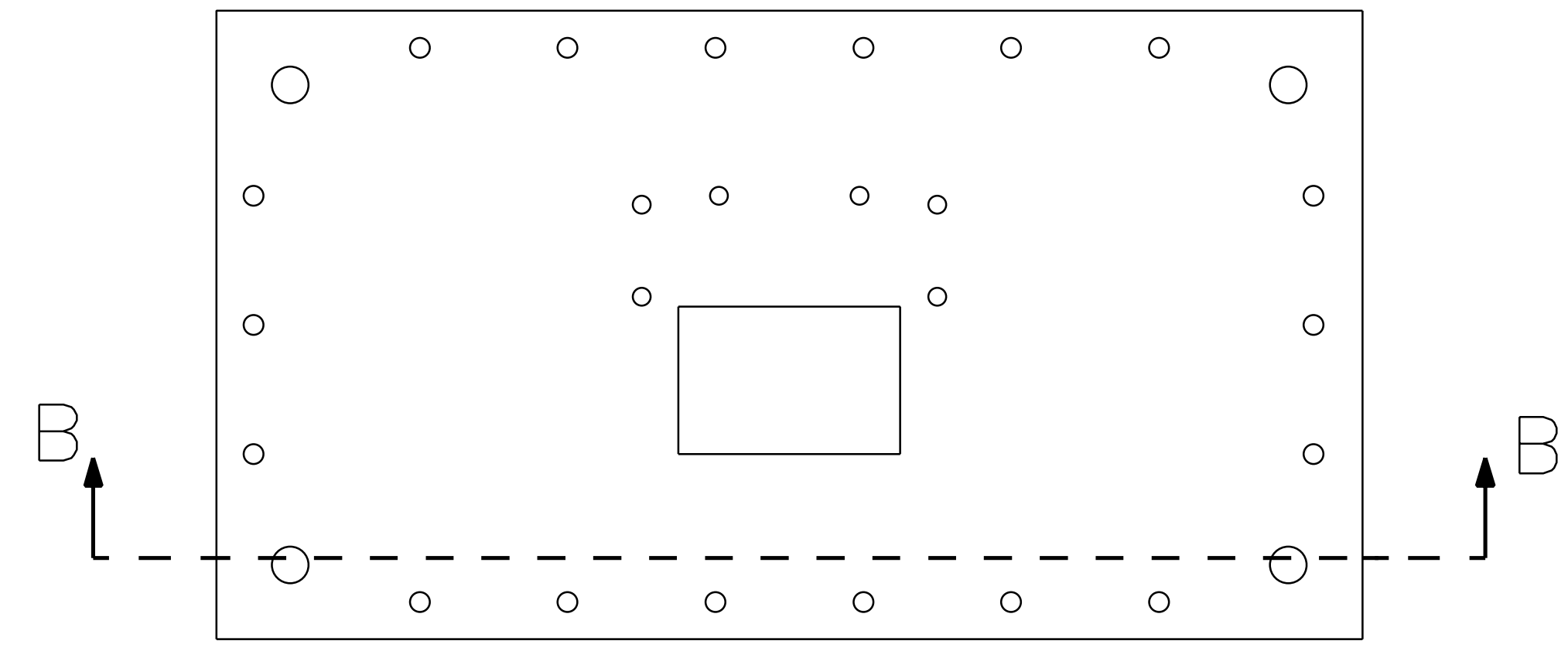
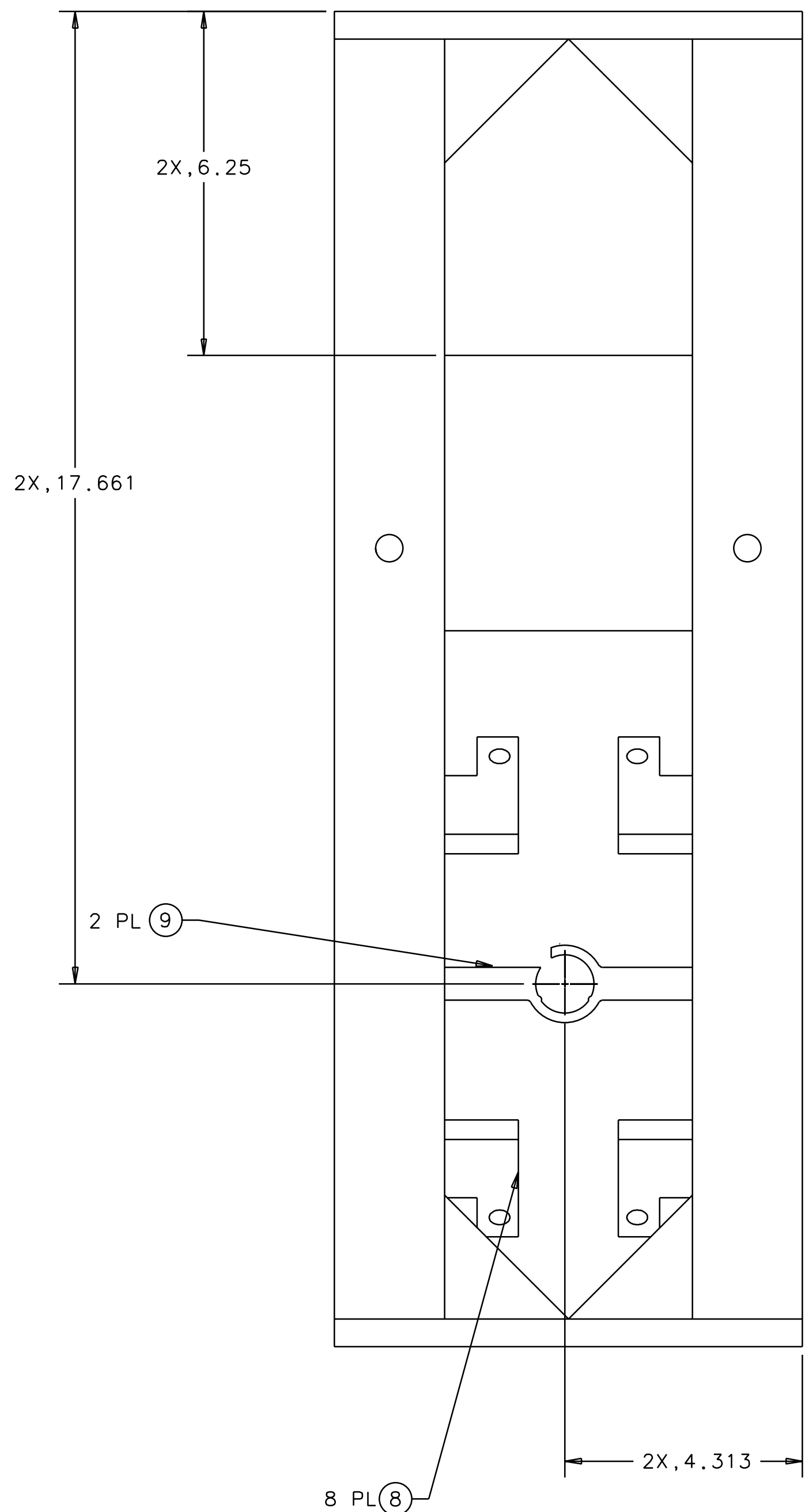
