

NAVSHIP
0967-291-7010

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INSTALLATION INSTRUCTIONS
for
MODIFICATION KIT

257



THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, N. Y.

OTTAWA, CANADA



TMC SPECIFICATION

NO. S 990

REV:

Ø C D E F

COMPILED: RSP

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APPD: F. Budetti R. Hay

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OF 11

TITLE:

NAVSHIPS 0967-291-0010

TMC'S MODEL GPT-10K TRANSMITTER (AN/FRT-39, FRT-52)
SOLID STATE, HIGH VOLTAGE POWER SUPPLY
MODIFICATION KIT 257

NOTE: This kit is also part of TMC's Kit 258 providing solid state, high voltage power supply for the driver of TMC's Model GPT-40K Transmitter (AN/FRT-40, FRT-54) as well as the intermediate amplifier of the GPT-200K (AN/FRT-62).

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1. PURPOSE

A. To change mercury vapor rectifier drawer (AX-103) to solid state silicon diode rectifiers in the high voltage power supply of TMC's Model GPT-10K Transmitter (AN/FRT-39, FRT-52).

B. Time to complete modification - One (1) Technician -- 3 hours.

11. EQUIPMENT AFFECTED

A. All TMC Model GPT-10K (AN/FRT-39 and AN/FRT-52 series) Transmitters.

NOTE: This Kit also applies to the high voltage power supply of the driver for TMC's Model GPT-40K Transmitter (AN/FRT-40, FRT-54) and intermediate amplifier of the GPT-200K (AN/FRT-62).

111. MATERIALS PROVIDED

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	A-5510	Contact Board and Capacitor Assembly
2	1	A-4307	Rectifier Board Assembly
3	1	A-5513	Cover and Name Plate Assembly
4	1	CK-1013	Schematic Diagram
5	1	Bag Hardware Attached to Item 2	6 ea. SCBP2520BN12 Screw Hex Head (1/4 x 20 3/4" long) 6 ea. FW25HBN Washer Flat (for 1/4 x 20 screws) 6 ea. LWS25MRN Washer Lock Split (for 1/4 x 20 screws)
6	1	Bag Hardware Attached to Item 1	6 ea. NTH2520BN14 Nut (1/4 x 20) 8 ea. SCBP1032BN14 Screw Machine (10-32 x 7/8") 23 ea. FW10HBN Washer Flat (for 10-32 screws) 18 ea. LWS10MRN Washer Lock Split (for 10-32 screws) 10 ea. NTH1032BN12 Nut, Hex Head (for 10-32 screws) 5 ea. NTC1032BNL Nut, Cap (for 10-32 screws)
7	1	Bag Hardware attached to Item 3	2 ea. SCBP1032BN10 Screw, Machine (10-32 x 5/8") 2 ea. WA-104-2 Washer, Spring tension (for 10-32 screws) 2 ea. FW101-2 Washer, Nylon (for 10-32 screws) 2 ea. NTH1032BN12 Nut, Hex head (for 10-32 screws)

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111. MATERIALS PROVIDED (Cont'd.)

ITEM	QTY	PART NO.	DESCRIPTION
8	1	NP362-46	Mod Kit Nameplate
9	1	IN2802	Technical Manual, HVRC-2

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IV. TOOLS REQUIRED

A. To be provided by installing activity

1. Screwdriver, Phillips #2 point
2. Wrench, 6" adjustable
3. Wrench, 3/8 Hex Socket
4. Wrench, 7/16 Hex Socket
5. Wrench, 5/16 & 3/8 Open End
6. Wrench, 7/16 & 1/2 Open End
7. 4" or 6" Diagonal Cutting Pliers

NOTE: This tool requirement list does not preclude the use of box, Socket or speed type wrenches if available at the installing activity.

V. PROCEDURE FOR PREPARING HIGH VOLTAGE RECTIFIER DRAWER (AX-103) TO ACCEPT THE SOLID STATE COMPONENTS

- A. Turn off all power to transmitter and discharge high voltage circuit.
- B. Remove high voltage rectifier drawer and place the high voltage rectifier drawer in suitable working area.
- C. Remove all six tubes from their sockets and place them in a safe place. With the tools specified in paragraph IV above, proceed to remove the six transformers, the six tube sockets, the six fuse holders, the six stand offs and their associated wiring from the drawer. Also remove the rear metal panel with the button contacts and discard the above components, or dispose of them in accordance with existing instructions.
- D. Once the above has been accomplished, there should be **remaining a** chassis with a front panel with the handles and a view through window and slides attached to the chassis.

