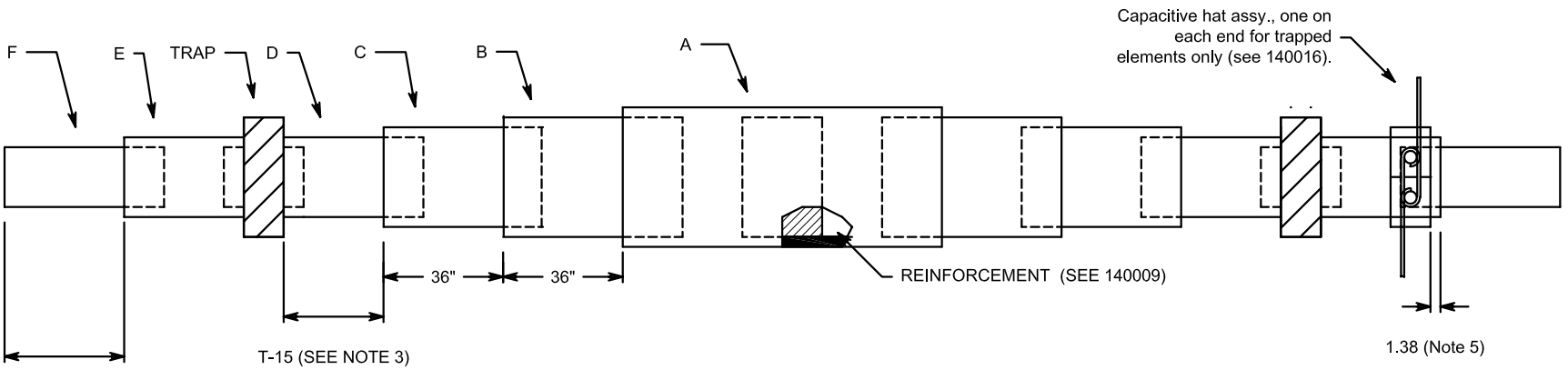
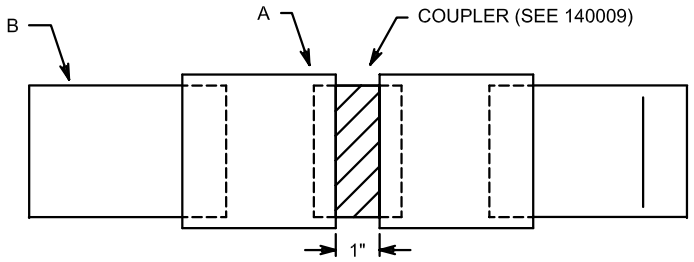


COMPONENTS, DIMENSIONS: TRAPPED ELEMENTS



CENTER SECTION DETAIL, TRAP DRIVEN ELEMENT ONLY

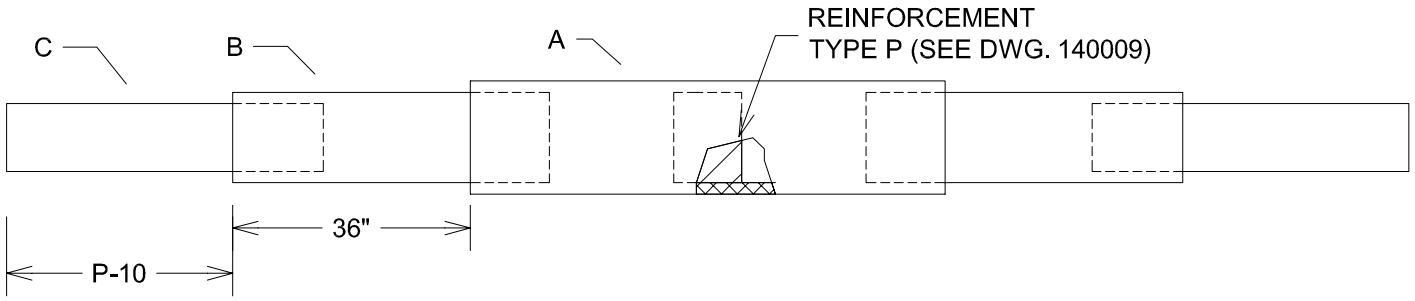
TRAPPED ELEMENT DIMENSIONS		
ELEMENT	T-15	T-20
Reflector	39	24.5
Driven	28.5	24.5
Director	15	22.5

NOTES:
1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032
2. Drawing not to scale
3. Tubes "D" and "E" butt up against the trap body. T-15 is adjusted by sliding "D" in or out of "C".
4. T-20 is adjusted by sliding "F" in or out of "E".
5. Edge of capacitive hat angle bracket mount is alligned with end of tubing slot

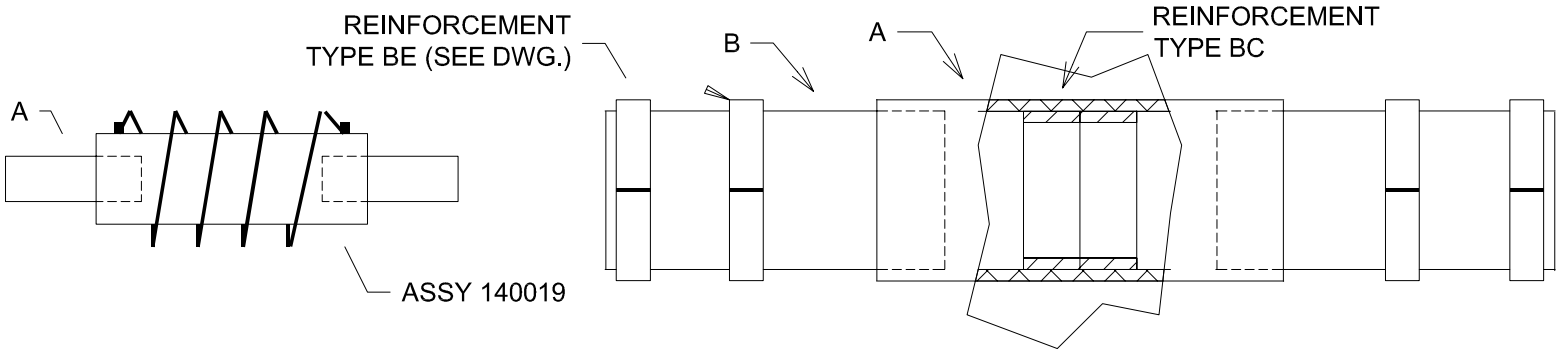
TITLE

ELEMENT ASSEMBLY

SIZE	DATE	DWG NO	REV
A	04-10-01	140002	H
SCALE NONE		SHEET 1 OF 3	

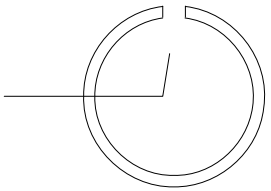


COMPONENTS, DIMENSIONS: PARASITIC ELEMENTS



COMPONENTS, TRAP ASSEMBLY

COMPONENTS, BOOM (SEE DETAIL DWG.)



REINFORCEMENT TYPE "BE"

NON-TRAP PARASITIC ELEMENTS

ELEMENT	P-10
10M Reflector	39
10m Rear Driver	28
10M Front Driver	28
10M Director	24

2. Drawing not to scale
1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032

NOTES:

TITLE

ELEMENT ASSEMBLY

SIZE	DATE	DWG NO	REV
A	04-10-01	140002	H
SCALE NONE			SHEET 2 OF 3

Revision C, 2-11-01																						
ITEM	**PART A**			**PART B**			**PART C**			**PART D**			**PART E**			**PART F**			**REINFORCEMENT**			
	MTL	**QTY**	**LEN**	**MTL**	**QTY**	**LEN**	**MTL**	**QTY**	**LEN**	**MTL**	**QTY**	**LEN**	**MTL**	**QTY**	**LEN**	**MTL**	**QTY**	**LEN**	**TYPE**	**MTL**	**QTY**	**LEN**
TRAP DRIVEN ELEMENT	1	2	36	2	2	44	3	2	44	4	2	35	4	2	20.5	5	2	28				
TRAP REFLECTOR	1	1	72	2	2	44	3	2	44	4	2	45	4	2	20.5	5	2	28				
TRAP DIRECTOR	1	1	72	2	2	44	3	2	44	4	2	21	4	2	20.5	5	2	26				
PARASITIC DRIVEN ELEMENT	2	2	72	3	4	44	4	4	45													
PARASITIC REFLECTOR	2	1	72	3	2	44	4	2	55													
PARASITIC DIRECTOR	2	1	72	3	2	44	4	2	40													
TRAP	5	12	4																	8	12	1
BOOM	7	1	72	6	2	62													BC	6	2	10
BOOM																			BE	7	4	2