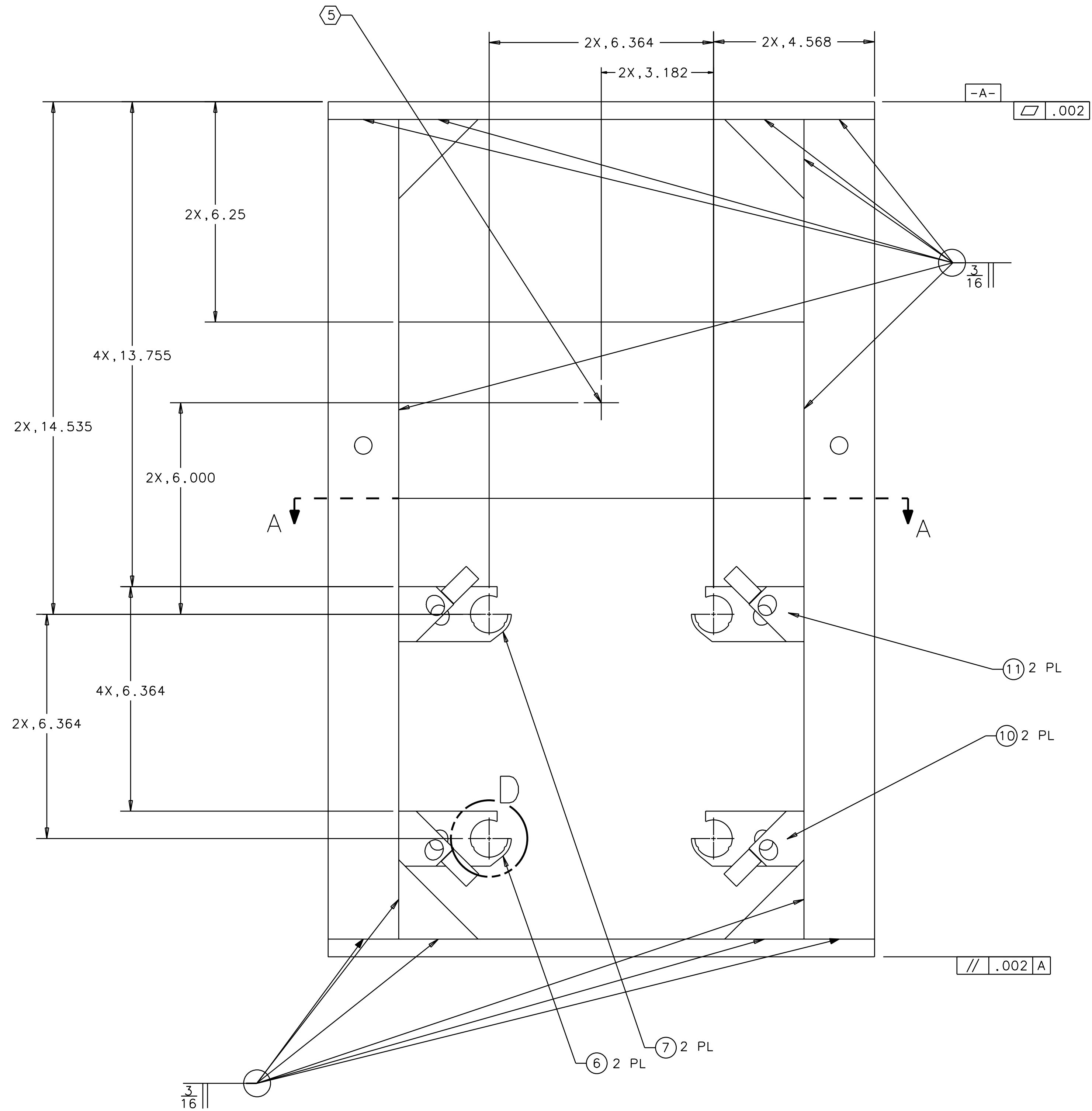
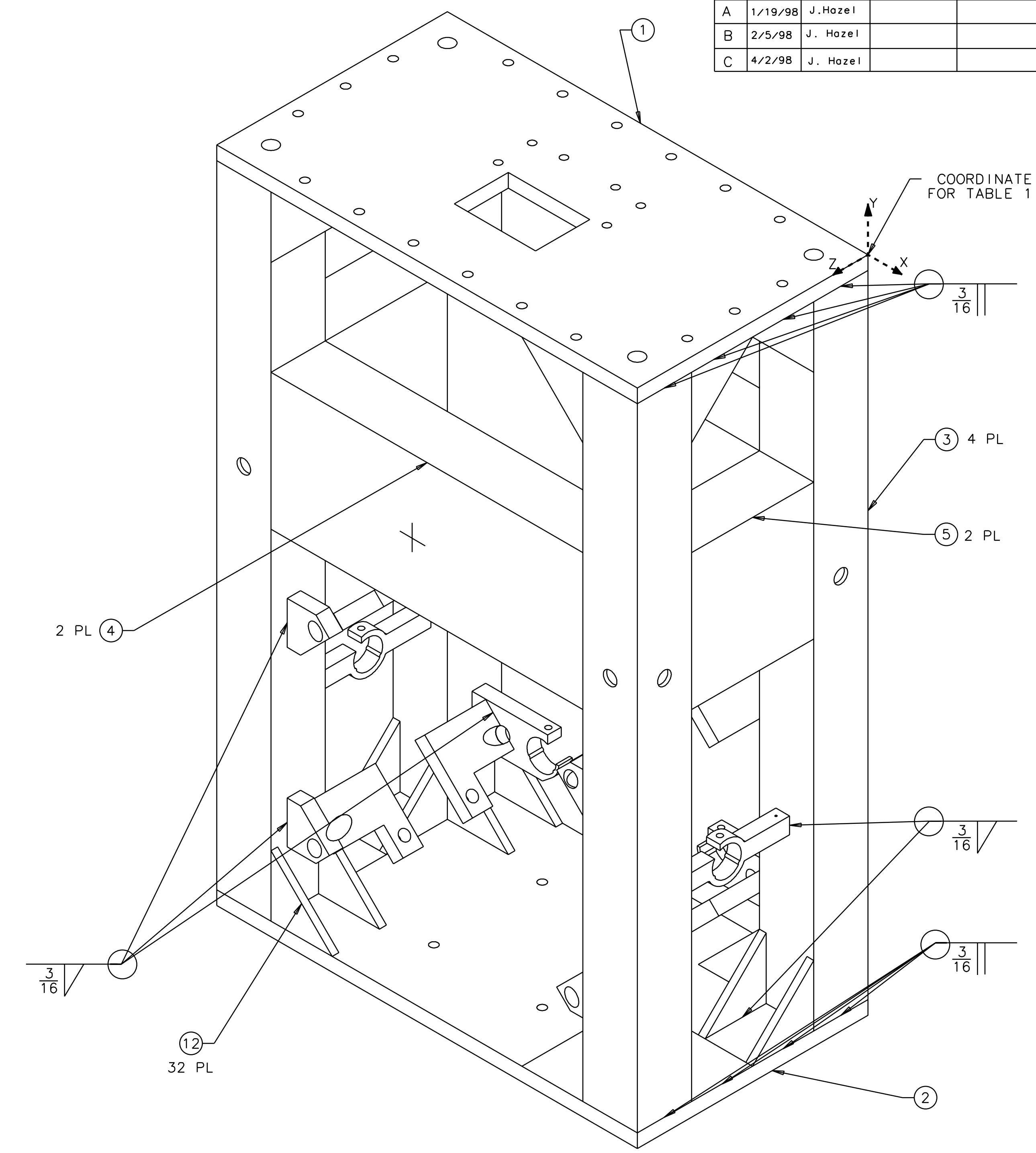


