C SPECIFIC	CATION	NO. S 1	083
CHECKED:	APPD:	SHEET 1	OF 15
	C SPECIFI	C SPECIFICATIONS	C SPECIFICATION NO. 5 1

MODIFICATION KIT-232B (Part I)

FOR

IMPROVEMENT OF RELIABILITY

OF

PSP-350A- POWER SUPPLY

TMC FORM SPEC 1

					TN	AC	S	P	EC	IF	IC	A	TI	<u> </u>	[N	0. s	10	083	•		
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TITLE:		MOD	IFI	CAI	ION	ΚI	T-2	32B	FO	R P	SP-	-350	A F	OWE	R S	SUPP	LY			· · ·					
Typed	ъу	mt	р 3	/15	/66								PÀF	T I											

- A. The following Modification, KIT-232B (Part I), is issued for the conversion of the PSP-350A Power Supply Unit, converting from standard 866-A type Mercury Vapor Rectifiers, and 5R4GY High Vacuum Rectifiers, to Solid State type Rectifiers. Included also in the KIT are "transient Suppressors" R-120 and R-121 in the HV filter and replacement for regulator resistor R105.
- B. The purpose of KIT-232B (Part I) is to provide Solid State rectification and reduce transients which have in the past caused component break-down.
- C. When the modifications have been completed, a modification nameplate shall be affixed to the back of the PSP-350A directly to the left of the mfg. number.

D. MATERIAL REQUIRED AND FURNISHED

ITEM	SYMBOL	QTY.	TMC PART NO.	DESCRIPTION
1,	R120	1	A-4235-2	50 ohm 25W Resistor Ass'y
2	R121	1	A-4235-1	50 ohm 25W Resistor Ass'y
3	CR102	1	1N1239	Rectifier
14	CR104-103	2	DD-127	Rectifier
5		1	CA-377-12	10" HV Lead
6		1	CA-377-10	12" HV Lead
7		1	WL-100-4	3" #16 Bus Wire
8 9 10 11 11.1 12 12.1 13 14	R105,122	1 1 1 1 1 1 1	TP131-1-CR102 TP131-1-CR103/CR1 TP131-2-R120/R121 Stamp Pad Dri11-3/8D NP-362-63 EY102-20 A-4445 CK967 S373	
PROCEDII	RE	-	,-	1100 11000

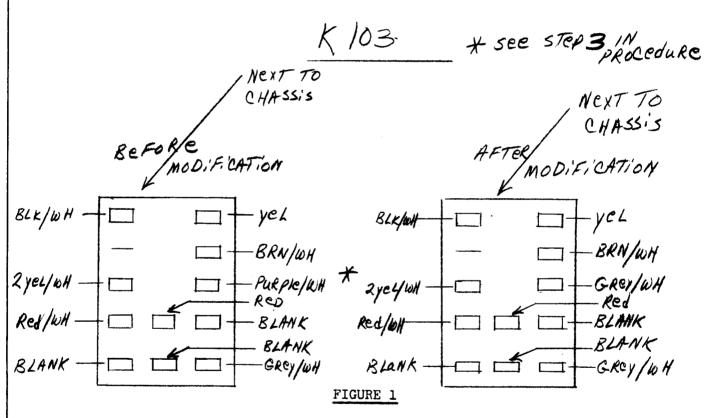
E. PROCEDURE

- 1. Remove PSP-350A from associated equipment. Remove top and bottom cover and turn unit upside down.
- 2. Remove two (2) Purple/White leads from Pin 8 of T-101, splice together, solder and tape.

		TM	IC S	PE	CII	FIC	` A1		N				NO. S	1083	3	***
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COMPILED:	AD		CHEC	KED:				A	PPD:				SHEET	3	OF	15
TITLE:	MODIFI	CATIO	KIT-	-232	B FOR	PSI	2-35	OA P	OWEF	SU	PPL	Y	· 			
Typed by	mtp 3/	15/66						PAR								

E. PROCEDURE - Cont'd

- 3. Remove Purple/White lead on relay K-103, and solder it to Pin 8 of XV101. Remove Grey/White wire from Pin 8 of XV101, and solder it to relay K-103 contact from which was removed the Purple/White wire. (See Figure 1.)
- 4. Remove Grey/White wire from Pin 9 of T-101, and solder it to Pin 8 of T-101.