	MATERIALS TABLE
MTL #	**DESCRIPTION**
1	1.125 OD X 0.058 WALL, 6063-T8 OR EQUIV
2	1.00 OD X 0.058 WALL, 6063-T8 OR EQUIV
3	0.875 OD X 0.058 WALL, 6063-T8 OR EQUIV
4	0.75 OD X 0.058 WALL, 6063-T8 OR EQUIV
5	0.625 OD X 0.058 WALL, 6063-T8 OR EQUIV
6	1.875 OD X 0.058 WALL, 6063-T8 OR EQUIV
7	2.00 OD X 0.058 WALL, 6063-T8 OR EQUIV
8	0.50 OD X 0.058 WALL, 6063-T8 OR EQUIV

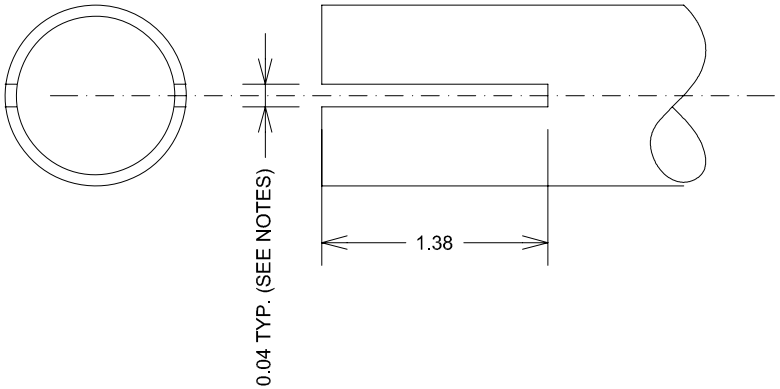
NOTES:

1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032
2. Drawing not to scale

TITLE

ELEMENT ASSEMBLY

SIZE	DATE	DWG NO	REV
A	04-10-01	140002	H
SCALE NONE		SHEET 3 OF 3	



ITEM	PART	PART B	PART C	PART D	PART E	PART F
	SLOT:	**SLOT:**	**SLOT:**	**SLOT:**	**SLOT:**	**SLOT:**
TRAP DRIVEN ELEMENT	ONE END	ONE END	ONE END	ONE END	ONE END	DO NOT SLOT
TRAP REFLECTOR	BOTH ENDS	ONE END	ONE END	ONE END	ONE END	DO NOT SLOT
TRAP DIRECTOR	BOTH ENDS	ONE END	ONE END	ONE END	ONE END	DO NOT SLOT
PARASITIC DRIVEN ELEMENT	BOTH ENDS	ONE END	DO NOT SLOT			
PARASITIC REFLECTOR	BOTH ENDS	ONE END	DO NOT SLOT			
PARASITIC DIRECTOR	BOTH ENDS	ONE END	DO NOT SLOT			
TRAP	SEE DWG.					
BOOM	SEE DWG.	SEE DWG.				

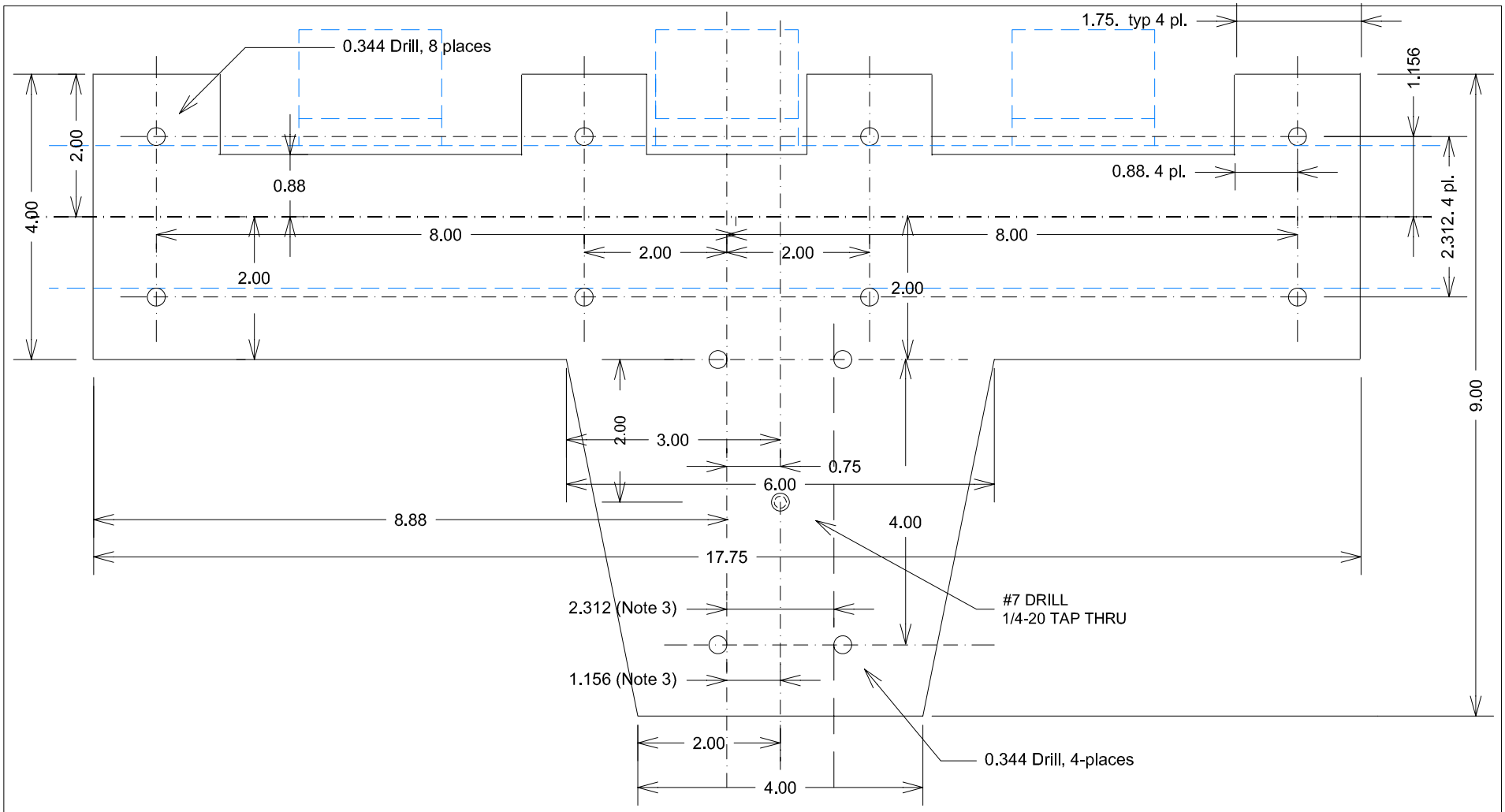
NOTES:

1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032
2. Slot tubing as shown, using a single 18 tooth/in. hacksaw blade.

TITLE

TUBE SLOTTING CHART

SIZE	DATE	DWG NO	REV
A	03-19-01	140004	C
SCALE		SHEET	1 OF1



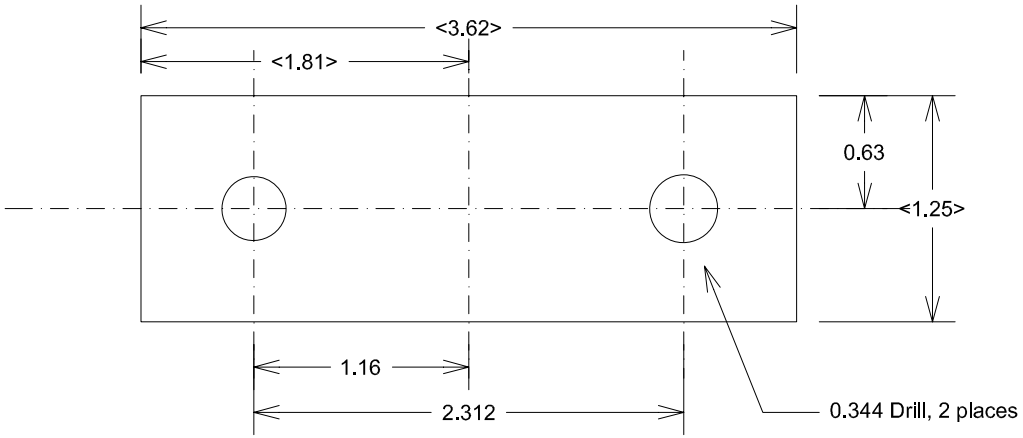
NOTES:

4. Drawing NOT TO SCALE
3. 5/16" U-Clamp spacing determined by selected mast size. Dimensions shown for 2" mast diameter.
2. Material: 6061-T6 or equiv., 0.312 thick
1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032

