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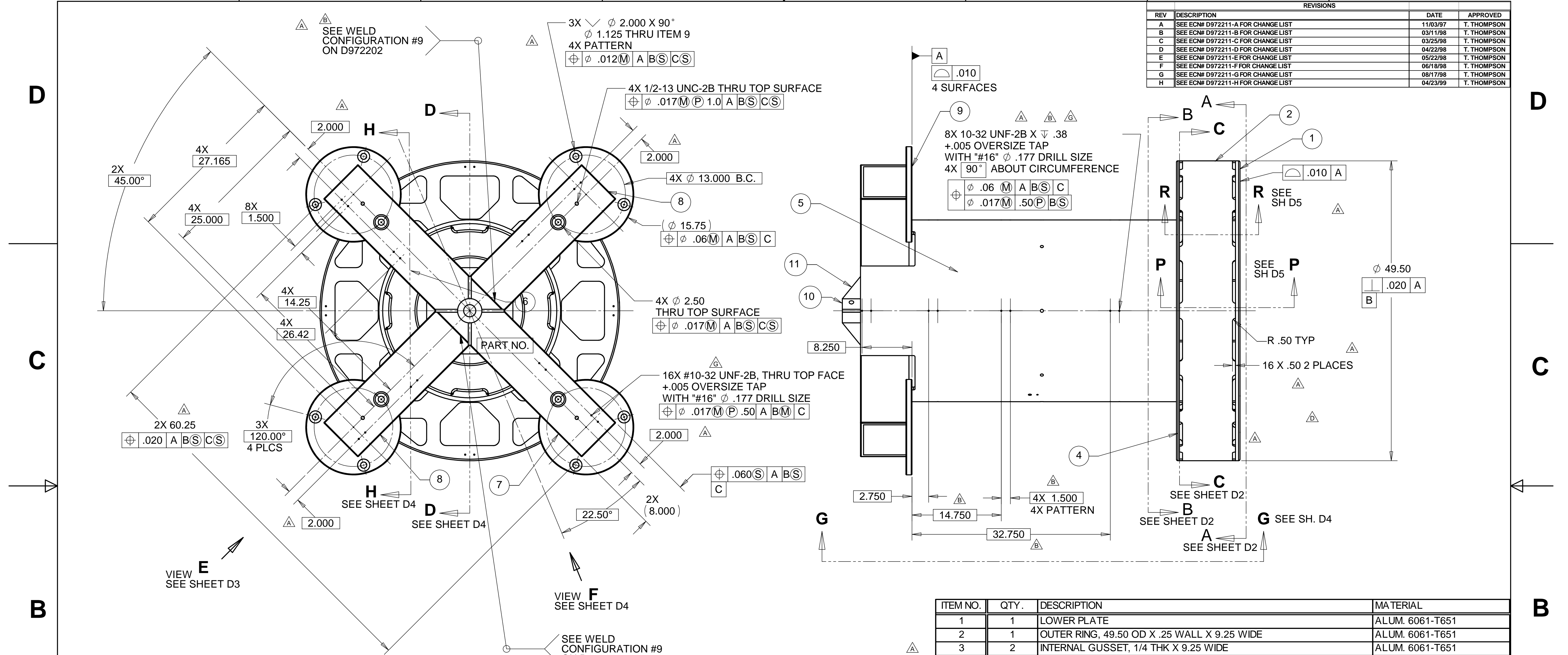
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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	SEE ECN# D972211-A FOR CHANGE LIST	11/03/97	T. THOMPSON
B	SEE ECN# D972211-B FOR CHANGE LIST	03/11/98	T. THOMPSON
C	SEE ECN# D972211-C FOR CHANGE LIST	03/25/98	T. THOMPSON
D	SEE ECN# D972211-D FOR CHANGE LIST	04/22/98	T. THOMPSON
E	SEE ECN# D972211-E FOR CHANGE LIST	05/22/98	T. THOMPSON
F	SEE ECN# D972211-F FOR CHANGE LIST	06/18/98	T. THOMPSON
G	SEE ECN# D972211-G FOR CHANGE LIST	08/17/98	T. THOMPSON
H	SEE ECN# D972211-H FOR CHANGE LIST	04/23/99	T. THOMPSON



