERWISE NOTED



	NAME	DATE	TITLE: LEFT PANEL		
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.					
COMMENTS:			SIZE B	DWG. NO. 460003	REV 3
			SCALE: 1:4 SHEET 5 OF 22		

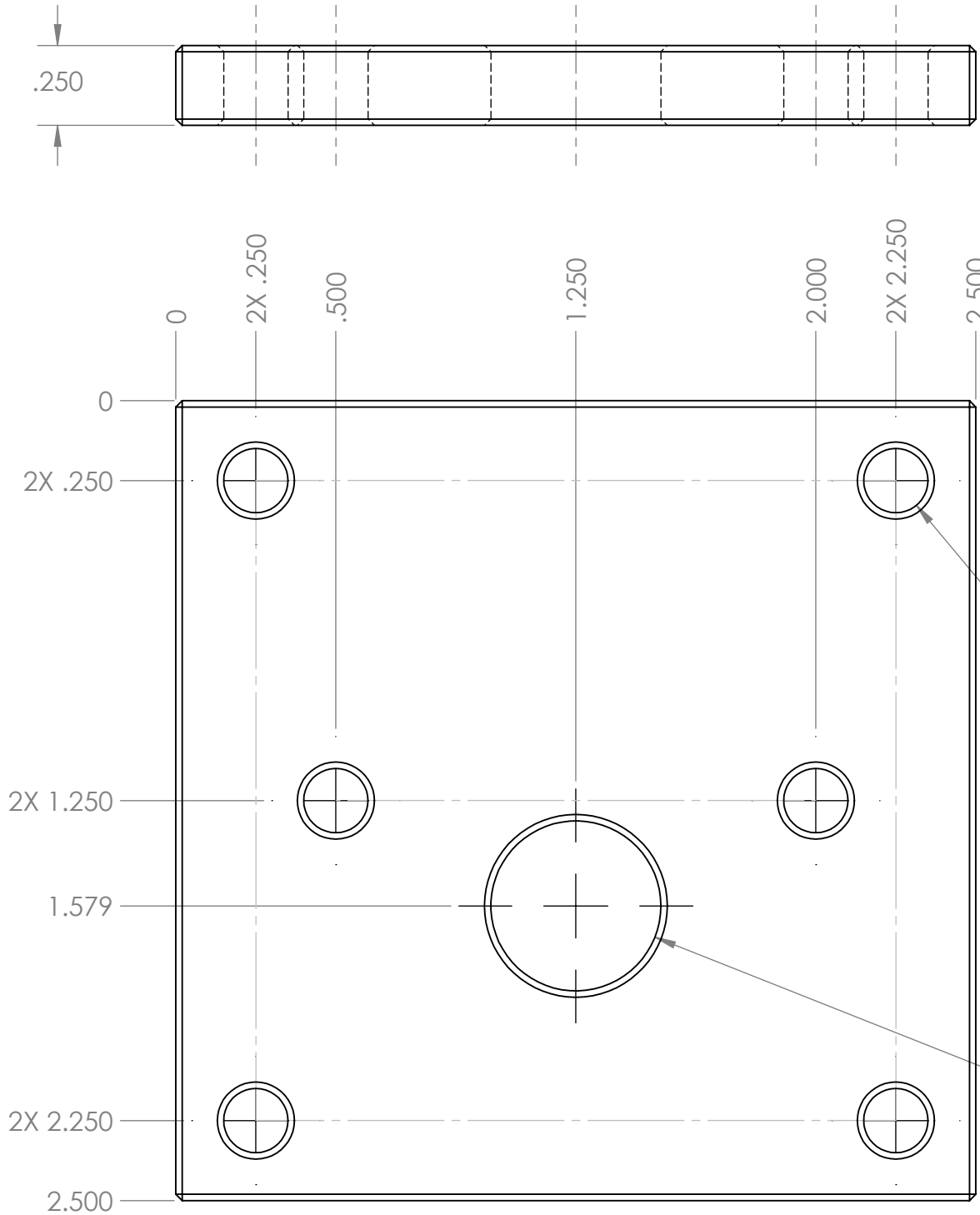
- NOTES:
- 1. MATERIAL: 1/2" X 5" ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
 - 2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
 - 3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
 - 4. BREAK ALL EDGES 45° X .020



	NAME	DATE	TITLE: RIGHT PANEL		
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE B		
COMMENTS:					
			DWG. NO. 460004		REV 3
			SCALE: 1:4		SHEET 6 OF 22

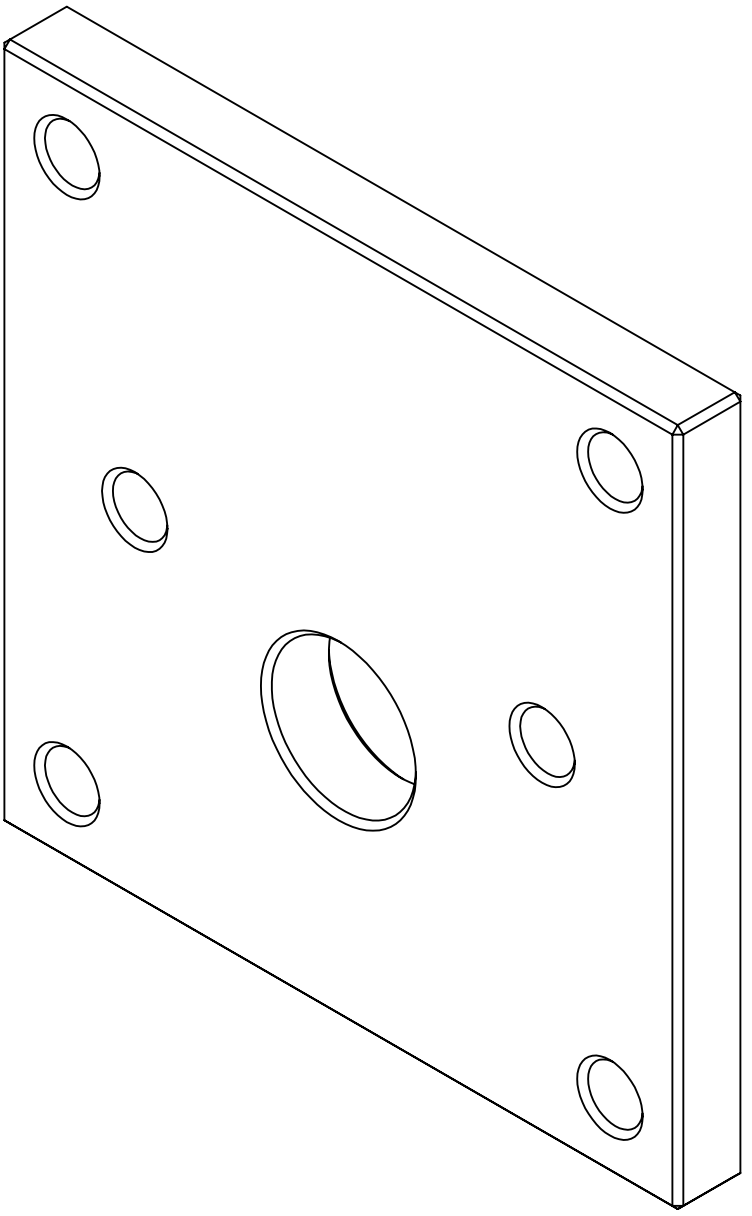
NOTES:

- 1. MATERIAL: .25 THK ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
- 2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
- 3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
- 4. BREAK ALL EDGES 45° X .020

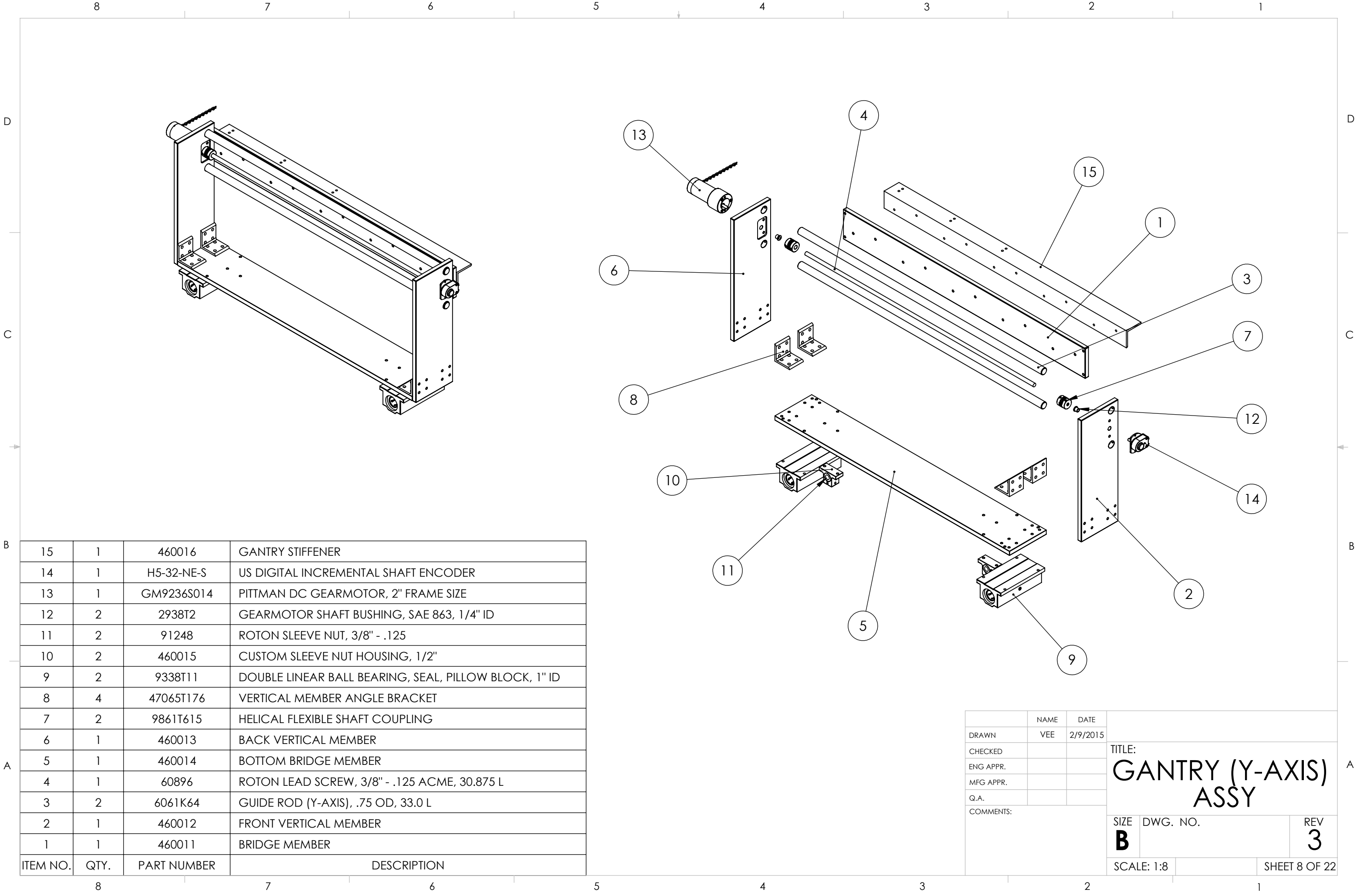


6X Ø .531 THRU
SIZE "7"

Ø .531 ± .050



	NAME	DATE	TITLE: DC GEARMOTOR MOUNTING PLATE		
DRAWN	VEE	2/9/2015			
CHECKED			SIZE B DWG. NO. 460008 REV 3		
ENG APPR.					
MFG APPR.			SCALE: 2:1 SHEET 7 OF 22		
Q.A.					
COMMENTS:					