- 5. Turn PSP-350A on its side with C-104, C-105, C-106 facing the work bench. (See Fig. 2)
- 6. Refer to Figures 2 and 3. Remove existing Red HV lead (CA-377-1) which connects L-103 to L-104 and replace this lead with the resistor assembly, A-4235-2 (Item #1), with two (2) attached leads. See Figure 3 for resistor mounting detail.
- 7. Remove existing Red leads from between L-104, C-105, L-104, and bleed r resistor R-105. DISCARD.
- 8. Mount the second resistor assembly (A-4235-1), Item #2, and solder the end of the resistor which has no wire attech d directly to L=104. The other with wire and lug connects to C=105.

TM	CCDECIFIC	ATION					
	IC SPECIFIC	<u>AIION</u>		NO. S	1083		
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TITLE: MODIFICATION	KIT-232B FOR PS	SP-350A POWER	SUPPLY	i			
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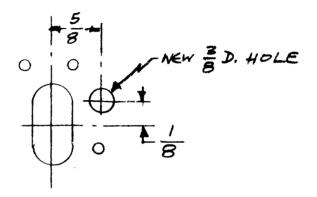
E. PROCEDURE - Cont'd

- 9. Connect Item #5, ten inch RED lead (CA-377-12) with lug from resistor R-113 and C-105. Replace nut on C-105, and tighten.
- 10. Remove Wires from Pins 11 and 13 of T-101.
- 11. Remove wire connected between terminal 12 of T-101 and L-103 (CA-377-3) and discard.
- 12. Remove top cover of PSP-350A and take out rectifier tubes 866-A & 5R4GY.
- 13. With rectifiers removed, drop rectifier sub-assembly (phenolic) by removing four (4) corner screws on bottom and unsolder filament cable (CA-10138). Discard cable CA-10138.
- 14. Solder a short jumper of #16 tinned wire (Item #7) between terminals 1 and 4 of tube sockets XV-103 & XV-104.
- 15. Solder one end of Item #6, 12" Red HV lead (CA-377-10) from Pin 1 or 4 of HV rectifier socket to L-103. Replace sub-assembly (ref. Fig. 3).
- 16. Remove remaining HV lead from end of R105. Remove other end from R113.
- 17. Remove two wires connected to other end of R105. One of these wires runs to the top of R107. Remove it from R107 and connect the Violet wire removed from R105 in its place. See pictorial.
- 18. Remove R105 and its associated mounting brackets saving the mounting hardware.
- 18.1 Drill a 3/8 dia hole with item 11.1 in main chassis near slot as indicated on drilling plan (Figure 1A, Sheet 5) and place grommet, item 12.1 (EY102-20) in the 3/8 dia hole.
- 19. Using the same mounting hardware, mount the new A4445 resistor assembly (Item 13) in its place. Run the longer of the two HV leads thru Item 12.1 just placed in chassis.
- 20. Connect the shorter of the two HV leads to R113.
- 21. Connect the longer one to the top of R107. Dress the lead as in the pictorial.
- 22. Install new solid state rectifiers: DD-127 (C699 Item #4) in sockets XV103 and XV104 which held 866-A, and IN1239 (Item #3) in 5R4GY socket XV101.
- 23. Re-stamp: V101 to read CR102
 V103 to read CR103
 V104 to read CR104
 Stamp R120 R121 directly below the resistors concerned (see Fig. #3)
 using Items 8 thru 11.

TMC FORM SPEC 1

				· · · · ·	TN	1C	S	PI	ECI	FIC	CAT	ΓI(AC						NO.	s	1	083	3		
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TITLE:		MOI	OIF	ICA	TIO	N K	IT-	232	B FOI	R PS	P -3 5	OA	POW	ER	SUE	PLY	?								
Typed	by	mtı	3	/15	/66				PAI	RT I				٠				·							

- E. PROCEDURE Cont'd
 - 24. Replace top and bottom covers.
 - 25. Affix Modification Nameplate sticker, Item #12 (NP-362-63) on back of PSP-350A, and alongside of manufacturers number.
 - 26. Check wiring per Schematic Diagram CK967 (Item #14)
 - 27. Test per Test Specification S-373 (Item #15).



