KIT-161 S926

TMC SPECIFICATION NO. S 926

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TITLE:

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SWCU-1 MODIFICATION for GPT-10K

KIT-161

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COMPILED	CHECKED	TITLE: SWCU-1 MODIFICATION KIT (TMC NO. KIT 161)	
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1. EQUIPMENT AFFECTED:
   A. TMC MODEL GPT-10K general purpose transmitters.

2. PURPOSE:
   a. Provides for a direct wattmeter reading in average power output and an indication of VSWR at the operated output of the transmitter.

   b. Provides a 2:1 or 3:1 pre-set VSWR protective circuit overload and visual indicating device.

   c. Provides for a single control ALDC adjustment.

3. MATERIALS SUPPLED IN KIT:

ITEM NO.	AMOUNT	DESCRIPTION
1	one ea.	TMC NO. SWCU-1 CONTROL UNIT
2	one ea.	TMC NO. CA555-1 AC PWR CBL FOR SWCU-1
3	one ea.	TMC NO. MR.170 RF WATTMETER
4	one ea.	TMC NO. LD-1378/PX-794 ANT.TUNER BOARD
5.	one ea.	TMC NO. CA-412-23-23 SINGLE CONDUCTOR CABLE
6.	one ea.	TMC NO. A4223 ALDC ASSEMBLY
7.	one ea.	TMC NO. RV4NCYSD503AYY POTENTIOMETER & SWITCH
8	two ea.	TMC NO. PJ055B TELEPHONE PLUG FOR SWCU-1
9.	one ea.	TMC NO. CA-826 CABLE ASSEMBLY
10.	one ea.	TMC NO. CA-829 CABLE ASSEMBLY
11.	one ea.	TMC NO. LD1776/MS4334 PLATE/SWR OVLD
12.	one ea.	TMC NO. LD1775/MS4333 PLATE/SWR SW.ALDC ADJ.
13.	one ea.	TMC NO. CA480-14-120 CABLE ASSY.
14.	four ea.	TMC NO. SCBP1032BN8 MOUNTING HARDWARE
15.	one ea.	TMC NO. MS3102A20-29S REPLACES J-1000
16.	one ea.	1/2 inch drill bit for SWR-BNC Hole
17.	three feet	TMC NO. PX-100-1-106 Sleeving for J-1000 Rewiring
18.	Twelve feet	TMC NO. CD-101-1MW Lacing Cord
19	NOT USED	
20	NOT USED	for Bracket
21.	one ea.	TMC NO. MP-108-2 ALDC KNOB
22	NOT USED	
23.	four ea.	TMC NO. WA-101-11 Fiber Washers
24	NOT USED	

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ITEM NO.	AMOUNT	DESCRIPTION
26	one ea.	TMC NO. MWC20(7)U5, 14 inches, from F-705 to I-705
27	one ea.	TMC NO. MWC20(7)U2, 10feet, from J-1000 Ovld Reset
28	one ea.	TMC NO. MWC20(7)U4, 10 feet, from J-1000 to P-700
29	NOT USED	
30	one ea.	TMC A-3426, COUPLER/BRACKET ASSY
31.	three feet	TMC NO. MWC 22(7)UO wire from I-705 to small "h" of J-700.
32	one ea.	TMC NO. TP-131 STAMP KIT: C/O (1 ea. TP131-J1009/P3051; 1 ea. TP131-1-SWR; and 1 ea. Stamp Pad, Black)
33.	one ea.	TMC NO. NP-362-34, Name Plate
34.	one ea.	Drawing MS1588

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4. TOOLS REQUIRED:

To be provided by the installing activity.

1. Soldering iron (small tip) and 2 feet solder
2. Medium Phillip's Screw driver.
3. **Assorted 1/8 to 5/8 spintite wrenches (or equivalent).**
4. 6" Pliers, diagonal cutting.
5. 6" Pliers, longnose.
6. 6" Flat Blade Screwdriver.
7. Socket and Speed Wrench for removing outside covers.
8. **Electric Drill, 1/2" capacity**

PROCEDURE:

REMOVE ALL INPUT POWER FROM TRANSMITTER AND SIDE BAND RACK TO BE MODIFIED.

