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

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IBn 6: T/O & E 6-165.

IBn 9: T/O & E 9-65.

IBn 11: T/O & E 11-15.

IBn 17: T/O & E 17-15, 17-25, 17-45S.

IBn 18: T/O & E 18-25.

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IC 6: T/O & E 6-10-1, 6-12, 6-26, 6-27, 6-29, 6-36, 6-39, 6-56, 6-57, 6-59, 6-67, 6-76, 6-77, 6-78S, 6-97, 6-127, 6-129, 6-212S, 6-160-1, 6-166, 6-167, 6-169, 6-327, 6-329, 6-337, 6-339, 6-357, 6-367, 6-397, 6-216, 6-217, 6-226, 6-359.

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.

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DESTRUCTION NOTICE

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

WHEN—When ordered by your commander.

- HOW**—
1. Smash—Use sledges, axes, handaxes, pickaxes, hammers, crow-bars, 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.

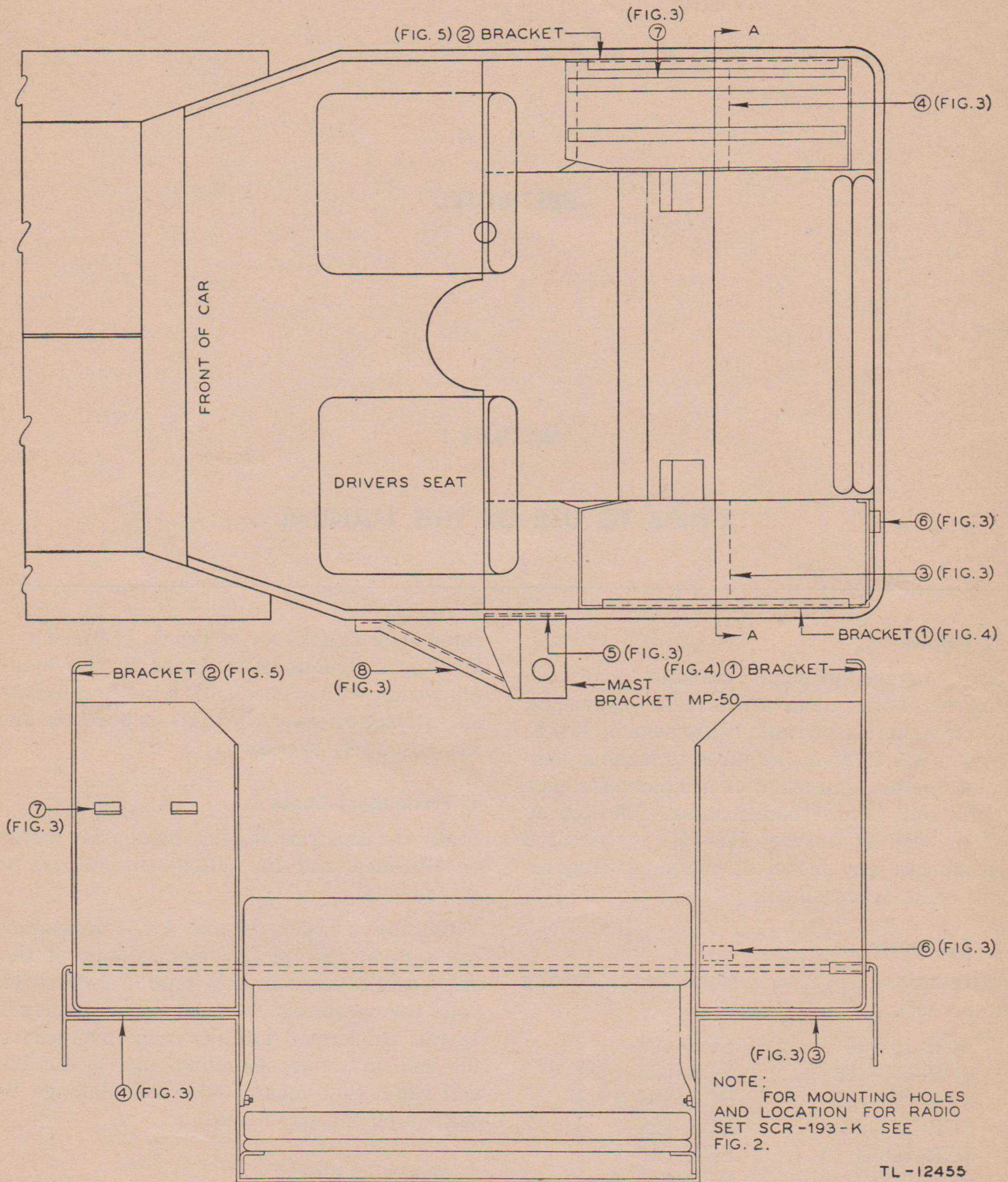


Figure 1. Installation of brackets for Radio Set SCR-193-K in Truck, 1/4-ton, 4x4.

