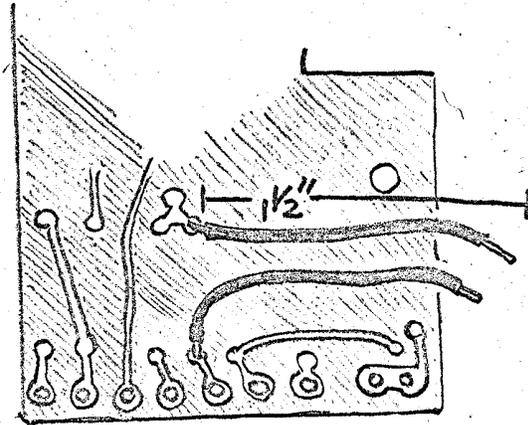
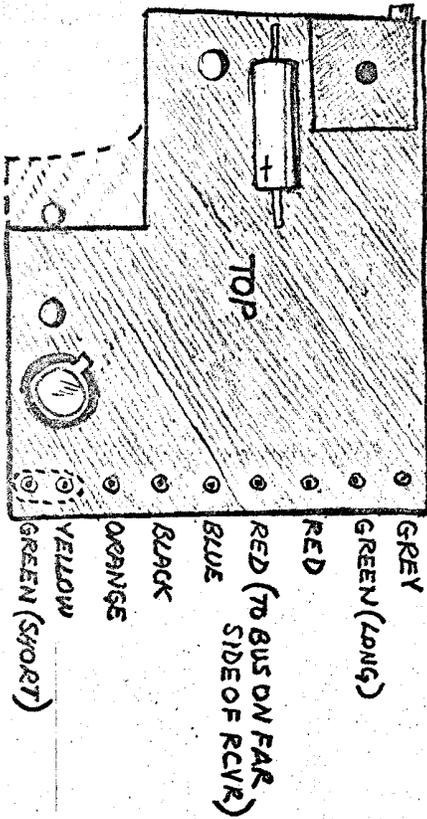


MICROSWITCH BOARD MODIFICATION AND REASSEMBLY

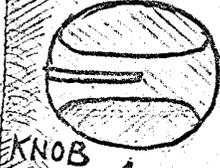


MICROSWITCH LEAD
LOCATION

GEARS MUST BE TIGHT TOGETHER

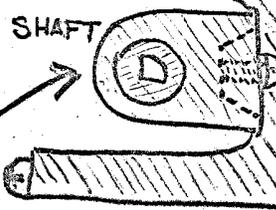
THIS SCREW SHOULD BE LOOSENER BEFORE YOU START, SO THAT THE WHEEL WILL SLIDE ALONG ITS SLOT.

EDGE OF PANEL



KNOB

SHAFT

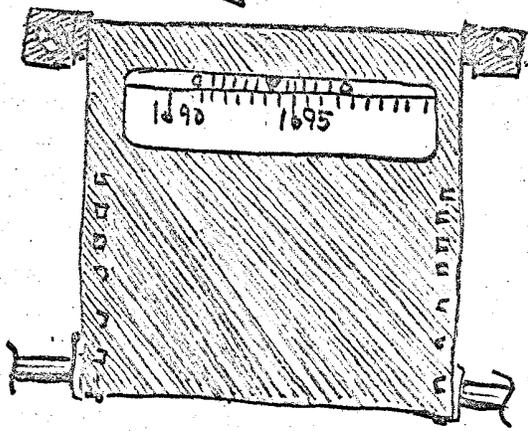
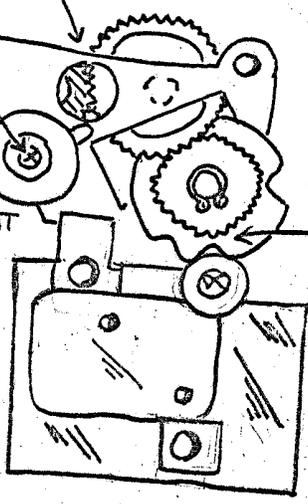