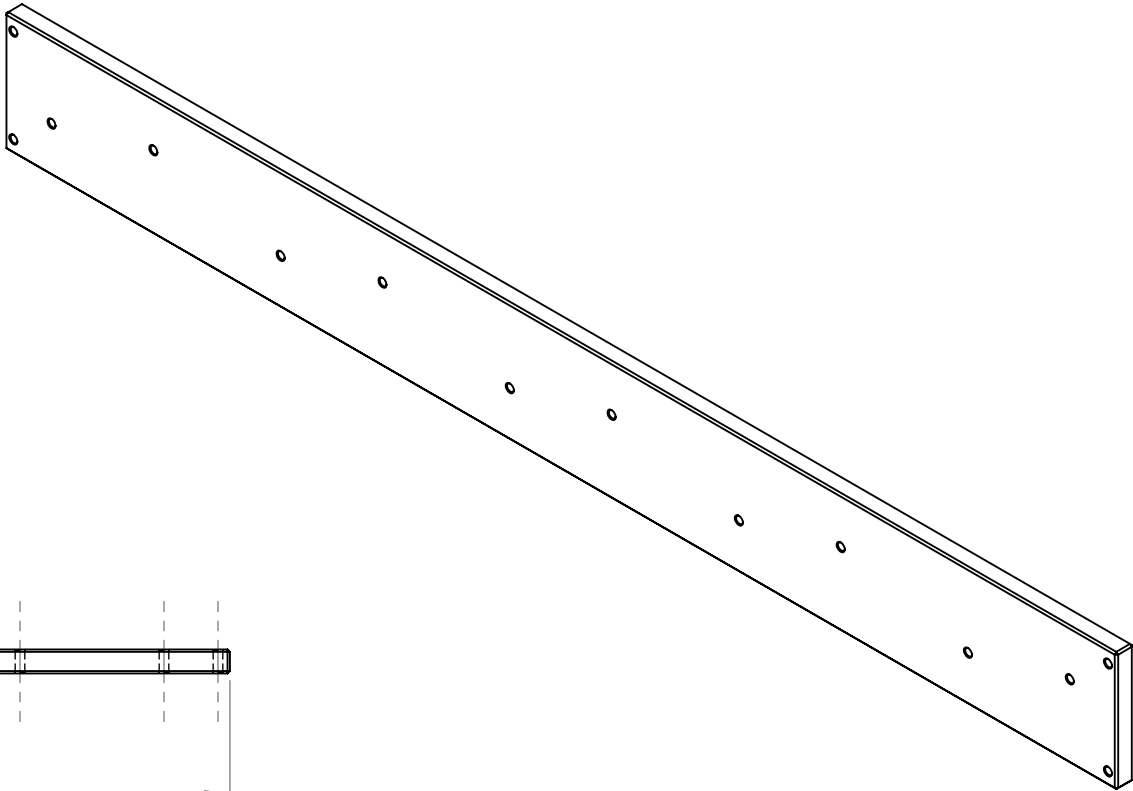
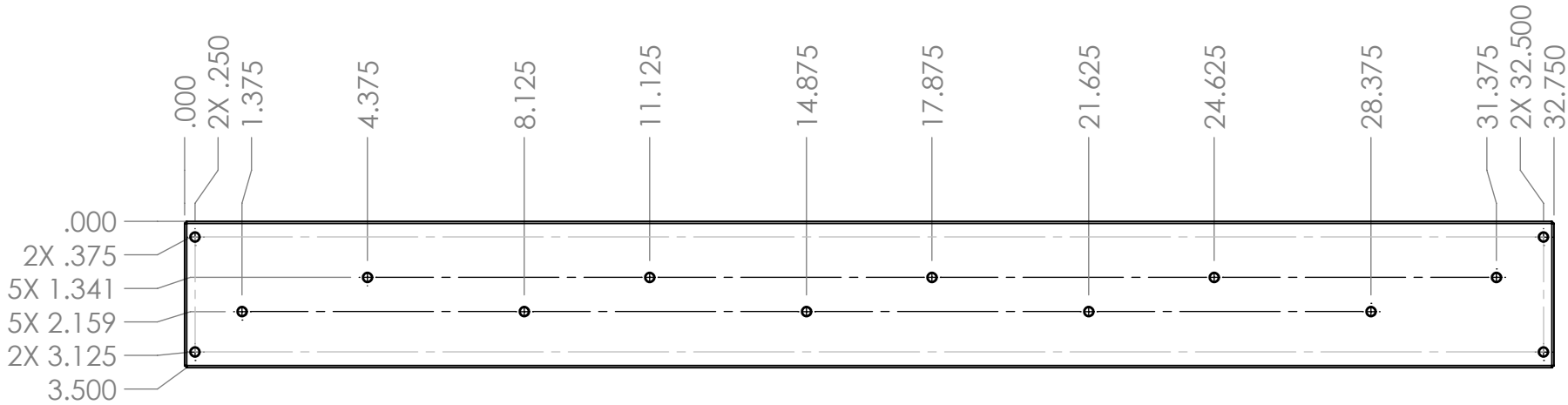
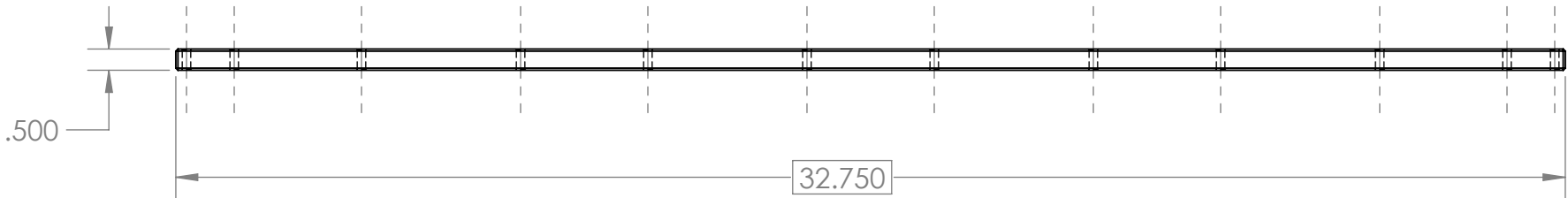


15	1	460016	GANTRY STIFFENER
14	1	H5-32-NE-S	US DIGITAL INCREMENTAL SHAFT ENCODER
13	1	GM9236S014	PITTMAN DC GEARMOTOR, 2" FRAME SIZE
12	2	2938T2	GEARMOTOR SHAFT BUSHING, SAE 863, 1/4" ID
11	2	91248	ROTON SLEEVE NUT, 3/8" - .125
10	2	460015	CUSTOM SLEEVE NUT HOUSING, 1/2"
9	2	9338T11	DOUBLE LINEAR BALL BEARING, SEAL, PILLOW BLOCK, 1" ID
8	4	47065T176	VERTICAL MEMBER ANGLE BRACKET
7	2	9861T615	HELICAL FLEXIBLE SHAFT COUPLING
6	1	460013	BACK VERTICAL MEMBER
5	1	460014	BOTTOM BRIDGE MEMBER
4	1	60896	ROTON LEAD SCREW, 3/8" - .125 ACME, 30.875 L
3	2	6061K64	GUIDE ROD (Y-AXIS), .75 OD, 33.0 L
2	1	460012	FRONT VERTICAL MEMBER
1	1	460011	BRIDGE MEMBER
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION

	NAME	DATE	TITLE: GANTRY (Y-AXIS) ASSY		
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE DWG. NO. REV B 3		
COMMENTS:					
			SCALE: 1:8		SHEET 8 OF 22

NOTES:

- 1. MATERIAL: 1/2" X 3.5" ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
- 2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
- 3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
- 4. BREAK ALL EDGES 45° X .020



	NAME	DATE	TITLE: BRIDGE MEMBER		
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE B		
COMMENTS:					
			DWG. NO.		REV 3
			SCALE: 1:4		SHEET 9 OF 22

NOTES:

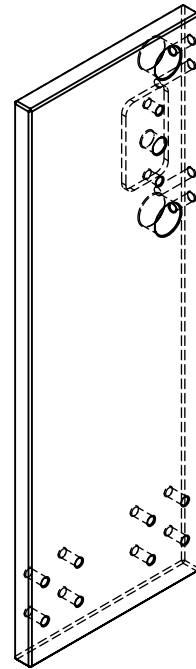
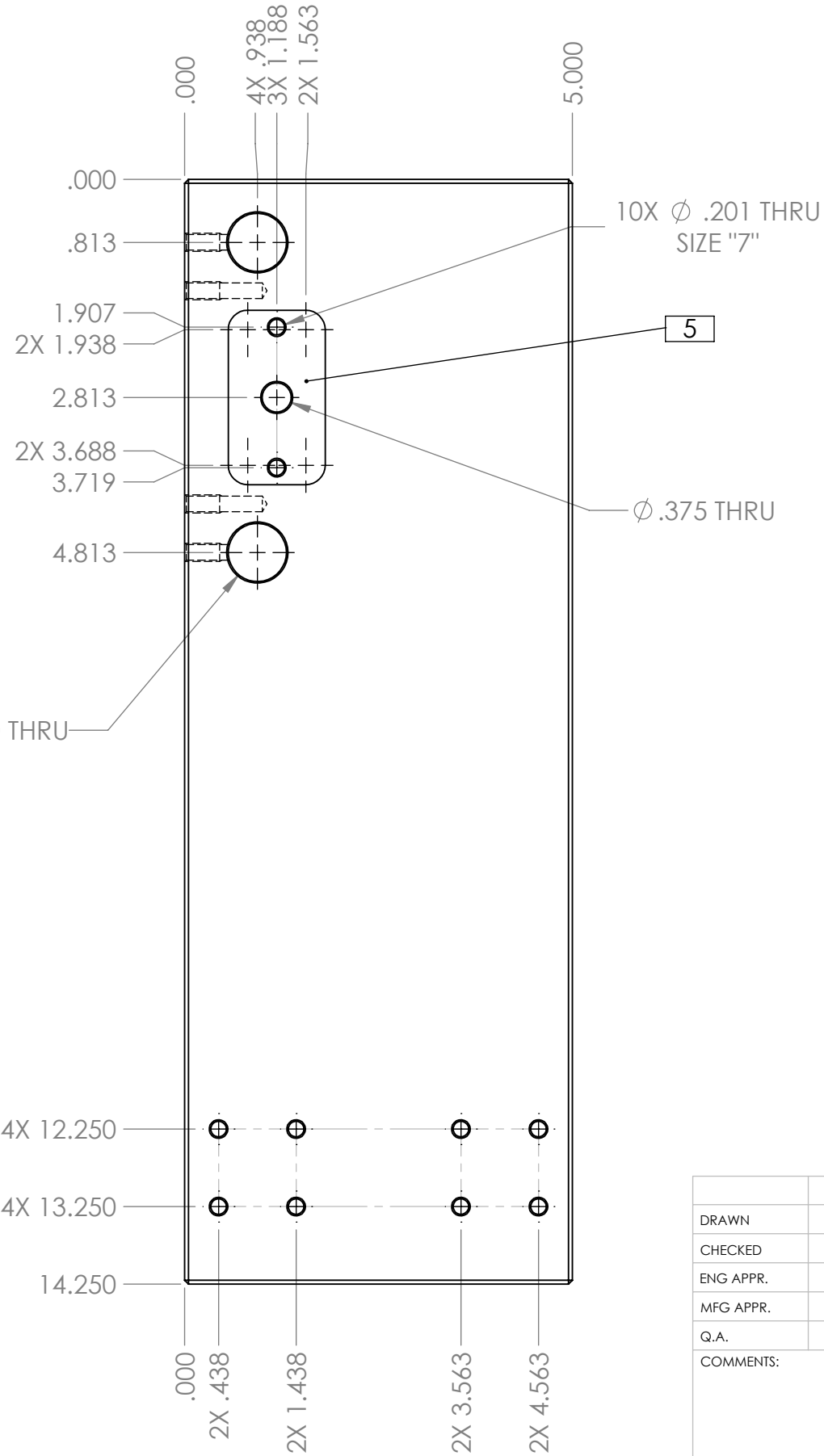
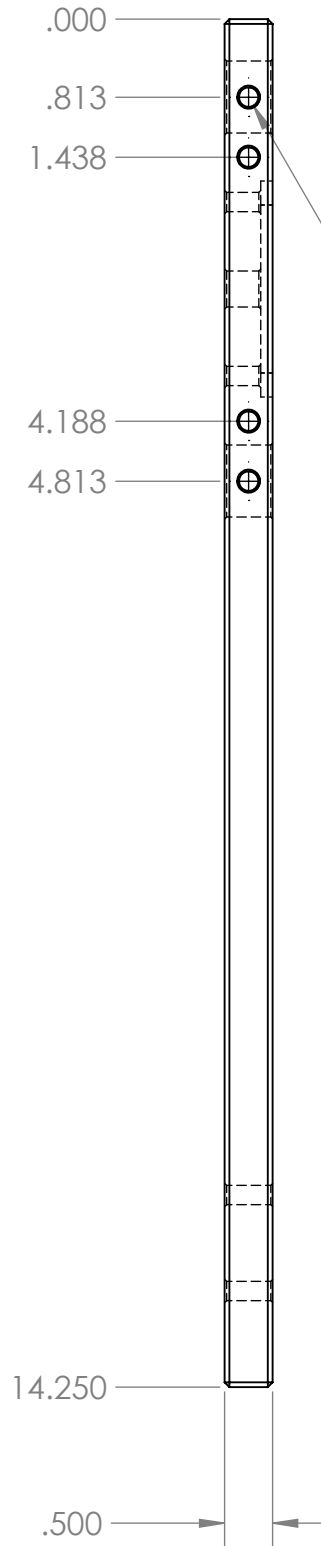
1. MATERIAL: 1/2" X 5" ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
4. BREAK ALL EDGES 45° X .020
5. MACHINED SURFACE IS TO BE RECESSED .125 INCHES FROM TOP SURFACE
6. ALL FILLETS ARE R.25 UNLESS OTHERWISE NOTED

