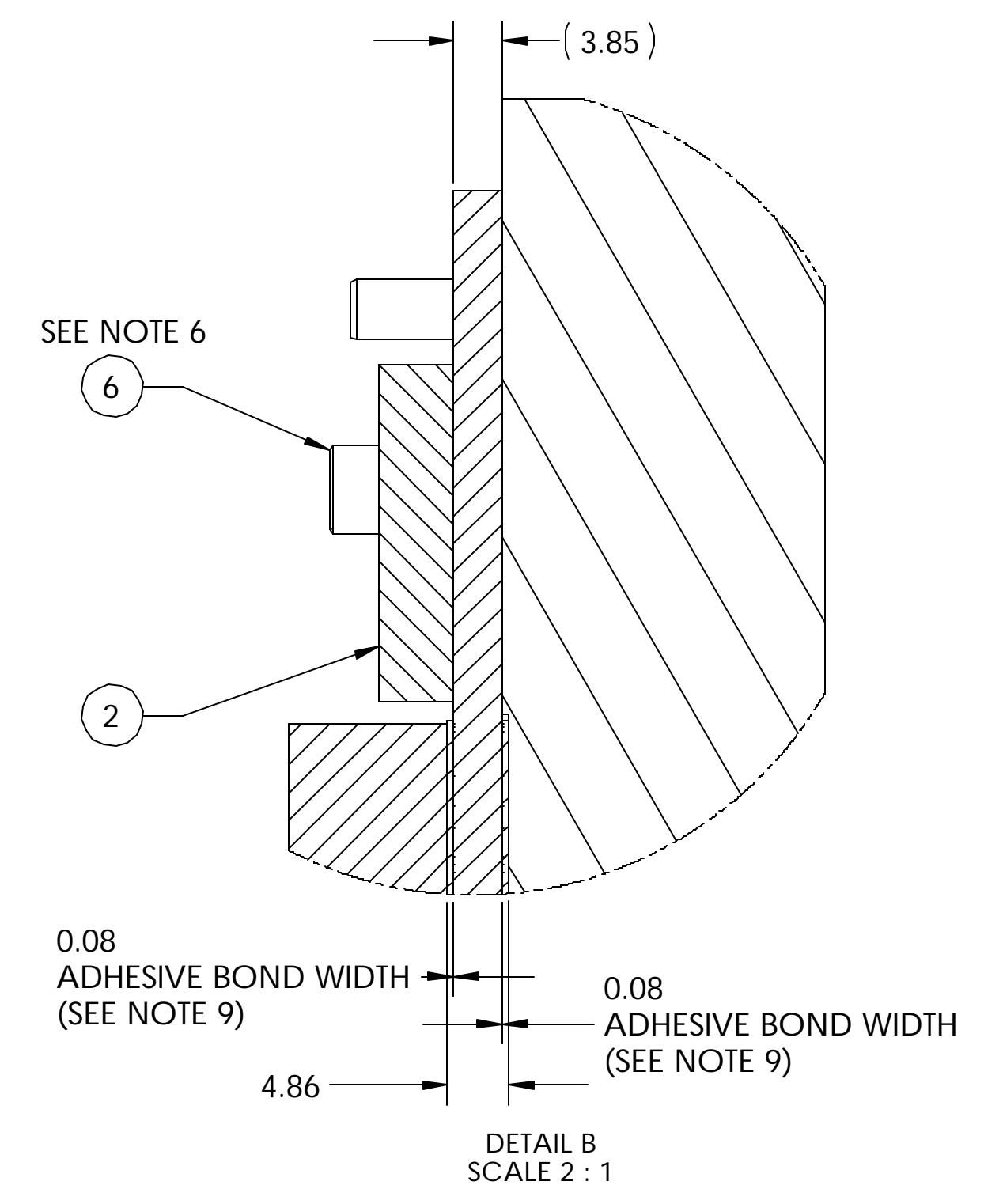
