

TM 11-2721

WAR DEPARTMENT TECHNICAL MANUAL

INSTALLATION OF RADIO AND
FACSIMILE EQUIPMENT IN

T7-533

CARRIER, PERSONNEL

HALF-TRACK, M3A1

RESTRICTED. DISSEMINATION OF RESTRICTED MATTER.
No person is entitled solely by virtue of his grade or position
to knowledge or possession of classified matter. Such matter
is entrusted only to those individuals whose official duties
require such knowledge or possession. (See also paragraph
23b, AR 380-5, 15 March 1944.)

WAR DEPARTMENT

MAY 1945

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WAR DEPARTMENT
Washington 25, D. C., 31 May 1945

TM 11-2721, Installation of Radio and Facsimile Equipment in Carrier, Personnel, Half-track, M3A1, is published for the information and guidance of all concerned.

[AG 300.7 (23 May 45)]

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FOREWORD

Changes to this manual will be supplied on a page basis, and will be published as required. As change pages are received they will be inserted in their proper places, and the replaced pages salvaged or destroyed.

Each page of the manual bears a date in its upper inside corner. This date is the date of the publication. Pages of changes will carry the date and number of the change.

Paragraphs are numbered according to sections in the manual; that is, paragraph number 103 indicates paragraph 3 in section I, paragraph number 209 indicates paragraph 9 in section II. Paragraphs carrying decimal suffixes indicate newly added material; for example a paragraph numbered 123.1 represents the first main paragraph inserted between paragraphs 123 and 124.

Figures are numbered in the same way as paragraphs; that is, figure 201 indicates figure 1 in section II, figure number 309 indicates figure 9 in section III. Figures carrying decimal suffixes indicate newly added material; for example a figure numbered 203.1 represents the first figure added between figures 203 and 204.

Pages also are numbered according to sections; that is page number 106 indicates page 6 in section I, page number 410 indicates page 10 in section IV. If new pages are added between existing pages they will carry alphabetical suffixes A, B, C, and so on. For example, if a new page is added between 101 and 102, the page will be numbered 101A. A second additional page in the same place would be numbered 101B, and so on.

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DESTRUCTION NOTICE

WHY — To prevent the enemy from using or salvaging this equipment for his benefit.

WHEN— When ordered by your commander.

HOW —

1. Smash—Use sledges, axes, handaxes, pickaxes, hammers, crowbars, heavy tools.
2. Cut—Use axes, handaxes, machetes.
3. Burn—Use gasoline, kerosene, oil, flame throwers, incendiary grenades.
4. Explosives—Use firearms, grenades, TNT.
5. Disposal—Bury in slit trenches, fox holes, other holes. Throw in streams. Scatter.

USE ANYTHING IMMEDIATELY AVAILABLE FOR DESTRUCTION OF THIS EQUIPMENT

WHAT—

1. Smash—All vacuum tubes, crystals, control dials, coupling coils, transformers, speakers in receivers, external loudspeakers, microphones, headsets, dynamotors, and cable connectors.
2. Cut—All connecting wires, cording, and cabling.
3. Burn—All equipment and all associated training, technical, and installation manuals.
4. Bury or scatter—All remains, after destroying their usefulness.

DESTROY EVERYTHING

SAFETY NOTICE

This equipment uses high voltages which are dangerous to life. Observe all safety precautions.

1. Make no adjustments inside the equipment with the power switch on.
2. Do not operate the equipment with the shields removed.
3. Do not connect power to any unit of these radio sets until operating instructions have been read completely.

SECTION I

GUIDE TO USE OF THIS MANUAL

101. Purpose

This manual provides methods and procedure, based upon actual field experience, for installation of radio and facsimile equipment in Carrier, Personnel, Half-track, M3A1. Items required to make a complete operating installation are listed for each set. Official nomenclature followed by empty parentheses, such as Headset HS-30-(), is used to indicate any model of equipment regardless of its procurement.

102. Equipment

Installations covered include Facsimile Equipment RC-58-(), and the following radio sets:

SCR-193-T	SCR-528-()
SCR-506-()	SCR-608-()
SCR-508-()	SCR-610-()
SCR-510-()	

103. Holes and Brackets

Brackets required for installation of the radio set are

normally drilled and installed prior to delivery of Carrier, Personnel, Half-track, M3A1. Drilling instructions are given in this manual for any other necessary holes and brackets. Do not relocate any holes or brackets unless absolutely necessary.

104. Preliminary Check

Study the illustrations, the installation methods outlined, and any subsequent changes to this manual.

Caution: Carrier, Personnel, Half-track, M3A1 has a 12-volt electrical system. Before installing the radio sets, be sure they are designed for 12-volt operation, or tubes may burn out or dynamotors may be damaged.

105. Operating Check

Carefully study the Technical Manual covering the radio set before trying to operate it; then, make a thorough operating check to determine whether the equipment has been properly installed and is in working order.

SECTION II

IGNITION NOISE SUPPRESSION IN CARRIER, PERSONNEL, HALF-TRACK, M3A1

201. General

Excessive ignition or other electrical noises may interfere with operation of radio equipment in Carrier, Personnel, Half-track, M3A1. The Technical Manual issued with the vehicle will be helpful in locating the source of the noise, since it describes the suppression system used. Study instructions for operating radio equipment used in this vehicle. See TM 11-483 for additional information on suppression of ignition noises in vehicles.

202. Procedure

Locate and suppress ignition noises as follows:

a. Place another radio set of the same type as installed in vehicle at a remote location far enough away from the vehicle to provide signals at weakest level that can be distinctly heard in the receiver of the radio set under test. Set radio receiver gain control to maximum and listen to output of receiver with a headset.

b. Start motor of the the vehicle and accelerate vehicle engine to about 1000 rpm. Check reception of weak signals from remote radio set at each frequency used for communication.

c. When the frequency (or frequencies) with greatest noise level that affects reception of the weak signals is found, leave the receiver tuned to one particular frequency and turn off the vehicle ignition switch. That part of noise which stops when the ignition switch is turned off is caused by the ignition system. Noise which lingers after the switch is turned off and continues until the vehicle motor comes to a stop is caused by voltage regulator or by battery-charging generator. Auxiliary equipment, such as oil, fuel, and temperature gauges, fans, motors, or others, should be turned on and off or dis-

connected individually in order to locate noises caused by them.

d. The table below will be helpful in distinguishing engine noises from static, etc.

Interference	Usual source
Popping: Regular clicks corresponding to ignition firing; stops when motor is turned off; accelerates when motor speed is increased.	Ignition system.
Intermittent clicks: lingers for several seconds when ignition system is turned off.	Generator regulator.
Whine: varies with speed of motor; ceases when motor comes to a complete stop.	Generator.

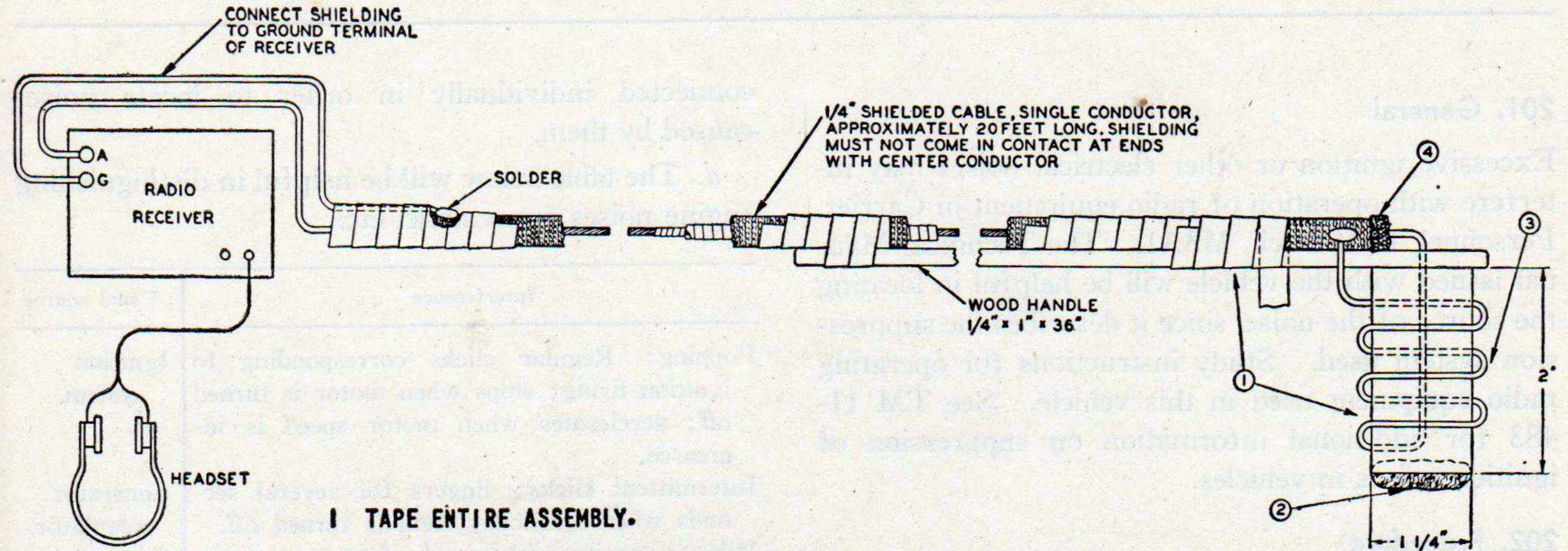
e. A probe antenna, figure 201, connected to antenna and ground terminals of radio set under test will sometimes aid materially in locating source of interference. Slowly move the loop of probe antenna over the various parts of electrical system, close to, but not in contact with, the part under examination. Noise from interference-producing parts should be heard in receiver.

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

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

SECTION II

IGNITION NOISE SUPPRESSION IN CARRIER PERSONNEL HALF-TRACK MODEL



- 1 TAPE ENTIRE ASSEMBLY.
- 2 STUFF END OF INSULATED TUBING WITH FELT AND TAPE OVER ENTIRE ASSEMBLY
- 3 WIND 3 TURNS NO. 16 OR NO. 18 WIRE ON TUBE OF INSULATING MATERIAL. SOLDER ONE END TO SHIELD ON CABLE, THE OTHER END ON INSULATED WIRE INSIDE CABLE.
- 4 ROLL BACK END OF SHIELDING, AND SECURE WITH SOLDER.

TL 7547-A

Figure 201. Probe antenna.

SECTION III

FACSIMILE EQUIPMENT RC-58-()

301. Required Parts

Items necessary for installation of Facsimile Equipment RC-58-() in Carrier, Personnel, Half-track, M3A1 are listed below:

Basic unit Stock No. 6C25-58			Basic unit Stock No. 6C25-58—Continued		
Quantity	Stock No.	Item	Quantity	Stock No.	Item
1	2C408	Amplifier BC-908-(), including two Dynamotor DM-21-() (one spare), Mounting FT-318-(), set of installed tubes, spare fuses, and lamps.			VB-3-() (one spare), two Resistor RS-288 (one spare), and two regulator resistors (one spare).
1	2Z2599-108	Chest CH-108-(), for spare parts group.	1	6C25-58/SP	Spare parts group.
1	6Z3147	Connector No. 61007 and Bond-nut BL-50.	50 rolls	6M1540	Tape M-298.
1	3E1606	Cord CD-606.	2	6D13047	TM 11-374.
1	3E1608	Cord CD-608.	1	6M2200	Writing Stand MC-308-().
1	3E1999-18	Cord CD-1018-().	Installation unit Stock No. 6C25-58-V68		
1	3E1999-19	Cord CD-1019-().	Quantity	Stock No.	Item
1	2Z3400-118	Cover BG-118-().	1	2Z1241-4	Bracket, (item 1, fig. 302).
1	2Z3400-128	Cover BG-128-().	2	2Z1241-6	Bracket, (item 2, fig. 302).
1	6C262-918	Recorder-Scanner BC-918-(), including two Motor MO-28-() (one spare), Mounting FT-328-(), one set of installed tubes, two Vibrator	1	2Z4660-89	Frame FM-89.
			1	6L50-58V68	Hardware bag.
			2 ft	1B128	Wire W-128.

302. Assembly and Installation

Components of Facsimile Equipment RC-58-() should be installed in Carrier, Personnel, Half-track, M3A1 as shown in figure 301 and as directed below. Before proceeding with installation, perform necessary drilling as indicated in figure 301.

Part and location

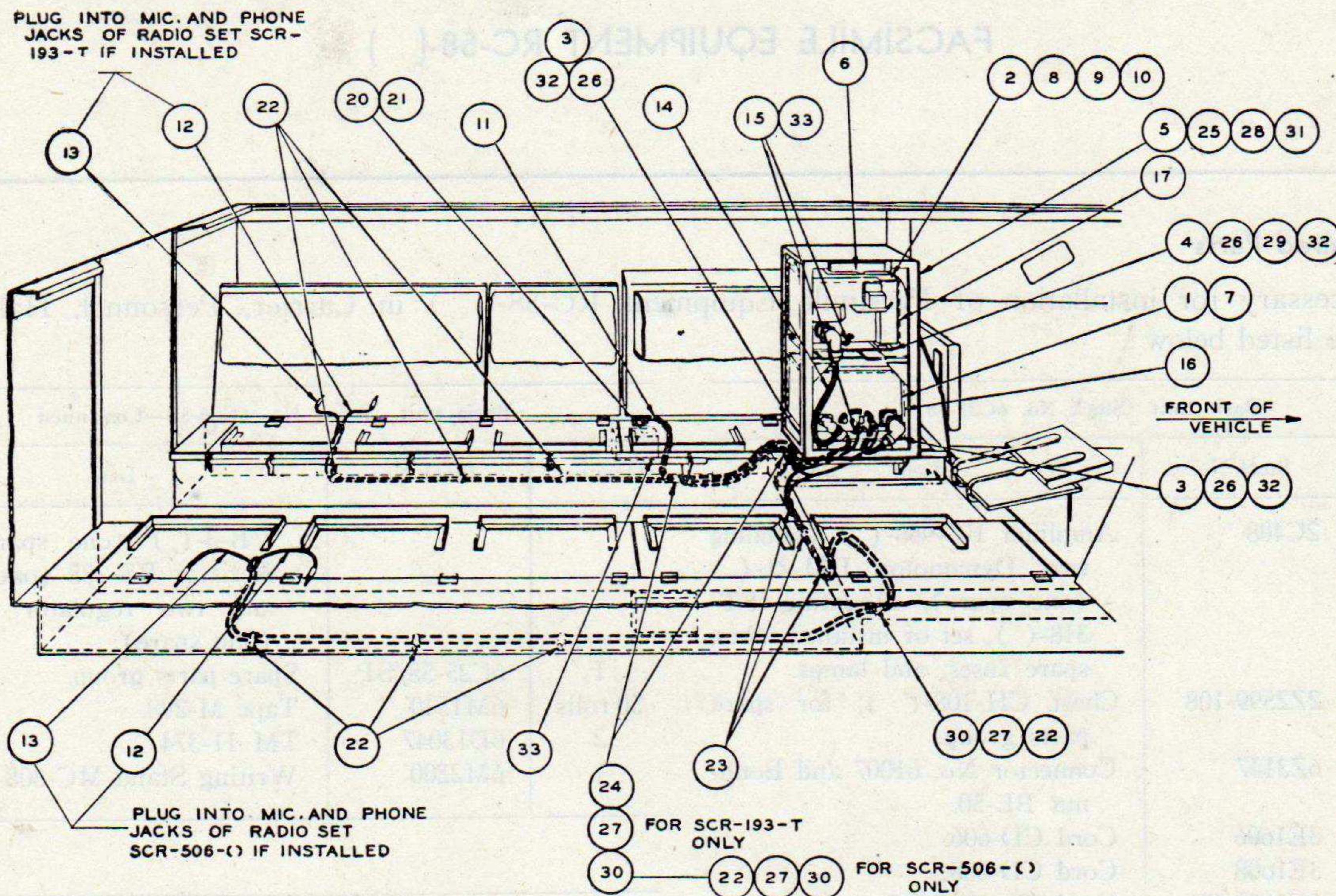
Brackets (items 1 and 2, fig. 302) (items 19 and 18, fig. 301), on left seat locker lid.

Frame FM-89 (item 5, fig. 301), on brackets (item 2, fig. 302).

Method and materials

See figure 301, Location of Holes and Brackets. Remove front left seat support angle to rear of left ammunition chest, and drill required holes in locker lid, as shown. Place brackets (item 2, fig. 302) on seat locker lid and line up holes. Secure bracket (item 1, fig. 302) to seat locker with existing screws as shown.

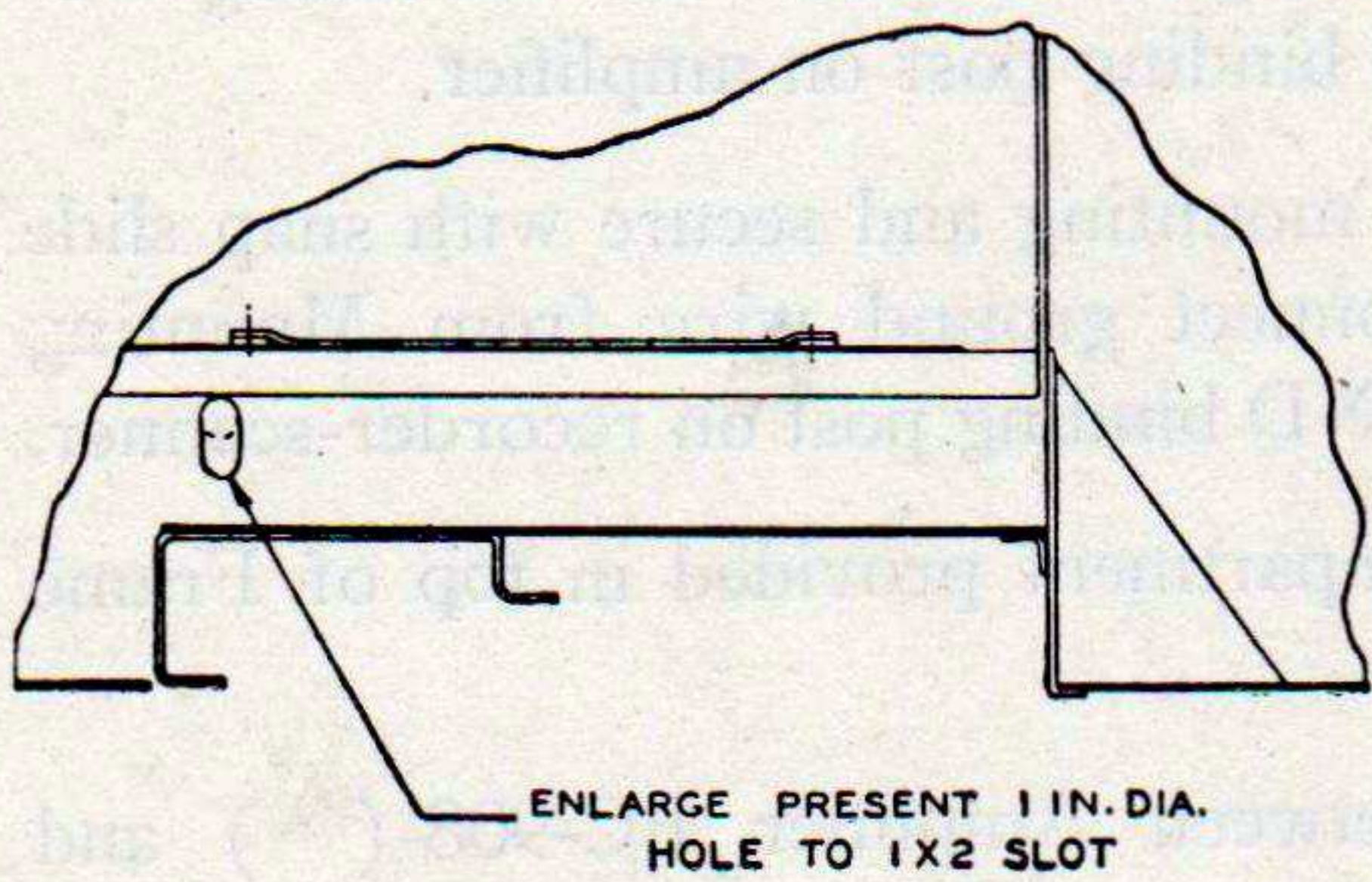
Place Frame FM-89 on brackets. Line up holes, and secure frame and brackets to seat locker lid with four 5/16-inch screws, nuts, and eight shakeproof washers provided (one washer under head of each screw and one under each nut).



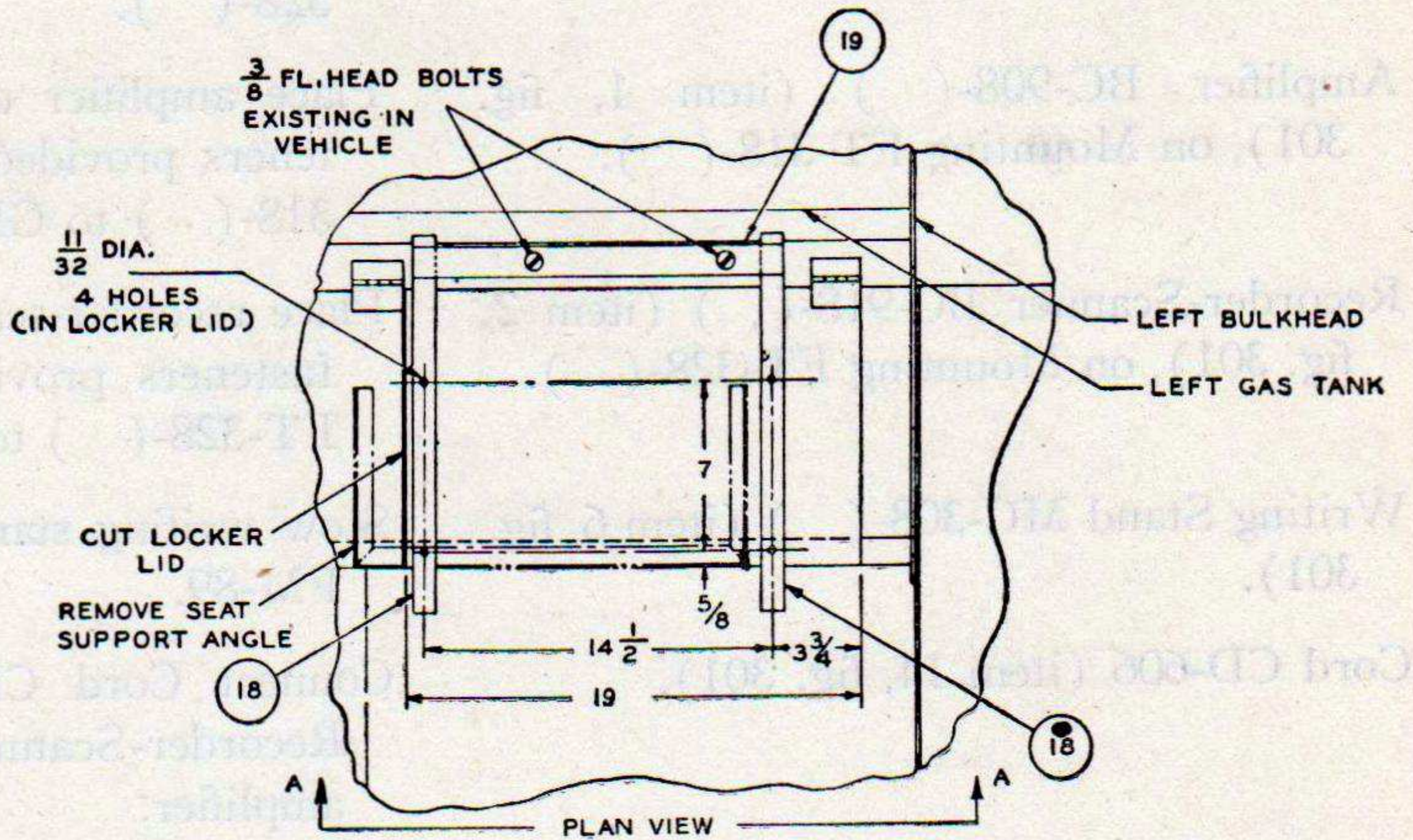
ITEM NO.	NAME OF ITEM	QUAN. REQ.
1	AMPLIFIER BC-908-()	1
2	RECORDER-SCANNER BC-918-()	1
3	MOUNTING FT-318-()	1
4	MOUNTING FT-328-()	1
5	FRAME FM-89	1
6	WRITING STAND MC-308-()	1
7	DYNAMOTOR DM-21-()	1
8	VIBRATOR VB-3-()	1
9	MOTOR MO-28-()	1
10	RESISTOR RS-288	1
11	CORD CD-608	1
12	CORD CD-1018-() 10 FOOT LONG SEE NOTE 7	1
13	CORD CD-1019-() 10 FOOT LONG SEE NOTE 7	1
14	CORD CD-606	1
15	WIRE W-128 8 INCHES LONG SEE NOTES 3 AND 8	2
16	COVER BG-128-()	1
17	COVER BG-118-()	1
18	BRACKET (2)	2
19	BRACKET (1)	1
20	CONNECTOR NO. 61007	1
21	BONDNUT BL-50	1
22	CLAMP NO. 4 SEE NOTE 4	6
23	CLAMP NO. 5 SEE NOTE 5 PER FIG 303	3
24	CLAMP NO. 8	2
25	HEX. HEAD MACH. SCREW 5/16-24 X 3/4 LONG	4
26	HEX. HEAD MACH. SCREW 1/4-20 X 3/4 LONG	8
27	ROUNDHEAD MACH SCREW NO. 8 -32 X 1/2 LONG	3
28	HEX. NUT 5/16-24 STD.	4
29	HEX. NUT 1/4-20 STD.	4
30	LOCKWASHER S.A.E. REG. FOR NO. 8 SCREW	3
31	SHAKEPROOF WASHER CAT. NO. 4018-24 FOR 5/16 SCREW	8
32	SHAKEPROOF WASHER CAT. NO. 4014-22 FOR 1/4 SCREW	14
33	TERMINAL SEE NOTES 3 AND 8	2
34	TERMINAL BOX SEE NOTE 6	1

TL10863-S-1

Figure 301. Installation of Facsimile Equipment



SECTIONAL VIEW A-A



LOCATION OF HOLES AND BRACKETS

NOTES:

1. FOR ADDITIONAL COMPONENTS AND SPARE PARTS, SEE COMPONENT PARTS LIST.
2. DIMENSIONS WHERE NOT SHOWN OTHERWISE ARE IN INCHES.
3. CUT (15) TO PROPER LENGTH. TIN ONE END. SOLDER (33) TO OTHER END FOR GROUND CONNECTION.
4. WHERE NOT SHOWN OTHERWISE MOUNT (22) WITH SCREWS FURNISHED FOR CLAMPING POWER CORDS IN INSTALLATION OF RADIO SET SCR-506-() OR SCR-193-T.
5. MOUNT (23) WITH BOLTS EXISTING IN THE VEHICLE.
6. (34) IS FURNISHED WITH THE VEHICLE BY THE MANUFACTURER.
7. USE INSTALLATION SHOWN IN CONJUNCTION WITH EITHER RADIO SET SCR-506-() OR SCR-193-T. INSTALL (12) AND (13) ON SIDE OF VEHICLE NEAREST RADIO SET USED.
8. APPLICATION OF SHAKEPROOF WASHERS:
 - A. UNDER HEAD AND UNDER NUT OF EACH MOUNTING SCREW FOR MOUNTING FT-328-().
 - B. UNDER HEAD OF EACH MOUNTING SCREW FOR MOUNTING FT-318-().
 - C. UNDER HEAD AND UNDER NUT OF EACH MOUNTING SCREW FOR FRAME FM-89.
 - D. UNDER HEAD AND UNDER TERMINAL WHEN GROUND TERMINAL (33) IS USED.

RC-58-() in Carrier, Personnel, Half-track, M3A1.

TL10863-S-2

*Part and location**Method and materials*

Wire W-128 and terminals (items 15 and 33, fig. 301).

Prepare two ground wires by cutting two 8-inch lengths of Wire W-128. Strip and solder-tin $\frac{1}{2}$ inch of each end of both wires. Solder a terminal (obtained from bag of hardware) to one end of each length.

Mounting FT-318-() (item 3, fig. 301), on lower portion of Frame FM-89.

Secure mounting in place with four $\frac{1}{4}$ -inch screws and shake-proof washers provided. Secure terminal of one ground wire by a screw securing front of Mounting FT-318-().

Mounting FT-328-() (item 4, fig. 301), on center brackets of Frame FM-89.

Secure mounting in place with four $\frac{1}{4}$ -inch screws, nuts, and shakeproof washers provided. Secure terminal of second ground lead by a screw securing front of Mounting FT-328-().

Amplifier BC-908-() (item 1, fig. 301), on Mounting FT-318-().

Place amplifier on mounting and secure with snap slide fasteners provided. Connect ground wire from Mounting FT-318-() to GROUND binding post on amplifier.

Recorder-Scanner BC-918-() (item 2, fig. 301), on Mounting FT-328-().

Place recorder-scanner on mounting and secure with snap slide fasteners provided. Connect ground wire from Mounting FT-328-() to GROUND binding post on recorder-scanner.

Writing Stand MC-308-() (item 6, fig. 301).

Stow writing stand in compartment provided in top of Frame FM-89.

Cord CD-606 (item 14, fig. 301).

Connect Cord CD-606 between Amplifier BC-908-() and Recorder-Scanner BC-918-(). Put excess cordage beneath amplifier.

Cord CD-608, connector No. 61007, and Bondnut BL-50 (items 11, 20, and 21, fig. 301).

Connect Cord CD-608 to Amplifier BC-908-() and route to terminal box on left side of vehicle. Secure cord in place with clamps provided. To secure Cord CD-608 install a connector and bondnut through knock-out hole in vehicle terminal box. Connect white lead of Cord CD-608 to positive terminal, and connect black lead to negative terminal inside vehicle terminal box.

Cover BG-118-() (item 17, fig. 301).