TITLE

BOOM TO MAST PLATE

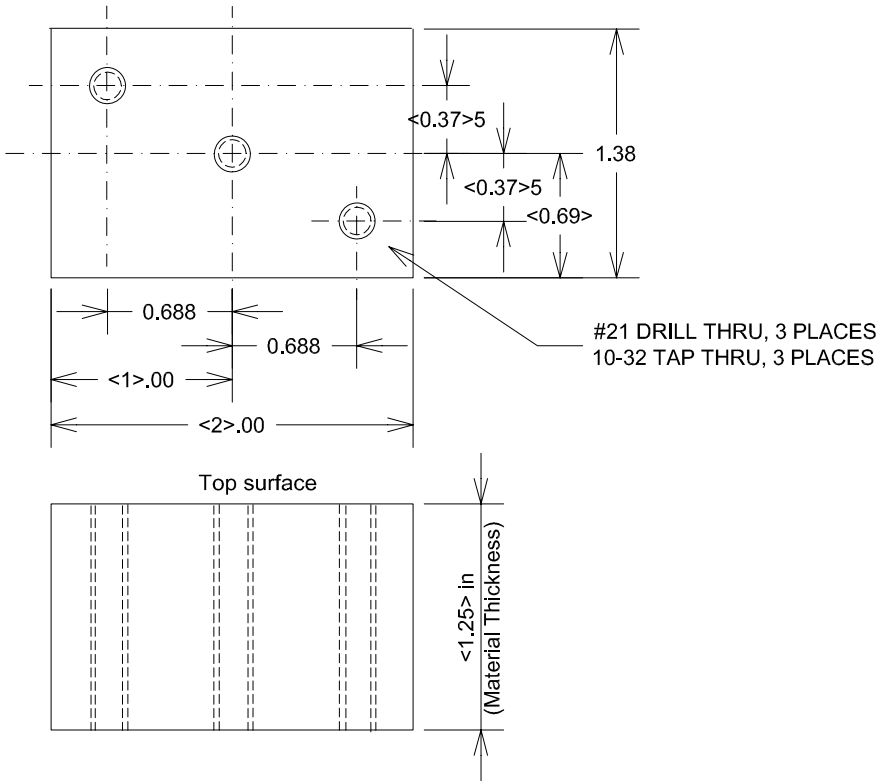
SIZE	DATE	DWG NO	REV
A	03-17-01	140005	B
SCALE		SHEET 1 OF 1	



NOTES:

1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032
2. Material: 6061-T6 or equivalent, 0.250 thick
3. (8) pieces required per assembly

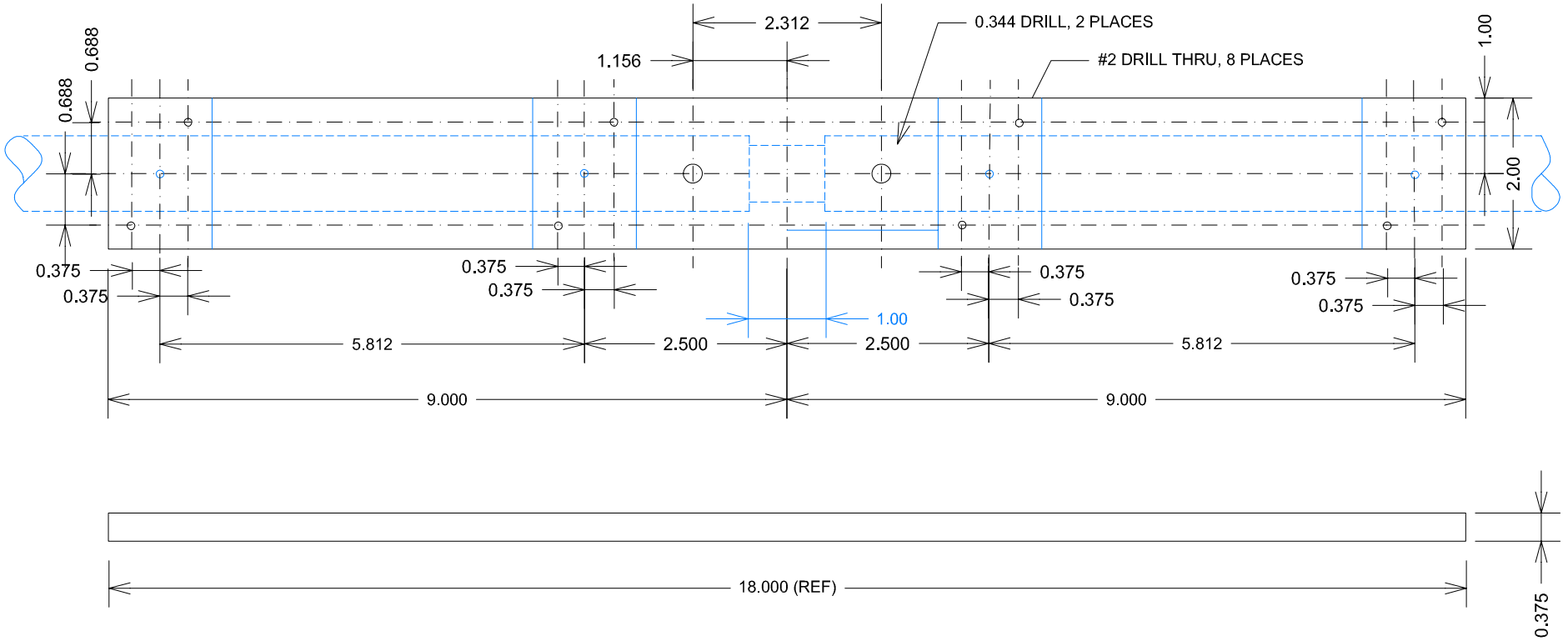
TITLE: BOOM / MAST PLATE SPACER			
SIZE: A	DATE: 03-16-01	DWG NO: 140006	REV: B
SCALE:		SHEET: 1 OF 1	



2. Material: Cast Acrylic, 16 pieces required
1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032

NOTES:

TITLE: INSULATOR, ELEMENT			
SIZE: A	DATE: 02-08-01	DWG NO: 140007	REV: A
SCALE:		SHEET: 1 OF 1	

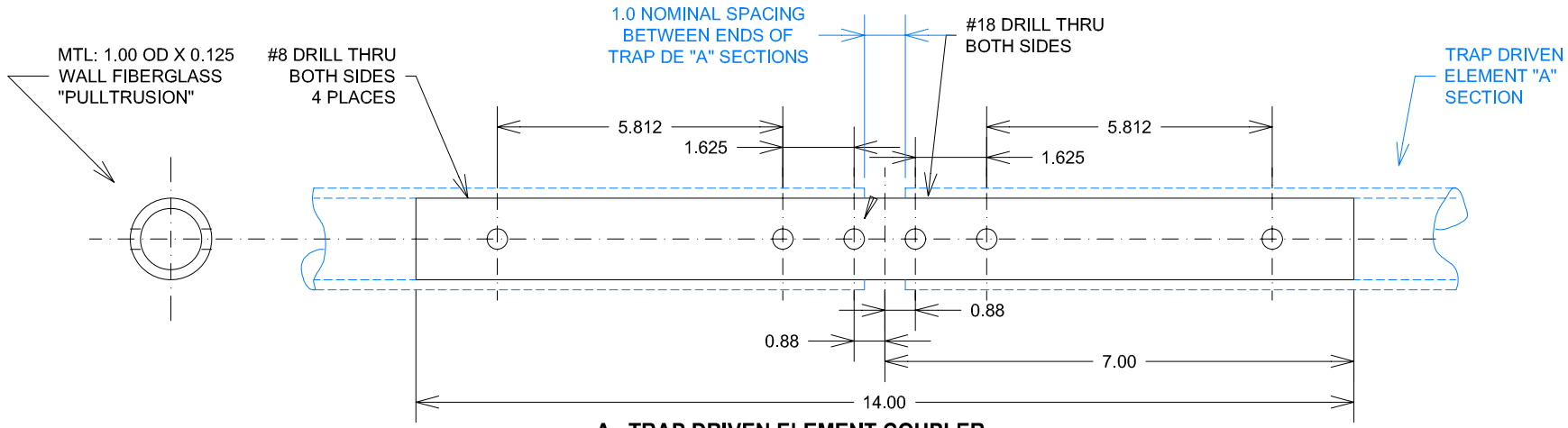


2. Material: 6061-T6 or equiv. by 0.38 thick

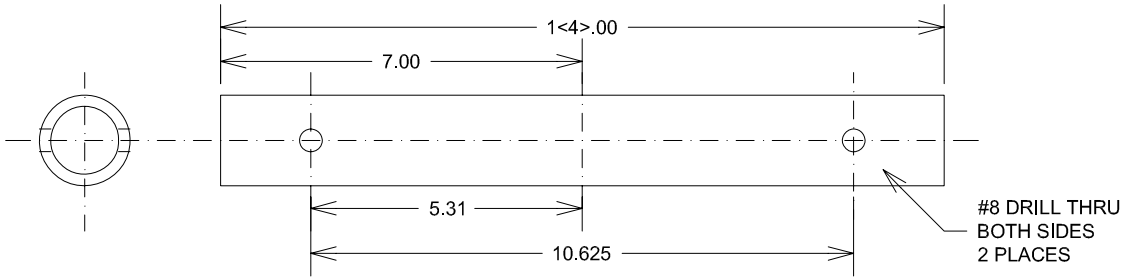
1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032

NOTES:

TITLE: TRAP D.E. BOOM/ELEMENT PLATE			
SIZE: A	DATE: 03-25-01	DWG NO: 140008	REV: C
SCALE:		SHEET: 1 OF1	



A. TRAP DRIVEN ELEMENT COUPLER
(CENTER SECTION)



DRAWING NOT TO SCALE

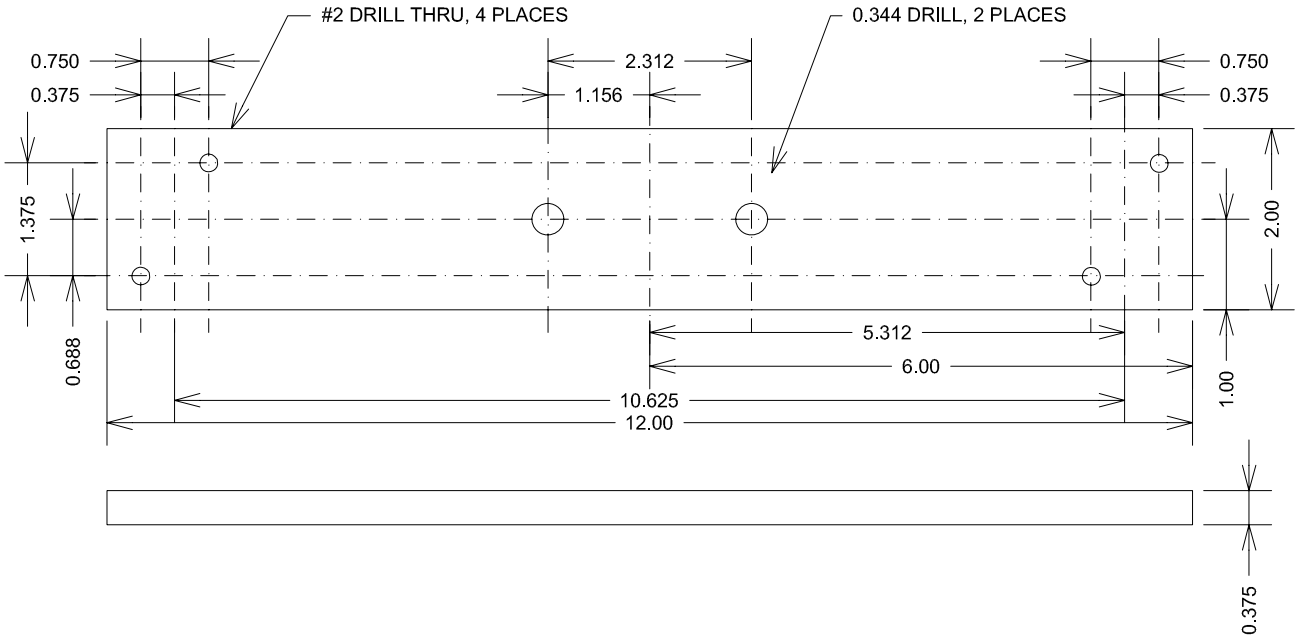
ELEMENT	MATERIAL
TRAP DIRECTOR, TRAP REFLECTOR	1.0 OD X 0.058 WALL 6061-T6 TUBING
ALL NON-TRAP PARASITIC ELEMENTS	0.875 OD X 0.058 WALL 6061-T6 TUBING

B. ELEMENT CENTER REINFORCEMENT
(EXCEPT TRAP DRIVEN ELEMENT)

NOTES:
1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032

TITLE
ELEMENT CENTER SECTIONS

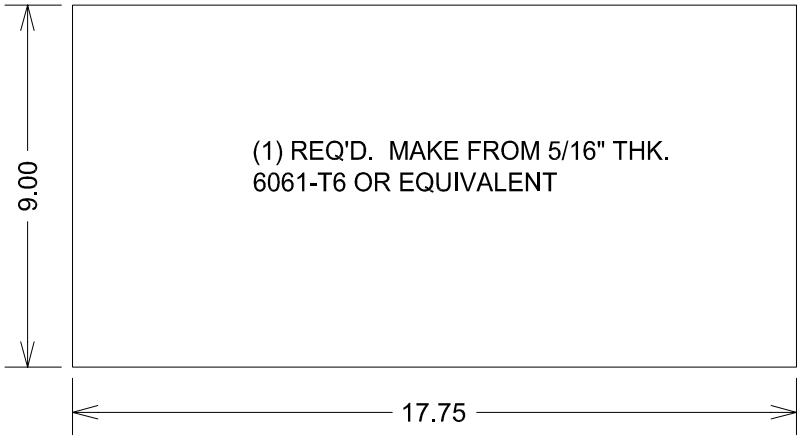
SIZE	DATE	DWG NO	REV
A	03-25-01	140009	C
SCALE		SHEET	1 OF 1

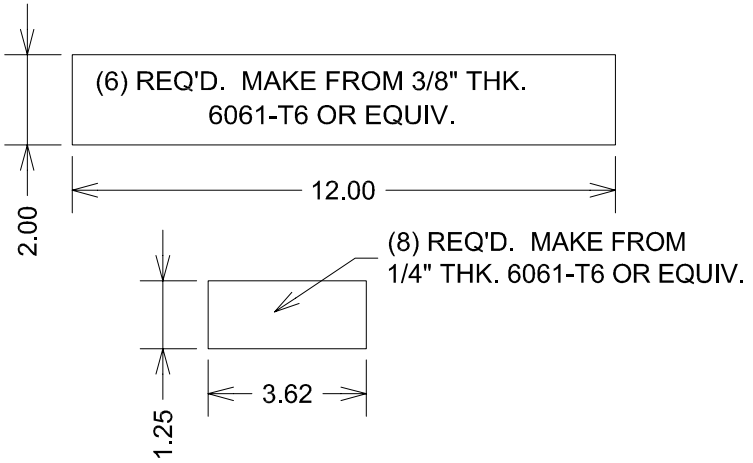


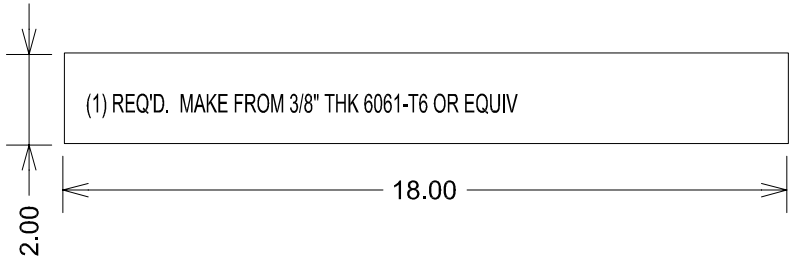
TITLE: BOOM/ELEMENT PLATE			
SIZE: A	DATE: 03-16-01	DWG NO: 140010	REV: B
SCALE:		SHEET: 1 OF 1	

NOTES:

1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032
2. Material: 6061-T6 or equiv. by 0.38 thick, 6 required





