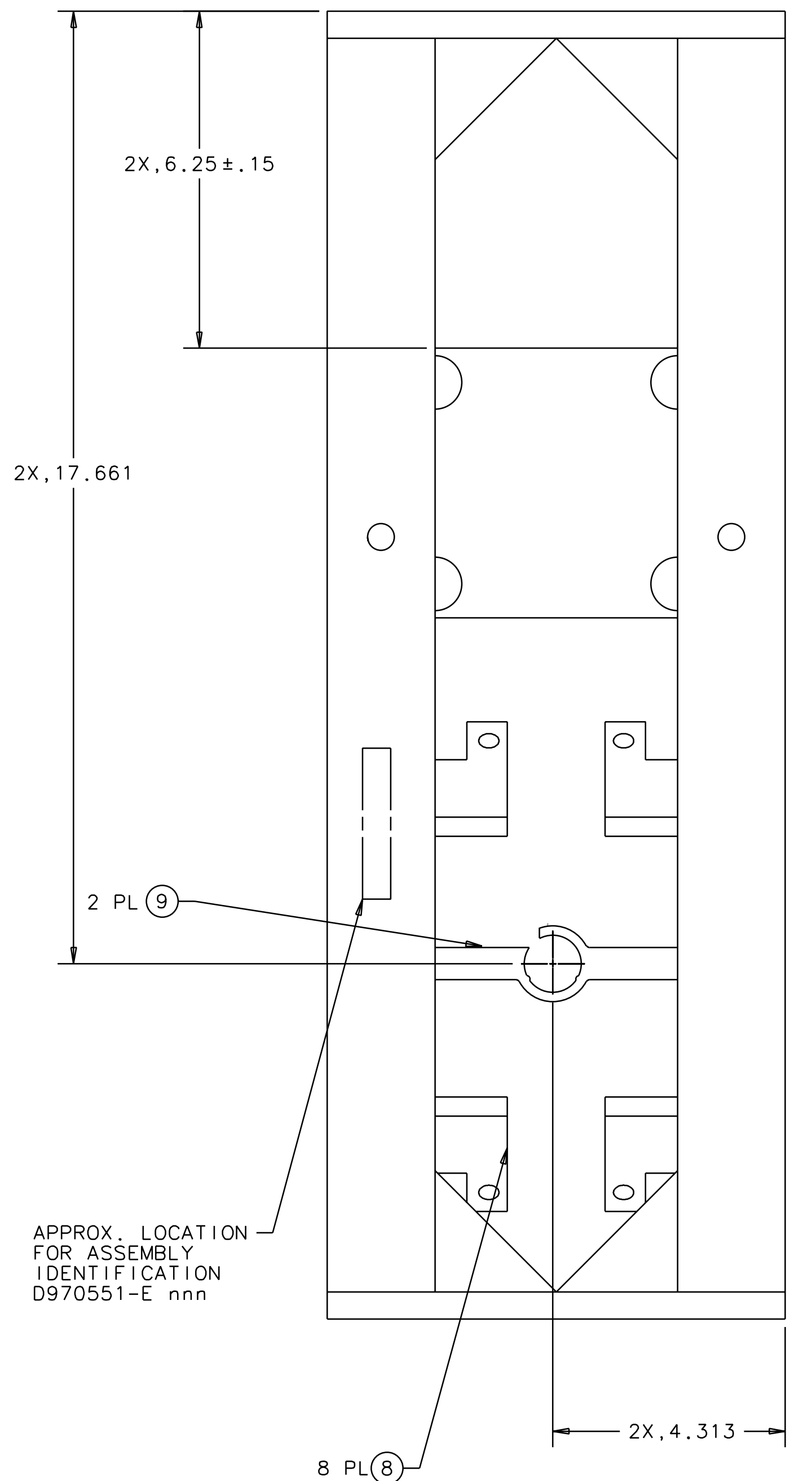
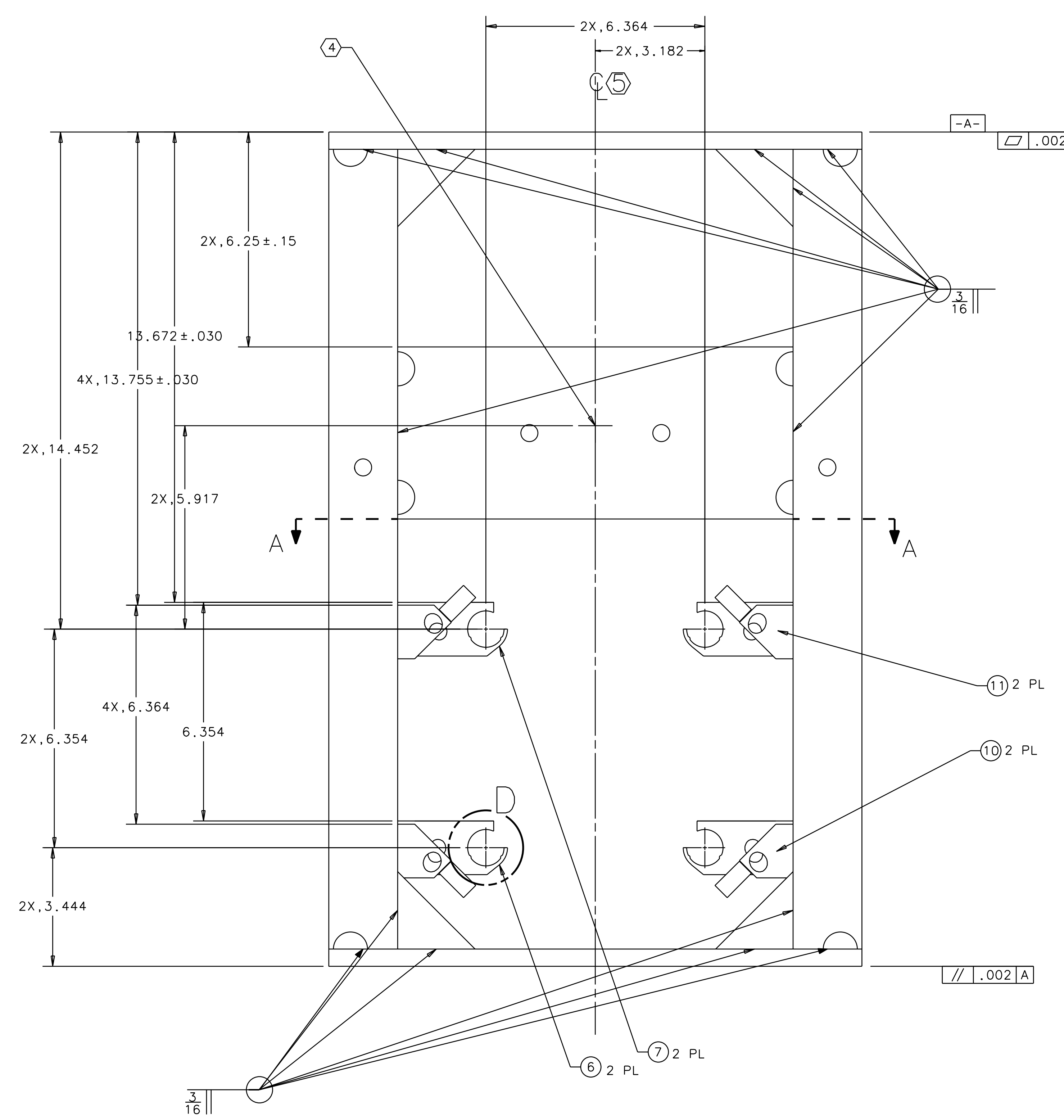
