

APPENDIX

IGNITION NOISE SUPPRESSION IN LIGHT TANK M3

1. General

Excessive ignition or other electrical noise may interfere with the operation of the radio equipment in Light Tank M3. The Technical Manual issued with the vehicle will be helpful in locating the source of the noise, since it describes the suppression system used. Instructions for operating the radio equipment used in the vehicle should also be studied.

2. Procedure

Locate and suppress ignition noises as follows:

- a. Start the motor of the vehicle and turn on the radio set. Put the receiver sensitivity control at maximum; then listening to the receiver output with a headset, tune the receiver slowly over the entire range of frequencies to be used for communication.
- b. When the frequency (or frequencies) with the greatest noise level is found, turn off the vehicle engine. If the interference persists, the source is outside the ignition system.
- c. Start the engine again. Adjust the receiver sensitivity control until engine noises can be distinguished most easily from static, etc. Interference then may be identified as follows:

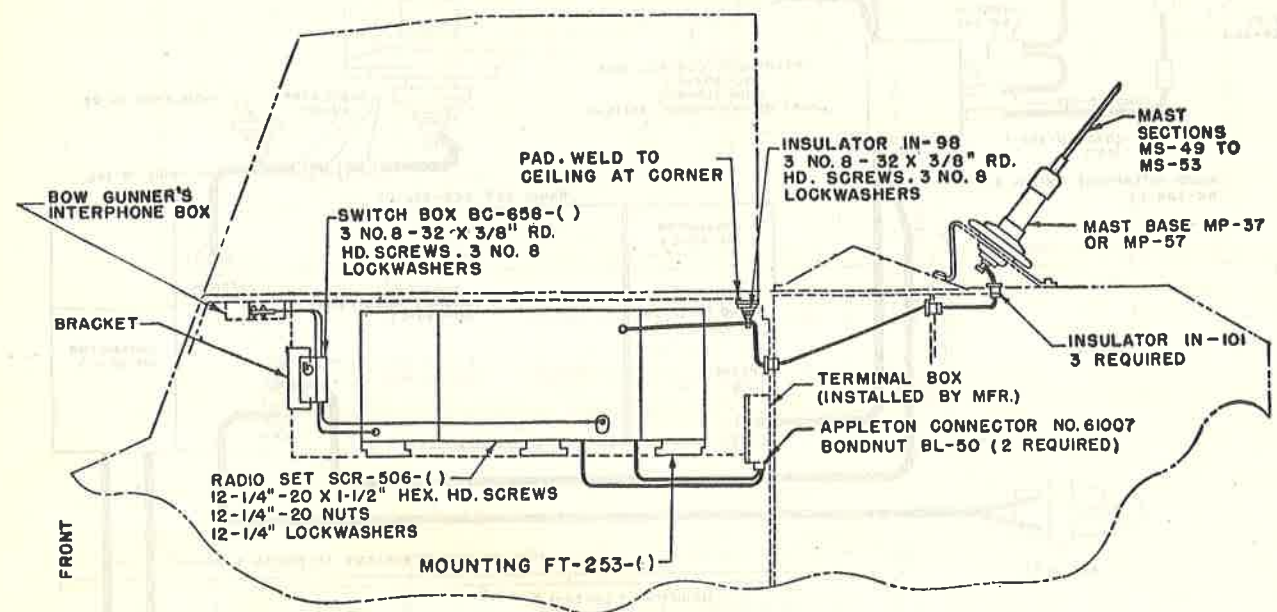
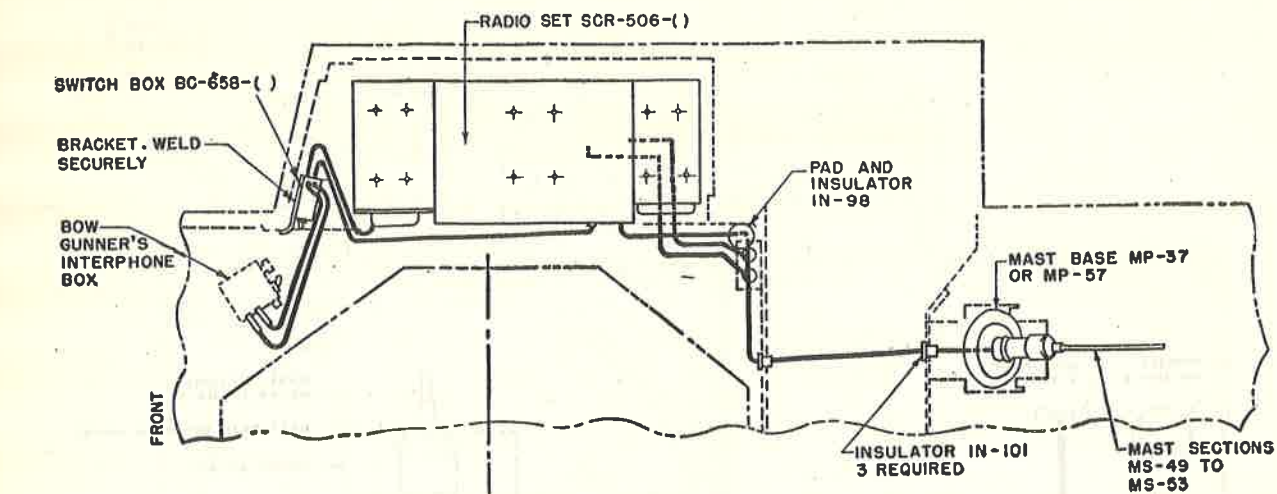
<i>Interference</i>	<i>Usual sources</i>
Popping sounds, corresponding to ignition firing; stops when engine is turned off; accelerates when engine is raced.	Ignition system.
Intermittent, clicking sound; lingers for several seconds when ignition is turned off.	Generator regulator.
Whining sound; varies with speed of engine; ceases only when generator stops rotating.	Generator.
Sparkling, or continuous crackling noise.	Brushes and commutator of generator.

d. Interference from other electrical parts and circuits of the vehicle, such as panel gauges and heater fans, can usually be identified by turning off the gauges, fans, or other suspected mechanisms individually.

e. If the source of interference still cannot be found by any of the preceding methods, connect a probe antenna (fig. 15) to the antenna terminal of the radio set. Move the loop of the probe antenna slowly over the various parts of the electrical system of the vehicle. Keep the loop close to, but not in contact with, the part being examined. Interference-producing parts should be heard in the receiver.

f. Usually, interference can be eliminated by cleaning, tightening, or replacing noise-producing parts. All suppressor and shielding components and all connections and grounding bonds should be examined, tightened, and the surface under them cleaned. This will assure good electrical contact between wires and terminals, and metal casings and the frame of the vehicle. (Insulated but ungrounded metal parts absorb and reradiate electrical noises.)

g. If interference persists, suppressor components should be checked by substituting new ones. If a replacement is not available, disconnect the suspected component and test capacitors, resistors, and chokes within it. Replace any parts that are defective.



NOTE:
1. FOR CORDING DIAGRAM SEE FIGURE 2.
2. FOR LOCATION OF HOLES SEE FIGURE 12.

HARDWARE REQUIRED:
12-1/4" - 20 X 1-1/2" HEX. HD. SCREWS.
12 - 1/4" - 20 NUTS.
12 - 1/4" LOCKWASHERS.
6 - NO. 8 - 32 X 3/8" RD. HD. SCREWS.
6 - NO. 8 LOCKWASHERS.

