

DATE: 21 APRIL 1964SHEET 1 OF 8

TMC SPECIFICATION NO. S - 830

L. Lawasby  
COMPILED*Lawasby*  
CHECKED

TITLE: KIT-184 HFR-1 OVEN MODIFICATION

APPROVED *Lawasby*PURPOSE

The purpose of this modification is to provide an over-temperature protective feature in the proportionally controlled HFO oven assembly of the Model HFR-1 (TM-376/UR) to prevent overheating in the event of failure of the proportional control unit, TMC Part No. PO-240. A front panel over temperature indicator is also provided.

EQUIPMENTS AFFECTED

All Model AN/FRR-60(V) (DDR-5) units Serial Numbers

EFFECTIVE DATE

All Model AN/FRR-60(V) (DDR-5) equipments should be modified as per the instructions contained herein at the earliest practicable date after receipt of this MODIFICATION KIT.

WARRANTY STATUS

The warranty status of equipments modified in accordance with this MODIFICATION KIT remains unchanged.

TOOLS REQUIRED

1. 1/4" open end wrench
2. 9/16" open end wrench
3. Long nose pliers
4. Wire cutters
5. Phillips screw drivers as required
6. 15/32" drill bit
7. 1/2" chuck electric drill
8. Center punch

MATERIAL SUPPLIED

- |   |                      |
|---|----------------------|
| 1. 1 wire "B" (12" long)                | MWC22(7)U2           |
| 2. 1 wire "C" (31" long)                | MWC22(7)U2           |
| 3. 1 sleeving "B" (3 3/8" long)         | PX-370-8-7           |
| 4. 1 sleeving "E" (6" long)             | PX-370-6-7           |
| 5. 1 wire "FA" (4 1/2" long)            | MWC22(7)U2           |
| 6. 1 wire "G" (20 1/2" long)            | MWC22(7)U2           |
| 7. 1 220 ohm 2 watt resistor            | RC42GF22R, SYM R1338 |
| 8. 1 stand-off, insulated               | TE-102-2             |
| 9. 1 I. D. Plate                        | NP-636               |
| 10. 1 drilling template                 | DJ-106               |
| 11. 1 set LA-101 A thru G Cable Markers |                      |
| 12. 2 Ft. Lacing Cord                   | CD-101-1-MW          |

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MATERIAL SUPPLIED CONTD.

13. 1 Inner oven cover A-3596
14. 1 Oven Overheat indicator (TS-153-1) with nut and lockwasher and lamp (BI-110-7) installed.
15. 2 Instruction Manual Change Sheets

MODIFICATION PROCEDURE

1. Remove power plug from J-1305 at rear of unit. (SAVE ALL HARDWARE)
2. Remove top and bottom covers of unit.
3. Remove outer top cover of oscillator oven.
4. Follow rewiring instructions as indicated in Figures 1 through 4.

PROCEDURE FOR FIGURE 1

1. Place drilling template on front panel, holding it firmly against the synchronized meter and the band scale frame, Make sure that the edge marked "TOP" is against the bandscale frame.
2. Mark the panel through the hole of the template using a center punch.
3. Remove template and drill a 15/32" diameter hole. (It is suggested that a small hole be drilled first then gradually increased until the 15/32" diameter is obtained.)
4. Insert the OVEN OVERHEAT INDICATOR through the identification plate and then through the panel. Apply lockwasher and nut and tighten.
5. Proceed with instructions for Figure 2.

PROCEDURE FOR FIGURE 2

1. Mount the KIT supplied insulated standoff (TE-102-2) on the lower inside screw of the top meter.
2. Solder the KIT supplied resistor (RC42GF2210) between the insulated stand-off and the closest terminal on the OVEN OVERHEAT indicator.
3. Proceed with instructions for Figure 3.

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PROCEDURE FOR FIGURE 3

1. Remove inner top cover of oscillator oven (MS-2890) and discard.
2. Unsolder red wire from terminal "C & A" (located on left side of oven) and affix wire marker "A" to this wire. Do not remove "C & A" jumper.
3. Proceed with instructions for Figure 4.

