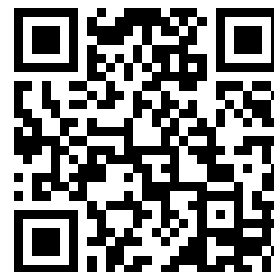


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11-2739

# TM 11-2739

DEPARTMENT TECHNICAL MANUAL

INSTALLATION OF RADIO EQUIPMENT IN

CARRIAGE, MOTOR

COMBINATION GUN

M15A1



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

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# TM 11-2739

WAR DEPARTMENT TECHNICAL MANUAL

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WAR DEPARTMENT • MAY 1945



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CARRIAGE, MOTOR

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## WAR DEPARTMENT

Washington 25, D. C., 31 May 1945

TM 11-2739, Installation of Radio Equipment in Carriage, Motor, Combination Gun, M15A1, is published for the information and guidance of all concerned.

[AG 300.7 (22 May 45)]

BY ORDER OF THE SECRETARY OF WAR:

## OFFICIAL:

J. A. ULIO  
*Major General*  
*The Adjutant General*

G. C. MARSHALL  
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## DESTRUCTION NOTICE

---

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

**WHEN**— When ordered by your commander.

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

## USE ANYTHING IMMEDIATELY AVAILABLE FOR DESTRUCTION OF THIS EQUIPMENT

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

## DESTROY EVERYTHING

---

## SAFETY NOTICE

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

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

## SECTION I

GUIDE TO USE OF THIS MANUAL

---

**1. Purpose**

This manual provides methods and procedure, based upon actual field experience, for installation of radio equipment in Carriage, Motor, Combination Gun, M15A1. Items required to make a complete operating installation are listed for each set. Official nomenclature followed by empty parentheses, such as Headset HS-30-( ), is used to indicate any model of equipment regardless of its procurement.

**2. Equipment**

Installations covered include the following radio sets: Radio Set SCR-510-( ) and Radio Set SCR-528-( ).

**3. Holes and Brackets**

Brackets required for installation of the radio set are normally drilled and installed prior to delivery of Carriage, Motor, Combination Gun, M15A1. 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 outlines, and any subsequent changes to this manual.

**Caution:** Carriage, Motor, Combination Gun, M15A1 has a 12-volt electrical system. Before installing the radio sets, be sure they are designed for 12-volt operation, or tubes may burn out or dynamotors may be damaged.

**5. Operating Check**

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



## SECTION II

IGNITION NOISE SUPPRESSION IN CARRIAGE, MOTOR,  
COMBINATION GUN, M15A1**6. General**

Excessive ignition or other electrical noises may interfere with the operation of radio equipment in Carriage, Motor, Combination Gun, M15A1. The Technical Manual issued with the vehicle will be helpful in locating the source of the noise, since it describes the suppression system used. Instructions for operating radio equipment used in the vehicle also should be studied. For further information on noise suppression see TM 11-483.

**7. 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, slowly tune the receiver 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 this noise continues, 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 easily from static, etc. Interference may then be identified as follows:

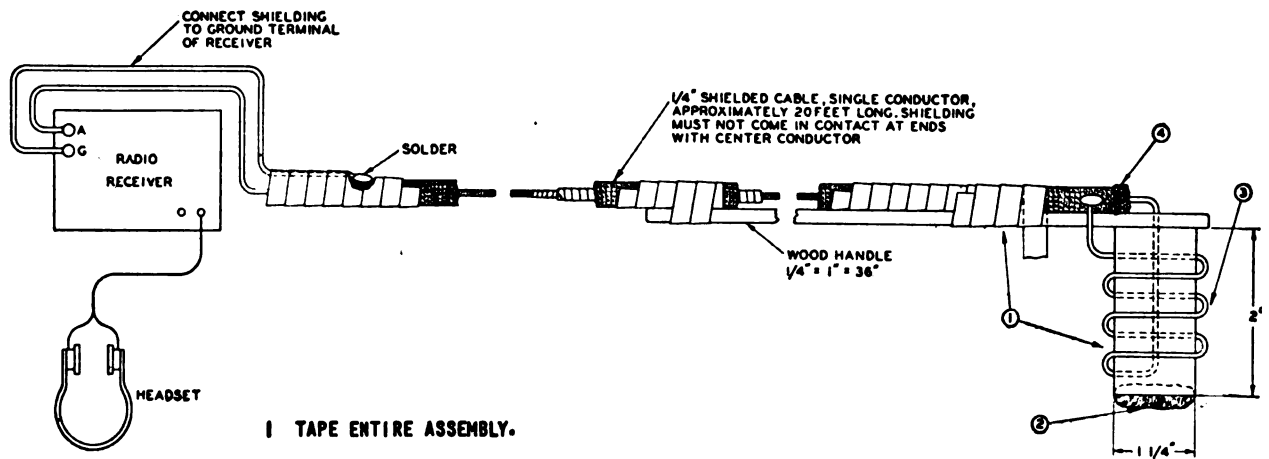
*d.* Interference from other electrical parts and circuits of the vehicle, such as panel gauges and heater fans, can usually be identified by turning off gauges, fans, or other suspected mechanisms individually.

*e.* If the source of interference still cannot be found by any of the preceding methods, connect a probe antenna (fig. 1) to the antenna terminal of the radio set. Slowly move the loop of the probe antenna over the various parts of the electrical system of the vehicle. Keep the loop close to, but not in contact with, the part being examined. Noise from interference-producing parts should be heard in the receiver.

