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M5-08

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TM 11-2715

WAR DEPARTMENT TECHNICAL MANUAL (+ 2 wigs)

# INSTALLATION OF RADIO EQUIPMENT IN TRUCK, 1/4-TON, 4x4

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INSTALLATION  
OF RADIO EQUIPMENT  
IN TRUCK, 1/4-TON, 4x4

WAR DEPARTMENT

• 30 SEPTEMBER 1944

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WAR DEPARTMENT,

WASHINGTON 25, D. C., 30 September, 1944.

TM 11-2715, Installation of Radio Equipment in Truck, 1/4-ton, 4 x 4, is published for the information and guidance of all concerned.

[A. G. 300.7 (13 Jul 44).]

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IC 7: T/O & E 7-26, 7-27, 7-29.

IC 8: T/O & E 8-76, 8-77.

IC 9: T/O & E 9-66, 9-67.

IC 11: T/O & E 11-7, 11-18, 11-47, 11-57, 11-147S, 11-257, 11-557.

IC 17: T/O & 17-2, 17-16, 17-17, 17-19, 17-20-1, 17-22, 17-26, 17-29, 17-27, 17-46S, 17-47S, 17-49S, 17-56, 17-601, 17-98S, 17-116, 17-117.

IC 18: T/O & E 18-10-1, 18-26, 18-27, 18-28, 18-36, 18-37.

IC 19: T/O & E 19-57.

IC 44: T/O & E 44-76, 44-77.

For explanation of symbols, see FM 21-6.



# CONTENTS

	<i>Paragraph</i>	<i>Page</i>
<b>SECTION I. GUIDE TO USE OF THIS MANUAL.</b>		
Purpose .....	1	1
Equipment .....	2	1
Holes and brackets.....	3	1
Preliminary check.....	4	1
Operating check.....	5	1
<b>II. RADIO SET SCR-193-K OR SCR-193-KB.</b>		
Required parts.....	6	3
Assembly and installation.....	7	8
<b>III. RADIO SET SCR-193-KW (WATERPROOF).</b>		
Required parts.....	8	11
Assembly and installation.....	9	13
<b>IV. RADIO SET SCR-284-( ).</b>		
Required parts.....	10	17
Assembly and installation.....	11	17
<b>V. RADIO SET SCR-506-( ).</b>		
Required parts.....	12	26
Assembly and installation.....	13	26
<b>VI. RADIO SET SCR-508-( ), SCR-528-( ), SCR-608-( ), SCR-628-( ), SCR-808-( ), OR SCR-828-( ).</b>		
Required parts.....	14	32
Assembly and installation.....	15	33
<b>VII. RADIO SET SCR-510-( ) OR SCR-610-( ).</b>		
Required parts.....	16	44
Assembly and installation.....	17	44
<b>VIII. RADIO SET AN/VRC-1-( ).</b>		
Required parts.....	18	55
Assembly and installation.....	19	69
<b>APPENDIX IGNITION NOISE SUPPRESSION IN TRUCK ¼-TON, 4x4.</b>		
General .....	1	75
Procedure .....	2	75



## DESTRUCTION NOTICE

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**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—Meters, controls, panels.
  2. Cut—Cables and all wiring.
  3. Burn—Resistors, capacitors, all technical manuals, instruction books, tube charts.
  4. Bury or scatter—Any or all of the above pieces 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 on.
2. Do not operate the equipment with the shields removed.
3. Do not connect power to any unit of the radio set until operating instructions have been read completely.



## RESTRICTED

### SECTION I

## GUIDE TO USE OF THIS MANUAL

---

### 1. Purpose

This manual provides methods and procedures, based upon actual field experience, for installation of radio equipment in Truck, 1/4-ton, 4 x 4. Items required to make a complete operating installation are listed for each radio set. Official nomenclature followed by ( ), such as Headset HS-30-( ), is used to indicate any model of equipment regardless of its procurement.

### 2. Equipment

Installations covered include the following radio sets:

SCR-193-K	SCR-608-( )
SCR-193-KB	SCR-628-( )
SCR-193-KW	SCR-808-( )
SCR-284-( )	SCR-828-( )
SCR-506-( )	SCR-510-( )
SCR-508-( )	SCR-610-( )
SCR-528-( )	AN/VRC-1-( )

### 3. Holes and Brackets

Holes and brackets required for installation of the radio equipment are normally lo-

cated prior to delivery of Truck, 1/4-ton, 4 x 4. Drilling instructions are given in this manual for any other necessary holes and brackets. Do not relocate any holes or brackets unless absolutely necessary.

### 4. Preliminary Check

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

*Caution:* Truck, 1/4-ton, 4 x 4, ordinarily has a 6-volt electrical system. Some of the radio sets covered in this manual require 12 volts for operation. Be sure that the correct 12-volt conversion kit has been installed in the vehicle before installing any of the 12-volt radio equipment. Otherwise damage to the equipment may result.

### 5. Operating Check

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



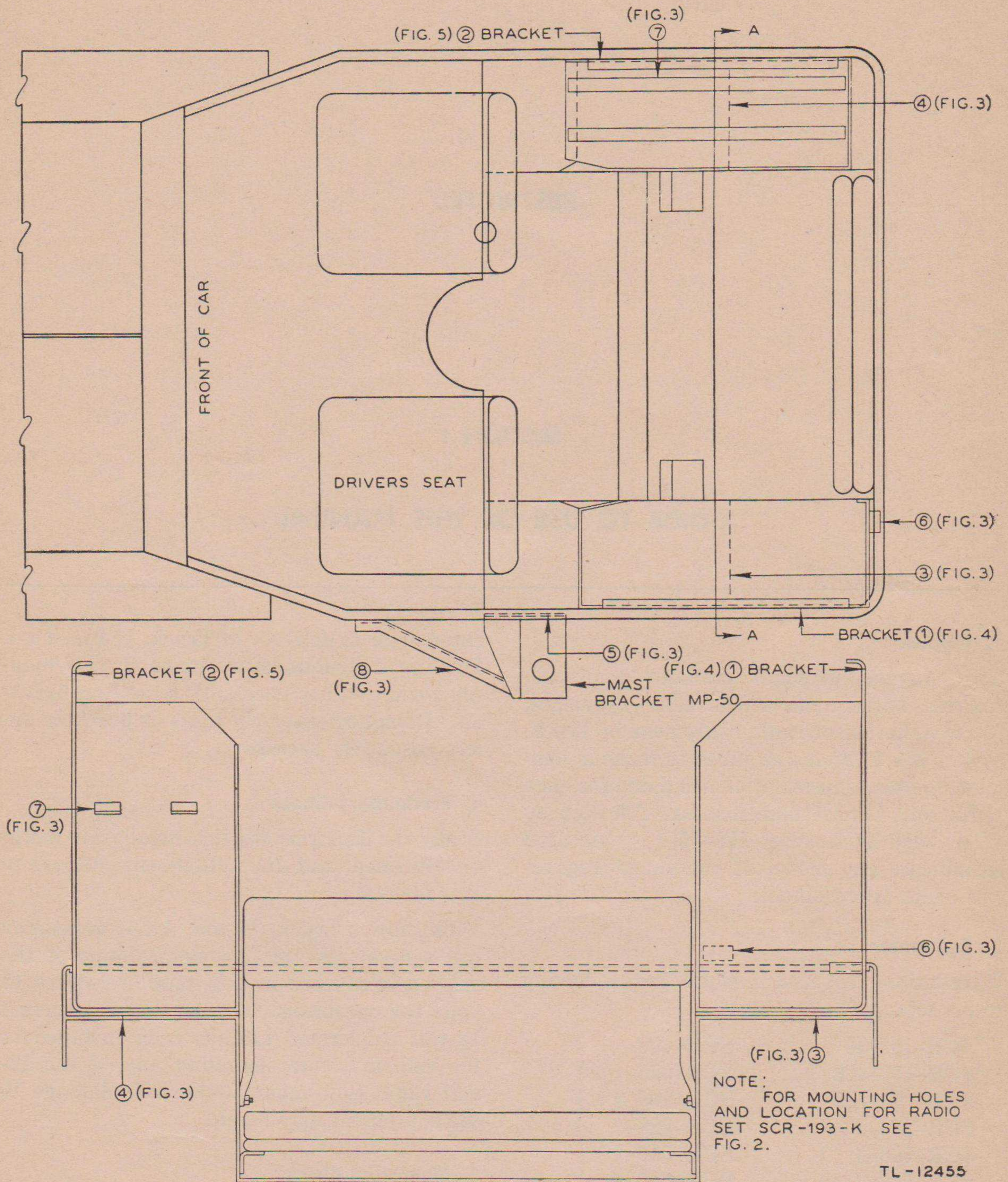


Figure 1. Installation of brackets for Radio Set SCR-193-K in Truck, 1/4-ton, 4x4.



## SECTION II

### RADIO SET SCR-193-K OR SCR-193-KB

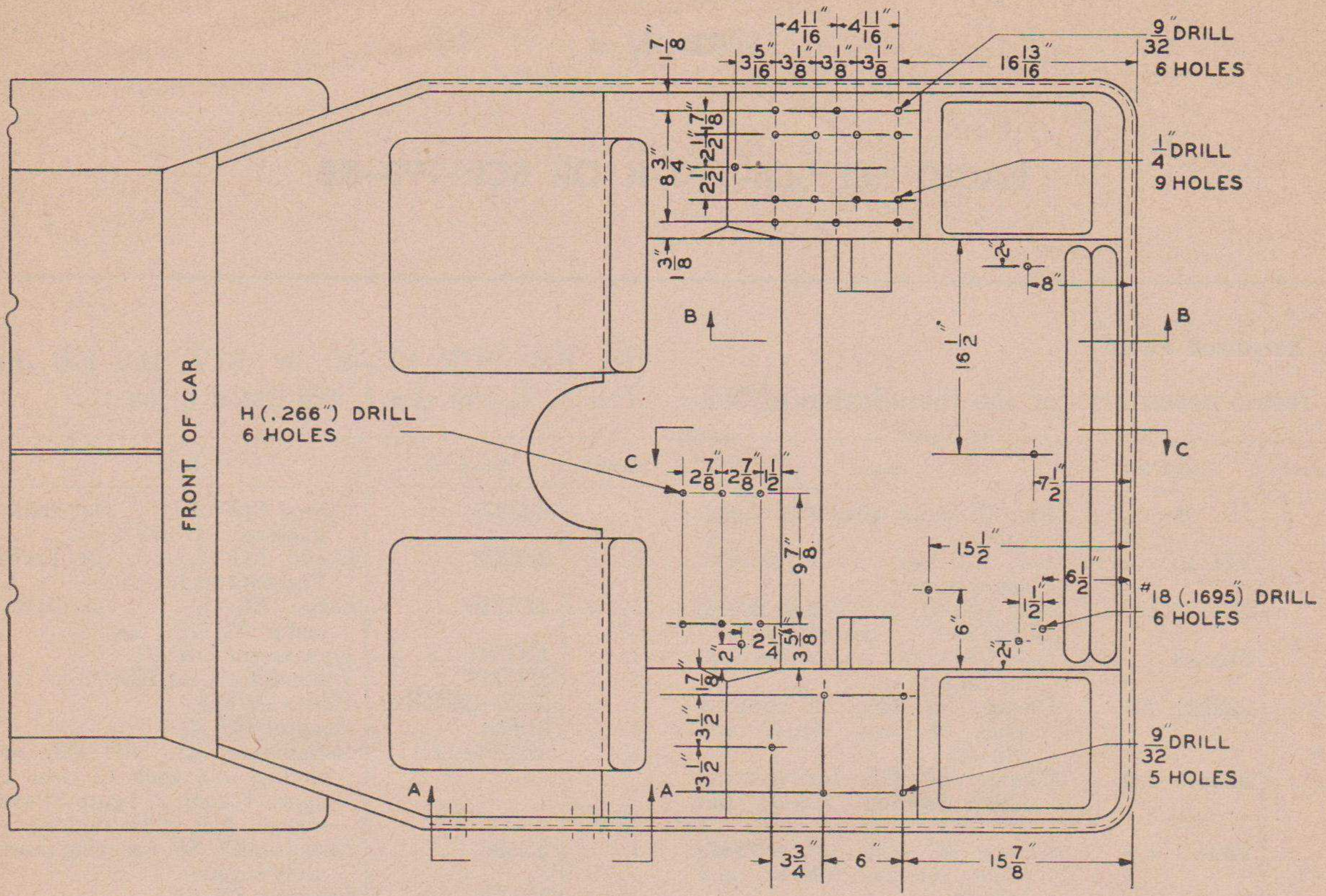
#### 6. Required Parts

Items necessary for the installation of Ra-

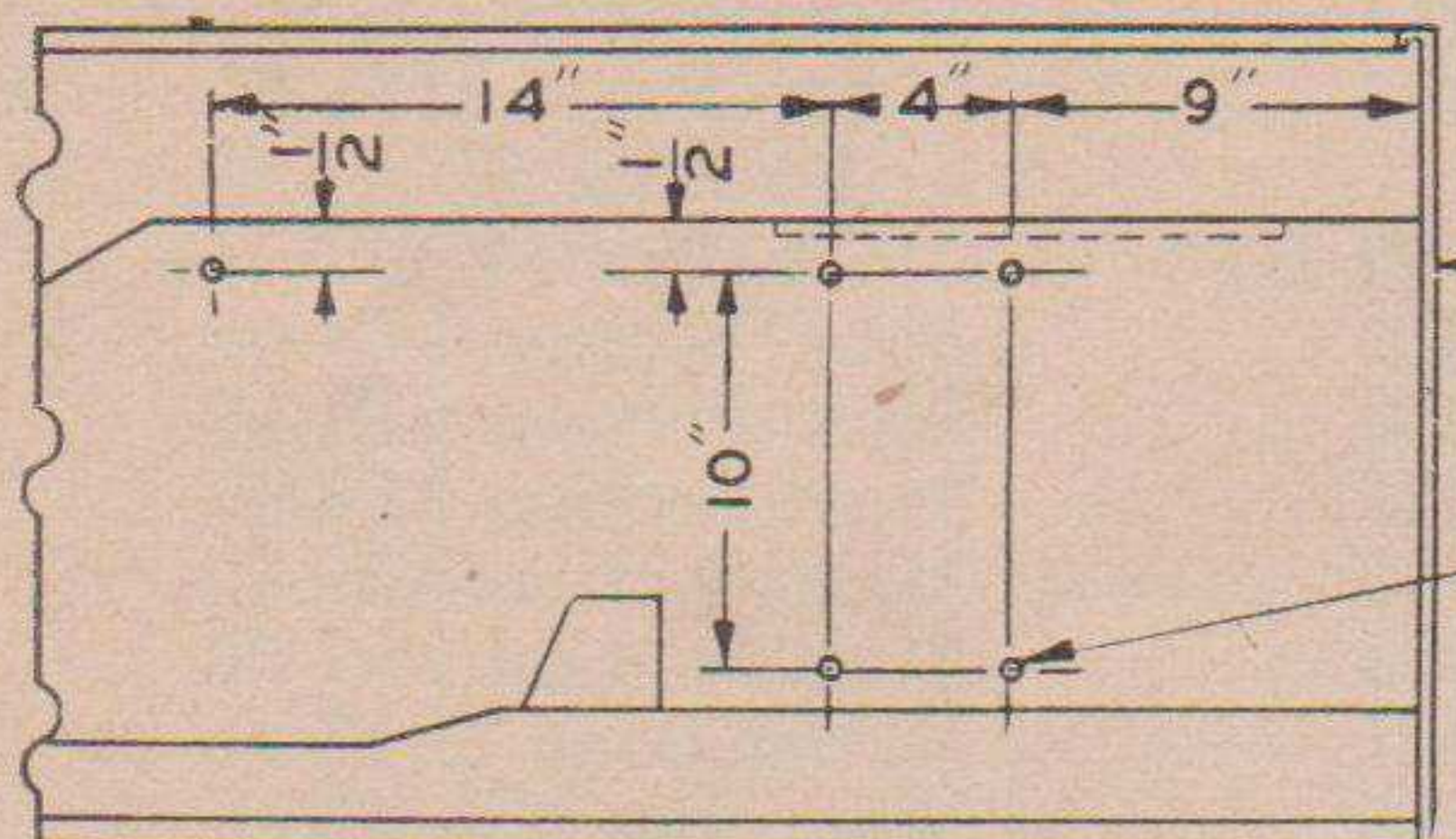
dio Set SCR-193-K or SCR-193-KB in Truck, 1/4-ton, 4 x 4, are listed below:

Quan'ty	Stock No.	Item	Quan'ty	Stock No.	Item
1	2Z1108	Box BX-8, for transmitter spare tubes.	1	2Z3375	Cover BG-75-( ), for Radio Receiver BC-312-( ).
1	2Z1119	Box BX-19-( ), for receiver spare tubes.	1	2Z3378	Cover BG-78-( ), for Radio Transmitter BC-191-( ).
1	2Z1121	Box BX-21, for Boxes BX-8, BX-19-( ), headsets, etc.	1	3H1359	Cover BG-79-( ), for Dynamotor BC-77-( ).
1	2Z1848	Case CS-48, for transmitter tuning unit.	1	3H1621	Dynamotor DM-21-( ).
1	2Z2651-421	Clamp MC-421, for securing Mast Sections MS-49 and MS-50.	1	3H1777	Dynamotor Unit BD-77-( ).
1	2Z2651-422	Clamp MC-422, for securing Mast Sections MS-50 and MS-51.	1	6L50-193KV26	Hardware bag.
1	2Z2651-423	Clamp MC-423, for securing Mast Sections MS-51, and MS-52.	1	2B830	Headset HS-30-( ).
1	2Z2651-424	Clamp MC-424, for securing Mast Sections MS-52 and MS-53.	1	2Z5725-449	Installation Kit MC-449, including one each of item 1, figure 4; item 2, figure 5; and items 3, 4, 5, and 8, figure 3.
1	3E2166A	Cord CO-166-A, for connecting Dynamotor BD-77-( ) to terminal box.	1	3G586	Insulator IN-86, for tying down mast sections.
1	3E1226	Cord CD-226, for connecting Radio Transmitter BC-191-( ) to Dynamotor BD-77-( ).	1	3G598	Insulator IN-98.
1	3E1265	Cord CD-265, for Loudspeaker LS-3.	2	3G621	Insulator IN-121.
1	3E1273	Cord CD-273, for connecting Dynamotor BD-77-( ) to terminal box.	1	3Z3445	Key J-45.
1	3E1307A-5.5	Cord CD-307-A, 65," for Headset HS-30-( ).	1	2Z6303.1	Loudspeaker LS-3.
1	3E1410	Cord CD-410, connects Radio Transmitter BC-191-( ) to terminal box.	1	2A2087	Mast Base MP-37 or MP-57 (2A2088-57).
1	3E1440	Cord CD-440, for connecting Radio Transmitter BC-191-( ) to Dynamotor BD-77-( ).	1	2A2090-50	Mast Bracket MP-50.
1	3E1474	Cord CD-474, for connecting Radio Receiver BC-312-( ) to terminal box.	1	2A2349	Mast Section MS-49.
1	3E1604	Cord CD-604, 6" for connecting Headset HS-30-( ) to Cord CD-307-A.	1	2A2350	Mast Section MS-50.
1	3E1670	Cord CD-670, for connecting Dynamotor BD-77-( ) to Radio Transmitter BC-191-( ).	1	2A2351	Mast Section MS-51.
1	3E1676	Cord CD-676, for connecting Dynamotor BD-77-( ) to Radio Transmitter BC-191-( ).	1	2A2352	Mast Section MS-52.
1	2Z3367	Cover BG-67-( ), for Mast Base.	1	2A2353	Mast Section MS-53.
			1	2B1617	Microphone T-17-( ).
			1	3H3907	Mounting FT-107-( ).
			1	2Z6691	Mounting FT-151-( ), for Radio Transmitter BC-191-( ).
			1	2Z6702	Mounting FT-162.
			1	2Z6712	Mounting FT-172, snubber for Radio Transmitter BC-191-( ).
			1	2Z6718	Mounting FT-178, snubber for Radio Receiver BC-312-( ).
			1	2C4312 ( ) .4	Radio Receiver BC-312-( ), including fuses, lamps, and tubes installed.
			1	2C6191(&)	Radio Transmitter BC-191-( ), including fuses, lamps and tubes installed.
			1	2Z8056	Roll BG-56-( ), for mast sections.
			50 ft.	6Z7926	Rope RP-5, for tying down mast sections.
			2	2Z8793	Socket Cap M-163-( ).
			1	2Z8794	Socket Cap M-164-( ).
			2	2Z8795	Socket Cap M-165-( ).
			1	2Z9313	Terminal Block TM-183, for car terminal box.
			1	2C8005	Transmitter Tuning Unit TU-5-( ).
			1	2C8006	Transmitter Tuning Unit TU-6-( ).
			25 ft.	1B128	Wire W-128.

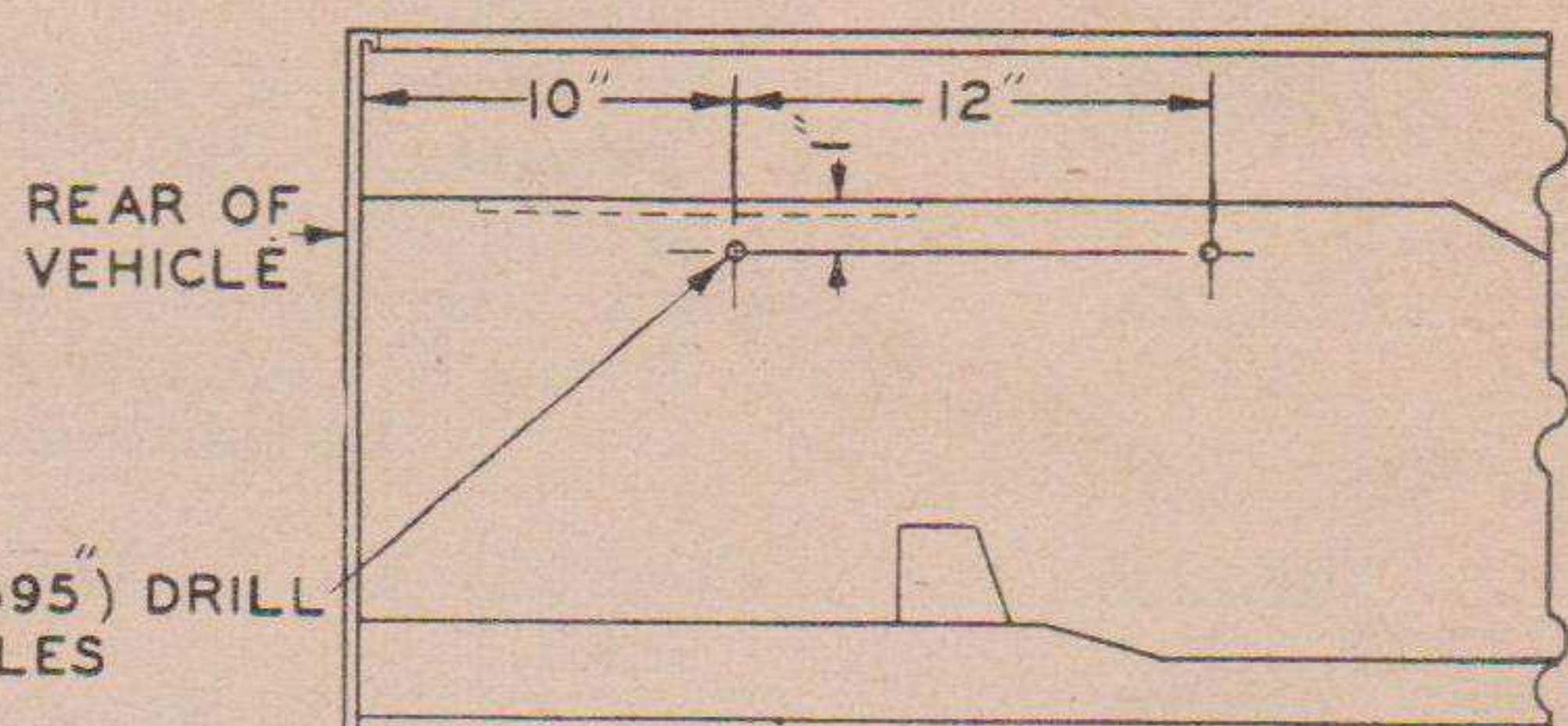




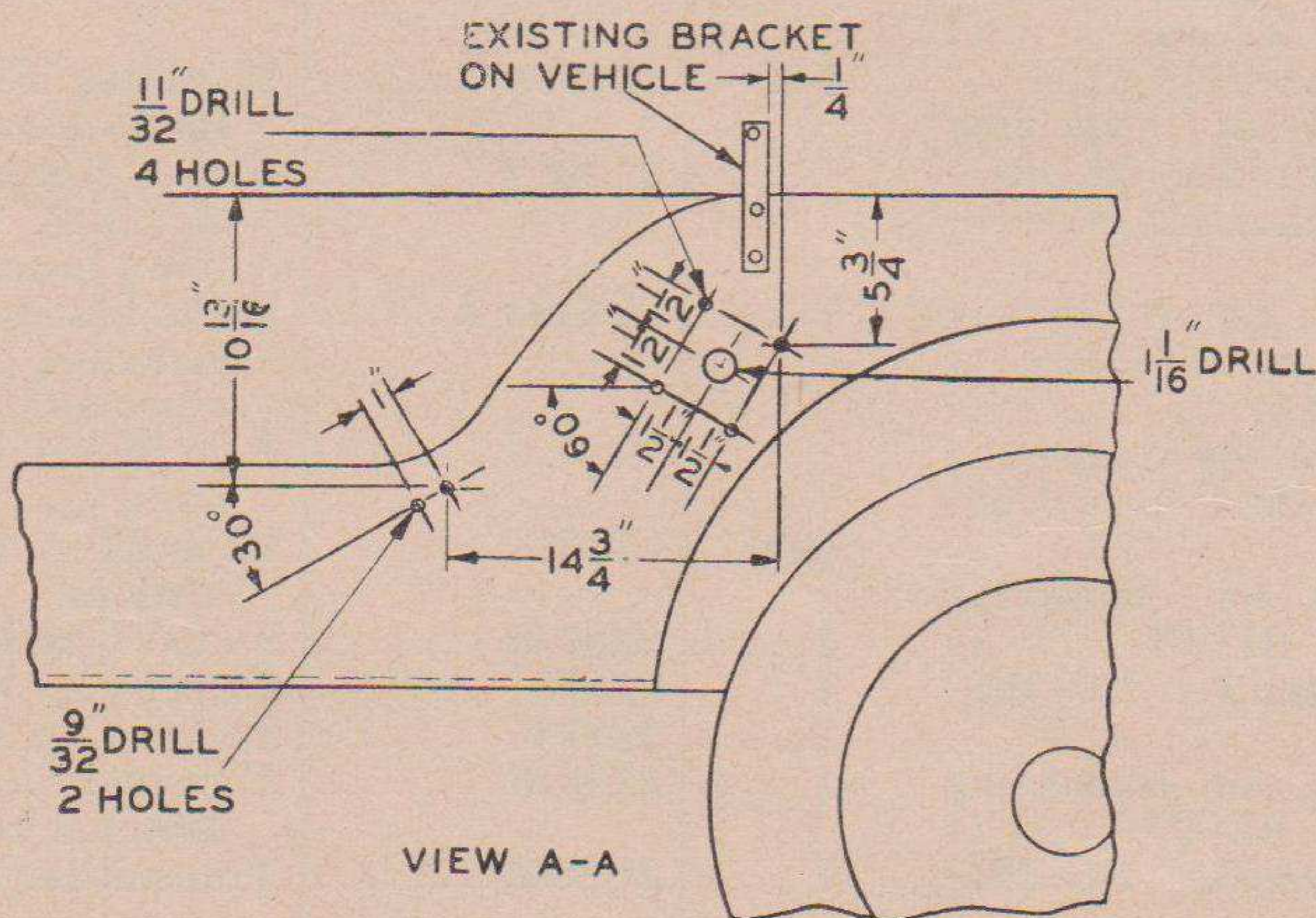
PLAN VIEW



VIEW B-B



VIEW C-C



VIEW A-A

NOTE:  
FOR INSTALLATION OF  
BRACKETS FOR RADIO SET  
SCR-193-K SEE FIG. 1.

TL-12456

Figure 2. Mounting holes and location for Radio Set SCR-193-K in Truck, 1/4-ton, 4x4.



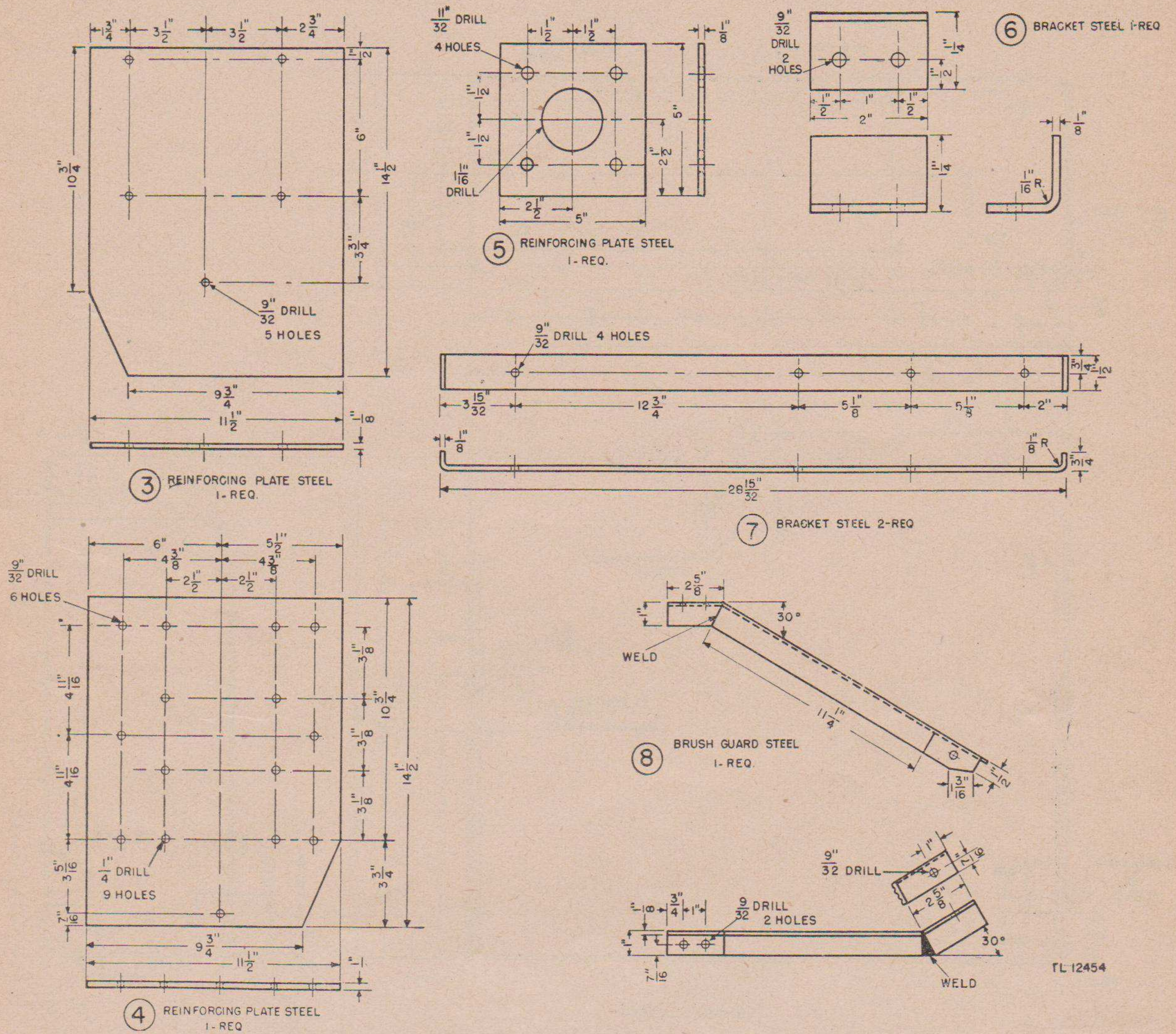


Figure 3. Bracket details for mounting Radio Set SCR-193-K in Truck, 1/4-ton, 4x4.



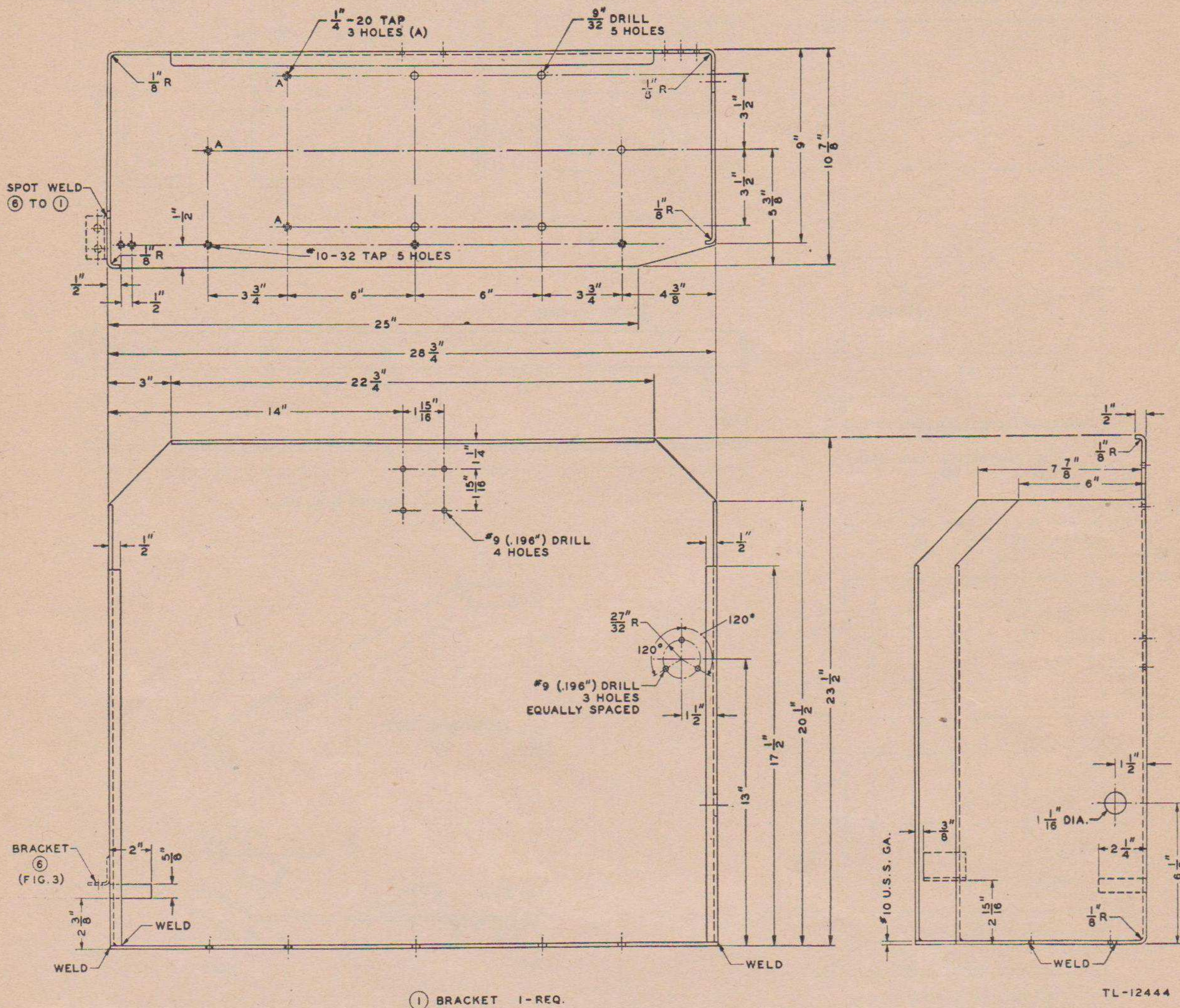


Figure 4. Bracket detail for mounting Radio Set SCR-193-K in Truck, 1/4-ton, 4x4.



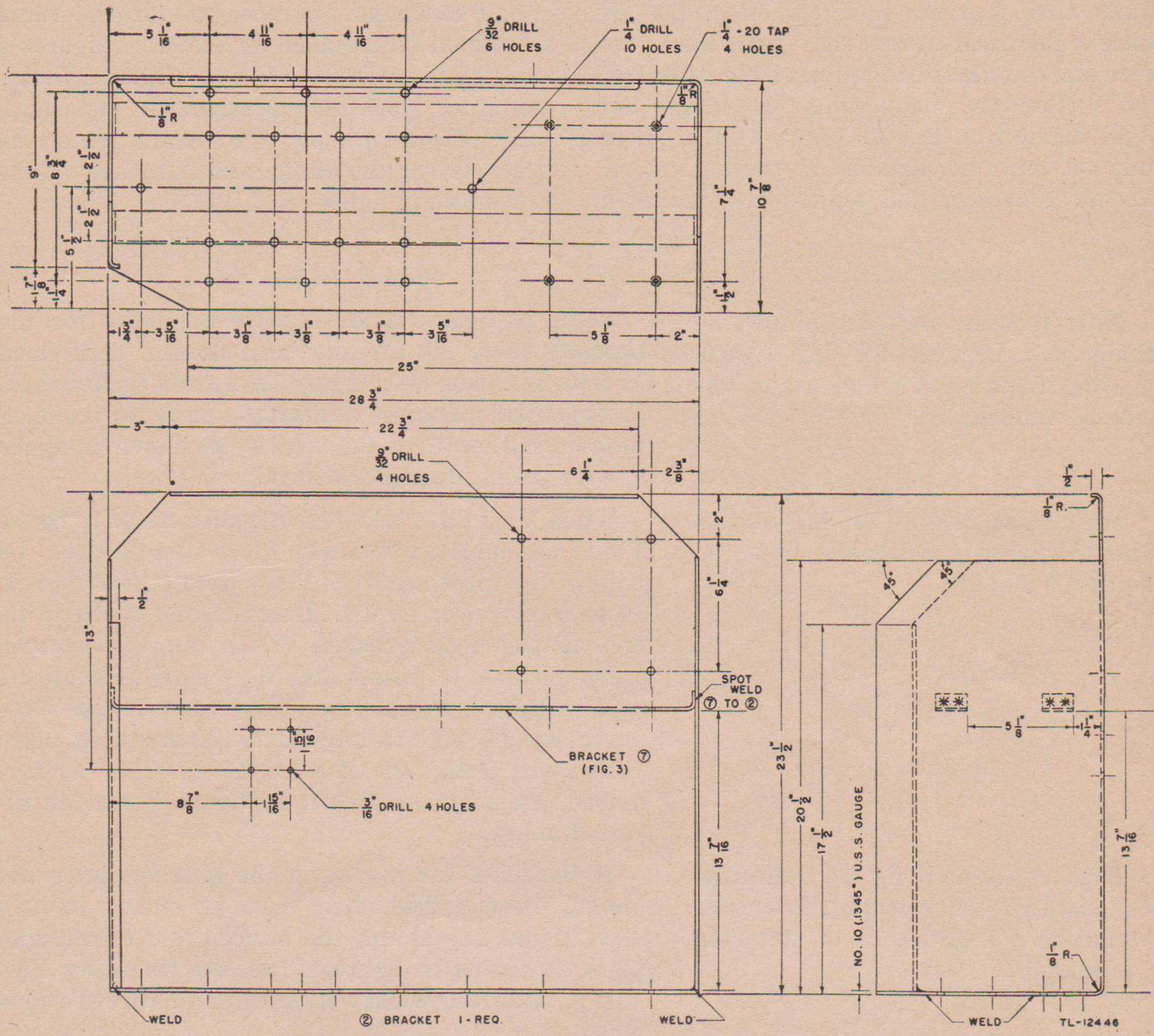


Figure 5. Bracket detail for mounting Radio Set SCR-193-K in Truck, 1/4-ton, 4x4.



## 7. Assembly and Installation

a. PRELIMINARY CHECK. (1) For the installation of Radio Set SCR-193-K, it is necessary that Truck, 1/4-ton, 4 x 4, be modified to have a 12-volt electrical system with two 6-volt batteries connected in series and installed between the front seats of the vehicle. These two batteries furnish power for the vehicular electrical system and the radio set. Make sure that the modification of the vehicle's electrical system has been made before starting the installation of the radio set.

(2) For the installation of Radio Set SCR-193-KB in Truck, 1/4-ton, 4 x 4, a power take-off must be installed in the vehicle. A 12-volt generator and regulator is mounted

between the front seats of the vehicle and driven by a belt and pulley from the transmission shaft. Two 6-volt batteries are installed, one behind each front seat. The power supplied to the radio set is independent of the vehicular electrical system. Before proceeding with the installation of the radio set, make sure that the power take-off has been installed in the vehicle.

b. PROCEDURE. Components of the radio set should be installed as shown in figures 6 and 12 and as directed below. Figure 2 shows mounting holes and location for the equipment. Figure 1 shows the installation of the brackets for the radio sets. Bracket details are shown in figures 3, 4, and 5.

### *Part and Location*

Mast Bracket MP-50, Reinforcing Plate, and Bracket FT-422 (brush guard), items 5 and 8, figure 3, on left side of vehicle.

Mast Base MP-37 or MP-57, on Mast Bracket MP-50, as shown in figures 6 and 12.

Bracket (item 1, fig. 4), Reinforcing Plate FT-429 (item 3, fig. 3), and Mounting FT-151-( ) on left rear wheel well.

Radio Transmitter BC-191-( ), on Mounting FT-151-( ), as shown in figures 6 and 12. Socket Cap M-163-( ).

Mounting FT-172, on Radio Transmitter BC-191-( ).

Cover BG-78-( ), on Radio Transmitter BC-191-( ).

### *Method and Materials*

Refer to figures 2 and 12. If the holes for the brackets have not already been drilled, drill them as shown in view D-D, figure 12. Fasten the brackets on the outside, and the reinforcing plate for the mast base on the inside of the vehicle, as shown in figure 1, with the hardware provided.

When Mast Base MP-37 is supplied, refer to figure 7 and assemble as follows: Place item 1 over the hole in the mast bracket. Place item 2 over item 1. Place item 3 over item 2. Insert item 4 through the hole in the mast bracket. Place item 5 over the flange on item 6. Insert item 6 upward through the hole in the mast bracket. Place items 7 and 8 beneath item 6 and fasten entire assembly in place with items 9 and 10. If Mast Base MP-57 is furnished, assemble as shown in figure 8 and as directed above.

If the holes for mounting the brackets have not already been drilled, drill them as shown in plan view, figure 12. Mount the bracket and reinforcing plate as shown in figure 1. Secure Mounting FT-151-( ) to the wheelwell with the hardware provided.

Place the transmitter on the mounting and secure in place with the snapslide fasteners provided.

Place over the unused socket in Radio Transmitter BC-191-( ).

Drill the cabinet of the transmitter as shown in figure 11. Assemble the mounting as shown in figures 6, 10 and 12.

Cut a slot in the top of the cover to admit item 1, figure 10. Place the cover on the transmitter before completing installation of Mounting FT-172.



Bracket (fig. 5), Reinforcing Plate FT-429 (item 4, fig. 3) and Mounting FT-162, on right rear wheelwell, as shown in figures 6 and 12.

Radio Receiver BC-312-( ), on Mounting FT-162, as shown in figures 6 and 12.

Mounting FT-178, on Radio Receiver BC-312-( ).

Cover BG-75-( ) on Radio Receiver BC-312-( ).

Mounting FT-107-( ), on bracket (fig. 5), as shown in figures 6 and 12.

Dynamotor Unit BD-77-( ), on Mounting FT-107-( ), as shown in figures 6 and 12.

Cover BG-79-( ), on Dynamotor Union BD-77-( ).

Case CS-48, on bracket (fig. 5), as shown in figures 6 and 12.

Loudspeaker LS-3, on bracket (fig. 5), as shown in figures 6 and 12.

Headset HS-30-( ), Cord CD-307-A, and Cord CD-604.

Microphone T-17-( ) and Key J-45.

Insulator IN-98, on bracket (fig. 4).

Insulators IN-121, on Mast Bracket MP-50 and on bracket (fig. 5).

Mast Sections MS-49 to MS-53 and Clamps MC-421 to MC-424 on Mast Base MP-37 or MP-57.

Roll BG-56-( ).

Cover BG-67-( ).

Boxes BX-8, BX-19-( ), and BX-21.

c. CORDING AND WIRING. (1) Cord and wire the radio set as shown in figures 6 and 12. Connect and secure so as not to interfere

If the mounting holes have not already been drilled, drill them as shown in plan view, figure 12. Install the brackets and reinforcing plate as shown in figure 1. Fasten Mounting FT-162 to the wheelwell with the provided hardware.

Place the receiver on the mounting and secure with the snap-slide fasteners provided.

Remove the receiver from its cabinet and drill the cabinet as shown in figure 9. Assemble the mounting as shown in figures 6, 10 and 12.

Cut a slot in the top of the cover to admit item 1, figure 10. Place the cover on the receiver before completing the installation of Mounting FT-178.

Drill Mounting FT-107-( ) as shown in figure 12. Install the mounting as shown in figures 6 and 12.

Place the dynamotor on the mounting and secure with the snap-slide fasteners.

Place the cover over the dynamotor.

Fasten the case to the bracket with the hardware provided.

Fasten the loudspeaker to the bracket with the hardware provided.

Connect Headset HS-30-( ) to Cord CD-604; connect Cords CD-604 and CD-307-A, and plug Cord CD-307-A into the phone jack on Radio Receiver BC-312-( ).

Plug into appropriate jacks on Radio Receiver BC-312-( ).

Fasten to bracket as shown in figures 6 and 12.

Install through the holes provided as shown in figures 6 and 12.

Screw the mast sections together and secure with the clamps. Fasten the clamps to the male end of the mast sections. Then screw the mast antenna into the mast base. When not in use, carry the mast sections and the clamps in Roll BG-56-( ).

Disposition left to the discretion of the using arms.

Place over the mast base when the mast sections are not in use.

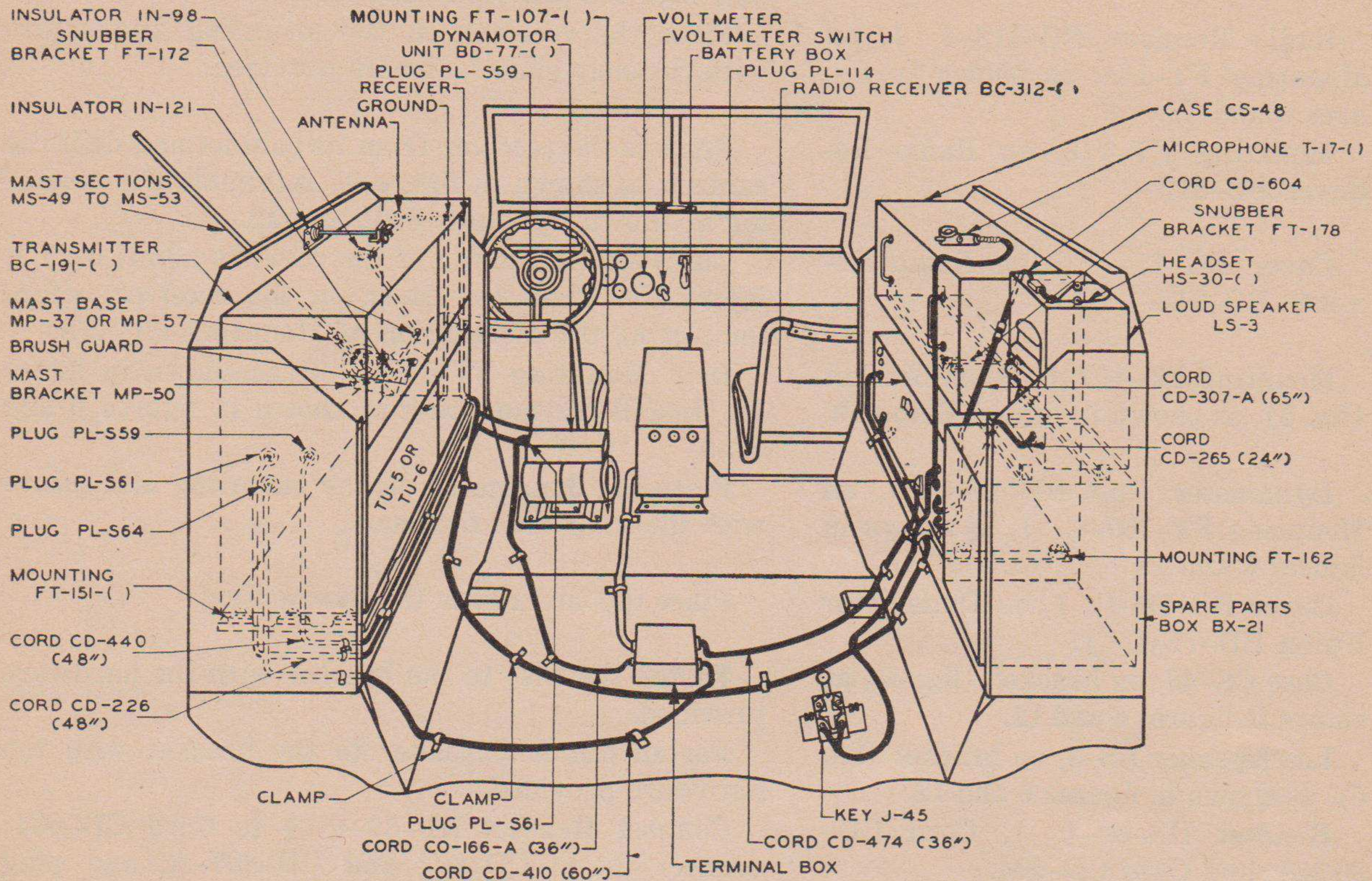
Disposition left to the discretion of the using arms.

with the accessibility and operation of the equipment. Enough slack must be left to permit free movement of all units having shock



mounting. Cording or cable likely to rub against sharp edges should be taped with at least two layers to prevent damage. Solder-tin all wire ends.

(2) To prevent accidental shorts of the battery, do not connect the positive 12-volt and negative 12-volt lead (in the terminal box) until all other connections have been completed.



RADIO RECEIVER BC-312-( ), AND MTG. FT-162  
 9-#10-32X1" LG. RD. HD. MACH. SCREWS  
 9-#10-32 HEX NUTS  
 9-#10. LOCK WASHERS  
 MOUNTING FT-178  
 4-#10-32X1/2" LG. RD. HD. MACH. SCREWS  
 4-#10-32 ELASTIC STOP NUTS  
 BOX BX-21  
 4-1/4"-20X1/4" LG. HEX HD. MACH. SCREWS  
 4-1/4"-20X1/2" LG. HEX HD. MACH. SCREWS  
 8-1/4"-20 HEX NUTS  
 8-1/4" LOCK WASHERS  
 CASE CS-48  
 4-1/4"-20X1/2" LG. HEX HD. MACH. SCREWS  
 4-1/4"-20 HEX NUTS  
 4-1/4" LOCK WASHERS  
 LOUD SPEAKER LS-3  
 4-1/4"-20X1/2" LG. HEX HD. MACH. SCREWS  
 4-1/4"-20 HEX NUTS  
 4-1/4" LOCK WASHERS  
 MAST BRACKET MP-50  
 4-5/16"-24X3/4" LG. HEX HD. MACH. SCREWS  
 4-5/16"-24 HEX NUTS  
 4-5/16" LOCK WASHERS  
 BRUSH GUARD  
 3-1/4"-20X3/4" LG. HEX HD. MACH. SCREWS  
 3-1/4"-20 HEX NUTS  
 3-1/4" LOCK WASHERS

NOTE:-

ANTENNA AND GROUND CONNECTIONS SHALL BE MADE WITH WIRE W-128. ENDS OF WIRE W-128, AFTER BEING CUT TO PROPER LENGTH SHALL BE TINNED.

HARDWARE REQUIRED:

DYNAMOTOR BD-77-( ) AND MTG. FT-107-( )  
 6-1/4"-20X3/4" LG. HEX HD. MACH. SCREWS  
 6-1/4"-20 HEX NUTS  
 6-1/4" LOCK WASHERS  
 REINFORCING PLATE (② FIG. 3)  
 6-1/4"-20X1" LG. HEX HD. MACH. SCREWS  
 6-1/4"-20 HEX NUTS  
 6-1/4" LOCK WASHERS  
 RADIO TRANSMITTER BC-191-( ), MTG. FT-151-( ) AND REINFORCING PLATE (① FIG. 3)  
 3-1/4"-20X1/4" LG. HEX HD. MACH. SCREWS  
 5-1/4"-20X1" LG. HEX HD. MACH. SCREWS  
 5-1/4"-20 HEX NUTS  
 8-1/4" LOCK WASHERS  
 MOUNTING FT-172  
 4-#10-32X1/2" LG. RD. HD. MACH. SCREWS  
 4-#10-32 ELASTIC STOP NUTS  
 INSULATOR IN-98  
 3-#8-32X1/2" LG. RD. HD. MACH. SCREWS  
 3-#8-32 ELASTIC STOP NUTS  
 CABLE CLAMPS  
 24-#8-32X3/8" LG. RD. HD. MACH. SCREWS  
 24-#8-32 HEX NUTS  
 24-#8 LOCK WASHERS

ALL SCREWS, NUTS AND LOCK WASHERS SHALL BE STEEL, GALVANIZED.

NOTE:

FOR MOUNTING HOLES AND LOCATION SEE FIG. 2. FOR INSTALLATION OF BRACKETS SEE FIG. 1. FOR ASSEMBLY OF MOUNTINGS FT-172 AND FT-178 SEE FIG. 10.

TL-12458

Figure 6. Cording diagram for Radio Set SCR-193-K in Truck, 1/4-ton, 4x4.