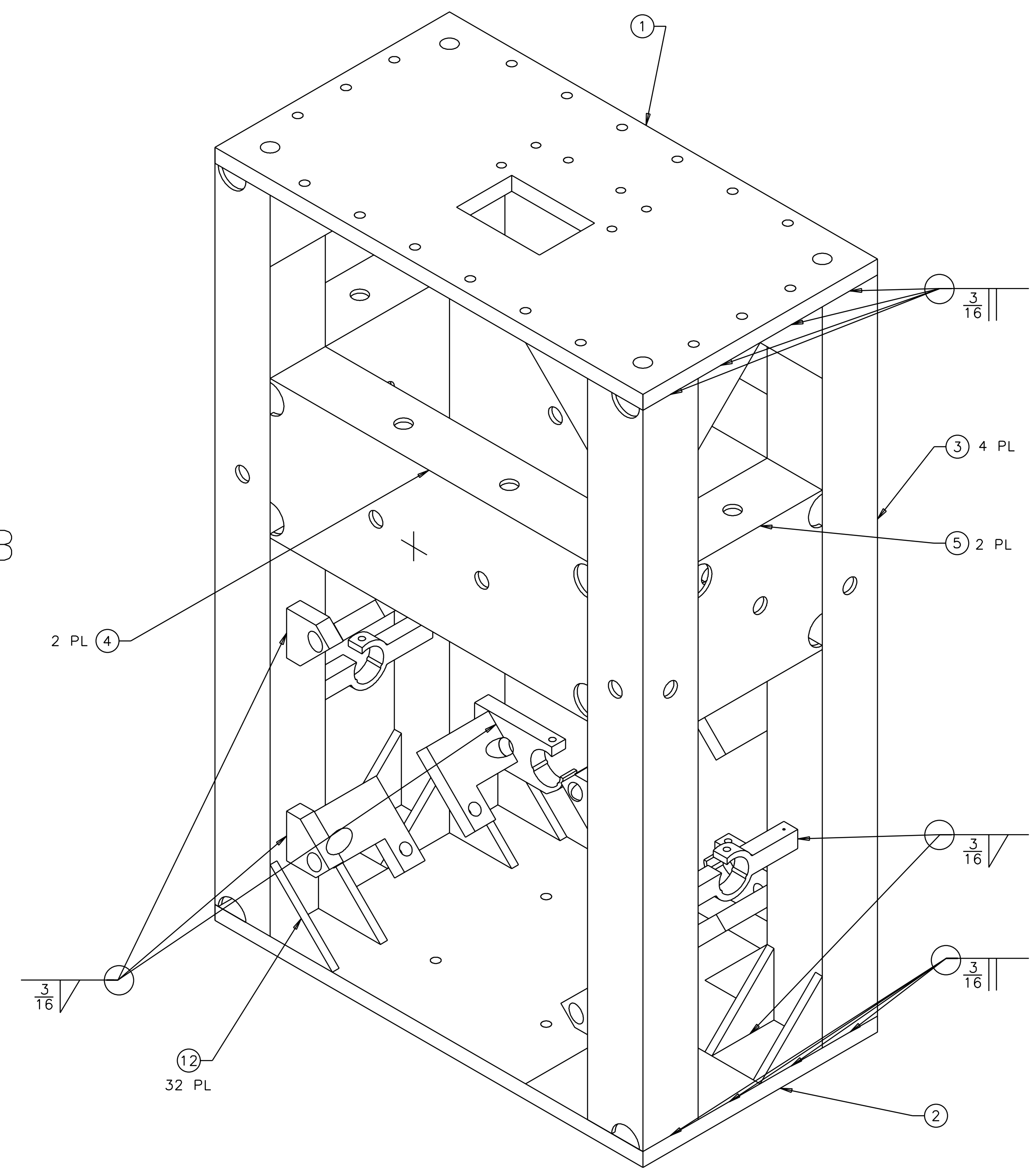
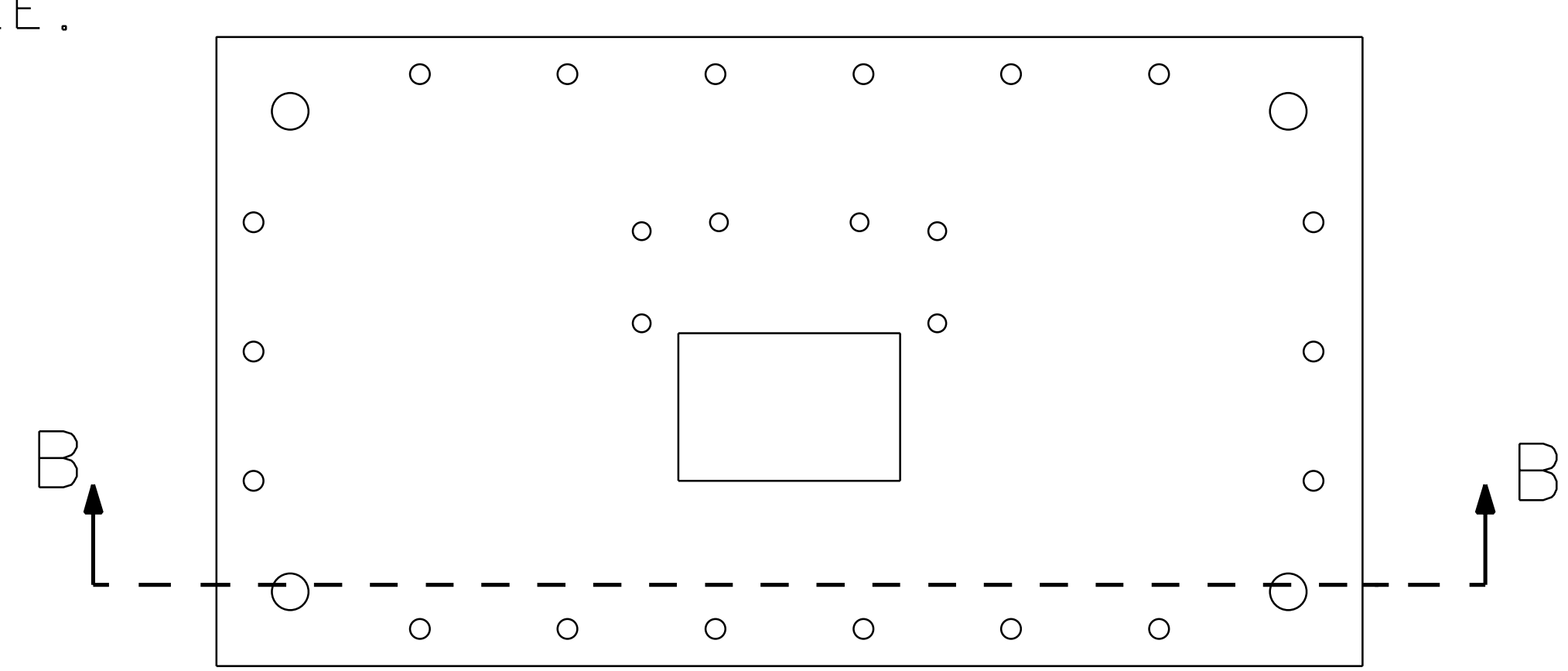