TL-10044

Figure 1. Installation of Radio Set SCR-506-() in Light Tank M3.

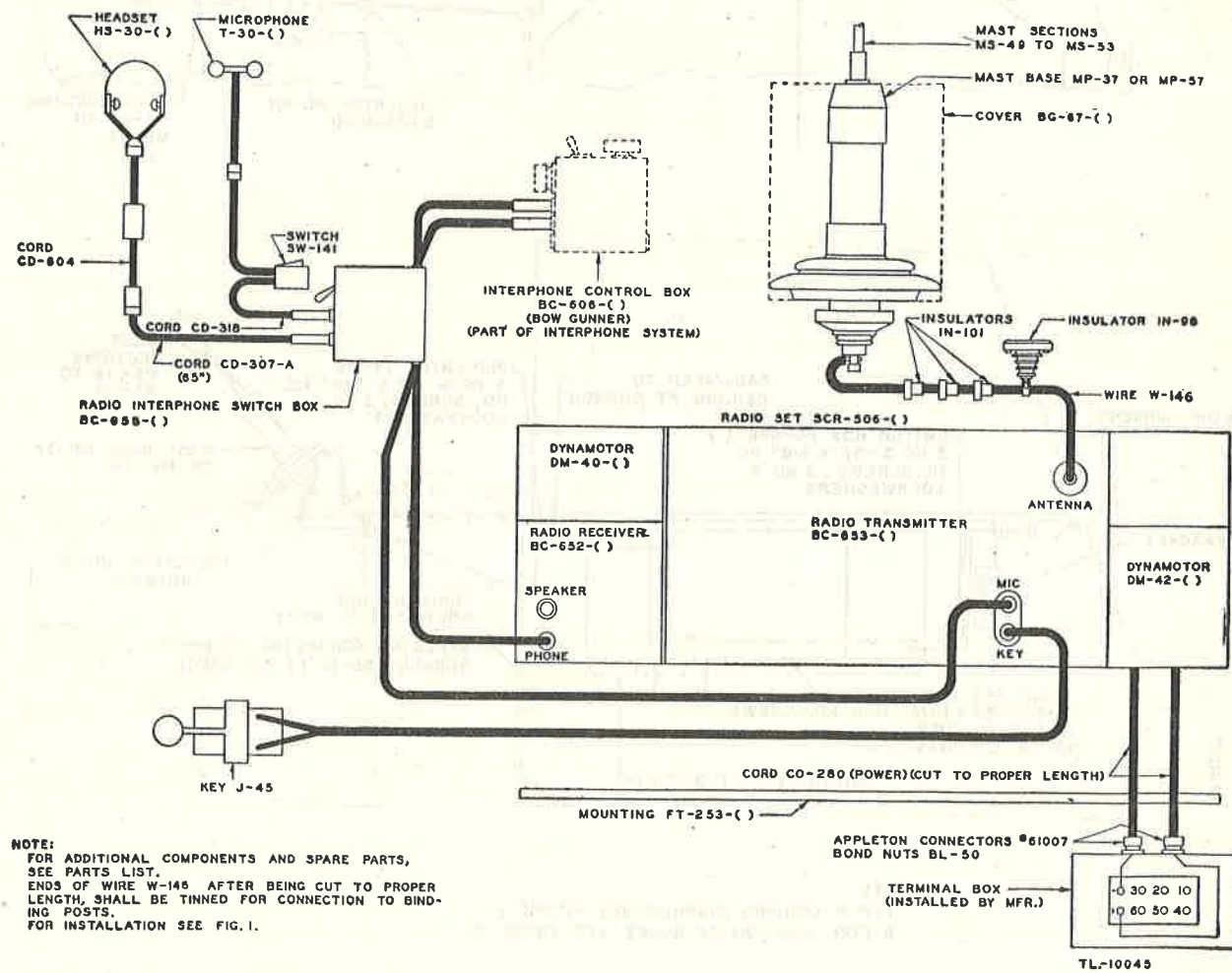


Figure 2. Cording diagram of Radio Set SCR-506- () in Light Tank M3.

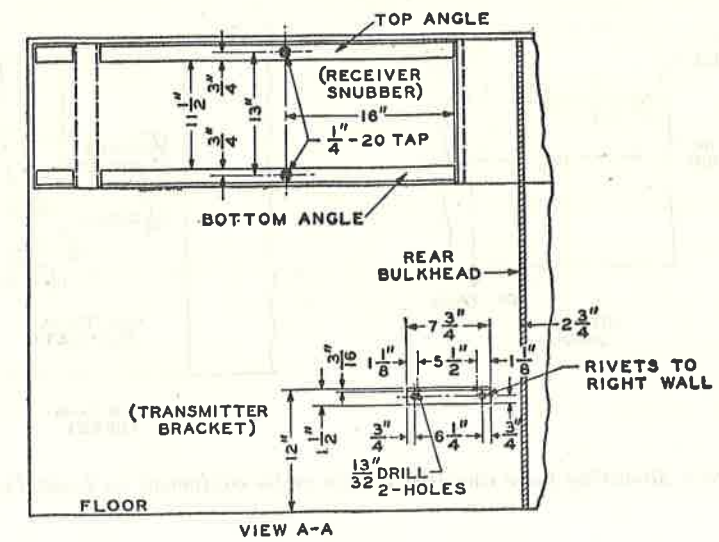
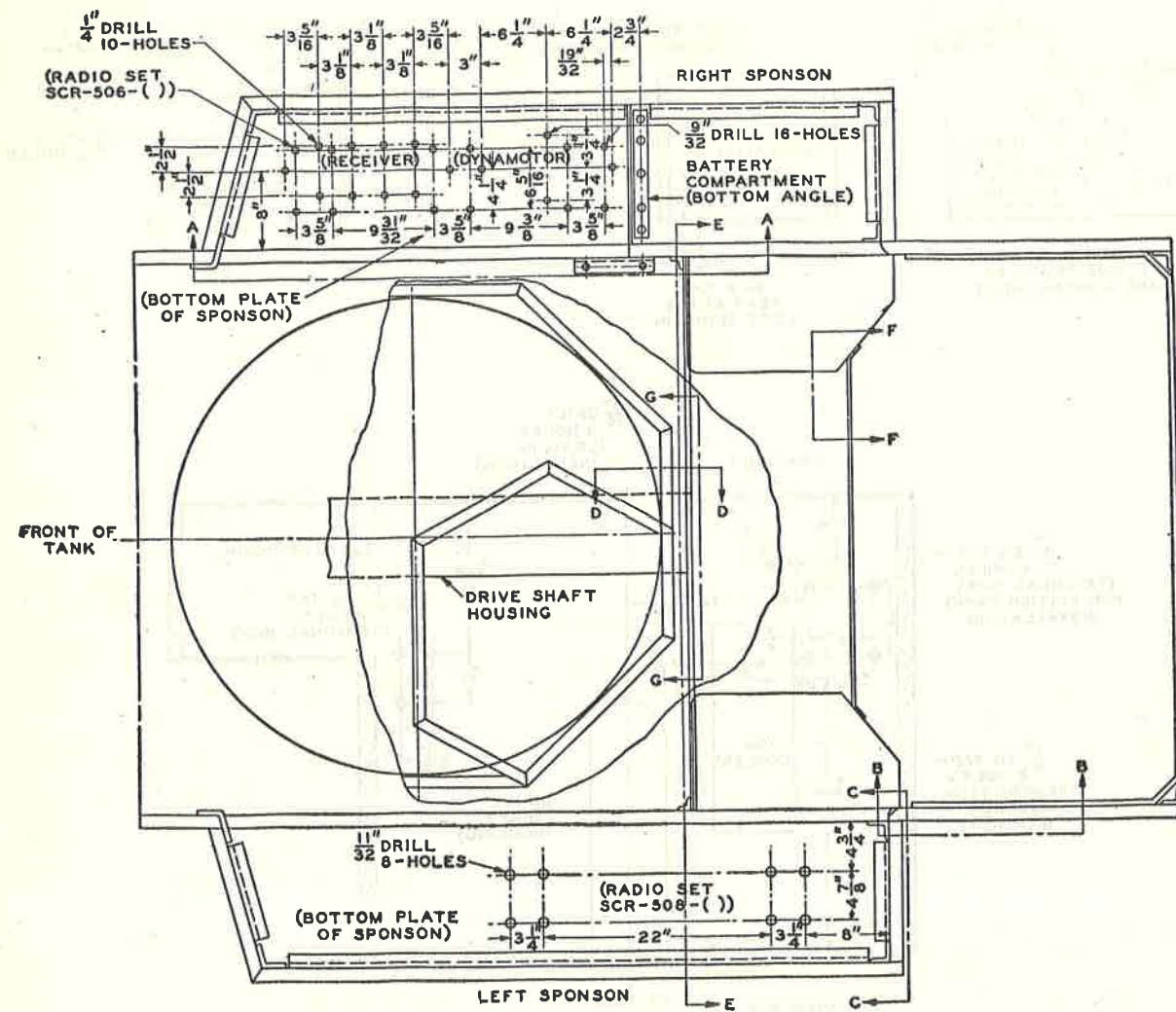