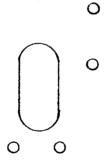
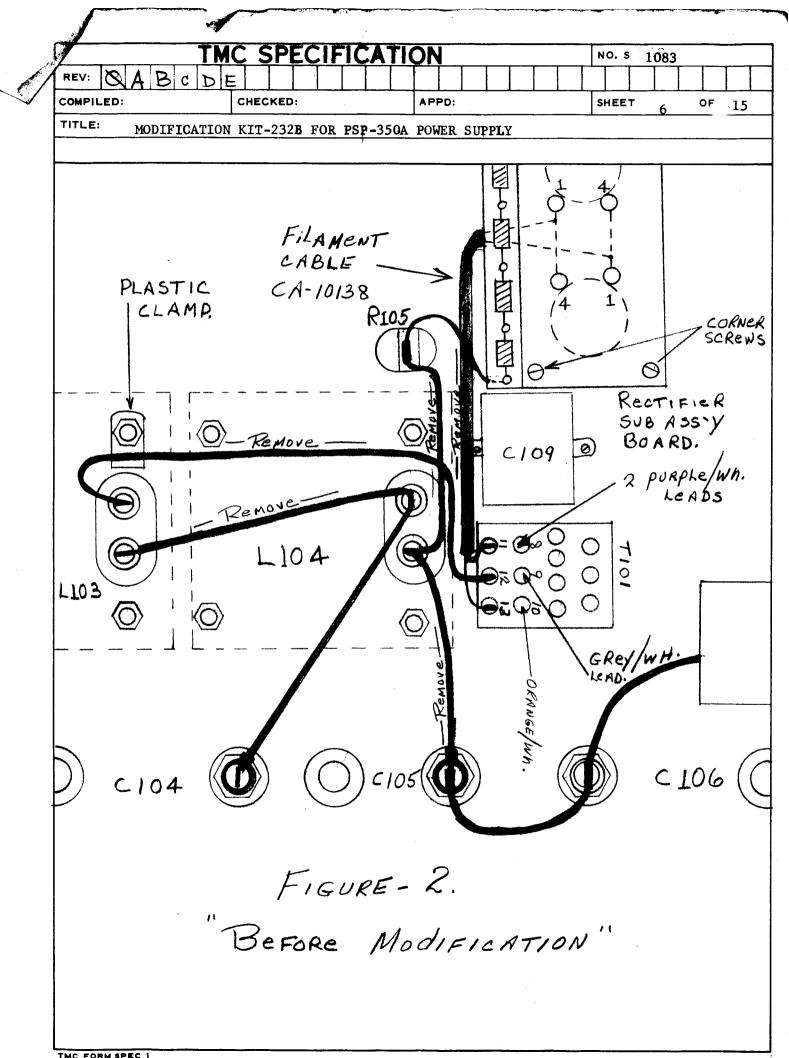