PROCEDURE FOR FIGURE 4

1. Cover KIT wire "B" and "C" with KIT sleeving "D".
2. Solder wire "B" and "C" to terminals "C & A".
3. Pass wire "C" (the longer of the two) through the cable grommet.
4. Splice and solder KIT wire "FA" to wire "A". (Wire "FA" now becomes wire "A")
5. Cover wire "A" and "B" with KIT sleeving "E".
6. Pass wires "A" and "B" through grommet of new inner top cover of oscillator oven (A3596).
7. Solder wire "A" to one terminal and wire "B" to the other terminal of the thermo switch mounted on the inner cover.
8. Shake out unit to insure that no loose hardware remains in oven.
9. Replace inner top cover (A3596) of oscillator oven.
10. Lace wire "C" to coax wire of J-1003 as far as grommet in chassis (lacing cord supplied).
11. Pass wire through grommet.
12. Lay wire "C" along bend of chassis toward front of unit, then through grommet located near tube socket XV-1304.
13. Solder KIT wire "G" to terminal 2 of C-1317.
14. Lay wire "G" along side of main cable trunk toward front of unit, then through grommet located near tube socket XV-1304. (SEE FIG. 2)
15. Tie wire "G" to main cable with lacing cord in as many places as practical.

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16. Twist wires "C" and "G" to within 2 inches of ends. (SEE FIG. 2)
17. Solder the shorter of the two wires to the insulated standoff which was mounted on the meter mounting hardward in Step 1 of Figure 2.
18. Solder the longer wire to the open terminal of the oven overheat indicator.
19. Recheck all previous steps to insure proper installation.
20. Shake unit out to insure that no loose hardware is left in oven.
21. Replace outer top cover of oscillator oven.
22. Replace top and bottom covers of unit.
23. Reconnect power plug to J-1305 at rear of unit.

### IMPORTANT NOTICE

After completion of this modification and in the event of an over temperature condition within the HFO oven the over temperature thermostat S-1003 will open at 85 degrees centigrade (the normal oven temperature is 70 degrees centigrade) and the "OSC OVERHEAT" indicator will light. The oven will commence cycling, as will be evidenced by periodic flashing of the "OSC OVERHEAT" indicator, and will continue to cycle in the vicinity of 85 degrees centigrade. No damage to the HFO oven will result at this temperature. However, all power should be removed from the unit immediately pending repair or replacement of defective components.

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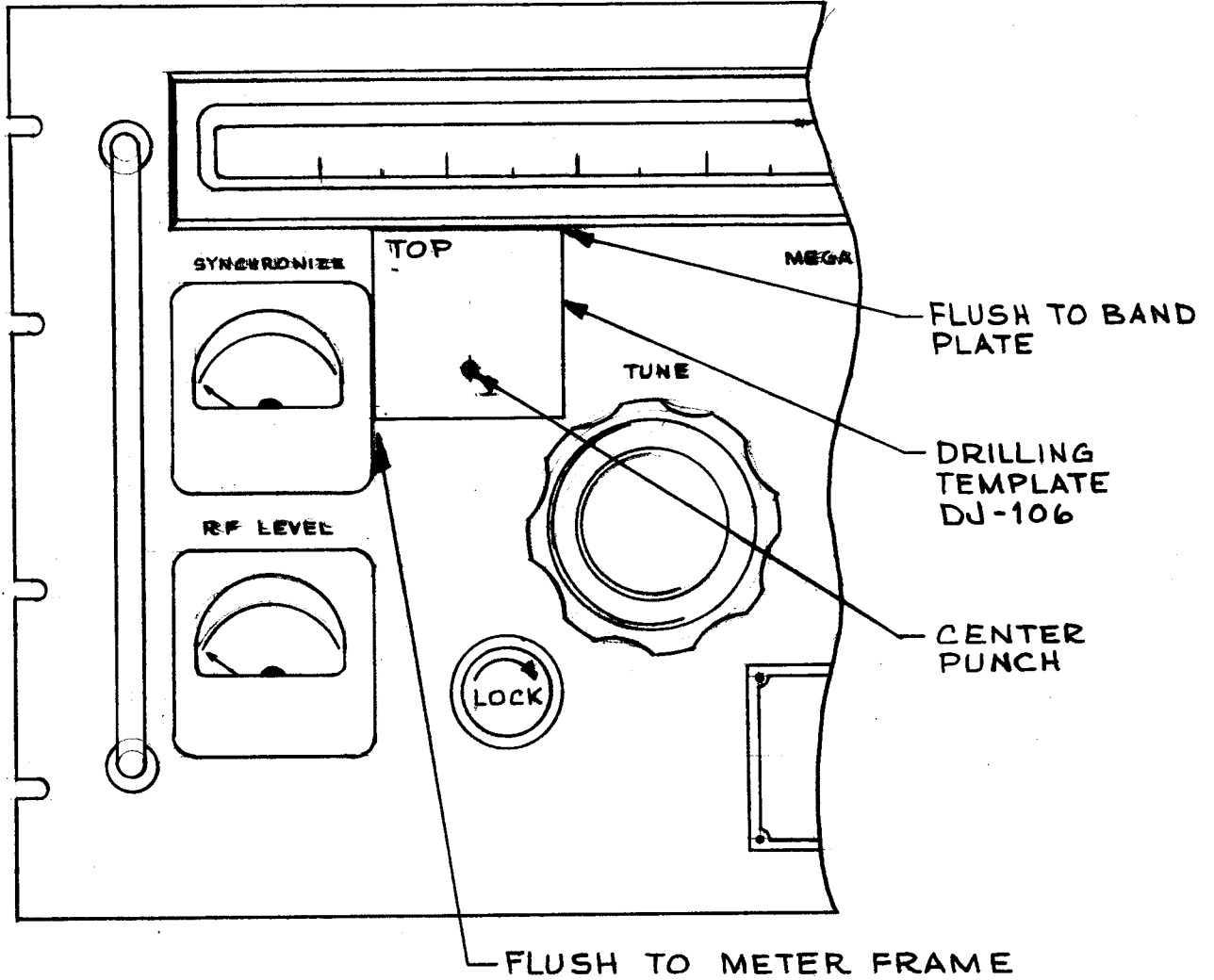
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TITLE: FIGURE 1 HFR-1 FRONT PANEL

