TMC SPECIFICATION				NO. S 1096
REV: C D E F				
COMPILED:	CHECKED:	APPD F. Budetti R. Hay	SHEET 1 OF 10	
TITLE:				

NAVSHIPS 0967-291-8010

TMC'S MODEL GPT-40K (AM/FRT-40, FRT-54) TRANSMITTER SERIES

SOLID STATE, HIGH VOLTAGE POWER SUPPLY

MODIFICATION KIT 258

NOTE: Modifications to the High Voltage Power Supply of the GPT-40K Transmitter is covered by TMC'S KIT-257.

I. PURPOSE

A. To change mercury vapor rectifier tube drawer to solid state silicon diode rectifiers in high voltage rectifier for GPT-40K series transmitters. (AN/FRT-40, FRT-54) also applies to the high voltage power supply for the driver and intermediate amplifier of the GPT-200K transmitter (AN/FRT-62.

B. Time required to complete modification - one (1) technician seven (7) hours.

NOTE: Installation of Kit 257 in the driver portion requires three additional hours.

II. EQUIPMENT AFFECTED

All TMC model GPT-40K transmitters (AN/FRT-40 and AN/FRT-54 series).

III. MATERIAL SUPPLIED

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	A-5511	Rectifier Board Assembly
2	1	A-5512	Capacitor Assembly
3	1	A-5513	Cover and Name Plate Assembly
4	1	CK-1119	Schematic Diagram
5	1	Bag Hardware attached to It. 1	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 ea. NTH2520BN14 Nut (1/4 x 20)
6	1	Bag Hardware attached to It. 2	9 ea. FW10HBN Washer, Flat (for 10-32)
			9 ea. LWS10MRNN Washer Lock Split (for 10-32)
			4 ea. NTH1032BN12 Nut, Hex Head (10-32)
			5 ea. NTC1032BNL Nut, Cap (10-32)
			5 ea. FW25HBN Washer, Flat (for 1/4 x 20 screws)
			5 ea. LWS25MRN Washer Lock Split (for 1/4 x 20 screws)
			5 ea. NTC2520BNL Nut, Cap (1/4 x 20)
7	1	CA412-29-10.00	Lead Electrical W8412
8	1	Bag Hardware attached to It. 3	2 ea. SCBP1032BN10 Screw Machine (10-32 x 5/8" long)
			2 ea. WA104-2 Washer Spring Tension (for 10-32)

III. MATERIAL SUPPLIED (CONT)

ITEM	QTY	PART NO.	DESCRIPTION
8	cont'd.		2 ea. FW 101-2. Washer, NM, Nylon (for 10-32) 2 ea. NTH1032BN12 Nut,Hex Head (10-32)
9	1	Kit 257	
10	1	NP362-46	Mod. Nameplate
11	2	IN2801	Technical Manual, HVRB-2

IV. TOOLS REQUIRED

A. To be provided by installing activity:

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

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

V. PROCEDURE FOR PREPARING HIGH VOLTAGE RECTIFIER DRAWER (AP-105) TO ACCEPT MODIFICATION

A. Turn off all power to transmitter and discharge high voltage circuit in prescribed manner.

B. Remove high voltage rectifier drawer from the transmitter and place on a suitable working bench.

C. Remove high voltage rectifier tubes from sockets and place in a safe place. With the tools prescribed in Para. IV, remove all filament transformers, fuse holders from the front panel, tube sockets, feed through insulators and their associated wiring, and remove rear panel contacts E8414, 8415, 8416 and coils L8401 through L8403 and capacitors C8401 through C8406. Discard these components or dispose of them in accordance with existing instructions.

D. Condition of HVR Drawer (AP-105) should now be as follows:

1. Front panel should have only window, handles and tie down bolts

2. Chassis should be completely stripped except for slides.

3. Rear panel less contacts as removed in step C.

VI. PROCEDURE FOR INSTALLING MODIFICATION

A. Clean all chassis surfaces with a standard MIL-SPEC solvent and wipe the chassis clean.

B. Proceed with the installation of the Solid State components as follows:

1. Place chassis on the work bench with the handles in front of you in the same position as it would be installed in the transmitter.

2. Install Item 1 (Rectifier Board Assembly) on the chassis as shown in Figure 1. Using the 1/4 x 20 screws provided, use a flat washer adjacent to the head of the screw, and drop the screw down through the phenolic board into chassis, and secure the screw with a flat washer and lock washer and the 1/4 x 20 nuts provided. Note that the board can only be installed one way and, as shown in Fig. I, the single rectifier stack will be adjacent to the front window when properly installed.

C. Turn the chassis over on the work bench, still with the handles facing you, and install Item 2 (Capacitor Assembly - Fig. II) using the hardware provided in Items 6 & 7 as follows:

1. Position the capacitor assembly with the loose cabling facing the rear terminals, and position the tie down flanges over the 10-32 screw studs.