NOTES: (UNLESS OTHERWISE SPECIFIED)
 1. SPECIFICATIONS FOR THE CONSTRUCTION OF THIS ASSEMBLY ARE DETAILED IN LIGO E970038, THE LARGE OPTIC SUSPENSION STRUCTURAL FABRICATION SPECIFICATION.
 ② THESE FEATURES TO BE MACHINED AFTER ANNEALING.
 ③ FLY CUT THESE SURFACES, OF BRACKETS FIND NOS. 6 AND 7, AT A $.5^\circ/3^\circ$ ANGLE. REMOVE MATERIAL FROM THE CENTER OF THE ASSEMBLY TO .25 FROM THE LEGS. MEASURE ANGLE TO DATUM C.
 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.
 ⑤ LINE OF SYMMETRY FOR ASSEMBLY AND ALL MACHINED FEATURES.

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 INC. 5/7/98	J. Hazel			E980088/ ATTACHED, ID PLACEMENT
E	5/7/98	J. Hazel			E980090/CHANGE CHAMFER STOP DEFINITION
F	7/16/98	J. Romie			E980133/ADD DRAIN HOLES, OPEN TOLERANCES AND CHANGE S/A DIMENSIONS



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

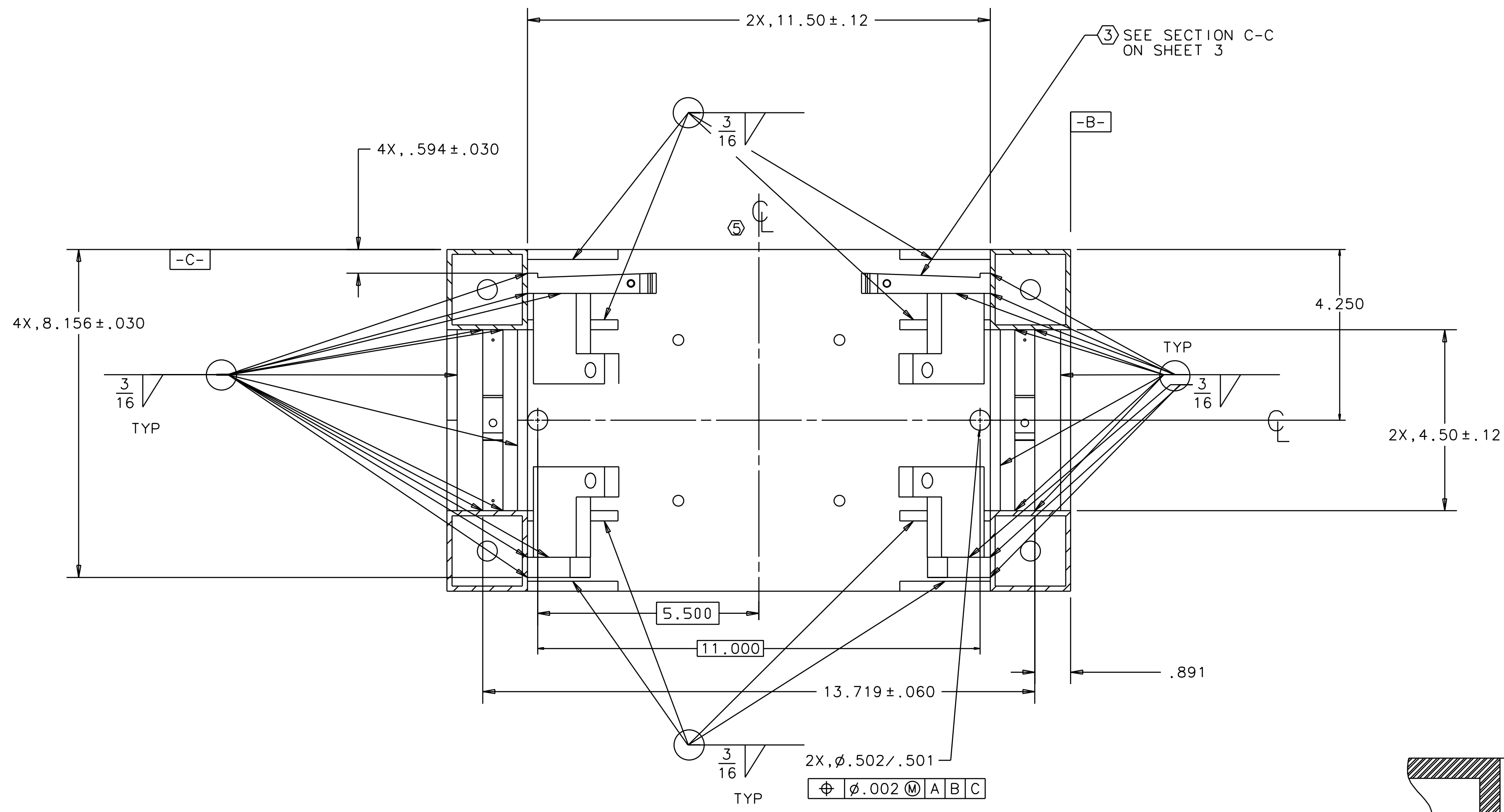
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		TOLERANCES ARE:		ANGLES	
FRACTIONS	DECIMALS	FRACTIONS	DECIMALS	ANGLES	ANGLES
		±0.005	±0.005	±0.5°	
0.XX	±0.03	0.XXX	±0.005		
DO NOT SCALE DRAWING					

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

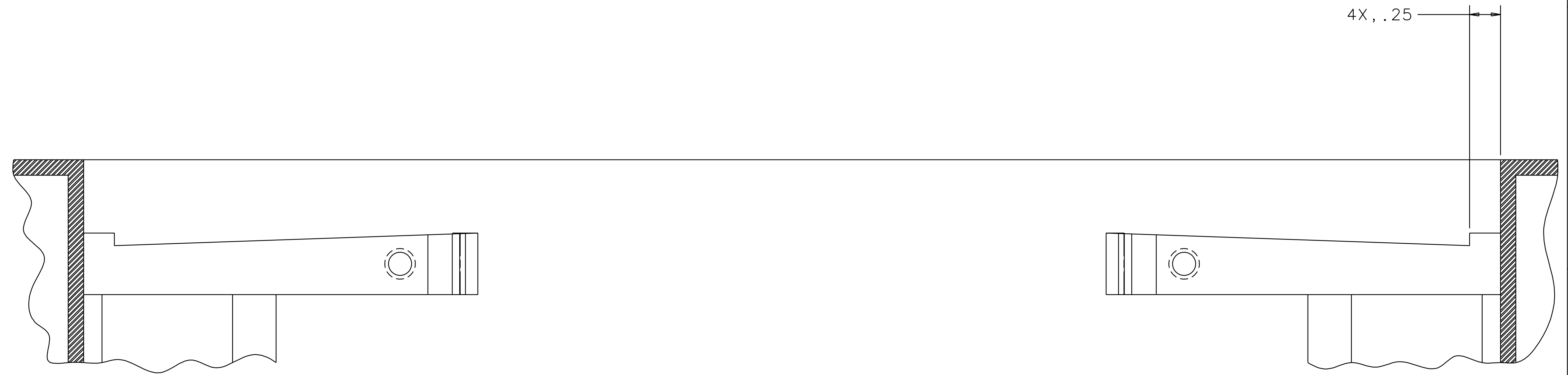
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home/dcc/docs/D970551.pdf		1/2	1 OF 6

NEXT ASSEMBLY
 D970564, D970577

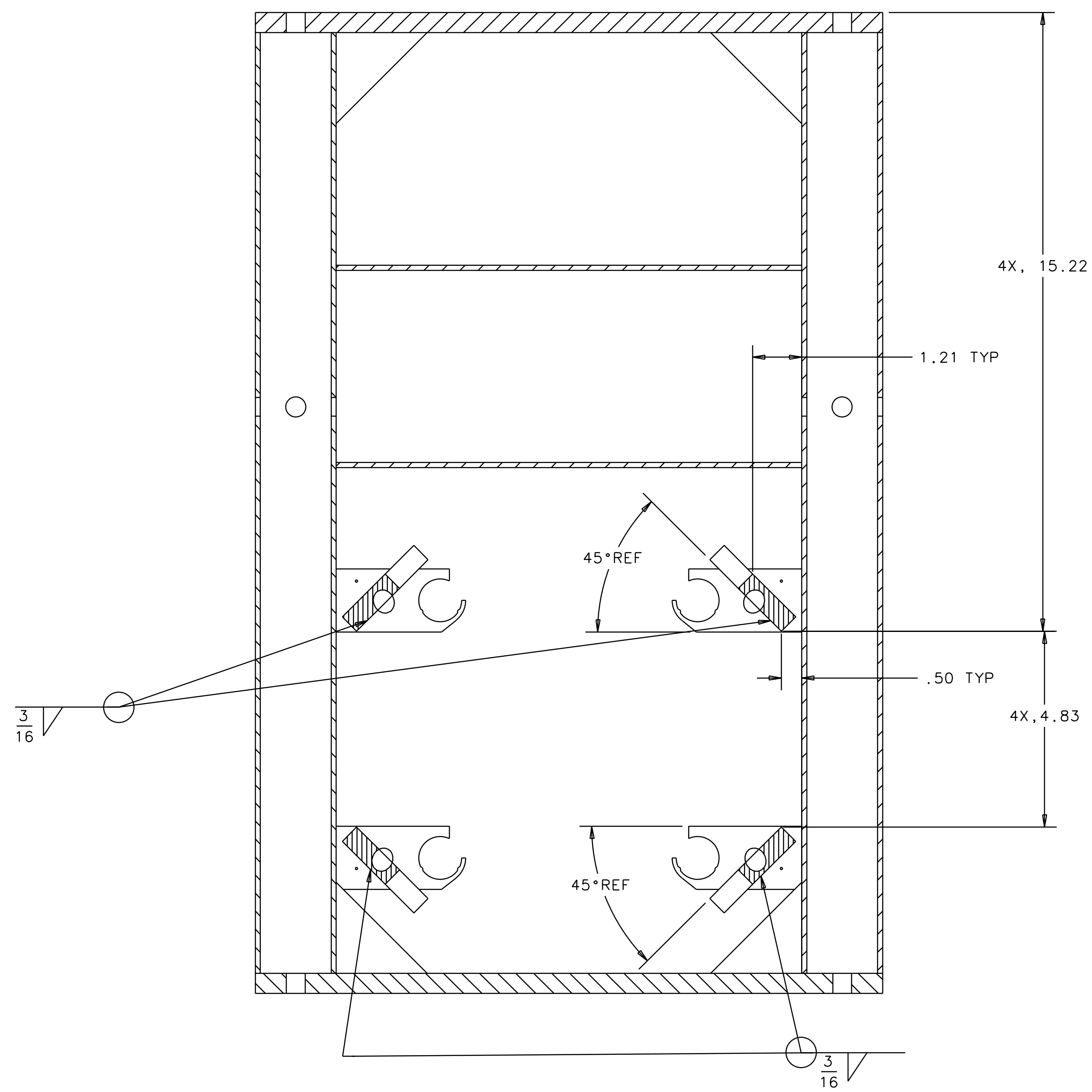
REV	DATE	DRAWN BY	CHECKED	DCC	DCN/DESCRIPTION
A	1/19/98	J.Hazel			E980004/INITIAL RELEASE
B	2/5/98	J.Hazel			E980011/CHANGE TO NOTE 3 CHANGE TO SECTION A-A
C	4/2/98	J.Hazel			E980075/ADD SHEET 4
D	5/1/98	J.Hazel			E980088/ ATTACHED, ID PLACEMENT
E	5/7/98	J.Hazel			E980090/CHANGE CHAMFER STOP DEFINITION
F	7/16/98	J.Romie			E980173/ADD DRAIN HOLES, OPEN TOLERANCES AND CHANGE S/A DIMENSIONS