1 2 3 4 5 6 7 8

NOTES: (UNLESS OTHERWISE SPECIFIED)
1. SPECIFICATIONS FOR THE CONSTRUCTION OF THIS ASSEMBLY ARE DETAILED IN LIGO E970038, THE LARGE OPTIC SUSPENSION STRUCTURAL FABRICATION SPECIFICATION.
② THESE FEATURES TO BE MACHINED AFTER ANNEALING.
③ FLY CUT THESE SURFACES, OF BRACKETS FIND NOS. 6 AND 7, AT A 2° ANGLE. REMOVE MATERIAL FROM THE CENTER OF THE ASSEMBLY TO .25 FROM THE LEGS.
4. TABLE 1 DEFINES THE VECTORS THAT ARE THE CENTERLINES OF THE EIGHT THREADED HOLES DEFINED IN VIEW E ON SHEET 2.
⑤ ETCH OR SCRIBE CROSSHAIRS, POSITION AND APPROX SIZE AS SHOWN, ONTO FRONT AND BACK OF STRUCTURE. ETCH .01 WIDE MAX. AND .02 MAX BELOW SURFACE, AFTER ANNEALING.



REV	DATE	DRAWN BY	CHECKED	DCC	DCN/DESCRIPTION
A	1/19/98	J. Hazel			E980004/INITIAL RELEASE
B	2/5/98	J. Hazel			E980011/CHANGE TO NOTE 3 CHANGE TO SECTION A-A
C	4/2/98	J. Hazel			E980075/ADD SHEET 4



QTY	REQD	PART OR IDENTIFYING NO	DESCRIPTION OR IDENTIFICATION	MATERIAL SPECIFICATION	ITEM NO.
32		GUSSET, 2.25 x 2.25 x 45°		.13 THICK 304 STAINLESS	12
2		D960143	LOS BRACKET, FRONT, TOP		11
2		D960142	LOS BRACKET, FRONT, BOTTOM		10
2		D960141	LOS BRACKET, SENSOR/ACTUATOR, SIDE		9
8		D960140	LOS BRACKET, SAFETY STOP		8
2		D960137	LOS BRACKET, SENSOR/ACTUATOR, TOP		7
2		D960136	LOS BRACKET, SENSOR/ACTUATOR, BOTTOM		6
2		D960506	LOS SIDE STIFFENER		5
2		D960502	LOS FRONT STIFFENER		4
4		D960504	LOS LEG		3
1		D960505	LOS BOTTOM PLATE		2
1		D960503	LOS TOP PLATE		1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE: FRACTIONS DECIMALS ANGLES
0.XX = +0.03
0.XXX = ±0.005
DO NOT SCALE DRAWING

APPROVALS DATE 4/98 TITLE LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY
DRAWN J. Hazel
CHECKED

