TECHNICAL MANUAL

OPERATOR'S AND ORGANIZATIONAL MAINTENANCE MANUAL

(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS)

RADIO SETS AN/GRC-106 AND AN/GRC-106A

This copy is a reprint which includes current pages from Changes 1 through 6. The title was changed by C 3 to read as shown above.

HEADQUARTERS, DEPARTMENT OF THE ARMY

FEBRUARY 1971

WARNING

DANGEROUS VOLTAGES EXIST IN THIS EQUIPMENT

Voltages as high as 128 volts ac, 3,000 volts dc, and 10,000 volts RF are used in the operation of Amplifier, Radio Frequency AM–3349/GRC–106.

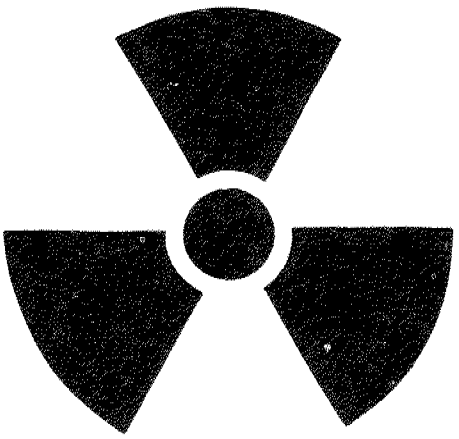
DANGEROUS VOLTAGES EXIST AT THE AM–3349/GRC–106 50-OHM LINE AND WHIP ANTENNA CONNECTORS

Be careful when working around the antenna or antenna connectors. Radio-frequency voltages as high as 10,000 volts exist at these points. Operator and maintenance personnel should be familiar with the requirements of TB SIG 291 before attempting installation or operation of Radio Set AN/GRC–106(*)

DEATH ON CONTACT

may result if operating personnel fail to observe safety precautions and fail to follow requirements of TB SIG 291.

WARNING
RADIATION HAZARD



RADIOACTIVE MATERIAL
CONTROLLED DISPOSAL REQUIRED
ACCOUNTABILITY NOT REQUIRED

STD RW—2

Meter, arbitrary scale	Ra 226	1.0uCi	6625-00-226-5679
Meter, arbitrary scale	Ra 226	1.0uCi	6625-00-226-5681
Audio level meter	Ra 226	0.6uCi	6625-00-226-5680
Audio level meter	Ra 226	0.6uCi	6625-00-226-5680

Radiation Hazard Information: The following radiation hazard information must be read and understood by all personnel before operating or repairing Radio Sets AN/GRC-106 and AN/GRC-106A. Hazardous radioactive materials are present in the above listed components of the AM-3349/GRC-106 and the RT-662/GRC.

The components are potentially hazardous when broken. See qualified medical personnel and the local Radiological Protection Officer (RPO) immediately, if you are exposed to or cut by broken components. First aid instructions are contained in TB 43-0116, TB 43-0122, and AR 755-15.

NEVER place radioactive components in your pocket.

Use extreme care NOT to break radioactive components while handling them.

NEVER remove radioactive components from cartons until you are ready to use them.

If any of these components are broken, notify the local RPO immediately.

The RPO will survey the immediate area for radiological contamination and will supervise the removal of broken components.

The above listed radioactive components *will not* be repaired or disassembled.

*TM 11-5820-520-12

TECHNICAL MANUAL
No. 11-5820-520-12

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *25 February 1971*

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS

RADIO SETS AN/GRC-106 AND AN/GRC-106A

* This manual, together with TM 11-5820-520-25P, 27 September 1966, supersedes TM 11-5820-520-12, 25 August 1964, including all changes.

LIST OF ILLUSTRATIONS

LIST OF TABLES

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual describes Radio Set AN/GRC-106 and AN/GRC-106A (fig. 1-1 through 1-4) which are identical except that Radio Set AN/GRC-106 uses Receiver-Transmitter, radio RT/662/GRC, and Radio Set AN/GRC-106A used Receiver-Transmitter, Radio RT-834/GRC. It includes the installation, operation, and operator and organizational maintenance. It also contains instructions for cleaning and inspection of the equipment.

b. Official nomenclature followed by (*) is used to indicate all models of the equipment items covered in this manual; therefore, Radio Set AN/GRC-106(*) refers to Radio Set AN/GRC-106 and Radio Set AN/GRC-106A.

c. Appendix B is current as of 1 December 1970.

1-2. Indexes of Publications

a. DA Pam 310-4. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. DA Pam 310-7. Refer to the latest issue of DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

1-3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed and prescribed by TM 38-750 (Army).

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Packaging Improvement Report) as prescribed in AR 700-58.

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38.

d. Reporting of Errors. Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forwarded direct to Commander, US Army Electronics Command, ATTN: DRSEL-MA-Q, Fort Monmouth, NJ 07703.

e. Administrative Storage. The procedures for administrative storage are outlined in TM 740-90-1; however, the exact procedure in repacking for limited storage depends on the materials available and the conditions under which the equipment is to be stored.

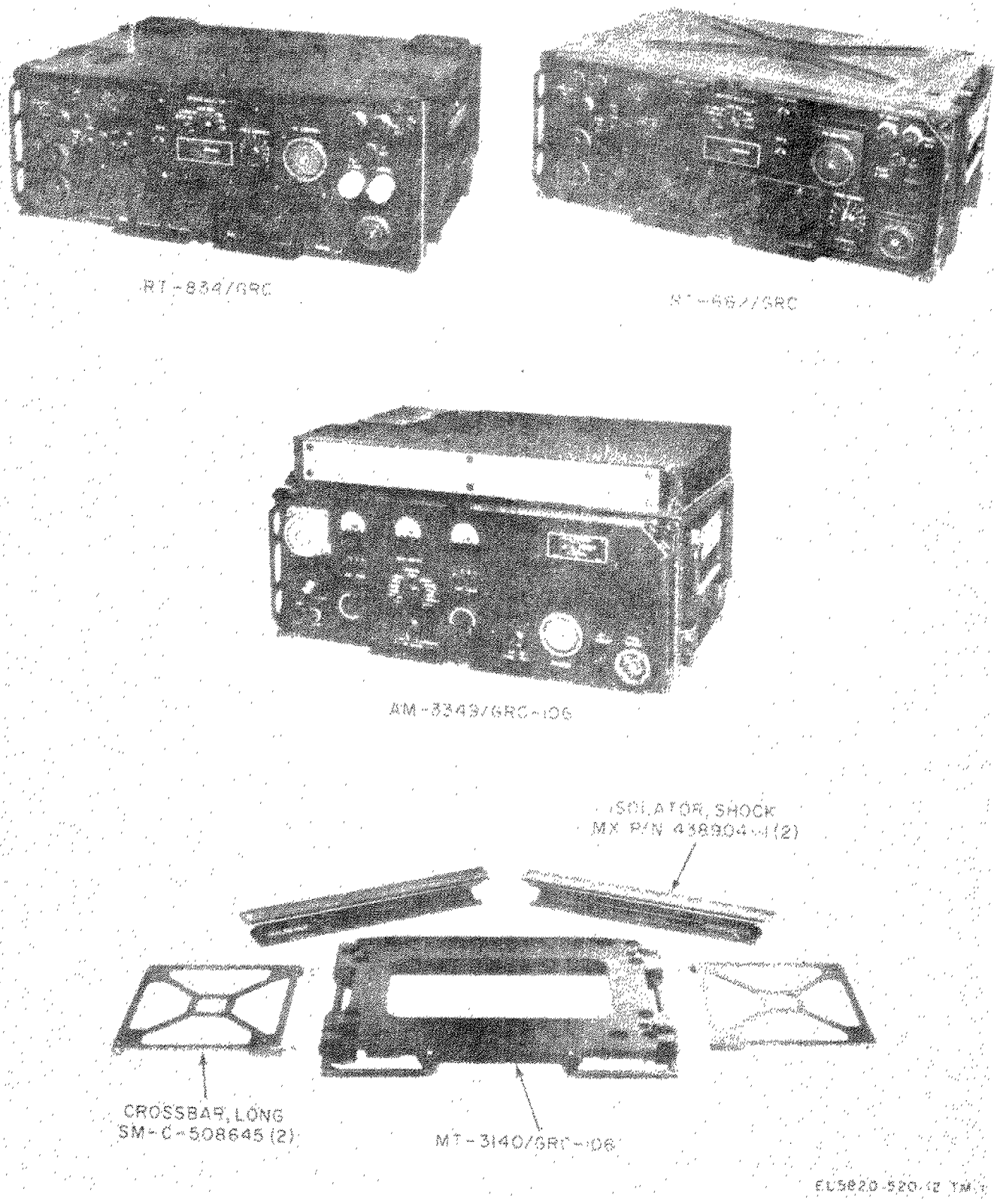


Figure 1-1. Radio Set AN/GRC-106(*), major components, and mounting parts issued with some installations.