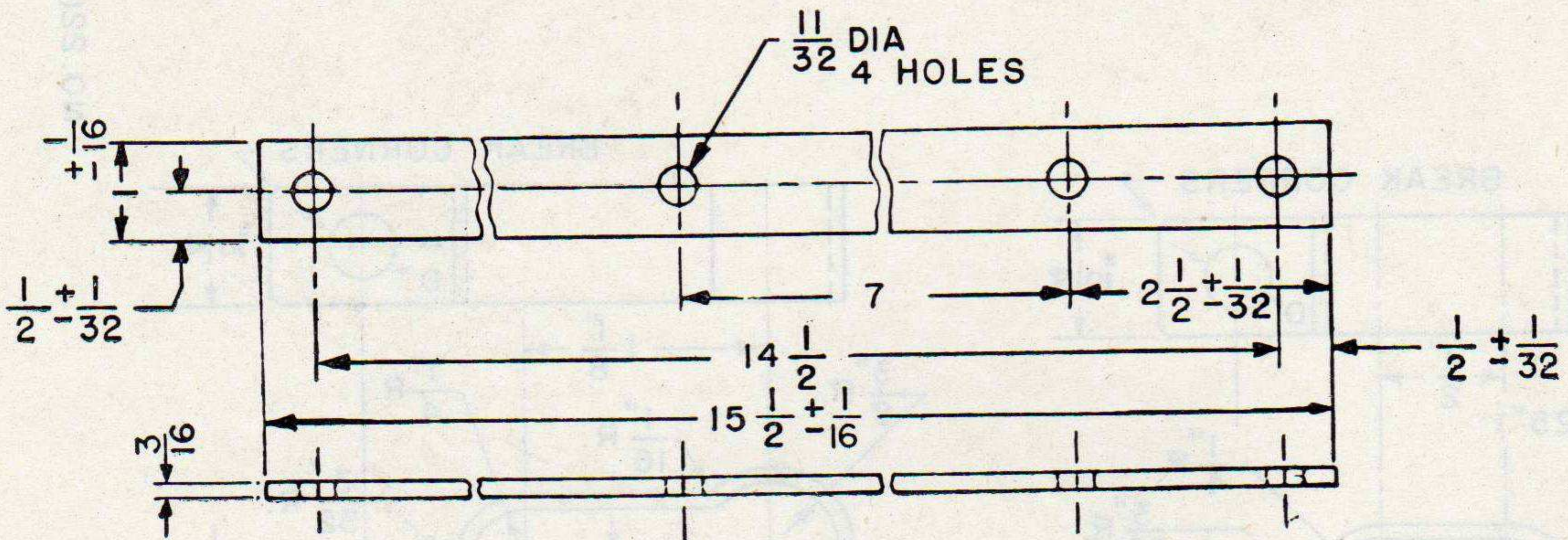
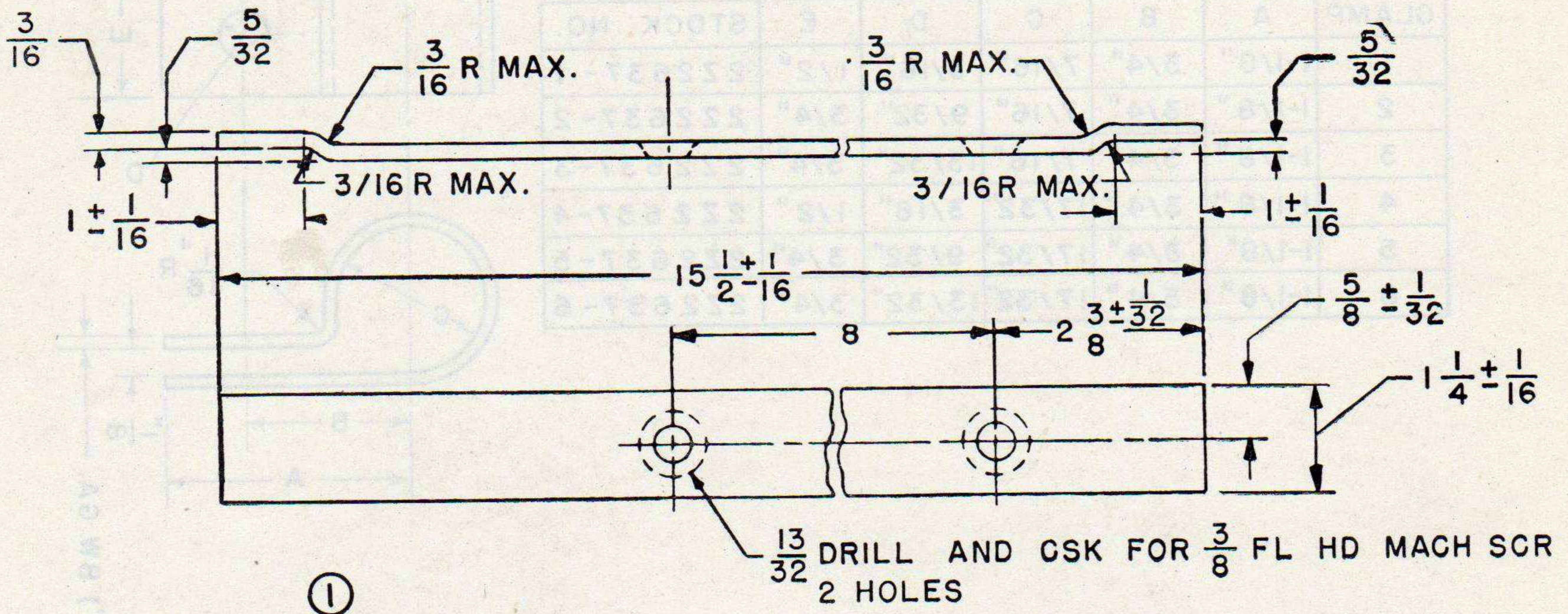
Place over Recorder-Scanner BC-918-().

Cover BG-128-() (item 16, fig. 301).

Place over Amplifier BC-908-().

Cords CD-1018-() and CD-1019-() (items 12 and 13, fig. 301).

When Facsimile Equipment RC-58-() is installed in combination with Radio Set SCR-193-T, route cords along seat locker on left side of vehicle. When Facsimile Equipment RC-58-() is installed in combination with Radio Set SCR-506-(), route cords along seat locker on right side of vehicle. Insert Plugs PL-55 and PL-68 on cords into either of the MICRO and PHONES jacks on front of Amplifier BC-908-(), and insert plugs on other ends of cords into microphone and headset jacks on radio set. Secure cords in place with clamps and hardware provided.



② BRACKET
STEEL, HOT ROLLED (SEE NOTE)

FABRICATION INSTRUCTIONS

REMOVE ALL BURRS.

TOLERANCES WHERE NOT SHOWN OTHERWISE SHALL BE HELD TO $\pm \frac{1}{64}$

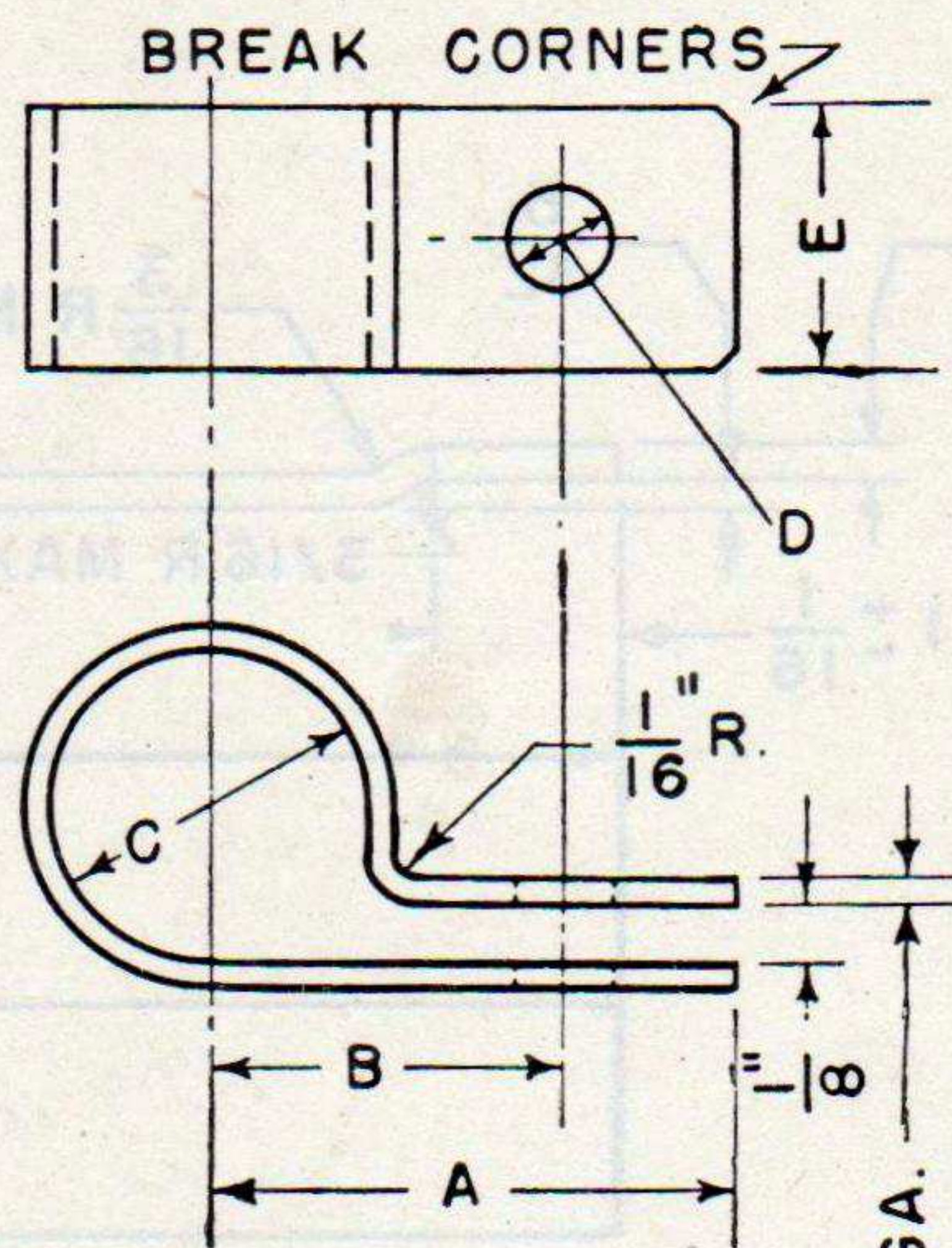
DIMENSIONS WHERE NOT SHOWN OTHERWISE ARE IN INCHES.

ALL SURFACES SHALL BE BONDERIZED AND THEN GIVEN ONE SPRAY COAT OF METAL PRIMER, CLASS 101, AND ONE SPRAY COAT OF SEMI-GLOSS OLIVE DRAB BAKING ENAMEL, CLASS 440. ALL PAINTS AND METHODS OF APPLICATION SHALL BE IN ACCORDANCE WITH ORDNANCE TENTATIVE SPECIFICATION TAG ES-NO.680

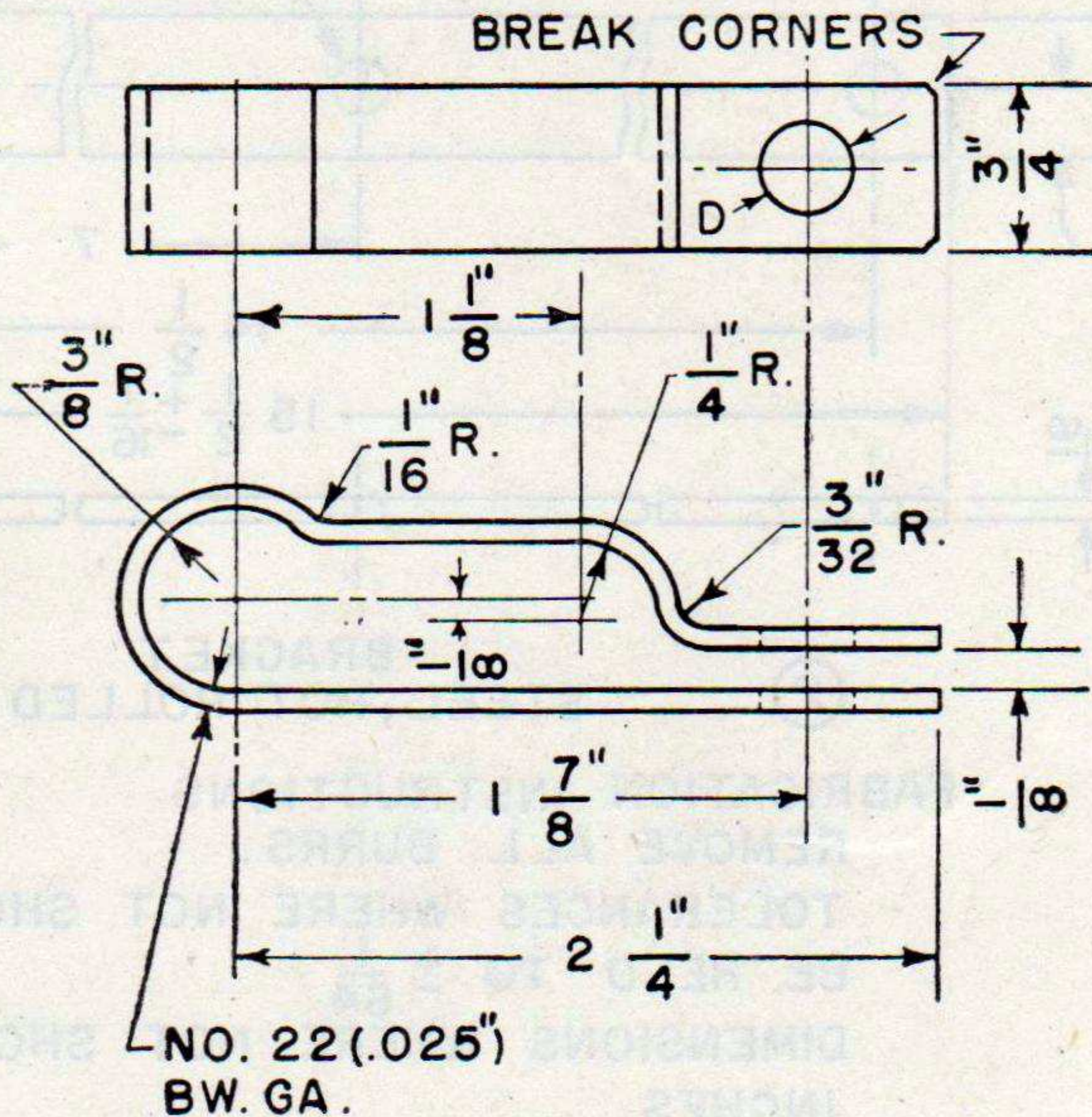
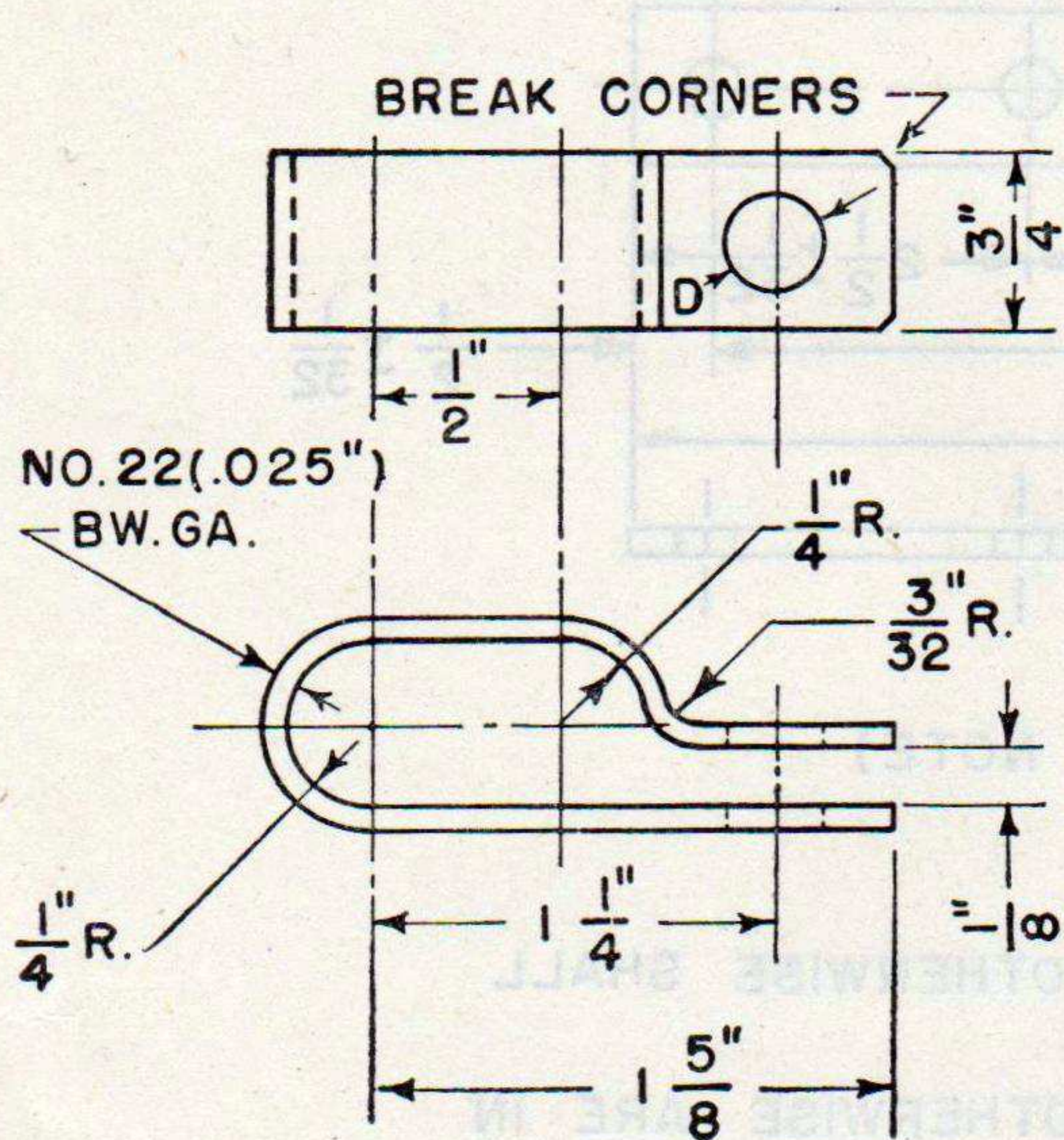
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Figure 302. Brackets for Frame FM-89.

CLAMP	A	B	C	D	E	STOCK NO.
1	1-1/8"	3/4"	7/16"	3/16"	1/2"	2Z2637-1
2	1-1/8"	3/4"	7/16"	9/32"	3/4"	2Z2637-2
3	1-1/8"	3/4"	7/16"	13/32"	3/4"	2Z2637-3
4	1-1/8"	3/4"	17/32"	3/16"	1/2"	2Z2637-4
5	1-1/8"	3/4"	17/32"	9/32"	3/4"	2Z2637-5
6	1-1/8"	3/4"	17/32"	13/32"	3/4"	2Z2637-6



NO. 22(.025") BW. GA.



CLAMP	D	STOCK NO.
7	3/16"	2Z2637-7
8	9/32"	2Z2637-8
9	13/32"	2Z2637-9

CLAMP	D	STOCK NO.
10	9/32"	2Z2637-10
11	13/32"	2Z2637-11

NOTE
TOLERANCES $\pm 1/32$ "

TL-13319

Figure 303. Clamps for radio cordage.

SECTION IV

RADIO SET SCR-193-T

401. Required Parts

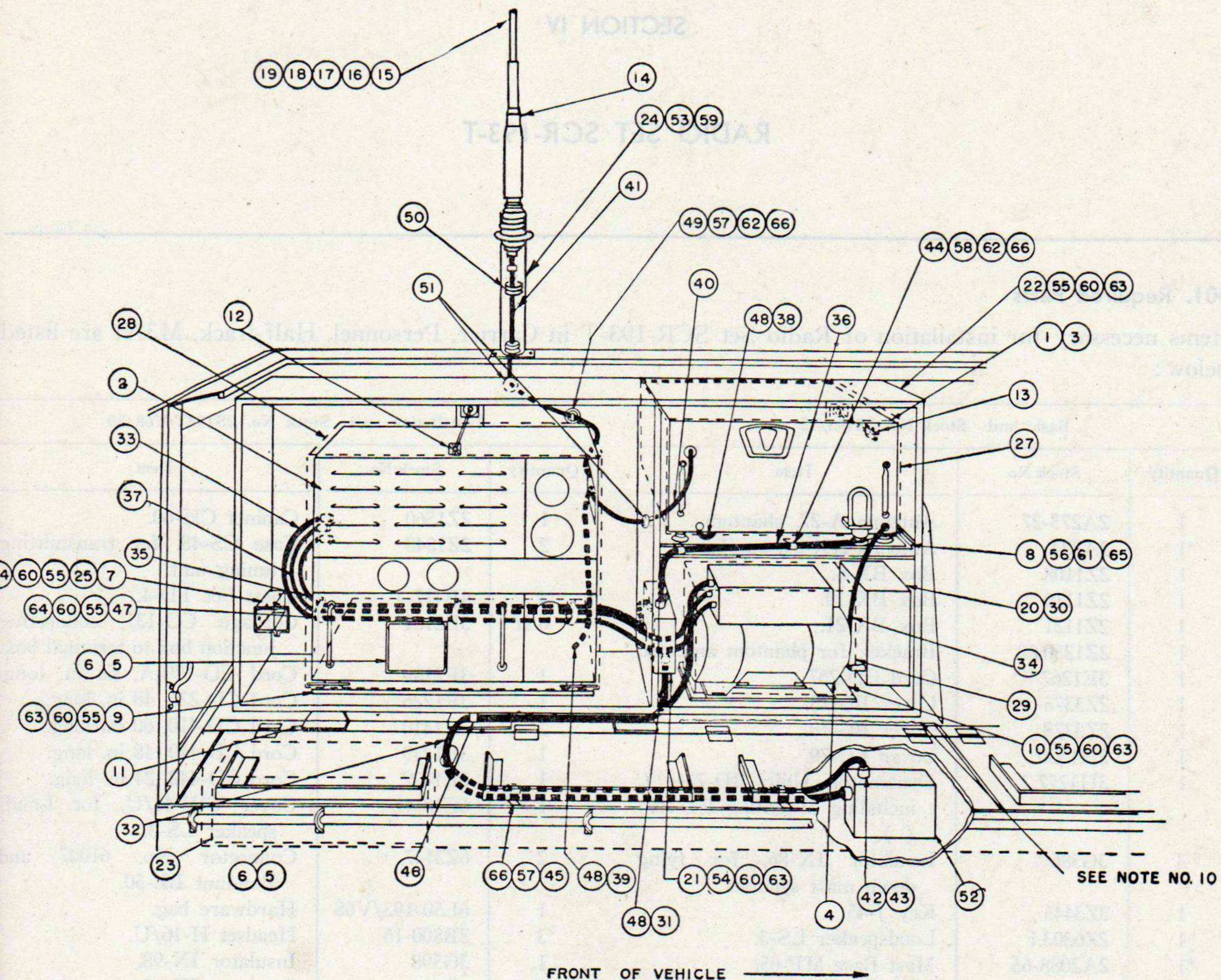
Items necessary for installation of Radio Set SCR-193-T in Carrier, Personnel, Half-track, M3A1 are listed below:

Basic unit Stock No. 2S193/12			Installation unit Stock No. 2S193T-V68/50		
Quantity	Stock No.	Item	Quantity	Stock No.	Item
1	2A275-27	Antenna A-27, phantom.	1	2Z1560	Cabinet CH-60.
^a 1	2A224	Antenna AN-24, auxiliary.	2	2Z1848	Case CS-48, for transmitting tuning unit.
1	2Z1108	Box BX-8.	^c 3	4B417-4	Chest Set TD-4.
1	2Z1119	Box BX-19.	6 ft	3E2131	Cordage CO-131, connecting junction box to terminal box.
1	2Z1121	Box BX-21.	1	3E2189	Cord CO-189-A, 66 in. long.
1	2Z1250.82	Bracket, for phantom antenna.	1	3E1226	Cord CD-226, 48 in. long.
1	3E1267	Cord CD-267.	1	3E1410	Cord CD-410, 60 in. long.
1	2Z3375	Cover BG-75.	1	3E1440	Cord CD-440, 48 in. long.
1	2Z3378	Cover BG-78.	1	3E1422	Cord CD-442, 24 in. long.
1	3H1359	Cover BG-79.	1	6C18-41	Cover CW-41/U, for Loudspeaker LS-3.
1	3H1777.2	Dynamotor Unit BD-77-(), including Mounting FT-107-().	2	6Z3147	Connector No. 61007 and Bondnut BL-50.
3	3G586	Insulator IN-86, for tying down mast sections.	1	6L50-193/V68	Hardware bag.
1	3Z3445	Key J-45.	^c 3	2B800-16	Headset H-16/U.
1	2Z6303.1	Loudspeaker LS-3.	1	3G598	Insulator IN-98.
^b 1	2A2088-65	Mast Base MP-65.	2	3G604	Insulator IN-104.
^b 6	2A2416	Mast Section MS-116, including spares.	2	3G621	Insulator IN-121.
^b 2	2A2417	Mast Section MS-117, including spare.	1	2Z5681	Junction Box TM-188.
^b 2	2A2418	Mast Section MS-118, including spare.	1	2A2090-54	Mast Base Bracket MP-54.
1	2Z6712	Mounting FT-172.	^c 1	2B1617	Microphone T-17, a spare.
1	2Z6718	Mounting FT-178.	^c 1	2B1645	Microphone T-45.
1	2C4312	Radio Receiver BC-312-(), including Mounting FT-162-().	2	2B1567	Microphone Cover M-367, including spare.
1	2C6191.8	Radio Transmitter BC-191-(), including Mounting FT-151-().	1	2Z6721-284	Mounting FT-284-().
1	2Z8056	Roll BG-56-().	1	2Z8793A	Socket Cap M-163-A.
50 ft	6Z7926	Rope RP-5, for tying down mast sections.	15 ft	1B128	Wire W-128.
2	6D13073	TM 11-273.			

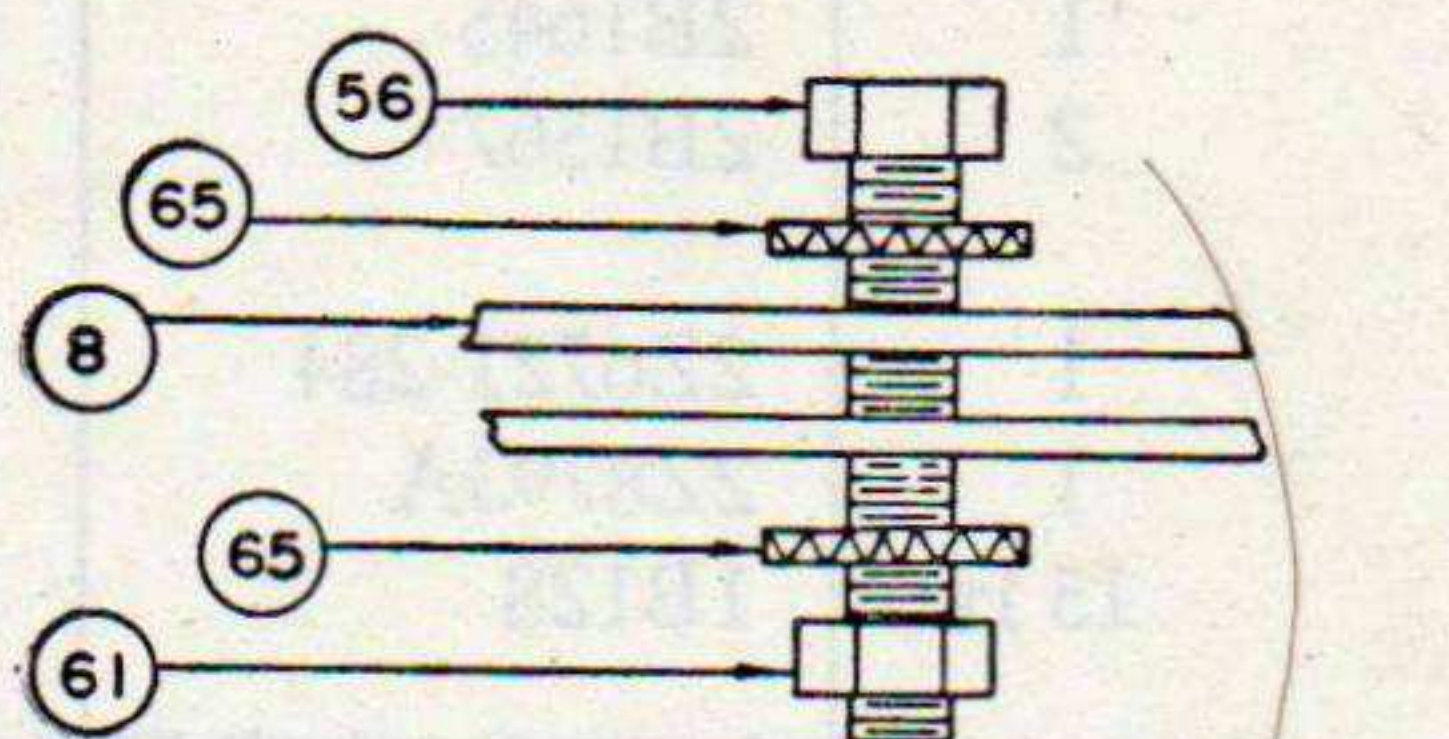
^a Used only for portable, stationary, or emergency operation.

^b When Mast Base MP-65, Mast Sections MS-116, MS-117, and MS-118 are not available use Mast Base MP-37 or MP-57 with Mast Sections MS-49 through MS-53 and Clamps MC-421 through MC-424. In this case Cover BG-67-() will be used to cover mast base.

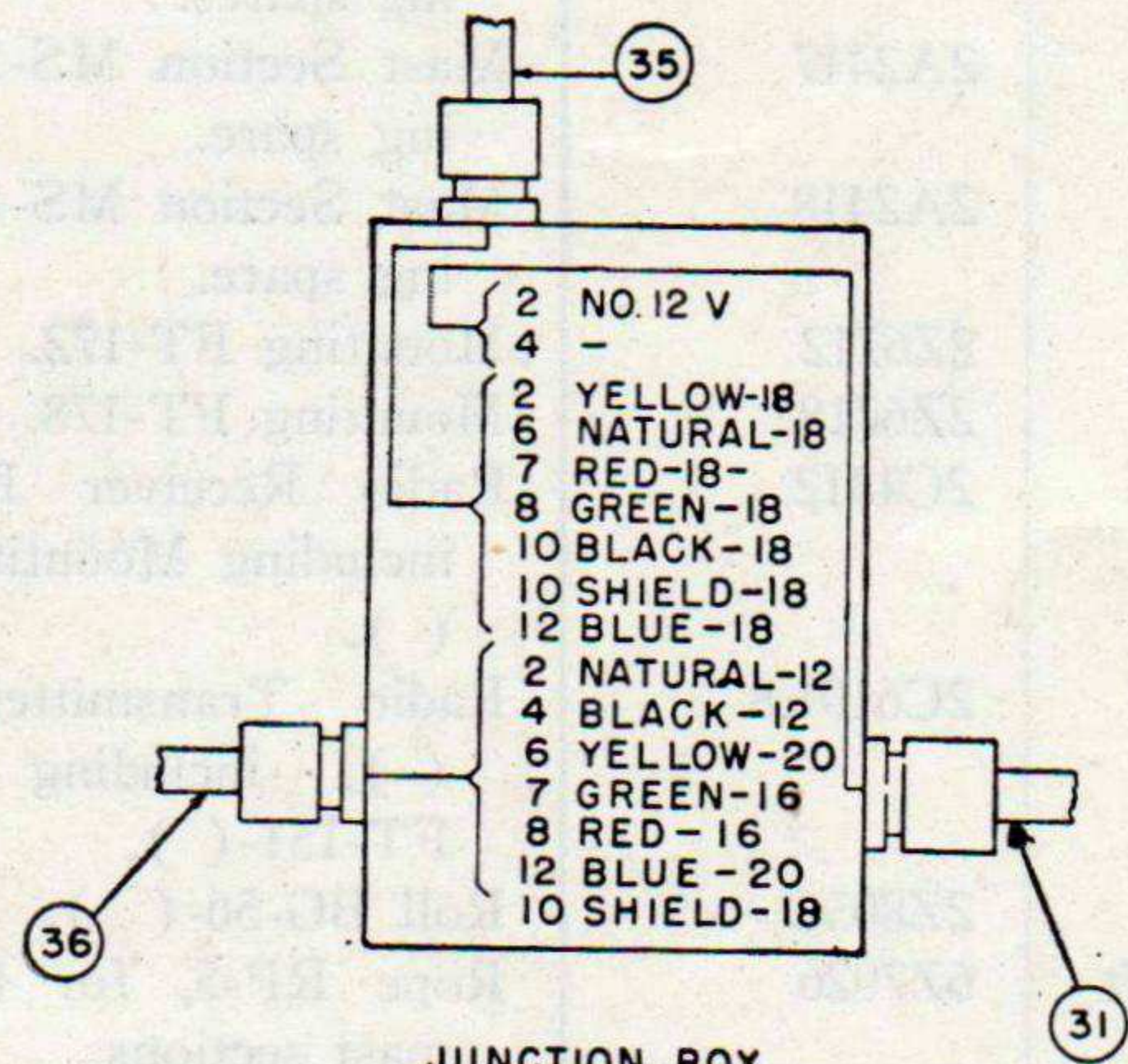
^c When Headset H-16/U, Microphone T-45, and Chest Set TD-4 are not available, use Headset HS-30-(), Microphone T-17, Cords CD-307-A and CD-604.



