

DATE		TMC SPECIFICATION NO. S 929		C
SHEET 1 OF 11				
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APPROVED <i>[Signature]</i>				

KIT-225
\$929

SWCU-1 MODIFICATION FOR GPT-10K DRIVER
(KIT- 225)

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I. EQUIPMENT AFFECTED:

A. TMC MODEL GPT-10K DRIVER FOR GPT-40K general purpose transmitter.

II. PURPOSE:

- a) Provides for a direct wattmeter reading in average power output and an indication on VSWR at the operated output of the GPT-10K DRIVER.
- 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.

III. MATERIALS SUPPLIED IN KITS

<u>ITEM NO.</u>	<u>AMOUNT</u>	<u>DESCRIPTION</u>
1	one ea.	TMC NO. SWCU-1 CONTROL UNIT
2	one ea.	TMC NO. A4237, DIRECTIONAL COUPLER ASSEMBLY
3	one ea.	TMC NO. MR-170 RF WATTMETER
4	one ea.	TMC NO. A4223 ALDC ASSEMBLY
5	one ea.	TMC NO. RV4NCYSD503AYY
6	one ea.	TMC NO. CA-826 CABLE ASSEMBLY
7	one ea.	TMC NO. CA-829 CABLE ASSEMBLY
8	one ea.	TMC NO. LD1776/MS4334 PLATE/SWR OVLD.
9	one ea.	TMC NO. LD1775/MS4333 PLATE/ALDC ADJ. SWR SWITCH
10	one ea.	TMC NO. CA480-14-120 CABLE ASSEMBLY
11	four ea.	TMC NO. SCBP1032BN8 SWCU-1 MOUNTING HARDWARE
12	four ea.	TMC NO. WA-101-11, SWCU-1 FIBER WASHERS.
13	one ea.	TMC NO. MS-3102A20-29S REPLACES J-1000
14	one ea.	1/2" DRILL BIT, FOR SWR-BNC HOLE
15	three ft.	TMC NO. PX-100-1-106 PLASTIC SLEEVING FOR J-1000 REWIRING
16	Twenty four ea.	TMC NO. CU-142-2-9 ADJ. CABLE STRAPS
17	one ea.	TMC NO. MP-108-2 ALDC KNOB
19		TMC NO. MWC20(7)U, 14 INCH WIRE FROM F-705 TO I-705.
20	10 feet	TMC NO. MWC20(7)U2, FROM J-1000 TO OVLD RESET.
18	Deleted	

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ITEM NO.	AMOUNT	DESCRIPTION
21	10 feet	TMC NO. MWC20(7)U4 FROM J-1000 TO P-700
22	NOT USED	
23	3 feet	TMC NO. MWC22(7)U0. FOR CONNECTION FROM I-705 TO "h" of J-700.
24	one ea.	TMC NO. MS-3671 DIRECTIONAL COUPLER MTG. BRKT.
25	one ea.	TMC NO. MS-3670 DIRECTIONAL COUPLER MTG. BRKT.
26	four ea.	TMC NO. LWE10MRN LOCK WASHERS.
27	four ea.	TMC NO. SCBP1032BN10 MACHINE SCREWS
28	one ea.	DRILL BIT #21
29	one ea.	TAP #10-32 UNF
30	one ea.	TMC NO. A-3424 DWG.
31	one ea.	TMC NO. TP-131, STAMP KIT, consisting of TP131-J1009/P3051, TP131-SWR, STAMP PAD, BLACK.
32	one ea.	TMC NO. NP-362-32, NAME PLATE
33	one ea.	DRAWING MS-1588

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I V. TOOLS REQUIRED:

TO BE PROVIDED BY THE INSTALLING ACTIVITY.