NOTES: UNLESS OTHERWISE SPECIFIED

- ALL DIMENSIONS IN INCHES
- DIMENSIONS AND TOLERANCING PER ASME Y14.5M-1994
- SURFACE TEXTURE PER ANSI/ASME B 46.1-1985
- REMOVE ALL BURRS AND BREAK SHARP EDGES TO A MAXIMUM OF .015
- ALL INSIDE CORNERS TO BE .015 RADIUS MAX
- COUNTERSINK 82 DEGREES ALL TAPPED HOLES TO MAJOR DIAMETER
- COUNTERSINK 82 DEGREES APPROXIMATELY .03/.06 DEEP ALL DRILLED HOLES
- PART NUMBER (DRAWING NO., DASH NO., REVISION NO., SERIAL NO.) TO BE CLEARLY MARKED ON THE PART ITSELF.
- ALL FABRICATION, CLEANING, AND HANDLING MAINTAINED TO HYTEC SPECIFICATION: LIGO-TS-03 CATEGORY 1.
- ALL ALUM. WELDING DONE BY A GTAW PROCESS USING 2% THORIATED TUNGSTEN WELDING ELECTRODES AND ER4043 WELDING ROD (SPEC. PER AWS A5.10-80).
- NO SULFUR BASED CUTTING FLUIDS ALLOWED. APPROVED MACHINE LUBRICANT: HANSTERFER S-500CF.
- DIMENSIONS FOR GUSSET WELD PREP TABS & SLOTS TO BE INTERPRETED PRIOR TO WELDING.
- DOWNTUBE WILL BE MACHINED OUT OF OVERSIZE STOCK TO DIMENSIONS SHOWN.

WEIGHT: 856.1 lbs.

ITEM NO.	QTY.	DESCRIPTION	MATERIAL
1	1	LOWER PLATE	ALUM. 6061-T651
2	1	OUTER RING, 49.50 OD X .25 WALL X 9.25 WIDE	ALUM. 6061-T651
3	2	INTERNAL GUSSET, 1/4 THK X 9.25 WIDE	ALUM. 6061-T651
4	1	UPPER PLATE, .50 THK	ALUM. 6061-T651
5	1	DOWNTUBE, (30.0 OD X .625 WALL X 52.181 LG.) SEE NOTE 13	ALUM. 6061-T651
6	2	DOWNTUBE STIFFENER, .75 THK PLT	ALUM. 6061-T651
7	1	LONG BOXBEAM, 8.0 X 8.0 X .50 WALL	ALUM. 6061-T651
8	2	SHORT BOXBEAM, 8.0 X 8.0 X .50 WALL	ALUM. 6061-T651
9	4	LEG PADS, (1.00 THK) X 15.75 DIAM. PLT	ALUM. 6061-T651
10	1	LIFTING CENTER, 4.00 DIAM. X 11.25 LG	ALUM. 6061-T651
11	4	LIFTING CENTER GUSSET, .50 THK PLT	ALUM. 6061-T651
12	4	INTERNAL GUSSET, 1/4 THK X 9.25 WIDE	ALUM. 6061-T651
13	8	INTERNAL GUSSET, 1/4 THK X 9.25 WIDE	ALUM. 6061-T651
14	2	INTERNAL GUSSET, 1/4 THK X 9.25 WIDE	ALUM. 6061-T651
15	4	INTERNAL GUSSET, 1/4 THK X 9.25 WIDE	ALUM. 6061-T651

PARTS LIST

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES -TOLERANCES-		CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE DO NOT SCALE DRAWING		<p>HYTEC, INC</p> <p>TITLE LIGO BSC DOWNTUBE WELDMENT</p>	
DECIMALS X = +/- .1 XX = +/- .03 XXX = +/- .010	ANGULAR = +/- .30° SURFACE FINISH = 250	DESIGNED ROGER L. SMITH 5-28-97	DATE 5-28-97		
FINISH ALL MACHINED SURFACES 64 RMS		SIGNATURE ROGER L. SMITH 5-28-97		SCALE 1/8	
PART NO. D972211-1		ENGR. T. THOMPSON 7-10-97		REVISION H	
		APPROVED T. THOMPSON 7-10-97			

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G	SEE ECN# D972211-G FOR CHANGE LIST	08/17/98	T. THOMPSON
H	SEE ECN# D972211-H FOR CHANGE LIST	04/23/99	T. THOMPSON