SEE NOTE NO. 10



APPLICATION OF SHAKEPROOF WASHERS



JUNCTION BOX
TM-188

TL10864-S-1

Figure 401. Installation of Radio Set SCR-193-T

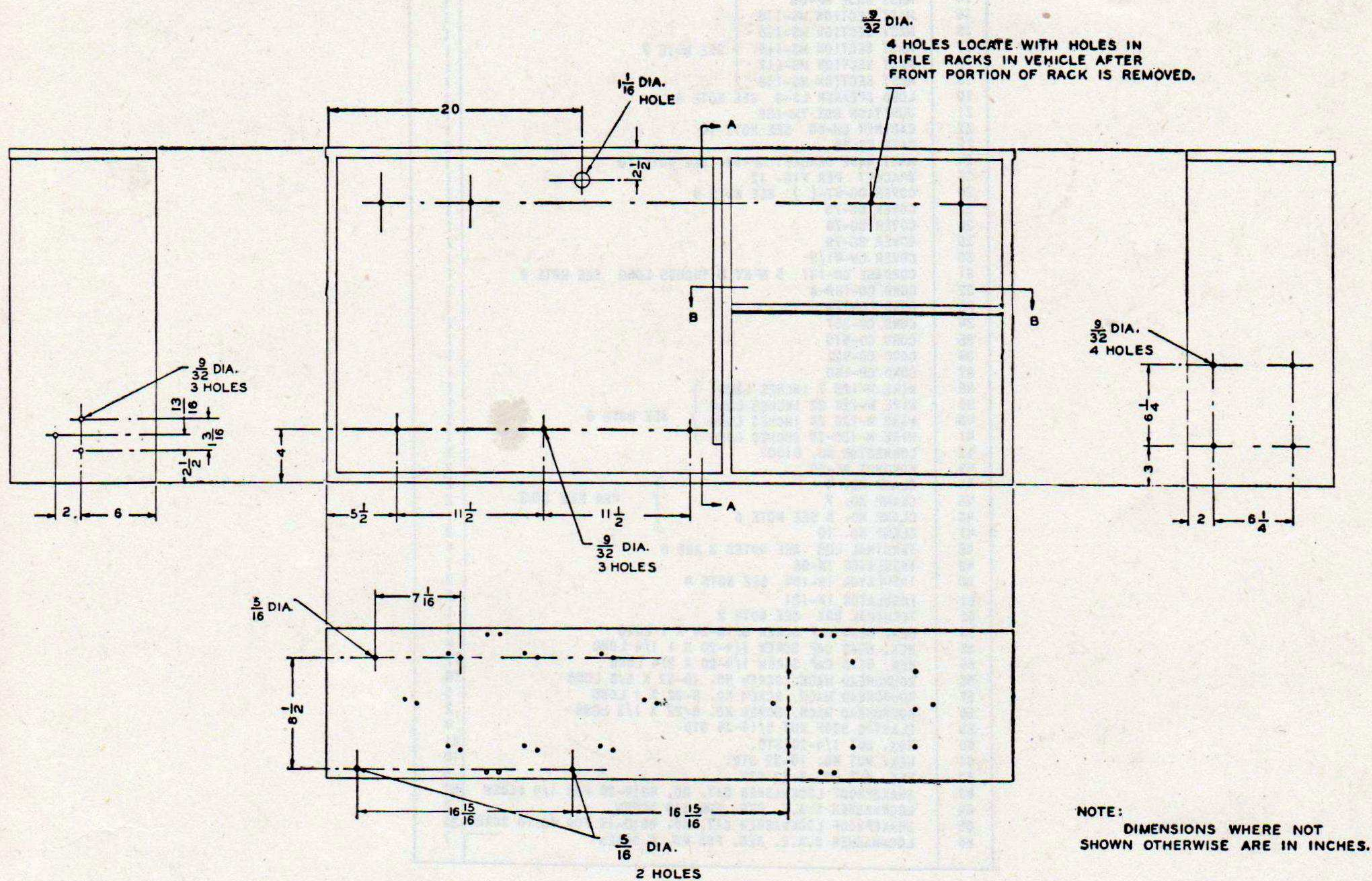
ITEM NO.	NAME OF ITEM	QUAN REQ
1	RADIO RECEIVER BC-312-()	1
2	RADIO TRANSMITTER BC-191-()	1
3	DYNAMOTOR DM-21-()	1
4	DYNAMOTOR BD-77-()	1
5	TRANSMITTER TUNING UNIT TU-5-()	1
6	TRANSMITTER TUNING UNIT TU-6-()	1
7	ANTENNA A-27, PHANTOM	1
8	MOUNTING FT-162	1
9	MOUNTING FT-151-()	1
10	MOUNTING FT-107-()	1
11	MOUNTING FT-284 SEE NOTES 5 AND 10	1
12	MOUNTING FT-172	1
13	MOUNTING FT-178	1
14	MAST BASE MP-65	1
15	MAST SECTION MS-116	1
16	MAST SECTION MS-116	1
17	MAST SECTION MS-116	1
18	MAST SECTION MS-117	1
19	MAST SECTION MS-118	1
20	LOUD SPEAKER LS-3 SEE NOTE 9	1
21	JUNCTION BOX TM-188	1
22	CABINET CH-60 SEE NOTE 10	1
23	CASE CS-48	2
24	MAST BASE BRACKET MP-54 SEE NOTE 10	1
25	BRACKET PER FIG. 12	1
26	COVER BG-67-() SEE NOTE 4	1
27	COVER BG-75	1
28	COVER BG-78	1
29	COVER BG-79	1
30	COVER CW-41/U	1
31	CORDAGE CO-131 5 FEET 6 INCHES LONG SEE NOTE 8	1
32	CORD CO-189-A	1
33	CORD CD-226	1
34	CORD CD-267	1
35	CORD CD-410	1
36	CORD CD-422	1
37	CORD CD-440	1
38	WIRE W-128 7 INCHES LONG	1
39	WIRE W-128 22 INCHES LONG	1
40	WIRE W-128 24 INCHES LONG	1
41	WIRE W-128-30 INCHES LONG	1
42	CONNECTOR NO. 61007	2
43	BONDNUT BL-50	2
44	CLAMP NO. 4	2
45	CLAMP NO. 7	2
46	CLAMP NO. 8 SEE NOTE 6	1
47	CLAMP NO. 10	3
48	TERMINAL LUG SEE NOTES 3 AND 8	4
49	INSULATOR IM-98	1
50	INSULATOR IM-104 SEE NOTE 9	2
51	INSULATOR IM-121	1
52	TERMINAL BOX SEE NOTE 2	1
53	HEX. HEAD CAP SCREW 5/16-24 X 1 LONG	4
54	HEX. HEAD CAP SCREW 1/4-20 X 1 1/4 LONG	4
55	HEX. HEAD CAP SCREW 1/4-20 X 3/4 LONG	27
56	ROUNDHEAD MACH. SCREW NO. 10-32 X 5/8 LONG	10
57	ROUNDHEAD MACH. SCREW NO. 8-32 X 1 LONG	5
58	ROUNDHEAD MACH. SCREW NO. 8-32 X 1/2 LONG	2
59	ELASTIC STOP NUT 5/16-24 STD.	4
60	HEX. NUT 1/4-20 STD.	31
61	HEX. NUT NO. 10-32 STD.	10
62	HEX. NUT NO. 8-32 STD.	5
63	SHAKEPROOF LOCKWASHER CAT. NO. 4014-20 FOR 1/4 SCREW	50
64	LOCKWASHER S.A.E. REG. FOR 1/4 SCREW	8
65	SHAKEPROOF LOCKWASHER CAT. NO. 4010-18 FOR NO. 10 SCREW	20
66	LOCKWASHER S.A.E. REG. FOR NO. 8 SCREW	7

NOTES:

- FOR ADDITIONAL COMPONENTS AND SPARE PARTS SEE COMPONENTS PARTS LIST.
- (52) IS FURNISHED WITH THE VEHICLE BY THE MANUFACTURER.
- CUT (38) (39) (40) AND (41) TO PROPER LENGTH. TIN ENDS FOR ANTENNA AND GROUND CONNECTIONS. APPLY (48) TO ONE END WHERE SHOWN.
- USE (26) WHEN MAST SECTIONS ARE NOT INSTALLED IF MAST BASE MP-37 OR MP-57 IS USED.
- (11) IS MOUNTED WITH ARMOR BOLTS FURNISHED AS PART OF VEHICLE.
- MOUNT (46) WITH HARDWARE FURNISHED FOR (9).
- IF (14) (15) (16) (17) (18) AND (19) ARE NOT AVAILABLE, USE MAST BASE MP-37 OR MP-57, AND MAST SECTIONS MS-49, MS-50, MS-51, MS-52 AND MS-53 WITH CLAMPS MC-421, MC-422, MC-423 AND MC-424.
- SOLDER ONE (48) TO EACH WIRE OF (31) TERMINAL BOX END. USE TERMINAL LUGS PROVIDED AS PART OF (21) AT OPPOSITE END.
- HARDWARE REQUIRED FOR MOUNTING IS FURNISHED WITH (20) AND (50).
- BEFORE INSTALLATION MODIFY (11) (22) (24) AND VEHICLE AS SHOWN IN FIGURE 402

TL10864-S-2

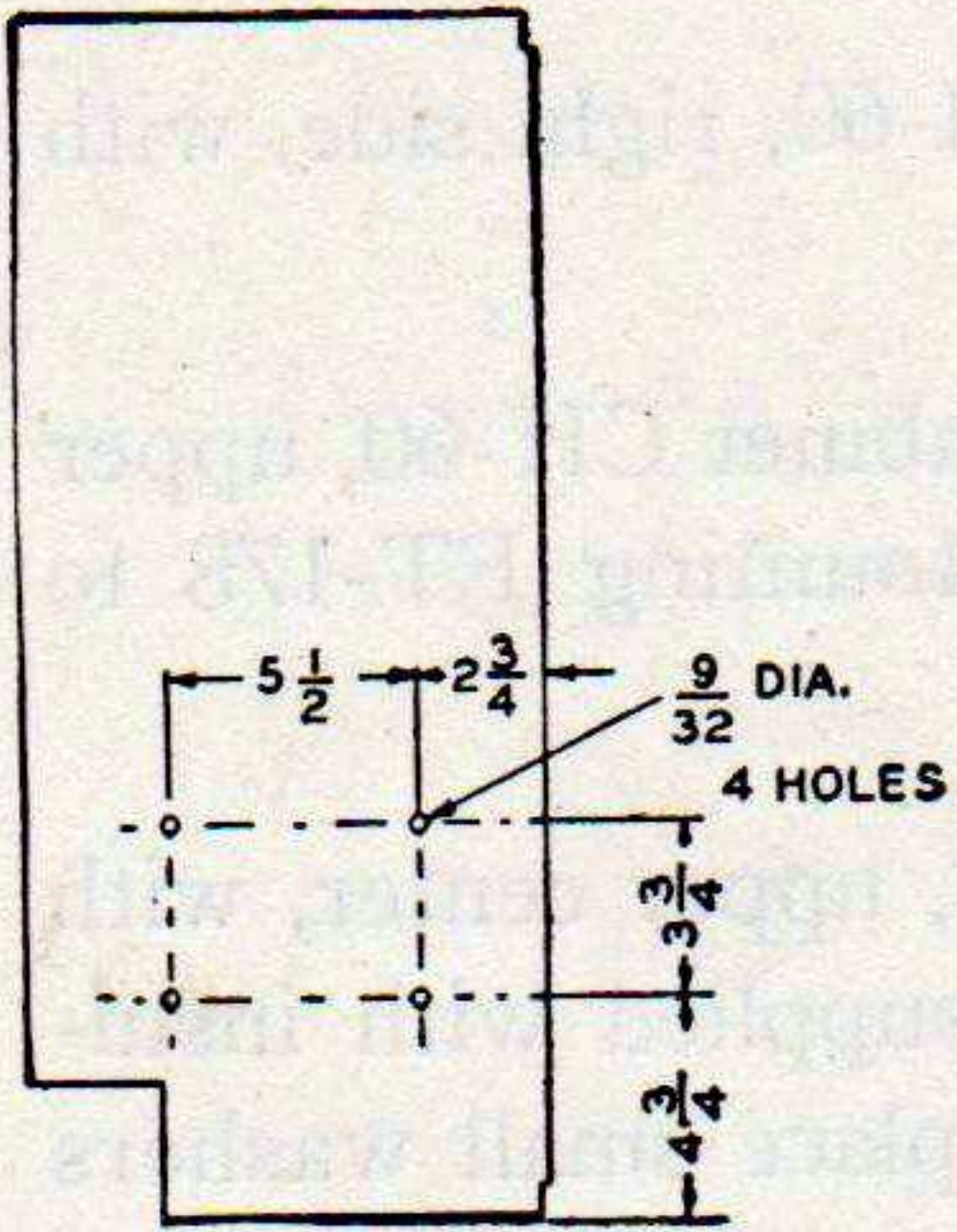
in Carrier, Personnel, Half-track, M3A1.



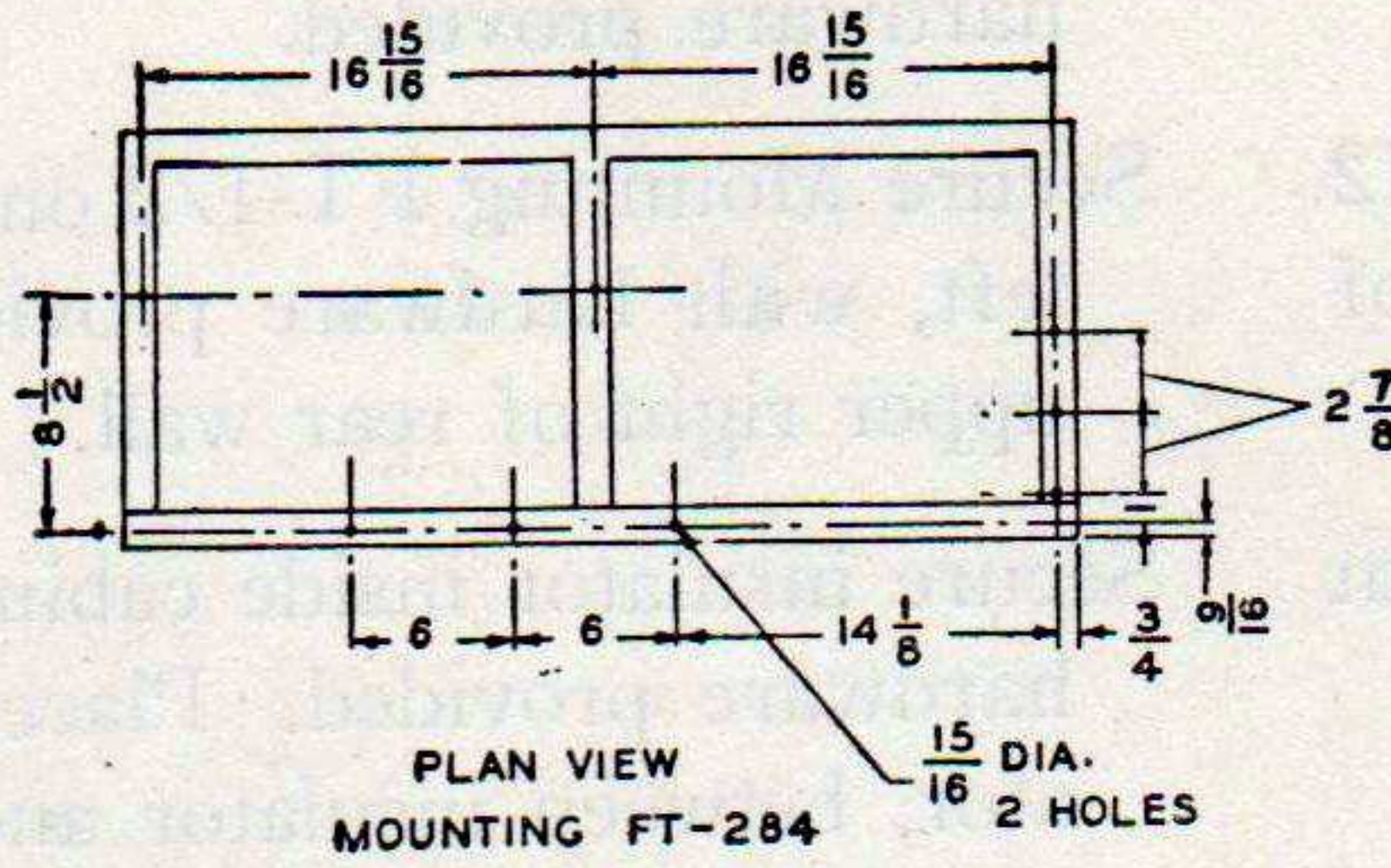
CABINET CH-60

TL10874-S-1

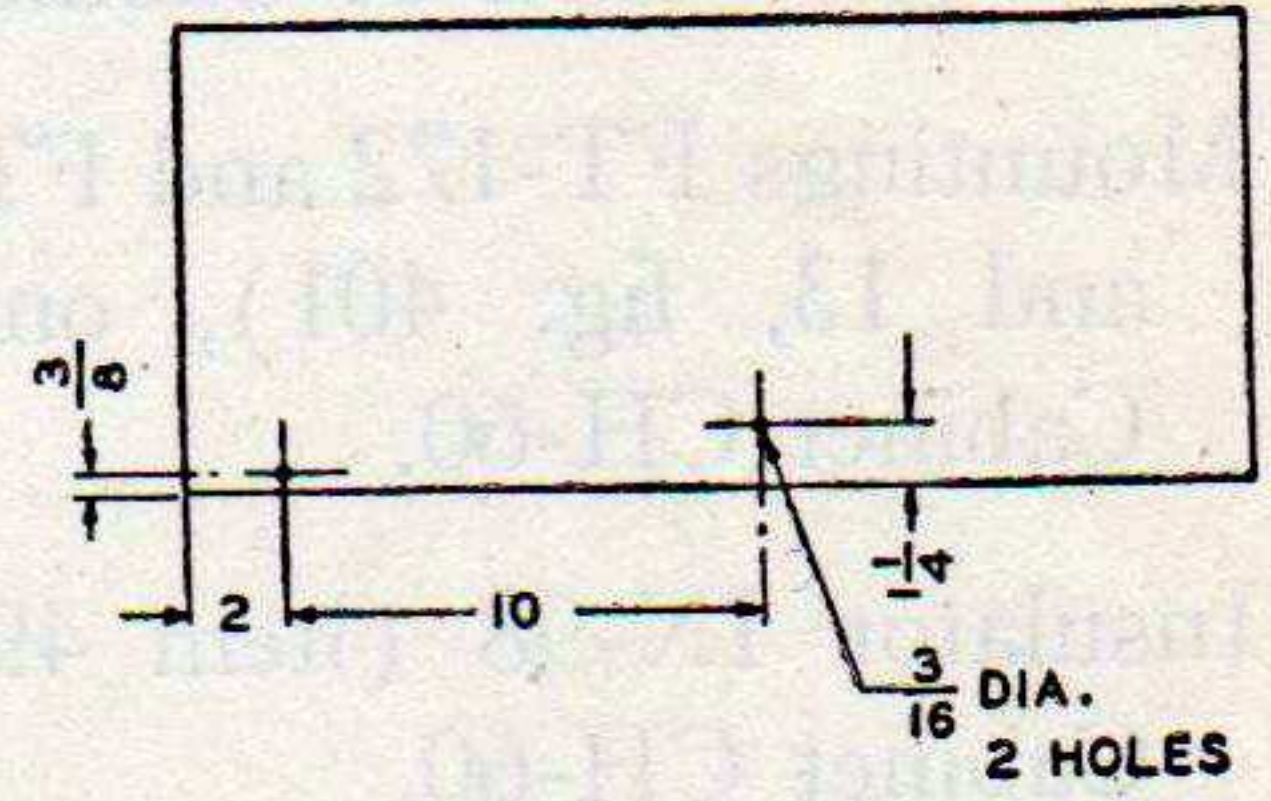
Figure 402. Modifications for installation of Radio Set



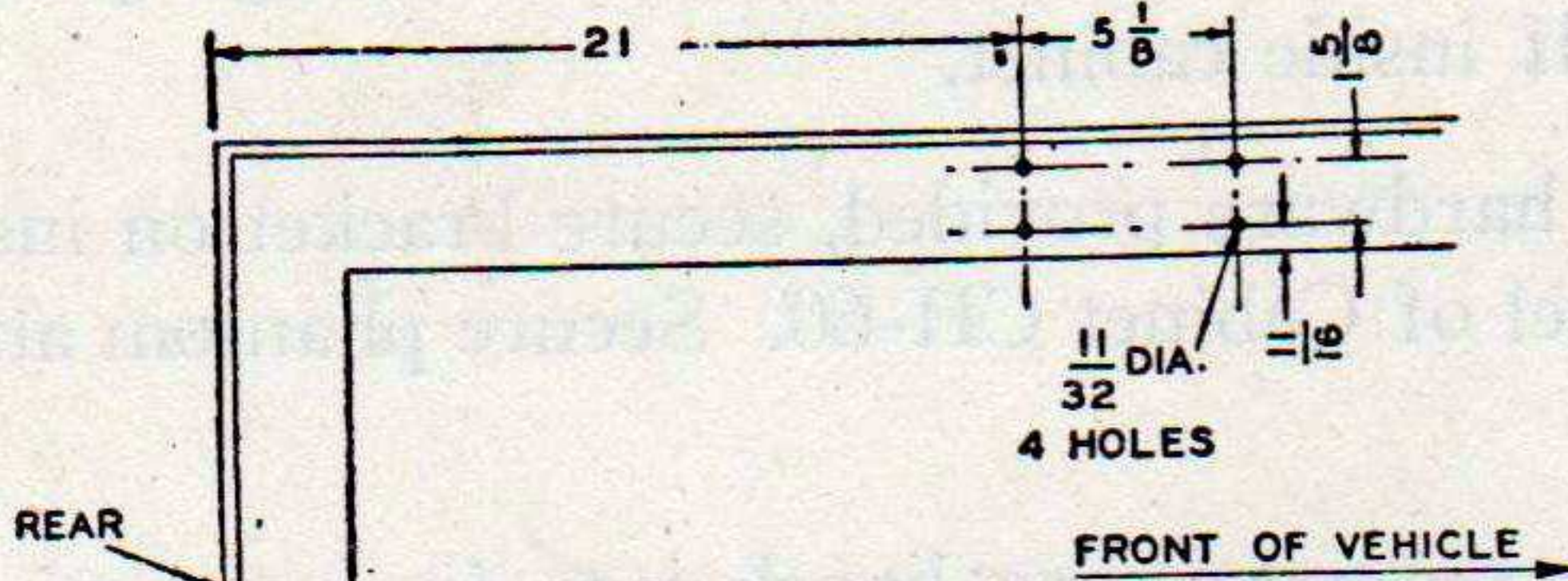
VIEW A-A, BULKHEAD



PLAN VIEW MOUNTING FT-284

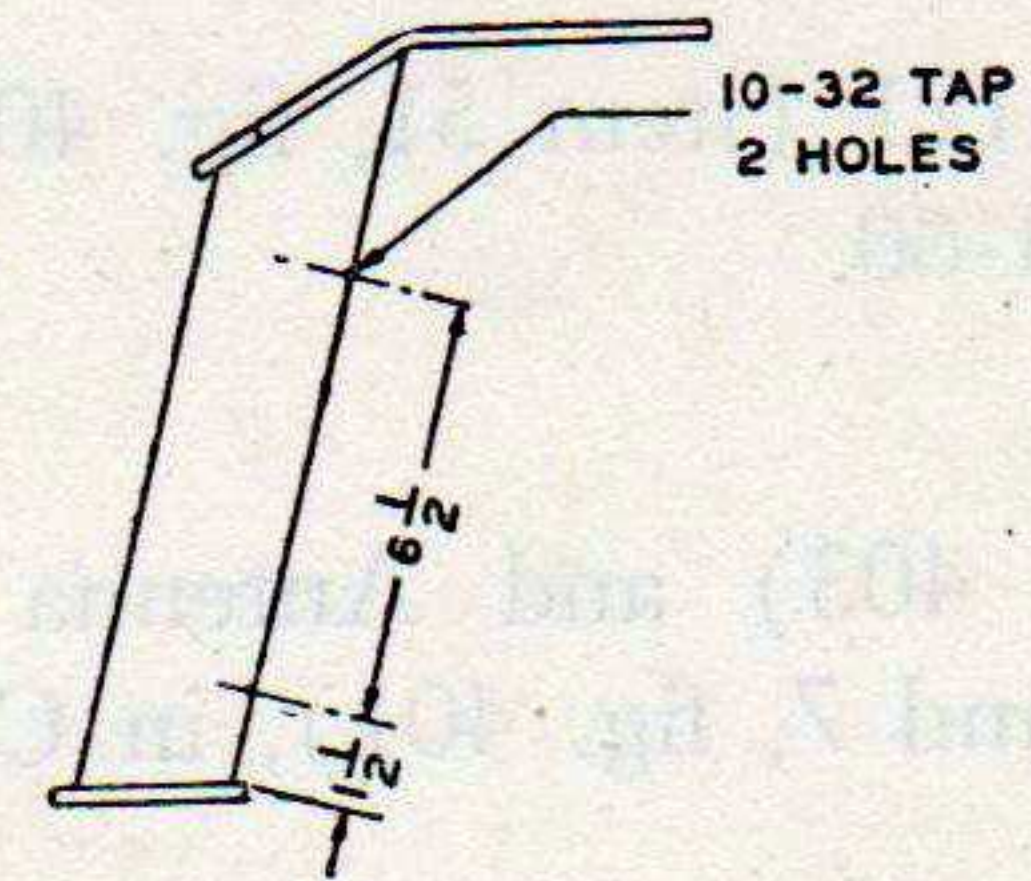


VIEW B-B, SHELF



NOTE:
 REMOVE LEFT CENTER AND REAR SEAT BACKS.
 IF LOCKER LID HINGES ARE FASTENED TO SEAT
 BACK, CUT WITH TORCH SO AS TO LEAVE HINGES IN
 VEHICLE.

VEHICLE, LEFT TOP RAIL



MAST BASE BRACKET MP-54

NOTE:
 DIMENSIONS WHERE NOT SHOWN
 OTHERWISE ARE IN INCHES.

SCR-193-T in Carrier, Personnel, Half-track, M3A1.

TL10874-S-2

402. Assembly and Installation

Components of Radio Set SCR-193-T should be installed in Carrier, Personnel, Half-track, M3A1 as

shown in figure 401 and as directed below. Before proceeding with installation, perform necessary drilling of Cabinet CH-60, Mounting FT-284-(), and Mast Base Bracket MP-54 as shown in figure 402.

<i>Part and location</i>	<i>Method and materials</i>
Mounting FT-151-() (item 9, fig. 401), on floor of Cabinet CH-60.	Secure mounting to floor of Cabinet CH-60, left side, with hardware provided.
Mounting FT-107-() (item 10, fig. 401), on floor of Cabinet CH-60.	Secure mounting to floor of Cabinet CH-60, right side, with hardware provided.
Mounting FT-162-() (item 8, fig. 401), on shelf of Cabinet CH-60.	Secure mounting to shelf inside Cabinet CH-60, right side, with hardware provided.
Mountings FT-172 and FT-178 (items 12 and 13, fig. 401), on rear wall of Cabinet CH-60.	Secure Mounting FT-172 on rear wall of Cabinet CH-60, upper left, with hardware provided. Secure Mounting FT-178 to upper right of rear wall.
Insulator IN-98 (item 49, fig. 401), in Cabinet CH-60.	Secure insulator inside cabinet on rear wall, upper center, with hardware provided. Place large gasket, supplied with insulator, between insulator and cabinet, and place small washers under heads of screws securing insulator.
Insulator IN-121 (item 51, fig. 401), in Cabinet CH-60.	Install one insulator in hole through rear wall of cabinet near top, and one insulator in hole through partition, just above shelf inside cabinet.
Bracket (fig. 403) and Antenna A-27 (items 25 and 7, fig. 401), in Cabinet CH-60.	With hardware provided, secure bracket on inside of lower left panel of Cabinet CH-60. Secure phantom antenna in bracket.
Junction Box TM-188 (item 21, fig. 401), in Cabinet CH-60.	Punch out necessary knock-outs for connecting cords and use hardware provided to secure junction box on right side of partition inside Cabinet CH-60.
Mounting FT-284-() (item 11, fig. 401), on floor in rear of vehicle.	Fasten mounting to floor with screws, nuts, and lockwashers provided, as shown in figure 401.
Cabinet CH-60 (item 22, fig. 401), on Mounting FT-284-().	Place Cabinet CH-60, with above components installed, on Mounting FT-284-(), and secure with hardware provided.
Mast Base Bracket MP-54 (item 24 fig. 401), on left top rail.	Secure mast base bracket on rear left top rail with hardware provided, as shown in figure 401.
Dynamotor Unit BD-77-() and Cover BG-79 (items 4 and 29, fig. 401), on Mounting FT-107-().	Locate dynamotor on mounting and secure with snap slide fasteners provided in base of dynamotor. Place Cover BG-79 over dynamotor.
Loudspeaker LS-3 and Cover CW-41/U (items 20 and 30, fig. 401), in Cabinet CH-60.	Remove 12 roundhead screws on front of loudspeaker case. Place Cover CW-41/U over case and replace screws. Secure loudspeaker case on inside of cabinet, right end under shelf, with screws provided on back of loudspeaker. See figure 10, TB SIG 21 for details.
Radio Receiver BC-312-() and Cover BG-75 (items 1 and 27, fig. 401), on Mounting FT-162-().	Remove receiver from its cabinet and drill end of cabinet as shown in figure 404. Place Cover BG-75 over cabinet and secure small angle bracket (part of Mounting FT-178) to side

*Part and location**Method and materials*

Radio Transmitter BC-191-() and Cover BG-78 (items 2 and 28, fig. 401), on Mounting FT-151-().

Cord CD-267 (item 34, fig. 401).

Mast Base MP-65 (item 14, fig. 401), on Mast Base Bracket MP-54.

Wire W-128 (items 38, 39, 40, and 41, fig. 401).

Mast Sections MS-116, MS-117, and MS-118 (items 15, 16, 17, 18, and 19, fig. 401), on Mast Base MP-65.

of cabinet. Use hardware provided. (See figure 405). Replace receiver in its cabinet. Place receiver on Mounting FT-162-() and secure by means of snap slide fasteners provided at bottom of receiver cabinet. Attach long threaded rod of Mounting FT-178 to small angle bracket. Use wingnuts provided.

Remove tube access panel from upper front of transmitter and drill top plate of transmitter case as shown in figure 406. Place Cover BG-78 over transmitter and secure small angle bracket (part of Mounting FT-172) to top of transmitter with reinforcing plate underneath as shown in figure 405. Replace tube access panel. Place transmitter on Mounting FT-151-() and secure with snap slide fasteners provided. With wingnuts provided, secure threaded rod of Mounting FT-172 to small angle bracket.