SECTION II

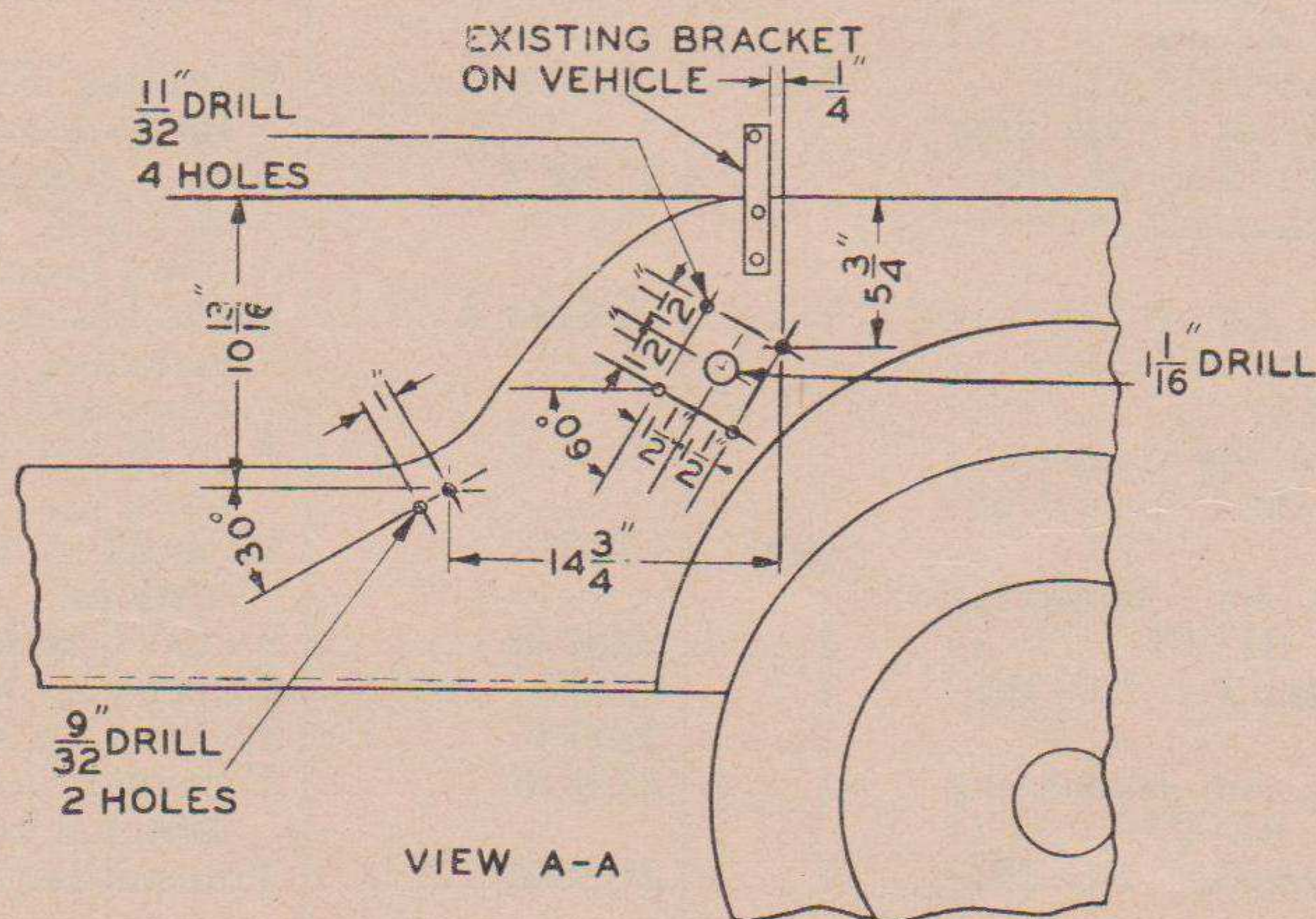
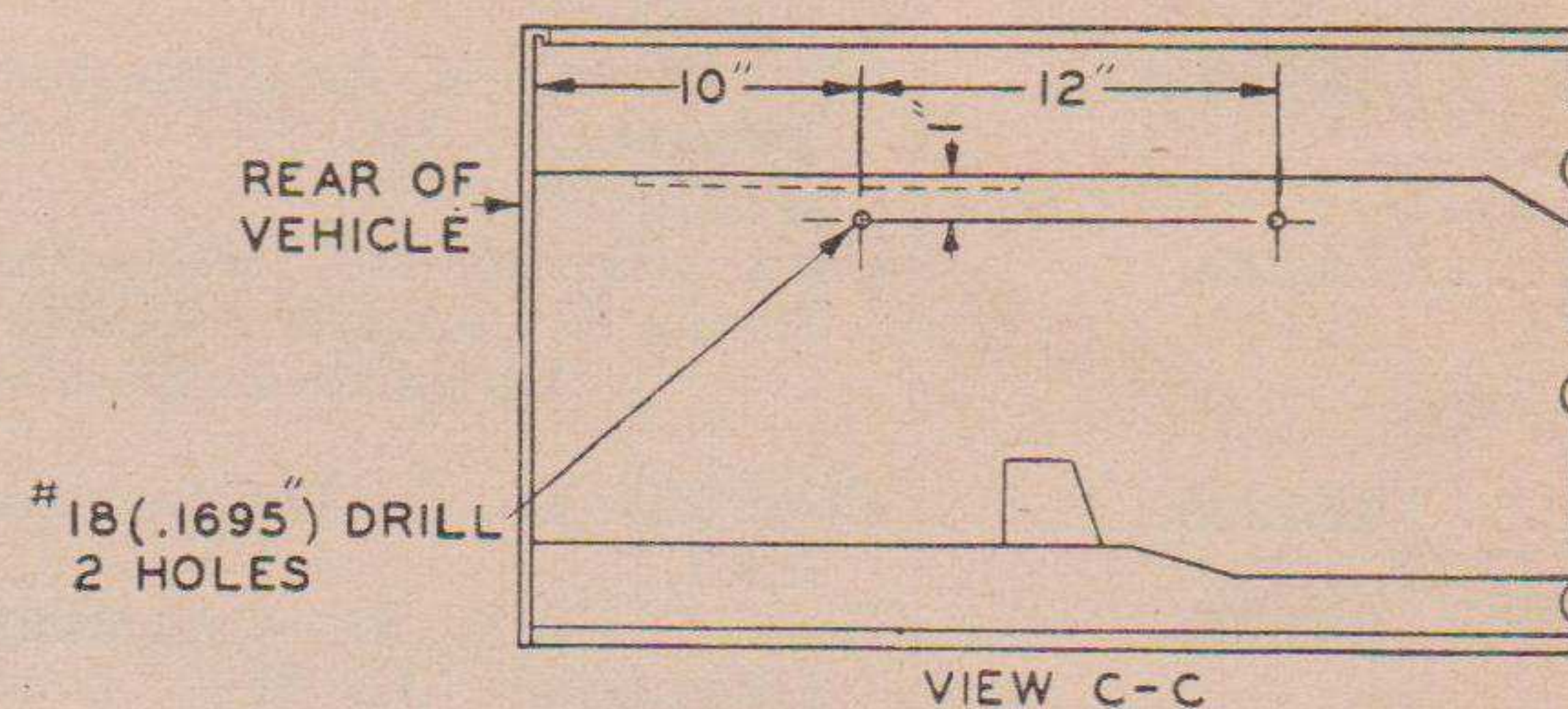
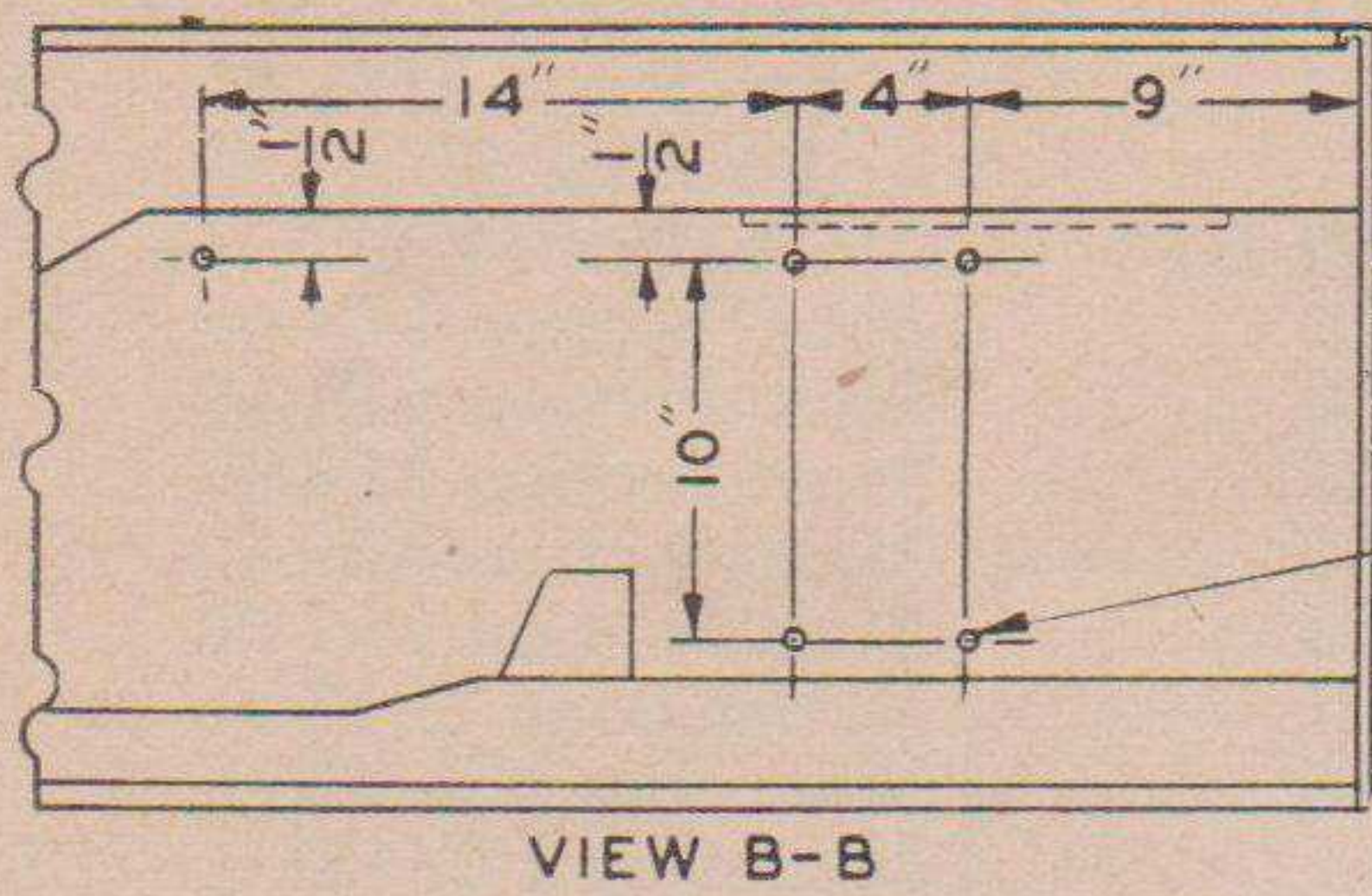
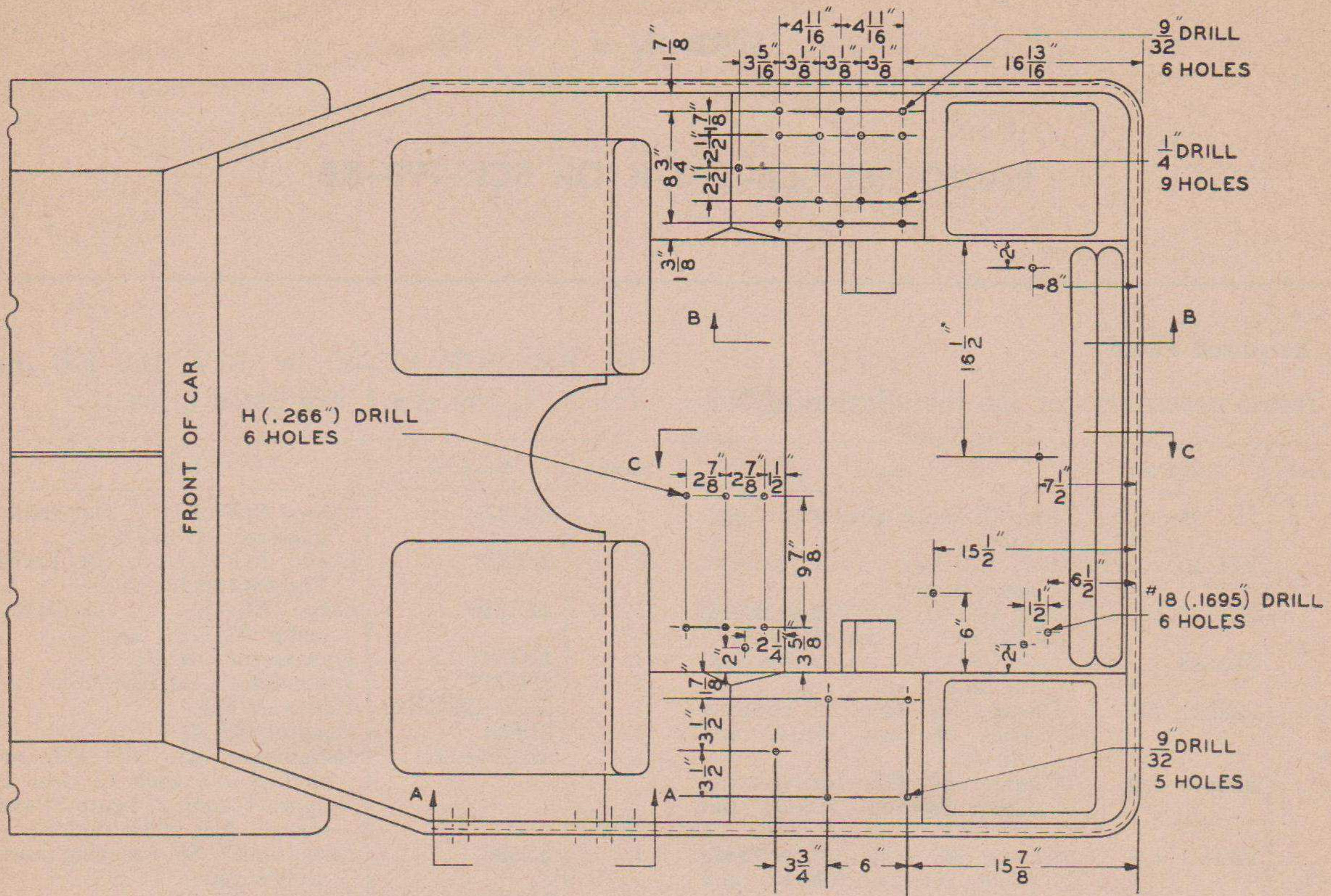
RADIO SET SCR-193-K OR SCR-193-KB

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.