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CAM

BAND I POSITION

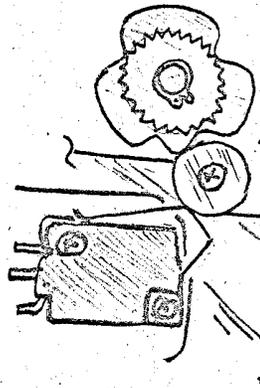
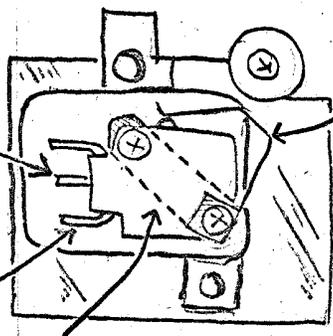
DIAL MASK



SPRING

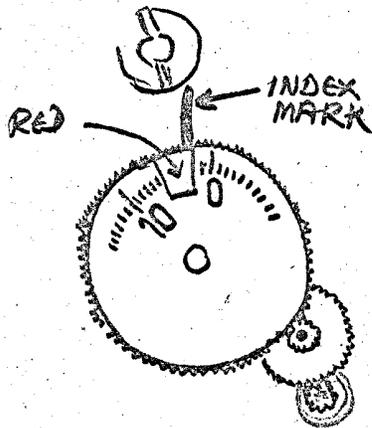
LEADS FROM BOARD

MICROSWITCH

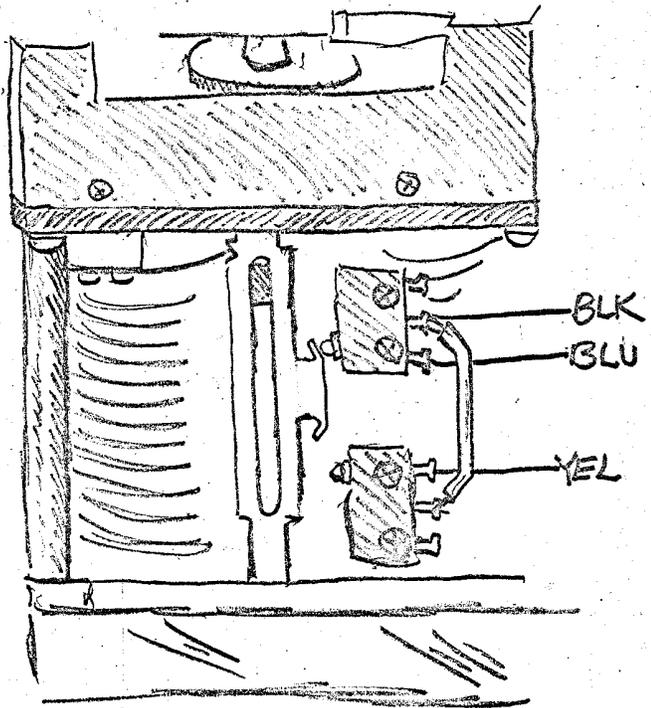


MICROSWITCH SHOULD CLICK AS WHEEL MOVES HALFWAY OUT OF CAM SLOT.

TX TANK COIL INSTALLATION

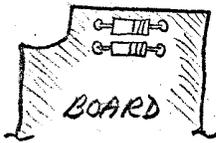


WITH THE INDEX WHEEL ON THE
FRONT OF THE TRANSMITTER SET
TO ZERO WIND ALL OF THE COIL
TAPE ONTO THE PLASTIC DRUM.



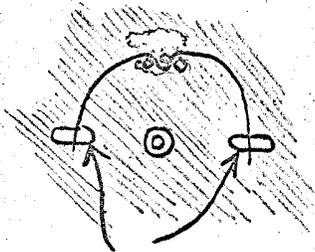
TURRET BOARD REASSEMBLY

ANTENNA MATCHING



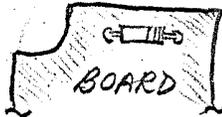
TURRET:

- 390 10j BAND 1
- 290 10 BAND 2
- 200 10 BAND 3
- 110 12 BAND 4



REMOVE PINS AND WASHERS FROM THESE HOLES AND DO NOT REPLACE.

