

30-3-56

# Antenna Loading Coil

88 Turns .058" dia enameled wire about  
 10 turns per inch. 9" overall, 3 1/16" dia mean  
 wound using wire about .043" for spacing

Freq	C	Q	
600 kc	398.5 pf	300	$\frac{398.5 - 376.8}{3} = 7.2 \text{ pf}$
2 f	94.2 pf		
3 f	38.0 pf		$\frac{398.5 - 342.0}{8} = 7.1 \text{ pf}$
			$\frac{376.8 - 342.0}{5} = 7.0 \text{ pf}$

X <sub>c0</sub>	Freq	Q	X <sub>L</sub>	
49600	450 kc	259	491 Ω	$L = \frac{1}{\omega^2 C} = \frac{1}{(6.28 \cdot 6 \cdot 10^6)^2 \cdot \frac{398.5 \cdot 10^{-12}}{406}}$
47,200	475	264	519 Ω	
44,900	500	268	546 Ω	$= \frac{1}{14.25 \cdot \frac{398.5}{406}} = \frac{1}{5660} = 173 \mu\text{h}$
42,600	525	273	574 Ω	
40,700	550	276	601 Ω	

Loss about 1.2%

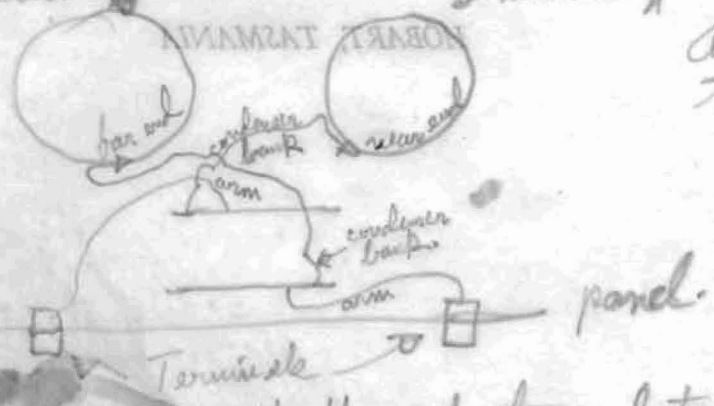
$$C_0 = \frac{C_1 - 4C_2}{3} = \frac{C_1 - 9C_3}{8} = \frac{4C_2 - 9C_3}{5}$$

Tuner Box Viewed upside down from top

see for coil below

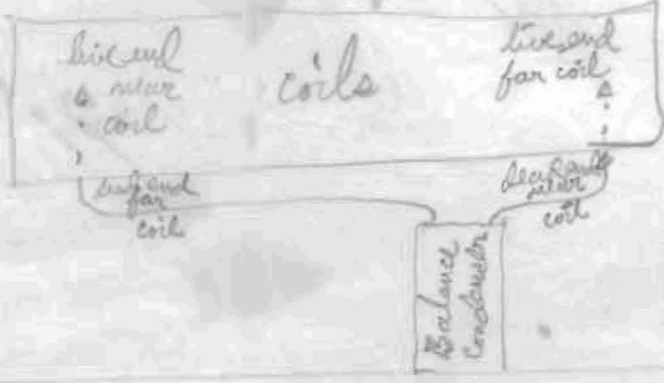


Antenna condenser goes to live ends of coils



82000 ohms + neon bulbs each terminal to ground.

Tuner Box Viewed from right side upside down.

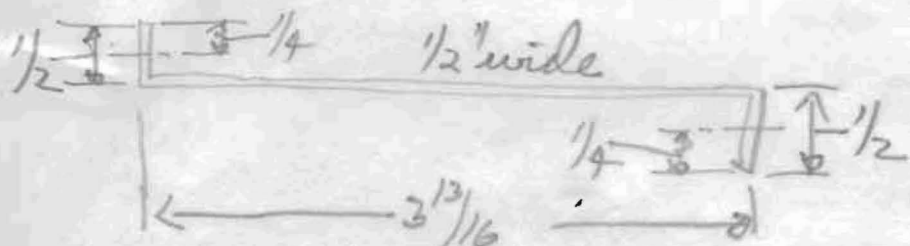


Balance condenser goes to dead ends of coils.

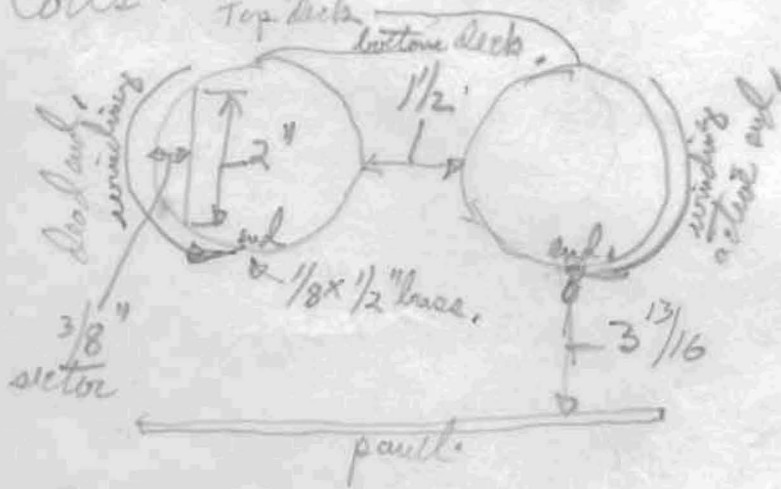
Wires from coils come to near side of condenser. panel

Wires to transformer go to far side of balance condenser.

Loading coils spaced  $1\frac{1}{2}$ " between coil form edges.  
 Edge of coil  $3\frac{13}{16}$ " from panel.



Each bracket bent  $1\frac{1}{8}$ " skew so that coils with  $4\frac{1}{2}$ " center spacing will mount on  $4\frac{1}{16}$ " panel holes.  
 Coils wound clockwise & counter clockwise



View from antenna end.

Coils  $8\frac{7}{8}$ " long.  
 88 turns tugged every 8 turns.

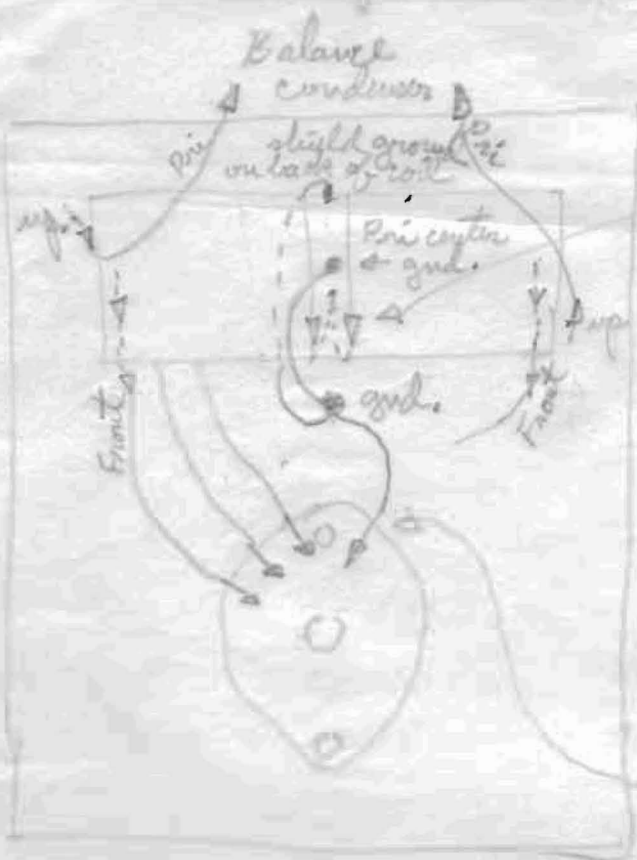
sectors 2" wide  $5\frac{1}{16}$ " long  $3\frac{1}{8}$ " wide cut out of ends of coil forms