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

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

Interference	Usual source
Popping sound: corresponds to ignition firing; stops when engine is turned off; accelerates when engine is raced.	Ignition system.
Intermittent, clicking sound: lingers for several seconds when ignition is turned off.	Generator regulator.
Whining sound: varies with speed of engine; ceases only when generator stops rotating.	Generator.
Sparking, or continuous crackling noise.	Brushes and commutator of generator.



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

TL7547A

Figure 1. Probe antenna.

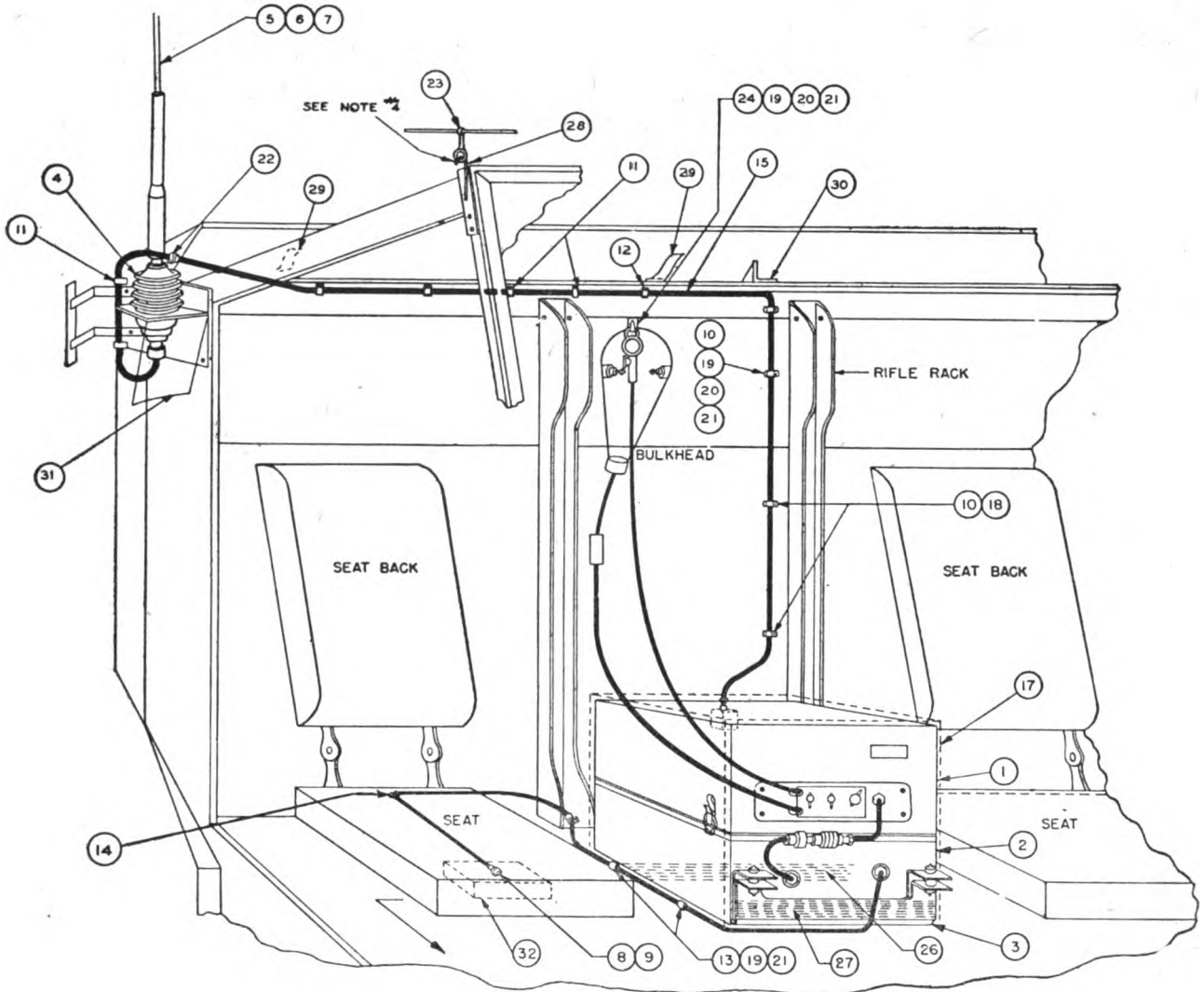
## SECTION III

## RADIO SET SCR-510-( )

**8. Required Parts**

Items necessary for installation of Radio Set SCR-510-( ) in Carriage, Motor, Combination Gun, M15A1 are listed below:

Basic unit		Stock No. 2S510/12
Quantity	Stock No.	Item
1	6Q349	Alignment Tool TL-207.
1	2A245	Antenna AN-45.
1	3B879	Case CS-79.
1	2Z1890-137	Case CS-137.
1	6Z3147	Connector No. 61007 and Bondnut BL-50.
2	2A2352/1	Fitting, including spare.
1	2B613	Handset TS-13.
2	3G586	Insulator IN-86, for tying down mast sections.
2	3G1250-64.15	Insulator, glazed porcelain.
1	2A2081-15	Mast Base AB-15/GR.
2	2A2417	Mast Section MS-117, including spare.
2	2A2418	Mast Section MS-118, including spare.
1	2Z6721-250	Mounting FT-250-( ).
1	3H4496-120	Power Supply Unit PE-120-( ).
1	2C5360	Radio Receiver and Transmitter BC-620-( ).
1	2Z8056	Roll BG-56-( ).
15 ft	6Z7926	Rope RP-5, for tying down mast sections.
2	2Z9019	Strap ST-19.
2	6D13038	TM 11-605.
1	3H6713	Vibrator VB-13.
27 ft	1B29	Wire W-29.
6 ft	1B128	Wire W-128.