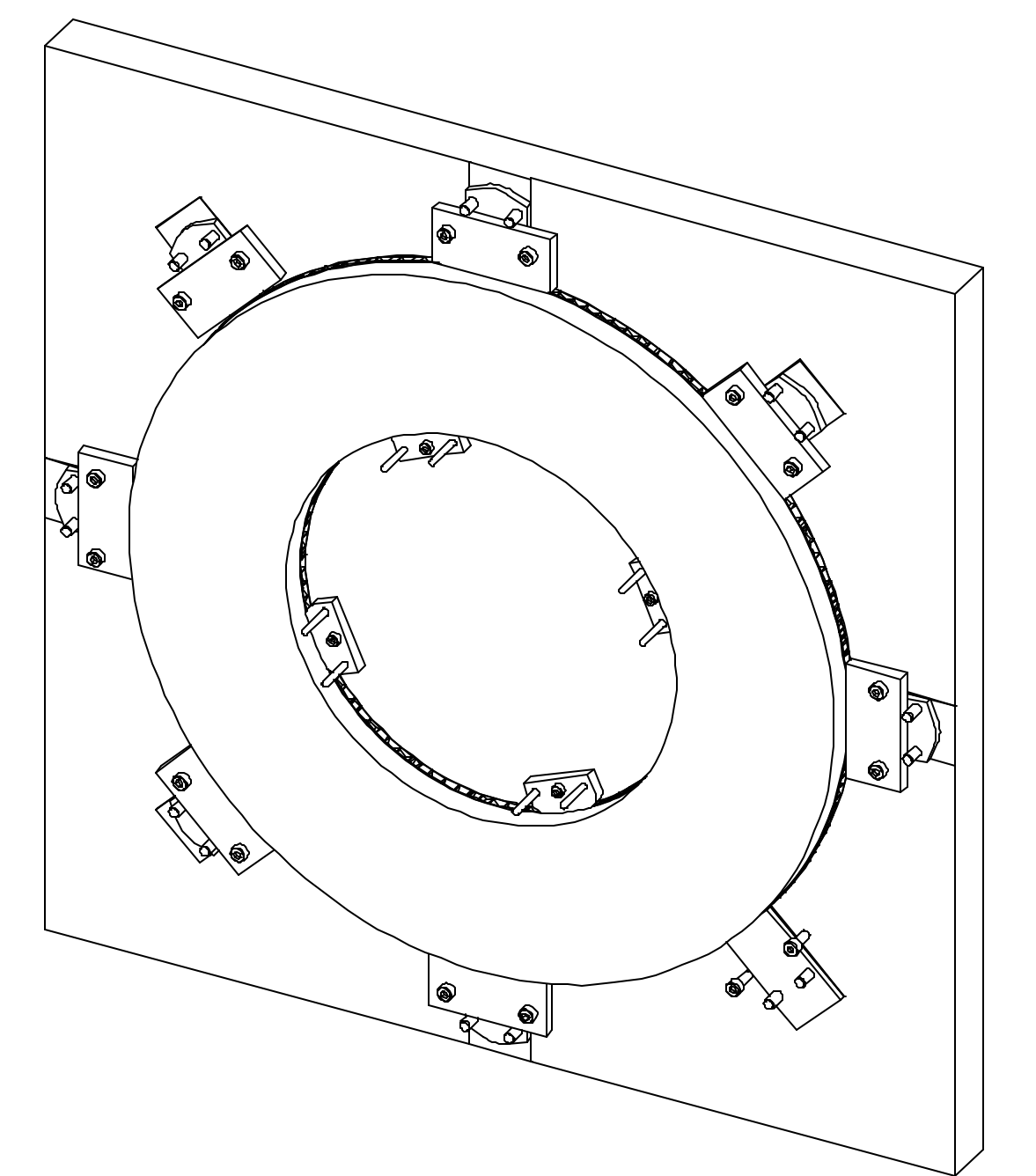
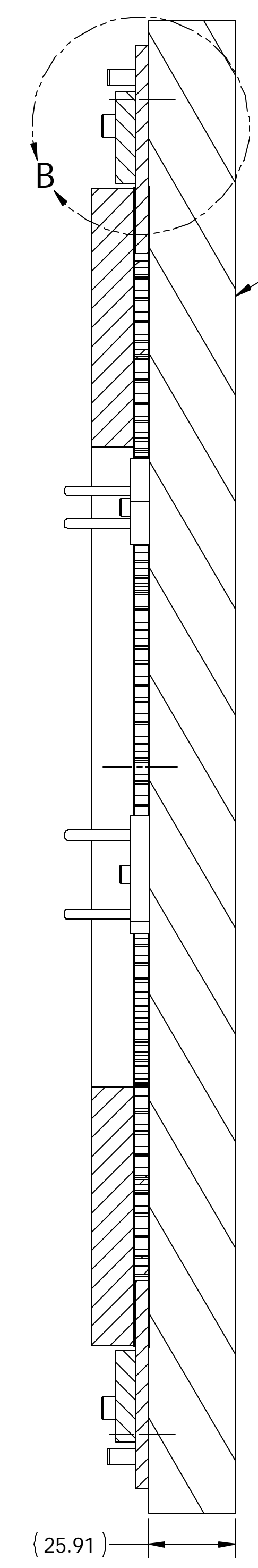