W. H. B. R. K. H. N. H.

12/12/56

## Details of Transformer Box



### Views from bottom of box

Hot ends of secondary go down on switch side of coil to bottom of coil and then drop straight to connector. Dead ends of secondary come toward switch. Right side coil to bottom deck, Left side coil to top deck. Two decks exactly in line. Ground arms of switch above one another.

Hot ends of primary both come up toward top of box. Right side comes up in front of coil. Left side comes up at back of coil.

The switch wiring is such that impedance increases when switch goes in to the circuit viewed from top of panel.

Balance condenser has one less stator than rotor plate in each half.

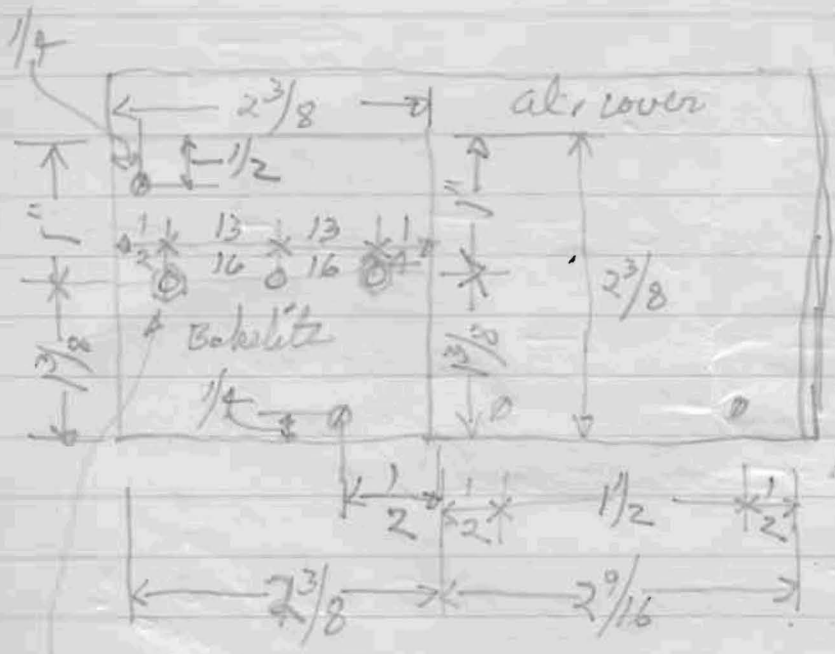
Spacing between halves of stators about .050"

Probably an extra stator plate can be added to far end but not room enough to add an extra stator plate to shaft end.

Radius of stators inside near rotor shaft  $\frac{3}{16}$ "

28/11/56

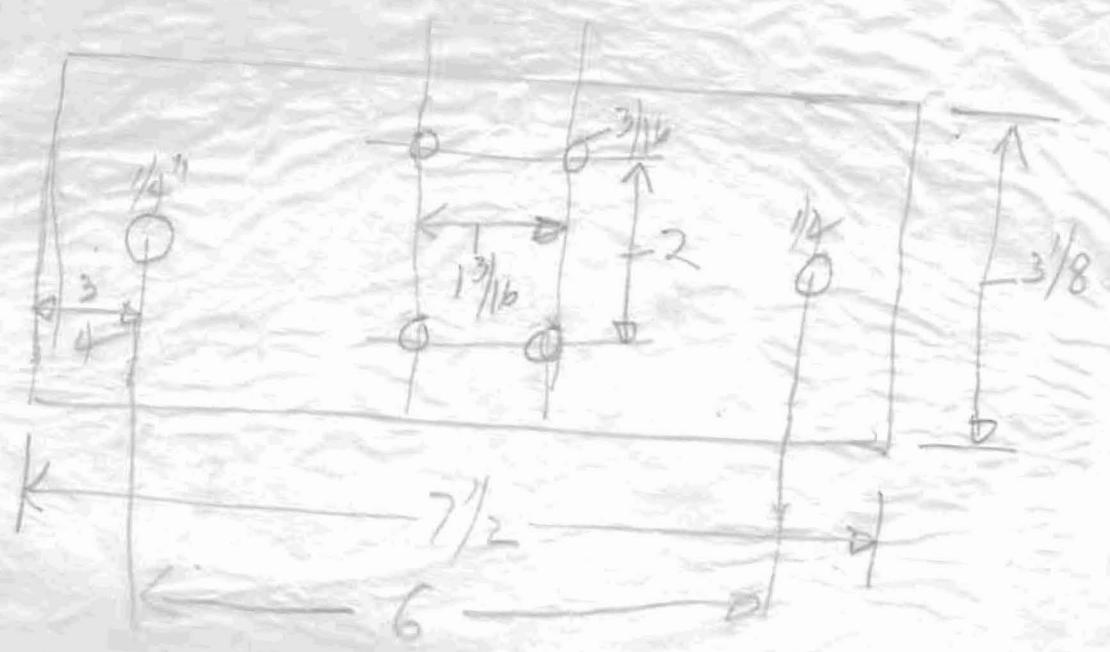
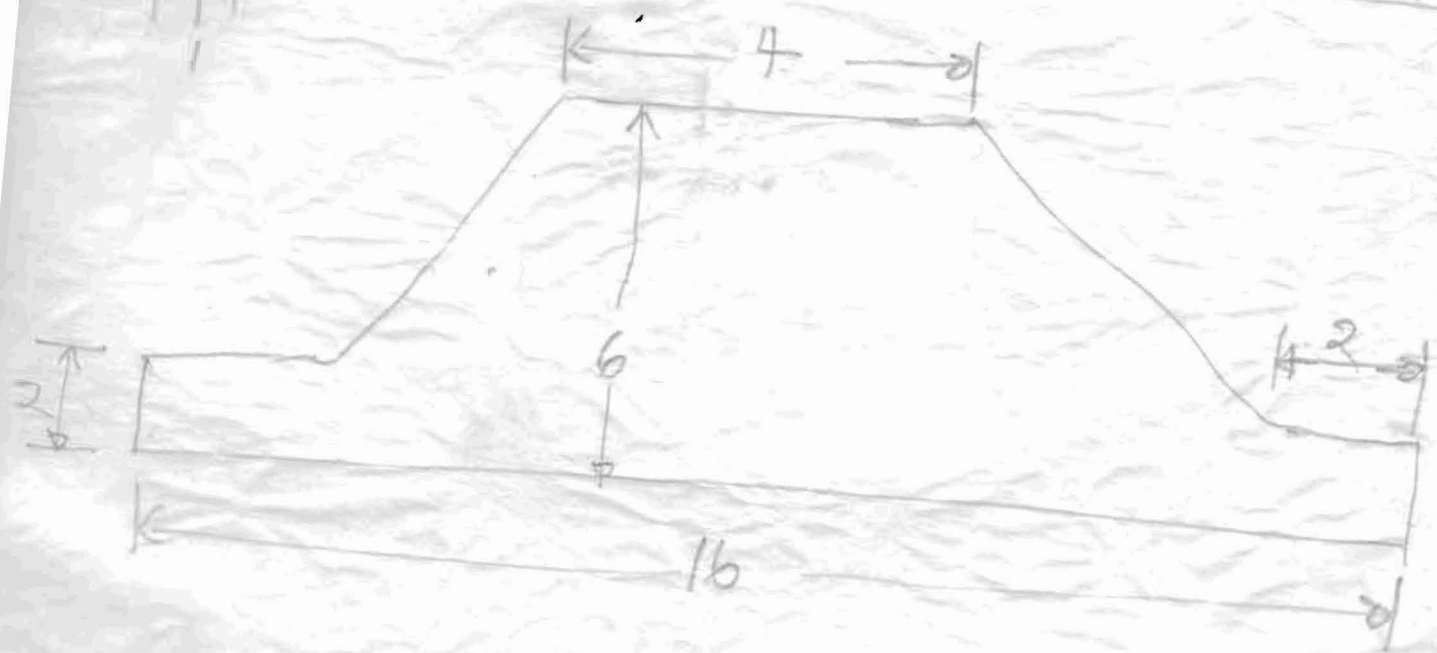
# Layout of side of transformer box