## SECTION III

### RADIO SET SCR-193-KW (WATERPROOF)

#### 8. Required Parts

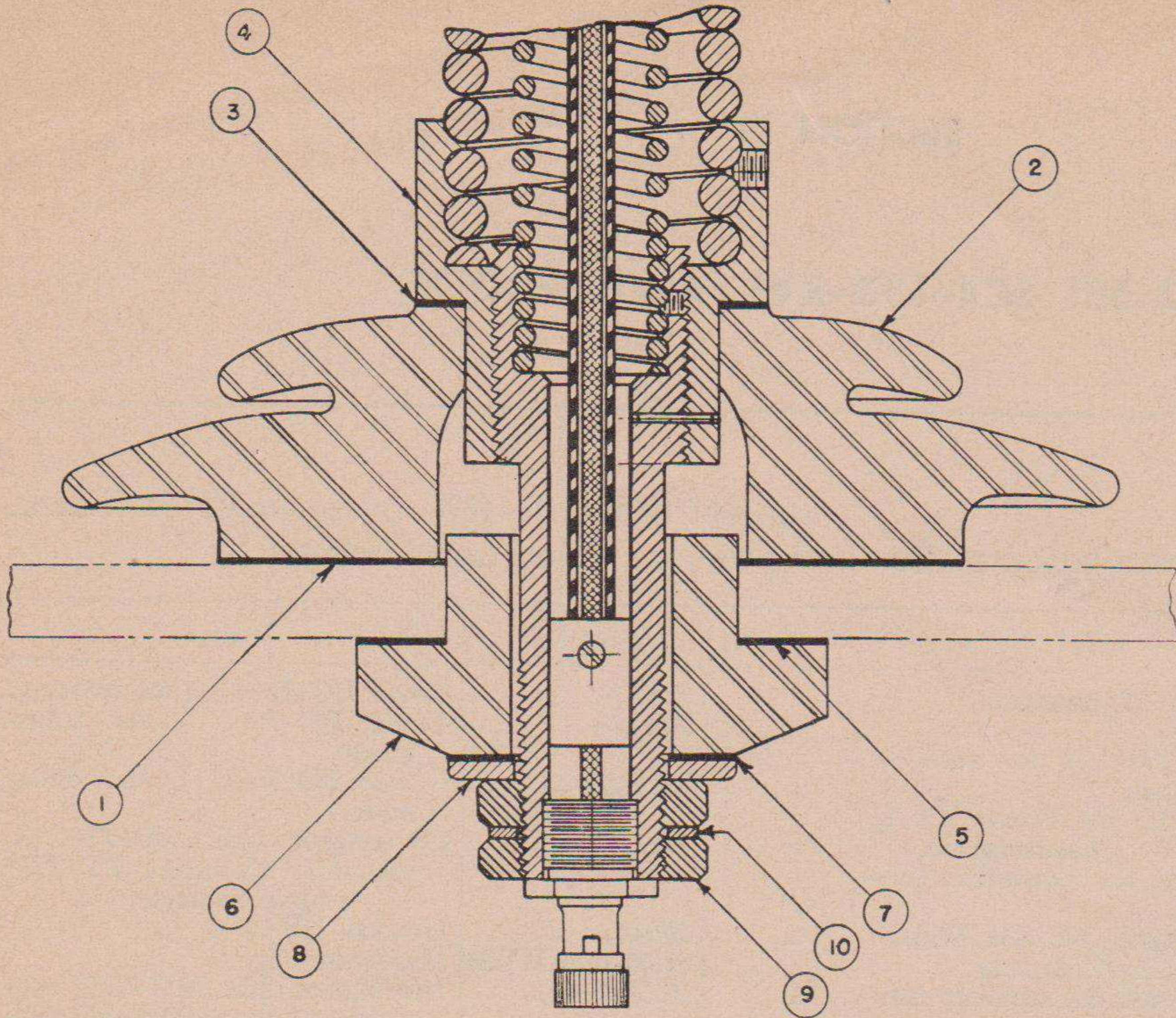
Items necessary for the installation of Ra-

dio Set SCR-193-KW (waterproof) in Truck, 1/4-ton, 4 x 4, are listed below:

Quan'ty	Stock No.	Item	Quan'ty	Stock No.	Item
1	2A275-27	Antenna A-27, phantom.	1	2Z3375	Cover BG-75-( ), for receiver.
1	2Z1108	Box BX-8.	1	2Z3378	Cover BG-78-( ), for transmitter.
1	2Z1119	Box BX-19-( ), for receiver spare tubes.	1	3H1359	Cover BG-79-( ), for dynamotor.
1	2Z1121	Box BX-21, for Boxes BX-8, BX-19-( ), headsets, etc.	1	3H1777	Dynamotor Unit BD-77-( ), including Mounting FT-107-( ) and spare parts.
1	2Z1848	Case CS-48, for transmitter tuning unit.	2	2B830	Headset HS-30-( ).
1 pt.		Cement, elastic, No. 3M, Minnesota Mining Company.	1	6L50-193KWV26	Hardware bag.
1	2Z2599-239	Chest CH-239, for auxiliary tuning unit.	1	2Z5725-515	Installation Kit MC-515, consisting of one right-hand cabinet (fig. 15), one left-hand cabinet (fig. 16), two covers (fig. 19), one cover for Terminal Block TM-183, two brackets (fig. 14), two reinforcing plates (fig. 14), one shelf (fig. 14), and mounting hardware.
1	2Z2651-421	Clamp MC-421, for securing Mast Sections MS-49 and MS-50.	3	3G586	Insulator IN-86, for tying down mast sections.
1	2Z2651-422	Clamp MC-422, for securing Mast Sections MS-50 and MS-51.	2	3G621	Insulator IN-121.
1	2Z2651-423	Clamp MC-423, for securing Mast Sections MS-51 and MS-52.	1	3G598	Insulator IN-98.
1	2Z2651-424	Clamp MC-424, for securing Mast Sections MS-52 and MS-53.	1	3Z3445	Key J-45.
2	6Z3147-1	Connector No. 61004 and Bondnut BL-50 (Appleton).	1	2Z6303.1	Loudspeaker LS-3.
8	6Z3147	Connector No. 61007 and Bondnut BL-50 (Appleton).	1	2A2088-57	Mast Base MP-57.
1	3E1270	Cord CD-270, connects Radio Receiver BC-312-( ) to Terminal Block TM-183.	1	2A2090-63	Mast Bracket MP-63.
1	3E1175	Cord CD-175, connects Radio Transmitter BC-191-( ) to Dynamotor Unit BD-77-( ).	1	2A2349	Mast Section MS-49.
1	3E1265	Cord CD-265, for Loudspeaker LS-3.	1	2A2350	Mast Section MS-50.
1	3E1999-171	Cord CD-1171, connects Radio Transmitter BC-191-( ) to Terminal Block TM-183.	1	2A2351	Mast Section MS-51.
1	3E1999-172	Cord CD-1172, connects Radio Transmitter BC-191-( ) to Dynamotor Unit BD-77-( ).	1	2A2352	Mast Section MS-52.
1	3E1999-173	Cord CD-1173, connects Dynamotor Unit BD-77-( ) to terminal box or power take-off terminal.	1	2A2353	Mast Section MS-53.
2	3E1307A-5.5	Cord CD-307-A, 65" for Headset HS-30-( ).	2	2B1567	Microphone Cover M-367.
1	3E1318	Cord CD-318-( ), for microphone.	1	2B1617	Microphone T-17-( ).
2	3E1604	Cord CD-604, for connecting Headset HS-30-( ) to Cord CD-307-A.	1	2B1645	Microphone T-45.
3 ft.	3E2131	Cordage CO-131.	1	2Z6712	Mounting FT-172.
1	2Z3367	Cover BG-67-( ), for mast base.	1	2Z6718	Mounting FT-178.
			1	2C4312	Radio Receiver BC-312-( ), including Mounting FT-162, Dynamotor DM-21, and one set of tubes installed.
			1	2C6191	Radio Transmitter BC-191-( ), including Mounting FT-151-( ), and one each Socket Caps M-163-( ), M-164-( ), and M-165-( ).
			1	2Z8056	Roll BG-56-( ), for Mast Sections.
			50 ft.	6Z7926	Rope RP-5.
			1	2Z8793	Socket Cap M-163-( ).
			1	2Z9313	Terminal Block TM-183.
			1	2C8005	Transmitter Tuning Unit TU-5.
			<sup>a</sup> 1	2C8006	Transmitter Tuning Unit TU-6.
			12 ft.	1B128	Wire W-128.

<sup>a</sup> If authorized, four additional auxiliary tuning units, one each Transmitter Tuning Unit TU-7, TU-8, TU-9, and TU-10, may be installed in Chest CH-239 replacing rear seat as shown in figure 19.

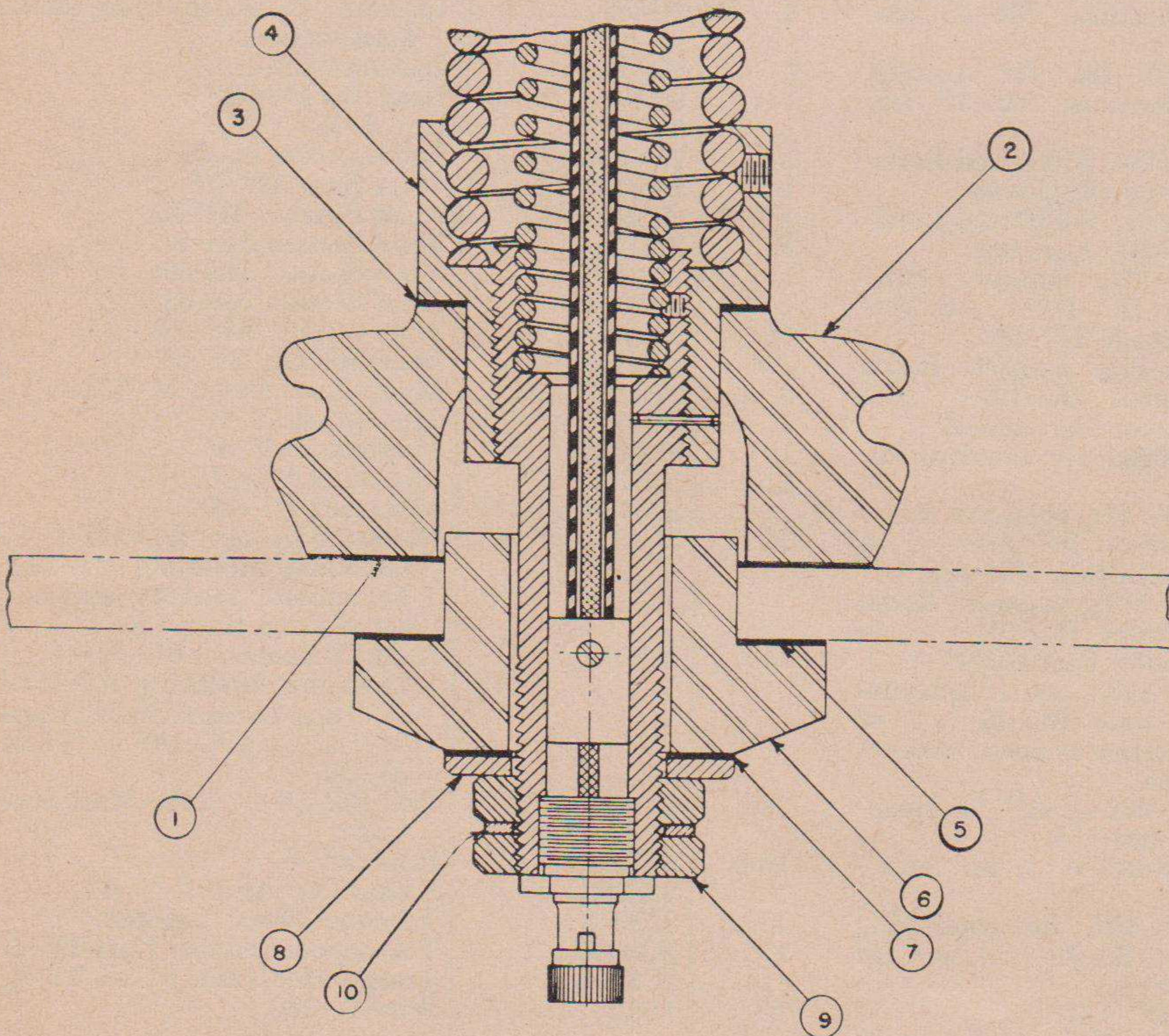




- ① - FIBER WASHER
- ② - PORCELAIN INSULATOR
- ③ - FABRIC WASHER
- ④ - SPRING RETAINER
- ⑤ - FIBER WASHER
- ⑥ - PORCELAIN INSULATOR
- ⑦ - FABRIC WASHER
- ⑧ - STEEL WASHER
- ⑨ - STEEL NUT
- ⑩ - LOCKWASHER

TL-7539

Figure 7. 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 8. Mast Base MP-57, assembly for installation.



## 9. Assembly and Installation

a. PRELIMINARY CHECK. Radio Set SCR-193-KW (waterproof) may be installed in Truck, 1/4-ton, 4 x 4, with either of the following 12-volt conversion kits. Check to see that the conversion has been made before beginning installation.

(1) Under-the-hood conversion kit in which all 6-volt electrical components of the vehicle are replaced by 12-volt components. Two 6-volt storage batteries, one originally furnished with the truck, and one supplied with the conversion kit, are installed between the front seats to furnish, in series, 12-volt power supply for both the radio set and the vehicular system.

(2) Power-take-off conversion kit in which

a 12-volt generator and regulator is mounted over the transmission of the vehicle to be driven by a belt and pulley operated off the shaft of the transmission. Two 6-volt storage batteries are supplied with the conversion kit and are installed, one behind each front seat. These two batteries, in series, furnish 12-volt power for operation of the set independently of the 6-volt system of the vehicle.

b. PROCEDURE. Components of the radio set should be installed as shown in figure 19, and as directed below.

c. LEFT-HAND CABINET. Install the items listed below inside the left-hand cabinet, details of which are shown in figures 14, 16, and 17.

### *Part and Location*

Mounting FT-107-( ).

Dynamotor Unit BD-77-( ) and Cover BG-79-( ).

Shelf (part of left-hand cabinet).

Mounting FT-162.

Mounting FT-178.

Radio Receiver BC-312-( ) and Cover BG-75-( ).

Loudspeaker LS-3.

Terminal Block TM-183 and cover.

### *Method and Materials*

Attach to the floor of the cabinet, left portion, with six 1/4-inch-20 x 3/4-inch screws, nuts, and lockwashers.

Place the dynamotor unit on the mounting and secure in place with the snap-slide fasteners provided. Place the cover over the dynamotor unit.

Fasten inside the cabinet with the hardware provided.

Attach to the left portion of the shelf, inside the cabinet, with ten No. 10-32 x 3/4-inch screws, nuts, and lockwashers.

Attach to the rear wall of the cabinet, near the top, as shown in figure 19, with four No 10-32 x 1/2-inch screws, nuts, and lockwashers.

Remove the receiver from the cabinet. Drill the top of the cabinet as shown in figure 9 and attach the small angle bracket which is supplied with Mounting FT-178. Replace the receiver in the cabinet, place on Mounting FT-162-( ) and secure with the snap-slide fasteners provided. Cut a slot in Cover BG-75-( ) to admit item 1, figure 10, and complete the assembly of the mounting as shown in figure 10.

Attach to the rear wall of the cabinet, upper right portion, as shown in fig. 19, with four 1/4-inch-20 x 5/8-inch screws on the back of the speaker.

Attach the terminal block to the right portion of the shelf inside the cabinet with the provided hardware. Fasten the cover over the terminal block after the connections are completed.



d. RIGHT-HAND CABINET. Install the items listed below inside the right-hand cabinet, details of which are shown in figures 14, 15, and 17.

<i>Part and Location</i>	<i>Method and Materials</i>
Mounting FT-151-( ).	Attach to the floor of the cabinet as shown in figure 19, with ten 1/4-inch-20 x 3/4-inch screws, nuts, and lockwashers, placing the nuts on the inside of the cabinet.
Mounting FT-172.	Attach to the rear wall of the cabinet near the top center, as shown in figure 19, with the hardware provided.
Radio Transmitter BC-191-( ) and Cover BG-78-( ).	Drill the top of the transmitter cabinet as shown in figure 11. Place the transmitter on Mounting FT-151-( ) and secure with the snap-slide fasteners provided. Cut a slot in Cover BG-78-( ) to admit item 1, figure 10, and place the cover over the transmitter. Complete the assembly of Mounting FT-178 as shown in figure 10.
Insulator IN-98.	Attach to the center of the right end panel with the hardware provided.

e. ADDITIONAL COMPONENTS. Complete the installation in the following sequence:

<i>Part and Location</i>	<i>Method and Materials</i>
Cabinets (left-hand and right-hand).	Secure to the rear wheelwells as shown in figure 19, using the hardware provided.
Case CS-48.	Drill two holes in Case CS-48. Secure the case to the floor of the left-hand cabinet using two of the screws that secure the cabinet to the vehicle.
Rear seat-back and footman's loops.	Remove the rear seat-back from the vehicle. Cut and drill the seat-back as shown in detail C, figure 19. Attach the three footman's loops to the seat-back with the hardware provided. Secure the seat-back to the brackets on the cabinet, right and left, as shown in figure 17.
Roll BG-56-( ).	Attach to the seat-back with the footman's loop and the provided strap.
Mast Bracket MP-63.	Secure to the spare wheel bracket at the rear of the vehicle using the same nuts which support the spare wheel.
Mast Base MP-57.	Refer to figure 8 and assemble the mast base as follows: Place item 1 over the hole in the mast bracket. Place item 2 over item 1. Place item 3 over item 2. Insert item 4 through the hole in the mast bracket. Place item 5 over the flange of item 6. Insert item 6 upward through the hole in the mast bracket. Place items 7 and 8 beneath item 6 and fasten the entire assembly in place with items 9 and 10.



Insulators IN-121.

Mast Sections MS-49 to MS-53 and Clamps MC-421 to MC-424.

Chest CH-239 and Tuning Units TU-7, TU-8, TU-9, and TU-10 (when authorized).

Connectors No. 61004 and No. 61007, and Bondnut BL-50.

f. CORDING AND WIRING. (1) Cord and wire Radio Set SCR-193-KW (waterproof) as shown in figures 19 and 20. Fasten all cordage in place with the provided clamps and hardware as shown in figure 19. Wrap enough friction tape around the antenna lead-in wire and apply elastic cement to make a water-tight joint where the wire passes through Insulator IN-121 in the cabinet.

Connect and secure so as not to interfere with the accessibility and operation of the

Install one through the hole in the mast bracket. Install the other through the hole in the end of the right-hand cabinet (flange on the outside) with a rubber washer on each side of the cabinet wall and a large metal washer over the rubber washer on the inside of the cabinet. Use elastic cement to make a watertight joint.

Screw the mast sections together and secure with the clamps. Fasten the clamps to the male end of the mast sections. Then screw the mast antenna into the mast base. When not in use, stow the mast sections in Roll BG-56-( ).

Remove the rear seat from the vehicle and mount Chest CH-239 with the hardware provided. Figure 13 shows details and figure 18 shows assembly of the chest. Insert the tuning units into the chest and fasten the lid on the chest.

Install in the positions where shown in figure 19. Use elastic cement to make waterproof connections with the cabinet.

equipment. Enough slack must be left to permit free movement of all units having shock mounting. Cording or cable likely to rub against sharp edges should be taped with at least two layers to prevent damage. Solder-tin all wire ends.

(2) To prevent accidental shorts of the battery, do not connect the positive 12-volt and negative 12-volt leads (in the terminal box) until all other connections have been completed.



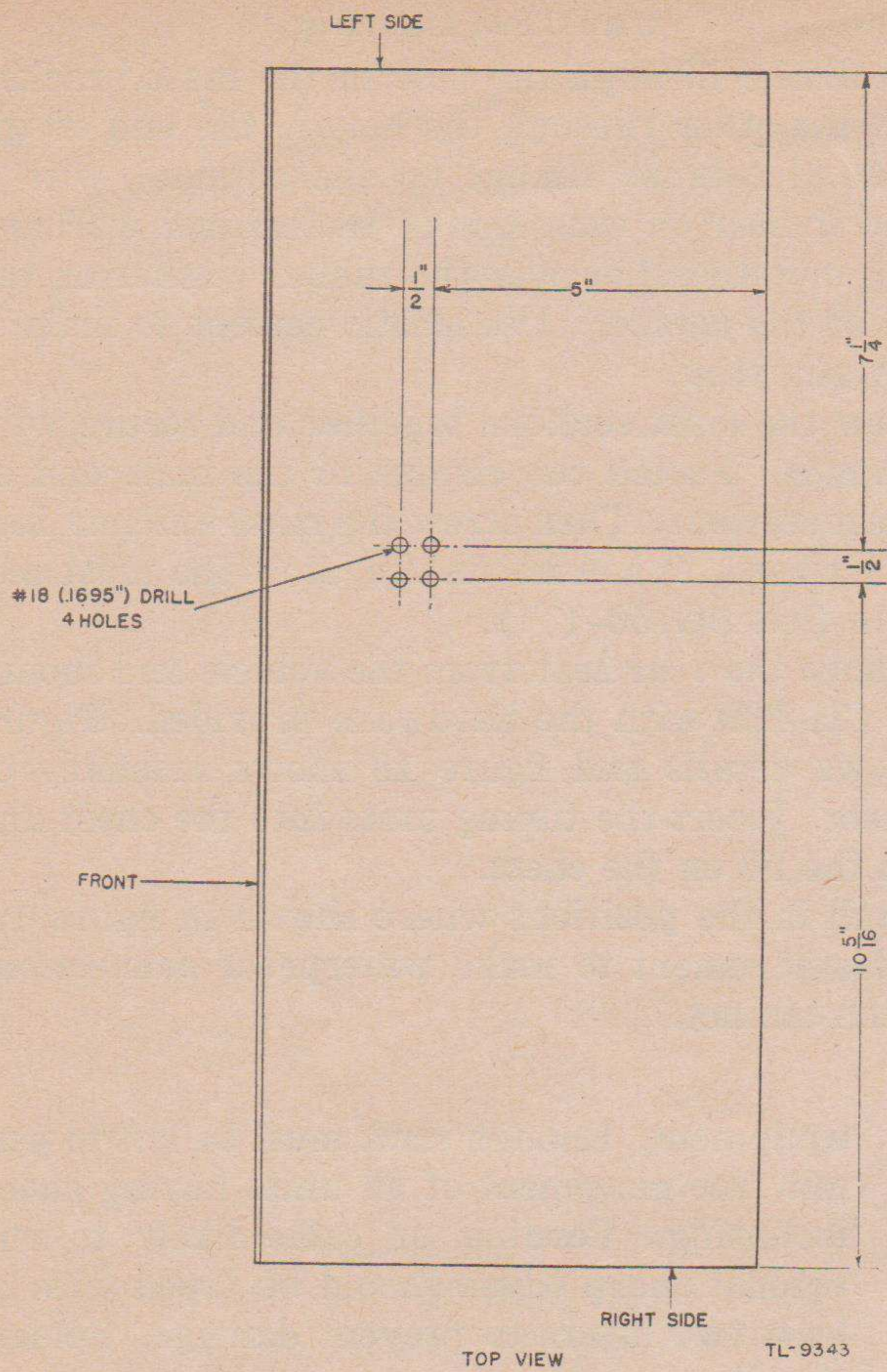


Figure 9. Drilling cabinet of Radio Receiver BC-312- ( ) for Mounting FT-178.

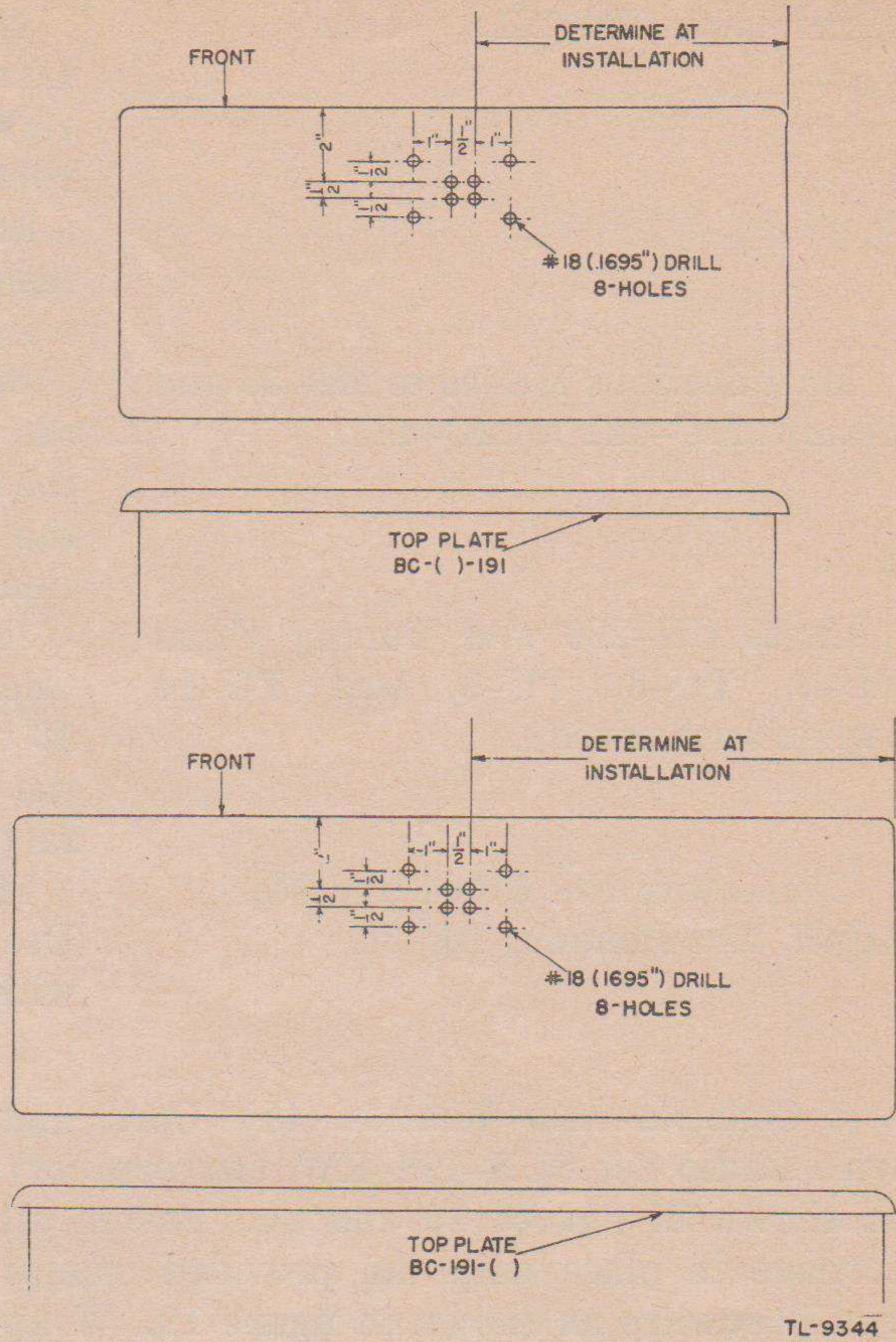


Figure 11. Drilling cabinet of Radio Transmitter BC-191- ( ) for Mounting FT-172.

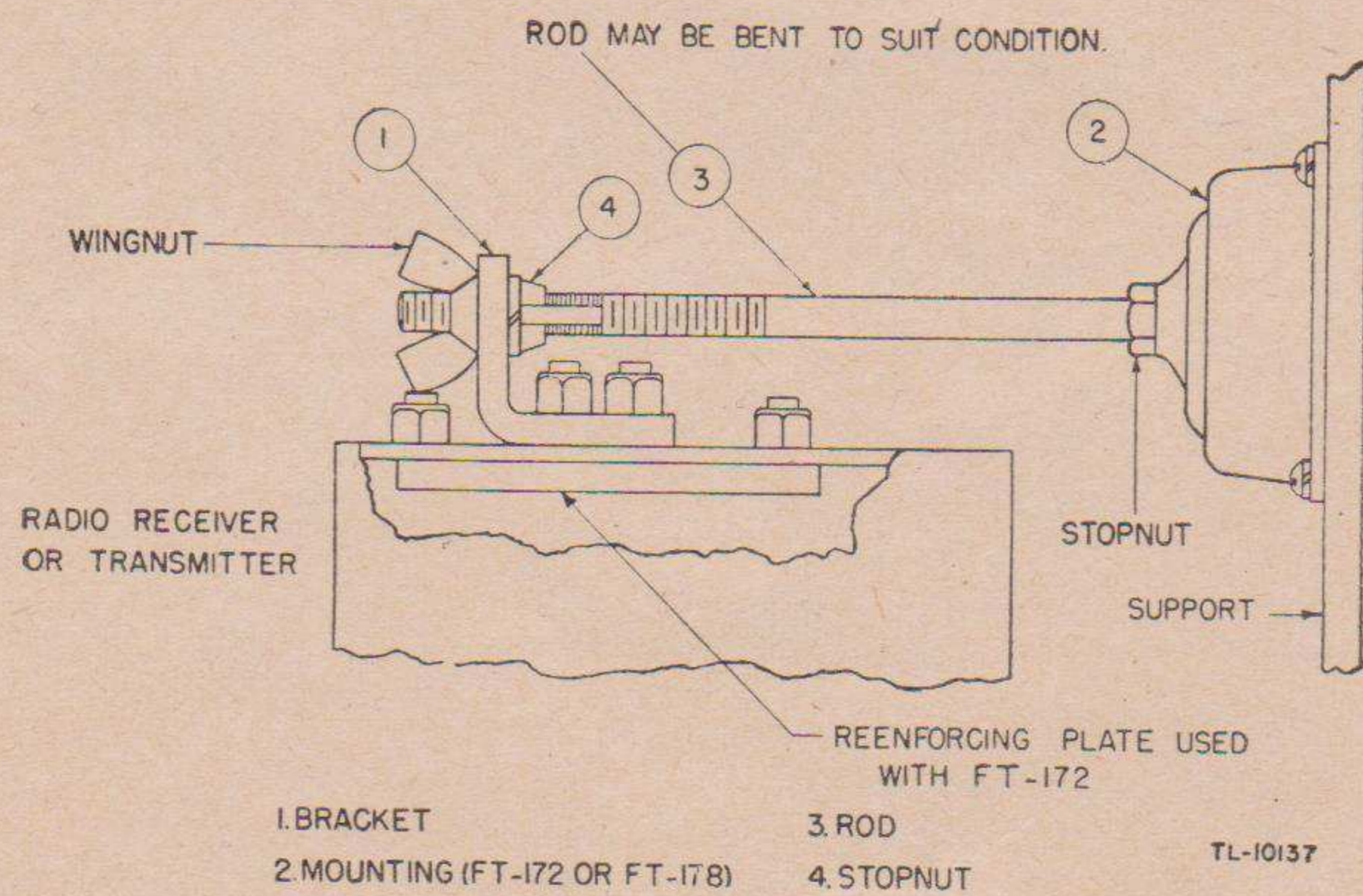


Figure 10. Assembly of Mounting FT-172 or FT-178.



## SECTION IV

### RADIO SET SCR-284-( )

#### 10. Required Parts

Items necessary for the installation of Radio

Set SCR-284-( ) in Truck, 1/4-ton, 4x4, are listed below:

Quantity	Stock No.	Item	Quantity	Stock No.	Item
1	2Z502	Bag BG-102-( ), for spare parts, batteries, headsets, etc.	1	6L50-284V26	Hardware bag.
1	2Z529	Bag BG-129 for Power Unit PE-103-( ).	<sup>a</sup> 2	2B830	Headset HS-30-( ).
1	2Z1131	Box BX-31-( ), for spare tubes and spare vibrators.	1	3G586	Insulator IN-86, for tying down mast sections.
1	2Z2651-421	Clamp MC-421, for securing Mast Sections MS-49 and MS-50.	3	3G604	Insulator IN-104.
1	2Z2651-422	Clamp MC-422, for securing Mast Sections MS-50 and MS-51.	1	3Z3445	Key J-45.
1	2Z2651-423	Clamp MC-423, for securing Mast Sections MS-51 and MS-52.	1	3Z3448	Key J-48-( ).
1	2Z2651-424	Clamp MC-424, for securing Mast Sections MS-52 and MS-53.	<sup>a</sup> 1	2Z6310-7	Loudspeaker LS-7.
1	3E1501	Cord CD-501-( ).	1	2A2088-57	Mast Base MP-57 or MP-37 (2A2087).
2	3E1307A-5.5	Cord CD-307-A, 65" for Headset HS-30-( ).	1	2A2090-45	Mast Bracket MP-45-( ).
<sup>a</sup> 2	3E1604	Cord CD-604, 6", for connecting Headset HS-30-( ) to Cord CD-307-A.	1	2A2349	Mast Section MS-49.
1	2Z3367	Cover BG-67-( ), for mast base.	1	2A2350	Mast Section MS-50.
1	2Z3400-154	Cover BG-154, for radio set.	1	2A2351	Mast Section MS-51.
1	2Z4641	Frame FM-41-( ).	1	2A2352	Mast Section MS-52.
			1	2A2353	Mast Section MS-53.
			1	2B1617	Microphone T-17-( ).
			1	2B1645	Microphone T-45.
			1	3H4600-104	Power Converter Unit PE-104-( ).
			1	3H4600-103	Power Unit PE-103-( ).
			1	2C5374	Radio Receiver and Transmitter BC-654-( ), including crystal and tubes installed.
			1	2Z8058	Roll BG-58, for mast sections.
			15 ft.	6Z7926	Rope RP-5, for tying down mast sections.
			10 ft.	1B142	Wire W-142.

<sup>a</sup> If the radio receiver has a 250-ohm impedance output, Cord CD-933 will replace Cord CD-604 and Loudspeaker LS-11 will replace Loudspeaker LS-7. Headset HS-23 may replace Headset HS-30-( ) and Cord CD-604 in those sets having high output impedance.

#### 11. Assembly and Installation

a. PROCEDURE. Components of the radio set should be installed as shown in figure 21 and as directed below. Before proceeding with the installation perform any necessary

drilling of the vehicle and cut Frame FM-41-( ) into two sections, as shown in figure 21, discarding the pieces cut from the upright frame members.

##### *Part and Location*

Frame FM-41-( ) (lower section), over right wheelwell, as shown in figure 21.

Frame FM-41-( ) (upper section), over left wheelwell, as shown in figure 21.

##### *Method and Materials*

Attach to the wheelwell with four 5/16-inch screws, nuts, flat washers, and lockwashers.

Attach to the wheelwell with four 5/16-inch screws, nuts, flat washers, and lockwashers.



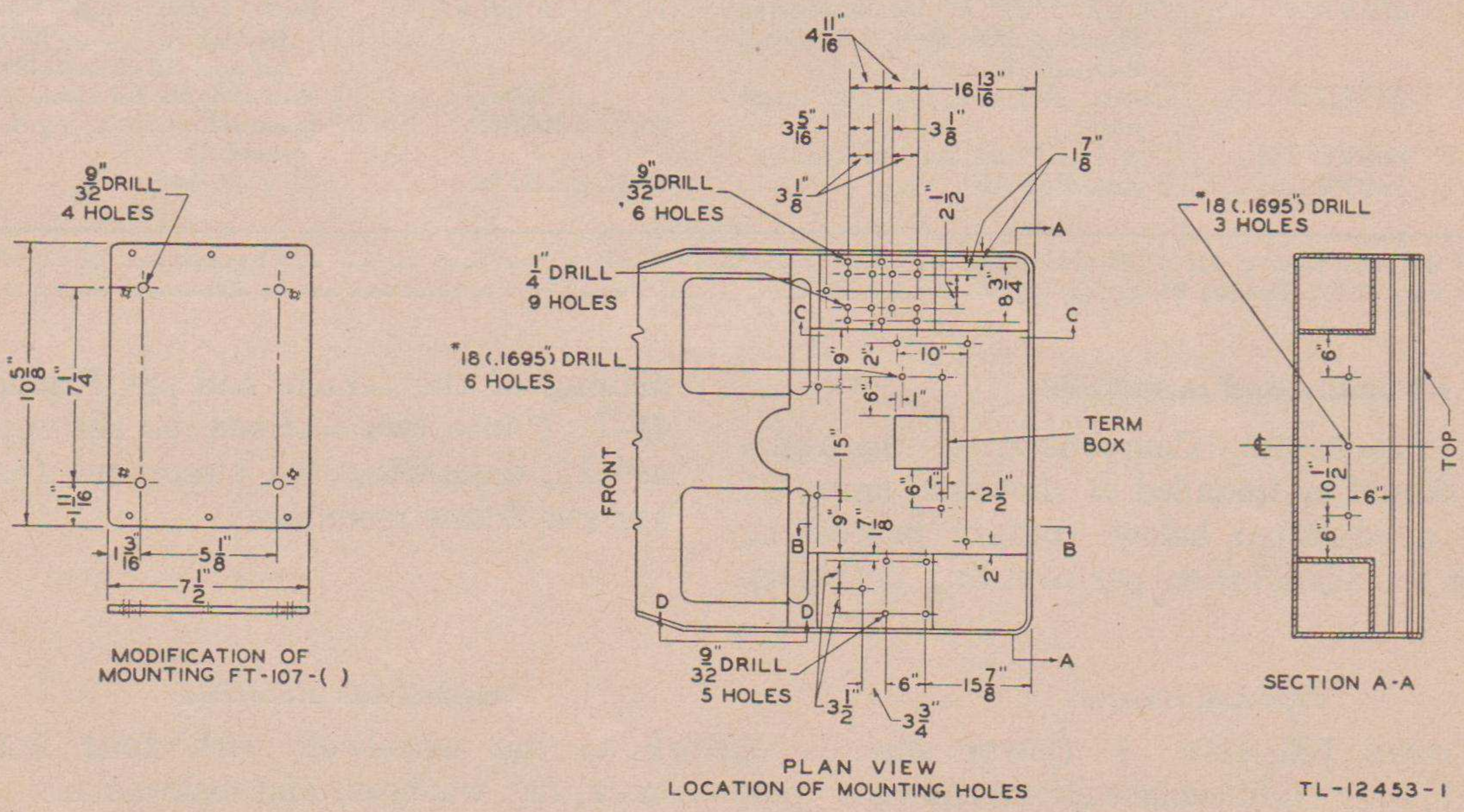
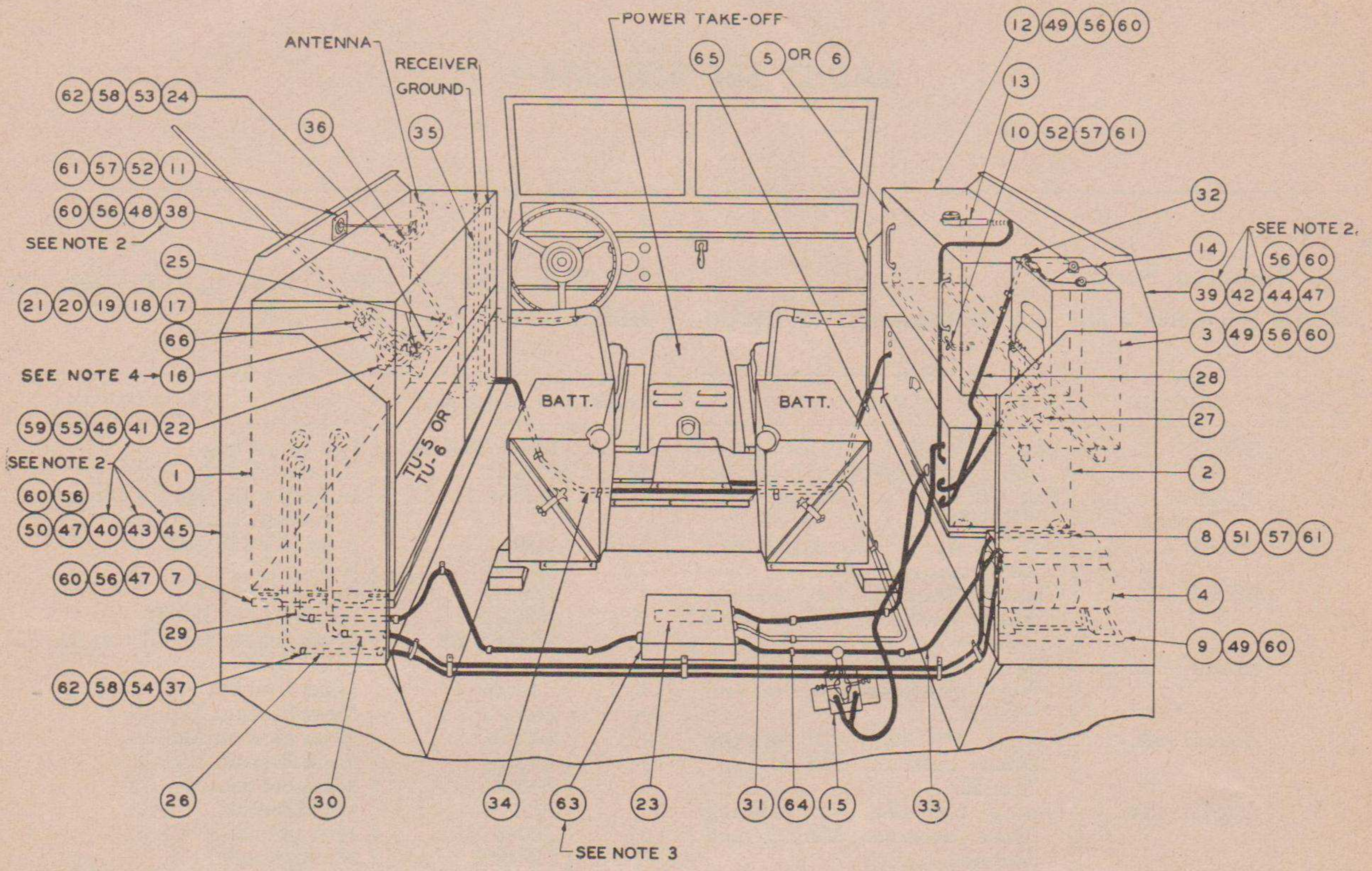
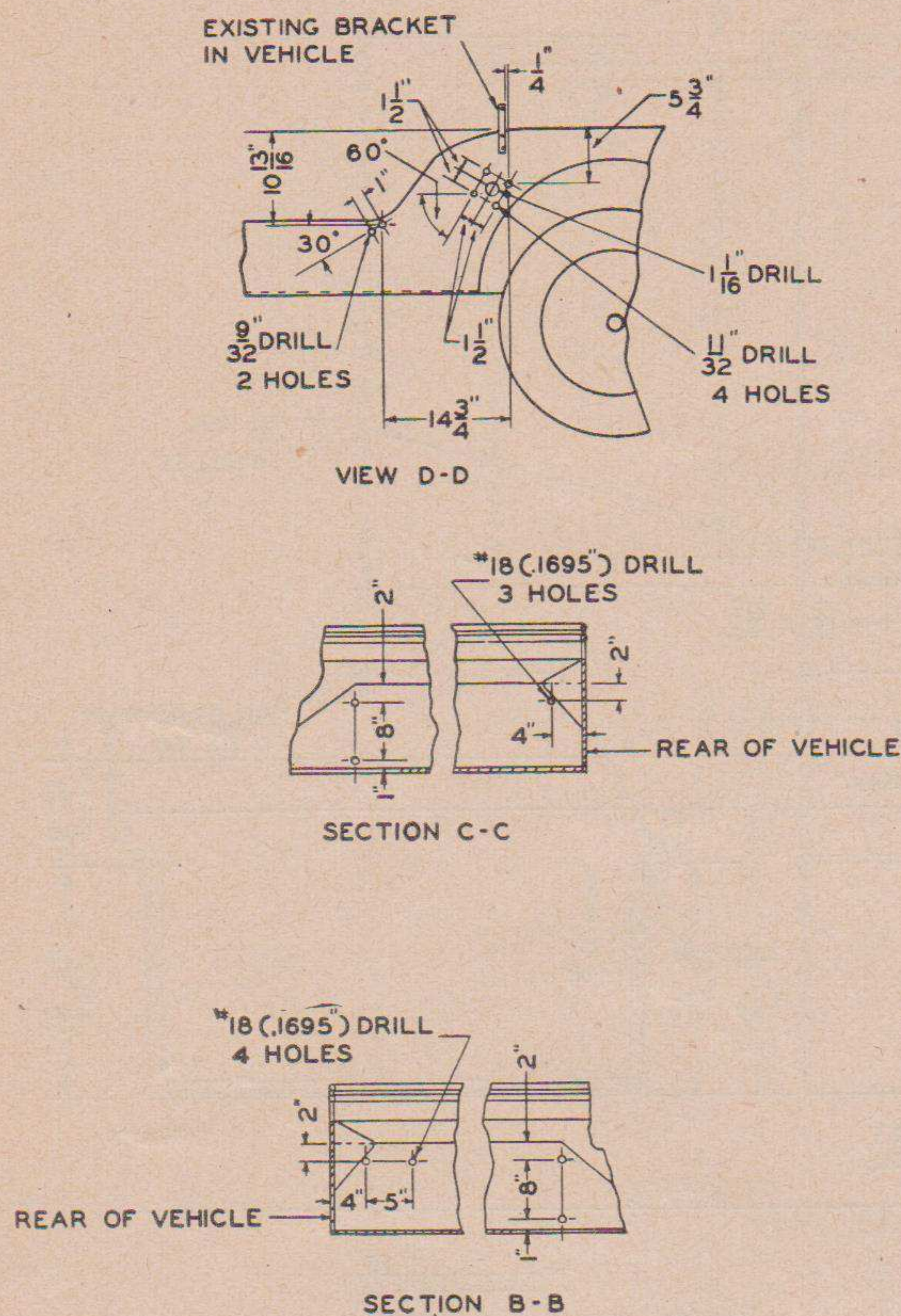


Figure 12. Intallation of Radio Set SCR-193-KB in Truck, 1/4-ton, 4x4.





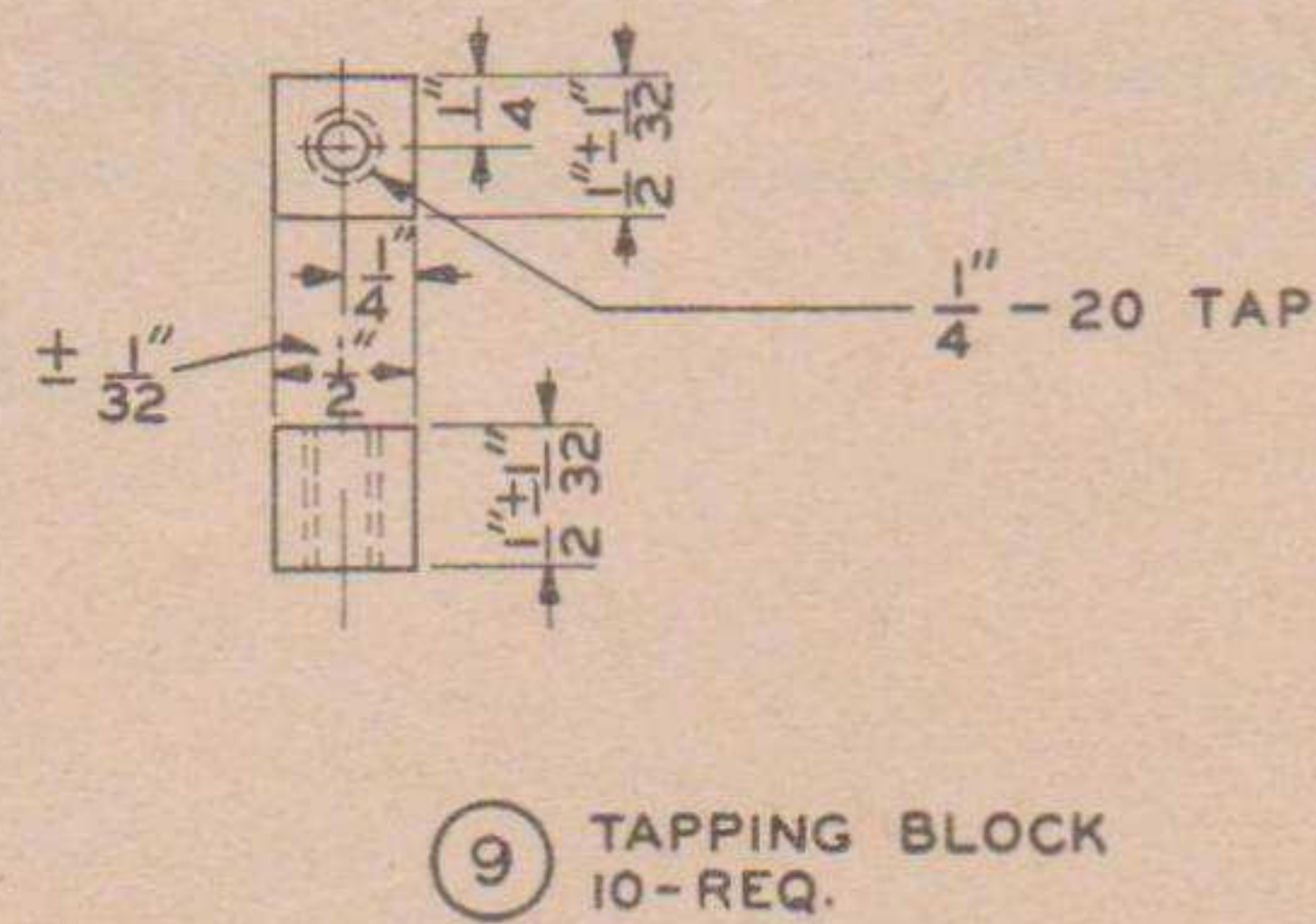
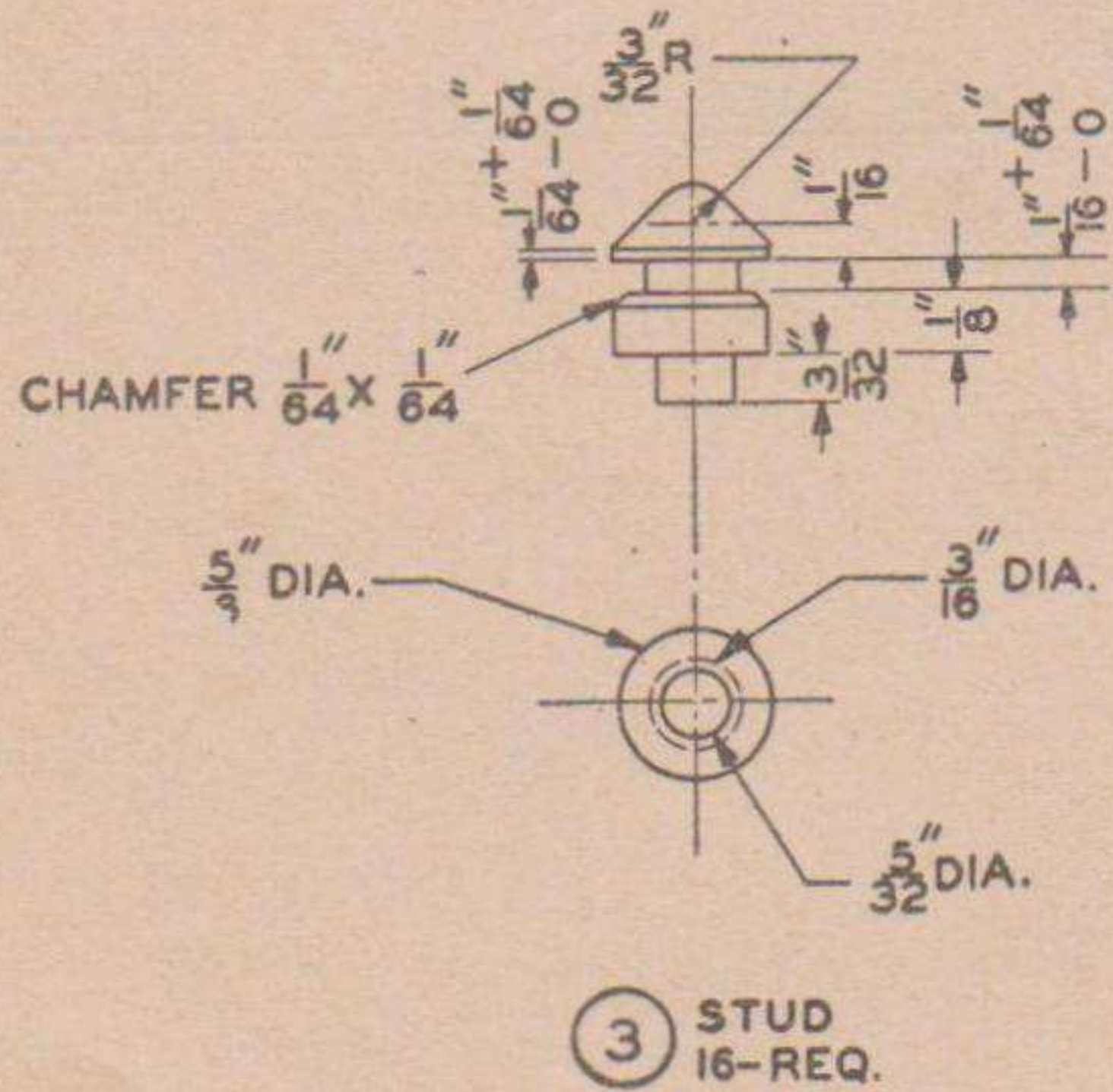
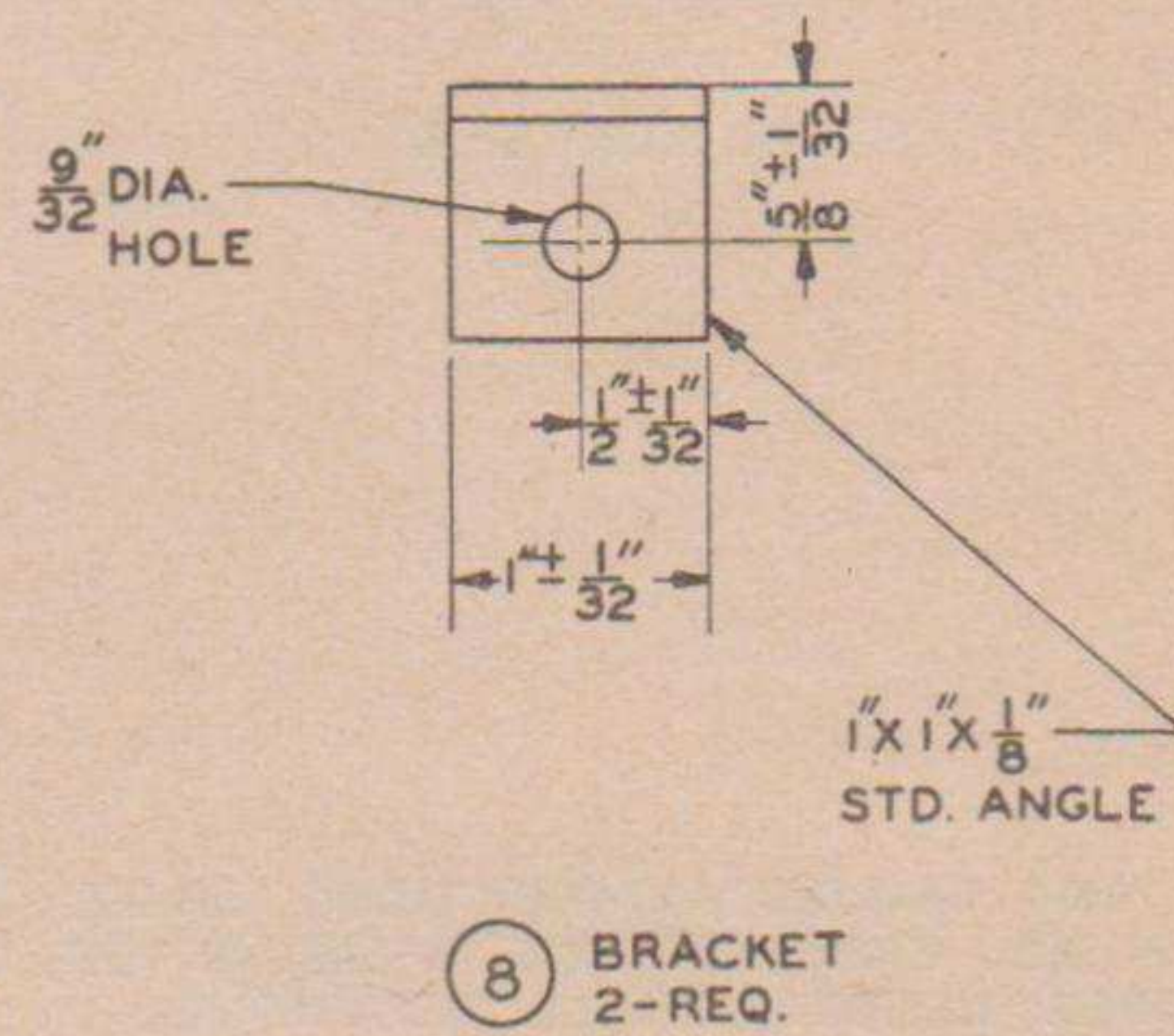
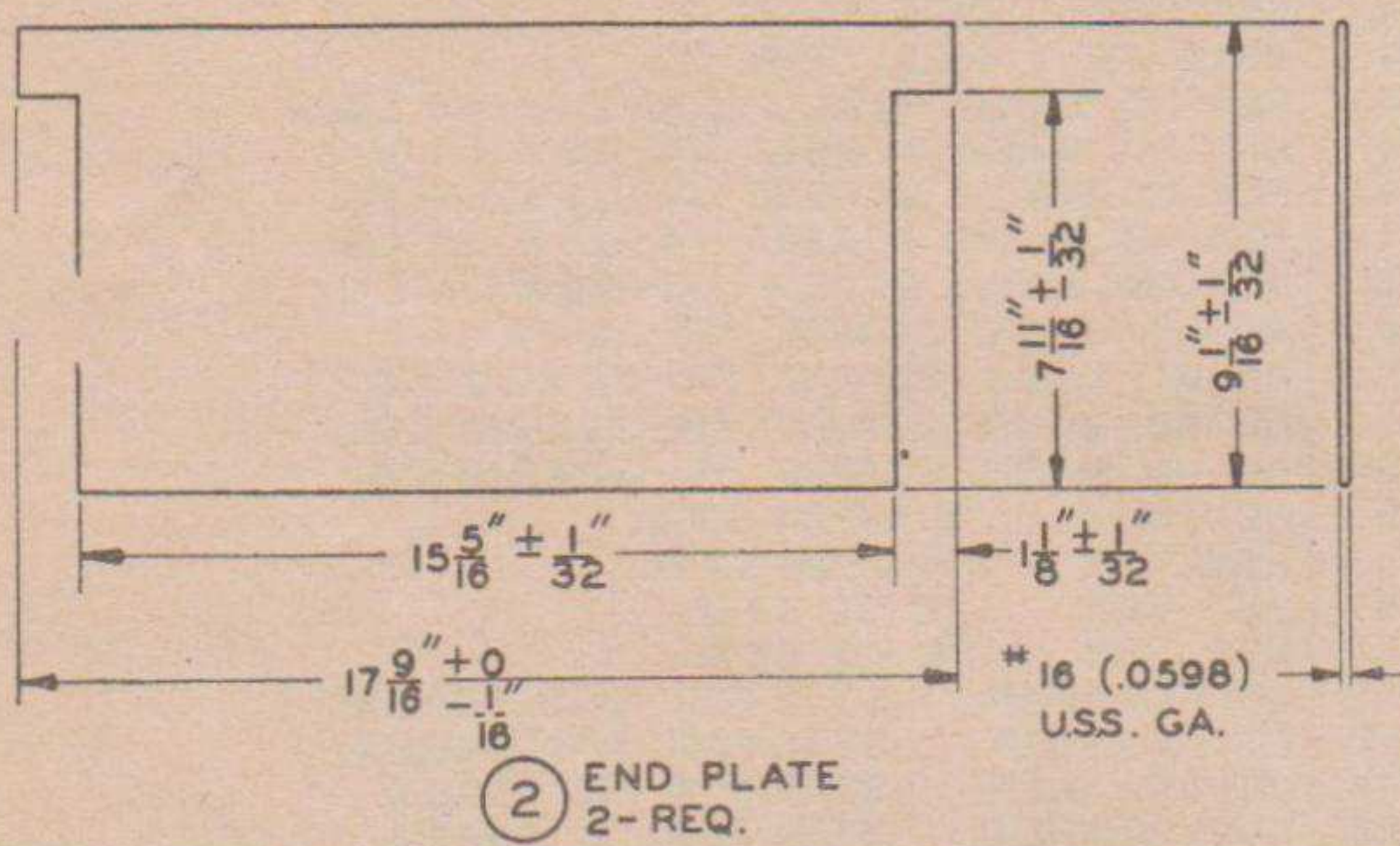
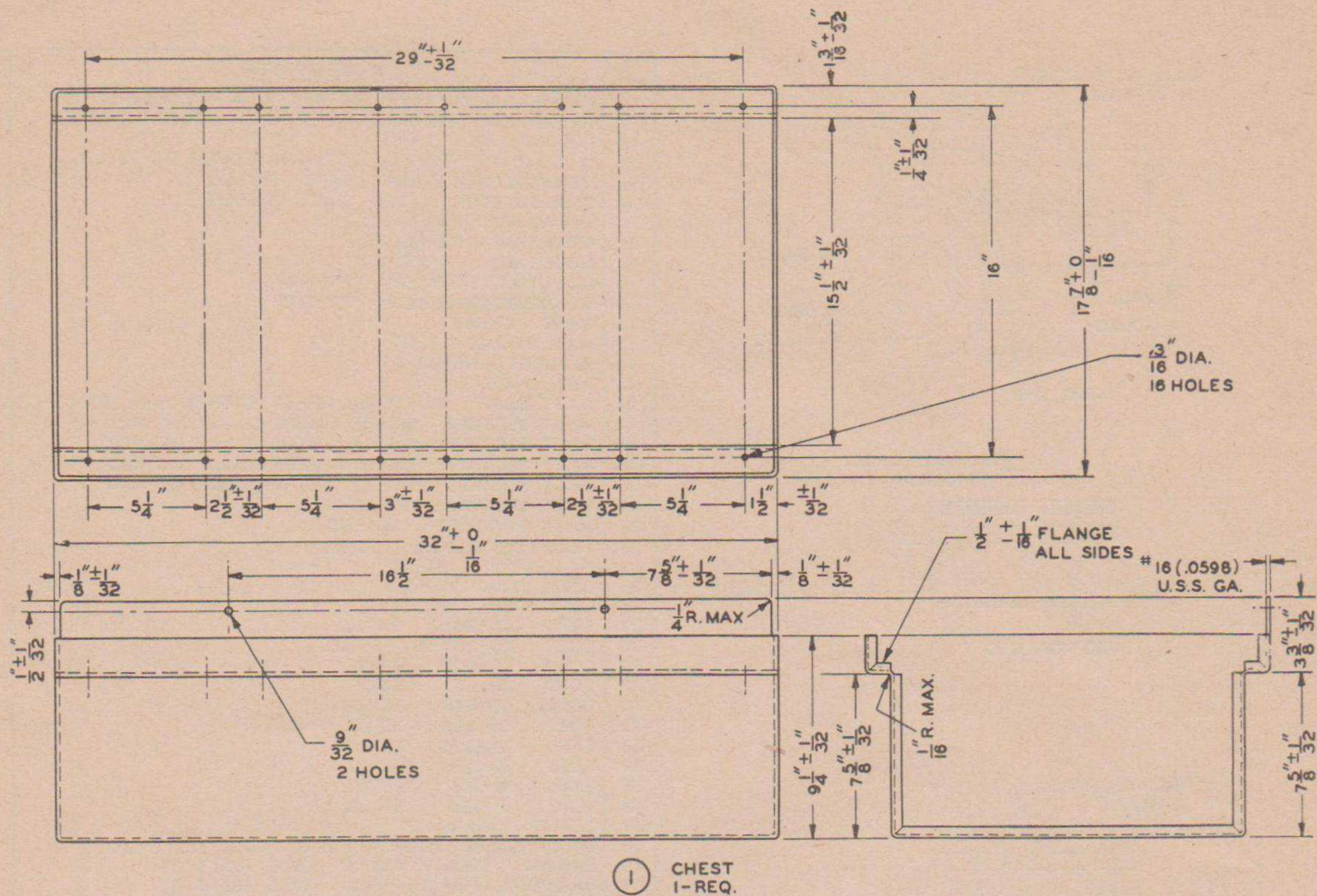
- NOTE:
1. ANTENNA AND GROUND CONNECTIONS SHALL BE MADE WITH WIRE W-128. ENDS OF WIRE W-128, AFTER BEING CUT TO PROPER LENGTH, SHALL BE TINNED.
  2. FOR INSTALLATION OF BRACKETS SEE FIG. 1.
  3. (63) TO BE INSTALLED BY CAR MFR.
  4. USE ITEM (66) WHEN MAST SECTIONS ARE NOT IN USE.
  5. FOR ADDITIONAL COMPONENTS AND SPARE PARTS, SEE PARTS LIST.