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

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

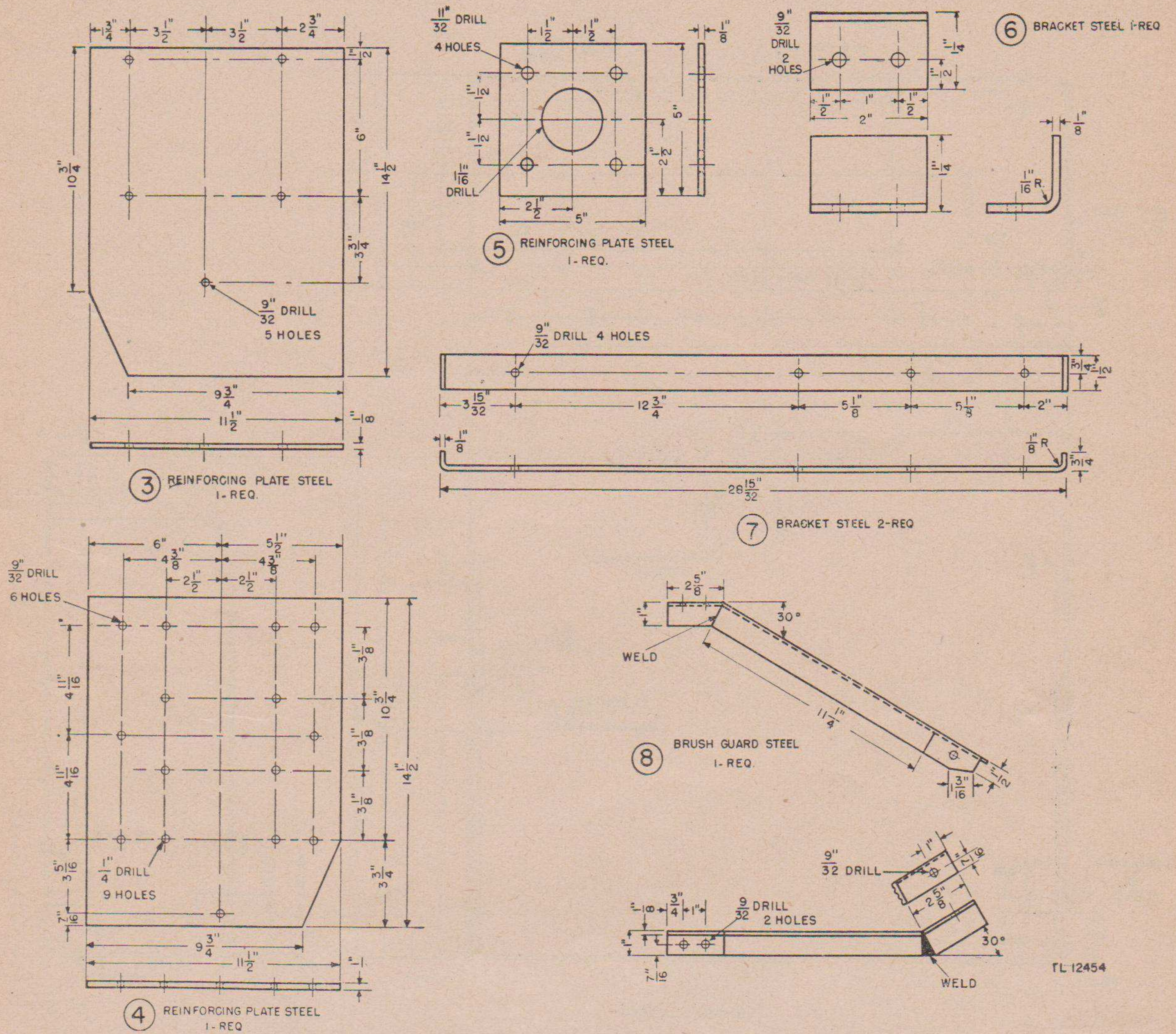


Figure 3. Bracket details for mounting Radio Set SCR-193-K in Truck, 1/4-ton, 4x4.

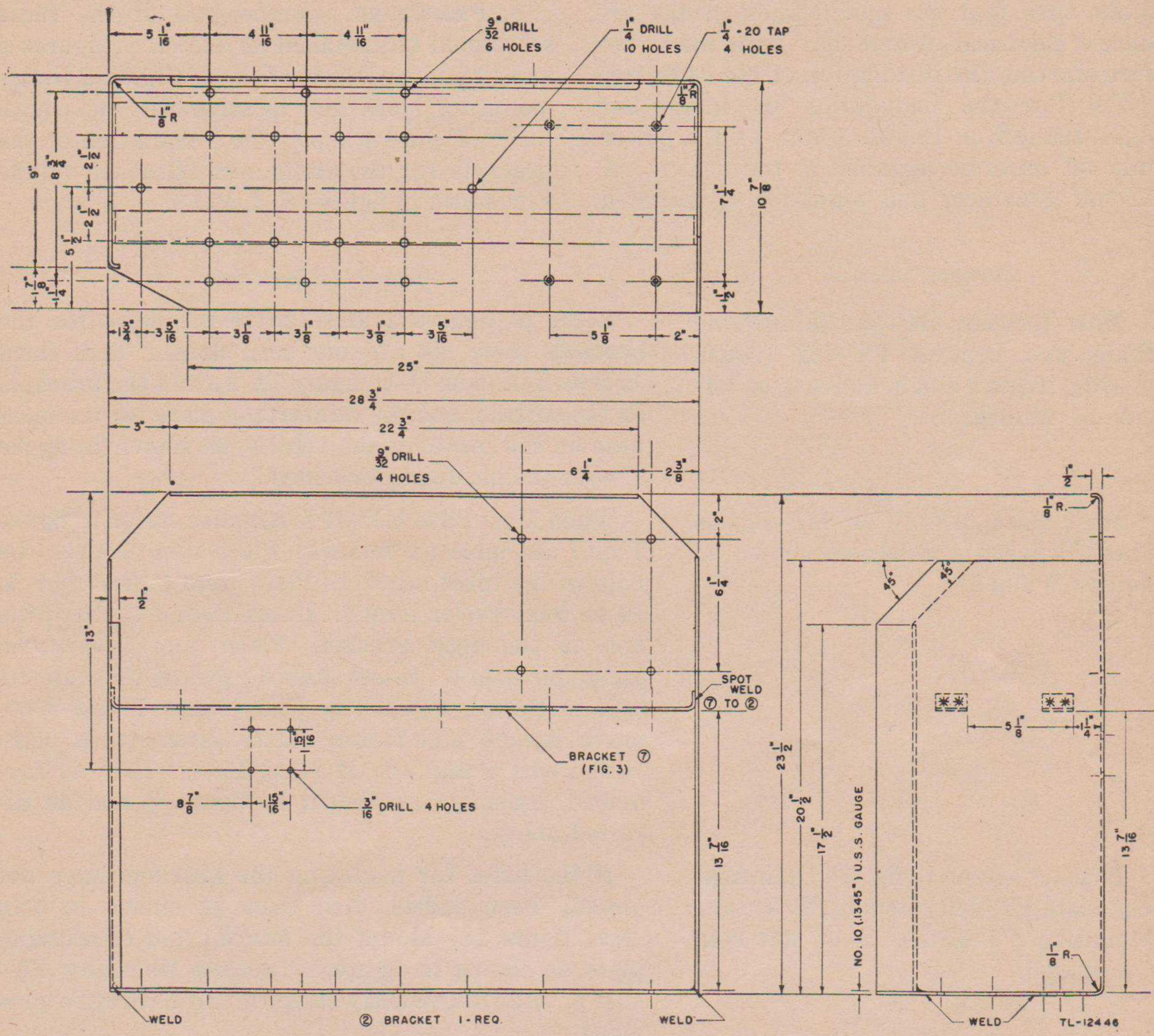


Figure 5. Bracket detail for mounting Radio Set SCR-193-K in Truck, 1/4-ton, 4x4.

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.

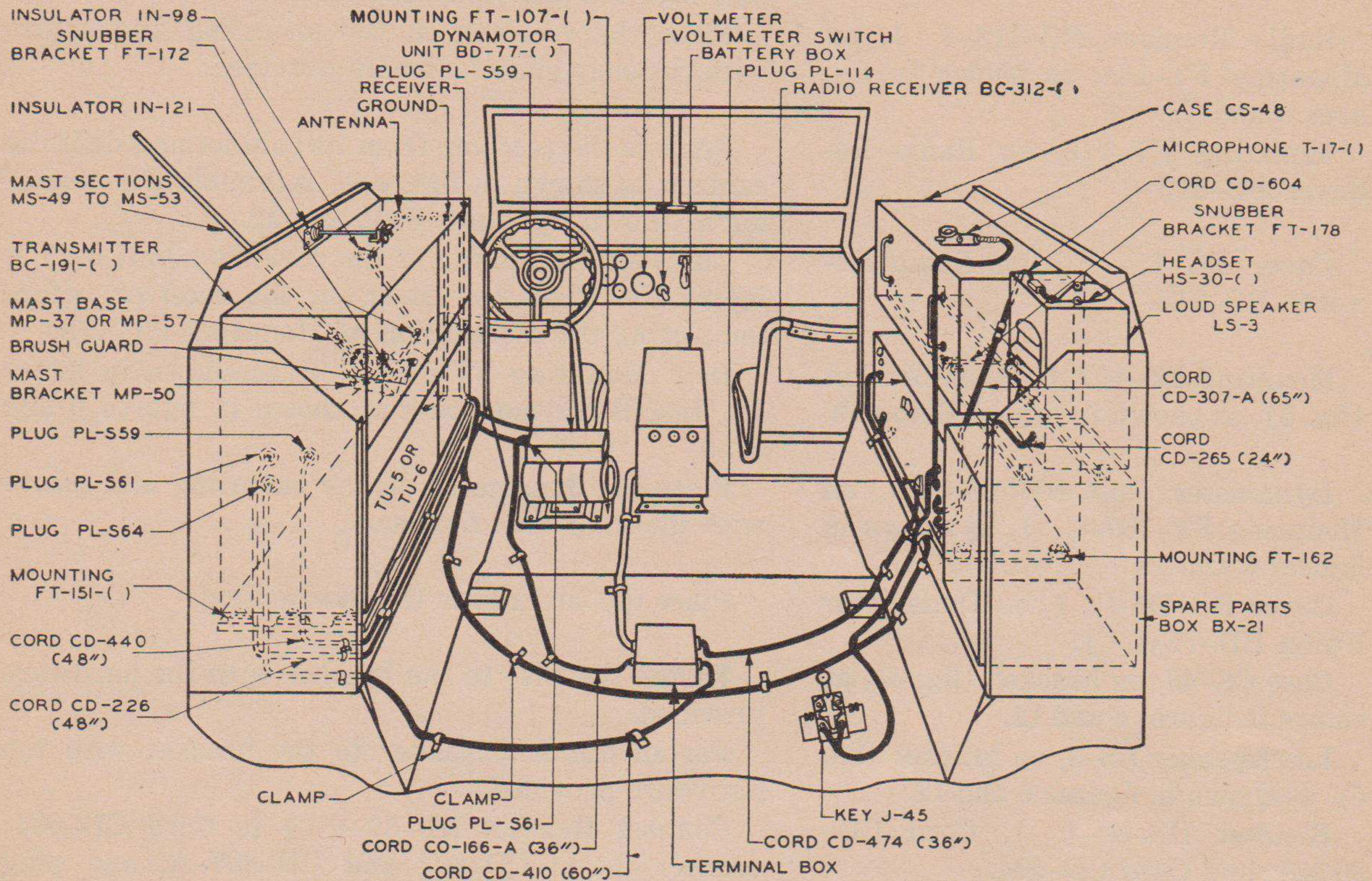
Place over the mast base when the mast sections are not in use.