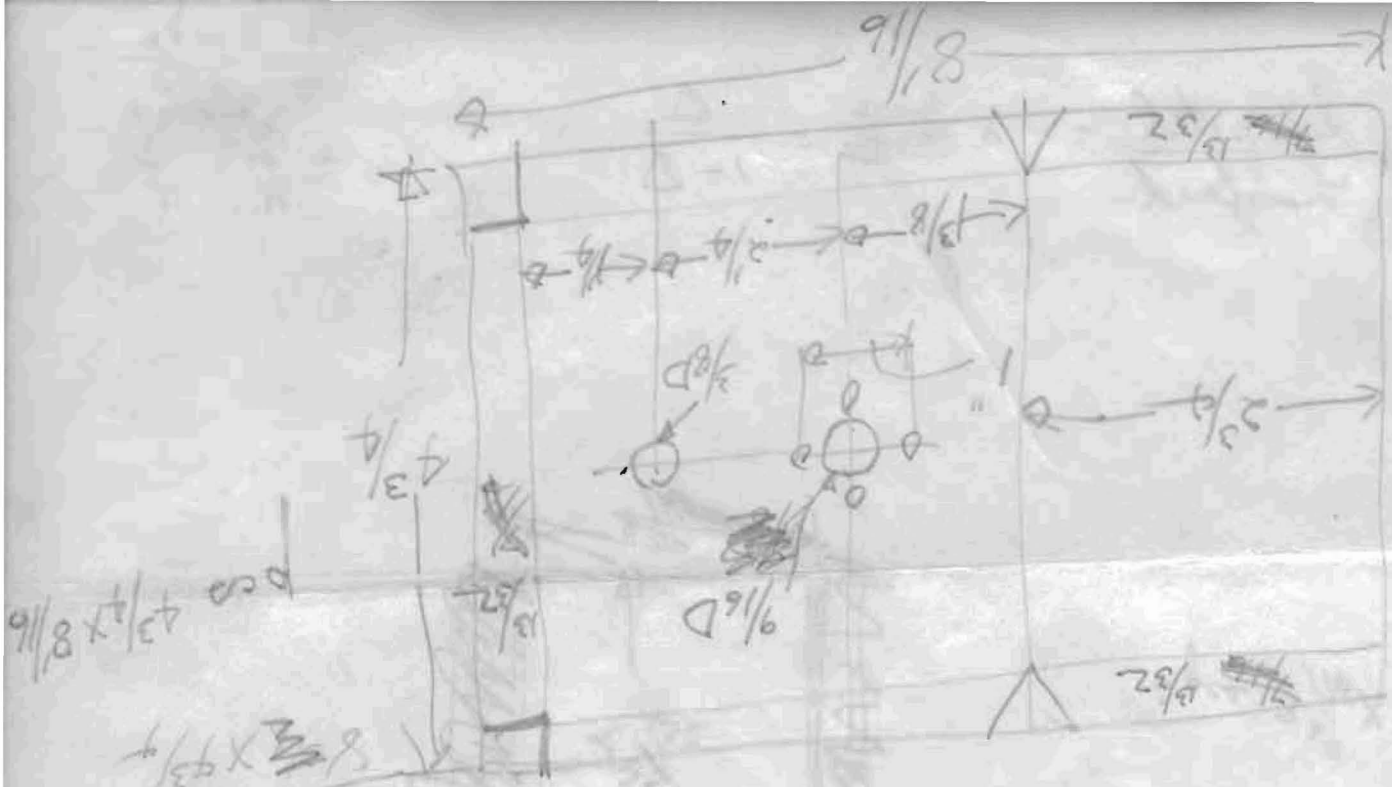


1/8" rod with nuts 1/16" thick.

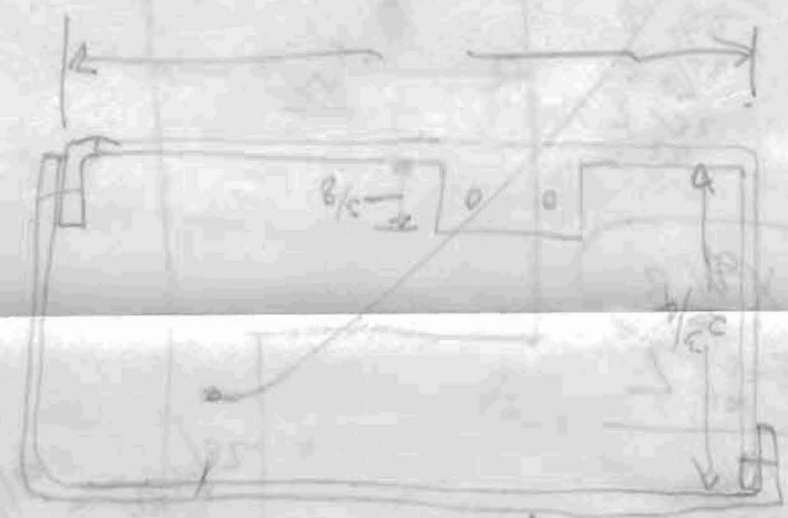
1/8" clearance from ceramic end plates of balance condenser to outside of transformer box

(over)