VI. PROCEDURE FOR INSTALLING MODIFICATION

- A. Clean the chassis surfaces with a standard MIL-SPEC solvent, and wipe the chassis dry.
- B. Commence installation of the solid state components in the following manner;
 1. Position the drawer so that the bottom of the chassis is up and the front panel is facing away from you.
 2. Take Item 1 (refer to figure 1). Check all connections to Item 1 to make sure that they are snug and tight. Position Item 1 with the rear hold down clamps to the chassis, and using the hardware

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provided in Item 6, take eight of the 10-32 x 7/8" screws, secure the phenolic board to the chassis using a flat washer behind the head of the screw and a flat washer and split washer behind the chassis with the nut.

3. Once this has been performed, turn the drawer over with the front panel away from you. CAUTION - use care since capacitor assembly has not yet been secured. Do not discard the remaining hardware in item 6, as it is to be used later.

C. To secure Item 2 (Figure 2) proceed as follows:

1. Using the hardware provided in Item 5, mount the rectifier board to the top of the chassis with the rectifier stacks up. (NOTE: Mounting holes are positioned so that the board can only be installed one way. (See Figure 2). When this is correctly installed, feed through insulator E606 will be on your right hand side as you face the rear of the panel.
2. Align the holes in the phenolic board with the chassis, and using the 1/4 x 20 1" long screws, attach the phenolic board to the chassis (use flat washers, and lock washers as indicated in Paragraph VI B. 2. above) with the nut at the bottom of the chassis. The final tightening down of the rectifier board can be more easily accomplished by turning the chassis so that the bottom is facing up.
3. Position the hold down clamps on the end of the capacitor assembly (Item 1) to the 10-32 screws protruding through the rectifier board and secure with flat washers, lock washers and 10-32 nuts, provided in Item 6.

D. With remaining hardware in Item 6, connect leads with the corona cap nuts (refer to figure 3) - to standoff insulator as follows:

1. W610 to E610
2. W611 and W616 to E609
3. W612 to E608
4. W613 to E607
5. W617 to E606

E. Install name plate and cover assembly, Item 3, over the open fuse holes as follows:

1. Insert the cover and name plate assembly with the attached screws protruding through the two end fuse holes of the front panel. Center the screws in the holes with the nylon bushings provided (Item 7). Place cup washers with the rim towards the front panel and secure. (See figure 4 for completed assembly.

F. Carefully check the modification visually and mechanically making sure that all hardware is properly tightened down, that all high

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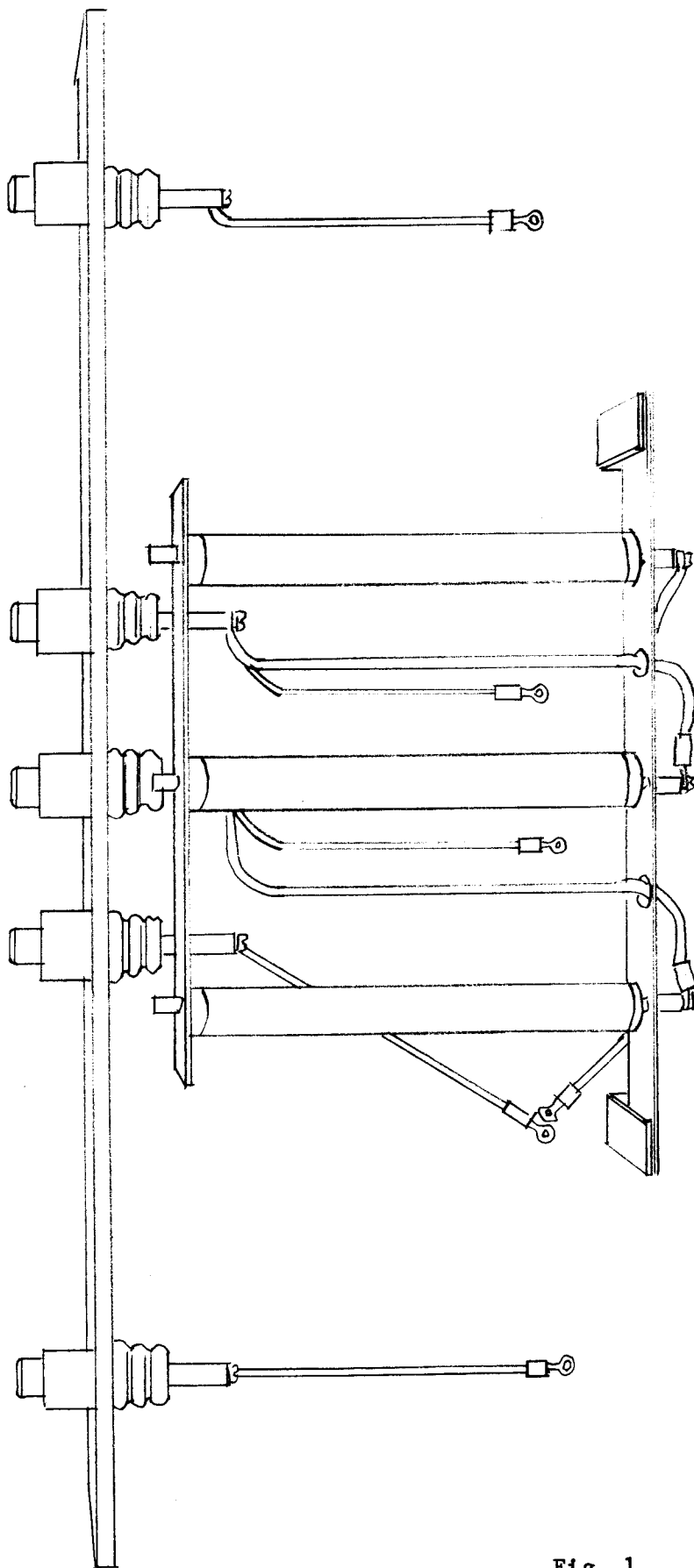
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voltage leads are not accidentally grounded to the chassis, and perform continuity checks on feed through insulators. Then, make a resistance check from all H.V. points to the chassis.