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)

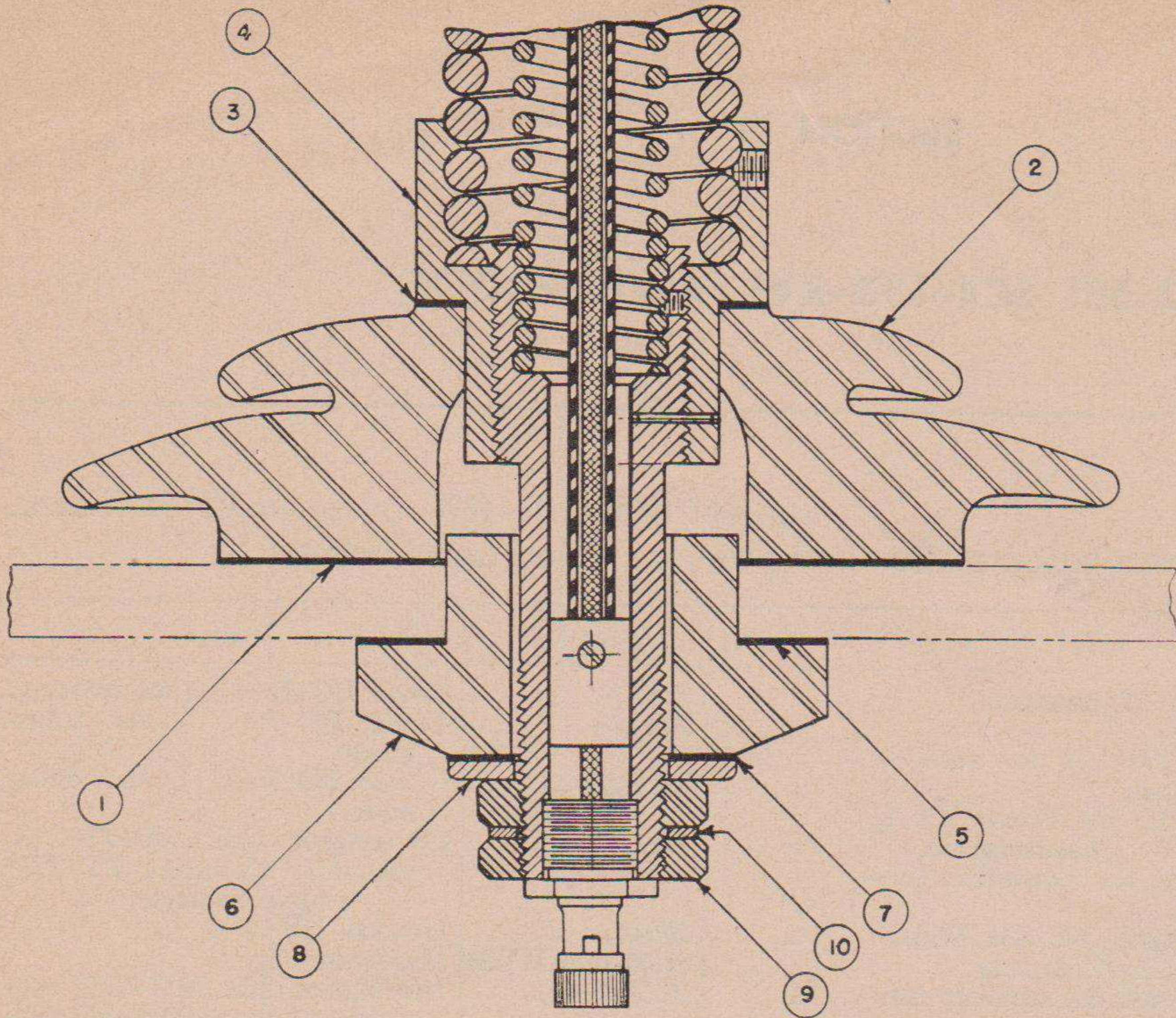
8. Required Parts

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.
			^a 1	2C8006	Transmitter Tuning Unit TU-6.
			12 ft.	1B128	Wire W-128.

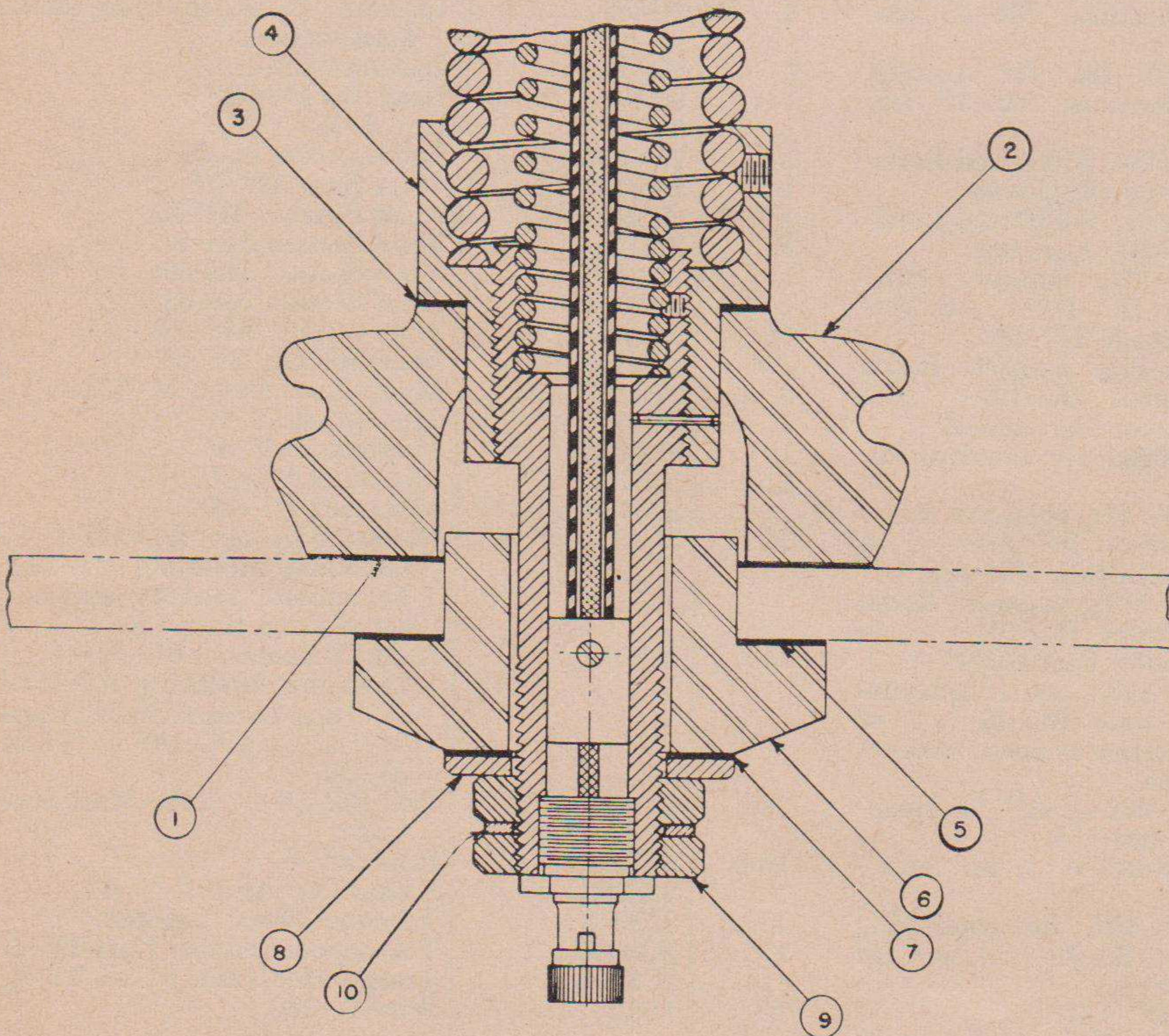
^a If authorized, four additional auxiliary tuning units, one each Transmitter Tuning Unit TU-7, TU-8, TU-9, and TU-10, may be installed in Chest CH-239 replacing rear seat as shown in figure 19.



- 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

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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.

