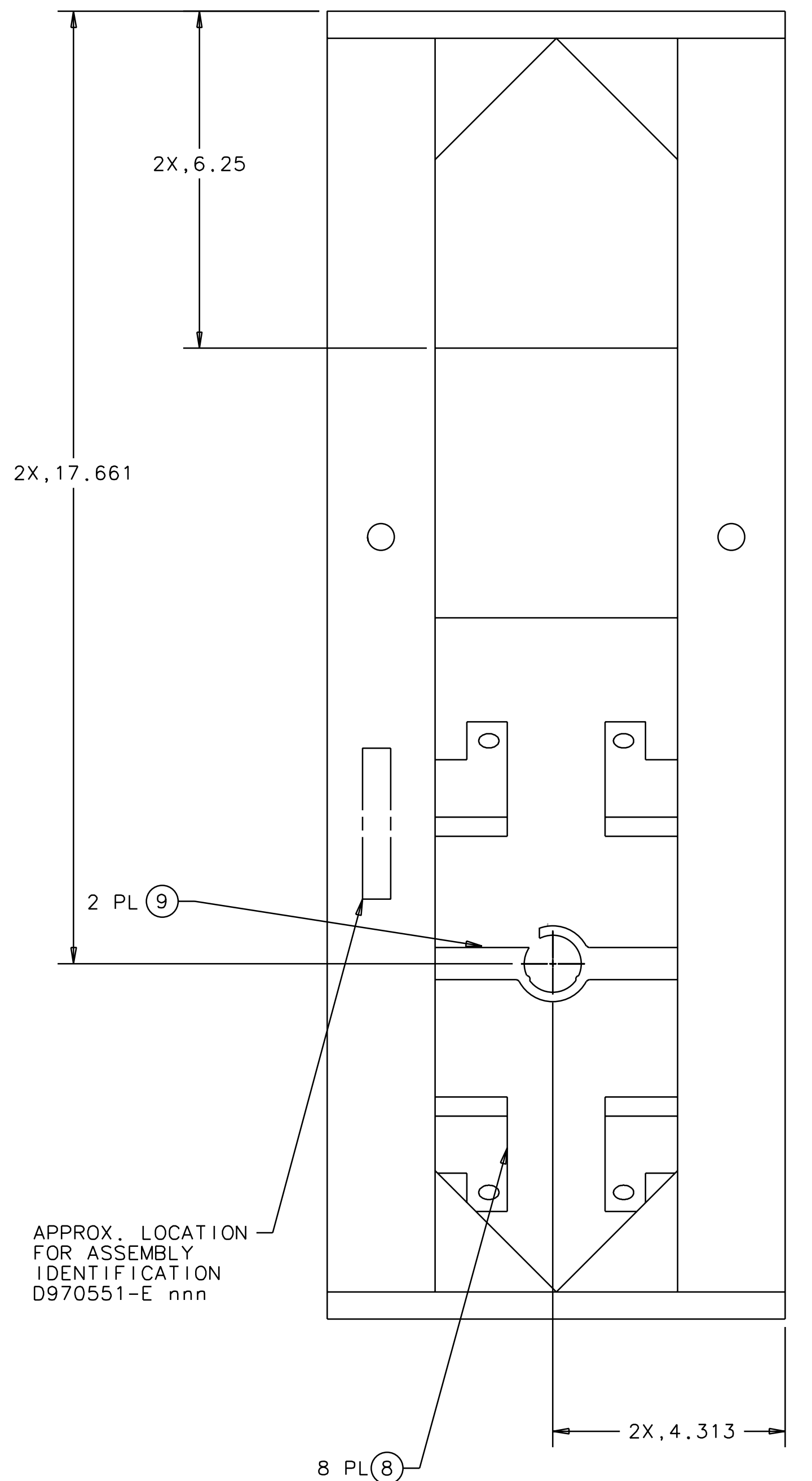
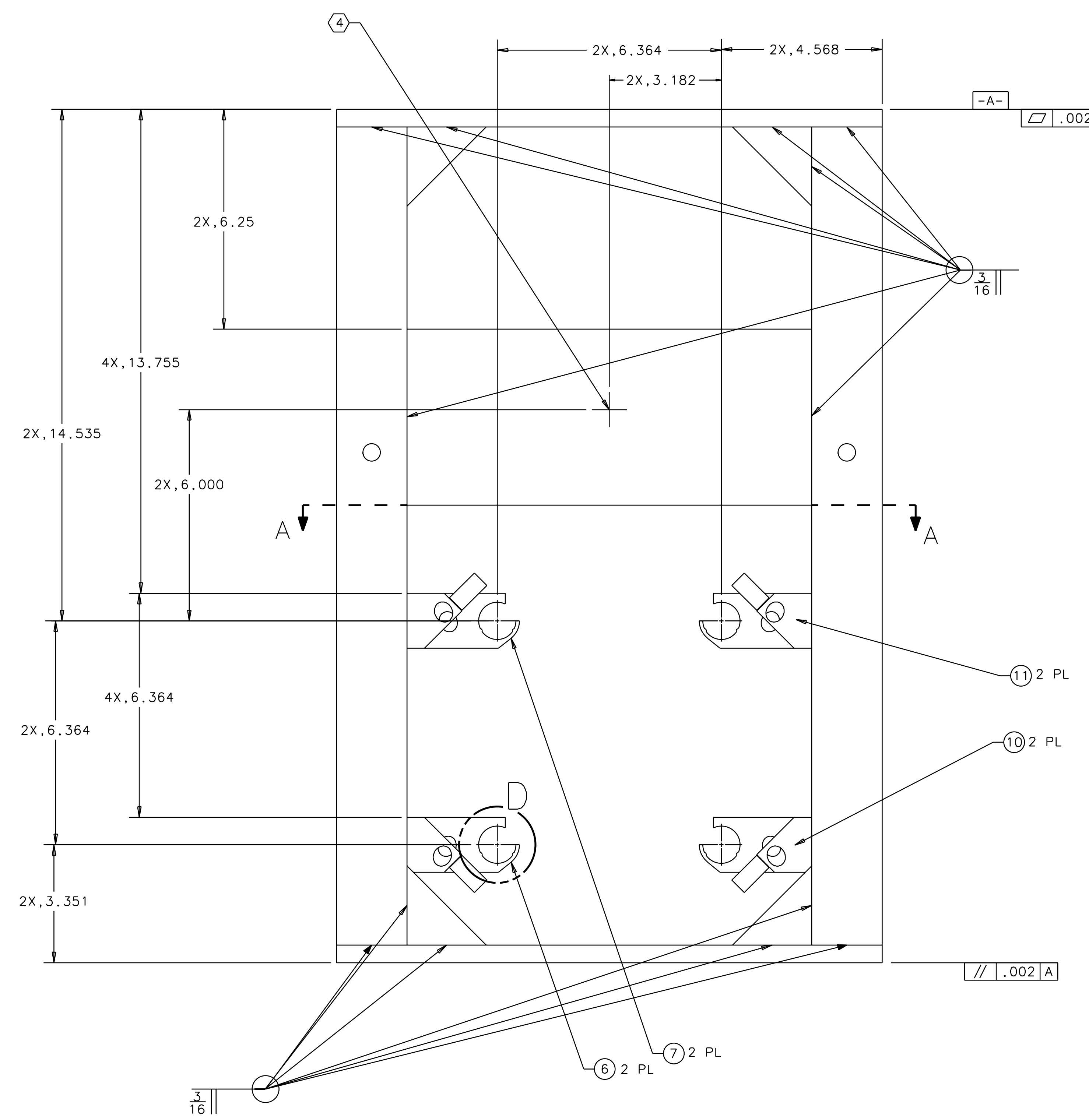