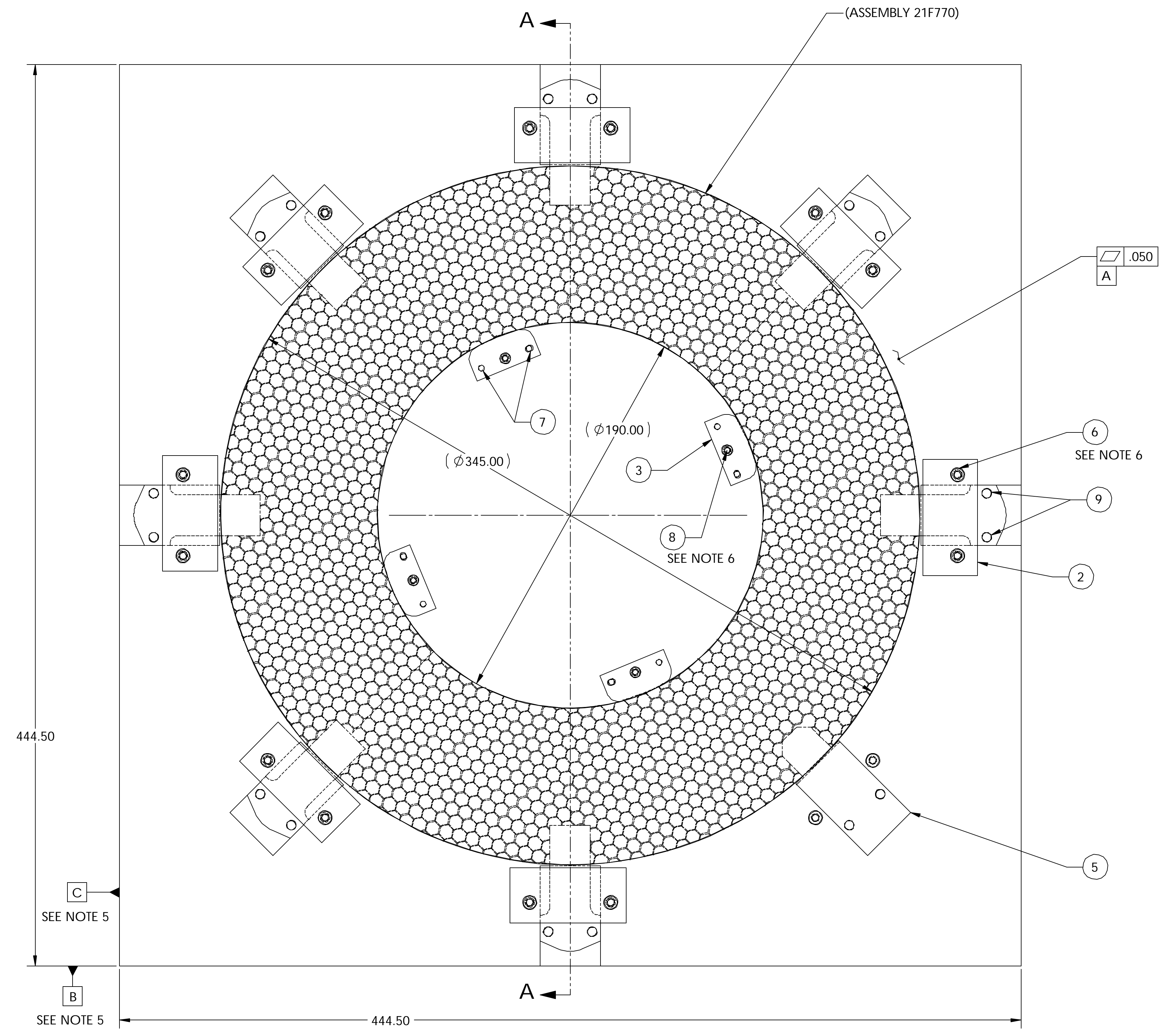


