

DATE 5/17/55
SH. 1 OF 4
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TMC SPECIFICATION NO. S-257

TITLE: COMPENSATION ADJUSTMENT - VOX

JOB 400

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1. Rotate the frequency dial on the front panel of the main chassis to 2,000,000 cycles and lock.
2. Un-loosen the set screws on the cam and on the cam follower arm so that both are free on their respective condenser shafts.
3. Manually rotate the oscillator main tuning capacitor to a closed position, rotor and stator plates fully meshed.
4. The flat on the bakelite shaft which turns the gearing of the main condenser should face the mounting end of the chassis. (Fig. 1)

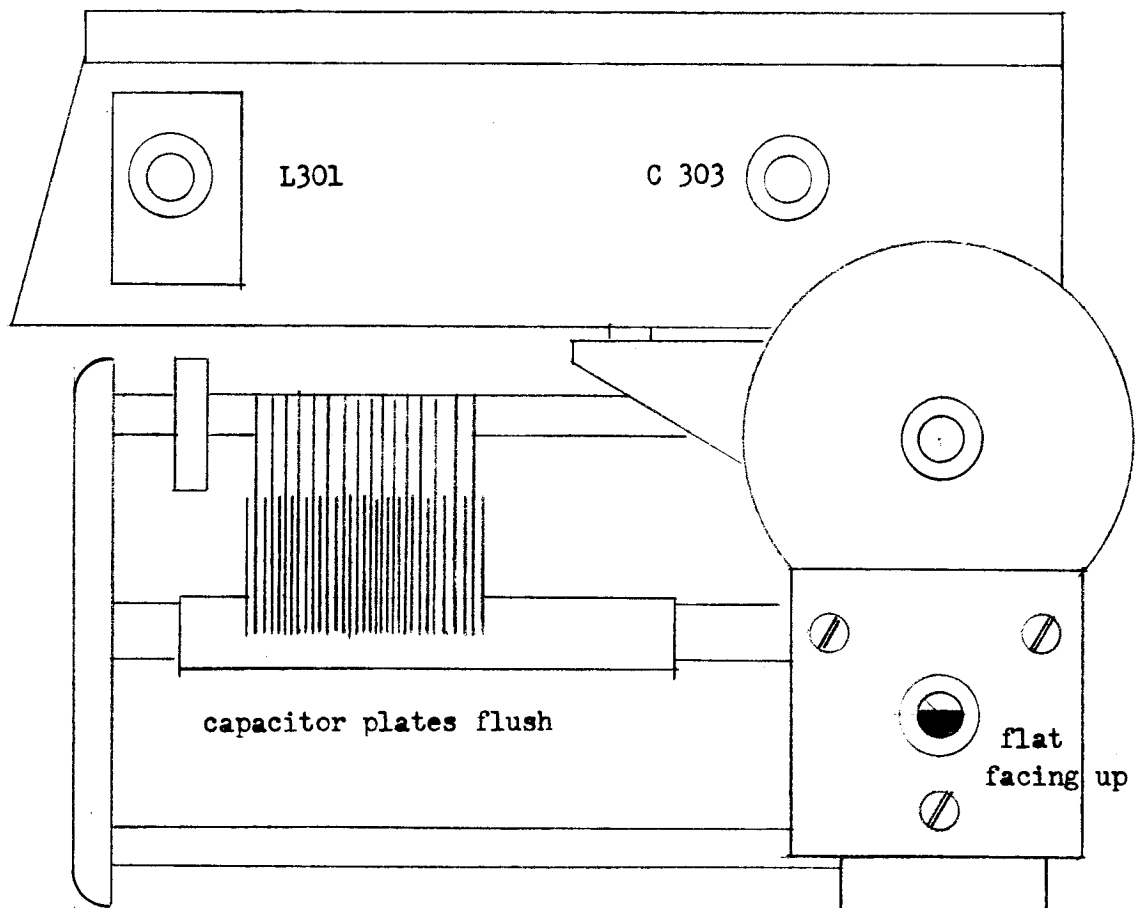


Fig. 1

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5. Rotate the main tuning capacitor 10 revolutions COUNTER CLOCKWISE. (rotor plates rising above the stator plates).
6. Without disturbing the positioning of the main condenser setting, as set in 5, rotate the cam untill the cam follower bearing wheel is resting on the cam edge as shown in Fig 2.