D

C

B

A



D

C

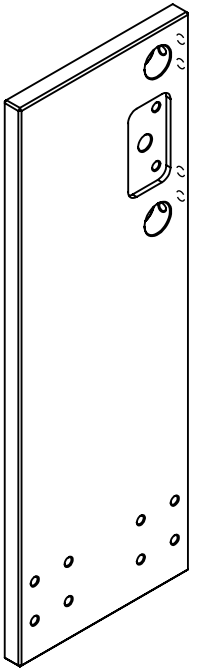
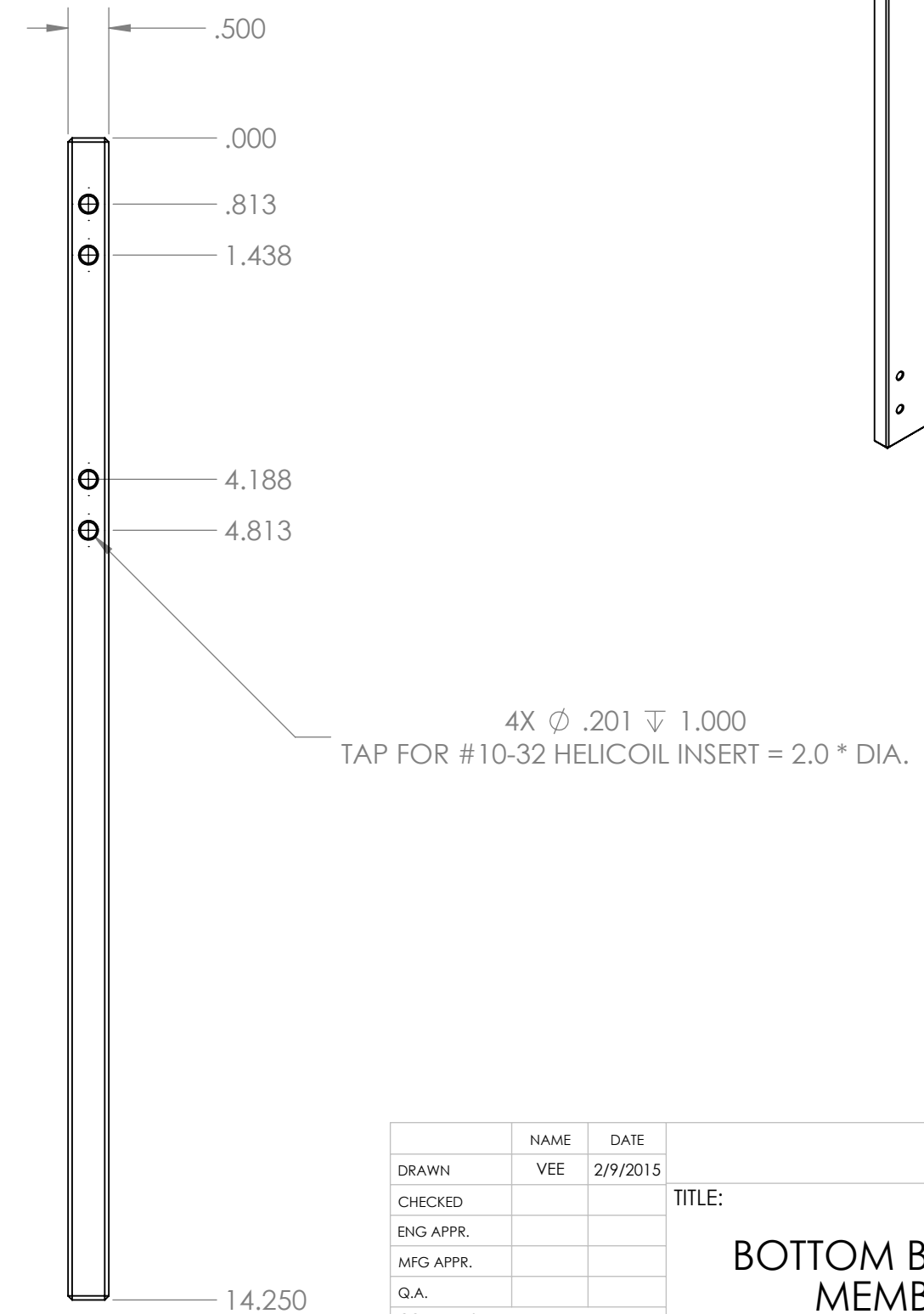
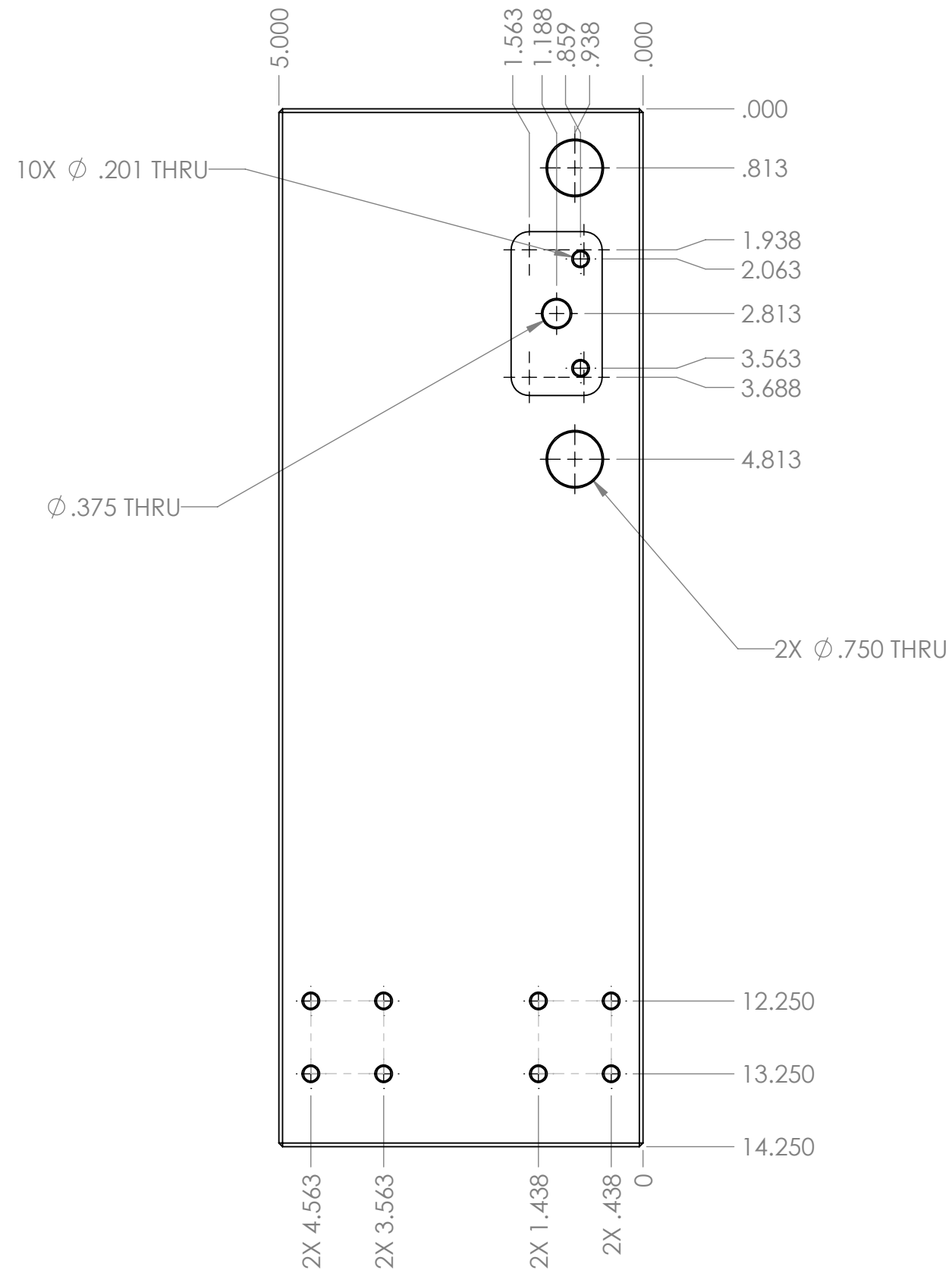
B

A

	NAME	DATE	TITLE: FRONT VERTICAL MEMBER		
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE B		
COMMENTS:					
			DWG. NO. 460012	REV 3	
			SCALE: 1:2	SHEET 10 OF 22	

NOTES:

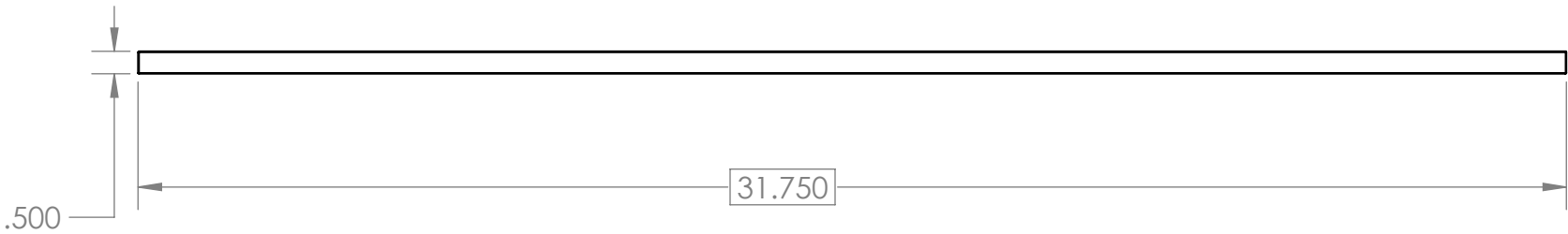
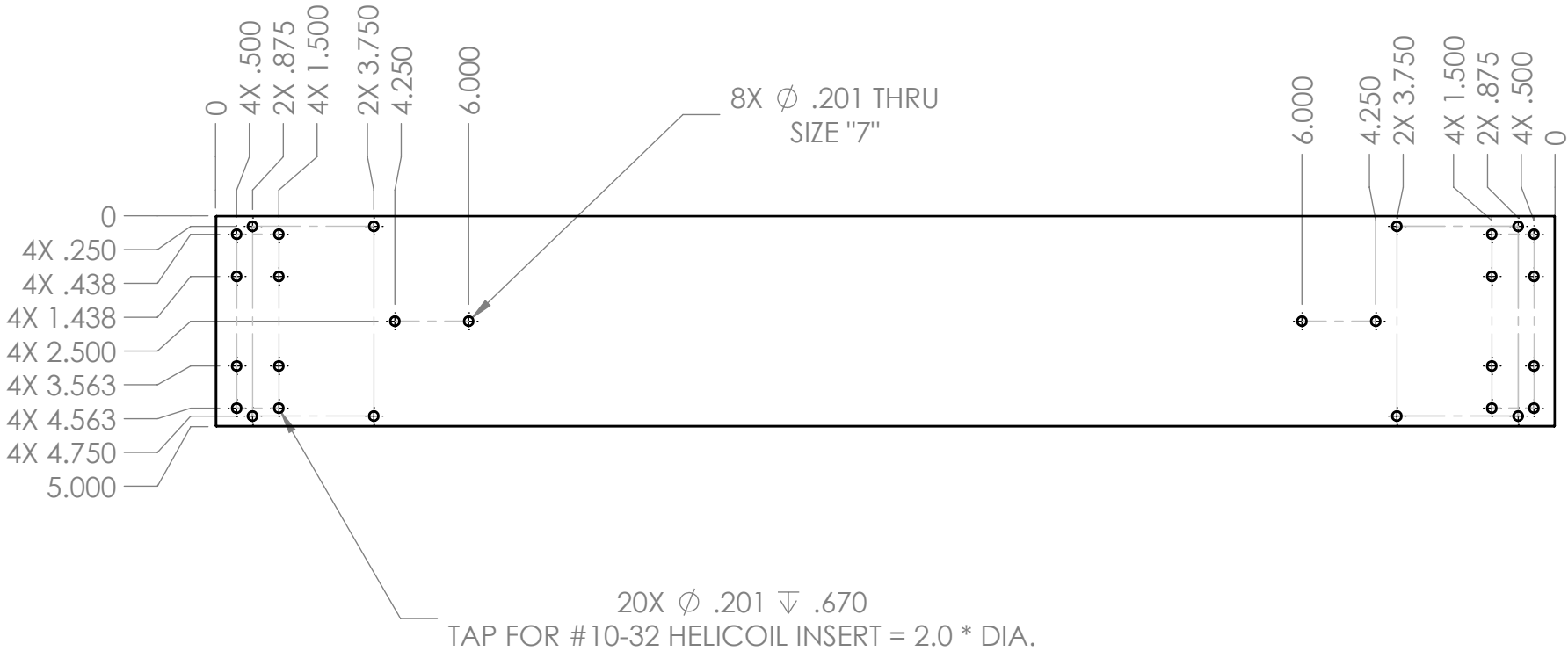
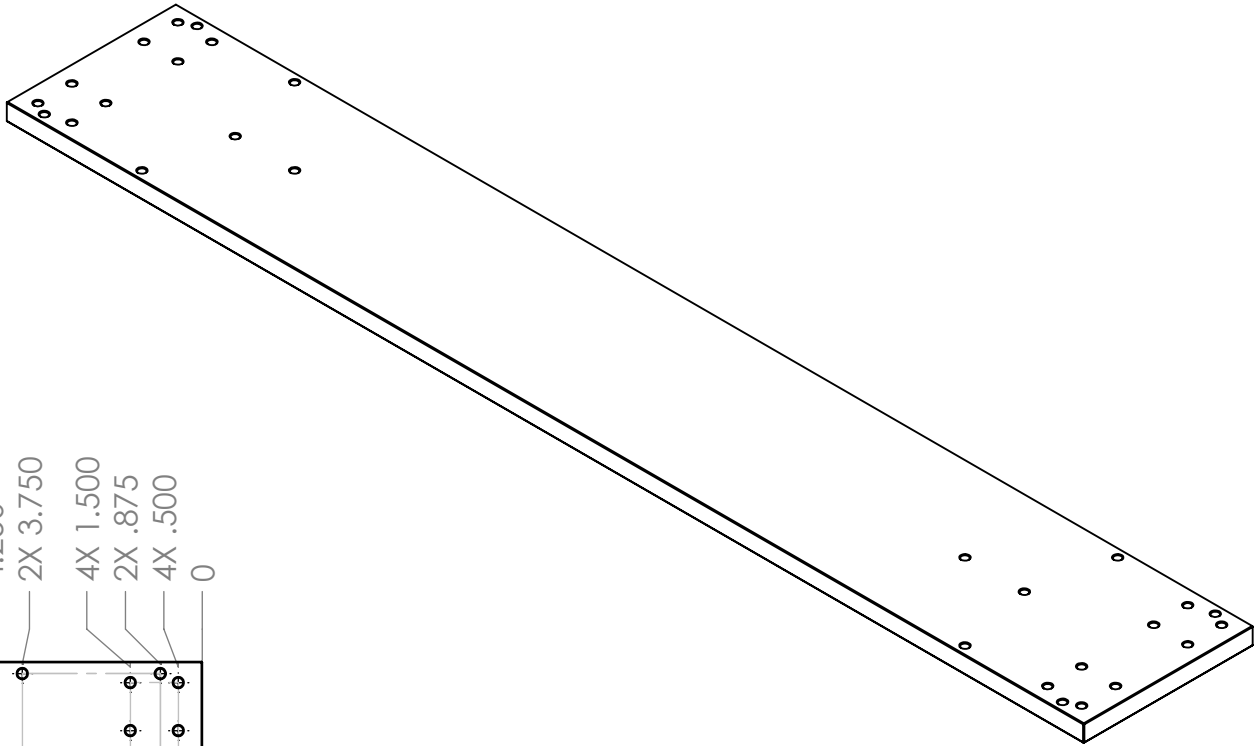
1. MATERIAL: 1/2" X 5" ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
4. BREAK ALL EDGES 45° X .020
5. MACHINED SURFACE IS TO BE RECESSED .125 INCHES FROM TOP SURFACE
6. ALL FILLETS ARE R.25 UNLESS OTHERWISE NOTED



	NAME	DATE	TITLE: BOTTOM BRIDGE MEMBER		A
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE DWG. NO. REV B 460013 3		
COMMENTS:					
			SCALE: 1:2		SHEET 11 OF 22

NOTES:

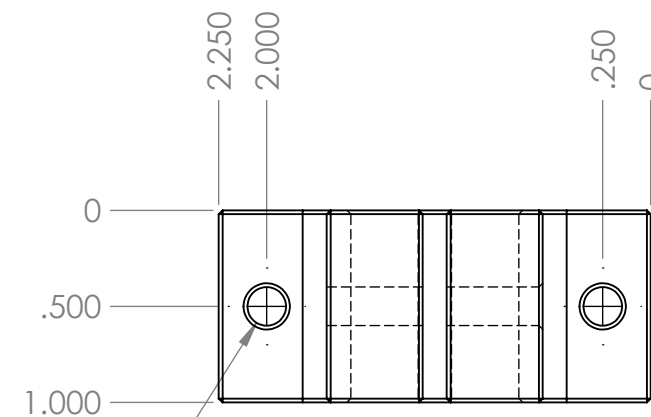
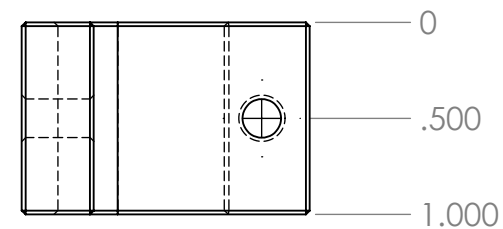
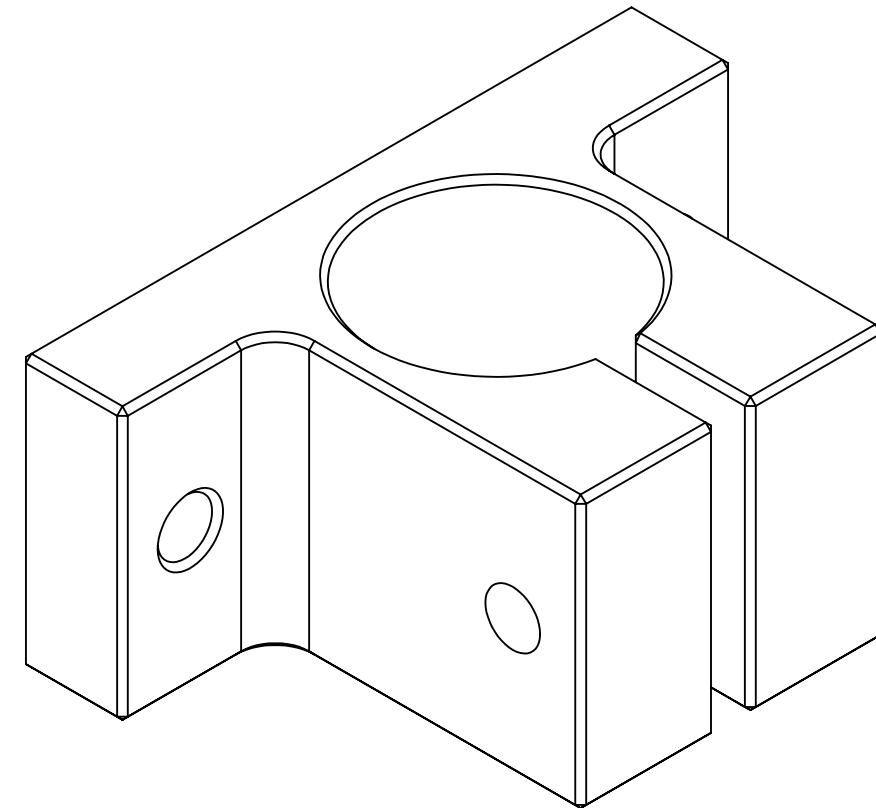
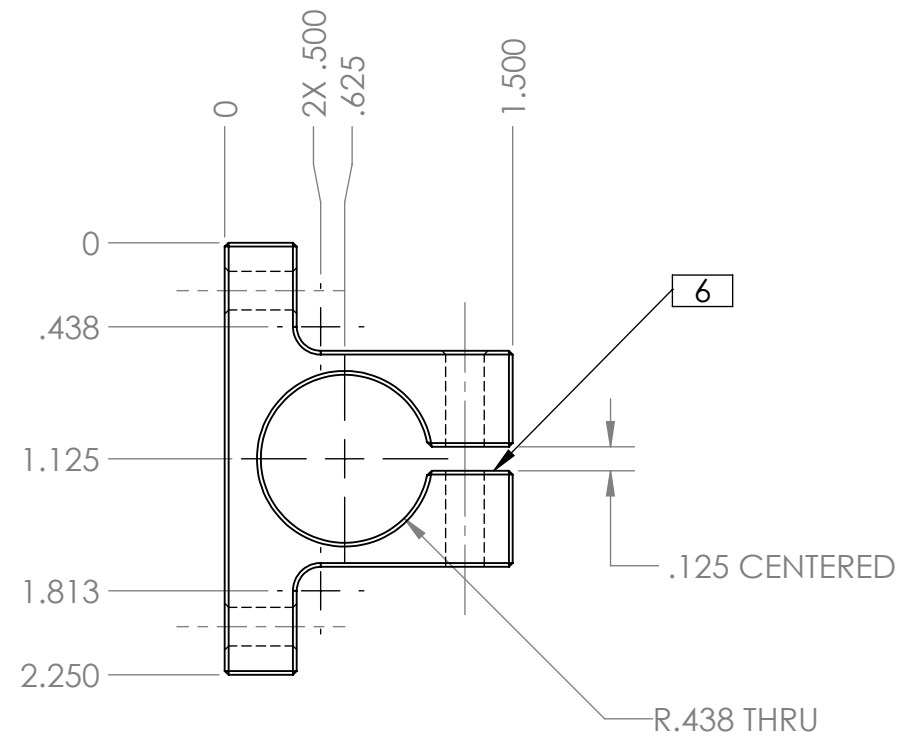
- 1. MATERIAL: 3.5" X 5" ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
- 2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
- 3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
- 4. BREAK ALL EDGES 45° X .020



	NAME	DATE	TITLE: BOTTOM BRIDGE MEMBER		
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE DWG. NO. REV B 460014 3		
COMMENTS:					
			SCALE: 1:4		SHEET 12 OF 22

NOTES:

1. MATERIAL: 1" X 1.5" ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
4. BREAK ALL EDGES 45° X .020
5. ALL INSIDE RADII ARE TO BE R.125 UNLESS OTHERWISE NOTED
6. CREATE THIS CUT SURFACE LAST ON THE VERTICAL MILL, AFTER HOLES PUNCHED



3X \varnothing .201 THRU-

	NAME	DATE	TITLE: CUSTOM SLEEVE NUT HOUSING, 1/2"		
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE DWG. NO. REV B 460015 3		
COMMENTS:					
			SCALE: 1:1 SHEET 13 OF 22		

NOTES:

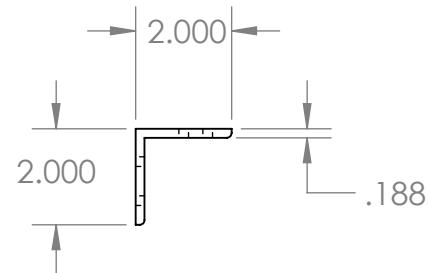
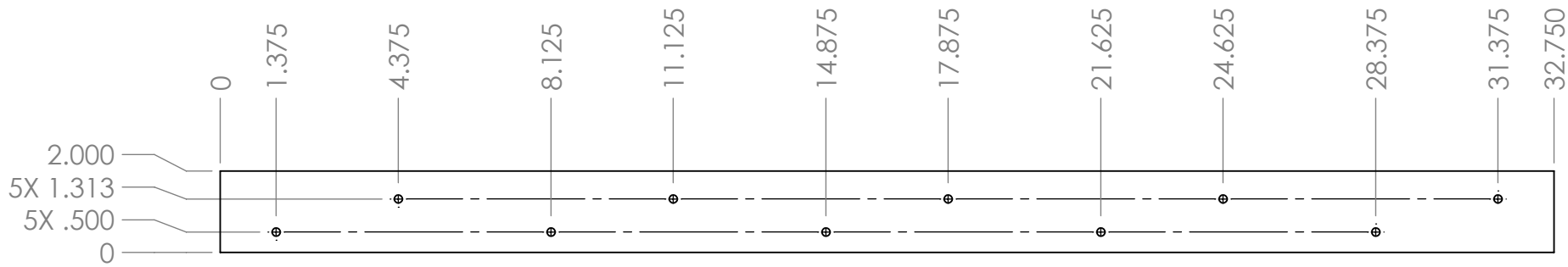
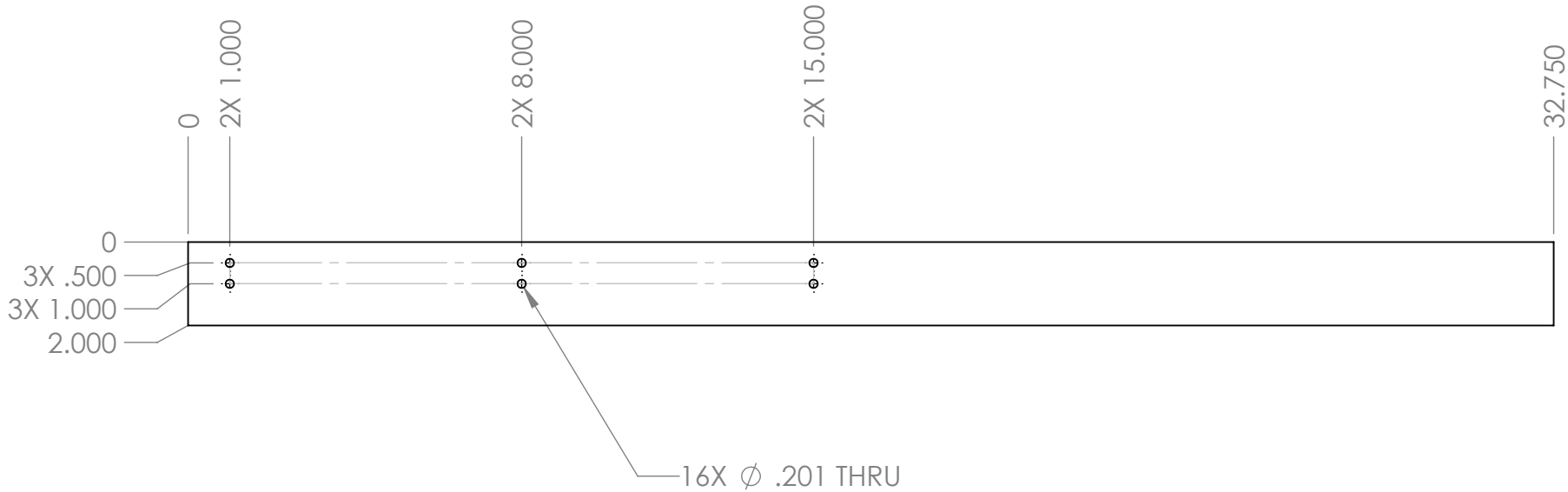
1. MATERIAL: 6061-T6 ALUMINUM ANGLE BAR, 2" X 2" X36" LEG LENGTH, CUT TO LENGTH
2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2

D

C

B

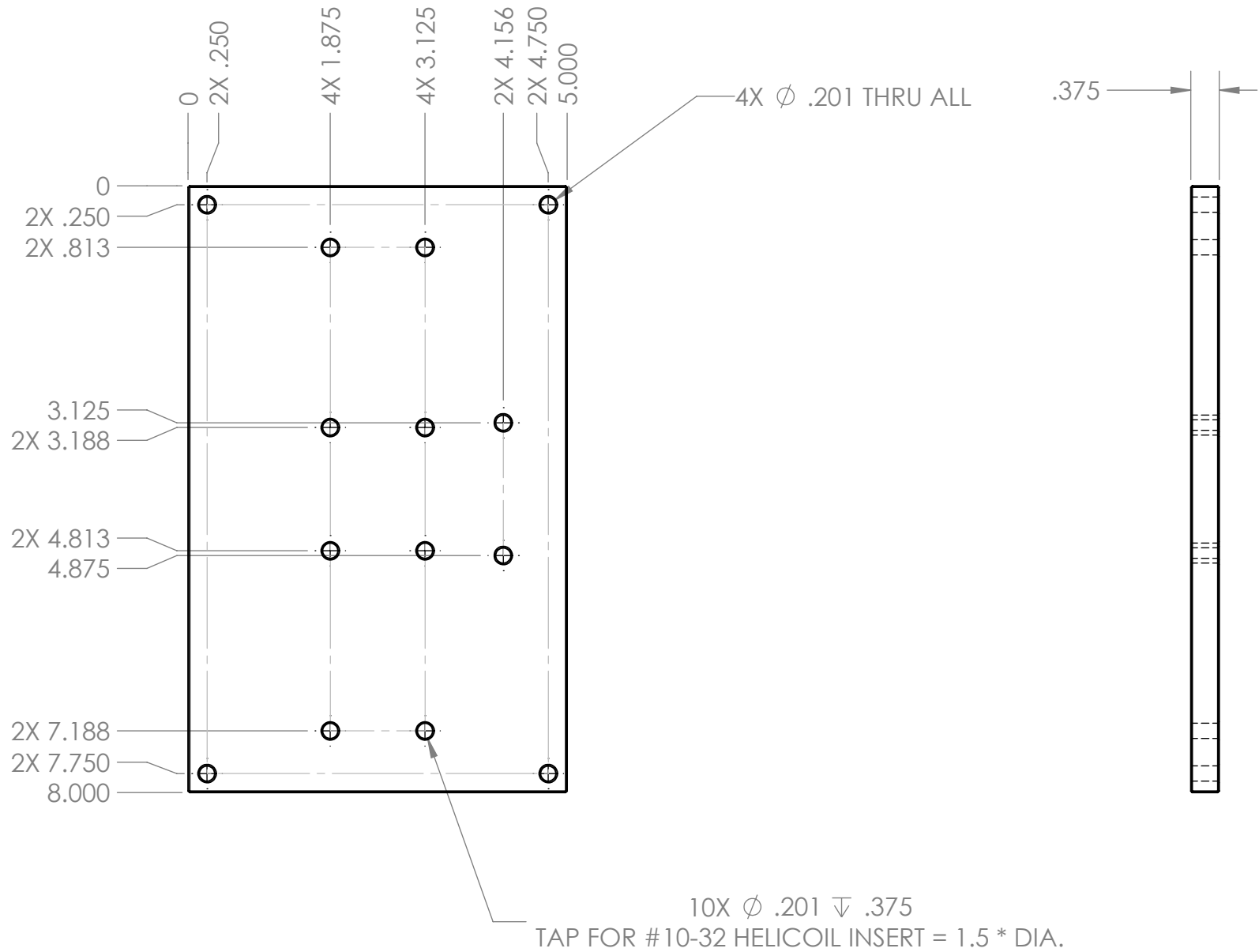
A



	NAME	DATE	TITLE: GANTRY STIFFENER		
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE DWG. NO. REV B 460016 3		
COMMENTS:					
			SCALE: 1:4		SHEET 14 OF 22

NOTES:

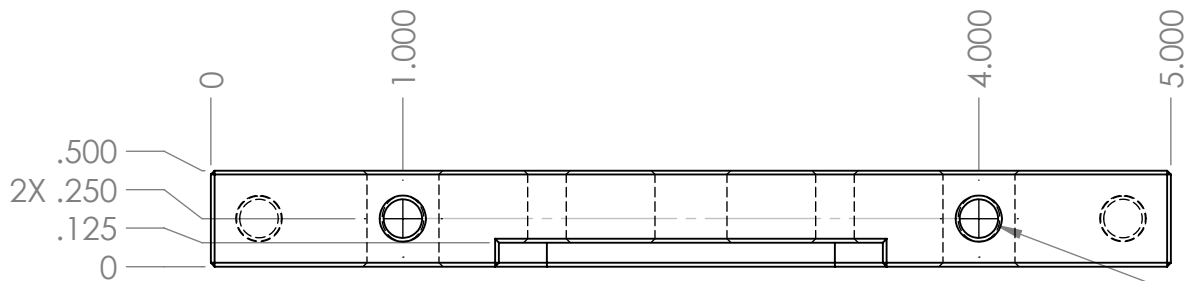
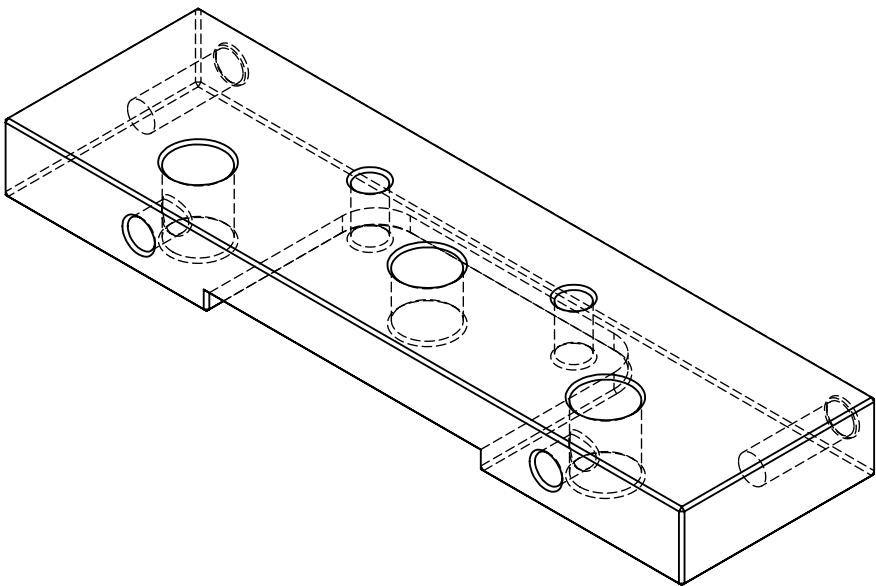
1. MATERIAL: 3/8" X 5" ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
4. BREAK ALL EDGES 45° X .020



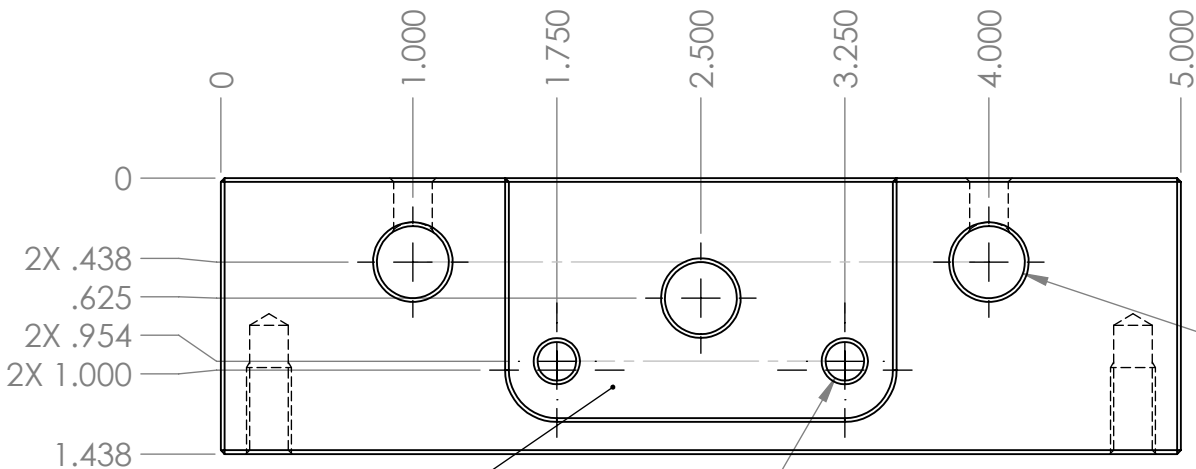
	NAME	DATE	TITLE: VERTICAL PLATE		
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE B		
COMMENTS:					
			DWG. NO. 460017	REV 3	
			SCALE: 1:2	SHEET 16 OF 22	

