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HARMONIC SUPPRESSION

for

KIT-172

DATE 22 May 1964

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I. EQUIPMENT AFFECTED

AN/FRT-40 Transmitting Set, Radio - Mfg. No. 20015-5
Ser. No. 14186 and prior.

II. PURPOSE

To provide a means of reducing harmonics in the output of the transmitter.

III. MATERIALS SUPPLIED

<u>ITEM</u>	<u>QTY</u>	<u>TMC PART NO.</u>	<u>DESCRIPTION</u>
1	1	A-3469	Capacitor & Coil Assembly
2	1	A-3470	Capacitor Assembly
3	1	AC-175	Counter Bandswitch
4	1	AX-459	"L" Section Assembly
5	1	CL-326	Coil, Electrical
6	8	FW25HBN	Washer, Flat
7	8	LWS25MRN	Lockwasher, Split
8	8	NTH2520BN14	Nut, Hex
9	2	SLHC1032SP4	Set Screw, Allen
10	3	SLHC1032SP6	Set Screw, Allen
11	2	WR-100-5	Wrench, Allen #10
12	4	SCBP0632BN10	Screw Machine
13	4	LWE06MRN	Lockwasher, Ext.
14	4	NTH0632BN8	Nut, Hex
15	1	LD-1373	Diagram, Output
16	1	AX-458	(Drawing Only)
17	1	A-3481	(Drawing Only)
18	1	AX-459	(Drawing Only)
19	1	WR-100-3	Wrench, Allen #6
20	1	CC-109-24	Capacitor (Spare)
21.	1	NP-362-33	NAME PLATE

IV. TOOLS REQUIRED (By Installing Activity)

1. One 6" blade-type screw driver.
2. One 6" Phillips screw driver.
3. Two 3/8-7/16 open end wrench.
4. One 1/2-9/16 open end wrench.

V. PROCEDUREA. Disassembling Units to be Updated-

1. Remove all external power.

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2. Discharge all high voltage capacitors to ground with available shorting stick.
3. Remove rear shields and front window panel from PA frame.
4. Discharge PA tank coil and all vacuum capacitors to ground with available shorting stick.
5. Mechanically defeat PA bandswitch and rotate to the 19-24 MC positions.
6. Remove "L" sec coil and HF "L" sec loop (refer to Fig. 1).
7. Obtain IT.16 (print of AX-458 - refer to Fig. 1). Proceed to remove pertinent hardware so as to disconnect "L" section wafer; retain key from shaft. NOTE: "IT" is used as abbreviation for Item # throughout text.
8. Remove bandswitch counter; retain hardware and gear (refer to Fig. 3).

B. Re-assembling and Replacement-

1. Obtain AX-458, (IT. 4). Remove required hardware so as to disconnect coil (IT. 1) of AX-459 (Ref. Fig. 1). Do not rotate rotor for it is positioned for mounting.
2. Insert AX-458 (P/O AX-459) to top of bandswitch. Hardware items 6, 7 and 8 supplied for same (see Fig. 1). Pre-position AX-458 rotor. Lock set screw and rotor adjust nuts.
3. Insert key way back in top hub, (it may be necessary to rotate rotor slightly to align keyways of the hub and shaft). Refer to AX-458 print (IT.16). Tighten set screw with Allen wrench provided (IT.11).
4. Refer to AX-458 (IT.16) and Fig. 1. Connect lead (IT.8) of AX-458 back to load capacitors.
5. Install "L" section coil back on AX-458 using hardware previously removed, (refer to AX-459 for position).
6. Connect HF loop of "L" section back to output coupling capacitor, (refer to Fig. 1).
7. Check all hardware used in previous steps for loose connections.
8. Obtain AC175 counter (IT.3) from shipping carton. Install GR-116 of old counter to new counter (refer to Fig. 3). Mount counter with hardware provided (IT.12, .13 and .14). Align counter for 24-28 MC position; this position must be held to conform with rotor position of bandswitch. Mesh gears secure with IT.19; allow for optimum operation.

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9. Facing the front of the transmitter, on the right hand inside shield of the PA compartment, remove output connection diagram. Replace with IT.15 (LD-1373).

10. Install IT.1 to directional wattmeter (refer to Fig. 2). It will be necessary to remove bracket off Item 1 to invert 1/4-20 screw (Item X).

11. Refer to Fig. 2 and LD-1373 (output connection diagram). Install Items 2 and 5 to correspond to type of output desired. In any condition, Item 5 will take the place of strap (Item Y). Refer to IT. 17 (A 3481).