2. Secure the flange to the studs by using flat washers, split washers and 10-32 nuts (See Fig. III).

D. With remaining hardware in Item 6, connect leads as follows (see Fig. III):

1. W8412 (Item 7) from E8405 to E8413
2. W8420 to E8417
3. W8419 to E8418
4. W8418 to E8419
5. W8417 to E8420
6. W8420 (other end) to E8401
7. W8410 to E8402
8. W8411 to E8403
9. W8413 to E8404

E. Attach Item 3 (Cover and Name Plate Assembly) to the front panel as shown in Fig. IV in the following manner:

1. Using hardware provided in item 8, insert cover plate with the hardware protruding through the two end fuse holder holes, insert nylon washers over the studs at the rear of the front panel to center the plate, then place the metal cup washers with the rims facing the panel. Secure with the nuts provided.

VI. PROCEDURE FOR INSTALLING MODIFICATION - Cont'd

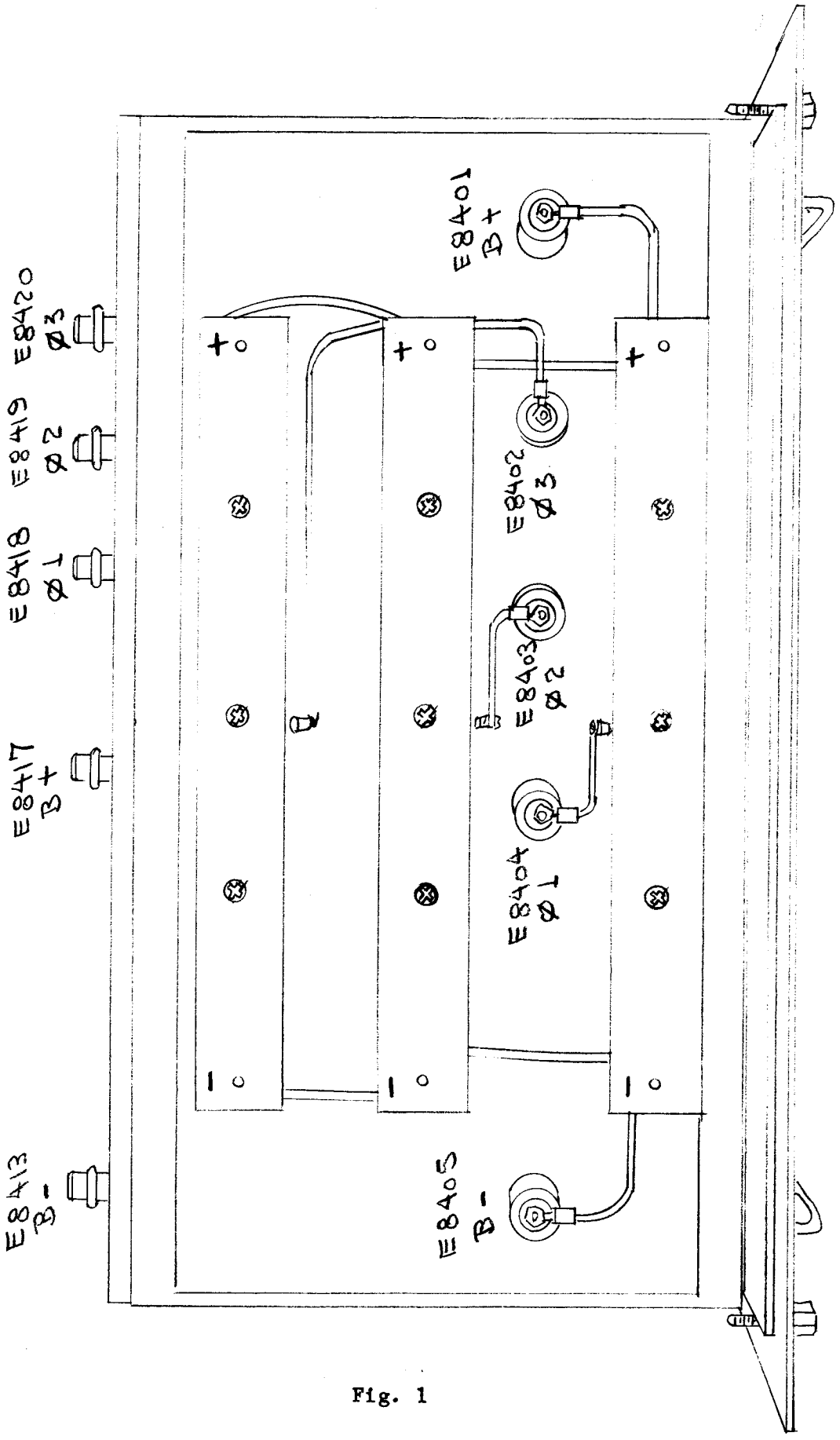
2. Proceed with the modification of the high voltage rectifier using the instructions and parts contained in Item 9.