NOTES:

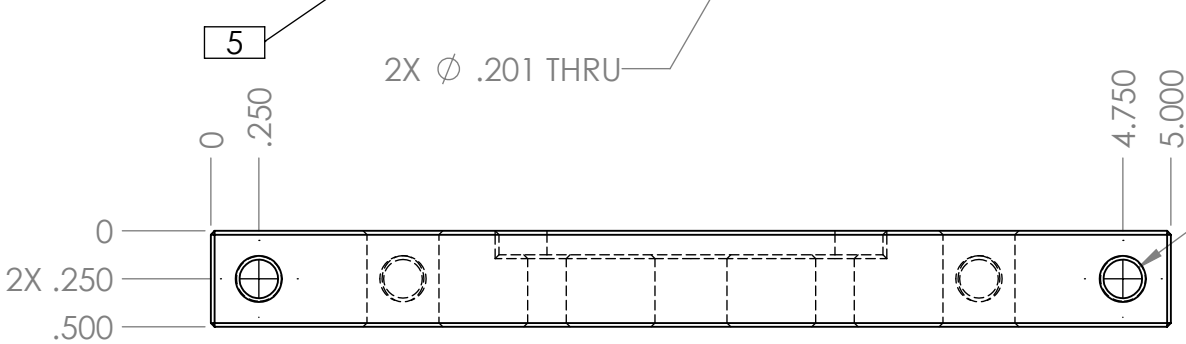
1. MATERIAL: 1/2" X 1.5" ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
4. BREAK ALL EDGES 45° X .020
5. MACHINED SURFACE IS TO BE RECESSED .125 INCHES FROM TOP SURFACE
6. ALL FILLETS ARE R.25 UNLESS OTHERWISE NOTED



2X ϕ .201 ∇ .500
TAP FOR #10-32 HELICOIL INSERT = 1.0 * DIA.



3X ϕ .375 THRU

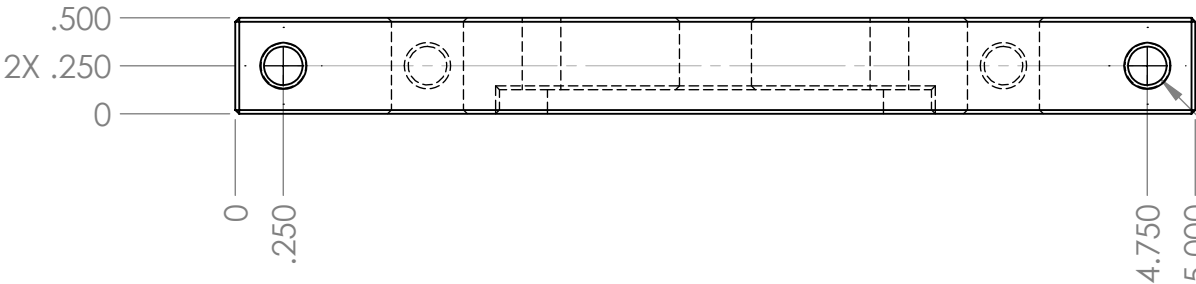
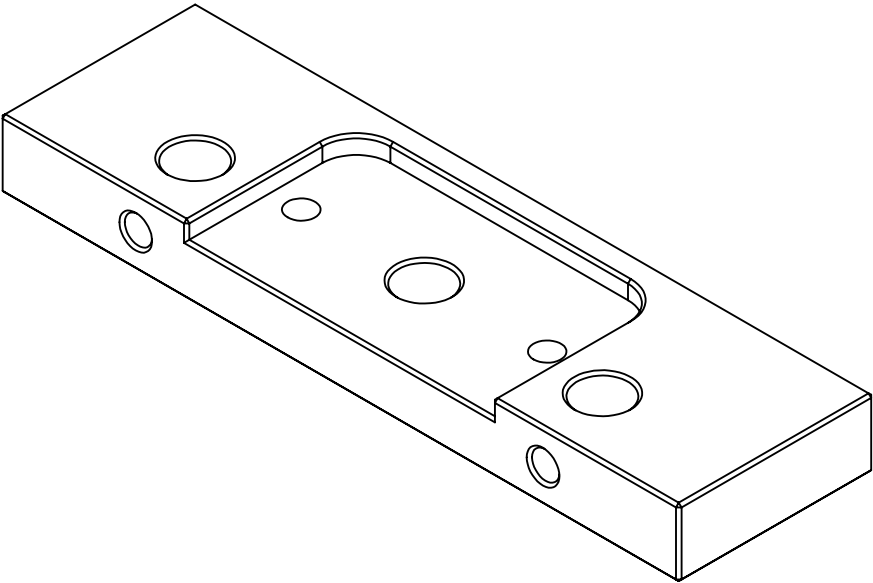


2X ϕ .201 ∇ .670
TAP FOR #10-32 HELICOIL INSERT = 2.0 * DIA.

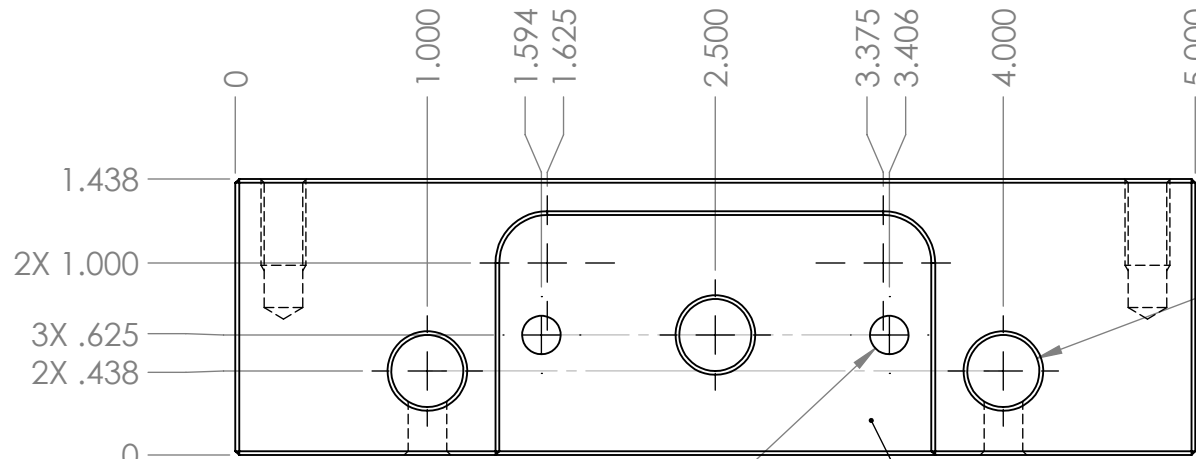
	NAME	DATE	TITLE: TOP SUPPORT PLATE		
DRAWN	VEE	2/9/2015			
CHECKED			SIZE B DWG. NO. 460018 REV 3		
ENG APPR.					
MFG APPR.			SCALE: 1:1 SHEET 17 OF 22		
Q.A.					
COMMENTS:					

NOTES:

1.
- MATERIAL: 1/2" X 1.5" ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
2.
- FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
3.
- ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
4.
- BREAK ALL EDGES 45° X .020
5.
- MACHINED SURFACE IS TO BE RECESSED .125 INCHES FROM TOP SURFACE
6.
- ALL FILLETS ARE R.25 UNLESS OTHERWISE NOTED



2X ϕ .201 ∇ .670
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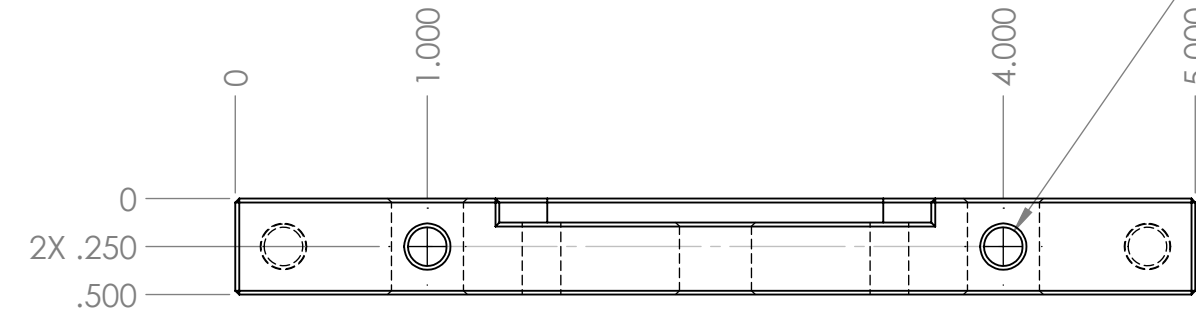


3X ϕ .375 THRU

2X ϕ .201 ∇ .500
TAP FOR #10-32 HELICOIL INSERT = 1.0 * DIA.

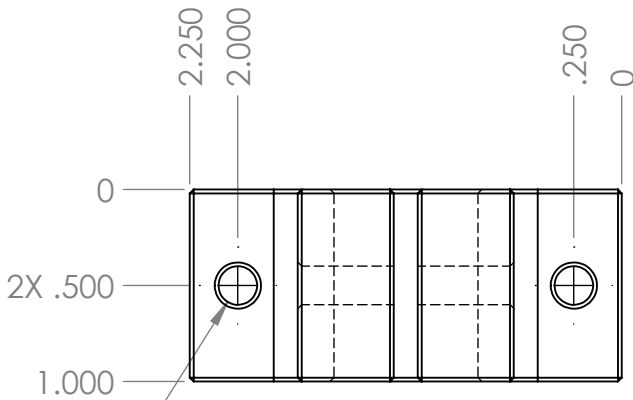
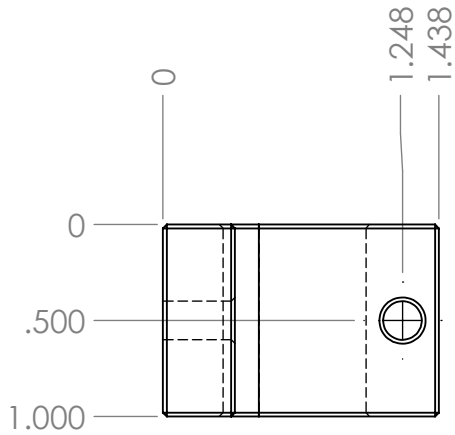
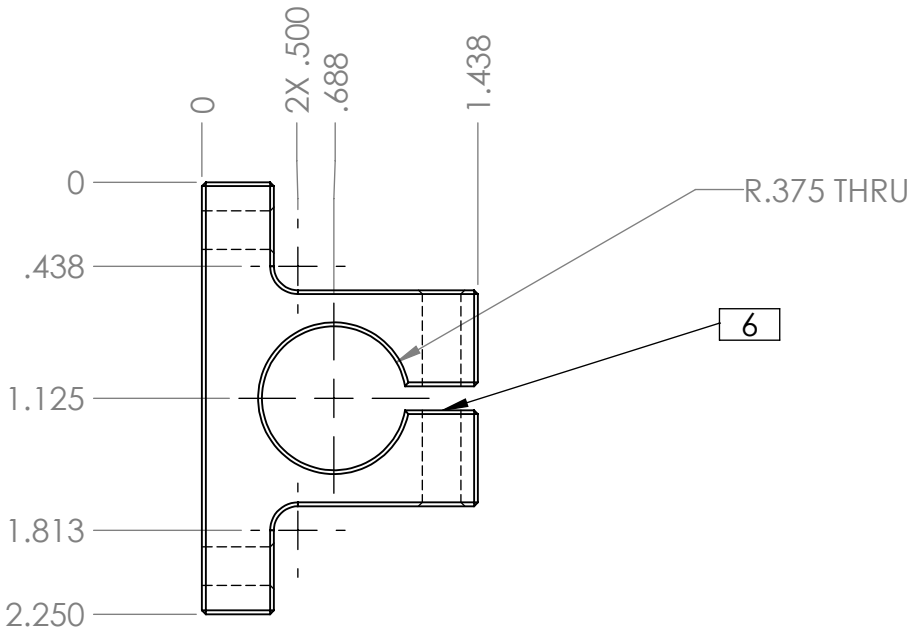
2X ϕ .201 THRU