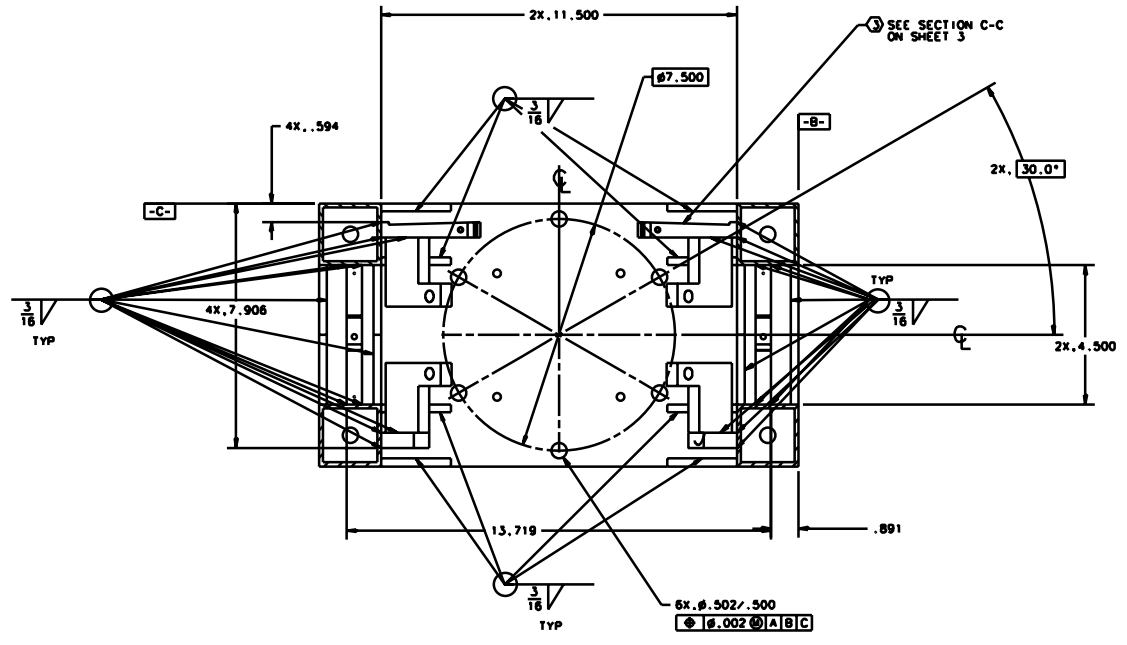
NEXT ASSEMBLY D960132 MATERIAL FINISH

FILE LOCATION home/dcc/docs/D960133.pdf

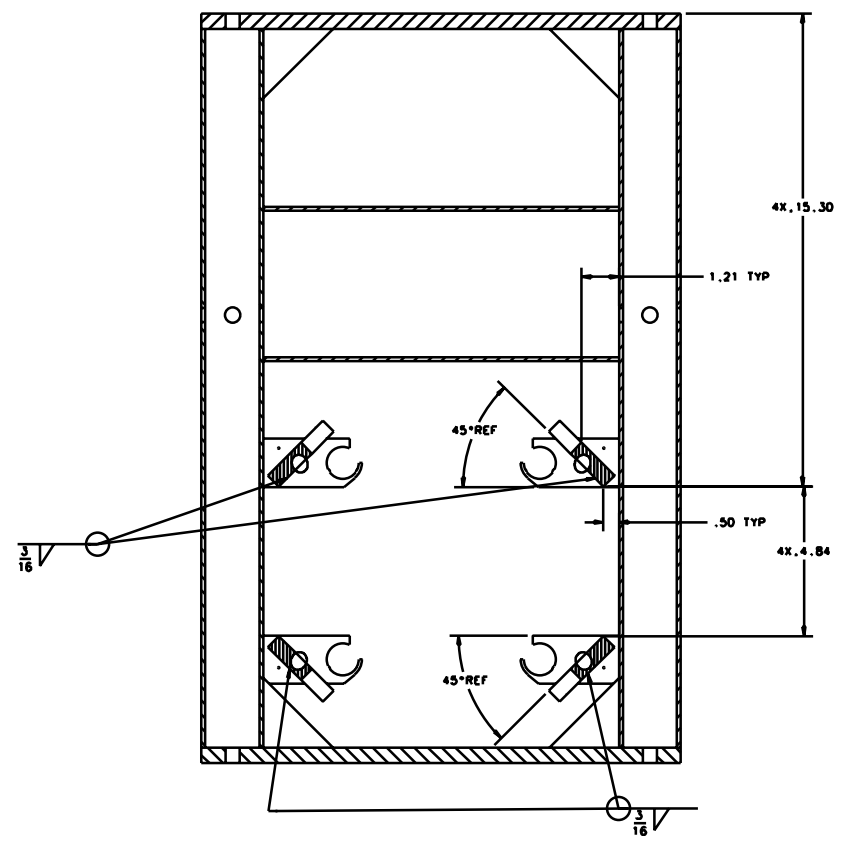
SIZE E D960133 REV C
SCALE 1/2 SHEET 1 OF 4

1 2 3 4 5 6 7 8

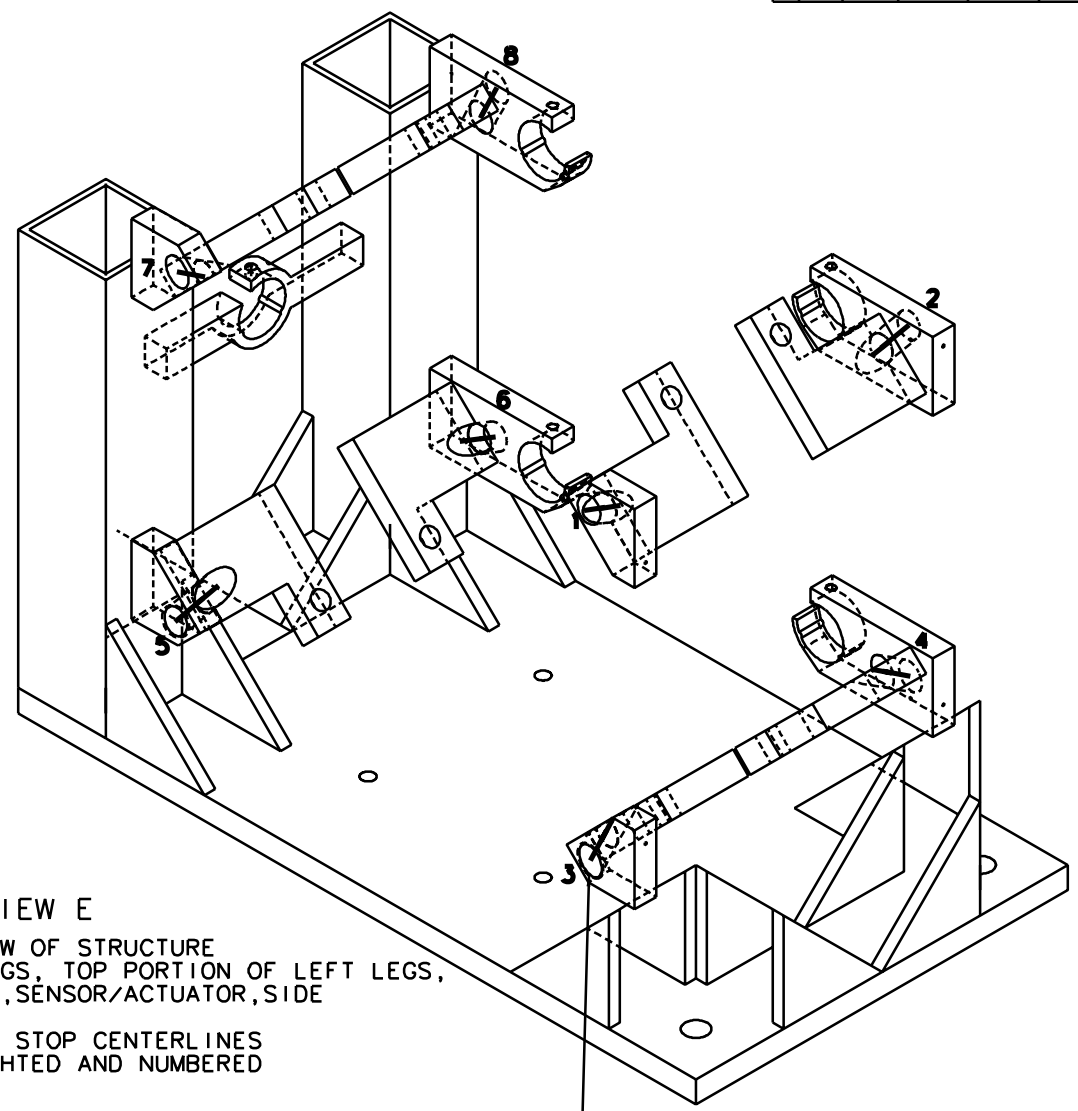
REV	DATE	DRWN BY	CHECKED	QCC	CDW/CSRP/PH/CH
A	1/18/98	J. Hazzel			E980004/INITIAL RELEASE
B	2/3/98	J. Hazzel			E980011/CHANGE TO NOTE 3 CHANGE TO SECTION A-A