ITEM NO.	NAME OF ITEM	QUAN. REQ.
1	RADIO RECEIVER AND TRANSMITTER RC-620- ( )	1
2	POWER SUPPLY UNIT PE-120- ( )	1
3	MOUNTING FT-250- ( ) SEE NOTE 2	1
4	MAST BASE AB-15/G8	1
5	MAST SECTION MS-116	1
6	MAST SECTION MS-117	1
7	MAST SECTION MS-118	1
8	CONNECTOR NO. 61007	1
9	BONDWIRE BL-50	1
10	CLAMP NO. 1	3
11	CLAMP NO. 2 SEE NOTE 2	7
12	CLAMP NO. 3 SEE NOTE 2	1
13	CLAMP NO. 4	2
14	CLAMP NO. 5 SEE NOTE 2	2
15	CORD CG-67/MRQ-2	1
16	COVER BG-108 SEE NOTES 3 AND 6	1
17	COVER BG-153	1
18	ROUNDHEAD WOOD SCREW NO. 8 X 1/2 LONG	2
19	ROUNDHEAD MACH. SCREW NO. 6-32 X 1/2 LONG	5
20	HEX. NUT NO. 8 X 32 STD.	3
21	LOCKWASHER STD. FOR NO. 6 SCREW	5
22	INSULATOR IR-121	1
23	INSULATOR IR-86 SEE NOTE 4	1
24	HOOK	1
25	TERMINAL BOX TH-206-A	1
26	BRACKET	1
27	BRACKET	1
28	BRACKET SEE NOTE 4	1
29	BRACKET SEE NOTE 5	2
30	BRACKET SEE NOTE 5	1
31	BRACKET	1
32	TERMINAL BOX	1

NOTES:

1. (28) TO (32) INCLUSIVE IS FURNISHED AND INSTALLED BY THE VEHICLE MANUFACTURER.
2. MOUNT (3) (11) (12) AND (14) WITH EXISTING BOLTS.
3. USE (18) WHEN MAST SECTIONS ARE NOT INSTALLED IF MAST BASE MP-48-A IS USED.
4. USE (23) WITH (28) TO HOLD DOWN ANTENNA. TURN EYE OF (23) 90°.
5. USE (28) AND (30) TO HOLD SPARE ANTENNA SECTIONS.
6. IF BASIC UNIT CONTAINS MAST BASE MP-48-A, MAST SECTIONS MS-51, MS-52 AND MS-53 WITH CLAMPS MC-423 AND MC-424, THESE REPLACE (4) (5) (6) AND (7). IN THIS CASE COVER BG-108 IS USED.

TL 10871-3

Figure 2. Installation of Radio Set SCR-58 in Carriage, Motor, Combination Gun, M15A1.

Installation unit		Stock No. 2S510-V64/50
Quantity	Stock No.	Item
1	3A39	Battery BA-39.
1	3A40	Battery BA-40.
1	3A41	Battery BA-41.
<sup>1</sup> 1	4B417-4	Chest Set TD-4.
1	1F430-67.108	Cord CG-67/MRQ-2.
1	2Z3400-153	Cover BG-153.
1	6L50-510V64	Hardware bag.
<sup>1</sup> 1	2B800-16	Headset H-16/U.
1	3G586	Insulator IN-86.
2	3G621	Insulator IN-121, including spare.
<sup>2</sup> 2	2A2416	Mast Section MS-116, including spare.
1	2B1645	Microphone T-45.
<sup>1</sup> 1	2Z9299-206A	Terminal Box TM-206-A.

<sup>1</sup> Items used for portable or emergency operation.

<sup>2</sup> When Chest Set TD-4 is not available, one Cord CD-307-A and one Cord CD-318 may be used. When Headset H-16/U is not available, one Headset HS-30-( ) and one Cord CD-604 may be used.

<sup>3</sup> If the basic unit contains Mast Base MP-48-A, Mast Sections MS-52 and MS-53 with Clamp MC-424 and Cover BG-108 in place of Mast Base AB-15/GR and Mast Sections MS-117 and MS-118, delete two Mast Sections MS-116 from the installation unit and add two Mast Sections MS-51, Cord CD-689, and two Clamps MC-423.

<sup>4</sup> Terminal Box TM-206-A may be supplied as part of Radio Receiver and Transmitter BC-620-( ).

### 9. Assembly and Installation

Components of Radio Set SCR-510-( ) should be installed in Carriage, Motor, Combination Gun, M15A1 as shown in figure 2 and as directed below:

*Part and location*

Mounting FT-250-( ) (item 3, fig. 2) on brackets between front seats.

Power Supply Unit PE-120-( ) (item 2, fig. 2) and Vibrator VB-13, on Mounting FT-250-( ).

Radio Receiver and Transmitter BC-620-( ) (item 1, fig. 2) and Battery BA-41, on Power Supply Unit PE-120-( ).

*Method and materials*

With hardware provided, secure Mounting FT-250-( ) to brackets (items 26 and 27) attached between front seats.

Open case of Power Supply Unit PE-120-( ) and remove chassis cover. Install Vibrator VB-13 in its socket. Make certain that connector link is in BC-620 position, and that change-over plug is set for 12 volts. Press all tubes down firmly into their sockets; replace cover on chassis, and close case of power supply unit. Place Power Supply Unit PE-120-( ) on Mounting FT-250-( ) and secure with catch-clips provided. Route power cord to vehicle terminal box; secure with clamps, and bush cord into terminal box with connector No. 61007 and Bondnut BL-50.