ITEM NO.	NAME OF ITEM	QUAN. REQ.
1	RADIO TRANSMITTER BC-191-( ) WITH COVER BG-78-( )	1
2	RADIO RECEIVER BC-312-( ) WITH COVER BG-75-( )	1
3	LOUDSPEAKER LS-3	1
4	DYNAMOTOR BD-77-( ) WITH COVER BG-79-( )	1
5	TRANSMITTER TUNING UNIT TU-5-( )	1
6	TRANSMITTER TUNING UNIT TU-8-( )	1
7	MOUNTING FT-151-( )	1
8	MOUNTING FT-162	1
9	MOUNTING FT-107-( )	1
10	MOUNTING (SNUBBER) FT-178	1
11	MOUNTING (SNUBBER) FT-172	1
12	CASE CS-48	1
13	MICROPHONE T-17-( )	1
14	HEADSET HS-30-( )	1
15	KEY J-45	1
16	MAST BASE MP-37 OR MP-57 WITH COVER BG-67-( )	1
17	MAST SECTION MS-49 WITH CLAMP MC-421	1
18	MAST SECTION MS-50 WITH CLAMP MC-422	1
19	MAST SECTION MS-51 WITH CLAMP MC-423	1
20	MAST SECTION MS-52 WITH CLAMP MC-424	1
21	MAST SECTION MS-53	1
22	MAST BRACKET MP-50	1
23	TERMINAL BLOCK TM-183	1
24	INSULATOR IN-98	1
25	INSULATOR IN-121	2
26	CORD CD-676 54" LG.	1
27	CORD CD-265 24" LG.	1
28	CORD CD-307-A 65" LG.	1
29	CORD CD-410 60" LG.	1
30	CORD CD-670 54" LG.	1
31	CORD CD-474 36" LG.	1
32	CORD CD-604 6" LG.	1
33	CORD CO-273 54" LG.	1
34	WIRE W-128 96" LG.	1
35	WIRE W-128 26" LG.	1
36	WIRE W-128 36" LG.	1
37	CLAMP NO. 4	10
38	BRUSH GUARD, ITEM 8, FIG. 3 (SEE NOTE 2)	1
39	BRACKET, ITEM 7, FIG. 3 (SEE NOTE 2)	2
40	BRACKET, ITEM 6, FIG. 3 (SEE NOTE 2)	1
41	REINFORCING PLATE, ITEM 5, FIG. 3 (SEE NOTE 2)	1
42	REINFORCING PLATE, ITEM 4, FIG. 3 (SEE NOTE 2)	1
43	REINFORCING PLATE, ITEM 3, FIG. 3 (SEE NOTE 2)	1
44	BRACKET (SEE NOTE 2)	1
45	BRACKET (SEE NOTE 2)	1
46	HEX. HD. MACH. SCREW 5/16"-24 X 3/4" LG.	4
47	HEX. HD. MACH. SCREW 1/4"-20 X 1" LG.	11
48	HEX. HD. MACH. SCREW 1/4"-20 X 3/4" LG.	3
49	HEX. HD. MACH. SCREW 1/4"-20 X 1/2" LG.	12
50	HEX. HD. MACH. SCREW 1/4"-20 X 1/4" LG.	3
51	RD. HD. MACH. SCREW #10-32 X 1" LG.	10
52	RD. HD. MACH. SCREW #10-32 X 1/2" LG.	8
53	RD. HD. MACH. SCREW #8-32 X 1/2" LG.	3
54	RD. HD. MACH. SCREW #8-32 X 3/8" LG.	26
55	HEX. NUT 5/16"-24 ST'D.	4
56	HEX. NUT 1/4"-20 ST'D.	22
57	HEX. NUT #10-32 ST'D.	18
58	HEX. NUT #8-32 ST'D.	23
59	LOCKWASHER ST'D. FOR 5/16" SCREW	4
60	LOCKWASHER ST'D. FOR 1/4" SCREW	29
61	LOCKWASHER ST'D. FOR #10 SCREW	18
62	LOCKWASHER ST'D. FOR #8 SCREW	29
63	TERMINAL BOX (SEE NOTE 3)	1
64	CLAMP NO. 7	7
65	CLAMP NO. 1	6
66	COVER BG-67-( ) (SEE NOTE 4)	1

TL-12453-2

Figure 12—Continued.





TL-13305 - 1

Figure 13. Chest CH-239, details.



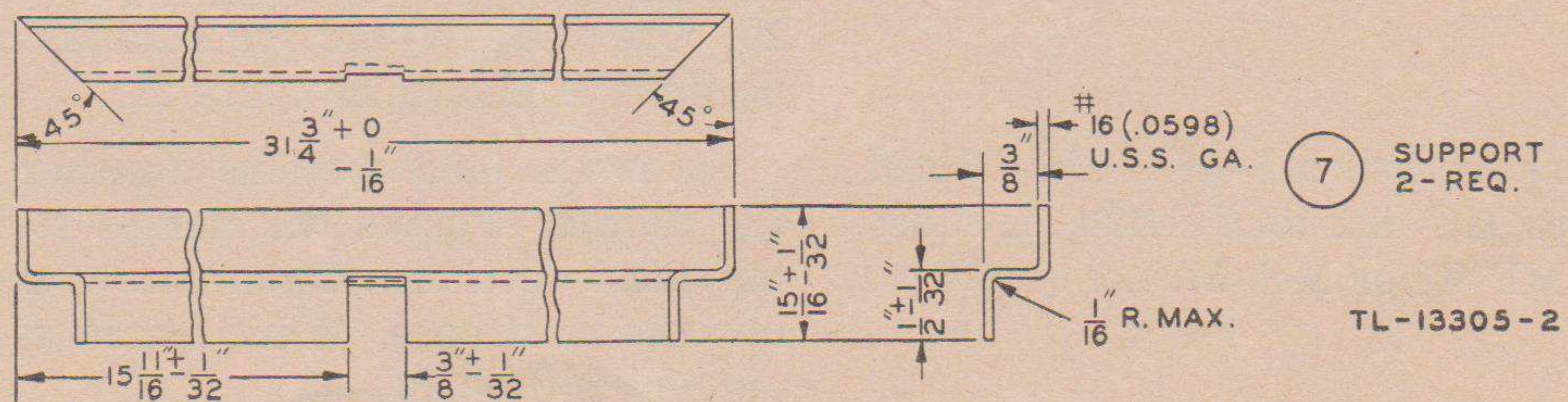
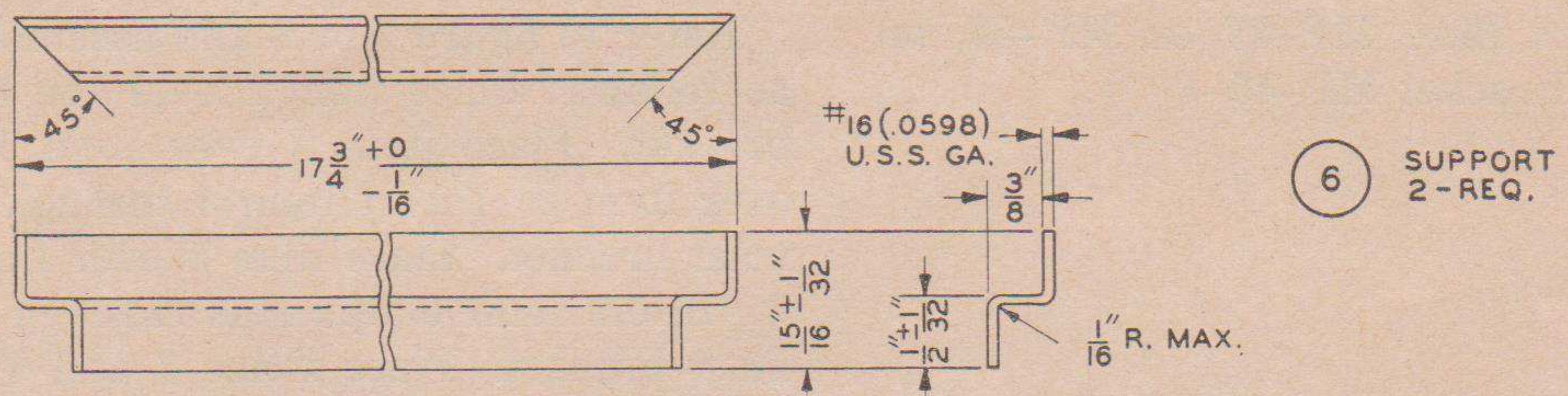
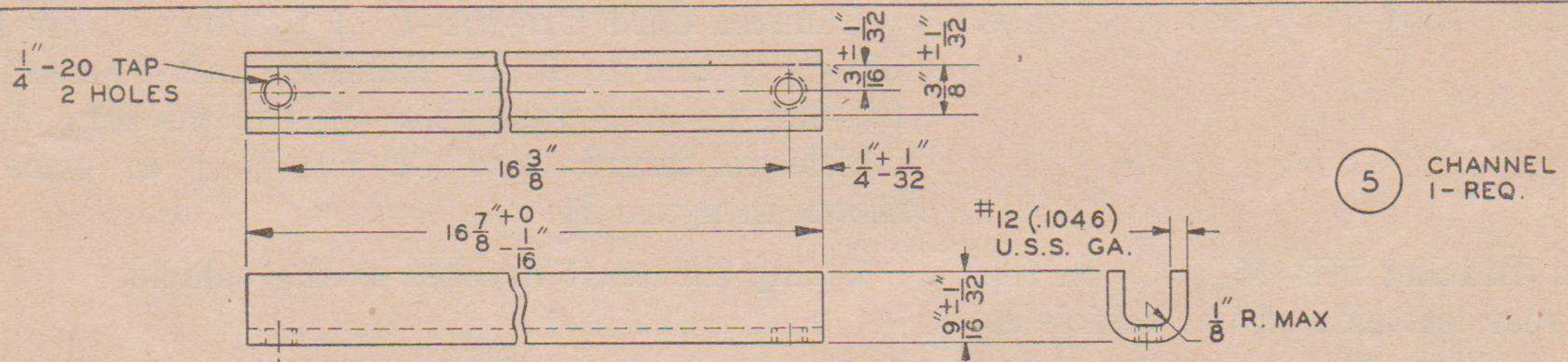
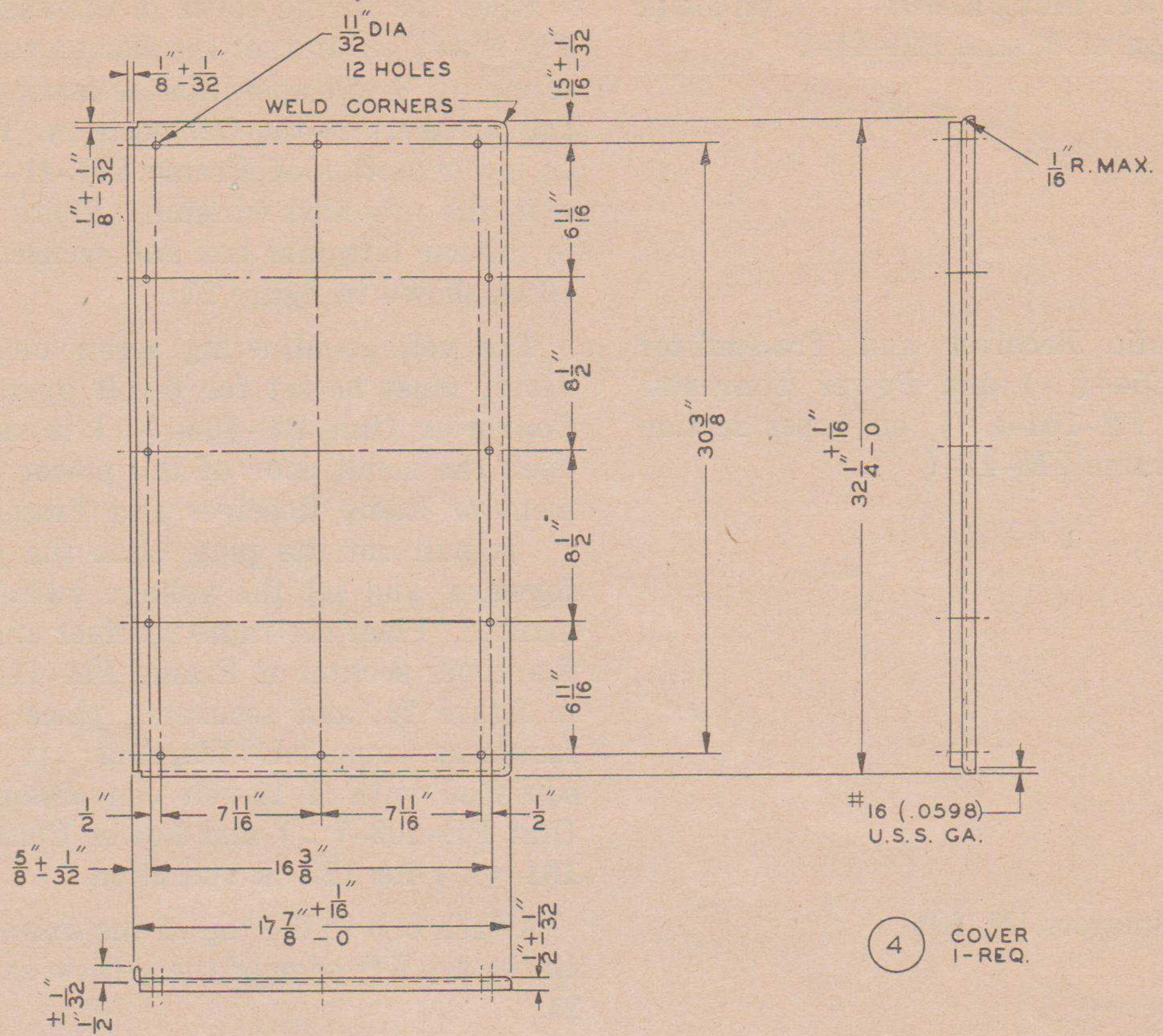


Figure 13—Continued.



*Part and Location*

Power Unit PE-103-( ), on lower section of Frame FM-41-( ).

Radio Receiver and Transmitter BC-654-( ) and Power Converter Unit PE-104-( ), on upper section of Frame FM-41-( ).

Insulators IN-104.

Cord CD-501-( ) and steel clips (fig. 22).

Mast Bracket MP-45-( ) on the upper rear left side of the vehicle as shown in figure 21.

Mast Base MP-37 or MP-57, on Mast Bracket MP-45-( ).

Mast Sections MS-49 to MS-53 and Clamps MC-421 to MC-424, on Mast Base MP-37 or MP-57.

Cover BG-67-( ).

*Method and Materials*

Open the spring cover in the base of Power Unit PE-103-( ) and set the slotted voltage-adjustment screw for 6-volt operation as marked. Set the 3 circuit breakers to the ON position. Place power unit on lower section of Frame FM-41-( ) and secure with the provided wingnut. Route the power cords to the car terminal box and secure with Clamp No. 10 as shown in figure 21.

The voltage-adjusting screw on the power converter must be set for 6-volt operation. If Power Converter Unit PE-104-( ) is supplied installed, open the small door of the power supply compartment of Radio Receiver and Transmitter BC-654-( ), pull out the plug, slide the power converter forward, and set the voltage switch for 6-volts as marked. Place the radio receiver and transmitter on the upper section of Frame FM-41-( ), as shown in figure 21, and secure in place with the spring fasteners supplied. **Warning:** If the vehicle is equipped with a 12-volt conversion, adjust Power Unit PE-103-( ) and Power Converter Unit PE-104-( ) for 12-volt operation.

Attach one to the top of the driver's seat and two on the top left edge of the vehicle as shown in figure 21.

Connect Cord CD-501-( ) to Power Unit PE-103-( ) and to Radio Receiver and Transmitter BC-654-( ). Attach steel clips to the rear of the vehicle to secure Cord CD-501-( ) in place as shown in figure 21.

Clamp the mast bracket to the vehicle.

Refer to figure 7 or 8 and assemble the mast base as follows: Place item 1 over the hole in the mast bracket. Place item 2 over item 1. Place item 3 over item 2. Insert item 4 through the hole in the mast bracket. Place item 5 over the flange of item 6. Insert item 6 upwards through the hole in the mast bracket. Place items 7 and 8 beneath item 6 and fasten entire assembly in place with items 9 and 10. Use Wire W-142 for antenna and ground connections as shown in figure 21.

Screw the mast sections together and secure with the clamps. Fasten the clamps to the male end of the mast sections. Then screw the mast antenna into the mast base. When not in use, stow the mast sections in Roll BG-58.

Place over the mast base when the mast sections are not in use.

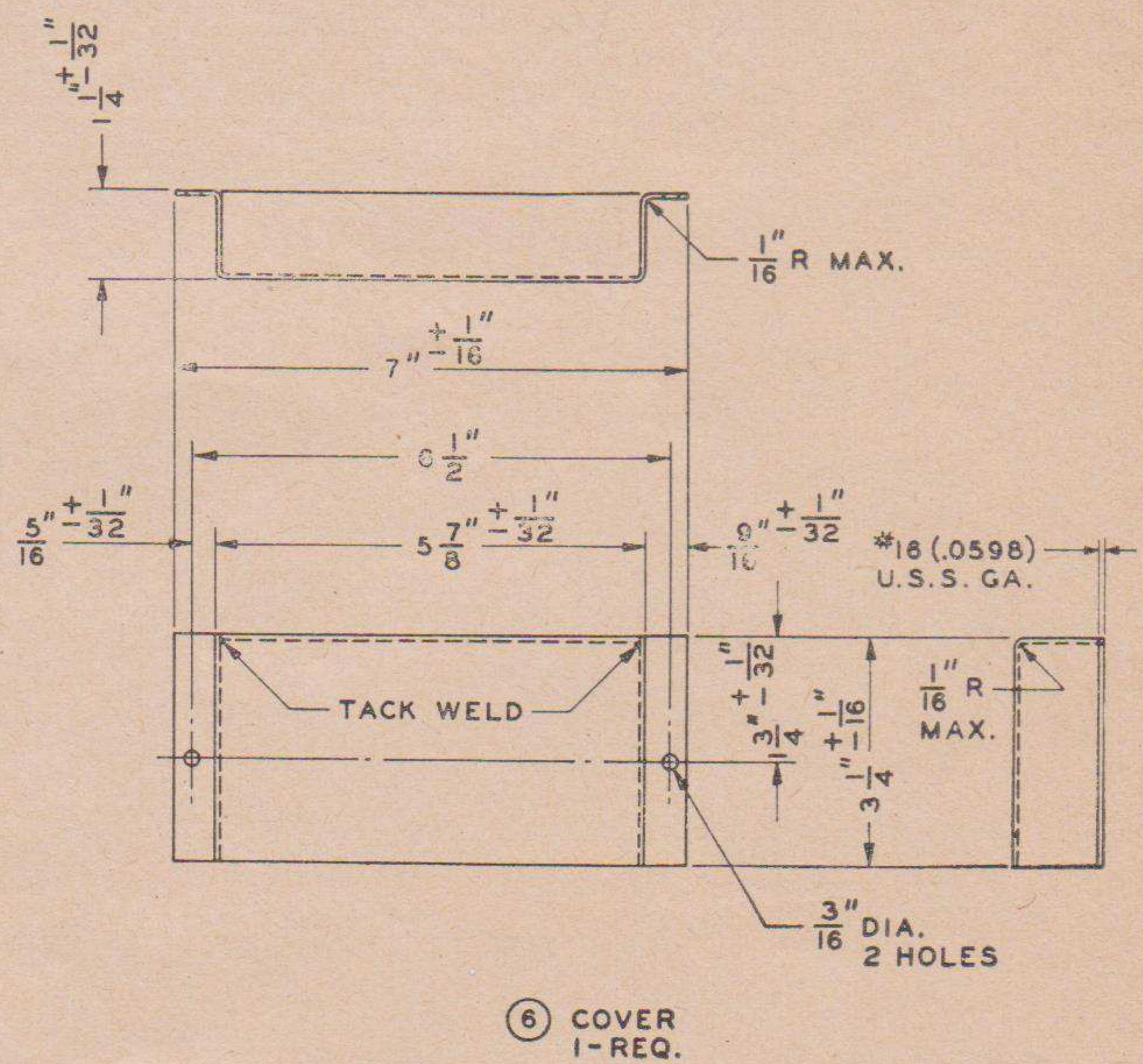
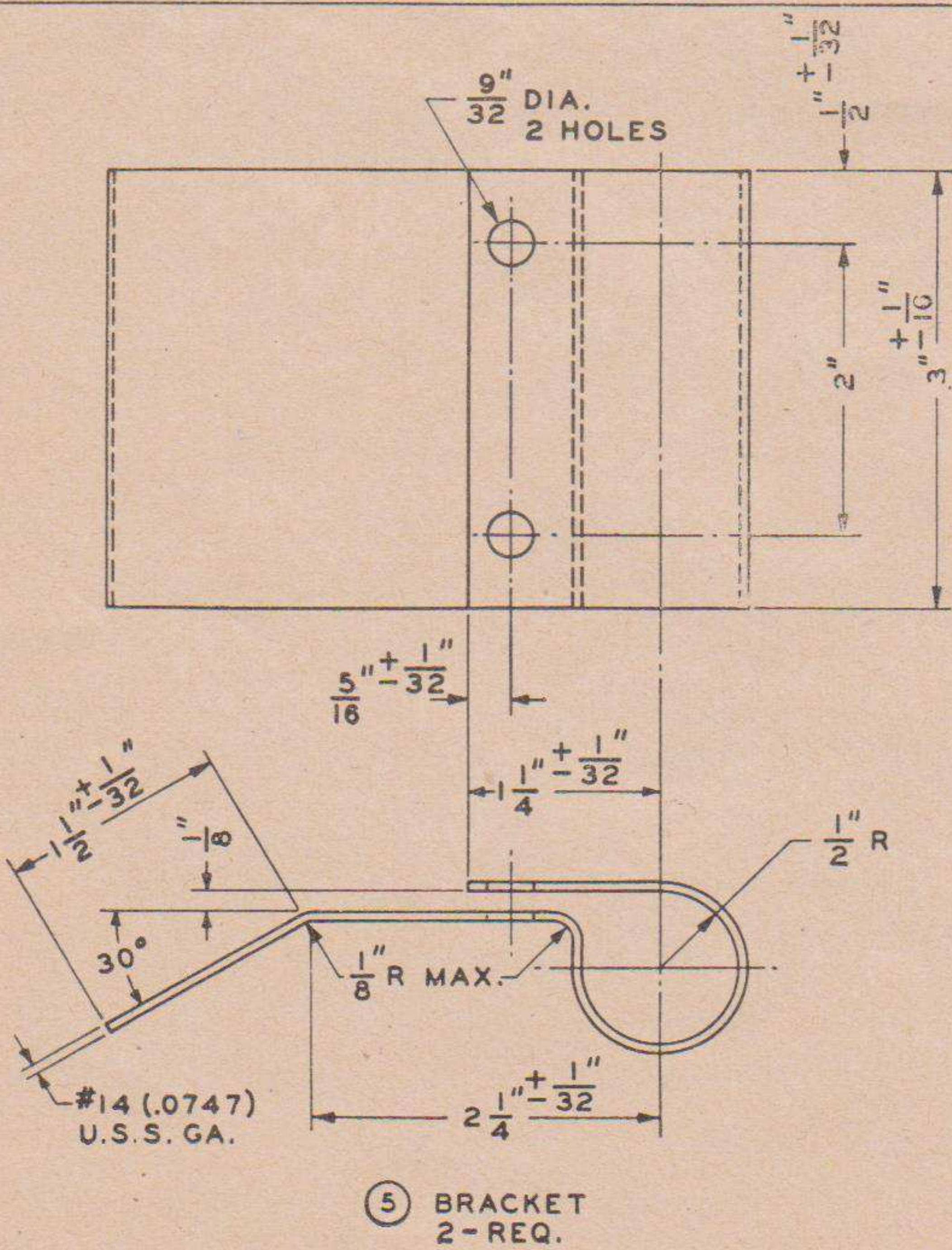
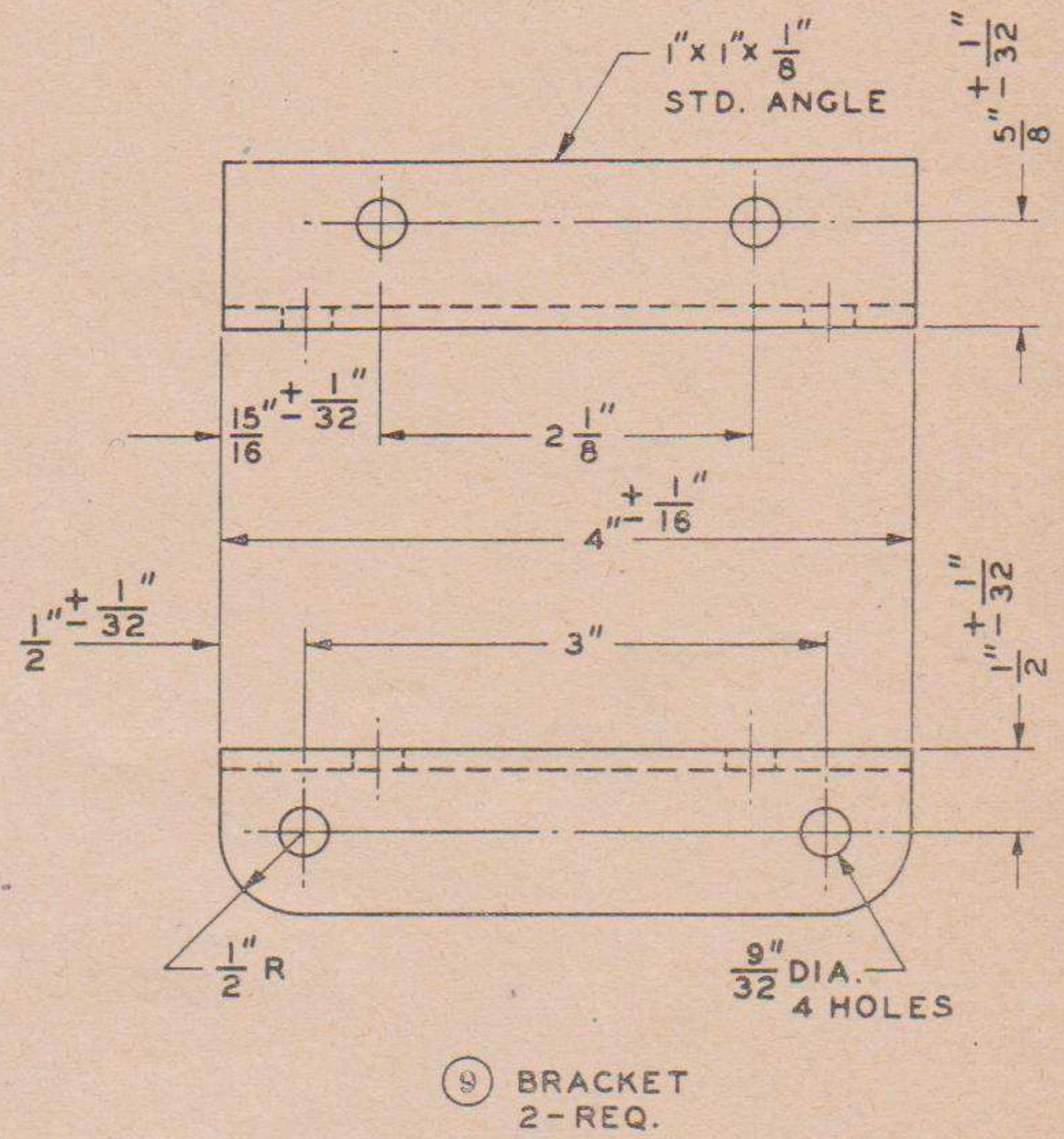
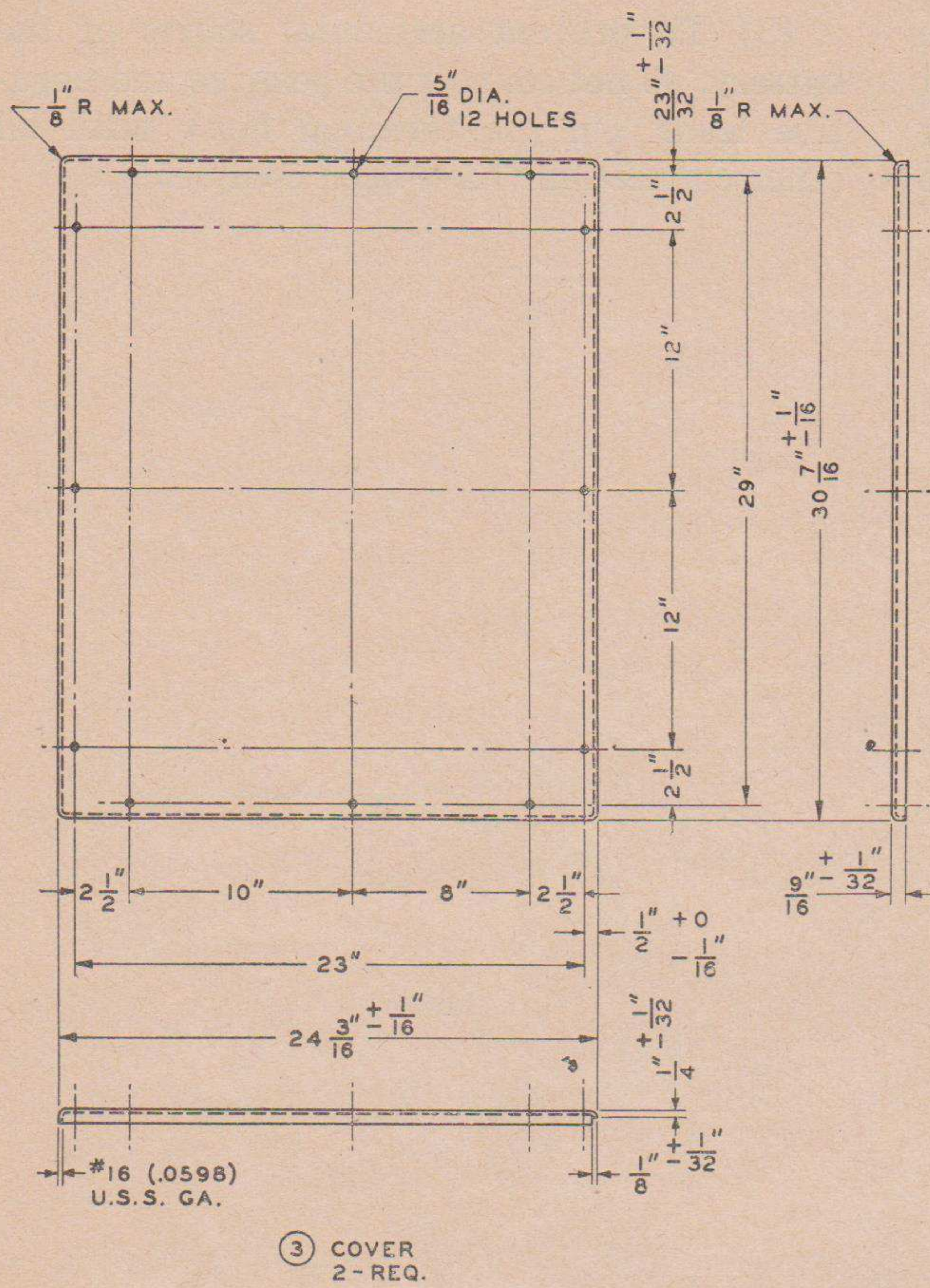


b. CORDING AND WIRING. (1) Cord and wire Radio Set SCR-284-( ) as shown in figure 21. Connect and secure so as not to interfere with the accessibility and operation of the equipment. Enough slack must be left to permit free movement of all units having shock mounting. Cording or cable likely to

rub against sharp edges should be taped with at least two layers to prevent damage. Solder-tin all wire ends.

(2) To prevent accidental shorts of the battery, do not connect the positive and negative leads (in the terminal box) until all other connections have been completed.





TL-13306-1

Figure 14. Installation Kit MC-515, details:



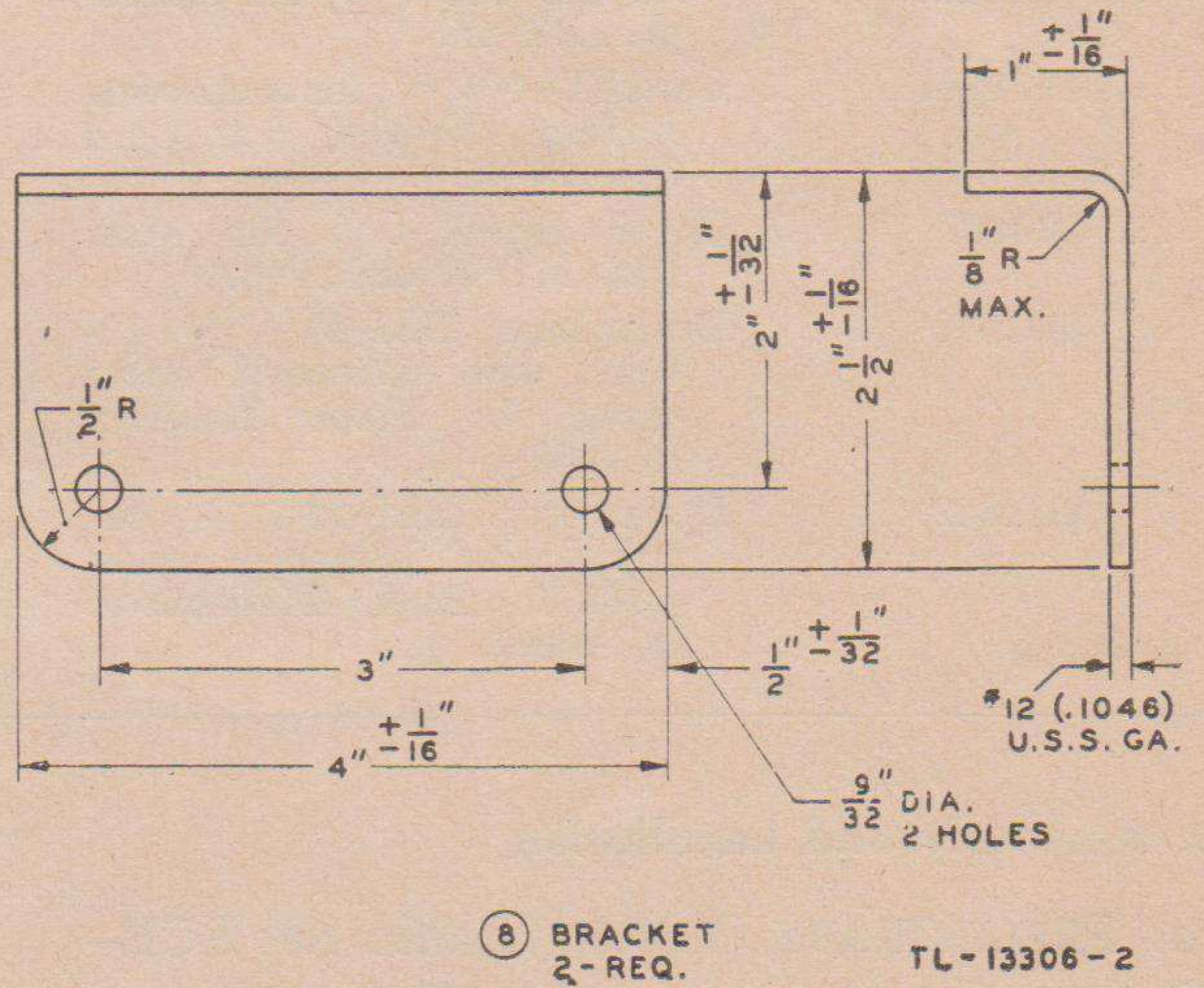
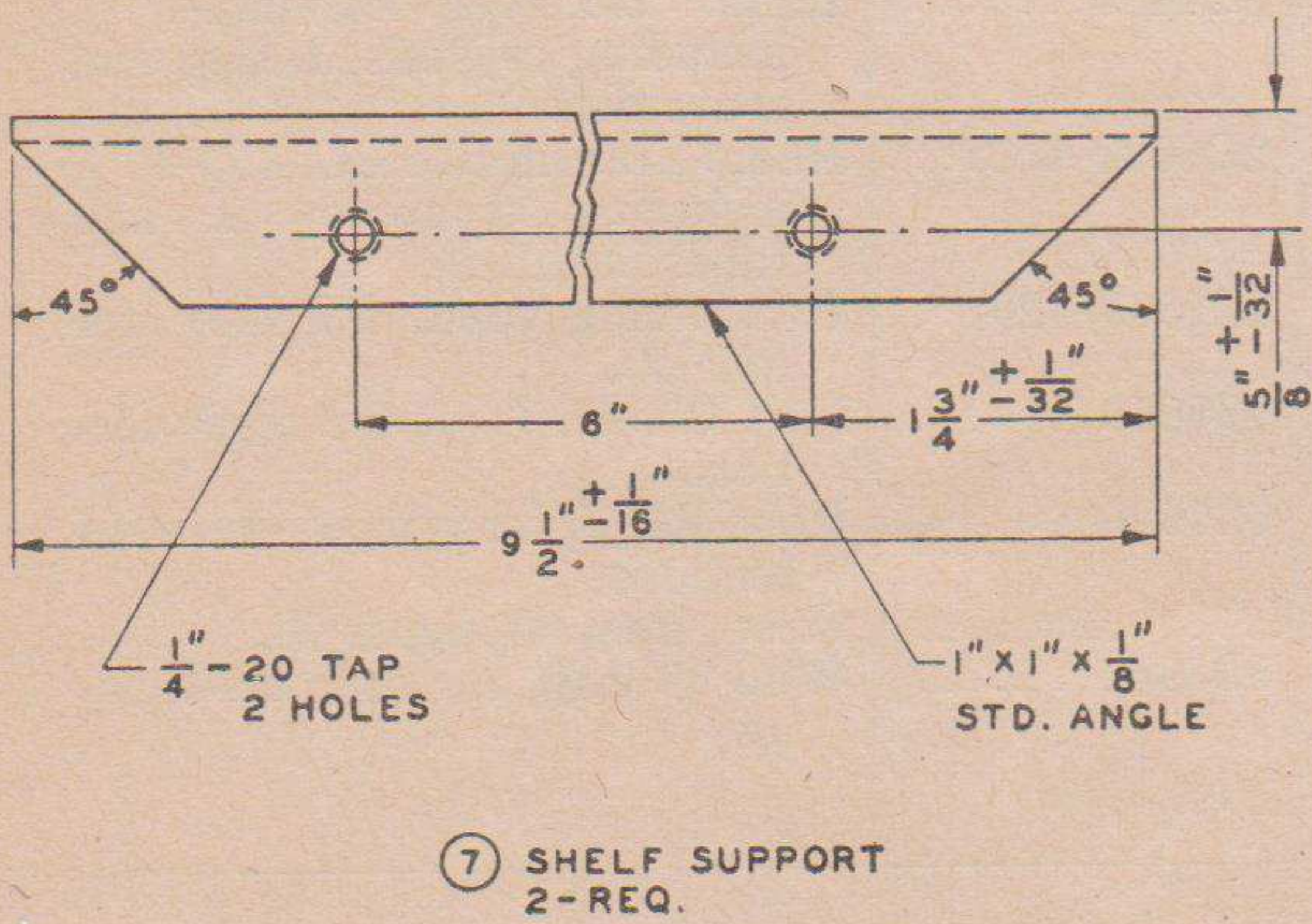
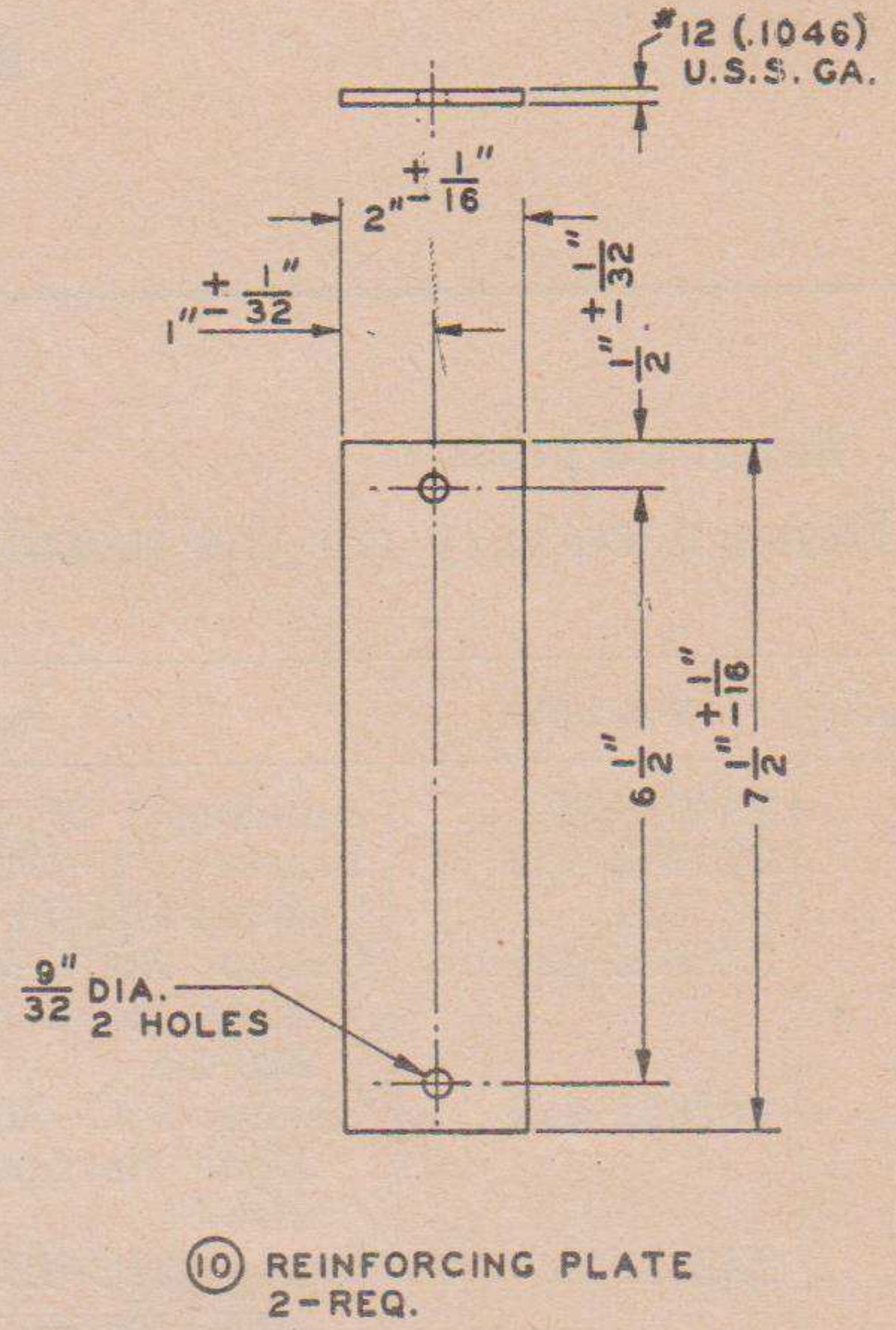
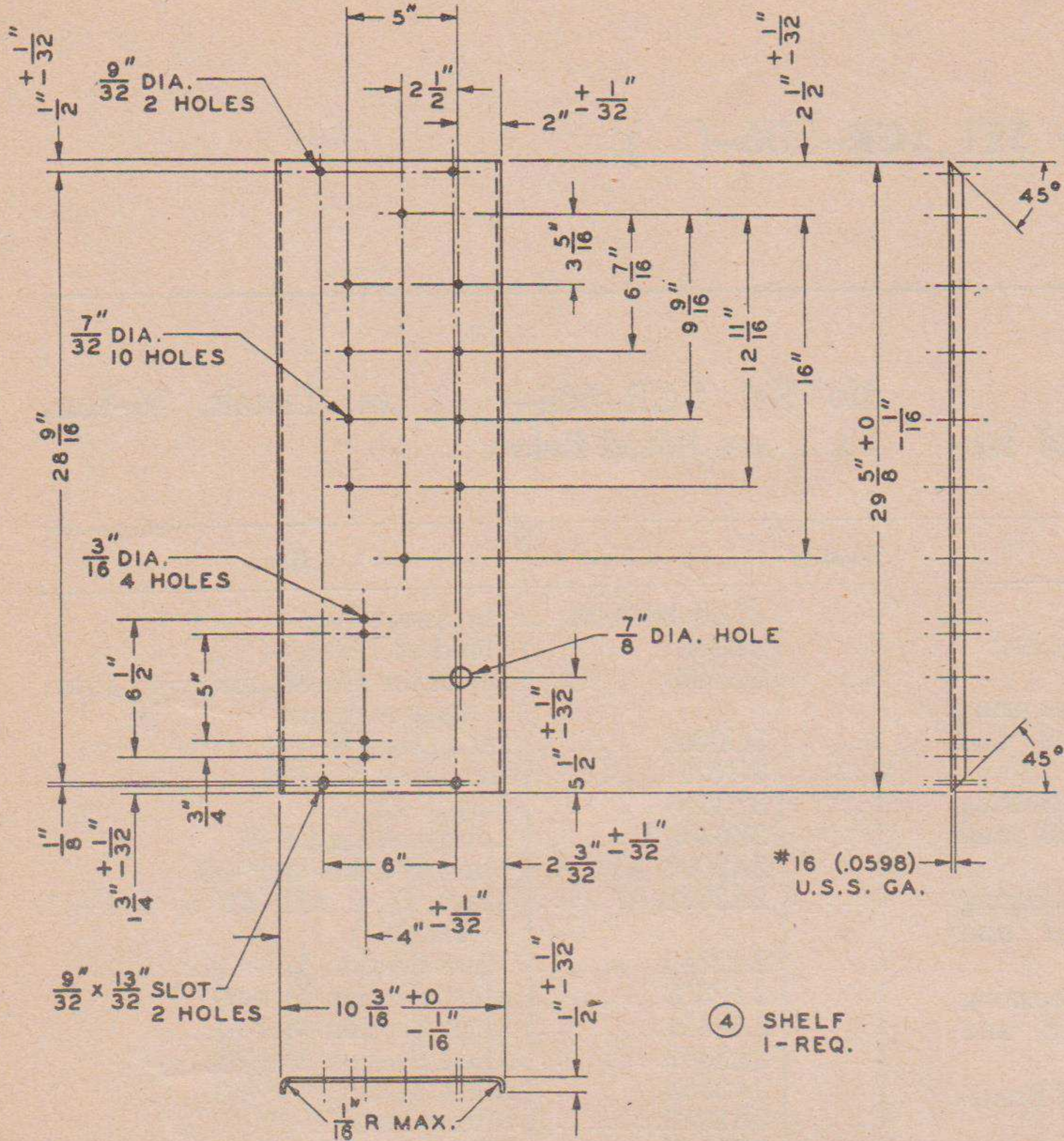


Figure 14—Continued



## SECTION V

### RADIO SET SCR-506-( )

#### 12. Required parts

Items necessary for the installation of Ra-

dio Set SCR-506-( ) in Truck, 1/4-ton, 4 x 4, are listed below:

Quan'ty	Stock No.	Item	Quan'ty	Stock No.	Item
1	2A275-27	Antenna A-27, phantom.	1	6L50-506V26	Hardware bag.
1	2Z1203-422	Bracket FT-422, brush guard.	2	2B830	Headset HS-30-( ).
1	2Z1574	Cabinet CH-74-( ).	3	3G586	Insulator IN-86, for tying down mast sections.
1	2Z2651-421	Clamp MC-421, for securing Mast Sections MS-49 and MS-50.	3	3G604	Insulator IN-104.
1	2Z2651-422	Clamp MC-422, for securing Mast Sections MS-50 and MS-51.	3	3G621	Insulator IN-121.
1	2Z2651-423	Clamp MC-423, for securing Mast Sections MS-51 and MS-52.	1	3Z3445	Key J-45.
1	2Z2651-424	Clamp MC-424, for securing Mast Sections MS-52 and MS-53.	1	2Z6303.1	Loudspeaker LS-3.
2	6Z3147	Connector No. 61007 and Bondnut BL-50 (Appleton).	1	2A2090-50	Mast Bracket MP-50.
2	3E1307A-5.5	Cord CD-307-A, 65", for Headset HS-30-( ).	1	2A2088-57	Mast Base MP-57 or MP-37 (2A2087).
1	3E1314	Cord CD-314, for Loudspeaker LS-3.	1	2A2349	Mast Section MS-49.
1	3E1318	Cord CD-318-( ), for Microphone T-45.	1	2A2350	Mast Section MS-50.
2	3E1604	Cord CD-604, 6", for connecting Headset HS-30-( ) to Cord CD-307-A.	1	2A2351	Mast Section MS-51.
1	2Z3367	Cover BG-67-( ) for Mast Base MP-57 or MP-37.	1	2A2352	Mast Section MS-52.
1	3H1640	Dynamotor DM-40-( ), 12-volt, with attached spare parts, for Radio Receiver BC-652-( ).	1	2A2353	Mast Section MS-53.
1	3H1642	Dynamotor DM-42-( ), 12-volt, with attached spare parts, for Radio Transmitter BC-653-( ).	1	2B1617	Microphone T-17-( ).
			1	2B1645	Microphone T-45.
			1	2Z6721-253	Mounting FT-253-( ), including two Cord CO-280, fuses, and hardware.
			1	2Z6721-285	Mounting FT-285-( ).
			1	2C4452	Radio Receiver BC-652-( ), including crystals, tubes, and spare parts.
			1	2C6530-653	Radio Transmitter BC-653-( ), including spare parts and tubes installed.
			2	2Z7069-429	Reinforcing plate FT-429, for MP-50.
			1	2Z8056	Roll BG-56-( ), for mast section.
			50 ft.	6Z7926	Rope RP-5, for tying down mast sections.
			2		Strap, item 50, figure 24.
			10 ft.	1B146	Wire W-146, for antenna leads.