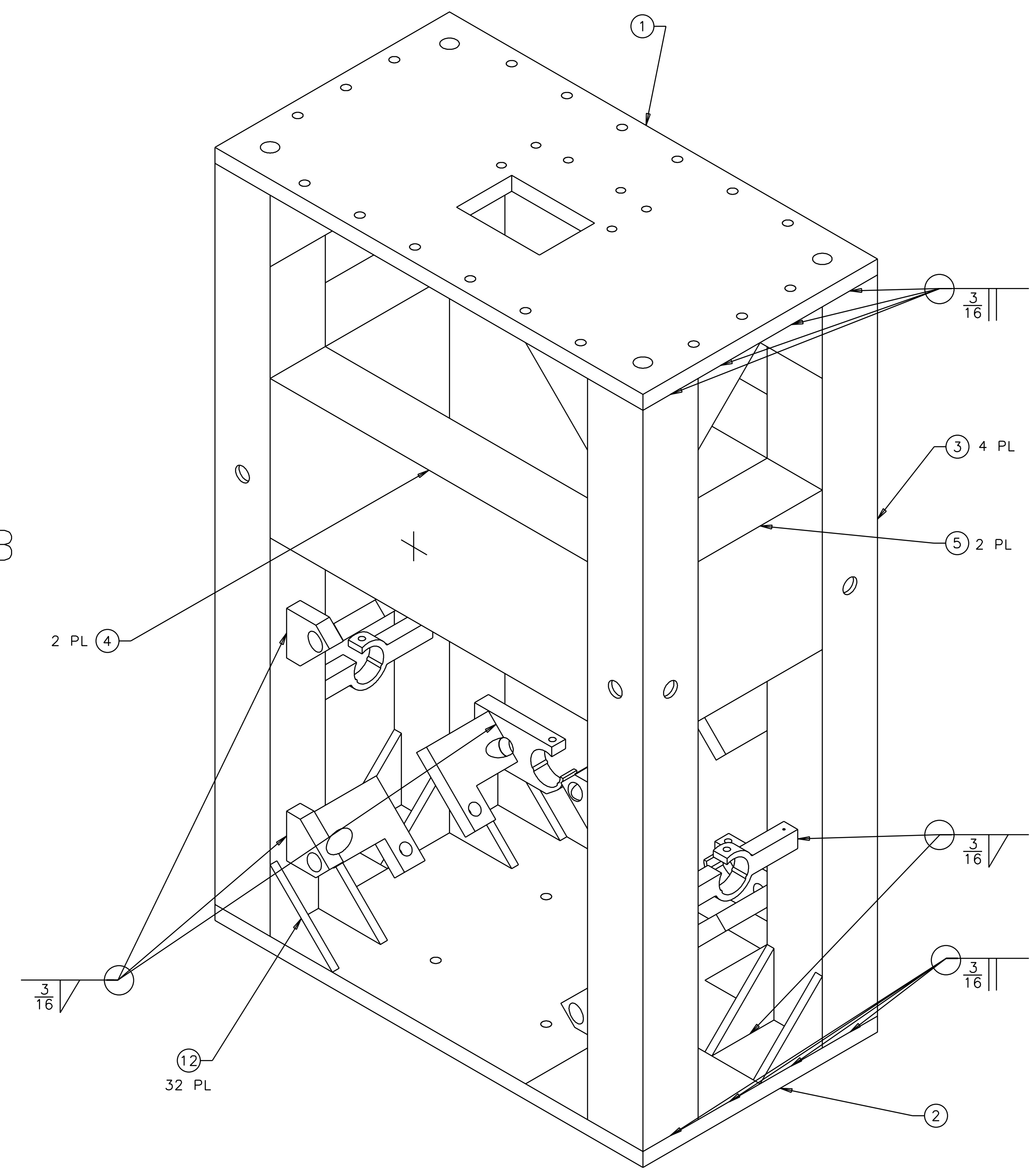
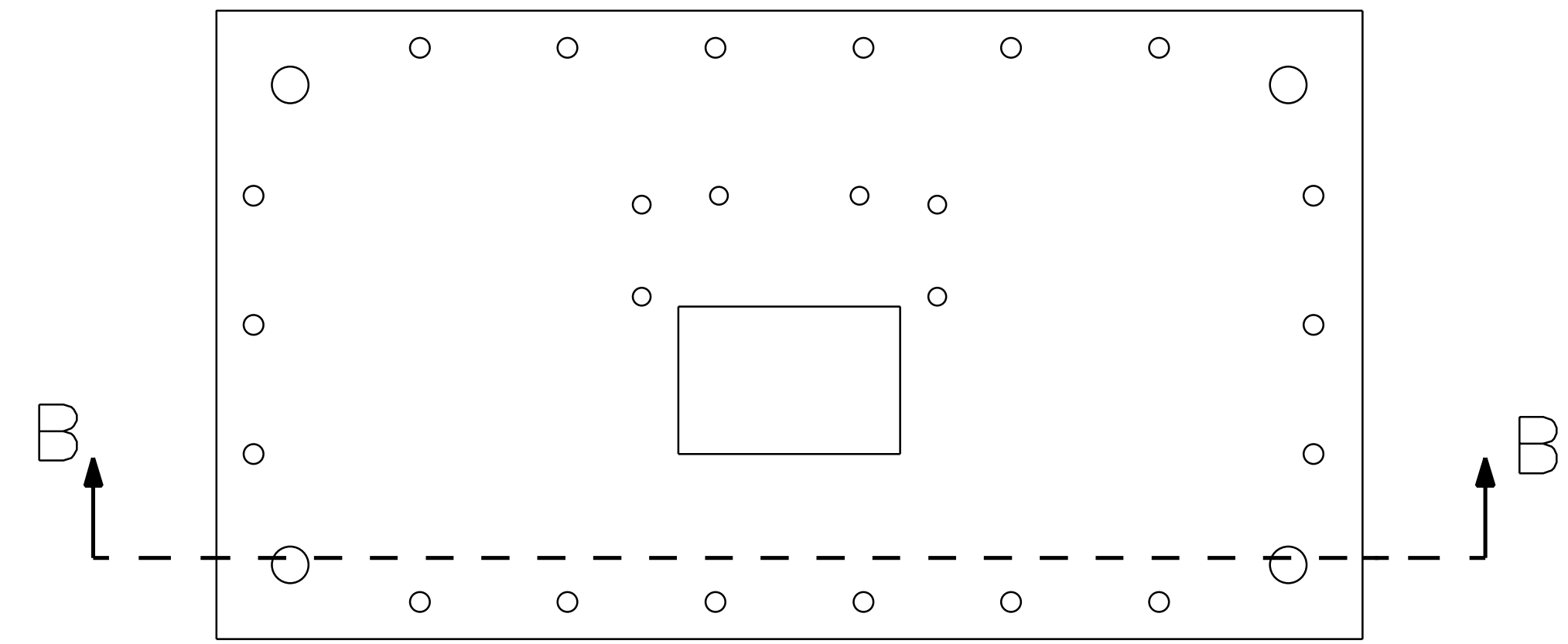