VIEWING TRANSMITTER FROM FRONT:

1. Remove Hi Voltage Rectifier Drawer, AX-103.

2. Remove Relay Panel, AX-139, disconnecting cable connectors at rear of panel.

3. Remove RFC Drawer, AX-104, disconnecting all connectors at rear of drawer.

4. Remove Front Panel PA(glass) window by removing the 10 # 8-32 OVALHEAD screws.

5. Remove Right Side Cabinet Cover and Shield.

6. Remove Hi Voltage Lamp Assembly, located Top of Side Band Rack using the following procedure:

   a. Remove CBE from Side Band Rack.
   b. From Inside Side Band Rack, remove lamp connections (white/black and white wire) from Jones Strip (E-3003).
   c. Unbolt the two bolts holding lamp assembly from inside cabinet and remove lamp assembly.

7. Remove Transmitter Cabinet Top Cover.

8. Open Rear Doors and Remove Rear Shield from PA RF Compartment.

9. Remove Antenna Tuner Assembly from top of PA compartment which consists of L-912-L-913, Phenolic Board and other components, by disconnecting all external connections from assembly and remove top bracket of the output loading shaft, which is held by two screws. While one man supports the antenna tuner from the bottom, another man should remove four nuts from studs on the roof of the PA compartment.

10. Remove antenna strapping from Phenolic board and SAVE STRAPS

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11. Disconnect and Remove Phenolic board from L-912-L-913 assembly (no longer used)

12. Replace Phenolic board, removed, in Step #11 with item #4 supplied in kit.

13. Disconnect and Remove TC-900 (thermocouple), L-916 and L-917 (no longer used)

14. Disconnect and Remove C-1019 and C-1020 (no longer used).

15. Reinstall L-912 and L-913 assembly in original location, using existing mounting holes and hardware. Restrap Board, using original straps for desired balanced or unbalanced output: referring to Figure 2-9 page 2-15 of Model GPT-10K Volume Two, the Maintenance Manual.

16. Remove Rf Output Connector, J-903 and bracket (no longer used). Save mounting hardware for Step 17.

17. Replace J-903 and bracket removed in step #16 with item 30 supplied in kit.

18. Connect one end of item #5 supplied in kit, to center connecting stud of Directional Coupler and other end of item #5 to E-904

19. Disconnect and Remove PA Output Meter (M-1004) and capacitor (C-1011) from PA metering Panel. Discard M1004. Retain C1011.

20. Mount Item #3 supplied in kit, in M-1004's Location. Install C1011 across terminals of Item 3.

21. Place item #10 (CA-829) in right side (front) main frame channel, with P-903 and P-905 (directional coupler connectors) pointing toward top of PA frame.

22. Connect wattmeter connector of item #10, tagged #2, to Forward connector of Directional Coupler and the other connector, tagged #1, to Reflected 1 kw connector of Directional Coupler.

23. Insert the BROWN SHIELDED lead of CA-829 through the opening located on right side of PA meter panel and connect the BROWN WIRE to the (+) positive stud of item #3 (wattmeter) connect #25 BLACK WIRE, to (-) Negative stud of wattmeter and pigtail of black wire to any convenient ground. Using ½ drill, Item 16, drill a hole (F) in the bottom of the Front window right side bracket, MS1588, as indicated on the drawing of MS1588, Item 34.

24. Route the CA-829 cable end (remaining end pointing downward), that has been placed in right front channel of main frame, through this grommet hole, and lace to existing cable as far as ALDC switch (S-1003).

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25. Remove ALDC on/off switch (S-1003) and unsolder the leads from switch.

26. Remove ALDC "adj knob" from R-1004.

27. Remove ALDC control (R-1004) and unsolder the leads from R-1004. **Retain lug for use in Step #33.**

28. Using Item #16 supplied in kit, enlarge hole from which R-1004 was removed, to a diameter of one-half inch, to accomodate Item #6.