#### 13. Assembly and Installation

a. PRELIMINARY CHECK. Radio Set SCR-506-( ) may be installed in Truck, 1/4-ton, 4 x 4, with either of the following 12-volt conversion kits. Check to see that the conversion has been made before beginning installation.

(1) Under-the-hood conversion kit in which all 6-volt electrical components of the vehicle are replaced by 12-volt components.

Two 6-volt storage batteries, one originally furnished with the truck, and one supplied with the conversion kit, are installed between the front seats to furnish, in series, 12-volt power supply for both the radio set and the vehicular system.

(2) Power-take-off conversion kit in which a 12-volt generator and regulator is mounted over the transmission of the vehicle to be driven by a belt and pulley operated off the shaft of the transmission. Two 6-volt storage



batteries are supplied with the conversion kit and are installed one behind each front seat. These two batteries, in series, furnish 12-volt power for operation of the set inde-

pendently of the 6-volt system of the vehicle.

b. PROCEDURE. Components of the radio set should be installed as shown in figure 24 and as directed below.

*Part and Location*

Mounting FT-285-( ) and Loudspeaker LS-3, on floor of vehicle, rear.

Cabinet CH-74-( ), on Mounting FT-285-( ).

*Method and Materials*

Remove the rear seat from the vehicle. Figure 23 shows assembly and details of the mounting. Refer to figure 24 for drilling details and drill the floor, rear and left wall of the vehicle. Drill Loudspeaker LS-3 and Mounting FT-285-( ) as shown in figure 24. Install Mounting FT-285-( ) and secure in position with the provided hardware. Reinforce the mounting with the strap (item 50) as shown in figure 24. Fasten the loudspeaker to the mounting with the hardware provided.

Drill Cabinet CH-74-( ) for installation of the insulators as shown in detail in figure 24. Place the cabinet on the mounting and secure with the hardware provided.

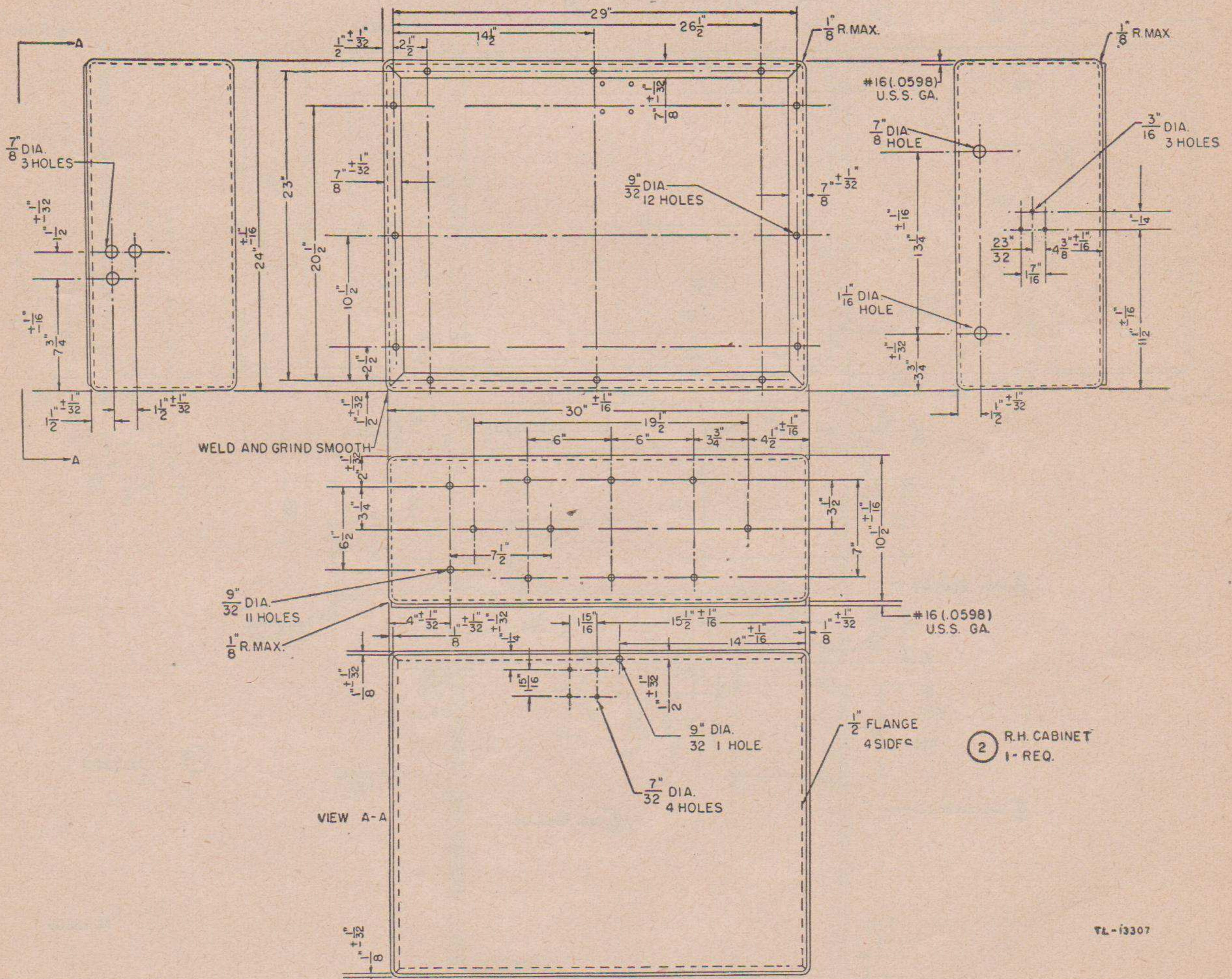


Figure 15. Installation Kit MC-515, right-hand cabinet details.



Mounting FT-253-( ) in Cabinet  
CH-74-( ).

Fasten to the floor of the cabinet with the hardware provided. Route the two Power Cords CO-280 to the vehicle terminal box, and secure with clamps as shown in figure 24. Use the connectors and bond-nuts to bush the power cord at the knockout hole of the terminal box.

Mast Bracket MP-50, Bracket FT-422, and Reinforcing Plate FT-429, on the left side of the vehicle, at rear.

Mount the brackets and reinforcing plates and secure with the hardware provided.

Mast Base MP-57 or MP-37 on Mast Bracket MP-50

Refer to figure 7 or 8 and assemble the mast base as follows: Place item 1 over the hole in the mast bracket. Place item 2 over item 1. Place item 3 over item 2. Insert item 4 through the hole in the mast bracket. Place item 5 over the flange of item 6. Insert item 6 upward through the hole in the mast bracket. Place items 7 and 8 beneath item 6 and fasten entire assembly in place with items 9 and 10.

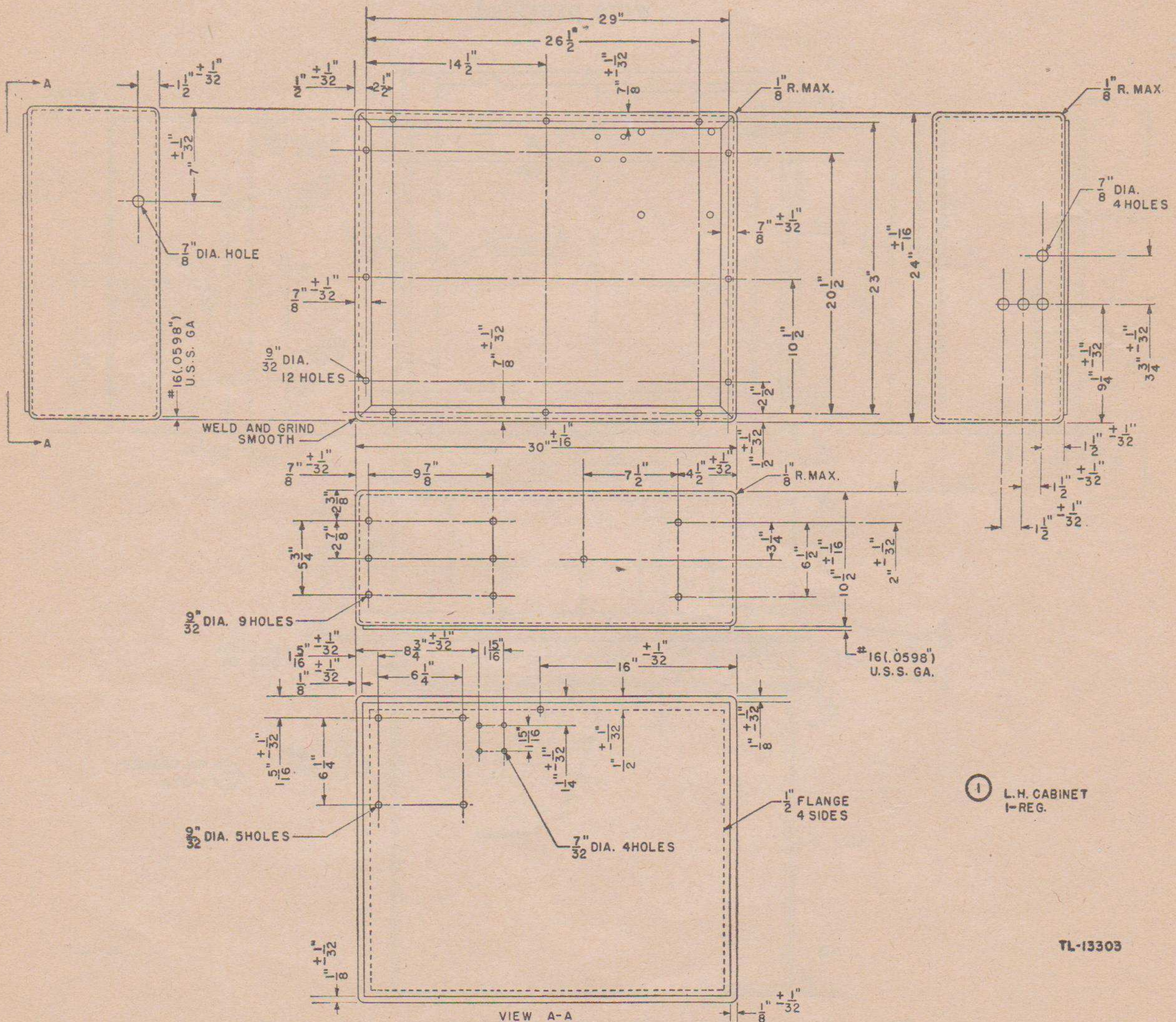


Figure 16. Installation Kit MC-515, left-hand cabinet details.



*Part and Location*

Mast Sections MS-49 to MS-53 and Clamps MC-421 to MC-424, on Mast Base MP-57 or MP-37.

Cover BG-67-( ).

Insulators IN-104 and IN-121, on Cabinet CH-74-( ) and left side of the vehicle.

Radio Transmitter BC-653-( ) and

Dynamotor DM-42-( ), on Mounting FT-253-( ).

Radio Receiver BC-652-( ) and Dynamotor DM-40-( ), on Mounting FT-253-( ).

Wire W-146.

c. CORDING AND WIRING. (1) Cord and wire Radio Set SCR-506-( ) as shown in figure 24. Connect and secure so as not to interfere with the accessibility and operation of the equipment. Enough slack must be left to permit free movement of all units having shock mounting. Cording or cable likely to rub against sharp edges should be taped with

*Method and Materials*

Screw the mast sections together and secure with the clamps. Fasten the clamps to the male end of the mast sections. Then screw the mast antenna into the mast base. When not in use, carry the mast sections in Roll BG-56-( ).

Place over the mast base when the mast sections are not in use.

Install with the hardware provided as shown in figure 24.

Mount the dynamotor in the dynamotor compartment of the transmitter and secure with the five screws provided. Connections are made automatically by the plug on the rear of the dynamotor chassis which engages the socket in the rear of the compartment. Remove the patch cover on the top of the transmitter, right end, and place the six links in the 12-volt position as indicated by the arrow on the link strap. Secure the transmitter to the right end of Mounting FT-253-( ) with the thumbscrew locking devices.

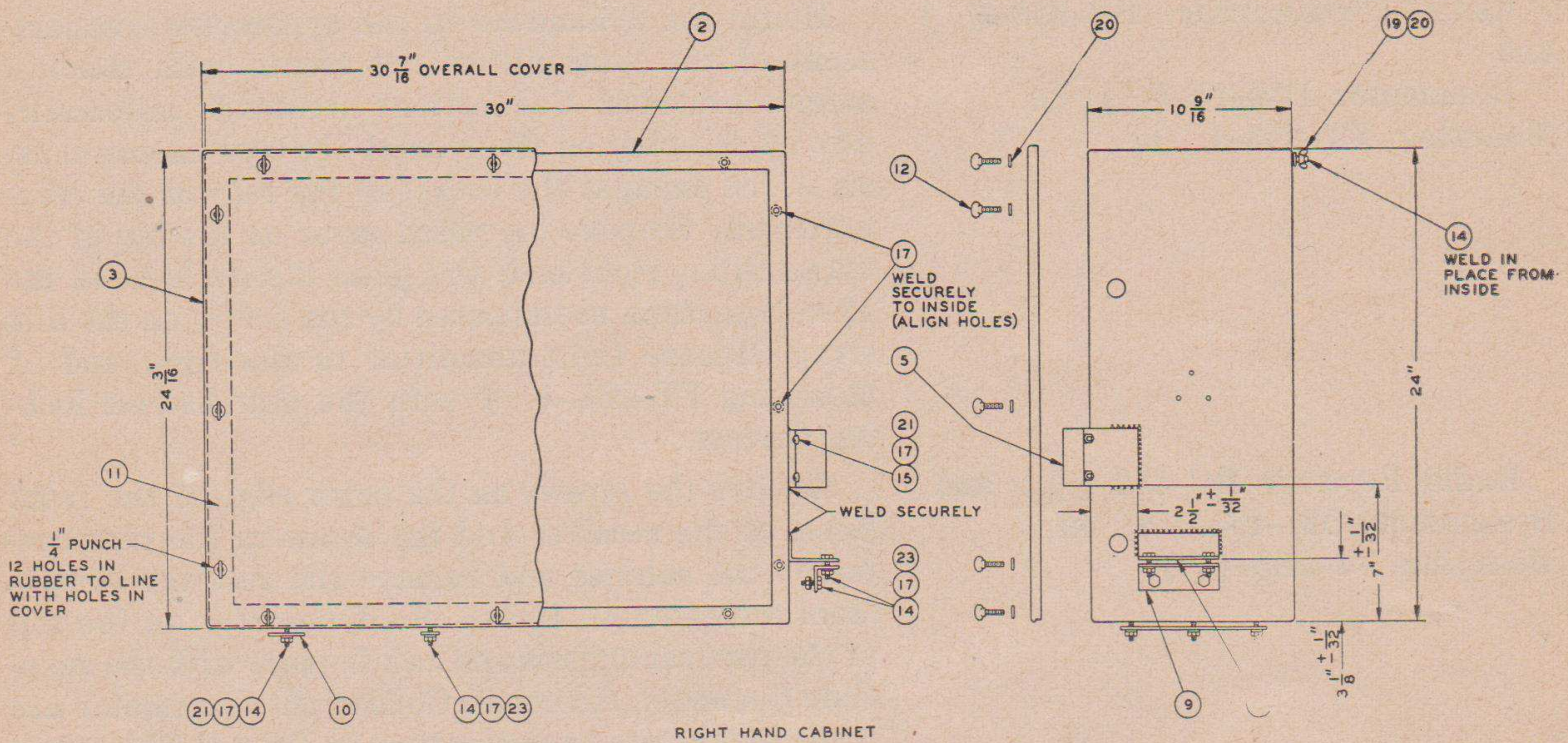
Remove the screws on the outer edge of the front panel of the receiver and the screw in the rear center of the cabinet and remove the receiver chassis from the cabinet. Install the dynamotor on the top of the receiver chassis and lock in place with the snap-slide fasteners. All connections to the dynamotor are made by the cord terminating in Plug P-250, when placed in the socket on the receiver chassis. The nameplate on the front panel of the receiver should be turned to read 12-volt operation. Secure the receiver to the mounting with the thumbscrew locking devices.

Cut Wire W-146 to required length and solder-tin ends. Connect to the terminal on the mast base, pass through Insulators IN-121 and IN-104, and connect to the antenna terminal of the radio transmitter.

at least two layers to prevent damage. Solder-tin all wire ends.

(2) To prevent accidental shorts of the battery, do not connect the positive 12-volt and negative 12-volt leads (in the terminal box) until all other connections have been completed.



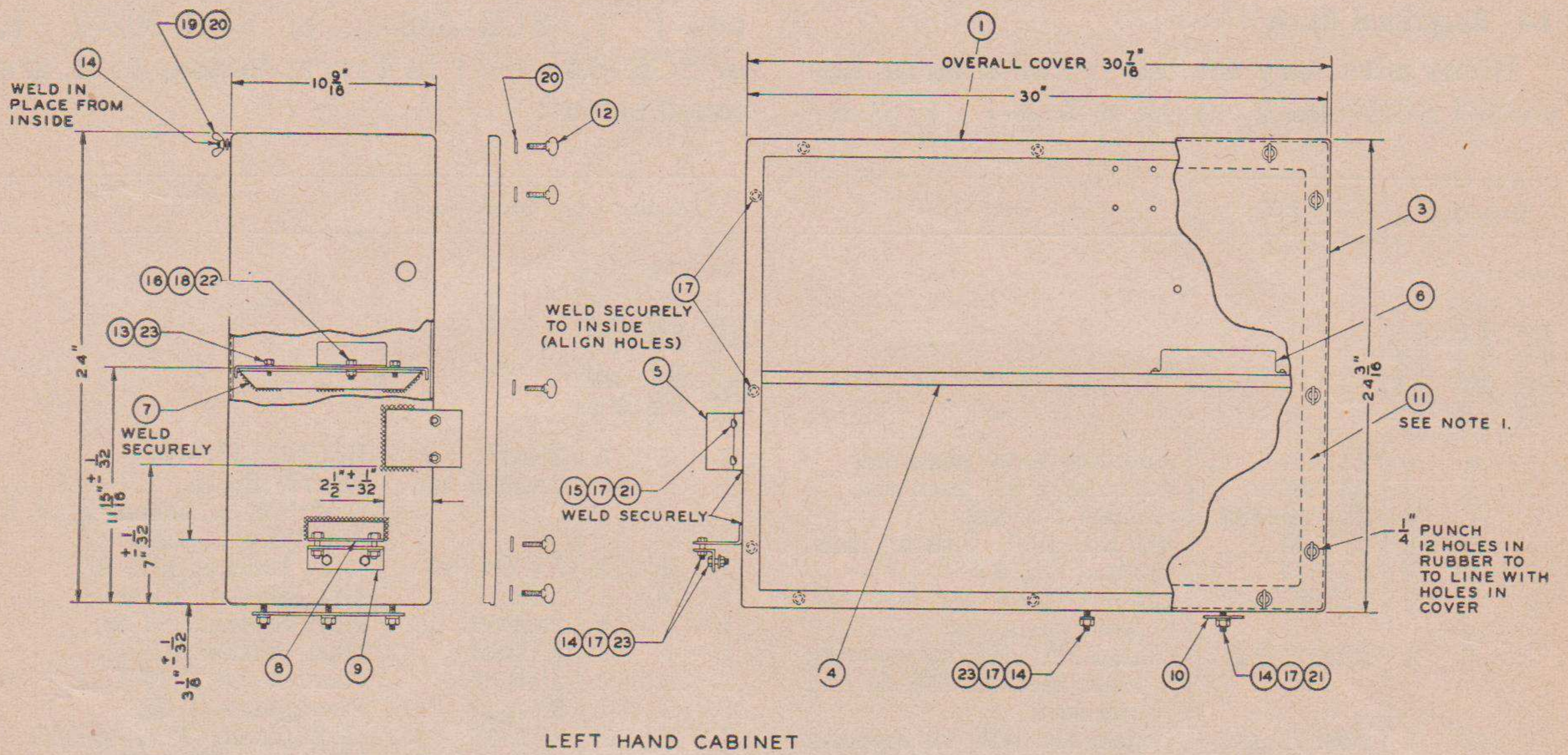


ITEM NO.	NAME OF ITEM	QUAN. REQ.	REMARKS	ITEM NO.	NAME OF ITEM	QUAN. REQ.	REMARKS
1	LEFT HAND CABINET	1	SEE FIG. 16	13	HEX. HEAD MACH. SCREW	4	1/4"-20 X 1/2" LONG
2	RIGHT HAND CABINET	1	SEE FIG. 15	14	HEX. HEAD MACH. SCREW	16	1/4"-20 X 3/4" LONG
3	COVER	2	SEE FIG. 14	15	ROUND HEAD MACH. SCREW	4	1/4"-20 X 1/2" LONG
4	SHELF	1	SEE FIG. 14	16	ROUND HEAD MACH. SCREW	2	#8-32 X 1/2" LONG
5	BRACKET	2	SEE FIG. 14	17	HEX NUT	42	1/4"-20 STD.
6	COVER	1	SEE FIG. 14	18	HEX NUT	2	#8-32 STD.
7	SHELF SUPPORT	2	SEE FIG. 14	19	WING NUT	2	1/4"-20 STD.
8	BRACKET	2	SEE FIG. 14	20	WASHER	26	S.A.E. STD. FOR 1/4" SCREW
9	BRACKET	2	SEE FIG. 14	21	LOCKWASHER	8	S.A.E. REG. FOR 1/4" SCREW
10	REINFORCING PLATE	2	SEE FIG. 14	22	LOCKWASHER	2	S.A.E. REG. FOR #8 SCREW
11	STRIPPING	AS REQ.	RUBBER	23	LOCKWASHER	24	1/4" I.E.T.
12	THUMB SCREW	24	1/4"-20 X 1" LONG				

TL-13308-1

Figure 17. Installation Kit MC-515, assembly.





- NOTES
1. (11) 1/2" X 1 1/4" SYNTHETIC RUBBER STRIPPING SECURELY CEMENTED TO (3) WITH ELASTIC CEMENT.
  2. (23) WHERE SHOWN WITH (14) IS PLACED UNDER HEAD OF SCREW AND UNDER NUT.

TL-13308

Figure 17—Continued



SECTION VI

RADIO SET SCR-508-( ), SCR-528-( ), SCR-608-( ), SCR-628-( ),  
SCR-808-( ), OR SCR-828-( ).

14. Required Parts

Items necessary for the installation of Radio Set SCR-508-( ), SCR-528-( ), SCR-

608-( ), SCR-628-( ), SCR-808-( ), or SCR-828-( ) in Truck, 1/4-ton, 4 x 4, are listed below:

Quantity	Stock No.	Item	Quantity	Stock No.	Item
1 0 0	2A262	Antenna A-62, phantom.	3 3 3	3G621	Insulator IN-121.
0 1 1	2A283	Antenna A-83, phantom.	1 1 1	2A2088-48	Mast Base MP-48 or MP-48-A, including 6 ft of Wire W-128.
1 1 1	2Z1203-422	Bracket FT-422.			
0 1 0	2Z1140	Box BX-40-( ), for crystals.			
1 1 1	2Z1574	Cabinet CH-74-( ).	1 1 1	2A2090-50	Mast Bracket MP-50.
0 1 1	6F796	Chest CH-96, for headsets, spare parts, etc.	1 1 1	2A2351	Mast Section MS-51.
1 1 1	2Z2651-423	Clamp MC-423, for securing Mast Sections MS-51 and MS-52.	1 1 1	2A2352	Mast Section MS-52.
1 1 1	2Z2651-424	Clamp MC-424, for securing Mast Sections MS-52 and MS-53.	1 1 1	2A2353	Mast Section MS-53.
1 1 1	6Z3147	Connector No. 61007 and Bondnut BL-50 (Appleton).	1 1 1	2B1617	Microphone T-17-( ).
2 2 2	3E1307A-5.5	Cord CD-307-A, 65", for Headset HS-30-( ).	1 1 1	2B1645	Microphone T-45.
1 1 1	3E1318	Cord CD-318-( ), for Microphone T-45.	2 2 2	2B1567	Microphone Cover M-367.
2 2 2	3E1604	Cord CD-604, 6", for connecting Headset HS-30-( ) to Cord CD-307-A.	1 1 1	2Z6721-237	Mounting FT-237-( ), including Cord CO-278 and necessary hardware for mounting.
1 1 1	2Z3396	Cover BG-96-( ), for radio set.	1 1 1	2Z6721-285	Mounting FT-285-( ), including hardware for mounting.
0 0 1	2Z3398	Cover BG-98-( ), for radio set.	2 0 0	2C4403	Radio Receiver BC-603-( ), includes set of installed tubes and spare fuses and lamps (one only required for SCR-528-( )).
1 1 1	2Z3400-108	Cover BG-108, for mast base.	1 0 0	2C6494	Radio Transmitter BC-604-( ), includes installed tubes and necessary crystals.
2 2 0	3H1634	Dynamotor DM-34-( ), 12-volt, including attached spare parts. (Only one required for Radio Set SCR-528-( ) or SCR-628-( ).)	0 2 0	2C4460-683	Radio Receiver BC-683-( ), including tubes, fuses and lamps (one only required for SCR-628-( )).
1 1 0	3H1635	Dynamotor DM-35-( ), 12-volt, including attached spare parts.	0 1 0	2C6530-684	Radio Transmitter BC-684-( ), including tubes and necessary crystals.
0 0 2	3H1664	Dynamotor DM-64-( ), 12-volt, including attached spare parts. (Only one required for SCR-828-( ).)	0 0 2	2C4923	Radio Receiver BC-923-( ), including tubes, fuses, and lamps (one only required for SCR-828-( )).
0 0 1	3H1665	Dynamotor DM-65-( ), 12-volt, including attached spare parts.	0 0 1	2C6596-924	Radio Transmitter BC-924-( ), including tubes and necessary crystals.
1 1 1	6L50-508V26	Hardware bag.	2 2 2	2Z7069-429	Reinforcing Plate FT-429.
2 2 2	2B830	Headset HS-30-( ).	1 1 1	2Z8056	Roll BG-56-( ), for antenna mast sections.
			2 2 2		Strap (item 45, fig. 25).



## 15. Assembly and Installation

a. PRELIMINARY CHECK. Radio Set SCR-508-( ), SCR-528-( ), SCR-608-( ), SCR-628-( \*), SCR-808-( ), or SCR-828-( ) may be installed in truck, 1/4-ton, 4 x 4, with either of the following 12-volt conversion kits. Check to see that the conversion has been made before beginning installation.

(1) Under-the-hood conversion kit in which all 6-volt electrical components of the vehicle are replaced by 12-volt components. Two 6-volt storage batteries, one originally furnished with the truck, and one supplied with the conversion kit, are installed between the front seats to furnish, in series, 12-volt

power supply for both the radio set and the vehicular system.

(2) Power-take-off conversion kit in which a 12-volt generator and regulator is mounted over the transmission of the vehicle, to be driven by a belt and pulley operated off the shaft of the transmission. Two 6-volt storage batteries are supplied with the conversion kit and are installed, one behind each front seat. These two batteries, in series, furnish 12-volt power for operation of the set independently of the 6-volt system of the vehicle.

b. PROCEDURE. Components of the radio set should be installed as shown in figure 25 and as directed below.

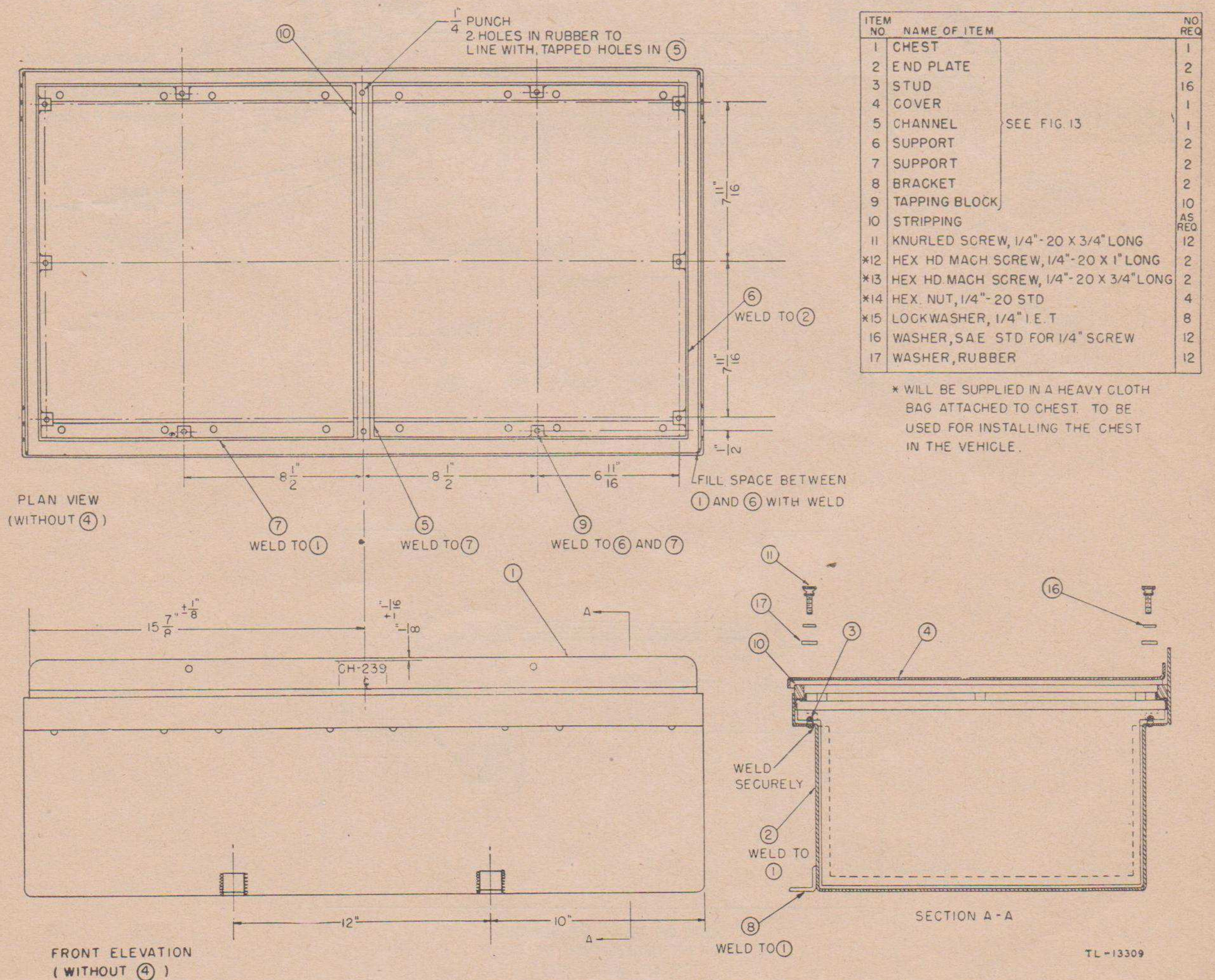
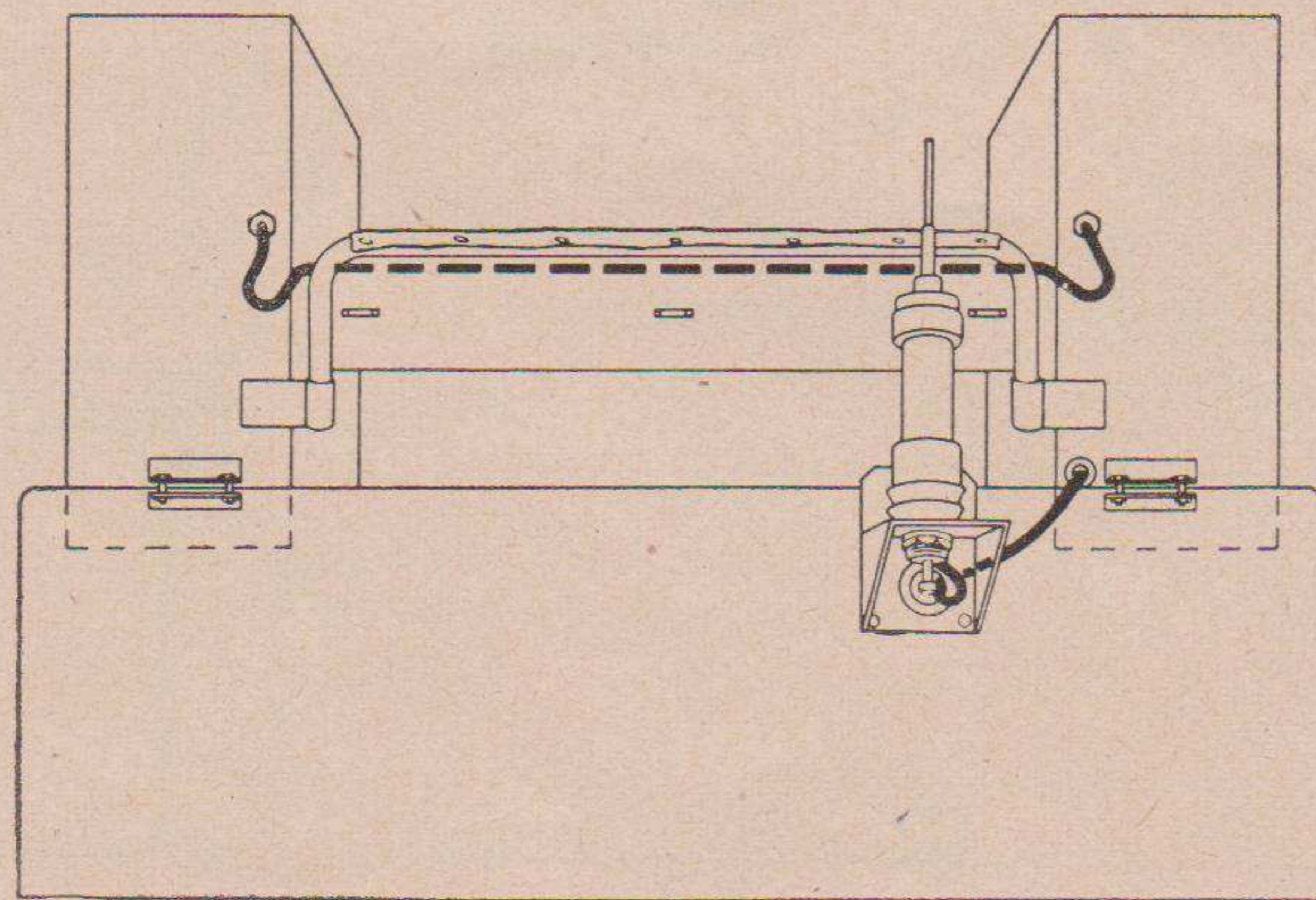
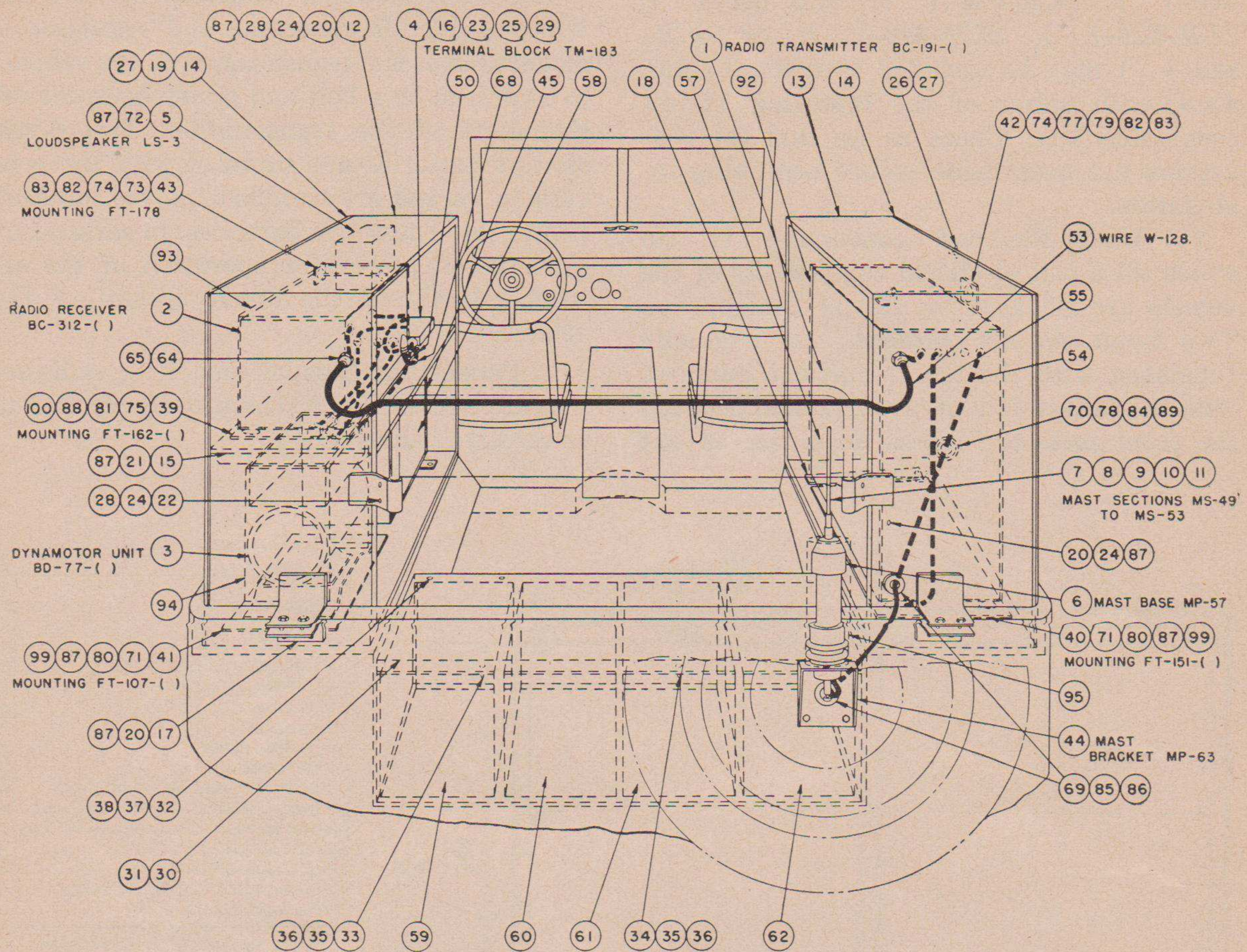


Figure 18. Chest CH-239, assembly.





VIEW OF REAR OF VEHICLE  
SHOWING RELOCATION OF REAR  
SEAT BACK REST  
(SPARE WHEEL NOT SHOWN)

TL-12445-1

Figure 19. Installation of Radio Set SCR-193-KW (waterproof) in Truck, 1/4-ton, 4x4 (front and rear views and details).



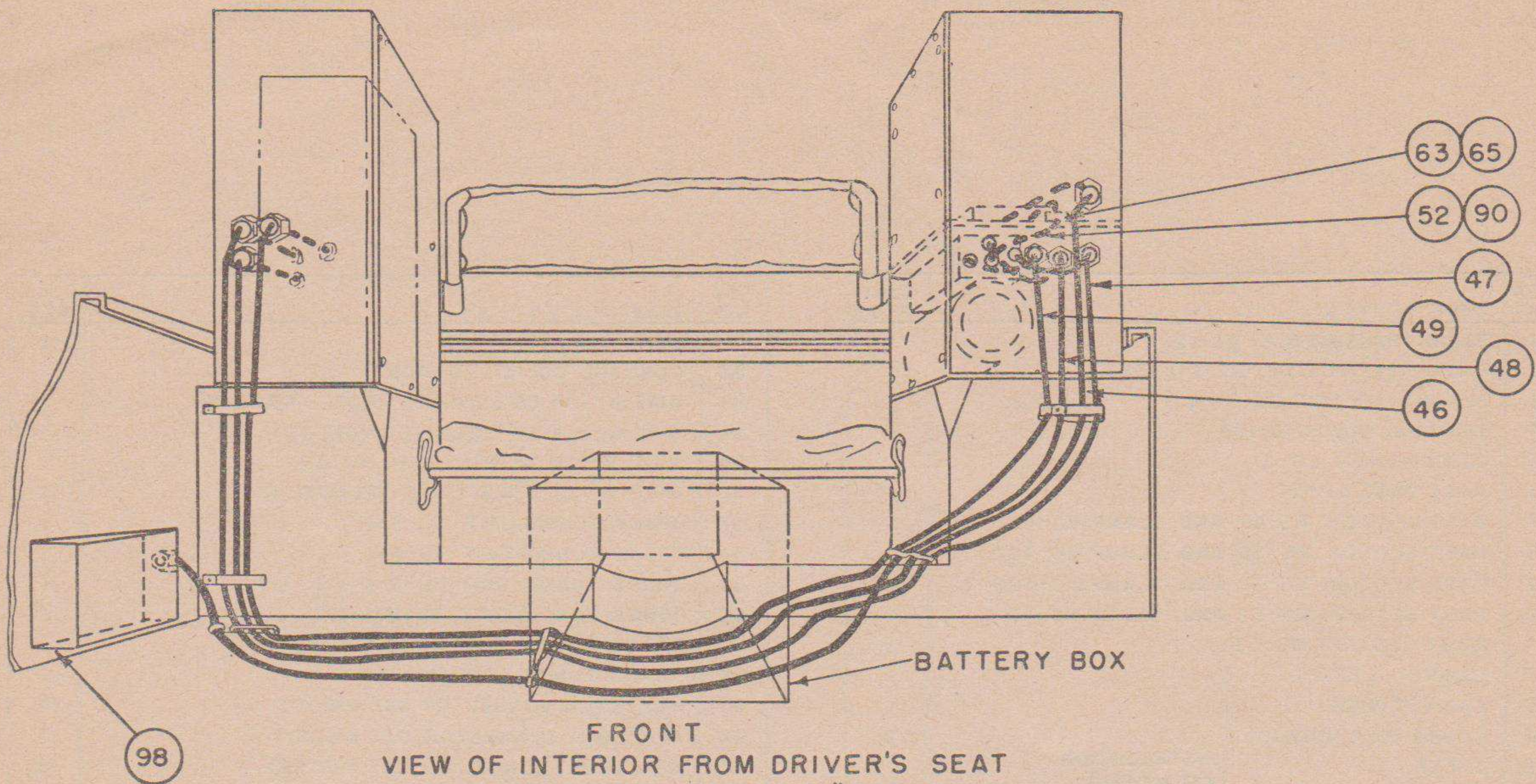
ITEM NO.	NAME OF ITEM	QUAN REQ
1	RADIO TRANSMITTER BC-191-( )	1
2	RADIO RECEIVER BC-312-( ) (SEE NOTE 20)	1
3	DYNAMOTOR UNIT BD-77-( )	1
4	TERMINAL BLOCK TM-183	1
5	LOUDSPEAKER LS-3	1
6	MAST BASE MP-57	1
7	MAST SECTION MS-49 AND CLAMP MC-421	1
8	MAST SECTION MS-50 AND CLAMP MC-422	1
9	MAST SECTION MS-51 AND CLAMP MC-423	1
10	MAST SECTION MS-52 AND CLAMP MC-424	1
11	MAST SECTION MS-53	1
12	CABINET, LEFT	1
13	CABINET, RIGHT	1
14	COVER (SEE NOTE 10)	2
15	SHELF	1
16	COVER	1
17	BRACKET	2
18	REINFORCING PLATE	2
19	THUMB SCREW 1/4"-20 X 1" LONG	24
20	HEX. HD. MACH. SCREW 1/4"-20 X 3/4" LONG	16
21	HEX. HD. MACH. SCREW 1/4"-20 X 1/2" LONG	4
22	RD. HD. MACH. SCREW 1/4"-20 X 1/2" LONG	4
23	RD. HD. MACH. SCREW #8-32 X 3/4" LONG	2
24	HEX. NUT 1/4"-20 ST'D.	20
25	HEX. NUT #8-32 ST'D.	2
26	WING NUT 1/4"-20 ST'D.	2
27	PLAIN WASHER S.A.E. ST'D. FOR 1/4" SCREW	26
28	LOCKWASHER S.A.E. REG. FOR 1/4" SCREW	8
29	LOCKWASHER S.A.E. REG. FOR #8 SCREW	2
30	CHEST CH-239 (SEE NOTE 8)	1
31	COVER	1
32	KNURLED SCREW 1/4"-20 X 3/4" LONG	12
33	HEX. HD. MACH. SCREW 1/4"-20 X 1" LONG	2
34	HEX. HD. MACH. SCREW 1/4"-20 X 3/4" LONG	2
35	HEX. NUT 1/4"-20 ST'D.	4
36	SHAKEPROOF WASHER 1/4" ST'D.	8
37	PLAIN WASHER S.A.E. ST'D. FOR 1/4" SCREW	12
38	RUBBER WASHER	12
39	MOUNTING FT-162	1
40	MOUNTING FT-151-( )	1
41	MOUNTING FT-107-( )	1
42	MOUNTING FT-172	1
43	MOUNTING FT-178	1
44	MAST BRACKET MP-63	1
45	CASE CS-48	1
46	CORD CD-1171 10'-6" LONG	1
47	CORD CD-1172 12' LONG	1
48	CORD CD-1173 10' LONG	1
49	CORD CD-175 12' LONG	1
50	CORD CD-270 18" LONG	1

ITEM NO.	NAME OF ITEM	QUAN REQ
51	CORD CD-265	1
52	CORDAGE CO-131 29" REQ.	1
53	WIRE W-128 55" LONG (SEE NOTES 4 AND 19)	1
54	WIRE W-128 33" LONG (SEE NOTE 3)	1
55	WIRE W-128 25" LONG (SEE NOTE 4)	1
56	WIRE W-128 5-1/2" LONG (SEE NOTE 4)	1
57	TRANS. TUNING UNIT TU-5-( )	1
58	TRANS. TUNING UNIT TU-6-( )	1
59	TRANS. TUNING UNIT TU-7-( )	1
60	TRANS. TUNING UNIT TU-8-( )	1
61	TRANS. TUNING UNIT TU-9-( )	1
62	TRANS. TUNING UNIT TU-10-( )	1
63	APPLETON CONNECTOR CAT. #61007	8
64	APPLETON CONNECTOR CAT. #61004	2
65	APPLETON BOND NUT CAT. #BL-50	10
66	CLAMP #10	6
67	CLAMP #5	4
68	CLAMP #4 (SEE NOTE 17)	1
69	INSULATOR IN-121	2
70	INSULATOR IN-98	1
71	RD. HD. MACH. SCREW 1/4"-20 X 3/4" LONG	19
72	HEX. HD. CAP SCREW 1/4"-20 X 5/8" LONG	4
73	BIND. HD. MACH. SCREW #8-32 X 5/8" LONG	4
74	RD. HD. MACH. SCREW #10-32 X 1" LONG	8
75	RD. HD. MACH. SCREW #10-32 X 3/4" LONG	10
76	FLAT HD. MACH. SCREW #10-32 X 1/2" LONG	6
77	FLAT HD. MACH. SCREW #8-32 X 3/4" LONG	4
78	RD. HD. MACH. SCREW #8-32 X 3/4" LONG	3
79	FLAT HD. MACH. SCREW #8-32 X 5/8" LONG	4
80	HEX. NUT 1/4"-20 ST'D.	19
81	HEX. NUT #10-32 ST'D.	16
82	ELASTIC STOP NUT #10-32 ST'D.	8
83	ELASTIC STOP NUT #8-32 ST'D.	12
84	HEX. NUT #8-32 ST'D.	3
85	RUBBER WASHER	2
86	PLAIN WASHER 1-1/8" I.D. - 2" O.D.	1
87	SHAKEPROOF WASHER ST'D FOR 1/4" SCREW	36
88	SHAKEPROOF WASHER ST'D FOR #10 SCREW	4
89	LOCKWASHER S.A.E. REG. FOR #8 SCREW	3
90	TERMINAL	2
91	FOOTMAN'S LOOP 1" JAPANNED (SEE NOTE 13)	3
92	COVER BG-78-( )	1
93	COVER BG-75-( )	1
94	COVER BG-79-( )	1
95	COVER BG-67-( ) (SEE NOTE 5)	1
96	ROLL BG-56-( )	1
97	ELASTIC CEMENT (SEE NOTES 11 AND 14)	1
98	TERMINAL BOX (SEE NOTE 2)	1
99	LOCKWASHER 1/4" ST'D.	6
100	LOCK WASHER #10 ST'D.	14

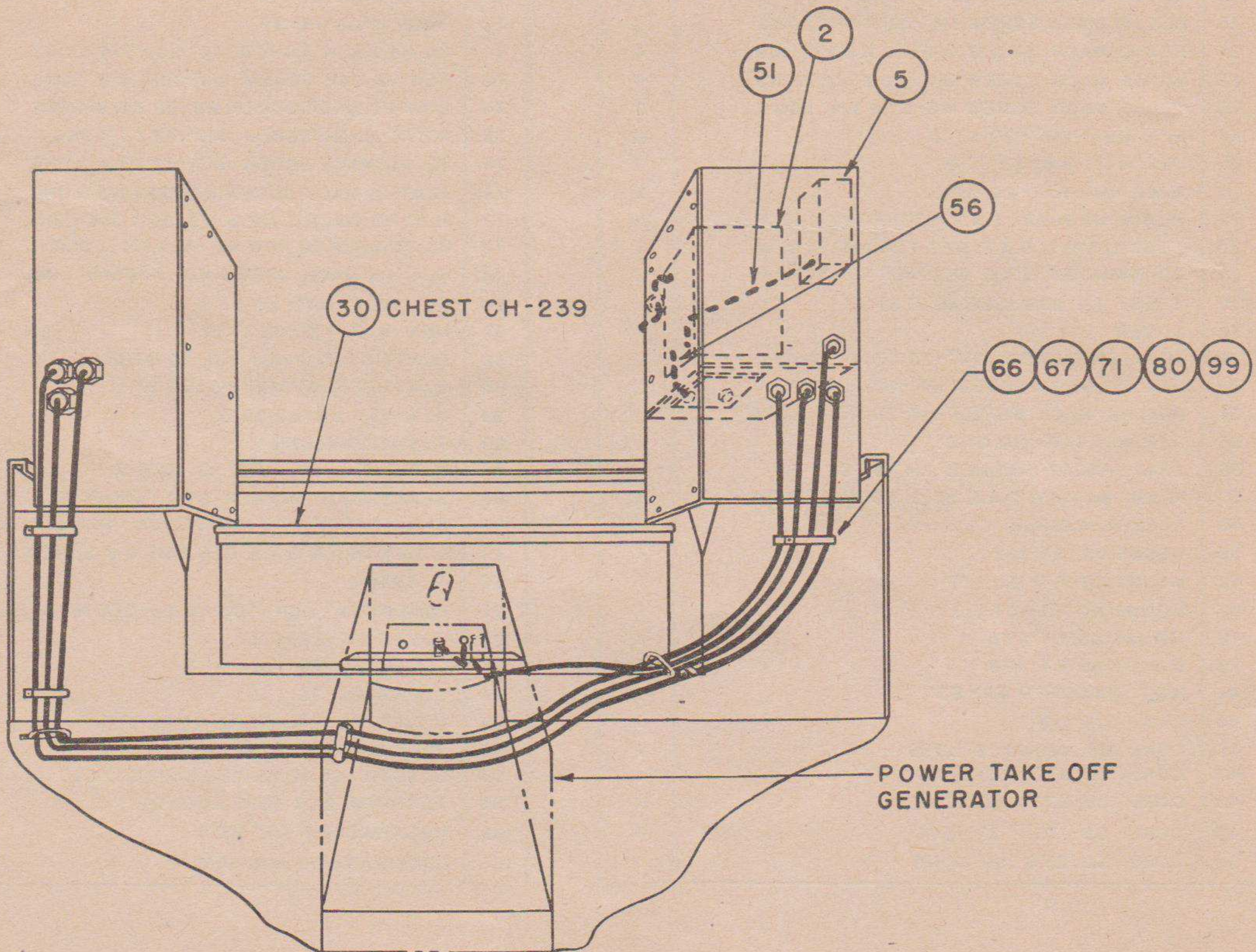
TL-12445-2

Figure 19—Continued





FRONT  
 VIEW OF INTERIOR FROM DRIVER'S SEAT  
 IN VEHICLES PROVIDED WITH "KIT, 12-VOLT  
 CONVERSION (TRUCK, 1/4 TON, 4 X 4)." STAND-  
 ARD REAR SEAT INSTALLED. (SEE NOTES 6 AND 7)

