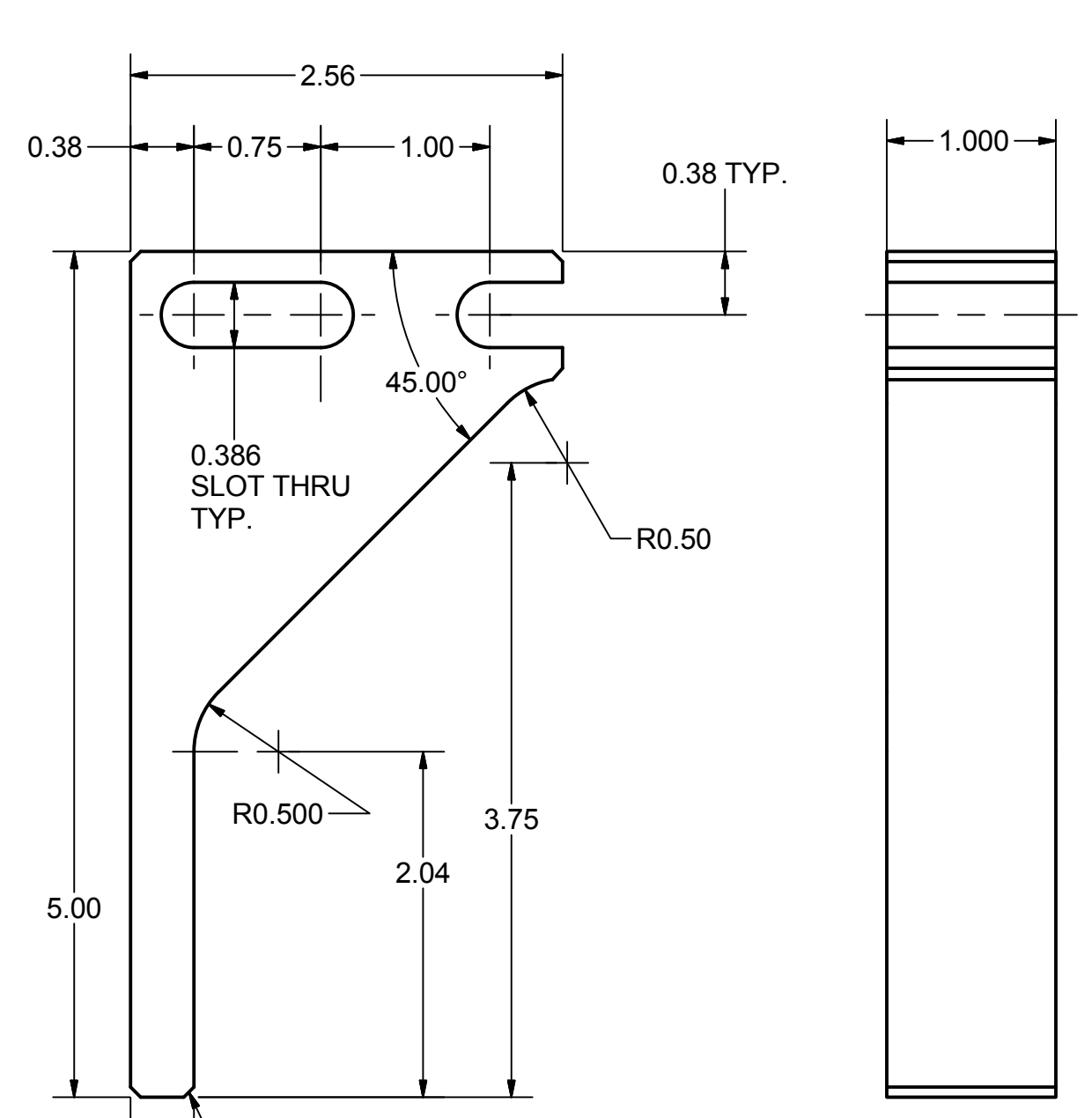
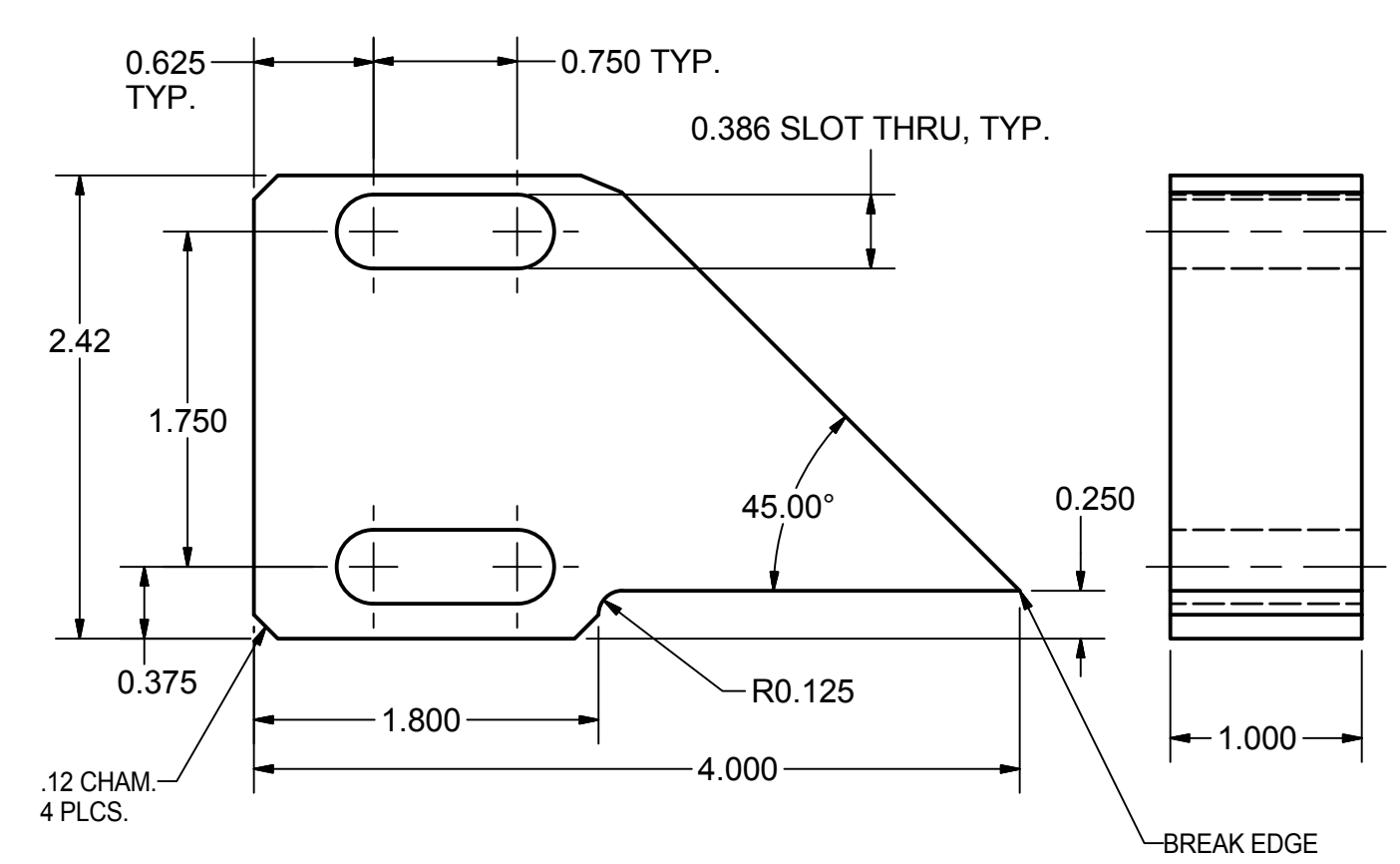


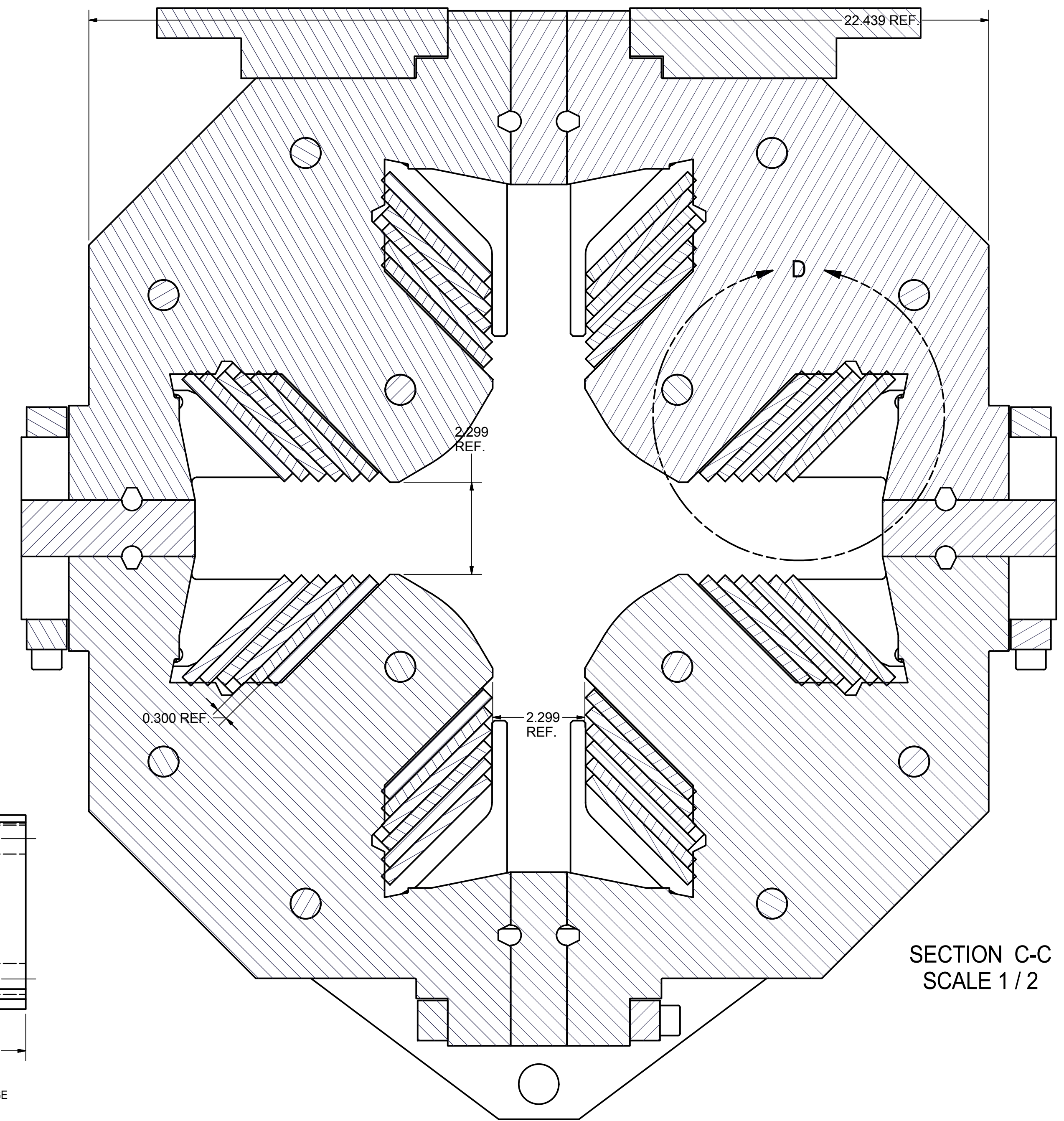
REVISIONS			
SYM.	ZONE	DESCRIPTION	DATE APP.



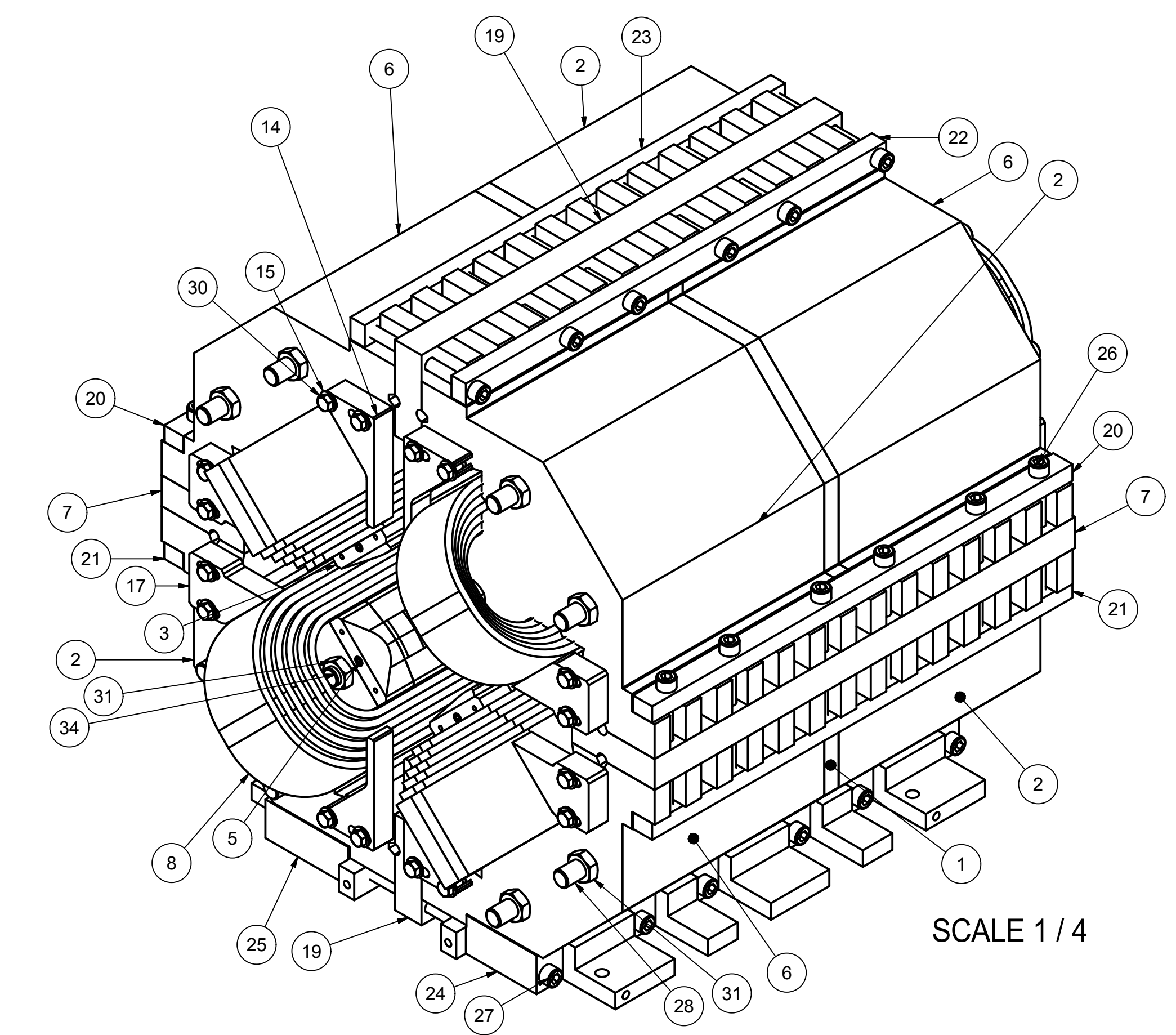
**14 COIL RETAINER**  
 FILE NAME: 6041-158  
 SHEET NO.: 1  
 DFT. SCALE: 1:1  
 MATERIAL: G-10  
 QTY: 4 PER ASM.  
 NOTES:



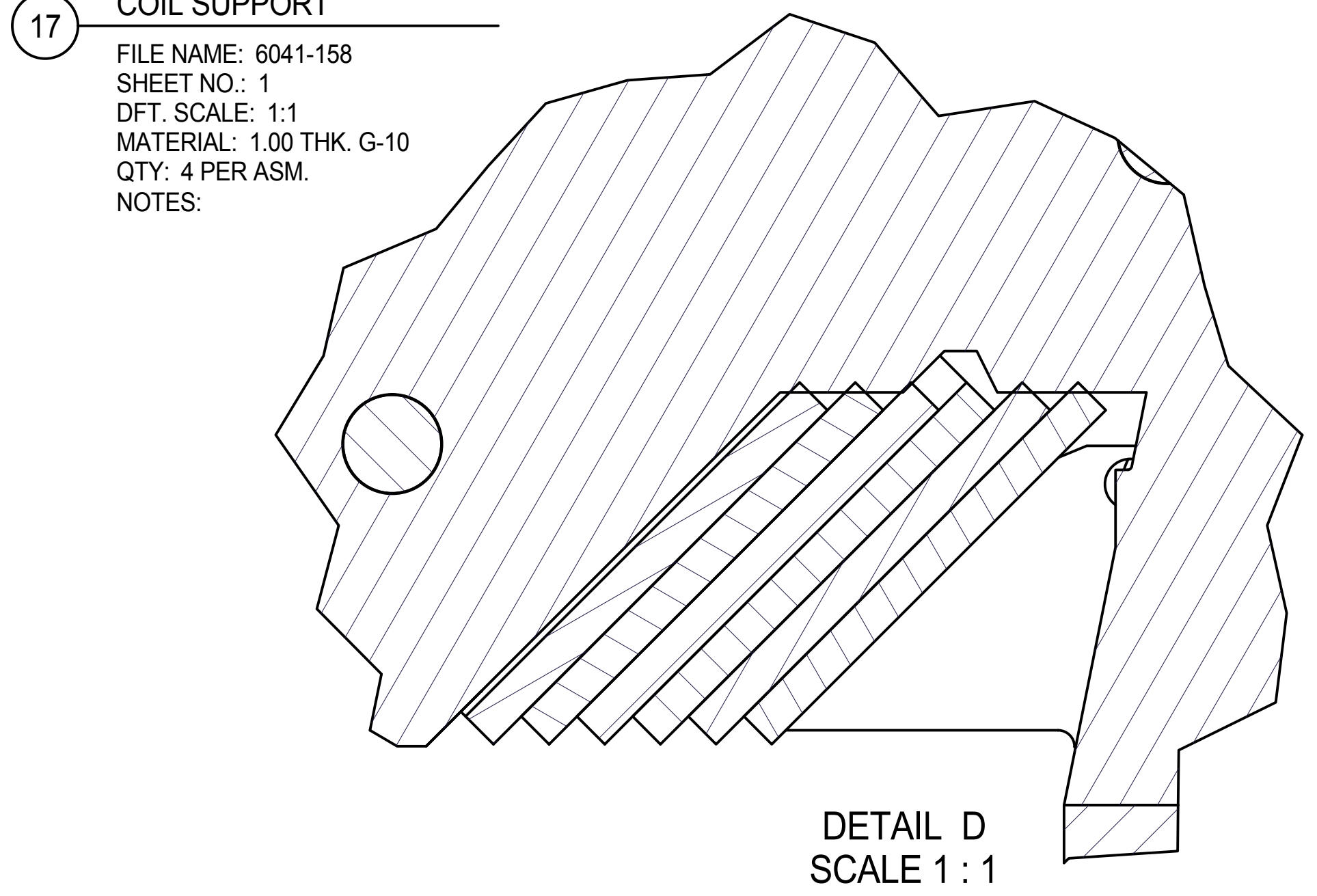
**17 COIL SUPPORT**  
 FILE NAME: 6041-158  
 SHEET NO.: 1  
 DFT. SCALE: 1:1  
 MATERIAL: 1.00 THK. G-10  
 QTY: 4 PER ASM.  
 NOTES:



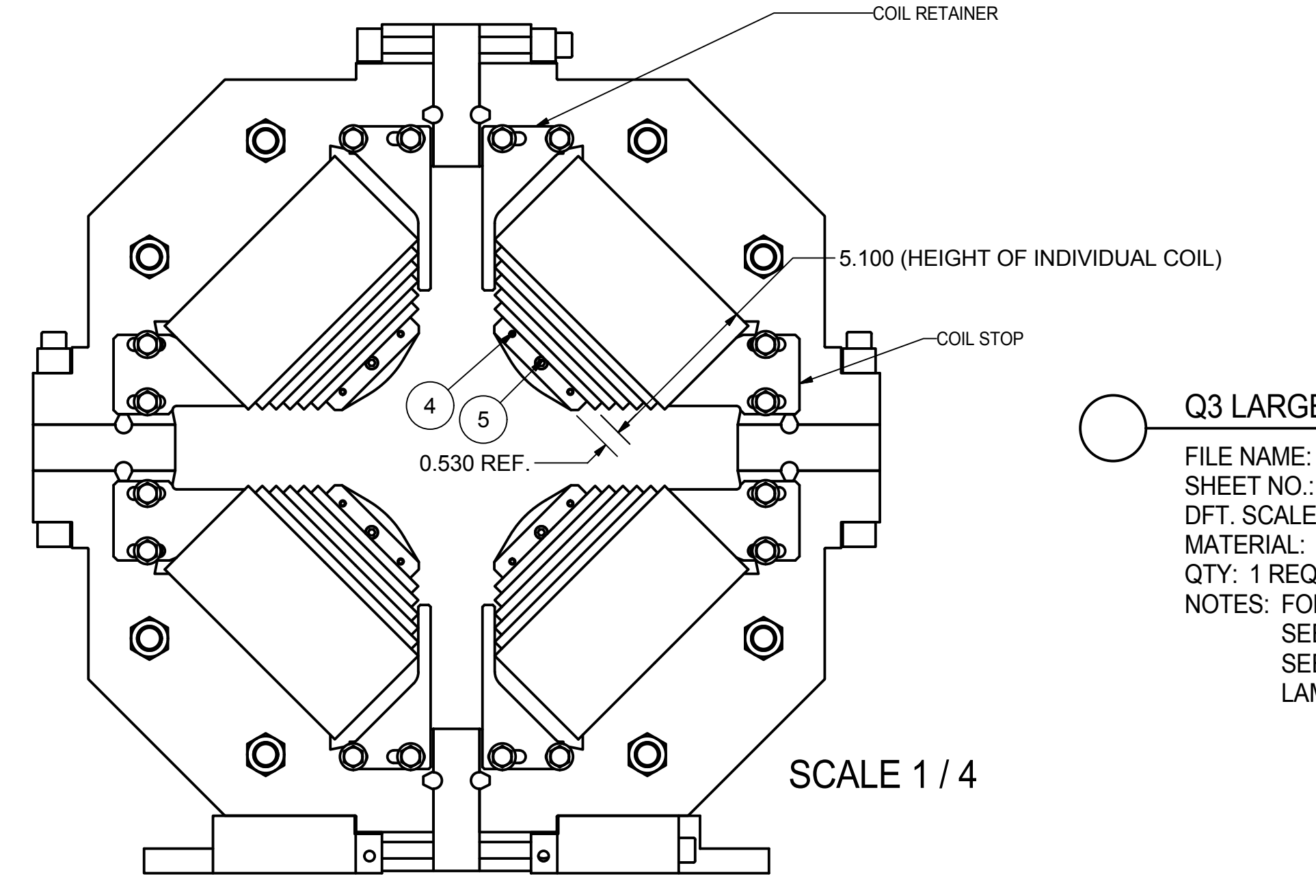
**SECTION C-C**  
 SCALE 1/2



SCALE 1/4



**DETAIL D**  
 SCALE 1:1



SCALE 1/4

**Q3 LARGE BORE QUAD**  
 FILE NAME: 6041-158  
 SHEET NO.: 1  
 DFT. SCALE: .5:1  
 MATERIAL: AS NOTED  
 QTY: 1 REQ'D  
 NOTES: FOR RIGGING DETAILS  
 SEE 6041-160  
 SEE SH.3 THIS DWG. FOR  
 LAMINATION STACKING DETAILS

34	.75 THD ROD SHORT	Stn. Stl. Ground Rod x 23.25 Lg. .75-10UNC x 1.00 LG. BOTH ENDS	4				
31	ANSI B18.2.2 - 3/4 - 10	Hex Jam Nut	24				
30	ANSI/ASME B18.2.1 - 3/8-16 UNC - 1.75	Hex Bolt - UNC (Regular Thread - Inch)	32				
28	.75 THD ROD		8				
27	ANSI B18.3 - 1/2 - 13 - 10	Hexagon Socket Head Cap Screw	6				
26	ANSI B18.3 - 1/2 - 13 - 6	Hexagon Socket Head Cap Screw	18				
25	6041-159-0202	PAD-2	1				
24	6041-159-0201	PAD-1	1				
23	6041-159-0206	CLAMP BAR-4	1				
22	6041-159-0205	CLAMP BAR-3	1				
21	6041-159-0204	CLAMP BAR-2	2				
20	6041-159-0203	CLAMP BAR-1	2				
19	Spacer 072704		2				
17	Coil Support 2		8				
15	ANSI B18.22.1 - 3/8 - narrow - Type A	Washer A	32				
14	Coil Retainer		8				
8	Coil1	SEE 6041-156	4				
7	Spacer 061504		2				
6	BLOCK 'B'		4				
5	Unbrako - 1/4 x 1 3/4	Hexagon Socket Head Cap Screw, 316 SS, NON-MAG.	8				McMASTER-CARR #92185A548
4	dowel pin		16				McMASTER-CARR #97175A315
3	tip_v62-modify1-062504		8				
2	BLOCK 'A'		4				
1	DIVIDER STACK	STACK OF 14 LAMINATIONS (.75 THK.)	4				SEE NOTE, SH.3

REV.	PRINT DISTR.	ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
					QUANTITY				

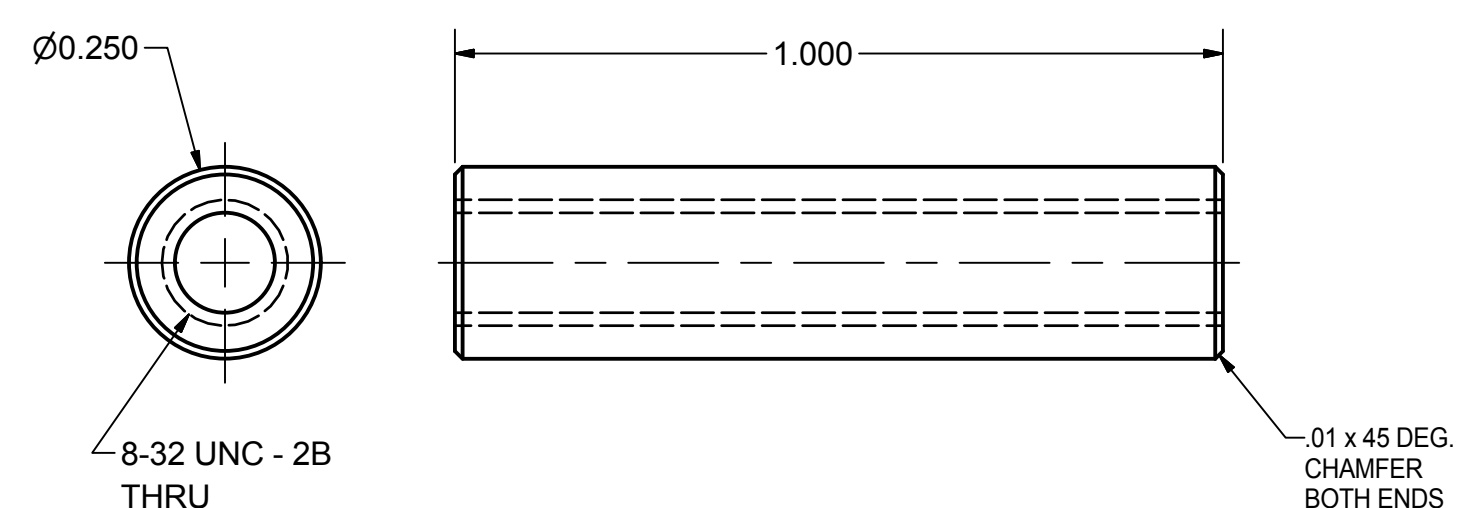
PLOT DATE: 11/4/2004  
 CAD FILE NAME: 6041-158.idw  
 CR-1  
 UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES:  
 TOLERANCES ON:  
 .00 ± .010  
 .000 ± .005  
 FRACTIONS ± 1/64  
 ANGLES ± 0.5°  
 ALL SURFACES

**CORNELL UNIVERSITY**  
**LEPP**  
 LABORATORY FOR ELEMENTARY PARTICLE PHYSICS  
 CORNELL UNIVERSITY  
 Floyd R. Newman Laboratory  
 Ithaca, NY 14853

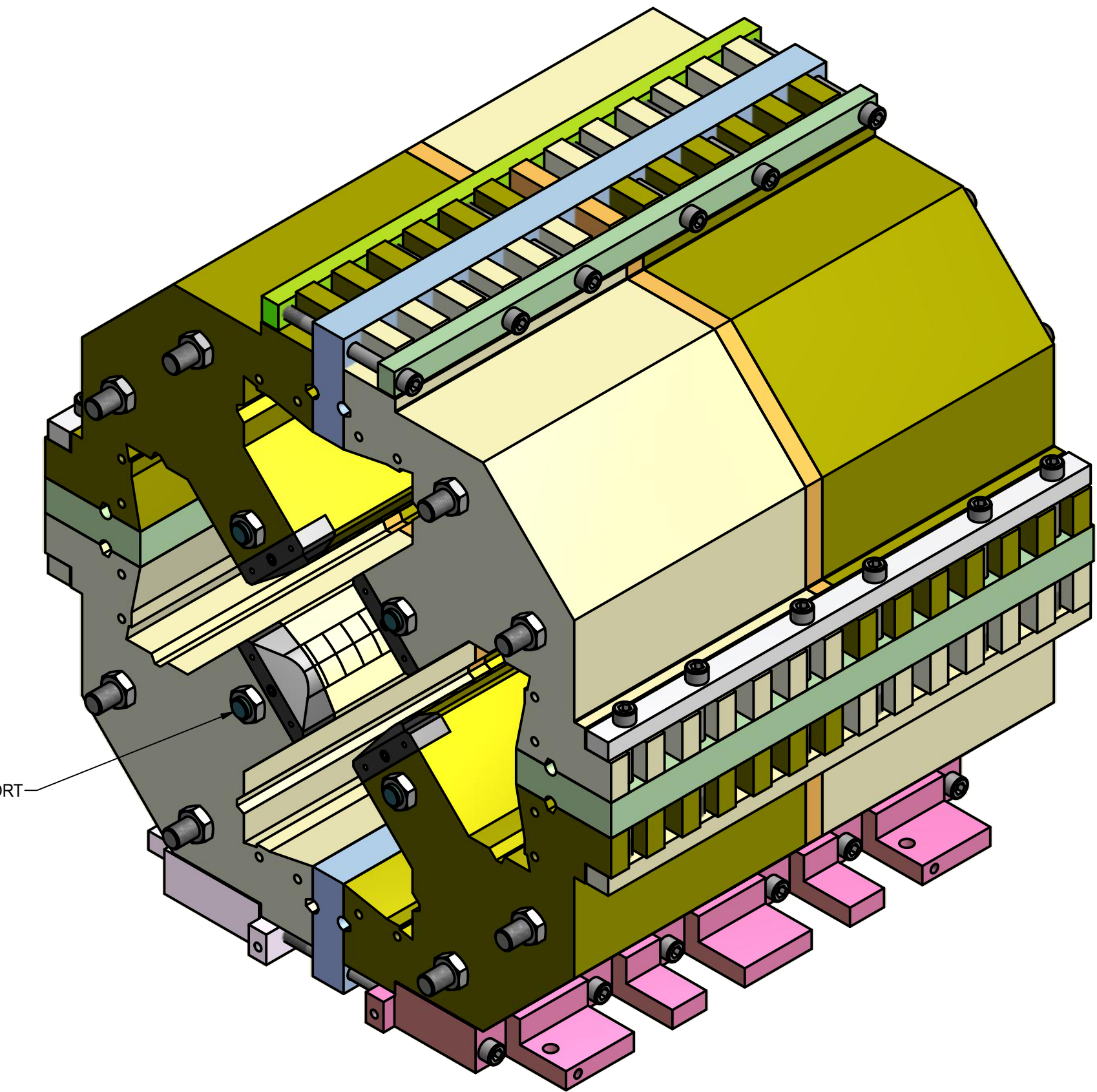
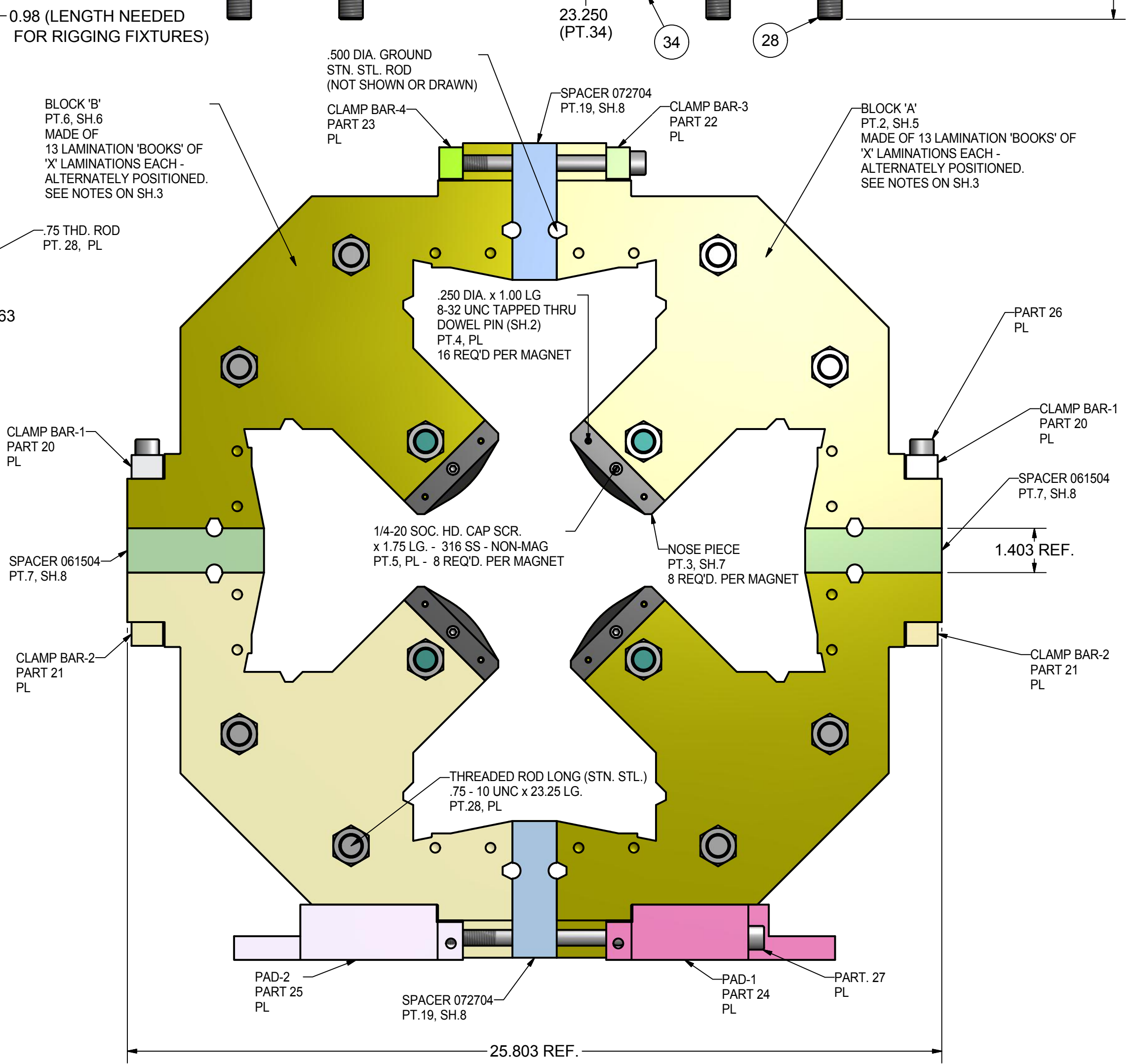
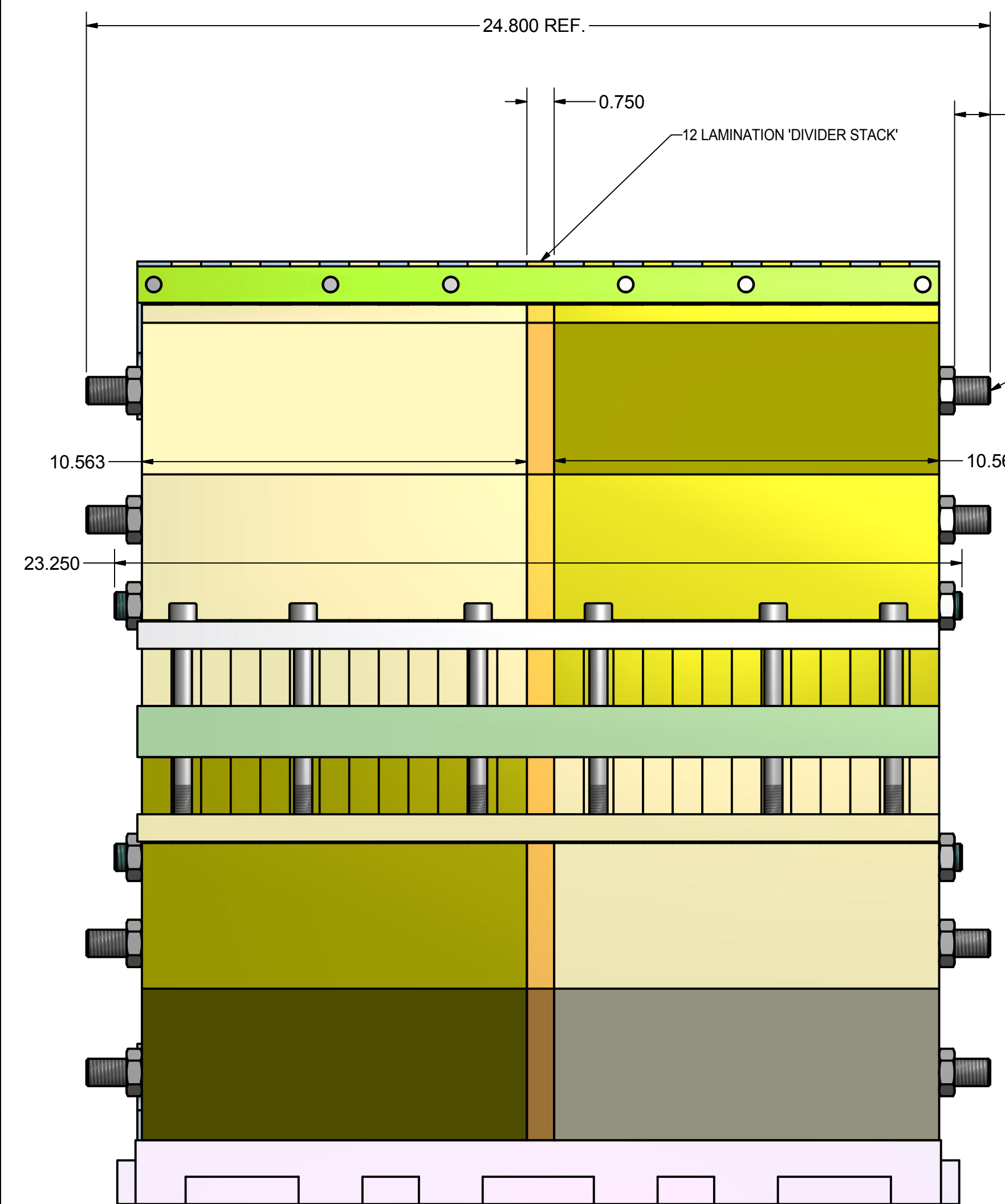
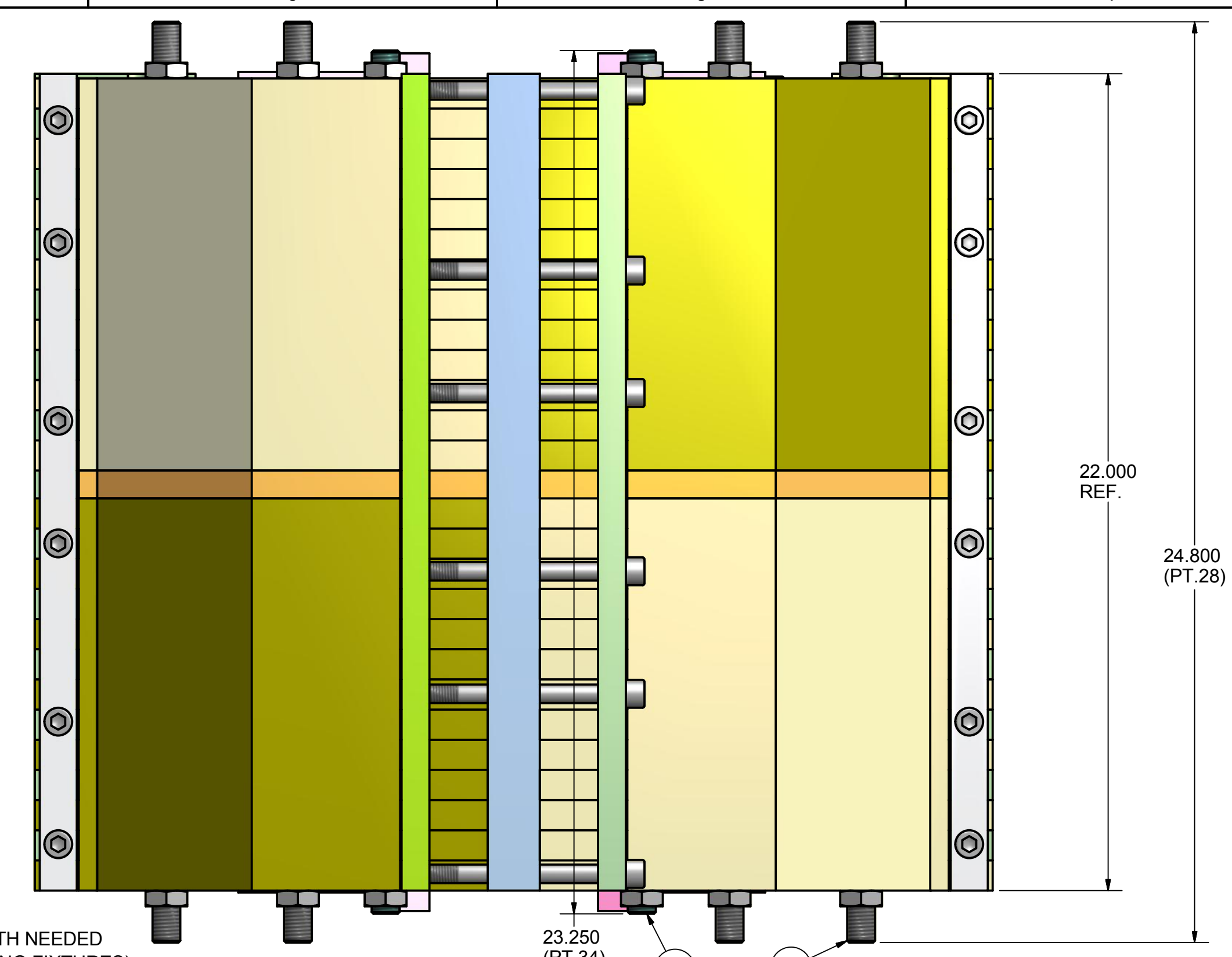
**MK1 QUAD LAMINATION WITH LARGE BORE MODIFICATIONS ASSEMBLY**