Figure 3. Mounting holes and location for radio equipment in Light Tank M3.

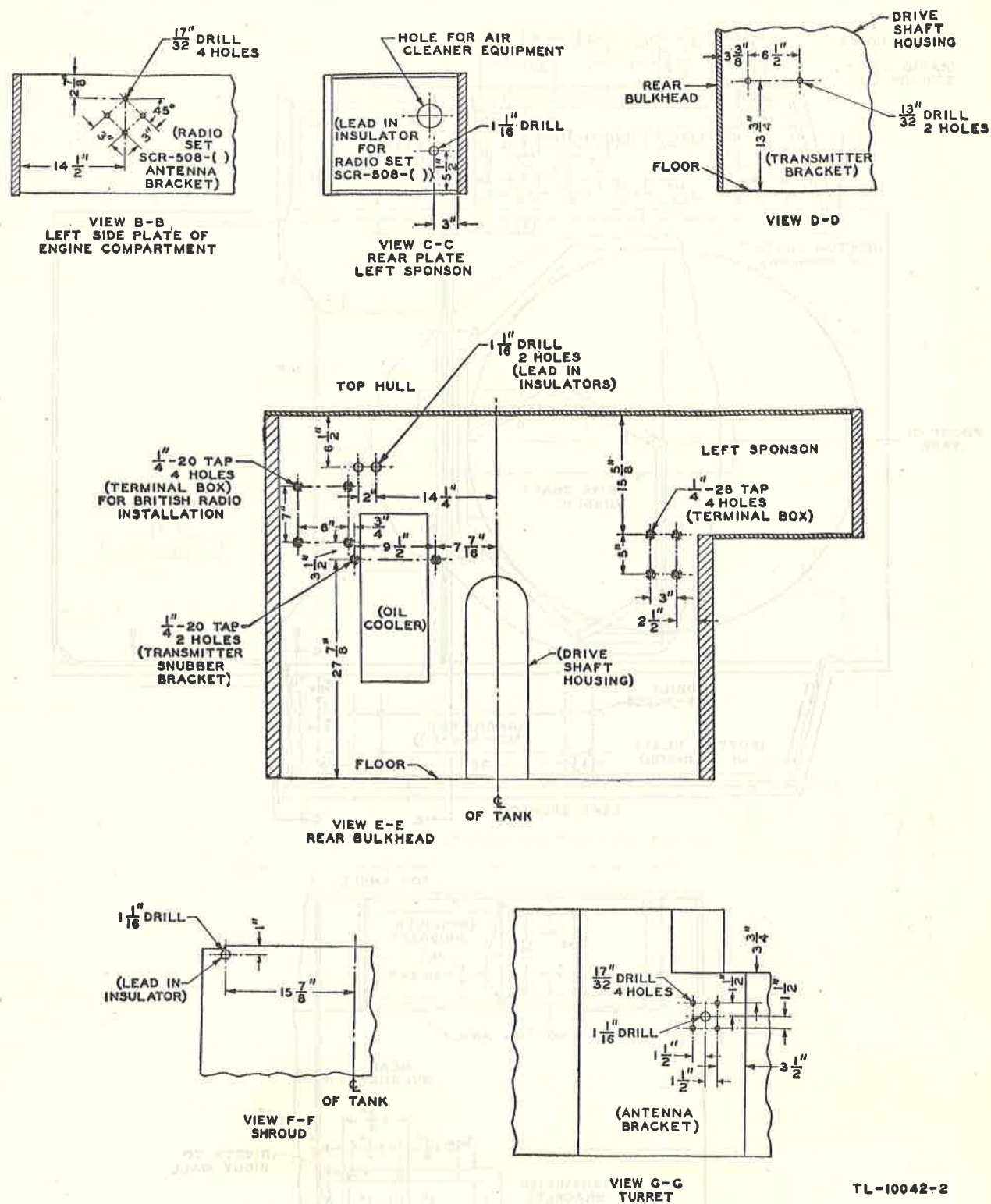


Figure 3. Mounting holes and location for radio equipment in Light Tank M3—Continued.