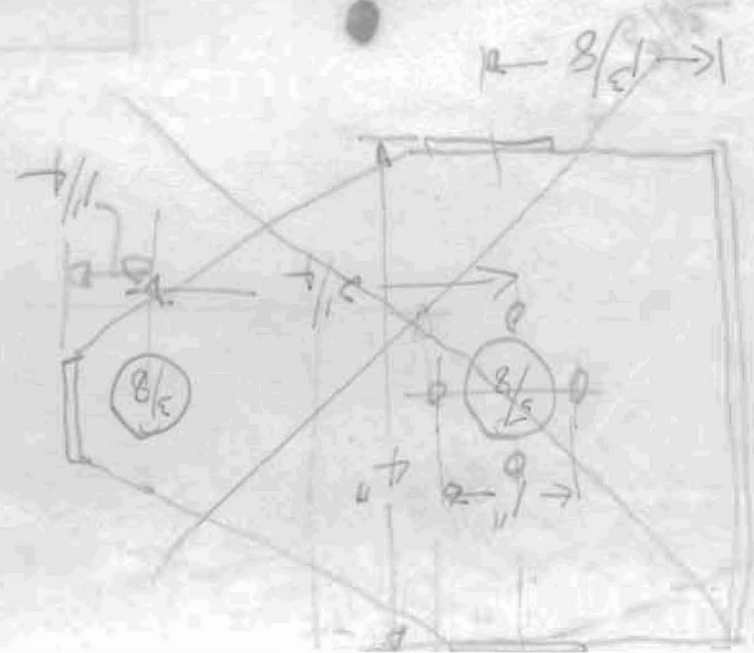




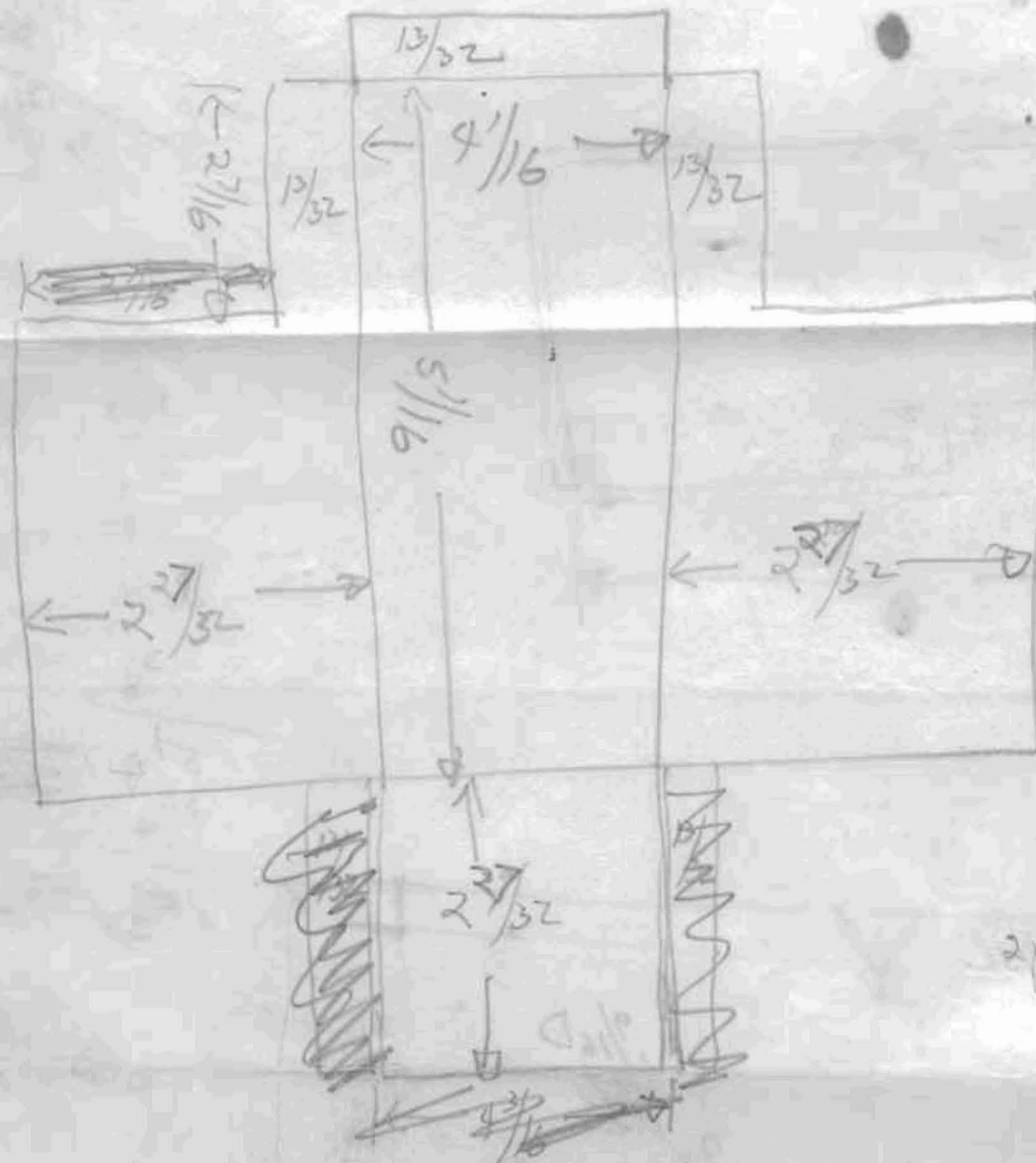
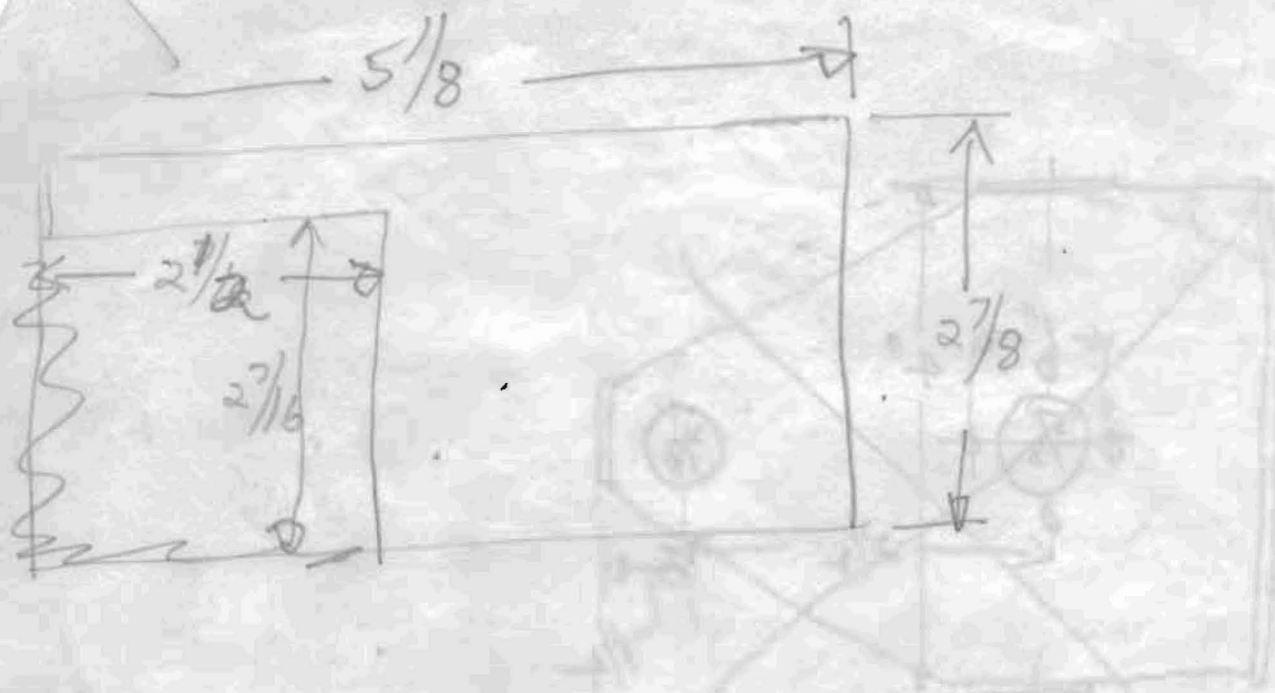
- $8\frac{1}{16}$
- $4\frac{3}{4}$
- $2\frac{1}{4}$
- $3\frac{1}{8}$
- $9\frac{1}{16}$
- $2\frac{1}{32}$
- $2\frac{1}{32}$
- $1\frac{1}{8}$



