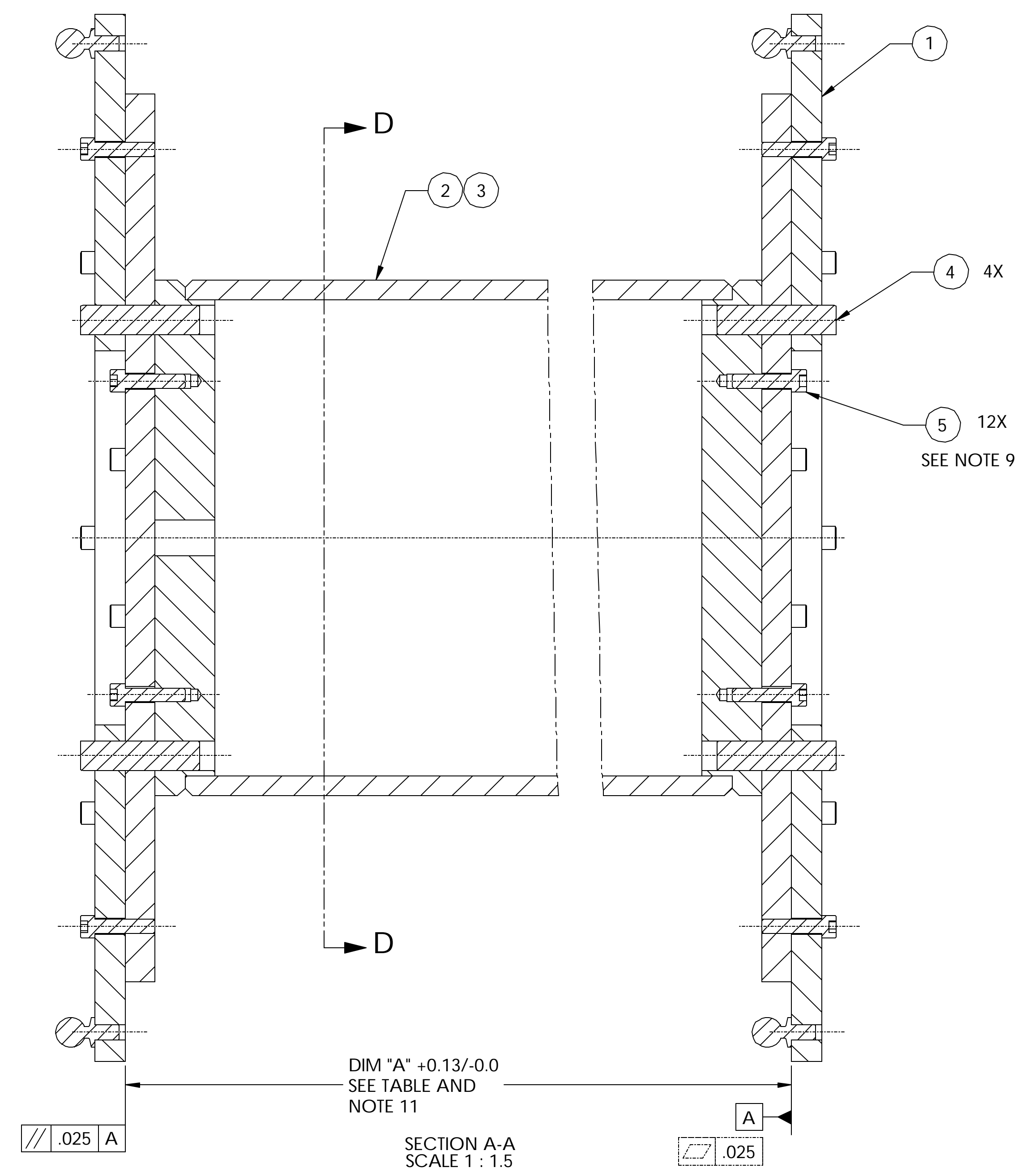