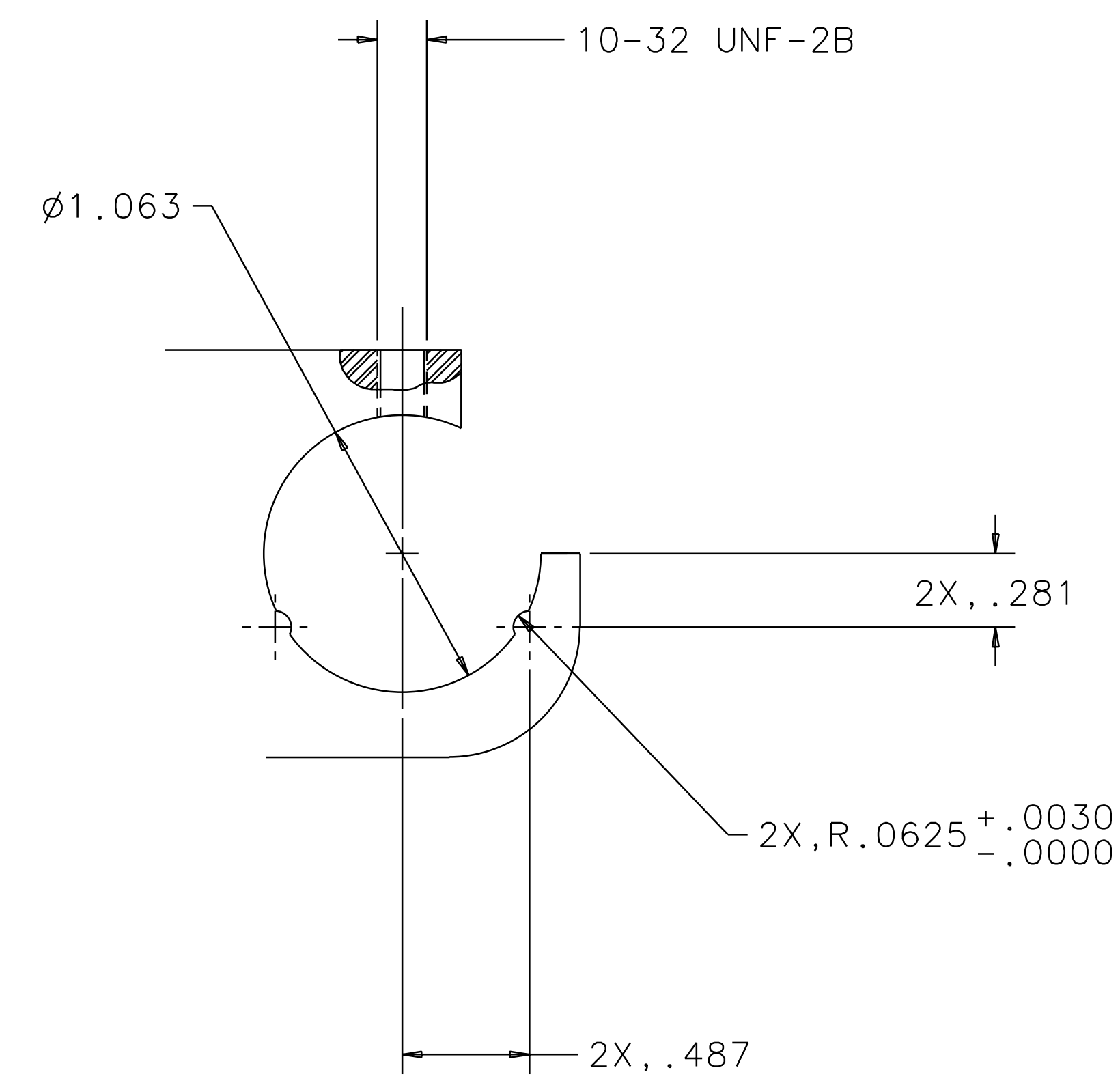
SECTION A-A



SECTION C-C
FLY CUT DEFINED
IN NOTE ③



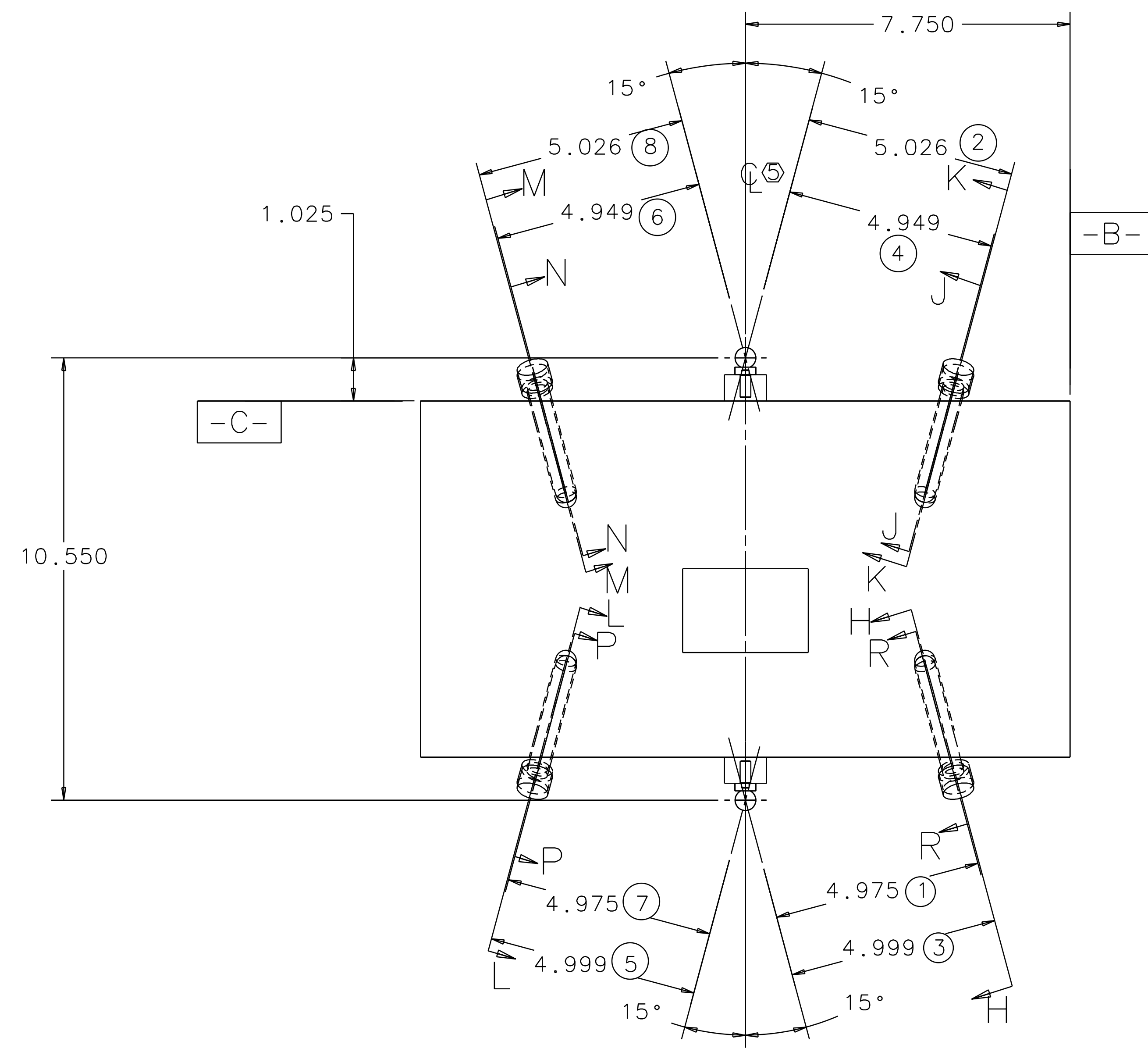
SECTION B-B



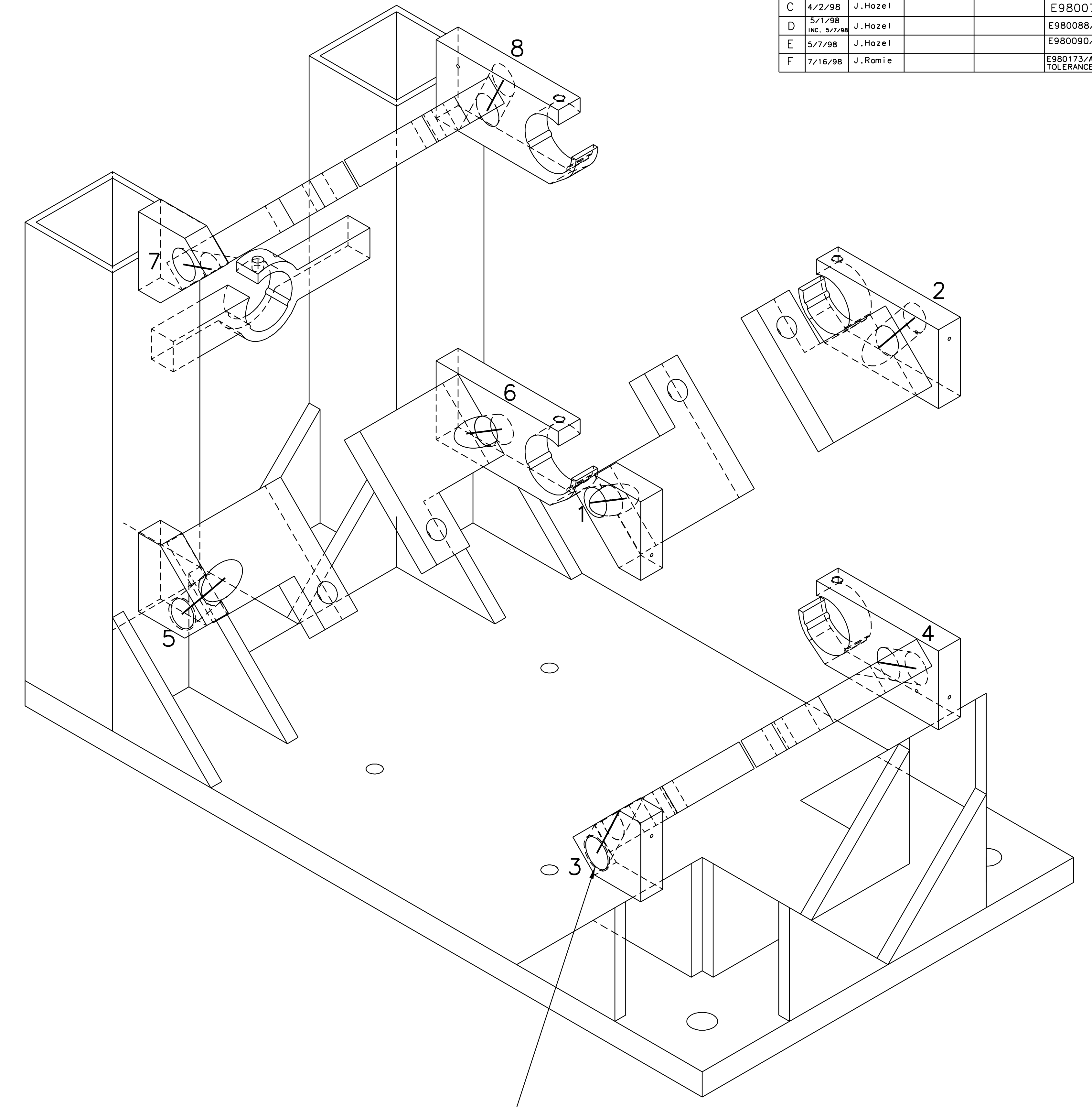
VIEW D ②
SCALE 4/1
TYPICAL 6 PLACES

QTY REQ	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		APPROVALS		
TOLERANCES ARE:		DATE	LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
FRACTIONS	DECIMALS	ANGLES	TITLE	
		±0.5°	RECYCLING MIRROR LOS STRUCTURE ASSEMBLY	
DRAWN J. Hazel		1/98	SIZE	D970551
CHECKED			SCALE	1/2
DO NOT SCALE DRAWING			SHEET	2 OF 6
NEXT ASSEMBLY D970564, D970577		MATERIAL		
FILE LOCATION home/dcc/docs/D970551.pdf		FINISH		

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
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F	7/16/98	J.Romie			E980173/ADD DRAIN HOLES, OPEN TOLERANCES AND CHANGE S/A DIMENSIONS