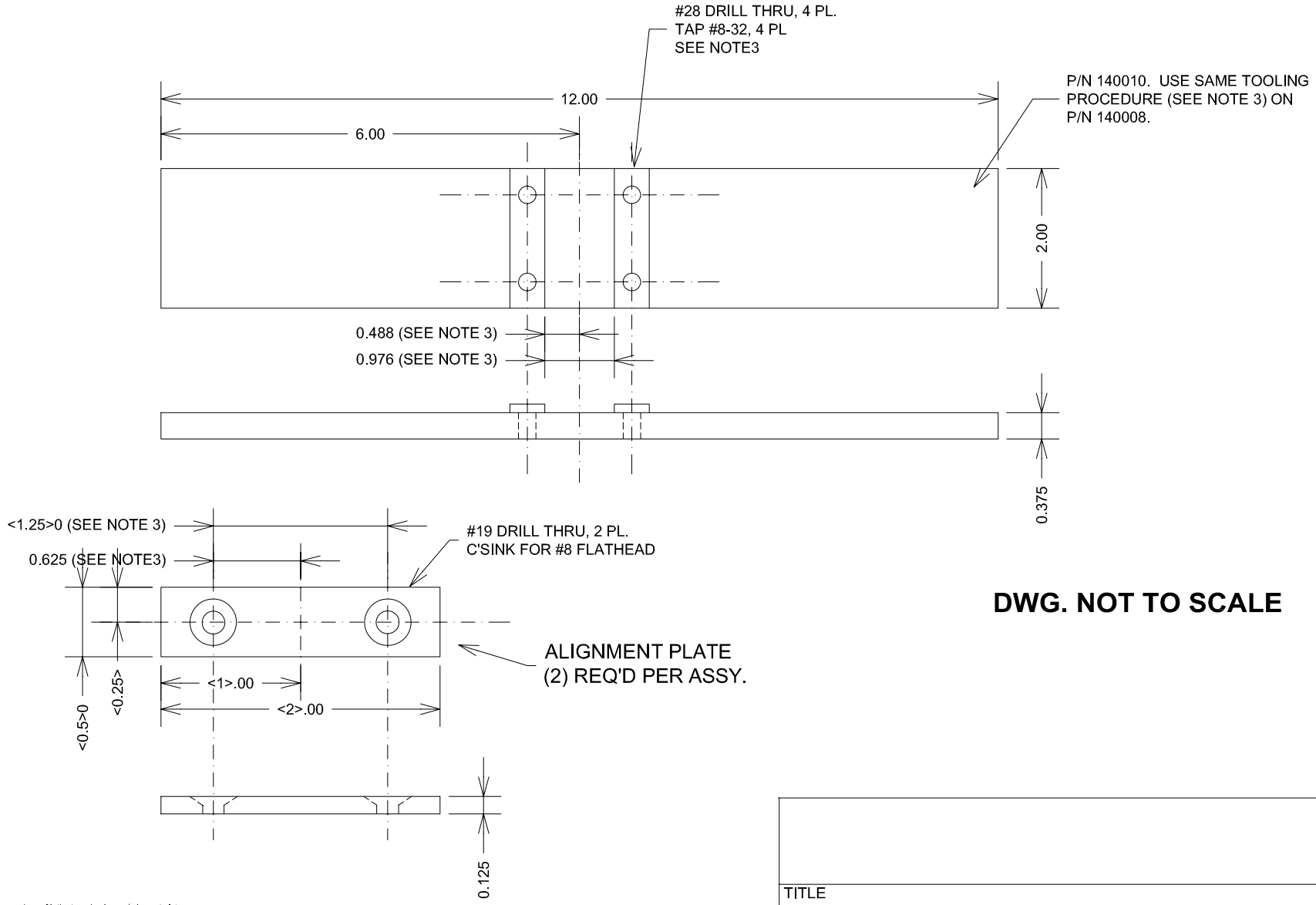


DRAWING NOT TO SCALE

TITLE: MOUNTING PLATE BLANKS			
SIZE: A	DATE: 03-05-01	DWG NO: 140012	REV: A
SCALE:		SHEET: 1 OF 1	

1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032

NOTES:



DWG. NOT TO SCALE

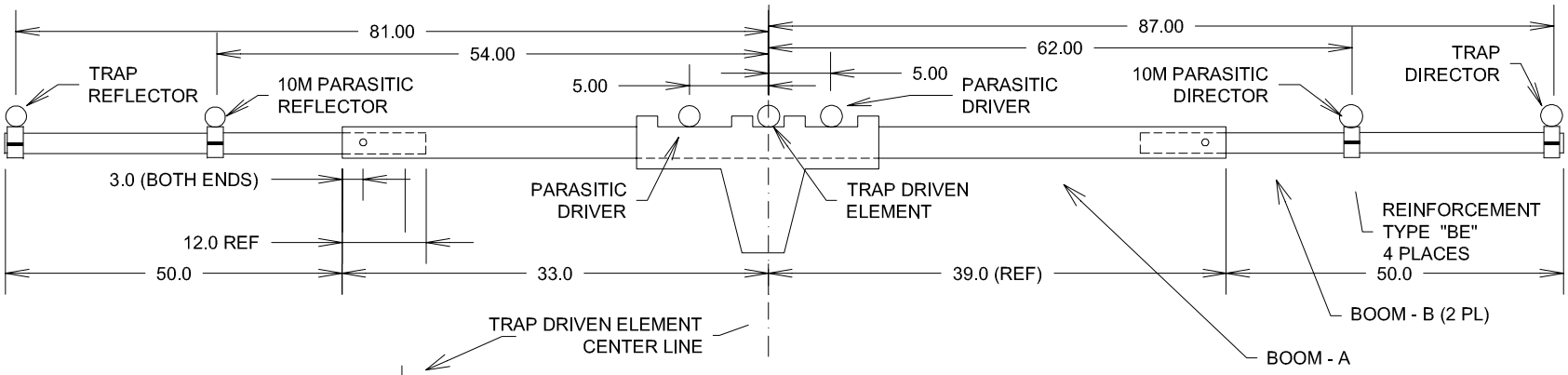
4. Use the same procedure with the trap d.e. boom / element plate.
3. HOLES ARE MACHINED AS PART OF ASSY. PROCESS ! Clamp first alignment plate in the proper position. Use tap drill through both the alignment plate and the boom / element plate. Remove clamp and alignment plate. Use clearance drill and C'SINK on alignment plate. #8-32 tap the (2) holes in the boom / element plate. Screw the alignment plate in position, using Loc Tite. Using a 0.976" spacing tool, clamp the second alignment plate in position and repeat the previous procedure.
2. Material: Aluminum, 6061-T6 or equivalent
1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032

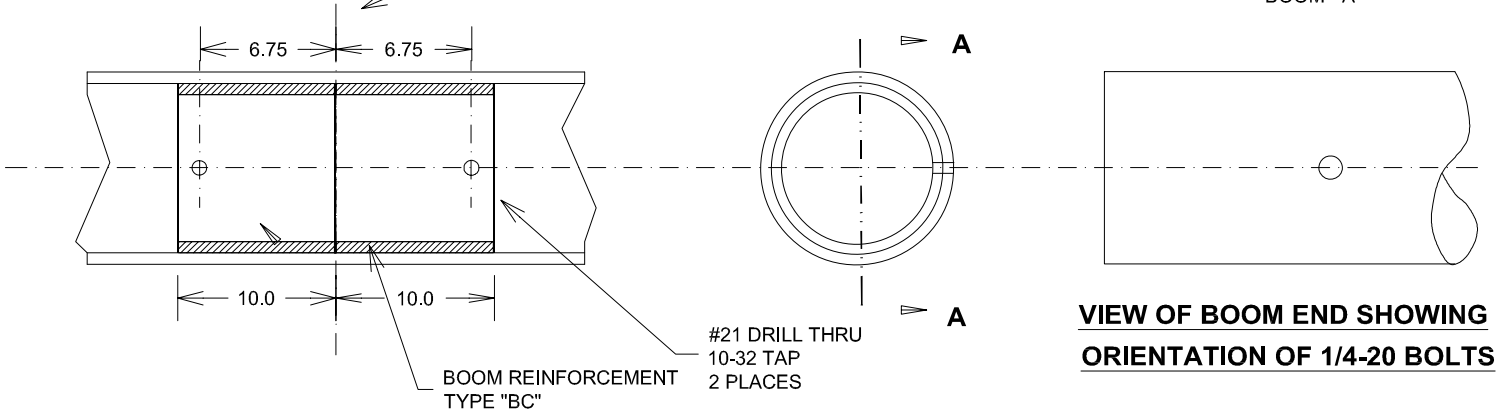
NOTES:

TITLE

ASSY. DETAILS, 140008, 140010

SIZE	DATE	DWG NO	REV
A	03-08-01	140013	A
SCALE		SHEET	1 OF 1





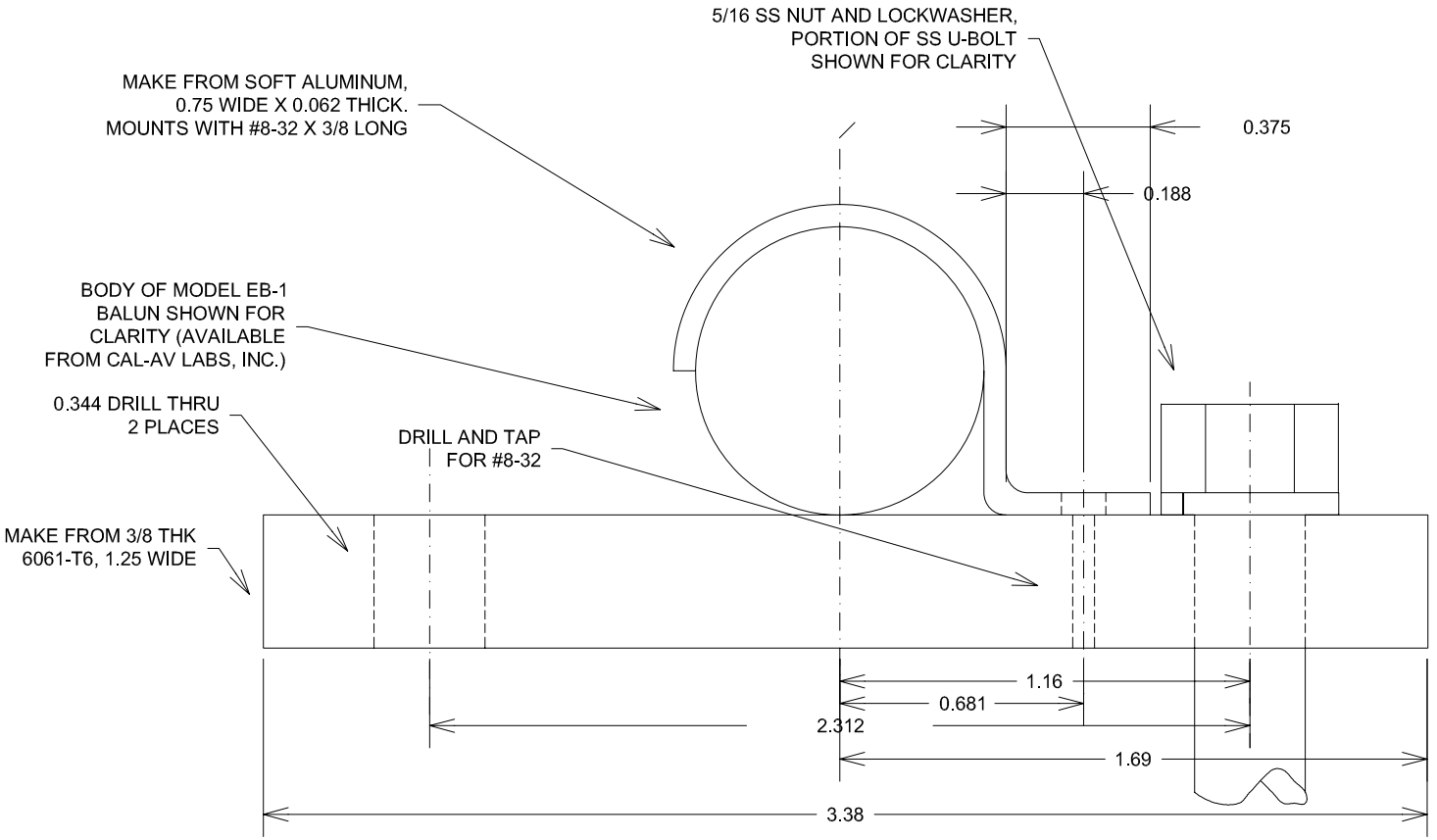
VIEW OF BOOM END SHOWING ORIENTATION OF 1/4-20 BOLTS