- G. Upon completion of the above checks, affix item 8 to front panel. The modification has been accomplished and the drawer can be placed in operation in the transmitter.

VII CHANGES TO THE INSTRUCTION MANUAL

- A. With the exception of minor mechanical differences, the above modification is identical with TMC Model HVRC-2, Solid State Power Supply. In order to provide ready Maintenance and spares information, the Technical Manual on Model HVRC-2 is attached for inclusion in the maintenance manuals for the transmitter.



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Fig. 1

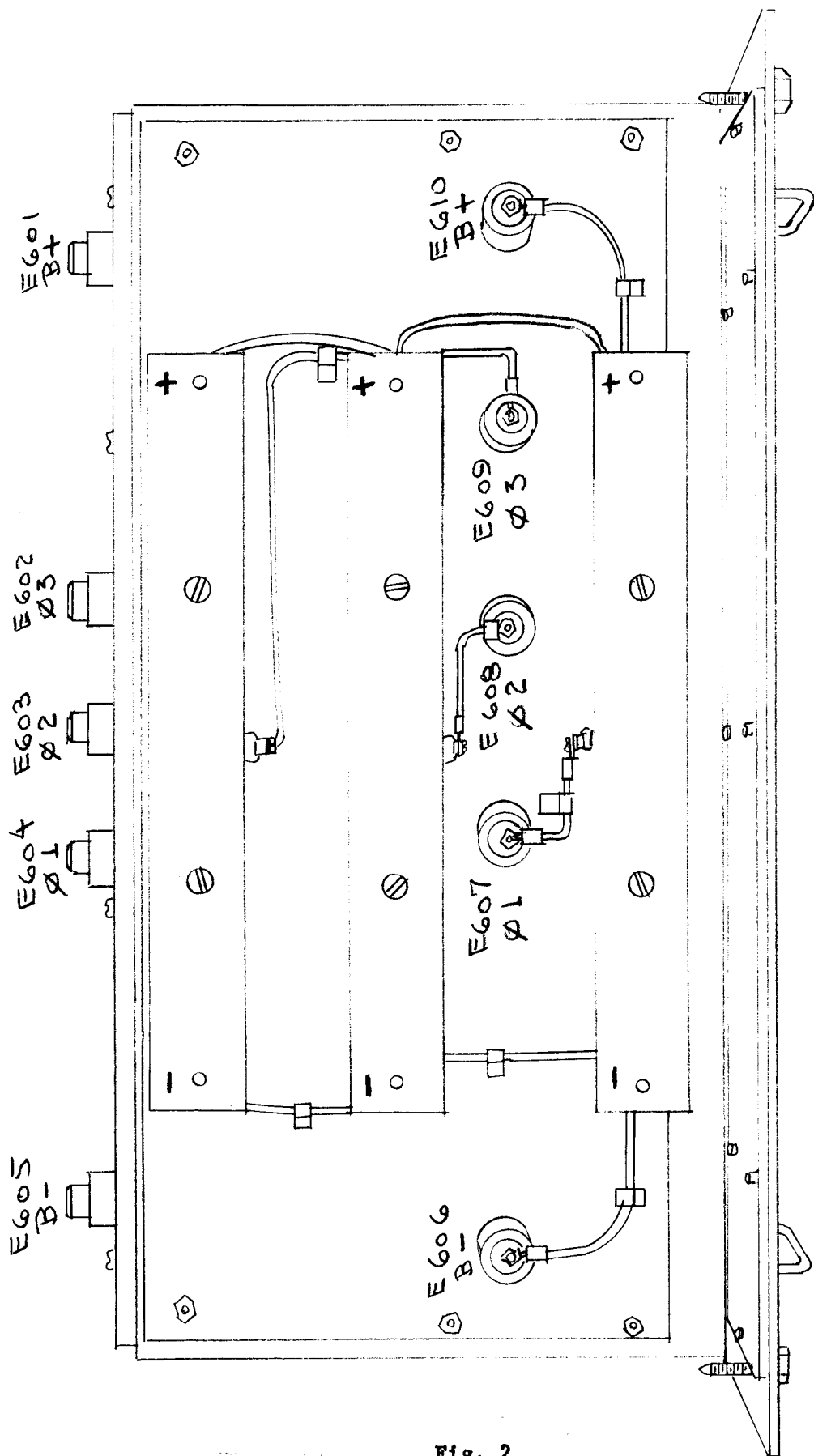
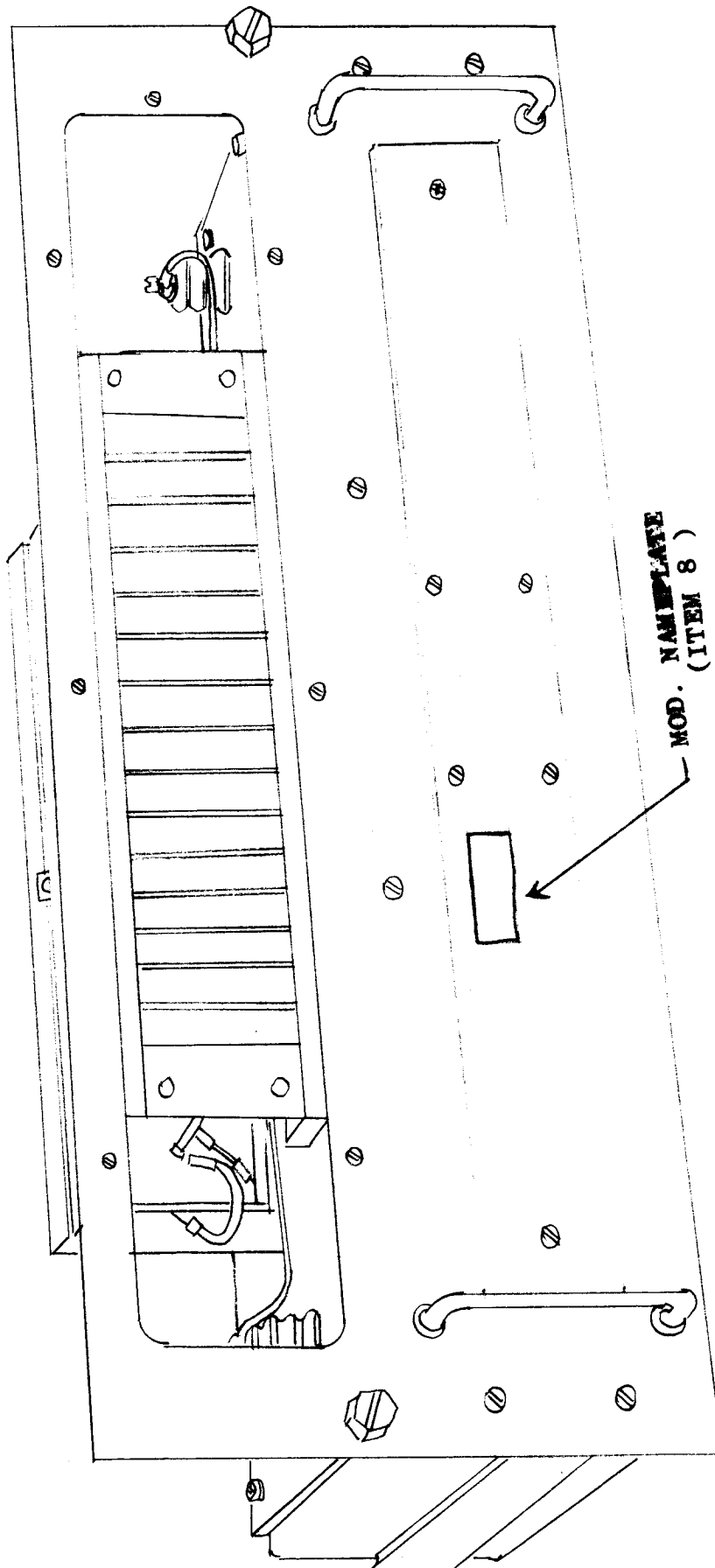


Fig. 2

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