1. Soldering iron (small tip) and 2 feet solder
2. Medium Phillips' Screwdriver
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. **Electric Drill, 1/2" capacity**

V. PROCEDURE:

REMOVE ALL INPUT POWER FROM TRANSMITTER AND SIDE BAND RACK TO BE MODIFIED (INCLUDING GPT-40K)

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 oval head screws.
5. Open Rear Doors of Side Band Rack and GPT-10K and remove Rear Shield from GPT-10K PA RF Compartment.
6. Disconnect and remove TC-900 (Thermocouple) and L-916 and L-917 (NO LONGER USED).
7. Disconnect and remove C-1019 and C1020 (NO LONGER USED).
8. Remove PX-536, Phenolic Board, from bottom front of Plate Load Resistor mounting, by removing the four 10-32 machine screws that secure the board to the plate load resistor mounting. (PX-536 NO LONGER USED).
9. Attach item #24 and #25 supplied in kit, to item #2 supplied in kit, as per drawing #A-3424 (item #30) supplied in kit.
10. Using item #28 supplied in kit; drill two holes in plate load resistor mounting (located at top of GPT-10K PA compartment) as per Figure #4.
11. TAP these two holes just drilled in Step #10, with item #29 supplied in kit.
12. Mount Directional Coupler (item #2) and brackets (items #24 and #25) supplied in kit, with items #26 and #27 supplied in kit, as per drawing (item #30) supplied in kit.
13. Attach input HV jumper cable to input of directional coupler and output HV jumper cable to output of directional coupler, referring to drawing (item #30) supplied in kit.

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14. Disconnect and Remove PA Output meter (M-1004) and capacitor (C-1011) from GPT-10K metering panel (NO LONGER USED). **Retain (C1011).**
15. Mount Item #3 supplied in kit, in M-1004's location. **Replace (C1011)**
16. Place item #7 (CA-829) in right side (front) main frame channel, with P-903 and P-905 (directional coupler connectors) pointing toward top of PA frame.
17. Connect wattmeter connectors of item #7 with cable tagged #2 to forward direction connector of directional coupler and other **connector tagged #1** to reflected connector of directional coupler.
18. 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 the** BLACK wire, to (-) NEGATIVE stud of wattmeter and **pigtail** of black wire to any convenient ground lug. **Using 1/2" drill, item #14, drill a hole (F) in the bottom of the front window right side bracket, MS-1588 as indicated on the drawing of MS-1588 item #33.**
19. Route the CA-829 cable end (remaining end, pointing downward) that has been placed in right front channel of main frame, through the grommet hole located right side of main power control panel and using three ea. of item #16 supplied in kit, strap to existing cable as **far** as ALDC switch (S-1003).
20. Remove ALDC "ON/OFF" switch (S-1003) and unsolder the leads from the switch.
21. Remove ALDC "adj. Knob" from R-1004.
22. Remove ALDC control (R-1004) and unsolder the leads from R-1004. **Retain ground lug for use on item #5.**
23. Using item #14 supplied in kit, enlarge hole from which R1004 was removed, to a diameter of one-half inch, to accomodate item 4.
24. Place item #9 supplied in kit, to fit over the two existing holes created in step #20 and Step #22.
25. Mount item #5 supplied in kit, in hole left empty in Step 20.
26. Mount item #4 assembly supplied in kit, in hole enlarged in Step 23. **Switch lever down.**
27. Attach item #17 supplied in kit, to shaft of item #5.
28. Connect CA-829 (item #7) cable, to newly installed item #4 and #5 as per Figure #1 "a" and "b".
29. Remove connections from rear of IPA bias indicator (located right front on AX-139, relay panel).
30. Remove IPA bias lamp assembly (AX705) and place item #8 over lens panel cutout.
31. Replace bias lamp assembly, securely, over SWR OVERLOAD indicator plate.
32. Rewire Relay Panel, AX-139, and SWR OVLD indicator as follows:

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1. On terminal Barrier E-705 of relay panel, remove lead between Terminals #53 and Terminal #57.
2. Eliminate lead #58 on E-705 and connect one end of Item #23 on SWR overload lamp, and connect the other end of item #23 to pin small "h" of J-700.
3. Remove lead that tied from I-704 to I-705.
4. Add lead item #19 supplied in kit, from fuse F-705 to other side of SWR overload lamp, I-705. (The side that has no wire attached).