D

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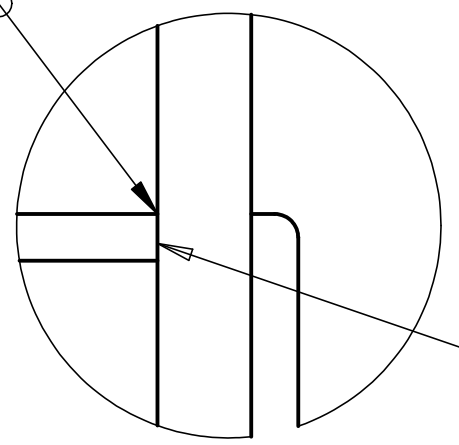
B

B

A

A

SEE WELD CONFIGURATION #13 ON D972202



DETAIL K
SCALE 1 : 2

LOWER WALL OF ITEM 8 REMOVED TO MATCH CONTOUR OF ITEM 9 FOR ITEM 9 INSERTION
WELD PREP CHAMFER ALL AROUND CUTOUT ON ITEM 8

SEE WELD CONFIGURATION #2 ON D972202

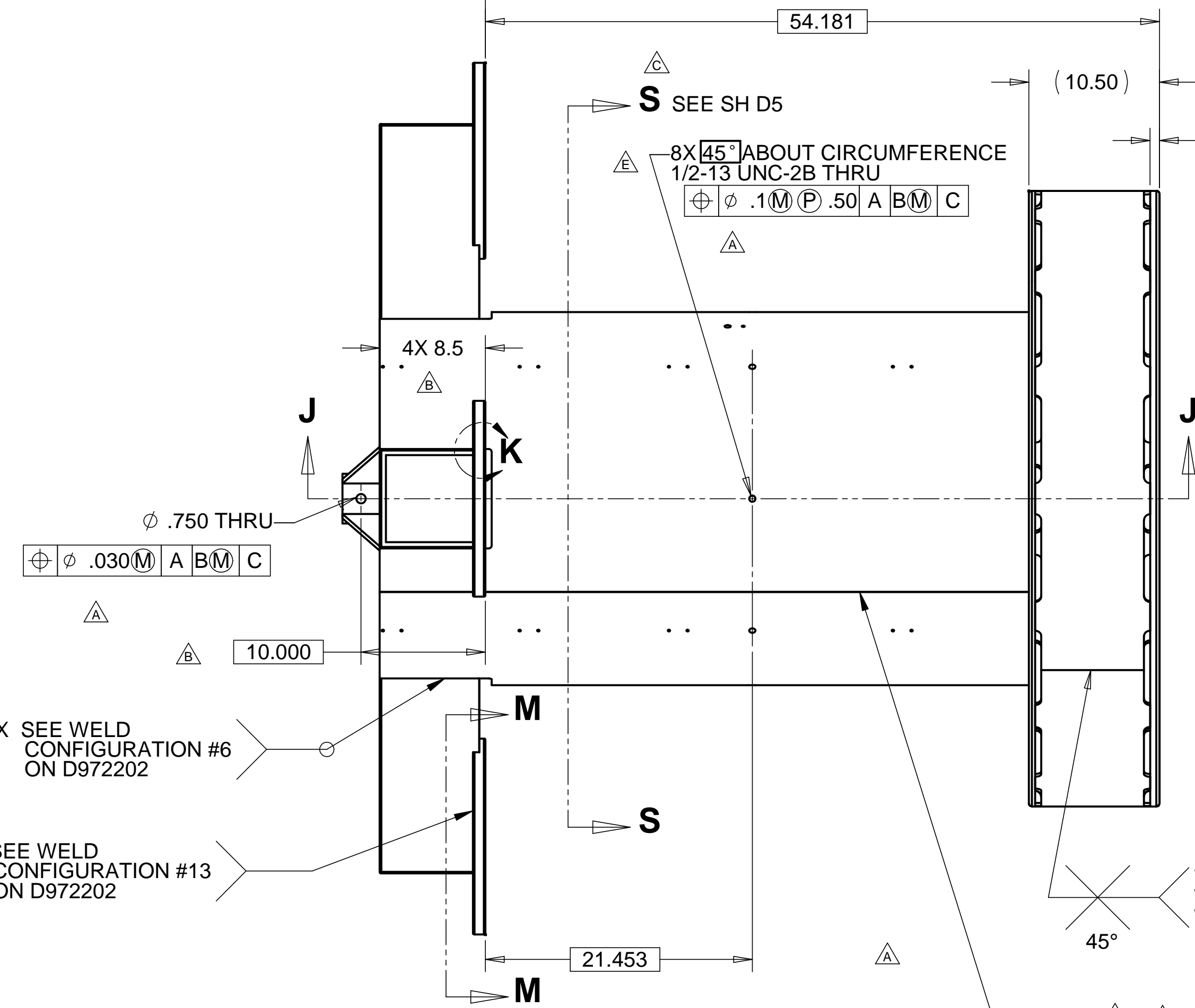
2X SEE WELD CONFIGURATION #12 ON D972202