NOTES: (UNLESS OTHERWISE SPECIFIED)
 1. SPECIFICATIONS FOR THE CONSTRUCTION OF THIS ASSEMBLY ARE DETAILED IN LIGO E970038, THE LARGE OPTIC SUSPENSION STRUCTURAL FABRICATION SPECIFICATION.
 ② THESE FEATURES TO BE MACHINED AFTER ANNEALING.
 ③ FLY CUT THESE SURFACES, OF BRACKETS FIND NOS. 6 AND 7, AT A 2° ANGLE. REMOVE MATERIAL FROM THE CENTER OF THE ASSEMBLY TO .25 FROM THE LEGS.
 ④ 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
D	5/1/98	J.Hazel			E980088/ ATTACHED, ID PLACEMENT
E	5/7/98	J.Hazel			E980090/CHANGE CHAMFER STOP DEFINITION



QTY	REQD	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	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

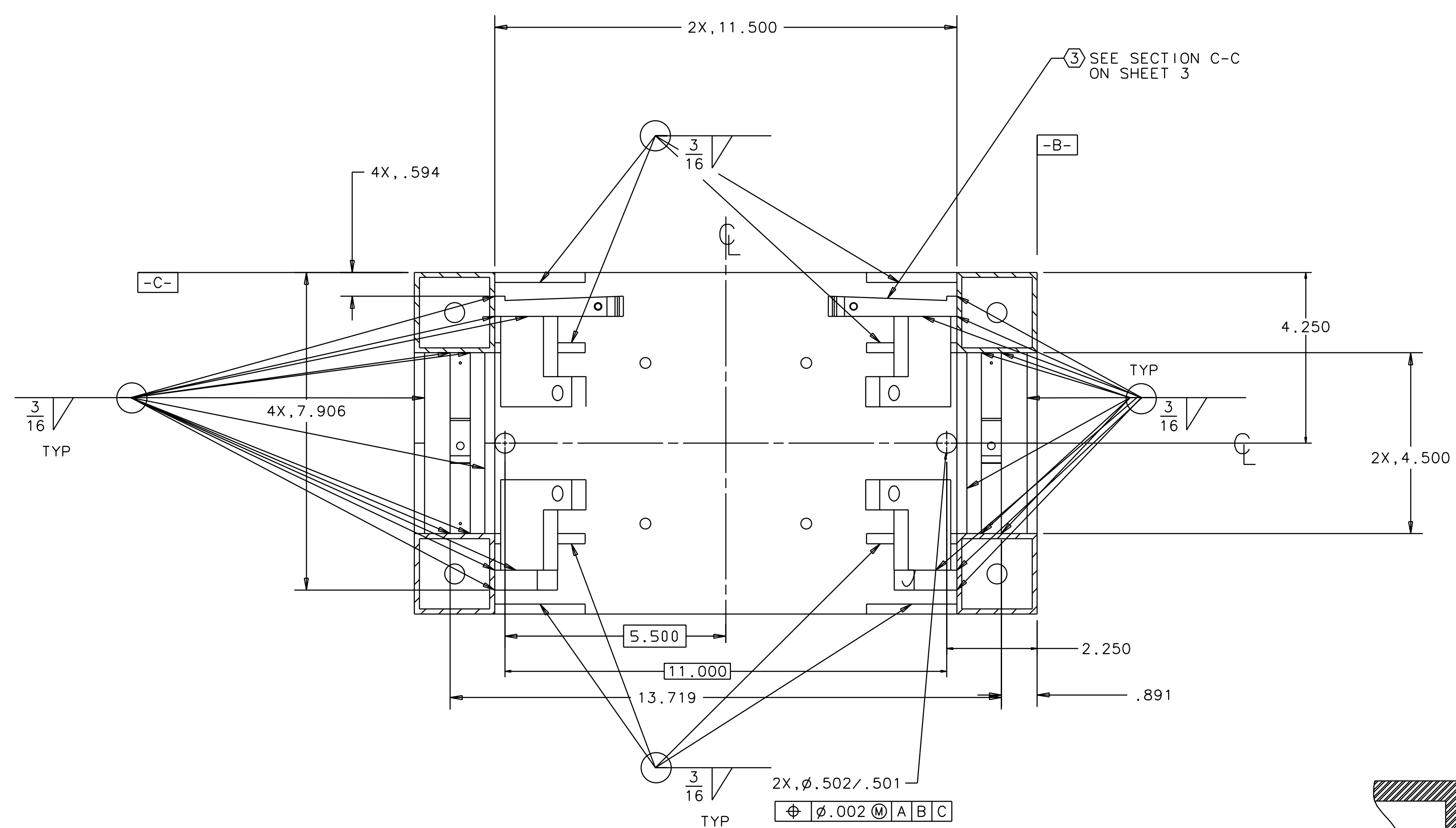
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		TOLERANCES ARE:		ANGLES	
FRACTIONS	DECIMALS	+	-	°	'
		0. XX	+0.03		0.5
		0. XXX	+0.005		
DO NOT SCALE DRAWING					

APPROVALS	DATE	TITLE
J. Hazel	1/98	RECYCLING MIRROR LOS STRUCTURE ASSEMBLY
CHECKED		

NEXT ASSEMBLY	FILE LOCATION	FINISH	SCALE	SHEET
D970564, D970577	home/dcc/docs/D970551.pdf		1/2	1 OF 6

APPROX. LOCATION FOR ASSEMBLY IDENTIFICATION D970551-E nnn

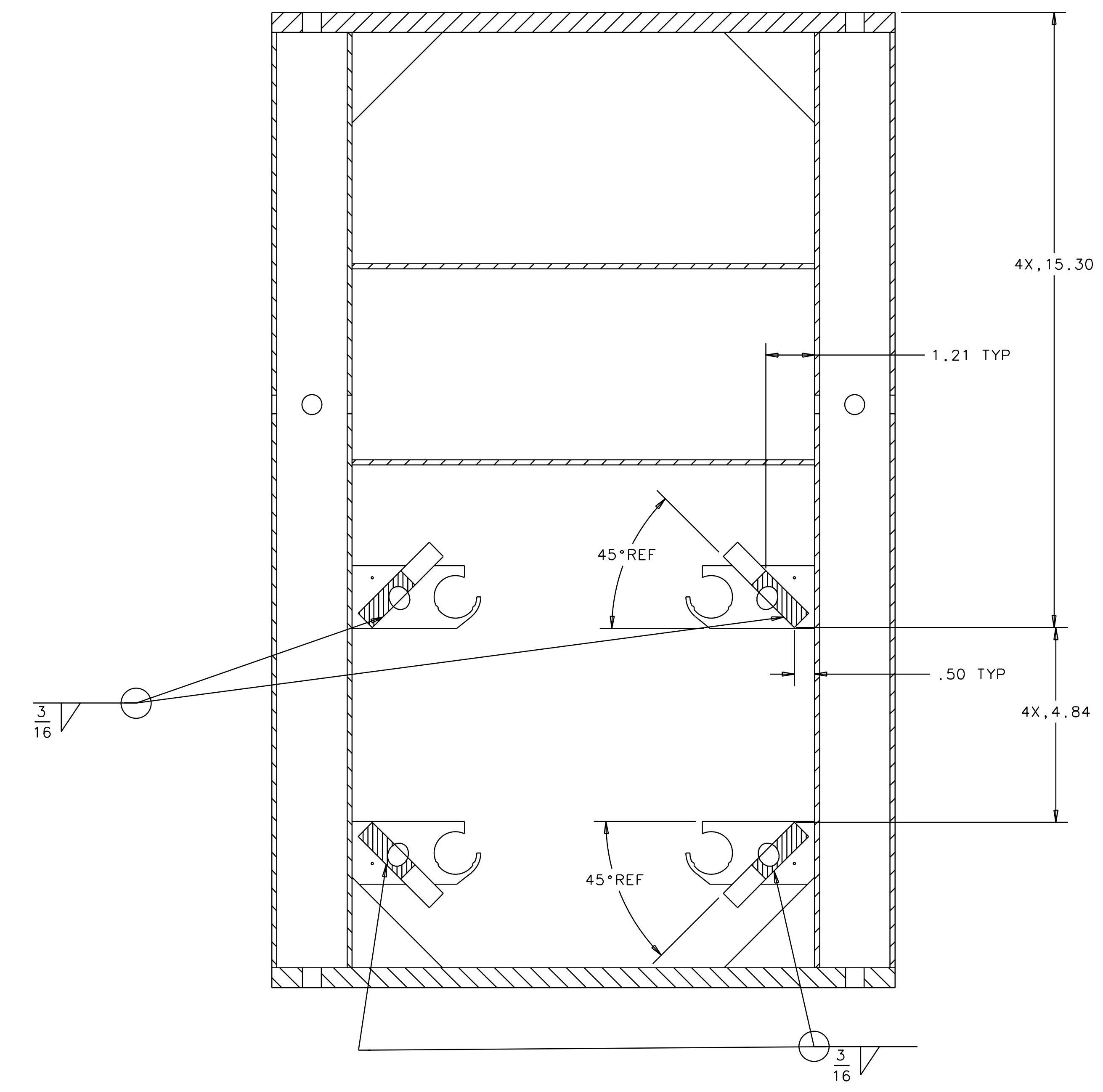
REV	DATE	DRAWN BY	CHECKED	DCC	DCN/DESCRIPTION
A	1/19/98	J.Hazel			E980004/INITIAL RELEASE
B	2/5/98	J.Hazel			E980011/CHANGE TO NOTE 3 CHANGE TO SECTION A-A
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D	5/1/98	J.Hazel			E980088/ ATTACHED, ID PLACEMENT
E	5/7/98	J.Hazel			E980090/CHANGE CHAMFER STOP DEFINITION