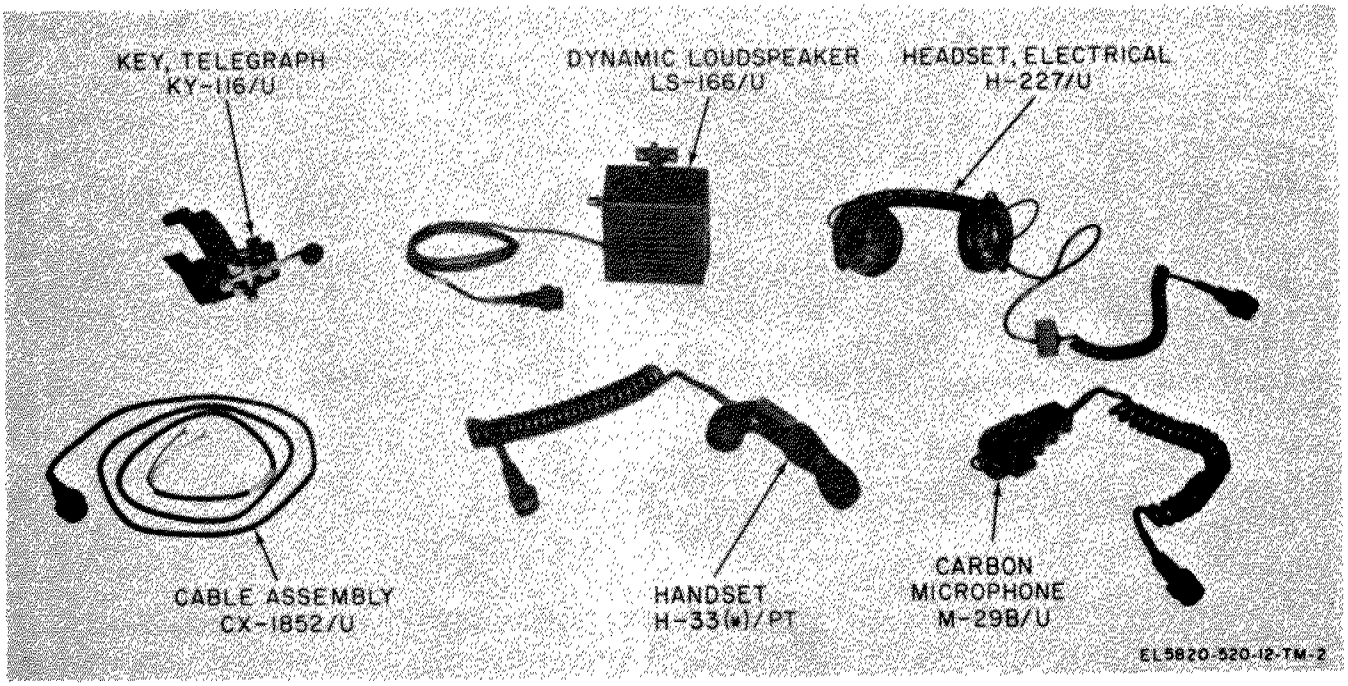


Figure 1-2. Radio Set AN/GRC-106(*), minor electrical components.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use

a. Purpose. Radio Set AN/GRC-106(*) is a high frequency (hf), single-sideband (ssb), radio receiving-transmitting set. This set operates over a frequency range of 2.0 to 29.999 MegaHertz (MHz). Radio Set AN/GRC-106 operates on any one of 28,000 selectively tuned operating frequencies, spaced in 1-kiloHertz (kHz) increments. The additional feature of vernier tuning (±600 Hertz (Hz) about any 1-kHz increment) allows reception on any frequency in the operating range. Radio Set AN/GRC-106A operates on any one of 280,000 selectively tuned operating frequencies, spaced in 100-Hz increments, with vernier tuning of the receiver only (±600 Hz about any 100-Hz increment). The selectivity of both equipments insures compatibility with existing amplitude-modulated (am.) and radio-teletypewriter equipment that does not have the same accuracy and stability as the AN/GRC-106(*).

b. Use. The AN/GRC-106(*) is used for receiving and transmitting upper-sideband (usb) voice, usb compatible amplitude-modulated (compatible am.), and continuous wave (cw) signals in a simplex operation, over a 50-mile (80.45 kilometer (km)) range. Conventional double-sideband, amplitude-modulated signals can be received but not transmitted. Frequency-shift-keyed (fsk) and narrow frequency-shift-keyed (nsk) signals can be received and transmitted, using the appropriate ancillary radioteletypewriter terminal equipment and primary power source (high capacity vehicular generating system). The AN/GRC-106(*) is primarily intended for use as a mobile radio link in a communications network; however, it may be used in a fixed mobile station. It is usually vehicular mounted, using an appropriate vehicle mounting kit. The AN/GRC-106(*) fixed mobile station application is the same as the mobile radio application, except that a doublet antenna is used in place of the whip antenna to increase circuit path reliability and extend the effective range of operation in certain directions. For specific details of the differences between models of the AN/GRC-106(*) refer to paragraph 1-15.

NOTE

Amplifier, Radio Frequency AM-3349/GRC-106 operates with either the RT-662/GRC or RT-834/GRC.

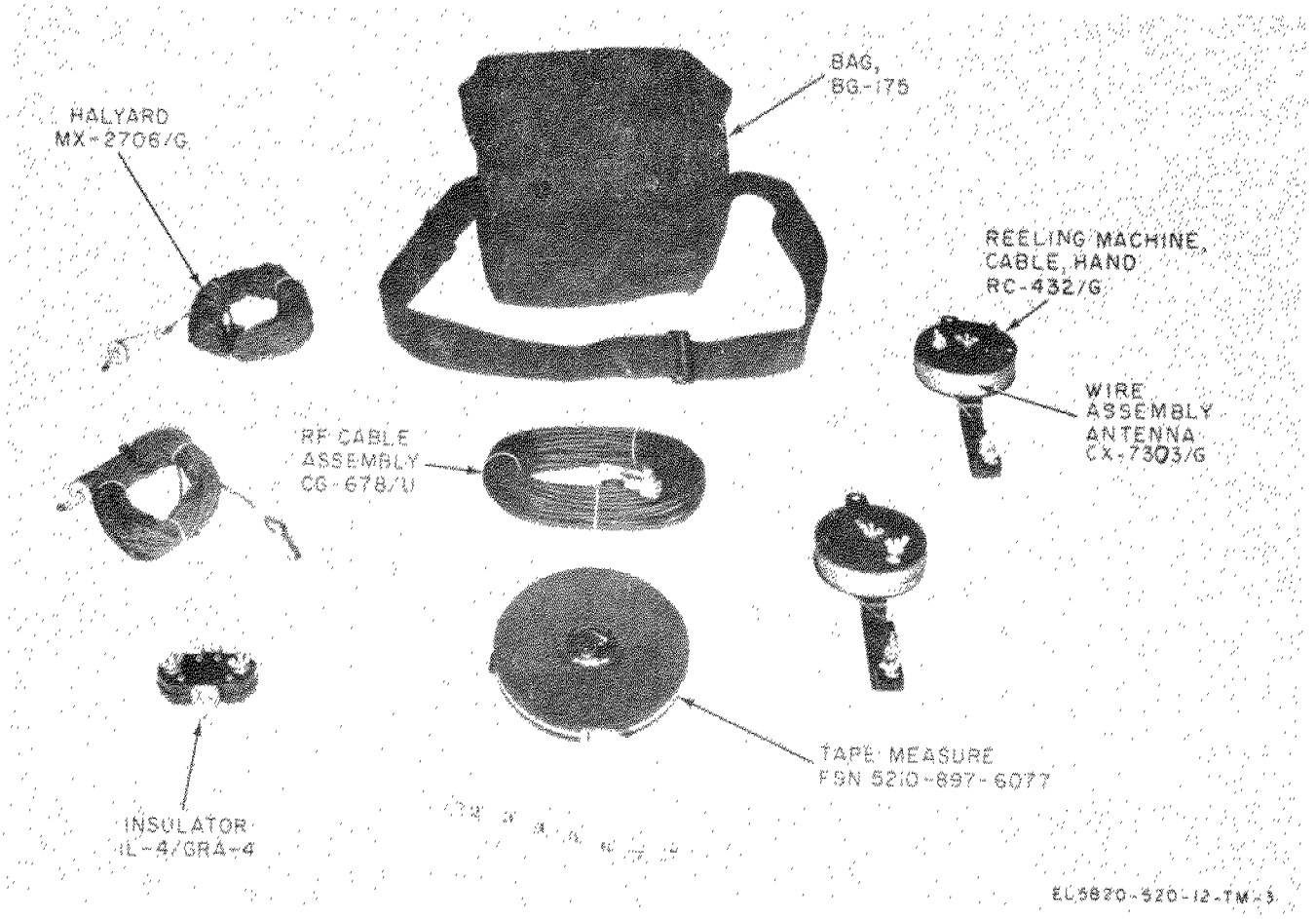


Figure 1-3. Components of Antenna Group AN/GRA-50.