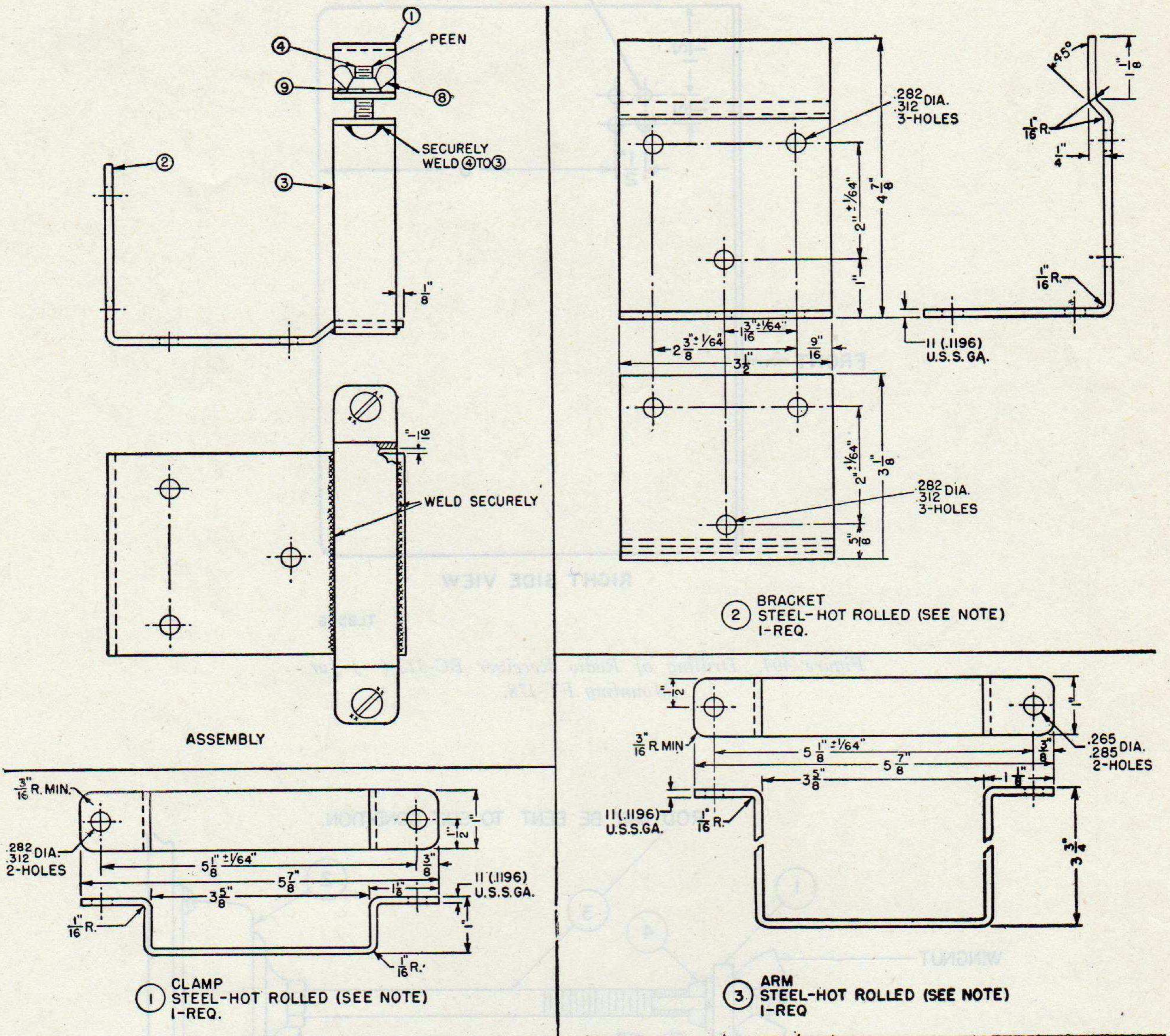
Insert plugs on Cord CD-267 into jack on Loudspeaker LS-3 and into SPEAKER jack on Radio Receiver BC-312-().

Assemble Mast Base MP-65 on Mast Base Bracket MP-54, located on top flange of vehicle, left side rear, as follows: (See figure 407. Place upper insulator, item 4, over hole in bracket. Place phenolic washer, item 3, over item 4. Place body of mast base, item 2, through items 3 and 4. Place lockwasher, item 9, plain washer, item 8, and phenolic washer, item 7, over bolt and binding post assembly, item 10. Place lower insulator, item 6, over item 10. Screw threaded portion of item 10 into body, item 2, from underneath. Tighten assembly with a $\frac{9}{16}$ -inch open-end wrench. Do not apply excessive pressure; it will damage mast base. Screw threaded ends of Insulators IN-104 into tapped holes in mast base bracket, and secure insulators in place with nuts and lockwashers provided. For assembly of Mast Base MP-37 or MP-57, see figure 408.

Cut a 24-inch length of Wire W-128. Strip insulation from $\frac{1}{2}$ inch of one end, clean, and solder-tin tip. Solder a terminal (found in hardware bag) to tip. Strip insulation from 2 inches of other end, clean, and solder-tin tip. Secure terminal with one of the screws securing Mounting FT-151-(), using shakeproof lockwashers. Connect 2-inch tip to both GND and CPSE terminals on antenna terminal board at right end of Radio Transmitter BC-191-(). Cut antenna leads, and ground lead for Radio Receiver BC-312-() to lengths shown in figure 401. Route antenna lead-in wire down through Insulators IN-104, through Insulators IN-98 and IN-121 to ANT terminal on Radio Receiver BC-312-(a). Use terminal on ground lead and secure with a screw used to secure Mounting FT-162-(). Connect leads as shown in figure 401.

Screw mast sections together and tape joints with friction tape. Screw assembled mast sections into Mast Base MP-65. When not in use stow mast sections in Roll BG-56-().

Part and location	Method and materials
Two Cases CS-48 (item 23, fig. 401).	Place each transmitter tuning unit not in use in Case CS-48. Stow each case in seat lockers.
Box BX-8 and BX-19.	Stow spare tubes in Box BX-8 and BX-19. Stow boxes in Box BX-21.
Box BX-21.	Stow headsets in this box and carry box in any convenient location.
Socket Cap M-163-A.	Use Socket Cap M-163-A to cover unused socket on left end of Radio Transmitter BC-191-(). Cover unused sockets underneath transmitter; use socket caps in cloth bag attached to transmitter.
Connectors No. 61007 and Bondnuts BL-50 (items 42 and 43, fig. 401).	Cord and wire radio set as shown in figure 401. Use connectors and bondnuts to secure cords in vehicle terminal box. Secure cords in place with clamps provided.
Cordage CO-131 (item 31, fig. 401).	Connect cordage between Junction Box TM-188 and vehicle terminal box, as shown in figure 401.
Cord CO-189-A (item 32, fig. 401).	Connect cord between Dynamotor Unit BD-77-() and vehicle terminal box, as shown in figure 401.
Cord CD-226 (item 33, fig. 401).	Connect cord between Radio Transmitter BC-191-() and Dynamotor Unit BD-77-(), as shown in figure 401.
Cord CD-410 (item 35, fig. 401).	Connect cord between Radio Transmitter BC-191-() and Junction Box TM-188, as shown in figure 401.
Cord CD-422 (item 36, fig. 401).	Connect cord between Radio Receiver BC-312-() and Junction Box TM-188, as shown in figure 401.
Cord CD-440 (item 37, fig. 401).	Connect cord between Radio Transmitter BC-191-() and Dynamotor Unit BD-77-(), as shown in figure 401.



ITEMS REQUIRED

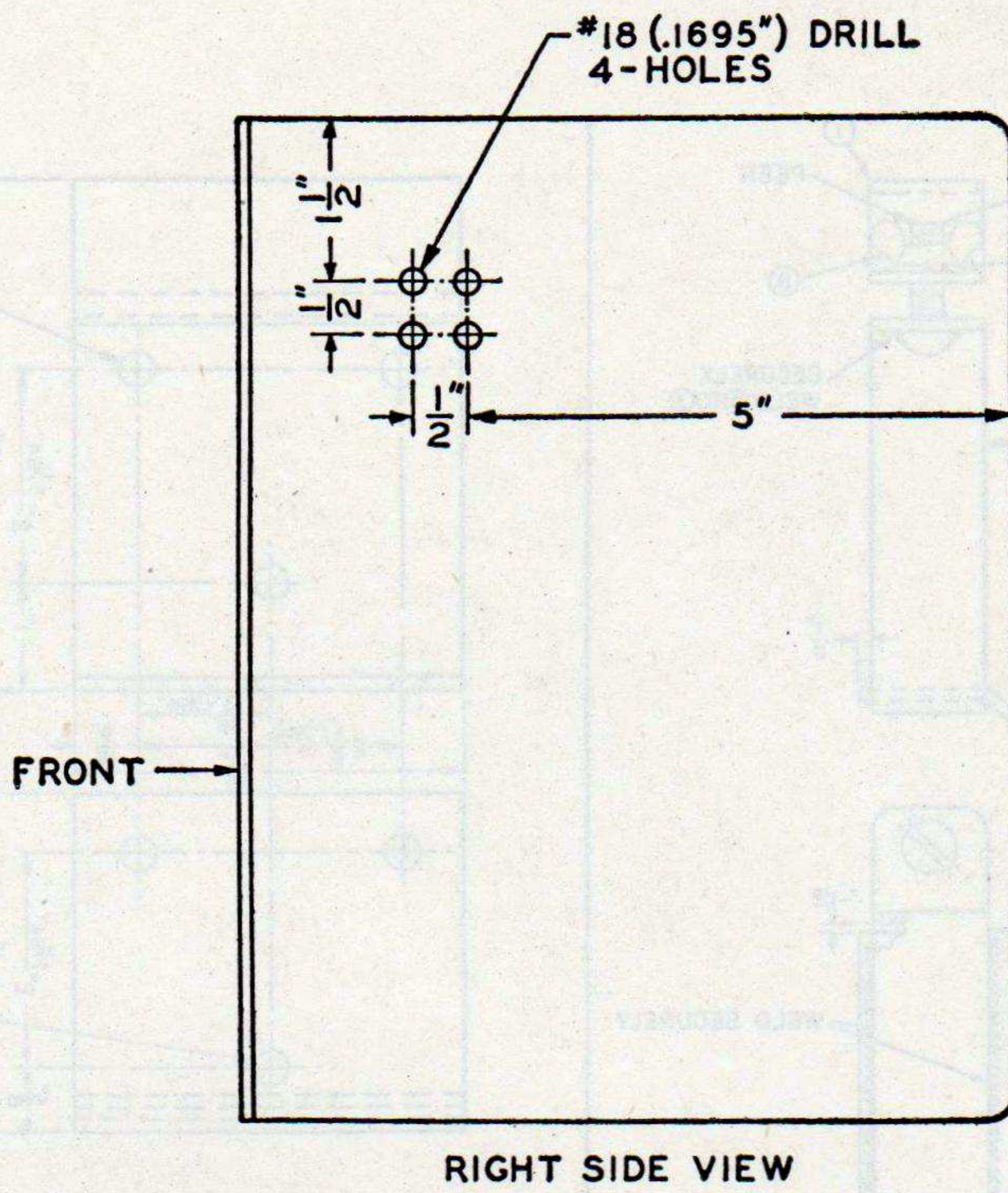
QUAN. REQ.	NAME OF ITEM	MATERIAL	TYPE NO.	ITEM NO.	REMARKS
6	LOCKWASHER	STEEL ELECTRO- GALVANIZED	SEE NOTE	9	S.A.E. REG. FOR 1/4 SCREW
2	WING NUT		SEE NOTE	8	1/4 - 20
4	HEX. NUT		SEE NOTE	7	1/4 - 20 STD.
4	HEX. HD. CAP SCREW		SEE NOTE	6	1/4 - 20 X 3/4 LONG
4	HEX. HD. CAP SCREW		SEE NOTE	5	1/4 - 20 X 1 1/2 LONG
2	RD. HD. MACH. SCREW		SEE NOTE	4	1/4 - 20 X 1 LONG
1	ARM		STEEL		3
1	BRACKET	STEEL		2	
1	CLAMP	STEEL		1	

FABRICATION INSTRUCTIONS

REMOVE ALL BURRS.
 AFTER WELDING ② & ④ TO ③, ①, ② & ③ SHALL BE BONDORIZED AND THEN GIVEN ONE SPRAY COAT OF METAL PRIMER, CLASS 101; AND ONE SPRAY COAT OF SEMI-GLOSS OLIVE DRAB BAKING ENAMEL, CLASS 440. TOUCH UP HEADS OF ④ TO MATCH SURROUNDING SURFACE. ALL PAINTS AND METHODS OF APPLICATION SHALL BE IN ACCORDANCE WITH ORDNANCE TENTATIVE SPECIFICATION TAC ES-NO. 680.
 ⑤, ⑥, ⑦ & ④ OF ⑨ ARE USED FOR INSTALLATION AND SHALL BE PLACED IN A HEAVY CLOTH BAG PLAINLY AND PERMANENTLY MARKED "THIS BAG CONTAINS SCREWS NUTS AND LOCKWASHERS FOR INSTALLATION. SPARES ARE INCLUDED IN QUANTITIES." THIS BAG SHALL BE TIED TO THE BRACKET.

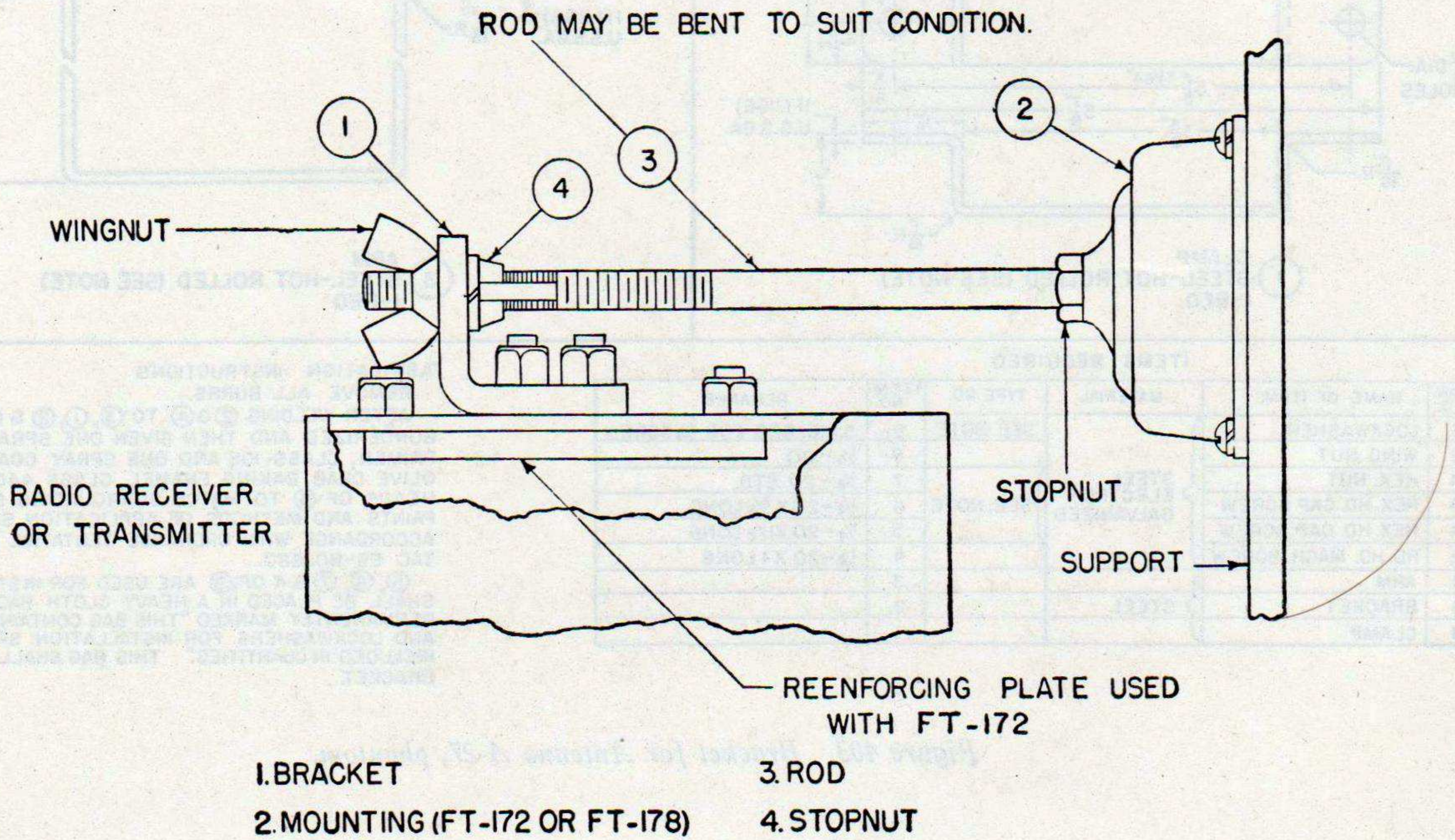
TL15087

Figure 403. Bracket for Antenna A-27, phantom.



TL9506

Figure 404. Drilling of Radio Receiver BC-312-() for Mounting FT-178.



- 1. BRACKET
- 2. MOUNTING (FT-172 OR FT-178)
- 3. ROD
- 4. STOPNUT

TL10137

Figure 405. Assembly of Mounting FT-172 or FT-178.

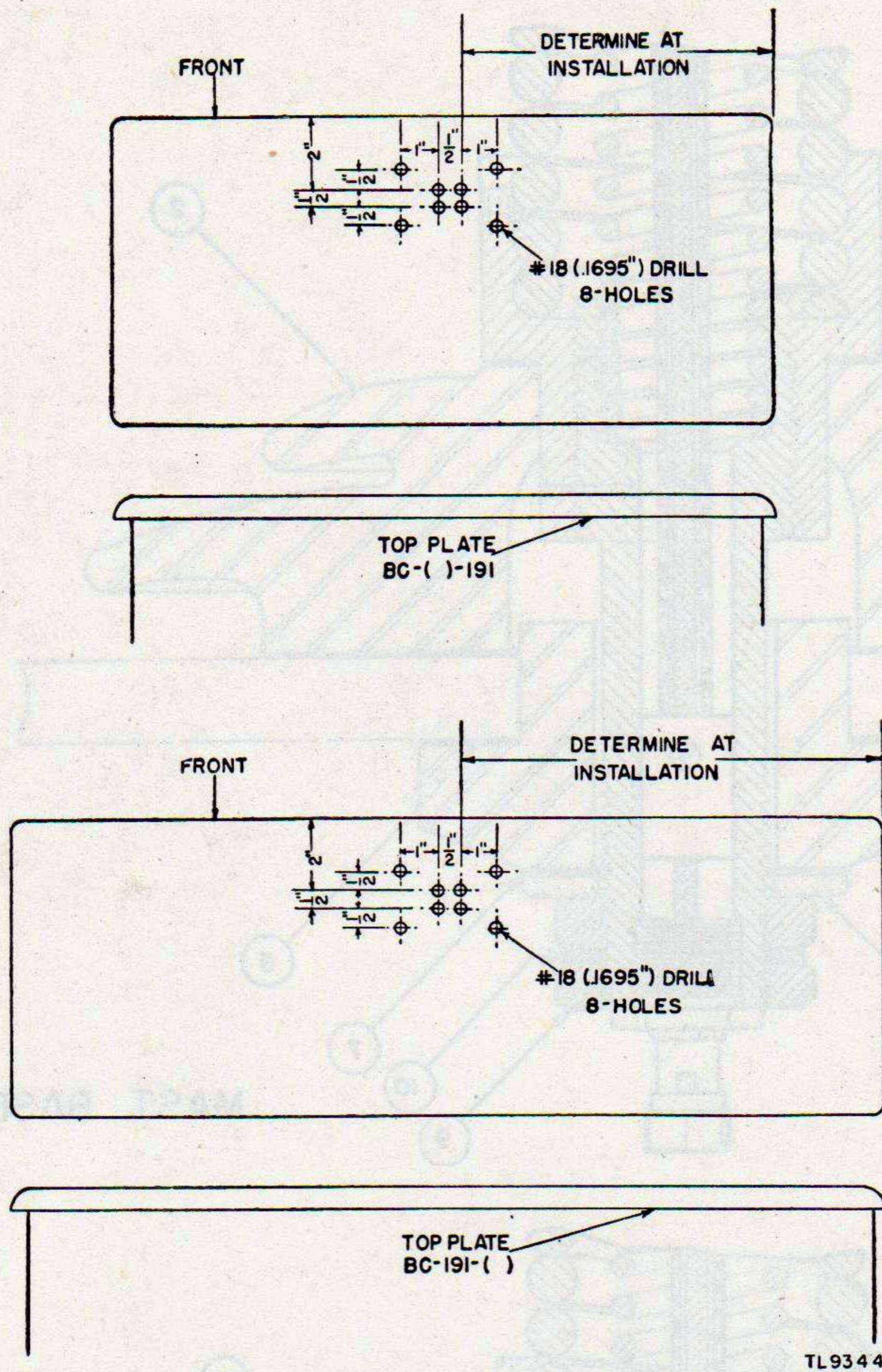


Figure 406. Drilling of Radio Transmitter BC-191-() for Mounting FT-178.

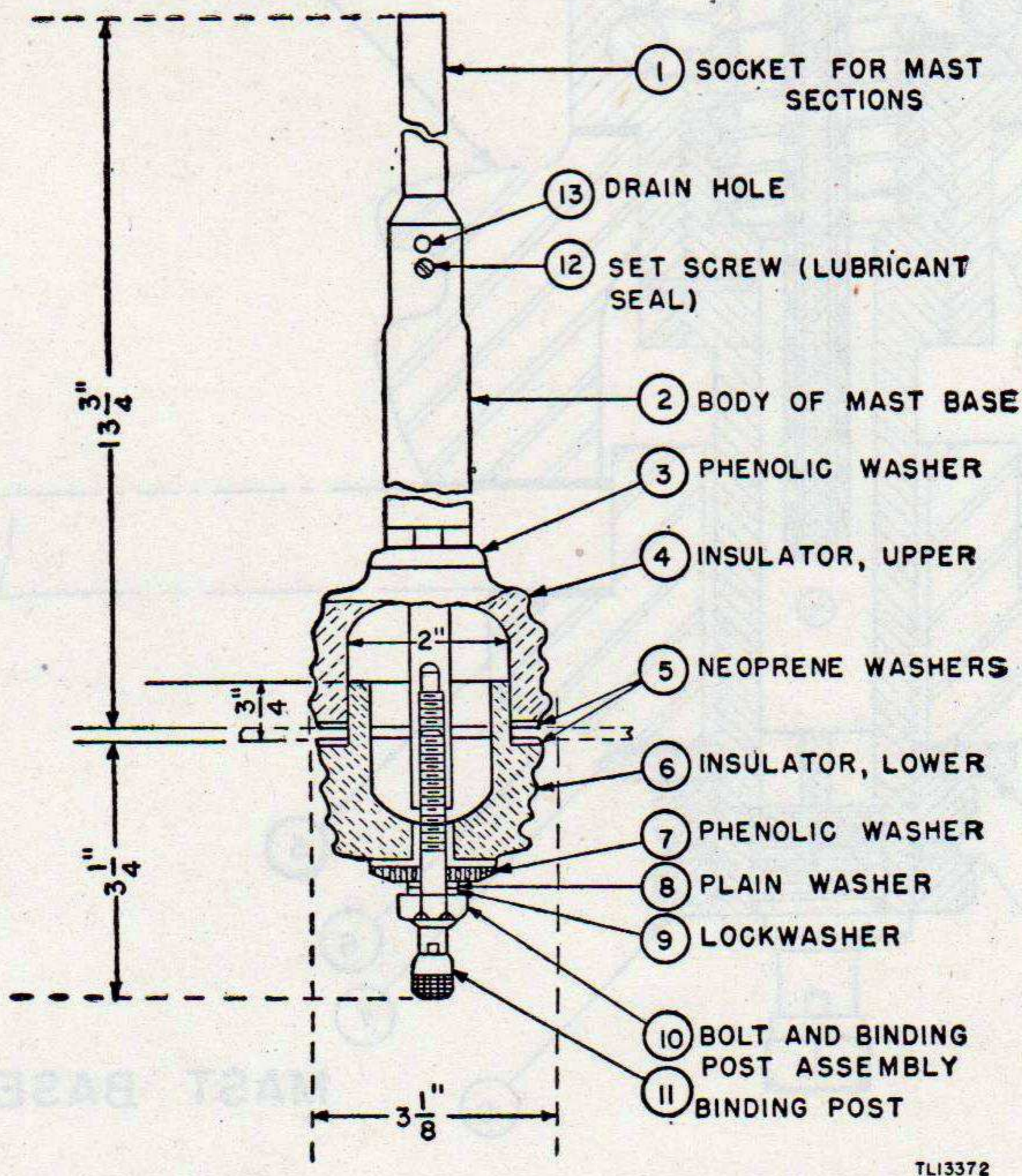
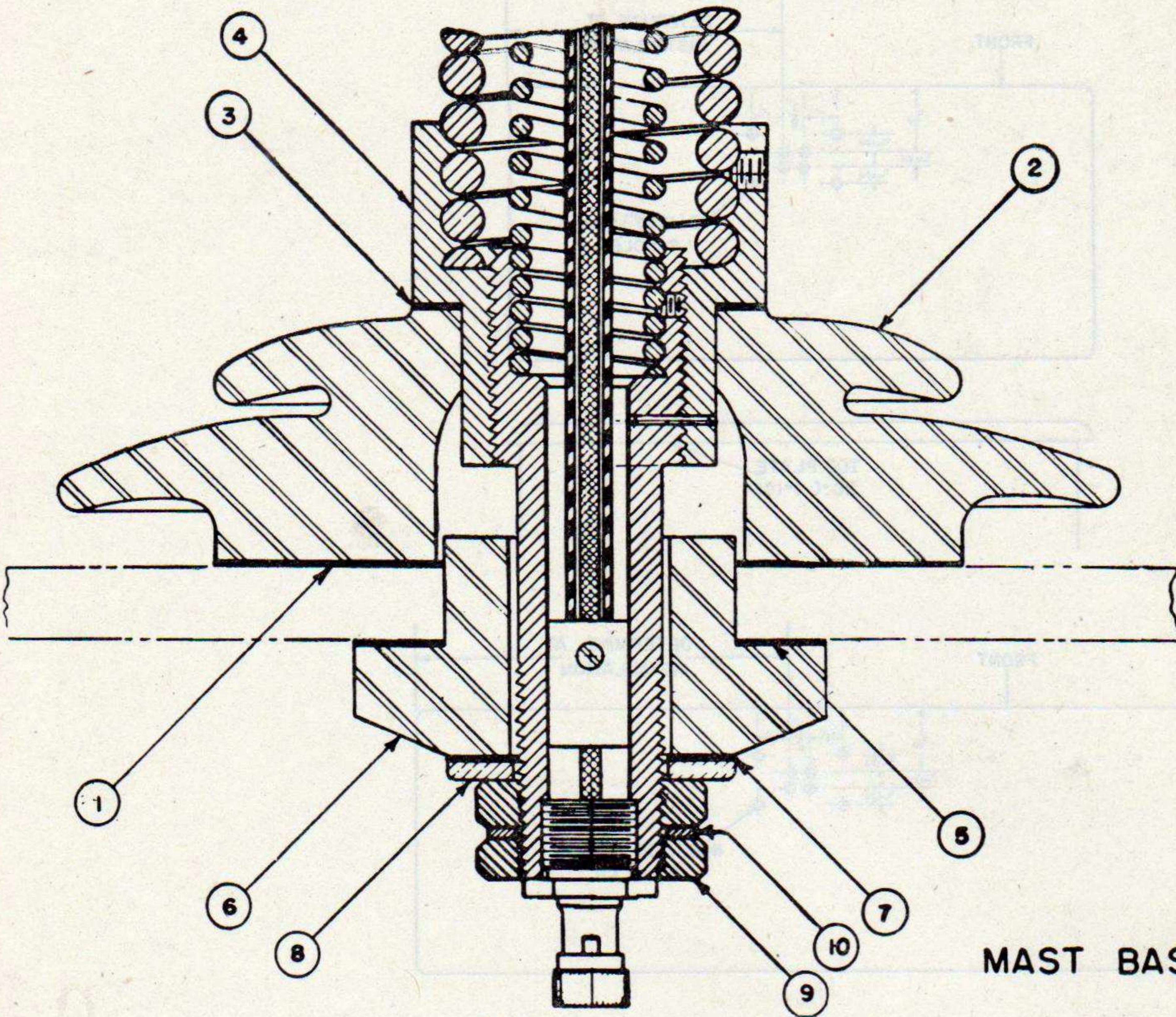
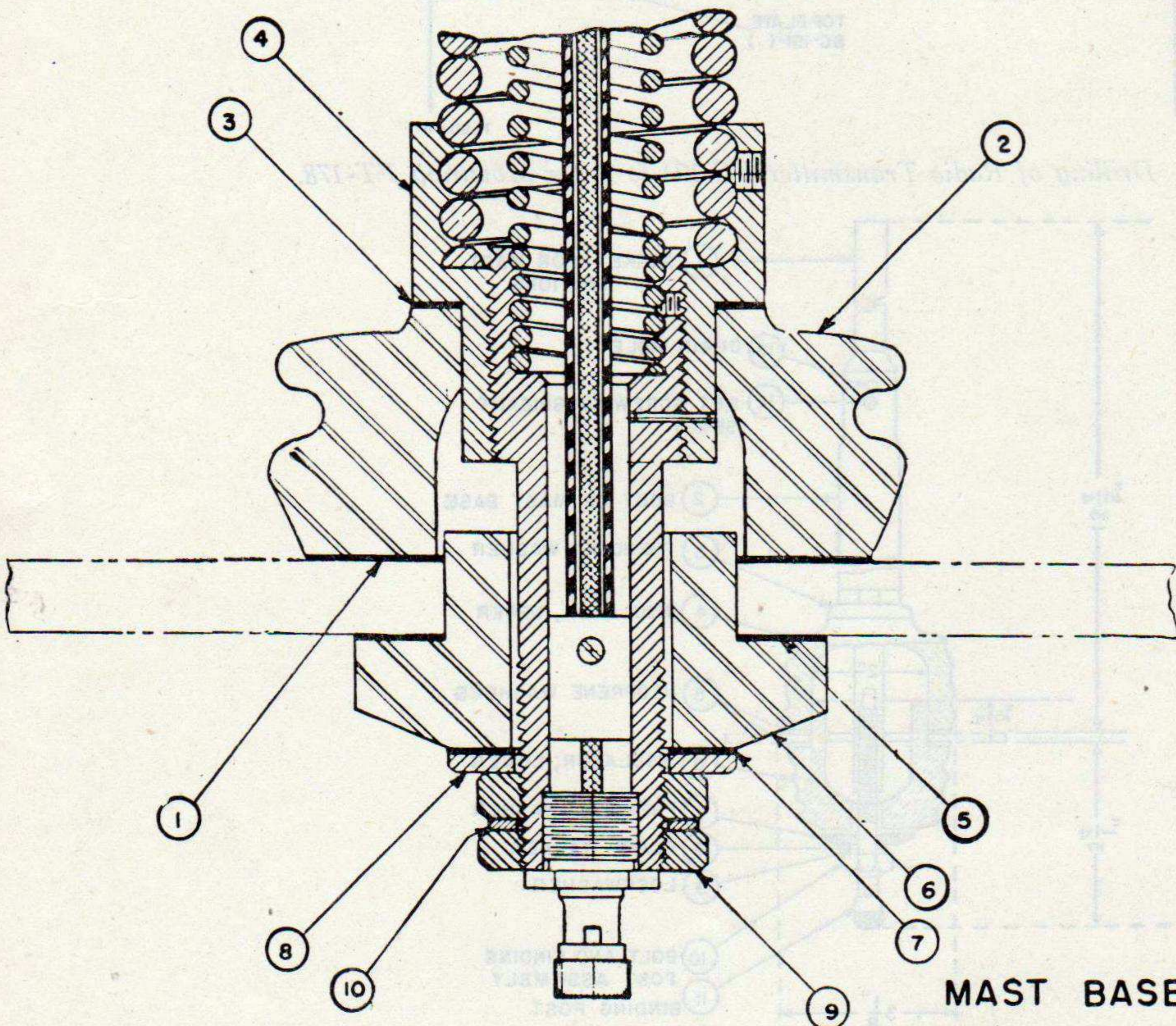


Figure 407. Mast Base MP-65, assembly.



MAST BASE MP - 37



MAST BASE MP - 57

- 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

Figure 408. Mast Base MP-37 or MP-57, assembly.