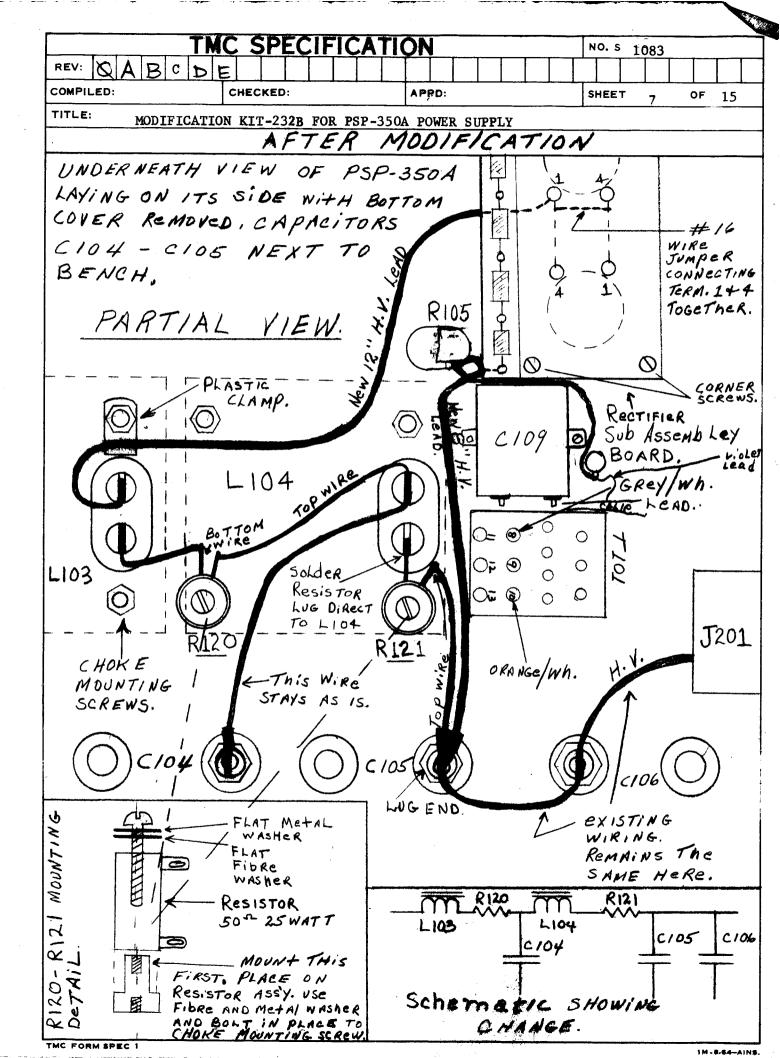
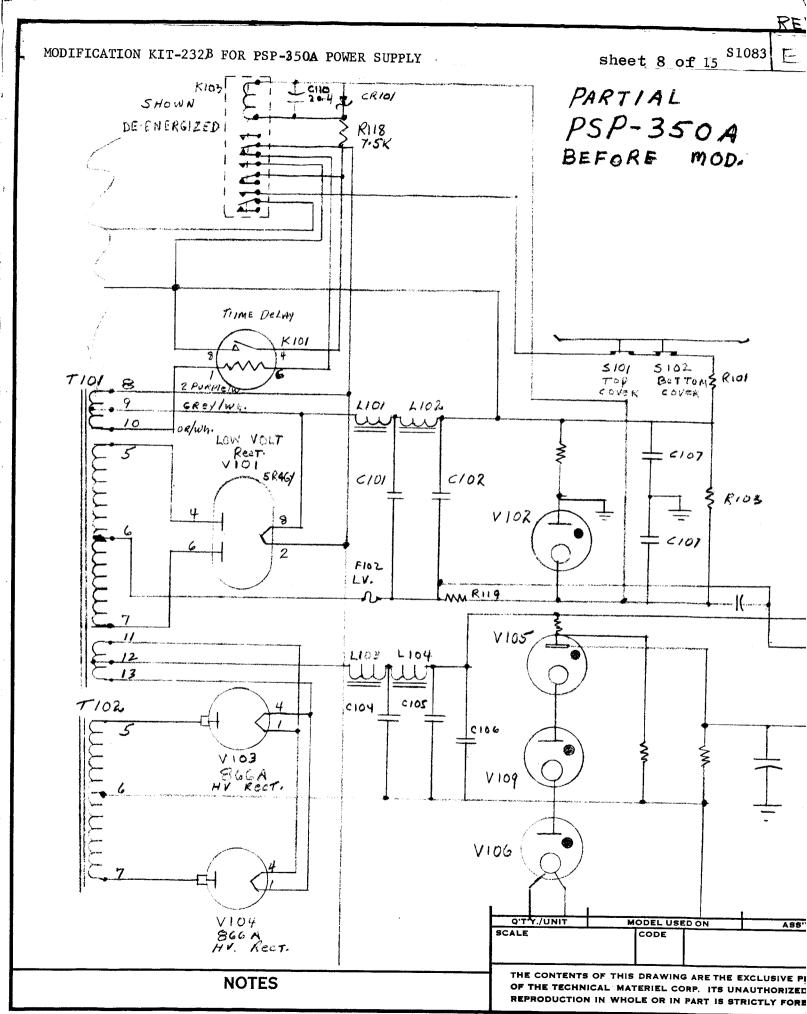