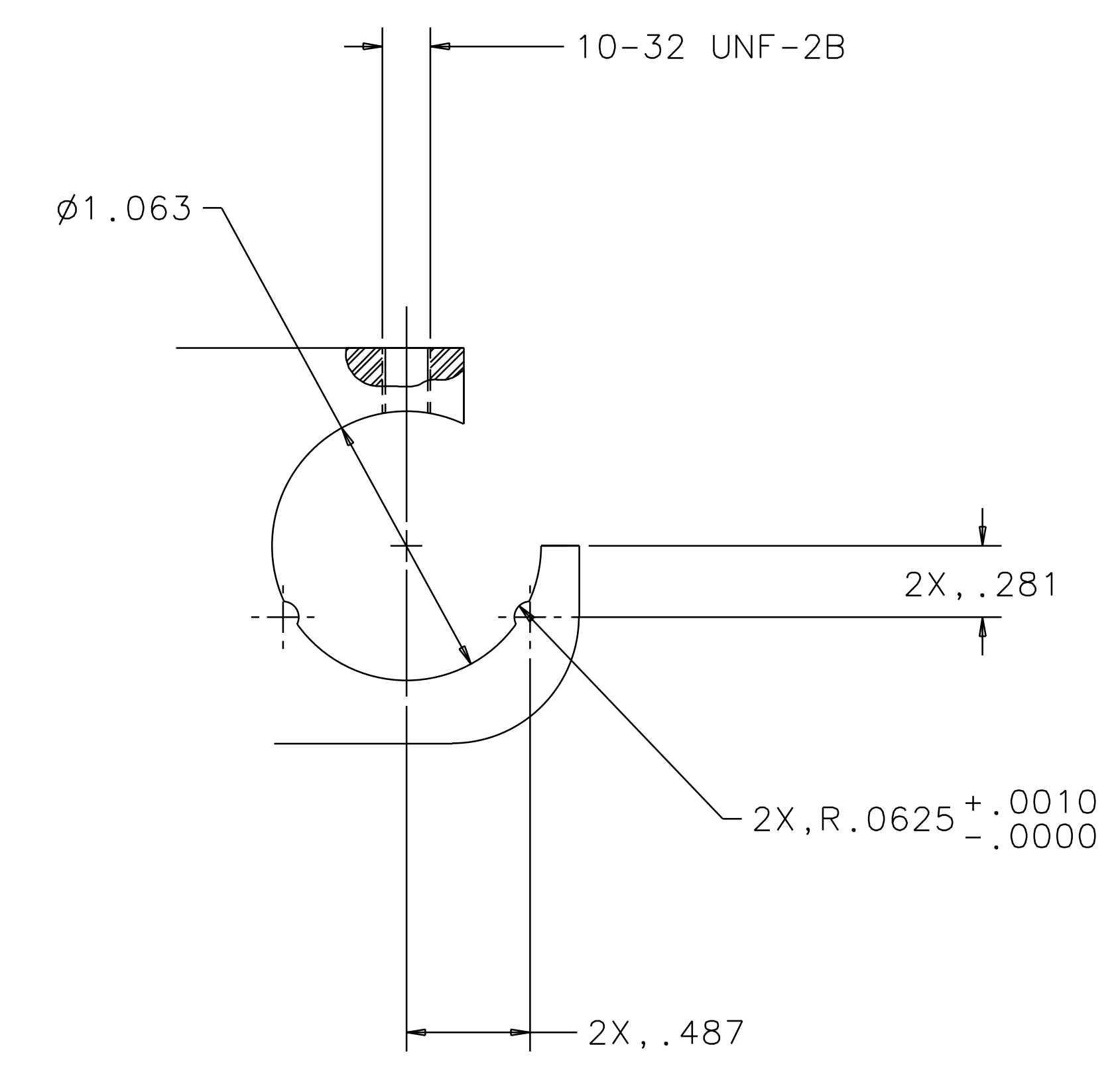
SECTION A-A



SECTION C-C
FLY CUT DEFINED
IN NOTE ③



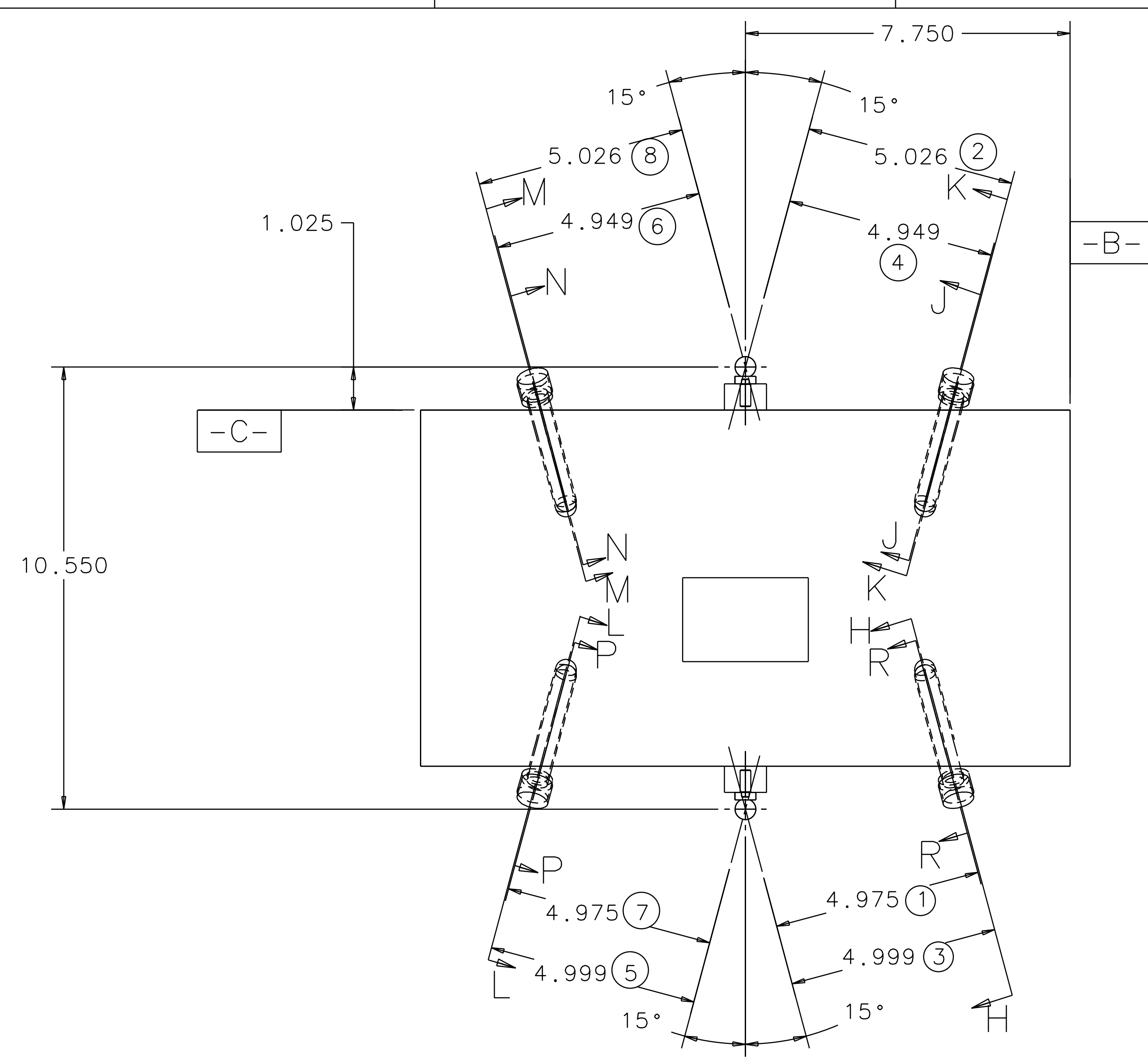
SECTION B-B



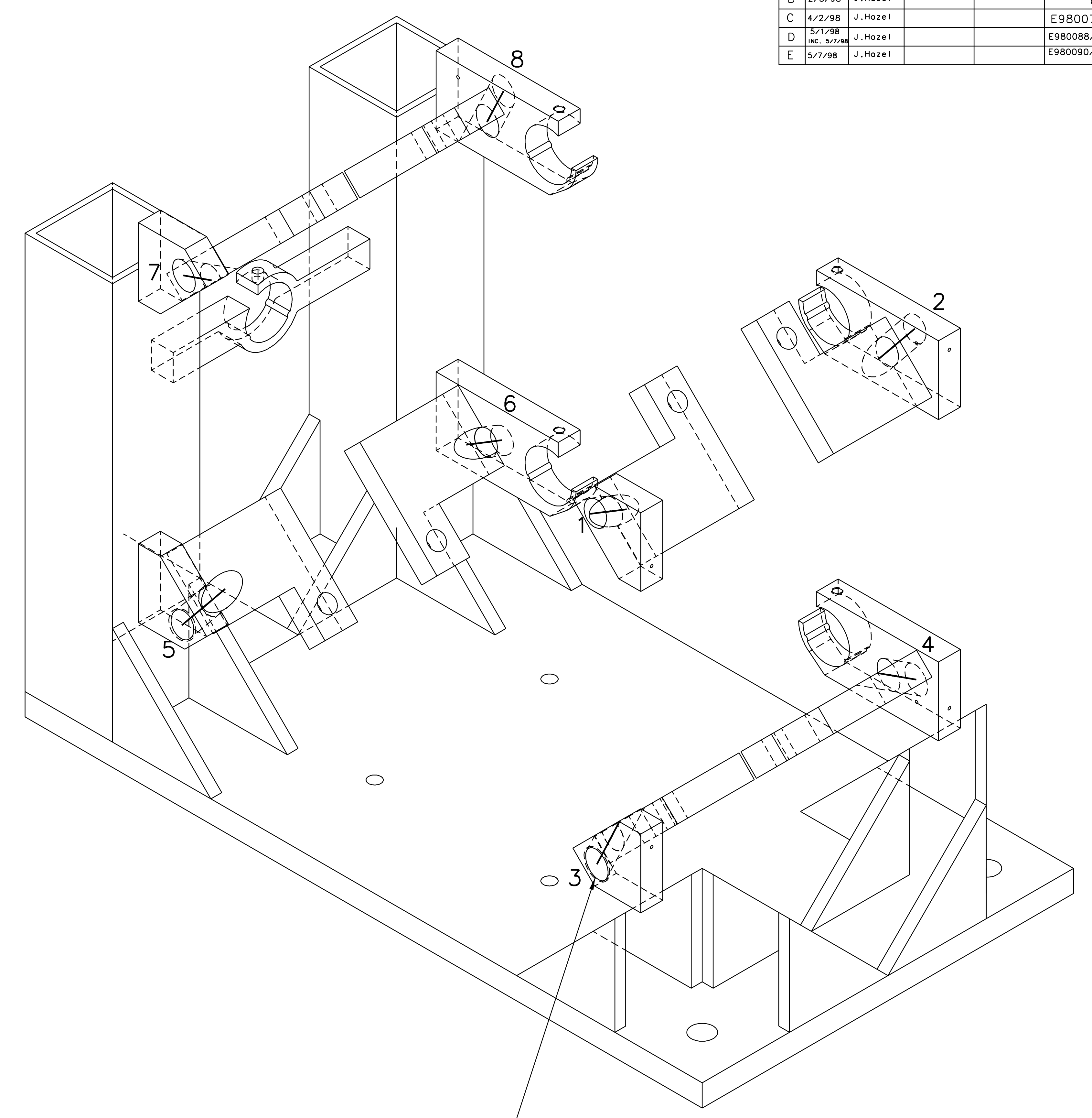
VIEW D ②
SCALE 4/1
TYPICAL 6 PLACES

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°				
DRAWN J. Hazel				
CHECKED				
DATE 1/98				
TITLE LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY				
RECYCLING MIRROR LOS ASSEMBLY				
NEXT ASSEMBLY D970564, D970577				
FILE LOCATION home/dcc/docs/D970551.pdf				
MATERIAL				
FINISH				