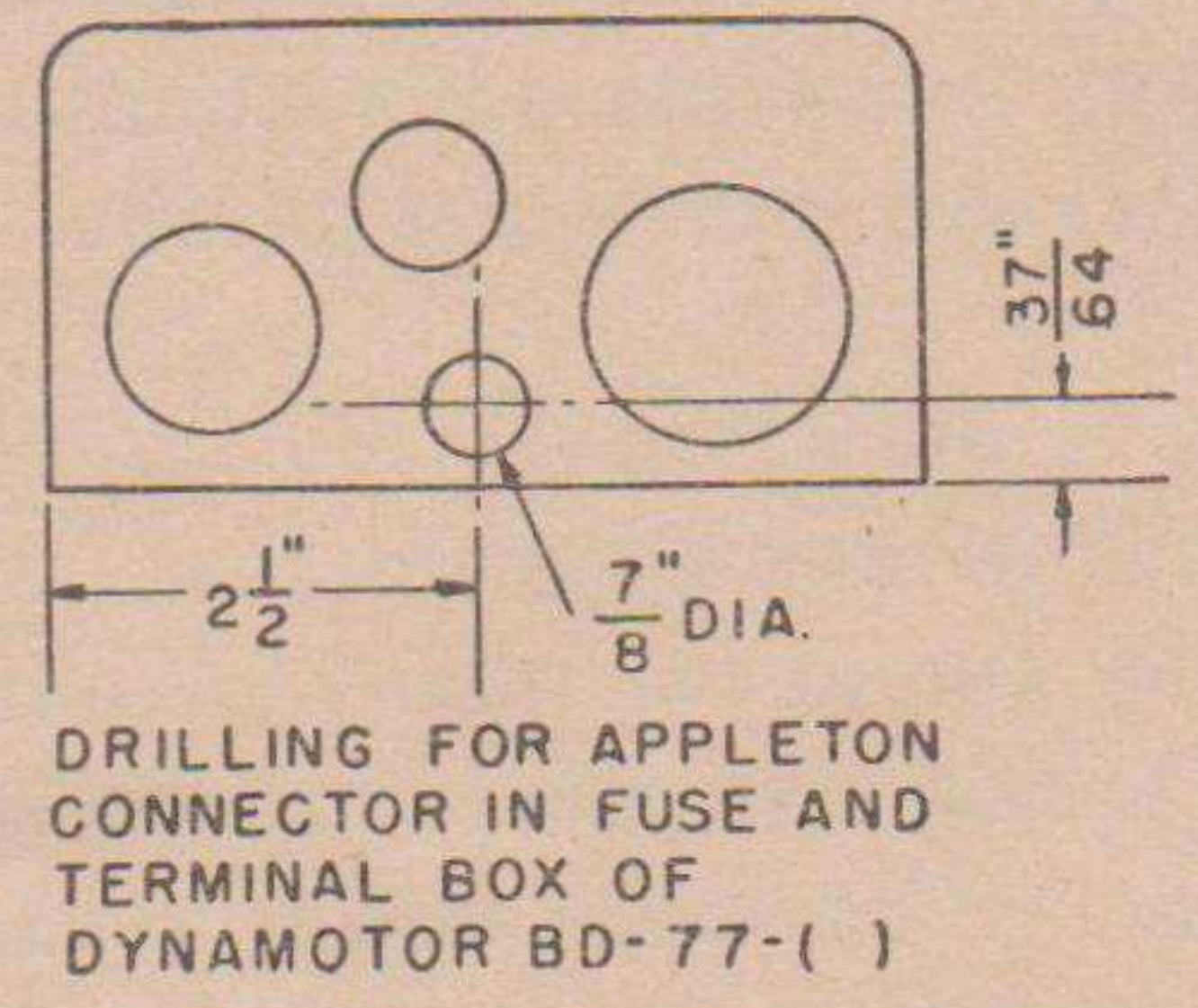
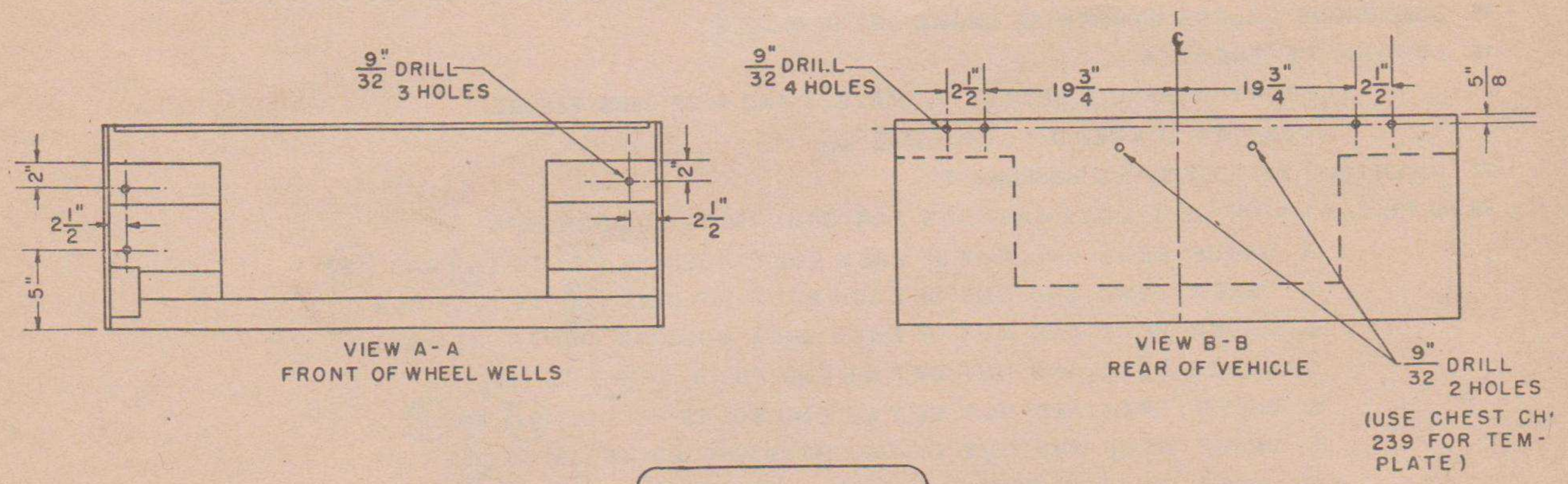
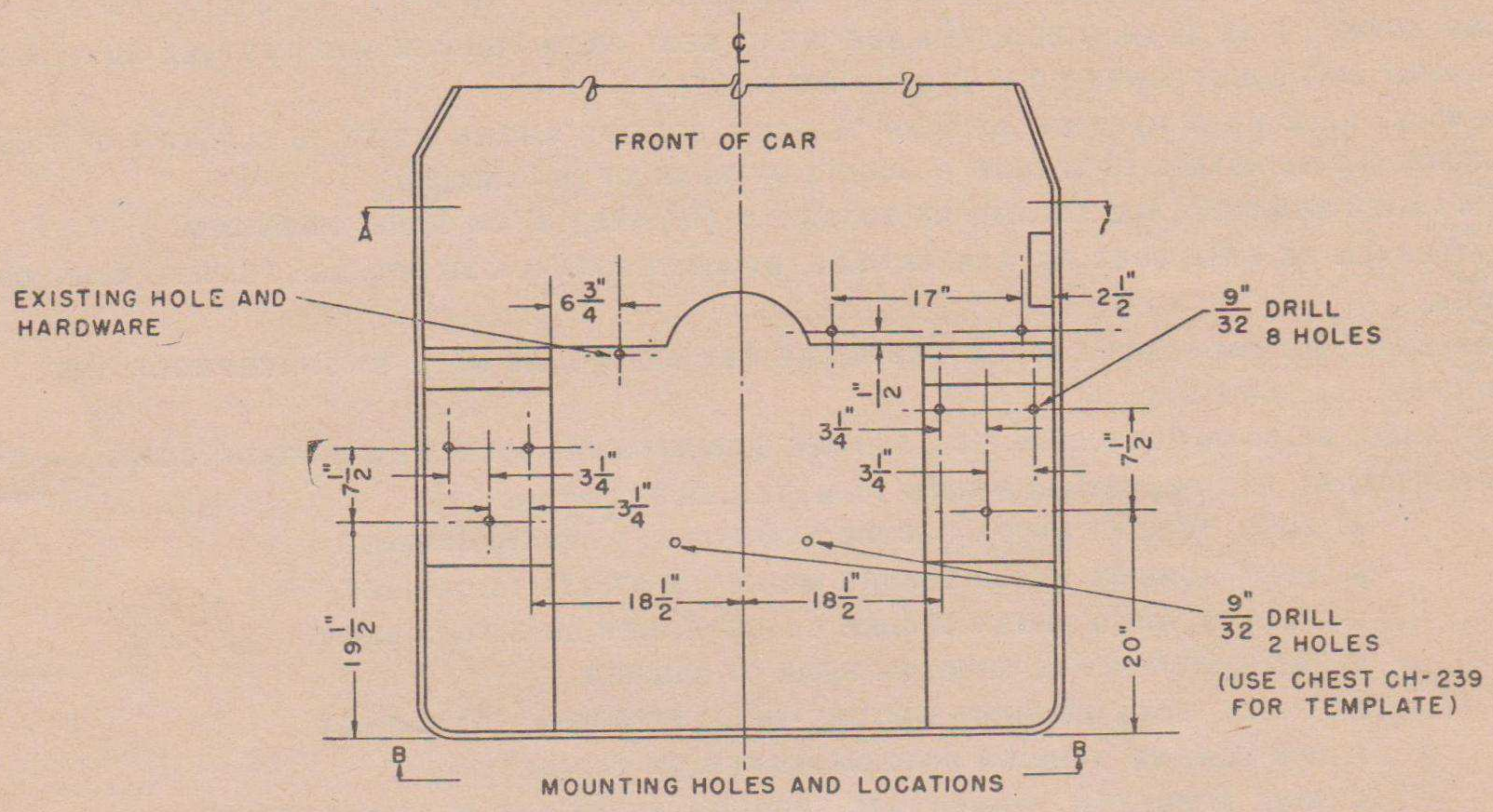
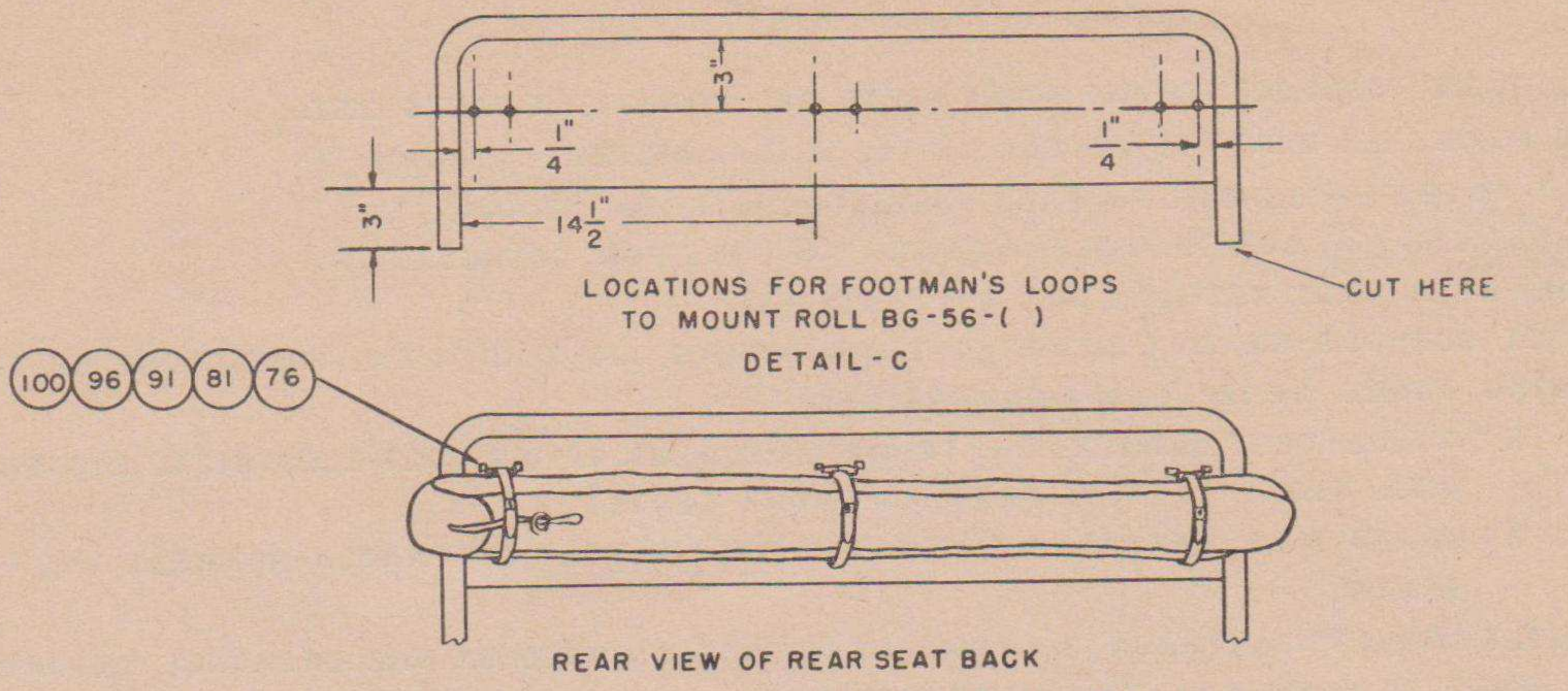


FRONT  
 VIEW OF INTERIOR FROM DRIVER'S SEAT IN  
 VEHICLE PROVIDED WITH 12-VOLT POWER  
 TAKE-OFF, SHOWING CHEST CH-239 INSTALLED.  
 (SEE NOTE 6)

TL-12445-3

Figure 19—Continued





TL-12445-4

Figure 19—Continued



NOTE:

1. FOR ADDITIONAL COMPONENTS AND SPARE PARTS SEE COMPONENT PARTS LIST.
2. (98) IS FURNISHED WITH THE VEHICLE BY THE MANUFACTURER.
3. (54) CUT TO PROPER LENGTH. TIN ENDS FOR ANTENNA CONNECTIONS.
4. (53) (55) AND (56) CUT TO PROPER LENGTH. TIN ENDS FOR CONNECTIONS
5. USE (95) WHEN MAST SECTIONS ARE NOT INSTALLED.
6. RADIO SET SCR-193-KW MAY BE INSTALLED IN TRUCKS, 1/4-TON, 4 X 4, HAVING ONE OF THE FOLLOWING TYPES OF 12-VOLT CONVERSIONS:
  - A. "KIT, 12-VOLT CONVERSION (TRUCK, 1/4-TON, 4 X 4)" (12-VOLT ELECTRICAL SYSTEM, WITH TWO BATTERIES BETWEEN FRONT SEATS)
  - B. POWER TAKE-OFF 12-VOLT CONVERSION. (12-VOLT GENERATOR BETWEEN FRONT SEATS).
7. "KIT, 12-VOLT CONVERSION (TRUCK, 1/4-TON, 4 X 4)" IS FURNISHED BY THE ORDNANCE DEPARTMENT.
8. IF THE ISSUE OF AUXILIARY TRANSMITTER TUNING UNITS TU-7-( ), TU-8-( ), TU-9-( ) AND TU-10-( ) IS AUTHORIZED, REMOVE REAR SEAT FROM VEHICLE AND INSTALL AUXILIARY TUNING UNIT CHEST, CHEST CH-239, IN ITS PLACE.
9. REMOVE BACK REST PORTION OF REAR VEHICLE SEAT AS SHOWN IN DETAIL C, PART 4 OF THIS FIGURE, AND REINSTALL IN SLEEVE BRACKETS AT REAR OF (12) AND (13).
10. (14) WHEN REMOVED, ARE STOWED AT OUTSIDE OF (12) AND (13) ON STUDS PROVIDED.
11. (97) SHALL BE #3M, SPEC. EC-226, AS MADE BY MINNESOTA MINING MFG. CO., ST. PAUL, MINN., OR EQUAL.
12. (88) SHALL BE CAT.#1210-1 AND (87) SHALL BE CAT.#1214-1, AS MADE BY SHAKEPROOF, INC., CHICAGO, ILL., OR EQUAL.
13. (91) SHALL BE CAT.#1165 (JAPANNED), AS MADE BY NORTH AND JUDD, NEW BRITAIN, CONN., OR EQUAL.
14. APPLY (97) AT THE FOLLOWING POINTS TO WATERPROOF (12) AND (13):
  - A. FOUR SCREWS WHICH SECURE MOUNTING FT-172 TO CABINET.
  - B. FOUR SCREWS WHICH SECURE MOUNTING FT-178 TO CABINET.
  - C. FOUR SCREWS WHICH SECURE LOUDSPEAKER LS-3 TO CABINET.
  - D. INSULATOR IN-121 THROUGH REAR OF CABINET.
  - E. THREE SCREWS WHICH SECURE INSULATOR IN-98 TO CABINET
  - F. SIX SCREWS THROUGH BOTTOM PLATES OF CABINETS
  - G. NINE APPLETON CONNECTORS THROUGH FRONT AND REAR PLATES OF CABINETS.
15. DIMENSIONS UNLESS OTHERWISE SHOWN ARE IN INCHES.
16. DRAWING REFERENCES:

FRONT VIEW AND DETAILS - PARTS 3 AND 4 OF THIS FIGURE  
CORDING DIAGRAM - - - - - FIG. 20
17. MOUNT (68) WITH EXISTING HARDWARE
18. APPLICATION OF I.E. T. LOCKWASHERS FOR GROUNDING COMPONENTS:
  - A. UNDER HEAD AND NUT OF EACH BOLT HOLDING (17) TO (12) AND (13)
  - B. UNDER HEAD AND NUT OF EACH BOLT HOLDING (17) TO VEHICLE
  - C. UNDER HEAD AND NUT OF EACH BOLT HOLDING (30) TO VEHICLE.
  - D. UNDER HEAD AND NUT OF TWO END BOLTS OF (40) TO (13)
  - E. UNDER HEAD AND NUT OF TWO END BOLTS HOLDING (41) TO (12)
  - F. UNDER HEAD AND NUT OF TWO MOUNTING BOLTS (39) TO (15)
  - G. UNDER HEAD OF EACH MOUNTING BOLT HOLDING (15) TO (12)
  - H. BETWEEN (45) AND (12) AND UNDER NUT OF BOLT ON LEFT FRONT OF (45) THROUGH (12) AND VEHICLE
  - I. UNDER HEAD OF BOLTS OF (5) TO (12)
  - J. UNDER HEAD AND NUT OF ONE BOLT HOLDING (13) TO VEHICLE.
19. (53) IS ROUTED BETWEEN CUSHION AND METAL FRAME OF BACK OF REAR SEAT
20. RADIO RECEIVER BC-312-( ), (2), SHALL BE GROUNDED TO MOUNTING FT-162-( ), (39), BY (56) AND BY APPLICATION OF TWO 1/4" BONDING BRAID STRAPS BETWEEN THumbnUTS ON FRONT OF (2) AND MOUNTING SCREWS OF (39)

TL-12445-5



*Part and Location*

Mounting FT-285-( ), and Strap (item 45, fig. 25), in rear of vehicle, center.

Cabinet CH-74-( ), on Mounting FT-285-( ).

Mounting FT-237-( ), in Cabinet CH-74-( ).

Mast Bracket MP-50, Bracket FT-422, and Reinforcing Plate FT-429, on the right side of the vehicle body, at the rear.

Insulators IN-121.

Mast Base MP-48 or MP-48-A, on Mast Bracket MP-50.

Mast Sections MS-51 to MS-53 and Clamps MC-423 and MC-424, on the mast base.

Cover BG-108.

*Method and Materials*

Attach the mounting to the floor of the vehicle with the hardware provided. Secure top of mounting to vehicle with strap (one at each end) as shown in figure 25.

Attach to the mounting with the screws and stop-nuts supplied in the bottom of the cabinet.

Attach the mounting to the floor of the cabinet with the hardware supplied with the mounting. Route Power Cord CO-278 to the car terminal box and secure as shown in figure 25.

Attach the mast bracket to the wheel housing with the reinforcing plate on the inside as shown in figure 25, using the hardware provided.

Install one insulator through the hole in the mast bracket and vehicle. Install the other insulators through the hole in the top of the right rear wheel-well and through one end of Cabinet CH-74-( ), as shown in figure 25.

If Mast Base MP-48 is supplied, refer to figure 26 and assemble as follows: Remove nuts and washers (items 2, 3, 4, and 5) from stem (item 1). Loosen setscrews (items 8 and 9) and pull assembly 7 out of the mast base and stow the assembly. Prepare assembly 6 as follows: Strip 1/2-inch of the insulation from each end of the proper length of wire W-128; clean and tin the ends. Solder lug (item 6B) to one end. Place the porcelain insulator (item 6C), neoprene washer (item 6D), and ceramic insulator (item 6E) over Wire W-128. Insert the assembly into the mast base and secure with setscrews (items 8 and 9). Make certain that item 6B is inserted into the mast base as far as it will go. Insert Wire W-128 and the stem (item 1) through the hole in the mast bracket and secure in place with items 2, 3, 4, and 5. Flex the mast base 90° and screw the retaining collar (item 18) on the end of the mast base stem (item 1) to secure the assembly in the mast base. Route the lead-in wire through Insulators IN-121 and attach to the TR binding post on Mounting FT-237-( ). If Mast Base MP-48-A is supplied, assemble as shown in figure 27.

Screw the mast sections together and secure with the clamps. Fasten the clamps to the male end of the mast sections. Then screw the mast antenna into the mast base. When not in use, carry the mast sections in Roll BG-56-( ).

Place on the mast base when the mast sections are not in use.



Part and Location

Radio Receiver BC-603-( ) or BC-683-( ) and Dynamotor DM-34-( ), on Mounting FT-237-( ). (Only one receiver and one dynamotor are used with Radio Set SCR-528-( ) or SCR-628-( ).)

Radio Transmitter BC-604-( ) or BC-684-( ) and Dynamotor DM-35-( ), on Mounting FT-237-( ).

Method and Materials

If Dynamotor DM-34-( ) is not already installed, proceed as follows: Remove receiver chassis from cabinet by loosening the screw lock in the rear center of the cabinet. Install the dynamotor unit on the top rear of the receiver chassis by means of four screws through its base. Place the receiver on Mounting FT-237-( ) in the position shown in figure 25 and secure by means of the thumbscrew lock.

If Dynamotor DM-35-( ) is not already installed in Radio Transmitter BC-604-( ) or BC-684-( ), proceed as follows: Remove crystal case from the transmitter cabinet by loosening the two screw locks on the front panel and pulling out the crystal case. Loosen the four screw locks holding cover on top of transmitter and remove the cover. Install the dynamotor unit in the left rear of the transmitter chassis by means of four screws through its base. Place transmitter unit on Mounting FT-237-( ) in the position shown in figure 25 and secure by means of the thumbscrew lock.

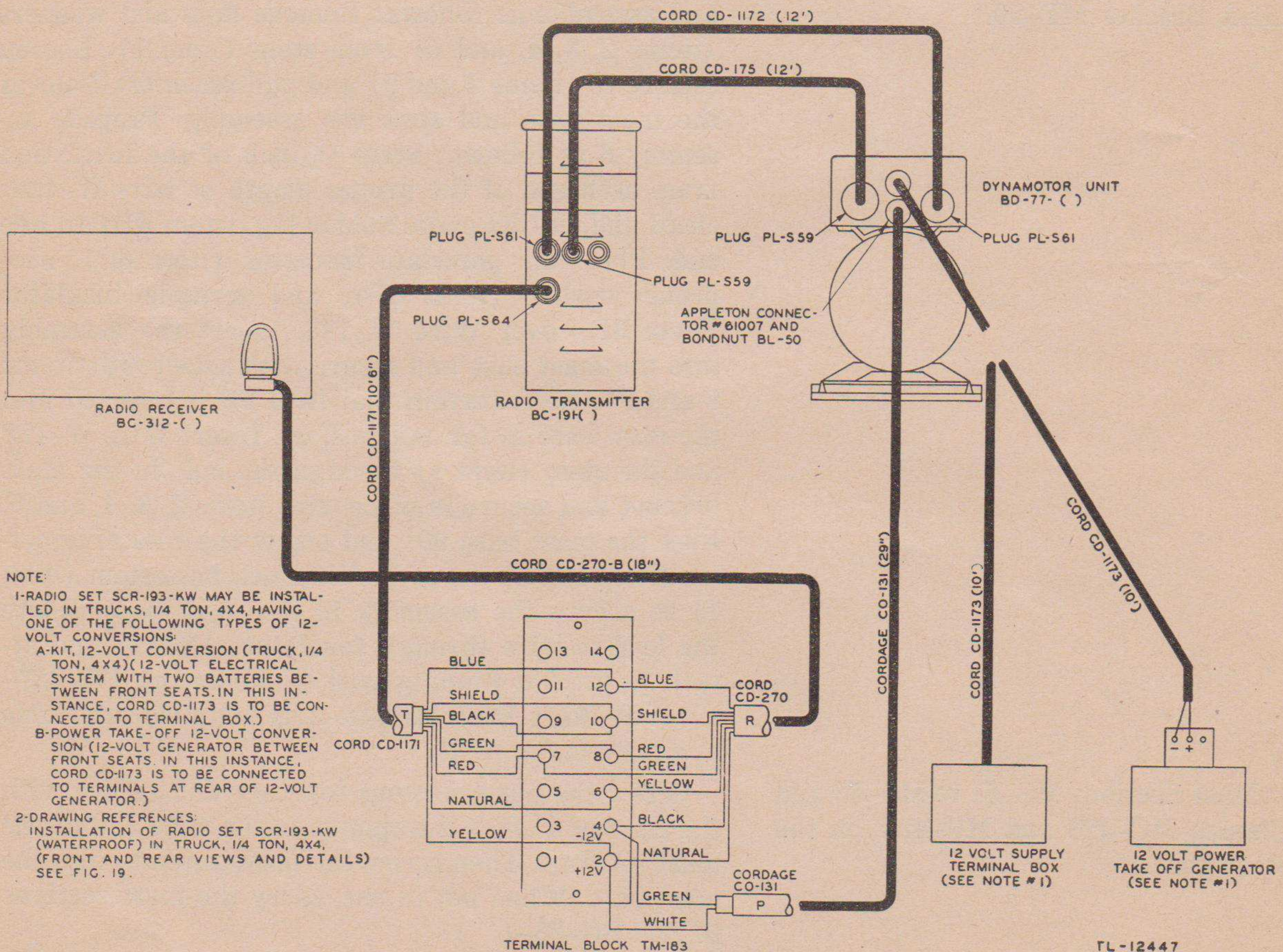


Figure 20. Cording diagram of Radio Set SCR-193-KW (waterproof) in Truck, 1/4-ton, 4x4.



*Part and Location*

Radio Receivers BC-923-( ) and Dynamotor DM-64-( ), on Mounting FT-237-( ). (Only one receiver and dynamotor are used with Radio Set SCR-828-( ).)

Radio Transmitter BC-924-( ) and Dynamotor DM-65-( ), on Mounting FT-237-( ). (For Radio Set SCR-808-( ) or SCR-828-( ).)

c. CORDING AND WIRING. (1) Cord and wire Radio Set SCR-508-( ), SCR-528-( ), SCR-608-( ), SCR-628-( ), SCR-808-( ), or SCR-828-( ) as shown in figure 25. Connect and secure so as not to interfere with the accessibility and operation of the equipment. Enough slack must be left to permit free movement of all units having shock mounting. Cording or cable likely to

*Method and Materials*

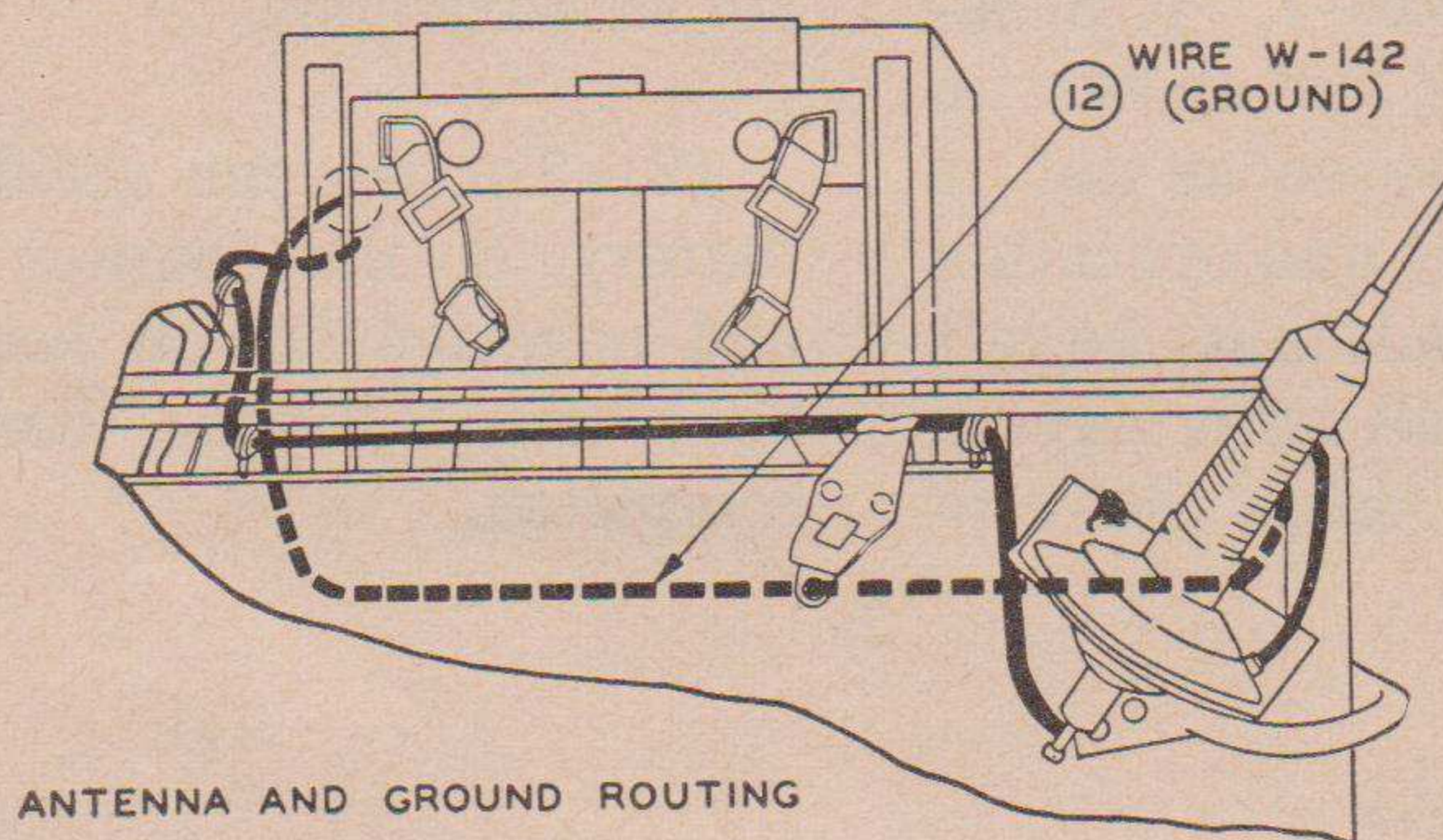
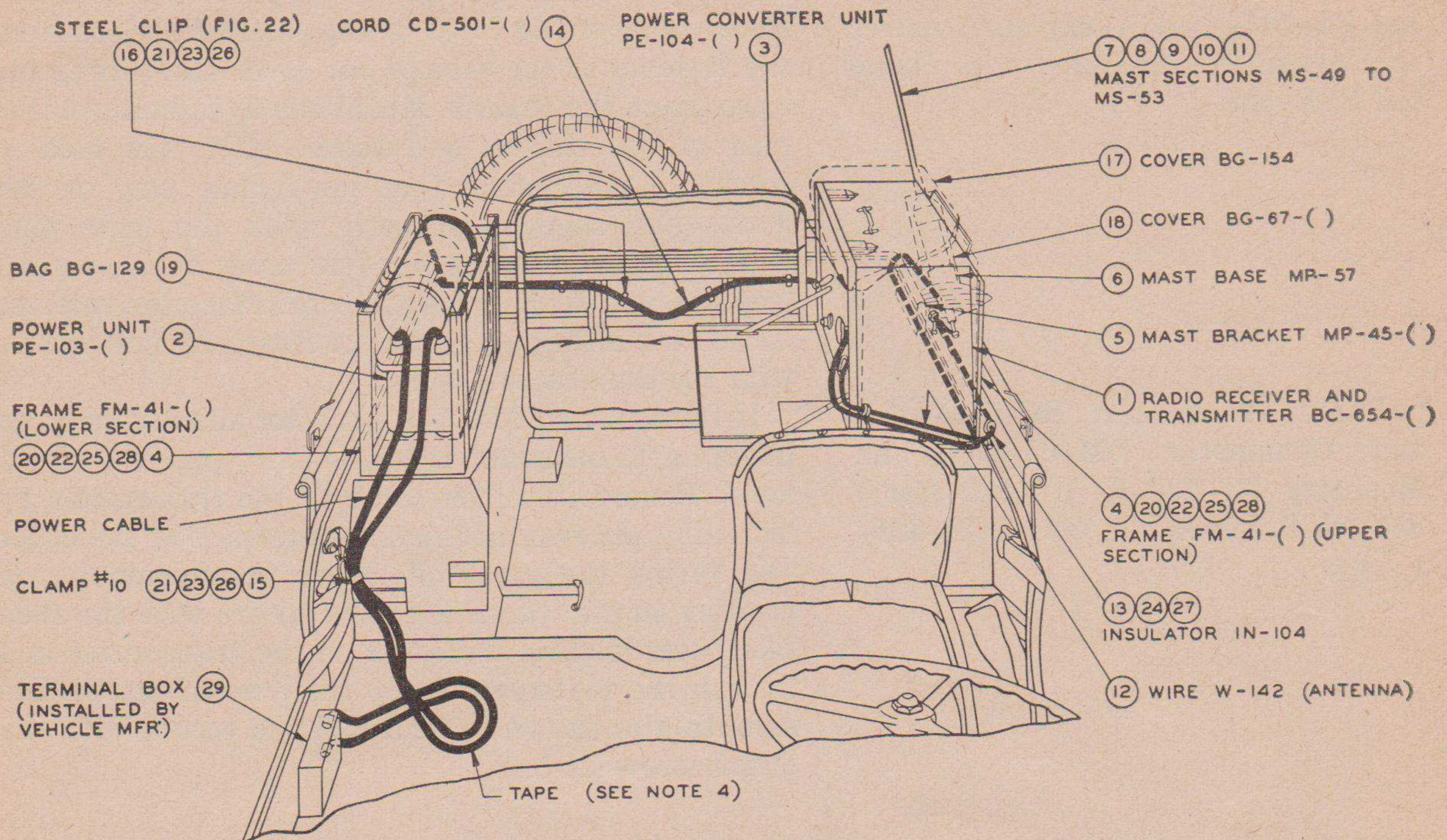
If Dynamotor DM-64-( ) is not already installed in Radio Receiver BC-923-( ), proceed as follows: Remove the shield cover of the receiver by loosening the fastener at the back of the cover and sliding the cover from the chassis. Mount the dynamotor on the rear of the chassis and secure with the hold-on screws. Make certain that the female plug on the dynamotor engages properly with the male plug on the chassis. Replace the dust cover in its original position, and tighten the fastener. Place the receiver on the mounting as shown in figure 25 and secure with the thumbscrew locks.

If Dynamotor DM-65-( ) is not already installed in Radio Transmitter BC-924-( ), proceed as follows: Remove the dust cover of the transmitter by loosening the two fasteners on the back of the cover and lifting the cover off. Place the dynamotor in position on the transmitter and secure with the slide fasteners. Replace the cover on the transmitter and tighten the fasteners. Place the transmitter on the mounting as shown in figure 25 and secure with the thumbscrew latch.

rub against sharp edges should be taped with at least two layers to prevent damage. Solder-tin all wire ends.

(2) To prevent accidental shorts of the battery, do not connect the positive 12-volt and negative 12-volt leads (in the terminal box) until all other connections have been completed.





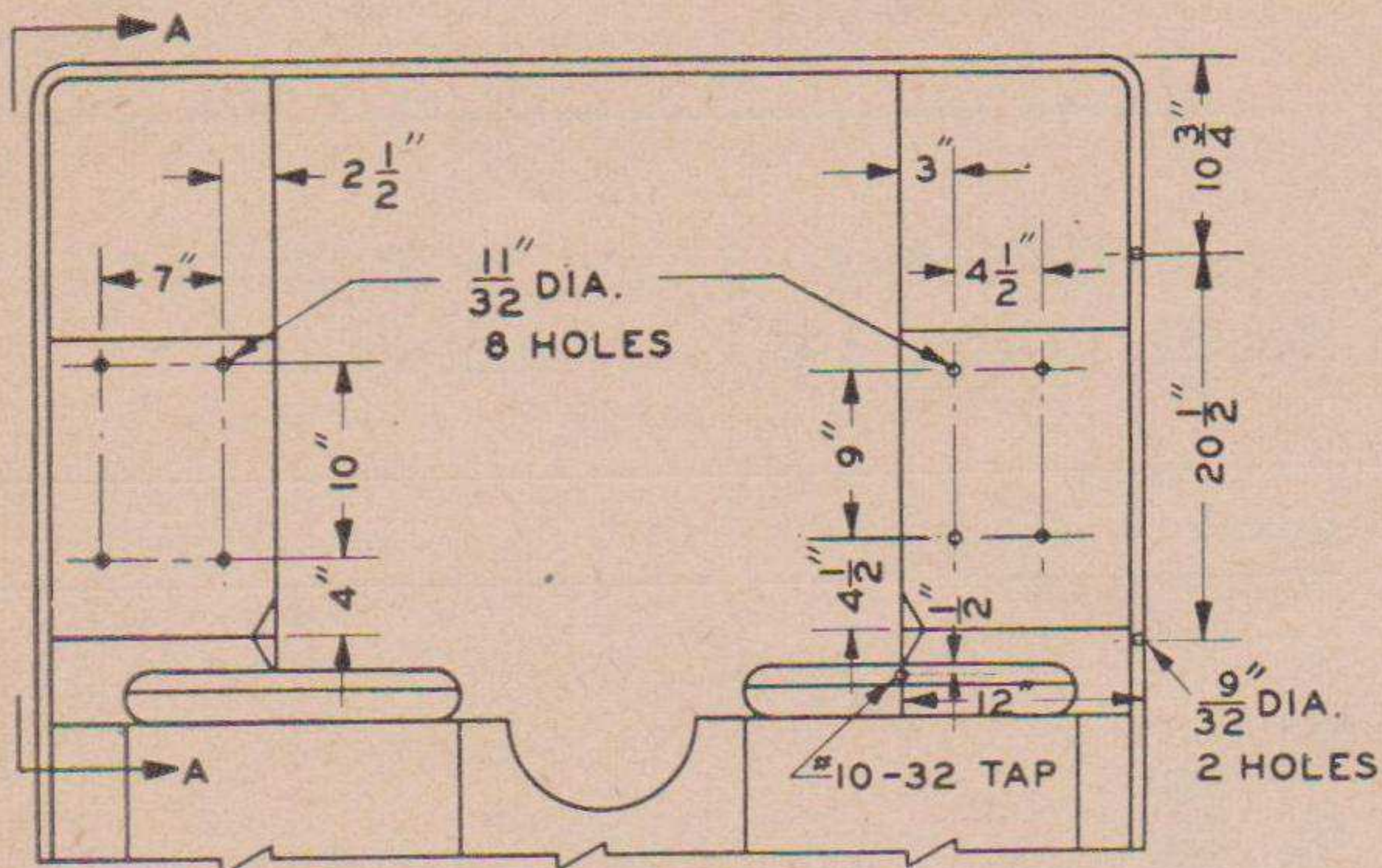
NOTES:

1. FOR ADDITIONAL COMPONENTS AND SPARE PARTS SEE COMPONENT PARTS LIST.
2. 12 CUT TO PROPER LENGTH. TIN ENDS FOR THE ANTENNA AND GROUND CONNECTIONS.
3. USE 18 WHEN MAST SECTIONS ARE NOT INSTALLED.
4. THE EXCESS POWER CABLE IS COILED ON THE FLOOR OF THE VEHICLE AND TAPED.
5. 29 IS SUPPLIED WITH THE VEHICLE BY THE MANUFACTURER.
6. CUT FRAME FM-41-(), 19 1/16 AND 11 7/8 INCHES FROM BOTTOM, AND REMOVE THE STOWAGE COMPARTMENT ON FRAME FM-41-() CONTAINING POWER CONVERTER UNIT PE-104-() OR THE BATTERY BA-43-().

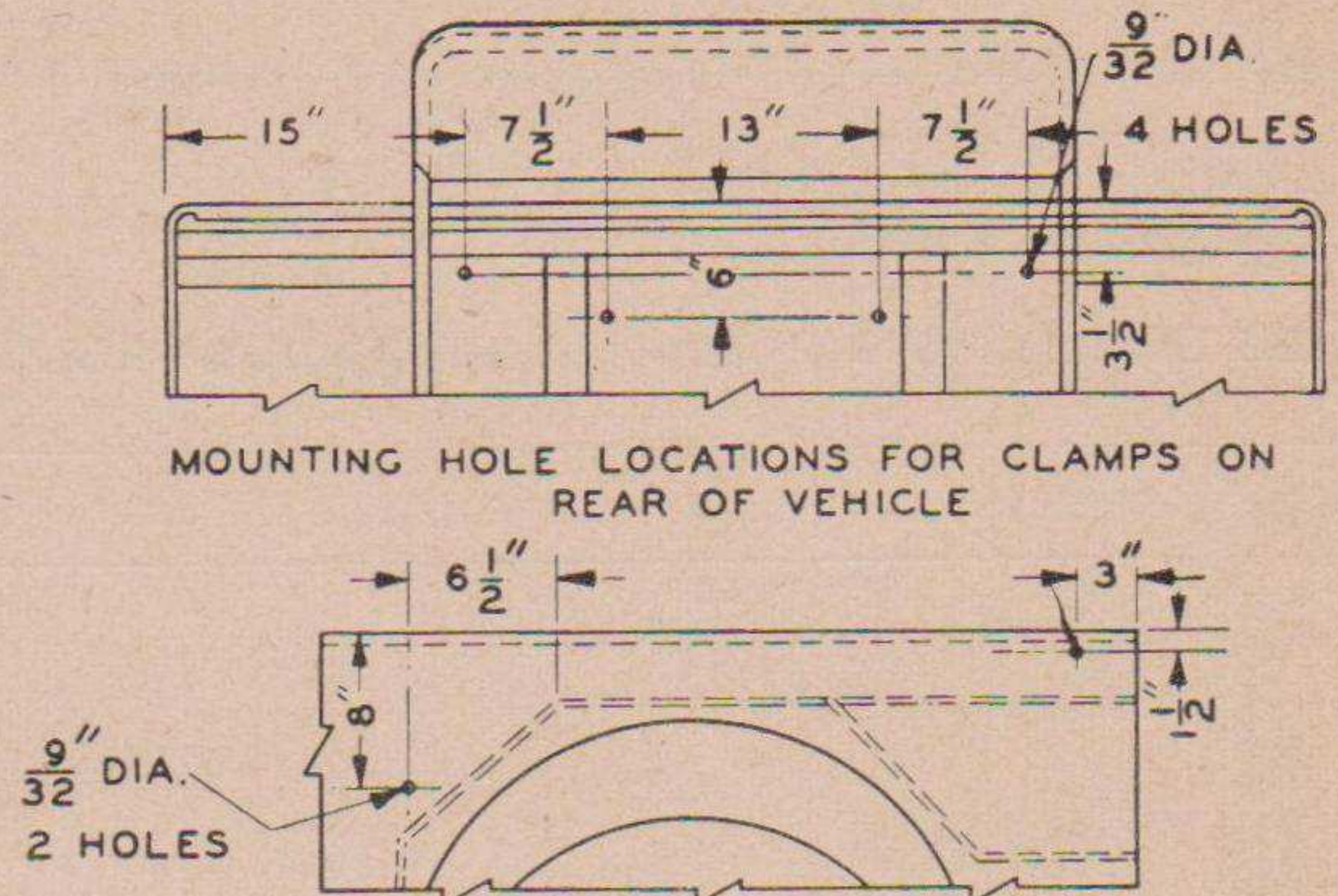
TL-13310-1

Figure 21. Installation of Radio Set SCR-284-() in Truck, 1/4-ton, 4x4.



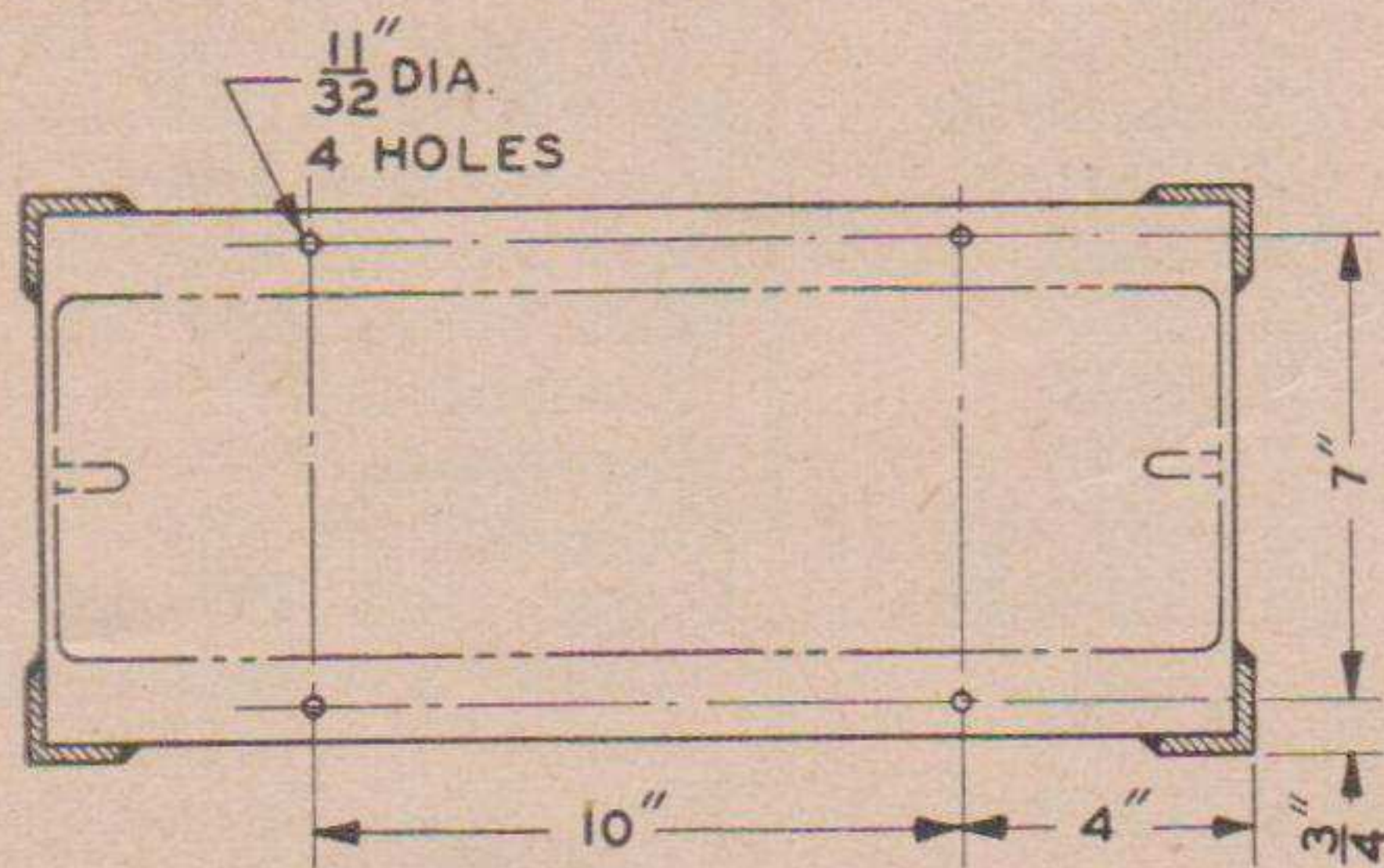


MOUNTING HOLE LOCATIONS FOR POWER UNIT PE-103-( ) AND RADIO RECEIVER AND TRANSMITTER BC-654-( ) AND INSULATOR IN-104

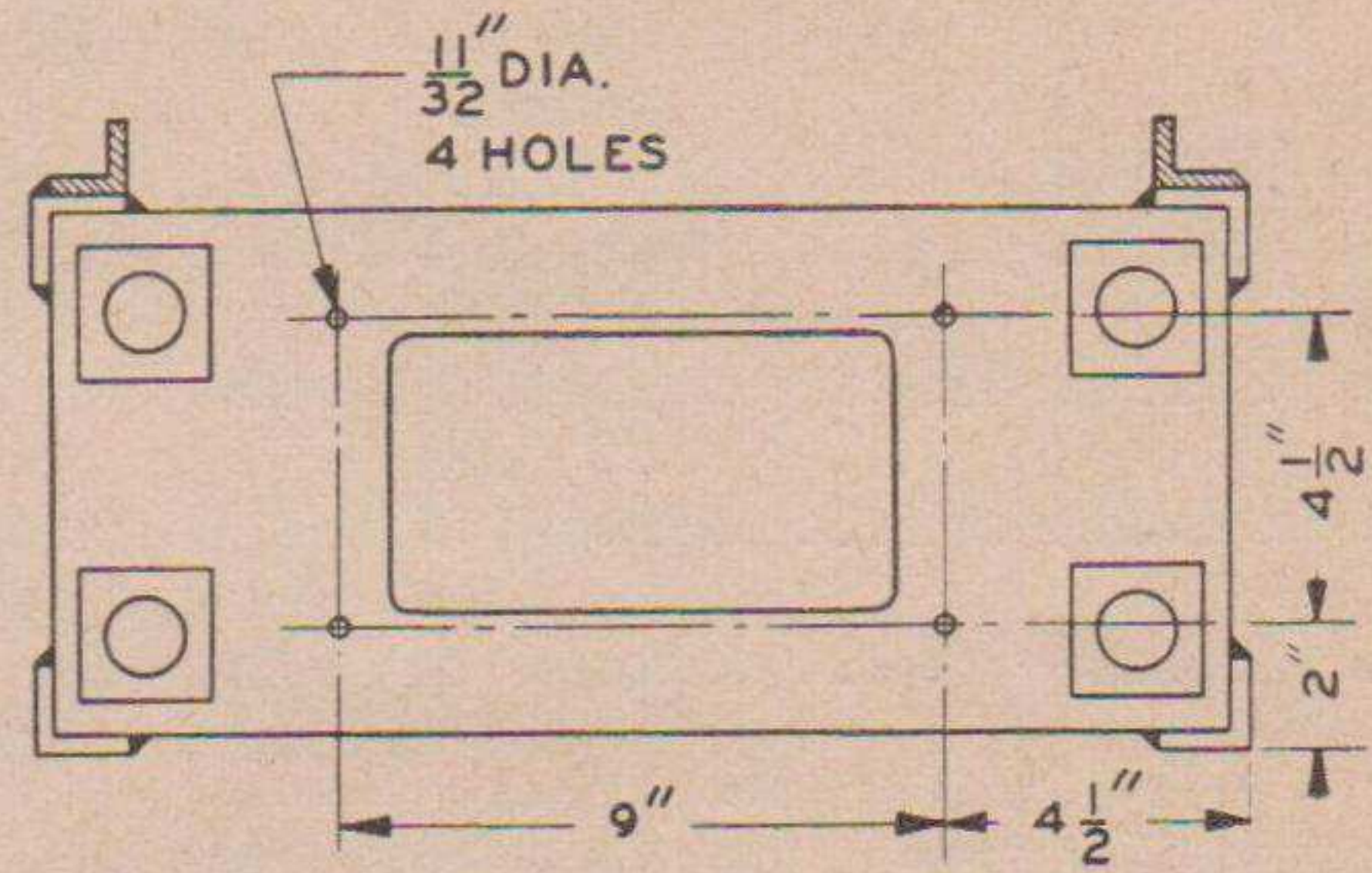


MOUNTING HOLE LOCATIONS FOR CLAMPS ON REAR OF VEHICLE

VIEW A-A



MOUNTING HOLE LOCATIONS IN FRAME FM-41-( ) (LOWER SECTION)



MOUNTING HOLE LOCATIONS IN FRAME FM-41-( ) (UPPER SECTION)

ITEM NO.	NAME OF ITEM	QUAN. REQ.
1	RADIO RECEIVER AND TRANSMITTER BC-654-( )	1
2	POWER UNIT PE-103-( )	1
3	POWER CONVERTER UNIT PE-104-( )	1
4	FRAME FM-41-( ) (SEE NOTE 6)	1
5	MAST BRACKET MP-45-( )	1
6	MAST BASE MP-57	1
7	MAST SECTION MS-49 WITH CLAMP MC-421	1
8	MAST SECTION MS-50 AND CLAMP MC-422	1
9	MAST SECTION MS-51 AND CLAMP MC-423	1
10	MAST SECTION MS-52 AND CLAMP MC-424	1
11	MAST SECTION MS-53	1
12	WIRE W-142 50 INCHES LONG (SEE NOTE 2)	2
13	INSULATOR IN-104	3
14	CORD CD-501-( )	1
15	CLAMP #10	1
16	STEEL CLIP (FIG. 22)	5
17	COVER BG-154	1
18	COVER BG-67-( ) (SEE NOTE 3)	1
19	BAG BG-129	1
20	HEX. HD. MACH. SCREW 5/16"-24X2-1/2" LONG	8
21	HEX. HD. MACH. SCREW 1/4"-20X1/2" LONG	6
22	HEX. NUT 5/16"-24 STD.	8
23	HEX. NUT 1/4"-20 STD.	6
24	HEX. NUT #10-32 STD.	5
25	LOCKWASHER S.A.E. STD. FOR 5/16" SCREW	8
26	LOCKWASHER S.A.E. STD. FOR 1/4" SCREW	6
27	LOCKWASHER #10 STD.	3
28	FLATWASHER S.A.E. STD. FOR 5/16" SCREW	8
29	TERMINAL BOX C-100427 (SEE NOTE 5)	1

TL-13310-2

Figure 21—Continued



## SECTION VII

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

#### 16. Required Parts

Items necessary for the installation of Radio

Set SCR-510-( ) or SCR-610-( ) in Truck, 1/4-ton, 4 x 4, are listed below:

Quantity		Stock No.	Item	Quantity		Stock No.	Item
Radio Set SCR-510-( )				Radio Set SCR-510-( )			
Radio Set SCR-610-( )				Radio Set SCR-610-( )			
1	1	6Q349	Alignment Tool TL-207.	1	1	2Z3400-108	Cover BG-108, for mast base.
<sup>a</sup> 1	<sup>a</sup> 1	3A41	Battery BA-41, for Radio Receiver and Transmitter BC-620-( ) or BC-659-( ), internal.	2	2	2B830	Headset HS-30-( ).
0	1	2Z1140	Box BX-40-( ), for crystals.	1	1	6L50-510V26	Hardware bag.
1	1	2Z6721-419	Bracket FT-419, for Mounting FT-250-( ).	<sup>c</sup> 1	<sup>c</sup> 1	2A2088-48	Mast Base MP-48-A or MP-48.
1	1	2Z1203-420	Bracket FT-420, for Mounting FT-250-( ).	1	1	2A2090-50	Mast Bracket MP-50.
1	1	2Z1203-422	Bracket FT-422 (brush guard for Mast Bracket MP-50).	0	1	2A2351	Mast Section MS-51.
0	1	2Z2651-423	Clamp MC-423, for securing Mast Sections MS-51 and MS-52.	1	1	2A2352	Mast Section MS-52.
1	1	2Z2651-424	Clamp MC-424, for securing Mast Sections MS-52 and MS-53.	1	1	2A2353	Mast Section MS-53.
1	1	6Z3147	Connector No. 61007 and Bondnut BL-50 (Appleton).	1	1	2B1617	Microphone T-17-( ).
<sup>b</sup> 2	<sup>b</sup> 2	3E1307A-5.5	Cord CD-307-A, 65", for Headset HS-30-( ).	1	1	2B1645	Microphone T-45.
<sup>b</sup> 2	<sup>b</sup> 2	3E1605	Cord CD-605, for Headset HS-30-( ).	1	1	2Z6721-250	Mounting FT-250-( ).
<sup>b</sup> 2	<sup>b</sup> 2	3E1604	Cord CD-604, for connecting Cord CD-307-A to Headset HS-30-( ).	<sup>d</sup> 1	<sup>d</sup> 1	3H4496-120	Power Unit PE-120-( ), (includes 2 Vibrator VB-12 and spare capacitor).
1	1	2Z3400-153	Cover BG-153, for radio set.	1	0	2C5360	Radio Receiver and Transmitter BC-620-( ), includes 2 crystals in Holders FT-243 and set of tubes installed.
				0	1	2C5379	Radio Receiver and Transmitter BC-659-( ), includes 2 crystals in Holders FT-243 and set of tubes installed.
				2	2	2Z7069-429	Reinforcing Plate FT-429-( ), for Mast Bracket MP-50.
				1	1	2Z8056	Roll BG-56-( ), for antenna mast sections.
				2	2	3H6712	Vibrator VB-12, 6-volt.
				11 ft 11 ft		1B128	Wire W-128.