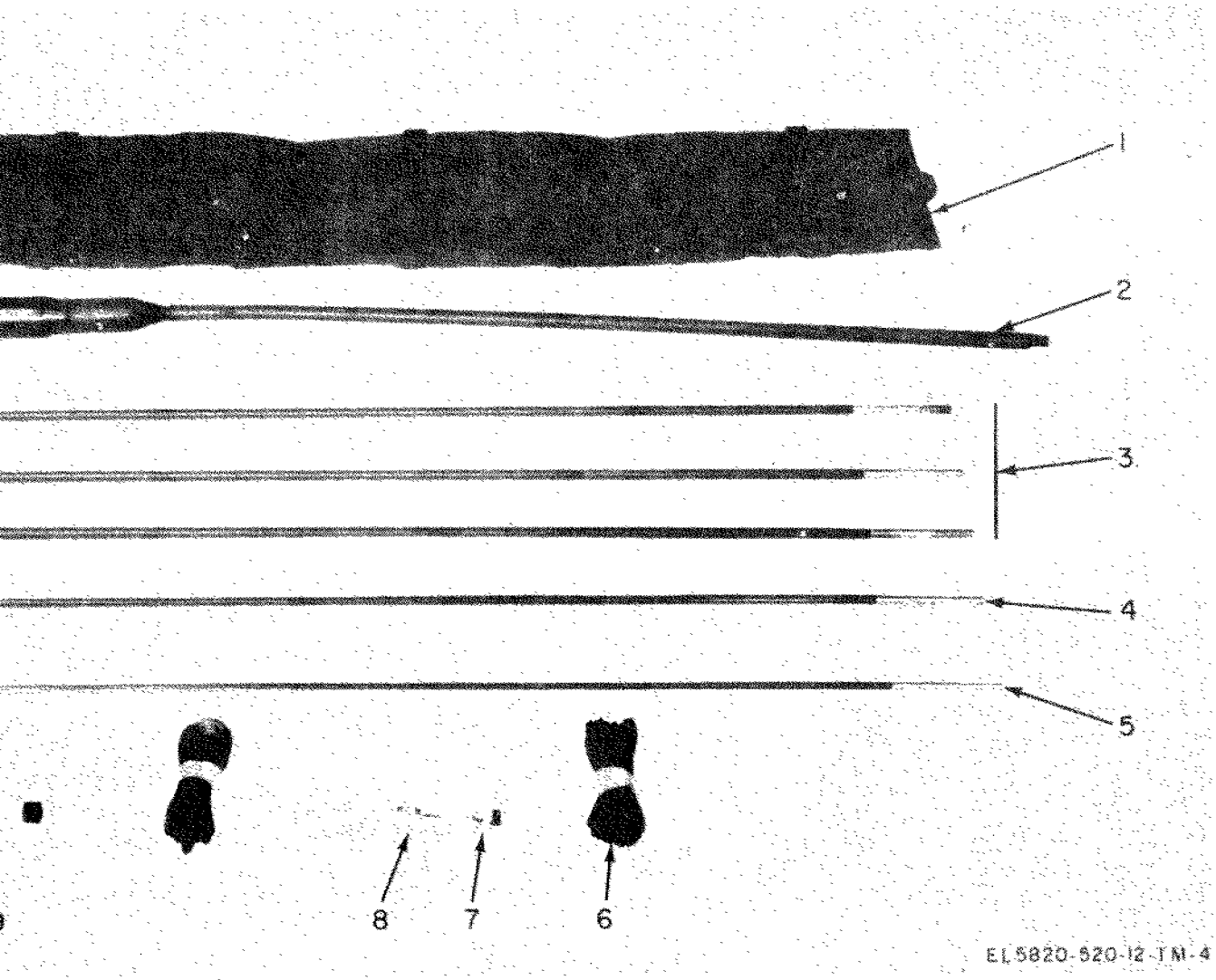
1-5. Technical Characteristics

a. RT-662/GRC.

Number of electron tubes ..... 2.
Number of transistors 140.
Frequency range ..... 2.0 to 29.999 MHz.
Selectively tuned operating frequencies .. 28,000.
Types of transmission ..... Upper sideband, usb compatible amplitude modulated, continuous wave, frequency-shift-keyed, and narrow frequency-shift-keyed.

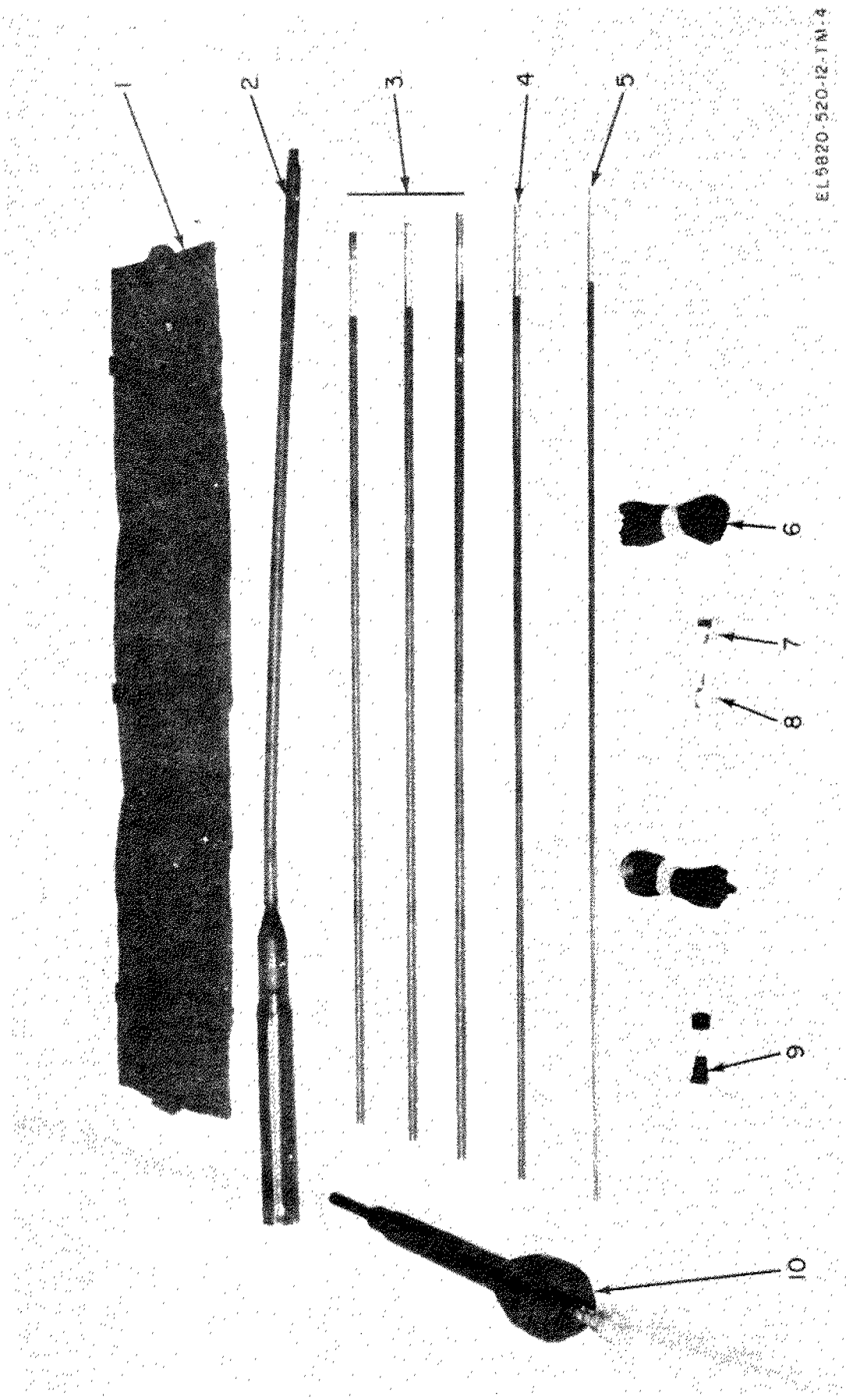
Note. When transmitting continuous wave signals, the absolute radiofrequency of transmission is 2 kHz higher than the indication given by the settings of the RT-622/GRC front panel MC and KC controls.

Types of reception ..... Usb compatible and conventional double-sideband amplitude-modulated (am.), continuous wave, frequency-shift-keyed, and narrow frequency-shift-keyed.
Type of control ..... Crystal-controlled synthesizers referenced to a highly stable 5-MegaHertz internal standard.
Primary voltage ..... 27 volts direct current ±3.
Power requirements:
OVEN ON ..... 16.2 watts nominal initially; 2.7 watts stabilized.
STAND BY ..... 14 watts nominal.
SSB NSK ..... 36 watts nominal receive; 45 watts nominal transit.
FSK ..... 36 watts nominal receive; 45 watts nominal transmit.
AM ..... 36 watts nominal receive; 45 watts nominal transmit.
CW ..... 36 watts nominal receive; 45 watts nominal transmit.
RF power output ..... 0.1 watt (pep) nominal.
Type of receiver ..... Superheterodyne with triple conversion.
Receiver intermediate frequency ..... First, 20 or 30 MHz.
Second, 2.85 MHz.
Third, 1.75 MHz.
Bandwidth ..... 3.2 kHz as established by crystal filter.