VIEW F



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

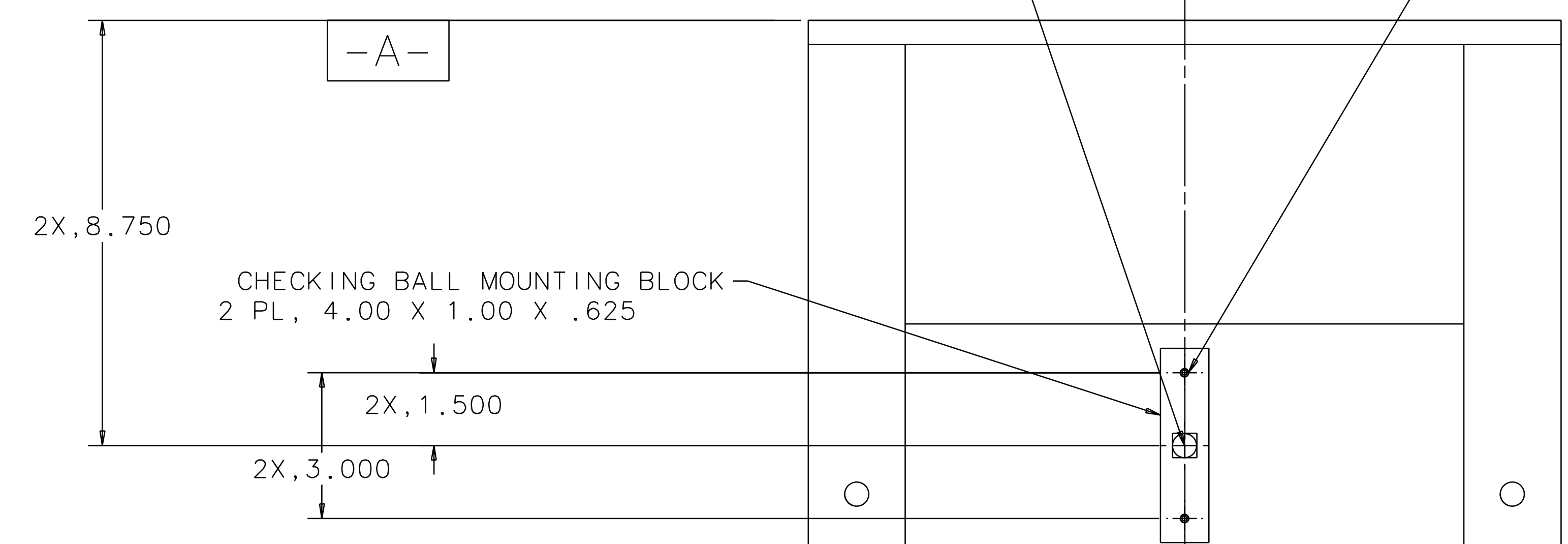
VIEW E

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

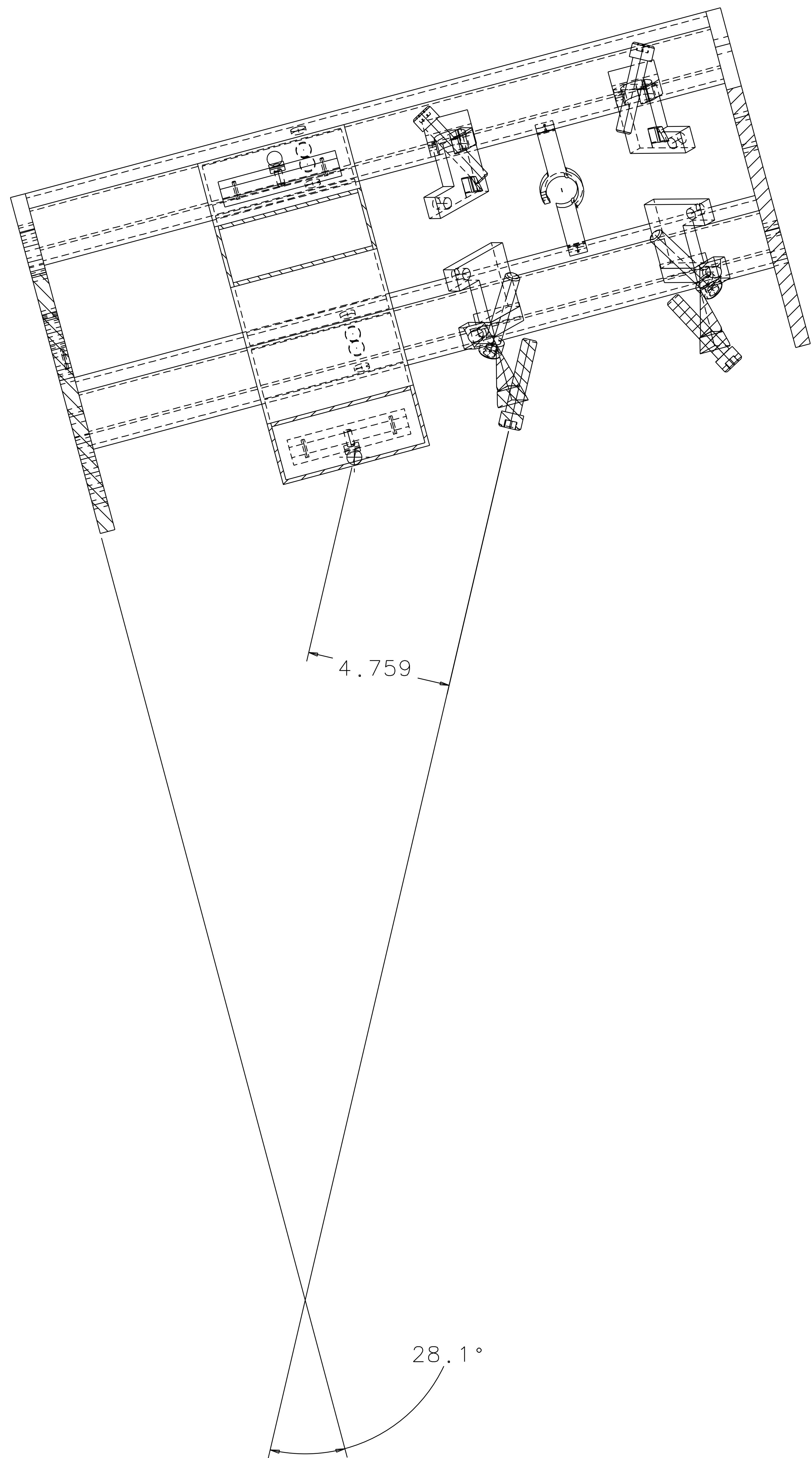
VIEW F AND VIEW G DEFINE
INTERIM TOOLING CONFIGURATION
INCLUDING CHECKING BALL MOUNTING.

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

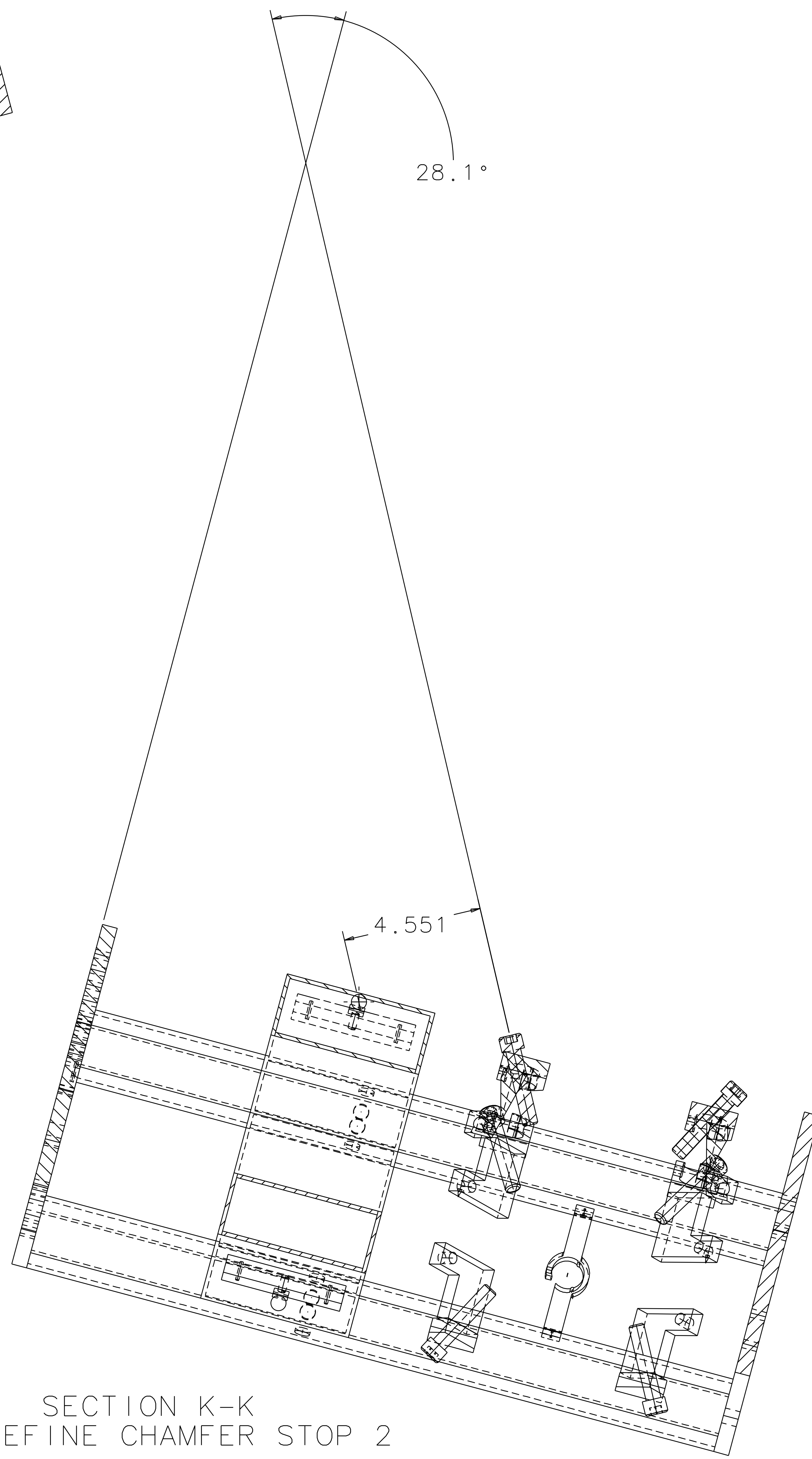
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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES				
TOLERANCES ARE: FRACTIONS DECIMALS ANGLES				
. :0.5°				
DRAWN: J. Hazel				
CHECKED: []				
DO NOT SCALE DRAWING				
APPROVALS		DATE	LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
TITLE		1/98	RECYCLING MIRROR LOS STRUCTURE ASSEMBLY	
NEXT ASSEMBLY		MATERIAL		REV
D970564, D970577		FINISH		F
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home/dcc/docs/D970551.pdf		1/2		3 OF 6