<sup>a</sup> To be requisitioned from the nearest Signal Corps Depot or Signal Section of an Army Service Forces Depot.

<sup>b</sup> Cords CD-307-A and CD-604 may be substituted for Cord CD-605.

<sup>c</sup> When Mast Base MP-48 is supplied, 7 feet of Wire W-128 must be used.

<sup>d</sup> Plate Supply Units PE-97-( ) and PE-117-( ) may be substituted for Power Unit PE-120-( ) in Radio Sets SCR-510-( ) and SCR-610-( ), respectively. When these substitutions are made, Vibrator VB-12 is not required.

#### 17. Assembly and Installation

*a.* PRELIMINARY CHECK. Truck, 1/4-ton, 4 x 4, ordinarily has a 6-volt electrical system. These instructions cover Radio Set SCR-510-( ) or SCR-610-( ) for 6-volt operation. Conversion of the electrical system is made in some vehicles to permit installation of radio equipment requiring 12 volts for operation. These conversions may be either a 12-volt under-hood conversion or a power take-off conversion. Radio Set SCR-510-( ) or SCR-610-( ), as covered in these in-

structions, cannot be used with the power take-off conversion, due to interference with the battery boxes supplied with the power take-off conversion. Before beginning the installation, make sure that the power units are adjusted for the same voltage as that supplied by the vehicle in which the radio set is to be installed, and that vibrators for the correct voltage are supplied.

*b.* PROCEDURE. Components of the radio set should be installed as shown in figures 28, 29, and 30, and as directed below:



*Part and Location*

Brackets (FT-419 and 420) for Mounting FT-250-( ) over left rear wheel housing.

Mast Bracket MP-50, and Reinforcing Plate FT-429, on left wall of vehicle, as shown in figure 29.

Bracket FT-422 (brush guard), on the left wall of the vehicle as shown in figure 29.

Mast Base MP-48 or MP-48-A and Wire W-128 on Mast Bracket MP-50, as shown in figures 29 and 30.

Mounting FT-250-( ), on brackets, over the left rear wheel housing, as shown in figure 29.

Power Unit PE-120-( ) and Vibrator VB-12 on Mounting FT-250-( ).

*Method and Materials*

Refer to plan view, drilling diagram, figure 28, for details and mounting holes, and install brackets as shown in figure 29.

Drill holes as shown in the drilling diagram in figure 28 and mount the brackets in place with the hardware provided.

Mount in place with the hardware provided.

If Mast Base MP-48 is supplied, refer to figure 26 and proceed as follows: Remove items 2, 3, 4, 5, 17, and 18 from item 1. If the internal lead-in, assembly 7, is installed in the mast base, remove the assembly and stow it.

Cut Wire W-128 to  $24" \pm 1"$  for Radio Set SCR-510-( ) or  $36" \pm 1"$  for Radio Set SCR-610-( ). Strip  $\frac{1}{2}"$  insulation from the ends of the wire, solder-tin and pass one end of the wire through insulators, items 14 and 15, and secure to binding post, item 16. Leave enough slack for flexing the mast base. Tighten the screws in items 14 and 15. Insert item 1 through the hole in the mast bracket. Replace items 2, 3, 4, and 5 on item 1 and tighten securely. Replace items 17 and 18 on item 1, to prevent dirt and moisture from collecting inside the mast base. If Mast Base MP-48-A is supplied, prepare Wire W-128 as directed above. Refer to figure 27 and pass the wire through the insulators, items 14 and 15. Leave enough slack for flexing the mast base. Tighten the screws in items 14 and 15. Solder terminal, item 8, to the wire and connect to the terminal on the mast base with item 9. Solder another terminal to the other end of Wire W-128 for connection to the radio set. Remove items 2, 3, and 4 from the mast base stem. Mount the mast base on the mast bracket and secure with items 2, 3, and 4.

Place the mounting on the brackets and secure with the hardware provided.

Raise the lid of Power Unit PE-120-( ) and remove the cover of the power pack. Refer to the diagram on the cover and make sure that the change over plug is in the 6-volt position (arrow pointing to six). Set the connector link in the BC-620 position for Radio Set SCR-510-( ) or in the BC-659 position for Radio Set SCR-610-( ). Plug Vibrator VB-12 into its socket and replace the cover of the power pack. Close the lid of the power unit and place the unit on the mounting. Secure with the hook fasteners provided.



Radio Receiver and Transmitter BC-620-( ) or BC-659-( ) and Battery BA-41, on Power Unit PE-120-( ).

If Battery BA-41 is not already installed in the receiver and transmitter, proceed as follows: Remove the screws around the outer edge of the front panel and pull the receiver and transmitter chassis out of its case. Remove the cover of the battery compartment located on the chassis near the front panel. Place Battery BA-41 into the compartment, being careful to engage the plug into the socket of the battery. Replace the cover. Before replacing the chassis in its case, make sure that all tubes are firmly pressed down into their proper sockets, that the crystals for the desired operating frequencies are in their proper sockets with the retaining clip in position, and that the two toggle switches near the left side of the chassis are in the ON position. Mount the receiver and transmitter on the power unit and secure with the provided catch clips.

Mast Sections MS-52 and MS-53 and Clamp MC-424. (Add Mast Section MS-51 and Clamp MC-423 for Radio Set SCR-610-( ).)

Screw the mast sections together and secure with the clamps. Fasten the clamps to the male end of the mast sections. Then screw the mast antenna into the mast base. When not in use, carry the mast sections in Roll BG-56-( ).

Cover BG-108.

Place over the mast base when the mast sections are not in use.

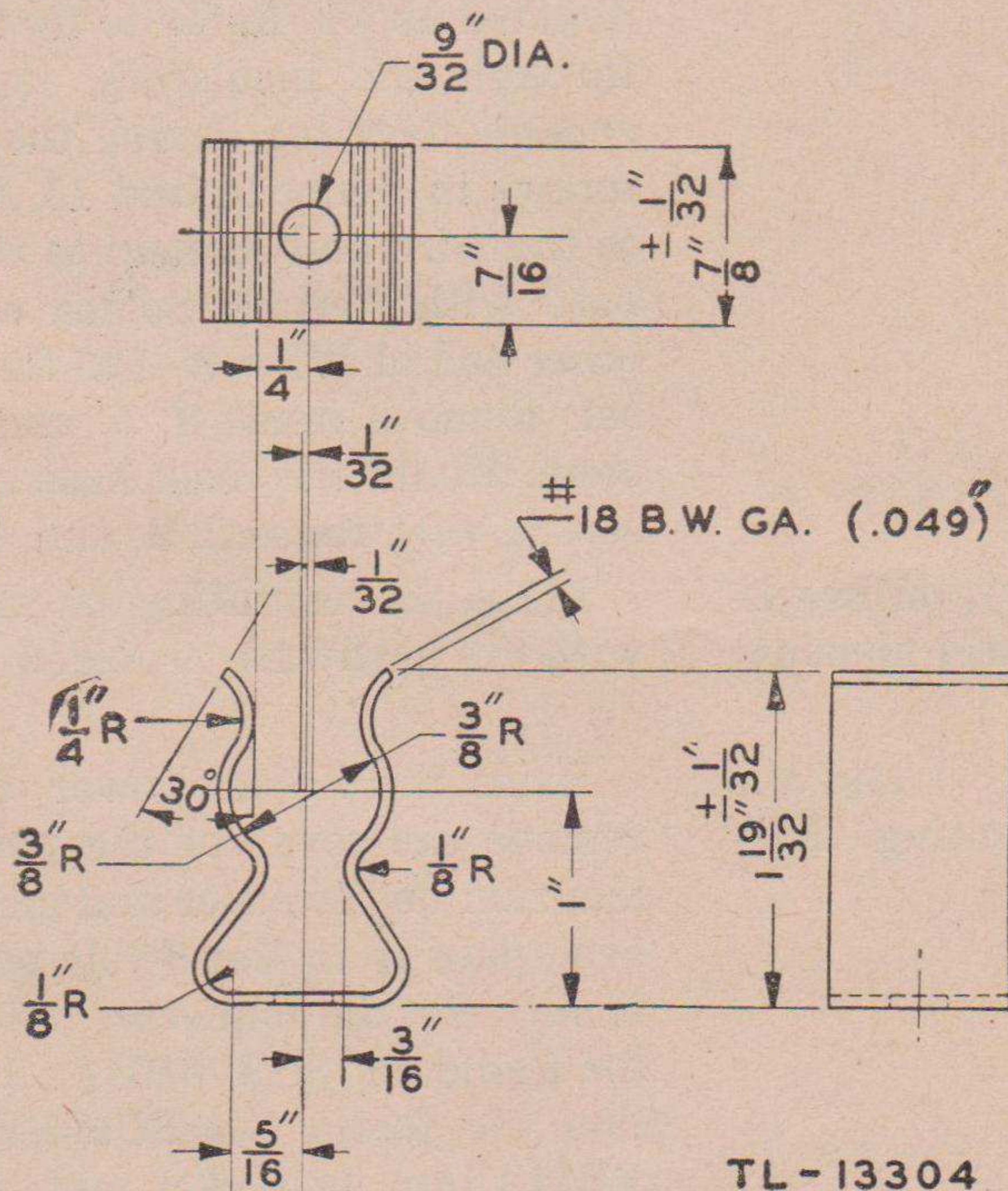
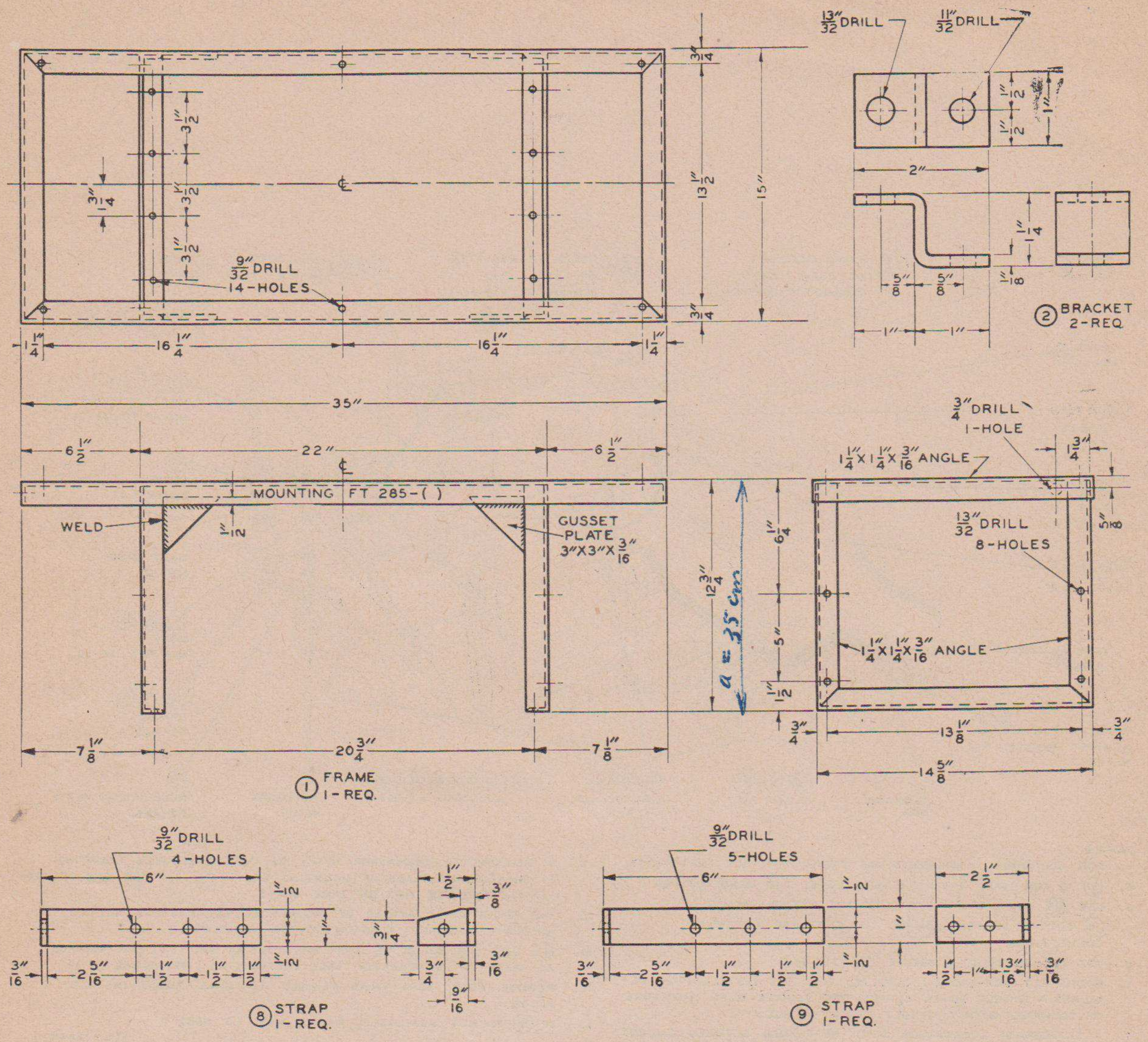


Figure 22. Clip for Cord CD-501( ), details.





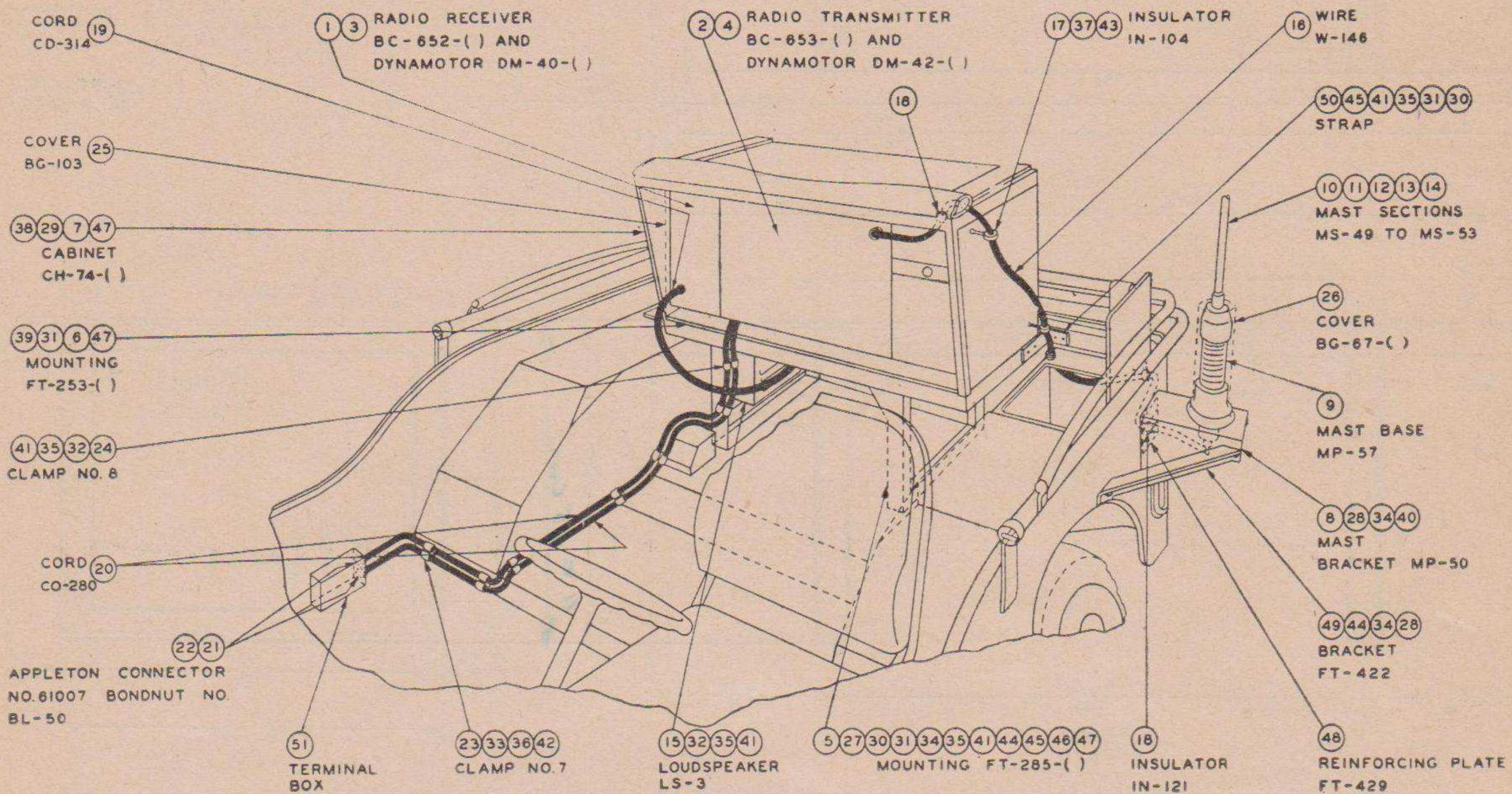
ITEM NO.	NAME OF ITEM	QUAN. REQ.
1	FRAME	1
2	BRACKET	2
3	HEX. HD. BOLT 3/8"-24X3/4" LONG	8
4	RD. HD. MACH. SCREW 5/16"-24X5/8" LONG	2
5	WASHERS 3/8" STD.	24
6	ELASTIC STOP NUT 3/8"-24 CAT. #42E064	8
7	ELASTIC STOP NUT 5/16"-24 CAT. #42E054	6
8	STRAP	1
9	STRAP	1
10	HEX. HD. MACH. SCREW 1/4"-20X1-1/2" LONG	3
11	HEX. HD. MACH. SCREW 1/4"-20X3/4" LONG	12
12	HEX. NUT 1/4"-20	15
13	LOCKWASHER 1/4" STD.	15

NOTES:  
 1- (2) TO (13) INCLUSIVE ARE USED FOR INSTALLATION AND SHALL BE PLACED IN A HEAVY CLOTH BAG AND TIED TO FRAME.  
 2- (3, 4, 5, 10, 11, 12, AND 13) ARE CADMIUM PLATED.

Figure 23. Mounting FT-285-( ), assembly and details.

JL-13302





- NOTES:
1. FOR ADDITIONAL COMPONENTS AND SPARE PARTS SEE PARTS LIST.
  2. (51) IS FURNISHED WITH THE VEHICLE BY THE MANUFACTURER.
  3. USE (26) WHEN MAST SECTIONS ARE NOT INSTALLED.
  4. (16) CUT TO PROPER LENGTH. TIN ENDS FOR ANTENNA CONNECTIONS.
  5. USE (45) TO TIGHTLY SECURE (50) TO BODY.
  6. RADIO SET SCR-506-( ), SUPPLIED FOR THIS INSTALLATION, REQUIRES A 12-VOLT POWER SUPPLY. THE VEHICLE MUST THEREFORE BE EQUIPPED WITH A 12-VOLT POWER SOURCE.
  7. A SHAKEPROOF LOCKWASHER SHALL BE PLACED BETWEEN CABINET CH-74-( ) AND ELASTIC STOP NUT ON ONE MOUNTING BOLT ON EACH END OF MOUNTING FT-253-( )
  8. A SHAKEPROOF LOCKWASHER SHALL BE PLACED BETWEEN CABINET CH-74-( ) AND HEAD OF MOUNTING BOLT AND BETWEEN MOUNTING FT-285-( ) AND ELASTIC STOP NUT ON ONE MOUNTING BOLT AT EACH END OF MOUNTING FT-285.
  9. A SHAKEPROOF LOCKWASHER SHALL BE PLACED BETWEEN MOUNTING FT-285-( ) AND HEADS OF MOUNTING BOLTS (27) AND (31) AND BETWEEN VEHICLE AND HEX. NUT ON SAME BOLTS.
  10. THE ABOVE APPLICATIONS OF SHAKEPROOF LOCKWASHERS ARE TO ADEQUATELY GROUND COMPONENTS TO VEHICLE.
  11. (46) AND (47) SHALL BE CAT NO. 4018-24 AND CAT NO. 4014-20 AS MADE BY SHAKEPROOF INC., CHICAGO, ILL., OR EQUAL.
  12. REMOVE REAR SEAT FROM VEHICLE TO MAKE RADIO INSTALLATION.
  13. IF (9) IS NOT AVAILABLE, MP-37 MAY BE USED.

TL-12448-1

Figure 24. Installation of Radio Set SCR-506-( ) in Truck, 1/4-ton, 4x4.



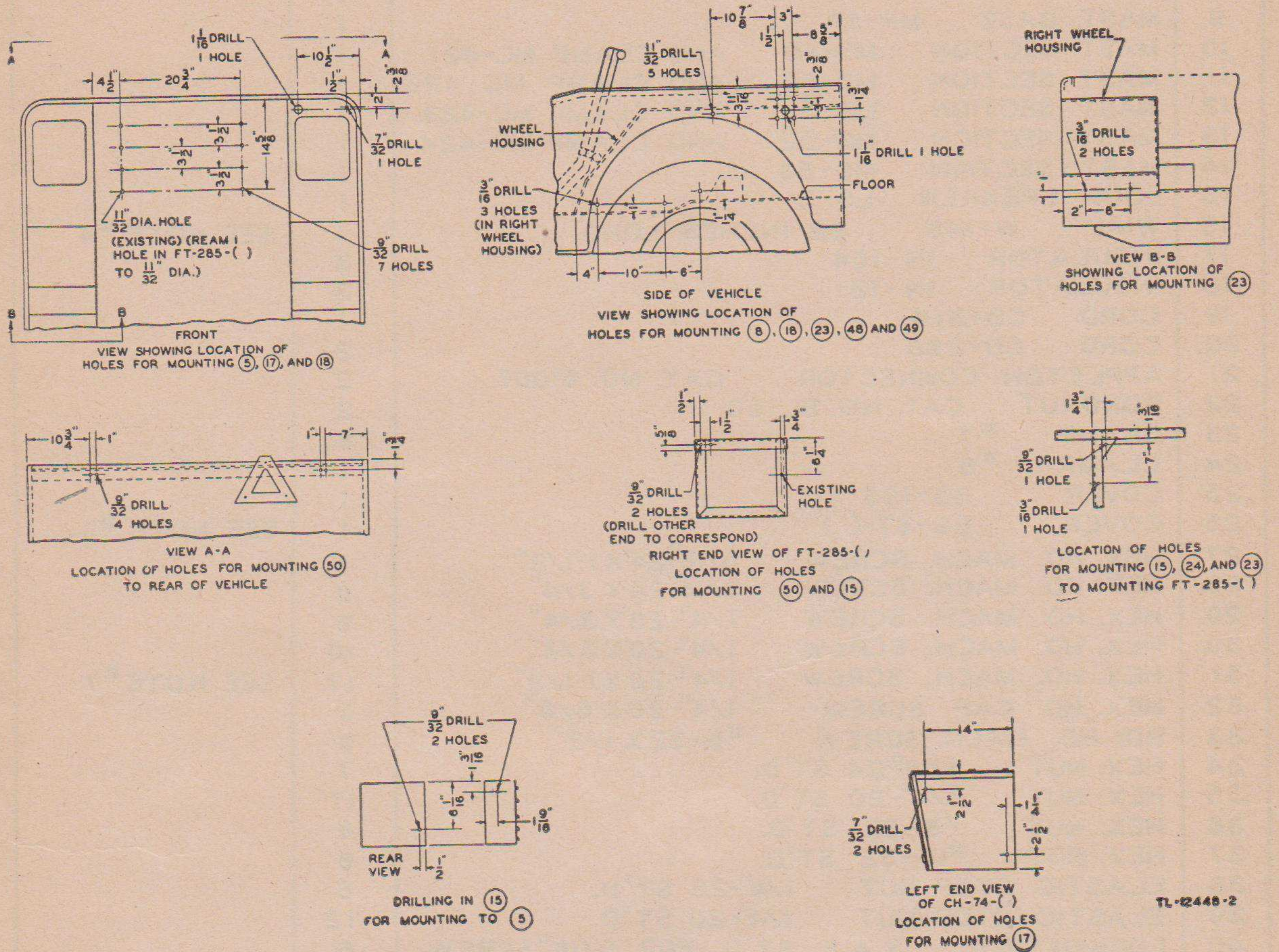


Figure 24—Continued



ITEM NO.	NAME OF ITEM	QUAN. REQ.	REMARKS
1	RADIO RECEIVER BC-652-( )	1	
2	RADIO TRANSMITTER BC-653-( )	1	
3	DYNAMOTOR DM-40-( )	1	SEE NOTE #6
4	DYNAMOTOR DM-42-( )	1	SEE NOTE #6
5	MOUNTING FT-285-( )	1	SEE NOTE #9,10
6	MOUNTING FT-253-( )	1	SEE NOTE #8,9,10
7	CABINET CH-74-( )	1	SEE NOTE #8,10
8	MAST BRACKET MP-50	1	
9	MAST BASE MP-57	1	
10	MAST SECTION MS-49 AND CLAMP MC-421	1	
11	MAST SECTION MS-50 AND CLAMP MC-422	1	
12	MAST SECTION MS-51 AND CLAMP MC-423	1	
13	MAST SECTION MS-52 AND CLAMP MC-424	1	
14	MAST SECTION MS-53	1	
15	LOUD SPEAKER LS-3	1	
16	WIRE W-146 62 INCHES LONG	1	SEE NOTE #4
17	INSULATOR IN-104	3	
18	INSULATOR IN-121	3	
19	CORD CD-314	1	
20	CORD CO-280	2	
21	APPLETON CONNECTOR CAT. NO. 61007	2	
22	BONDNUT CAT. NO. BL-50	2	
23	CLAMP #7	6	
24	CLAMP #8	1	
25	COVER BG-103	1	
26	COVER BG-67-( )	1	SEE NOTE #3
27	HEX. HD. MACH. SCREW 5/16" 24 X 1-1/2"	1	
28	HEX. HD. MACH. SCREW 5/16" 24 X 3/4"	6	
29	HEX. HD. MACH. SCREW 1/4" 28 X 3/4"	6	
30	HEX. HD. MACH. SCREW 1/4" 20 X 3/4"	10	
31	HEX. HD. MACH. SCREW 1/4" 20 X 1-1/2"	17	SEE NOTE #7
32	HEX. HD. CAP SCREW 1/4" 20 X 5/8"	2	
33	RD. HD. MACH. SCREW #8-32 X 1/2"	6	
34	HEX. NUT 5/16" 24 ST'D.	7	
35	HEX. NUT 1/4" 20 ST'D.	17	
36	HEX. NUT #8-32 ST'D.	6	
37	HEX. NUT #10-32 ST'D.	6	
38	ELASTIC STOP NUT 1/4" 28 ST'D.	6	
39	ELASTIC STOP NUT 1/4" 20 ST'D.	12	
40	LOCKWASHER S.A.E. ST'D. FOR 5/16" SCREW	6	
41	LOCKWASHER S.A.E. ST'D. FOR 1/4" SCREW	16	
42	LOCKWASHER S.A.E. ST'D. FOR #8 SCREW	6	
43	LOCKWASHER S.A.E. ST'D. FOR #10 SCREW	6	
44	FLATWASHER S.A.E. ST'D. FOR 5/16" SCREW	1	
45	FLATWASHER S.A.E. ST'D. FOR 1/4" SCREW	11	SEE NOTE #5
46	SHAKEPROOF LOCKWASHER 5/16" ST'D.	2	SEE NOTE #10
47	SHAKEPROOF LOCKWASHER 1/4" ST'D.	8	SEE NOTE #10
48	REINFORCING PLATE FT-429	2	
49	BRACKET FT-422	1	
50	STRAP	2	
51	TERMINAL BOX C 100427	1	SEE NOTE #2

TL-12448-3

Figure 24. Installation of Radio Set SCR-506-( ) in Truck, 1/4-ton, 4x4-Continued.



*Part and Location*

Power Cord, Connector No. 61007, Bondnut BL-50, and Clamps No. 4 and No. 5.

*Method and Materials*

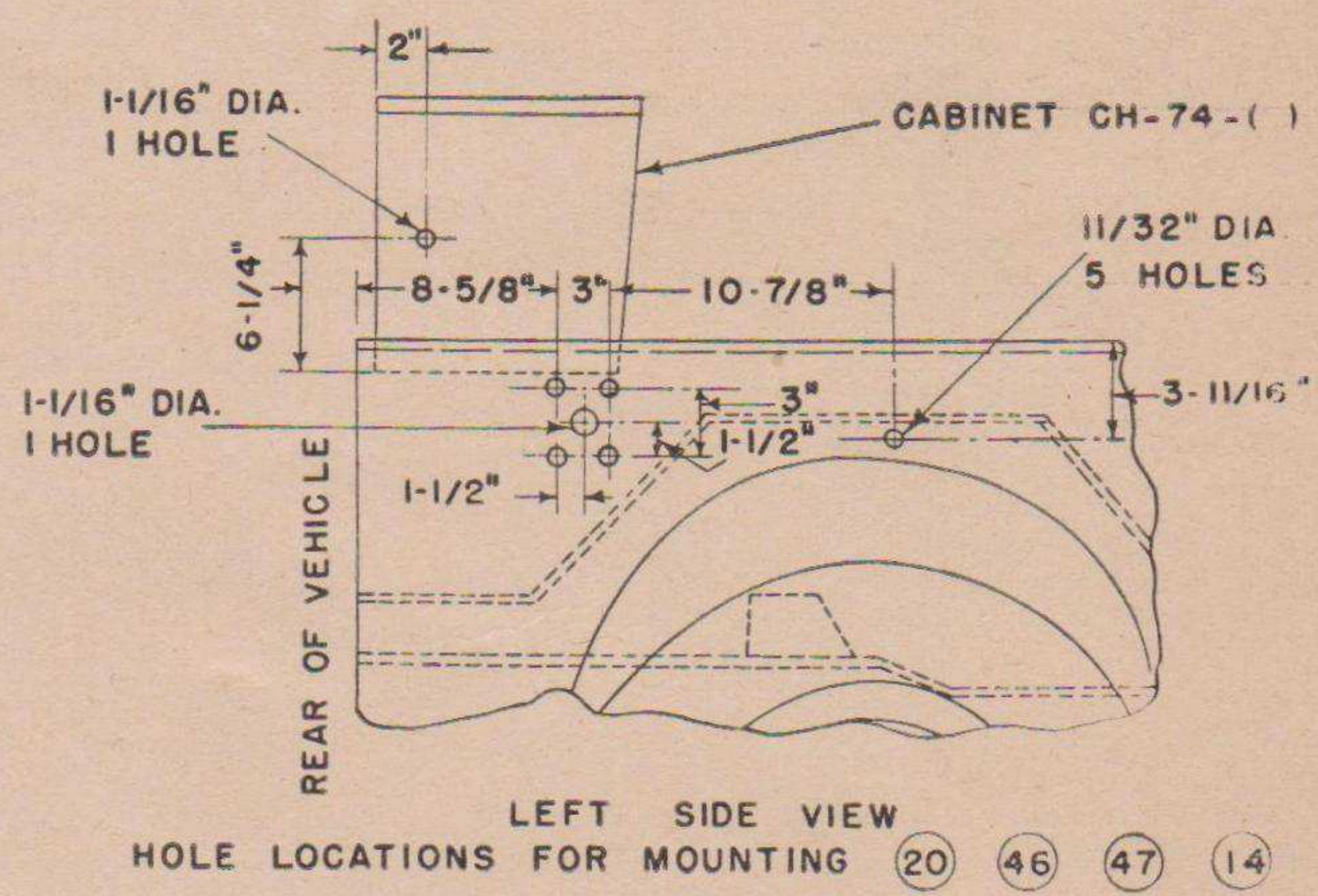
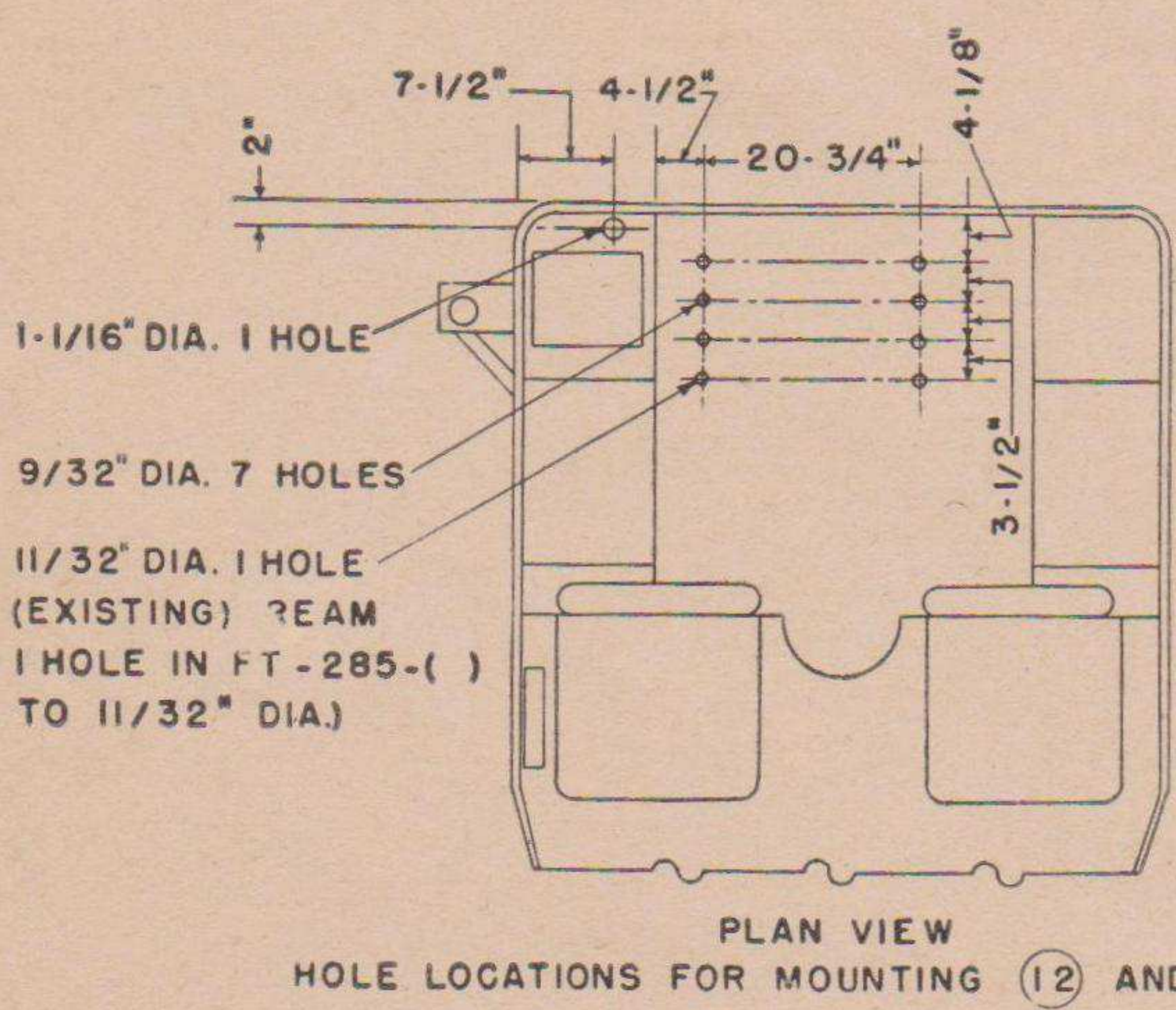
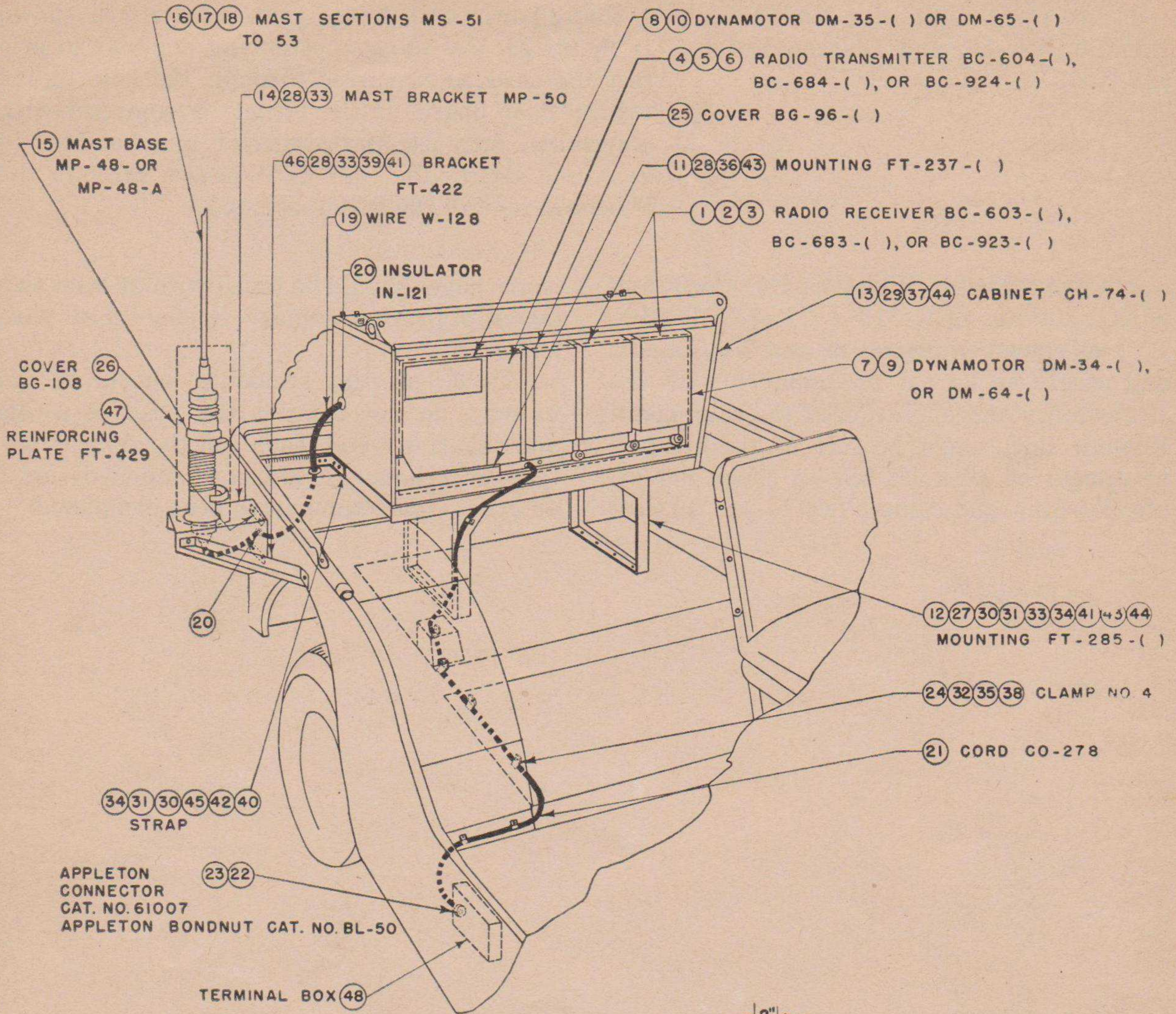
Route power cord to the vehicle battery as shown in figure 29. Use the connector and bondnut to protect the cord as it passes through the hole in the vehicle floor board. If the vehicle is equipped with a terminal box, use the connector and bondnut to bush and secure the cord as it passes through the knockout hole in the terminal box.

c. CORDING AND WIRING. (1) Cord and wire Radio Set SCR-510-( ) or SCR-610-( ) as shown in figures 29 and 30. Connect and secure so as not to interfere with the accessibility and operation of the equipment. Enough slack must be left to permit free movement of all units having shock mounting. Cording and cable likely to rub against

sharp edges should be taped with at least two layers to prevent damage. Solder-tin all wire ends.

(2) To prevent accidental shorts of the battery, do not connect the positive 6-volt and negative 6-volt leads (on the vehicle battery or in the terminal box, if supplied) until all other connections have been completed.

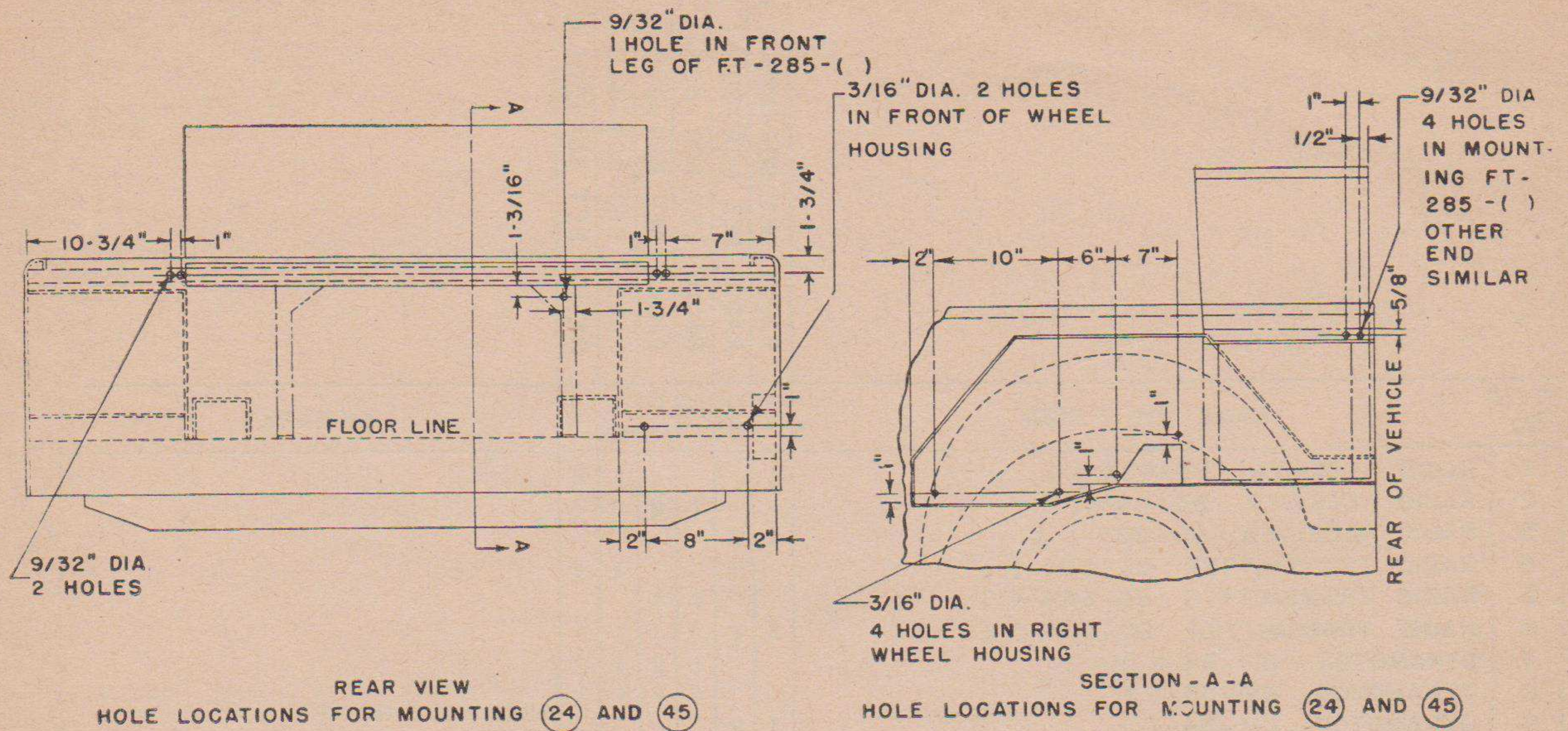




TL-12449-1

Figure 25. Installation of Radio Set SCR-508-( ), SCR-528-( ), SCR-608-( ), SCR-628-( ), SCR-808-( ), or SCR-828-( ) in Truck, 1/4-ton, 4x4.





NOTE:

1. FOR ADDITIONAL COMPONENTS AND SPARE PARTS, SEE COMPONENT PARTS LIST.
2. (48) FURNISHED WITH VEHICLE BY MANUFACTURER.
3. USE (26) WHEN MAST SECTIONS ARE NOT INSTALLED
4. (19) CUT TO PROPER LENGTH. TIN ENDS FOR ANTENNA CONNECTIONS.
5. USE (42) TO TIGHTLY SECURE (45) TO VEHICLE
6. REMOVE REAR SEAT FROM VEHICLE TO MAKE RADIO INSTALLATION.
7. (46) SHALL BE MOUNTED IN INVERTED POSITION AS SHOWN
8. A SHAKEPROOF LOCKWASHER SHALL BE PLACED BETWEEN CABINET CH-74-( ) AND ELASTIC STOP NUT ON ONE MOUNTING BOLT ON EACH END OF MOUNTING FT-237-( )
9. A SHAKEPROOF LOCKWASHER SHALL BE PLACED BETWEEN CABINET CH-74-( ) AND HEAD OF MOUNTING BOLT AND BETWEEN MOUNTING FT-285-( ) AND ELASTIC STOP NUT ON ONE MOUNTING BOLT AT EACH END OF MOUNTING FT-285-( )
10. A SHAKEPROOF LOCKWASHER SHALL BE PLACED BETWEEN MOUNTING FT-285-( ) AND HEADS OF MOUNTING BOLTS (27) AND (30), AND BETWEEN VEHICLE AND HEX NUT ON SAME BOLTS
11. THE ABOVE APPLICATIONS OF SHAKEPROOF LOCKWASHERS ARE TO ADEQUATELY GROUND COMPONENTS TO VEHICLE
12. (43) SHALL BE CAT. NO. 401B-24. (44) SHALL BE CAT. NO. 4014-20, AS MADE BY SHAKEPROOF INC., CHICAGO, ILL., OR EQUAL
13. THE RADIO SETS SUPPLIED FOR THIS INSTALLATION REQUIRE A 12-VOLT POWER SUPPLY THE VEHICLE MUST THEREFORE BE EQUIPPED WITH A 12-VOLT POWER SOURCE.

TL-12449-2

Figure 25—Continued



ITEM NO.	NAME OF ITEM	QUANTITY REQUIRED						REMARKS
		RADIO SET SCR-828-( )	RADIO SET SCR-808-( )	RADIO SET SCR-628-( )	RADIO SET SCR-608-( )	RADIO SET SCR-528-( )	RADIO SET SCR-508-( )	
1	RADIO RECEIVER BC-603-( )				1	2		
2	RADIO RECEIVER BC-683-( )			1	2			
3	RADIO RECEIVER BC-923-( )	1	2					
4	RADIO TRANSMITTER BC-604-( )				1	1		
5	RADIO TRANSMITTER BC-684-( )			1	1			
6	RADIO TRANSMITTER BC-924-( )	1	1					
7	DYNAMOTOR DM-34-( )			1	2	1	2	
8	DYNAMOTOR DM-35-( )			1	1	1	1	
9	DYNAMOTOR DM-64-( )	1	2				(SEE NOTE NO. 13)	
10	DYNAMOTOR DM-65-( )	1	1					
11	MOUNTING FT-237-( )	1	1	1	1	1	1	
12	MOUNTING FT-285-( )	1	1	1	1	1	1	
13	CABINET CH-74-( )	1	1	1	1	1	1	
14	MAST BRACKET MP-50	1	1	1	1	1	1	
15	MAST BASE MP-48 OR MP-48-A	1	1	1	1	1	1	
16	MAST SECTION MS-51 AND CLAMP MC-423	1	1	1	1	1	1	
17	MAST SECTION MS-52 AND CLAMP MC-424	1	1	1	1	1	1	
18	MAST SECTION MS-53	1	1	1	1	1	1	
19	WIRE W-128	1	1	1	1	1	1	
20	INSULATOR IN-121	3	3	3	3	3	3	
21	CORD CO-278	1	1	1	1	1	1	
22	APPLETON CONNECTOR	1	1	1	1	1	1	
23	APPLETON BOND NUT	1	1	1	1	1	1	
24	CLAMP NO. 4	7	7	7	7	7	7	
25	COVER BG-96-( )	1	1	1	1	1	1	
26	COVER BG-108	1	1	1	1	1	1	
27	HEX. HD. MACH. SCREW	1	1	1	1	1	1	
28	HEX. HD. MACH. SCREW	14	14	14	14	14	14	
29	HEX. HD. CAP SCREW	6	6	6	6	6	6	
30	HEX. HD. MACH. SCREW	5	5	5	5	5	5	
31	HEX. HD. MACH. SCREW	10	10	10	10	10	10	
32	RD. HD. MACH. SCREW	7	7	7	7	7	7	
33	HEX. NUT	7	7	7	7	7	7	
34	HEX. NUT	15	15	15	15	15	15	
35	HEX. NUT	7	7	7	7	7	7	
36	ELASTIC STOP NUT	8	8	8	8	8	8	
37	ELASTIC STOP NUT	6	6	6	6	6	6	
38	LOCKWASHER	7	7	7	7	7	7	
39	LOCKWASHER	3	3	3	3	3	3	
40	LOCKWASHER	9	9	9	9	9	9	
41	FLATWASHER	1	1	1	1	1	1	
42	FLATWASHER (SEE NOTE NO. 5)	11	11	11	11	11	11	
43	SHAKEPROOF WASHER	4	4	4	4	4	4	
44	SHAKEPROOF WASHER (SEE NOTE NO. 12)	6	6	6	6	6	6	
45	STRAP	2	2	2	2	2	2	
46	BRACKET FT-422	1	1	1	1	1	1	
47	REINFORCING PLATE FT-429	2	2	2	2	2	2	
48	TERMINAL BOX C100427 (SEE NOTE NO. 2)	1	1	1	1	1	1	

TL-12449-3

Figure 25. Installation of Radio Set SCR-508-( ), SCR-528-( ), SCR-608-( ), SCR-628-( ), SCR-8808-( ), or SCR-828-( ) in Truck, 1/4-ton, 4x4—Continued.