1 Bag CW-206/GR
2 Cover, antenna polyethylene
3 Mast Section MS-116-A (3)
4 Mast Section MS-117-A
5 Mast Section MS-118-A
6 Rope (20 feet long)
7 Adapter, Connector UG-306/U
8 Adapter, Connector UG-201A/U
9 Antenna sheath clamp, brass
10 Mast, Base AB-652/GR

Figure 1-4. Components of whip antenna.



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8 Adapter, Connector UG-201A/U
9 Antenna sheath clamp, brass
10 Mast, Base AB-652/GR

Figure 1-4. Components of whip antenna.

b. RT-834/GRC. The RT-834/GRC technical characteristics are the same as those of the RT-662/GRC with two exceptions. There are 280,000 selectively tuned operating frequencies, and the number of transistors in the RT-834/GRC is 151.

c. AM-3349/GRC-106.

Number of electron tubes ..... 3.
Number of transistors ... 10.
Frequency range ..... 2.0 to 29.999 MHz.
Input impedance ..... 50 ohms.
Output impedance (when antenna coupler assembly 2A3 is properly tuned):
  Output No. 1 ..... 50 ohms.
  Output No. 2 ..... To match 15-foot whip antenna.
RF power input ..... Nominal 0.1 watt (pep); maximum 0.125 watt (pep).
Primary voltage ..... 27 volts direct current ±3.
Power requirements:
  Standby ..... 250 watts (maximum).
  Operate ..... 250 watts (maximum).
  Transmit:
    Two-tone ..... 1,000 watts (nominal).
    Voice ..... 800 watts (average).
Power output:
  Ssb/Nsk ..... 400 watts (pep) +2, -1 decibel
  Compatible am. .... 400 watts (pep) +2, -1 decibel (carrier is at nominal 70 watts).
  Cw ..... 200 watts (average) nominal +2, -1 decibel.
  Fsk ..... 200 watts (average) nominal +2, -1 decibel.
Antenna ..... 15-foot whip or doublet (nominal 50 ohms).
Effective range ..... 20 miles (32.18 kilometers) nominal (groundwave); 100 to 1,500 miles (skywave), depending on terrain, frequency, antenna, time, and atmospheric conditions.

1-6. Components of Radio Set AN/GRC-106(*)

The components of Radio Set AN/GRC-106(*) are listed in table 1-1. The components are shown in figures 1-1 through 1-4.

NOTE

Reference to Handset H-33(*)/PT includes H-33E/PT or H-33F/PT.

Table 1-1. Components of Radio Set AN/GRC-106(*)

FSN	Quantity		Item	Dimensions (inches)				Unit weight (lb) or ounces (oz)	Fig. No.
	AN/GRC-106	AN/GRC-106A		Height or length	Depth	Width	Volume (cubic inches)		
5820-078-4766	1		Receiver-Transmitter, Radio RT-662/GRC	7.0	13.0	18.0	0.95 (cu ft)	51.0*	1-6
5820-935-0033		1	Receiver-Transmitter, Radio RT-834/GRC	7.0	13.0	18.0	0.95 (cu ft)	46.5*	1-7
5820-078-4771	1	1	Amplifier, Radio Frequency AM-3349/GRC-106	9.0	13.0	18.0	1.22 (cu ft)	71.5*	1-9
	1	1	Bracket assembly.						
5965-243-6420	1	1	Dynamic Loudspeaker LS-166/U	7.0	3.0	5.5	115.5	3.75	1-2
5965-163-9947	1	1	Handset H-33(*)/PT	8.25	2.75	2.0	45.4	1.3	1-2
5965-226-2915	1	1	Headset, Electrical H-227/U	3.5	7.75	5.0		1.25	1-2
5965-892-0722	1	1	Microphone, Carbon M-29B/U	1.0	5.75	3.0	17.25	14.0 oz	1-2
5805-503-3395	1	1	Key, Telegraph KY-116/U	2.0	4.25	5.5	.....	1.0	1-2
	1	1	Cable Assembly, Special Purpose, Electrical CX-1852/U	72.0	.....	.....	.....	6.0 oz	1-2
	1	1	Hardware Kit, for Radio Set AN/GRC-106						
5985-892-0758	1	1	Antenna Group AN/GRA-50	11.25	11.25	8.25	1044.22	15.0	1-3
7690-620-2110	2	2	Label.						
5820-078-4770	1	1	Mast Base AB-652/GR	3.25	3.25	17.5	.....	2.5	1-4
5820-078-4769	1	1	Antenna cover	42.5	.....	.....	.....	3 oz	1-4
	5	5	Mast Section MS-117-A	39.5				4 oz	1-4
5985-115-1149	2	2	Mast Section MS-116-A	39.5	.....	.....	....	2 oz	1-4
5985-238-7474	2	2	Mast Section MS-118-A	39.5	.....	.....	.....	1 oz	1-4
	1	1	Adapter, Connector UG-306B/U	.....	.....	.....	.....	1 oz	1-4
	1	1	Adapter, Connector UG-201A/U	.....	.....	.....	.....	1 oz	1-4
	1	1	Antenna tip assembly.						
5920-280-4960	1	1	Fuse, cartridge 2 amp, 250 v MIL style FO2A250V2A.						
5820-497-9644	1	1	Bag CW-206/GR	3.0	5.0	40.0	0.34 (cu ft)	3.5	1-4
	1	1	Grounding kit (PPL 4-16).						
	2	2	Technical manual.						
4020-073-3276	1	1	Rope, polyethylene glycol terphthalate 350 lb.	40 ft.	—	1/8			
5995-985-7998	2	2	Cable Assembly, Special Purpose, Electrical CX-10071/U	10 ft.	.....	.....	.....	1.75	1-10
5995-985-8005	1	1	Cable Assembly, Special Purpose, Electrical CX-10099/U	7.0	.....	.....	.....	1.0	1-10
5995-985-8014	1	1	Lead, Electrical CX-10171/U	6 ft	.....	.....	.....	1.0	1-10
5995-578-6353	2	2	Cable Assembly, Radio Frequency CG-409H/U	8	.....	.....	.....	2 oz	1-10

*Exact weight may vary slightly depending upon material used by equipment case manufacturer.

1–7. Description of Radio Set AN/GRC–106(*)

a. All the items supplied as part of the AN/GRC–106(*) with their weights and dimensions are listed in table 1–1 and are described in paragraphs 1–8 through 1–12.

b. The AM–3349/GRC–106 and RT–662/GRC or RT–834/GRC are stack-mounted on and secured to, Mounting MT–3140/GRC–106. If the AN/GRC–106(*) is to be mounted in a tracked vehicle, an additional MT–3140/GRC–106, one Cable Assembly Special Purpose Electrical CX–11016( )/G, and two CG–409H/U cables (each 6 feet) and four shock isolaters (fig. 1–1) must be requisitioned. In a tracked vehicle installation, the AM–3349/GRC–106 and RT–662/GRC or RT–834/GRC are secured individually to a separate MT–3140/GRC–106 and mounted side by side. In either installation, primary power is supplied to the units through direct connections to the 27-volt direct current (dc) vehicle supply.

NOTE

Refer to SB 11–131, Vehicular Radio Sets and Authorized Installations, for a listing of the installation kits used with this equipment.

c. The AM–3349/GRC–106 transmit-receive relay permits the same antenna to be used for both transmitting and receiving. The type of antenna used depends on the operating conditions and the tactical situation. If the AN/GRC–106(*) is operated in a mobile condition, the 15-foot whip antenna assembly is used. When the AN/GRC–106(*) is operated as a fixed mobile station, it may be desirable to use Antenna Group AN/GRA–50. Long wire antennas may be connected to the RECEIVE IN spring-loaded binding post on the RT–662/GRC or RT–834/GRC front panel when it is used only as a separate receiver.

d. All operating controls and meters, and all power, antenna, input, and output connectors are located on the AM–3349/GRC–106 and RT–662/GRC or RT–834/GRC front panels.