TL15998-A

SECTION V

RADIO SET SCR-506-()

501. Required Parts

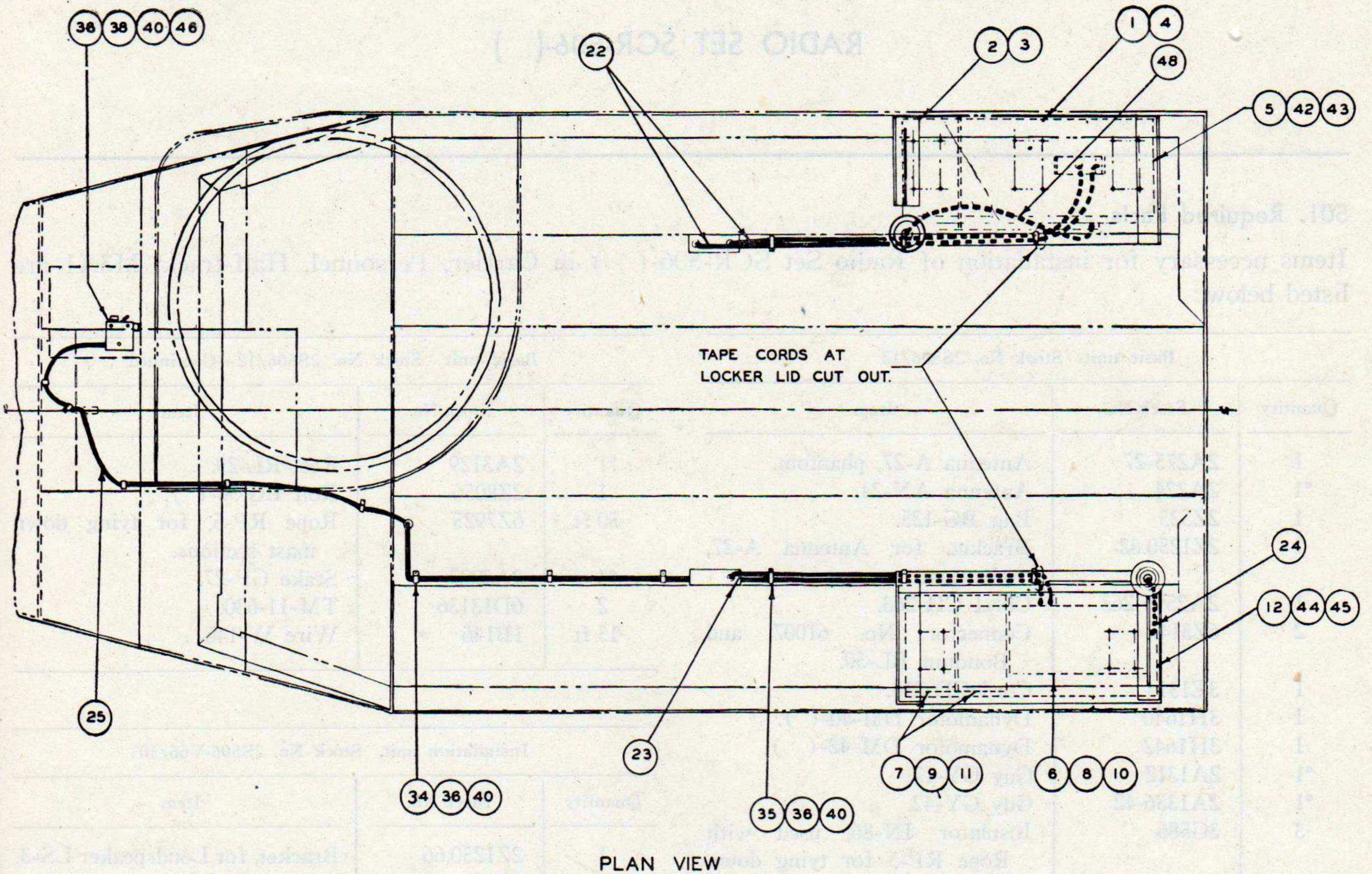
Items necessary for installation of Radio Set SCR-506-() in Carrier, Personnel, Half-track, M3A1 are listed below:

Basic unit Stock No. 2S506/12			Basic unit Stock No. 2S506/12—Continued		
Quantity	Stock No.	Item	Quantity	Stock No.	Item
1	2A275-27	Antenna A-27, phantom.	^a 1	2A3129	Reel RL-29.
^a 1	2A224	Antenna AN-24.	1	2Z8056	Roll BG-56-().
1	2Z525	Bag BG-125.	50 ft	6Z7925	Rope RP-5, for tying down mast sections.
1	2Z1250.82	Bracket, for Antenna A-27, phantom.	^a 4	2A3327	Stake GP-27.
1	2A2599-263	Chest CH-263.	2	6D13136	TM-11-630.
2	6Z3147	Connector No. 61007 and Bondnut BL-50.	15 ft	1B146	Wire W-146.
1	3E1314	Cord CD-314.			
1	3H1640	Dynamotor DM-40-().			
1	3H1642	Dynamotor DM-42-().			
^a 1	2A1312	Guy GY-12.			
^a 1	2A1336-42	Guy GY-42.			
3	3G586	Insulator IN-86, used with Rope RP-5 for tying down mast sections.			
2	3Z3445	Key J-45.			
1	2Z6303.1	Loudspeaker LS-3.			
^b 1	2A2088-65	Mast Base MP-65.			
^b 12	2A2416	Mast Section MS-116, including spares.			
^b 2	2A2417	Mast Section MS-117, including spare.			
^b 2	2A2418	Mast Section MS-118, including spare.			
1	2Z6721-253	Mounting FT-253-() including two Cord CO-280.			
1	2C4452	Radio Receiver BC-652-().			
1	2C6530-653	Radio Transmitter BC-653-().			
			Installation unit Stock No. 2S506-V66/50		
			Quantity	Stock No.	Item
			1	2Z1250.66	Bracket, for Loudspeaker LS-3.
			1	2Z1574	Cabinet CH-74-().
			^c 3	4B417-4	Chest Set TD-4, including spare.
			1	6C18-41	Cover CW-41/U.
			^c 3	2B800-16	Headset, H-16/U, including spare.
			1	6L50-506V68	Hardware bag.
			1	2A2090-52	Mast Base Bracket MP-52.
			^c 1	2B1617	Microphone T-17, a spare.
			^c 1	2B1645	Microphone T-45.
			1	2Z6721-284	Mounting FT-284-().

^a Used for fixed, portable, or emergency operation.

^b If Mast Base MP-65 and Mast Sections MS-116, MS-117, and MS-118 are not available, use Mast Base MP-37 or MP-57, Mast Sections MS-49 through MS-53, and Clamps MC-421 through MC-424.

^c If Headset H-16/U, Microphone T-45, and Chest Set TD-4 are not available, use Headset HS-30-(), Microphone T-17, and Cords CD-307-A and CD-604.

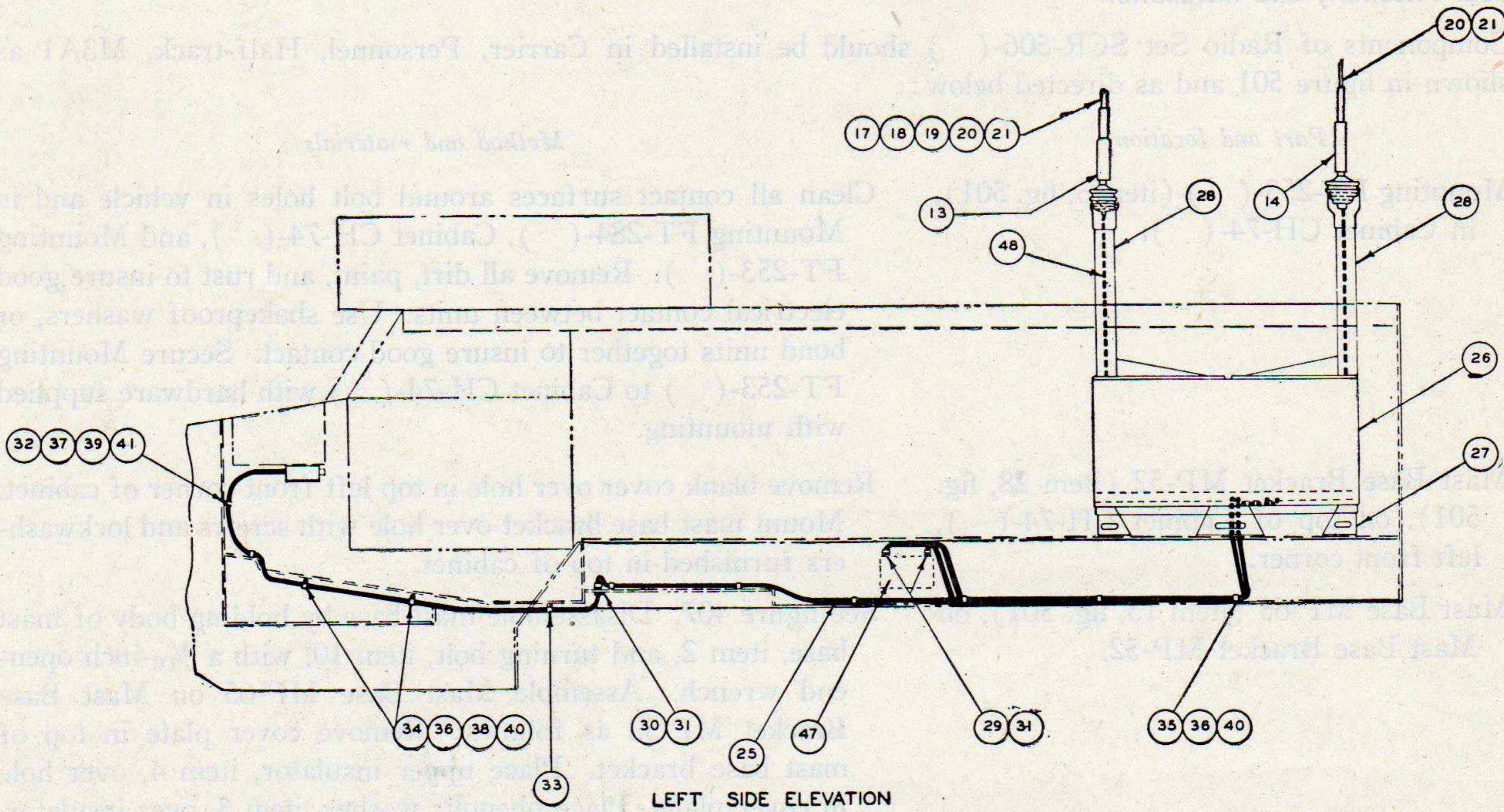


NOTES:

1. USE ONE HEADSET H-16/U, ONE MICROPHONE T-45, AND ONE CHEST SET TD-4 WITH EACH RADIO SET.
2. FOR ADDITIONAL COMPONENTS AND SPARE PARTS, SEE COMPONENT PARTS LIST.
3. CUT (24) AND (48) TO PROPER LENGTH AND TIN ENDS FOR ANTENNA CONNECTIONS.
4. AFTER REMOVING BACKS OF REAR SEATS, MOUNT (27) WITH BOLTS EXISTING IN VEHICLE.
5. MOUNT (33) WITH EXISTING BOLT.
6. (42) AND (43) ARE FURNISHED WITH (5).
7. (44) AND (45) ARE FURNISHED WITH (12).
8. (47) IS FURNISHED AND INSTALLED BY VEHICLE MANUFACTURER.
9. USE MAST BASE MP-37 OR MP-57, MAST SECTIONS MS-49 THROUGH MS-53, AND CLAMPS MC-421 THROUGH MC-424, IF (13), (17), (18), (19), (20), AND (21) ARE NOT AVAILABLE.
10. USE MAST BASE MP-48 OR MP-48-A, MAST SECTIONS MS-52 AND MS-53, AND CLAMP MC-424, IF (14), (20), AND (21) ARE NOT AVAILABLE.
11. PLACE (15) ON MAST BASE MP-37 OR MP-57 WHEN MAST SECTIONS ARE NOT INSTALLED. PLACE (16) ON MAST BASE MP-48 OR MP-48-A WHEN MAST SECTIONS ARE NOT INSTALLED. (15) AND (16) ARE NOT USED WHEN (13) AND (14) ARE ISSUED.

TL 10865-3-1

Figure 501. Installation of Radio Set SCR-506-() and Radio Set SCR-508-(),



ITEM NO.	NAME OF ITEM	QUANTITY REQUIRED			
		RADIO SET SCR-506-()	RADIO SET SCR-508-()	RADIO SET SCR-528-()	RADIO SET SCR-608-()
1	RADIO TRANSMITTER BC-653-()	1			
2	RADIO RECEIVER BC-652-()	1			
3	DYNAMOTOR DM-40-()	1			
4	DYNAMOTOR DM-42-()	1			
5	MOUNTING FT-253-() SEE NOTE 6	1			
6	RADIO TRANSMITTER BC-604-()	1			
7	RADIO RECEIVER BC-603-()	2			
8	RADIO TRANSMITTER BC-684-()	1			
9	RADIO RECEIVER BC-683-()	1			2
10	DYNAMOTOR DM-35-()	1			2
11	DYNAMOTOR DM-34-()	2			2
12	MOUNTING FT-237-() SEE NOTE 7	1			
13	MAST BASE MP-65 SEE NOTE 9	1			
14	MAST BASE AB-15/GR SEE NOTE 10	1			
15	COVER BG-67-() SEE NOTE 11	1			
16	COVER BG-108 SEE NOTE 11	1			
17	MAST SECTION MS-116	1			
18	MAST SECTION MS-116	1			
19	MAST SECTION MS-116	1			
20	MAST SECTION MS-117 SEE NOTES 9 AND 10	1			
21	MAST SECTION MS-118 SEE NOTES 9 AND 10	1			
22	CORD CO-280	2			
23	CORD CO-278	1			
24	WIRE W-128 52 IN. LONG SEE NOTE 3	1			
25	CORDAGE CO-218 18 FT. LONG	1			
26	CABINET CH-74-()	1			
27	MOUNTING FT-284-() SEE NOTE 4	1			
28	MAST BASE BRACKET MP-52	1			
29	CONNECTOR NO. 61007	2			
30	CONNECTOR NO. 61004	1			
31	BONDNUT BL-50	2	2	2	
32	CLAMP NO. 5	1			
33	CLAMP NO. 6 SEE NOTE 5	1			
34	CLAMP NO. 4	6	6	6	
35	CLAMP NO. 7	3	3	3	
36	ROUNDHEAD MACH. SCREW NO. 8-32 X 1/2 IN. LONG	3	12	12	
37	HEX HEAD MACH. SCREW 1/4-20 X 5/8 IN. LONG	1	1	1	
38	HEX NUT NO. 8-32 STD.	5	5	5	
39	HEX NUT 1/4-20 STD.	1	1	1	
40	LOCKWASHER STD. FOR NO. 8 SCREW	3	12	12	
41	LOCKWASHER STD. FOR 1/4 IN. SCREW	1	1	1	
42	HEX HEAD MACH. SCREW 1/4-20 X 1-1/2 IN. LONG	12			
43	ELASTIC STOP NUT 1/4-20	12			
44	HEX HEAD MACH. SCREW 5/16-24 X 1-3/8 IN. LONG	8	8	8	
45	ELASTIC STOP NUT 5/16-24	8	8	8	
46	INTERPHONE CONTROL BOX BC-606-()	1			
47	TERMINAL BOX SEE NOTE 8	1			
48	WIRE W-146 42 IN. LONG SEE NOTE 3	1			

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SCR-528-(), or SCR-608-() in Carrier, Personnel, Half-track, M3A1.

502. Assembly and Installation

Components of Radio Set SCR-506-() should be installed in Carrier, Personnel, Half-track, M3A1 as shown in figure 501 and as directed below:

*Part and location**Method and materials*

Mounting FT-253-() (item 5, fig. 501), in Cabinet CH-74-().

Clean all contact surfaces around bolt holes in vehicle and in Mounting FT-284-(), Cabinet CH-74-(), and Mounting FT-253-(). Remove all dirt, paint, and rust to insure good electrical contact between units. Use shakeproof washers, or bond units together to insure good contact. Secure Mounting FT-253-() to Cabinet CH-74-() with hardware supplied with mounting.

Mast Base Bracket MP-52 (item 28, fig. 501), on top of Cabinet CH-74-(), left front corner.

Remove blank cover over hole in top left front corner of cabinet. Mount mast base bracket over hole with screws and lockwashers furnished in top of cabinet.

Mast Base MP-65 (item 13, fig. 501), on Mast Base Bracket MP-52.

See figure 407. Disassemble mast base by holding body of mast base, item 2, and turning bolt, item 10, with a $\frac{9}{16}$ -inch open-end wrench. Assemble Mast Base MP-65 on Mast Base Bracket MP-52 as follows: Remove cover plate in top of mast base bracket. Place upper insulator, item 4, over hole in cover plate. Place phenolic washer, item 3, over insulator, item 4. Place body of mast base, item 2, through items 3 and 4. Place lockwasher, item 9, plain washer, item 8, and phenolic washer, item 7, over bolt and binding post assembly, item 10. Place lower insulator, item 6, over item 10. Screw threaded portion of item 10 into body, item 2, from underneath cover plate. Tighten assembly carefully with $\frac{9}{16}$ -inch open-end wrench. Do not apply excessive pressure or mast base will be damaged. For assembly of Mast Base MP-37 or MP-57, see figure 408.

Mounting FT-284-(), Cabinet CH-74-() (items 27 and 26, fig. 501), and brackets (figs. 403 and 502), on right rear track housing.

Remove back of right rear seat and fasten Mounting FT-284-() in position shown in figure 501. Use hardware supplied in vehicle. Secure Cabinet CH-74-() to Mounting FT-284-() with hardware provided on cabinet. Install bracket (fig. 403) on cabinet as shown in figure 503. Install bracket (fig. 502) on cabinet as shown in figure 504.

Dynamotor DM-40-() and Radio Receiver BC-652-() (items 3 and 2, fig. 501), on Mounting FT-253-().

If dynamotor is not installed, remove screws around edge of receiver panel and the screw in rear center of case. Pull receiver chassis from case, and secure dynamotor in place provided on upper part of receiver chassis with its snap slide fasteners. All connections to dynamotor are made by flexible lead terminating in Plug P-250, when inserted in socket provided. Installation of proper dynamotor automatically adjusts receiver circuits for correct operating voltage. Nameplate on front panel of receiver should be turned to read 12 VOLT OPERATION. Secure receiver to mounting with thumb-screw locking devices.

Dynamotor DM-42-() and Radio Transmitter BC-653-() (items 4 and 1, fig. 501), on Mounting FT-253-().

If dynamotor is supplied uninstalled, slide it into dynamotor compartment and secure front panel of dynamotor with five screws provided. Remove patch cover plate, located on top

*Part and location**Method and materials*

Connectors No. 61007 and Bondnut BL-50 (items 29 and 31, fig. 501), on terminal box.

Wire W-146 (item 48, fig. 501).

Mast Sections MS-116, MS-117, MS-118 (items 17 through 21 fig. 501), on Mast Base MP-65).

Antenna A-27, phantom, in bracket (fig. 403).

Cover CW-41/U, and Loudspeaker LS-3 on bracket (fig. 502).

Chest CH-263.

of radio transmitter at extreme right. Connect six links in position for 12-volt operation as indicated by arrow on terminal strip. Nameplate on dynamotor panel should be turned to read 12 VOLTS. Secure transmitter on mounting with thumbscrew locking devices.

Install through knock-out holes in top of terminal box for Cords CO-280. Route Cords CO-280 and secure with connectors and bondnuts and clamps No. 7 as shown in figure 501.

Connect wire to binding post of mast base. Run wire down through Mast Base Bracket MP-52 and replace cover plate (with mast base installed on it) on mast base bracket. Cut lead-in to proper length and connect to antenna binding post on Radio Transmitter BC-653-().

Screw mast sections together and screw assembled antenna into Mast Base MP-65. Tape joints to prevent loss of mast sections. If Mast Base MP-37 or MP-57 is used, screw Mast Sections MS-49, MS-50, MS-51, MS-52, and MS-53 together and place Clamps MC-421, MC-422, MC-423, and MC-424 over joints. Screw assembled antenna into mast base. When removed, stow mast sections and clamps in Roll BG-56-().

Fasten Antenna A-27 in bracket as shown in figure 503. When using Antenna A-27 for aligning channels of radio transmitter, place antenna on studs provided at upper right front corner of transmitter. Disconnect antenna lead-in from antenna binding post, and connect lead from Antenna A-27 to antenna terminal.

Remove the 12 roundhead screws on front of case of Loudspeaker LS-3. Place Cover CW-41/U on case and secure by replacing the 12 screws. Place loudspeaker on bracket as shown in figure 504.

Stow headsets, spare tubes, and spare parts in Chest CH-263. Place Chest CH-263 in vehicle tool box or in any other convenient location in vehicle.

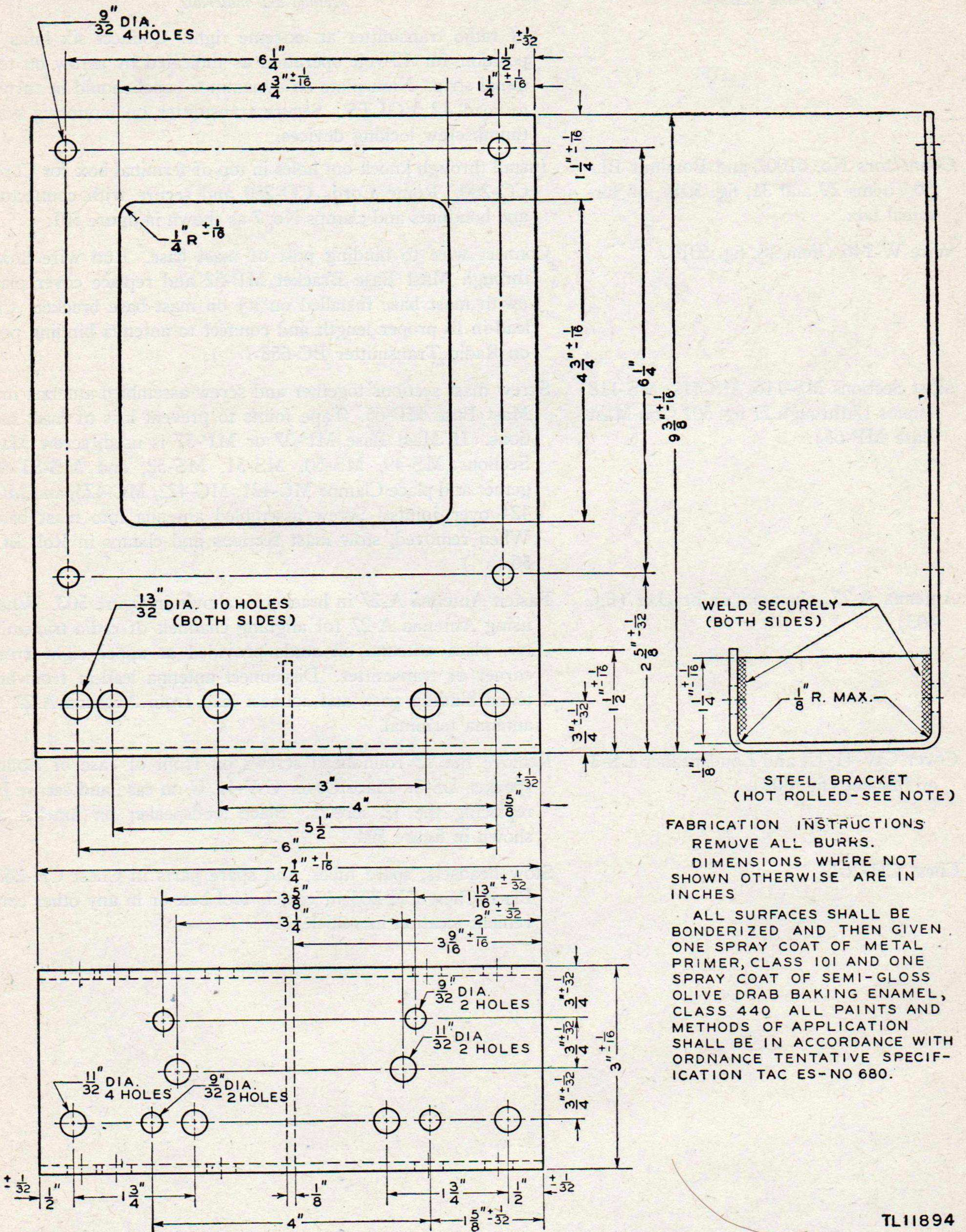
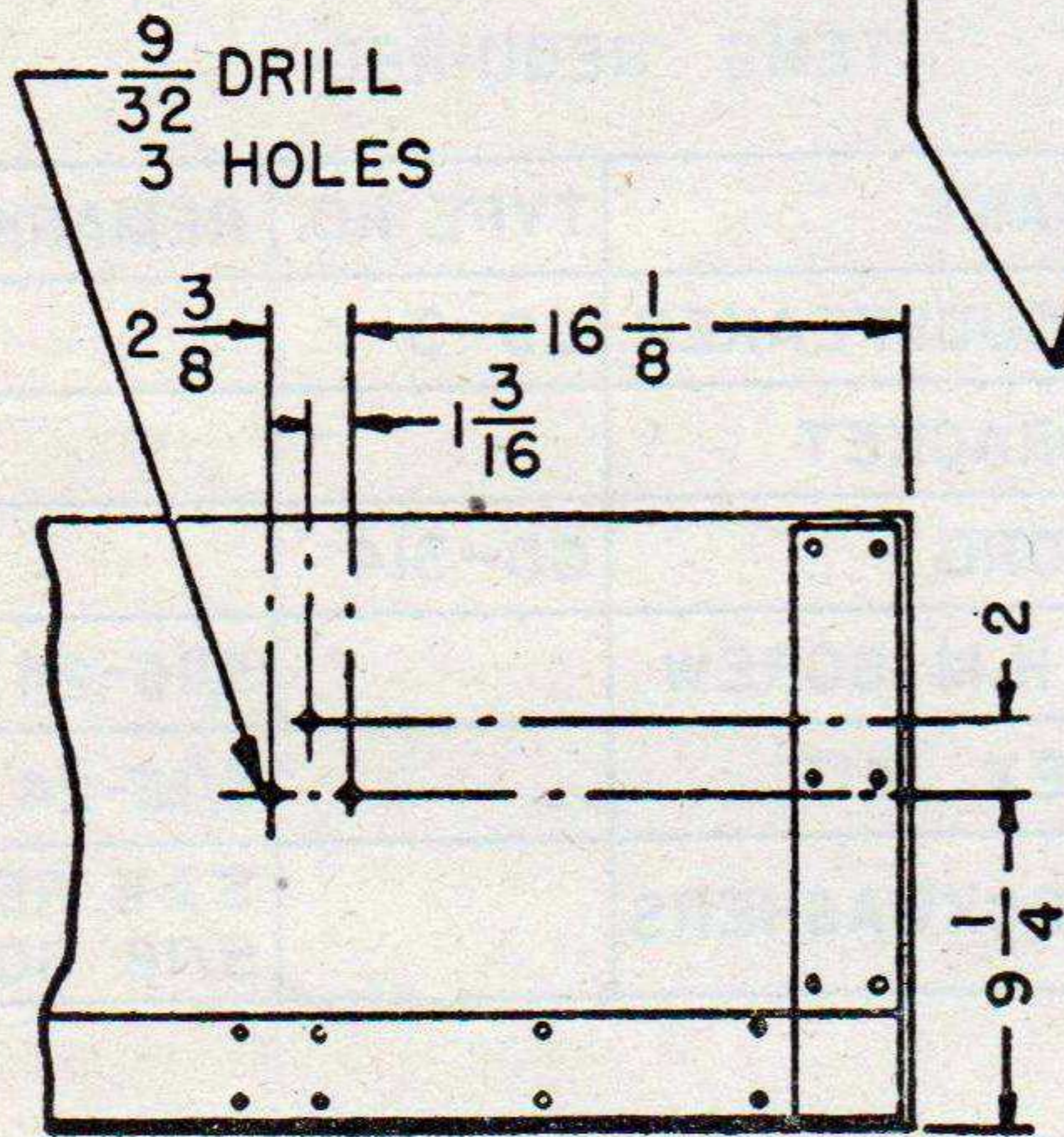
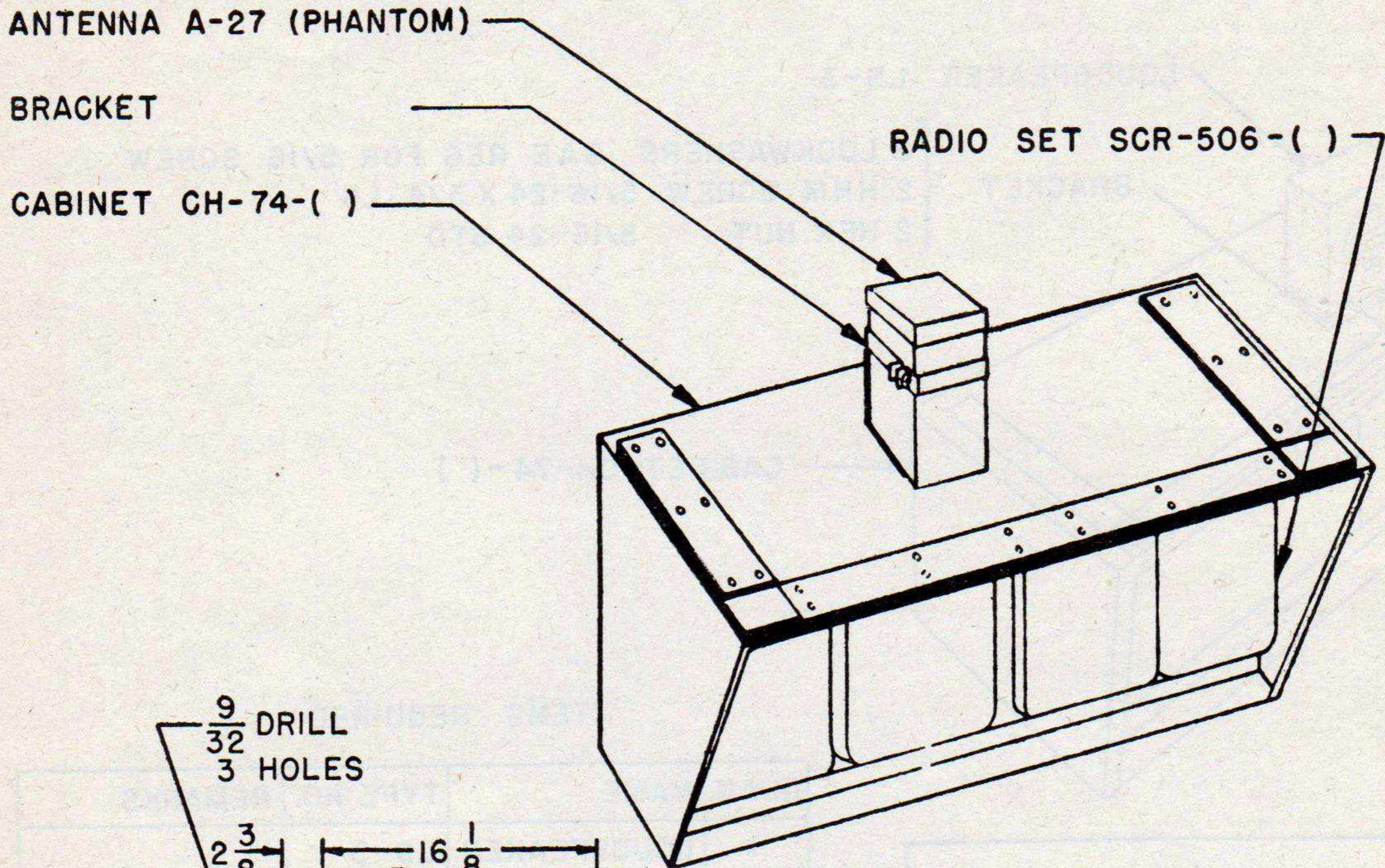


Figure 502. Bracket for Loudspeaker LS-3.