5

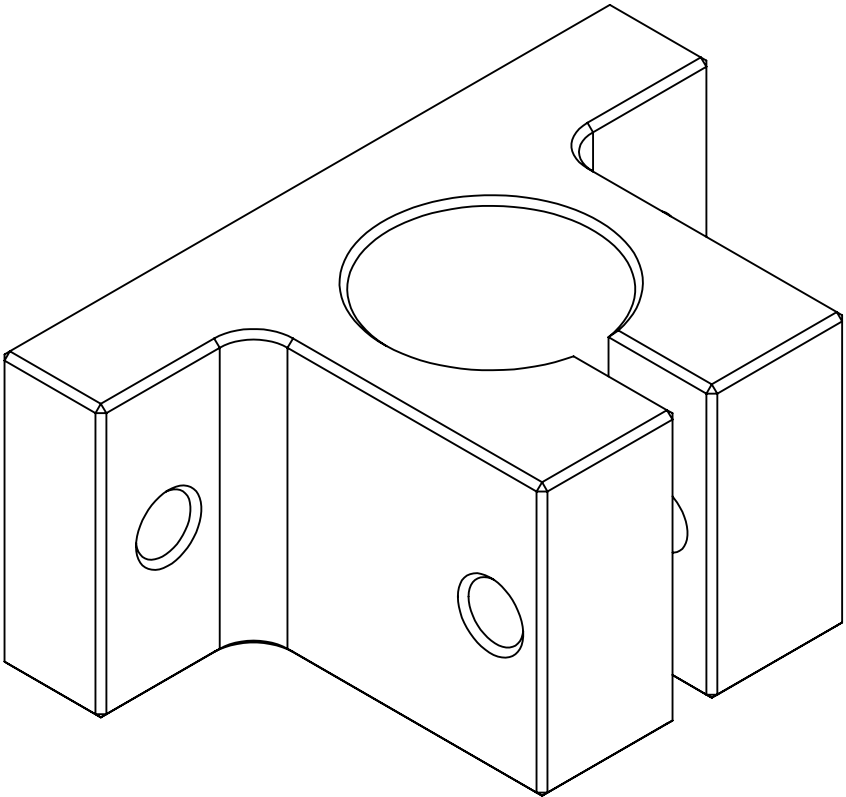


	NAME	DATE	TITLE: LOWER SUPPORT PLATE		
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE B		
COMMENTS:					
			DWG. NO. 460019	REV 3	
			SCALE: 1:1	SHEET 18 OF 22	

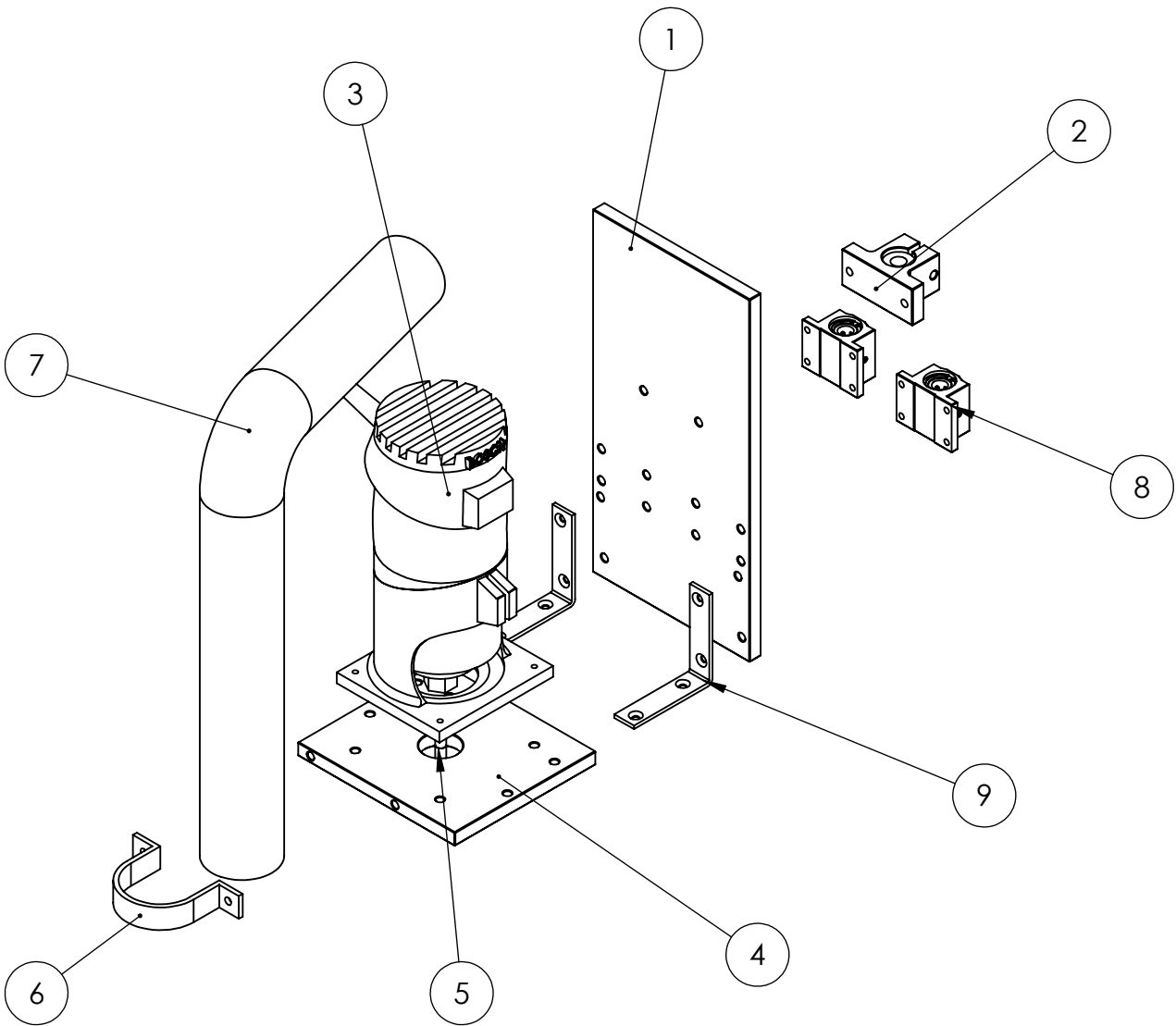
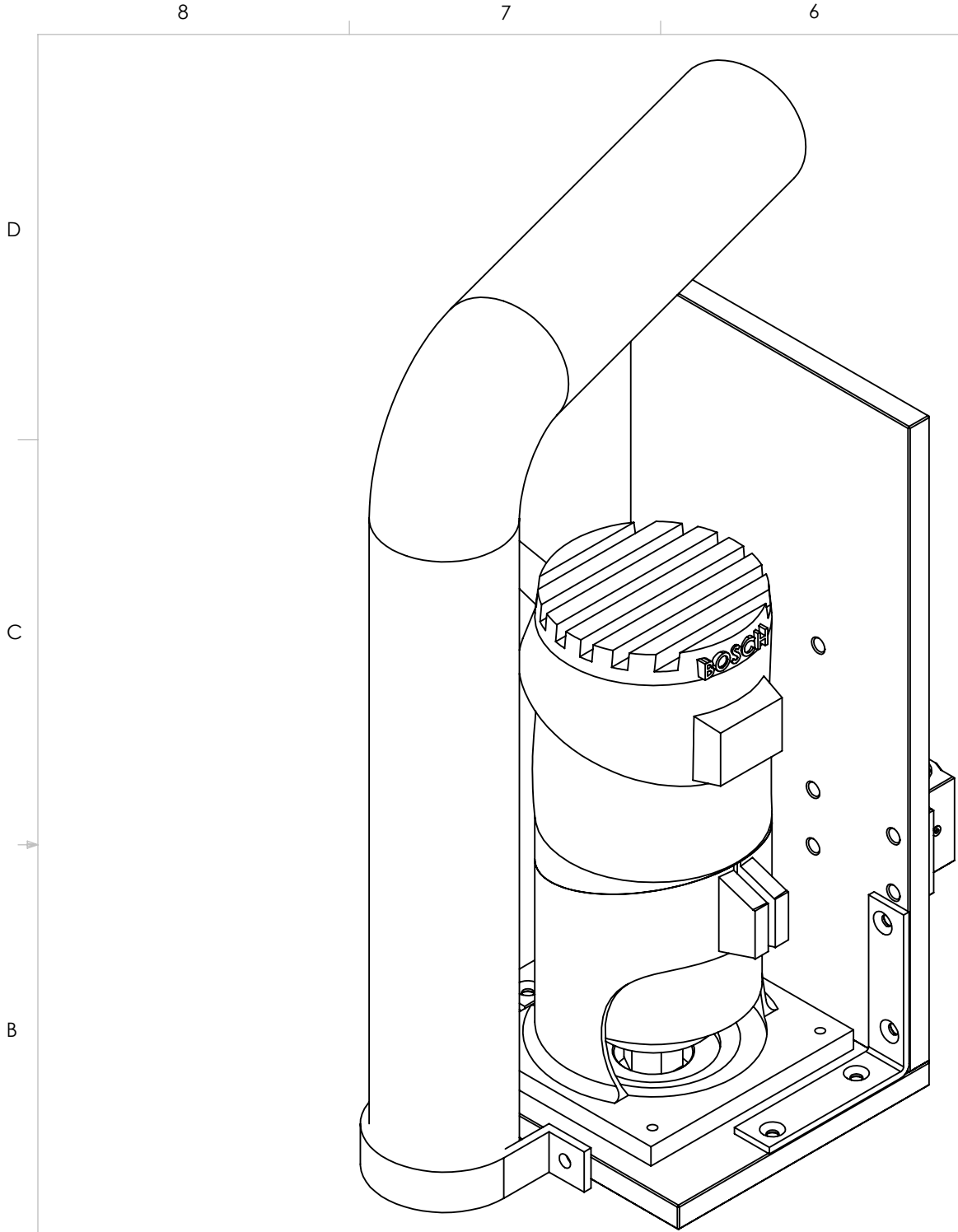
- NOTES:
- 1. MATERIAL: 1" X 1.5" ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
 - 2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
 - 3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
 - 4. BREAK ALL EDGES 45° X .020
 - 5. ALL INSIDE RADII ARE TO BE R.125 UNLESS OTHERWISE NOTED
 - 6. CREATE THIS CUT SURFACE LAST ON THE VERTICAL MILL, AFTER HOLES PUNCHED



3X Ø .201 THRU



	NAME	DATE	TITLE: CUSTOM SLEEVE NUT HOUSING, 3/8"		
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE DWG. NO. REV B 460020 3		
COMMENTS:					
			SCALE: 1:1		SHEET 19 OF 22