SECTION VIII

RADIO SET AN/VRC-1-( )

SGV TD

13. Required Parts

Radio Set AN/VBC-1-( ) is procured with one high-frequency radio transmitting and receiving set (Radio Set SCR-193-( )), and one very-high-frequency radio transmit-

ting and receiving set (Radio Set SCR-542-( )), assembled in Cabinet CH-217, as shown in figures 31, 33, and 34.

a. COMPONENTS. The following list of component parts of Radio Set AN/VRC-1-( ), is included for reference purposes:

Quantity	Stock No.	Item	Quantity	Stock No.	Item
b2		Bonding Jumper, 1/2" wide, 5" long.	b1	3E6000-61	Cord CX-61/VRC-1.
2		Bonding Jumper, 1/2" wide, 8" long.	b1	3E6000-63	Cord CX-63/VRC-1.
a1		Bonding Jumper, 1/2" wide, 5" long.	1	3E2260	Cord CD-260, connects terminal box to vehicle terminal box.
a1		Bonding Jumper, 1/2" wide, 3" long.	4 ft	3E2213	Cordage CO-213.
b2		Capacitors, 0.01 mf. (for Dynamotor Unit PE-98).	a1	2Z3375	Cover BG-75-( ), for Radio Receiver BC-312-( ).
1	6F915	Cabinet CH-217, including Mast Rack FT-476, brackets, and hardware for mounting.	a1	2Z3378	Cover BG-78-( ), for Radio Transmitter BC-191-( ).
b2 ft	1B1543	Cable WC-543 or WC-549 (coaxial).	a1	3H1359	Cover BG-79-( ), for Dynamotor Unit BD-77-( ).
a1	2Z1848	Case CS-48, for transmitter tuning units.	b1	6Z3147	Connector No. 61007 and Bondnut No. BL-50 (Appleton).
b1	2Z1880	Case CS-80-( ) M, modified, with six Lord Shock mounts, Type 153-PH-24, replacing original mounts.	a1	3H1777	Dynamotor Unit BD-77-( ), including Mounting FT-107-( ) and spare fuses and brushes.
a1	3E1237	Cord CD-237, connects Dynamotor Unit BD-77-( ) to Radio Transmitter BC-191-( ).	b1	3H1898	Dynamotor Unit PE-98-( ), modified by installation of two 0.01 mf capacitors, listed above, as shown in figure 21.
a1	3E1358	Cord CD-358, connects Radio Transmitter BC-191-( ) to terminal box.	b2	3Z1959	Fuse, FU-59 40 amp, Littelfuse type 4AG, one in use, one spare.
a1	3E1411	Cord CD-411, connects Radio Receiver BC-312-( ) to terminal box.	b1	3Z2843	Fuse Block, with clips (for 1 1/4" x 1/4" fuse).
a1	3E1165	Cord CD-165-( ), connects Dynamotor Unit BD-77-( ) to terminal box.	1		Hardware Kit, for mounting components.
a1	3E1424	Cord CD-424.	a4	3G604	Insulator IN-104.
b1	3E6000-58	Cord CX-58/VRC-1.	a3	3G621	Insulator IN-121.
a2	2Z2651-421	Clamp MC-421, for securing Mast Sections MS-49 and MS-50, one in use, one spare.	b1	2C1738	Interphone Control Box BC-606-( ), including attached hardware.
a2	2Z2651-422	Clamp MC-422, for securing Mast Sections MS-50 and MS-51, one in use, one spare.	b1	2Z5600-33	Junction Box J-33/VRC-1.
a2	2Z2651-423	Clamp MC-423, for securing Mast Sections MS-51 and MS-52, one in use, one spare.	b1	2B1770-299	Microphone Adapter M-299, including plug.
a2	2Z2651-424	Clamp MC-424, for securing Mast Sections MS-52 and MS-53, one in use, one spare.	a1	2Z6712	Mounting FT-172, snubber for Radio Transmitter BC-191-( ), including hardware.
b1	3E6000-59	Cord CX-59/VRC-1.	a1	2Z6718	Mounting FT-178, snubber for Radio Receiver BC-312-( ), including hardware.
b1	3E6000-60	Cord CX-60/VRC-1.	b2	2Z6721-475	Mounting Bracket FT-475.
			b1	2Z7226-173.2	Plug PL-P173.
			b1	2Z7380-244	Rack FT-244-( ).
			a1	2C4312	Radio Receiver BC-312-( ), including one Mounting FT-162, one Dynamotor DM-21-( ), one set of tubes installed, and bag of spare fuses and lamps.

<sup>a</sup> Indicates components of high-frequency portion (SCR-193-( )) of Radio Set AN/VRC-1-( ).  
<sup>b</sup> Indicates components of very-high-frequency portion (SCR-542-( )) of Radio Set AN/VRC-1-( ).



Quantity	Stock No.	Item	Quantity	Stock No.	Item
<sup>b</sup> 1 . . . .	2C4424 . . . . .	Radio Receiver BC-624-( ) including two Crystal Units DC-11-( ) or CR-1 ( )/AR, one set of tubes installed, and one set of tubes in Box BX-19-( ).	<sup>b</sup> 1 . . . .	2C3347 . . . . .	Radio Control Box BC-602-( ).
<sup>b</sup> 1 . . . .	2C6525 . . . . .	Radio Transmitter BC-625-( ), includes two crystal Units DC-11-( ) or CR-1 ( )/AR and set of tubes installed.	<sup>b</sup> 6 . . . . .		Shockmounts, Lord Mfg. Co. Type 153PH-24, for Case CS-80.
<sup>a</sup> 1 . . . .	2C6191 . . . . .	Radio Transmitter BC-191-( ), includes one Mounting FT-151-( ), fuses, lamps, one set of tubes installed, spare tubes in Box BX-8, one Socket Cap M-163-A, one Socket Cap M-164-( ), and two Socket Caps M-165-( ).	<sup>a</sup> 1 . . . .	2Z8793 . . . . .	Socket Cap M-163-( ); for Radio Transmitter BC-191-( ).
			<sup>a</sup> 1 . . . .	2Z9313 . . . . .	Terminal Block TM-183, for terminal box.
			1 . . . .	2B1172.3 . . . . .	Terminal Box.
			<sup>a</sup> 1 . . . .	2C8006 . . . . .	Transmitter Tuning Unit TU-6-( ).
			<sup>a</sup> 1 . . . .	2C8007 . . . . .	Transmitter Tuning Unit TU-7-( ).
			<sup>a</sup> 15 ft..	1B128 . . . . .	Wire W-128.

<sup>a</sup> Indicates components of high-frequency portion (SCR-193-( )) of Radio Set AN/VRC-1-( ).

<sup>b</sup> Indicates components of very-high-frequency portion (SCR-542-( )) of Radio Set AN/VRC-1-( ).

b. INSTALLATION COMPONENTS. The following components of Radio Set AN/VRC-

1( ) are used when installing the radio set, in Cabinet CH-217, in the vehicle:

Quantity	Stock No.	Item	Quantity	Stock No.	Item
<sup>b</sup> 1 . . . .	3E1689 . . . . .	Cord CD-689.	<sup>b</sup> 1 . . . .	2A2088-48 . . . . .	Mast Base MP-48-A.
<sup>a</sup> 1 . . . .	2Z3367 . . . . .	Cover BG-67-( ), for Mast Base MP-57.	<sup>a</sup> 1 . . . .	2A2088-57 . . . . .	Mast Base MP-57.
<sup>b</sup> 1 . . . .	2Z3400-108 . . . . .	Cover BG-108, for Mast Base MP-48-A.	<sup>a</sup> 1 . . . .	2A2090-63 . . . . .	Mast Bracket MP-63.

<sup>a</sup> Indicates high-frequency items.

<sup>b</sup> Indicates very-high-frequency items.

c. STOWAGE COMPONENTS. The following components of Radio Set AN/VRC-1-( )

must be stowed in the vehicle:

Quantity	Stock No.	Item	Quantity	Stock No.	Item
<sup>a</sup> 1 . . . .	2A275-27 . . . . .	Antenna A-27, phantom, for Radio Transmitter BC-191-( ).	1 . . . .	3G621 . . . . .	Insulator IN-121, spare.
<sup>a</sup> 1 . . . .	2A224A . . . . .	Antenna AN-24-A, auxiliary antenna, for Radio Transmitter BC-191-( ).	<sup>a</sup> 2 . . . .	2A2349 . . . . .	Mast Section MS-49 one in use, one spare.
<sup>a</sup> 1 . . . .	2Z1108 . . . . .	Box BX-8, for spare tubes.	<sup>a</sup> 2 . . . .	2A2350 . . . . .	Mast Section MS-50 one in use, one spare.
<sup>a</sup> 1 . . . .	2Z1119 . . . . .	Box BX-19-( ), for spare tubes.	<sup>a</sup> 2 . . . .	2A2351 . . . . .	Mast Section MS-51 one in use, one spare.
<sup>a</sup> 1 . . . .	2Z1121 . . . . .	Box BX-21, for Box BX-8, BX-19-( ), headsets, spare parts, etc.	<sup>a</sup> 2 . . . .	2A2352 . . . . .	Mast Section MS-52 one in use, one spare.
3 . . . .	3E1307-5.5 . . . . .	Cord CD-307-( ), 65", for Headset HS-30-( ), includes one spare.	4 . . . .	2A2353 . . . . .	Mast Section MS-53 two in use, two spare.
2 . . . .	3E1318 . . . . .	Cord CD-318-( ), for Microphone T-45.	1 . . . .	2B1617 . . . . .	Microphone T-17-( ), spare.
3 . . . .	3E1604 . . . . .	Cord CD-604 6", for connecting Headset HS-30-( ) to Cord CD-307-( ), includes one spare.	2 . . . .	2B1567 . . . . .	Microphone Cover M-367, for Microphone T-17-( ), includes one spare.
3 . . . .	2B830 . . . . .	Headset HS-30-( ).	2 . . . .	2B1645 . . . . .	Microphone T-45.
<sup>a</sup> 3 . . . .	3G586 . . . . .	Insulator IN-86, two for auxiliary antenna, one for tying down Mast sections.	<sup>a</sup> 1 . . . .	2Z8056 . . . . .	Roll BG-56-( ), for mast sections.
1 . . . .	3G604 . . . . .	Insulator IN-104, spare.	50 ft..	6Z7926 . . . . .	Rope RP-5.
			<sup>a</sup> 2 . . . .	6D13073 . . . . .	Technical Manual TM 11-273 for Radio Set SCR-193-( ), Technical Manual TM 11-509 for Radio Set SCR-542-( ).
			<sup>b</sup> 2 . . . .		Test Set I-139-( ).
			<sup>b</sup> 1 . . . .	3F4139 . . . . .	

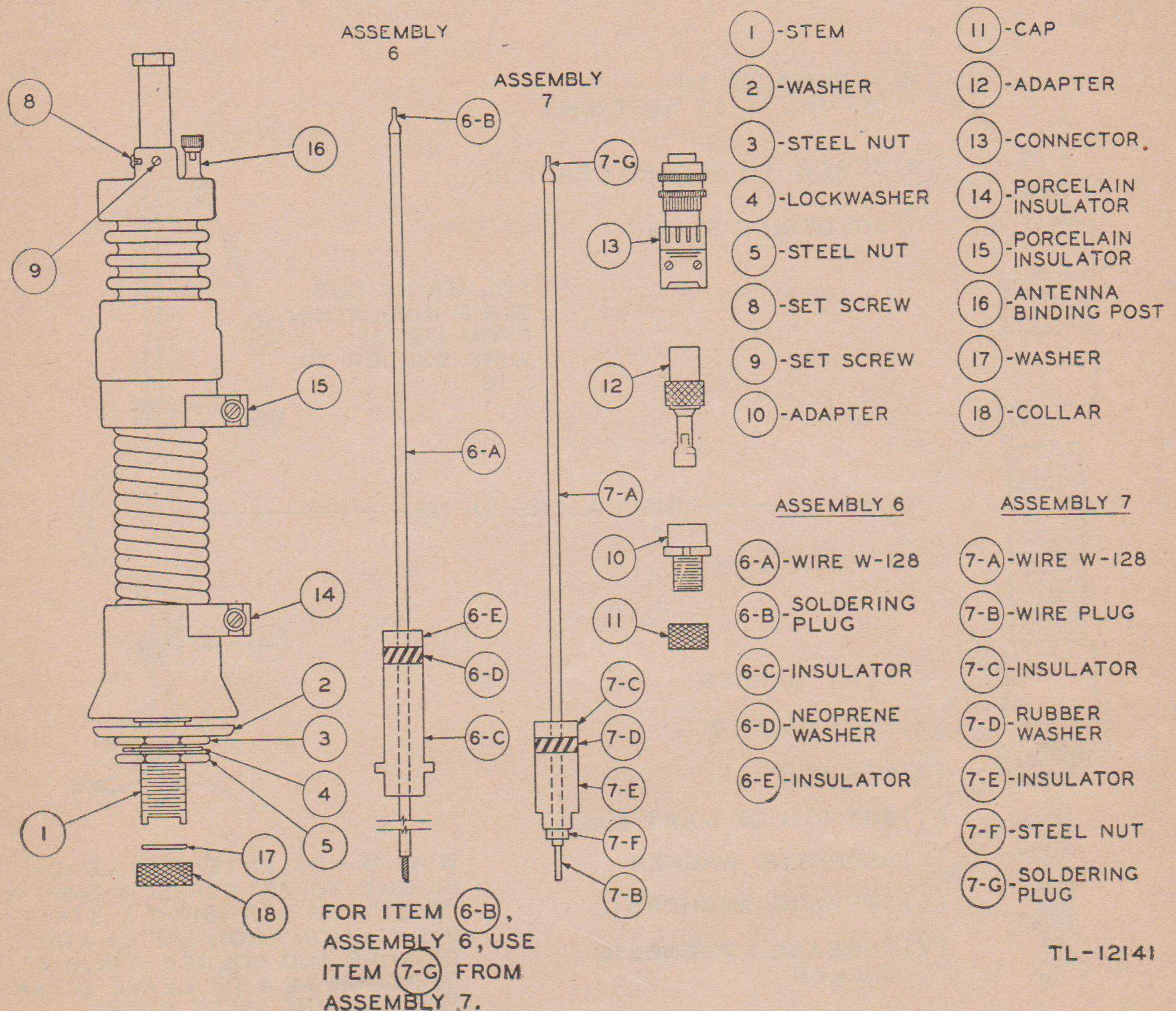
<sup>a</sup> Indicates high-frequency items.

<sup>b</sup> Indicates very-high-frequency items.



d. NOTES. (1) All screws, nuts, lock-washers, clamps, hooks, etc. are in a heavy cloth bag permanently and plainly marked. "Contents Hardware for Radio Set AN/VRC-1 installed in Truck, 1/4-ton, 4 x 4."

available for use at any time. One each receiver crystal, frequency 8007.692 kc, and one each transmitter crystal 6450.0 kc are furnished for operation on a carrier frequency of 116.10 mc while one each receiver



TL-12141

Figure 26. Mast Base MP-48, assembly for installation.

(2) Eight each Crystal Unit DC-11-( ) or CR-1-( )/AR are required to complete equipment, for operation on the four pre-set transmitting frequencies and four pre-set receiving frequencies provided for in the radio set. The radio set will operate satisfactorily without a complete set of crystal units installed. The number of crystal units installed in the transmitter and receiver determine respectively the number of transmitting frequencies and receiving frequencies

crystal, frequency 8155.714 kc, and one each transmitter crystal, frequency 7010.0 kc, are furnished for operation on a carrier frequency of 126.18 mc. Additional crystal units for use in the transmitter and/or receiver may be ordered by specifying the carrier frequency of the signal it is desired to receive or transmit. The number of crystals to be furnished per radio set should be specified by the requisitioning arm or branch. Request for additional crystals should be submitted



through channels established by the air forces to the crystal bank of that air force.

(3) If authorized, three auxiliary transmitter tuning units, in addition to Transmitter Tuning Units TU-6-( ) and TU-7-( ), may be supplied with three Case CS-48.

(5) Capacitors shall be installed between the input brush terminals and frame of Dynamotor Unit PE-98-( ) to suppress noise emanation. Method of installation is indicated in figure 31, detail E.

(6) The standard name plates of Case

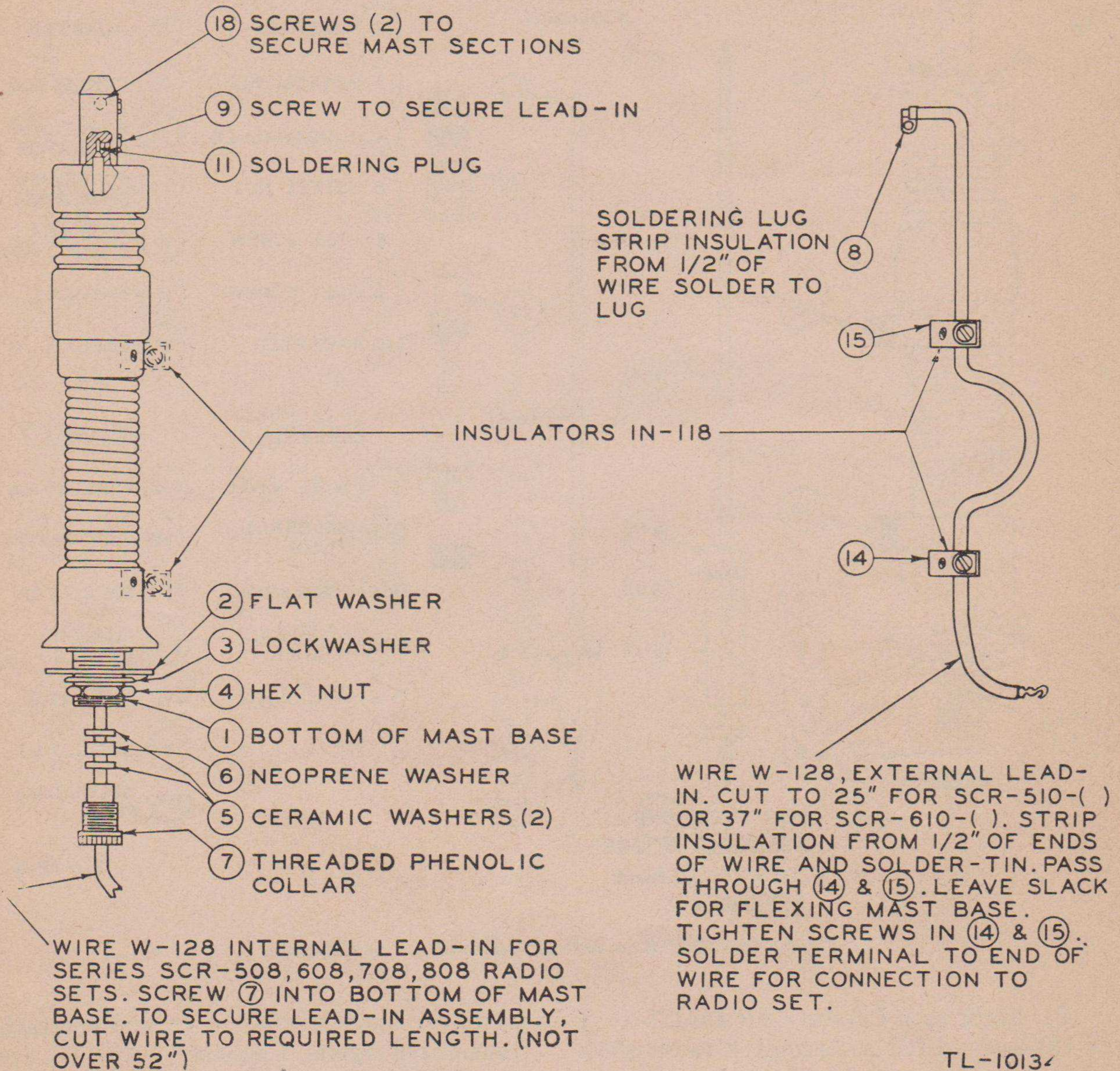


Figure 27. Mast Base MP-48-A, assembly with Wire W-128 lead-in.

(4) The 24-pound mountings shall be substituted for the 12-pound mountings normally furnished as part of Case CS-80-( ) and Dynamotor Unit PE-98-( ) because of the added shock load in vehicular installation.

CS-80 and Dynamotor Unit PE-98-( ) shall be stamped or otherwise changed to read Case CS-80-( )M and Dynamotor Unit PE-98-( )M respectively, to indicate the modifications described in subparagraphs (4) and (5) above.



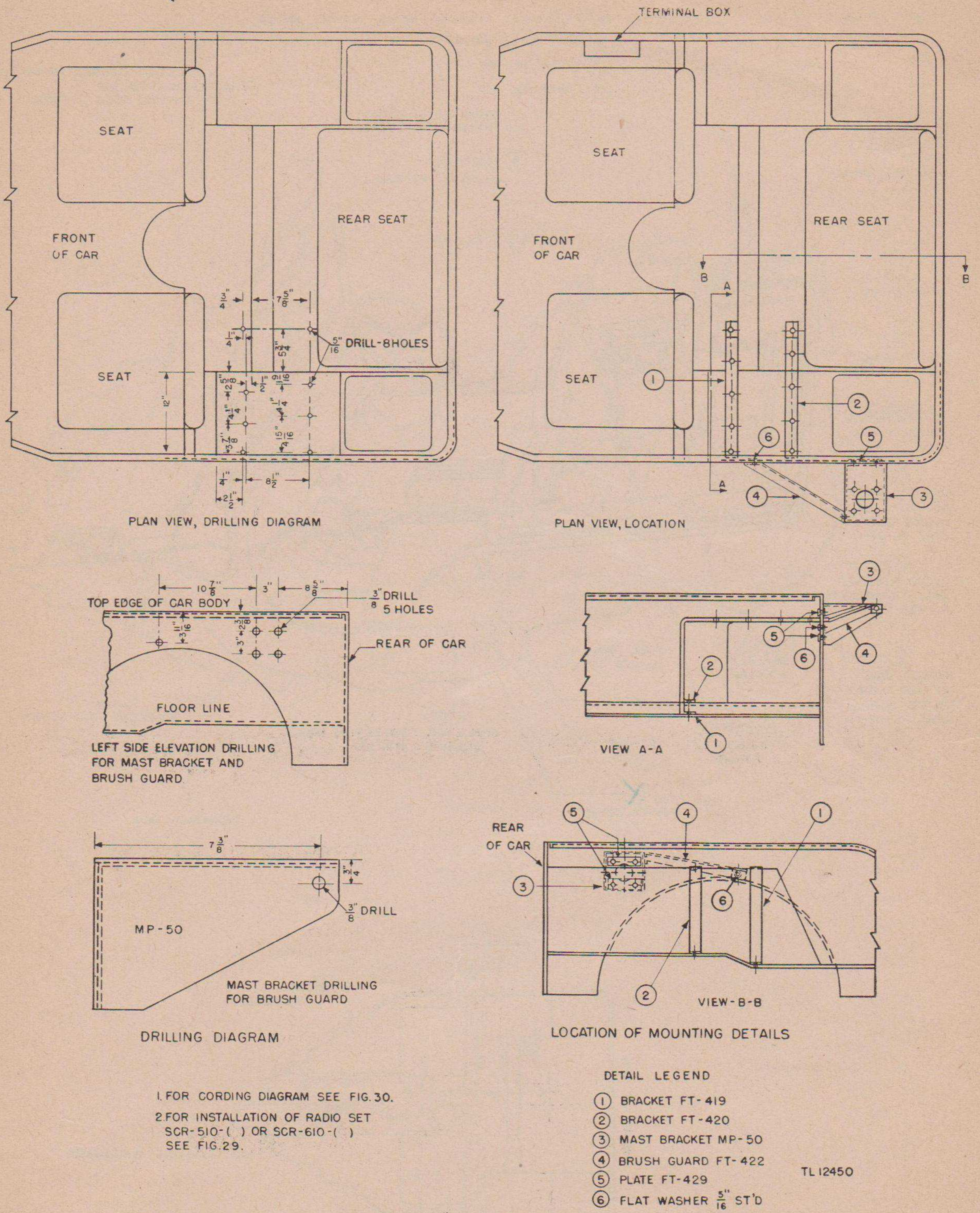


Figure 28. Mounting holes, and location and installation of brackets for Radio Set SCR-510( ) or SCR-610-( ) in Truck, 1/4-ton, 4x4.



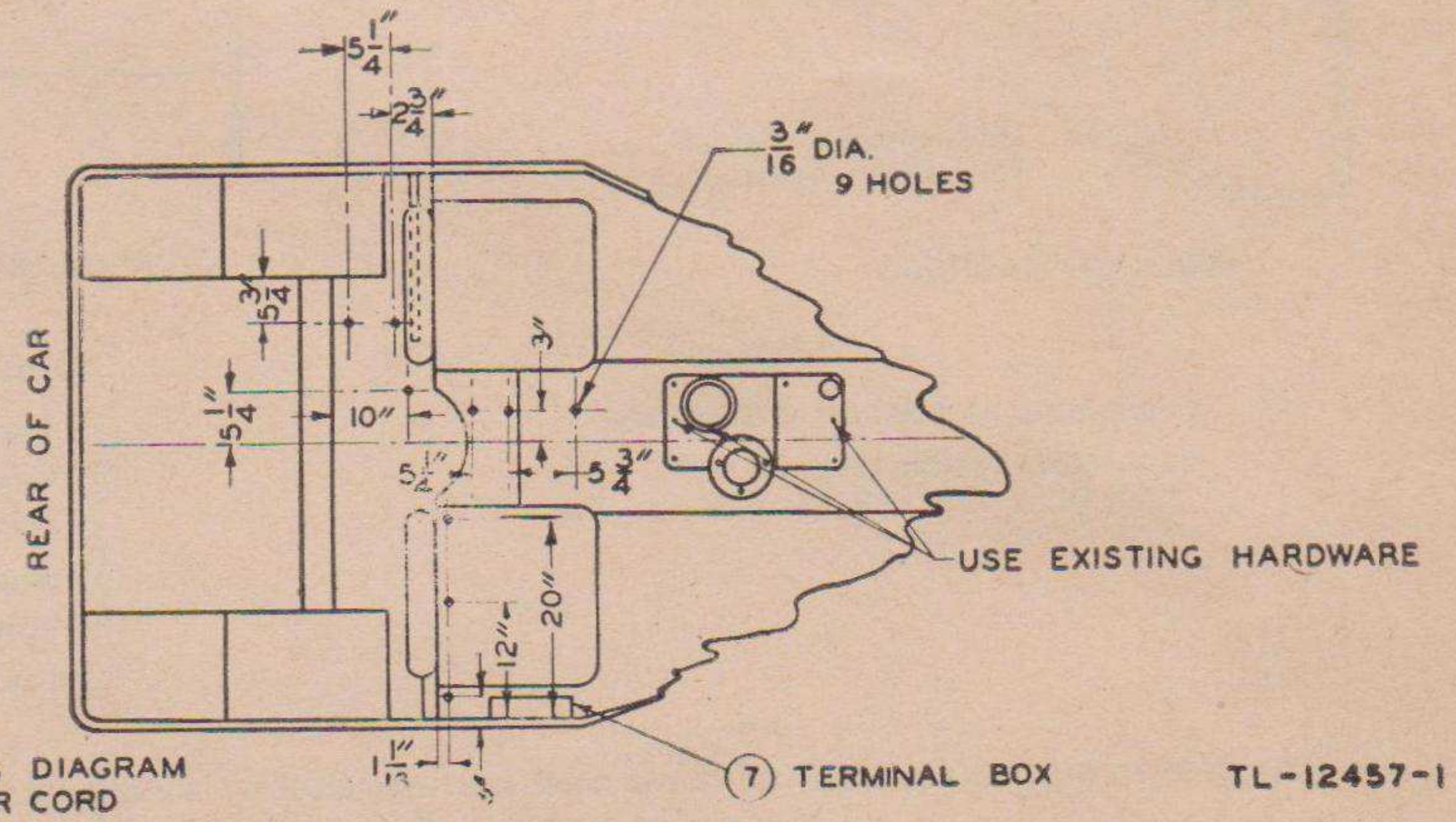
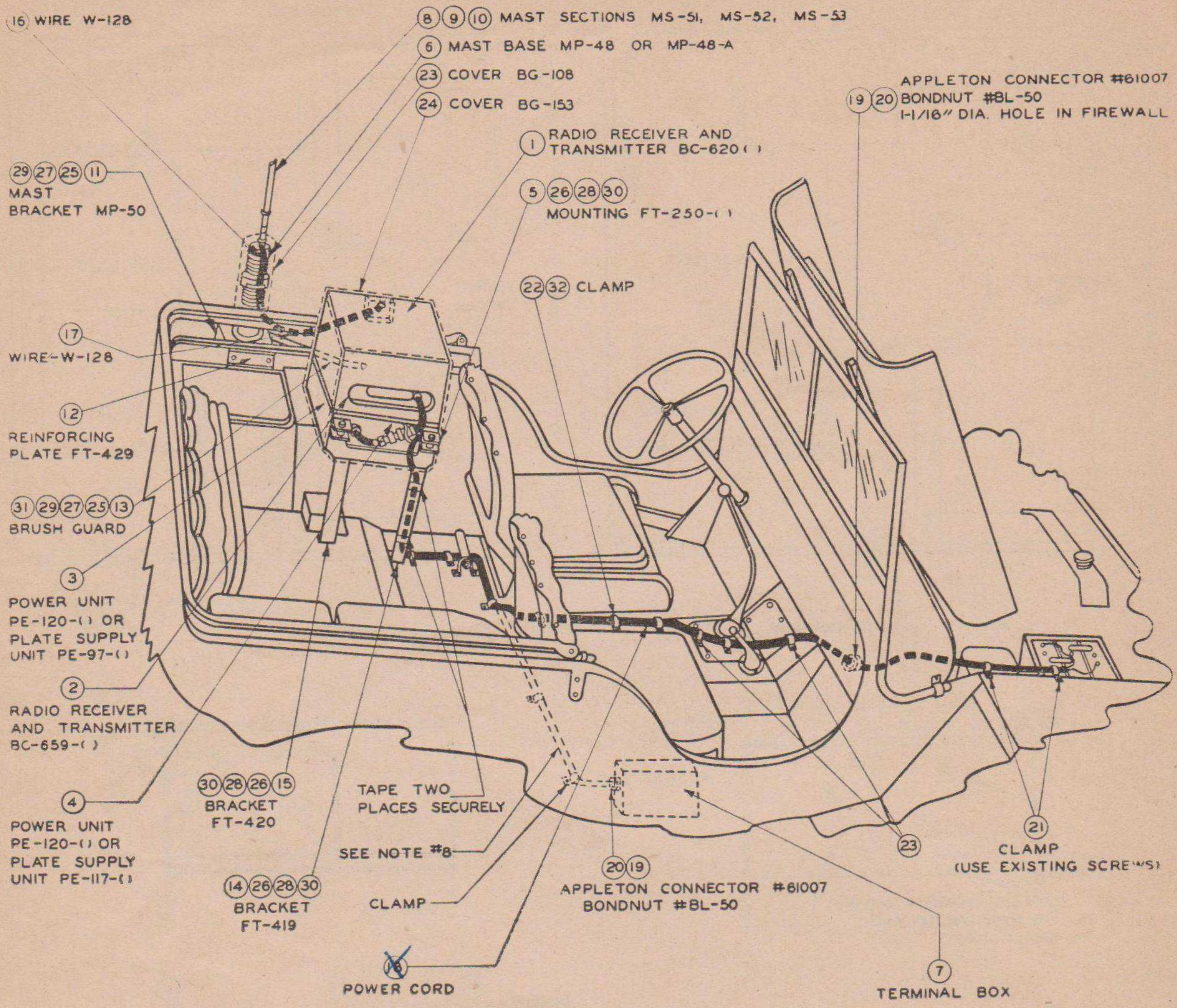


Figure 29. Installation of Radio Set SCR-510-( ) or SCR-610-( ) in Truck, 1/4-ton, 4x4.



NOTE:

1. (23) SHALL BE USED WHEN MAST SECTIONS ARE NOT INSTALLED.
2. ONE HEADSET HS-30-( ) WITH CORD CD-605, AND ONE MICROPHONE T-17-( ) SHALL BE FURNISHED.
3. (7) SHALL BE FURNISHED AND INSTALLED BY VEHICLE MANUFACTURER.
4. WIRE W-128 SHALL BE CUT TO PROPER LENGTH. ENDS SHALL BE TINNED FOR ANTENNA CONNECTIONS.
5. INTERNAL LEAD-IN ASSEMBLY SHALL BE REMOVED FROM MAST BASE.
6. FOR INSTALLATION OF SCR-510-( ) USE PLATE SUPPLY UNIT PE-97-( ), FOR SCR-610-( ) USE SUPPLY UNIT PE-117-( ), IF POWER UNIT PE-120-( ) IS NOT AVAILABLE.
7. FOR INSTALLATION OF SCR-510-( ) USE RECEIVER AND TRANSMITTER BC-620-( ), FOR SCR-610-( ) USE RECEIVER AND TRANSMITTER BC-659-( ).
8. CONNECT POWER CORD TO TERMINAL BOX WHEN PROVIDED. WHEN TERMINAL BOX IS NOT PROVIDED CONNECT POWER CORD TO BATTERY.
9. FOR INSTALLATION OF SCR-510-( ) WIRE W-128 SHALL BE 24" ± 1" LONG. (16) FOR INSTALLATION OF SCR-610-( ) WIRE W-128 SHALL BE 36" ± 1" LONG. (17)
10. MAST SECTIONS MS-52 AND MS-53 SHALL BE USED WITH SCR-510-( ). MAST SECTIONS MS-51 TO MS-53 SHALL BE USED WITH SCR-610-( ).

ITEM NO.	NAME OF ITEM		
		USED WITH SCR-610-( )	USED WITH SCR-510-( )
		QUAN. REQ.	QUAN. REQ.
1	RADIO RECEIVER AND TRANSMITTER BC-620-( ) (SEE NOTE #7)		1
2	RADIO RECEIVER AND TRANSMITTER BC-659-( ) (SEE NOTE #7)	1	
3	POWER UNIT PE-120-( ) OR PLATE SUPPLY UNIT PE-97-( )	SEE NOTE #6	1
4	POWER UNIT PE-120-( ) OR PLATE SUPPLY UNIT PE-117-( )		1
5	MOUNTING FT-250-( )	1	1
6	MAST BASE MP-48 OR MP-48-A (SEE NOTE #5)	1	1
7	TERMINAL BOX C-100427 (SEE NOTE #3)	1	1
8	MAST SECTION MS-51 WITH CLAMP MC-423 (SEE NOTE #10)	1	1
9	MAST SECTION MS-52 WITH CLAMP MC-424 (SEE NOTE #10)	1	1
10	MAST SECTION MS-53 (SEE NOTE #10)	1	1
11	MAST BRACKET MP-50	1	1
12	REINFORCING PLATE FT-429	2	2
13	BRUSH GUARD	1	1
14	BRACKET FT-419	1	1
15	BRACKET FT-420	1	1
16	WIRE W-128 24" ± 1" LONG (SEE NOTE #4 AND #9)	1	1
17	WIRE W-128 36" ± 1" LONG (SEE NOTE #4 AND #9)	1	1
18	CORD CD-605 78" LONG	1	1
19	APPLETON CONNECTOR CAT. #61007	1	1
20	APPLETON BONDNUT CAT. #BL-50	1	1
21	CLAMP #5	4	4
22	CLAMP #4	8	8
23	COVER BG-108 (SEE NOTE #1)	1	1
24	COVER BG-153	1	1
25	HEX. HD. MACH. SCREW 5/16"-24X1" LONG	6	6
26	HEX. HD. MACH. SCREW 1/4"-20X3/4" LONG	10	10
27	HEX. NUT 5/16"-24 STD.	6	6
28	HEX. NUT 1/4"-20 STD.	10	10
29	LOCKWASHER 5/16" STD.	6	6
30	LOCKWASHER 1/4" STD.	10	10
31	FLAT WASHER 5/16" I.D. X 1" O.D.	1	1
32	PARKER KAYLON SCREW #10X1/2" LONG	10	10

TL-12457-2



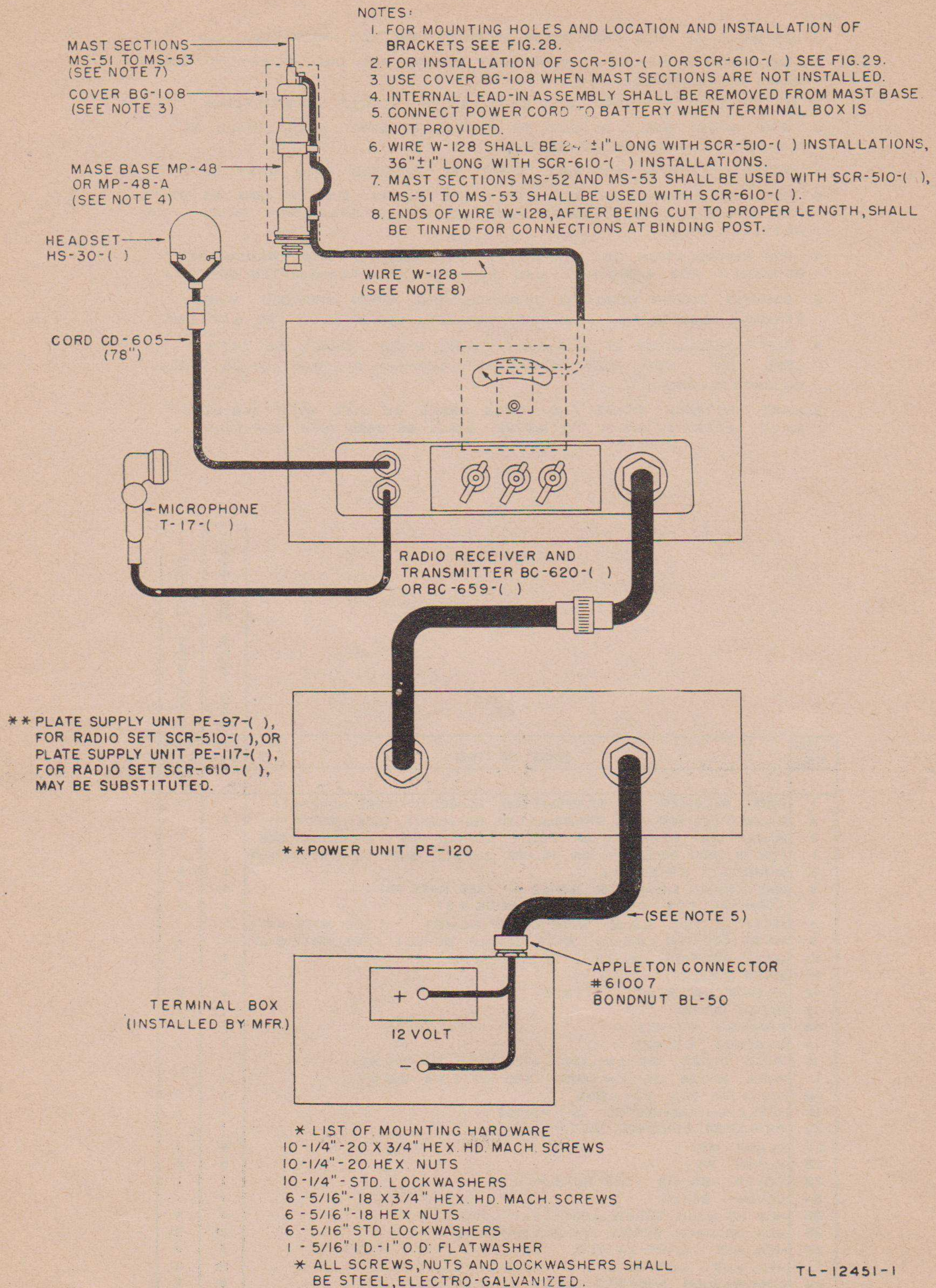
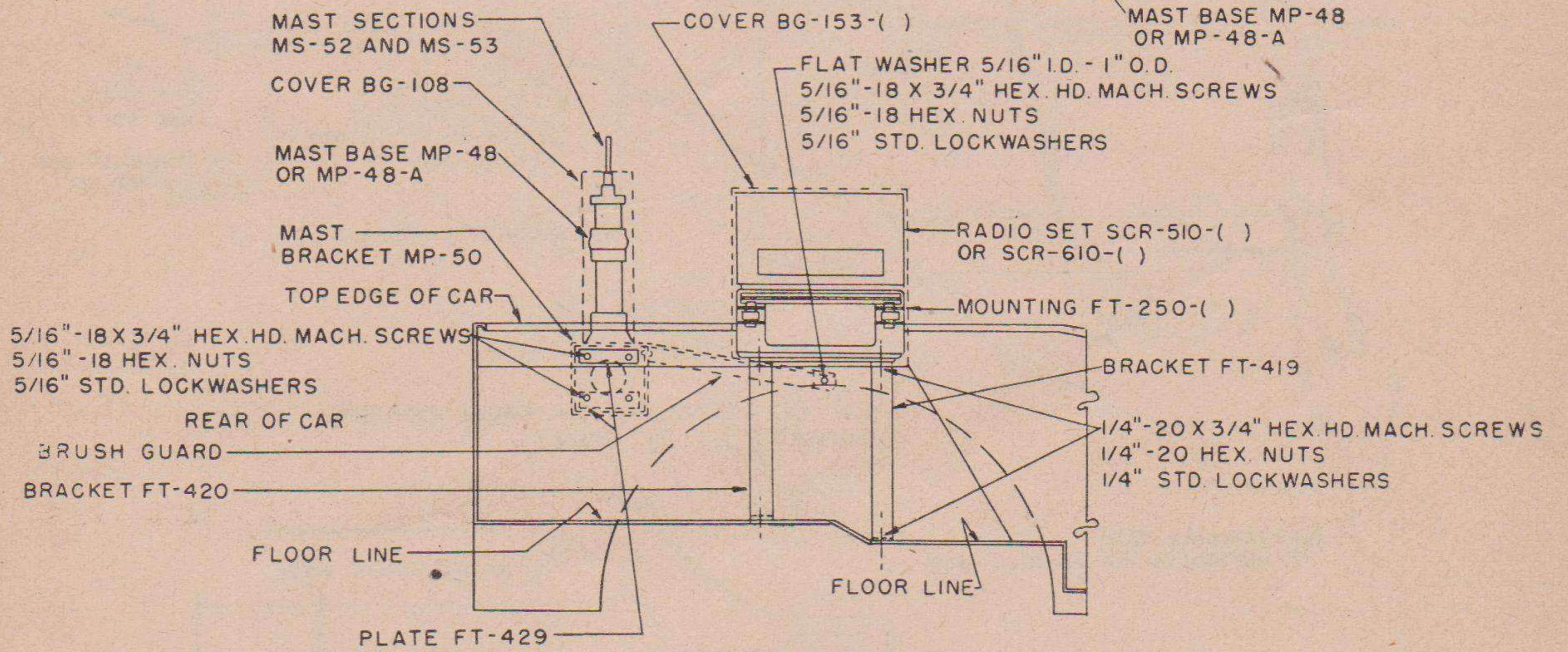
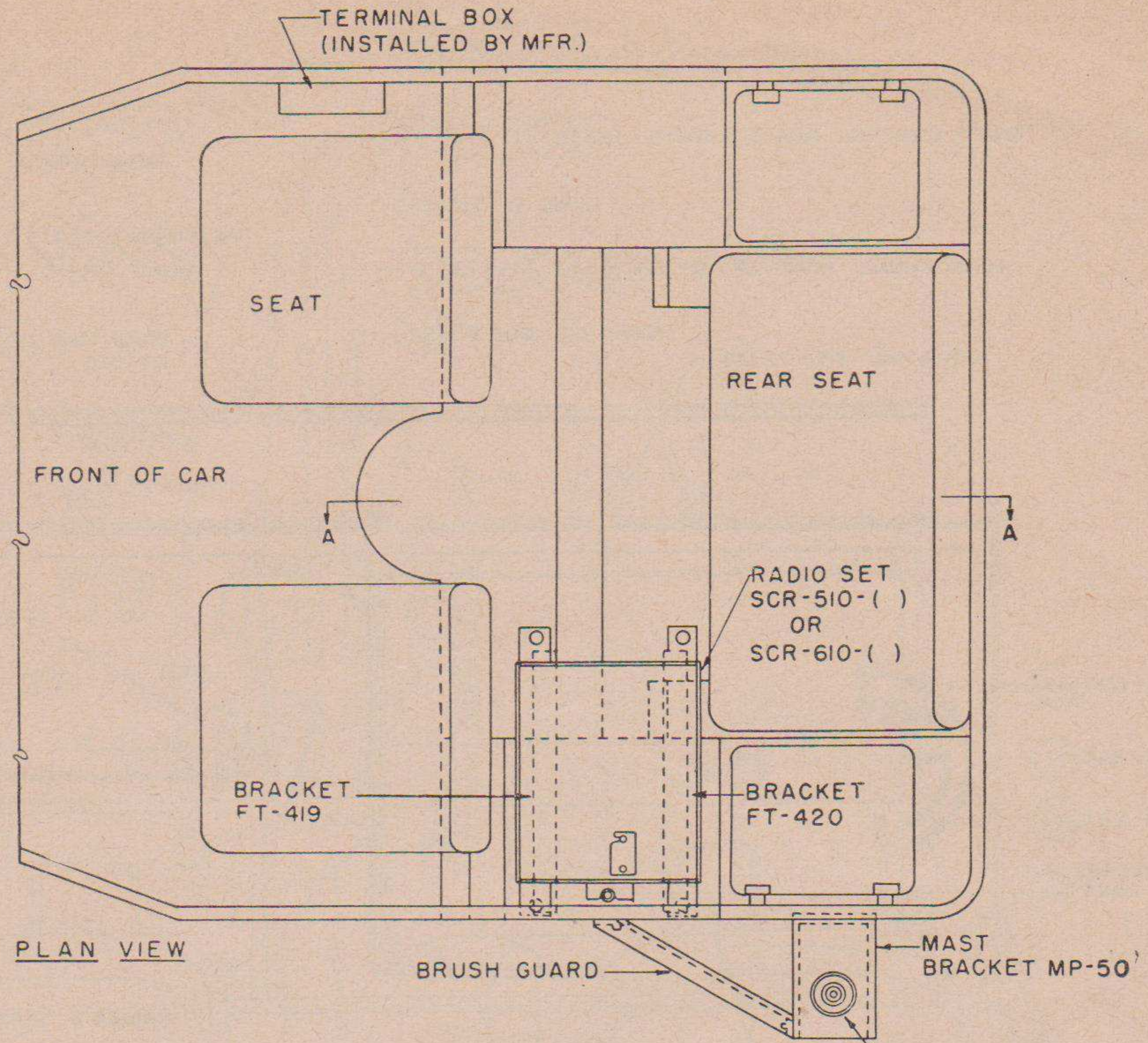


Figure 30. Cording diagram for Radio Set SCR-510-( ) or SCR-610-( ) in Truck, 1/4-ton, 4x4.





TL-12451-2



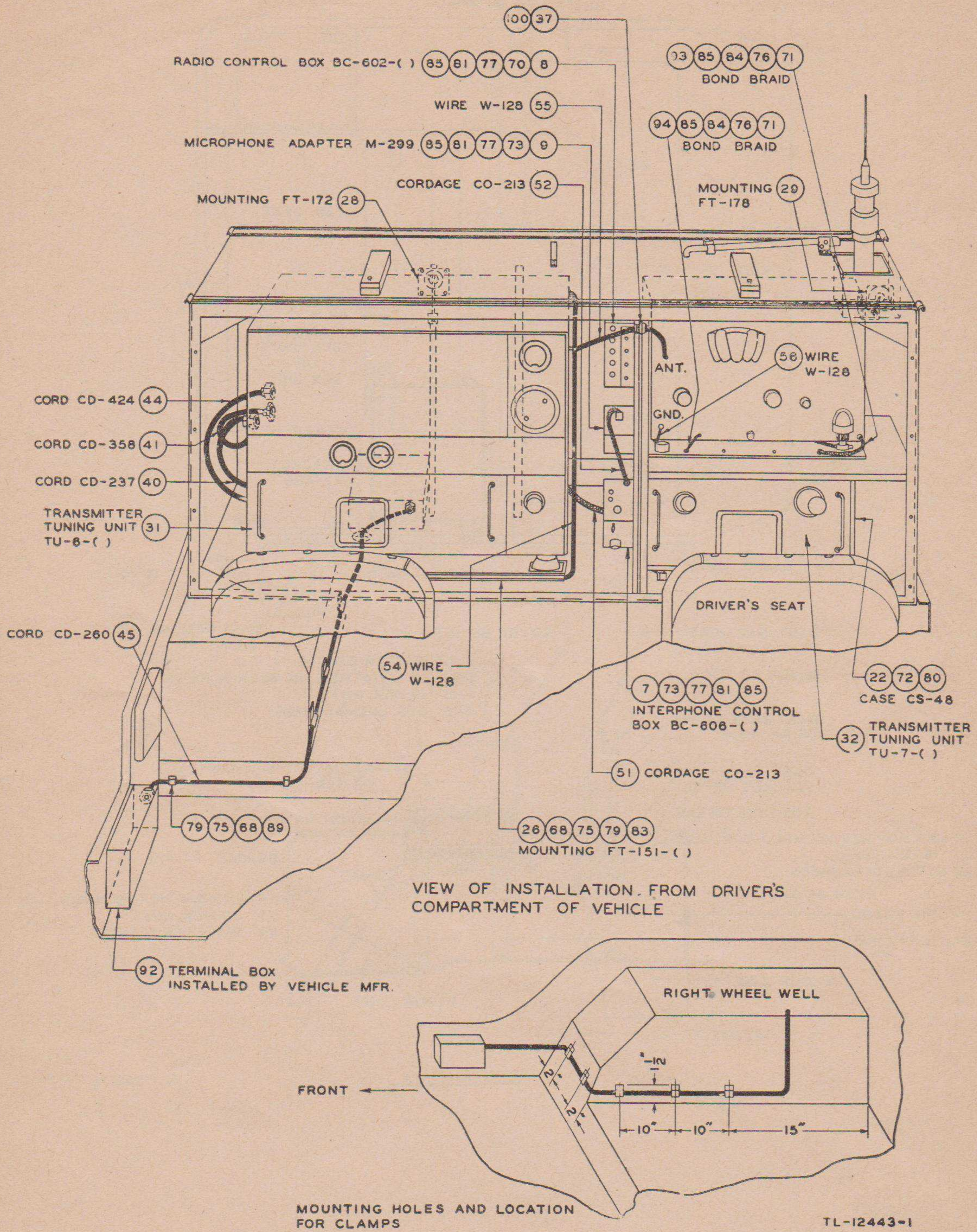
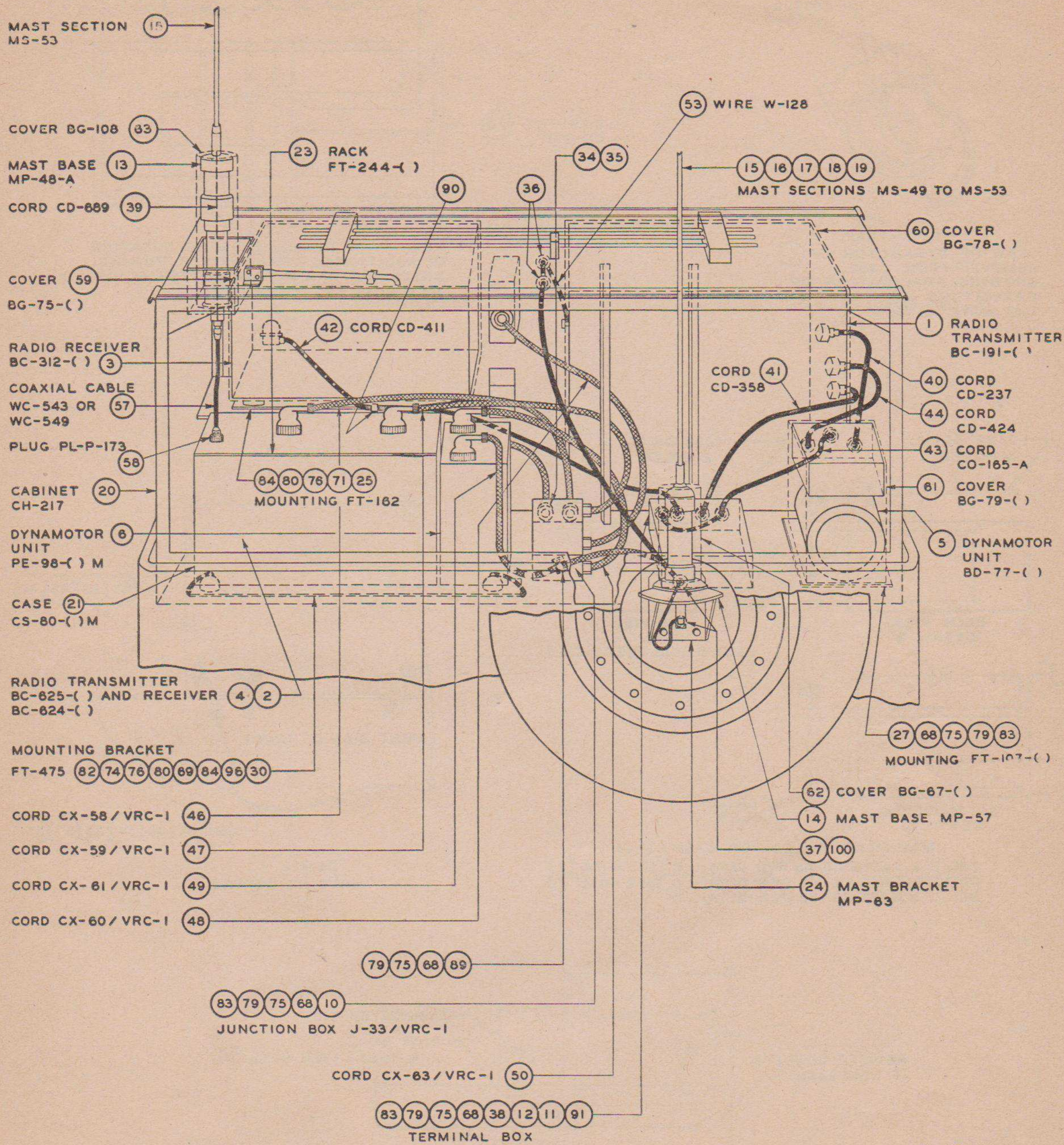


Figure 31. Installation of Radio Set AN/VRC-1-( ) in Truck, 1/4-ton, 4x4, front and back views.