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DRILLING PLAN



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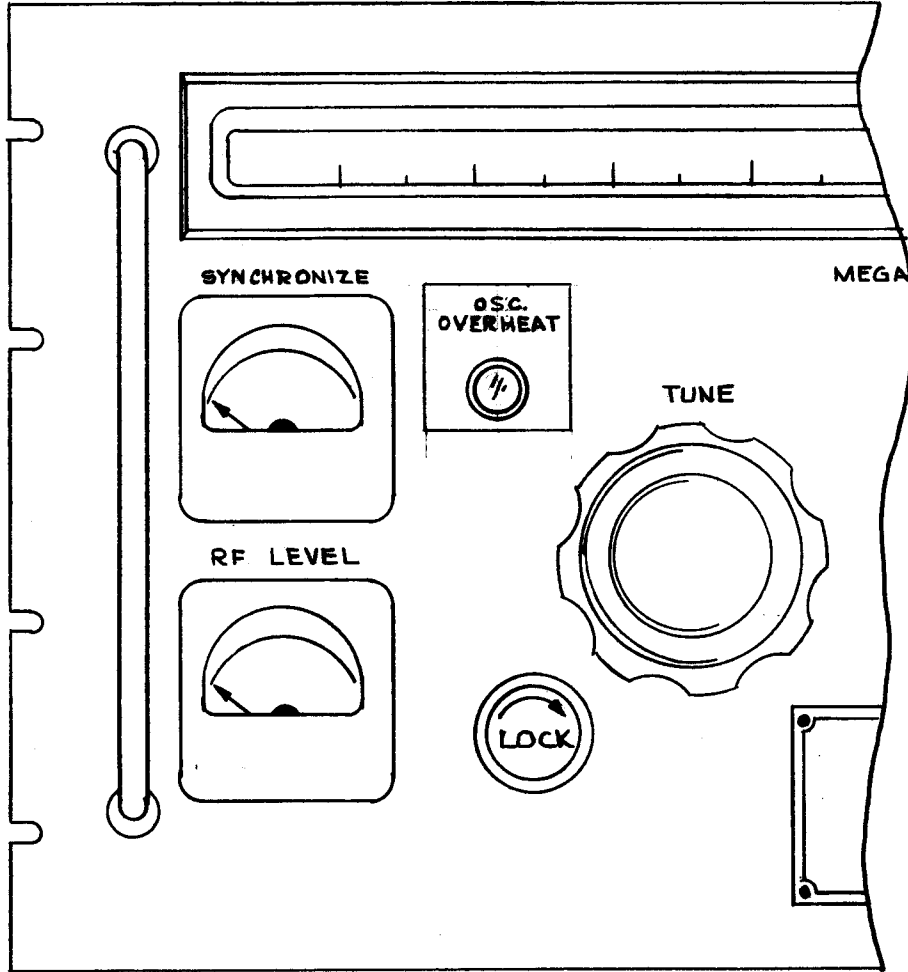
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TITLE:      FIGURE 1A      HFR-1/ FRONT PANEL FINAL ASSEMBLY