SCALE 1/2				
SHEET 2 OF 6				

REV	DATE	DRAWN BY	CHECKED	DCC	DCN/DESCRIPTION
A	1/19/98	J.Hazel			E980004/INITIAL RELEASE
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E	5/7/98	J.Hazel			E980090/CHANGE CHAMFER STOP DEFINITION



VIEW F



CHAMFER STOPS
8X, $\frac{1}{2}$ -13 UNC-2B

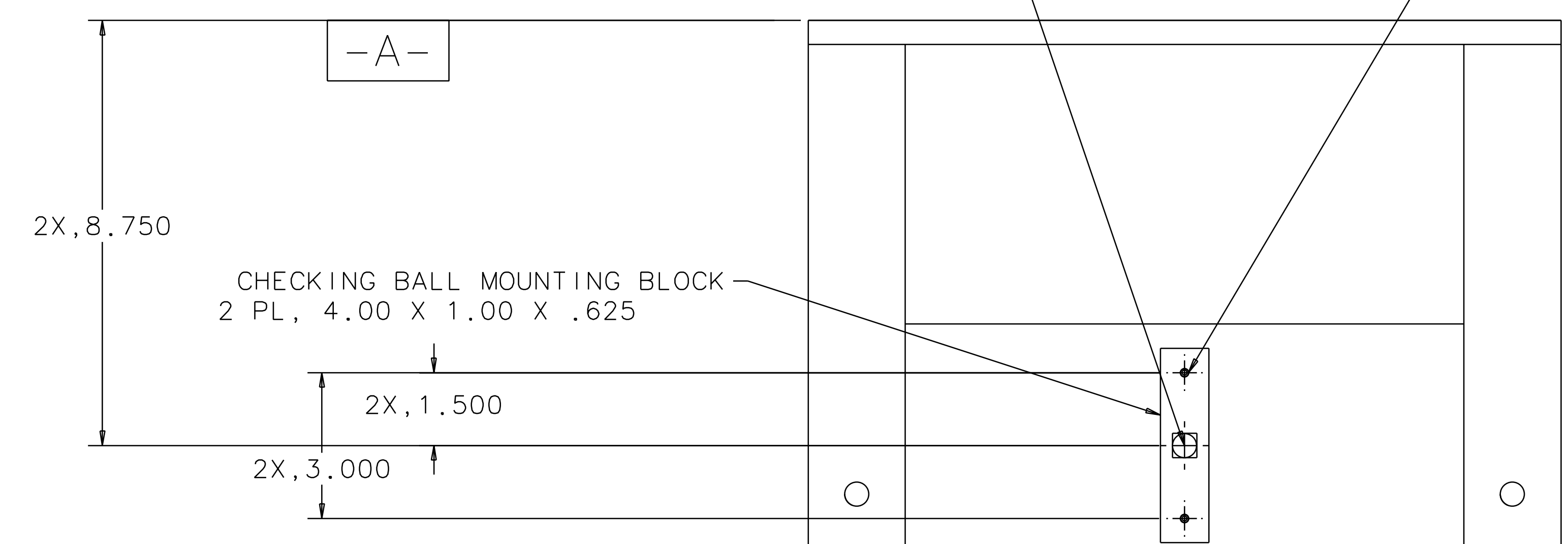
VIEW E

ISO VIEW OF STRUCTURE
WITHOUT: RIGHT LEGS, TOP PORTION OF LEFT LEGS,
RIGHT LOS BRACKET, SENSOR/ACTUATOR, SIDE
TOP PLATE AND STIFFENERS.

CHAMFER STOP CENTERLINES
HIGHLIGHTED AND NUMBERED.