1 2 3 4 5 6 7 8

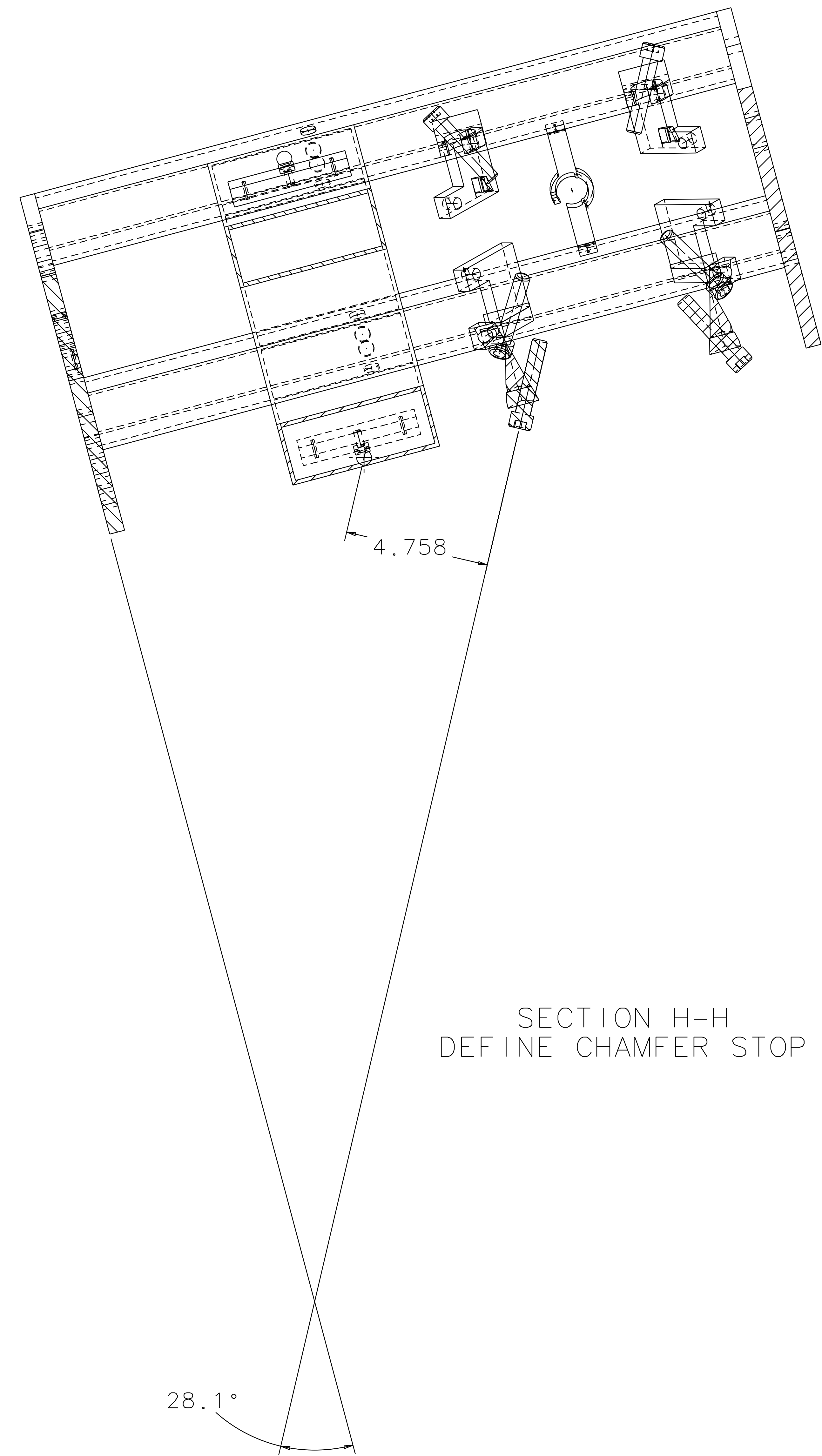
REV	DATE	DRAWN BY	CHECKED	DCC	DCN/DESCRIPTION
A	1/19/98	J. Hozel			E980004/INITIAL RELEASE
B	2/5/98	J. Hozel			E980011/CHANGE TO NOTE 3 CHANGE TO SECTION A-A
C	4/2/98	J. Hozel			E980075/ADD SHEET 4
D	5/1/98	J. Hozel			E980088/ ATTACHED, ID PLACEMENT
E	5/7/98	J. Hozel			E980090/CHANGE CHAMFER STOP DEFINITION
F	7/16/98	J. Romie			E980133/ADD DRAIN HOLES, OPEN TOLERANCES AND CHANGE S/A DIMENSIONS