ITEM 10 TO ITEM 7 SEE WELD CONFIGURATION #11 ON D972202

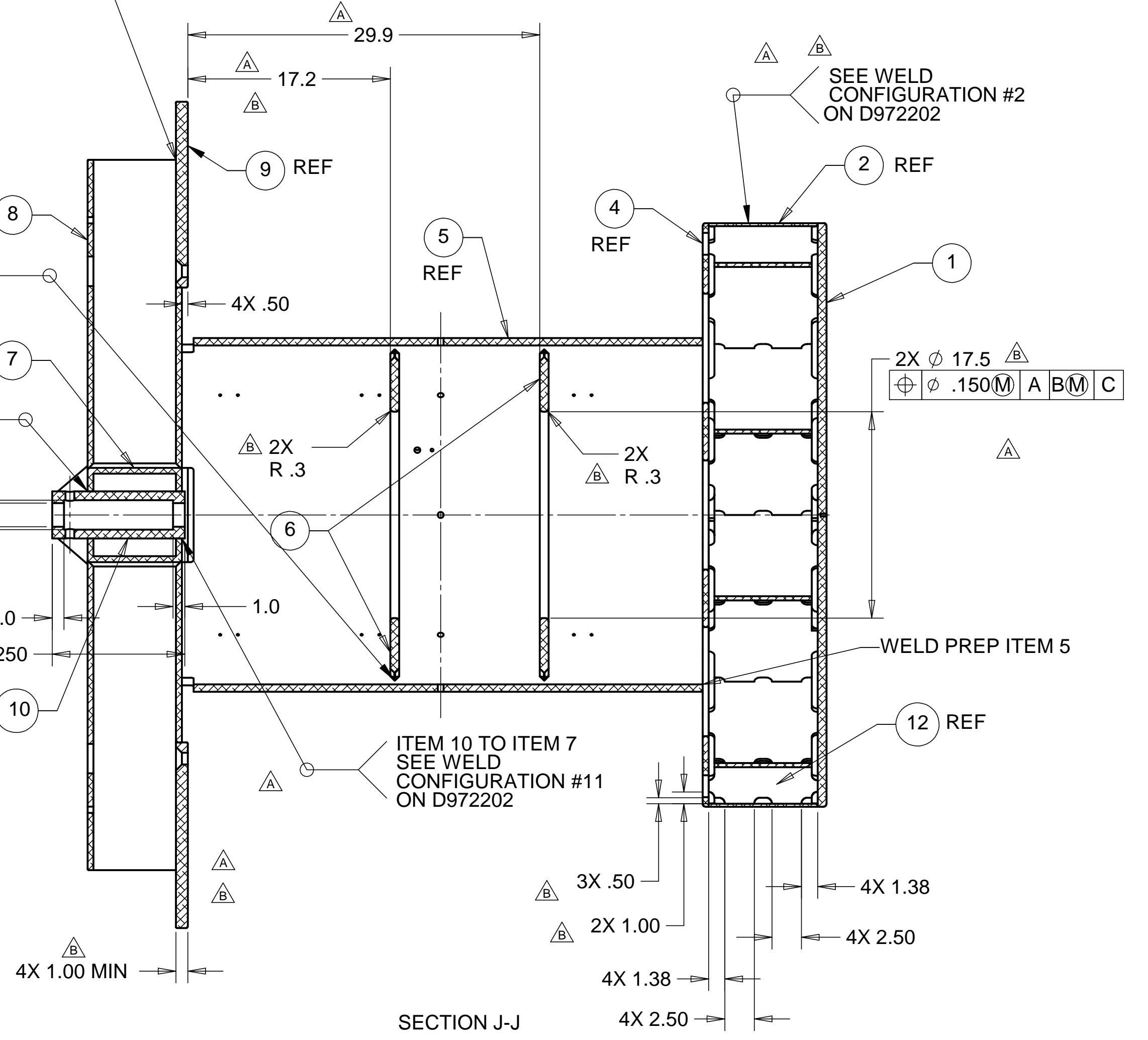
ITEM 10 TO ITEM 7 SEE WELD CONFIGURATION #11 ON D972202