If Battery BA-41 is not already installed, proceed as follows: Remove chassis of Radio Receiver and Transmitter BC-620-( ) from its case by removing ten screws on outer edge of front panel and pulling out chassis. Remove cover of battery compartment and insert Battery BA-41, being careful to engage plug into socket of battery. Replace cover.



*Part and location**Method and materials*

*Note.* While chassis is out of case, see that all tubes are in proper sockets and pressed down firmly. The two crystals for desired operating frequencies should be in their sockets, and retaining clip should be in position to hold them securely. *Do not interchange these crystals.* Place two toggle switches near left edge of chassis in ON position, then slide chassis back into case and replace screws. Place Radio Receiver and Transmitter BC-620-( ) on Power Supply Unit PE-120-( ), controls facing front of vehicle, and secure with hook fasteners provided.

Hook (item 24, fig. 2).

Locate and secure on upper front side of bulkhead, as shown in figure 2.

Terminal Box TM-206-A (item 25, fig. 2), on Radio Receiver and Transmitter BC-620-( ).

When radio receiver and transmitter does not have Terminal Box TM-206-A already installed, set connector link inside box for coaxial lead-in, and install terminal box on radio receiver and transmitter in place of antenna post housing.

Cord CG-67/MRQ-2 (item 15, fig. 2).

Connect Cord CG-67/MRQ-2 to Terminal Box TM-206-A. Route cord as shown in figure 2. Remove plug from one end, and pass cord through Insulator IN-121 at hole in cab shield. Secure cord with clamps.

Mast Base AB-15/GR (item 4, fig. 2).

Locate Mast Base AB-15/GR in mast base bracket installed on right side of vehicle. Assemble mast base as follows: Refer to figure 3, View B. Hold lower insulator, item 7, by hand. Turn body of mast base, item 2, in a counterclockwise direction until item 7, with attached adapter assembly, items 8 and 9, is separated from item 2. Remove binding post from adapter, item 9, by turning knurled sleeve counterclockwise. Place upper insulator, item 5, over hole in mast base bracket. Place small neoprene washer, item 4, over item 5, and place plain washer, item 3, over item 4. Insert body of mast base through items 3, 4, 5, and 6. Place large lockwasher, item 14, with bonding braid and hose clamp attached, over lower insulator, item 7. Insert bolt, item 8, into bottom of item 2 from underneath. Turn item 2 in a clockwise direction until mast base is tightened securely. Place a  $\frac{3}{4}$ -inch open-end wrench on hexagonal portion of item 2 and apply a slight additional pressure, in order that item 14 will make good contact with mast base bracket. Connect Cord CG-67/MRQ-2 to mast base as follows: See figure 3, View A. Place hose clamp, item 15, over end of cord. Secure Plug PL-259 on cord to adapter socket, item 9, on bottom of mast base. Secure hose clamp, item 15, to Plug PL-259. If Mast Base MP-48-A is supplied see figure 3, Views E and D, for method of assembly and lead-in connection.

Mast Sections MS-116, MS-117, and MS-118 (items 5, 6, and 7, fig. 2), in mast base.

Screw assembled mast sections into Mast Base AB-15/GR. When mast sections are removed, stow in Roll BG-56-( ). If Mast Sections MS-51, MS-52, and MS-53 with Clamps MC-423 and MC-424 are supplied for use with Mast Base MP-48-A, place clamps over assembled mast sections. Place Cover BG-108 over Mast Base MP-48-A when mast sections are not installed.

*Part and location*

Roll BG-56-( ).

Case CS-137.

Case CS-79.

Insulator IN-86 (item 23, fig. 2).

*Method and materials*

Stow Roll BG-56-( ) in place provided on shield of cab.

Place 38 of the crystal units, supplied with radio receiver and transmitter, in Case CS-137. Place case in Power Supply Unit PE-120-( ).

Install spare batteries in Case CS-79, and stow case in any convenient place in vehicle.

When guns are in operation, tie antenna down as follows: On Insulator IN-86 turn the screw eye 90°. Pass antenna through screw eye, pull antenna down, and secure with antenna retaining-hook bracket provided on vehicle, as shown in figure 2.