SECTION R-R
DEFINE CHAMFER STOP 1



SECTION K-K
DEFINE CHAMFER STOP 2



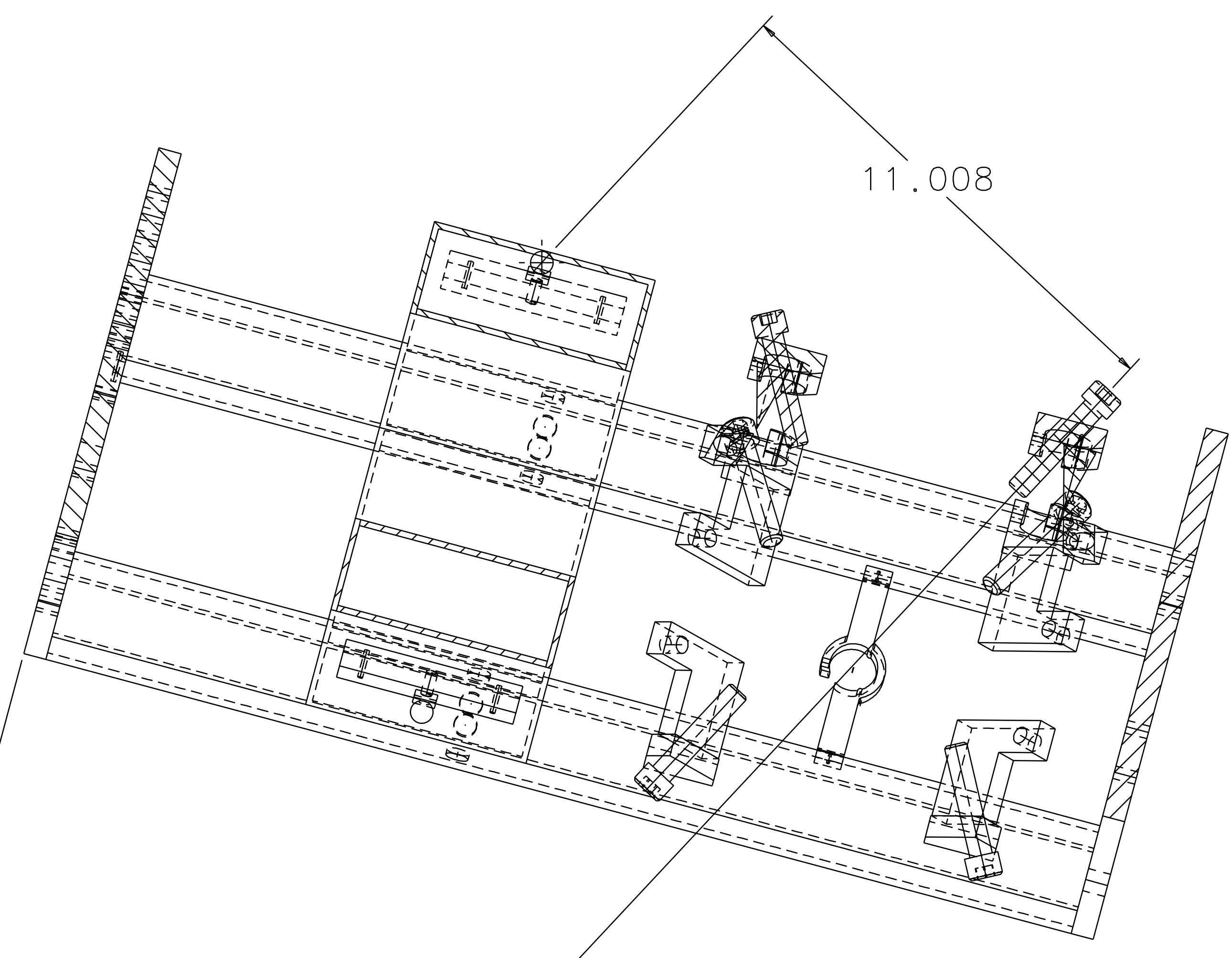
SECTION H-H
DEFINE CHAMFER STOP 3

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

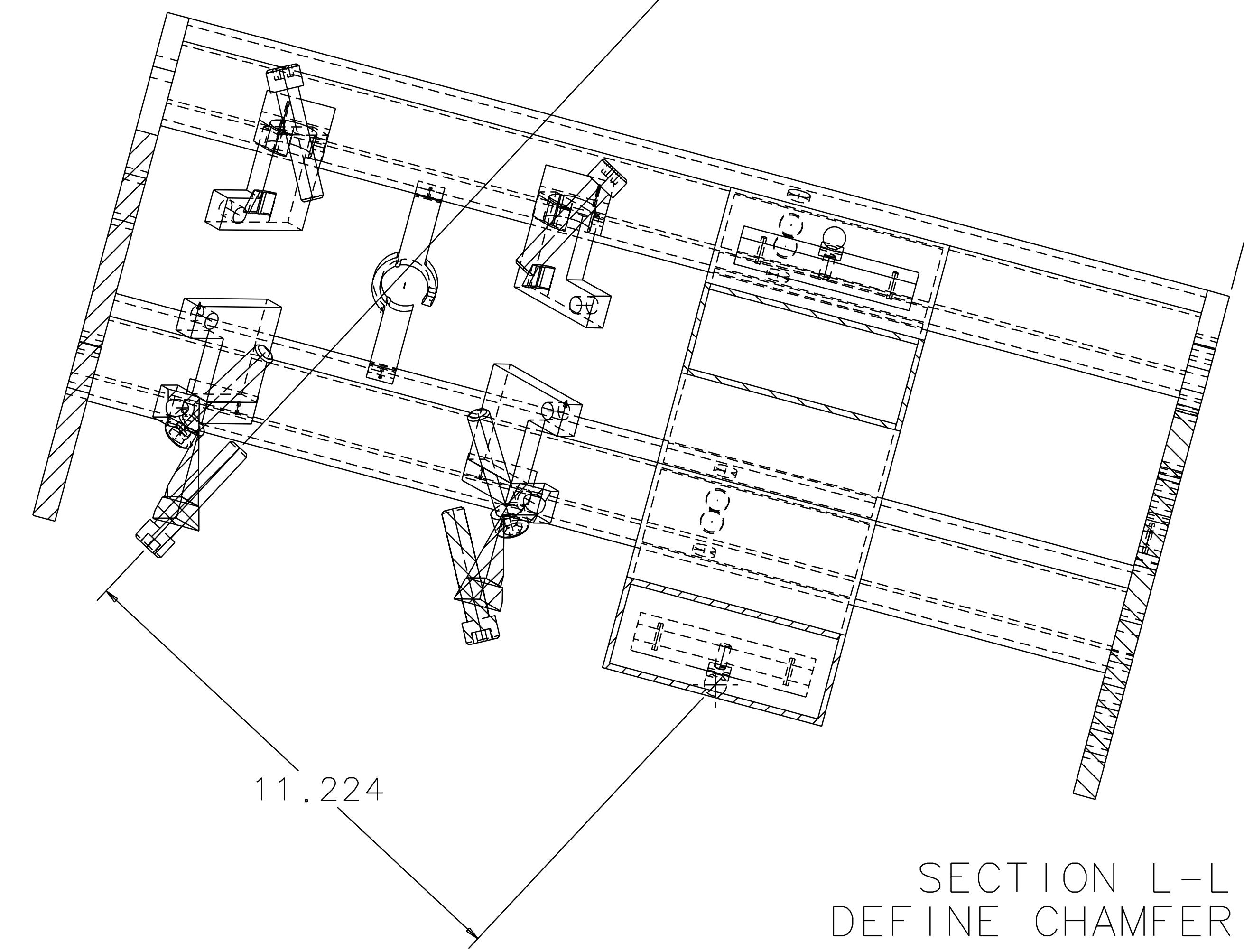
1 2 3 4 5 6 7 8

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
F	7/16/98	J. Romie			E980133/ADD DRAIN HOLES, OPEN TOLERANCES AND CHANGE S/A DIMENSIONS



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

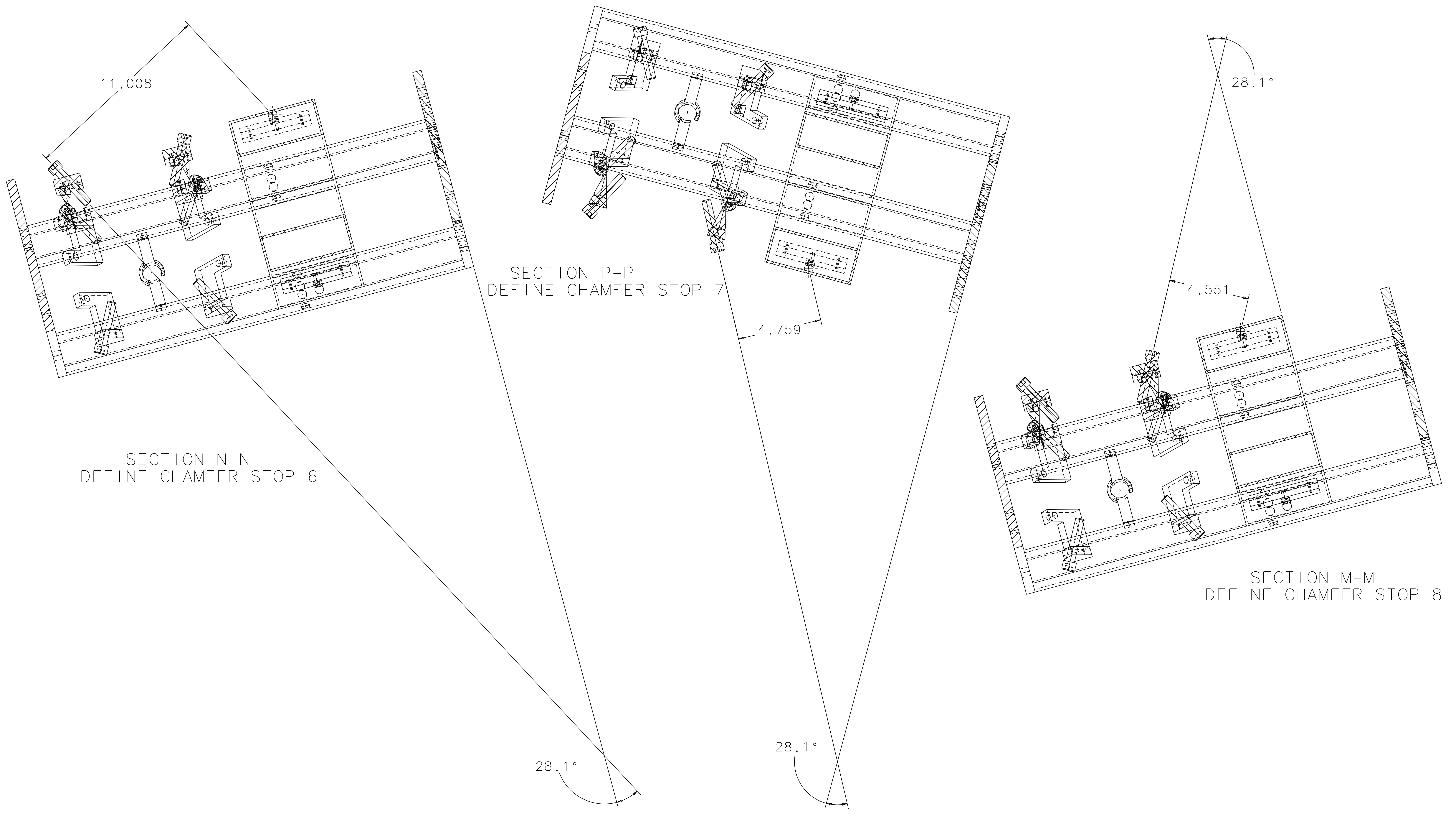
H
G
F
E
D
C
B
A

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 F
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
A	1/19/98	J.Hazel			E980004/INITIAL RELEASE
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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.XX=+0.03 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	
NEXT ASSEMBLY D970564, D970577		MATERIAL		REV F
FILE LOCATION home/dcc/docs/D970551.pdf		FINISH		SCALE 1/2
				SHEET 6 OF 6

1 2 3 4 5 6 7 8