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.

G. Upon completion of the above checks, the modification has been accomplished. **Affix Item 10 to front panel.**

VII. CHANGES TO THE INSTRUCTION MANUAL

A. With the exception of minor mechanical differences, the above modification is identical with TMC Model HVRB-2, Solid State Power Supply, for the 40 KW linear amplifier and TMC Model HVRC-2, Solid State Power Supply for the 10 KW driver. In order to provide maintenance and spares information, two copies of the Technical Manual on Models HVRC-2 and HVRB-2 are attached for inclusion in the maintenance manuals for the transmitter.


E8401
B+
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E8420
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E8417
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Fig. 1

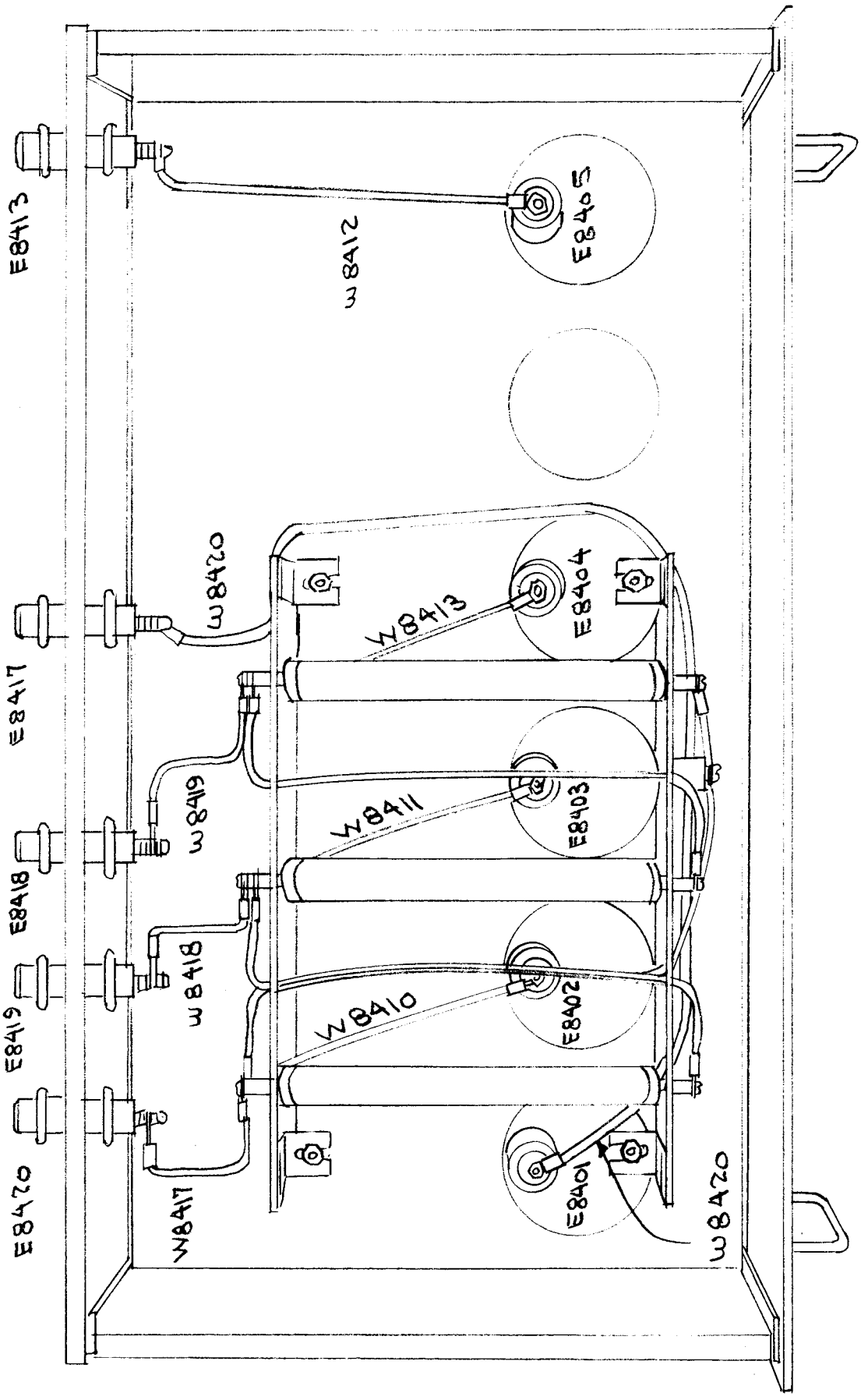
E8413
W8412
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Fig. 3