$$\begin{array}{r} 3\frac{1}{16} \\ 9\frac{1}{16} \\ \hline 4\frac{3}{4} \end{array}$$





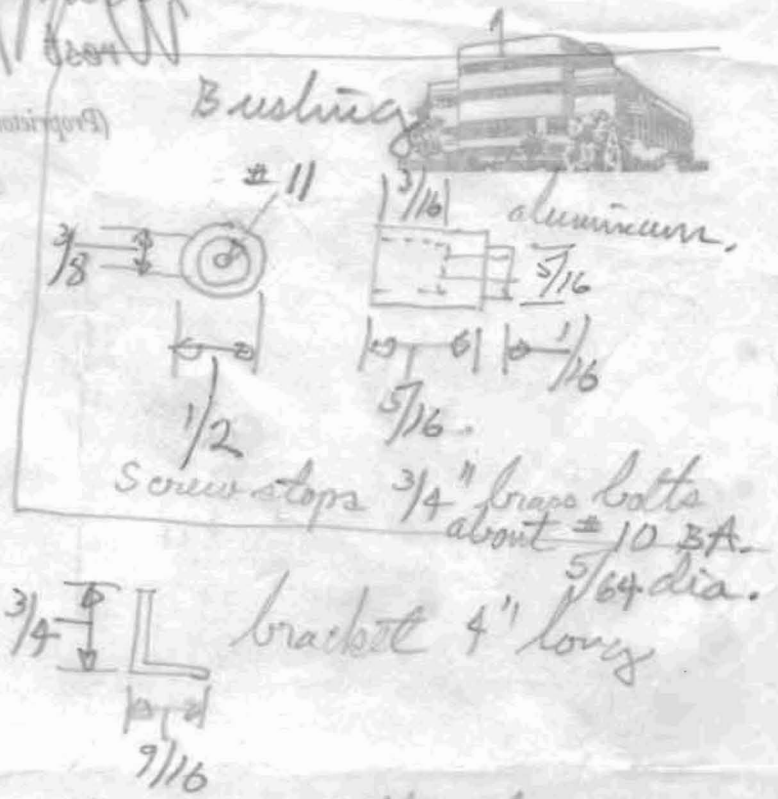
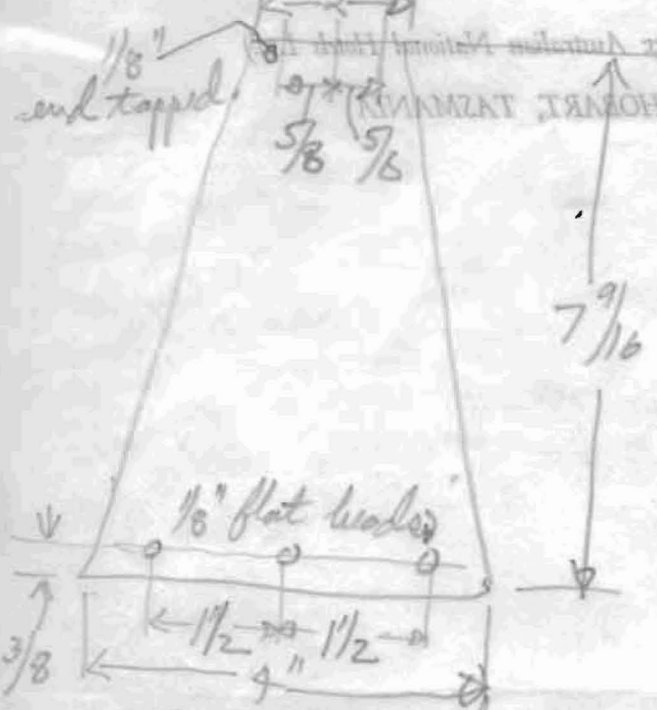


$$\begin{array}{r}
 5\frac{27}{32} \\
 2\frac{27}{32} \\
 13\frac{1}{32} \\
 \hline
 7\frac{42}{32} = 8\frac{10}{32} \\
 \textcircled{8\frac{5}{16} \times 9\frac{3}{4}}
 \end{array}$$

$$\begin{array}{r}
 2\frac{27}{32} \\
 2\frac{27}{32} \\
 4\frac{2}{32} \\
 \hline
 8\frac{56}{32} = 9\frac{24}{32} \\
 9\frac{3}{4}
 \end{array}$$

2 pcs  $8\frac{5}{16} \times 9\frac{3}{4}$

# Babel's side supports



Top plate has  $5/16$ " hole  $1 3/8$ " off center on side to allow wire to come thru to top deck.