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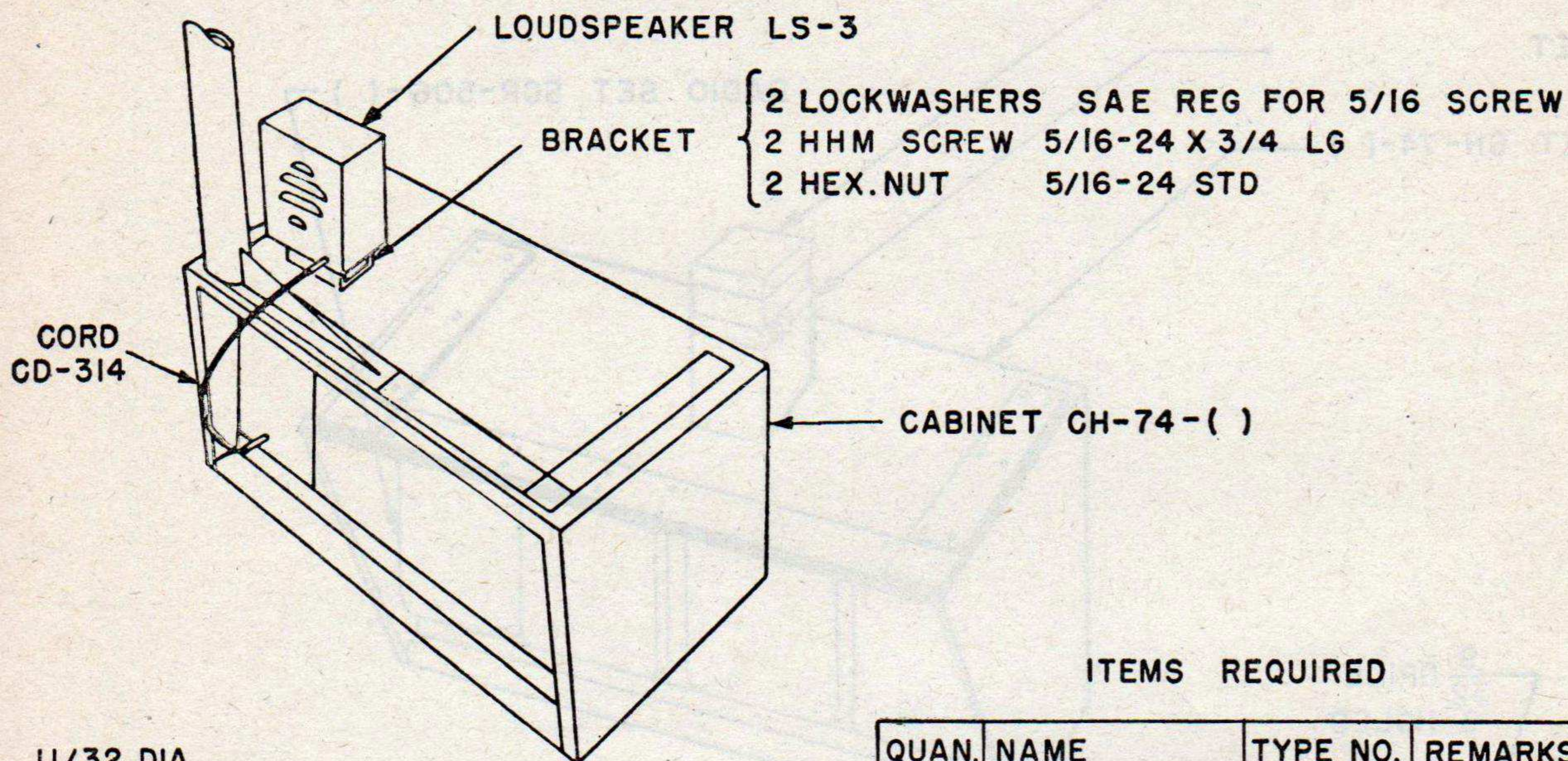
CABINET CH-74-()
HOLES FOR MOUNTING
ANTENNA A-27 (PHANTOM)

ITEMS REQUIRED

QUAN.	NAME	TYPE NO.	REMARKS
1	ANTENNA (PHANTOM)	A-27	
1	BRACKET		
3	HEX.HD CAP SCREW		1/4-20X3/4 LG
3	HEX.NUT		1/4-20 STD.
3	LOCKWASHERS		S.A.E. REG. FOR 1/4 SCR.

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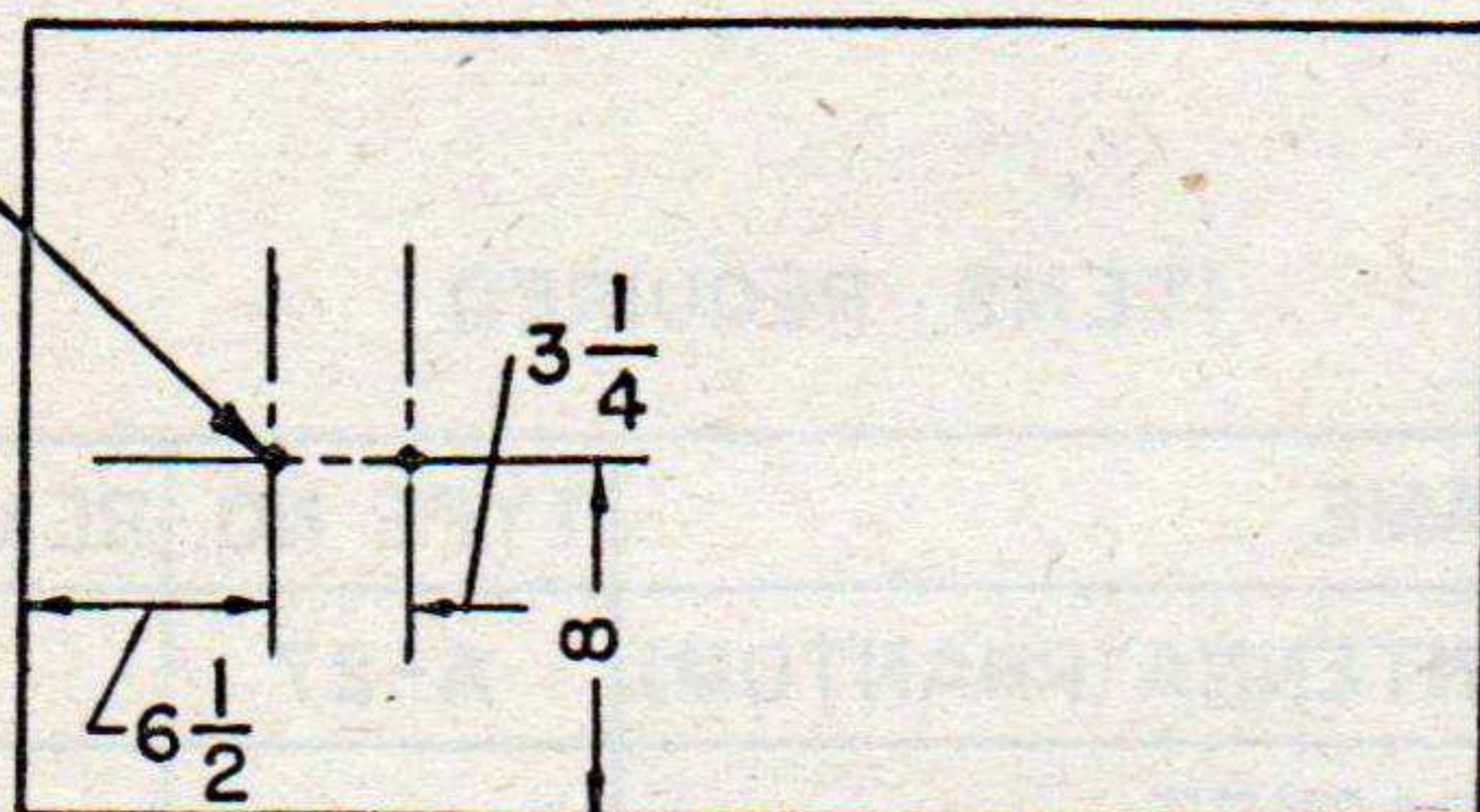
Figure 503. Installation of Antenna A-27, phantom, on Cabinet CH-74-() in Carrier, Personnel, Half-track, M3A1.



ITEMS REQUIRED

QUAN.	NAME	TYPE NO.	REMARKS
1	LOUDSPEAKER	LS-3	
1	BRACKET		
1	CORD	CD-314	
2	HH.M SCREW		5/16-24X3/4 LG
2	HEX NUT		5/16-24 STD
2	LOCKWASHERS		SAE REG. FOR 5/16 SCREW

11/32 DIA
2 HOLES



FRONT

PLAN VIEW OF TOP OF CH-74-()

RLI0877-S

Figure 504. Installation of Loudspeaker LS-3 on Cabinet CH-74-() for Radio Set SCR-506-() in Carrier, Personnel, Half-track, M3A1.

SECTION VI

RADIO SET SCR-508-(), SCR 528-(), OR SCR-608-()

601. Required Parts

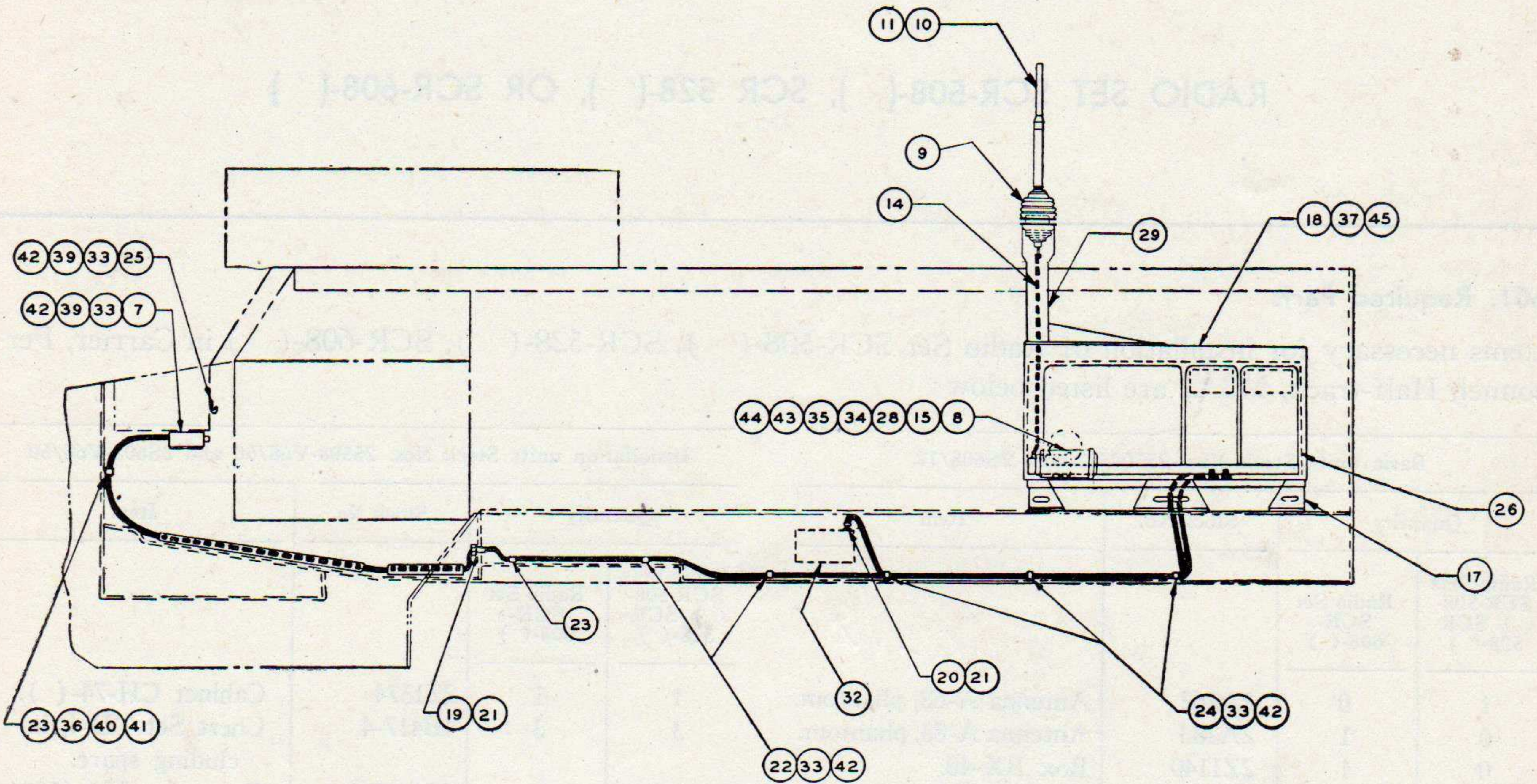
Items necessary for installation of Radio Set SCR-508-(), SCR-528-(), SCR-608-() in Carrier, Personnel, Half-track, M3A1 are listed below :

Basic units Stock Nos. 25508/12 and 2S608/12				Installation units Stock Nos. 25508-V68/50 and 2S608-V68/50			
Quantity		Stock No.	Item	Quantity		Stock No.	Item
Radio Sets SCR-508- () SCR- 528-()	Radio Set SCR- 608-()			Radio Sets SCR-508- () SCR- 528-()	Radio Set SCR- 608-()		
1	0	2A262	Antenna A-62, phantom.	1	1	2Z1574	Cabinet CH-74-().
0	1	2A283	Antenna A-83, phantom.	3	3	4B417-4	Chest Set TD-4, in- cluding spare.
0	1	2Z1140	Box BX-40.	1	1	6Z3147-1	Connector No. 61004 and Bondnut BL-50.
0	1	6F796	Chest CH-96.	°18 ft	°18 ft	3E2218	Cordage CO-218.
1	1	2Z2599-264	Chest CH-264.	1	1	6650-508V68	Hardware bag.
1	1	6Z3147	Connector No. 61007 and Bondnut BL-50.	3	3	2B800-16	Headset H-16/U, one spare.
1	1	2Z3396	Cover BG-96.	1	1	2C1738	Interphone Control Box BC-606-().
°2	2	3H1634	Dynamotor DM-34-().	1	1	2A2090-52	Mast Base Bracket MP-52.
1	1	3H1635	Dynamotor DM-35-().	1	1	2B1617	Microphone T-17, a spare.
°1	°1	2A2081-15	Mast Base AB-15/GR.	2	2	2B1645	Microphone T-45.
°2	°2	2A2417	Mast Section MS-117, including spare.	2	2	2B1567	Microphone Cover M- 367, spare items.
°2	°2	2A2418	Mast Section MS-118, including spare.	1	1	2Z6721-284	Mounting FT-284-().
1	1	2Z6721-237	Mounting FT-237-().				
°2	0	2C4403	Radio Receiver BC- 603-().				
0	2	2C4460-683	Radio Receiver BC- 683-().				
1	0	2C6494	Radio Transmitter BC-604-().				
0	1	2C6530-684	Radio Transmitter BC-684-().				
1	1	2Z8056	Roll BG-56-().				
2	0	6D13113	TM 11-600.				
0	2	6D13102	TM 11-620.				
6 ft	6 ft	1B128	Wire W-128.				

^aIf Mast Base AB-15/GR, and Mast Sections MS-117 and MS-118 are not available, use Mast Base MP-48 or MP-48-A, Mast Sections MS-52 and MS-53, Clamp MC-424, and Cover BG-108.

^bOnly one Dynamotor DM-34-() and one Radio Receiver BC-603-() are used for Radio Set SCR-528-().

^cWhen Radio Set SCR-508-(), SCR-528-() or SCR-608-() is installed in combination with Radio Set SCR-193-T, add two guards (items 30 and 31, fig. 601) for protection of Cordage CO-218.

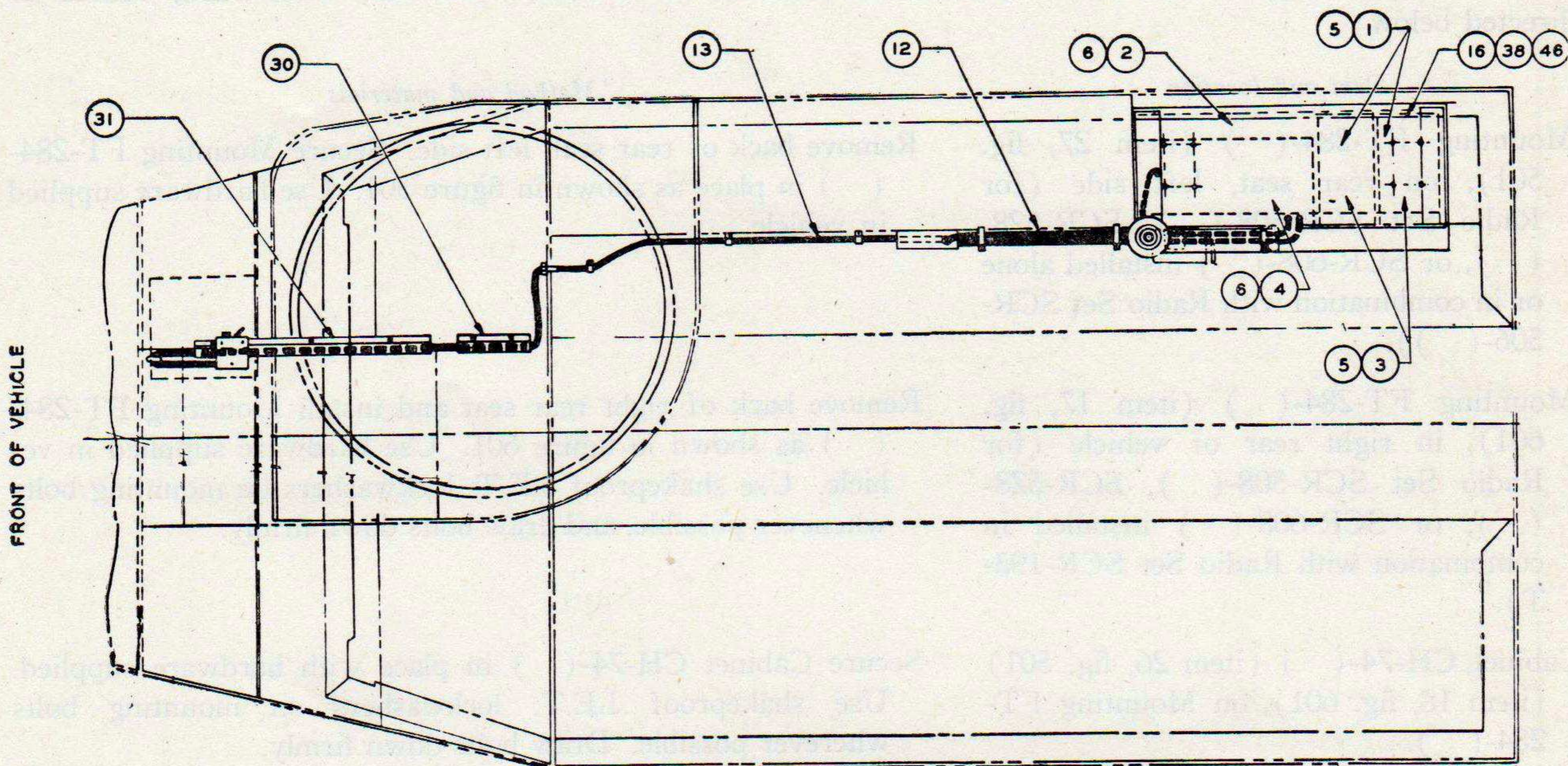


RIGHT SIDE ELEVATION

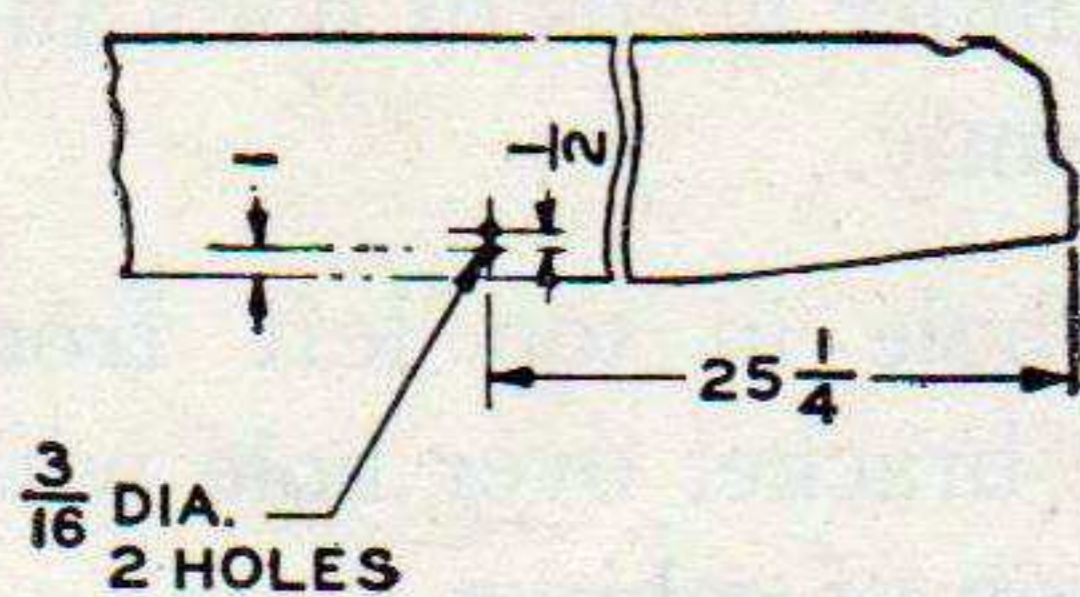
ITEM NO.	NAME OF ITEM	QUANTITY REQUIRED	RADIO SET SCR-508-()	RADIO SET SCR-528-()	RADIO SET SCR-608-()
1	RADIO RECEIVER BC-603-()	2	1	1	1
2	RADIO TRANSMITTER BC-604-()	1	1	1	1
3	RADIO RECEIVER BC-683-()	1	1	1	1
4	RADIO TRANSMITTER BC-684-()	1	1	1	1
5	DYNAMOTOR DM-34-()	2	1	2	1
6	DYNAMOTOR DM-35-()	1	1	1	1
7	INTERPHONE CONTROL BOX BC-606-()	1	1	1	1
8	ANTENNA A-62, PHANTOM	1	1	1	1
9	MAST BASE AB-15/GR	1	1	1	1
10	MAST SECTION MS-117	1	1	1	1
11	MAST SECTION MS-118	1	1	1	1
12	CORD CO-278	1	1	1	1
13	CORDAGE CO-218 18 FEET LONG	1	1	1	1
14	WIRE W-128 4 FEET 10 INCHES LONG	1	1	1	1
15	WIRE W-128 20 INCHES LONG	1	1	1	1
16	MOUNTING FT-237-()	1	1	1	1
17	MOUNTING FT-284-()	1	1	1	1
18	CABINET CH-74-()	1	1	1	1
19	CONNECTOR NO. 61004	1	1	1	1
20	CONNECTOR NO. 61007	1	1	1	1
21	BONDNUT BL-50	2	2	2	2
22	CLAMP NO. 1	2	2	2	2
23	CLAMP NO. 2	2	2	2	2
24	CLAMP NO. 7	3	3	3	3
25	HOOK	1	1	1	1
26	COVER BG-96	1	1	1	1
27	COVER BG-108	1	1	1	1
28	BRACKET	1	1	1	1
29	MAST BASE BRACKET MP-52	1	1	1	1
30	GUARD, SHORT	1	1	1	1
31	GUARD, LONG	1	1	1	1
32	TERMINAL BOX	1	1	1	1
33	ROUNDHEAD MACH. SCREW NO. 8-32 X 1/2	10	10	10	10
34	ROUNDHEAD MACH. SCREW NO. 10-32 X 5/8	2	2	2	2
35	ROUNDHEAD MACH. SCREW NO. 6-32 X 3/8	4	4	4	4
36	HEX. HEAD CAP SCREW 1/4-20 X 3/4	1	1	1	1
37	HEX. HEAD MACH. SCREW 1/4-28 X 3/4	6	6	6	6
38	HEX. HEAD CAP SCREW 5/16-24 X 1-3/8	8	8	8	8
39	HEX. NUT NO. 8-32 STD.	5	5	5	5
40	HEX. NUT 1/4-20 STD.	1	1	1	1
41	LOCKWASHER S.A.E. REG. FOR 1/4 SCREW	1	1	1	1
42	LOCKWASHER S.A.E. REG. FOR NO. 8 SCREW	10	10	10	10
43	LOCKWASHER S.A.E. REG. FOR NO. 6 SCREW	4	4	4	4
44	LOCKWASHER S.A.E. REG. FOR NO. 10 SCREW	2	2	2	2
45	ELASTIC STOPNUT 1/4-28 STD.	6	6	6	6
46	ELASTIC STOPNUT 5/16-24 STD.	8	8	8	8

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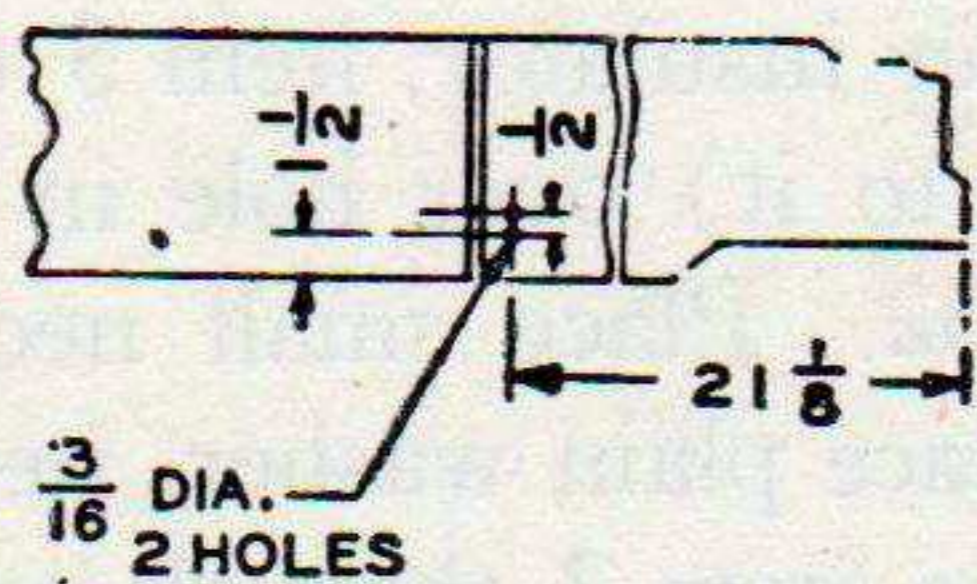
Figure 601. Installation of Radio Set SCR-508-(), SCR-528-(), or SCR-608-()



PLAN VIEW



OLD TYPE PANEL



NEW PLUG-IN TYPE PANEL

VIEW OF RIGHT SIDE OF INSTRUMENT PANEL SHOWING HOLES FOR (25)

NOTES:

1. FOR ADDITIONAL COMPONENTS AND SPARE PARTS, SEE COMPONENT PARTS LIST.
2. CUT (14) AND (15) TO PROPER LENGTH. TIN ENDS FOR ANTENNA CONNECTIONS.
3. AFTER REMOVING BACK OF REAR SEAT, MOUNT (17) WITH BOLTS PROVIDED IN VEHICLE.
4. (38) AND (46) ARE FURNISHED WITH (16).
5. (32) IS FURNISHED AND INSTALLED BY VEHICLE MANUFACTURER.
6. MOUNT (30) AND (31) WITH HARDWARE PROVIDED IN VEHICLE.
7. DIMENSIONS UNLESS SHOWN OTHERWISE ARE IN INCHES.
8. (37) AND (45) ARE FURNISHED WITH (18).
9. SCREWS FOR MOUNTING (29) ARE FURNISHED WITH (18).
10. USE MAST BASE MP-48 OR MP-48-A, MAST SECTIONS MS-52 AND MS-53 WITH CLAMP MC-424, IF (9) (10) AND (11) ARE NOT AVAILABLE.
11. USE (27) WHEN MAST SECTIONS MS-52 AND MS-53 ARE NOT INSTALLED ON MAST BASE MP-48 OR MP-48-A.

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when used in combination with Radio Set SCR-193-T in Carrier, Personnel, Half-track, M3A1.

602. Assembly and Installation

When installing Radio Set SCR-508-(), SCR-528-(), or SCR-608-() alone or in combination with Radio Set SCR-506-(), see figure 501. When installing Radio Set SCR-508-(), SCR-528-(), or SCR-608-() in combination with Radio Set SCR-193-T, see figure 601. Components of Radio Set SCR-508-(), SCR-528-(), or SCR-608-() should be installed in Carrier, Personnel, Half-track, M3A1 as directed below:

*Part and location**Method and materials*

Mounting FT-284-() (item 27, fig. 501), on rear seat, left side (for Radio Set SCR-508-(), SCR-528-(), or SCR-608-() installed alone or in combination with Radio Set SCR-506-()).

Remove back of rear seat, left side. Secure Mounting FT-284-() in place as shown in figure 501. Use hardware supplied in vehicle.

Mounting FT-284-() (item 17, fig. 601), in right rear of vehicle (for Radio Set SCR-508-(), SCR-528-(), or SCR-608-() installed in combination with Radio Set SCR-193-T).

Remove back of right rear seat and install Mounting FT-284-() as shown in figure 601. Use hardware supplied in vehicle. Use shakeproof I.E.T. lockwashers on mounting bolts whenever possible, and draw bolts down firmly.

Cabinet CH-74-() (item 26, fig. 501) (item 18, fig. 601), on Mounting FT-284-().

Secure Cabinet CH-74-() in place with hardware supplied. Use shakeproof I.E.T. lockwashers on mounting bolts wherever possible. Draw bolts down firmly.

Mounting FT-237-() (item 12, fig. 501) (item 16, fig. 601), in Cabinet CH-74-().

Clean all contact surfaces around mounting bolt holes in vehicle, Cabinet CH-74-(), and Mounting FT-284-(). Remove all paint, rust, and other foreign matter, to insure good electrical contact between units. Place Mounting FT-237-() in Cabinet CH-74-() and secure with hardware supplied, as shown in figure 501 or 601. If available, use shakeproof I.E.T. lockwashers under heads of bolts and under nuts. Tighten mounting bolts firmly.

Mast Base Bracket MP-52 (item 28, fig. 501) (item 29, fig. 601), on top left front of Cabinet CH-74-().

Remove blank cover over hole in top left front corner of cabinet. Mount mast base bracket over hole with screws and lockwashers furnished in top of cabinet.

Mast Base AB-15/GR (item 14, fig. 501) (item 9, fig. 601) on Mast Base Bracket MP-52.

Remove cover plate from top of Mast Base Bracket MP-52. See figure 602. Place upper insulator, item 5 (with neoprene washer, item 6, cemented to it) over hole in cover plate of Mast Base Bracket MP-52. Place small neoprene washer, item 4, over item 5 and place plain washer, item 3, over item 4. Insert body of mast base, item 2, through items 3, 4, 5, and 6, and hole in cover plate. Insert bolt, item 8, into item 2 from under side of cover plate, and turn item 2 clockwise until mast base is tightened securely. If Mast Base AB-15/GR is not available, use Mast Base MP-48 or MP-48-A. See figure 603 for assembly of Mast Base MP-48 or MP-48-A. Use internal lead-in of Wire W-128.

Wire W-128 (item 24, fig. 501) (item 14, fig. 601).

Cut a 53-inch length of Wire W-128 for installation shown in fig. 501, or a 59-inch length for installation shown in fig. 601. Strip back one-half inch on each end. Tin ends of exposed

Part and location

Antenna A-62, phantom, and bracket (fig. 605) (items 8 and 28, fig. 601), on Mounting FT-237-() (for Radio Set SCR-508-() and SCR-528-()).

Antenna A-83, phantom (for Radio Set SCR-608-()).

Dynamotor DM-35-() and Radio Transmitter BC-604-() (for Radio Set SCR-508-() or SCR-528-()), Radio Transmitter BC-684-() (for Radio Set SCR-608-()), (items 10 and 6 or 8, fig. 501) (items 6 and 2 or 4, fig. 601), on Mounting FT-237-().

Dynamotor DM-34-() and Radio Receiver BC-603-() (for Radio Set SCR-508-() or SCR-528-()) or Radio Receiver BC-683-() (for Radio Set SCR-608-()) (items 11 and 7 or 9, fig. 501) (items 5 and 1 or 3, fig. 601).

Interphone Control Box BC-606-(*), Cordage CO-218, connector No. 61004 and Bondnut BL-50 (items 46, 25, 30, and 31, fig. 501) (items 7, 13, 19, and 21, fig. 601).

Connector No. 61007 and Bondnut BL-50 (items 29 and 31, fig. 501) (items 20 and 21, fig. 601).