12. Tighten all connections, secure and install all shields and panels.

13. Apply item #21 directly below name plate of relay panel cover.

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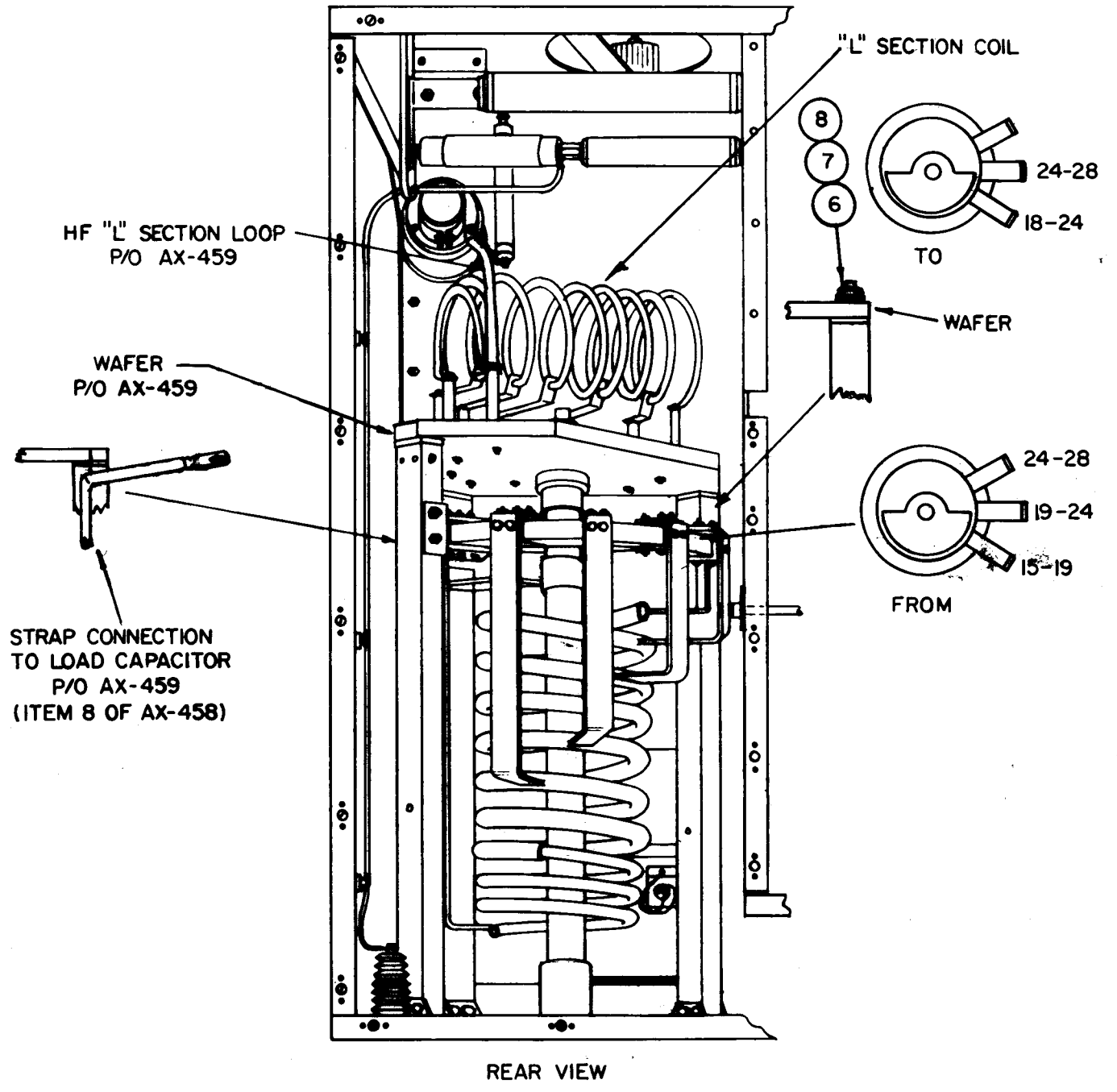