FIGURE IA







TMC FORM 109

		TM(S	SPEC	JF	IC.	AT	101°	1		 NO.	s	1083			
REV: 🚫 /	Bc	DE														
COMPILED:	AD		CHEC	KED:				AP	PD:		SHEE	т	10	OF	15	
TITLE:																
Typed by	mtp 3/15	/66														

MODIFICATION KIT-232B (Part II)

FOR

IMPROVEMENT OF RELIABILITY

OF

RFA-1 POWER AMPLIFIER

		TM	C S	SPEC	:IF	ICA	TI	ON						N	o. s	1083			
REV:	ABC	DE	=																
COMPILED:	AD		CHEC	KED:				API	PD:					SH	HEET	11	OF	15	
TITLE:	MODIFIC	CATION	KIT-	-232B I	FOR	RFA-1	. PO	VE R	AMI	PLI	FIE	3	•						
Typed by	mtp 3/1	.5/66				PART	II												

- A. The following changes are made to the Upon completion of changes, RFA-1A becomes RFA-1B.
- B. The modification permits Class "C" operation for CW.
- C. MATERIAL REQUIRED AND FURNISHED:

ITEM	SYMBOL	QTY.	TMC PART NO.	DESCRIPTION
1	S206	1	ST-22-K	DPST Toggle Switch
2	R235	1	RC32GF 473 J	47K ohms 1 W Resistor
3	CR204/205	2	1 N 645A	Diodes
14		1	SCBP0440BN 4	Screw 0440 1/4"
5		1	TE102-2	Stand/off Ins.
6		1	MWC20(7)U4	23" Yellow Wire
7		2	MWC20(7)U94	13" Yellow/White Wire
8		1	MWC20(7)UØ	1 1/2" Black Wire
9		1	MWC20(7)U94	6" Yellow/White Wire
10		1	NP36 2-63	Nameplate
11		1	EY-102-1	Crommet
12		1	LD1985/MS4722	Top Cover (perforated)
13		1	MS4723	Bottom Cover (perforated)
14		1	MS4724	Cover Driver, Chassis
15	R223	1	RC20GF223J	Res., Fxd., 22K ohms
16		1	CK1002	Schematic Diagram, RFA-1B
17		1	S1094	Test Procedure
18		1	TP131-1-SSB/CW	Rubber Stamp
19		1	TP131-1-S206	Rubber Stamp
DDOCEDIE	DE .		•	

D. PROCEDURE

^{1.} Remove top and bottom covers, driver chassis cover, and discard. Remove bottom PA shield, (4 small screws). Remove PA airflow shield, (curved section), by removing 3 retaining screws from top of unit. Lift terminal board by removing 2 screws on top of chassis near T208.

					TM	1C	SF	ECI	FIC	ATI	NC				,	10. 5	s-10	083			-
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TITLE:		MOD	IFI	CAT	ION	KIT	- 232	B FOR	RFA-1	POWE	R AMP	LIF	IER	 							
Typed	bу	mt	p 5	/25	/66				PART	II				 							