VIEWING SIDE BAND RACK FROM REAR OF TRANSMITTER

33. Disconnect P-3000 from J-1000.
34. Remove J-1000 from left panel of Side Band Rack, label and unsolder all connections on plug.
35. Replace J-1000 with item #13 supplied in kit, and wire as per Figure #2 using three-quarter inch lengths of plastic taping (item #15) supplied in kit, over each solder connection on plug.
36. Route the Yellow and Red wire (new item #20 and #21), from J-1000 (aux. to main frame interconnect) through grommet hole located on deck below main blower motor, along main frame cabling; then YELLOW wire down cable run to P-700 (connector that mates with J-700 on relay panel) and route RED wire up behind main power control panel to Reset Switch (S-1000) on GPT-10K.
 - 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 coming from J-1000 to pin small "h" of P-700.
 - c) Re-assemble P-700.
37. Remount J-1000 in original location.
38. Drill a one-half inch hole with item #14 supplied in kit, one inch to right front (horizontal plane) of P-3048(ALDC).
39. Install item #10 supplied in kit, in hole drilled in step #38. STAMP above item #10, J-1009, P-3051 and below item #10 stamp SWR, using item #31. Keep the RG174/U cable projecting into the main PA frame.
40. Route coaxial cable from SWR, BNC connector on left side of Side Band Rack, through grommet hole (right side 4 inches 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 (S-1017), located on main power control panel. Strap the three loose cables to main frame cable ~~harness~~ with 10 straps (item #16) supplied in kit. Wire per Fig. 1 (b).

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41. Disconnect J-1006 thru 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.
42. Replace step #41, removed cable assembly, with item #6 (CA-826) supplied in kit, **rewiring** according to figure #3.
43. Install item #1 supplied in kit, directly below CPP-5, located at rear of Side Band Rack, with items #11 and #12 supplied in kit.
44. Connect AC Power cord to J-101 of SWCU-1 and to AC Outlet Strip.
45. Connect P-3052 of CA-826 to J-105 at rear of SWCU-1 and P-3053 of CA-826 to J-101 of SWCU-1.
46. Connect P3051 of CA-826 to J1009 (item #10) installed in Steps #39.
47. Connect P-3000 of CA-826 to J-1000.
48. Reconnect P-700 to J-700 and all other connectors of Relay Panel, and install Relay Panel, AX-139.
49. Replace Hi Voltage Rectifier Drawer, AX-103.
50. Replace RFC Drawer, AX-104 and reconnect all connectors at rear of drawer.
51. Replace meter panel at Top Front of GPT-10K transmitter using the six #8-32 screws.
52. Replace PA Glass window of GPT-10K transmitter with the ten #8-32 oval head screws removed in Step #4.
53. Replace the GPT-10K Driver's RF rear shield and close rear doors GPT-10K Driver and Side Band Rack.
54. Check ALDC switch is to OFF position.
55. ON SWCU-1, select either 2:1 or 3:1 VSWR with switch, S-102.
56. This completes the modification # 225 of your GPT-10K DRIVER.
57. Apply item #32 directly below name plate on relay panel cover.