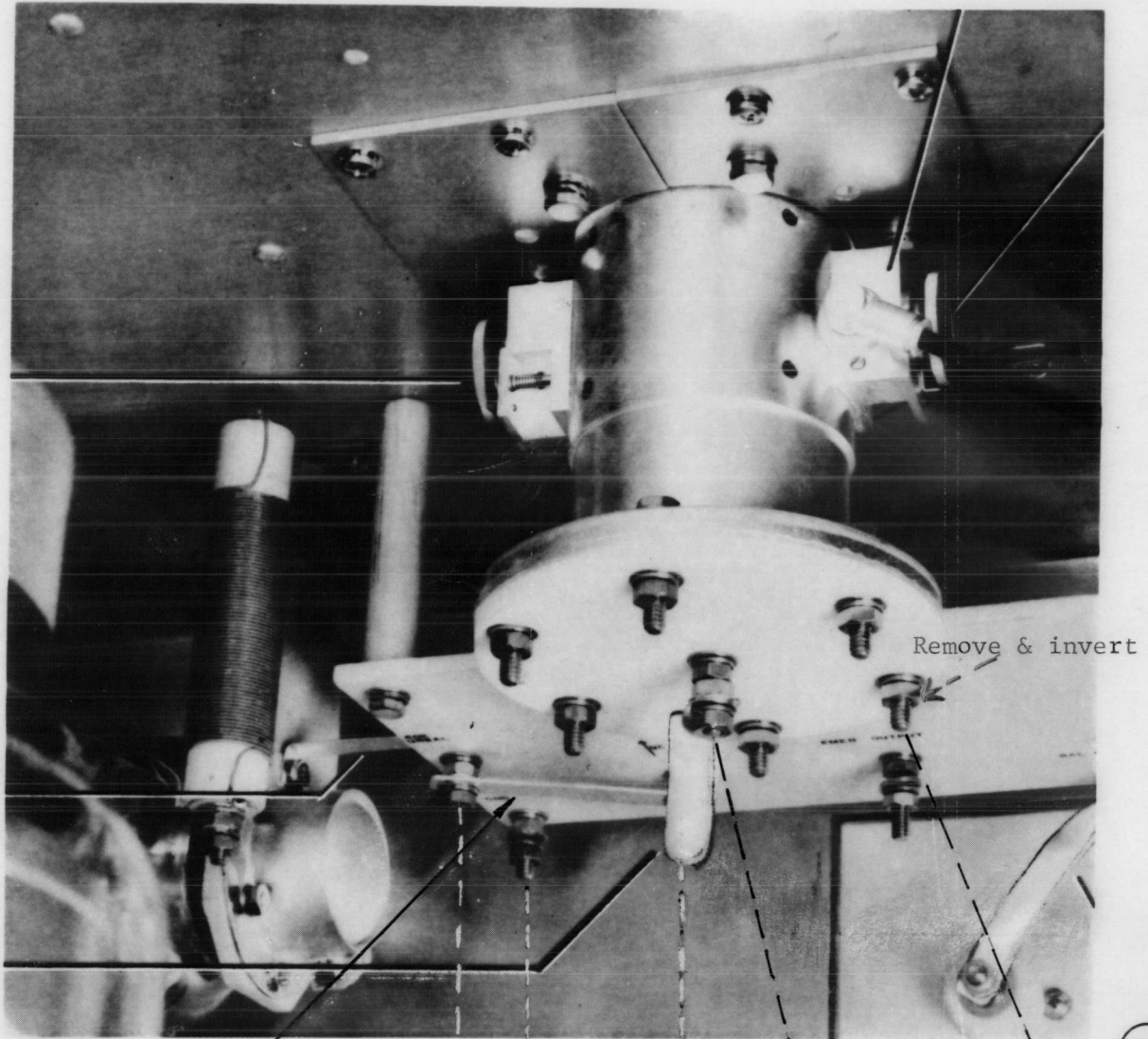
Fig. 1

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Y
REMOVE & DISCARD