SECTION A-A



SECTION B-B



VIEW E
ISO VIEW OF STRUCTURE
WITHOUT: RIGHT LEGS, TOP PORTION OF LEFT LEGS,
RIGHT LOS BRACKET, SENSOR/ACTUATOR, SIDE
CHAMFER STOP CENTERLINES
HIGHLIGHTED AND NUMBERED

TABLE 1 CHAMFER STOP VECTORS

CHAMFER STOP NUMBER	START POINT	END POINT
1	-3.039, -14.272, 7.906	-3.526, -15.278, 6.089
2	-3.061, -14.319, 0.594	-3.525, -15.278, 2.326
3	-3.039, -21.161, 7.906	-3.526, -20.156, 6.089
4	-3.015, -21.205, 0.594	-3.525, -20.153, 2.496
5	-12.461, -21.161, 7.906	-11.974, -20.156, 6.089
6	-12.485, -21.205, 0.594	-11.975, -20.153, 2.496
7	-12.461, -14.272, 7.906	-11.974, -15.278, 6.089
8	-12.439, -14.319, 0.594	-11.975, -15.278, 2.326

START POINTS LIE ON A PLANE OF A BRACKET OF THIS ASSEMBLY.
ALL POINTS ARE REFERENCED FROM (0,0,0) OF COORDINATE SYSTEM
DESIGNATED ON ISO VIEW ON SHEET 1.

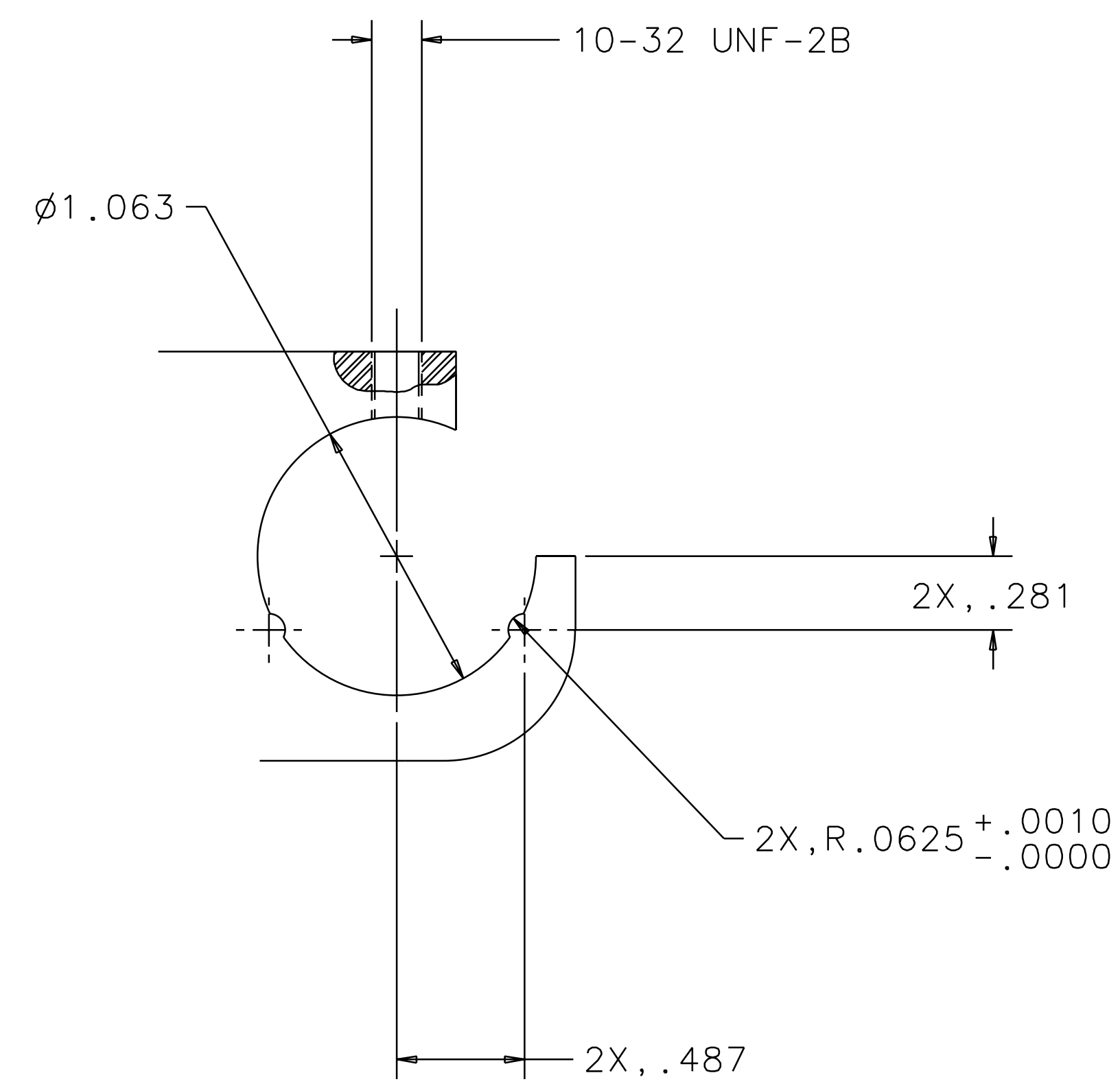
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FILE NAME: D960132		DRWN: J. HAZZEL		4/98	FILE
FILE LOCATION: home/ccc/docs/D960133.ppt		CHECKED:			TITLE
					LARGE OPTIC SUSPENSION STRUCTURE ASSEMBLY
					SHEET
					E D960133
					REV
					B
					SCALE 1/2
					SHEET 2 OF 3