2 PL, CHECKING BALL, JERGENS P/N 29013

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



VIEW G

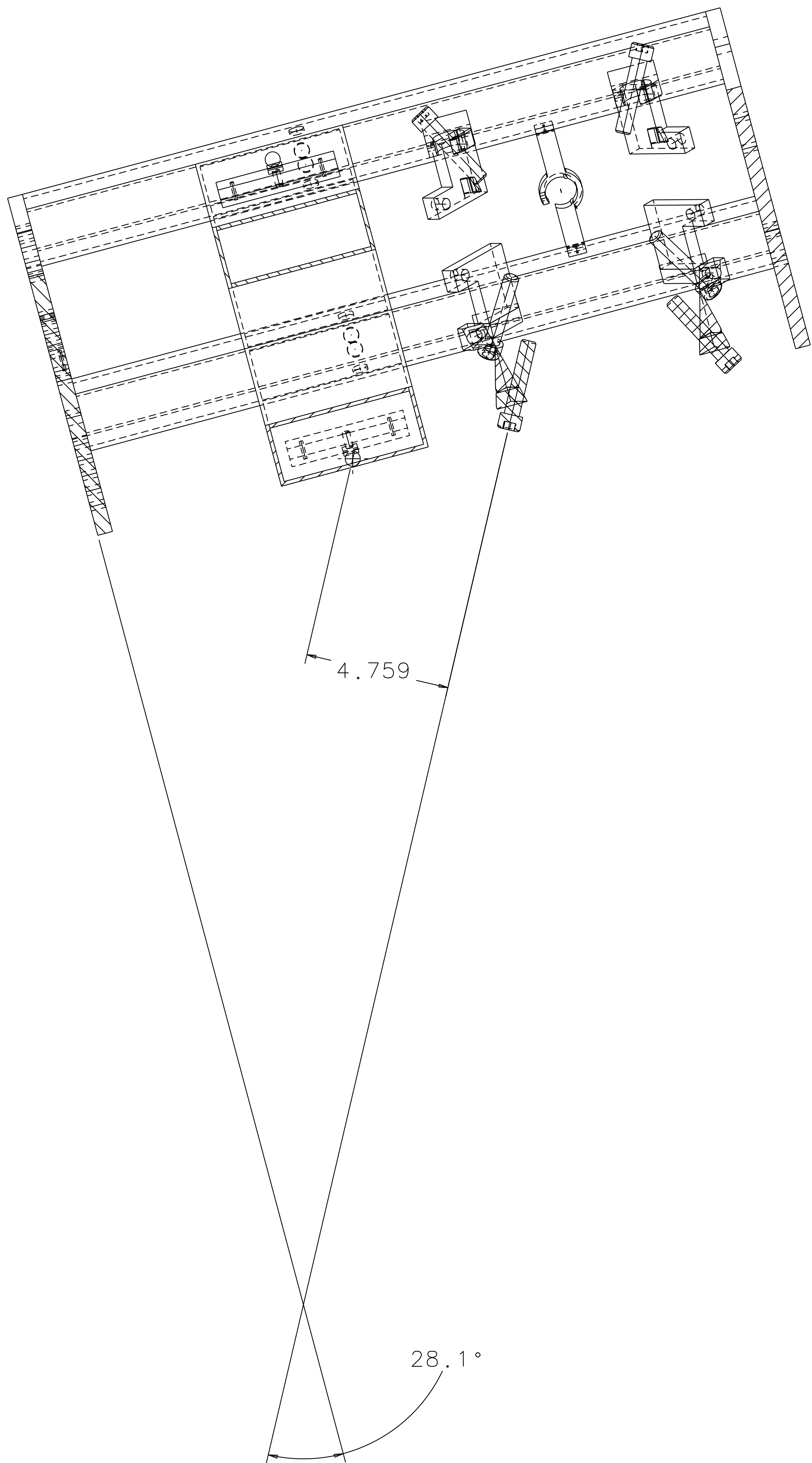
VIEW F AND VIEW G DEFINE
INTERIM TOOLING CONFIGURATION
INCLUDING CHECKING BALL MOUNTING.

CHAMFER STOPS SHOWN AS
SCREWS RATHER THAN THREADS.
THEY ARE SHOWN UNHIDDEN
FOR IDENTIFICATION AND CLARITY.

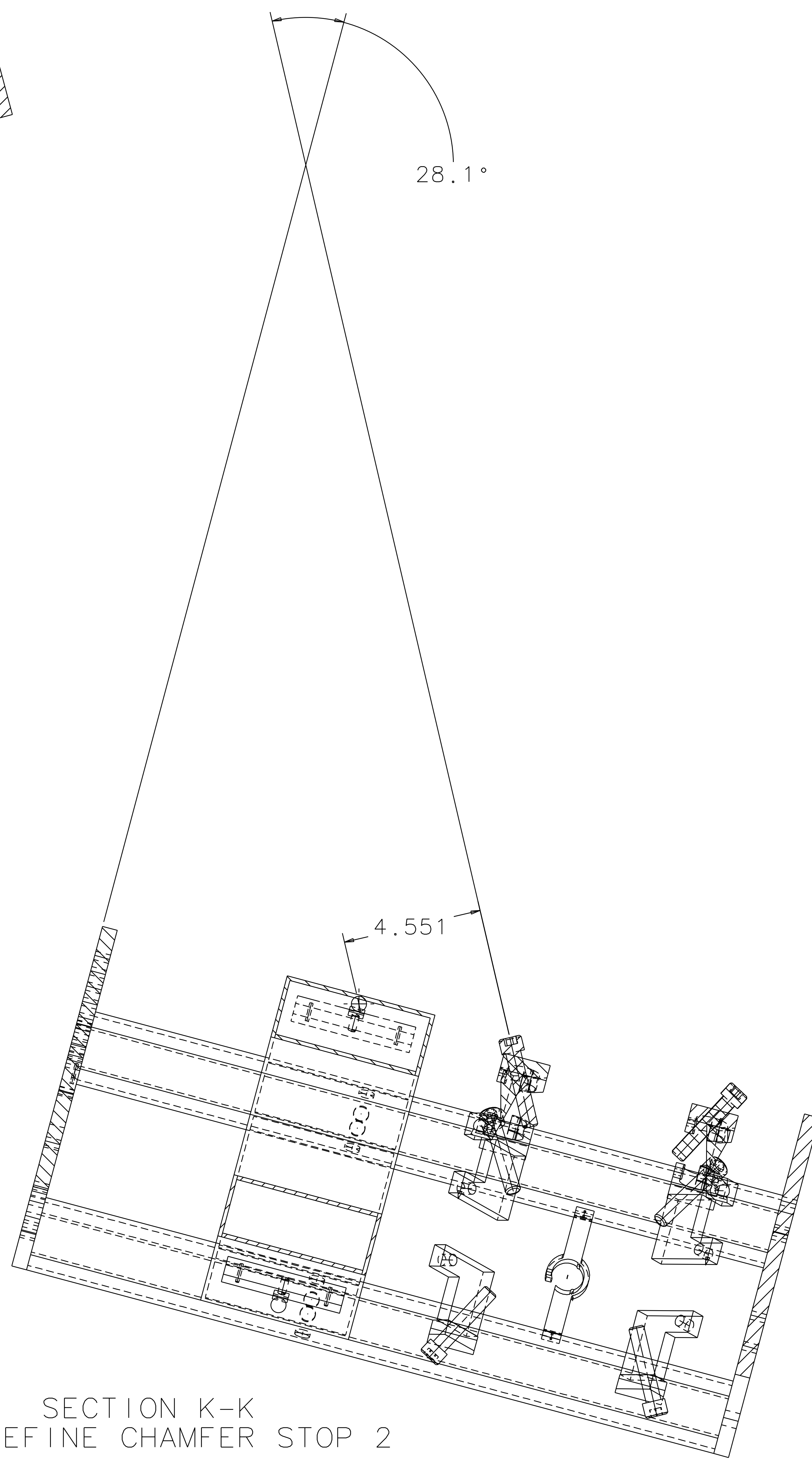
QTY REQD	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES : : : : : : : : : : : : : : : DO NOT SCALE DRAWING		APPROVALS	DATE	LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY
DRAWN J. Hazel		CHECKED	1/98	TITLE RECYCLING MIRROR LOS STRUCTURE ASSEMBLY
NEXT ASSEMBLY D970564, D970577		MATERIAL		SIZE E
FILE LOCATION home/dcc/docs/D970551.pdf		FINISH		SCALE 1/2
			REV E	SHEET 3 OF 6

