

DATE 2/19/62	TMC SPECIFICATION NO. S -661	B
SHEET OF		
COMPILED	CHECKED	TITLE: GPT-10K, 2-28MC MODIFICATION
APPROVED		KIT-118

KIT-118

2-28MC MODIFICATION

FOR THE

GPT-10K

DATE 2/19/62

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I. EQUIPMENT AFFECTED

A. GPT-10K Transmitting Set, Radio

II. PURPOSE

A. Modification Kit to extend the frequency range of GPT-10K transmitters from 4-28 megacycles to 2-28 megacycles.

III. MATERIALS SUPPLIED

- | | | | |
|-----|---------------------------|--|-------------------------------------|
| 1. | One each A-2387 | Core support assembly | |
| 2. | One each A-2388 | Capacitor support assembly | |
| 3. | One each AC-124 | Counter, bandswitch | |
| 4. | One each AM-113 | Capacitor assembly, vacuum variable tune | |
| 5. | One each AM-114 | Capacitor assembly, vacuum variable load | |
| 6. | One each AS-119 | Tank coil and bandswitch assembly | |
| 7. | One each CK-458 | Schematic, PA Section, 2-28MC | |
| 8. | One each ID-276 | Installation procedure | |
| 9. | One each RFC-1 | Intermediate power amplifier | |
| 10. | One each CL-154 | Choke, RF fixed, 45 uh | |
| 11. | One each | 3/8" drill bit and 3/16" drill bit | |
| 12. | One each | 1-1/4" round Greenlee | |
| 13. | a. Five each SCBP0832BN8 | Screw, machine | } Core
Ass mble
Mtg. |
| | b. Five each LWS08MRN | Washer, lock, split | |
| | c. Four each NTH0832BN10 | Nut, hexagon | |
| 14. | a. Four each SCBP1032BN12 | | } Capacitor
Support
Mtg. |
| | b. Four each FW10HBN | | |
| | c. Four each LWS10MRN | | |
| | d. Four each NTH1032BN12 | | |
| 15. | a. Four each SCBP0832BN6 | | } Capacitor
Bracket Mtg.
C930 |
| | b. Four each LWS08MRN | | |

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- | | | |
|-----|--|---|
| 16. | a. Sixteen each SCBP0832BN8
b. Sixteen each LWS08MRN
c. Sixteen each NTH0832BN10 | { Base and
Wraparound
Cover Mtg. AS-119 |
| 17. | a. Four each SCBP0632BN8
b. Four each LWS06MRN
c. Four each NTH0632BN8 | { AC-124 Mtg. |
| 18. | a. Two each LWS10MRN
b. Two each NTH1032BN12 | { Choke Mtg.
L906 |
| 19. | a. One each LWS25MRN
b. One each NTH2520BN14 | { Three Layer
Strap Mtg. |
| 20. | a. Three each FW25HBN
b. Three each LWS25MRN
c. Two each SCHH2520BN12
d. One each SCHH2520BN8 | { Loop Coil
Mtg.
L902 |
| 21. | a. Four each SCBP1032BN10
b. Four each FW10HBN
c. Four each WA-101-11 Washer, Fibre | { RFC-1 |
| 22. | Six each SCBP0832BN8 | { Tube Wraparound
Cover Mtg. |

IV. TOOLS REQUIRED

- A. To be provided by installing activity
1. Wrench, open end, 3/8" - 7/16"
 2. Wrench, open end, 5/16" - 1/4"
 3. Wrench, adjustable, 12"
 4. Allen wrench #6
 5. Allen wrench #8
 6. Allen wrench #10
 7. Screwdriver 7"
 8. Screwdriver 7", Phillips #2
 9. Power drill, 3/8" chuck

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V. PROCEDURE

1. Remove all power to the transmitter.
2. Short to ground all high voltage points with shorting stick.
3. Remove the window from the front of PA deck, Fig. 1. Retain the hardware for remounting.
4. Remove all PA deck covers and shields to completely expose the PA deck, rear of Exciter, and HV deck of the transmitter.
5. Remove the IPA drawer, Fig. 1. On the bench, disconnect and remove the RFC section of the IPA, Fig. 1.
6. Remove the 3 layer strap, item 1, Fig. 2. Save for remounting.
7. Remove the loop coil, item 1, Fig. 3. Save for remounting.
8. Remove the choke, item 2, Fig. 2;
9. Remove the bandswitch counter, item 1, Fig. 4; discard. Disengage the spring from the detent lever and loosen the allen screws on the detent wheel and the bevel gear on the front of the assembly, item 2, Fig. 4. Save for remounting.
10. Remove bandswitch knob from the front control panel, Fig. 1, Save for remounting.
11. Unscrew and remove the bandswitch wraparound cover, item 3, Fig. 3. Save for remounting.
12. Unscrew and remove the 12 bandswitch assembly base plate mounting screws, item 4, Fig. 3.
13. The complete bandswitch assembly can now be removed by sliding the assembly back towards the rear of the PA deck and lifting:
14. Loosen the flange and strap, item 3, Fig. 4, from the top of the capacitor and bend upwards.
15. Disconnect the strap, item 2, Fig. 3, from the top of the variable capacitor only.
16. Remove the load capacitor and tune capacitor, items 3 and 4, Fig. 2, and their gear shafts and gears;
17. Hold the capacitor, item 4, Fig. 4, to prevent it from falling and then loosen the screw in the flange, item 5, Fig. 4, and the screws in the bracket, item 6, Fig. 4, then remove the capacitor and bracket by pulling it towards the front of the PA deck. Hold for remounting.