29. Place Item #12 supplied in kit, to fit over the two existing holes created in step #25 and step #27.

30. Mount Item #7 supplied in kit, in hole left empty in step #25. **Switch lever down.**

31. Mount item #6 assembly supplied in kit, in hole enlarged in step #28.

32. Attach item #21 supplied in kit, to shaft of item #7.

33. Connect CA-829 (item #10) cable, to newly installed items #6 and #7 as per Figure #1 'a' and 'b'.

34. Remove connections from rear of IPA **bias** indicator (located right, front, relay panel).

35. Remove IPA **bias** lamp assembly X-705 and place item #11 over lens panel cutout.

36. Replace **bias** lamp assembly, **securely**, over SWR overload indicator plate.

37. Rewire Relay panel, AX-139 and SWR overload indicator as follows:

    1. On Terminal Barrier E-705 of Relay Panel, remove lead between Terminal #53 and terminal #57.

    2. Eliminate lead #58 on E-705 and **connect** item #31 on I-705, SWR **overload lamp**, and other **end** of item # 31 to Pin small "h" of J-700.

    3. Remove lead that tied from I-704 to I-705.

    4. Add Lead From fuse F-705 to; SWR overload lamp, I-705 (item #26 supplied in kit).

VIEWING SIDE BAND RACK FROM REAR OF TRANSMITTER:

38. Disconnect P-3000 from J-1000.

39. Remove J-1000 from left panel of Side Band Rack, Label and unsolder all connections on plug.

40. Replace J-1000 with item #15 supplied in kit, and rewire as per figure #2 using three-quarter in. lengths of plastic tubing, item #17 supplied in kit, over each solder connection of plug. Also add item #28 to Pin R and item #27 to Pin S of item #15.

41. Route the YELLOW and RED wires, (new items #27 and #28) from J-1000 (aux. to main frame interconnect) through grommet hole located on deck below main blower along main frame cabling: then, route YELLOW wire, down cable run to P-700 (Connector that mates to J-700 on relay panel) and route RED wire up behind main power control panel to Reset Switch (S-1000).

(a) Solder Red wire, just routed to S-1000 to the terminal that has one red wire already attached.
NOTE: After soldering, you now should have (2) red wires on the same switch terminal.
(b) Disassemble P-700 and connect YELLOW wire from J-1000 to pin small "h" of P-700 .
(c) Reassemble P-700.

42. Remount J-1000 in original location.

43. Drill a one-half inch hole with item #16 supplied in kit, one inch to right from (horizontal plane) of P-3048 (ALDC).

44. Install item #13 supplied in kit, in hole drilled in step #43. Stamp above item #13, J-1009, P-3051, and below item #13, stamp SWR using item #32. Keep the RG174/U cable projecting into the main PA frame.

45. Route coaxial cable from SWR, BNC connector on left side of Side Band Rack, through grommet hole, (right side, 4" from back of xmtr, on deck below main blower motor); through grommet hole, right side, behind RFC drawer: follow main frame harness, laying coaxial cable behind main power control panel up to SWR Switch located on Main Power Control Panel (S-1017). Lace the three loose, new, cables to main frame cable harness. **Wire per Fig. 1 (b).**

46. Disconnect J-1006 through J-1008 and remove entire cable assembly, CA-571 (main frame interconnect to Side Band Rack) and unsolder and disconnect all connections of this cable, located at rear of Side Band Rack from the 10 feed thru caps, K-3000, K-3001 and J-3000.

47. Replace step #46, removed cable assembly, with item #9 (CA-826) supplied in kit, rewiring according to Figure #3.

48. Install item #1 supplied in kit, directly below CPP-5, located at rear of Side Band Rack, with items #14 and #23 supplied in kit.

49. Connect AC Power cord of SWCU-1 to AC Outlet Strip.

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50. Connect P-3052 to J-105 and P-3053 to J-101 of CA-826 to rear of SWCU-1.