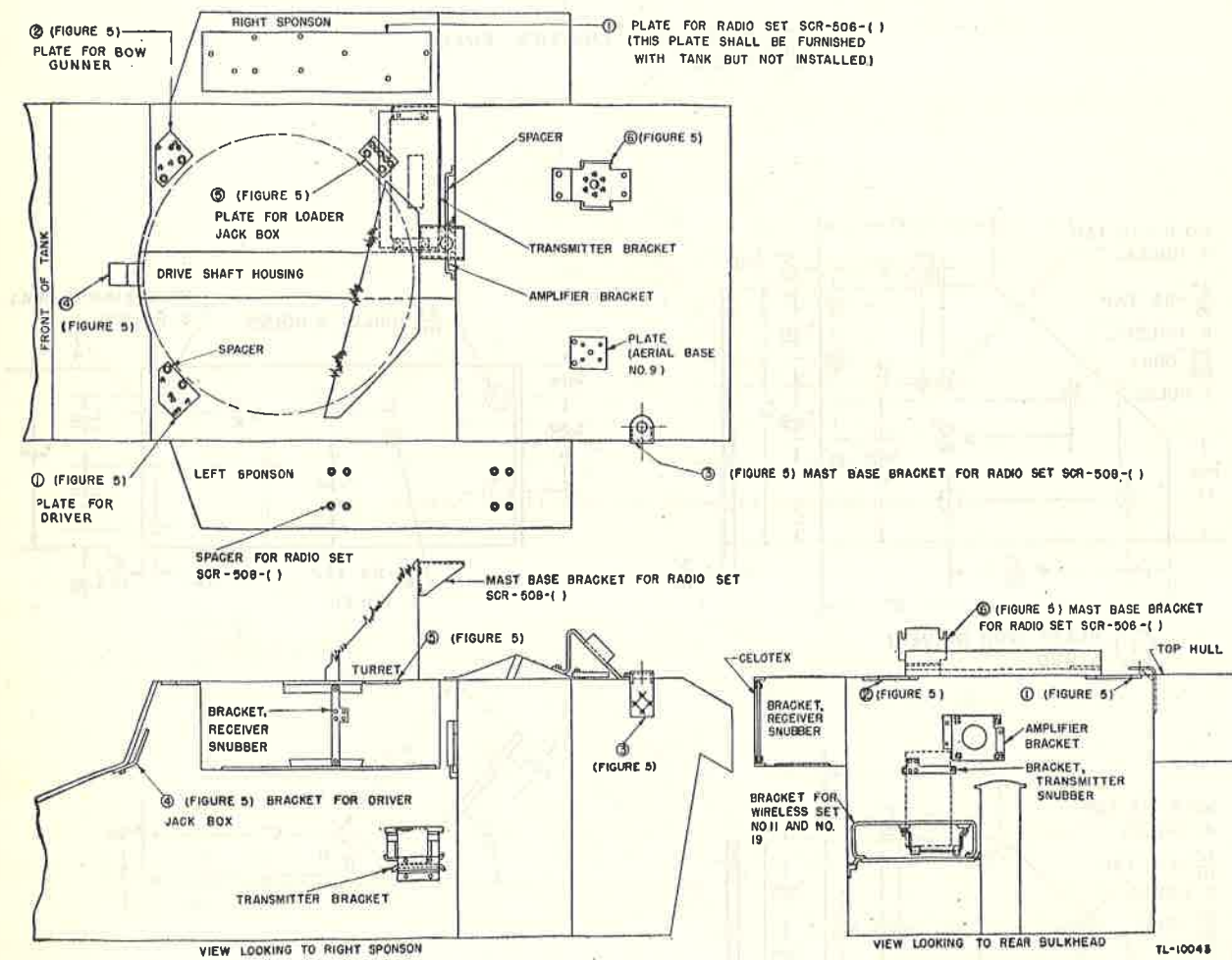
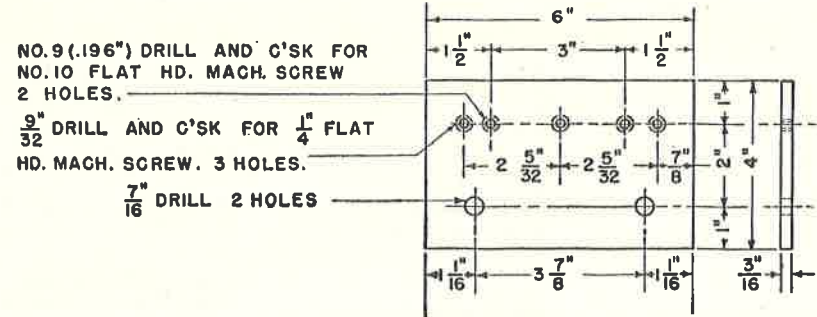
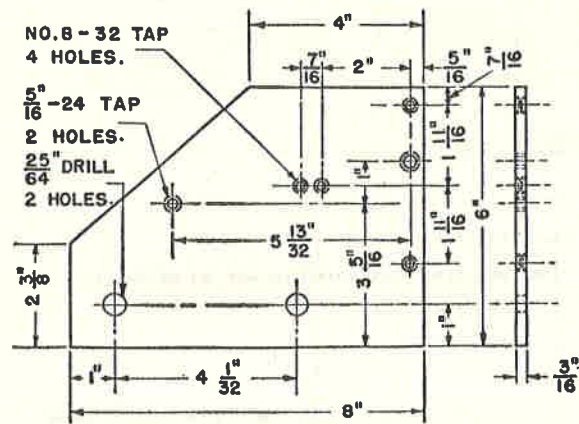


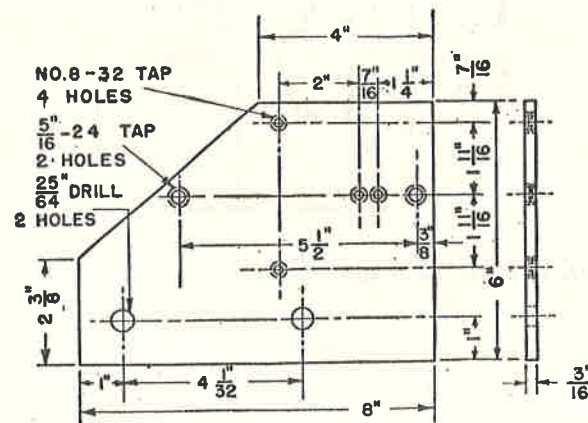
Figure 4. Installation of brackets in Light Tank M3.



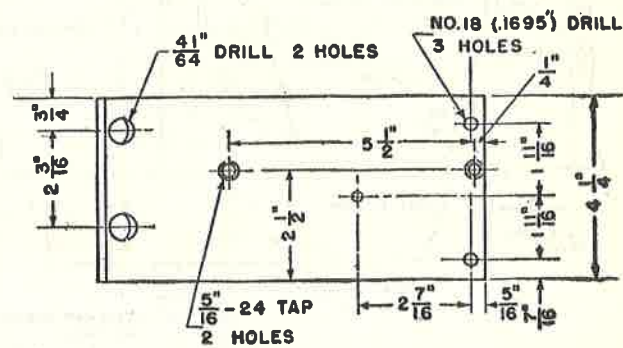
5 PLATE (FOR LOADER'S BOX)
1 REQ.



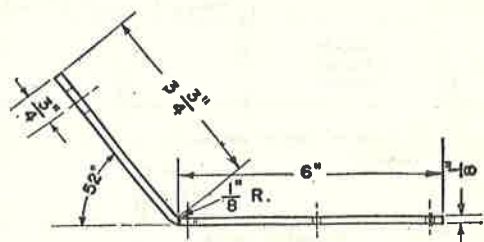
1 PLATE (FOR DRIVER)
1 REQ.



2 PLATE (FOR BOW GUNNER)
1 REQ.

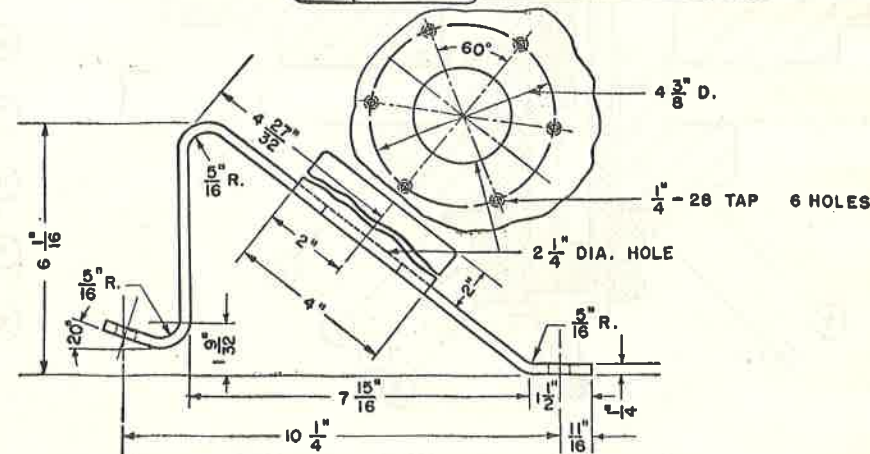
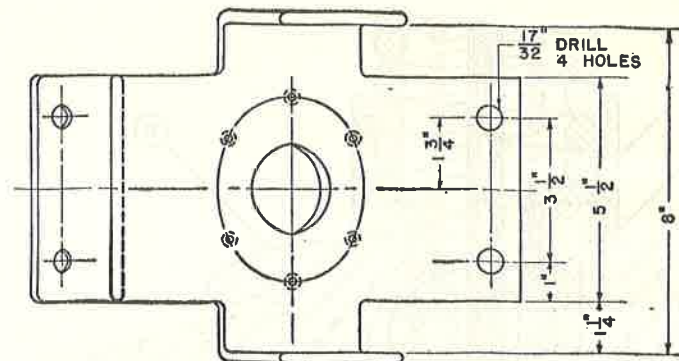