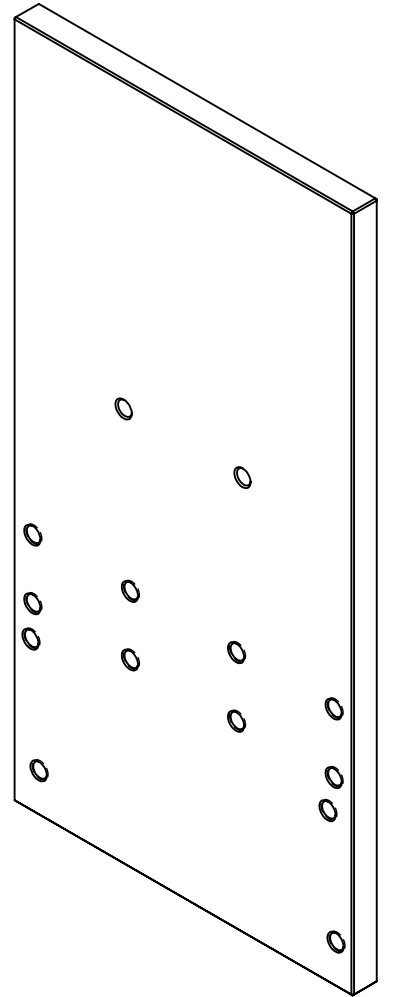
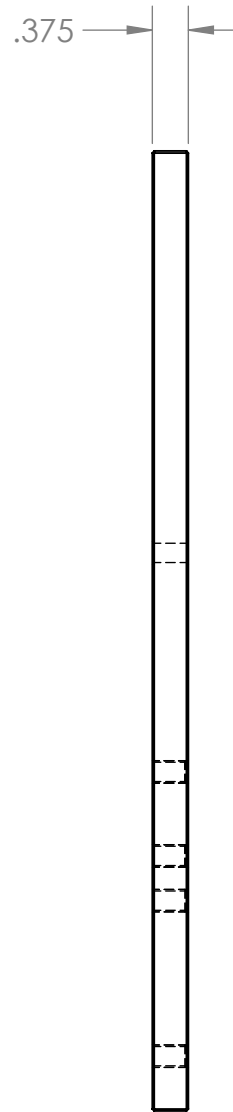
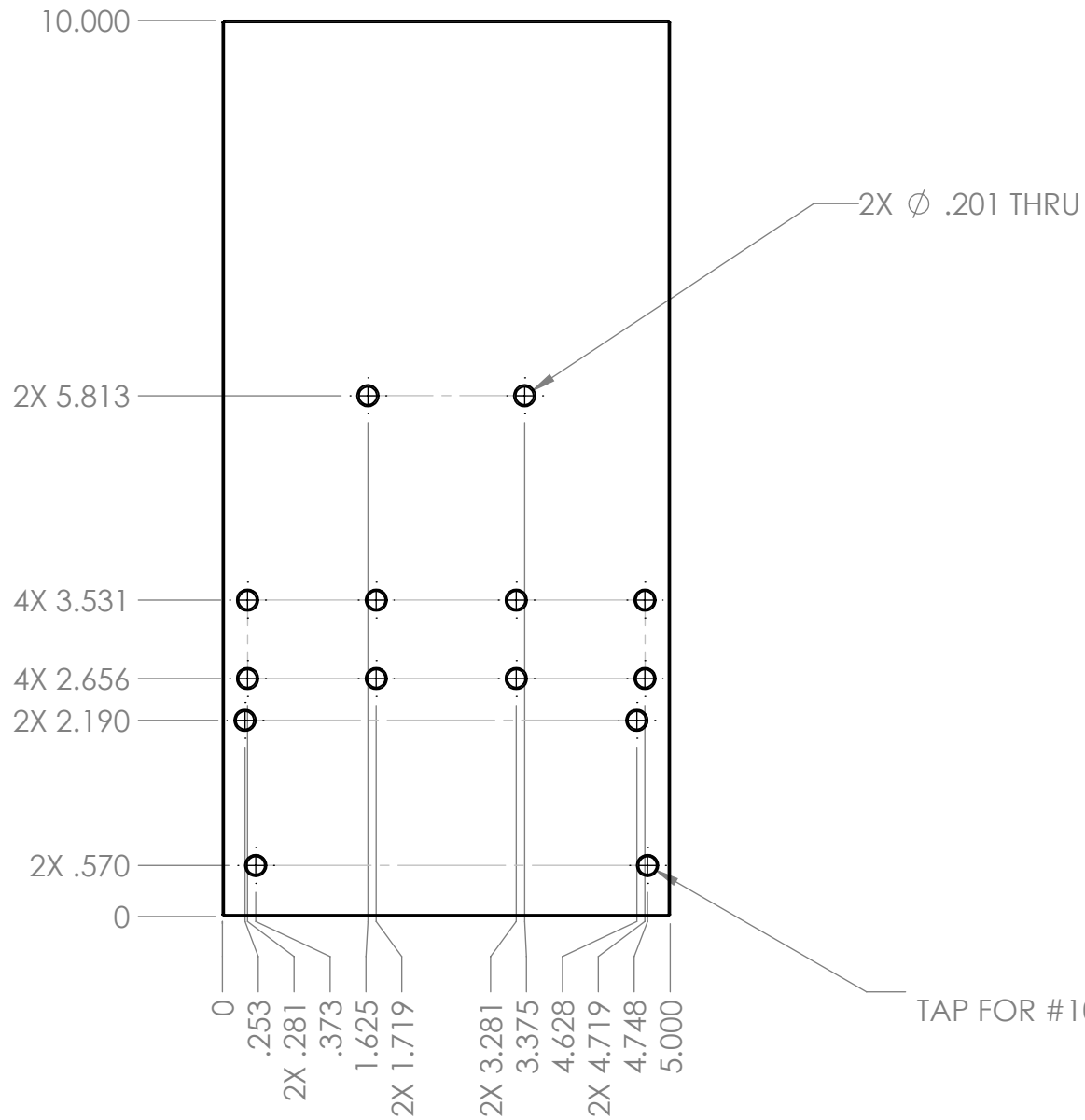


9	2	1556A55	L-BRACKET
8	2	6255K32	LINEAR BALL BEARING, SEALED, PILLOW BLOCK, 3/8" ID
7	1	460023	PVC VACUUM TUBING
6	1	3192T55	PIPE CLAMP
5	1	90891	ROUTER BIT, 1/4" SHANK
4	1	460022	ROUTER MOUNTING PLATE
3	1	PR20EVSK	BOSCH COLT PALM ROUTER
2	1	460020	CUSTOM SLEEVE NUT HOUSING, 3/8"
1	1	460021	VERTICAL PLATE
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION

	NAME	DATE	TITLE: CUTTER ASSY	
DRAWN	VEE	2/9/2015		
CHECKED				
ENG APPR.				
MFG APPR.				
Q.A.				
COMMENTS:			SIZE B	DWG. NO.
				REV 3
			SCALE: 1:4	SHEET 20 OF 22

NOTES:

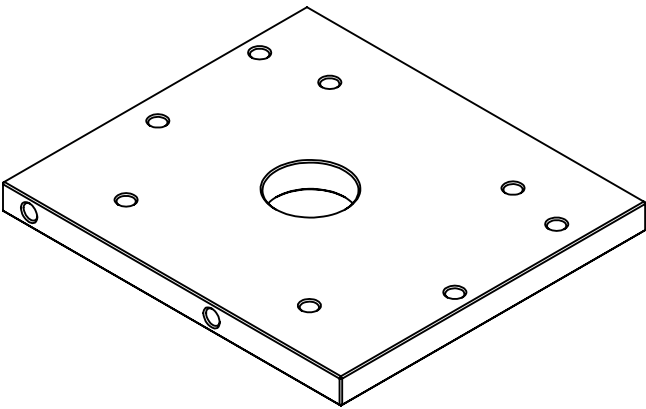
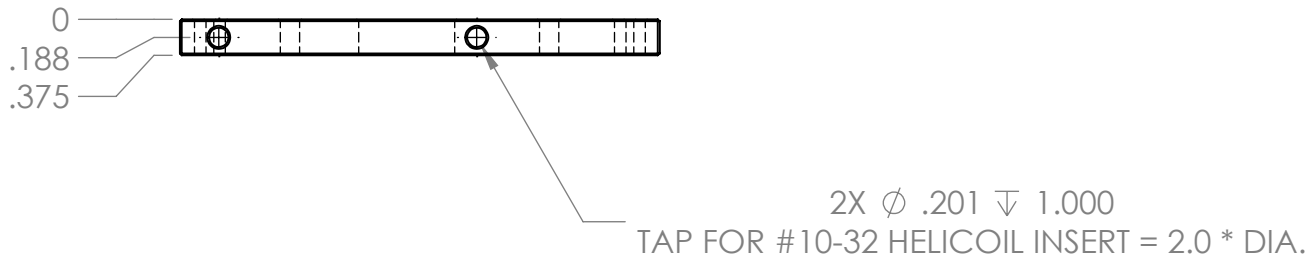
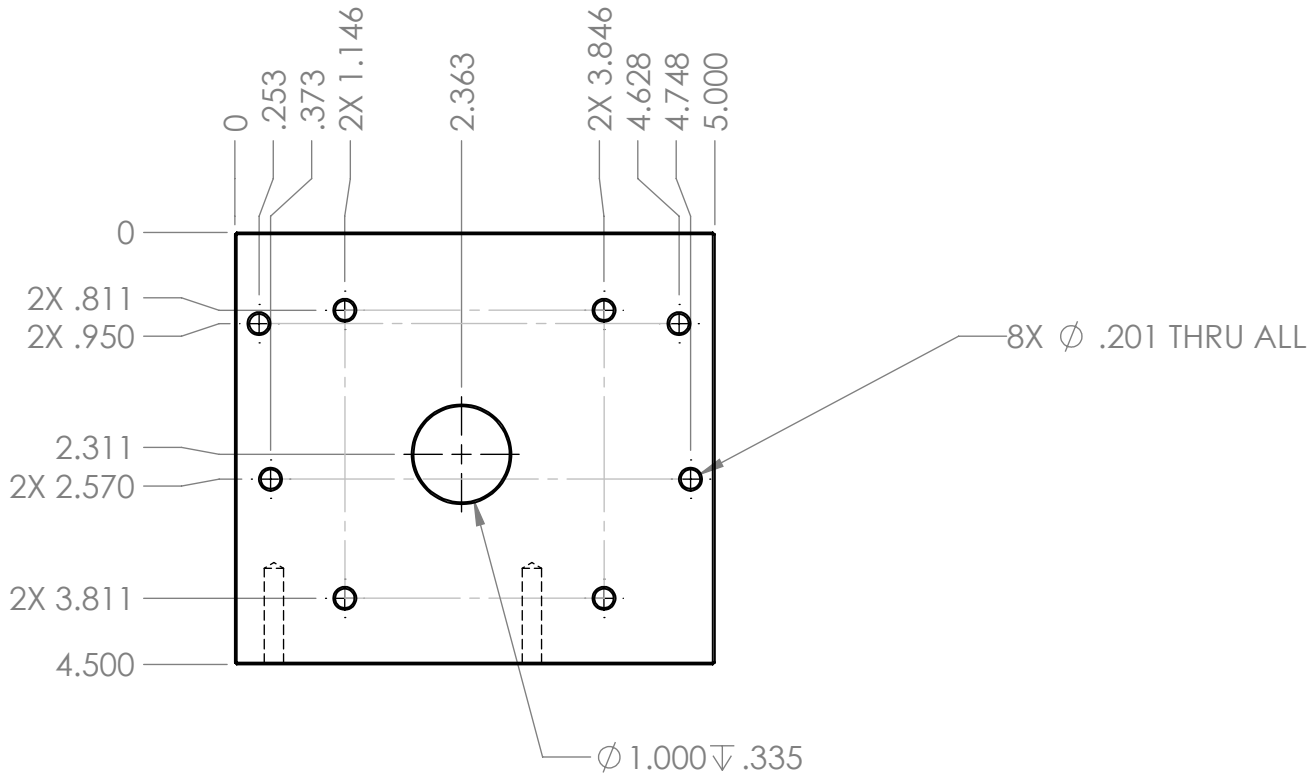
1. MATERIAL: 3/8" X 5" ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
4. BREAK ALL EDGES 45° X .020



	NAME	DATE	TITLE: VERTICAL PLATE		
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE B		
COMMENTS:					
			SCALE: 1:2	DWG. NO. 460021	REV 3
			SHEET 21 OF 22		

NOTES:

- 1. MATERIAL: 3/8" X 5" ALUMINUM FLAT BAR, 6061-T6 PER ASTM B221
- 2. FINISH: BLACK GLOSS ENAMEL SPRAY PAINT, ACRYLIC TOP COAT
- 3. ALL HOLES TO BE FREE OF FINISH CALLED IN NOTE 2
- 4. BREAK ALL EDGES 45° X .020



	NAME	DATE	TITLE: ROUTER MOUNTING PLATE		
DRAWN	VEE	2/9/2015			
CHECKED					
ENG APPR.					
MFG APPR.					
Q.A.			SIZE B		
COMMENTS:					
			DWG. NO. 460022	REV 3	
			SCALE: 1:2	SHEET 22 OF 22	