51. Connect P3051 of CA-826 to J1009 (items #13) installed in step #44.

52. Connect P-3000 of CA-826 to J-1000.

53. Reconnect P-700 to J-700 and all other connectors of Relay Panel, and install Relay Panel, AX-139.

54. Replace Hi Voltage Rectifier Drawer, AX-103.

55. Replace RFC Drawer, AX-104, and reconnect all connectors at rear of drawer.

56. Replace Top Cover of transmitter.

57. Replace Hi Voltage Lamp assembly on top of transmitter and fasten assembly mount with the two studs inside Side Band Rack. Reconnect the Lamp's two connections on E-3003.

58. Replace and Reconnect CBE in Side Band Rack.

59. Replace Meter Panel at Top Front of Transmitter, using the six #8-32 screws.

60. Replace Right Side Transmitter shield and Right Side Outside Cover.

61. Replace PA Glass Window with the 10 # 8-32 oval head screws, removed in step #4.

62. Replace Rear Transmitter RF Shield and close Rear Doors of transmitter and Side Band Rack.

63. Reconnect Antenna or Dummy Load.

64. Check ALDC switch is to OFF position.

65. On SWCU-1 select either 2:1 or 3:1 VSWR with switch S-102. This completes the modifaction #161 of your GPT-10K.

66. Apply item #33 directly below name plate of relay panel cover.

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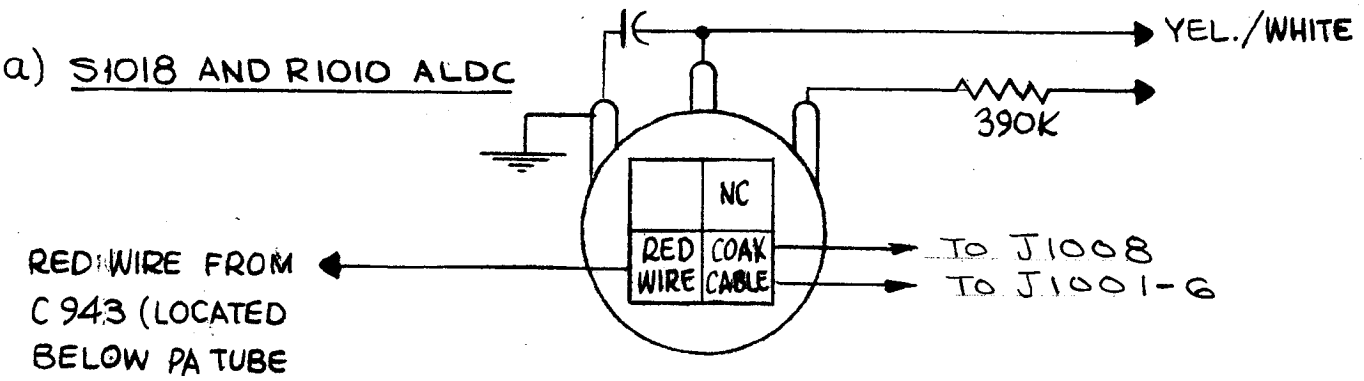
TITLE: SWCU-1 MODIFICATION KIT (TMC NO. KIT 161)