CHECKED BY:	DRAWN BY:	DRAWN FOR:	DATE:	SCALE:	DWG. NO.:	REV.:
MAP	TMK	M.PALMER	6/2/2004	D	6041-158	SH. NO. 1 OF 10

REVISIONS			
SYM.	ZONE	DESCRIPTION	DATE APP.
			1



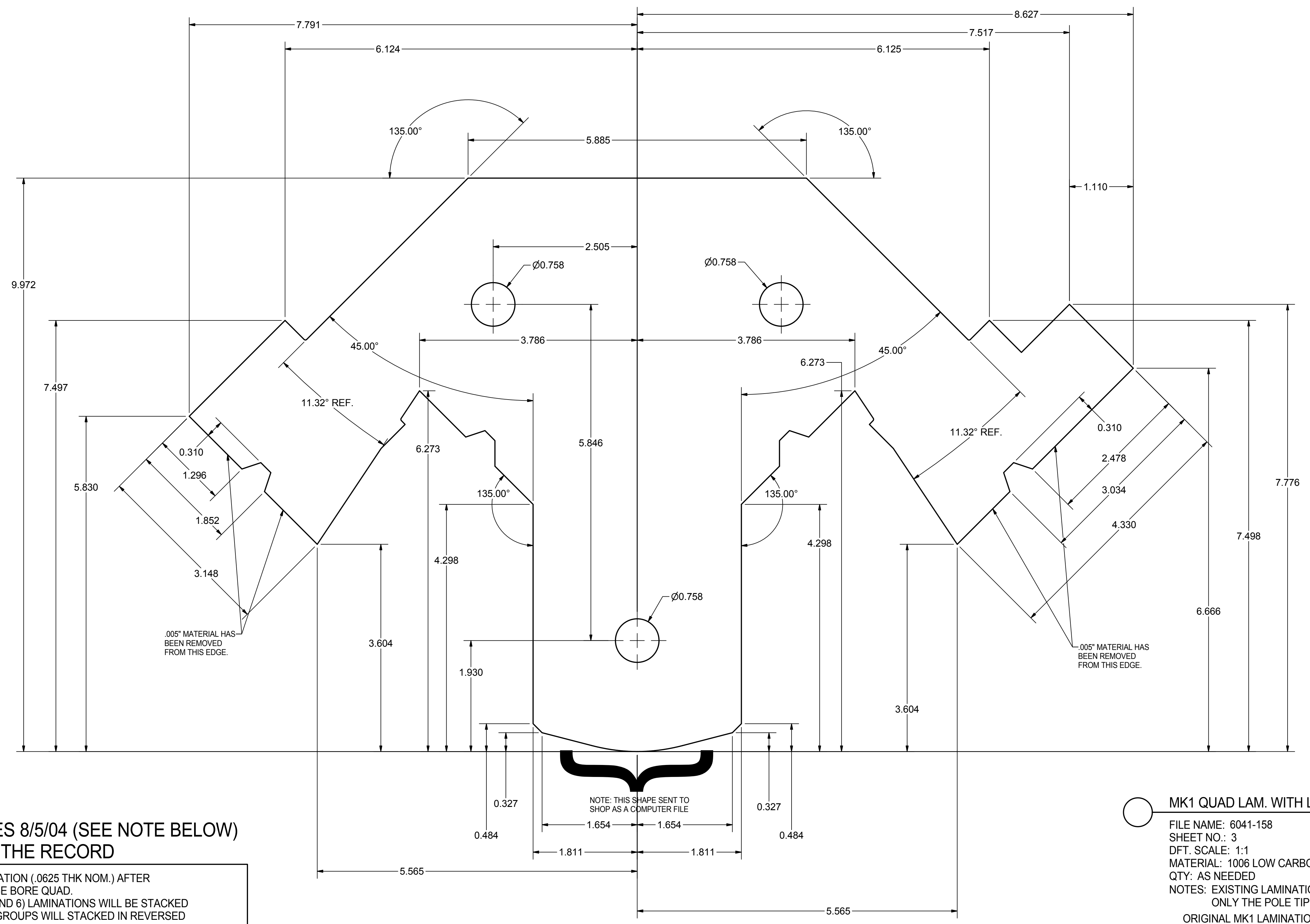
**4 DOWEL PIN**  
 FILE NAME: 6041-158  
 SHEET NO.: 2  
 DFT. SCALE: 5:1  
 MATERIAL: GROUND DOWEL PIN - SEE NOTE  
 QTY: 16 TOTAL PER MAGNET  
 NOTES: PURCHASE McMASTER-CARR  
 #97175A315 THEN  
 TAP THRU AS SHOWN



**LG. BORE Q3 MAGNET, SUB-ASM.**  
 FILE NAME: 6041-158  
 SHEET NO.: 2  
 DFT. SCALE: .333:1  
 MATERIAL: AS NOTED  
 QTY: 1 REQ'D.  
 NOTES: SEE NOTES ON SH.3 OR SEE  
 MARK PALMER-LEPP FOR INFO  
 ABOUT ACTUAL LAMINATION STACKING.

REV.	PRINT DISTR.	ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
					QUANTITY				
6041-158	CR-1			UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES				CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853	
				MK1 QUAD LAMINATION WITH LARGE BORE MODIFICATIONS Q3 LARGE BORE MAGNET WITHOUT COILS					
				CHECKED BY: MAP APPROVED BY: MAP				DRAWN BY: TMK DRAWN FOR: M.PALMER DATE: 6/2/2004 SCALE: D	6041-158 SH. NO. 2 OF 10

REVISIONS			
SYM.	ZONE	DESCRIPTION	DATE APP.



**THIS INFORMATION PREDATES 8/5/04 (SEE NOTE BELOW) BUT SHOULD BE SAVED FOR THE RECORD**

THIS SHEET SHOWS THE PROFILE OF A LAMINATION (.0625 THK NOM.) AFTER MATERIAL REMOVAL FOR USE IN THE Q3 LARGE BORE QUAD.  
 FOR USE IN BLOCKS 'A' AND 'B' (SHEETS 5 AND 6) LAMINATIONS WILL BE STACKED IN GROUPS OF 13 (= .8125 THK. NOM.) AND GROUPS WILL STACKED IN REVERSED ORIENTATION EQUALLING 13 BUNCHES (= 10.5625 THK. NOM.)  
 SEE SHEETS 5 AND 6 FOR CLARIFICATION AND ADDITIONAL MACHINING.  
 IN ADDITION, TO CREATE A DIVIDER STACK, 12 LAMINATIONS WILL BE STACKED (= .75 THK. NOM.)

EACH BLOCK ('A' OR 'B') REQUIRES 169 LAMINATIONS.  
 THE Q3 ASSEMBLY REQUIRES 4 EACH OF BLOCKS 'A' AND 'B'. EQUALLING 1352 LAMINATIONS.  
 THE Q3 ASSEMBLY ALSO REQUIRES 4 DIVIDER STACKS (12 LAMS. EACH EQUALLING 48 LAMINATIONS).  
 7/29/04

**THE FOLLOWING NOTE WAS ADDED ON 8/5/04 (FOR #... DESIGNATIONS SEE MARK PALMER - LEPP)**  
 SECTIONS #4, #10, #14 (MIDDLE), #18 AND #24 HAVE 14 LAMINATIONS EACH.  
 SECTION #14 WAS ORIGINALLY TO HAVE 12 LAMINATIONS WHILE THE OTHERS WERE TO HAVE 13 LAMINATIONS EACH.  
 THE TOTAL NUMBER OF LAMINATIONS USED IS 356 PER QUADRANT.  
 THE FIVE QUARTERS ASSEMBLED MEASURED RESPECTIVELY;  
 21.9458", 21.9575", 21.9370", 21.9355" AND 21.9610" (THE SPARE).

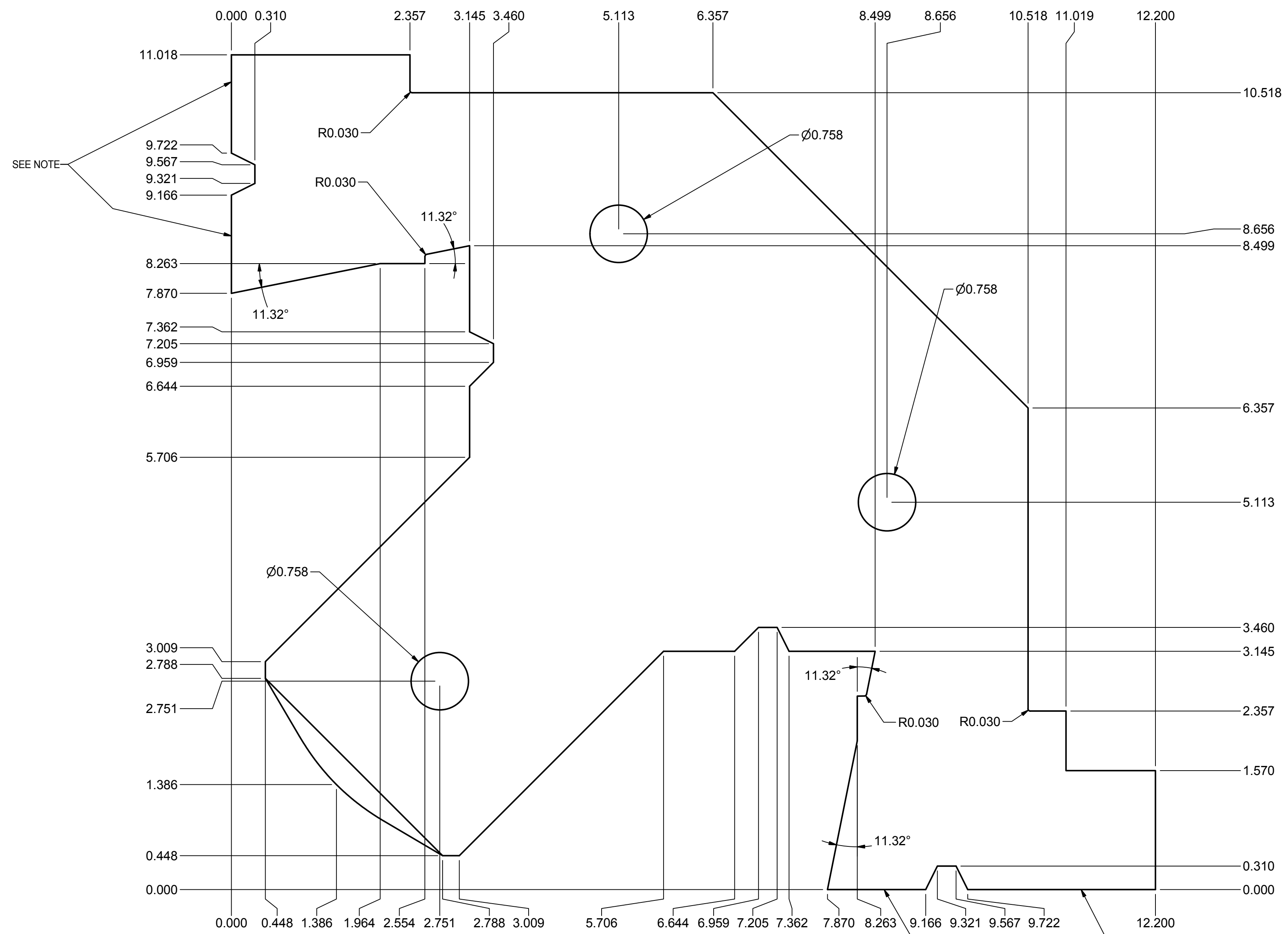
**MK1 QUAD LAM. WITH LG. BORE MODS.**

FILE NAME: 6041-158  
 SHEET NO.: 3  
 DFT. SCALE: 1:1  
 MATERIAL: 1006 LOW CARBON STEEL - USE EXISTING SPARE LAMINATIONS  
 QTY: AS NEEDED  
 NOTES: EXISTING LAMINATIONS WILL BE STACKED AND ONLY THE POLE TIP AND NOTED EDGES WILL BE REMACHINED  
 ORIGINAL MK1 LAMINATION DWG. IS D-6040-050-01

TO RECREATE A MODEL OF THIS LAMINATION BEFORE THE .005" REMOVAL;  
 OPEN FILE CALLED 'Q3QuarterDerived.ipt' AND COPY IT WITH AN APPROPRIATE NAME.  
 OPEN THAT FILE AND SUPPRESS THE FEATURE THAT REMOVED THE .005" OF MATERIAL FROM THE PART EDGES (PROBABLY THE LAST FEATURE IN THE BROWSER).

REV.	PRINT DISTR.	ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
					QUANTITY				
				PLOT DATE: 11/4/2004 CAD FILE NAME: 6041-158.idw					
		CR-1		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES				CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853	
					<b>MK1 QUAD LAMINATION WITH LARGE BORE MODIFICATIONS FOR FAST LUMINOSITY MONITOR AT Q3W</b>				
				CHECKED BY: MAP APPROVED BY: MAP	DRAWN BY: TMK	DRAWN FOR: M.PALMER	DATE: 6/2/2004	SCALE: D	6041-158 SH. NO. 3 OF 10

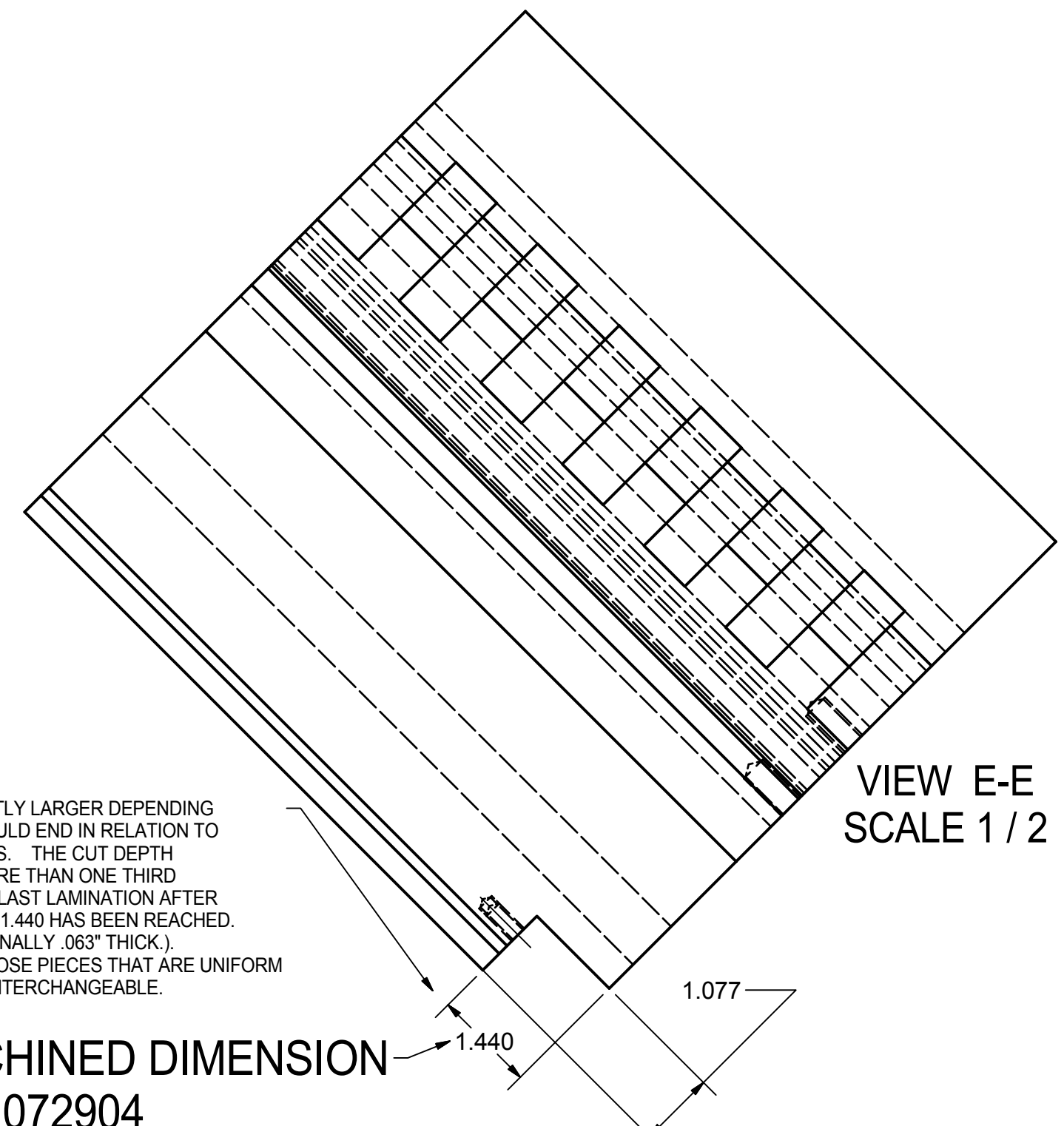
REVISIONS			
SYM.	ZONE	DESCRIPTION	DATE APP.