4 BRACKET (DRIVER'S AND BOW GUNNER'S JACK BOX)
1 REQ.

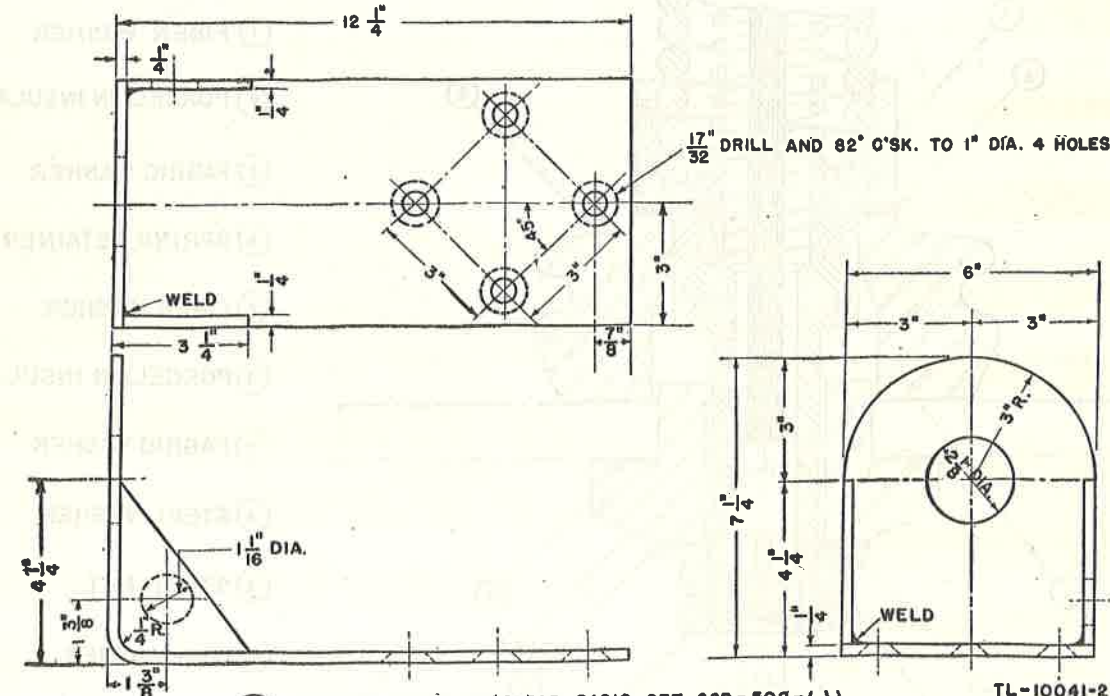


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Figure 5. Bracket details for Light Tank M3.



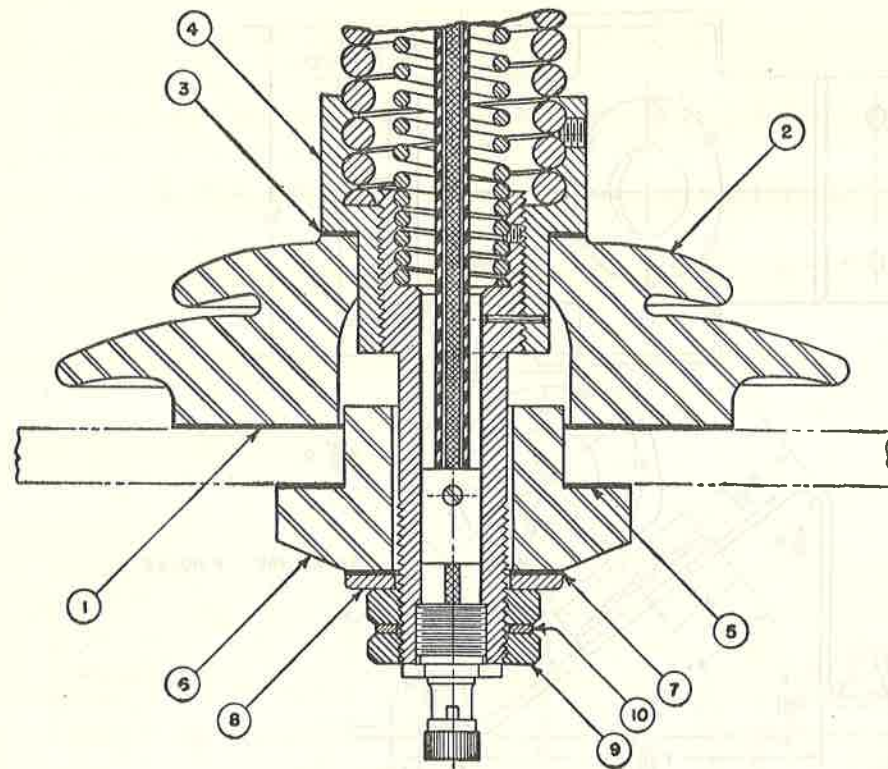
6 BRACKET (MAST BASE FOR RADIO SET SCR-508-())
1 REQ.



3 BRACKET (MAST BASE FOR RADIO SET SCR-508-())
1 REQ.

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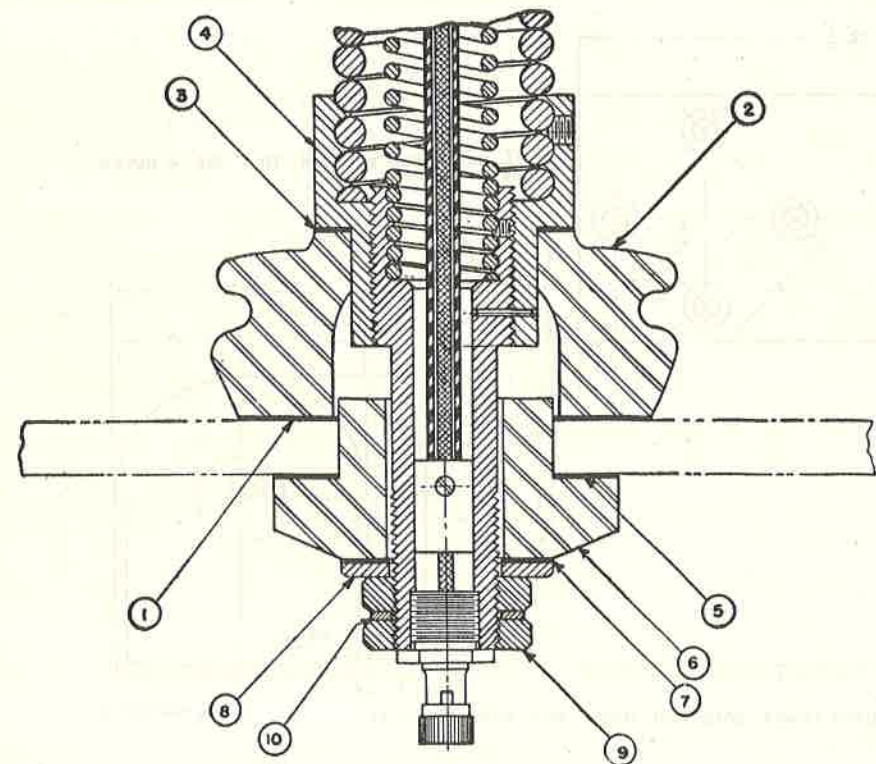
Figure 5. Bracket details for Light Tank M3—Continued.