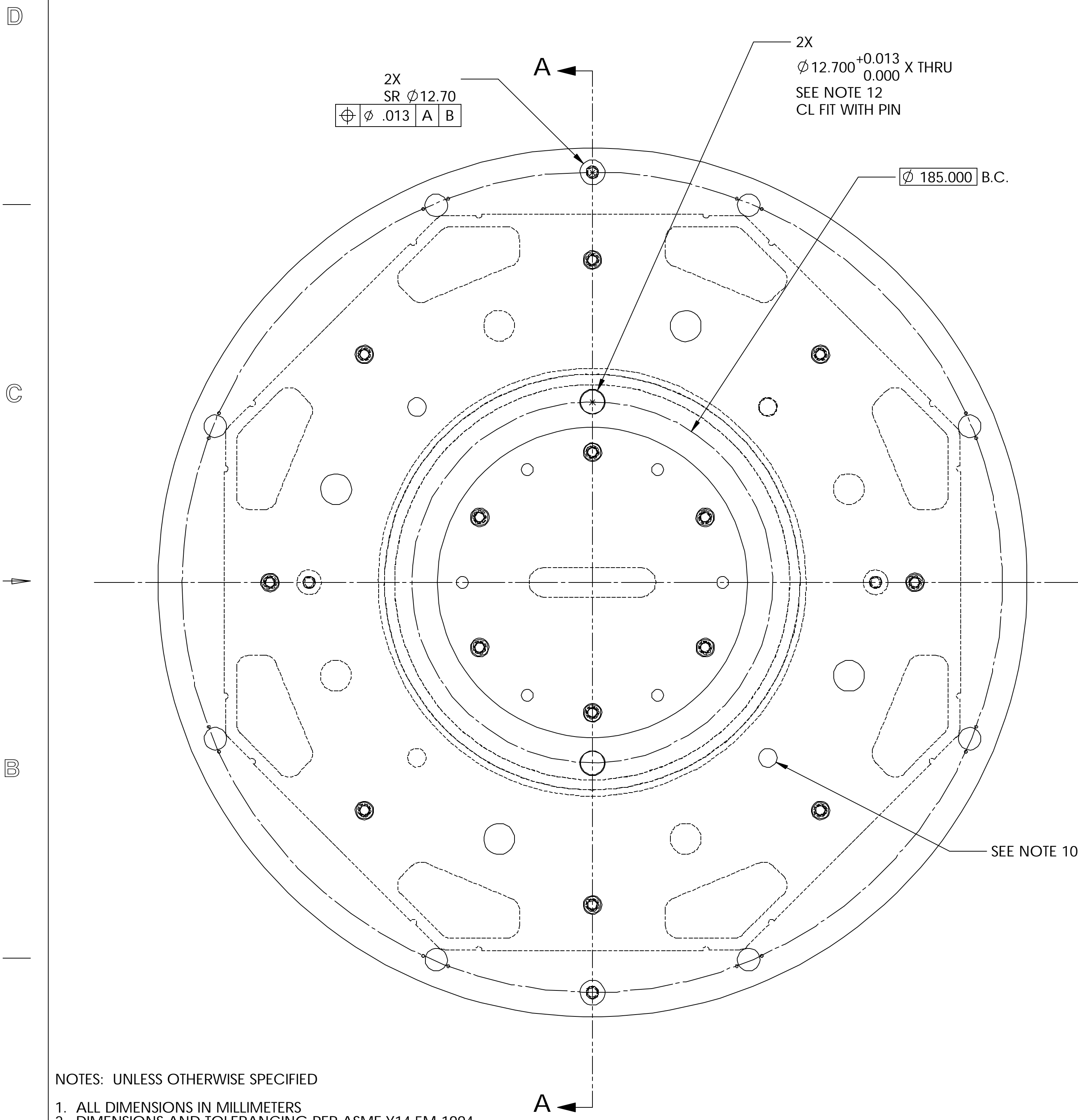