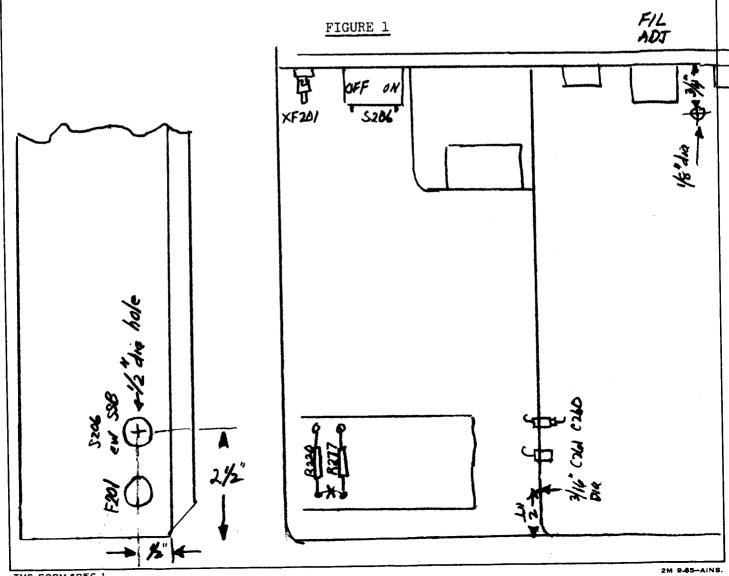
D. PROCEDURE - Cont'd

- 2. Mount DPST Toggle Switch (Item #1) in 1/2" hole drilled next to fuse holder XF-201 with the OFF side facing XF-201 (See Figure 1). Using rubber stamp (Item #18) stamp "ON" position of switch SSB and "OFF" position CW. Stamp switch symbol S206 using Item #19 directly above CW/SSB.
- 3. Drill a 3/16" hole in line with C261, 1/2" from corner. Insert grommet (Item #11) in hole.
- 4. Locate R-215, a 22K 1 watt resistor nearest blower exhaust, and unsolder from ground end.
- 5. Drill a 1/8" hole 3/4" from rear lip, midway between FIL ADJ and V204 BIAS pots. Install stand/off insulator, TE-102-2 (Item #5) with 0440 screw (Item #4). Glyptal base of insulator. Solder loose end of R-215 to stand/off.
- 6. Run Yellow wire (Item #6) from bottom "OFF" terminal (nearest to XF201) of DPST switch S206, through grommet and connect to R215, the end which ties to stand/off insulator (ref. to Figure 2).
- 7. Connect a 47K ohm l watt resistor, (Item #2), from the ground lug formerly used by R-215, to the stand/off insulator. Solder.
- 8. Connect the bottom "ON" side of the DPST switch (S206) to ground lug with a Black wire (Item #8).
- 9. Remove the lead from C-260 which connects to R227 (determine which of the two wires is correct with and ohmmeter). Splice together with a 13" piece of Yellow/White lead, (Item#7), and solder. Slide over connection a 2" piece of Black sleeving.
- 10. Solder other end of wire to the "ON" side of DPST switch which has no wire on it.
- 11. Connect the second Yellow/White lead (Item #7) between remaining DPST switch contact, ("OFF" side), and C-260.
- 12. Remove jumper between R-227 and R-220 (jumper is on underside of board).
- 13. Connect a 6" Yellow/White wire (Item #9) between the end of R-220 from which jumper was removed, to C-260. Dress new wiring along main cable and tie in place avoiding "S" clip and microswitch plunger. Replace terminal board.
- 14. Change CR-204 and CR-205 from 1N67 to 1N645A (Item #3). Use heat sink, stress relief and observe original polarity.

					TN	AC	<u> </u>	PE	C	IF	TC	`A`	TI	AC					N	o. s-	-10	83			
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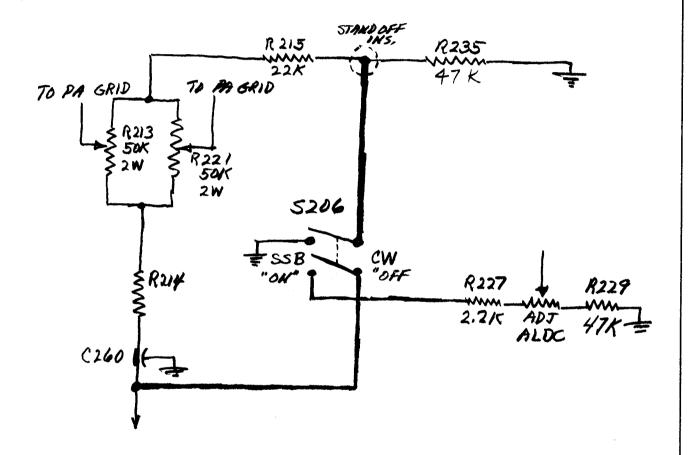
PROCEDURE - Cont'd

- Replace 13K ohm R-223 with new 22K ohm resistor (Item #15). 15.
- Check wiring per Schematic Diagram CK1002 (Item #16). 16.
- Attach new top and bottom covers, and driver chassis cover (Items 17. 12-14).
- This completes modification of RFA-1A to RFA-1B. 18.
- Attach modification nameplate, Item #10, to front panel of RFA-1B 19. under original nameplate. If both Part I and Part II of this modification kit have been accomplished, the equipment now is a PAL-350B.
- Test in accordance with Test Procedure S1094 (Item #17). 20.



					TI	MC	<u>S</u>	P	EC	IF	FIC	A	TIC	1C	1		 	-	 N	o. s	-10	83			
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TITLE:		MOD	IFI	CAT	ION	KI	T-2	32B	FO	R R	FA-	1.A	POW:	ER	SUF	PLY		-,,							
Typed	bу	mt	p 5	/25	/66)					PAI	RT	II						 		-				

FIGURE 2



REVI	510N	SHEET	r	THE TECHNICAL MATERIES, CORP. MAMARONECK NEW YORK	S1083	
DATE	REV.	SHEET	EMN #	DESCRIPTIO	N SHEET 15 of 15	APP.
3/16/66	B			ORIGINAL RELEASE FOR PRODUCTION		
4/5/66	Α		16055	Revised shts. 2,3,4,5,14 per EMN		
5/11/66			16235	Revised shts. 1,2,5,10,11,12,13,14	p er EMN	19
5/25/6			16298			MA
6/1/66	D	11,12,	1	Revised per EMN		
6/21/66	Е	12.13	16435	Revised per EMN		0
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