1–8. Description of RT–662/GRC

a. The RT–662/GRC (fig. 1–5) is a self-contained, modular-constructed, combination receiver and low-level transmitter consisting of one chassis housed in a moistureproof case. Eleven plug-in modules are securely mounted on the top of the chassis and six subassemblies and a front panel are secured to the chassis. All operating controls

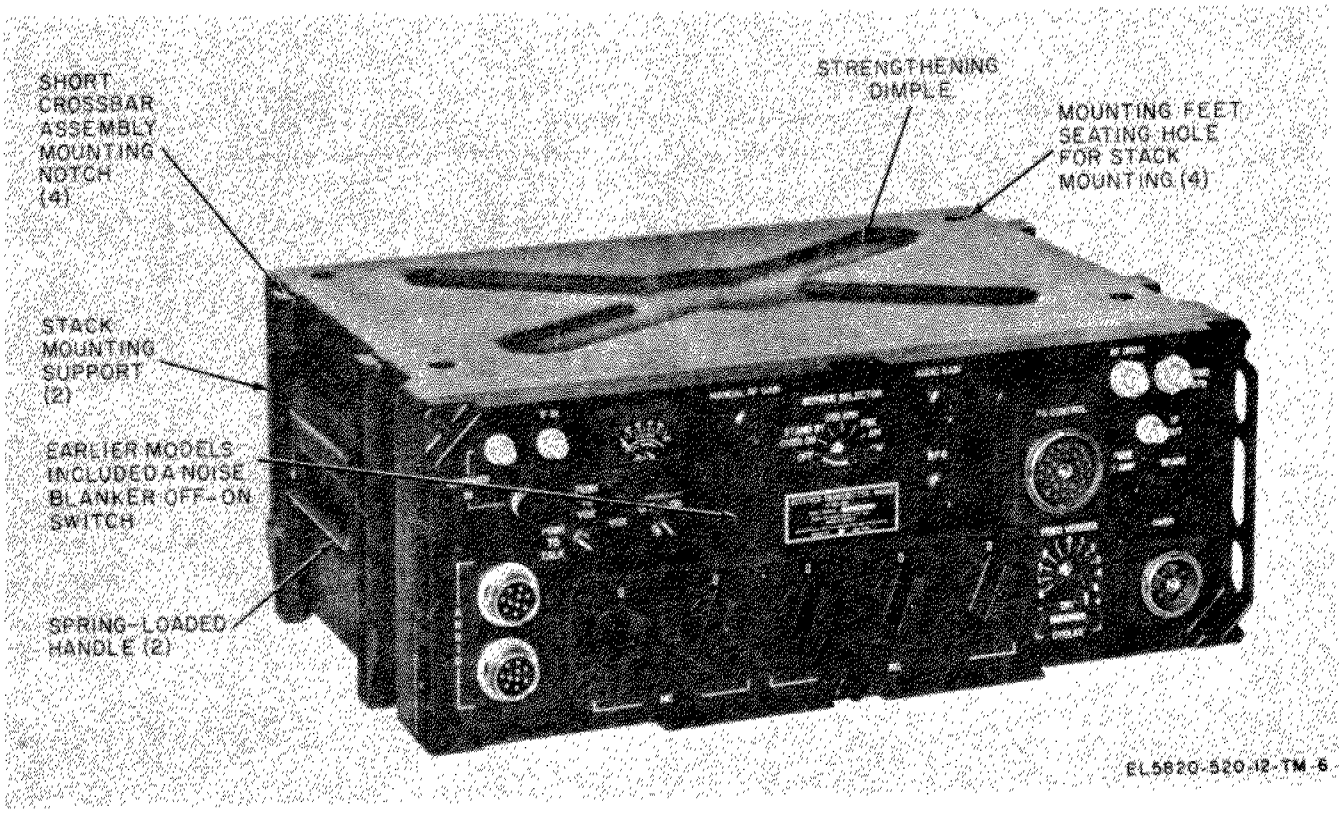


Figure 1–5. Receiver-Transmitter, Radio RT–662/GRC.

and meters, and power input and output connectors are mounted on the RT-662/GRC front panel. The RT-662/GRC front panel is secured to the case by six captive Allen screws. The RT-662/GRC has a self-contained power supply consisting of a dc-to-dc converter, and a 20-volt voltage regulator, to produce the required dc operating voltages from the primary power source (vehicular generating system).

b. Spring-loaded handles, one on each side of the case, are provided to facilitate hand-carrying. The top surface of the case is indented in four places to provide a secure seating for the matching feet of the AM-3349/GRC-106 when the RT-662/GRC and AM-3349/GRC-106 are stack-mounted. Nylon slides (fig. 1-6), one on each side, are secured to the inside of the case sidewalls, facilitating chassis withdrawal for inspection, adjustment, and maintenance. Stack-mounting supports are on the outside of the case sidewalls, providing the necessary rigidity for stack mounting. The stack-mounting supports are notched to provide an attachment point for the crossbar assemblies when the RT-662/GRC is installed in a tracked vehicle. Two chassis shock pins are mounted near the bottom of the inside rear wall of the case, to reduce damage to the RT-662/GRC that could result from severe vibration, bounce, or ballistic shock. Four feet are secured to the bottom of the case to enable the RT-662/GRC to be securely seated on the MT-3140/GRC-106.

c. Each of the 28,000 incremental operating frequencies of the RT-662/GRC are automatically selectively tuned by using a digital tuning system. Selection of an operating frequency is accomplished by rotating the front panel MC and KC controls until the digits of the selected frequency are displayed in the small windows above the controls. Rotating the MC and the KC controls also initiates the generation of a tuning code that is applied to the AM-3349/GRC-106 to broadband tune automatically to the selected operating band.

1-9. Description of RT-834/GRC

The RT-834/GRC (fig. 1-7) is basically similar to the RT-662/GRC. The RT-834/GRC has the additional circuitry of 100-Hz incremental tuning for 280,000 operating frequencies and front-end protection which modifies its internal configuration. For purpose of mounting and deployment, it is identical with the RT-662/GRC (para 1-8).

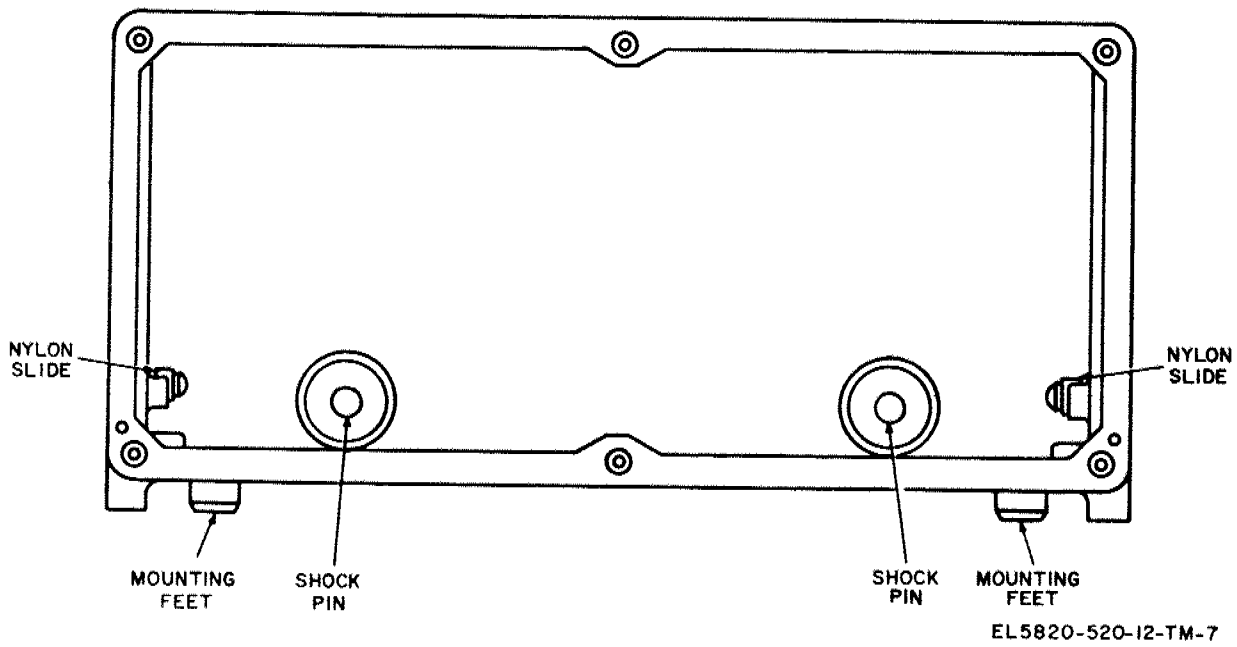


Figure 1-6. Receiver-Transmitter, Radio RT-662/GRC, case, front view.