ITEM	PART NO.	REQD	REQD	DESCRIPTION	MATERIAL
5		12	12	M6 X 1.0 SOCKET HD CAP X 25.4	
4		4	4	12.7 DIA. GAGE PIN	
3	21F689-3	1	1	CENTRAL SECTION SPACING TUBE	
2	21F689-1	1	1	END SECTION SPACING TUBE	
1	21F690	2	2	PRE-ALIGNMENT ASSEMBLY	
DASH NO:		-1	-3		

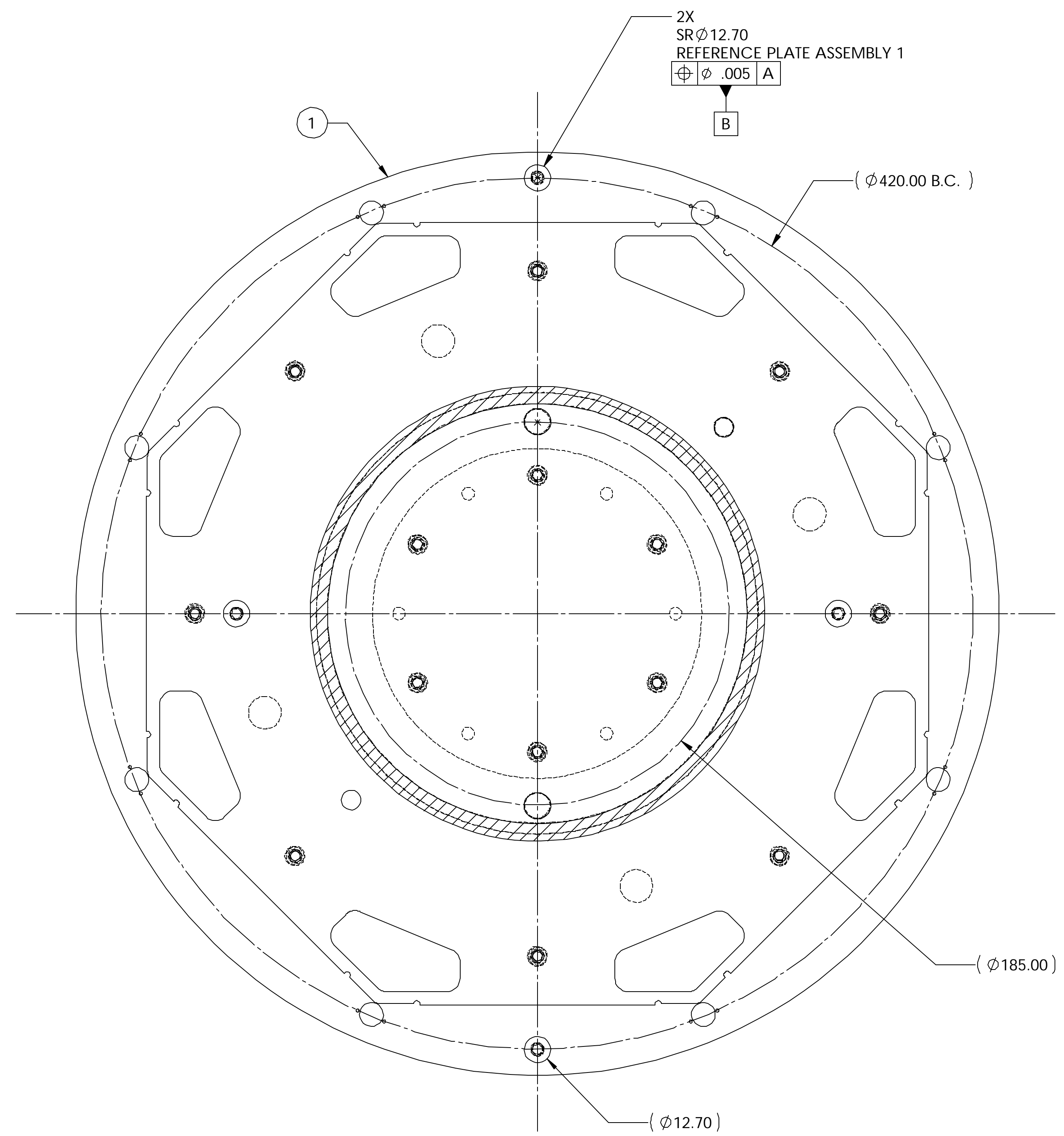


- NOTES: UNLESS OTHERWISE SPECIFIED
- ALL DIMENSIONS IN MILLIMETERS
 - DIMENSIONS AND TOLERANCING PER ASME Y14.5M-1994
 - SURFACE TEXTURE PER ANI/ASME B 46.1-1985
 - REMOVE ALL BURRS AND BREAK SHARP EDGES TO A MAXIMUM OF .38
 - ALL INSIDE CORNERS TO BE .38 RADIUS MAX
 - COUNTERSINK 82 DEGREES ALL TAPPED 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
 - TORQUE SOCKET HEAD CAP SCREWS TO 24.3 in-Lbs (2.0 ft-Lbs.) MAX
 - REMOVE TWO 9.52 DOWEL PINS FROM TOP SIDE ONLY
 - DIMENSIONS ARE REFERENCE, ARE BASED ON INDIVIDUAL PART TOLERANCES
 - ANGULARLY ORIENT, MATCH DRILL AND PIN ITEM(S) 1 TO EACH OTHER; BOLT ASSEMBLY TOGETHER USING ITEM(S) 5
 - CMM INSPECTION OR EQUIVALENT REQUIRED; INSPECTION REPORTS PROVIDED TO HYTEC FOR REVIEW AND APPROVAL. INSPECTION TEMPERATURE MUST BE INDICATED

PART NO.	DIM "A"	ASSEMBLY
-1	292.000	END SECTION
-3	840.000	CENTRAL SECTION

REV	DWG	CHK	ZONE	DATE	CHANGES	UNLESS OTHERWISE SPECIFIED	SHOP ORDERS	SER NO.	ERNEST ORLANDO LAWRENCE
						TOLERANCES X.X ± 0.5 X.XX ± 0.25 X.XXX ± 0.013	FRAC. : 1/64 ANGLES : 30° FINISH 1.6	ACCT NO. DATE ISSD DATE REQD	BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA - BERKELEY #
						DO NOT SCALE PRINT	INDEX METHOD TAG		ATLAS PIXEL DETECTOR SPACEFRAME BONDING FIXTURE SUB-ASSEMBLY ALIGNMENT
						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	PROJECT NAME US ATLAS SILICON SUBSYSTEM	DATE 4/16/2002	SCALE: 1:1.5 DO NOT SCALE PRINTS