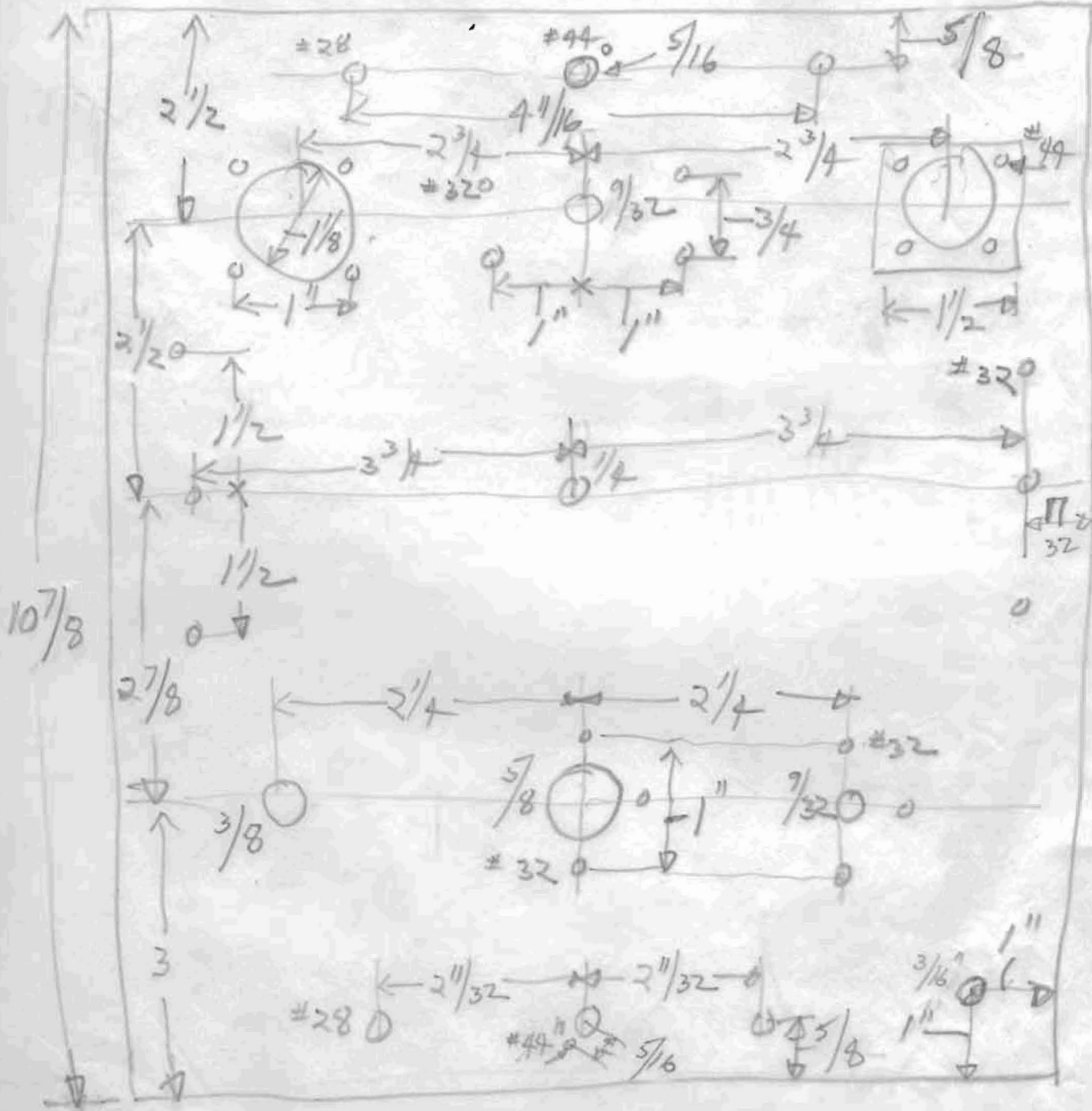
slot  $1 1/2$ " long  $5/16$ " horizontal,  $7/16$ " vertical cut out of box housing transformer.

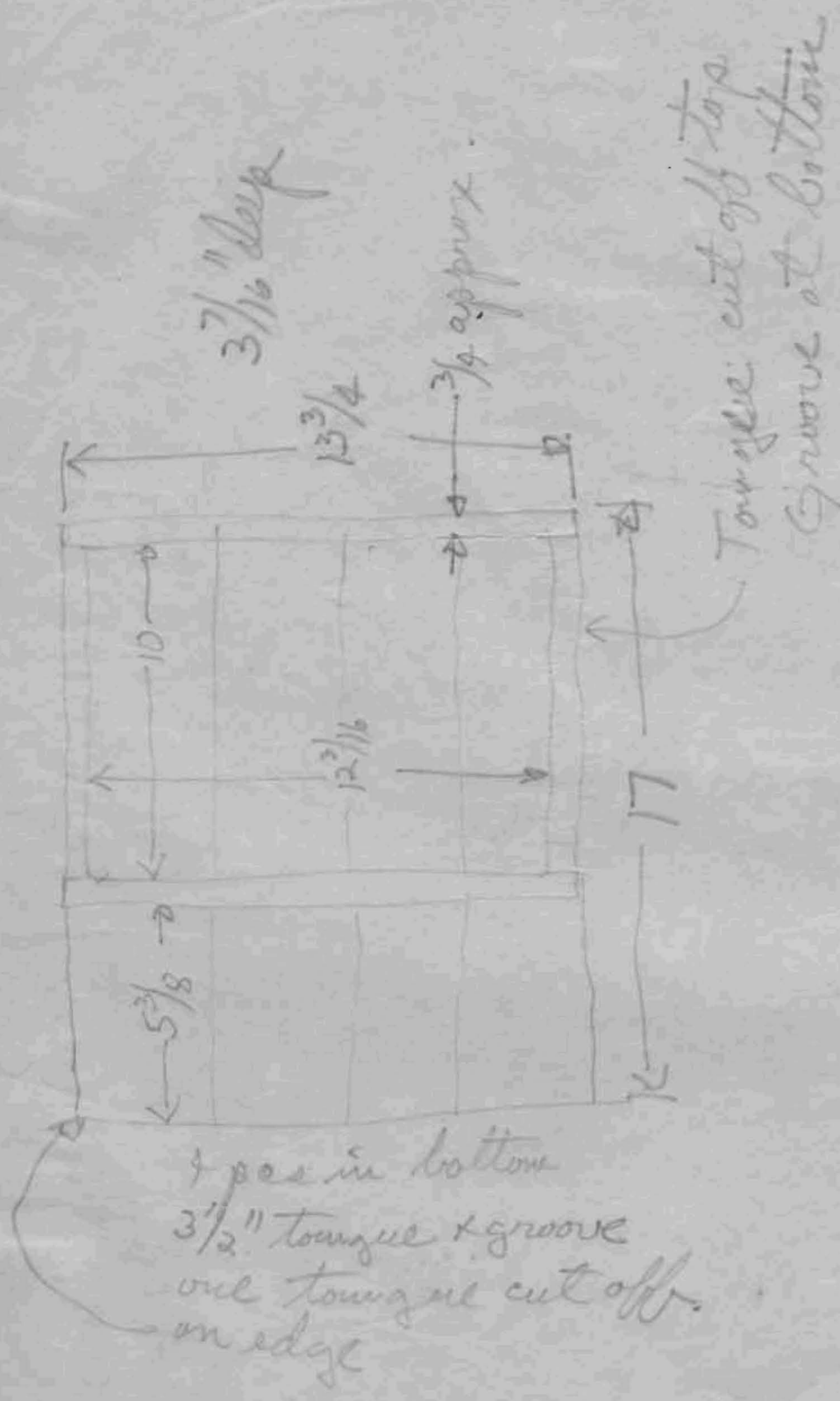
Balancing condenser spaced  $1/4$ " from panel.

# West Point Rivers Hotel

(Proprietors Australian National Hotels Ltd.)