1 2 3 4 5 6 7 8

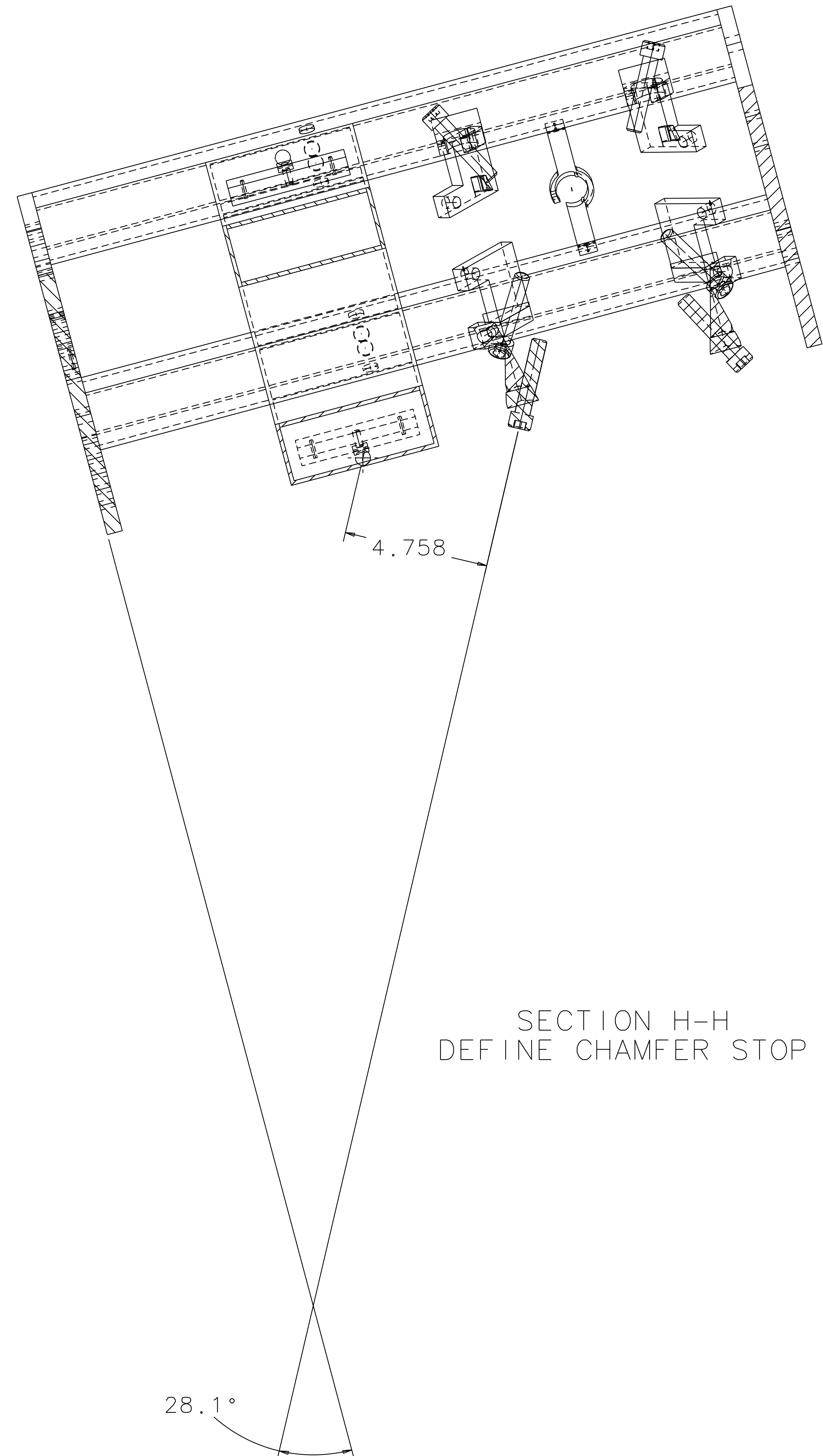
REV	DATE	DRAWN BY	CHECKED	DCC	DCN/DESCRIPTION
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SECTION R-R
DEFINE CHAMFER STOP 1



SECTION K-K
DEFINE CHAMFER STOP 2



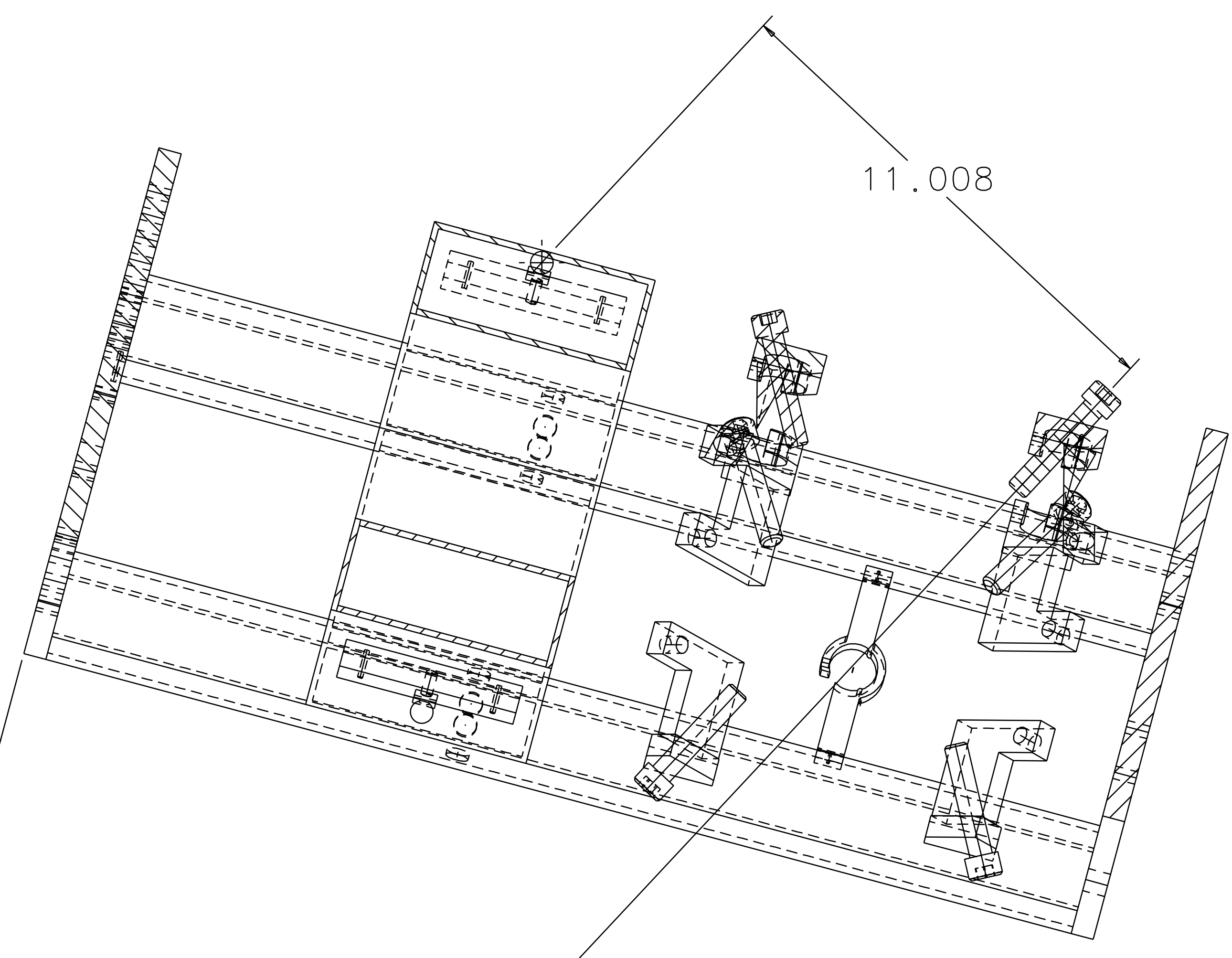
SECTION H-H
DEFINE CHAMFER STOP 3

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.XX	+0.03	0.5°	
	0.XXX	+0.005		
DO NOT SCALE DRAWING				
APPROVALS		DATE	LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
DRAWN J. Hazel		1/98	TITLE RECYCLING MIRROR LOS STRUCTURE ASSEMBLY	
CHECKED			SIZE E D970551	
MATERIAL			REV E	
FINISH			SCALE 1/2	
NEXT ASSEMBLY D970564, D970577			SHEET 4 OF 6	
FILE LOCATION home/dcc/docs/D970551.pdf				