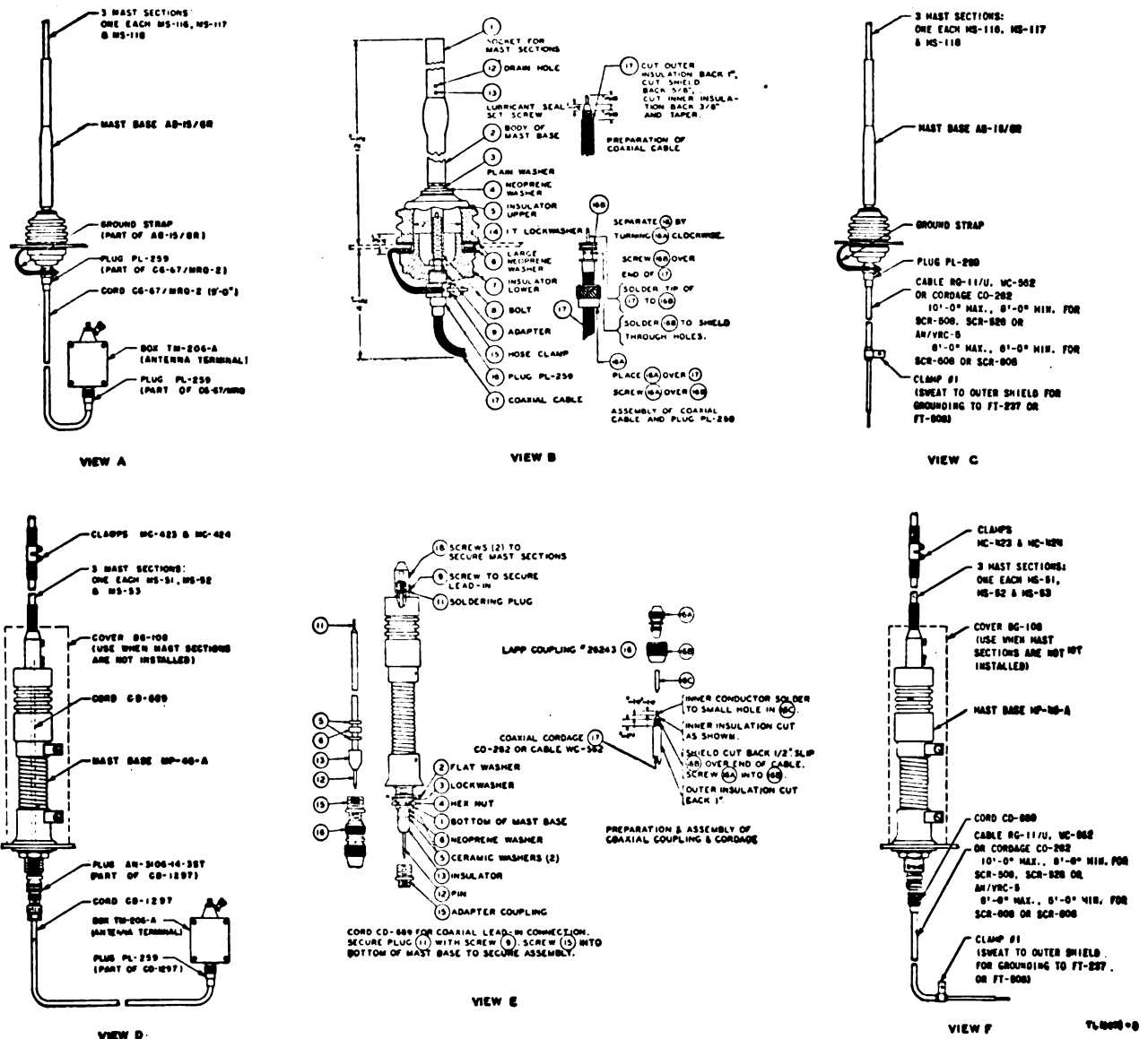
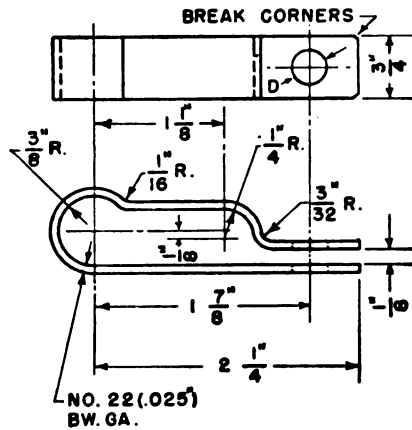
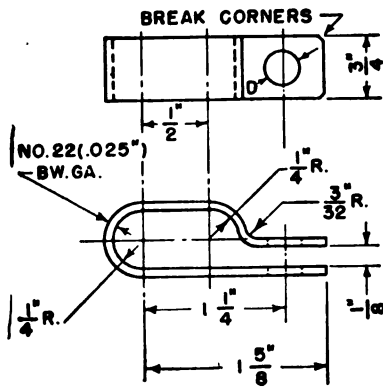
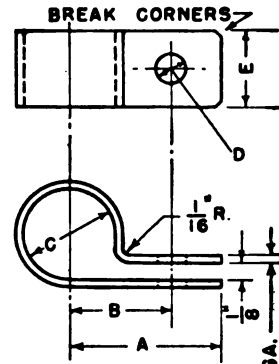


Figure 3. Antenna systems used in Carriage, Motor, Combination Gun, M15A1.

CLAMP	A	B	C	D	E	STOCK NO.
1	1-1/8"	3/4"	7/16"	3/16"	1/2"	222637-1
2	1-1/8"	3/4"	7/16"	9/32"	3/4"	222637-2
3	1-1/8"	3/4"	7/16"	13/32"	3/4"	222637-3
4	1-1/8"	3/4"	17/32"	3/16"	1/2"	222637-4
5	1-1/8"	3/4"	17/32"	9/32"	3/4"	222637-5
6	1-1/8"	3/4"	17/32"	13/32"	3/4"	222637-6



NO. 22(.025) BW. GA.

CLAMP	D	STOCK NO.
7	3/16"	222637-7
8	9/32"	222637-8
9	13/32"	222637-9

CLAMP	D	STOCK NO.
10	9/32"	222637-10
11	13/32"	222637-11

NOTE:  
TOLERANCES  $\pm 1/32$ "

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Figure 4. Clamps for radio cordage.

## SECTION IV

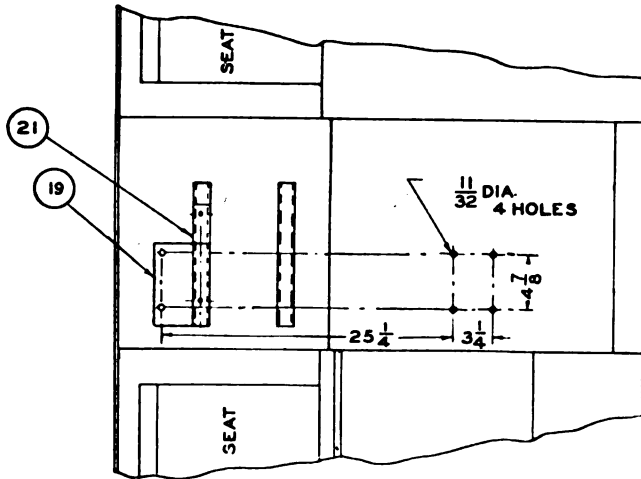
## RADIO SET SCR-528-( )