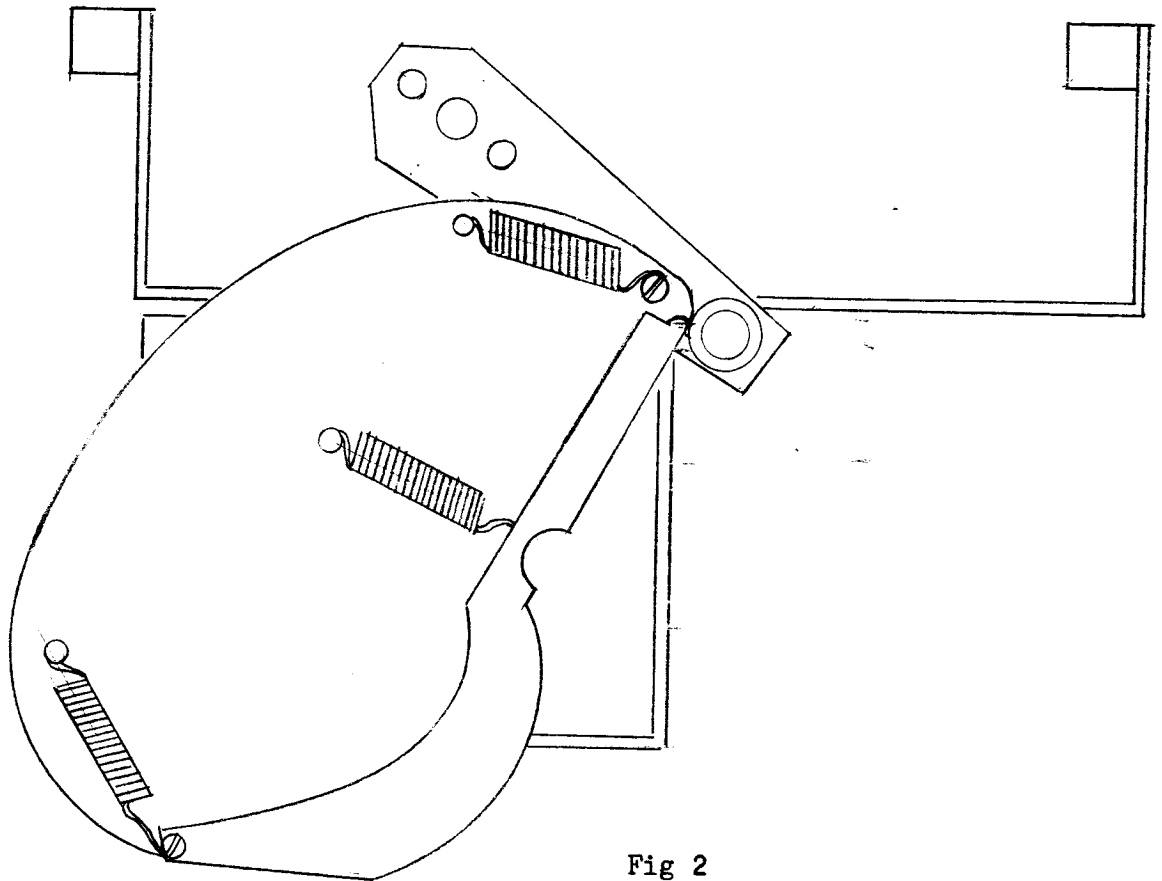


Fig 2

7. Tighten the cam set screws securely.
8. Without disturbing the main condenser setting as outlined in steps 5&6 the compensating condenser C302 is adjusted. The rotor plates of C302 should be rotated to a point where a line from the end of the rotor plate bisects th distance betw en the notch on the stator plate and th point where the stator plate is attached to its support. Fig 3.

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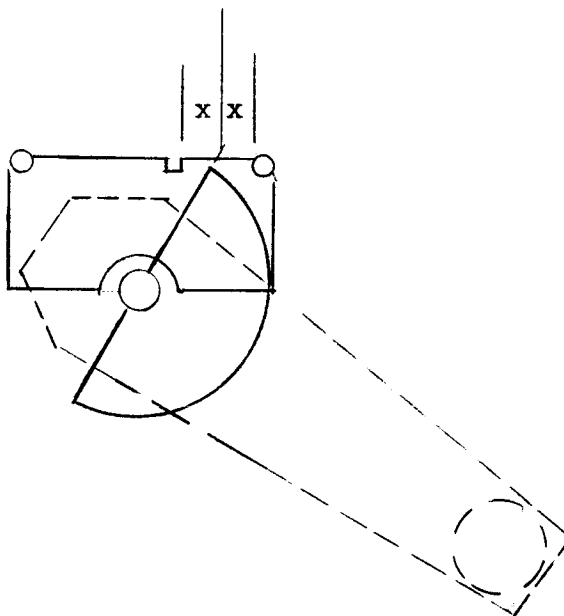


Fig 3

9. Tighten the cam follower arm set screws.
10. Insert the oscillator chassis into the oven, guiding the shafts to their respective couplings. The frequency dial locked to 2,000,000 should result in the positioning of a set screw on the main condenser shaft coupling so that it coincides with the flat on the bakelite shaft. Tighten both set screws, securing the main condenser shaft to the frequency dial.
11. Secure shafts of L301 and C303.
12. Oscillator chassis should now be secured in oven by mounting screws.

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13. The oscillator ends may now be tracked. Patch a pair of head phones into the VOX. Set a receiver to 4 mc. and pick up the second harmonic of the oscillator. With the frequency dial at 2,000,000, adjust the calibrate control L 301 for zero beat on the head phones. Rotate the frequency dial to 4,000,000, adjust C303 for indication on receiver. The receiver ensures that the proper beat note is picked out on the phones. Repeat this procedure adjusting L 301 at 2mc. and C 303 at 4 mc. untill the ends are tracked to within 1000 cycles. It may be necessary to unloosen the shaft coupling on the calibrate control L 301 an re-position to keep the adjustment within the range of rotation.
14. The oven may now be buttoned up. Check all set screws on the control shafts leading to the oscillator chassis.
15. Allow the oven to cycle for a period of 4-6 hours, Check the frequency of the 100 KC. crystal calibrator by beating it against WWV. If th re is a noticeable deviation set the crystal osc. on frequency against WWV by adjustment of C 311 through oven rear opening.
16. The ends of the oscillator should be tracked as per step 13. At this time the adjustment should be done with care and the ends set to as close to zero beat as possible.
17. The oscillator should be run through its range of 2 - 4 mc. without adjustment of the calibrate control. There should be no excessive deviations at the 100 KC check points as monitored by the head phon s.