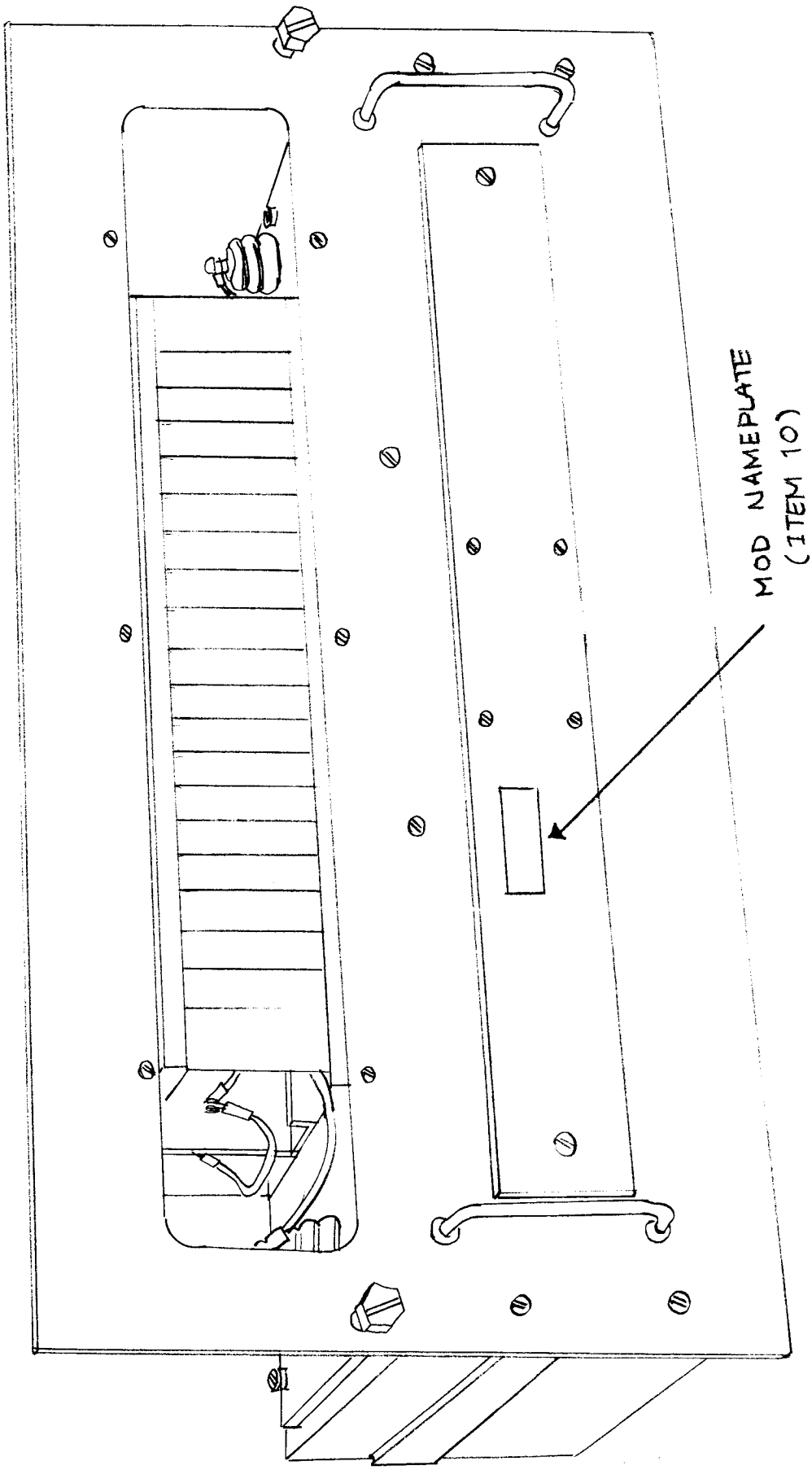

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Fig. 4

REVISION SHEET	THE TECHNICAL MATERIEL CORP. MAMARONECK NEW YORK	S 1096 LIST NO.

DATE	REV.	SHEET	EMN #	DESCRIPTION Sheet 10 of 10	APP.
5/12/66	Ø			ORIGINAL RELEASE FOR PRODUCTION	
6/10/66	A	all	16359	Revised per EMN	
8/4/66	B	2,5	16709	Revised per EMN	
2/23/67	C	2	17842	Revised per EMN	
6/26/67	D	-----	18328	Revised sheets 2,6, 7,8,9 per EMN	
6/8/68	E	----	18800	Revised title sheet	
1/31/69	F	2xx	19314	Revised sheets 3,5 & 10 per EMN	