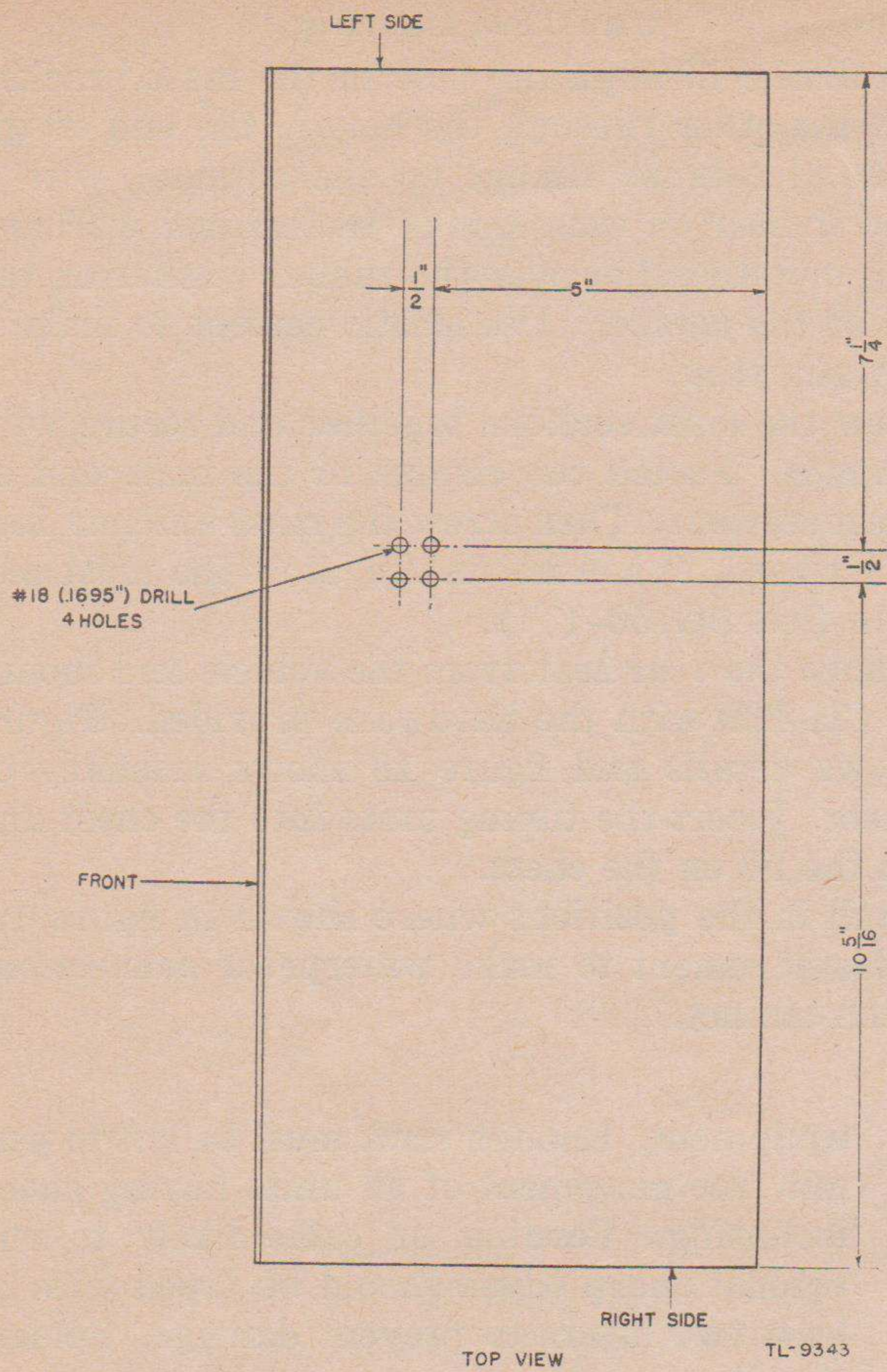


Figure 9. Drilling cabinet of Radio Receiver BC-312-() for Mounting FT-178.

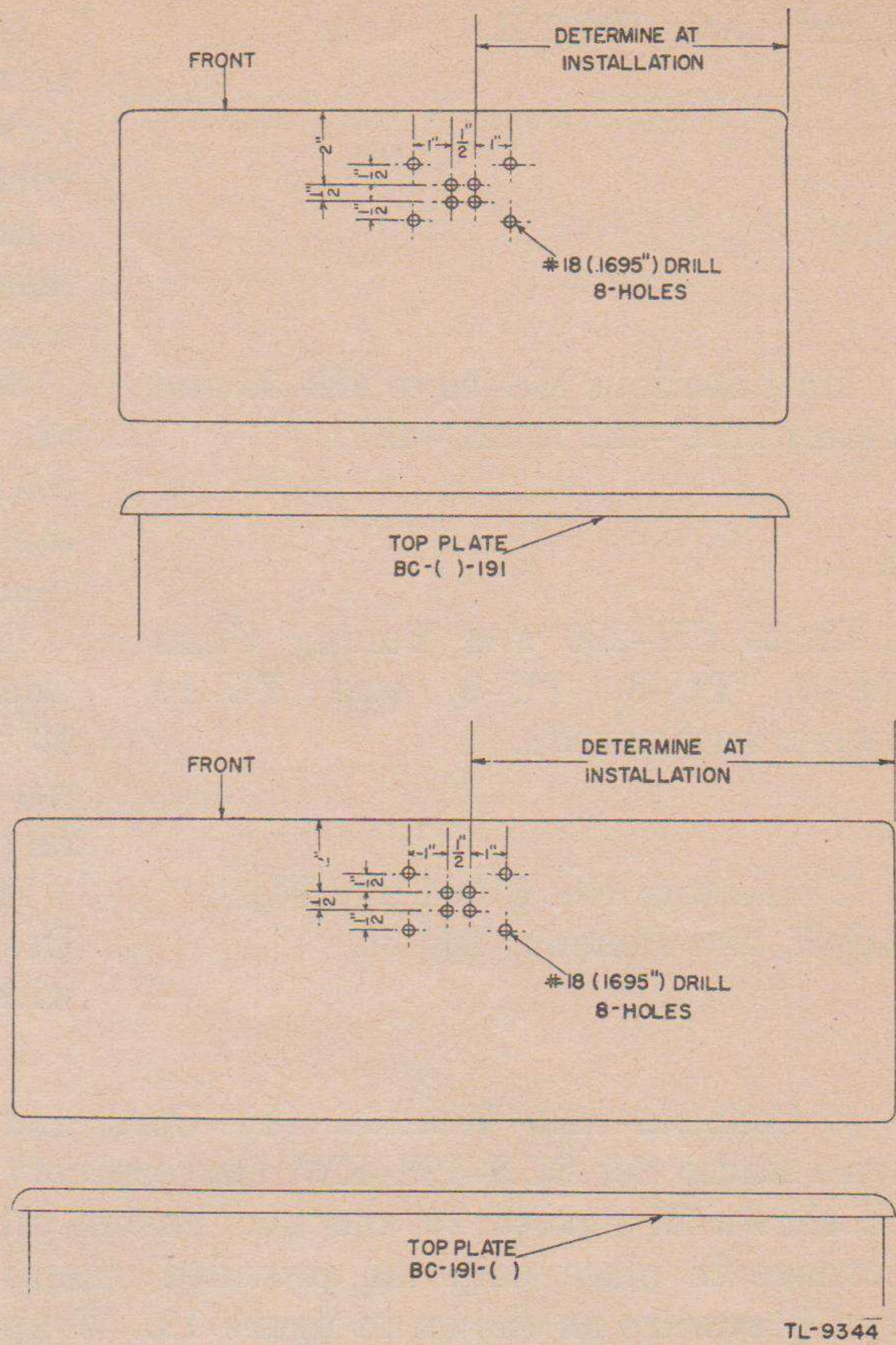


Figure 11. Drilling cabinet of Radio Transmitter BC-191-() for Mounting FT-172.

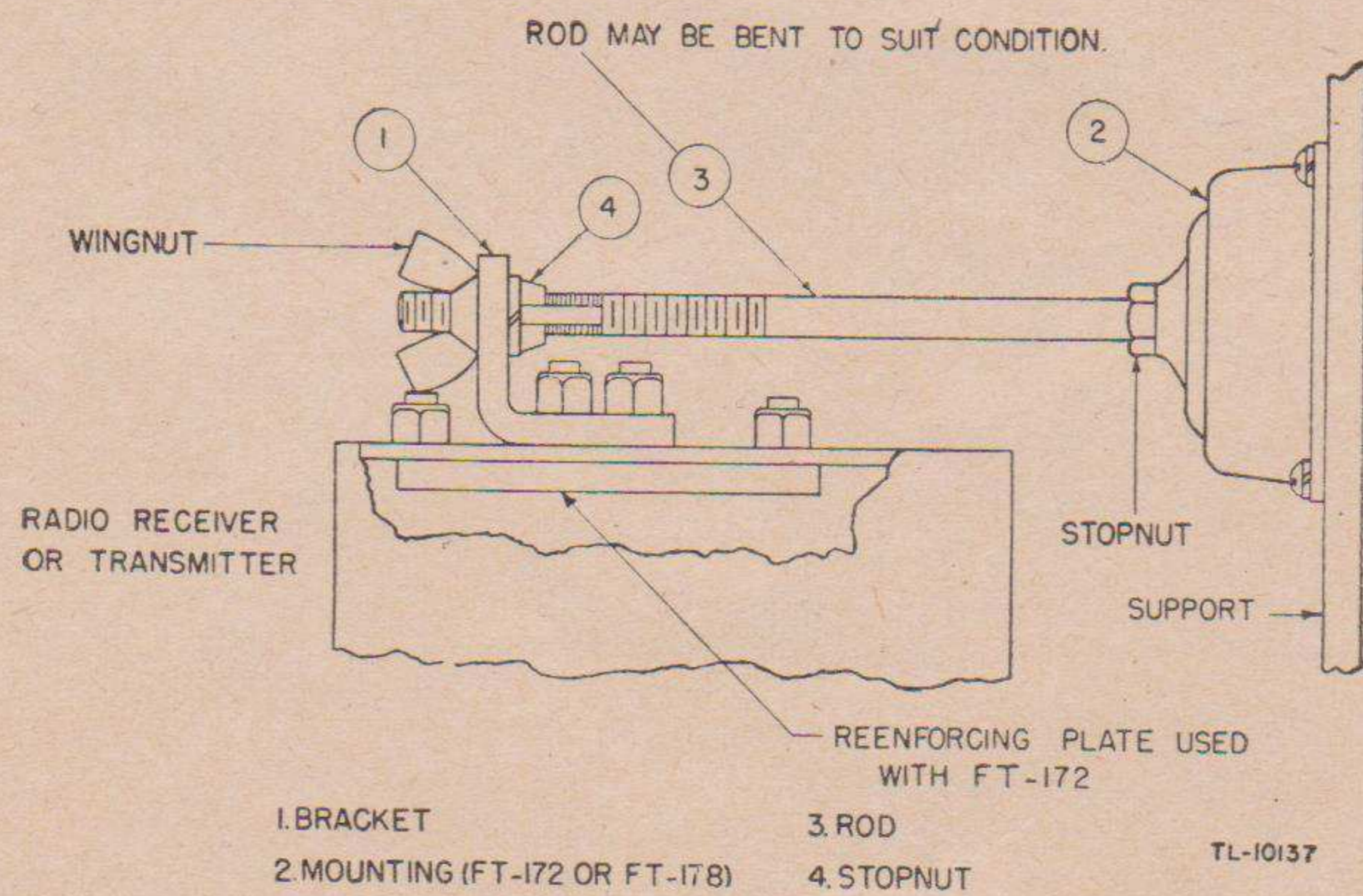


Figure 10. Assembly of Mounting FT-172 or FT-178.

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-().	^a 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.	^a 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-().
^a 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.

^a 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.