RF AMPLIFIER



TURRET:

ONLY TURRET WITH A TUBULAR CERAMIC CAPACITOR

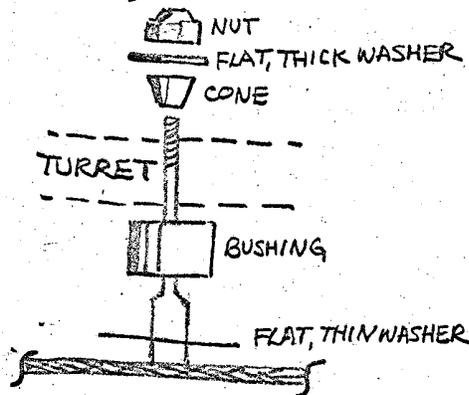


LOCAL OSCILLATOR

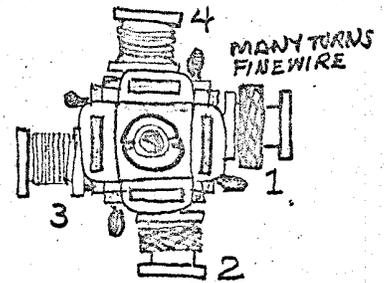


TURRET:

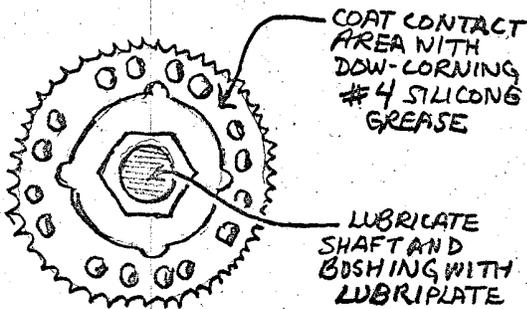
HAS CERAMIC DISC CAPACITORS



FEW TURNS LARGE WIRE



BANDS, ALL TURRETS



COAT CONTACT AREA WITH DOW-CORNING #4 SILICONE GREASE

LUBRICATE SHAFT AND BUSHING WITH LUBRIPLATE

TURRET MUST ROTATE EASILY. FRICTION SHOULD COME FROM CONTACTS ONLY. IT SHOULD BE POSSIBLE TO SEE ALL FOUR CONTACT FINGERS MOVE (FROM THE BOTTOM OF THE BOARD) AS THE TURRET IS ROTATED.

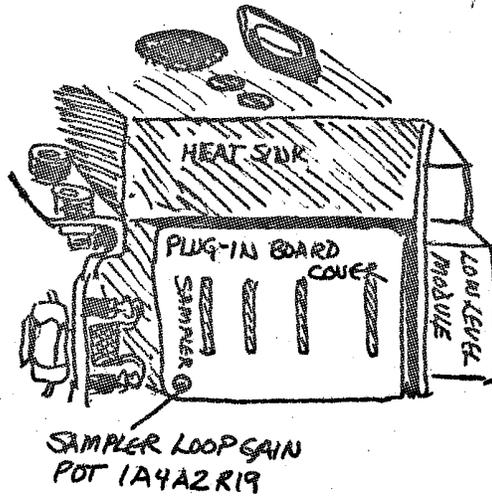
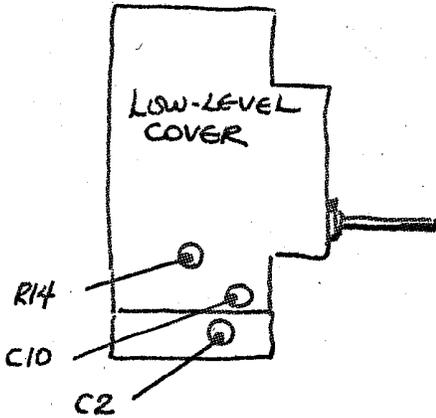


CONTACT FINGERS SHOULD BE BENT DOWN, SO THAT ONLY THE GOLD BUTTON STICKS UP ABOVE THE BOARD.