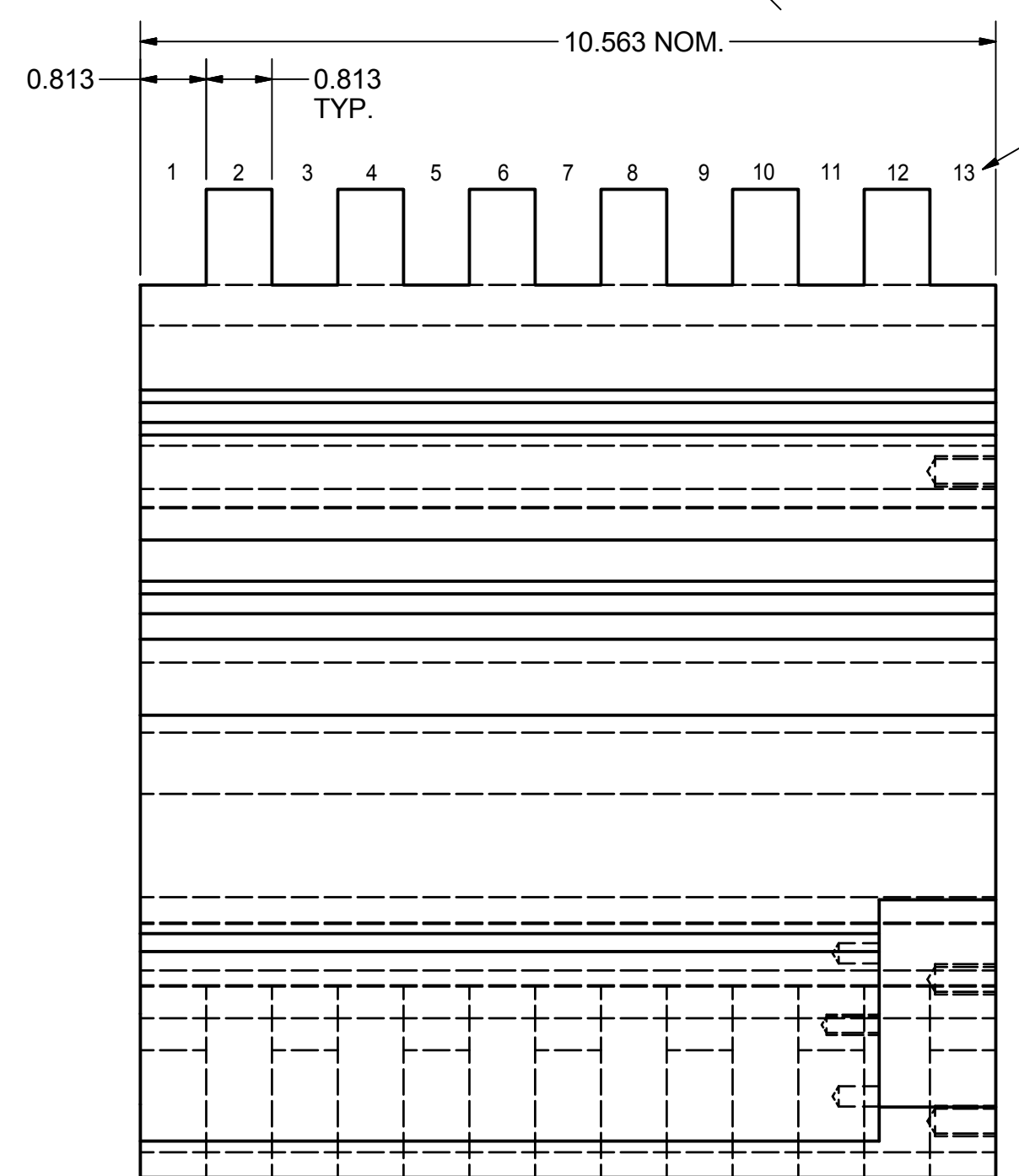
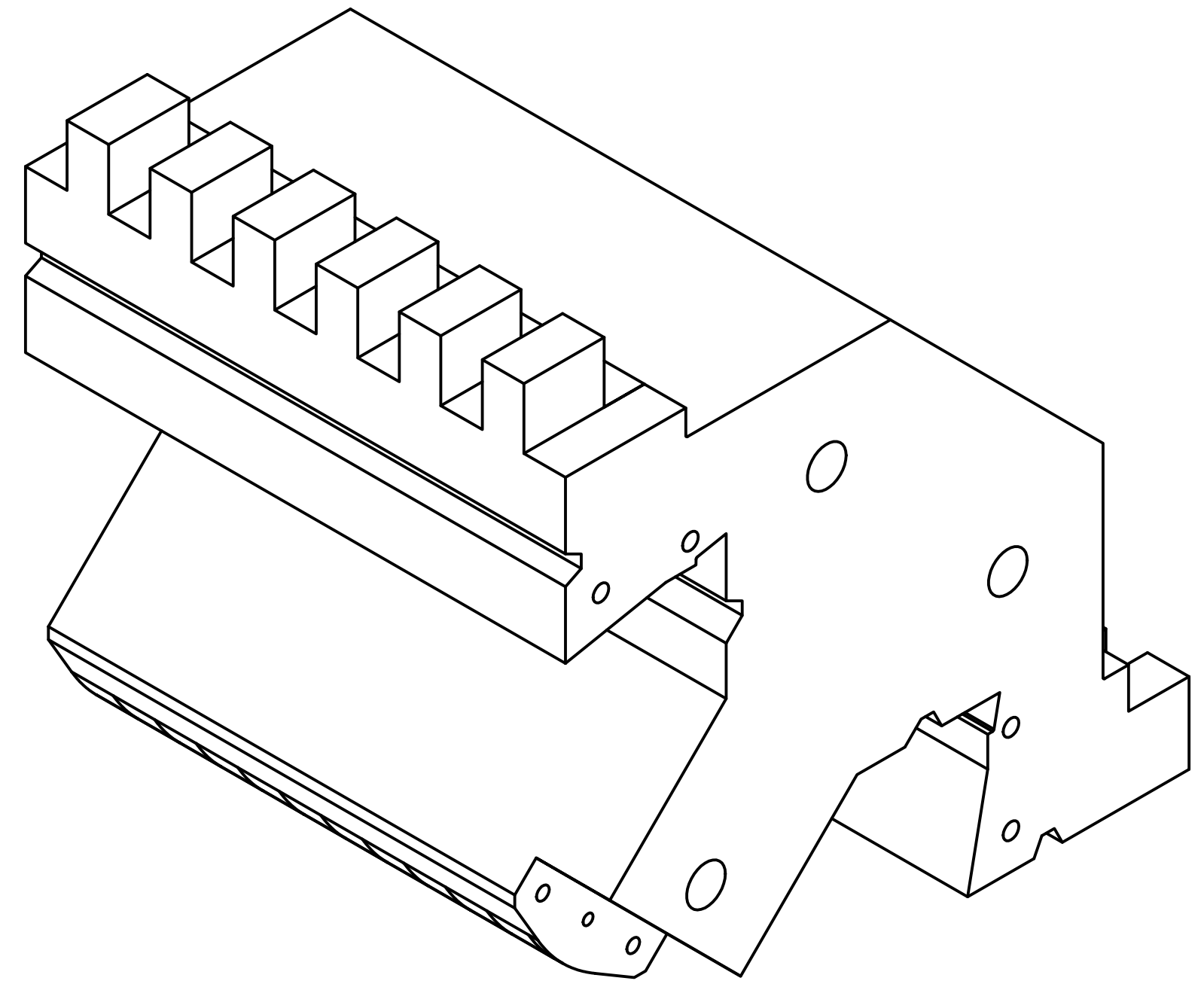
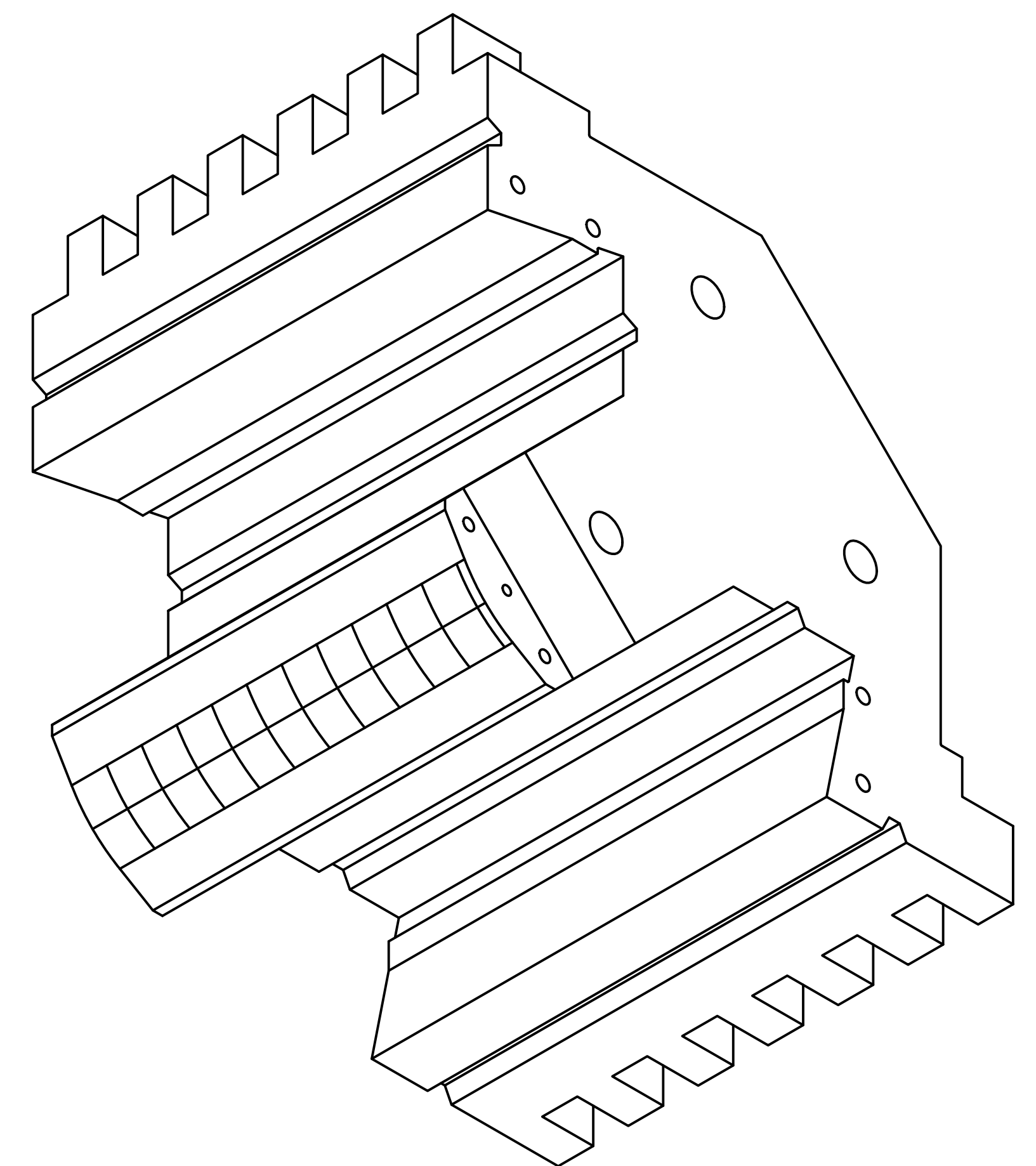
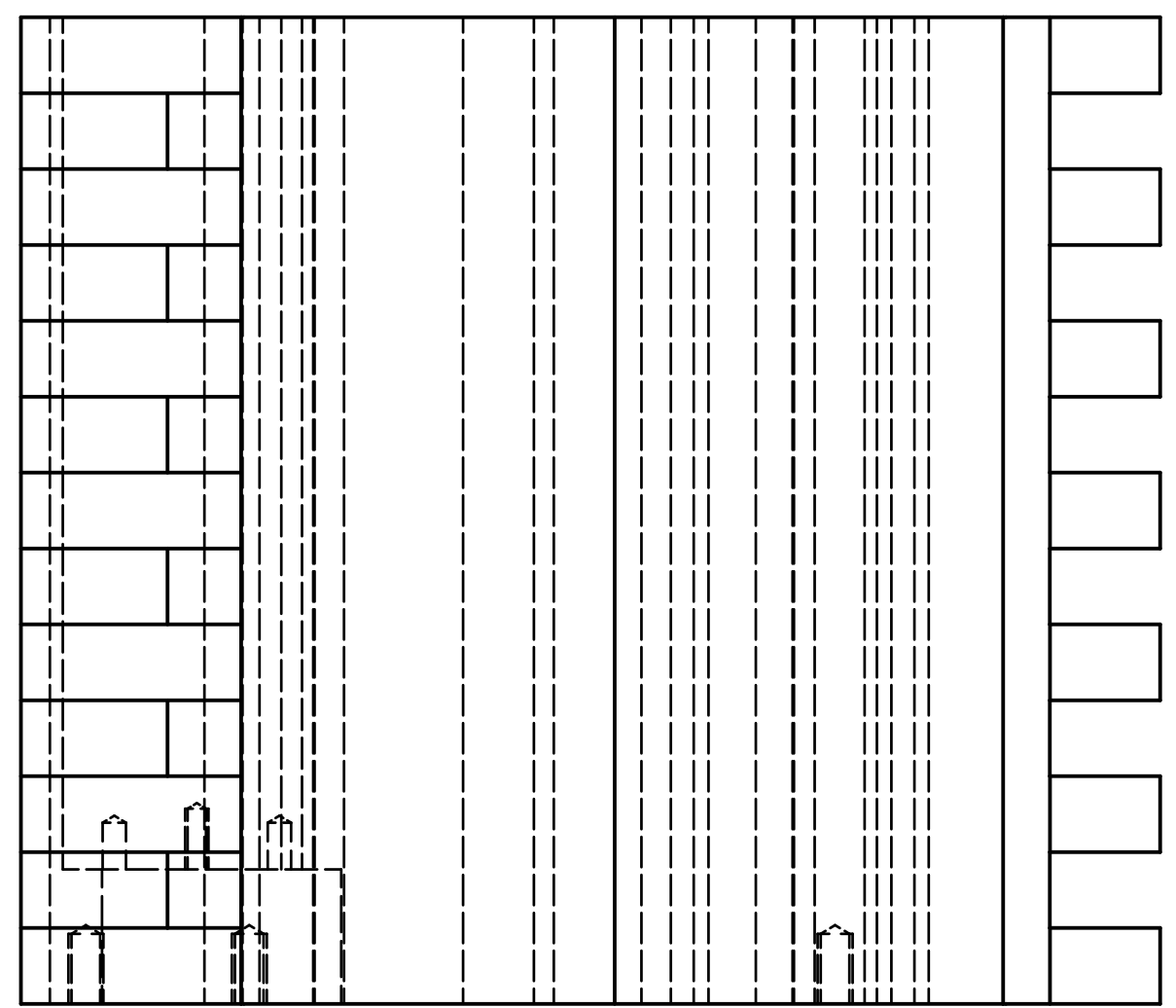
NOTE: THE DIMENSIONS ON THIS SHEET WERE CREATED AFTER .005" WAS MACHINED FROM THE LEAD EDGES LABELED 'SEE NOTE'.

ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
			QUANTITY				
<b>D</b>	PRINT DISTR.	PLOT DATE: 11/4/2004 CAD FILE NAME: 6041-158.idw					
6041-158 SH. NO. 4 OF 10	CR-1	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES ✓			CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853		
	MK1 QUAD LAMINATION WITH LARGE BORE MODIFICATIONS LAMINATION WITH ORDINATE DIMENSIONS		CHECKED BY: MAP APPROVED BY: MAP				
REV.		DRAWN BY TMK	DRAWN FOR M.PALMER	DATE 6/2/2004	SCALE <b>D</b>	6041-158 SH. NO. 4 OF 10	REV.

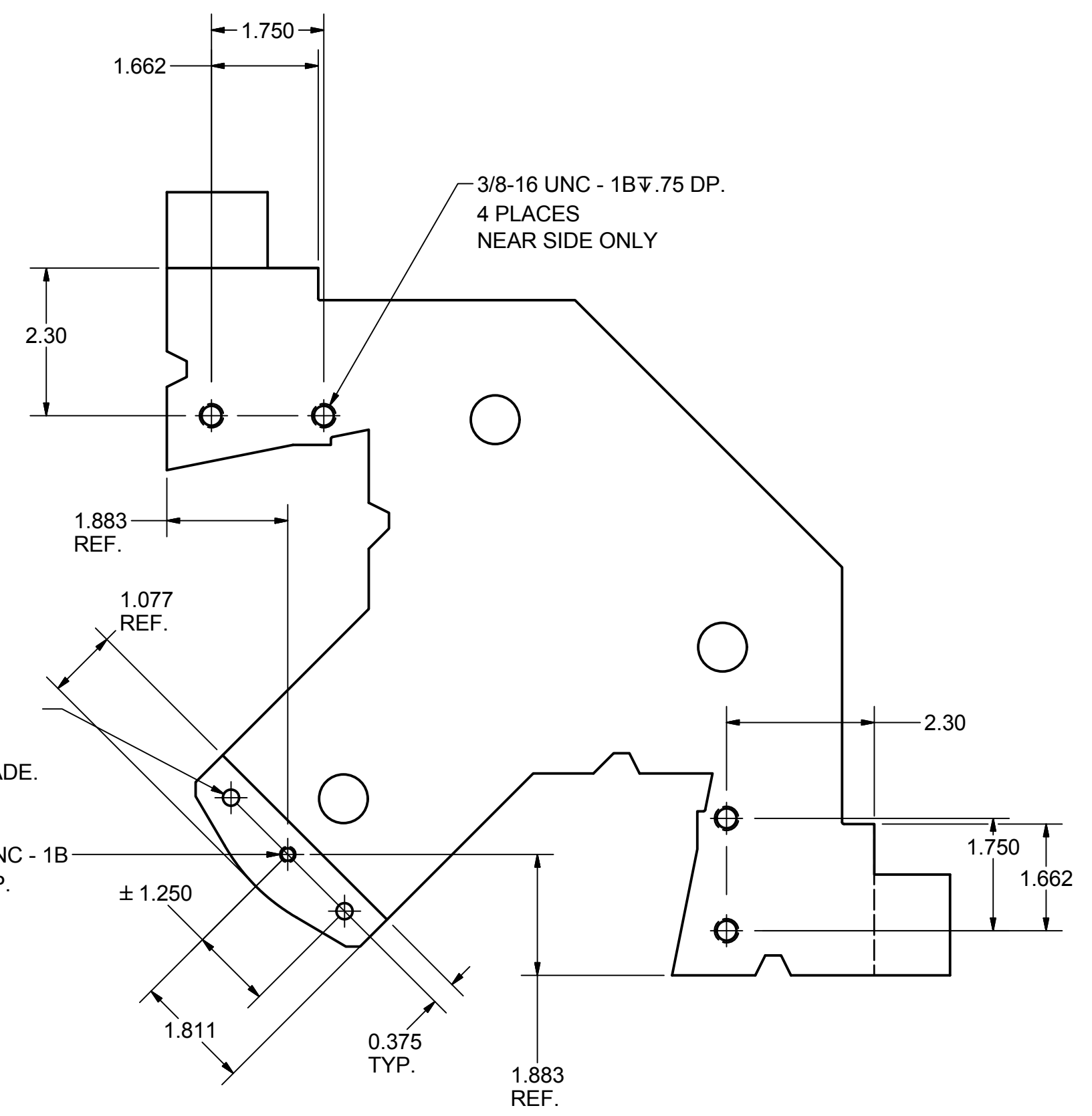
REVISIONS			
SYM.	ZONE	DESCRIPTION	DATE APP.