Mast Sections MS-117 and MS-118 (items 20 and 21, fig. 501) (items 10

Method and materials

wire. Secure one end of wire to binding post on bottom of mast base. Route wire down through Mast Base Bracket MP-52 and replace cover plate. Secure other end of Wire W-128 to TR binding post of Mounting FT-237-().

Install phantom antenna on Mounting FT-237-() as shown in position 3 of figure 604. Secure bracket (fig. 605) with screws provided on case of phantom antenna. Remove the two No. 10 screws on left front corner of Mounting FT-237-() and secure bracket to mounting with the two screws provided with antenna.

Stow Antenna A-83, phantom, in any convenient place in vehicle.

If Dynamotor DM-35-() is not already installed in Radio Transmitter BC-604-() or BC-684-(), loosen screw locks holding cover on top of transmitter and remove cover. Loosen the two screw locks holding crystal drawer (upper left front of transmitter) and pull out drawer. Install dynamotor on transmitter chassis, left end, making sure that jack on dynamotor properly engages plug on transmitter chassis. Secure dynamotor in place with the four screws in its base. Place transmitter in position on Mounting FT-237-(), with plug on transmitter properly engaged in jack on end of mounting. Secure with thumbscrew locking devices.

If Dynamotor DM-34-() is not already installed in Radio Receiver BC-603-() or BC-683-(), loosen screw lock in rear of receiver and remove cover. Install dynamotor on top rear of receiver, making sure that jack on dynamotor properly engages plug on receiver. Secure dynamotor with the four screws in its base. Place receiver on Mounting FT-237-() with plug on receiver properly engaged in jack on mounting, and secure with thumbscrew locking devices.

Connect one end of Cordage CO-218 to Interphone Control Box BC-606-(*), as shown in figure 605, and attach control box underneath map compartment as shown in figure 501 or 601. Install connector and bondnut through hole in floor of left front seat locker for passage of Cordage CO-218. Route cordage to Mounting FT-237-() and connect as shown in figure 605. Secure cordage in place with clamps provided. When Radio Set SCR-508-(), SCR-528-(), or SCR-608-() is installed in combination with Radio Set SCR-193-T, place guards (items 30 and 31, fig. 601) over cordage as shown in figure 501, Plan View.

Install connector and bondnut in knockout hole of vehicle terminal box to secure power cord from Mounting FT-237-().

Screw mast sections together and screw assembled antenna into mast base. Tape joints to prevent loss of mast sections. If

Part and location

Method and materials

and 11, fig. 601) on Mast Base AB-15/GR.

Mast Base MP-48 or MP-48-A is used, assemble Mast Sections MS-52 and MS-53 together and place Clamp MC-424 over joints. When mast sections and clamps are not in use stow them in Roll BG-56-(). Place Cover BG-108 over Mast Base MP-48 or MP-48-A when mast sections are removed.

Roll BG-56-().

Stow in any convenient place in vehicle.

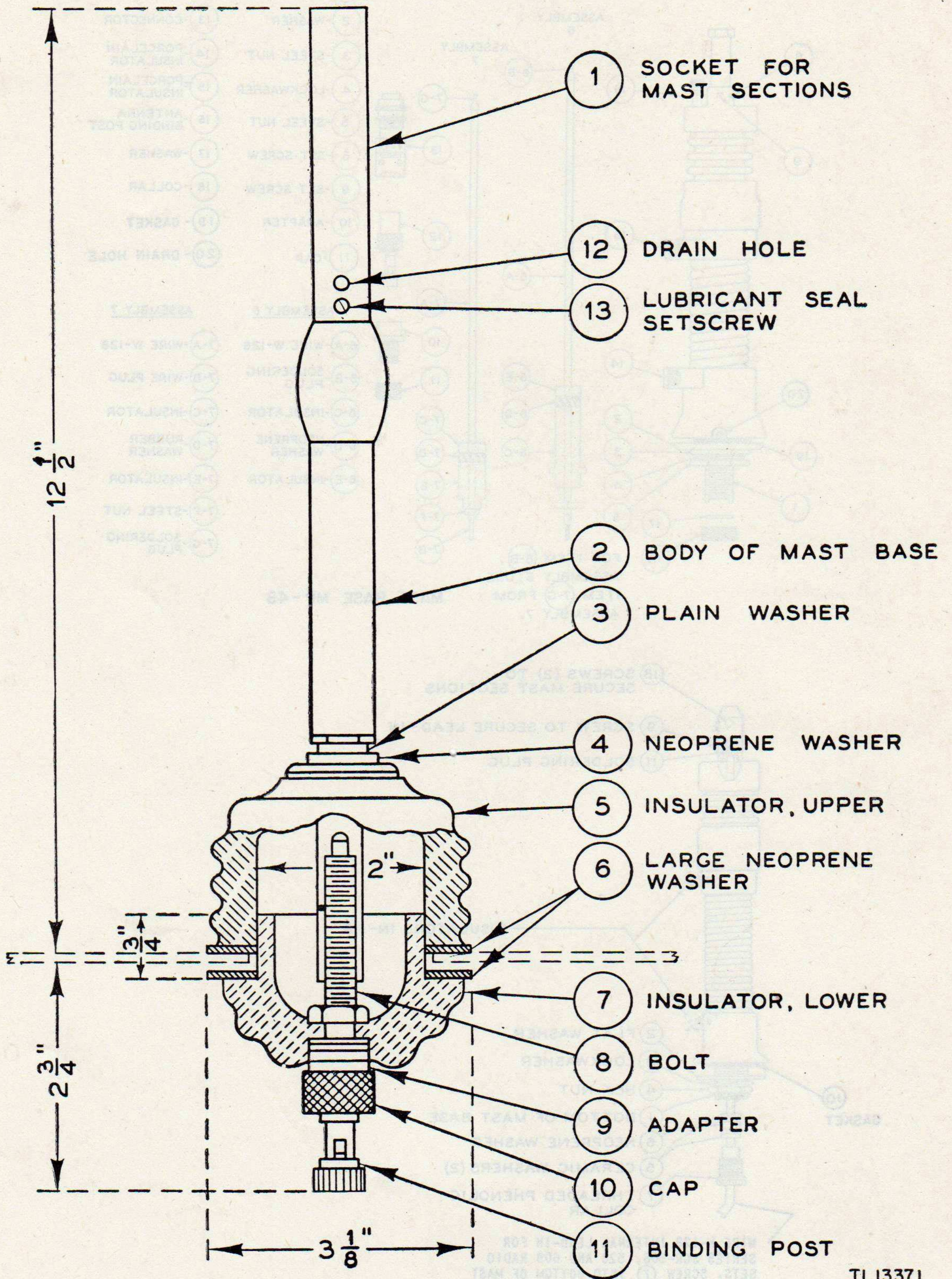
Chest CH-264 (for Radio Set SCR-508-() or SCR-528-()).

Stow headsets, spare tubes, and spare parts in Chest Ch-264. See chart on chest for location of items. When used with Radio Set SCR-508-(), place chest in vehicle tool box or in any other convenient place. When used with Radio Set SCR-528-(), place chest on Mounting FT-237-() in space provided for a second radio receiver.

Chest CH-96 (for Radio Set SCR-608-()).

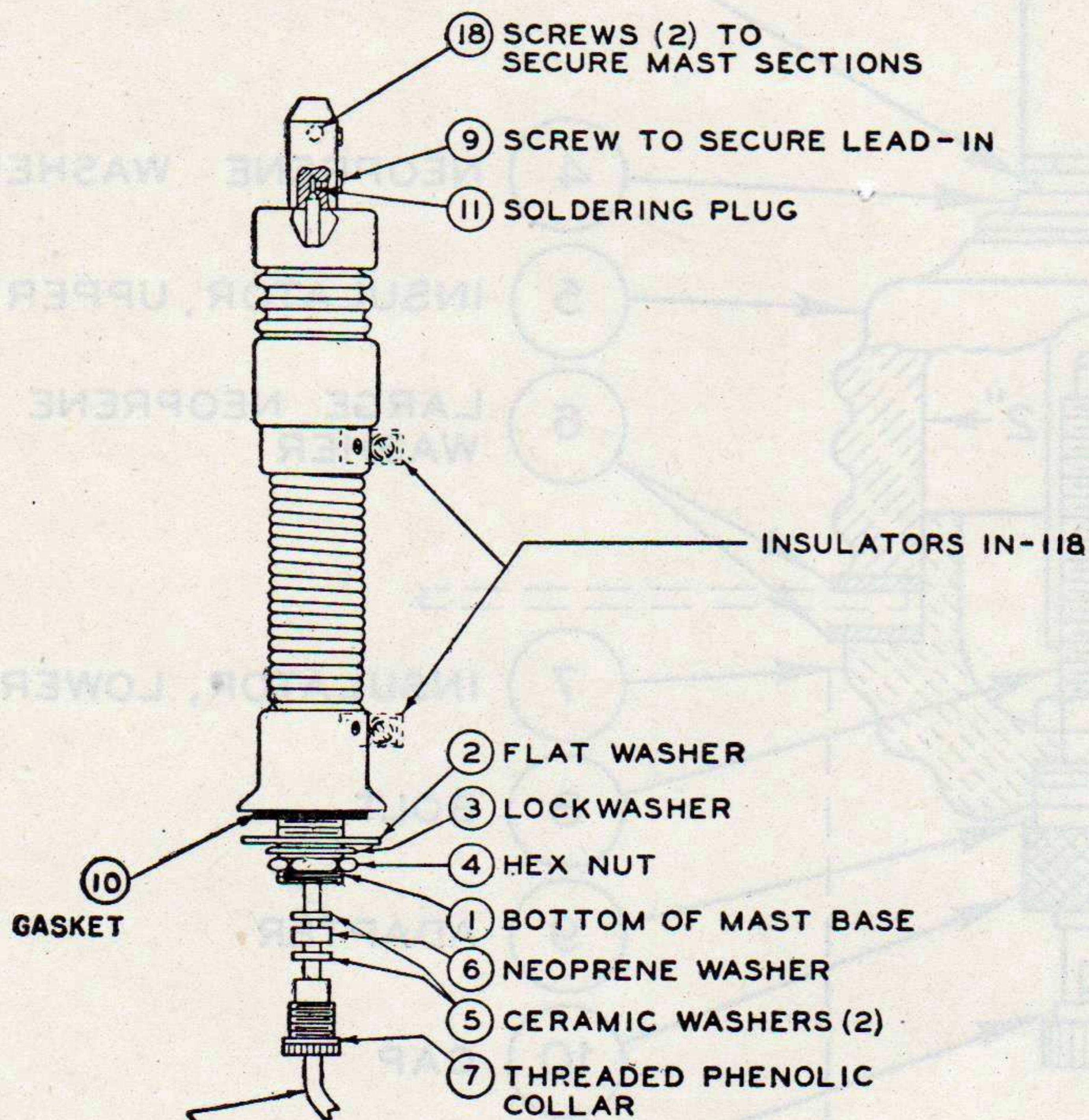
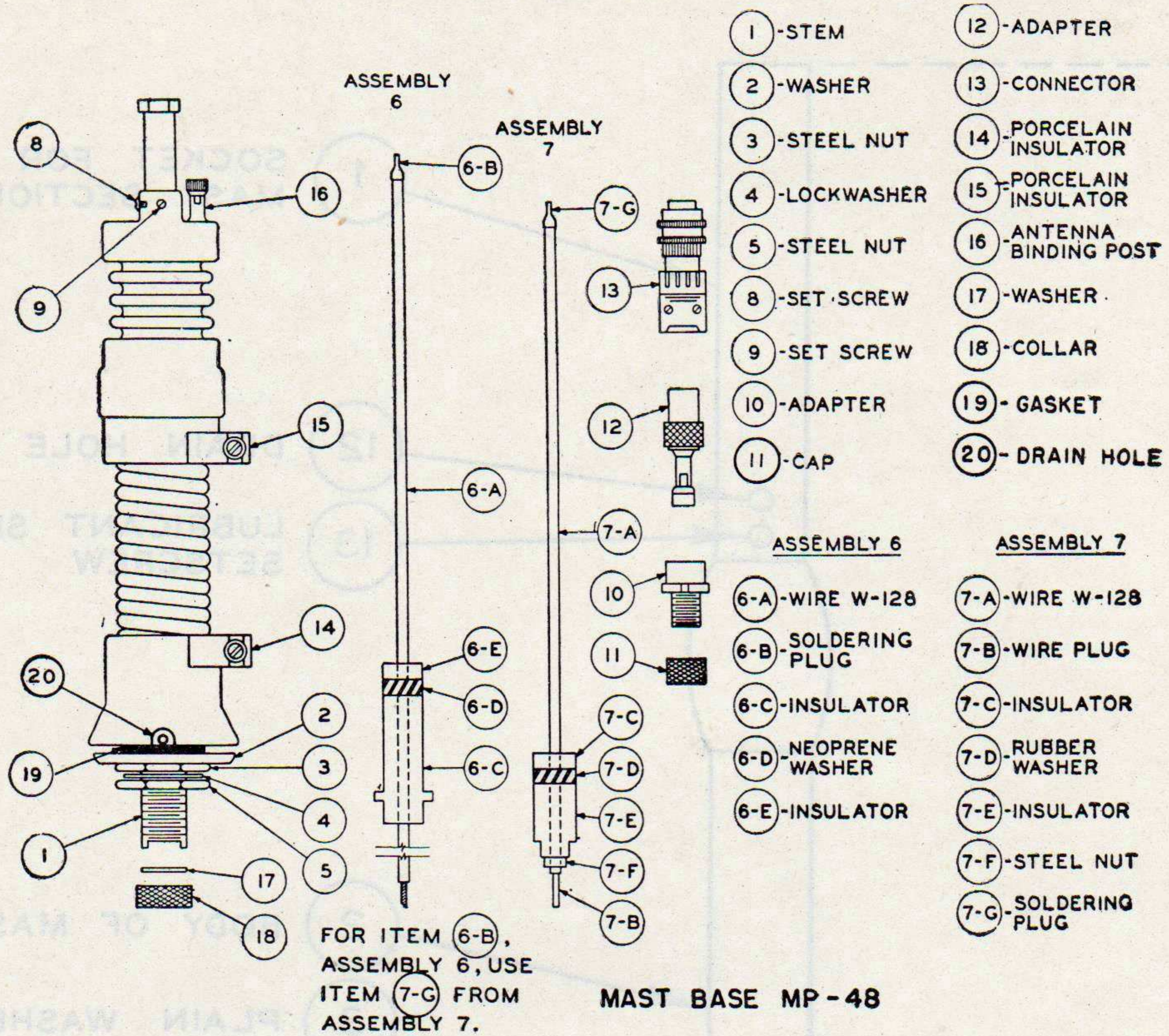
Stow headsets, tubes, and spare parts in Chest CH-96. Stow chest in vehicle tool box or in any other convenient place.

* Indicates Interphone Control Box BC-606-A through -G (shown in upper portion of figure 606) and Interphone Control Box BC-606-H (shown in lower portion of figure 606). Cordage CO-218 is used in this installation; however, Cordage CO-213 may also be used.



TL13371

Figure 602. Mast Base AB-15/GR, assembly for Wire W-128 lead-in.

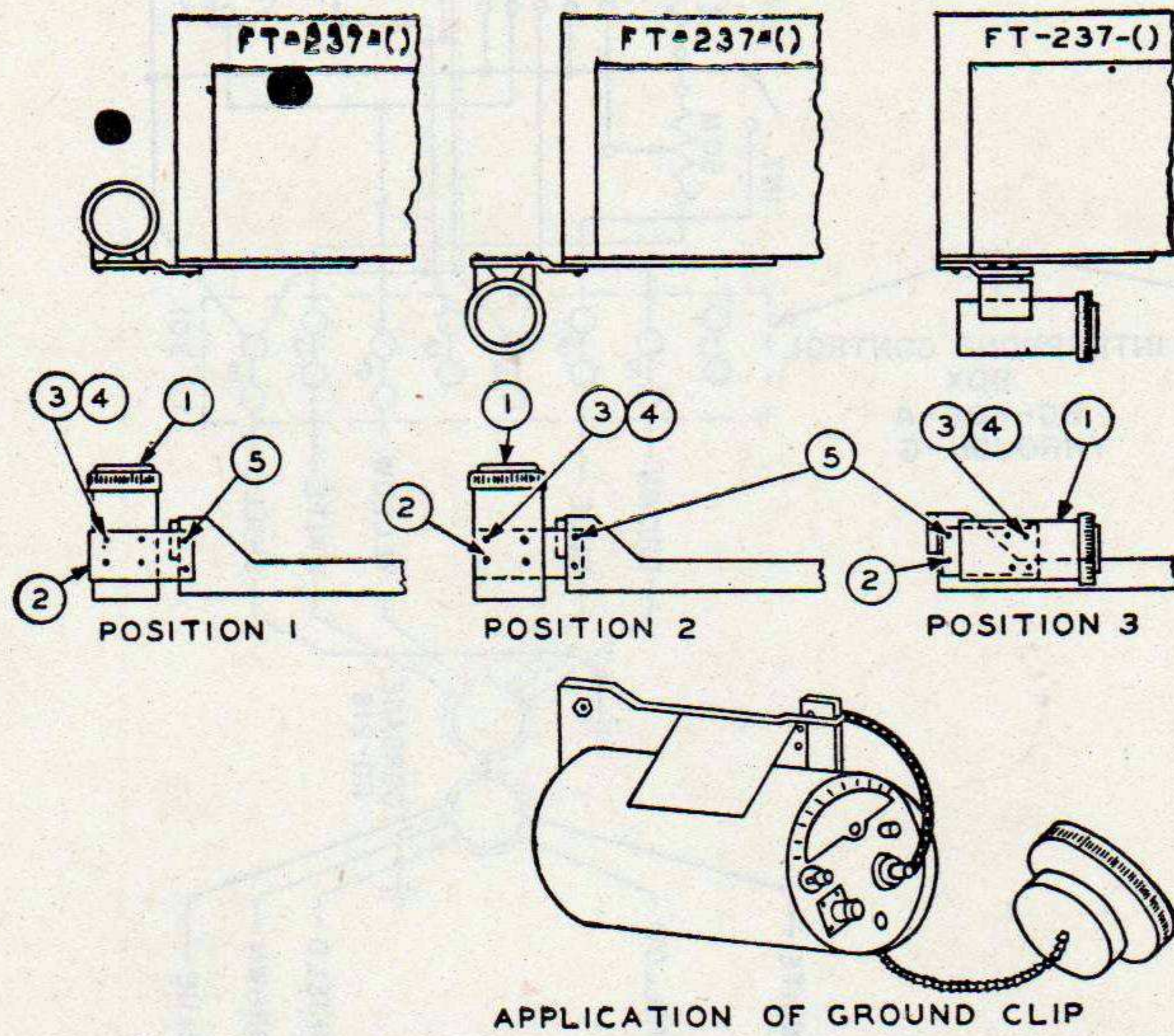


WIRE W-128 INTERNAL LEAD-IN FOR SERIES SCR-508, 528 AND 608 RADIO SETS. SCREW 7 INTO BOTTOM OF MAST BASE. TO SECURE LEAD-IN ASSEMBLY, CUT WIRE TO REQUIRED LENGTH.

MAST BASE MP-48-A

TL15999-D

Figure 603. Mast Base MP-48 and MP-48-A, assembly.



ITEM NO	NAME OF ITEM AND REMARKS	QUAN. REQ.
1	ANTENNA A-62 (PHANTOM)	1
2	BRACKET	1
3	RD. HD. MACH. SCR. #6-32 X 1/2" FURN. WITH #1	4
4	LOCKWASHER #6 STD. FURN. WITH #1	4
5	RD. HD. MACH. SCR. #10-32 X 5/8"	2

NOTE:

1. FOR ALL POSITIONS USE TIP OF BRACKET TO RECEIVE THE GROUND CLAMP OF ANTENNA A-62
 2. USE LONGER SCREW ⑤ WHEN INSTALLING BRACKET ② ON MOUNTING FT-237(-) AND RE-APPLY TOOTH-TYPE LOCKWASHERS
- TL13376

Figure 604. Installation of Antenna A-62, phantom, on Mounting FT-237-().

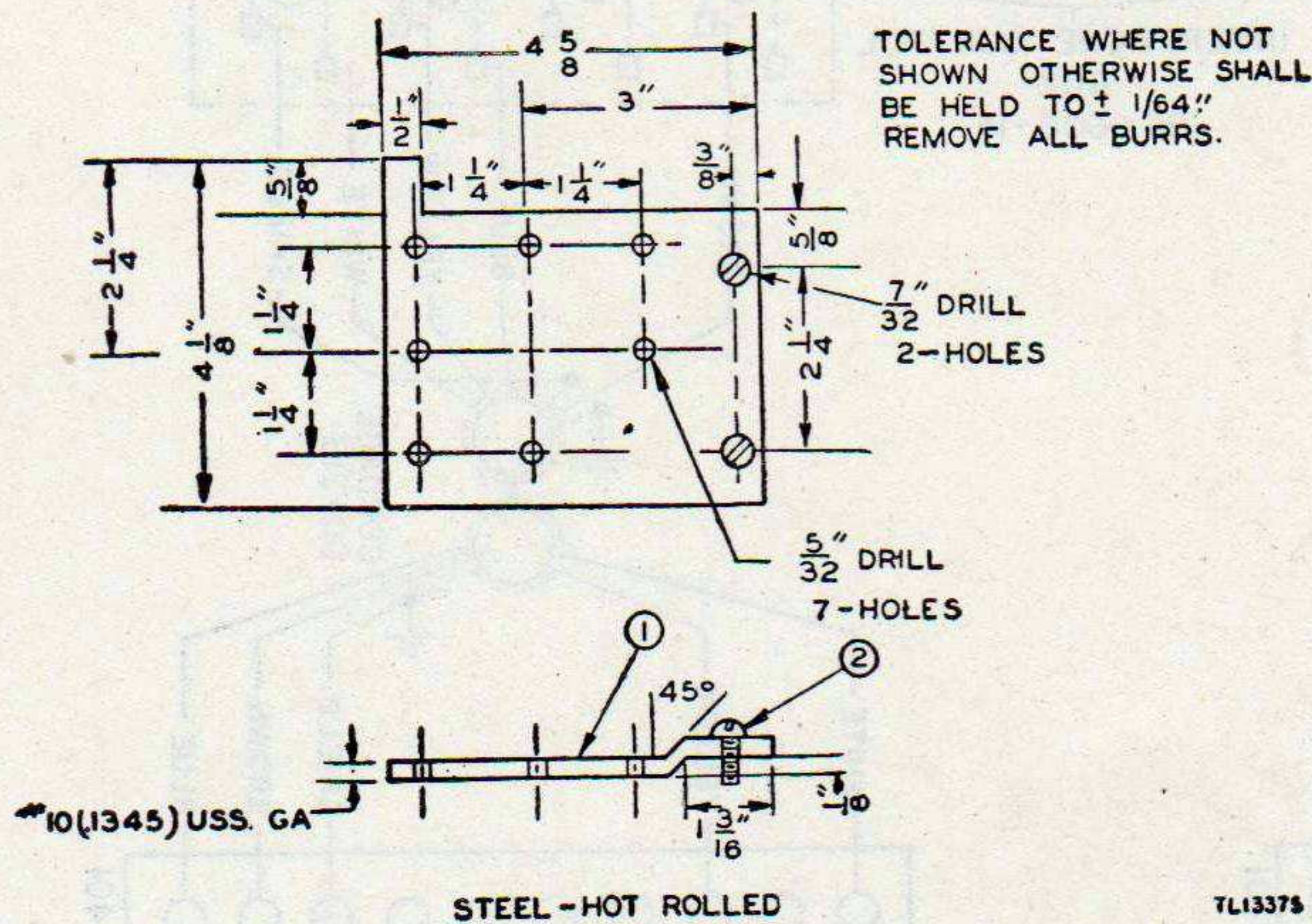
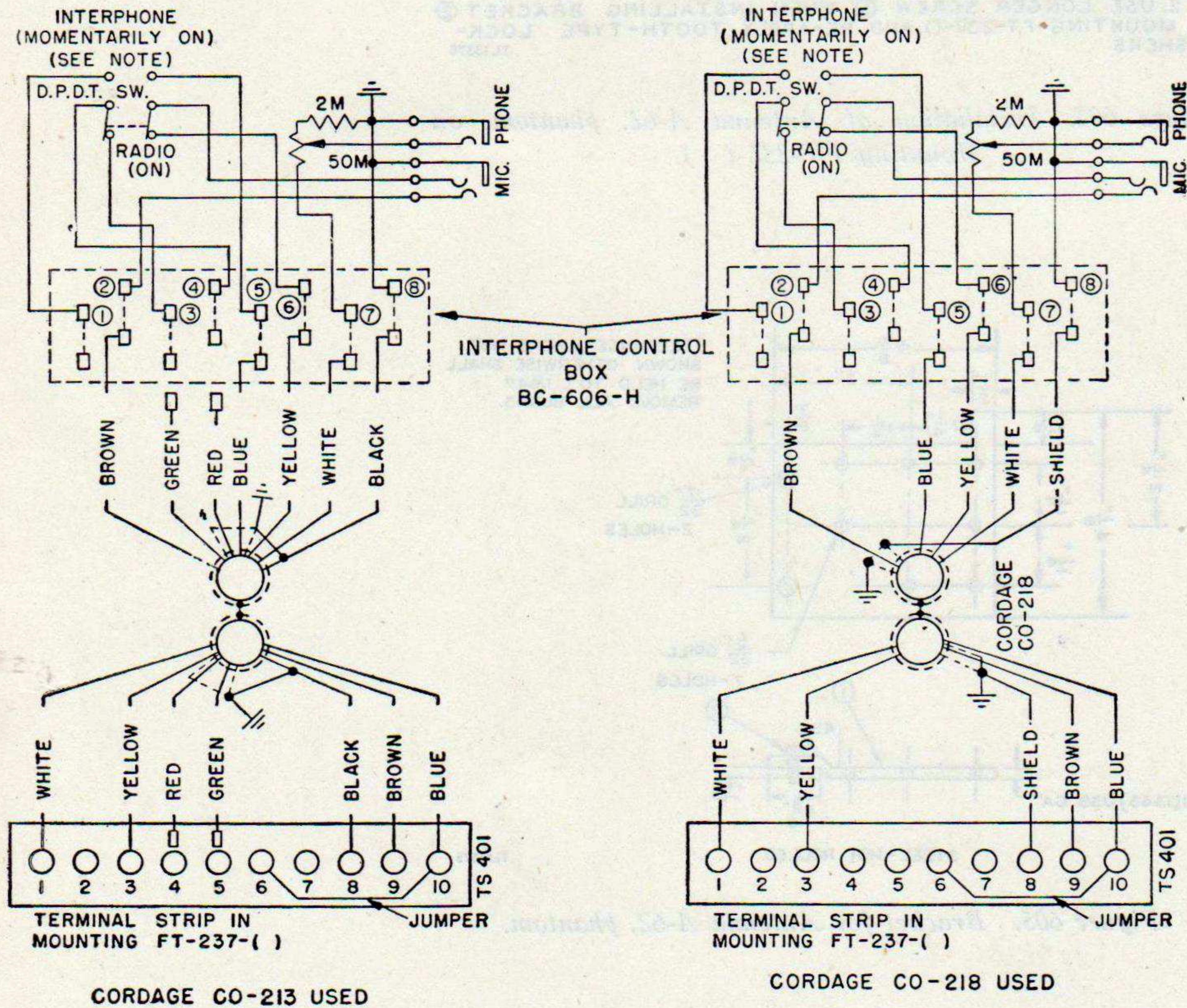
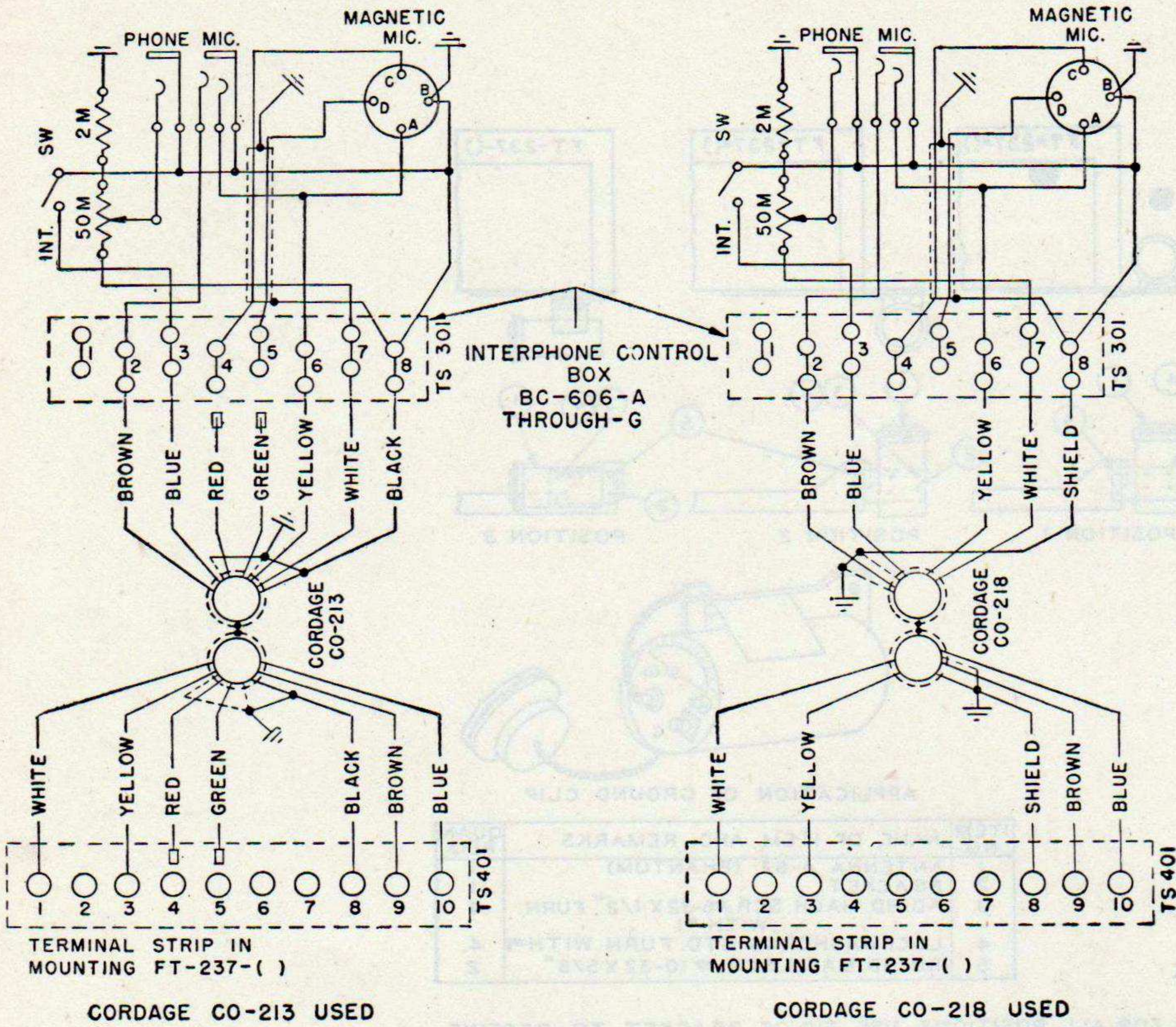


Figure 605. Bracket for Antenna A-62, phantom.



NOTE
GROUND INNER AND OUTER SHIELDS OF CORDAGE CO-213 AND CO-218 AT EACH END.
TAPE ENDS OF UNUSED LEADS.
SYSTEM IS WIRED SO THAT SWITCH ON BC-606-H IS SPRING LOADED IN POSITION FOR RADIO OPERATION.
M = 1,000 Ω

Figure 606. Wiring diagram for remote control of Radio Set SCR-508-() or SCR-528-() Interphone Control Box BC-606-A through -G or BC-606-H.