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18. Disconnect the strap, item 7, Fig. 4, from the capacitor support.
19. Remove the capacitor support, item 5, Fig. 2, and the right side support, item 6, Fig. 2, with the associated flanges:
20. Remove the back cover, item 5, Fig. 3, from the tube wraparound. Save for remounting.
21. Remove the CPP-1 and ISK units if required from the rear of the Exciter rack. Save for remounting.
22. Drill a 3/16" hole through the Exciter frame right side shield, the PA left side shield and the PA tube wraparound according to drilling plan #1.
23. Now enlarge the holes in the exciter frame right side shield and PA left side shield to 3/8", but be sure not to drill through the PA tube wraparound.
24. On the right side of the PA tube wraparound drill the 3/8" hole and the four 3/16" holes according to drilling plan #2.
25. Enlarge the 3/8" hole with the 1-1/4" Greenlee that is supplied.
26. Insert the core support assembly, A-2387 into the 1-1/4" hole and through the center of the coil as per item 1, Fig. 5 and mount it with 8-32 hardware.
27. Install the new capacitor mounting bracket and support A-2388, item 5, Fig. 2
28. Replace the capacitor and bracket, items 5 and 6, Fig. 4. Be sure to reconnect the strap, item 7, Fig. 4, at the same time. Also tighten the flange, item 5, Fig. 4.
29. Turn the PA tune knob, Fig. 1, on the front control panel until the counter registers 000.
30. Manually unwind the variable vacuum capacitor assembly, AM-113, to minimum capacitance. (Plates fully extended.)
31. Mount the capacitor assembly in place as per item 4, Fig. 2. and tighten the flange so the capacitor is fixed in place.

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32. Loosen the bevel gear on the capacitor shaft. Check that the PA tune counter, Fig. 1, is still registering 000 and the capacitor is still fully extended and if so, mesh the two gears and tighten the allen screws.
33. Turn PA load knob, Fig. 1, on the front panel until counter registers 000 then follow procedure 30 through 32 to install the variable vacuum capacitor, AM-114 as per item 3, Fig. 2.
34. Install the new bandswitch assembly, AS-119, by sliding it forward over the wraparound from the rear of the PA deck.
35. Once the bandswitch shaft has passed through the wraparound and detent assembly bracket, item 2, Fig. 4, the detent wheel and bevel gear can be slipped onto the shaft. Sliding the shaft through front control panel until the assembly is seated in its correct position on the wraparound.
36. Screw down AS-119, mounting plate onto the wraparound and fit the wraparound cover, item 3, Fig. 3, back on.
37. Put bandswitch knob back on shaft at the front panel, Fig. 1, and tighten allen screws. Be sure to replace the key.
38. Mount the new bandswitch counter, AC-124, in place of the old counter, item 2, Fig. 4. Be sure that the bevel gear from the old counter shaft is mounted on the new counter shaft.
39. Put the bandswitch counter in the 24-28MC position and the rotor of the bandswitch in the 24-28MC position as shown in Fig. 6.
40. Mesh the gears on bandswitch counter and bandswitch drive shaft for proper adjustment then tighten the set screws.
41. Re-engage detent spring onto detent lever and align the detent wheel slot to touch lever. Be sure that the detent wheel is in the correct position for the 24-28MC band.
42. Using only the front panel bandswitch knob, turn bandswitch shaft CCW (rotor on the bandswitch should move CW) until the bandswitch counter reads 2-3MC. The rotor should touch only E912 wiper arm and have at least a 3/16 spacing to tap E915, Fig. 6.
(If spacing is not correct return bandswitch and counter to 24-28MC position - loosen 2 allen screws on bandswitch rotor at the top of the bandswitch and adjust the rotor to allow for the correct spacing when the bandswitch is switched to 2-3MC. Tighten allen screws after adjustment).

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43. Mount the new choke, CL-154, item 2, Fig. 2, from the Teflon covered extension on the base of the bandswitch coil to the bracket on the support, item 6, Fig. 2.
44. Replace 3 layer strapping, item 1, Fig. 2, between the top of the capacitor, item 3, Fig. 4, and the contact on the bandswitch, at the same time reconnect the strap, item 2, Fig. 3.
45. Remount the wide strap and tighten the flange, item 3, Fig. 4.
46. Replace loop coil, item 1, Fig. 3.
47. Put the new RFC into the IPA drawer. Fit IPA drawer into transmitter and reconnect cables.
48. Replace PA deck window panel, Fig. 1.
49. Replace the PA tube wraparound cover, item 5, Fig. 3, and all PA covers and skins, also the ISK and CPP-1 if applicable to rear of the exciter rack.