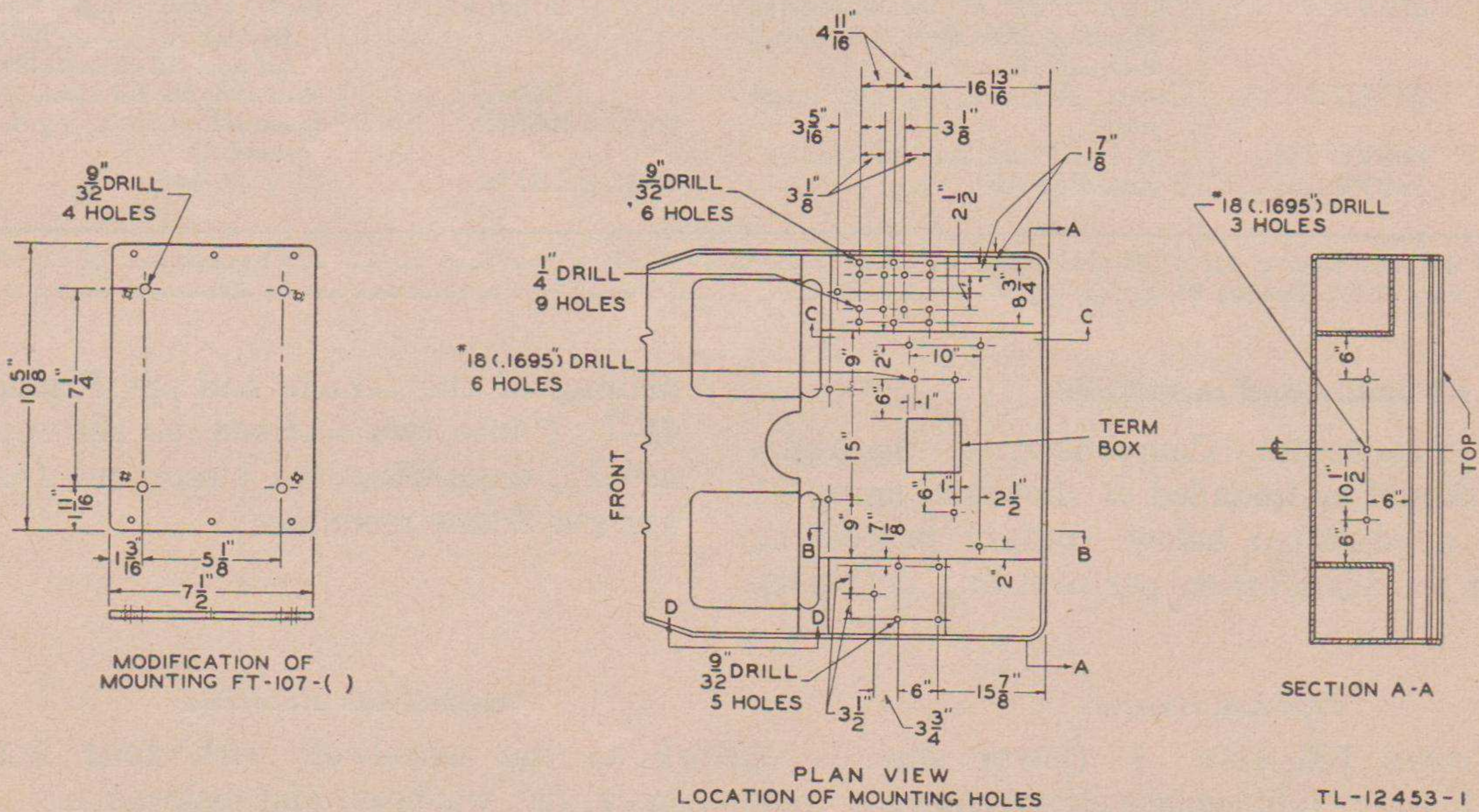
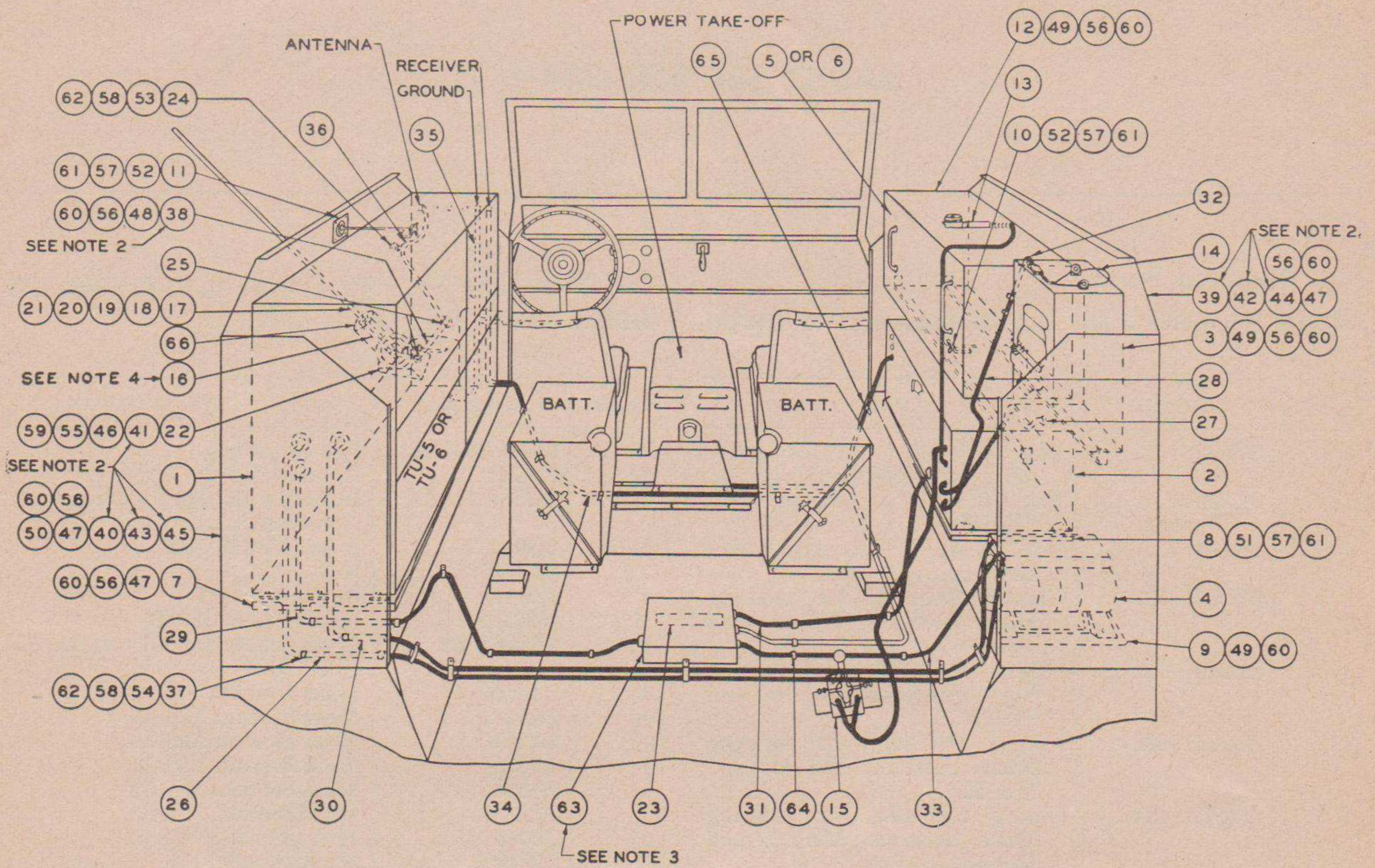
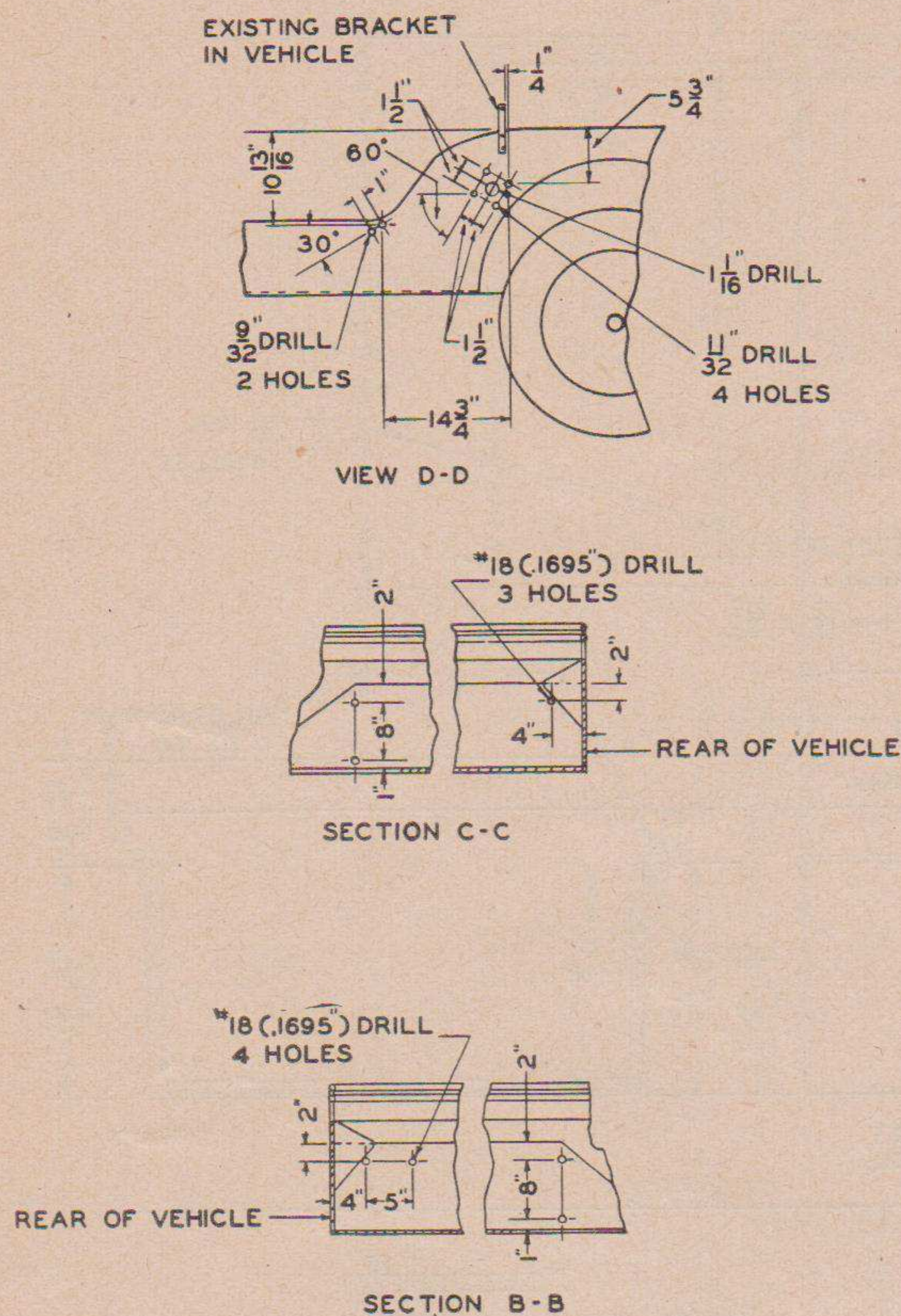


Figure 12. Intallation of Radio Set SCR-193-KB in Truck, 1/4-ton, 4x4.