V-PREP MINIMAL LAND WELD 1 PASS FROM EACH SIDE ONLY. WRAPPED FOR VIRTUAL LEAK FREE JOINT

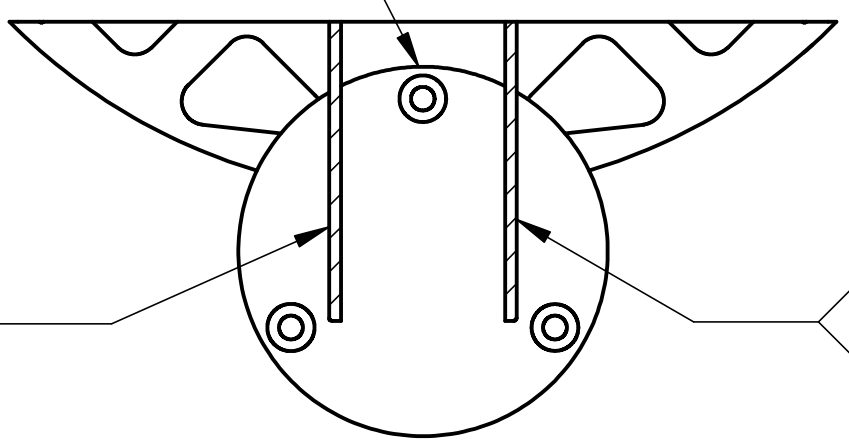
ROLL WELD PERMISSIBLE FULL PENETRATION WELD REQD. NO POROSITY PERMITTED



VIEW E FROM SHEET D1



SECTION J-J



SECTION M-M

PARTS LIST									
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DECIMALS	ANGULAR = +/- .30°								
.X = +/- .1		<p>HYTEC, INC</p> <p>TITLE LIGO BSC DOWNTUBE WELDMENT</p>							
.XX = +/- .03	SURFACE FINISH = 250								
.XXX = +/- .010									
FINISH									
ALL MACHINED SURFACES 64 RMS		DESIGNED	ROGER L. SMITH	DATE	5-28-97	DWG. NO. D972211	SIZE D	SHEET NO. 3 of 5	
PART NO.	D972211-1	DRAWN	ROGER L. SMITH	DATE	5-28-97				
		CHECKED	HARRY SALAZAR	DATE	6-6-97				
		ENGR.	T. THOMPSON	DATE	7-10-97				
		APPROVED	T. THOMPSON	DATE	7-10-97	SCALE	1/8	REVISION	H

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H	SEE ECN# D972211-H FOR CHANGE LIST	04/23/99	T. THOMPSON

R .13
ALL ITEMS 7 & 8

R .50
ALL CORNERS
ITEMS 7 & 8

2X 1/2-13 UNC-2B THRU WALL
180° ABOUT CIRCUMFERENCE
⊕ ⊖ .030 M P 1.0 A B S C S

2X ∅ .255 / .265 THRU WALL
180° ABOUT CIRCUMFERENCE
⊕ ⊖ .030 M A B S C S

2X 2.50
TYP ALL ITEMS 3 & 15

2X R .50 TYP
ITEMS 3 & 15

2X .50 TYP
ITEMS 3 & 15

VIEW F
FROM SHEET D1

SECTION D-D
FROM SHEET D1
VIEW FOR ITEM 15 SHOWN
ITEM 3 ROTATED 90° FROM VIEW

SECTION H-H
FROM SHEET D1
VIEW FOR ITEM 13 SHOWN
ITEM 14 ROTATED 90° FROM VIEW

VIEW G-G
FROM SHEET D1

R .13 ALL AROUND
TYP ALL ITEMS #9

R .13 ALL AROUND
TYP ALL ITEMS #9

R .25
ALL AROUND

R .25
ALL AROUND

R .13
ALL ITEMS 7 & 8

R .13
ALL ITEMS 7 & 8

R .13
ALL ITEMS 7 & 8

PARTS LIST			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES -TOLERANCES-		CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE DO NOT SCALE DRAWING	
DECIMALS .X = +/- .1 .XX = +/- .03 .XXX = +/- .010	ANGULAR = +/- .30° SURFACE FINISH = 250	TITLE HYTEC, INC LIGO BSC DOWNTUBE WELDMENT	
FINISH ALL MACHINED SURFACES 64 RMS	PART NO. D972211-1	SIGNATURE ROGER L. SMITH ROGER L. SMITH HARRY SALAZAR T. THOMPSON T. THOMPSON	DATE 5-28-97 5-28-97 6-6-97 7-10-97 7-10-97
SCALE 1/8		DWG. NO. D972211	SIZE SHEET NO. D 4 of 5
		REVISION H	