							DWG BY: W. K. MILLER CHK BY: BILL WILDS APR BY: E. ANDERSSSEN	DATE 4/16/2002	PATENT CLEAR: DESIGN ACCT. NO. P1AP-11 CATEGORY CIDE AP6250
									SHEET 1 OF 2 DWG. NO. 21F6884 SIZE REV.

DWG. NO.	21F688 4	SIZE	REV.	SR.
ITEM	PART NO.	REQD	DESCRIPTION	
			MATERIAL	



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
9. TORQUE SOCKET HEAD CAP SCREWS TO 24.3 in-Lbs (2.0 ft-Lbs.) MAX
10. REMOVE TWO 9.52 DOWEL PINS FROM TOP SIDE ONLY
11. DIMENSIONS ARE REFERENCE, ARE BASED ON INDIVIDUAL PART TOLERANCES
12. ANGULARLY ORIENT, MATCH DRILL AND PIN ITEM(S) 1 TO EACH OTHER; BOLT ASSEMBLY TOGETHER USING ITEM(S) 5
13. CMM INSPECTION OR EQUIVALENT REQUIRED: INSPECTION REPORTS PROVIDED TO HYTEC FOR REVIEW AND APPROVAL. INSPECTION TEMPERATURE MUST BE INDICATED

SECTION D-D
SCALE 1:1.5

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 1.6	SURFACE TREATMENT	ATLAS PIXEL DETECTOR			
DO NOT SCALE PRINT			IDEN. METHOD TAG	SPACEFRAME BONDING FIXTURE			
THREADS ARE CLASS 2			PROJECT NAME	SUB-ASSEMBLY ALIGNMENT			
CHAMFER ENDS OF ALL SCREW THREADS 30°			PROJECT NO.	MICROFILMED:			
CUT ROUNDS, 1.5 THREAD RELIEF ON MACHINED THREADS			PROJECT US ATLAS SILICON SUBSYSTEM	DWG. TYPE	SHOWS ON	SCALE: 1:1.5	DO NOT SCALE PRINTS
BREAK EDGES .016 MAX. ON MACHINED WORK			DWG. BY W. K. MILLER	ASSEM	N/A	SHEET 2 OF 2	
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE			CHK BY BILL WILDS	DATE 4/16/2002	PATENT CLEAR:	DESIGN ACCT. NO.	CATEGORY CIDE
IN ACCORDANCE WITH ASME Y14.5m & B46.1			APR BY E. ANDERSSSEN	DATE 4/16/2002	P1AP-11	AP6250	DWG. NO. 21F688 4
REV	DWG	CHK	ZONE	DATE	CHANGES		

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