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UNCLASSIFIED

INSTALLATION INSTRUCTIONS

FOR

MODIFICATION KIT

KIT 450



THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, N.Y.

OTTAWA, ONTARIO

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TMC SPECIFICATION

NO.

REV: 0

COMPILED:

CHECKED:

APPD:

SHEET

OF

TITLE:

GPT-10K TRANSMITTER SERIES

SOLID STATE, HIGH VOLTAGE POWER SUPPLY MODIFICATION

KIT 450

TMC SPECIFICATION

NO. 5

REV: 0

COMPILED: dw

CHECKED: RU

APPD: *PR*

SHEET 2

OF 10

TITLE:

KIT 450

1. PURPOSE

- A. To modify existing Vacuum Tube Rectifier Drawer (AX-103) to Solid State Type.
- 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.

111. MATERIALS PROVIDED

| ITEM | QTY. | PART NO. | DESCRIPTION |
|------|------|---------------------------------|--|
| 1 | 1 | A5788 | Rear Assembly |
| 2 | 1 | A-4307 | Rectifier Board Assembly |
| 3 | 1 | A-5513-1 | Cover and Name Plate Assembly |
| 4 | 1 | CK-2240 | 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) 5 ea. SCBP1032BN5 Screw Machine (10-32 x 3/8") 5 ea. FW10HBN Washer Flat (for 10-32 screws) 5 ea. LWS10MRN Washer Lock Split (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) |

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

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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. Once this has been performed, turn the drawer over with the front panel away from you.

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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.

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

NOTE: On E606 through E610, allow at least three threads protruding for the attachment of the corona cap nuts, and, if necessary, remove flat washers to provide the necessary threads.

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 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.

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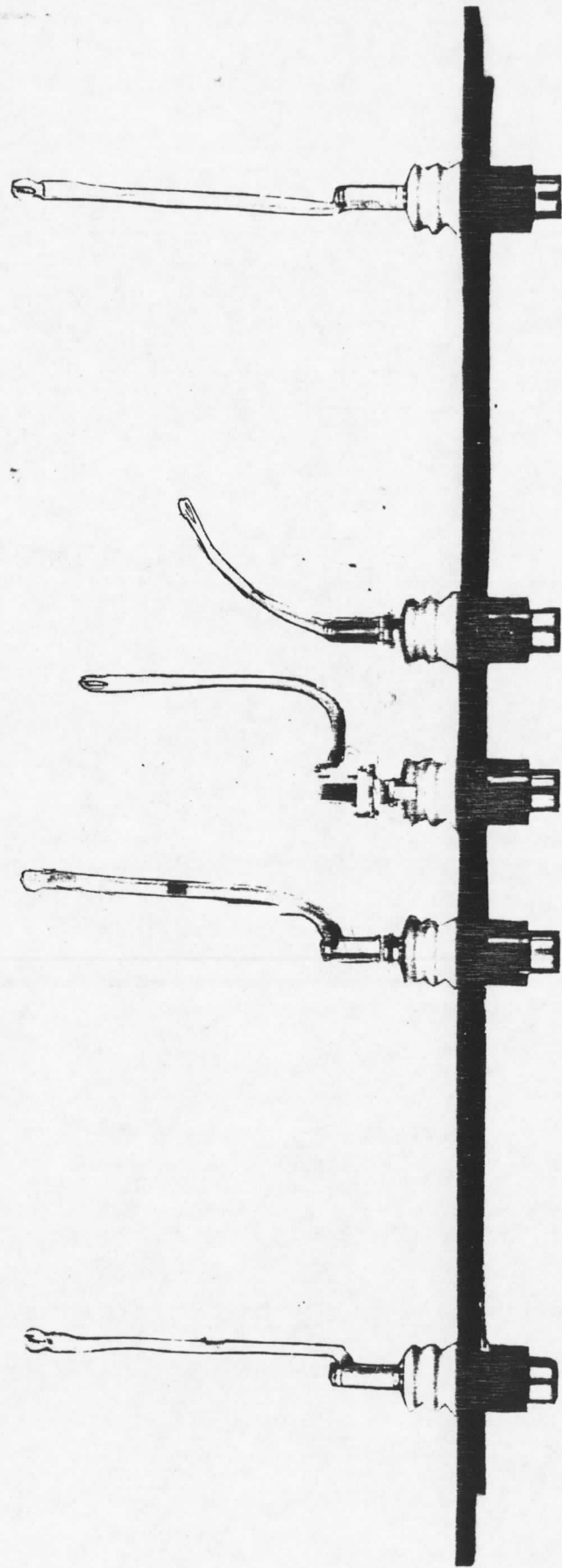
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APPD: *JB*