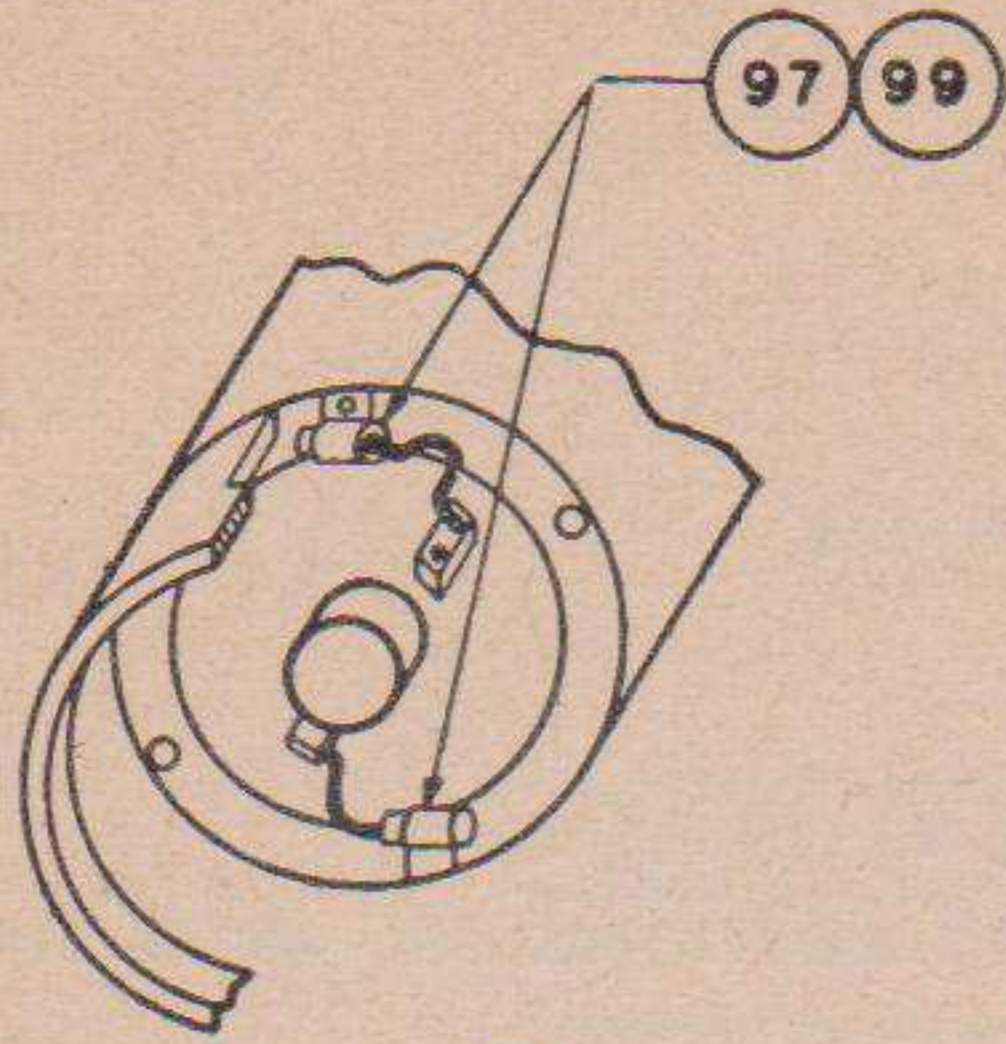


TL-12443-2

VIEW OF INSTALLATION FROM REAR OF VEHICLE

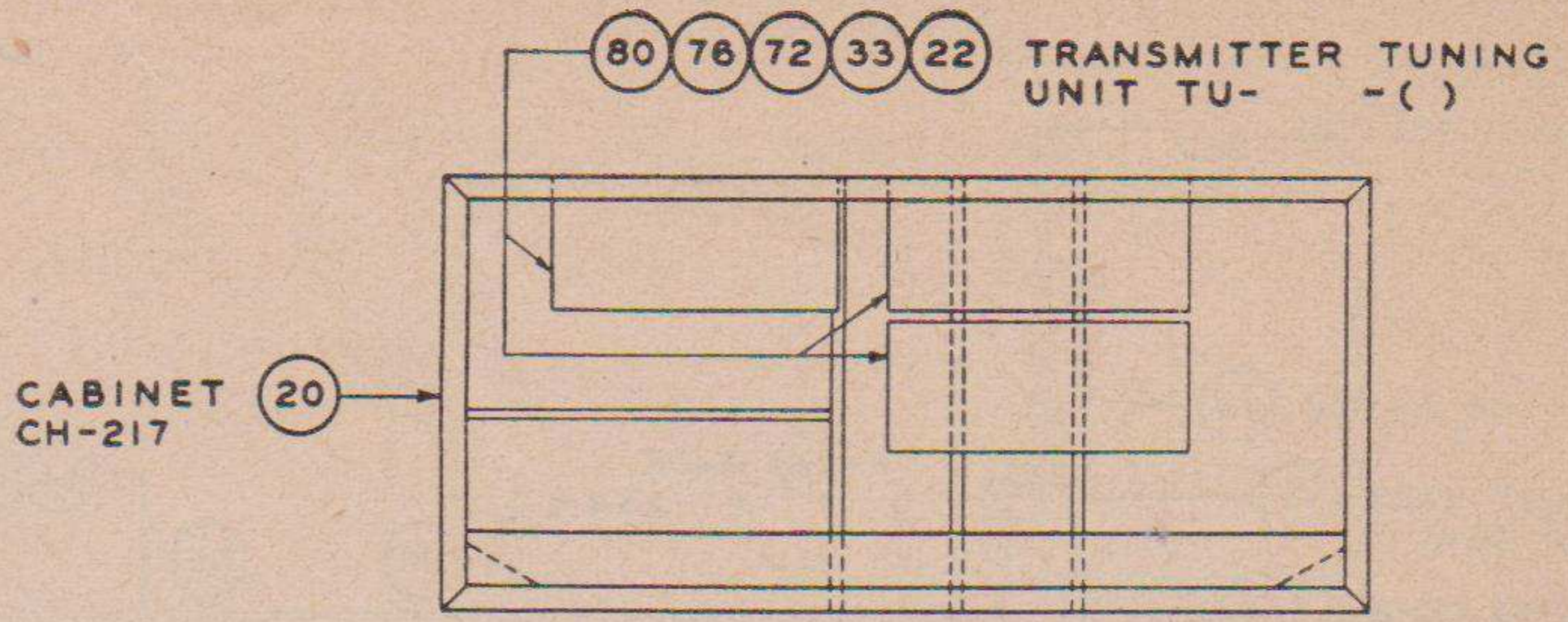
Figure 31—Continued





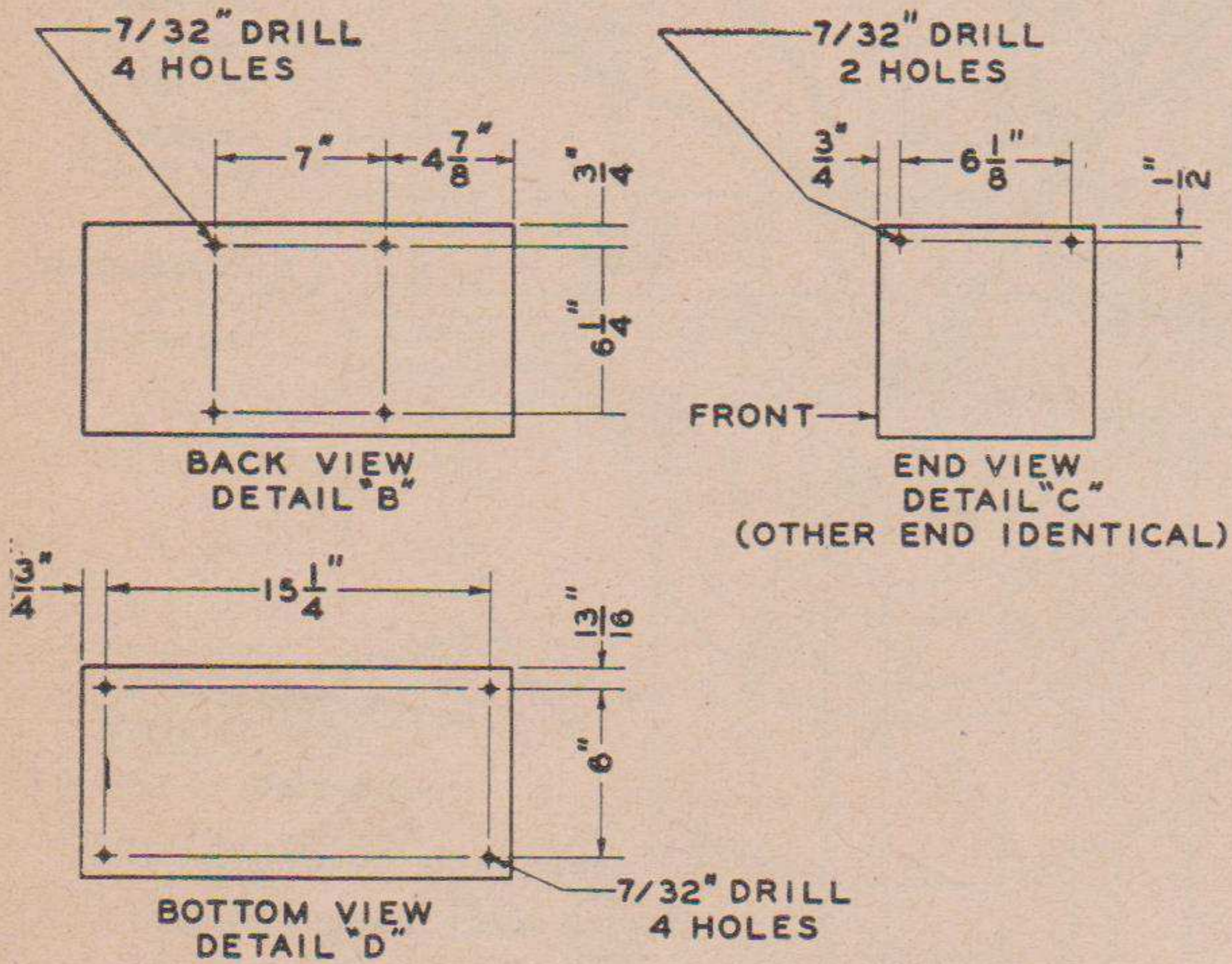
DETAIL "E"

VIEW OF DYNAMOTOR OF (6) REMOVED FROM CASE, SHOWING APPLICATION OF CAPACITORS (97) (SEE NOTE #16)

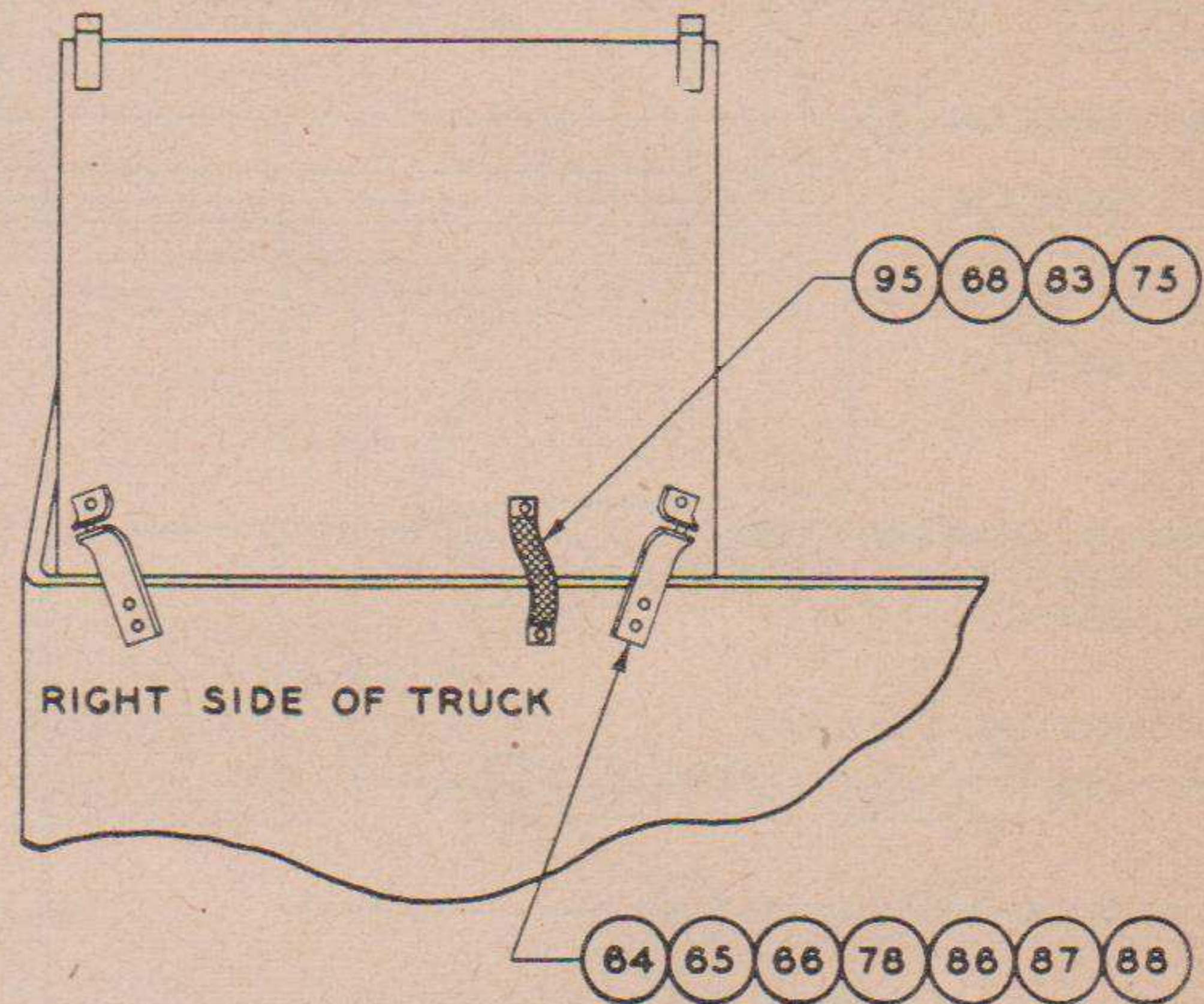


DETAIL "A"

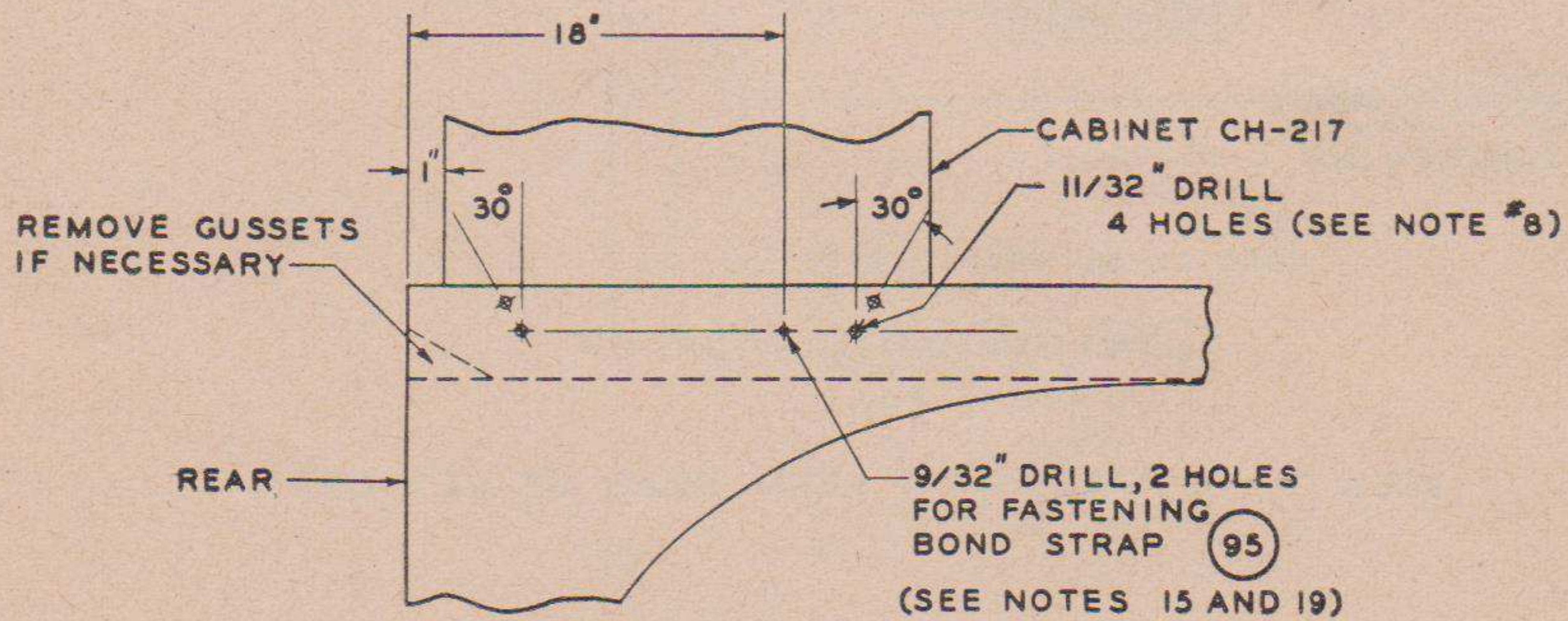
REAR VIEW DETAIL SHOWING LOCATION OF ADDITIONAL TRANSMITTER TUNING UNITS FOR RADIO TRANSMITTER BC-191-() (SEE NOTE #7)



MOUNTING HOLES FOR CASE CS-48  
 DRILL 2 CASES CS-48 PER DETAIL "B" (SEE NOTE #7)  
 DRILL 1 CASE CS-48 PER DETAIL "C" (SEE NOTE #7)  
 DRILL 1 CASE CS-48 PER DETAIL "D"



DETAIL "F"  
 BONDING DETAILS



DRILLING DETAIL (SEE NOTE #8)  
 RIGHT SIDE OF TRUCK (LEFT SIDE IDENTICAL)

TL-12443-3

Figure 31. Installation of Radio Set AN/VRC-1-() in Truck, 1/4-ton, 4x4, front and back views-Continued.



NOTES:

1. TRUCK, 1/4-TON, 4 X 4, PROVIDED WITH A 12-VOLT POWER SOURCE IS NECESSARY FOR THIS INSTALLATION.
2. (11) SHALL BE 40A, 25V FUSE, TYPE 4AG, CAT. #1100, AS MADE BY LITTELFUSE, INC., CHICAGO, ILL., OR EQUAL.
3. (12) SHALL BE CAT. #4512, AS MADE BY BUSSMAN MFG. CO., ST. LOUIS, MO., OR EQUAL.
4. (92) IS FURNISHED WITH THIS VEHICLE BY THE MANUFACTURER.
5. USE (62) AND (63) WHEN MAST SECTIONS ARE NOT INSTALLED.
6. (53)(54)(55)(56) CUT TO PROPER LENGTH, TIN ENDS FOR CONNECTIONS.
7. IF AUTHORIZED, THREE AUXILIARY TRANSMITTER TUNING UNITS, IN ADDITION TO TRANSMITTER TUNING UNITS TU-6-( ) AND TU-7-( ) MAY BE INSTALLED AS SHOWN IN DETAIL "A".
8. DRILL EIGHT MOUNTING HOLES IN VEHICLE, PER DRILLING DETAIL, WITH (20)(64)(65) IN POSITION USING (64) AS A DRILLING TEMPLATE. LEAVE 1/4" OPENING BETWEEN (64) AND (65) DURING THIS OPERATION.
9. (39) IS USED ONLY WITH MAST BASE MP-48-A.
10. FOR BACK VIEW OF INSTALLATION SEE PART 2 OF THIS FIGURE.
11. FOR ADDITIONAL COMPONENTS AND SPARE PARTS SEE PART LIST.
12. MAST BASE MP-48 MAY BE USED IF MAST BASE MP-48-A IS NOT AVAILABLE.
13. (82)(83)(84)(85)(99) SHALL BE CAT. #4018-24, #4014-22, #4010-18, #4008-14 AND #4010-18 RESPECTIVELY AS MADE BY SHAKEPROOF INC., CHICAGO, ILL., OR EQUAL.
14. IMPORTANT: APPLICATION OF I.E.T. LOCKWASHERS FOR GROUNDING OF RADIO COMPONENTS
  - A. APPLY LOCKWASHERS (83) UNDER HEAD AND NUT OF TWO OF THE SCREWS HOLDING (27) TO (20), (91) TO (20), (10) TO (20), (95) TO (20) AND (95) TO VEHICLE.
  - B. APPLY LOCKWASHERS (83) UNDER HEAD AND NUT OF THREE OF THE SCREWS HOLDING (26) TO (20).
  - C. APPLY LOCKWASHERS (84) UNDER HEAD AND NUT OF THREE OF THE SCREWS HOLDING (25) TO (20).
  - D. APPLY LOCKWASHERS (85) BETWEEN THE FOLLOWING ITEMS ON ALL BOLTS USED: BETWEEN (7) AND (20), BETWEEN (8) AND (20), BETWEEN (9) AND (20).
  - E. APPLY LOCKWASHERS (82) UNDER NUT OF FOUR SCREWS FASTENING (30) TO (20).
15. IMPORTANT: APPLICATION OF BONDS FOR GROUNDING OF RADIO COMPONENTS
  - A. SPADE TYPE LUG OF BOND (93) UNDER HEAD OF LOWER RIGHT MACHINE SCREW ON PANEL WITH LOCKWASHER (85) BETWEEN LUG AND PANEL OF (3). STANDARD LUG OF BOND (93) FASTENED TO RIGHT-HAND BOLT HOLDING (25) TO (20) WITH LOCKWASHER (84) UNDER HEAD AND NUT OF BOLT.
  - B. SPADE TYPE LUG OF BOND (94) UNDER HD. OF MACH. SCREW LOCATED IN LINE WITH AND TO THE LEFT OF LOWER PANEL FASTENER OF (3) WITH LOCKWASHER (85) BETWEEN LUG AND PANEL. STANDARD LUG OF BOND (94) FASTENED TO RIGHT FRONT BOLT HOLDING (25) TO (20) WITH LOCKWASHERS (84) UNDER HEAD AND NUT OF BOLT.
  - C. ONE LUG OF BOND (95) FASTENED TO (20) BY (68) AND (75) WITH LOCKWASHERS (83) UNDER HEAD AND NUT OF BOLT. THE OTHER LUG OF BOND (95) FASTENED TO VEHICLE BODY BY (68) AND (75) WITH LOCKWASHERS (83) UNDER HEAD AND NUT OF BOLT.
  - D. ONE LUG OF BOND (96) FASTENED TO (6) (BETWEEN SHOCK MOUNT AND (6)) AND THE OTHER LUG OF BOND (96) FASTENED TO (30) BY (69) AND (76) WITH LOCKWASHERS (84) BETWEEN (30) AND (96).
  - E. USE NOTE 15D. AS A GUIDE FOR GROUNDING (21) TO (30).
16. IMPORTANT: APPLICATION TO SUPPRESS NOISE EMANATION FROM DYNAMOTOR UNIT:  
 INSTALL CAPACITORS (97) BETWEEN ONE TERMINAL OF EACH INPUT BRUSH AND FRAME OF DYNAMOTOR UNIT PE-98-( ) M, (6) CAPACITOR BRACKET FASTENED BY SCREW IN DYNAMOTOR FRAME WITH I.E.T. LOCKWASHER (99) UNDER SCREW HEAD. CAPACITOR LEAD LUG PLACED UNDER LOCKWASHER OF SCREW IN BRUSH TERMINAL. (SEE DETAIL "E")

(NOTES CONTINUED ON PART 5)

TL-12443-4

Figure 31—Continued



**NOTES: (CONTINUED)**

17. SHOCK MOUNTING (98) SHALL BE CAT. #153-PH-24, AS MADE BY LORD MFG. CO., ERIE, PENNA. OR EQUAL. THESE 24LB. MOUNTINGS SHALL BE SUBSTITUTED FOR THE 12 LB. MOUNTING NORMALLY FURNISHED AS A PART OF (21) AND (6) BECAUSE OF THE ADDED SHOCK LOAD IN VEHICULAR INSTALLATION.

13. STANDARD NAMEPLATES OF (6) AND (21) SHALL BE STAMPED OR OTHERWISE MARKED WITH THE LETTER "M" FOLLOWING THE NOMENCLATURE TO INDICATE THAT MODIFICATIONS LISTED IN NOTES #16 AND #17 HAVE BEEN MADE.

10. THE FOLLOWING SHALL BE BONDING JUMPERS AS MADE BY THOMAS AND BETTS CO., ELIZABETH, NEW JERSEY OR EQUAL.

ITEM NO.	TYPE	HOLE NO. 1	LENGTH	HOLE NO. 2
(93)	C	Q	5"	Y
(94)	C	Q	3"	Y
(95)	H	S	8"	S
(96)	F	Q	5"	S

20. (97) SHALL BE 0.01 MFD. CAPACITOR NO.1902397 MADE BY DELCO-REMY DIVISION OF GENERAL MOTORS CORP. OR APPROVED EQUAL.

ITEM NO.	NAME OF ITEM	QUAN. REQ.	REMARKS	ITEM NO.	NAME OF ITEM	QUAN. REQ.	REMARKS	COMMON INSTALLATION	
								HIGH-FREQ. SET	V-H-F SET
1	RADIO TRANSMITTER BC-191-( )	1		51	CORDAGE CO-213 21" LONG	1			
2	RADIO TRANSMITTER BC-625-( )	1		52	CORDAGE CO-213 15" LONG	1			
3	RADIO RECEIVER BC-312-( )	1	SEE NOTE #15	53	WIRE W-128 60" LONG	1	SEE NOTE #8		
4	RADIO RECEIVER BC-624-( )	1		54	WIRE W-128 25" LONG	1			
5	DYNAMOTOR UNIT BD-77-( )	1		55	WIRE W-128 11" LONG	1			
6	DYNAMOTOR UNIT PE-98-( )	1	SEE NOTE 15,16,17 AND 18	56	WIRE W-128 9" LONG	1			
7	INTERPHONE CONTROL BOX	1	BC-806-( )	57	COAXIAL CABLE 21" LONG	1	WC-543 OR WC-549		
8	RADIO CONTROL BOX	1	BC-802-( )	58	PLUG PL-P-173	1			
9	MICROPHONE ADAPTER M-299	1		59	COVER BG-75-( )	1			
10	JUNCTION BOX J-33/VRC-1	1		60	COVER BG-78-( )	1			
11	FUSE	1	SEE NOTE #2	61	COVER BG-79-( )	1			
12	FUSE BLOCK	1	SEE NOTE #3	62	COVER BG-67-( )	1	SEE NOTE #5		
13	MAST BASE MP-40-A	1	SEE NOTE #12	63	COVER BG-108	1	SEE NOTE #5		
14	MAST BASE MP-57	1		64	BRACKET	4	SEE NOTE #8		
15	MAST SECTION MS-53	1		65	BRACKET	4	SEE NOTE #8		
16	MAST SECTION MS-52	1	WITH CLAMP MC-424	66	REINFORCING PLATE	4	SEE NOTE #8		
17	MAST SECTION MS-51	1	WITH CLAMP MC-423						
18	MAST SECTION MS-50	1	WITH CLAMP MC-422	68	HEX. HEAD MACH. SCREW	14	1/4"-20 X 3/4" LONG		
19	MAST SECTION MS-40	1	WITH CLAMP MC-421	69	FLAT HEAD MACH. SCREW	26	#10-32 X 1/2" LONG		
20	CABINET CH-217	1	SEE NOTE #15	70	FLAT HEAD MACH. SCREW	4	#8-32 X 1/2" LONG		
21	CASE CS-60-( )-M	1	SEE NOTE 15,17 AND 18	71	ROUND HEAD MACH. SCREW	10	#10-32 X 3/4" LONG		
22	CASE CS-48	4	SEE NOTE #7	72	ROUND HEAD MACH. SCREW	16	#10-32 X 1/2" LONG		
23	RACK FT-244-( )	1		73	ROUND HEAD MACH. SCREW	5	#8-32 X 1/2" LONG		
24	MAST BRACKET MP-63	1		74	HEX. NUT	4	5/16"-24		
25	MOUNTING FT-182	1		75	HEX. NUT	14	1/4"-20		
26	MOUNTING FT-151-( )	1		76	HEX. NUT	22	#10-32		
27	MOUNTING FT-107-( )	1		77	HEX. NUT	9	#8-32		
28	MOUNTING FT-172	1		78	LOCKWASHER	16	5/16" ST'D.		
29	MOUNTING FT-178	1		79	LOCKWASHER	8	1/4" ST'D.		
30	MOUNTING BRACKET FT-475	2		80	LOCKWASHER	23	#10 ST'D.		
31	TRANSMITTER TUNING UNIT	1	TU-6-( )	81	LOCKWASHER	9	#8 ST'D.		
32	TRANSMITTER TUNING UNIT	1	TU-7-( )	82	LOCKWASHER 5/16" ST'D.	4	SEE NOTE 13 AND 14		
33	TRANSMITTER TUNING UNIT	3	TU- -( ) SEE NOTE #7	83	LOCKWASHER 1/4" ST'D.	12	10 4 SEE NOTE 13 AND 14		
34	APPLETON CONNECTOR	1	CAT. #61007	84	LOCKWASHER #10 ST'D.	6	4 SEE NOTE 13 AND 14		
35	APPLETON BONDNUT	1	CAT. #BL-50	85	LOCKWASHER #8 ST'D.	2	9 SEE NOTE 13 AND 14		
36	INSULATOR IN-104	4		86	HEX. HD. MACH. SCREW	12	5/16"-24 X 3/4" LONG		
37	INSULATOR IN-121	3		87	HEX. HD. MACH. SCREW	4	5/16"-24 X 1" LONG		
38	TERMINAL BLOCK TM-183	1		88	HEX. NUT	16	5/16"-24		
39	CORD CD-689	1		89	CLAMP NO. 8	5	1		
40	CORD CD-237	1		90	CLAMP NO. 4	1			
41	CORD CD-358	1		91	TERMINAL BOX	1			
42	CORD CD-411	1		92	TERMINAL BOX	1	SEE NOTE #4		
43	CORD CD-165-A	1		93	BOND BRAID 1/2"WIDE BY 5"LG.	1	SEE NOTE 15A AND 19		
44	CORD CD-424	1		94	BOND BRAID 1/2"WIDE BY 3"LG.	1	SEE NOTE 15B AND 19		
45	CORD CD-260	1		95	BOND BRAID 3/4"WIDE BY 8"LG.	2	SEE NOTE 15C AND 19		
46	CORD CX-58/VRC-1	1		96	BOND BRAID 1/2"WIDE BY 5"LG.	2	SEE NOTE 15D AND 19		
47	CORD CX-59/VRC-1	1		97	CAPACITOR	2	SEE NOTE 16 AND 20		
48	CORD CX-60/VRC-1	1		98	LORD MOUNTING #153-PH-24	6	SEE NOTE #17		
49	CORD CX-61/VRC-1	1		99	LOCKWASHER #10 ST'D.	2	SEE NOTE 13 AND 16		
50	CORD CX-63/VRC-1	1		100	RUBBER WASHER	3			

TL-12443-5

Figure 31. Installation of Radio Set AN/VRC-1-( ) in Truck, 1/4-ton, 4x4, front and back views-Continued.

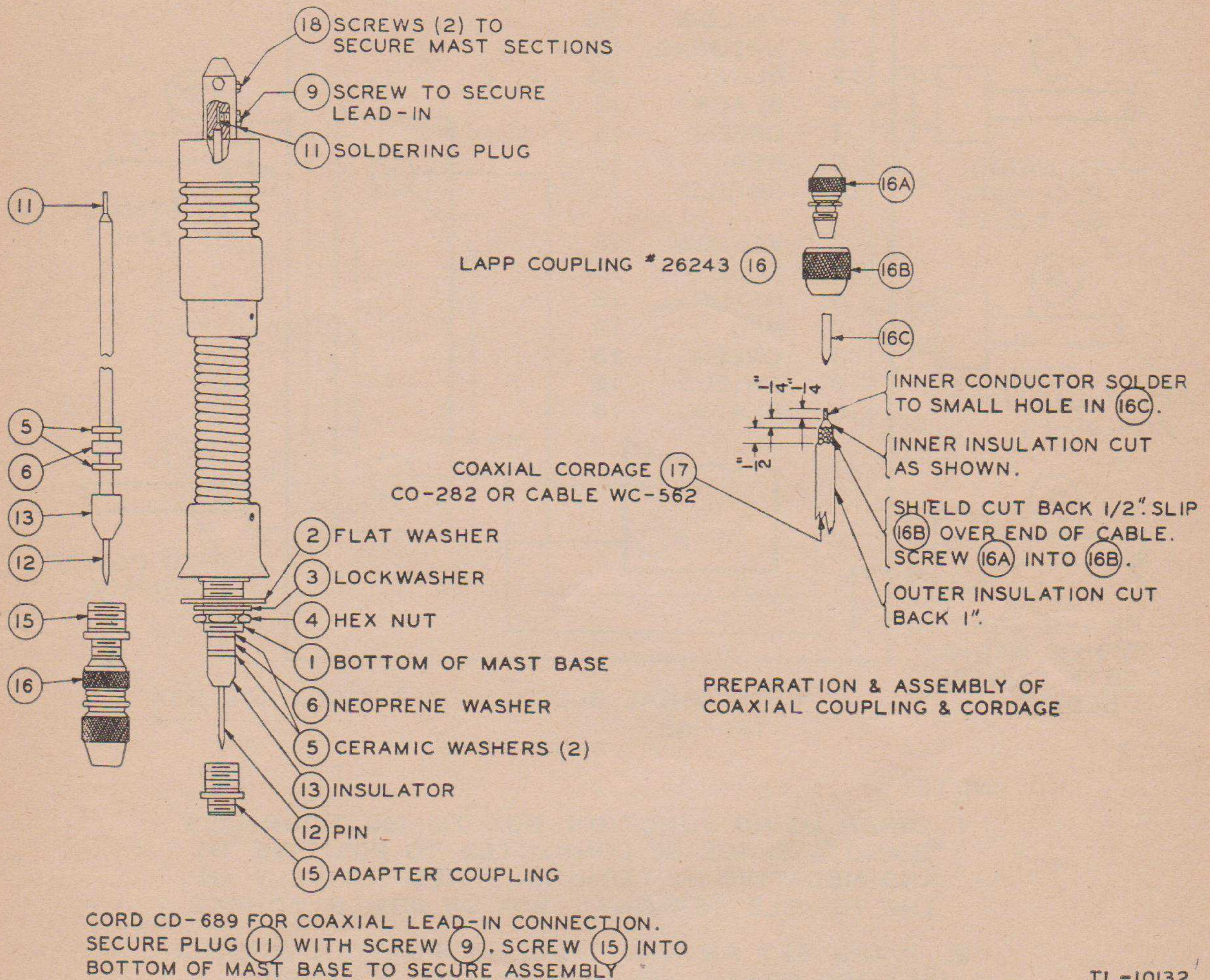


## 19. Assembly and Installation

a. PRELIMINARY CHECK. Truck, 1/4-ton, 4 x 4, ordinarily has a 6-volt electrical system. Radio Set AN/VRC-1-( ) requires 12 volts for operation. Kit, 12-volt conversion, Truck, 1/4-ton, 4 x 4, supplied by the Ordnance Department, must be installed in the

components assembled in Cabinet CH-217, installation procedure is simplified. Place Cabinet CH-217, in the rear of the vehicle and secure with the four brackets provided, two on each end, as shown in figure 31.

(2) In order to reduce radio noise interference caused by the electrical system of the vehicle, Cabinet CH-217 must be bonded



TL-10132

Figure 32. Mast Base MP-48-A, assembly with coaxial lead-in connection.

vehicle, as shown in Modification Work Order G-503-W-7, in order to supply 12 volts to the radio set. Additional items for improving the suppression of the vehicular electrical system are provided with the conversion kit. Make sure that the conversion kit has been installed in the vehicle before installing the radio set.

b. PROCEDURE. (1) Since Radio Set AN/VRC-1-( ) is procured with its principal

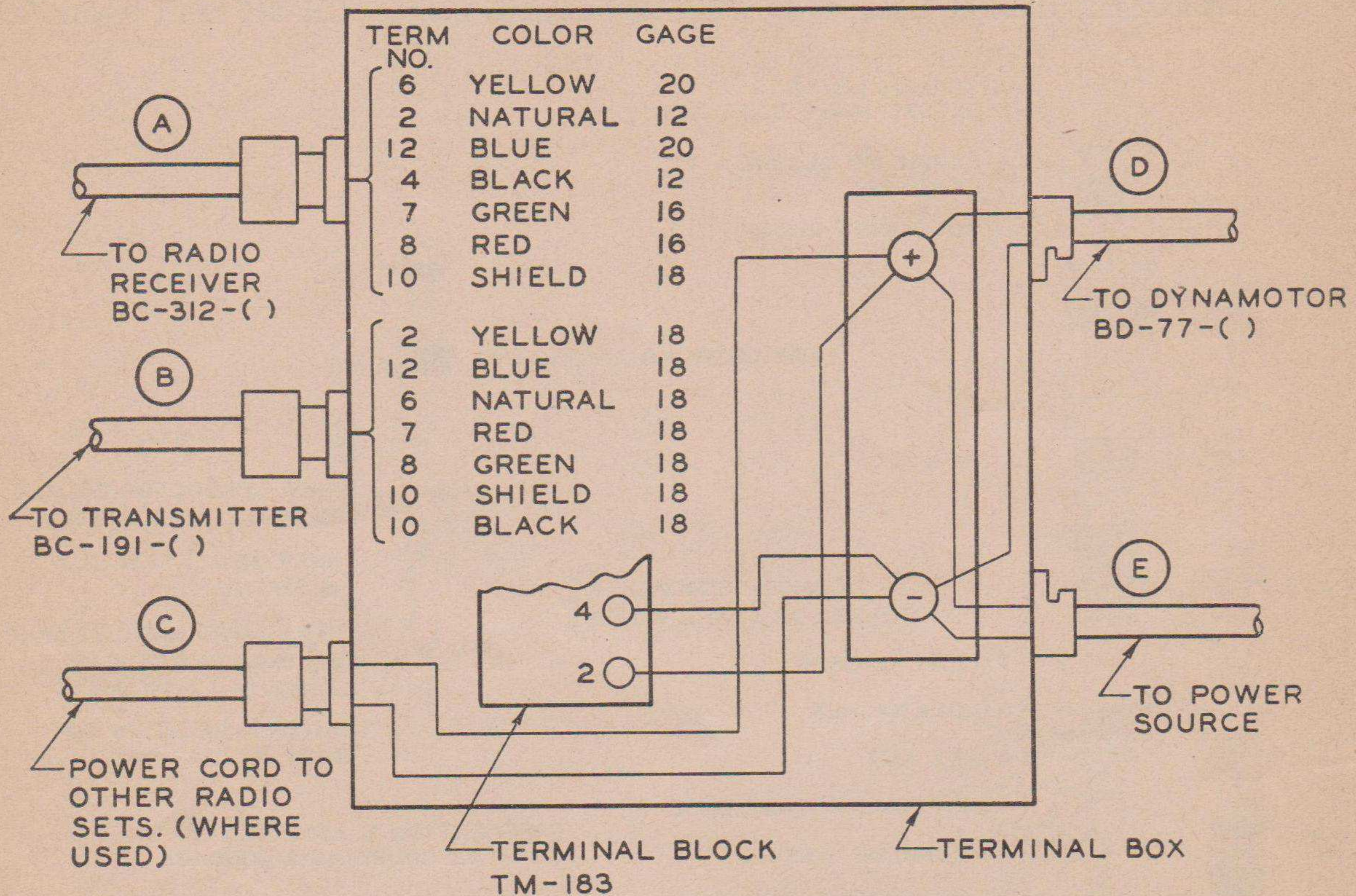
to the vehicle by means of the provided bonding jumpers, one on each end of the cabinet. Drilling details for the necessary holes are shown in figure 31.

(3) The surfaces around the mounting holes at the point of contact between the bonding jumpers, the cabinet, and the vehicle, should be prepared by first removing the paint and cleaning the surface with sandpaper, a file, or emery cloth. Then tin with



solder. Shakeproof washers should be used between the bonding jumper in the cabinet and between the bonding jumper in the vehicle, and the bolt securing the bonds must be tightened firmly.

inside the mast base as shown. Remove item 9 in order to observe that the tip of Cord CD-689 engages the slot, then replace and tighten screw. Screw adapter coupling, item 15, into the bottom of the mast base. Remove items 2, 3, and 4 from the bottom of the mast



**NOTE:**

1. WHEN USING JUNCTION BOX TM-188, TERMINALS \*2 AND \*4 SHALL BE CONNECTED TO POSITIVE (+) AND NEGATIVE (-) TERMINALS RESPECTIVELY IN THE VEHICLE TERMINAL BOX OR POWER SOURCE.
2. RADIO SET AN/VRC-1- ( ), H.F. PORTION WIRING:  
 (A) CORD CD-411; (B) CORD CD-358; (C) CORD CX-61/VRC-1; (D) CORD CO-165-A; (E) CORD CO-260-A.

**TL-12442**

Figure 33. Wiring diagram of Radio Set SCR-193- ( ) using Terminal Block TM-183.

(4) Route Power Cord CD-260, to the vehicle terminal box as shown in figure 31 and connect the positive and negative leads to the corresponding terminal in the vehicle terminal box. Secure Cord CD-260 in place with the provided clamps and hardware.

c. INSTALLATION OF MAST BASE MP-48-A. Refer to figure 32 and install Cord CD-689

base. Install the mast base in the mast base well, located in the top of Cabinet CH-217, and secure with items 2, 3, and 4. If coaxial connector is not already attached to the coaxial cable, prepare the end of the cable as shown in figure 32, and attach the connector to the cable. Connect the coaxial cord from Mast Base MP-48-A to Radio Transmitter



BC-625-( ) as shown in figure 31. When Mast Section MS-53 is installed in Mast Base MP-48-A, and a lower clearance height is desired, the mast base may be flexed 90° and the mast section held in a horizontal position by pulling the mast section down and engaging the mast section in the hook provided on the top center of cabinet CH-217.

*d.* MAST BASE MP-57 AND MAST BRACKET MP-63. Remove nuts and washers holding spare wheel on the rear of the vehicle and, using the same nuts and washers, secure Mast Bracket MP-63 to spare wheel stud as shown in figure 31. Refer to figure 8 and assemble Mast Base MP-57 as follows: Place item 1 over the hole in the mast bracket. Place item 2 over item 1. Place item 3 over item 2. Insert item 4 through the hole in the mast bracket. Place item 5 over the flange of item 6. Insert item 6 upward through the hole in the mast

bracket. Place items 7 and 8 beneath item 6 and fasten entire assembly in place with items 9 and 10. Connect Wire W-128 as shown in figure 31.

*e.* STOWAGE ITEMS. All items, such as Boxes BX-8, BX-21, Roll BG-56-( ), etc., that are listed in this instruction as items to be stowed, shall be stowed at the discretion of the using arm. Mast Rack FT-476 is provided on top of Cabinet CH-217 for carrying mast sections.

*f.* INTERFERENCE OF MAST SECTION MS-53 WITH VEHICLE TOP. A hinged arm is provided on top of Cabinet CH-217 to hold the vehicle top away from Mast Section MS-53. This must be used to prevent contact between the vehicle top and the mast section when the very-high-frequency portion of the set is used while the vehicle top is up.



NOTE:

1. CORRESPONDING NUMBERS IN "A" AND "B" SHOW CONTINUITY OF CORD CX-58/VRC-1 AND ARE FOR REFERENCE ONLY.
2. THIS SOCKET IS FURNISHED ON CONTROL BOX BC-602-( ) BUT IS NOT USED IN VEHICULAR INSTALLATIONS.
3. ONE MICROPHONE T-17-( ) AND ONE HEADSET HS-30-( ) SHALL BE PLUGGED INTO DESIGNATED JACKS ON CONTROL BOX BC-606-( ).
4. LEADS ON OUTPUT TRANSFORMER OF RECEIVER BC-624-( ) SHALL BE CHECKED TO DETERMINE THAT POSITIONS CORRESPOND TO RESISTANCE OF HEADSETS USED:  
TAPS ON TRANSFORMER  
COMMON-TAP NO.4 300 Ω -  
TAP NO.6  
50 Ω -TAP NO.5 4,000 Ω -  
TAP NO.7
5. FOR VEHICULAR INSTALLATIONS OF SCR-522/542, USING MICROPHONE T-17-( ), THE NORMAL 24-VOLT SUPPLY TO TERMINAL NO.1 OF MICROPHONE ADAPTER M-299 MAY BE SUBSTITUTED FOR BY CONNECTION TO THE +13-VOLT TERMINAL IN THE JUNCTION BOX. ANY LOSS IN GAIN MAY BE COMPENSATED FOR BY ADJUSTMENT OF THE MICROPHONE GAIN CONTROL ON TRANSMITTER BC-625-( ).
6. FOR CONNECTING COAXIAL CABLE TO MAST BASE COUPLING, SEE FIGURE 32.
7. CONTROL UNIT RM-38-( ) IS PART OF RADIO SET SCR-634-( ), ONE CONNECTOR (JONES) IS USED AS SHOWN.

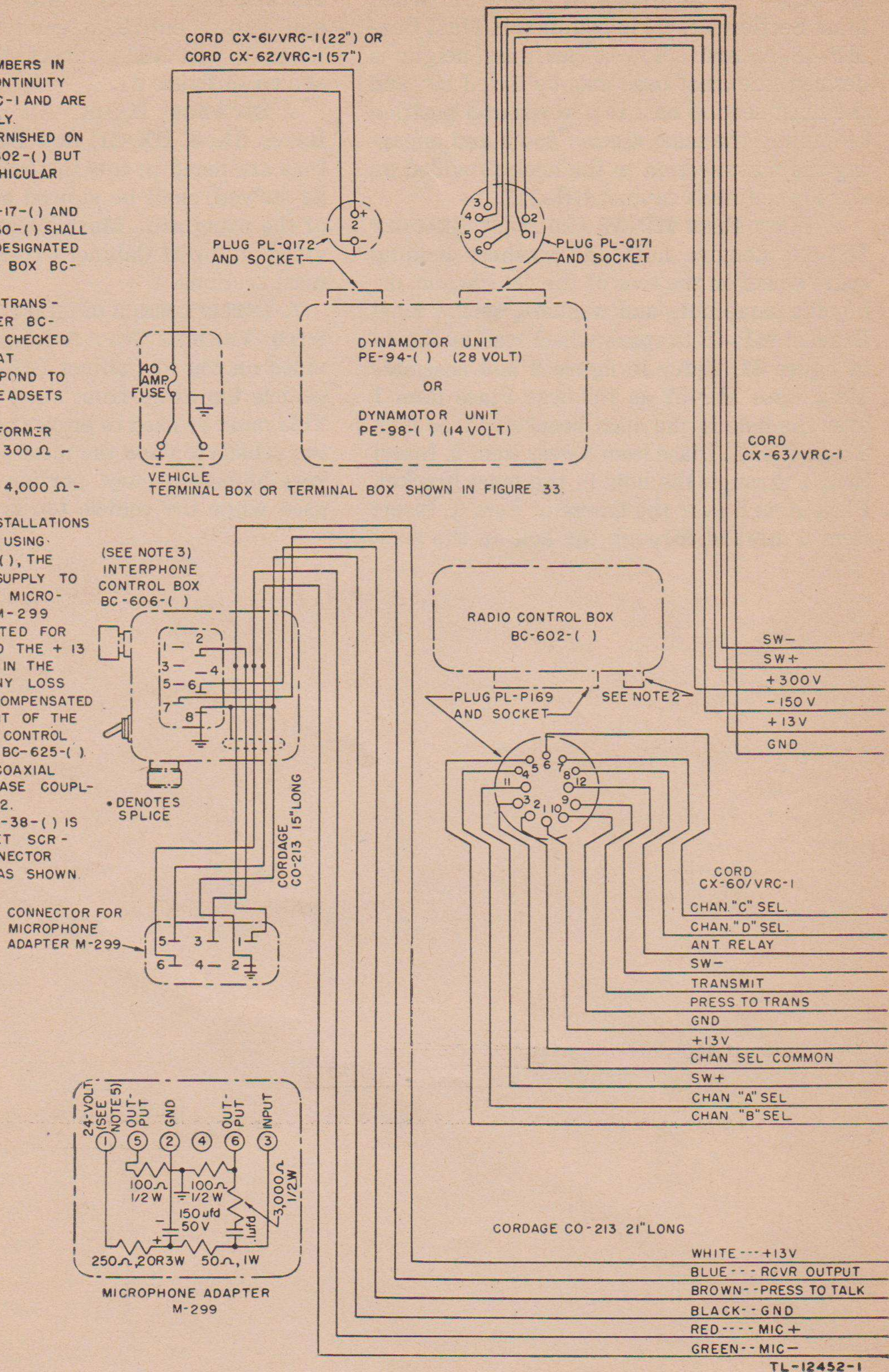


Figure 34. Cording and wiring of v-h-f portion of Radio Set AN/VRC-1-( ).



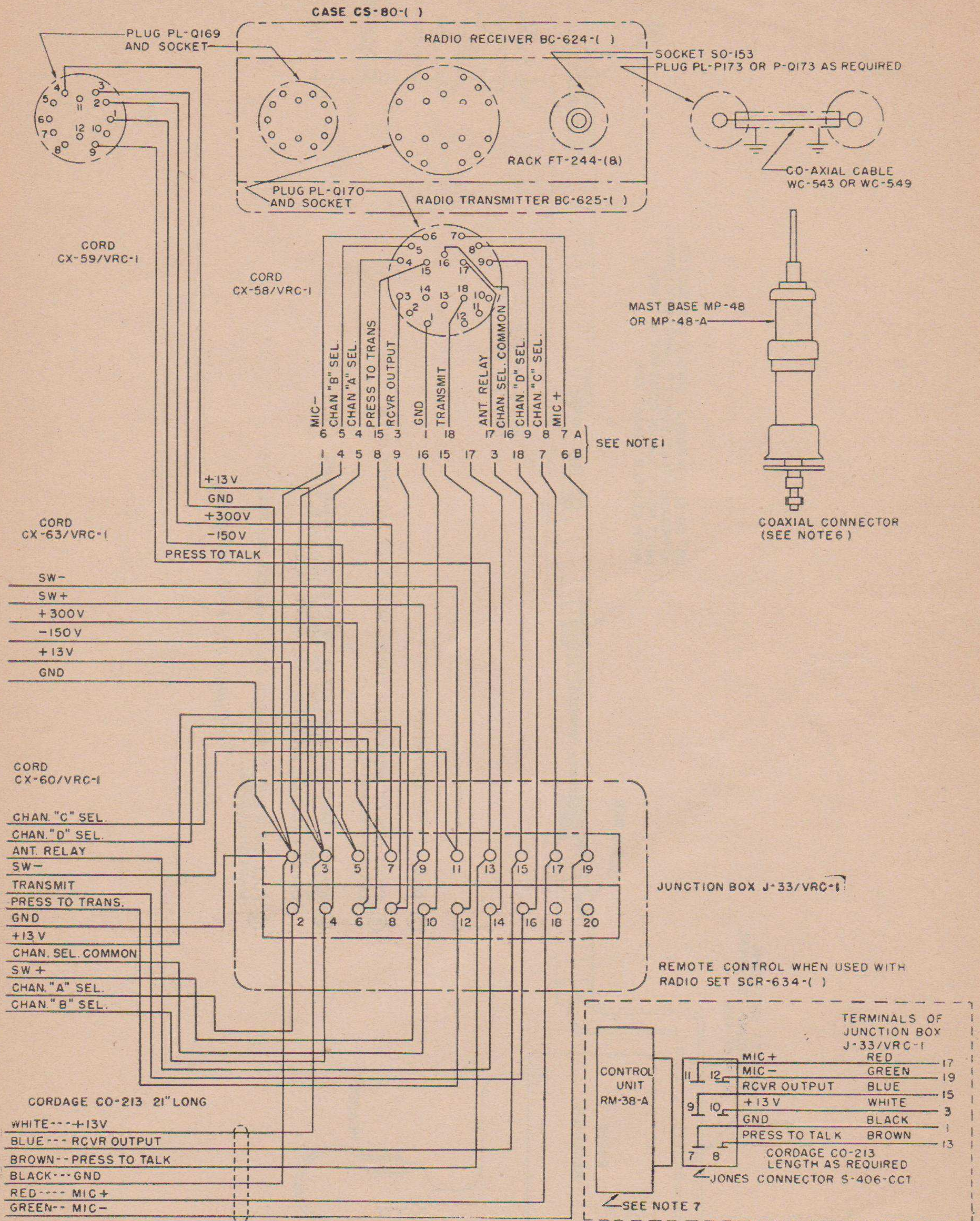


Figure 34—Continued

TL-12452-2



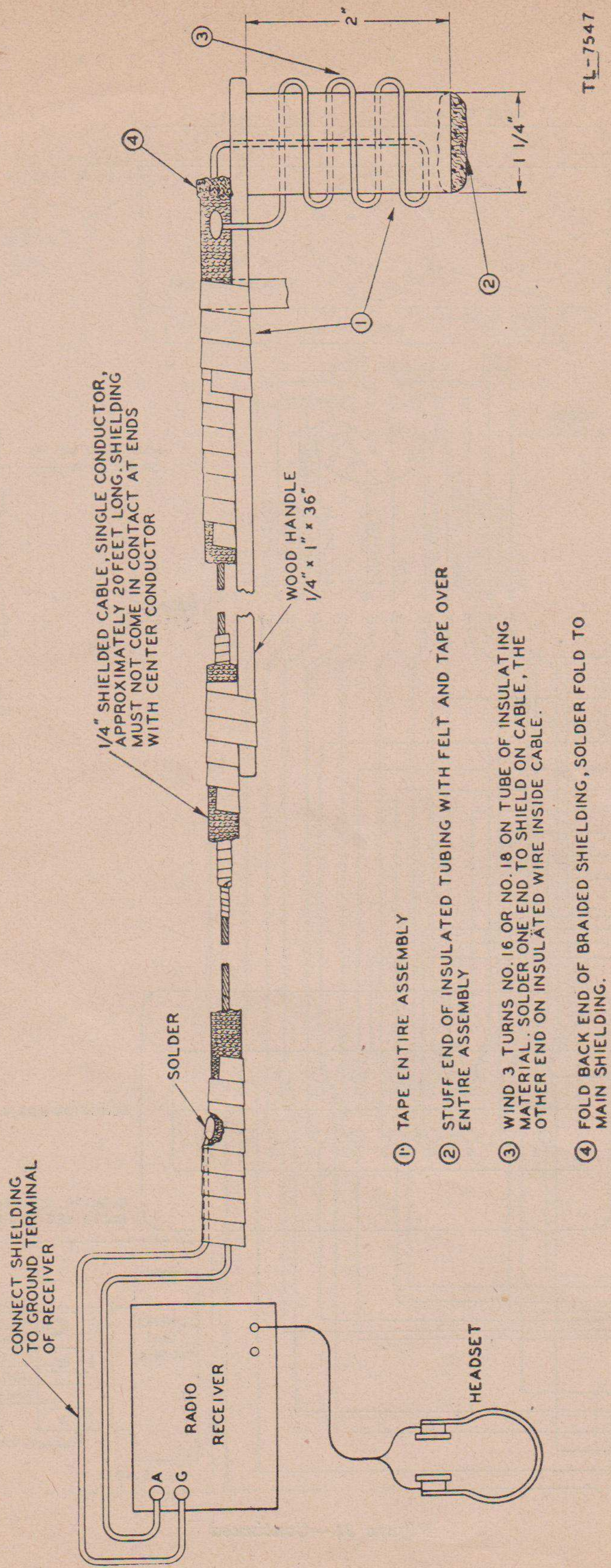


Figure 35. Probe antenna.

TL-7547



## IGNITION NOISE SUPPRESSION IN TRUCK, 1/4-TON, 4 x 4.

**1. General**

Excessive ignition or other electrical noises may interfere with the operation of radio equipment in Truck, 1/4-ton, 4 x 4. The Technical Manual issued with the vehicle will be helpful in locating the source of the noise since it describes the suppression systems used. Instructions for operating 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 greatest noise level is found, turn off the vehicle engine. If interference persists, the source is outside the ignition system. If noise stops, the trouble is in 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 may then be identified as follows:

<i>Interference</i>	<i>Usual source</i>
Popping sounds, corresponding to ignition firing; stop when engine is turned off, accelerate 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.
Sparking, 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 mechanism individually.

*e.* If the source of interference still cannot be found by any of the preceding methods, connect a probe antenna (fig. 35) to the antenna terminal of the radio set. Move the loop of the probe antenna slowly over the various parts of the electric 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 and 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 that are defective.



\* (Wijze 1, 2)

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