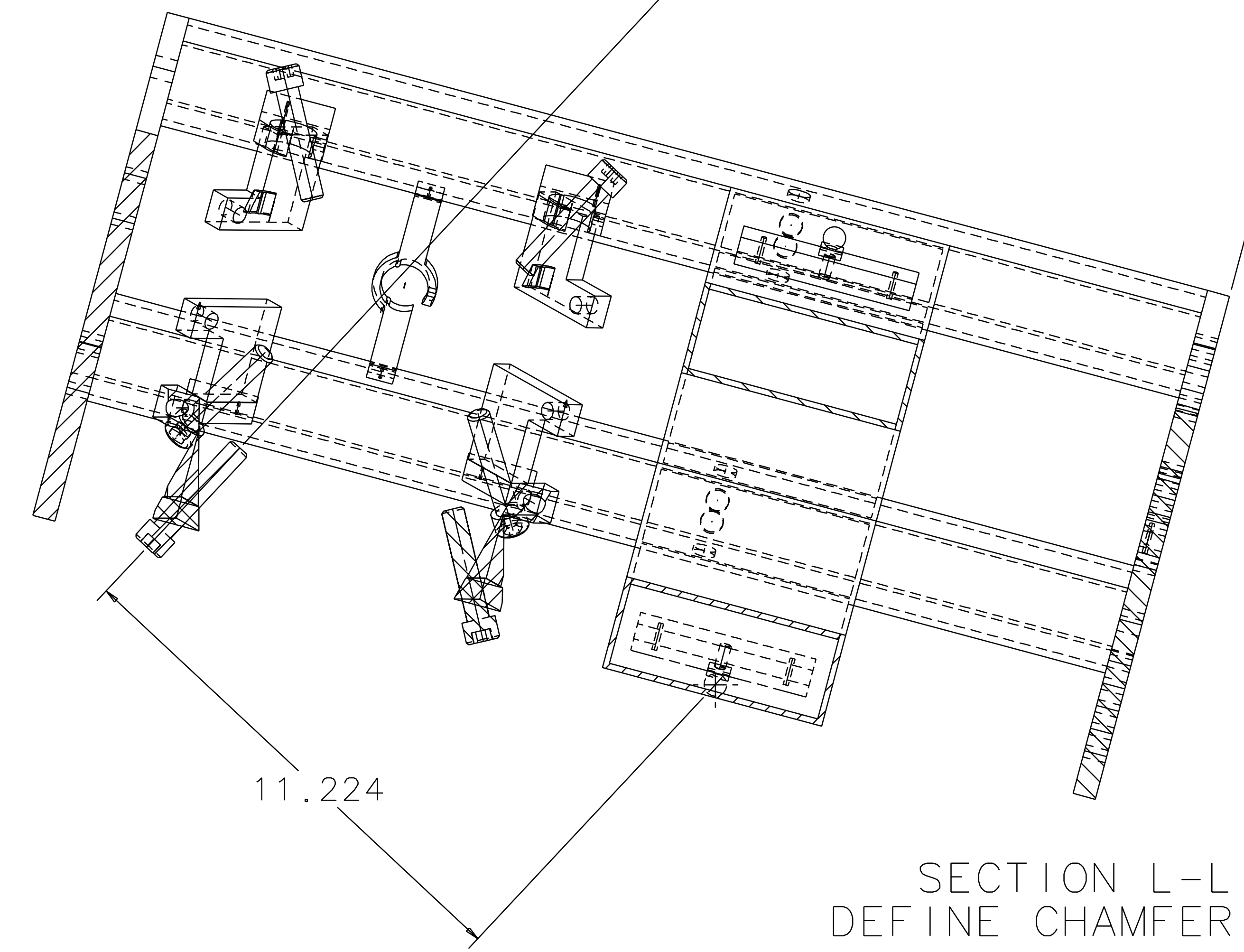
1 2 3 4 5 6 7 8

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
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C	4/2/98	J.Hazel			E980075/ADD SHEET 4
D	5/1/98 INC. 5/7/98	J.Hazel			E980088/ ATTACHED, ID PLACEMENT
E	5/7/98	J.Hazel			E980090/CHANGE CHAMFER STOP DEFINITION



SECTION J-J
DEFINE CHAMFER STOP 4



SECTION L-L
DEFINE CHAMFER STOP 5

28.1°

28.1°

H
G
F
E
D
C
B
A

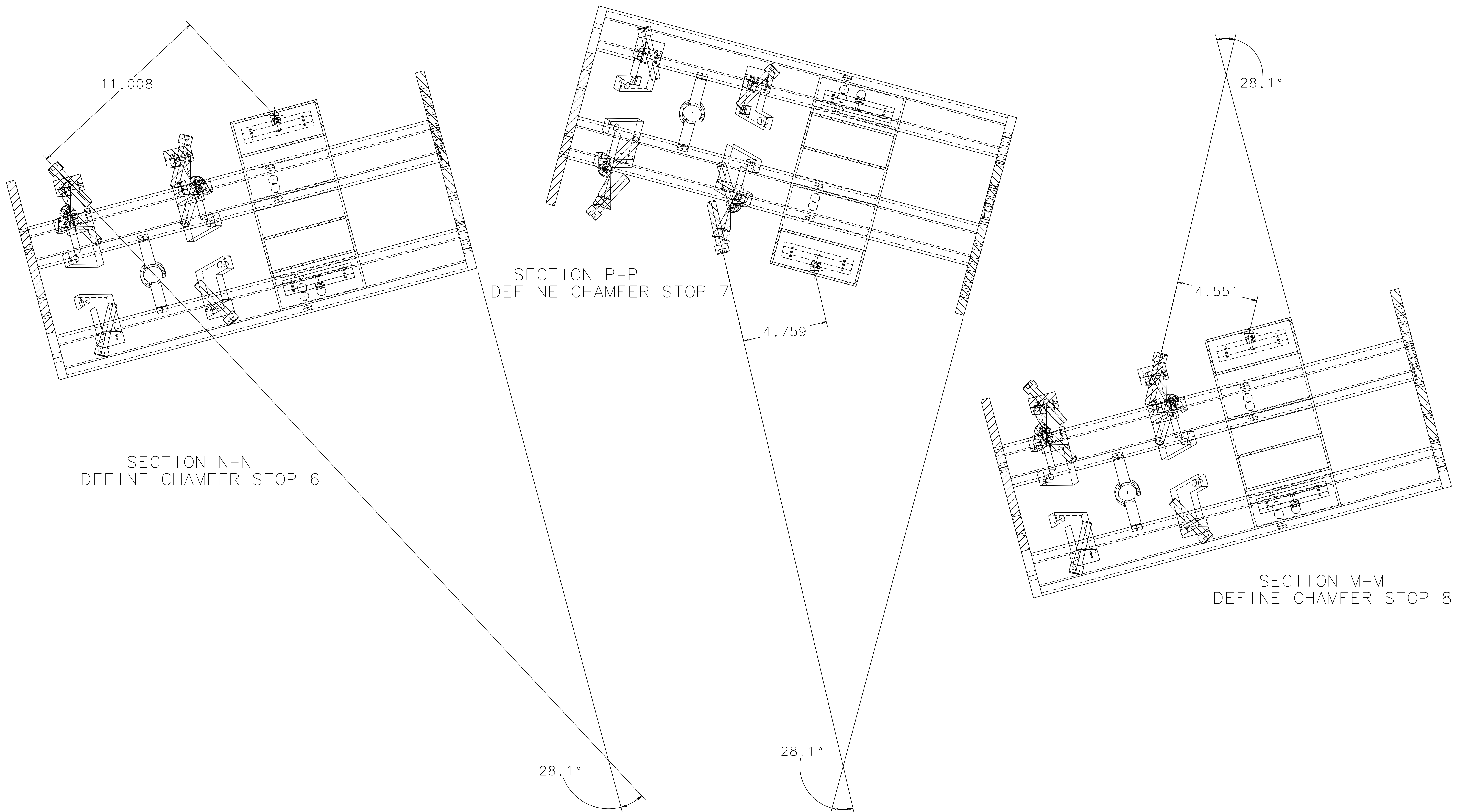
H
G
F
E
D
C
B
A

1 2 3 4 5 6 7 8

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES : 0.5°	APPROVALS	DATE	LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
DRAWN J. Hazel		1/98	TITLE RECYCLING MIRROR LOS STRUCTURE ASSEMBLY	
CHECKED			SIZE E	D970551
DO NOT SCALE DRAWING			SCALE 1/2	REV E
NEXT ASSEMBLY D970564, D970577	MATERIAL			SHEET 5 OF 6
FILE LOCATION home/dcc/docs/D970551.pdf	FINISH			

1 2 3 4 5 6 7 8

REV	DATE	DRAWN BY	CHECKED	DCC	DCN/DESCRIPTION
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C	4/2/98	J.Hazel			E980075/ADD SHEET 4
D	5/1/98 REV. 5/7/98	J.Hazel			E980088/ ATTACHED, ID PLACEMENT
E	5/7/98	J.Hazel			E980090/CHANGE CHAMFER STOP DEFINITION



SECTION N-N
DEFINE CHAMFER STOP 6

SECTION P-P
DEFINE CHAMFER STOP 7

SECTION M-M
DEFINE CHAMFER STOP 8

28.1°

28.1°

28.1°

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°				
DRAWN J. Hazel		DATE 1/98	LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
CHECKED			TITLE RECYCLING MIRROR LOS STRUCTURE ASSEMBLY	
NEXT ASSEMBLY D970564, D970577		MATERIAL	SIZE E	REV E
FILE LOCATION home/dcc/docs/D970551.pdf		FINISH	SCALE 1/2	SHEET 6 OF 6

1 2 3 4 5 6 7 8