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SHOWING IDENTIFICATION PLATE AND OVERHEAT INDICATOR



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C

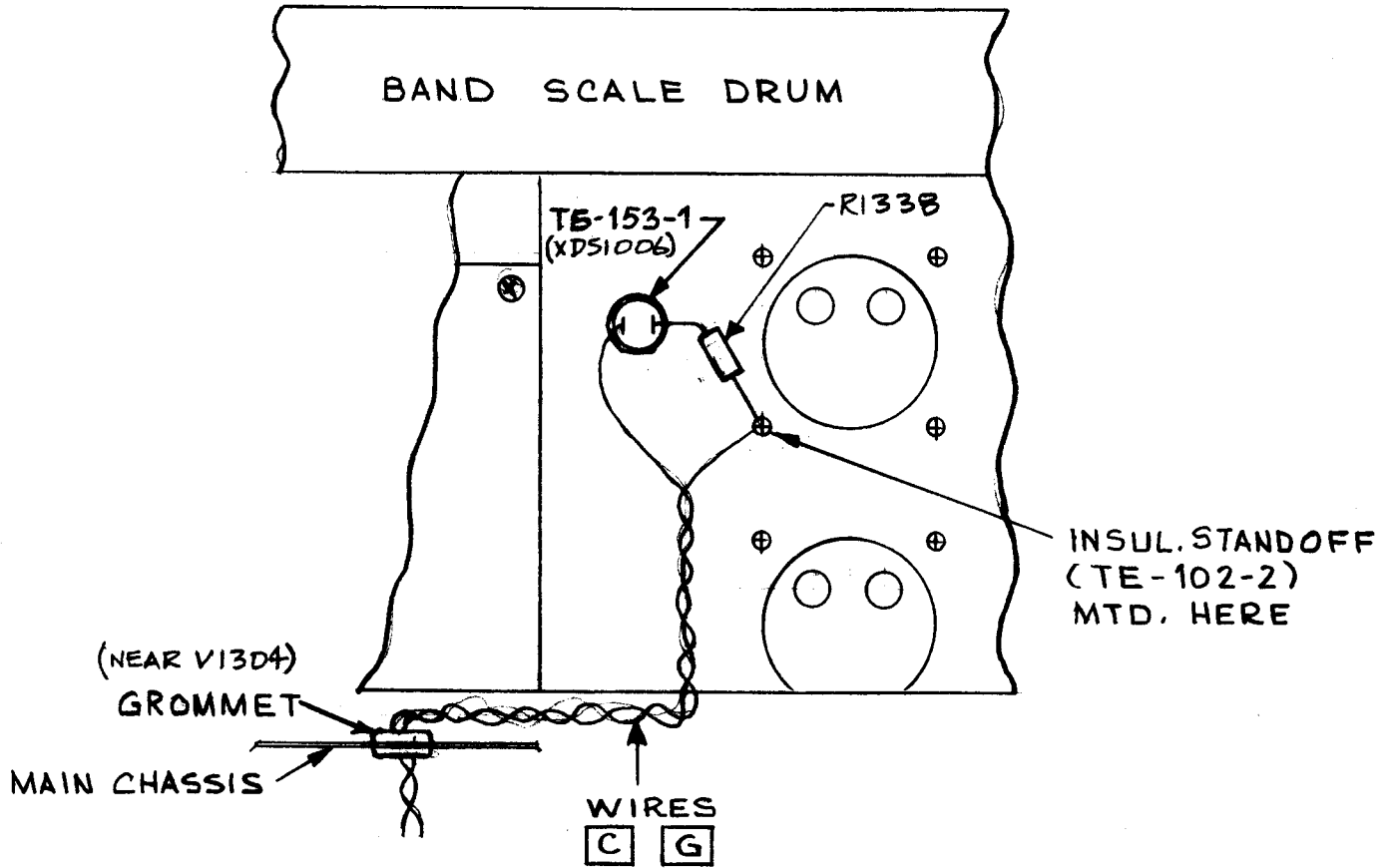
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TITLE: FIGURE 2 HFR-1 FRONT PANEL