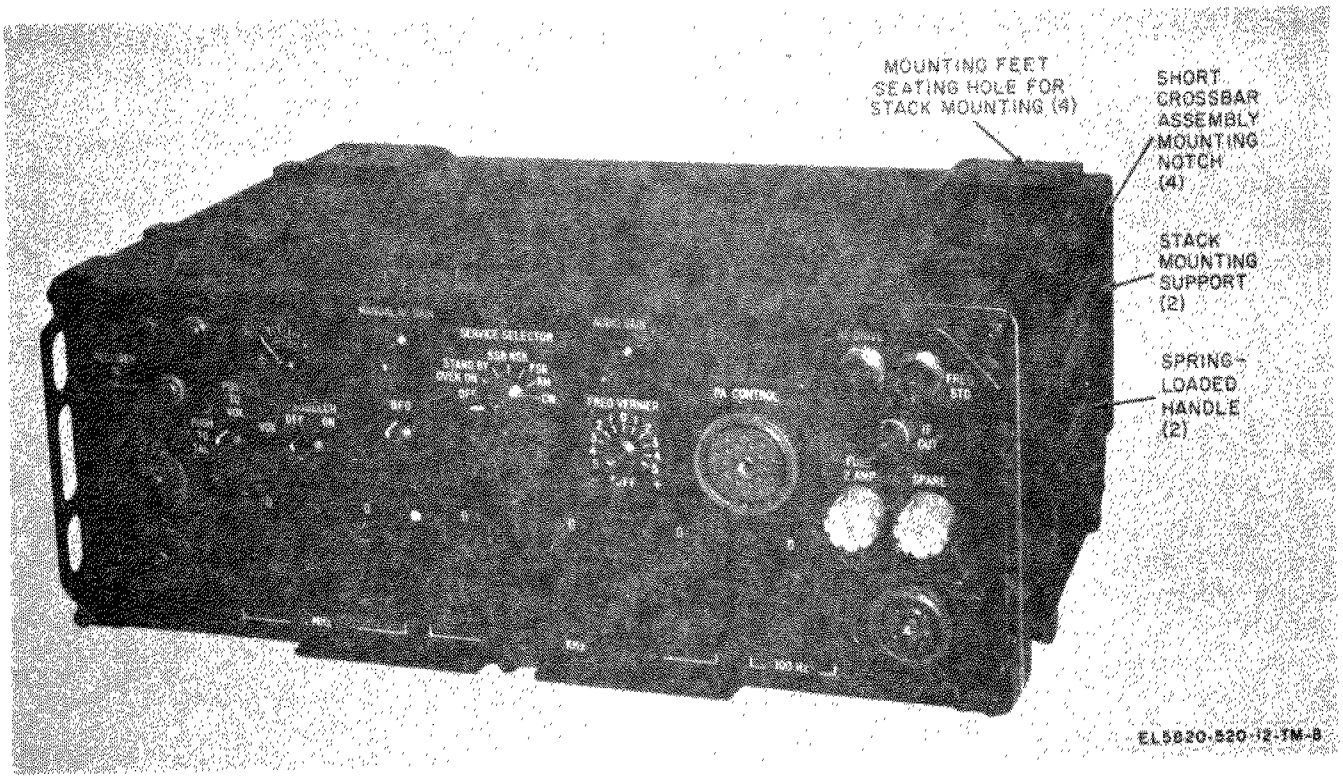


Figure 1–7. Receiver-Transmitter, Radio RT–834/GRC.

1–10. Description of Amplifier, Radio Frequency AM–3349/GRC–106

a. The AM–3349/GRC–106 (fig. 1–8) is a self-contained, linear radiofrequency (rf) power amplifier consisting of nine assemblies. Three of the assemblies are the front panel, chassis, and case. Six of the assemblies are mounted on the chassis to which the front panel is secured. The front panel is secured to the case by six captive Allen screws. The case contains a dc-to-ac inverter for supplying the required alternating current (ac) operating voltages for tube filaments and the two blower motors. The front panel assembly includes a dc-to-dc converter for supplying the required dc operating voltages for the tube screens and plates in the transmit mode. Both the inverter and converter use the vehicle power supply for a primary power source. All controls and meters, and power, antenna, input, and output connectors are located on the front panel.

b. The AM–3349/GRC–106 uses an air-to-air heat exchanger assembly that requires an internal blower to transfer component heat to the heat exchanger (with front-to-rear airflow) and an external blower to transfer exchanger heat to the outside environment (with right-to-left airflow). The heat exchanger in the top of the case is connected to the internal assemblies through the air duct mounted on the inside rear wall of the case and the air ducts located on the inside top front of the case (fig. 1–9).

c. Spring-loaded handles, one on each side of the case, are provided to facilitate hand-carrying. Nylon slides, one on each side, are secured to the inside of the case sidewalls, facilitating chassis withdrawal for inspection, adjustment, or maintenance. Stack-mounting supports are secured to the outside of the case sidewalls, providing the necessary rigidity for stack mounting. The stack-mounting supports are notched to provide an attachment point for the crossbar assemblies of the MT–3140/GRC–106 (fig. 2–1) when the AM–3349/GRC–106 is installed in a ¼-ton vehicle. Two chassis shock pins are mounted near the bottom of the inside rear wall of the case to reduce damage to the AM–3349/GRC–106 that could result from severe vibration, bounce, or ballistic shock. Four mounting feet are secured to the bottom of the case to enable the AM–3349/GRC–106 to be securely seated on the RT–662/GRC or RT–834/GRC for stack mounting (¼-ton vehicles) or on the MT–3140/GRC–106 for individual unit mounting (tracked vehicles).

1-11. Description of Minor Components (fig. 1-2)

a. Loudspeaker, Dynamic LS-166/U. The LS-166/U consists of a permanent magnet speaker, a matching transformer, and a two-position output level switch housed in a metal case with a connecting cord. The cord is 5 feet long and terminates in 10-pin Connector, Plug, Electrical U-77/U.

b. Handset H-33(*)/PT. The H-33(*)/PT consists of a plastic case containing a 100-ohm carbon microphone element, a 300-ohm earphone, and a nonlocking push-to-talk switch. The retractable coil cord terminates in 10-pin Connector, Plug, Electrical U-77/U.

c. Headset, Electrical H-227/U. The H-227/U consists of two 300-ohm earphones, each having a soft rubber earpiece. The headphones are mounted to a thin metal headband, which is covered by a cushioning material and is adjustable to the contour of the operator's head.

d. Microphone, Carbon M-29B/U. The M-29B/U is an unidirectional, low-impedance (100-ohms), carbon-element, handheld microphone. It is inclosed in a plastic case and has a three-wire, retractable cord (5 feet long) terminating in 10-pin Connector, Plug, Electrical U-77/U on one end and a push-to-talk switch on the other.

e. Key, Telegraph KY-116/U. The KY-116/U is a hand-keying device provided with an adjustable metal band that can be placed around the operator's upper leg. The KY-116/U is equipped with four brass screws for mechanical adjustments and two brass screws for connection through Electrical Special Purpose Cable Assembly CX-1852/U.

1-12. Description of Antenna Equipment

a. Antenna Group AN/GRA-50. The AN/GRA-50 (fig. 1-3) furnishes two Reeling Machines, Cable, Hand RC-432/G. On each RC-432/G is wound 160 feet of Antenna Wire Assembly CX-7303/G. Two Halyards MX-2706/G, Insulator IL-4/GRA-4, and RF Cable Assembly CG-678/U are also provided. A 156-foot measuring tape, calibrated in feet and frequency, is furnished to measure easily the required antenna length for operation at any given frequency. TM