- ① - FIBER WASHER
- ② - PORCELAIN INSULATOR
- ③ - FABRIC WASHER
- ④ - SPRING RETAINER
- ⑤ - FIBER WASHER
- ⑥ - PORCELAIN INSULATOR
- ⑦ - FABRIC WASHER
- ⑧ - STEEL WASHER
- ⑨ - STEEL NUT
- ⑩ - LOCKWASHER

TL-7539

Figure 6. Mast Base MP-37, assembly for installation.



- ① FIBER WASHER
- ② PORCELAIN INSULATOR
- ③ FABRIC WASHER
- ④ SPRING RETAINER
- ⑤ FIBER WASHER
- ⑥ PORCELAIN INSULATOR
- ⑦ FABRIC WASHER
- ⑧ STEEL WASHER
- ⑨ STEEL NUT
- ⑩ LOCKWASHER

TL-7540

Figure 7. Mast Base MP-57, assembly for installation.

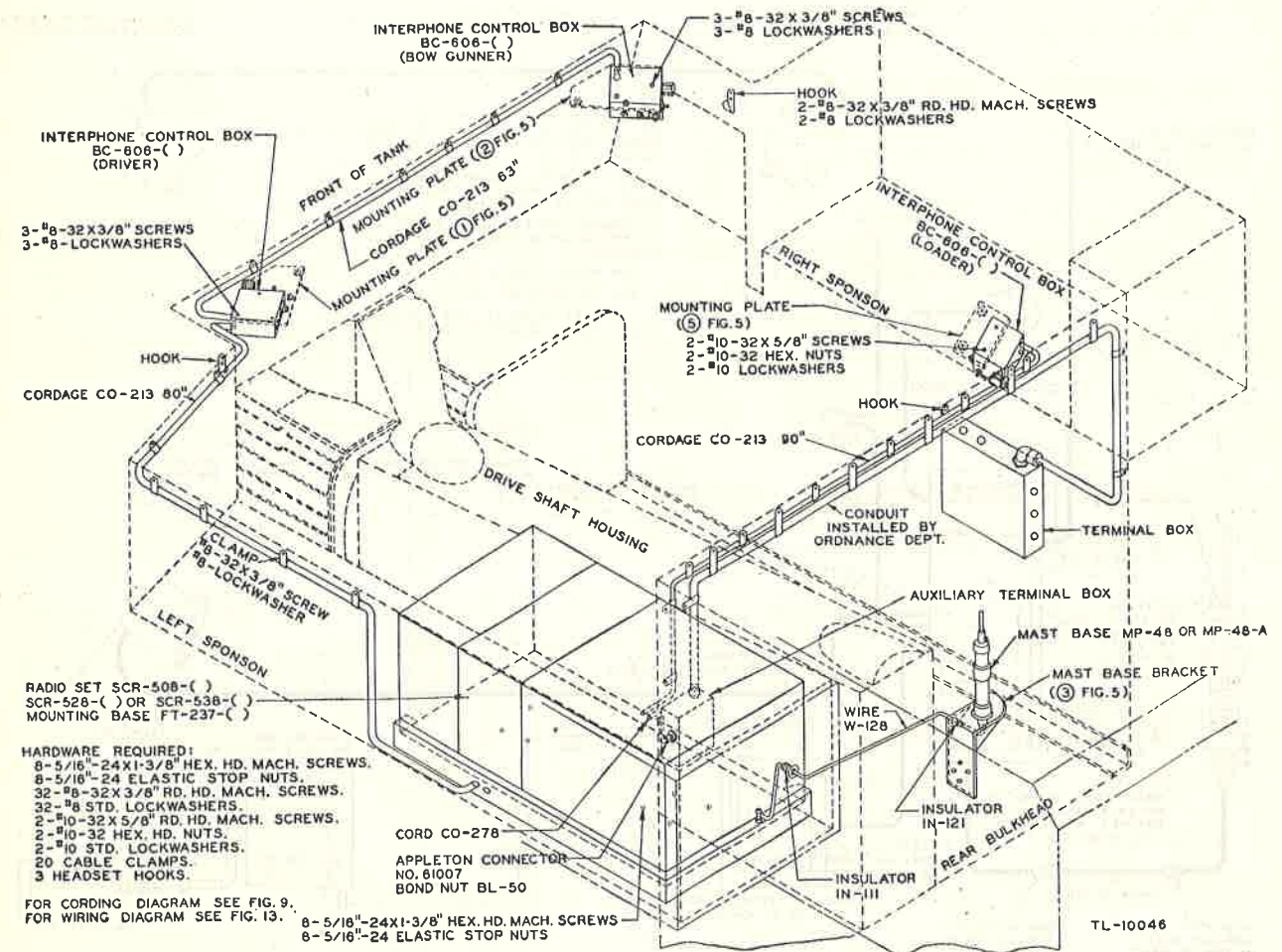


Figure 8. Installation of Radio Set SCR-508-(), SCR-528-(), or SCR-538-() and associated interphone equipment in Light Tank M3.