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REAR VIEW



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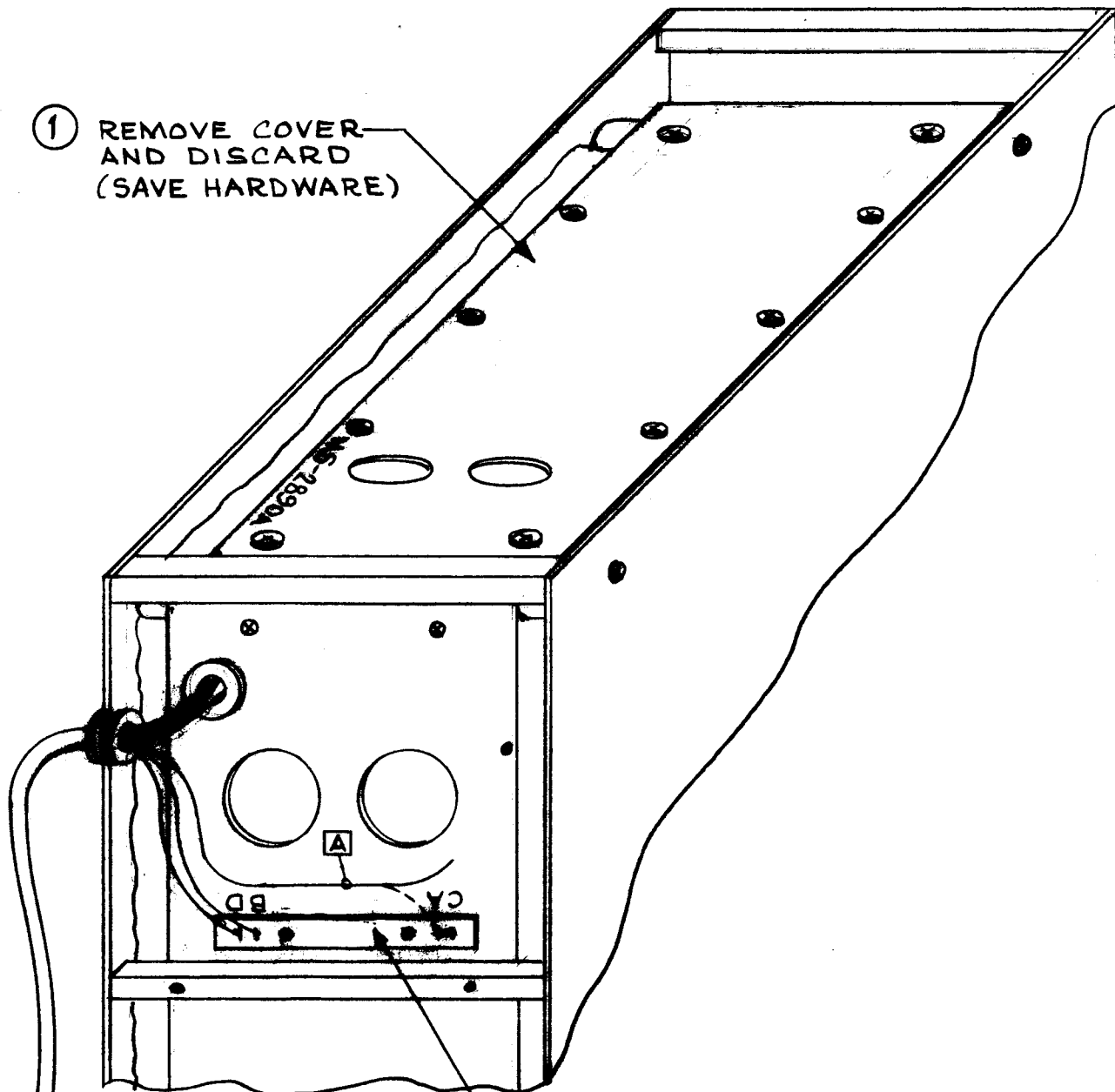
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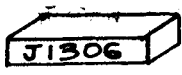
TITLE:      FIGURE 3      DISASSEMBLY

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① REMOVE COVER AND DISCARD (SAVE HARDWARE)



② REMOVE RED WIRE FROM TERMINAL C AND A AND APPLY WIRE MARKER "A" TO WIRE.





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TITLE:    FIGURE 4      ASSEMBLY

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