FINAL MACHINED DIMENSION IS 1.450" -- 072904



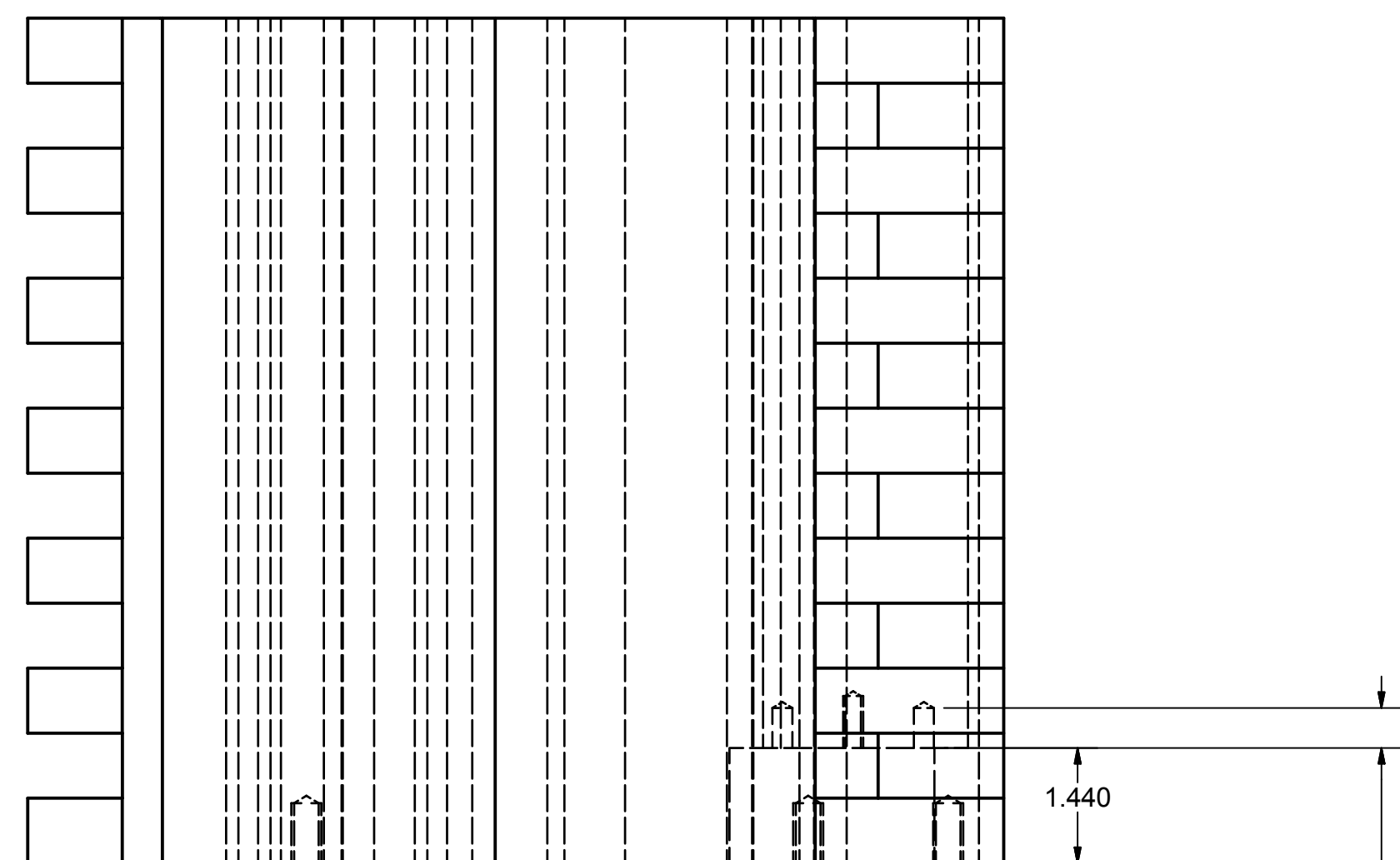
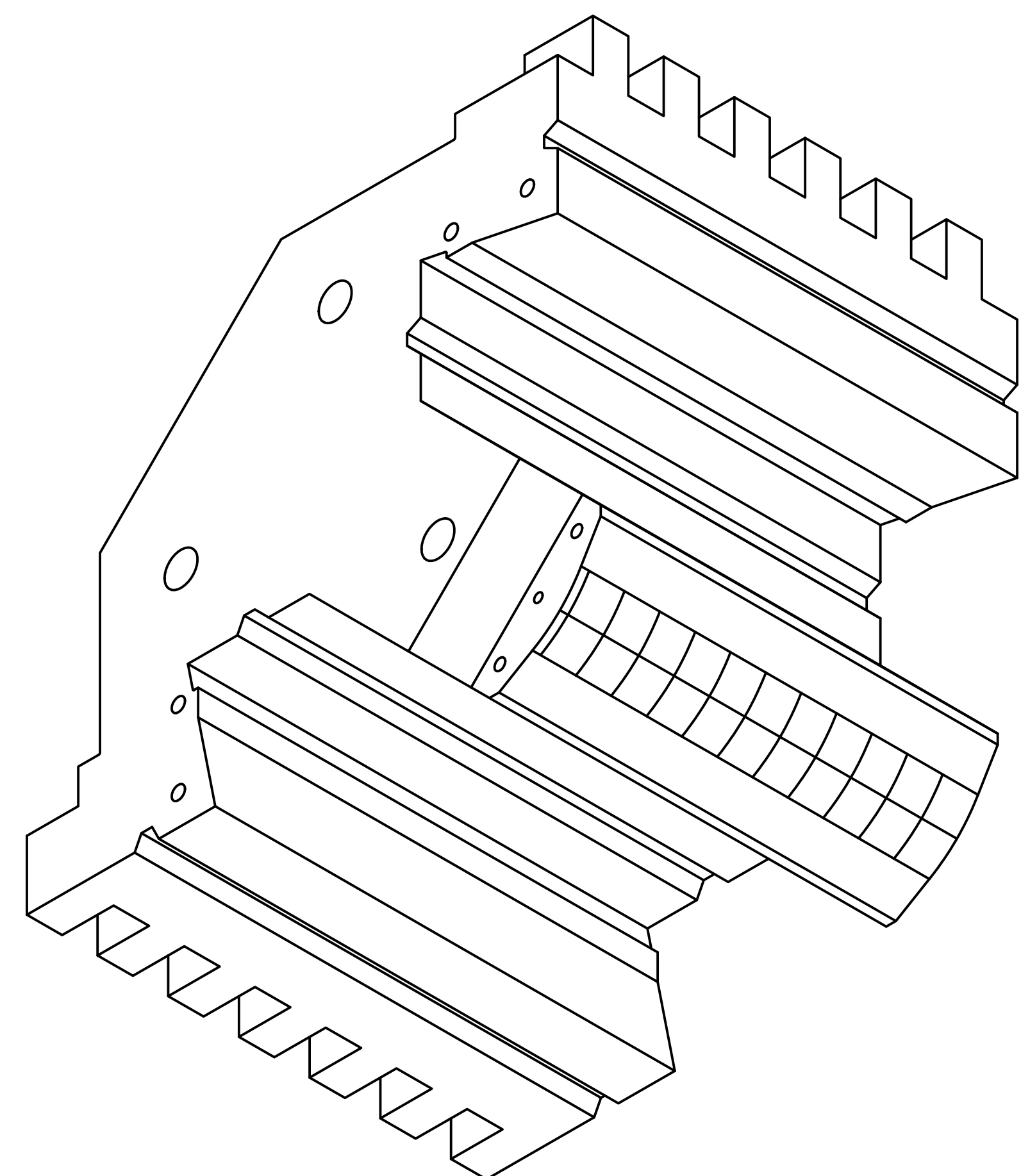
13 ALTERNATING STACKS OF 13 LAMINATIONS EACH (LAMINATIONS ARE .0625 THK. NOM.)



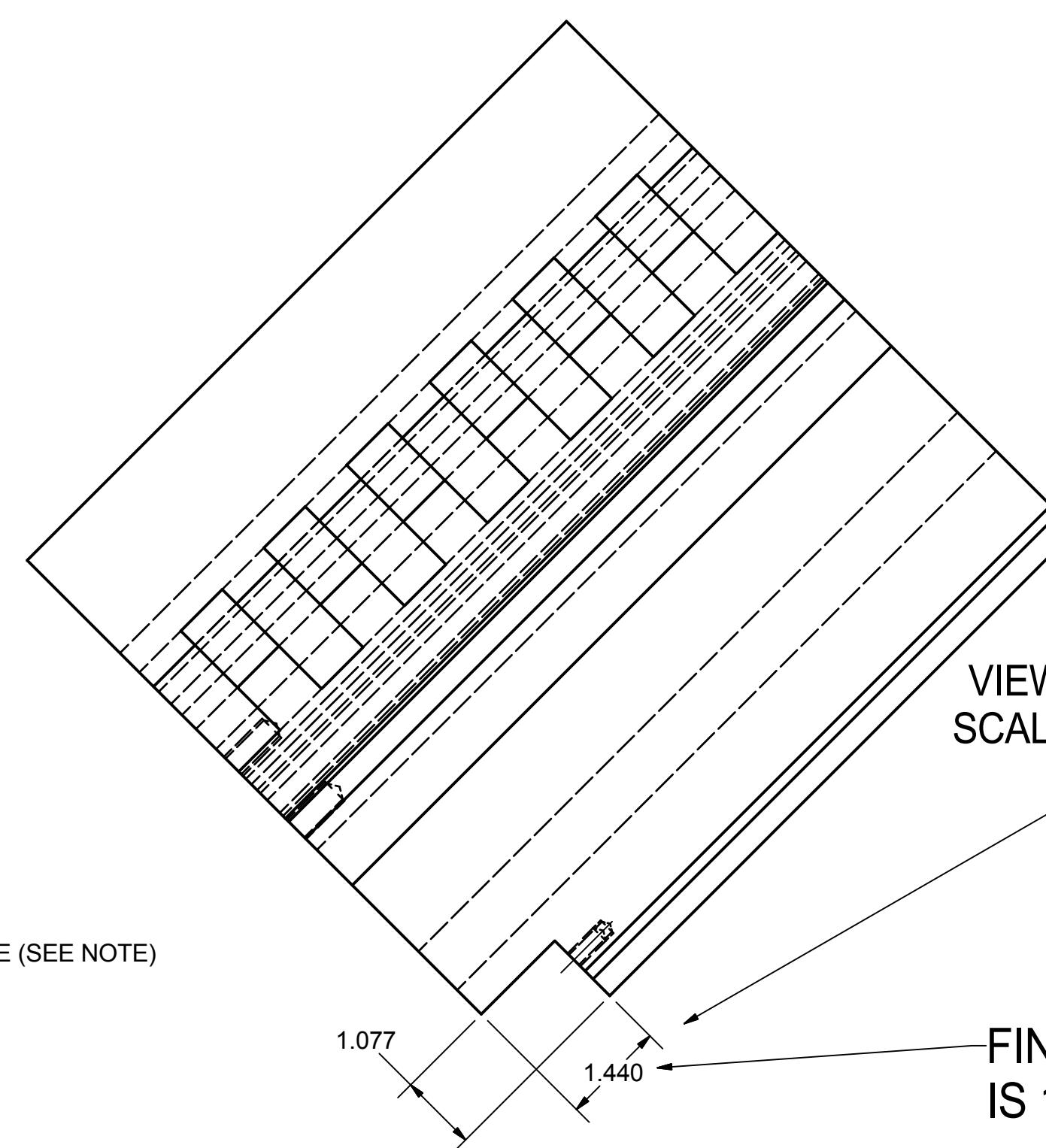
2 BLOCK 'A'  
 FILE NAME: 6041-158  
 SHEET NO.: 5  
 DFT. SCALE: .5:1  
 MATERIAL: 1006 LOW CARBON STEEL LAMINATIONS  
 QTY: 4 PER ASM.  
 NOTES: SEE MARK PALMER - LEPP, FOR SPECIFIC FABRICATION AND ASSEMBLY INFORMATION REGARDING THIS PART ALSO SEE SH.3 FOR STACKING DETAILS

ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
			QUANTITY				
PRINT DISTR.	PLOT DATE: 11/4/2004 CAD FILE NAME: 6041-158.idw						
6041-158 SH. NO. 5 OF 10	CR-1	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES			CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853		
	<b>MK1 QUAD LAMINATION WITH LARGE BORE MODIFICATIONS</b> <b>ENDPACK MACHINING - BLOCK 'A'</b>						
CHECKED BY: MAP	DRAWN BY: TMK	DRAWN FOR: M.PALMER	DATE: 6/2/2004	SCALE: D	6041-158	REV.	SH. NO. 5 OF 10
APPROVED BY: MAP							

REVISIONS			
SYM.	ZONE	DESCRIPTION	DATE APP.



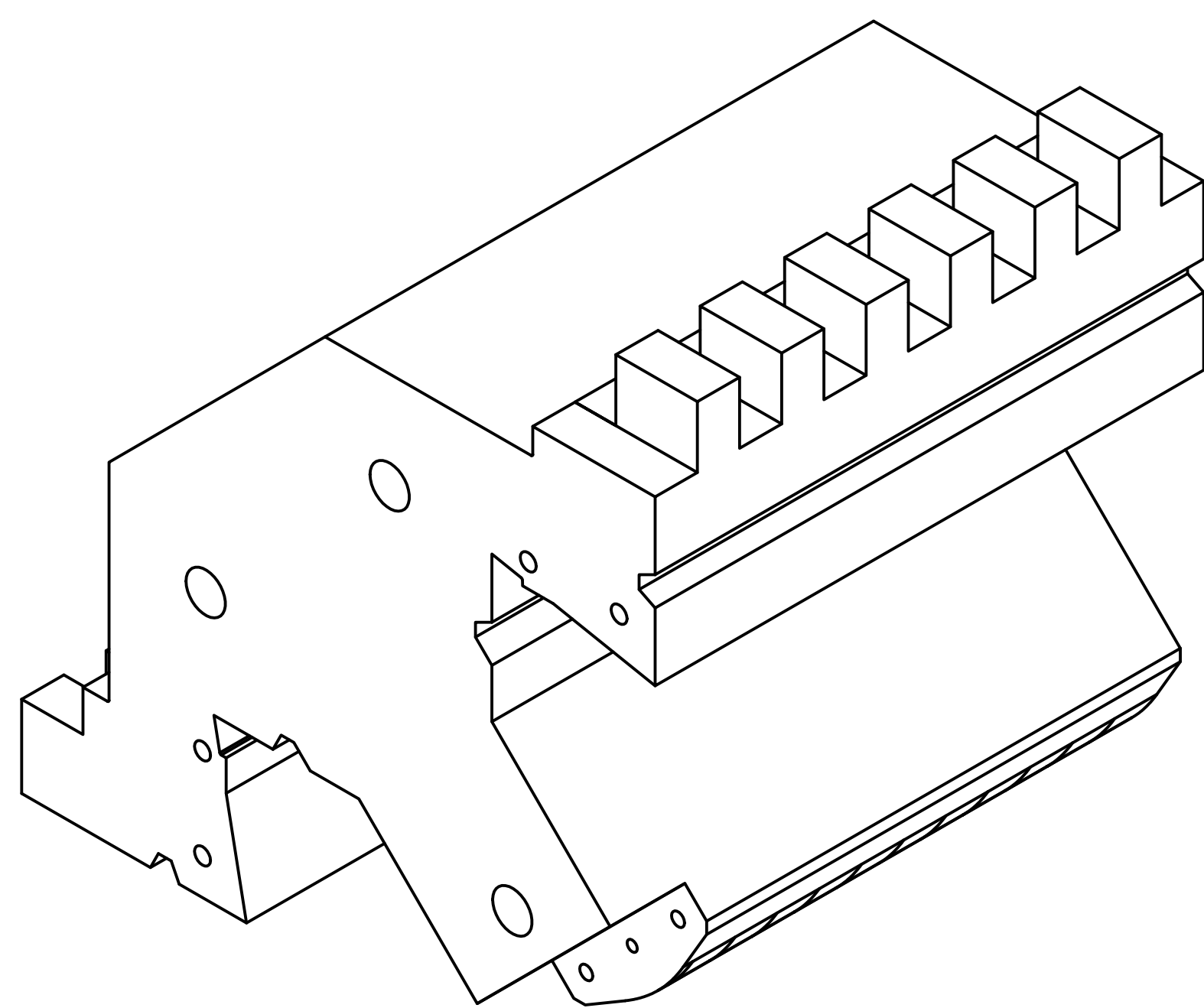
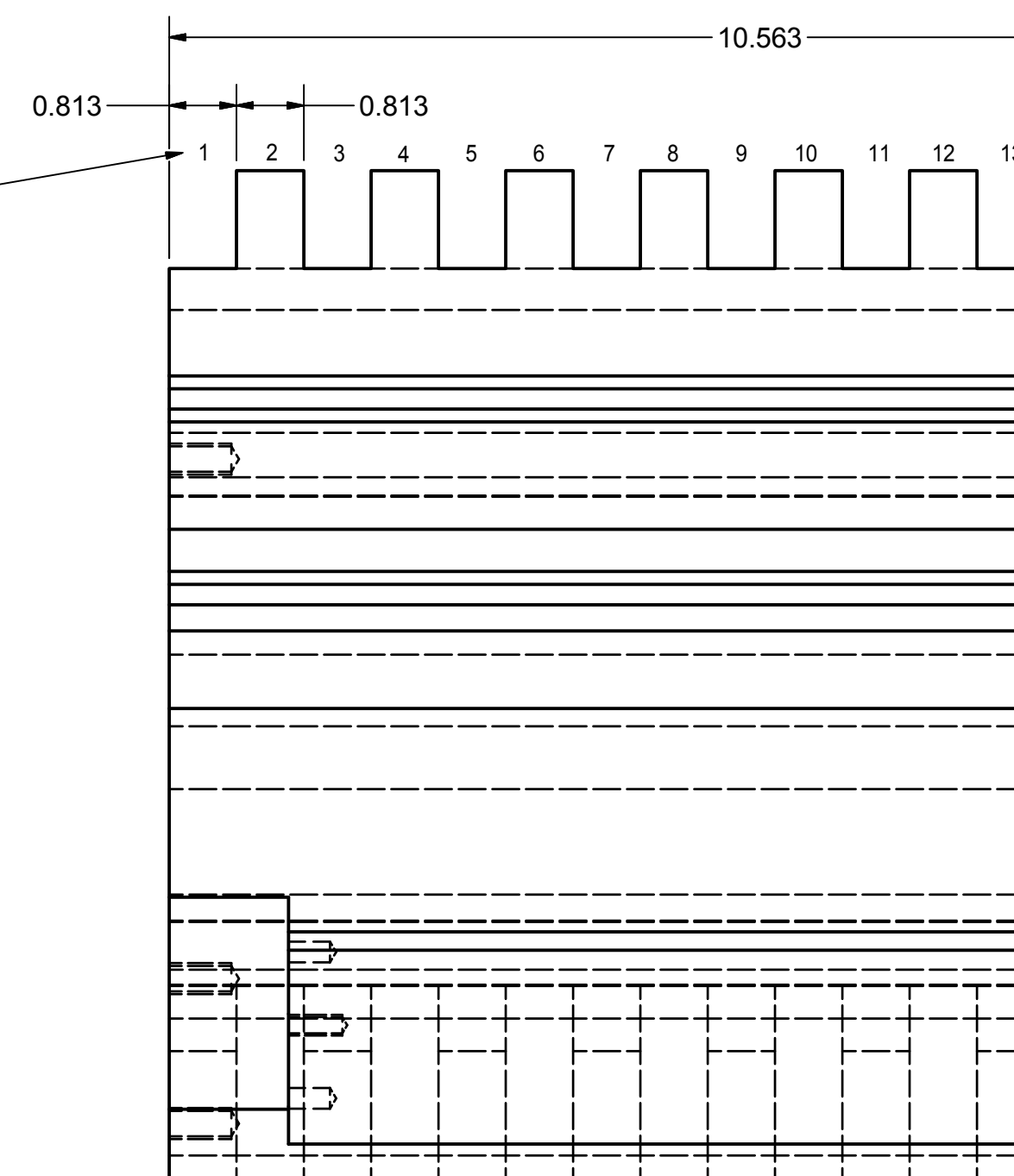
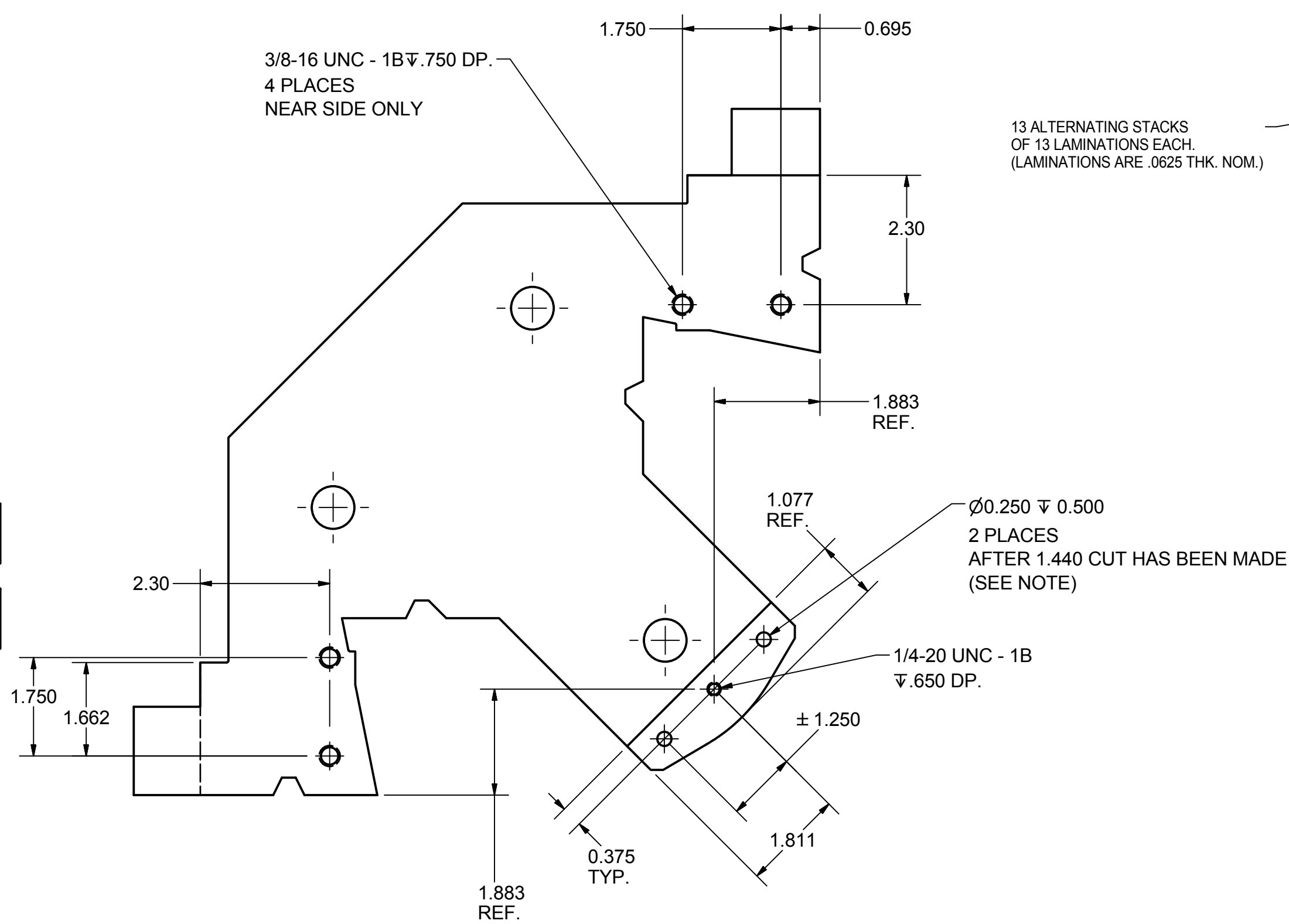
0.500 AFTER 1.440 CUT IS MADE (SEE NOTE)