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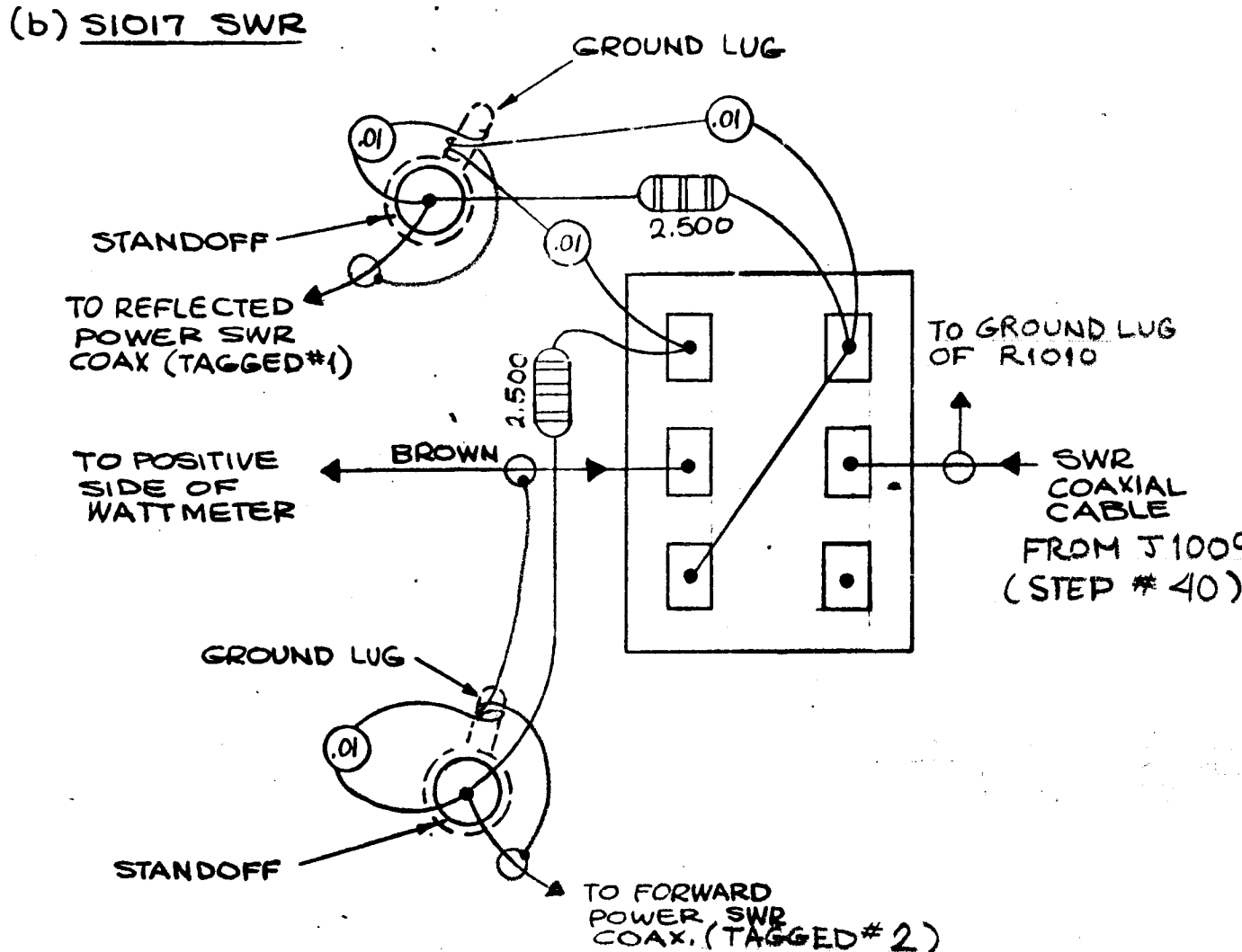
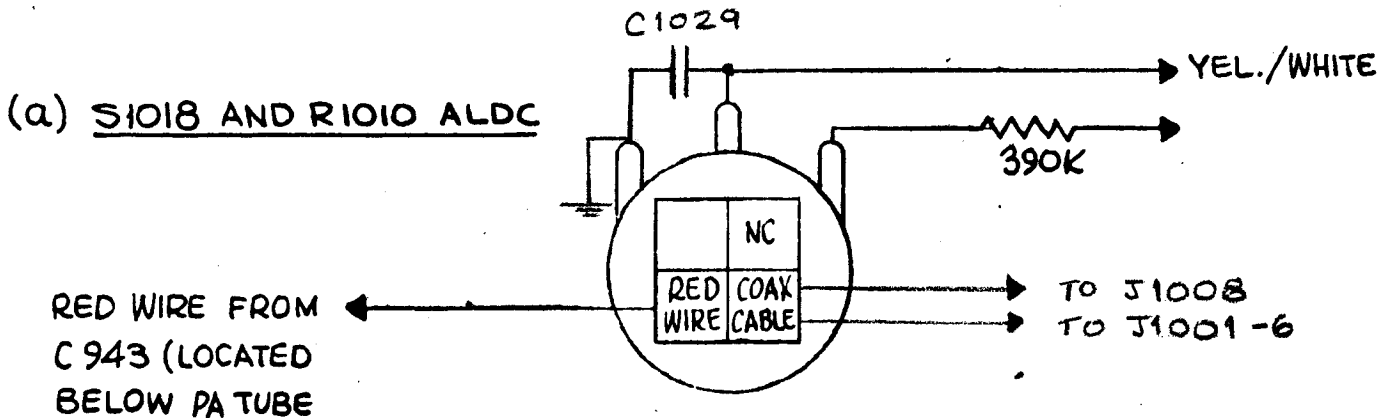