HOBART, TASMANIA 8 <sup>9</sup>/<sub>16</sub>

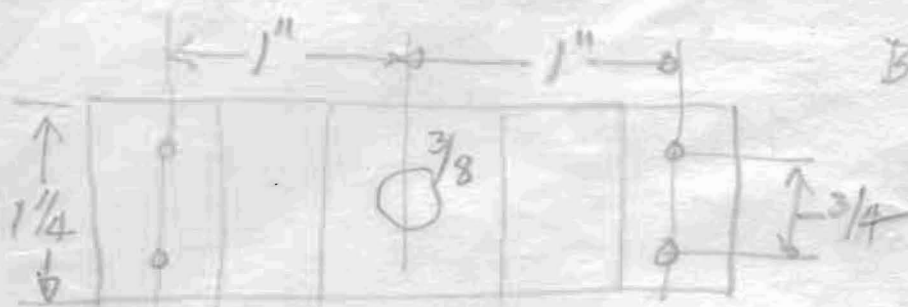




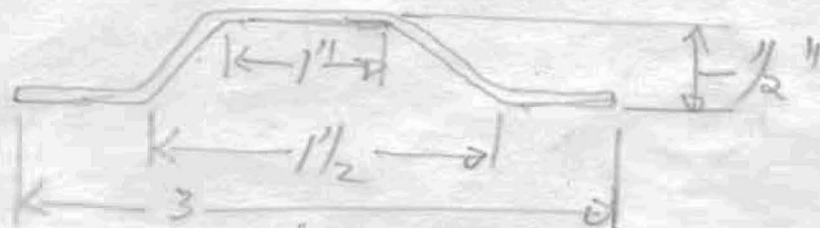
4 pcs in bottom  
 $3\frac{1}{2}$ " tongue & groove  
 one tongue cut off  
 on edge

also 2 pcs ~~2 x 6 x 16~~  
 $1\frac{3}{4} \times 6\frac{1}{4} \times 16$

8 pcs 1 ft long  
 8 pcs  $1\frac{1}{2}$ "



Bracket for antenna  
condenser switch.



Condensers → 2570, 630, 1600, 3170, 6450, .0100, .0147,  
 outer deck → 2600, 640, 1600, 3170, 6520, .0100, .0150,  
 only deck. → .0203, .0266, .050, .099  
 all others 5/8" x 7/8" size  
 .0204, .0268, .053, .101  
 1" x 1 1/4" Tubular

82000- $\Omega$  antenna part to ground with neon bulb  
in parallel.

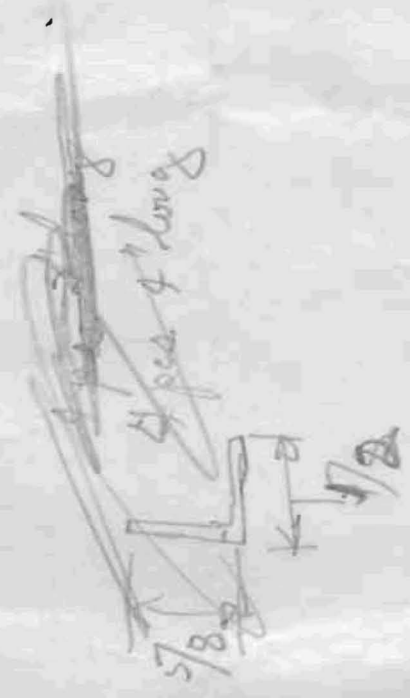
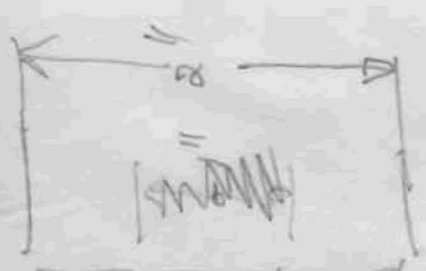
Minimum capacity reactance and inductive  
reactance with switches for counter clockwise  
viewed from dial end.

Antenna capacity switch decks 1" apart between  
inside surfaces.

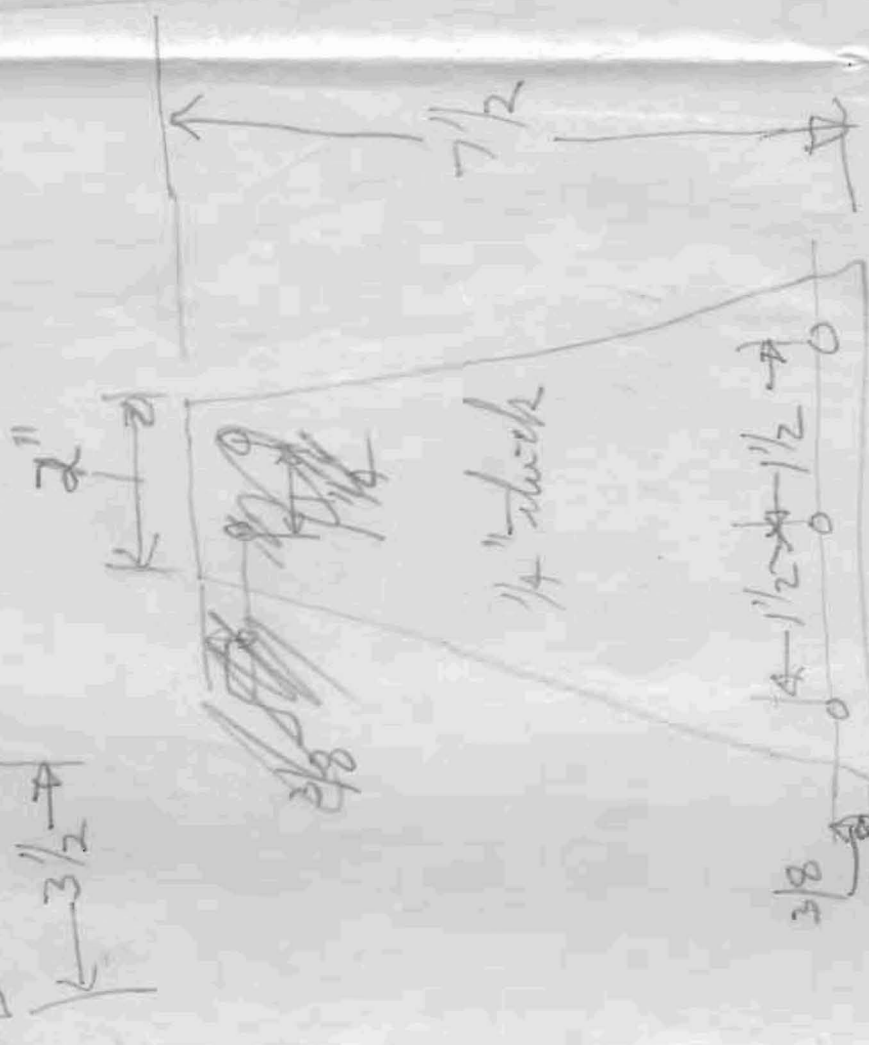
Inductance switch decks 5/8" apart, 3/16" each side  
of bakelite bar.