VIEW F-F  
SCALE 1/2

THIS DIM. MAY BE SLIGHTLY LARGER DEPENDING ON WHERE THE CUT WOULD END IN RELATION TO THE GLUED LAMINATIONS. THE CUT DEPTH SHOULD EXTEND NO MORE THAN ONE THIRD THE THICKNESS OF THE LAST LAMINATION AFTER THE MINIMUM DEPTH OF 1.440 HAS BEEN REACHED. (LAMINATIONS ARE NOMINALLY .063" THICK) THE INTENT IS TO USE NOSE PIECES THAT ARE UNIFORM IN SIZE AND ARE THUS INTERCHANGABLE.

FINAL MACHINED DIMENSION IS 1.450" -- 072904

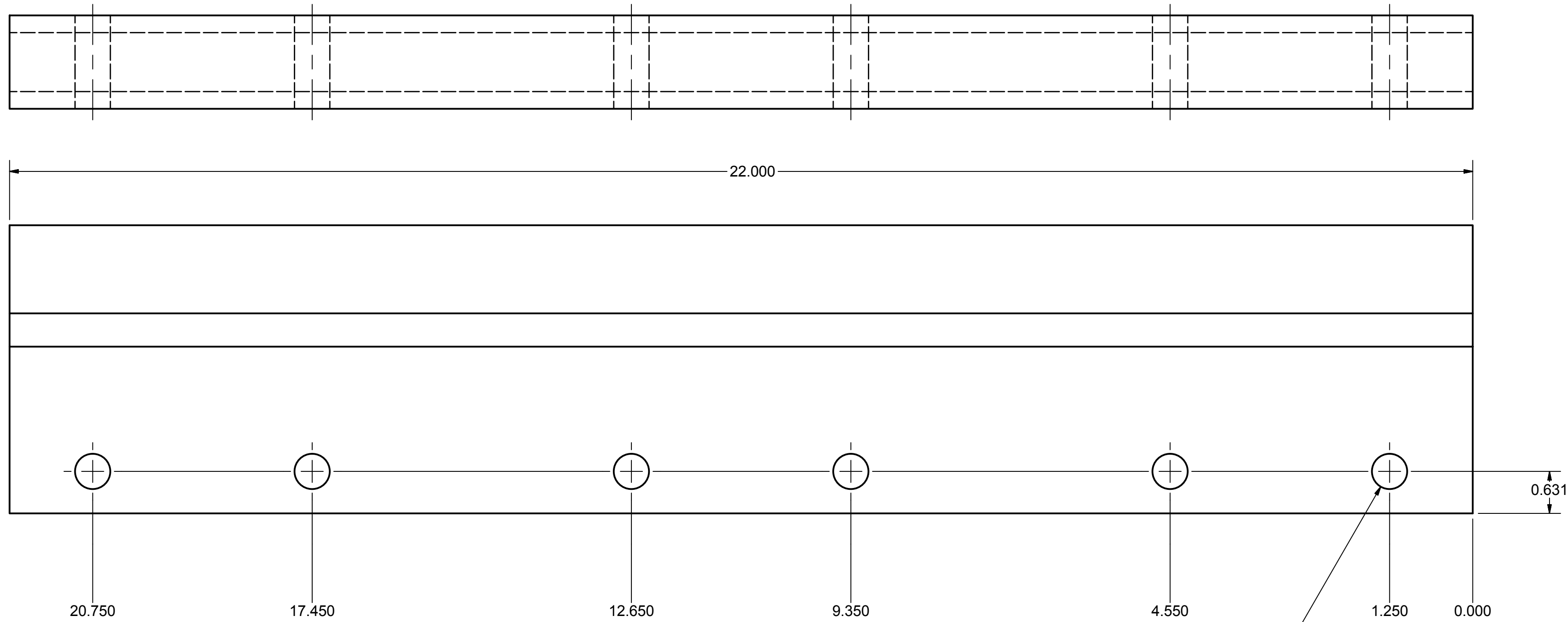


**6** BLOCK 'B'

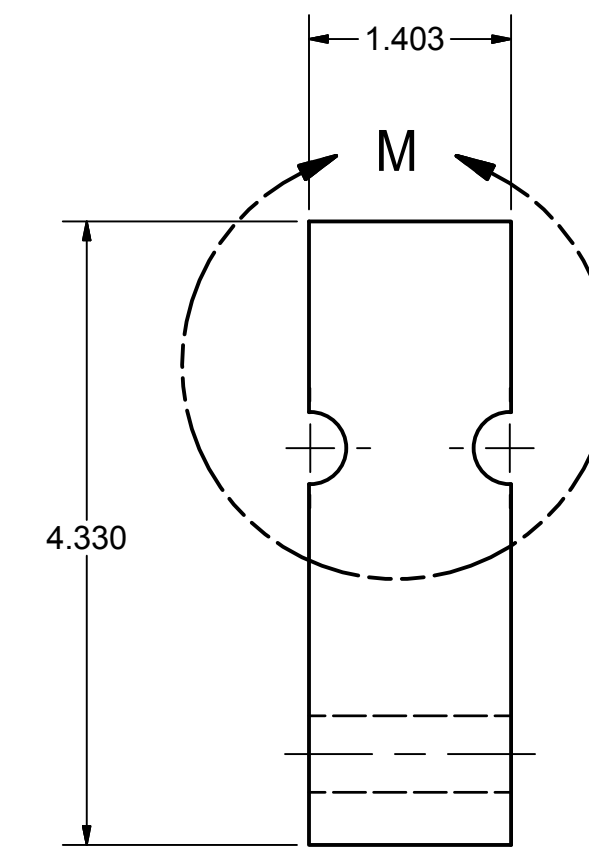
FILE NAME: 6041-158  
SHEET NO.: 6  
DFT. SCALE: .5:1  
MATERIAL: 1006 LOW CARBON STEEL LAMINATIONS  
QTY: 4 PER ASM.  
NOTES: SEE MARK PALMER - LEPP, FOR SPECIFIC FABRICATION AND ASSEMBLY INFORMATION REGARDING THIS PART.  
ALSO SEE SH.3 FOR STACKING DETAILS.

REV.	PRINT DISTR.	ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
					QUANTITY				
6041-158 SH. NO. 6 OF 10	CR-1	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 $\pm$ .010 .000 $\pm$ .005 FRACTIONS $\pm$ 1/64 ANGLES $\pm$ 0.5° ALL SURFACES $\nabla$	6041-158	PLOT DATE: 11/4/2004 CAD FILE NAME: 6041-158.idw	CORNELL UNIVERSITY LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS			CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853	
								MK1 QUAD LAMINATION WITH LARGE BORE MODIFICATIONS ENDPACK MACHINING - BLOCK 'B'	
				CHECKED BY: MAP APPROVED BY: MAP	DRAWN BY: TMK	DRAWN FOR: M.PALMER	DATE: 6/2/2004	SCALE: D	6041-158 SH. NO. 6 OF 10





Ø0.531 THRU  
6 PLACES

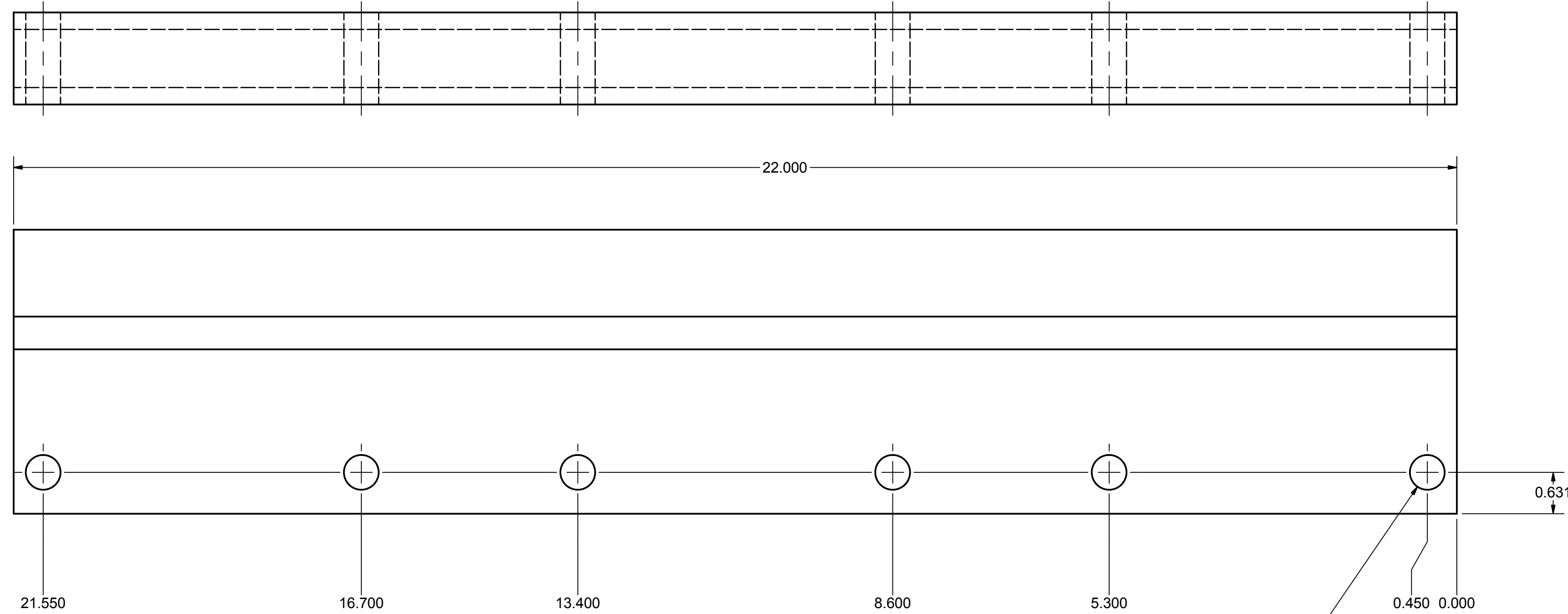
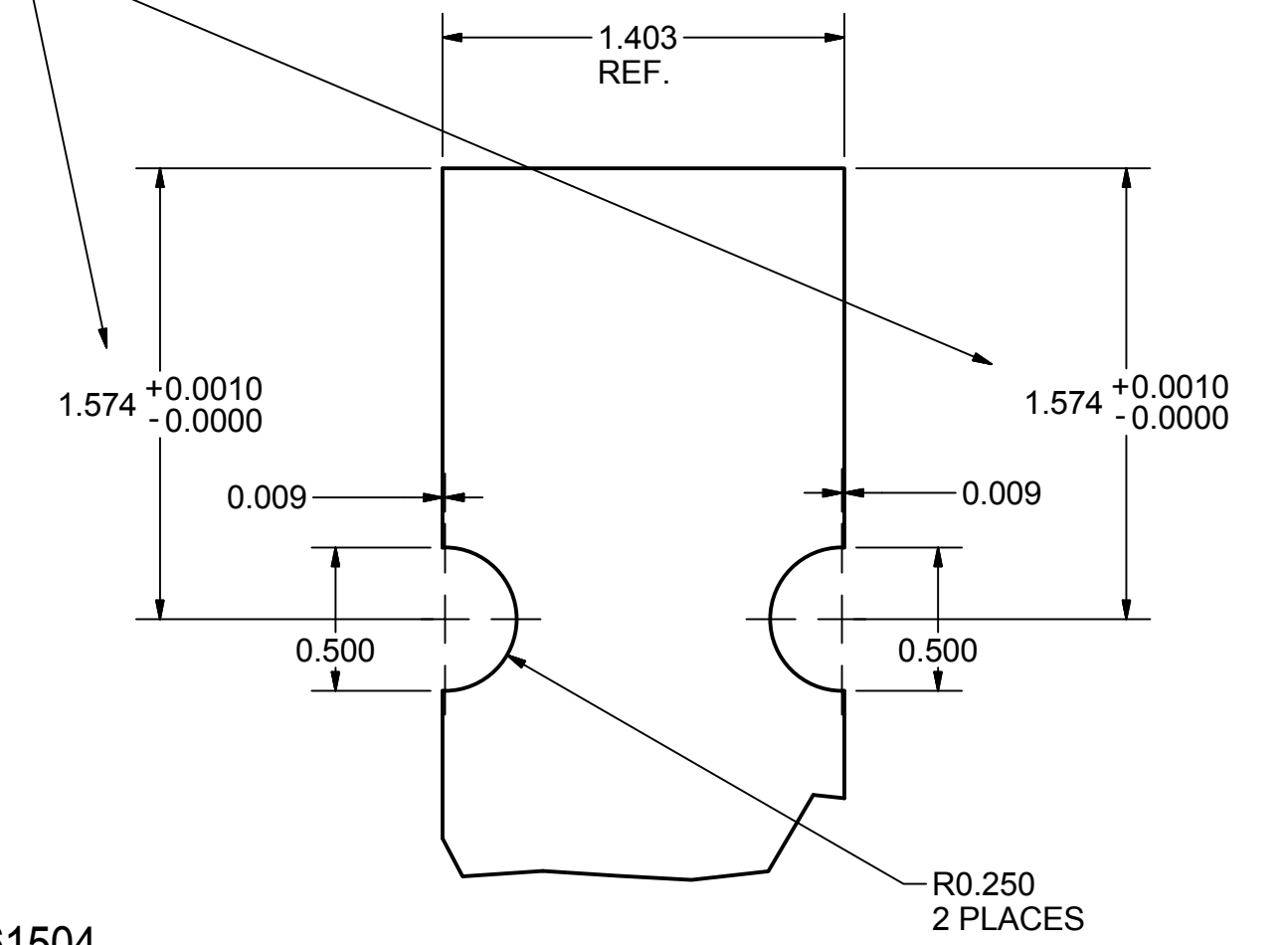


7

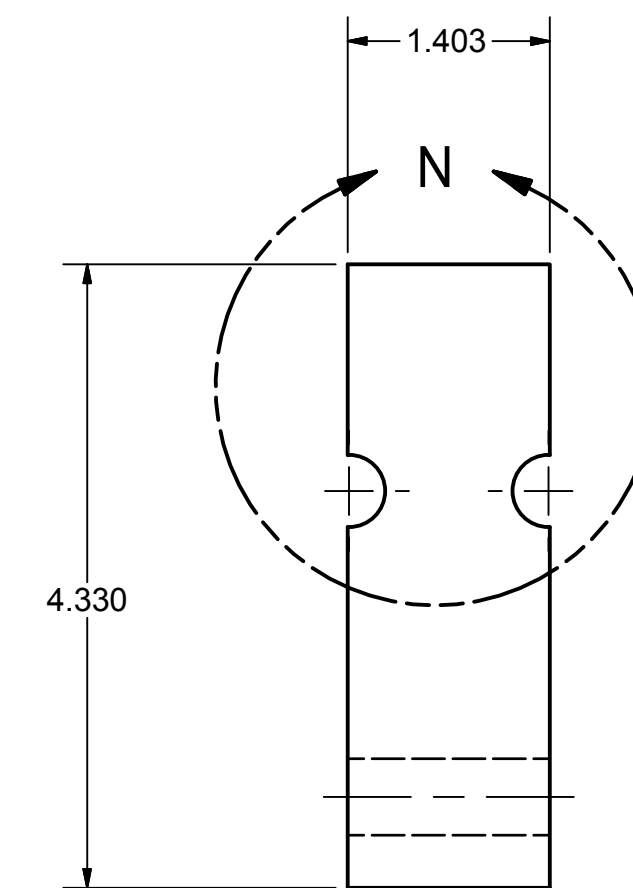
**SPACER 061504**  
 FILE NAME: 6041-158  
 SHEET NO.: 8  
 DFT. SCALE: .75:1  
 MATERIAL: 1006 LOW CARBON STEEL  
 QTY: 2 PER ASM.  
 NOTES:

**DETAIL M**  
 SCALE 1.50 : 1

CARE MUST BE TAKEN TO  
ACHIEVE STATED TOLERANCE



Ø0.531 THRU  
6 PLACES

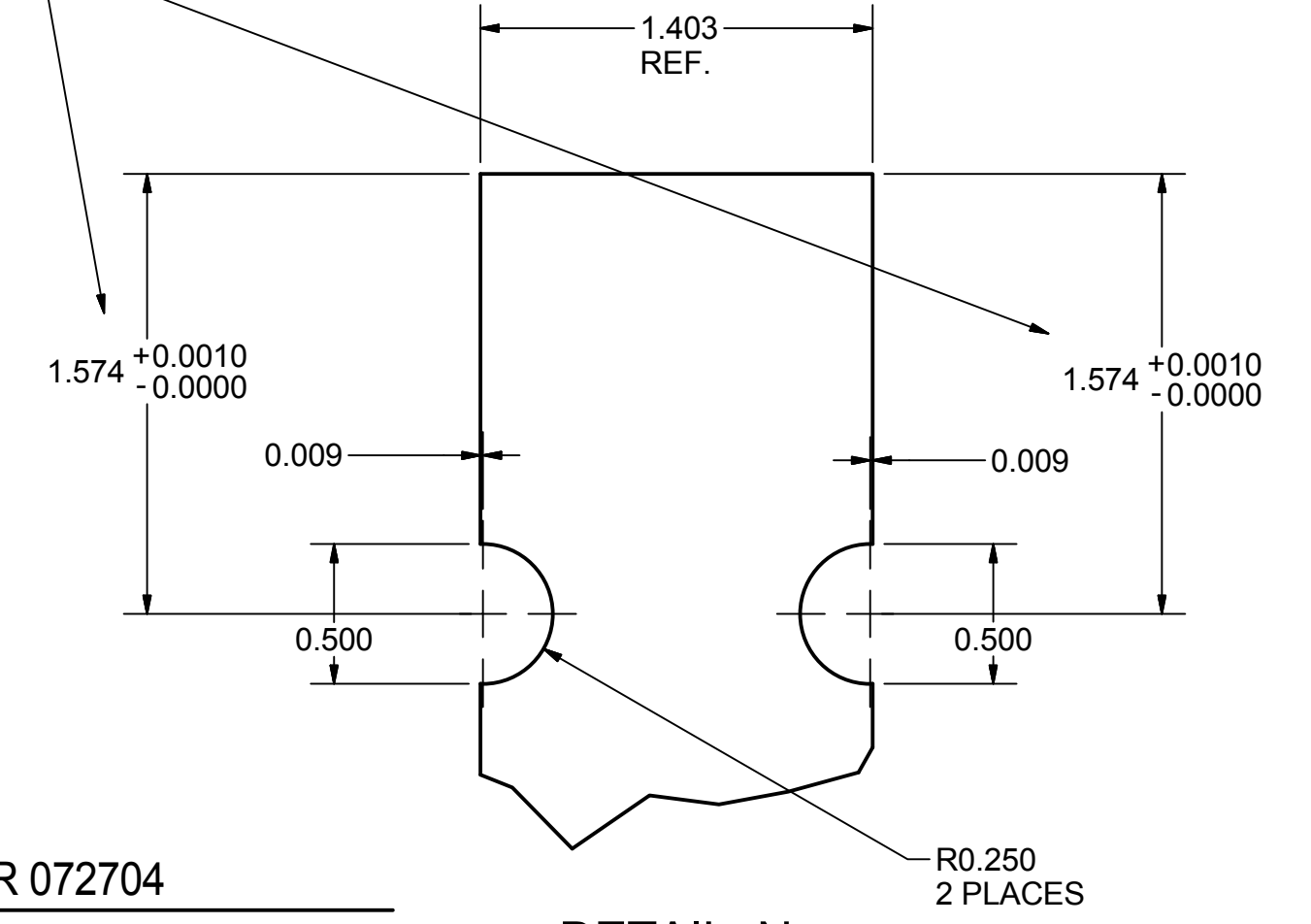


19

**SPACER 072704**  
 FILE NAME: 6041-158  
 SHEET NO.: 8  
 DFT. SCALE: .75:1  
 MATERIAL:  
 QTY: 2 PER ASM.  
 NOTES:

**DETAIL N**  
 SCALE 1.50 : 1

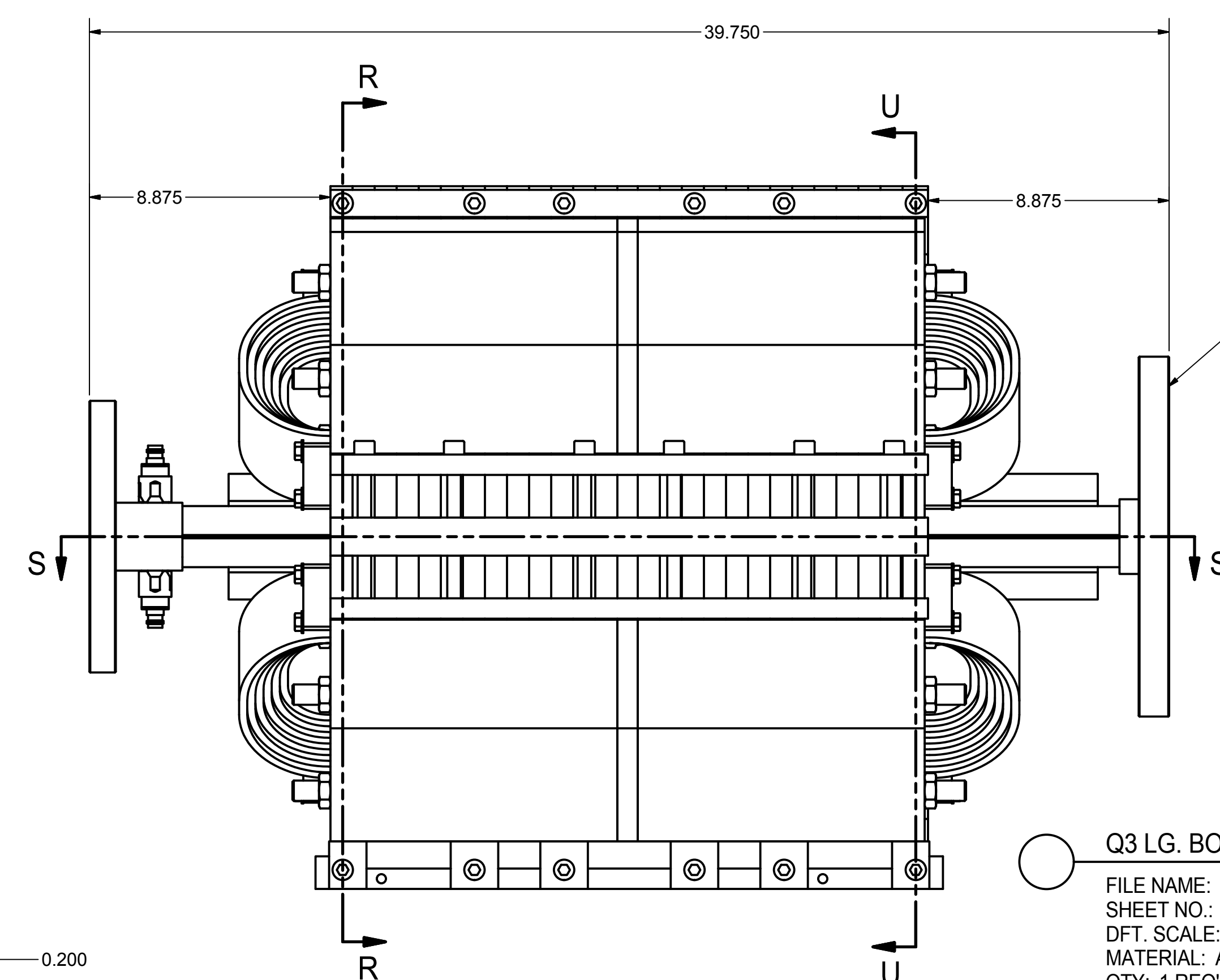
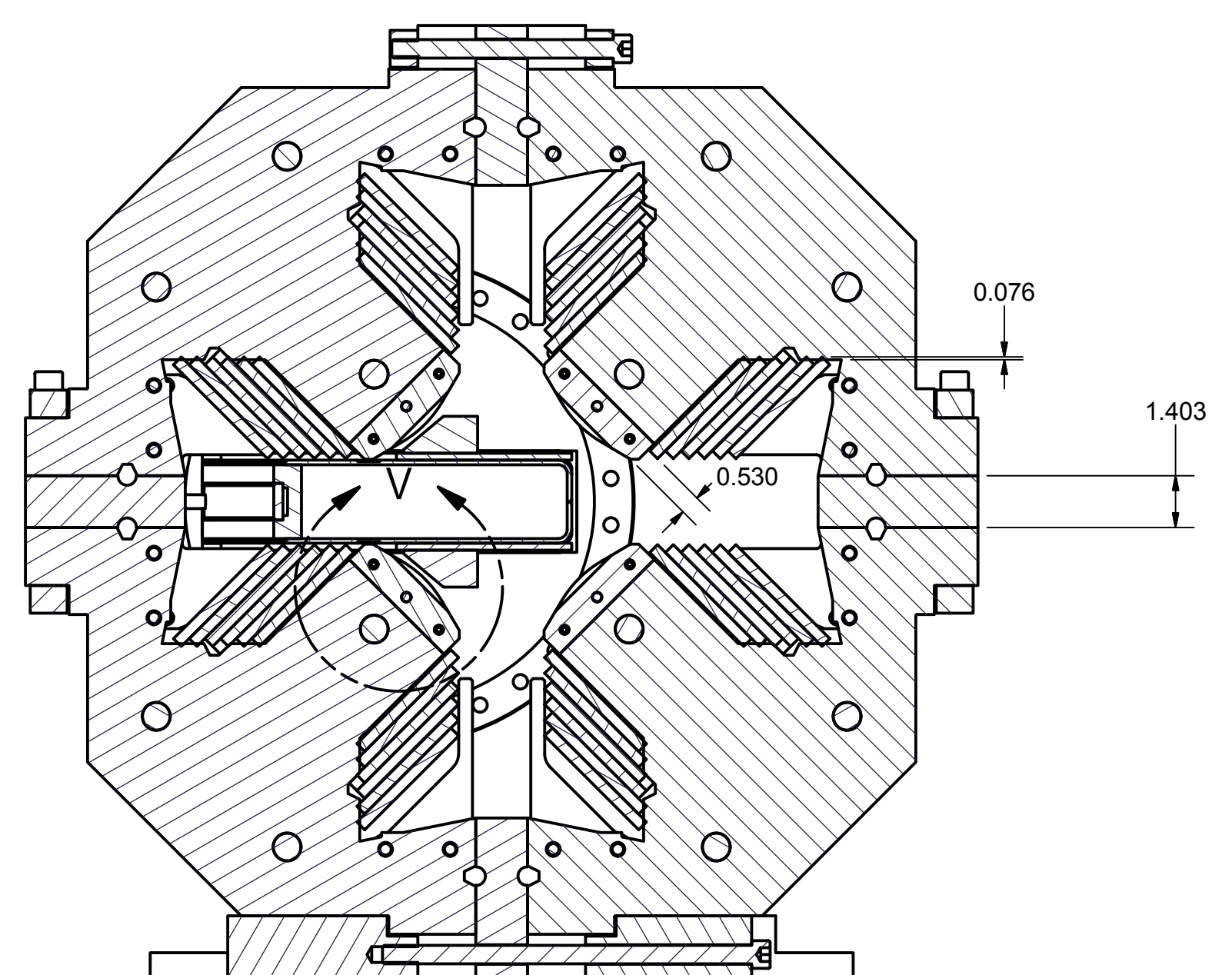
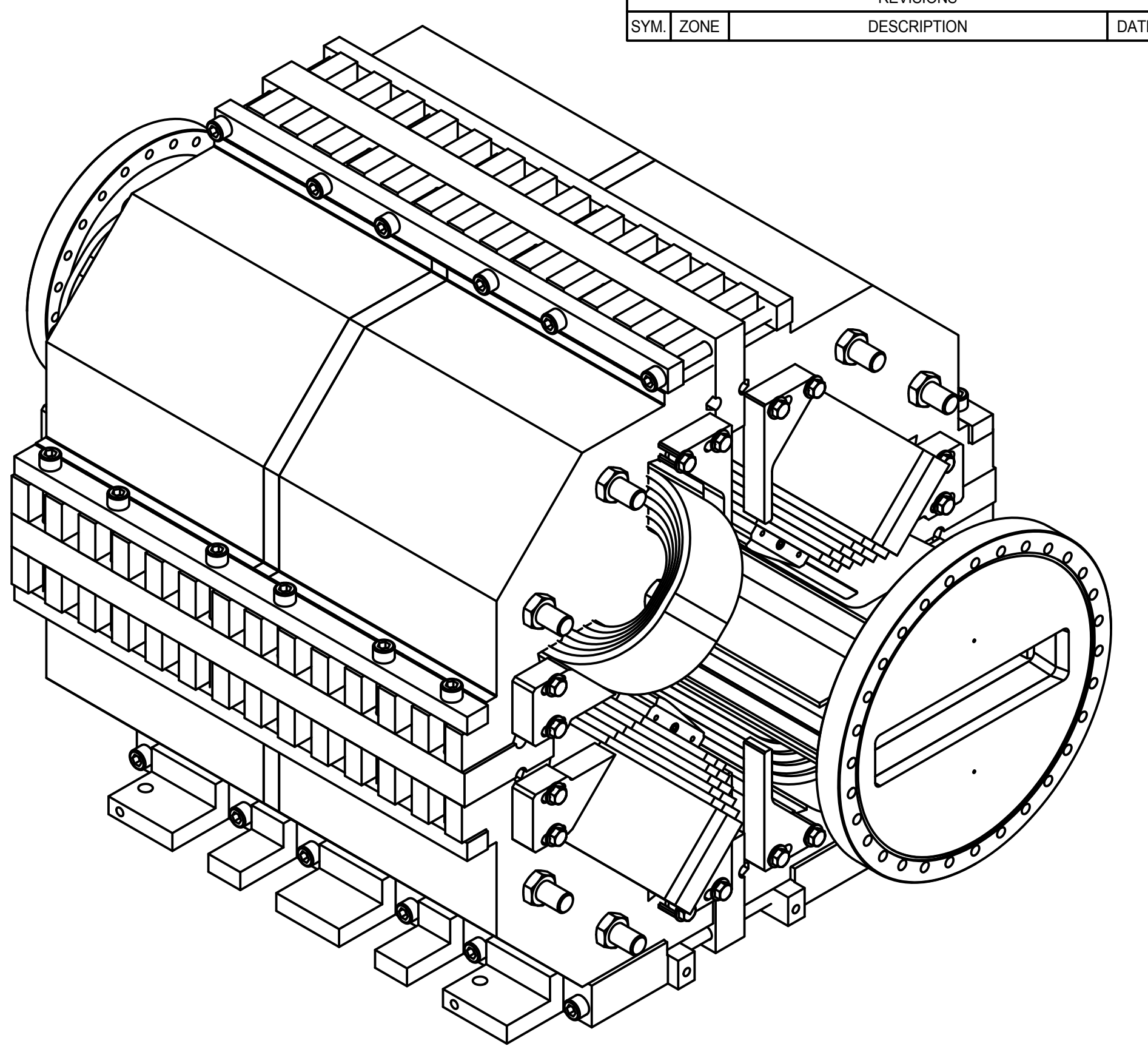
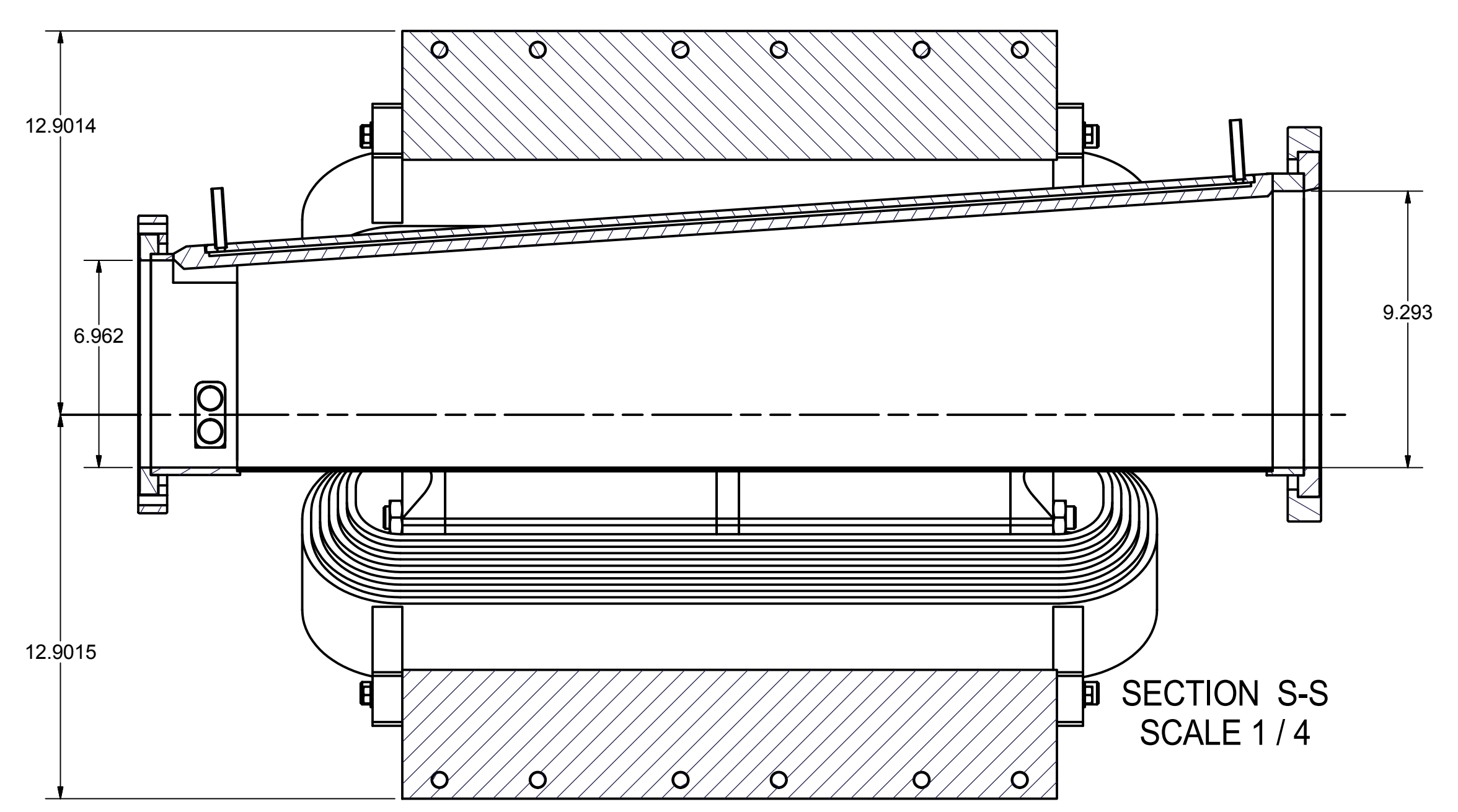
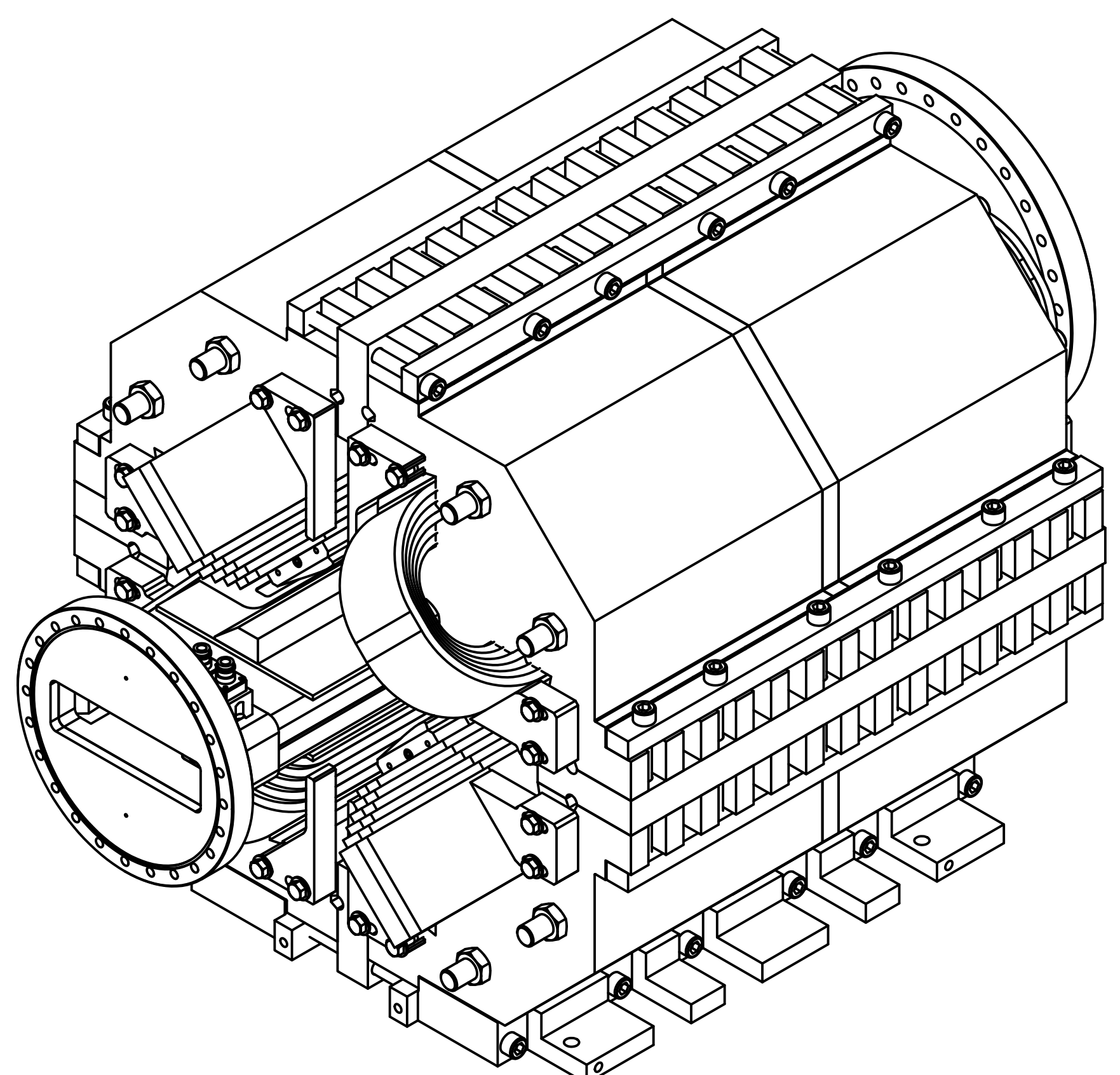
CARE MUST BE TAKEN TO  
ACHIEVE STATED TOLERANCE