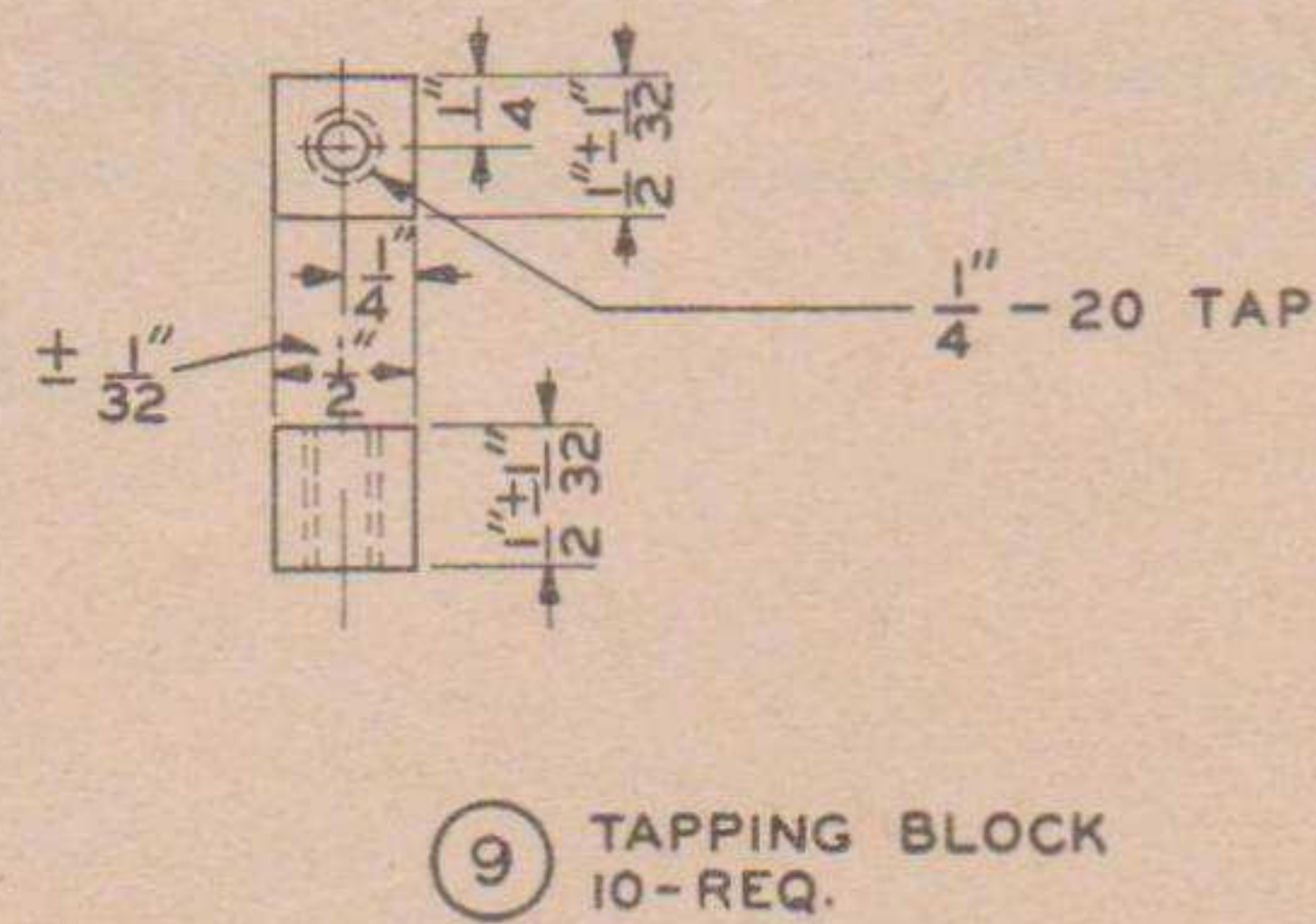
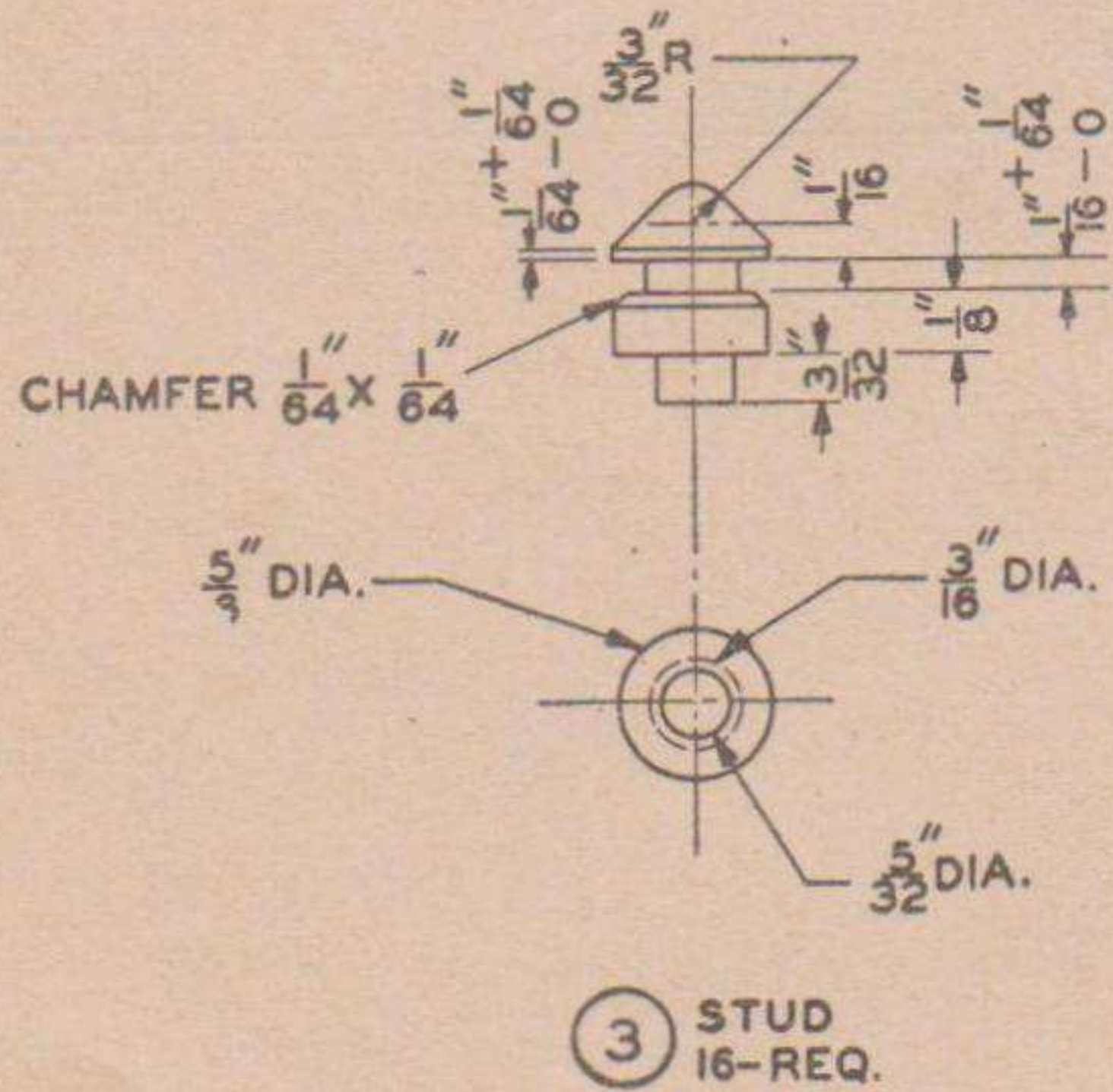
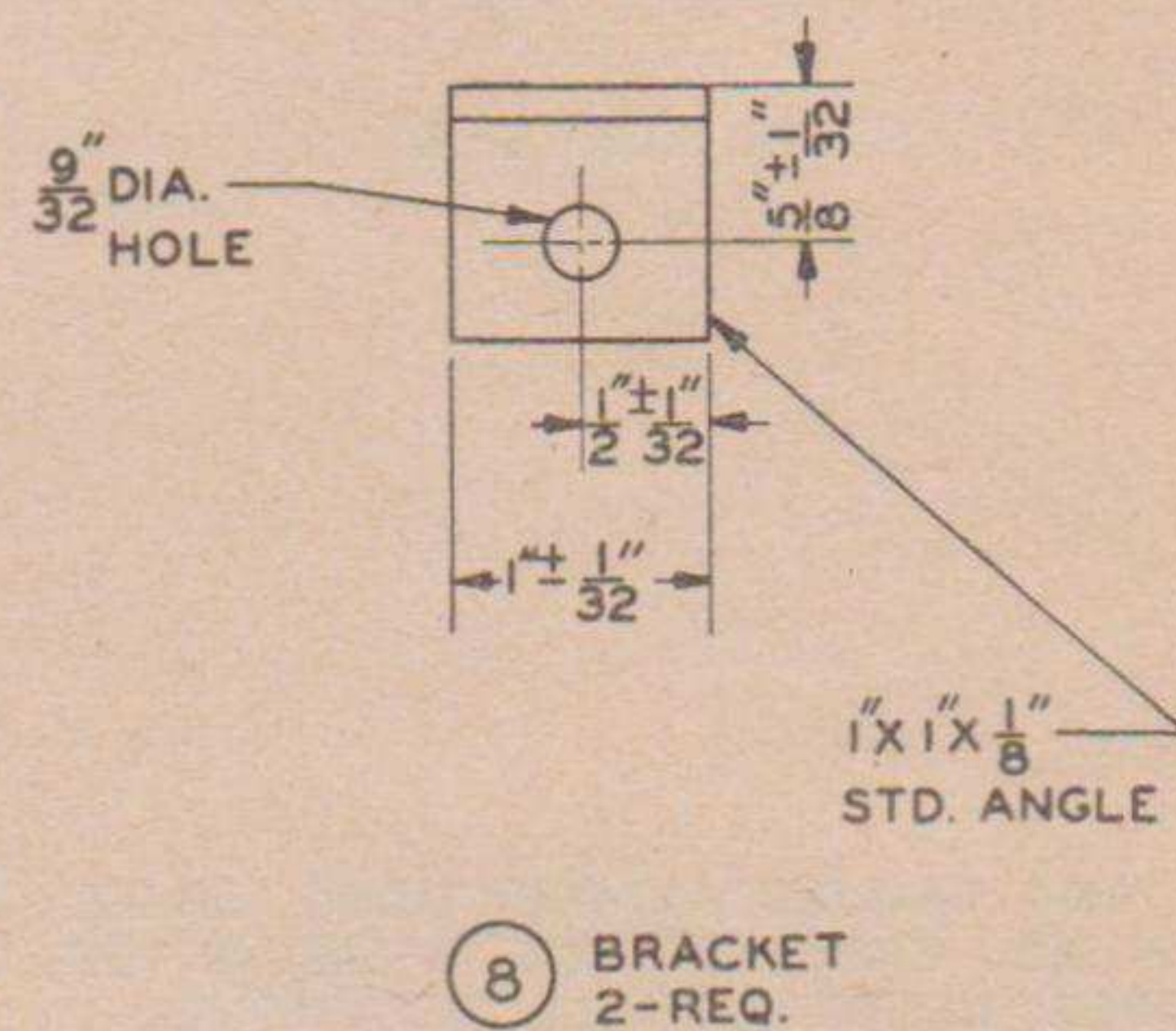
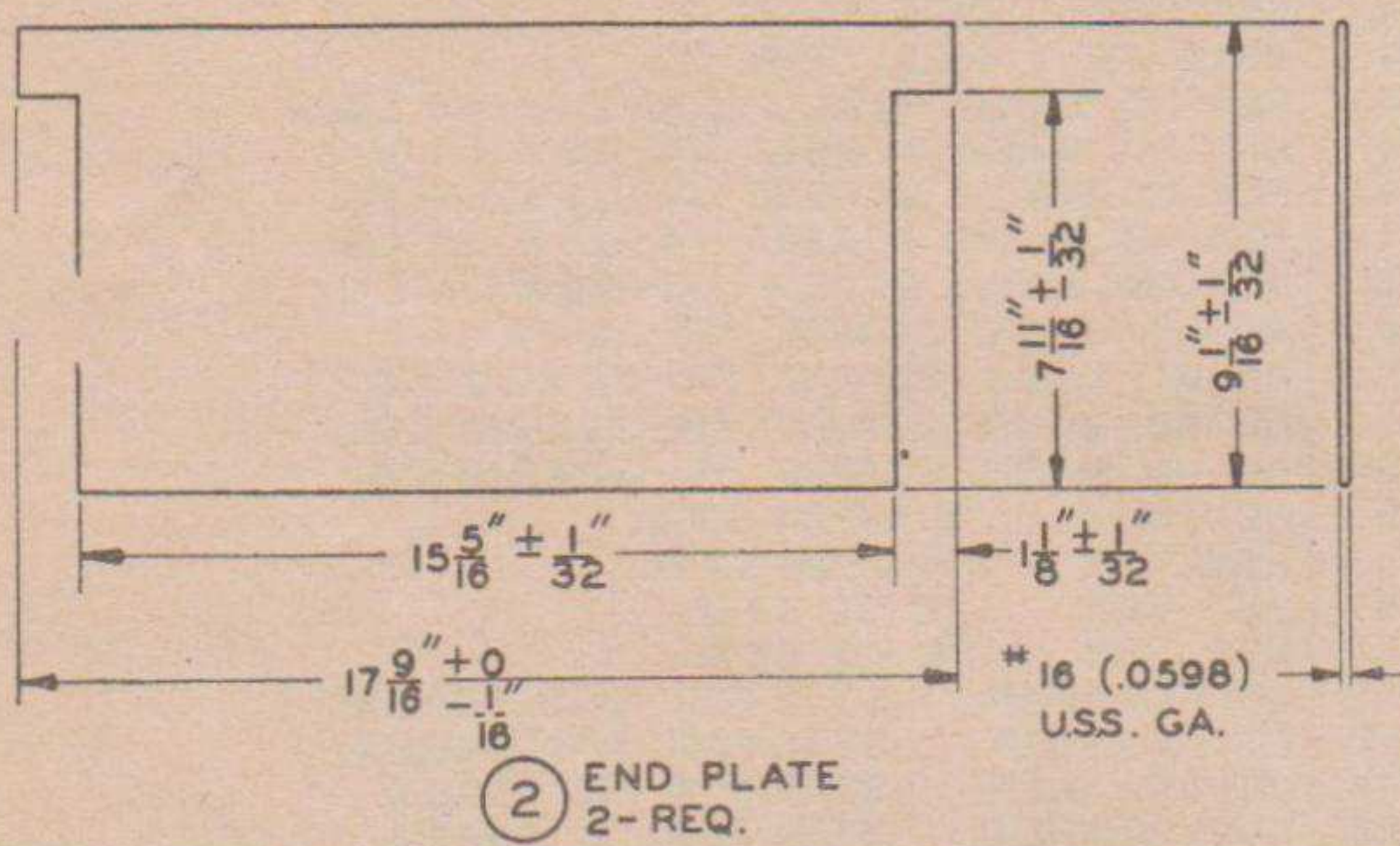
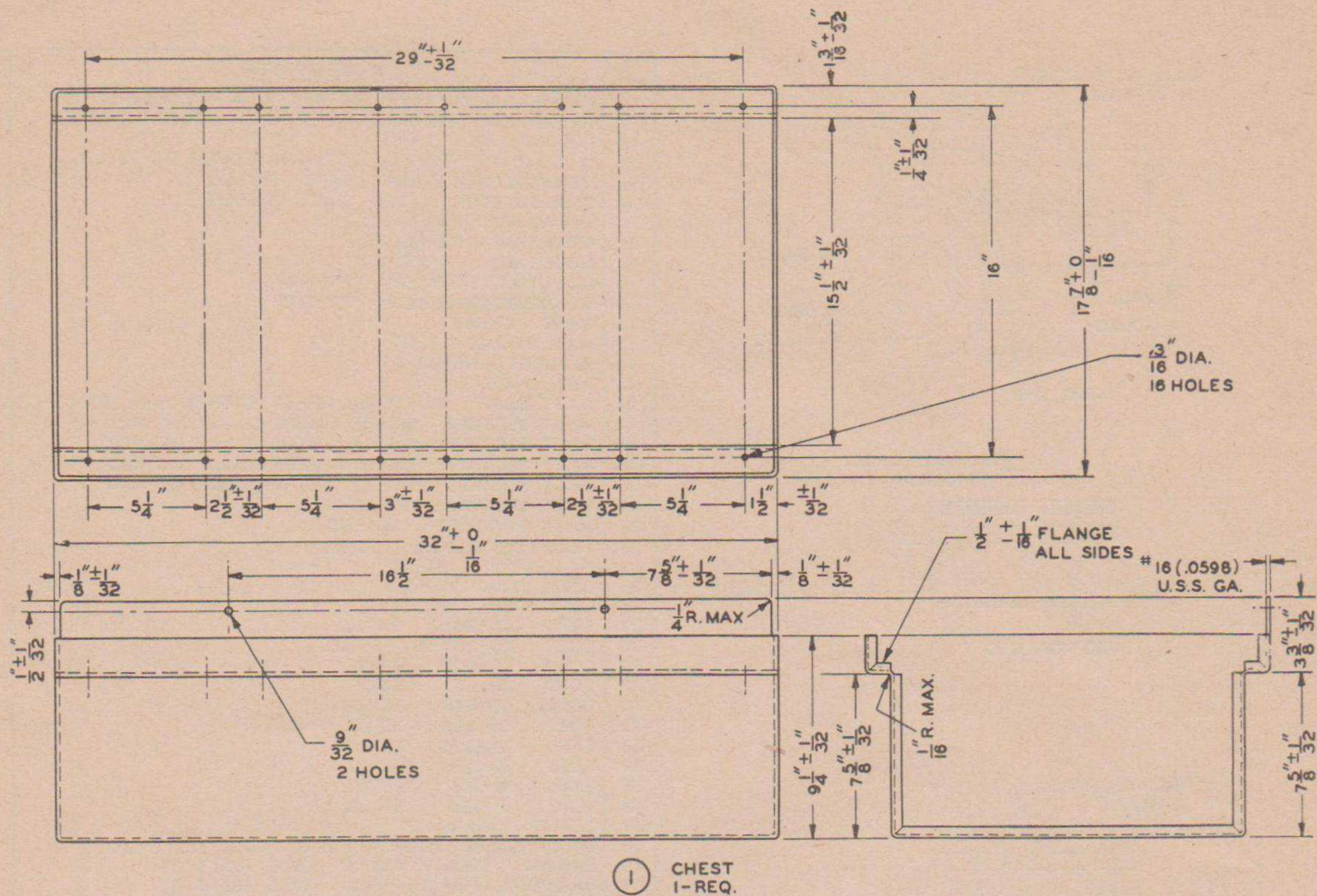


- NOTE:
1. ANTENNA AND GROUND CONNECTIONS SHALL BE MADE WITH WIRE W-128. ENDS OF WIRE W-128, AFTER BEING CUT TO PROPER LENGTH, SHALL BE TINNED.
 2. FOR INSTALLATION OF BRACKETS SEE FIG. 1.
 3. (63) TO BE INSTALLED BY CAR MFR.
 4. USE ITEM (66) WHEN MAST SECTIONS ARE NOT IN USE.
 5. FOR ADDITIONAL COMPONENTS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