FIG-#1

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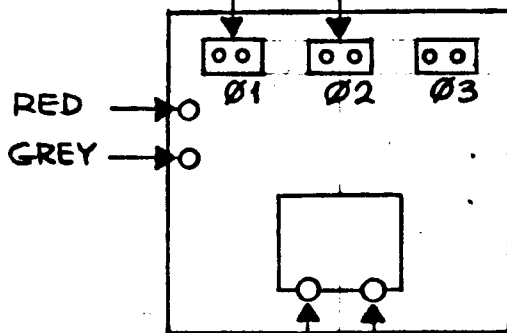
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LD / 528 B

WHITE/VIOLET LEAD

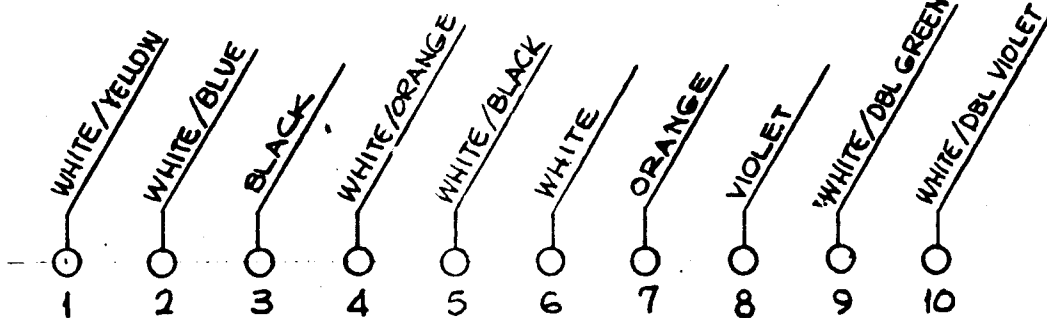
WHITE/GREEN LEAD



WHITE/RED LEAD

WHITE/BROWN LEAD

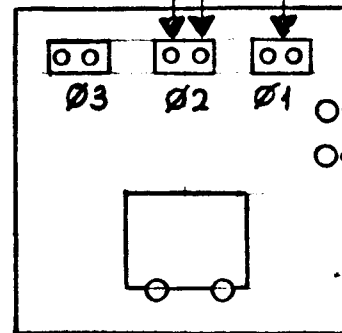
K3001



REWIRING OF CA 826 IN REAR
SIDE BAND RACK.

(2) ORANGE LEADS

(1) VIOLET LEAD



WHITE

WHITE/GREY

K3000

NOTE: ALL ABOVE WIRING IS IDENTICAL TO CABLE
REMOVED IN STEP #41 OF MOD. KIT INSTRUCTION.