**10. Required Parts**

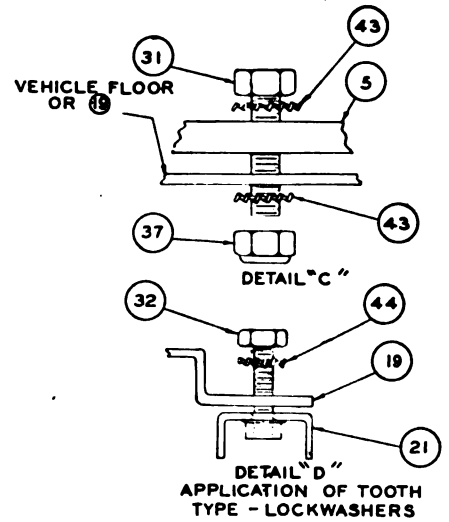
Items necessary for installation of Radio Set SCR-528-( ) in Carriage, Motor, Combination Gun, M15A1 are listed below:

Basic unit		Stock No. 2S528/12
Quantity	Stock No.	Item
1	2A262	Antenna A-62, phantom, including bracket.
1	2Z2599-264	Chest CH-264.
1	6Z3147	Connector No. 61007 and Bondnut BL-50.
1	2Z3396	Cover BG-96.
1	3H1634	Dynamotor DM-34-( ).
1	3H1635	Dynamotor DM-35-( ).
1	2A2081-15	Mast Base AB-15/GR.
2	2A2417	Mast Section MS-117, including spare.
2	2A2418	Mast Section MS-118, including spare.
1	2Z6721-237	Mounting FT-237-( ).
1	2C4403	Radio Receiver BC-603-( ).
1	2C6494	Radio Transmitter BC-604-( ).
1	2Z8056	Roll BG-56-( ).
2	6D13113	TM 11-600.
6 ft	1B128	Wire W-128.

Installation unit		Stock No. 2S508-V64/50
Quantity	Stock No.	Item
1	.....	Bracket.
2	3G1837-52.1	Bushing.
1	4B417-4	Chest Set TD-4.
2	3E1307-5.5	Cord CD-307-A.
1	6L50-528V64	Hardware bag.