ITEM	PART NO.	REQD	DESCRIPTION	MATERIAL
9		16	4.80 DIA. GAGE PIN	STEEL
8		4	M3 X .50 SOCKET HEAD CAP SCREW X 12.7	STEEL
7		8	3.00 DIA. GAGE PIN	STEEL
6		32	M4 X .7 SOCKET HEAD CAP SCREW X 12.7 LONG	STEEL
5	21F779	8	END STIFFENER HONEYCOMB ALIGNMENT BLOCK	ALUM
4	21F778	1	END STIFFENER CAUL PLATE (NOT SHOWN)	ALUM
3	21F777	4	END STIFFENER FACESHEET ALIGNMENT BLOCK	ALUM
2	21F777	8	END STIFFENER VERTEX PLATE CLAMP	ALUM
1	21F776	1	END STIFFENER BOND FIXTURE PLATE	GRAPHITE



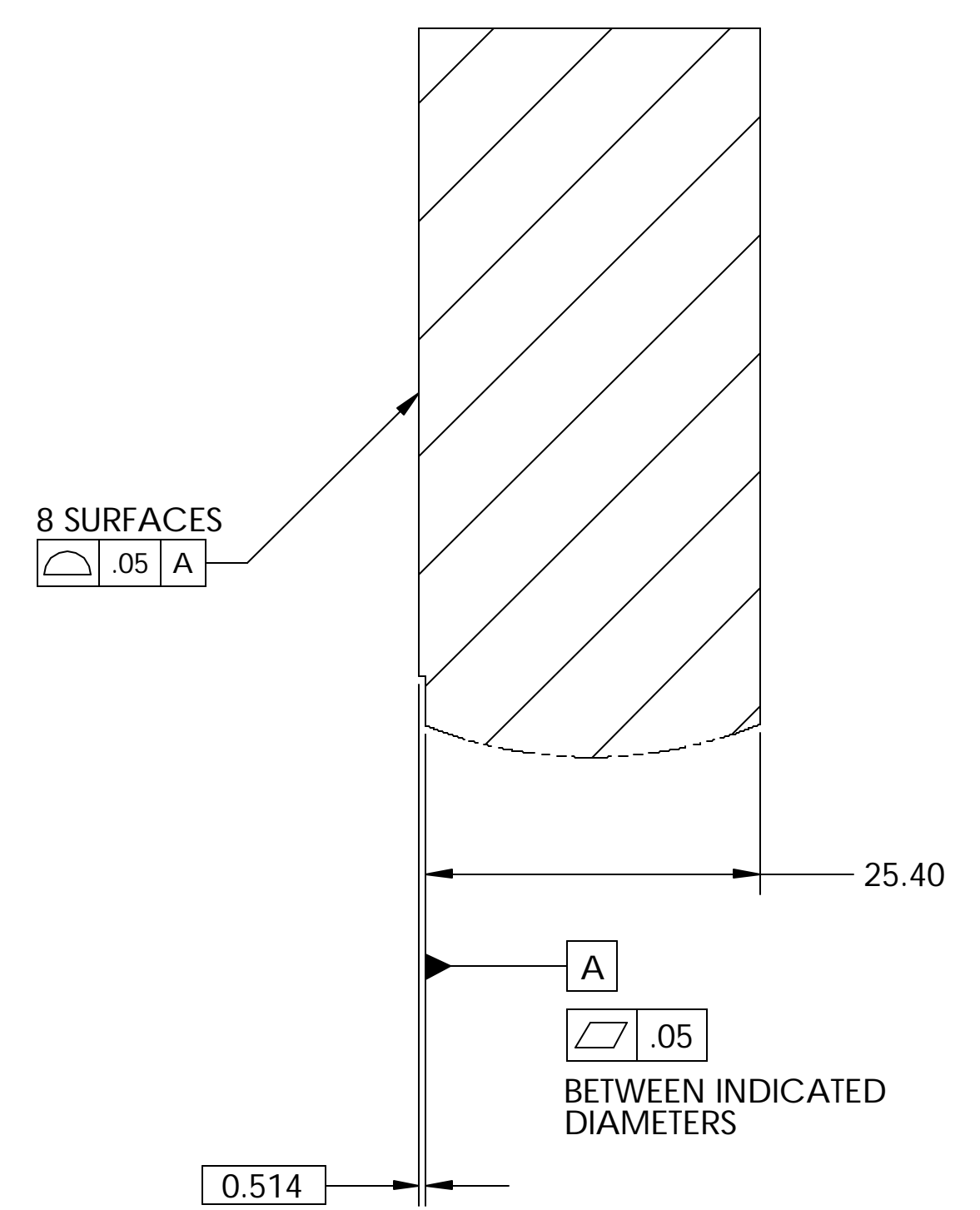
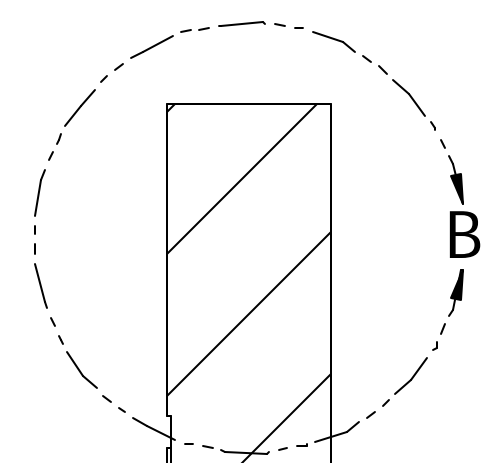
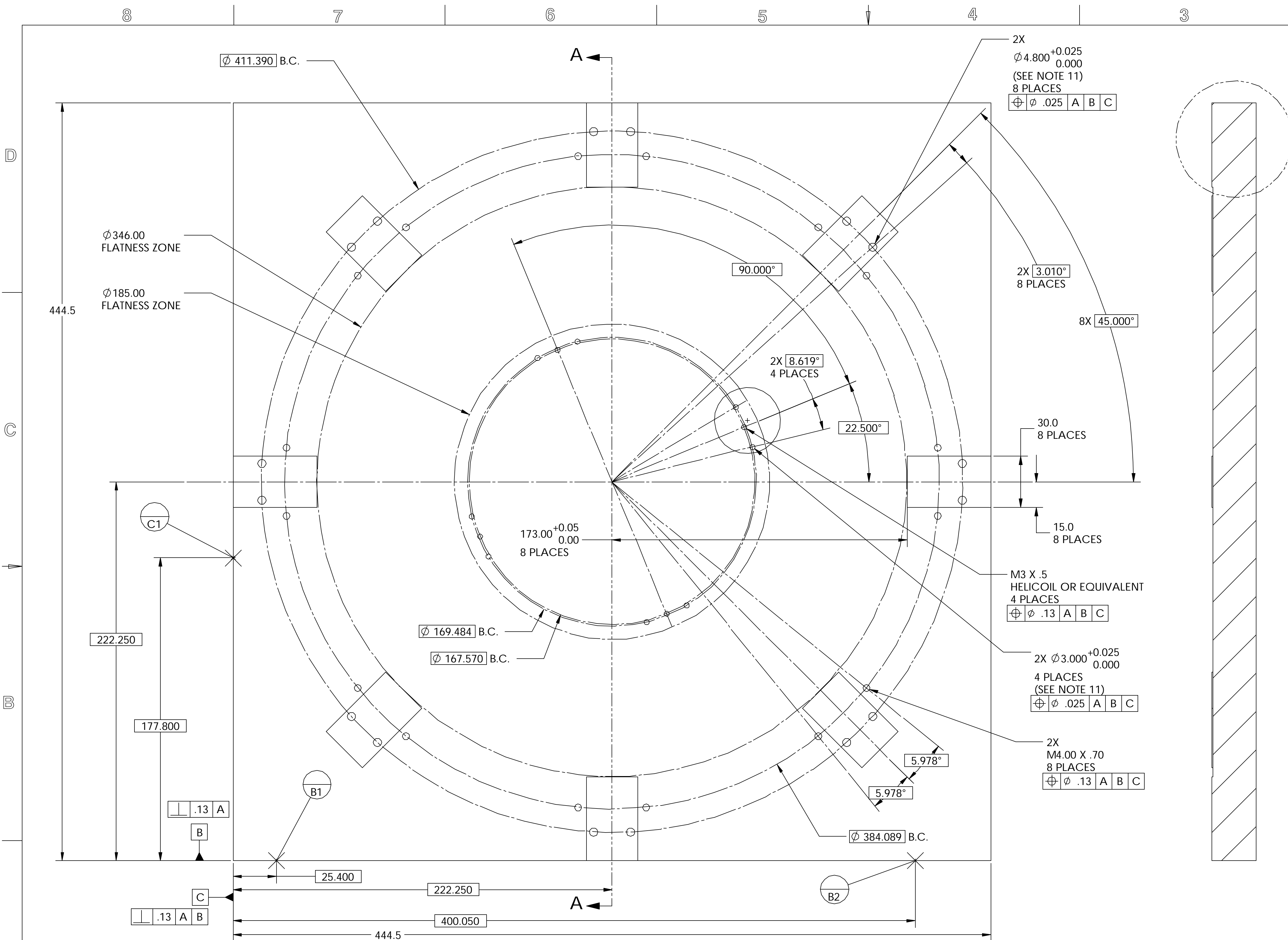
- NOTES: UNLESS OTHERWISE SPECIFIED
- ALL DIMENSIONS IN MILLIMETERS
  - DIMENSIONS AND TOLERANCING PER ASME Y14.5M-1994
  - SURFACE TEXTURE PER ANI/ASME B 46.1-1985
  - PARTS TO BE THOROUGHLY CLEAN FROM OIL, GREASE, DIRT AND CHIPS
  - ALL TOLERANCES ARE REFERENCE; BASED UPON INDIVIDUAL PART TOLERANCES
  - APPLY LESS THAN 1/3 RECOMMENDED TORQUE RATING FOR INDIVIDUAL SCREWS TO PREVENT PULLING HELICOILS OUT OF GRAPHITE
  - INSERT PINS INTO HOLES TO 2X DIA. DEPTH ONLY TO ALLOW FOR EASY REMOVAL
  - SPRAY MOLD RELEASE ON GRAPHITE PLATE IS ACCEPTABLE, TAPE IS PROHIBITED
  - SEE FABRICATION PROCEDURE DOCUMENT FOR EXACT SPECIFICATIONS