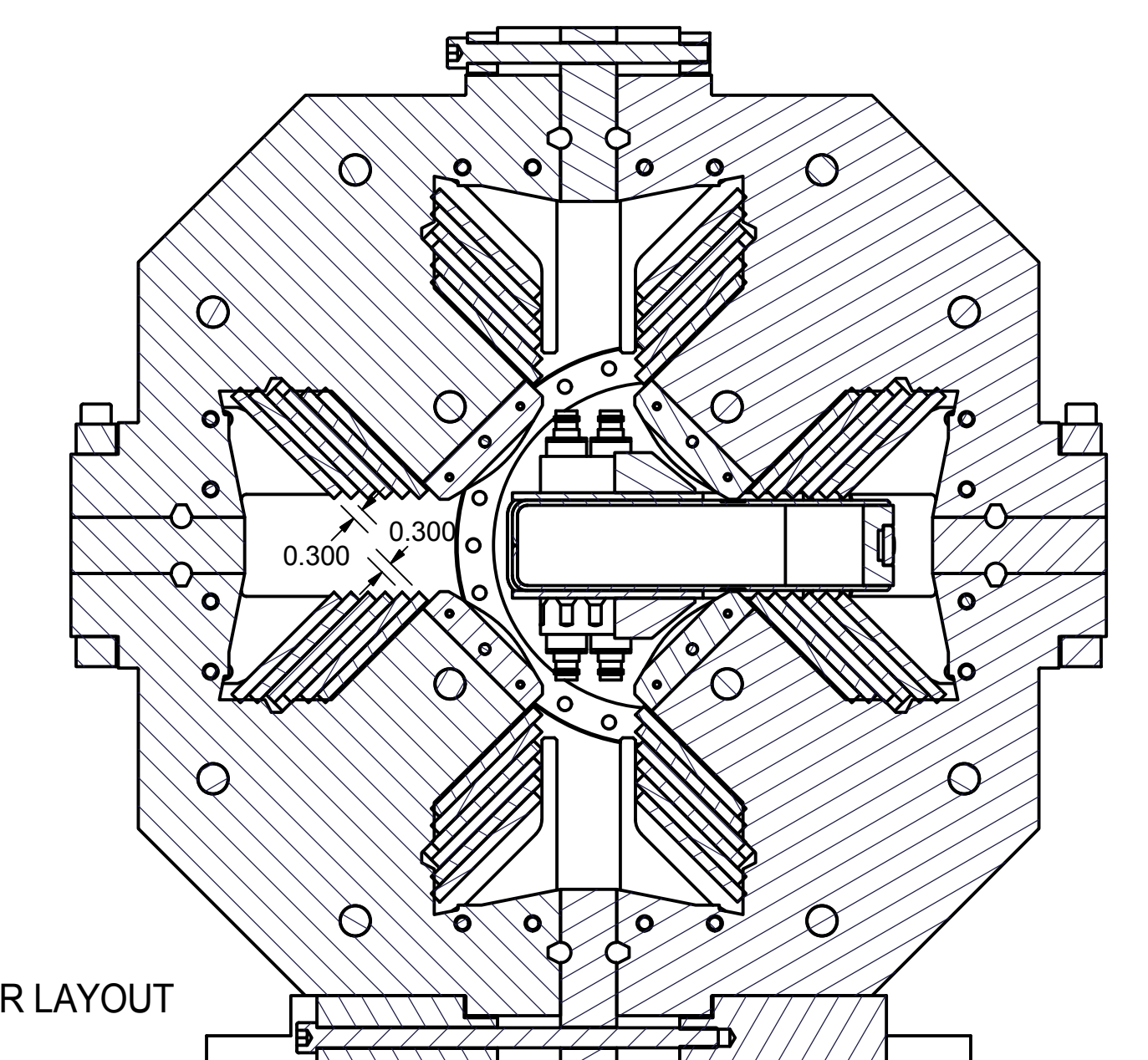
REV.	PRINT DISTR.	ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
					QUANTITY				
D		CR-1	6041-158	PLOT DATE: 11/4/2004 CAD FILE NAME: 6041-158.idw					
				UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES				CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853	
				MK1 QUAD LAMINATION WITH LARGE BORE MODIFICATIONS SPACERS, DETAILS					
				CHECKED BY: MAP APPROVED BY: MAP	DRAWN BY: TMK	DRAWN FOR: M.PALMER	DATE: 6/2/2004	SCALE: D	6041-158 SH. NO. 8 OF 10



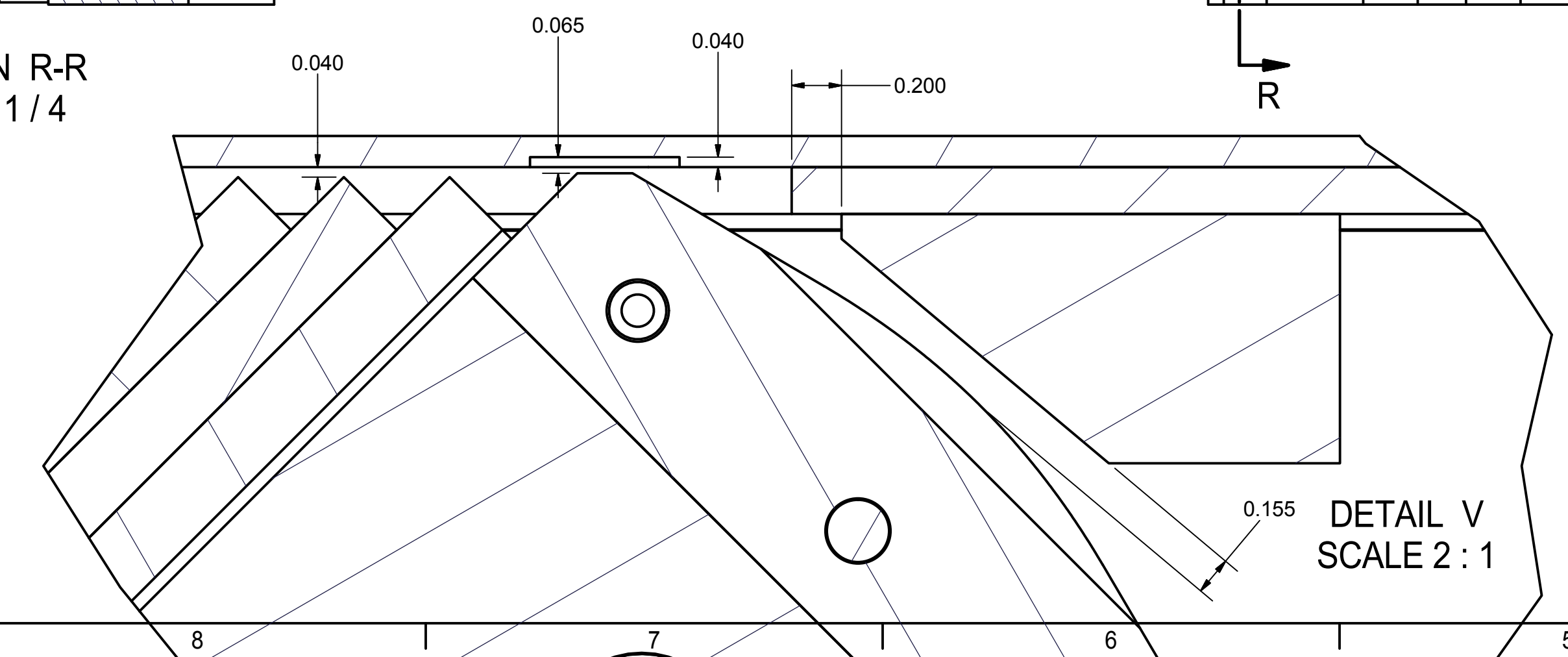
SYM.		ZONE		REVISIONS		DATE	APP.
				DESCRIPTION			



6046-323

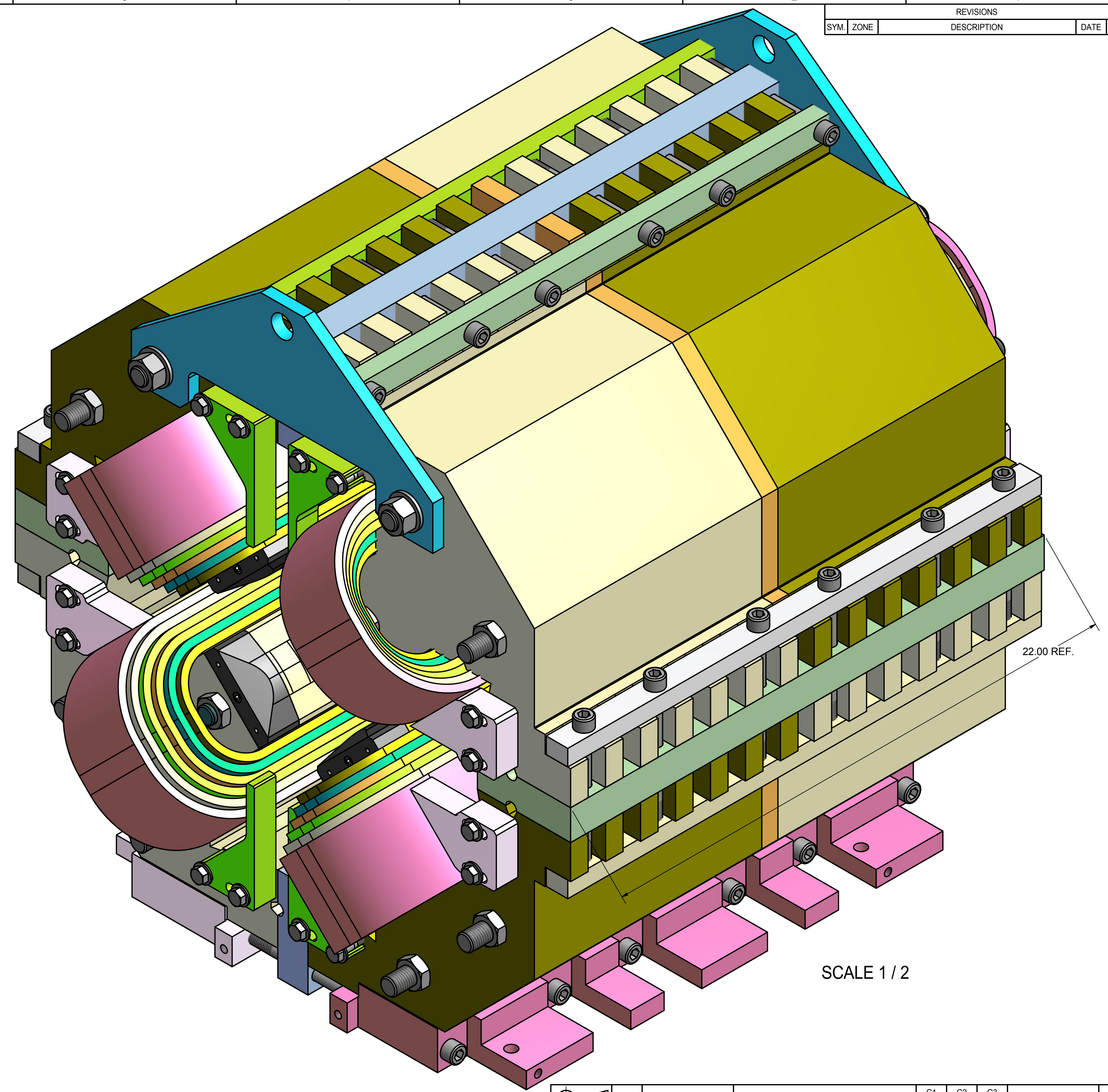
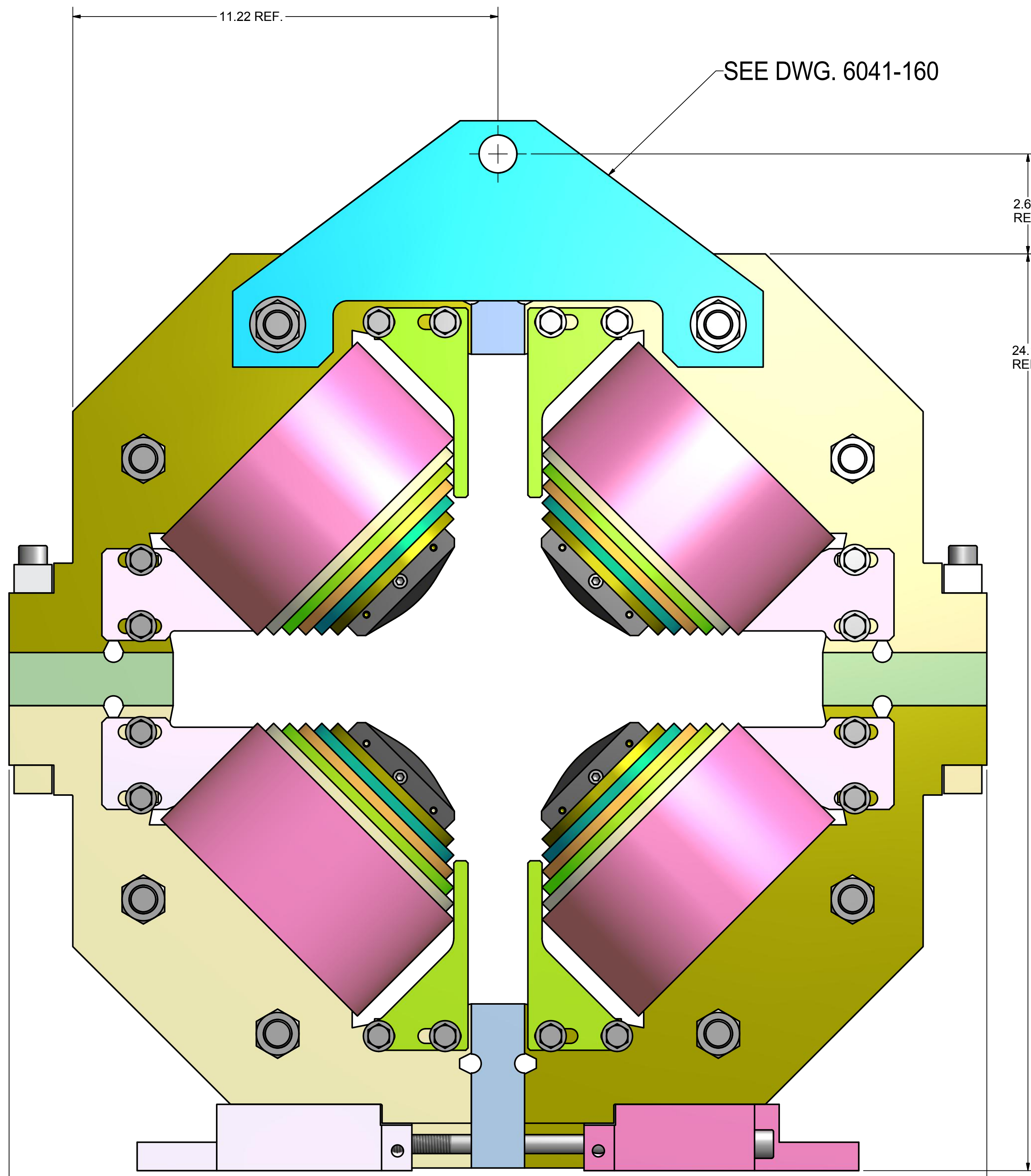


Q3 LG. BORE MAG. + VAC. CHAMBER LAYOUT  
 FILE NAME: 6041-158  
 SHEET NO.: 9  
 DFT. SCALE: .25:1  
 MATERIAL: AS NOTED  
 QTY: 1 REQ'D  
 NOTES:



REV.	PRINT DISTR.	ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
					QUANTITY				
D				PLOT DATE: 11/4/2004 CAD FILE NAME: 6041-158.idw					
6041-158 SH. NO. 9 OF 10	CR-1			UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES				CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853	
				CHECKED BY: MAP APPROVED BY: MAP	DRAWN BY: TMK	DRAWN FOR: M.PALMER	DATE: 6/2/2004	SCALE: D	6041-158 SH. NO. 9 OF 10

REVISIONS		DATE	APP.
SYM.	ZONE	DESCRIPTION	



ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
			QUANTITY				
PRINT DISTR.	PLOT DATE: 11/4/2004 CAD FILE NAME: 6041-158.idw						
CR-1	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES			CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853			
6041-158 SH. NO. 10 OF 10		<b>MK1 QUAD LAMINATION WITH LARGE BORE MODIFICATIONS</b> ASM. WITH RIGGING FIXTURES IN PLACE					
CHECKED BY: MAP	DRAWN BY: TMK	DRAWN FOR: M.PALMER	DATE: 6/2/2004	SCALE: D	6041-158		REV.
APPROVED BY: MAP					SH. NO. 10 OF 10		