TL 10878-5

SECTION VII

RADIO SET SCR-510-() OR SCR-610-()

701. Required Parts

Items necessary for installation of Radio Set SCR-510-() or SCR-610-() in Carrier, Personnel, Half-track, M3A1 are listed below :

Basic units Stocks Nos. 2S510/12 and 2S610/12				Basic units Stocks Nos. 2S510/12 and 2S610/12—Continued			
Quantity		Stock No.	Item	Quantity		Stock No.	Item
Radio Set SCR-510-()	Radio Set SCR-610-()			Radio Set SCR-510-()	Radio Set SCR-610-()		
1	1	6Q349	Alignment Tool TL-207.	0	2	6D13037	TM 11-615.
0	^a 1	2A229C	Antenna AN-29-C.	^c 1	^c 1	3H6713	Vibrator VB-13-().
^a 1	0	2A245	Antenna AN-45.	^a 27 ft	^a 27 ft	1B29	Wire W-29.
^a 1	^a 1	3B879	Case CS-79.	6 ft	6 ft	1B128	Wire W-128.
1	1	2Z1890-137	Case CS-137.	Installation unit Stock No. 25510-V68/50			
1	1	6Z3147	Connector No. 61007 and Bondnut BL-50.				
^a 2	^a 2	2A2352/1	Fitting, including spare.				
^a 1	^a 1	2B613	Handset TS-13.				
2	2	3G586	Insulator IN-68, for tying down mast sections.				
^a 2	^a 2	3G1250-64.15	Insulator, glazed porcelain.				
^b 1	^b 1	2A2081-15	Mast Base AB-15/GR.				
0	^b 2	2A2416	Mast Section MS-116, including spare.				
^b 2	^b 2	2A2417	Mast Section MS-117, including spare.				
^b 2	^b 2	2A2418	Mast Section MS-118, including spare.				
1	1	2Z6721-250	Mounting FT-250-().	Quantity	Stock No.	Item	
^c 1	^c 1	3H4496-120	Power Supply Unit PE-120-().	^a 1	3A39	Battery BA-39.	
1	0	2C5360	Radio Receiver and Transmitter BC-620-().	^a 1	3A40	Battery BA-40.	
0	1	2C5379	Radio Receiver and Transmitter BC-659-().	1	3A41	Battery BA-41.	
1	1	2Z8056	Roll BG-56-().	^a 1	4B417-4	Chest Set TD-4.	
15 ft	15 ft	6Z7926	Rope RP-56, for tying down mast sections.	1	6Z3147	Connector No. 61007 and Bondnut BL-50.	
^a 2	^a 2	2Z9019	Strap ST-19.	1	6Z3147-1	Connector No. 61004 and Bondnut BL-50.	
2	0	6D13038	TM 11-605.	1	3E1509	Cord CD-509.	
				14 ft	3E2218	Cordage CO-218.	
				2	2Z3400-185	Cover BG-185.	
				1	2Z4648	Frame FM-48.	
				1	6L50-510V68	Hardware bag.	
				^a 1	2B800-16	Headset H-16/U.	
				1	2C1738	Interphone Control Box BC-606-().	
				1	2A2090-54	Mast Base Bracket MP-54.	
				1	2B1645	Microphone T-45.	
				1	2Z6721-250	Mounting FT-250-().	
				1	2Z7155	Plug PL-55.	
				1	2Z7168	Plug PL-68.	

^a Used for fixed, portable, or emergency operation of radio set.
^b When Mast Base AB-15/GR and Mast Sections MS-116, MS-117, and MS-118 are not available, use Mast Base MP-48 or MP-48-A, Mast Sections MS-51, MS-52, and MS-53, and Clamps MC-423 and MC-424.
^c If Power Supply Unit PE-120-() is not available, use Plate Supply Unit PE-97-() for Radio Set SCR-510-() or Plate Supply Unit PE-117-() for Radio Set SCR-610-(). In either case Vibrator VB-13-() will not be required.
^d If Headset H-16/U and Chest Set TD-4 are not available, use Headset HS-30-() and Cords CD-307-A, CD-318-(), and CD-604.

SECTION VII

RADIO SET SCR-510-1 OR SCR-510-1

101. Required Parts

Items necessary for installation of Radio Set SCR-510-1 or SCR-510-1

Radio Set SCR-510-1 or SCR-510-1

Antenna

Antenna

Antenna

Antenna

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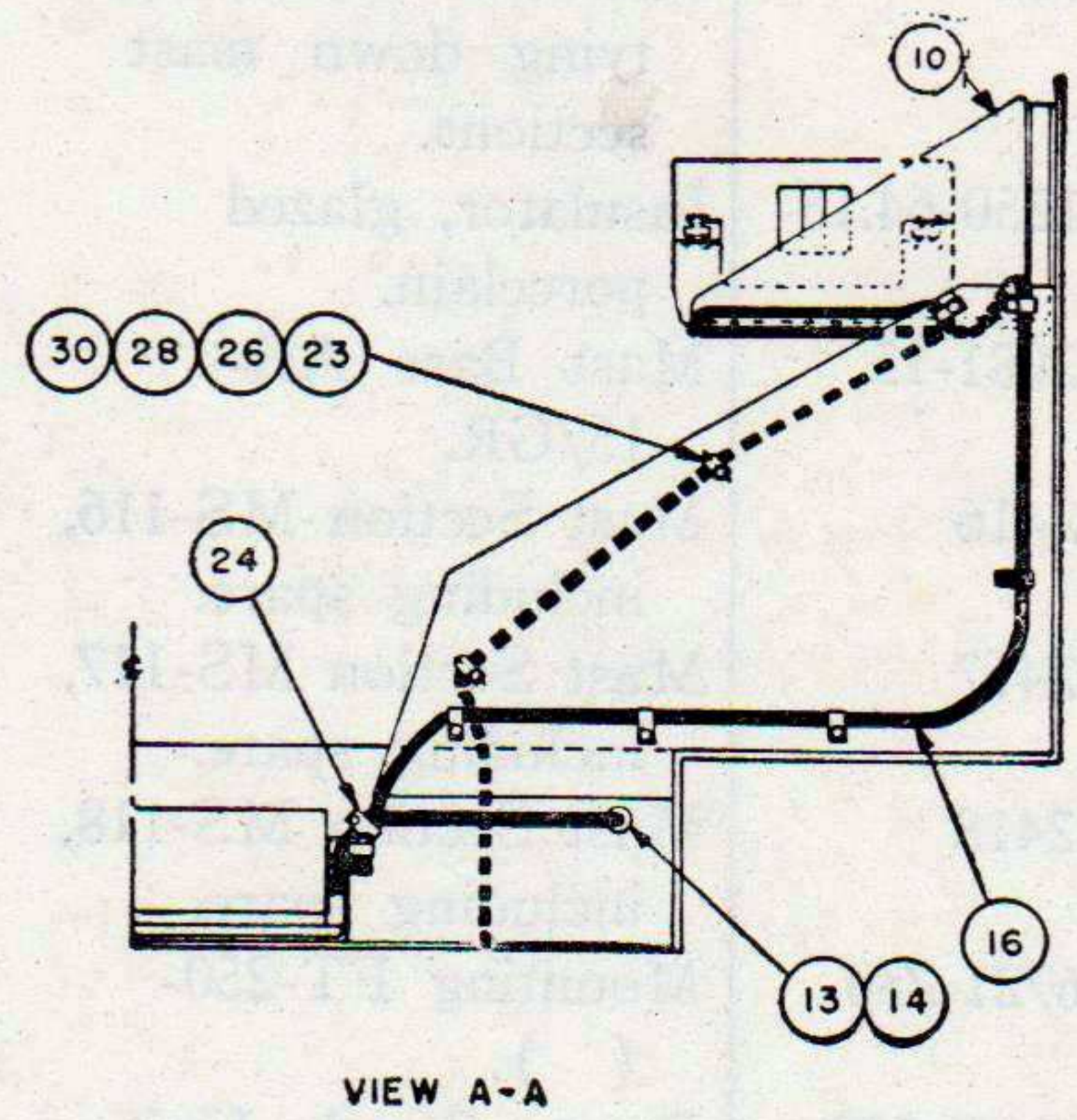
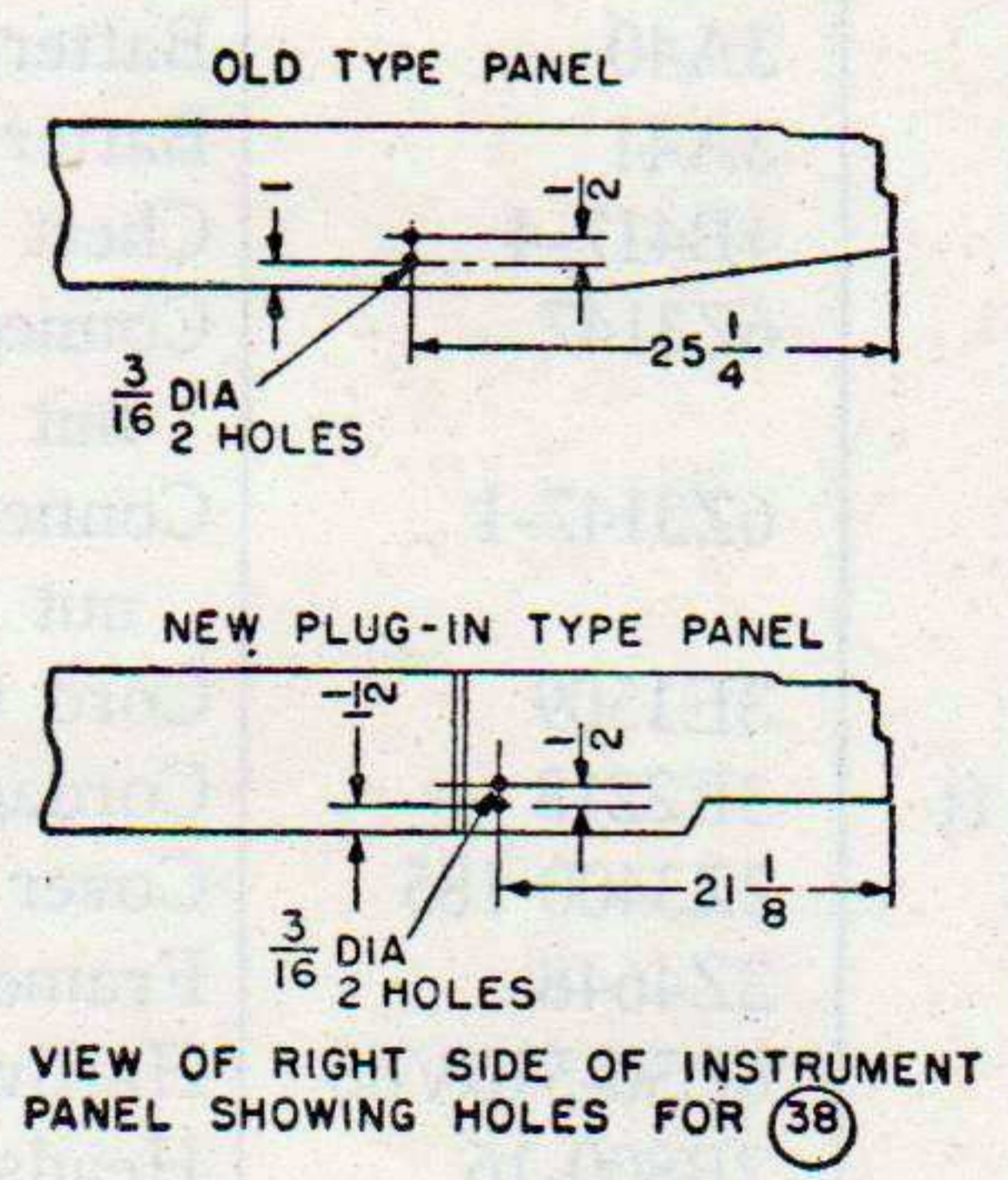
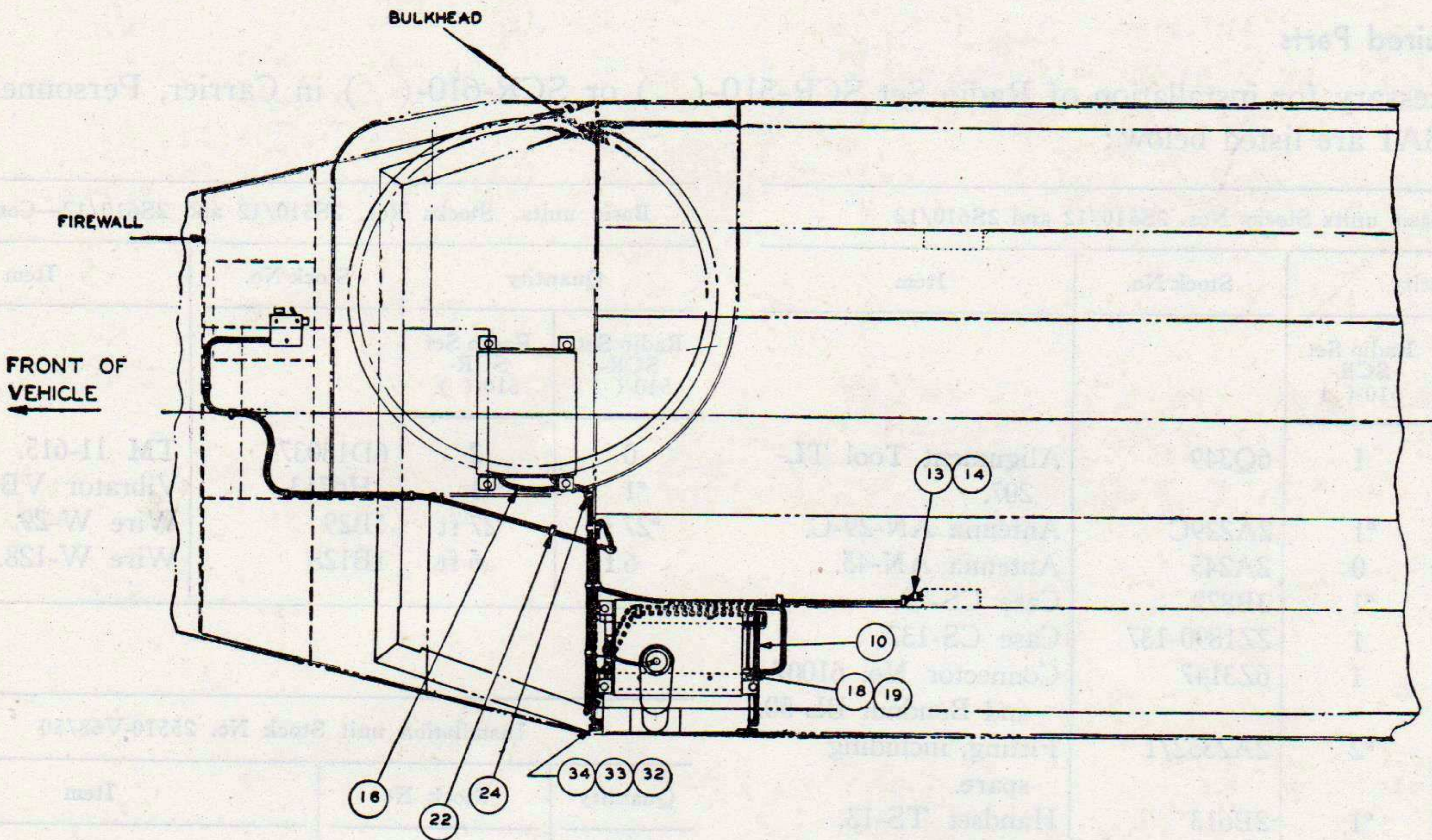
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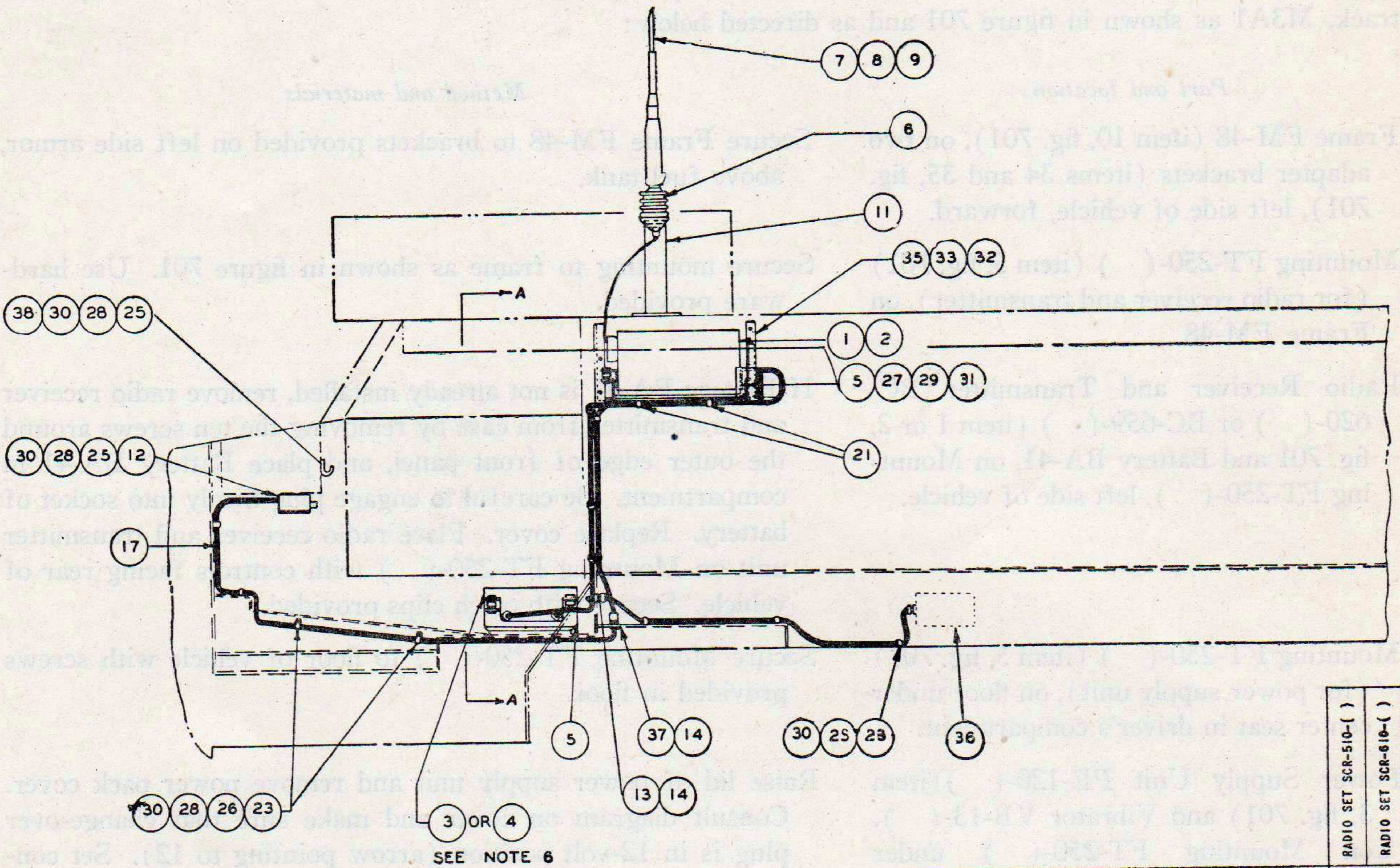
Antenna



TL10867-S-1

Figure 701. Installation of Radio Set SCR-510-() or

RESTRICTED



NOTES:

1. MOUNT (5) TO FLOOR OF DRIVER'S COMPARTMENT WITH EXISTING SCREWS.
2. (15) MUST BE 24 IN. LONG FOR RADIO SET SCR-510-() OR 36 IN. LONG FOR RADIO SET SCR-610-().
3. INSTALL (22) AND (11) WITH EXISTING BOLTS.
4. (32) THROUGH (36) ARE FURNISHED AND INSTALLED BY VEHICLE MANUFACTURER.
5. FOR ADDITIONAL COMPONENTS AND SPARE PARTS, SEE PARTS LIST.
6. IF POWER SUPPLY UNIT PE-120-() IS NOT AVAILABLE, USE PLATE SUPPLY UNIT PE-97-() (FOR RADIO SET SCR-510-()) OR PE-117-() (FOR RADIO SET SCR-610-()).
7. USE MAST BASE MP-48 OR MP-48-A, MAST SECTIONS MS-51, MS-52, AND MS-53, WITH CLAMPS MC-423 AND MC-424, IF (6), (7), (8), AND (9) ARE NOT AVAILABLE.
8. PLACE (20) ON MAST BASE MP-48 OR MP-48-A IF MAST SECTIONS ARE NOT INSTALLED. (20) IS NOT REQUIRED IF (6) IS ISSUED.

SEE NOTE 6

ITEM NO.	NAME OF ITEM	QUANTITY REQUIRED	
		RADIO SET SCR-510-()	RADIO SET SCR-610-()
1	RADIO RECEIVER AND TRANSMITTER BC-620-()	1	1
2	RADIO RECEIVER AND TRANSMITTER BC-659-()	1	1
3	POWER SUPPLY UNIT PE-120-() SEE NOTE 6	1	1
4	PLATE SUPPLY UNIT PE-97-() (FOR SCR-510) OR PE-117-() (FOR SCR-610) SEE NOTE 6	1	1
5	MOUNTING FT-250-() SEE NOTE 1	2	2
6	MAST BASE AB-15/GR	1	1
7	MAST SECTION MS-116	1	1
8	MAST SECTION MS-117	1	1
9	MAST SECTION MS-118	1	1
10	FRAME FM-48	1	1
11	MAST BASE BRACKET MP-54 SEE NOTE 3	1	1
12	INTERPHONE CONTROL BOX BC-606-()	1	1
13	CONNECTOR NO. 61007	2	2
14	BONDNUT BL-50	3	3
15	WIRE W-128 SEE NOTE 2	1	1
16	CORD CD-509	1	1
17	CORDAGE CO-218 13 FT. LONG	1	1
18	PLUG PL-55	1	1
19	PLUG PL-68	1	1
20	COVER BG-108 SEE NOTE 8	1	1
21	CLAMP NO. 8	2	2
22	CLAMP NO. 6 SEE NOTE 3	1	1
23	CLAMP NO. 4	15	15
24	CLAMP NO. 7	1	1
25	ROUNDHEAD MACH. SCREW NO. 8 - 32 X 3/8 IN. LONG	15	15
26	ROUNDHEAD MACH. SCREW NO. 8 - 32 X 5/8 IN. LONG	6	6
27	HEX HEAD MACH. SCREW 1/4 - 20 X 3/4 IN. LONG	4	4
28	HEX NUT NO. 8 - 32 STD.	11	11
29	HEX NUT 1/4 - 20 STD.	4	4
30	LOCKWASHER STD. FOR NO. 8 SCREW	21	21
31	LOCKWASHER STD. FOR 1/4 IN. SCREW	4	4
32	HEX HEAD MACH. SCREW 3/8 - 24 X 5/8 IN. LONG	4	4
33	LOCKWASHER STD. FOR 3/8 IN. SCREW	4	4
34	ADAPTER BRACKET	1	1
35	ADAPTER BRACKET	1	1
36	TERMINAL BOX	1	1
37	CONNECTOR NO. 61004	1	1
38	HOOK	1	1

TL10867-S-2

SCR-610-() in Carrier, Personnel, Half-track, M3A1.

702. Assembly and Installation

Components of Radio Set SCR-510-() or SCR-610-() should be installed in Carrier, Personnel, Half-track, M3A1 as shown in figure 701 and as directed below:

<i>Part and location</i>	<i>Method and materials</i>
Frame FM-48 (item 10, fig. 701), on two adapter brackets (items 34 and 35, fig. 701), left side of vehicle, forward.	Secure Frame FM-48 to brackets provided on left side armor, above fuel tank.
Mounting FT-250-() (item 5, fig. 701) (for radio receiver and transmitter), on Frame FM-48.	Secure mounting to frame as shown in figure 701. Use hardware provided.
Radio Receiver and Transmitter BC-620-() or BC-659-() (item 1 or 2, fig. 701) and Battery BA-41, on Mounting FT-250-(), left side of vehicle.	If Battery BA-41 is not already installed, remove radio receiver and transmitter from case by removing the ten screws around the outer edge of front panel, and place Battery BA-41 in compartment. Be careful to engage plug firmly into socket of battery. Replace cover. Place radio receiver and transmitter unit on Mounting FT-250-() with controls facing rear of vehicle. Secure with catch clips provided.
Mounting FT-250-() (item 5, fig. 701) (for power supply unit), on floor under center seat in driver's compartment.	Secure Mounting FT-250-() to floor of vehicle with screws provided in floor.
Power Supply Unit PE-120-() (item 3, fig. 701) and Vibrator VB-13-(), on Mounting FT-250-() under center seat.	Raise lid of power supply unit and remove power pack cover. Consult diagram on cover and make sure that change-over plug is in 12-volt position (arrow pointing to 12). Set connector link in BC-620 position for Radio Set SCR-510-(). Set connector link in BC-659 position for Radio Set SCR-610-(). Plug Vibrator VB-13-() into its socket and replace power pack cover. Close lid of case and place power supply unit on Mounting FT-250-(), securing it with catch clips provided. Route power cord between power supply unit and terminal box.
Mast Base Bracket MP-54 (item 11, fig. 701), forward on left top rail vehicle.	Mount Mast Base Bracket MP-54 in place and secure with hardware supplied in vehicle. See figure 701.
Mast Base AB-15/GR (item 6, fig. 701), on Mast Base Bracket MP-54.	Install Mast Base AB-15/GR on mast base bracket as follows: See figure 602. Place insulator, item 5, over hole in mast base bracket. Place small neoprene washer, item 4, over item 5, and place plain washer, item 3, over item 4. Insert body of mast base, item 2, through hole in items 3, 4, 5, 6, and mast base bracket. Insert bolt, item 8, into item 2 from under side of mast base bracket and turn item 2 clockwise until mast base is tightened securely. If Mast Base MP-48 or MP-48-A is used, see figure 603 for assembly with Wire W-128 internal lead-in.
Wire W-128 (item 15, fig. 701).	Cut 25-inch length of Wire W-128 for Radio Set SCR-510-() or a 37-inch length for Radio Set SCR-610-(). Strip 1/2 inch of insulation from each end of wire and solder-tin ends for antenna connection. Secure one end of lead-in wire to binding post on bottom of mast base. Secure the other end

*Part and location**Method and materials*

Two Covers BG-185.

Interphone Control Box BC-606-(), Cordage CO-218, Plugs PL-55 and PL-68, connector No. 61004, and Bondnut BL-50 (items 12, 17, 18, 19, 37, and 14, fig. 701).

Connectors No. 61007 and Bondnuts BL-50 (items 13 and 14, fig. 701).

Mast Sections MS-116, MS-117, and MS-118 (items 7, 8, and 9, fig. 701), on Mast Base AB-15/GR.

Cord CD-509 (item 16, fig. 701).

to Terminal Box TM-206-A on Radio Receiver and Transmitter BC-620-() or to Terminal Box TM-218 on Radio Receiver and Transmitter BC-659-().

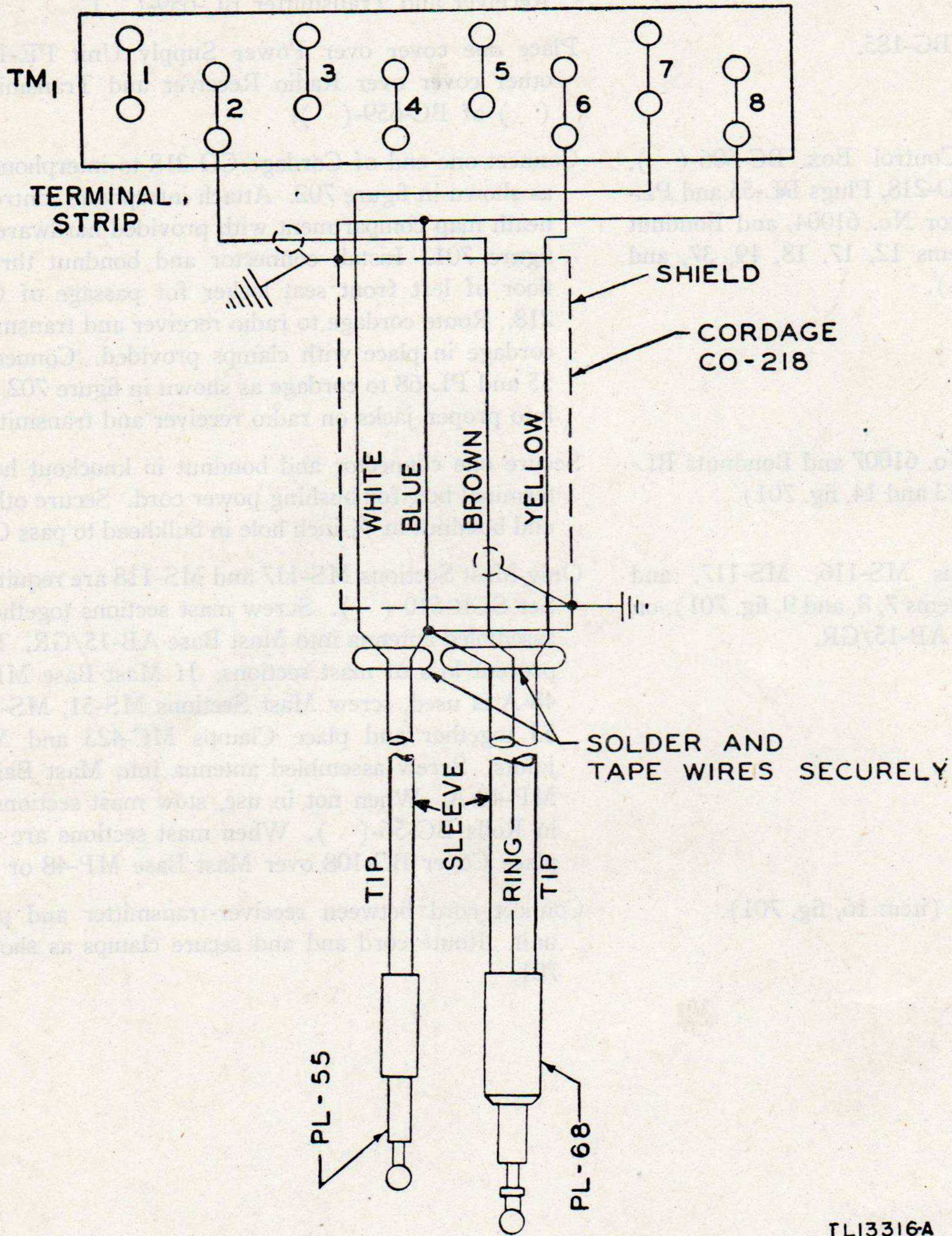
Place one cover over Power Supply Unit PE-120-() and other cover over Radio Receiver and Transmitter BC-620-() of BC-659-().

Connect one end of Cordage CO-218 to interphone control box as shown in figure 702. Attach interphone control box underneath map compartment with provided hardware as shown in figure 701. Install connector and bondnut through hole in floor of left front seat locker for passage of Cordage CO-218. Route cordage to radio receiver and transmitter. Secure cordage in place with clamps provided. Connect Plugs PL-55 and PL-68 to cordage as shown in figure 702. Insert plugs into proper jacks on radio receiver and transmitter.

Secure one connector and bondnut in knockout hole in vehicle terminal box for bushing power cord. Secure other connector and bondnut in $\frac{7}{8}$ -inch hole in bulkhead to pass Cord CD-509.

Only Mast Sections MS-117 and MS-118 are required for Radio Set SCR-510-(). Screw mast sections together and screw assembled antenna into Mast Base AB-15/GR. Tape joints to prevent loss of mast sections. If Mast Base MP-48 or MP-48-A is used, screw Mast Sections MS-51, MS-52, and MS-53 together and place Clamps MC-423 and MC-424 over joints. Screw assembled antenna into Mast Base MP-48 or MP-48-A. When not in use, stow mast sections and clamps in Rolls BG-56-(). When mast sections are not installed, place Cover BG-108 over Mast Base MP-48 or MP-48-A.

Connect cord between receiver-transmitter and power supply unit. Route cord and secure clamps as shown in figure 701.



TL13316A

Figure 702. Wiring diagram for remote control of Radio Set SCR-510-() or SCR-610-() using Interphone Control Box BC-606-().