SECTION A - A , BOOM AT TRAP DRIVEN ELEMENT CENTER LINE, SHOWING PLACEMENT OF INTERNAL BOOM REINFORCEMENT SECTIONS

DRAWING NOT TO SCALE

NOTES:
1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032

TITLE: BOOM ASSEMBLY			
SIZE: A	DATE: 03-25-01	DWG NO: 140014	REV: C
SCALE:		SHEET: 1 OF1	



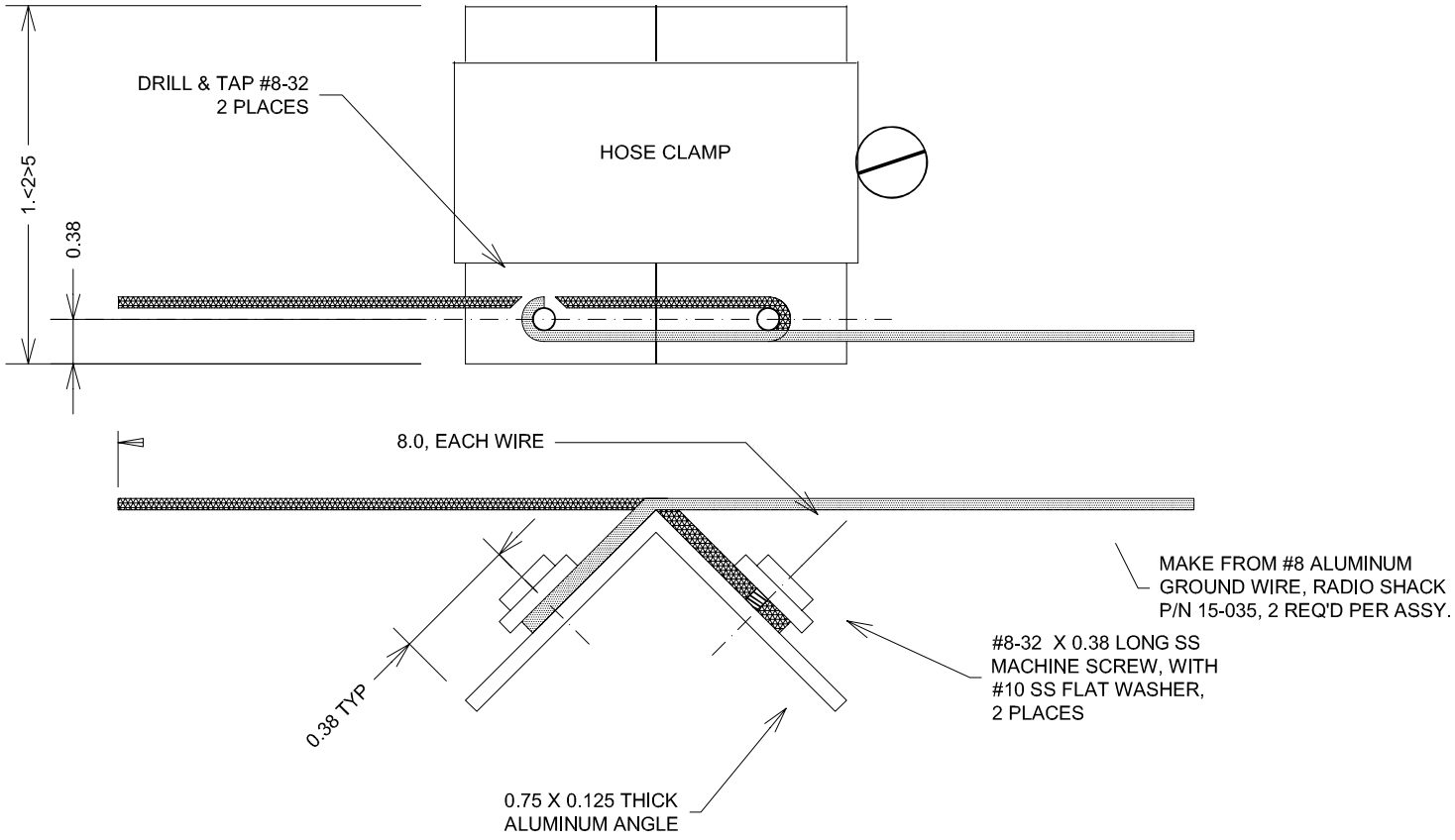
TITLE

MOUNT, BALUN

SIZE	DATE	DWG NO	REV
A	03-27-01	140015	A
SCALE		SHEET 1 OF1	

NOTES:

1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032



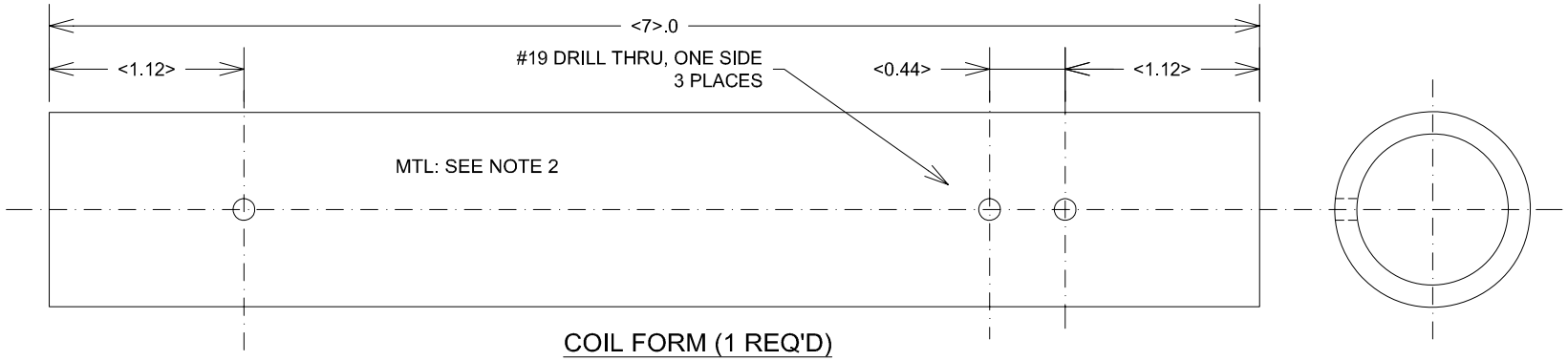
TITLE

CAPACITIVE HAT ASSY.

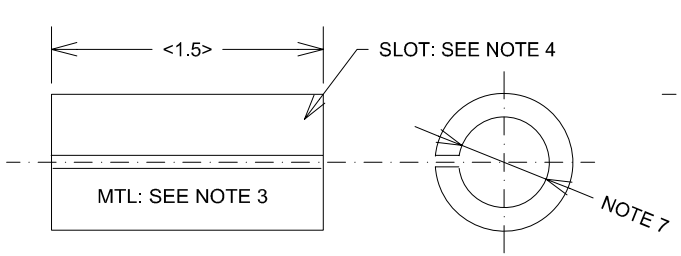
SIZE	DATE	DWG NO	REV
A	04-12-01	140016	A
SCALE		SHEET 1 OF 1	

NOTES:

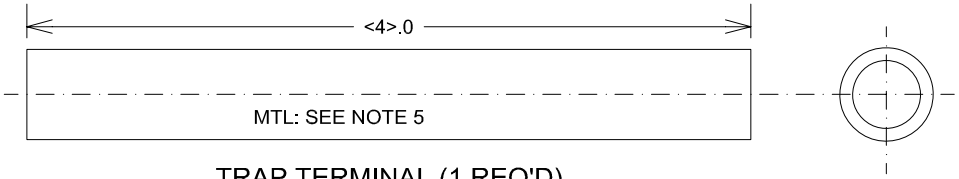
1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.020, X.X = +/-0.032
2. Mount assembly in place with wires horizontal, using hose clamp to attach to "E" tube of trapped elements
3. Place assembly edge closest to the wires, 1.38" from junction to "T" tube and secure in place with hose clamp.