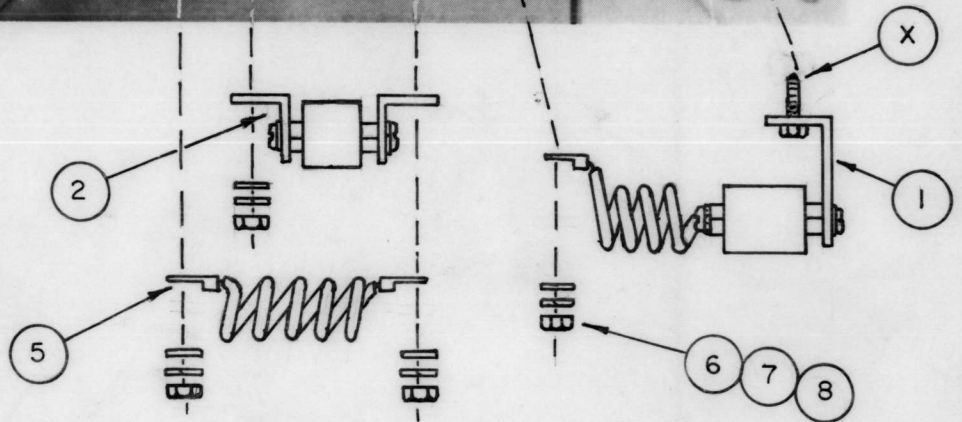


Fig. 2

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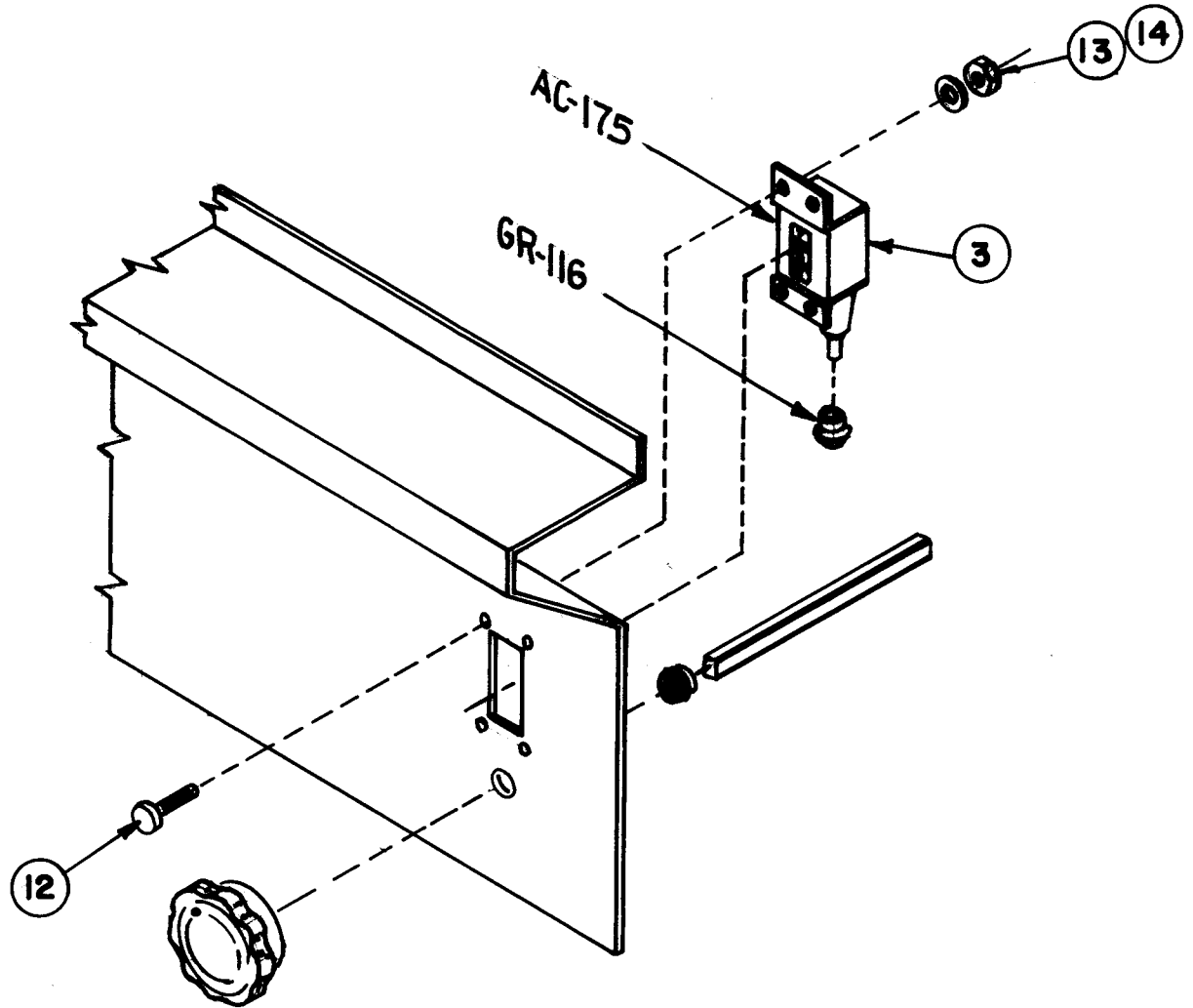


FIG. 3