VIEW A-A  
MOUNTING HOLES LOCATION IN  
FLOOR OF VEHICLE



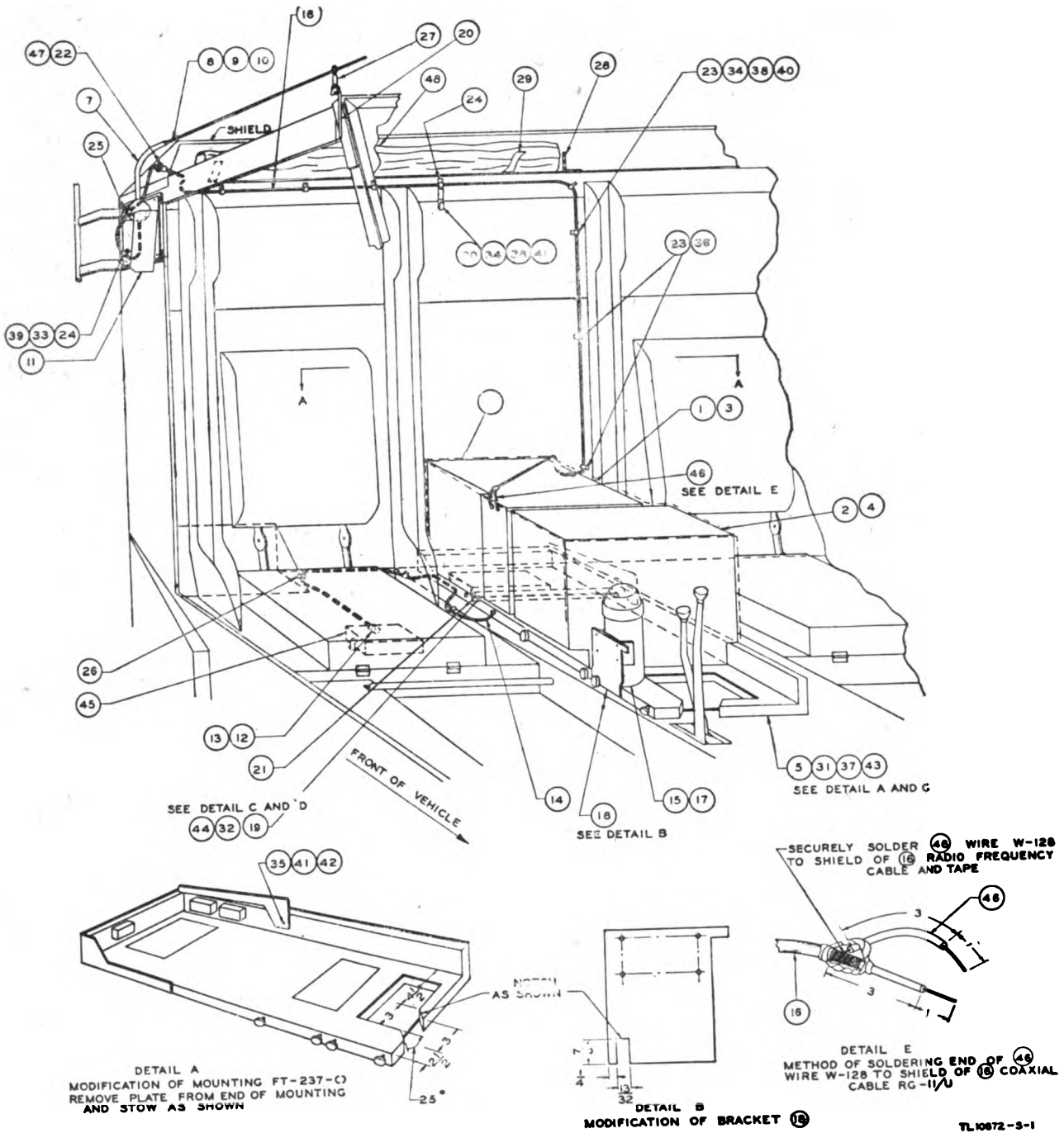
ITEM NO.	NAME OF ITEM	QUAN. REQ.
1	RADIO TRANSMITTER BC-604-( )	1
2	RADIO RECEIVER BC-603-( )	1
3	DYNAMOTOR DM-35-( )	1
4	DYNAMOTOR DM-34-( )	1
5	MOUNTING FT-237-( )	1
6	COVER BG-96	1
7	MAST BASE AB-15/GR	1
8	MAST SECTION MS-118	SEE NOTE 3
9	MAST SECTION MS-117	
10	MAST SECTION MS-116	
11	MAST BASE BRACKET SEE NOTE 4	1
12	CONNECTOR NO. 61007	1
13	BONDNUT BL-50	1
14	CORD CO-278	1
15	WIRE W-128 20 INCHES LONG SEE NOTES 5 AND 6	1
16	RADIO FREQUENCY CABLE RG-11/U 10 FOOT LONG	1
17	ANTENNA A-62, PHANTOM SEE NOTE 6	1
18	BRACKET	1
19	BRACKET	1
20	BRACKET, HOOK SEE NOTE 4	1
21	BRACKET SEE NOTE 4	1
22	BUSHING	1
23	CLAMP NO. 1	3
24	CLAMP NO. 2	6
25	CLAMP NO. 3 SEE NOTE 7	PER FIG 4
26	CLAMP NO. 5	
27	INSULATOR IN-86	
28	BRACKET SEE NOTE 4	1
29	BRACKET SEE NOTE 4	2
30	HOOK	1
31	MEX. HEAD CAP SCREW 5/16-24 X 3/4 LONG	6
32	MEX. HEAD CAP SCREW 1/4-20 X 3/4 LONG	2
33	ROUNDHEAD MACH SCREW 1/4-20 X 3/4 LONG SEE NOTE 4	1
34	ROUNDHEAD MACH SCREW NO. 8-32 X 3/8 LONG	3
35	ROUNDHEAD MACH SCREW NO. 6-32 X 3/8	2
36	ROUNDHEAD WOOD SCREW NO. 8 X 3/4 LONG	6
37	ELASTIC STOP NUT 5/16-24 STD.	3
38	MEX. NUT NO. 8-32 STD.	1
39	LOCKWASHER 1/4-20 STD. SEE NOTE 4	3
40	LOCKWASHER S.A.E. REG. FOR NO. 8 SCREW	1
41	LOCKWASHER S.A.E. REG. FOR NO. 6 SCREW	1
42	WASHER STD. FOR NO. 6 SCREW	1
43	TOOTHTYPE LOCKWASHER 5/16 I.E.T.	12
44	TOOTHTYPE LOCKWASHER 1/4 I.E.T.	2
45	TERMINAL BOX SEE NOTE 4	1
46	WIRE W-128 8 INCHES LONG SEE NOTE 5	1
47	WASHER	1
48	ROLL BG-56-( ) SEE NOTE 8	1

NOTES:

- FOR ADDITIONAL COMPONENTS AND SPARE PARTS, SEE COMPONENT PARTS LIST.
- UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
- IF (7) (8) (9) AND (19) ARE NOT AVAILABLE, USE MAST BASE MP-98-A, MAST SECTIONS MS-51, MS-52 AND MS-53 WITH CLAMPS MC-423 AND MC-424.
- (11) (20) (21) (28) (29) (45) AND ONE OF (33) AND (39) ARE FURNISHED IN THE VEHICLE BY THE MANUFACTURER.
- (15) AND (45) CUT TO PROPER LENGTH. TIN ENDS FOR CONNECTIONS.
- WHEN USING ANTENNA A-62, PHANTOM, FOR ALIGNING TRANSMITTER, DISCONNECT (16) FROM (1) AND CONNECT (15) FROM (17) TO ANTENNA POST ON (1).
- (24) (25) AND (26) ARE MOUNTED WITH HARDWARE PROVIDED IN VEHICLE BY MANUFACTURER.
- (48) IS USED TO STOW EXTRA MAST SECTIONS.
- SECURE ANTENNA TO (29) AS SHOWN WHEN GUNS ARE IN OPERATION.

TL10872-S-2

Figure 5. Installation of Radio Set SCR-528-(



) in Carriage, Motor, Combination Gun, M15A1.

Installation unit		Stock No. 2S508-V64/50
Quantity	Stock No.	Item
*3	2B800-16	Headset H-16/U.
2	3G586	Insulator IN-86, including spare.
*2	2A2416	Mast Section MS-116, including spare.
1	2B1617	Microphone T-17, a spare.
1	2B1645	Microphone T-45.
2	2B1567	Microphone Cover M-367.
*10 ft	1F425.11	Radio Frequency Cable RG-11/U.