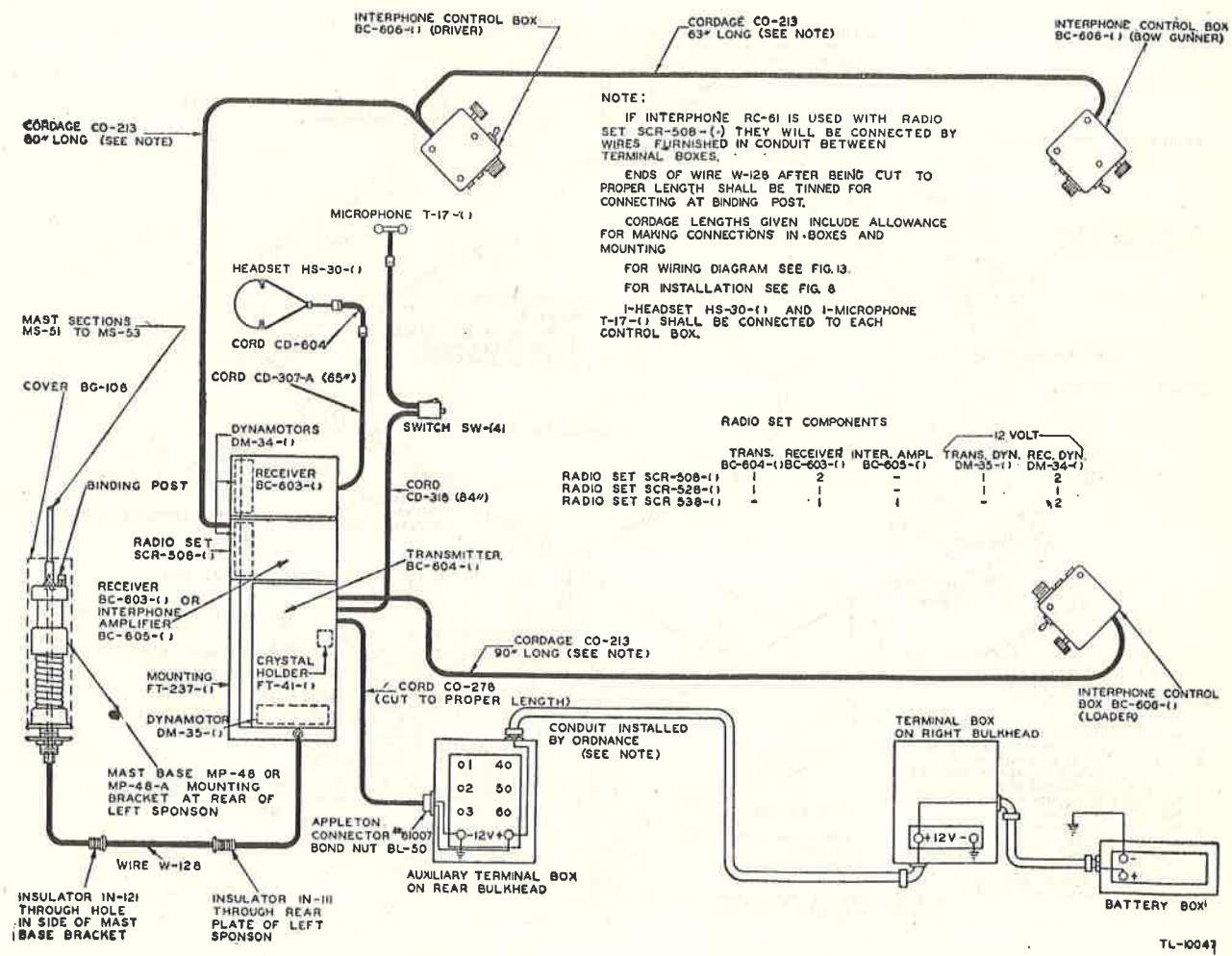


Figure 9. Cording diagram of Radio Set SCR-508-(-), SCR-528-(-), or SCR-538-(-), and associated interphone equipment in Light Tank M3.

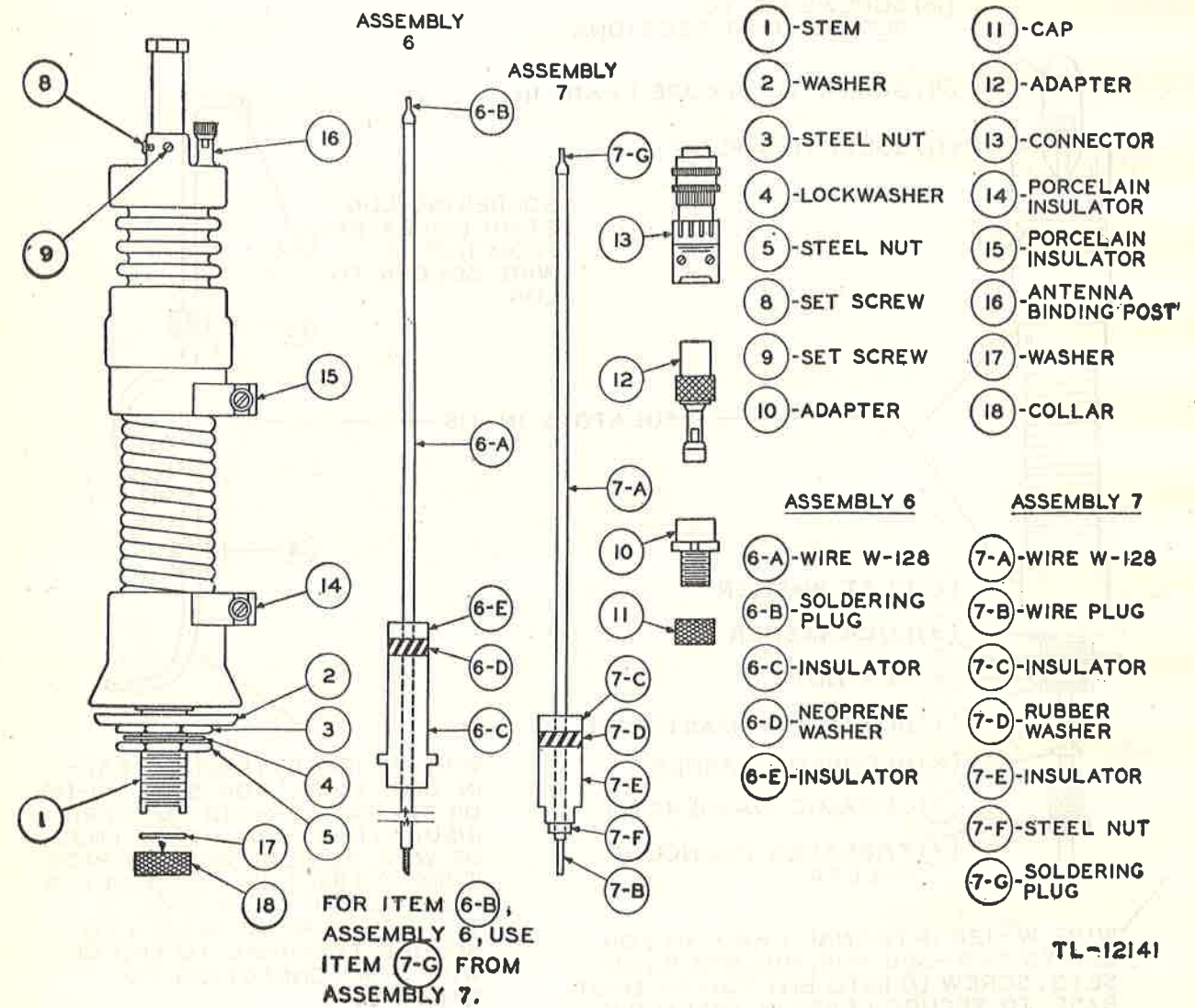
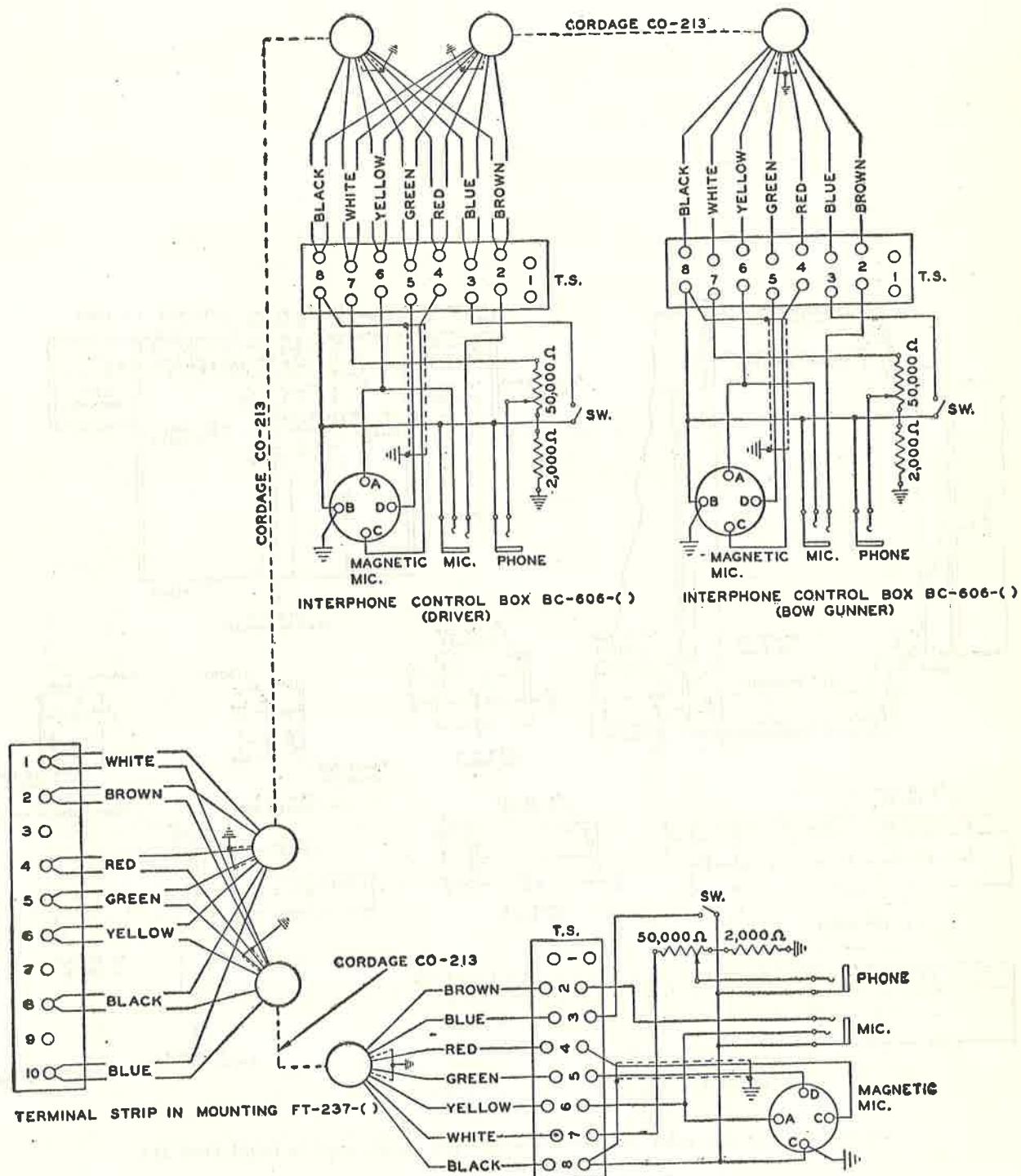