FIG-#3

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MS 2129, PLATE, LOAD RESISTOR MTC,
MODIFIED

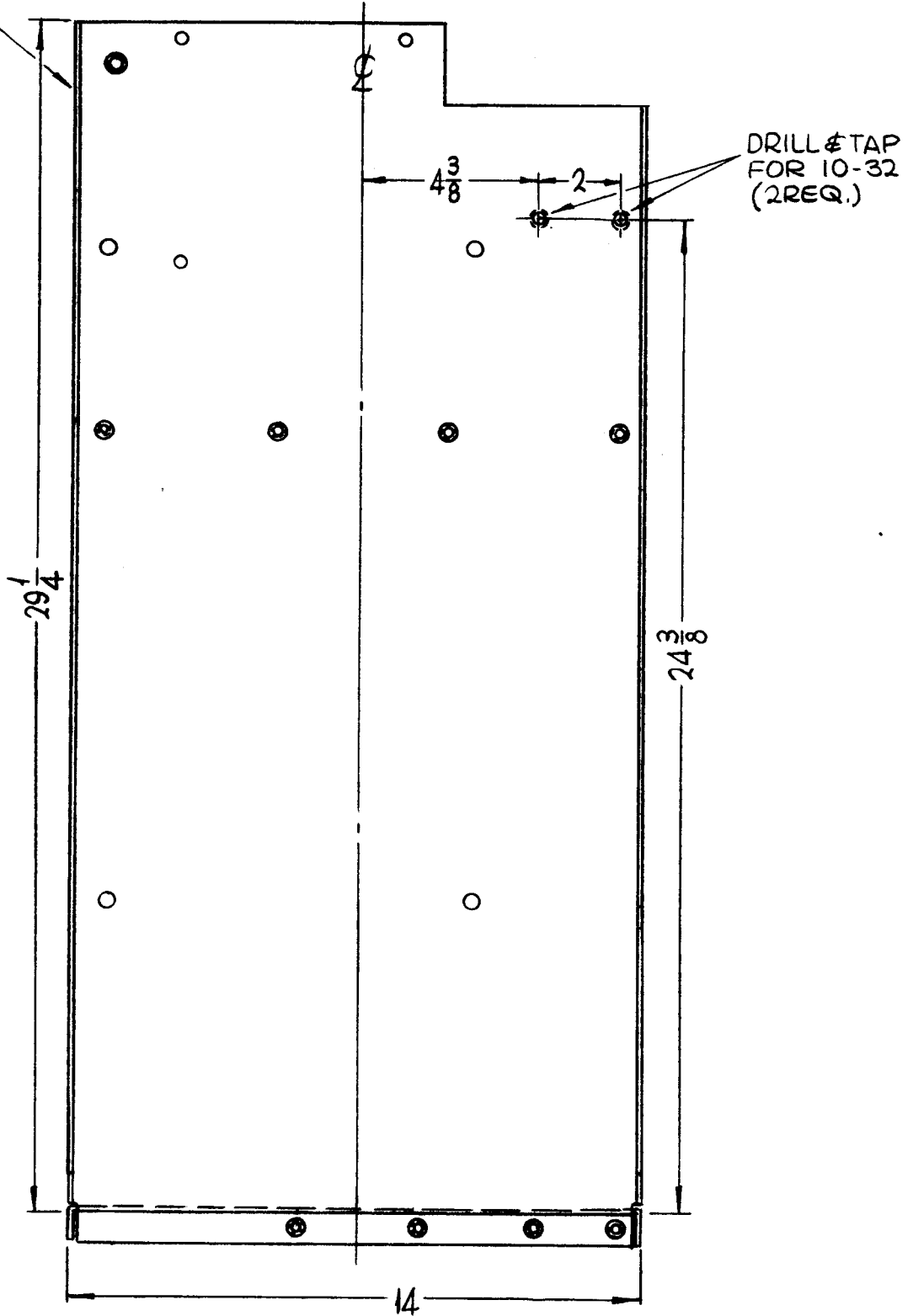


FIG-#4