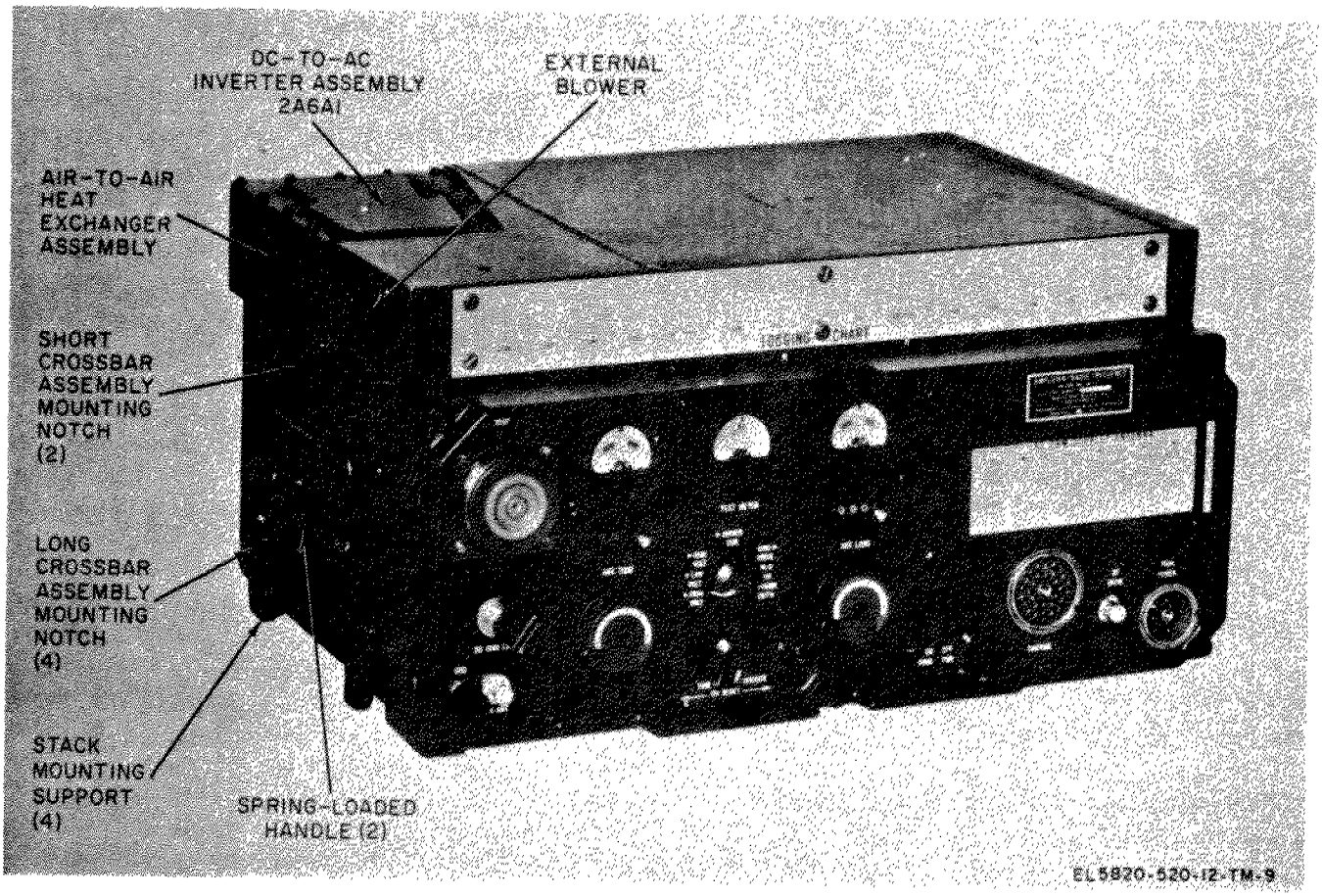


Figure 1-8. Amplifier, Radio Frequency AM-3349/GRC-106, front oblique view.

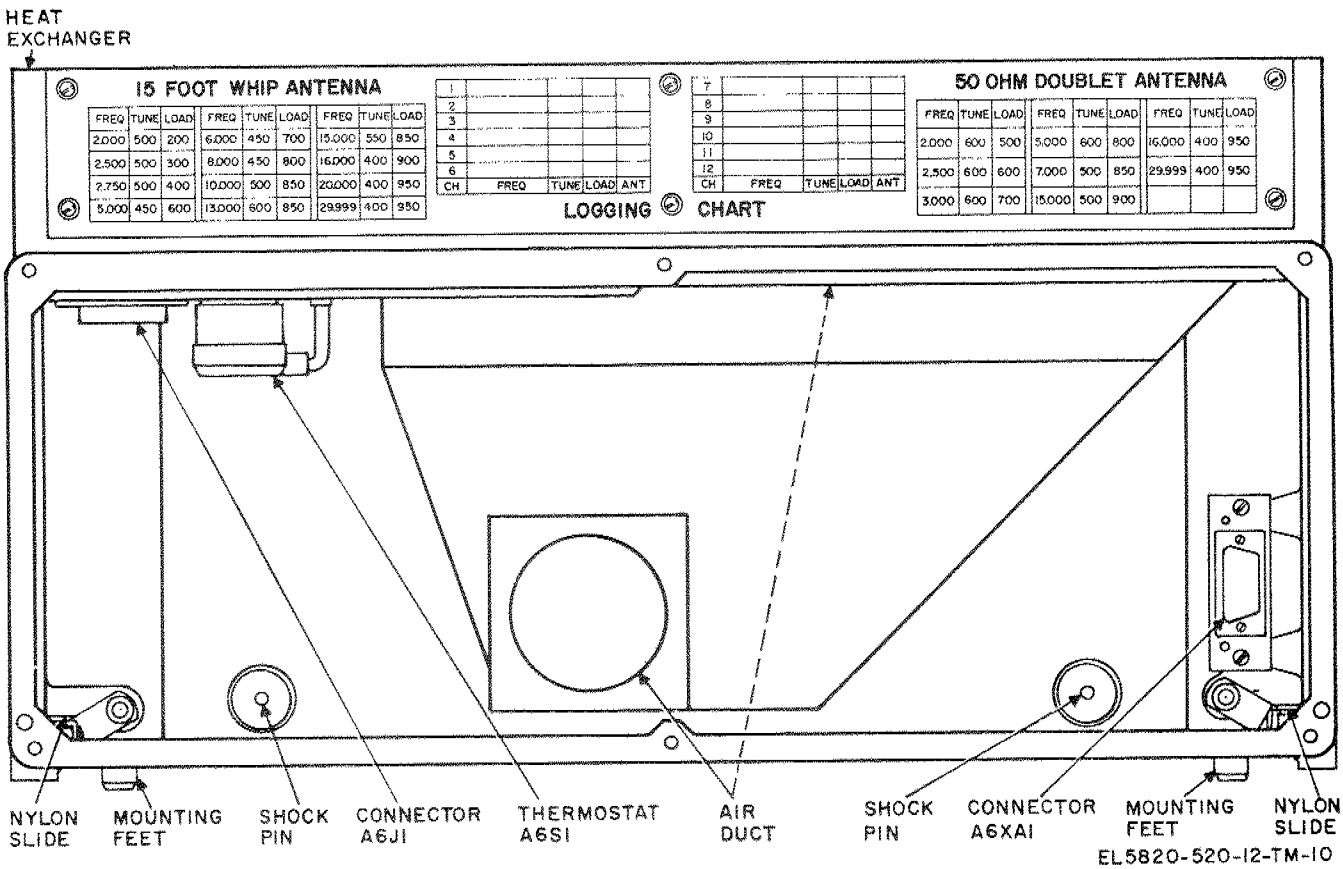


Figure 1–9. Amplifier, Radio Frequency AM–3349/GRC–106, case, front view.

11–5820–467–15 provides all the information concerning functioning, installation, and maintenance of the AN/GRA–50. Bag BG–175 is used to store all the components of the AN/GRA–50 when it is not being used.

b. Whip Antenna. The 15-foot whip antenna consists of three mast sections MS–116–A, one mast section MS–117–A, one mast section MS–118–A, and mast base AB–652/GR (fig. 1–4). The lower part of the 15-foot whip antenna is made up of three of the MS–116–A's, one of which fits into the AB–652/GR; the MS–117–A fits into the top of the MS–116–A; and the MS–118–A fits into the MS–117–A. The AB–652/GR is mounted to the mast bracket secured to the vehicle. Two 20-foot braided filament ropes are provided to hold the 15-foot whip antenna down when the AN/GRC–106(*) is not in use. The antenna cover is furnished to put over the upper portion of the AB–652/GR and the lower section of the MS–116–A to reduce shock hazard if anyone comes in contact with the antenna. The antenna cover is secured in place with the brass antenna sheath clamp. The sheath clamp keeps the antenna cover from splitting when the whip antenna lashes about whip-like.

c. Adapters. Connector Adapter UG–306B/U and Connector Adapter UG–201A/U are used for adapting coaxial cables with BNC-type connectors to the 50 OHM LINE connector on the AM–3349/GRC–106 front panel. This allows compatibility with doublet antenna other than the AN/GRA–50 and with the test equipments used to maintain the AN/GRC–106(*).

1–13. Description of Mounting Equipment Components
(fig. 1–10)

a. Mounting MT–3140/GRC–106. The MT–3140/GRC–106 is used to seat and secure the RT–662/GRC or RT–834/GRC and AM–3349/GRC–106, in a stack-mounted configuration, to the sponson of a ¼-ton vehicle. The 12 mounting holes are provided to secure the MT–3140/GRC–106 to the vehicle. Four of the holes are not used, except in tracked vehicle installations. The MT–3140/GRC–106 is secured to the mounting plate

(which is supplied as a part of the vehicle installation kit and is secured to the sponson of the ¼-ton vehicle). Four seating holes are provided for the placement of the mounting feet, located on the bottom of the RT-662/GRC or RT-834/GRC case. When stack-mounted, the RT-662/GRC or RT-834/GRC, and the AM-3349/GRC-106 are secured to the MT-3140/GRC-106 by engaging the two long crossbar assemblies with the notches in the mounting supports on the AM-3349/GRC-106 case sidewalls. The two long crossbar-welded assemblies are engaged, using the two release handles on the front of the MT-3140/GRC-106. Two insulators are mounted on the left long crossbar assembly to provide the required insulation between Lead, Electrical CX-10171/U and the chassis of the AN/GRC-106.

b. Lead, Electrical CX-10171/U. This cable connects the 15-foot whip antenna to the WHIP connector on the AM-3349/GRC-106 front panel. One end has a male connector, with detent, that is inclosed in an insulated metal shell. This shell provides a rugged mechanical connection, prevents moisture and dirt entry, and protects the operator from the AM-3349/GRC-106, 10,000-volt RF output. The other end of the cable is stripped and connected to the binding post on the end of mast base AB-652/GR (fig. 1-4). As shipped, the cable is 6 feet long and is cut to proper length at the time of installation. It must be spaced a minimum of 1 inch from any metal portion of the vehicle when installed.

c. Cable Assembly, Special Purpose, Electrical CX-10071/U. These two cables connect the primary power (27 volts dc) from the vehicle storage battery to the POWER connector on the RT-662/GRC or RT-834/GRC front panel and the PRIM. POWER connector on the AM-3349/GRC-106 front panel. The CX-10071/U cables are 10 feet long with a connector on one end. They are cut to proper lengths at the time of installation.

d. Cable Assembly, Special Purpose, Electrical CX-10099/U. The CX-10099/U interconnects the control circuits of the RT-834/GRC or RT-662/GRC and the AM-3349/GRC-106. The connection is made between the PA. CONTROL and CONTROL connectors when the units are stack mounted. It is a metal bellows-covered, 20-conductor cable. The CX-10099/U is 7 inches long with a male connector on both ends.

e. Bonding Jumper. The bonding jumper (4, fig. 1-10) connects ground from the AM-3349/GRC-106 spring-loaded GROUND binding post to the chassis of the vehicle where the AN/GRC-106 is installed. The bonding jumper is made up of 2 feet of braided filament with a lug on one end.