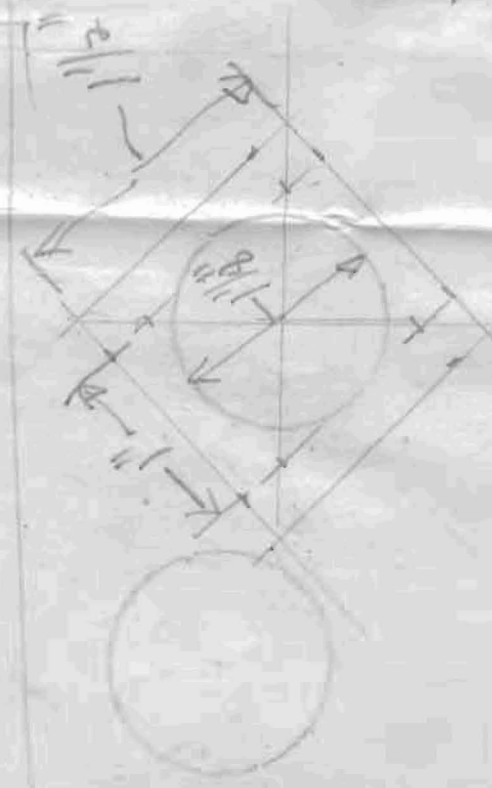
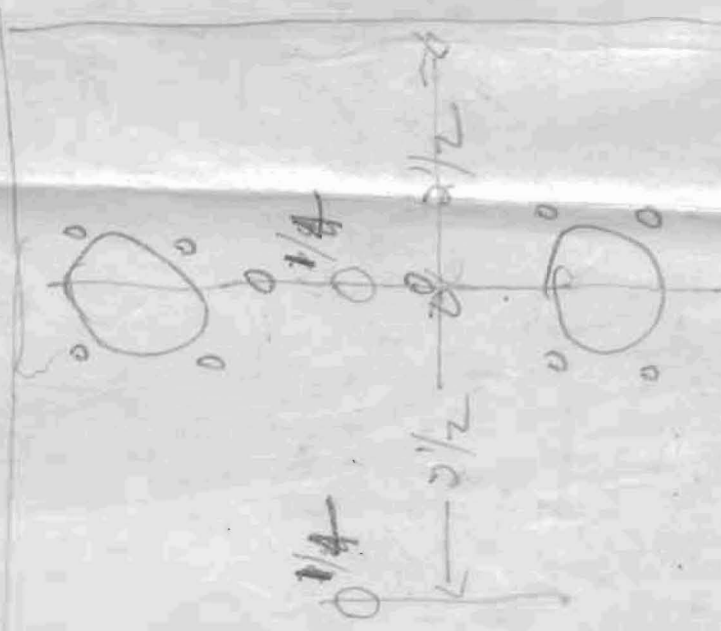
4 pcs  $8\frac{1}{2} \times 2\frac{1}{2}$  } 14"  
 8 pcs  $7\frac{1}{2} \times 4$  }

4 pcs  $8 \times 3 \times \frac{1}{2}$   
 4 - 3 dia  $10\frac{7}{8}$  long

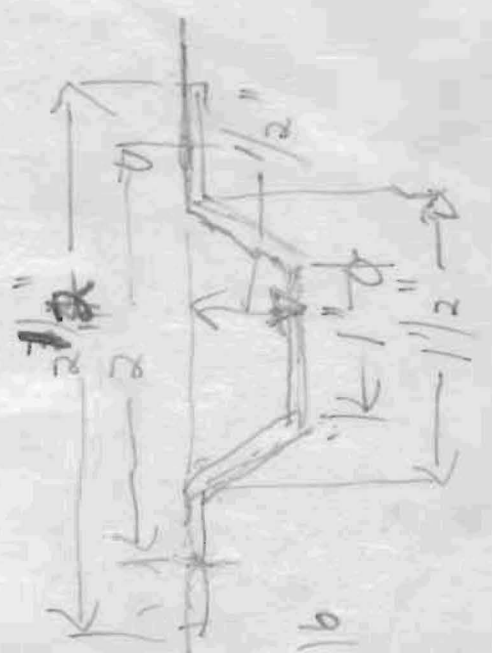
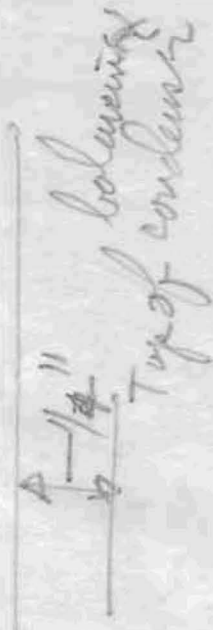


Walter  
 B1740





5/19/95  
2/10/95



1/4  
2/4  
1/4 x 1/6  
2/4  
2/4

4/12/56

# Condenser stator design.

16 rotor plates total  $1\frac{9}{16}$ " center to center end plates

Center to center adjacent plates =  $\frac{1.563}{15} = .104$ "

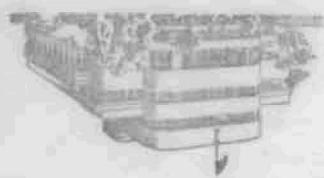
Plates .024" thick.

Spacers .080" long.

Mounting rods 0.155" dia.

Spacers 0.1570" I.D. use #22 drill or  $\frac{5}{32}$ " = .1562"

Spacers  $\frac{1}{4}$ " dia outside.



НОВАЯ ТАСМАНИА

(Proprietors Australian National Hotel Ltd)

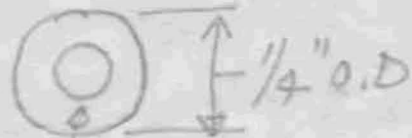
West Point Keweenaw Hotel

TELEPHONE: 8818 14 LINES

TELEGRAMS: WEST POINT, NOVA

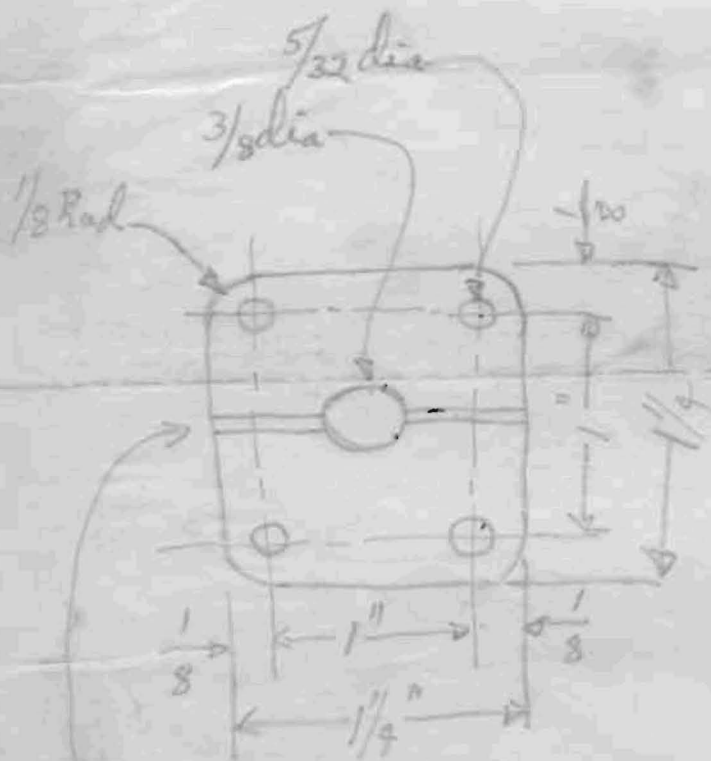


130 of brass



#22 drill = .157" I.D.

↑ make +.005 - .000", exact as possible.



cut in exactly half with milling cutter  
.050" or 1/16" thick.

G. Reber

B7266 ext 16