(a) S1018 AND R1010 ALDC



(b) S1017 SWR

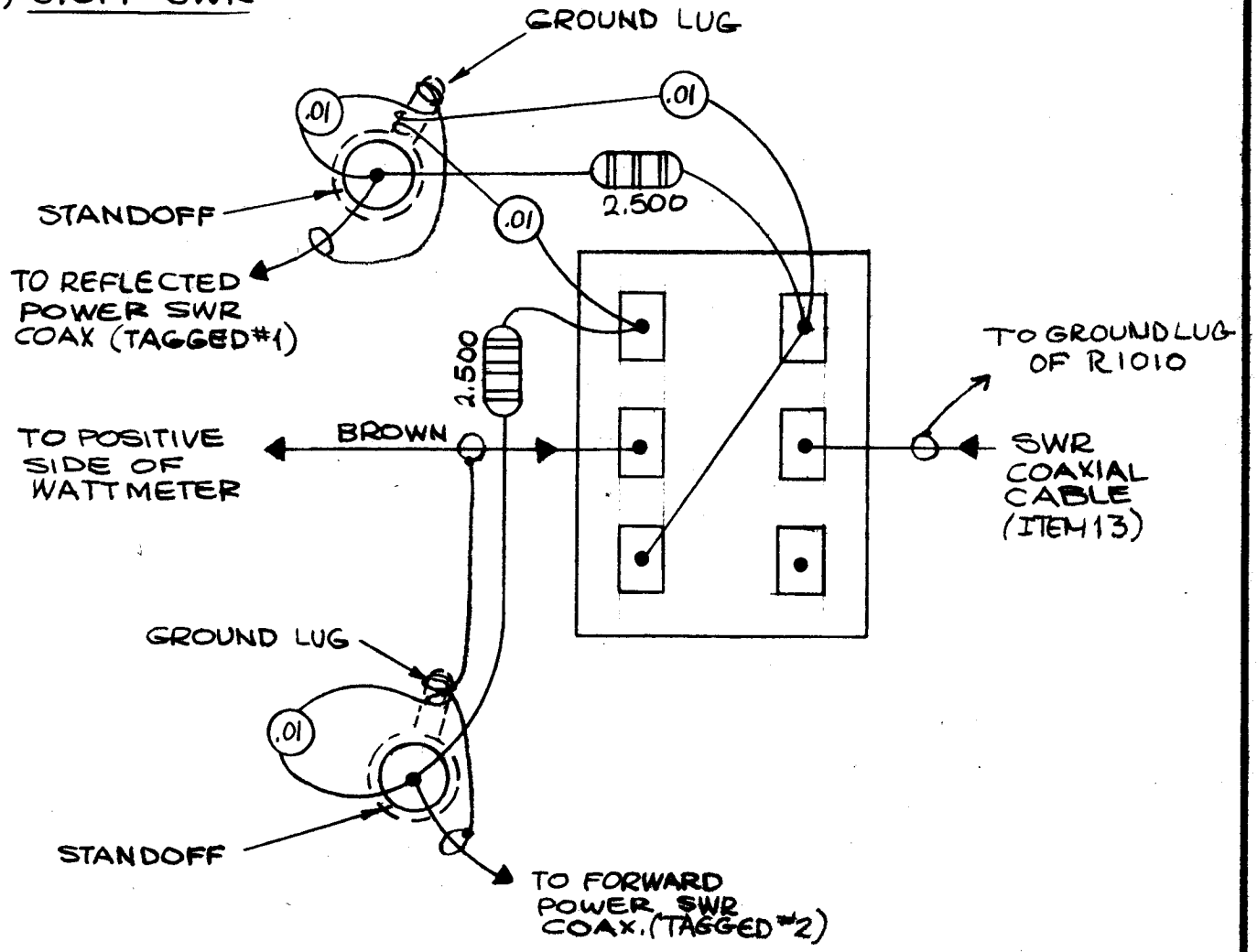


FIG-#1

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FIGURE #2

MS -3102A20-29S (NEW J-1000 WIRING COLOR CODE)

PIN --	J - GREEN	Tag 1	
	K - YELLOW	Tag 25	MWC22(7) U4, EXTERNAL INTERLOCK IND
	A - RED		MWC20(7) U2, H.V. RELAY
	P - WH/BROWN		
	B - WH/GREY		
	D - WH/ORANGE		
	H - WH/BLACK		
	C - WH/BLUE		
	F - WH/YELLOW		
	E - BLACK		
	G - BLUE		
	L - WH/BROWN		
	M - WH/RED		
	N - RED		MWC22(7)U2, RFB(SCREEN) CONN. TO EXCIT. CONT.
	R - YELLOW		MWC20(7)U4, RELAY PLUG TO EXCITER CONNECTOR
	S - RED		MWC20(7)U2, OVLD RESET TO EXCITER CONNECTOR