REV	DWG	CHK	ZONE	DATE	CHANGES

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER
TOLERANCES	X, X ± 0.5	FRAC.	± 1/64	NO. REQD
	X, XX ± 0.25	ANGLES	± 30°	DATE ISSD
	X, XXX ± 0.013	FINISH	1, 6	DATE REQD
		DO NOT SCALE PRINT		
		THREADS ARE CLASS 2		
		CHAMFER ENDS OF ALL SCREW THREADS 30°		
		CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS		
		BREAK EDGES .016 MAX. ON MACHINED WORK		
		REMOVE BURRS, WELD SPLATTER & LOOSE SCALE		
		IN ACCORDANCE WITH ASME Y14.5m & B46.1		

ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY		UNIVERSITY OF CALIFORNIA - BERKELEY #	
<b>ATLAS PIXEL DETECTOR SPACEFRAME END STIFFENER BOND FIXTURE ASSEMBLY</b>			
MICROFILMED:	DWG. TYPE	SHOWS ON	SCALE: 1:1.25
	ASSEM	N/A	DO NOT SCALE PRINTS
PATENT CLEAR:	DESIGN ACCT. NO.	CATEGORY CODE	DWG. NO.
	PIAP-11	AP6250	21F7754
			SIZE
			REV.
			1

DWG. NO.	SIZE	REV.	SER.
21F7764	.05	1	1
DESCRIPTION		MATERIAL	MNT. LOCATION



DETAIL B  
SCALE 2:1

SECTION A-A

NOTES: UNLESS OTHERWISE SPECIFIED

- ALL DIMENSIONS IN MILLIMETERS
- DIMENSIONS AND TOLERANCING PER ASME Y14.5M-1994
- SURFACE TEXTURE PER ANI/ASME B 46.1-1985
- REMOVE ALL BURRS AND BREAK SHARP EDGES TO A MAXIMUM OF .38
- ALL INSIDE CORNERS TO BE .38 RADIUS MAX
- COUNTERSINK 82 DEGREES ALL TAPPED HOLES TO MAJOR DIAMETER
- COUNTERSINK 82 DEGREES APPROXIMATELY .38 DEEP ALL DRILLED HOLES
- PARTS TO BE THOROUGHLY CLEANED TO REMOVE ALL OIL, GREASE, DIRT AND CHIPS
- ROOM TEMPERATURE DURING MACHINING TO BE RECORDED AND PROVIDED TO HYTEC; TOP AND BOTTOM PLATES TO BE MACHINED AT THE SAME TEMPERATURE (WITHIN 5 DEGREES F)
- INSPECTION REPORTS TO BE PROVIDED TO HYTEC
- HOLES ARE THRU HOLES, OR 3X DIA. DEEP WITH A SMALLER PILOT HOLE THRU

MATL: ISOTROPIC GRAPHITE; CTE LESS THAN OR EQUAL TO 6μIN/IN/°F OR EQUIVALENT (SEE NOTE 9, 10)

REV	DWG	CHK	ZONE	DATE	CHANGES

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO.	
X.X ± 0.5	FRAC. ± 1/64	NO. REQD.	DATE ISSD	ERNEST ORLANDO LAWRENCE	
X.XX ± 0.25	ANGLES ± 30°	DEL. TO	DATE REQD.	BERKELEY NATIONAL LABORATORY	
X.XXX ± 0.013	FINISH 1.6	SURFACE TREATMENT		UNIVERSITY OF CALIFORNIA - BERKELEY #	
DO NOT SCALE PRINT				ATLAS PIXEL DETECTOR	
THREADS ARE CLASS 2				SPACEFRAME END STIFFENER	
CHAMFER ENDS OF ALL SCREW THREADS 30°				BOND FIXTURE PLATE	
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS				MICROFILMED:	
BREAK EDGES .016 MAX. ON MACHINED WORK				DWG. TYPE	
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE				PART	
IN ACCORDANCE WITH ASME Y14.5m & B46.1				SHOWS ON	
DWG. W. K. MILLER				SCALE: 1:1.25	
CHK. BILL WILDS				DO NOT SCALE PRINTS	
APR. E. ANDERSSSEN				SHEET 1 OF 1	
DATE 4/16/2002				SIZE	
DATE 4/16/2002				REV.	
DATE 4/16/2002				21F7764	