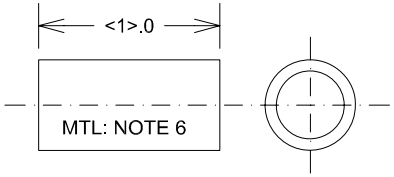
COIL FORM (1 REQ'D)



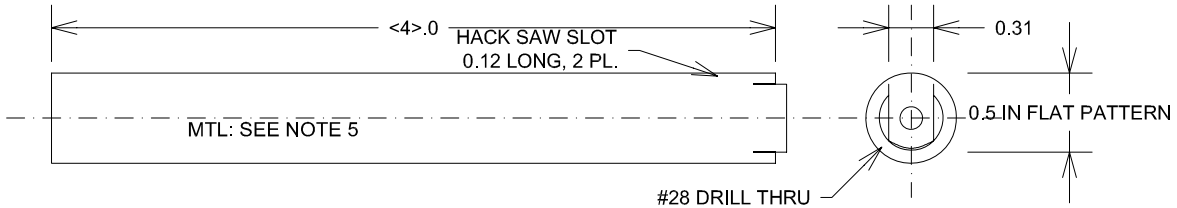
COIL FORM INSERT (2 REQ'D)



TRAP TERMINAL (1 REQ'D)



REINFORCEMENT (2 REQ'D)



TRAP TERMINAL; CAPACITOR MOUNT (1 REQ'D)

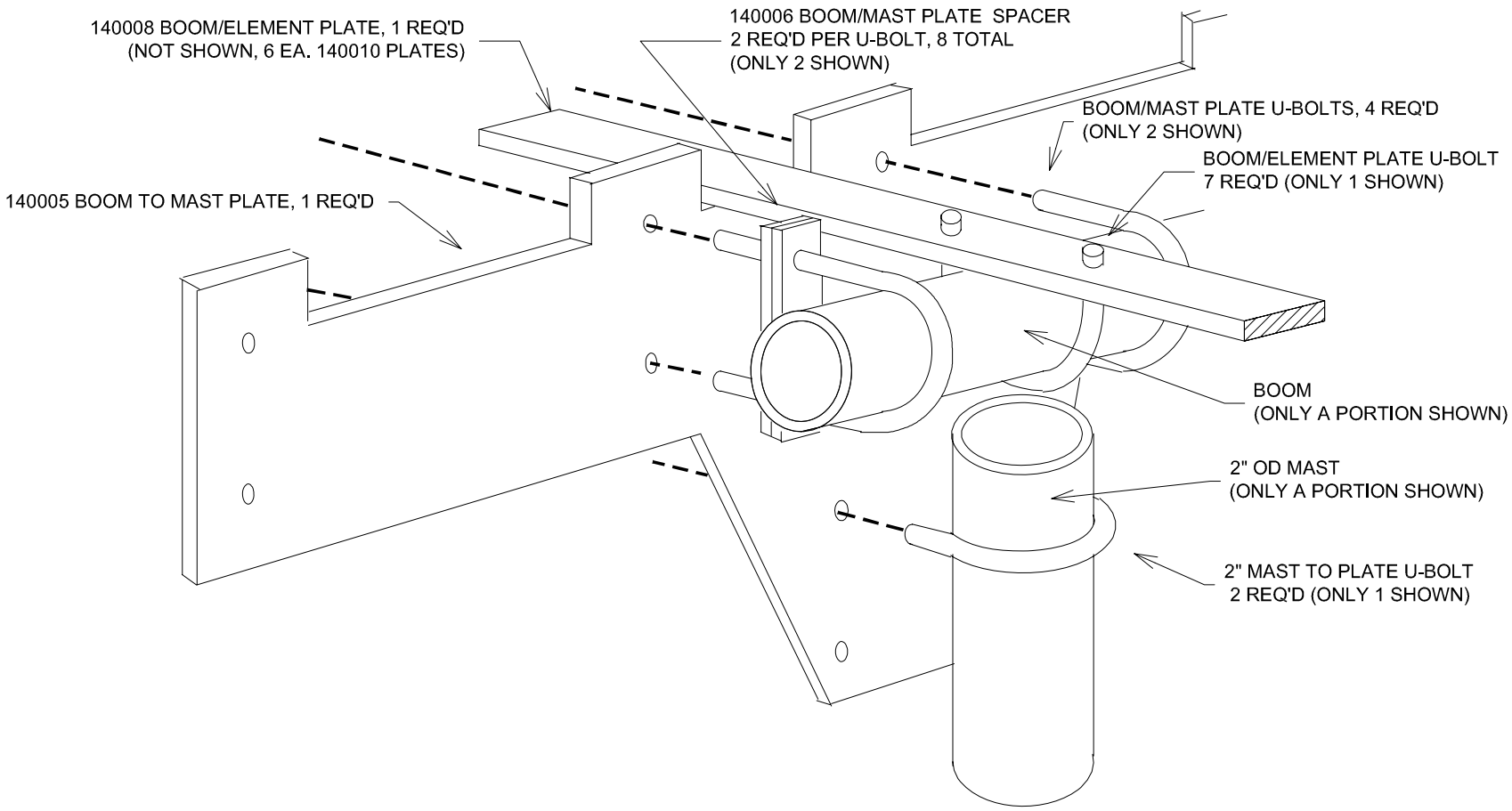
7. AFTER SLOTTING, PLACE INSERT IN A FIXTURE WITH THE SAME I.D. AS THE COIL FORM. (COMPRESS THE SLOT) DRILL THE INSERT ID 0.625 FOR SLIP FIT WITH TRAP TERMINAL.
6. 0.500 DIA X 0.058 WALL, 6061-T6 ALUMINUM
5. 0.625 DIA X 0.058 WALL, 6061-T6 ALUMINUM
4. CUT SLOT THRU ONE SIDE WITH SINGLE WIDTH HACK SAW BLADE
3. 1/2" PVC SCHEDLE 40 WATER PIPE
2. 3/4" PVC SCHEDULE 40 WATER PIPE
1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.010, X.X = +/-0.032

NOTES:

TITLE

TRAP COMPONENTS

SIZE	DATE	DWG NO	REV
A	04-15-01	140017	B
SCALE		SHEET	1 OF1



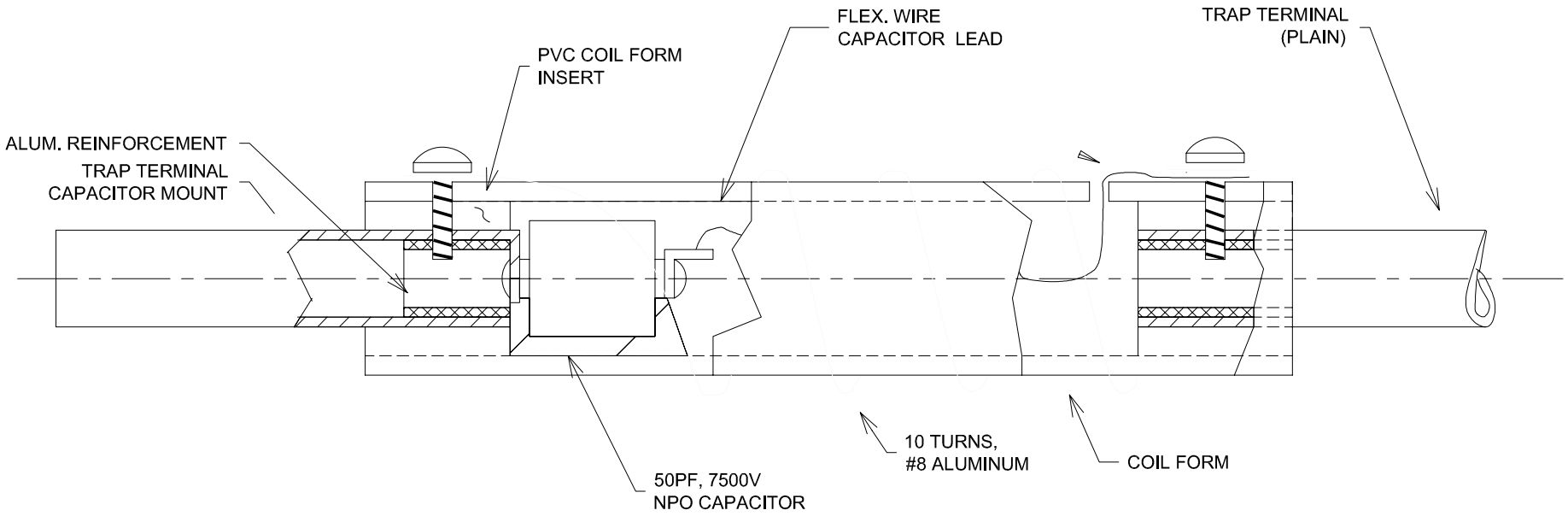
TITLE

BOOM/MAST ASSY DETAIL

SIZE	DATE	DWG NO	REV
A	09-08-01	140018	A
SCALE		SHEET 1 OF 1	

NOTES:

1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.010, X.X = +/-0.032



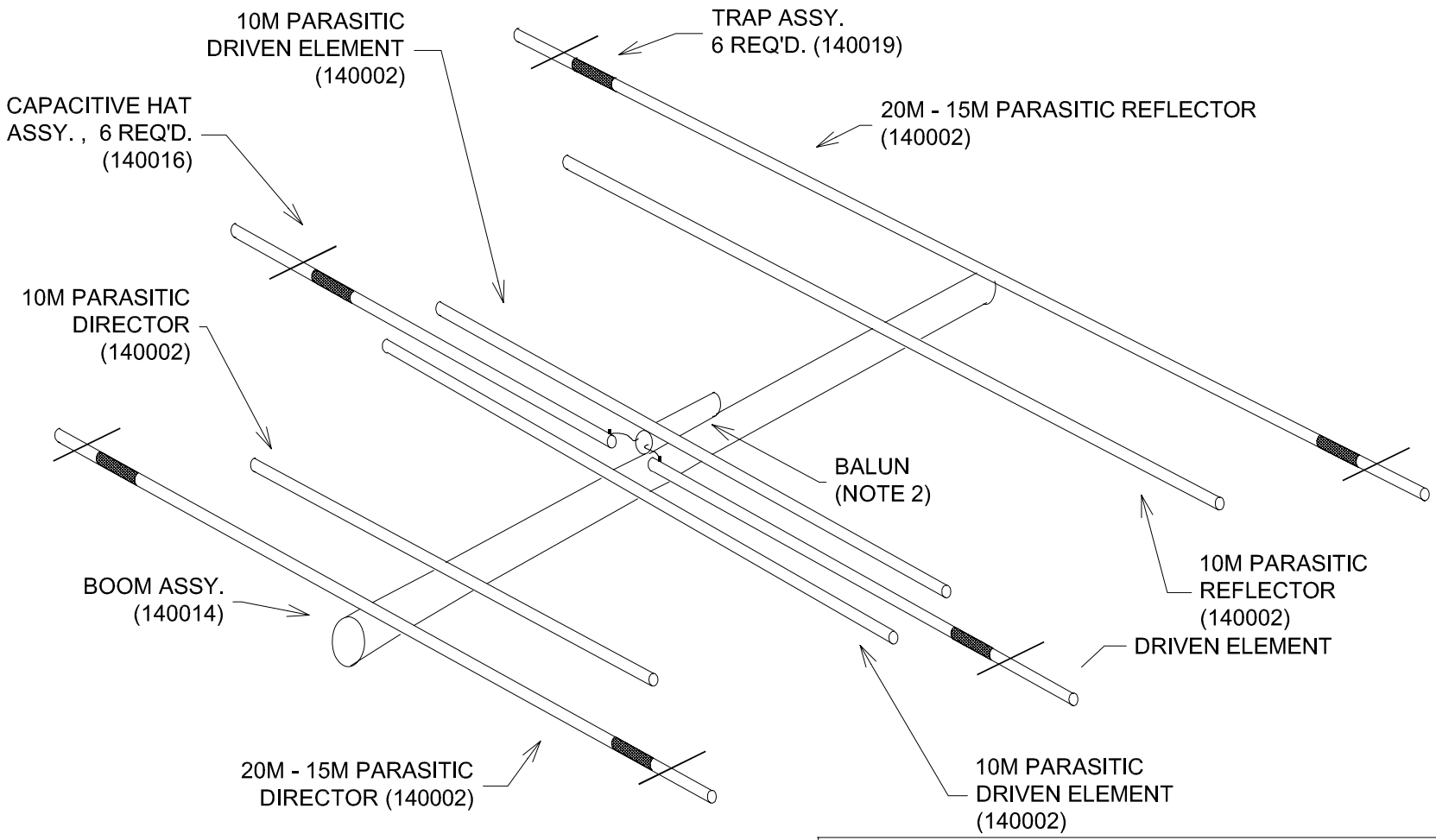
NOTES:

1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.010, X.X = +/-0.032
2. Assemble the Trap Term/Cap mount, Capacitor, and flex wire Cap. lead as an assembly.
3. Insert one Coil Form Insert in the end of the Coil Form that has ONE hole through the side wall.
4. Press the Coil Form Insert until the end of the Coil Form and Insert are aligned.
5. Insert the assembly of note (2), Trap Terminal first, into the OPPOSITE end of the Coil Form.
6. Push the assembly through the Coil Form Insert until the Trap Terminal portion protrudes 2.5 inches.
7. Feed the Flex Wire Capacitor Lead through the "inside" hole at the other end of the Coil Form.
8. Install the remaining Coil Form Insert in the open end of the Coil Form.
9. As done before, press the Insert until it is flush with the end of the Coil Form.
10. Insert the Plain Trap Terminal until 2.5 inches remains exposed.
11. Using 5-Minute Epoxy and a screwdriver, glue and Insert the Alum. Reinforcement pieces.
12. Using the 2 holes in the Coil Form as a guide, drill the appropriate size hole in each end of the Coil Form for the terminal screw.
13. This model used a #8-32 SS screw, and required the usual tap size drill, and tapping operation.
14. Insert the two terminal screws/washers, and attach one end of the aluminum wire Capacitor end.
15. Wind the coil carefully, starting the first turn as shown, so as to clear most of the capacitor.
16. Terminate the other coil end and the capacitor Flex Wire.
17. Adjust the trap resonant frequency to range from 21.175 to 21.200 MHz by squeezing or spreading turns.
18 Coat the completed Coil Form/Winding assy. with 2 layers of epoxy paint (mask the Alum Trap Terms)

DWG. NOT TO SCALE

(SEE DWG. 140017 FOR COMPONENT DETAILS)

TITLE: TRAP ASSY.			
SIZE: A	DATE: 03-13-03	DWG NO: 140019	REV: A
SCALE:		SHEET: 1 OF 1	

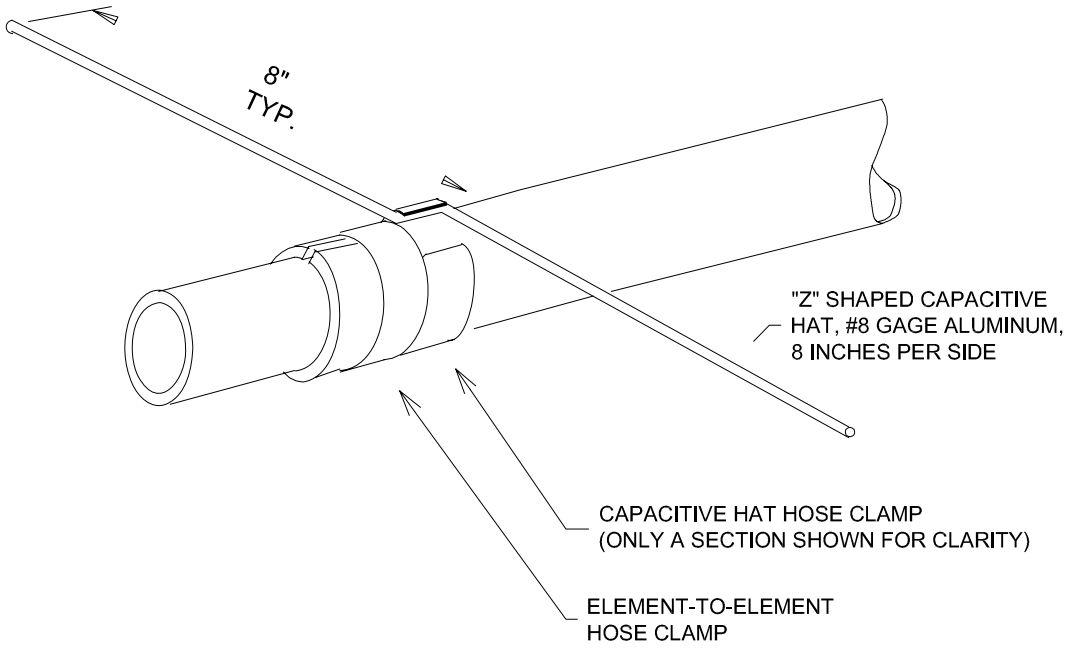


DWG. NOT TO SCALE

NOTES:

1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.010, X.X = +/-0.032
2. CAL-AV Labs model EB-1, or equiv.

TITLE: ANTENNA SCHEMATIC			
SIZE: A	DATE: 03-17-03	DWG NO: 140020	REV: A
SCALE:		SHEET: 1 OF 1	



NOTES:

1. Unless otherwise noted; X.XXX = +/-0.005, X.XX = +/-0.010, X.X = +/-0.032

TITLE

ALTERNATIVE CAPACITIVE HAT ASSY.

SIZE	DATE	DWG NO	REV
A	03-20-03	140021	A
SCALE		SHEET	1 OF 1