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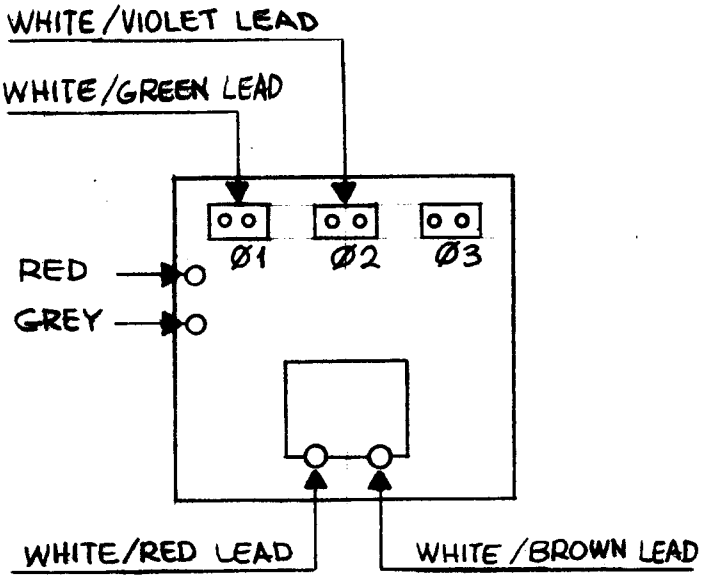
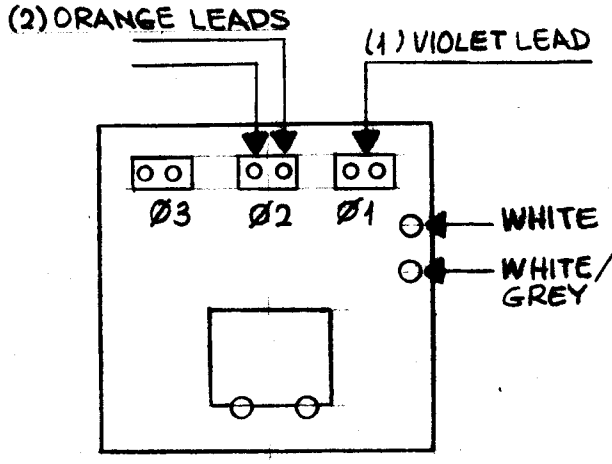
LD / 528 B

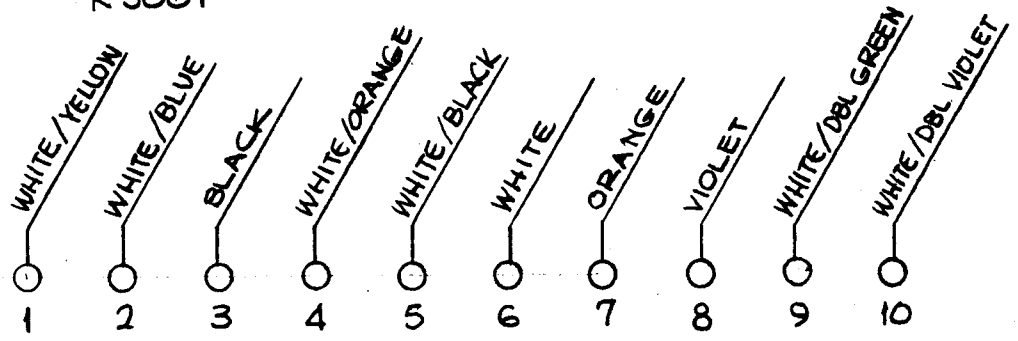


K3001

REWIRING OF CA 826 IN REAR SIDE BAND RACK.



K 3000



NOTE: ALL ABOVE WIRING IS IDENTICAL TO CABLE REMOVED IN STEP #46 OF MOD. KIT INSTRUCTION.

FIG-#3

OGILVIE PRESS, INC., BROOKLYN 17, N. Y. STOCK NO. 439M