<sup>1</sup> Mast Base MP-48-A, Mast Sections MS-52 and MS-53 with Clamp MC-424, and Cover BG-108 may replace Mast Base AB-15/GR in basic unit. In this case, delete two Mast Sections MS-116 from installation unit and add two Mast Sections MS-51 with Clamp MC-423. When Mast Base MP-48-A is used, Cord CD-689 is also required.

<sup>2</sup> If bushing is not available, Insulator IN-121 may be substituted.

<sup>3</sup> Cable WC-562-( ) or Cordage CO-282 may be substituted for Radio Frequency Cable RG-11/U.

<sup>4</sup> If Chest Set TD-4 is not available, use one additional Cord CD-307-A.

<sup>5</sup> If Headset H-16/U is not available, use Headset HS-30-( ) and three Cords CD-604.

## II. Assembly and Installation

Components of Radio Set SCR-528-( ) should be installed in Carriage, Motor, Combination Gun, M15A1 as shown in figure 5 and as directed below.

### *Part and location*

Bracket (item 19, fig. 5) between front seats.

Mounting FT-237-( ) (item 5, fig. 5) to floor and to bracket (item 19).

Antenna A-62, phantom, (item 17, fig. 5), to Mounting FT-237-( ).

Radio Transmitter BC-604-( ) and Dynamotor DM-35-( ) (items 1 and 3, fig. 5), on Mounting FT-237-( ).

### *Method and materials*

Drill four holes 11/32 inch in floor of vehicle between front seats, as shown in figure 5, View A-A. Secure bracket, item 19, to bracket provided in vehicle, as shown in View A-A and Detail D.

See figure 5, Detail A. Remove end plate from Mounting FT-237-( ), and replace in location shown. Secure with screw provided and use tapped hole for dust cover retaining screw. Cut out edge of mounting to dimensions shown in Detail A. Secure mounting to floor of vehicle and to bracket, as shown in figure 5, Detail C. Use hardware provided. Connect Cord CO-278 between mounting and vehicle terminal box.

Modify bracket, item 18, figure 5, supplied with Antenna A-62 as shown in figure 5, Detail B. Secure antenna to bracket with hardware provided. Secure bracket to Mounting FT-237-( ) using one of the knurled thumbscrews provided for securing Radio Receiver BC-603-( ) to Mounting FT-237-( ).

If Dynamotor DM-35-( ) is not already installed in Radio Transmitter BC-604-( ), proceed as follows: Remove crystal case from transmitter cabinet by loosening the two screws locks on front panel and pulling out crystal case. Loosen the four screws locks holding cover on top of transmitter and remove cover. Plug dynamotor unit into receptacle on left rear of transmitter chassis and tighten screws in its base. Place transmitter on Mounting FT-237-( ) and secure with thumbscrews provided.

*Part and location*

Radio Receiver BC-603-( ) and Dynamotor DM-34-( ) (items 2 and 4, fig. 5), on Mounting FT-237-( ).

Cover BG-96 (item 6, fig. 5).

Mast Base AB-15/GR (item 7, fig. 5), on mast base bracket.

Radio Frequency Cable RG-11/U (item 16, fig. 5).

Mast Sections MS-116, MS-117, and MS-118 (items 10, 9, and 8, fig. 5).

Chest CH-264.

*Method and materials*

If Dynamotor DM-34-( ) is not already installed in Radio Receiver BC-603-( ), proceed as follows: Remove case receiver by loosening screw lock in rear center of case. Plug dynamotor into receptacle on top of chassis and tighten screws in its base. Place Radio Receiver BC-603-( ) on Mounting FT-237-( ) and secure with thumbscrews provided.

Place Cover BG-96 over radio set.

Install Mast Base AB-15/GR on mast base bracket provided on right side of vehicle. Refer to figure 3, View B and assemble as follows: Remove post from adapter socket, item 9. Hold lower insulator, item 7, by hand. Turn body of mast base, item 2, counterclockwise until item 7, with items 8 and 9 attached, is separated from item 2. Place upper insulator, item 5, over hole in mast base bracket. Place neoprene washer, item 4, over item 5, and plain washer, item 3, over item 4. Insert body of mast base through items 3, 4, 5, and mast base bracket. Place lockwasher, item 14, over item 7. Insert item 8, attached to item 7, into bottom of item 2 from underneath. Turn item 2 clockwise until mast base is tightened securely. Apply a slight additional pressure to hexagonal portion of body of mast base to make sure that item 14 makes good contact with mast base bracket. If Mast Base MP-48-A is supplied, assemble as shown in figure 3, View E, and connect lead-in as shown in View F.

Prepare one end of radio frequency cable as shown in figure 5, Detail E. Solder an 8-inch length of Wire W-128 to shield braid of cable for ground connection. See figure 3, View C, for antenna lead-in. Prepare other end of cable as shown in detail of figure 5. Separate Plug PL-259, supplied with Mast Base AB-15/GR, by turning knurled coupling nut, item 16A, clockwise, and place coupling nut over prepared end of cable, as shown in figure 3, View B. Screw shell of Plug PL-259 tightly over prepared end of cable, and solder tip of inner conductor to plug insert. Solder shield of cable to shell of plug through four small holes in shell. Pass Plug PL-259 through hose clamp, item 15. Secure plug to adapter socket, item 9, on bottom of Mast Base AB-15/GR. Install bushing (item 22); route and secure cable as shown in figure 5. Connect cable to antenna terminal on front panel of Radio Transmitter BC-604-( ), and secure 8-inch length of Wire W-128 to ground terminal.

Screw mast sections together and install assembled mast sections in mast base. Secure joints of sections with friction tape. When mast sections are not in use stow them in Roll BG-56-( ).

Stow spare equipment in Chest CH-264, and keep chest in any convenient place in vehicle.









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