1 2 3 4 5 6 7 8

REV	DATE	DRAWN BY	CHECKED	DCC	DCN/DESCRIPTION
A	1/19/98	J.Hazel			E980004/INITIAL RELEASE
B	2/6/98	J.Hazel			E980011/CHANGE TO NOTE 3 CHANGE TO SECTION A-A
C	4/2/98	J.Hazel			E980075/ADD SHEET 4



SECTION C-C
FLY CUT DEFINED
IN NOTE 3

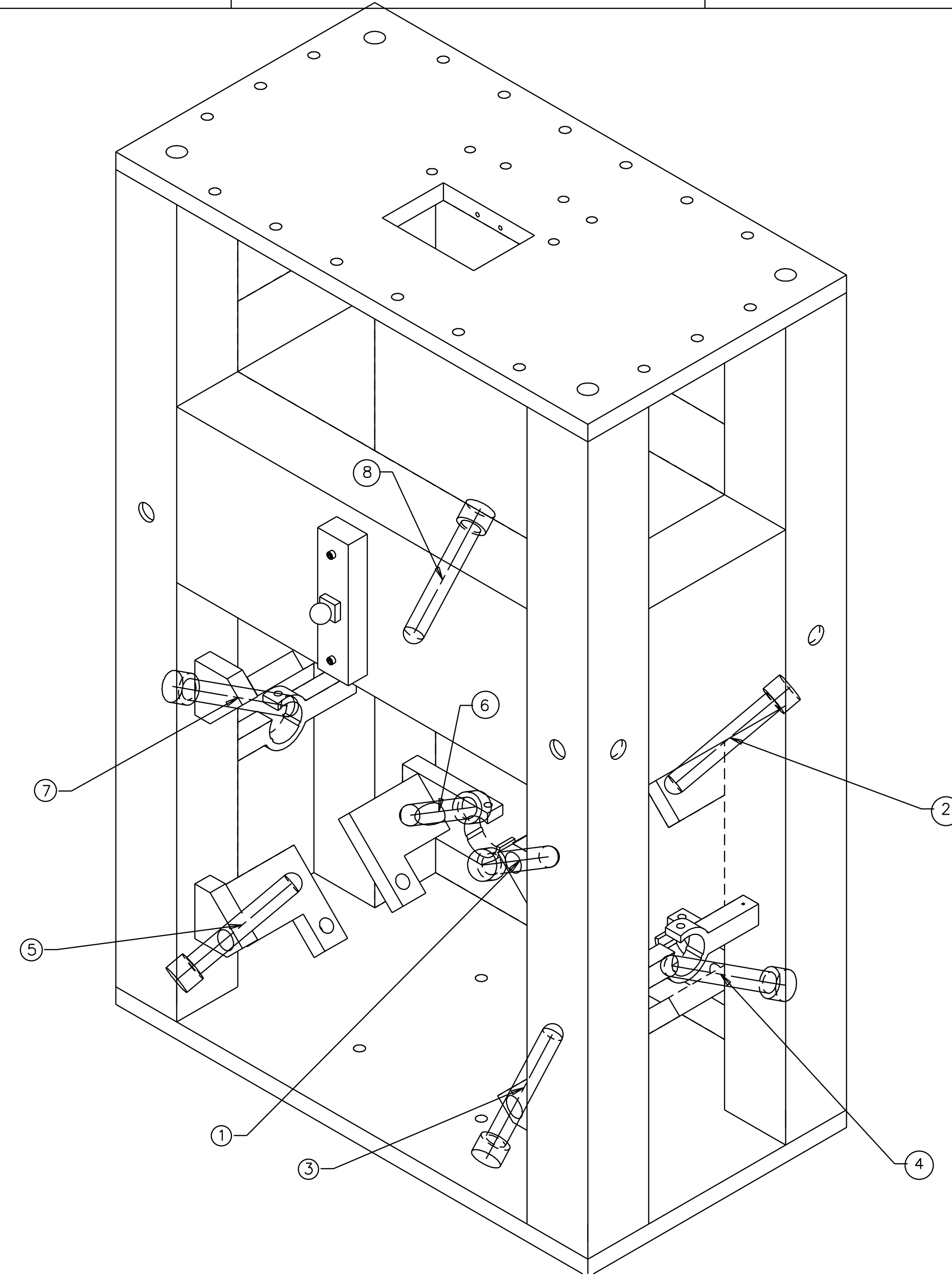
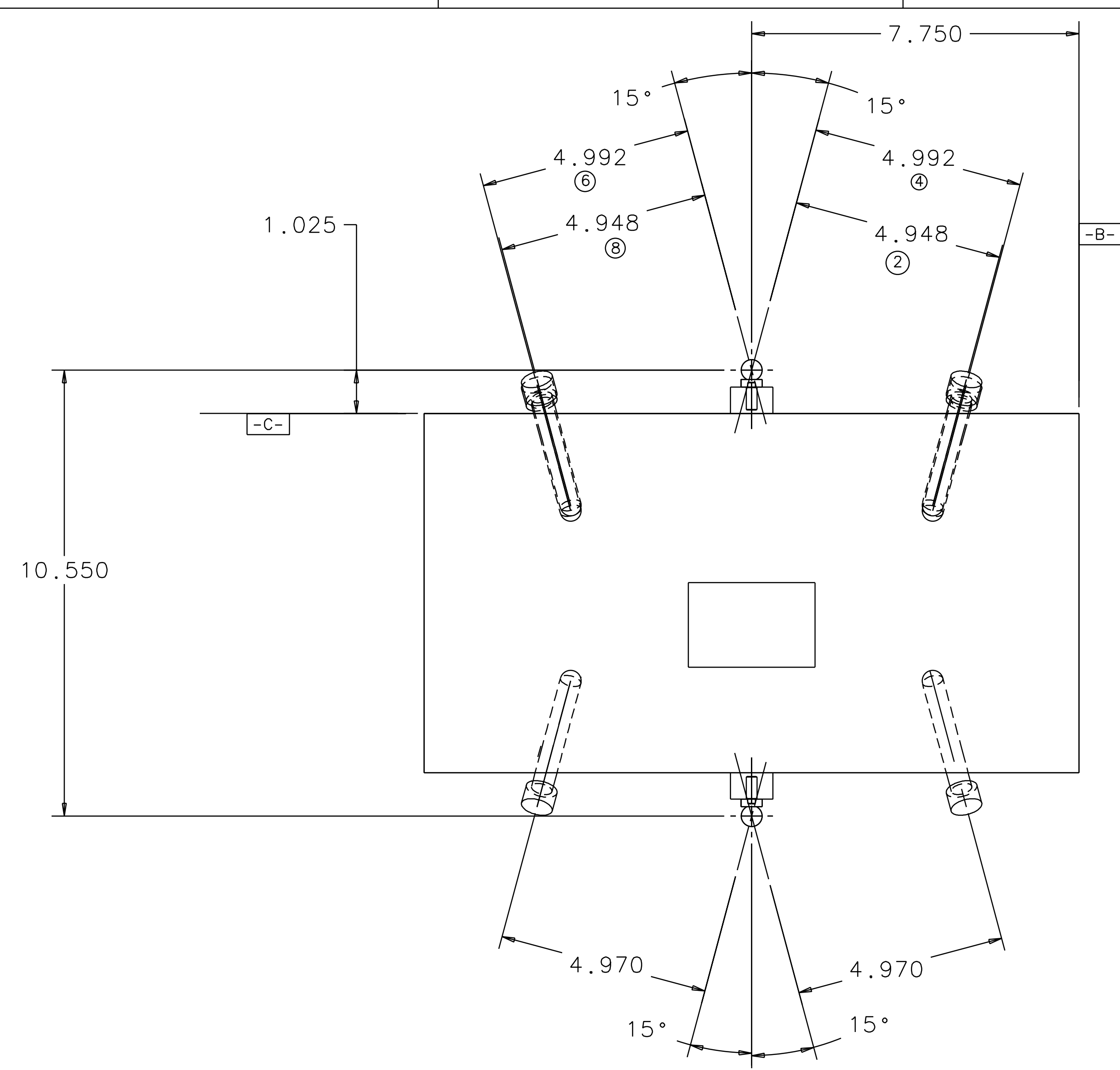