A



DWG. NO.	SIZE	REV.	SHEET	
21F7784		1	1	
DESCRIPTION		MATERIAL	MT. LOCATION	

$\varnothing 344.50^{+0.00}_{-0.25}$   
 $\varnothing .13$  A B M

$\varnothing 190.50^{+0.25}_{0.00}$   
 $\varnothing .13$  A  
 B

$\varnothing .25$  A

A  
 $\varnothing .25$

12.70±0.50

MATL: ALUMINUM

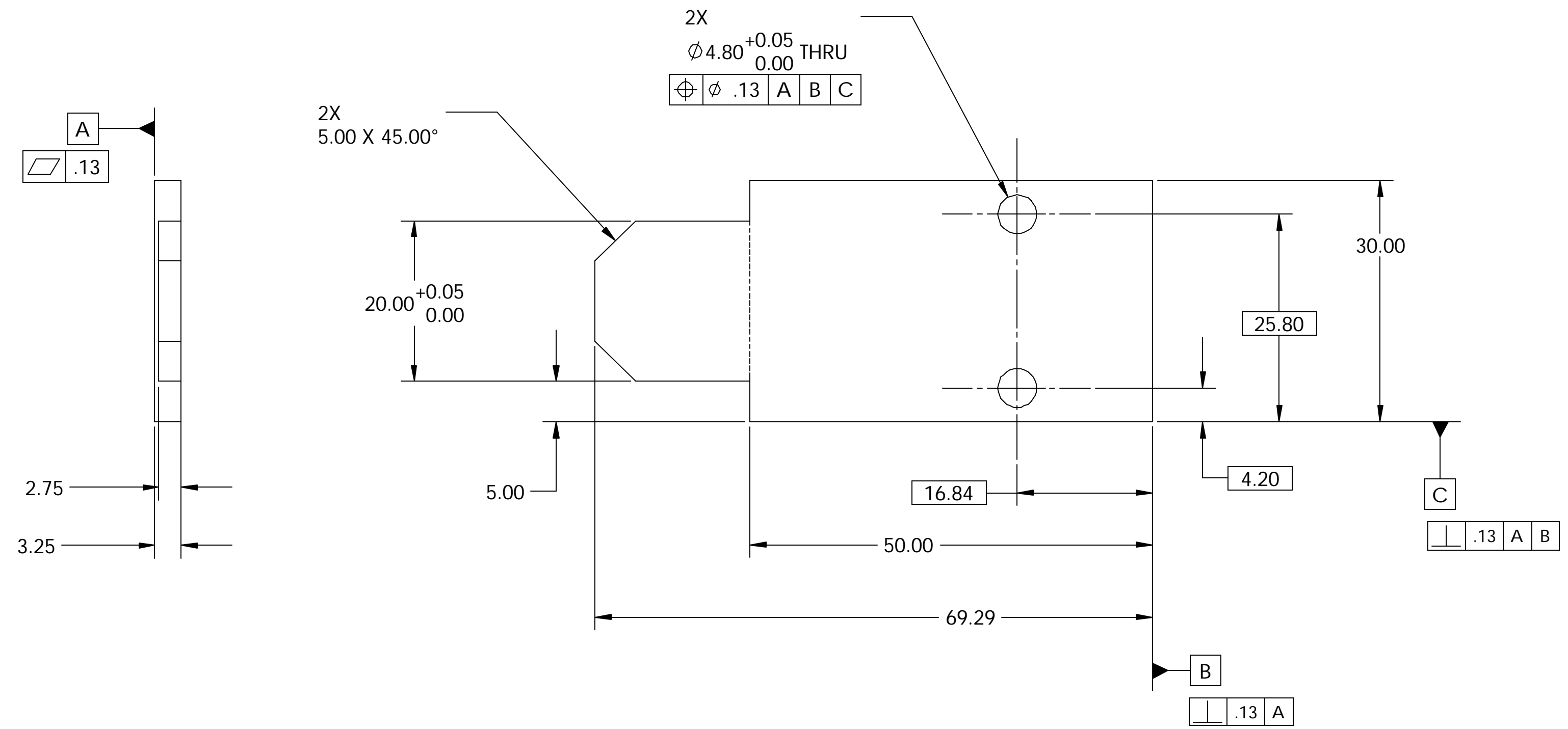
NOTES: UNLESS OTHERWISE SPECIFIED

- DIMENSIONS IN MILLIMETERS
- DIMENSIONS AND TOLERANCING PER ASME Y14.5M-1994
- SURFACE TEXTURE PER ANI/ASME B 46.1-1985
- REMOVE ALL BURRS AND BREAK SHARP EDGES TO A MAXIMUM OF .38
- ALL INSIDE CORNERS TO BE .38 RADIUS MAX
- COUNTERSINK 82 DEGREES ALL TAPPED HOLES TO MAJOR DIAMETER
- COUNTERSINK 82 DEGREES APPROXIMATELY .38 DEEP ALL DRILLED HOLES
- PARTS TO BE THOROUGHLY CLEANED TO REMOVE ALL OIL, GREASE, DIRT AND CHIPS