Figure 10. Mast Base MP-48, assembly for installation.



NOTE:
SHIELD OF CABLE AND SHIELD OF TWISTED
PAIR OF LEADS IN CABLE SHALL BE SECURELY
GROUNDED AT EACH END.

TANK COMMANDER SHALL PLUG HIS HEADSET
AND MICROPHONE INTO THE RADIO SET.

TL-10049

Figure 13. Wiring diagram of interphone equipment for Radio Set SCR-508-(), SCR-528-(), or SCR-538-() in Light Tank M3.

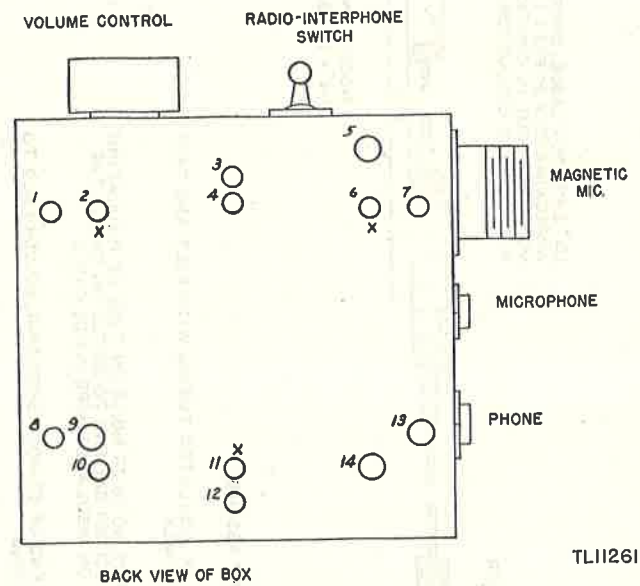


Figure 14. Control Box BC-606-(), mounting hole numbering.

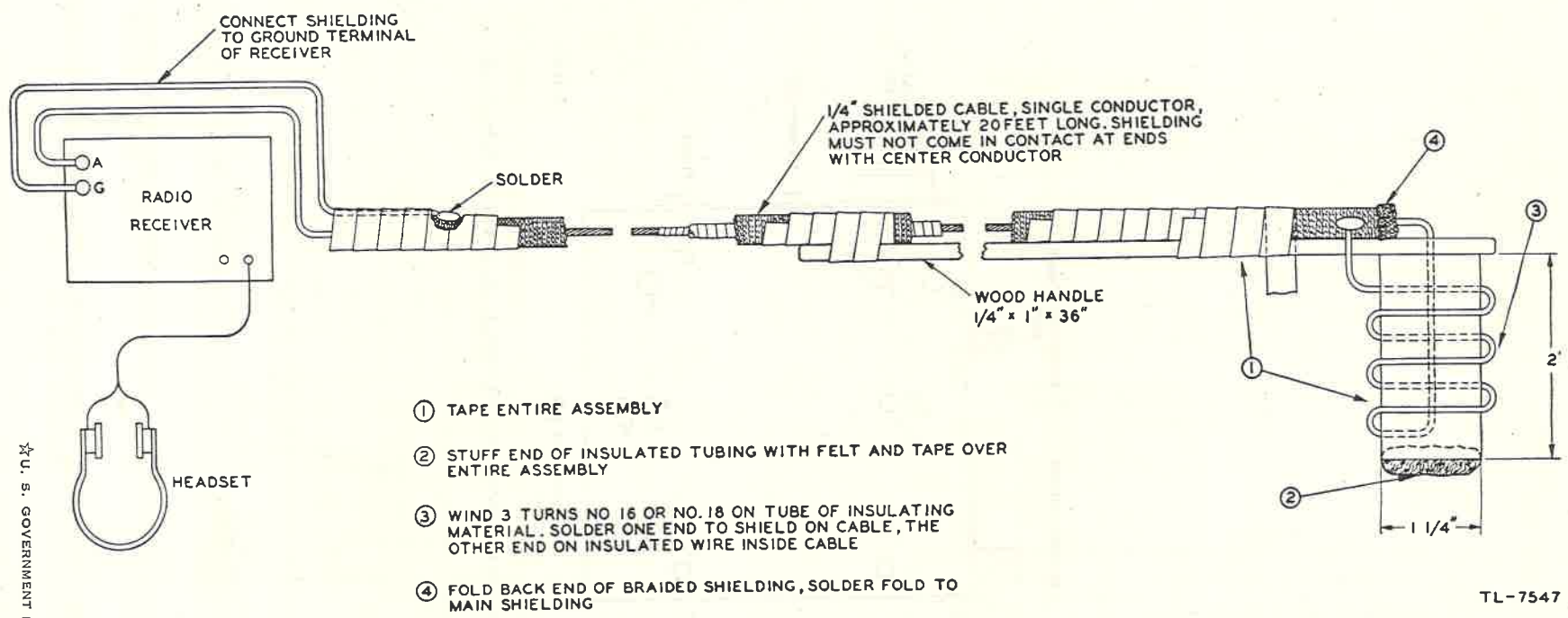


Figure 15. Probe antenna.