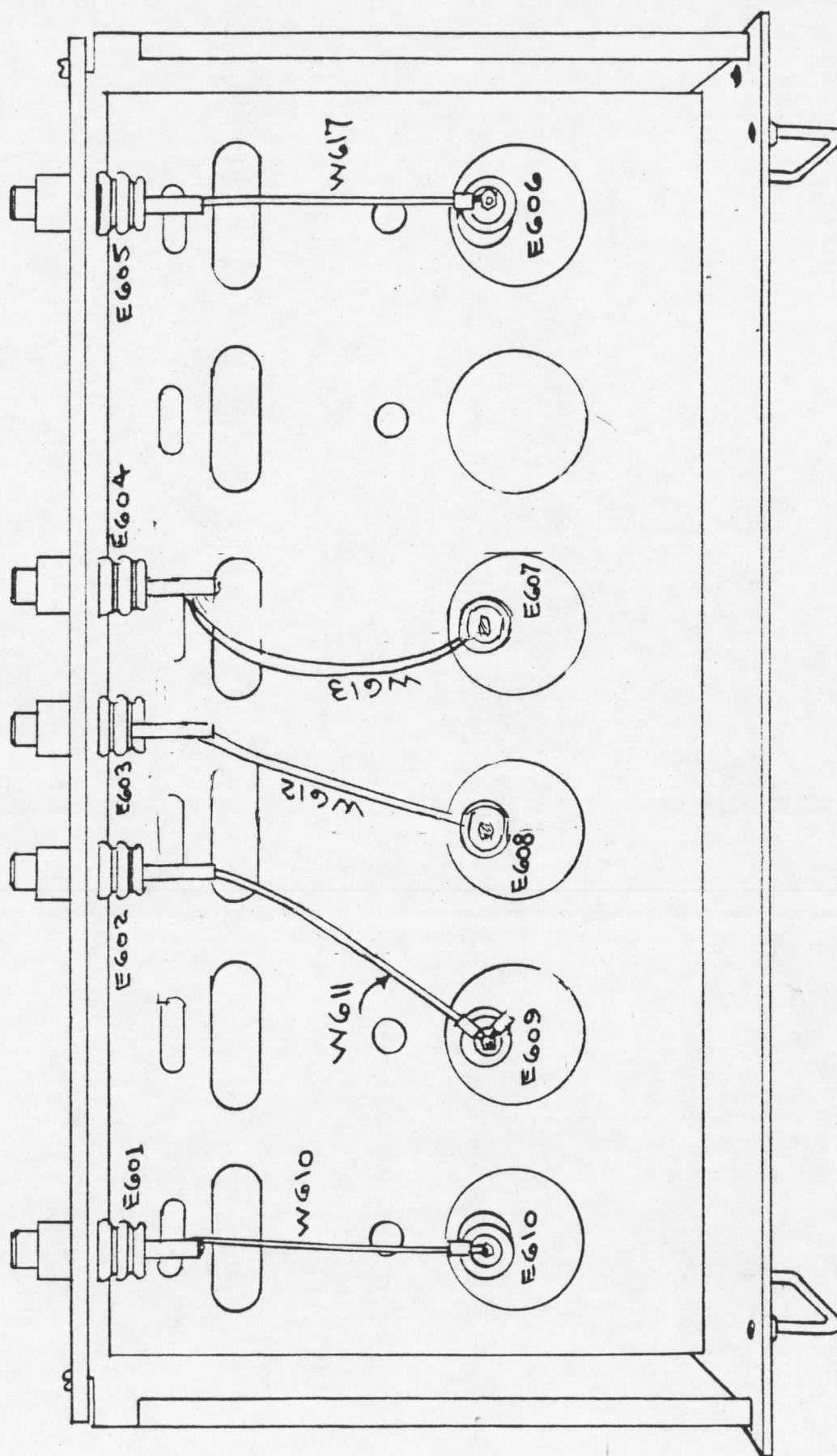
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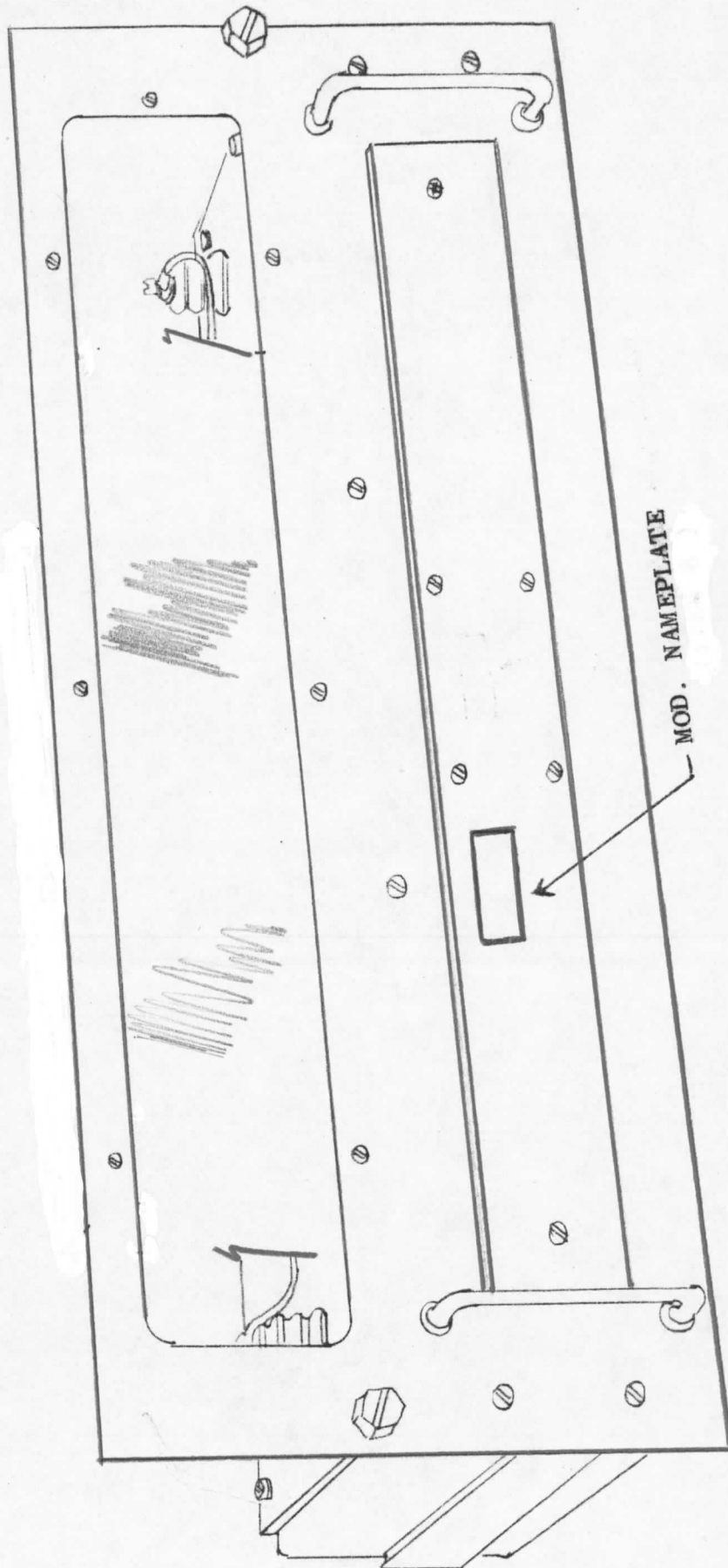
- G. Upon completion of the above checks, the modification has been accomplished and the drawer can be placed in operation in the transmitter.



KIT 450 Figure I



KIT 450 Figure III



MOD. NAMEPLATE