April 1972

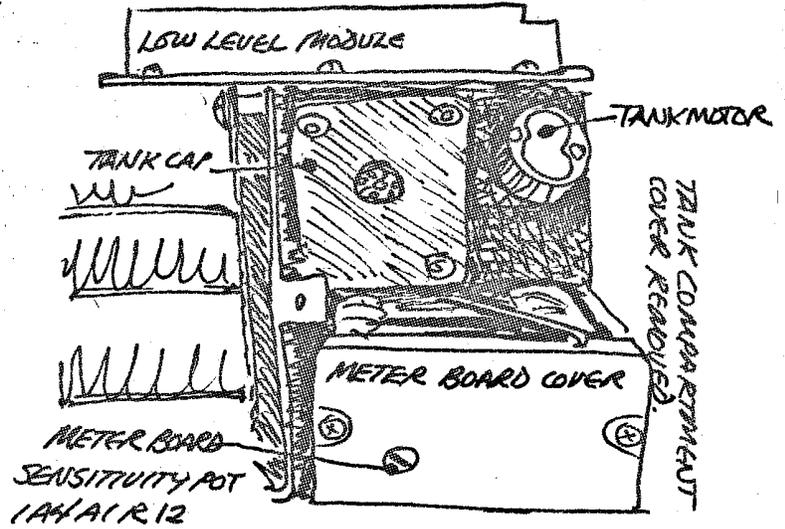
TRANSMITTER ALIGNMENT:

LOCATION OF ADJUSTMENTS:



OSCILLATOR ALIGNMENT: ADJUST LOW LEVEL BOARD C2 FOR OSCILLATION @ 3MHz, EXTERNAL CRYSTAL. OSCILLATION SHOULD START IMMEDIATELY WHEN TRANSMITTER IS KEYED.

DOUBLER ADJUSTMENT: TO BE PERFORMED @ 24MHz, EXTERNAL CRYSTAL. AUTOTUNE AND HAND TUNE TRANSMITTER EXACTLY. ADJUST LOW LEVEL BOARD



R14 FOR MINIMUM "SUBHARMONIC" OUT-PUT AS INDICATED ON THE SPECTRUM ANALYZER. THEN ADJUST LOW LEVEL BOARD C10 FOR SAME INDICATION. NOTE THAT THESE SETTINGS DO NOT GIVE THE BEST SUBHARMONIC SUPPRESSION FOR THE CS-224 MODE, NOR ARE THEY EXPECTED TO. THIS COMPLETES ALL POSSIBLE ADJUSTMENTS TO THE LOW-LEVEL BOARD.

AUTOTUNE/ALC ADJUSTMENT.

RF SAMPLER LOOP GAIN POT (1A4A2R19) IS ADJUSTED FOR TWO REASONS, AND IT WILL HAVE TWO EFFECTS, REGARDLESS OF WHICH ONE

MHZ	2.5	3.0	6.0	6X2	12X2
INDEX WHEEL	7	8	9	9.2	~9.5

CORRECT INDEX WHEEL READINGS VS. FREQ

IS DESIRED. ADJUSTMENT OF R19 CHANGES THE POINT AT WHICH THE AUTOTUNE STOPS (SEE ABOVE CHART) AND IT ALTERS THE LOOP GAIN OF THE ALC TO CHANGE PWR OUTPUT. VARYING ONE WILL VARY THE OTHER. DO NOT ADJUST THE LOOP GAIN UNLESS YOU ARE CERTAIN YOU NEED TO. THESE ARE THE LAST WORDS OF THE DEPARTING SAGE. REASONS FOR ADJUSTING THE LOOP GAIN ARE

TRANSMITTER ALIGNMENT PAGE 2

THE ABOVE ARE THE ONLY REASONS FOR ADJUSTING THE LOOP GAIN. ~~ADJUSTING~~ PROBLEMS WHICH WILL ~~BE~~ NOT BE HELPED BY THE LOOP GAIN INCLUDE THE FOLLOWING:

LOW POWER OUTPUT (BELOW 18 WATTS).

LOW POWER OUTPUT AT SOME FREQUENCIES ONLY, WHERE OTHER FREQUENCIES ARE NORMAL.

DISTORTION OR HARMONIC PROBLEMS, IF THE INDEX WHEEL READING IS CORRECT.

ADJUST THE LOOP GAIN POT SO THAT:

1. THE AUTOTUNE STOPS AT THE RIGHT PLACE AND
2. THE RF POWER OUTPUT IS BELOW 22 WATTS AT ALL FREQUENCIES.

METER ADJUSTMENT: ADJUST THE METER SENSITIVITY POT SO THAT THE METER READS AT LEAST HALF-SCALE FOR NORMAL OUTPUT POWER. THIS WILL USUALLY MEAN TURNING THE POT ALL THE WAY UP. IF THE SETTING IS TOO LOW, OR IF THERE IS A DEFECTIVE COMPONENT ON THE METER BOARD, THE METER WILL TRY TO READ NEGATIVE.