VIEW D
SCALE 4/1
TYPICAL 6 PLACES

QTY REQ	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES .0.5'				
APPROVALS		DATE	TITLE	
DRAWN J. Hazel		4/96	LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
CHECKED			LARGE OPTIC SUSPENSION STRUCTURE ASSEMBLY	
NEXT ASSEMBLY D960132		MATERIAL	SIZE E	REV C
FILE LOCATION home/dcc/docs/D960133.pdf		FINISH	SCALE 1/2	SHEET 3 OF 4

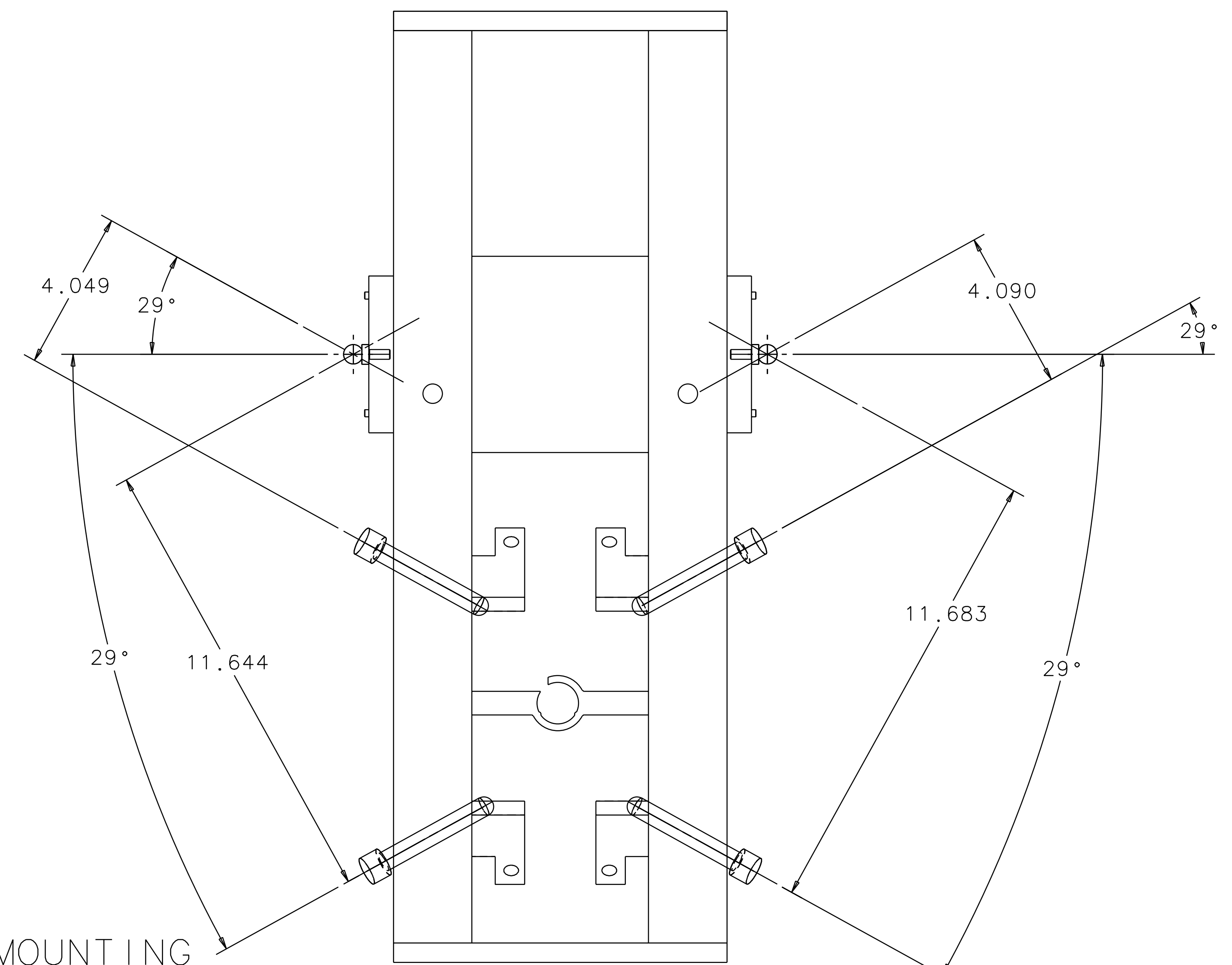
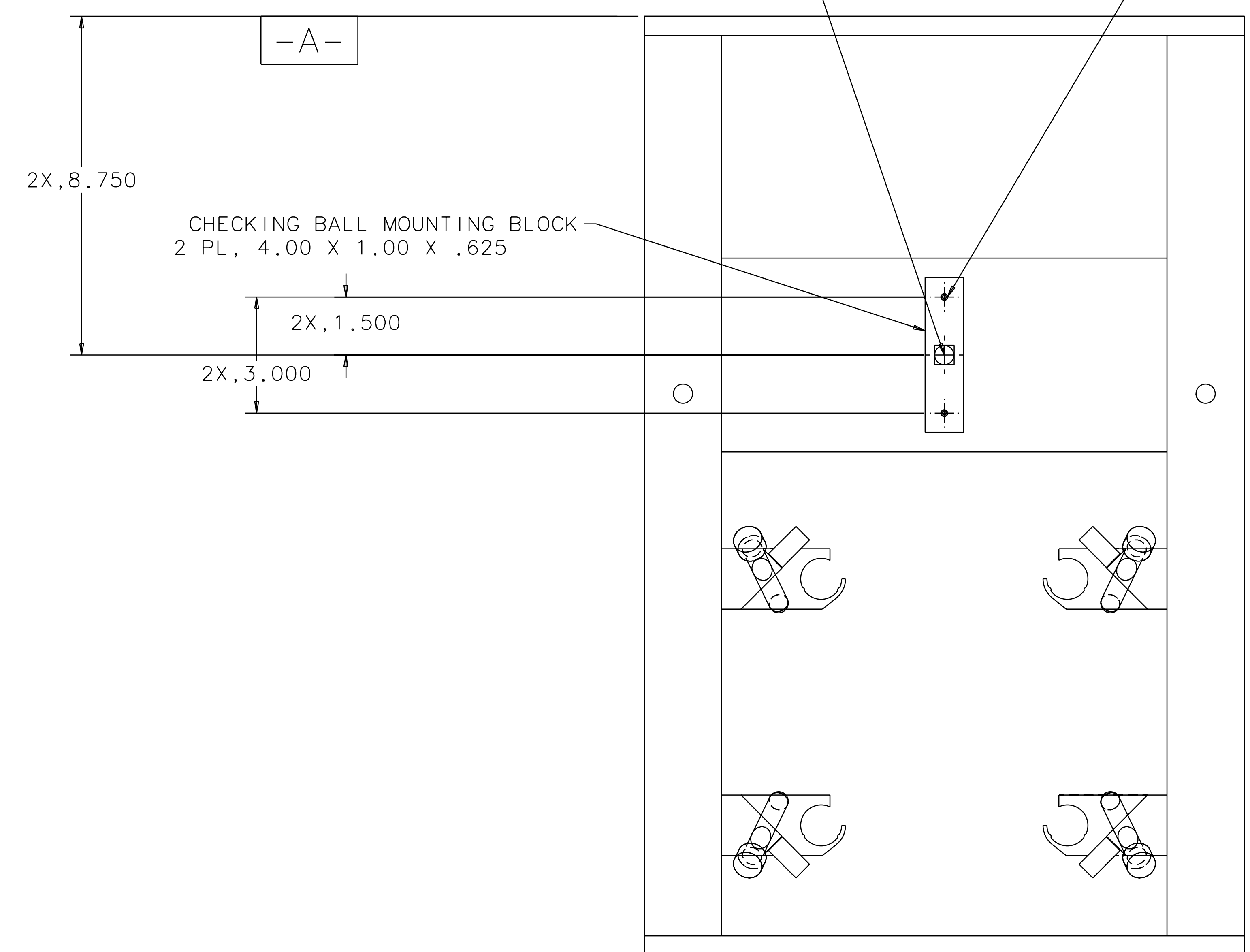
1 2 3 4 5 6 7 8

REV	DATE	DRAWN BY	CHECKED	DCC	DCN/DESCRIPTION
A	1/19/98	J. Hazel			E980004/INITIAL RELEASE
B	2/6/98	J. Hazel			E980011/CHANGE TO NOTE 3 CHANGE TO SECTION A-A
C	4/2/98	J. Hazel			E980075/ADD SHEETS 4



2 PL, CHECKING BALL, JERGENS P/N 29013

4X, #4-40 SCREW
MATCH DRILL TO
STIFFENER IN
STRUCTURE



CHECKING BALL MOUNTING
AND CONVERSIONS FROM
TABLE 1 CHAMFER STOP.
CHAMFER STOPS SHOWN AS
SCREWS RATHER THAN THREADS.
THEY ARE SHOWN UNHIDDEN
FOR IDENTIFICATION AND CLARITY.

QTY	REQD	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES					
TOLERANCES ARE:					
		FRACTIONS	DECIMALS	ANGLES	
				±0.5°	
DO NOT SCALE DRAWING					
NEXT ASSEMBLY		D960132		MATERIAL	
FILE LOCATION		home/dcc/docs/D960133.ppf		FINISH	
APPROVALS			DATE	TITLE	
DRAWN J. Hazel			4/96	LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
CHECKED				PARTS LIST	
				LARGE OPTIC SUSPENSION STRUCTURE ASSEMBLY	
				SIZE E	
				D960133	
				SCALE 1/2	
				REV C	
				SHEET 4 OF 4	