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D

D

C

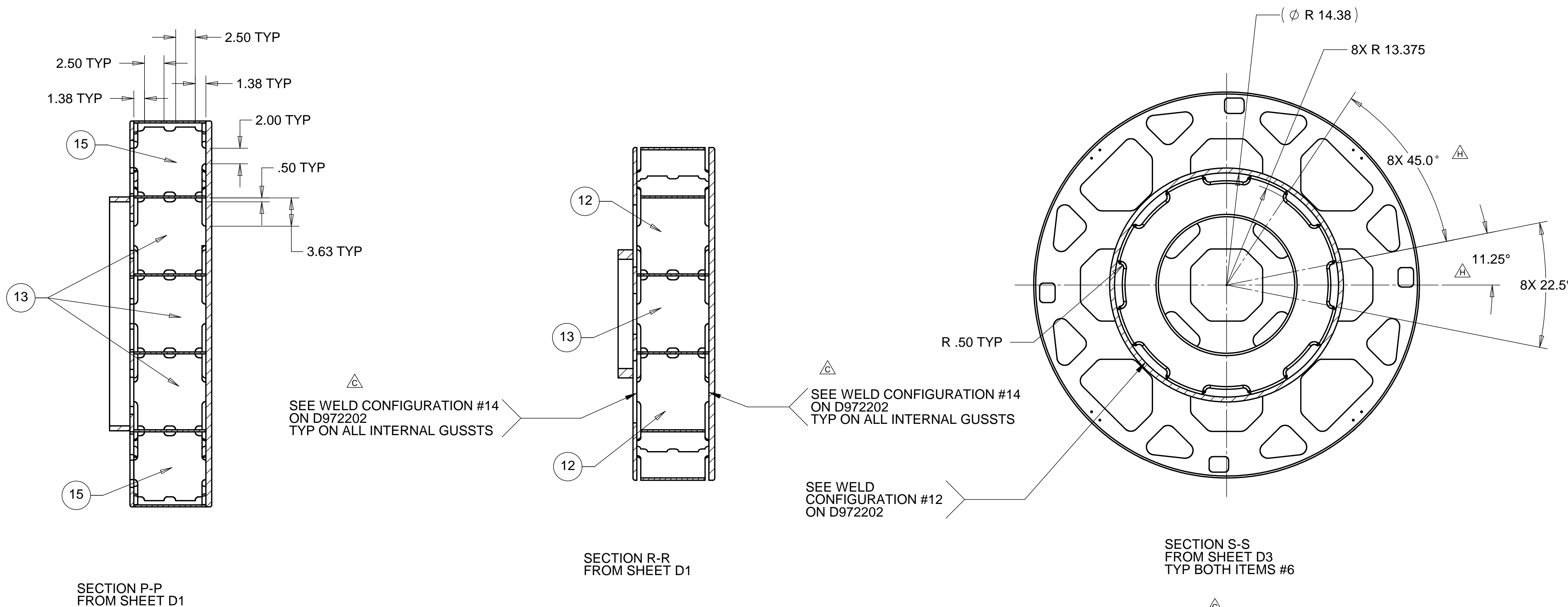
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PARTS LIST			
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	DECIMALS .X = +/- .1 .XX = +/- .03 .XXX = +/- .010	ANGULAR = +/- .30° SURFACE FINISH = 250	
FINISH	SIGNATURE	DATE	SCALE 1/2
PART NO. D972211-1	DESIGNED	ROGER L. SMITH	02-03-98
	DRAWN	ROGER L. SMITH	02-03-98
	CHECKED	HARRY SALAZAR	02-09-98
	ENGR.	T. THOMPSON	02-??-98
	APPROVED	T. THOMPSON	02-??-98
			REVISION H

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