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE	
TOLERANCES	X.X ± 0.5	FRAC. ± 1/64	ACCT. NO.	NO. REQD.	DATE ISSD	BERKELEY NATIONAL LABORATORY
	X.XX ± 0.25	ANGLES ± 30°	DEL. TO	DATE REQD.		UNIVERSITY OF CALIFORNIA - BERKELEY #
	X.XXX ± 0.013	FINISH 3.2	SURFACE TREATMENT			ATLAS PIXEL DETECTOR
DO NOT SCALE PRINT			IDEN. METHOD TAG	SPACEFRAME END STIFFENER		
THREADS ARE CLASS 2			PROJECT NUMBER	BOND FIXTURE CAUL PLATE		
CHAMFER ENDS OF ALL SCREW THREADS 30°			PROJECT NAME	UNIVERSITY OF CALIFORNIA - BERKELEY #		
CUT ROUND. 1.5 THREAD RELIEF ON MACHINED THREADS			PROJECT US ATLAS SILICON SUBSYSTEM	MICROFILMED:	DWG. TYPE	SHOWS ON
BREAK EDGES .016 MAX. ON MACHINED WORK			DWG. BY W. K. MILLER	DATE 4/16/2002	PART	SCALE: 1: 1.25
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE			CHK BY BILL WILDS	DATE 4/16/2002	21F775	DO NOT SCALE PRINTS
IN ACCORDANCE WITH ASME Y14.5m & B46.1			APR BY E. ANDERSSON	DATE 4/16/2002	P1AP-11	
REV	DWG	CHK	ZONE	DATE	CHANGES	

SCALE: 1: 1.25  
 SHEET 1 OF 1  
 DWG. NO. 21F7784

DWG. NO.	SIZE	REV.	SHEET
21F7794	-	1	1
DESCRIPTION		MATERIAL	MNT. LOCATION



MATL: ALUMINUM

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS IN MILLIMETERS
2. DIMENSIONS AND TOLERANCING PER ASME Y14.5M-1994
3. SURFACE TEXTURE PER ANI/ASME B 46.1-1985
4. REMOVE ALL BURRS AND BREAK SHARP EDGES TO A MAXIMUM OF .38
5. ALL INSIDE CORNERS TO BE .38 RADIUS MAX
6. COUNTERSINK 82 DEGREES ALL TAPPED HOLES TO MAJOR DIAMETER
7. COUNTERSINK 82 DEGREES APPROXIMATELY .38 DEEP ALL DRILLED HOLES
8. PARTS TO BE THOROUGHLY CLEANED TO REMOVE ALL OIL, GREASE, DIRT AND CHIPS

REV	DWG	CHK	ZONE	DATE	CHANGES	UNLESS OTHERWISE SPECIFIED	SHOP ORDERS	SER. NO.	ACCT. NO.	DATE ISSD	ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA - BERKELEY #	
						TOLERANCES						
						X, X ± 0.5	FRAC. ± 1/64					
						X, XX ± 0.25	ANGLES ± 30°					
						X, XXX ± 0.013	FINISH 1.6					
						DO NOT SCALE PRINT						
						TRENDS ARE CLASS 2						
						CHAMFER ENDS OF ALL SCREW THREADS 30°						
						CUT ROUNDS, 1.5 THREAD RELIEF ON MACHINED THREADS						
						BREAK EDGES, .016 MAX. ON MACHINED WORK						
						REMOVE BURRS, WELD SPLATTER & LOOSE SCALE						
						IN ACCORDANCE WITH ASME Y14.5m & B46.1						
						DWG. BY	W. K. MILLER	DATE	4/16/2002			
						CHK BY	BILL WILDS	DATE	4/16/2002			
						APR BY	E. ANDERSSSEN	DATE	4/16/2002			
						MICROFILMED:		DWG. TYPE	PART	SHOWS ON	SCALE: 2:1	DO NOT SCALE PRINTS
						PATENT CLEAR:		DESIGN ACCT. NO.	P1AP-11	CATEGORY CIDE	AP6250	
						DWG. NO.	21F775	DATE	4/16/2002	SHEET 1 OF 1	SIZE	REV.
						DWG. NO.	21F7794					