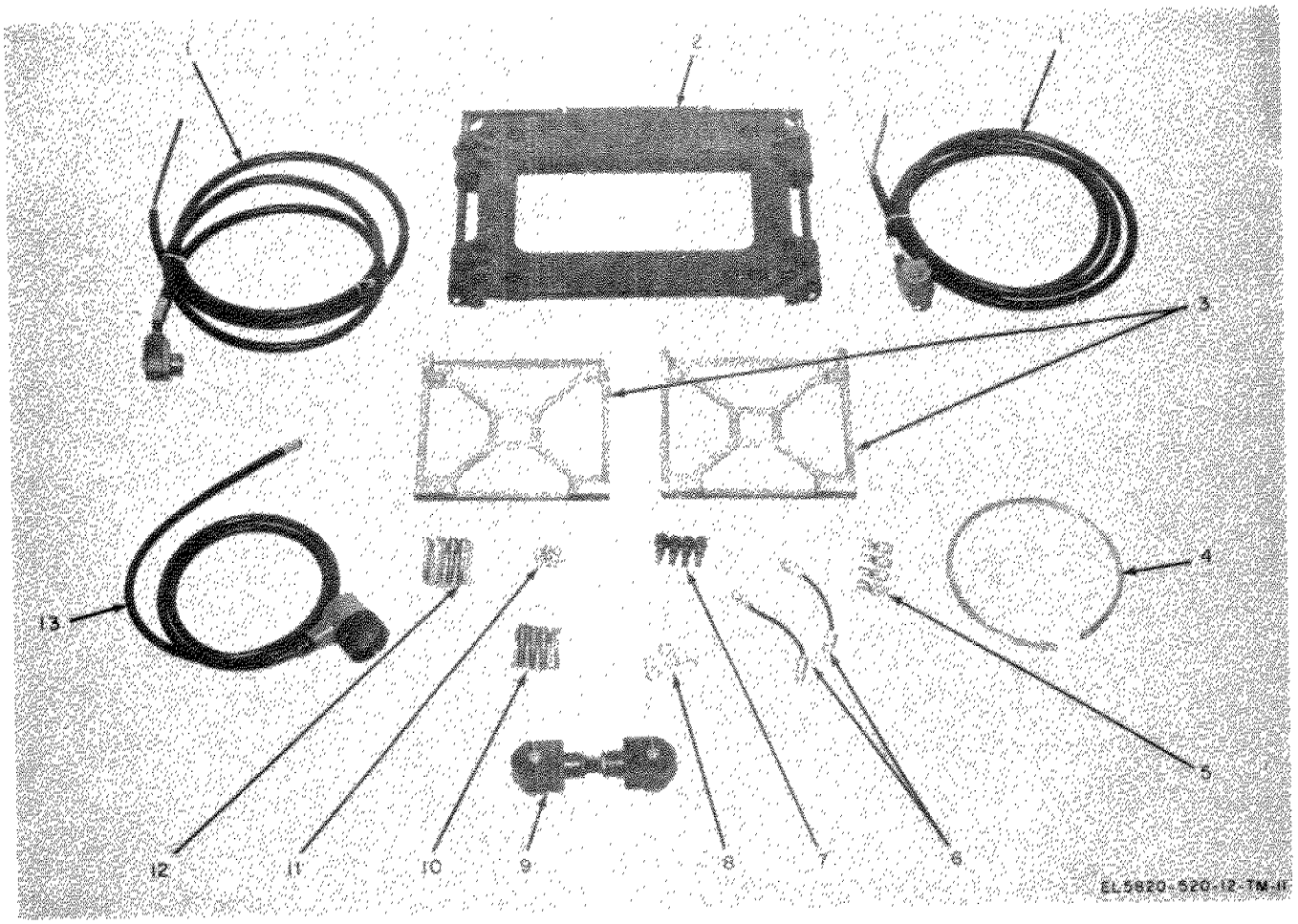
f. Cable Assembly, Radio Frequency CG-409H/U. These two cables connect RF power output and input from the RT-834/GRC or RT-662/GRC transmitter portion to the AM-3349/GRC-106 input through the RF DRIVE connectors on each unit; and from the AM-3349/GRC-106 to the RT-662/GRC or RT-834/GRC through the RCVR. ANT. and RECEIVER IN connectors, respectively. A coaxial connector is secured to each end of the cable.

1-14. Equipment Application (fig. 1-11)

a. Transmitting Signal Paths. The AN/GRC-106 is capable of transmitting ssb, compatible am., and cw signals. Fsk and nsk transmissions are possible with the use of suitable radioteletypewriter terminal equipment.

(1) *Ssb transmission.* Voice signals developed in Microphone, Carbon M-29B/U or Handset H-33(*)/PT are applied to the transmitter portion of the RT-834/GRC or RT-662/GRC. Within the transmitter, these voice signals are amplified and used to modulate a 1.75-MHz local carrier in a balanced modulator to provide a 1.75-MHz intermediate frequency (IF). The resulting modulated signal is a double-sideband signal with a suppressed carrier. The signal is filtered to allow only the usb portion, between 300 and 3,500 Hz above the original carrier frequency, to pass. The usb signal is amplified further and translated by a triple conversion process to the desired RF operating frequency. This RF signal is applied to the power amplifier portion of the AM-3349/GRC-106, where the level is raised to a nominal 400 watts peak envelope power (pep). The RF signal is then applied to the AM-3349/GRC-106 antenna coupler portion, where it is routed through switching and impedance-matching circuits for transmission to the antenna being used. The antenna coupler matches the 15-foot whip or Antenna Group AN/GRA-50 to the power amplifier portion to insure efficient transfer of power with linear operation.

(2) *Compatible am. transmission.* The voice signals are developed and transmitted for compatible am. operation the same as ssb operation ((1) above), with one exception—before the



1 Cable Assembly, Special Purpose, Electrical CX–10071/U (10 feet 0 inch)
2 Mounting MT–3140/GRC–106
3 Crossbar, welded assembly, long (2)
4 Bonding jumper
5 Lug, terminal for ⅜-inch stud (4)
6 Cable Assembly, Radio Frequency CG–409H/U (8 inch) (2)
7 Mounting hardware for crossbar, welder assembly, long (4)
8 Lockwasher, internal and external tooth for ¼-inch diameter bolt (8)
9 Cable Assembly, Special Purpose, Electrical CX–10099/U (7 inch)
10 Capscrew, hexagonal-head, ¼–28, 2.0 inch (8)
11 Nut, plain hexagonal, ¼–28 (8)
12 Capscrew, hexagonal-head, ¼–28, 2.5 inch (8)
13 Lead, Electrical CX–10171/U (6 feet 0 inch)

Figure 1–10. Radio Set AN/GRC–106(*), mounting equipment parts.

triple conversion process, the local carrier is reinserted into the signal, resulting in a usb RF output signal with a reduced carrier.

(3) *Cw transmissions.* In cw operation, each time the KY–116/U is closed, a 2-kHz generator is turned on in the RT–662/GRC or RT–834/GRC transmitter portion. This 2-kHz signal is used to modulate the local carrier, and the resulting 1.75-MHz IF signal is filtered and translated to the desired RF by the triple conversion process the same as ssb operation ((1) above). The transmitted RF is always 2 kHz above the selected RF and is turned on and off by the KY–116/U.

(4) *Fsk transmissions.* In fsk operation, a coded signal is applied to the RT–662/GRC or RT–834/GRC transmitter portion by the radio-teletypewriter terminal equipment. This coded signal consists of a nominal 2-kHz tone that is effectively shifted ±425 Hz (850 Hz shift). This results in two audio tones, one of 1.575 kHz and the other of 2.425 kHz, turned on and off at a particular keying rate. These two audio tones are processed and transmitted the same as ssb signals ((1) above). The resulting RF output is two signals, one of 2.425 kHz above the front panel selected operating frequency and the other of 1.575 kHz above the front panel selected oper-

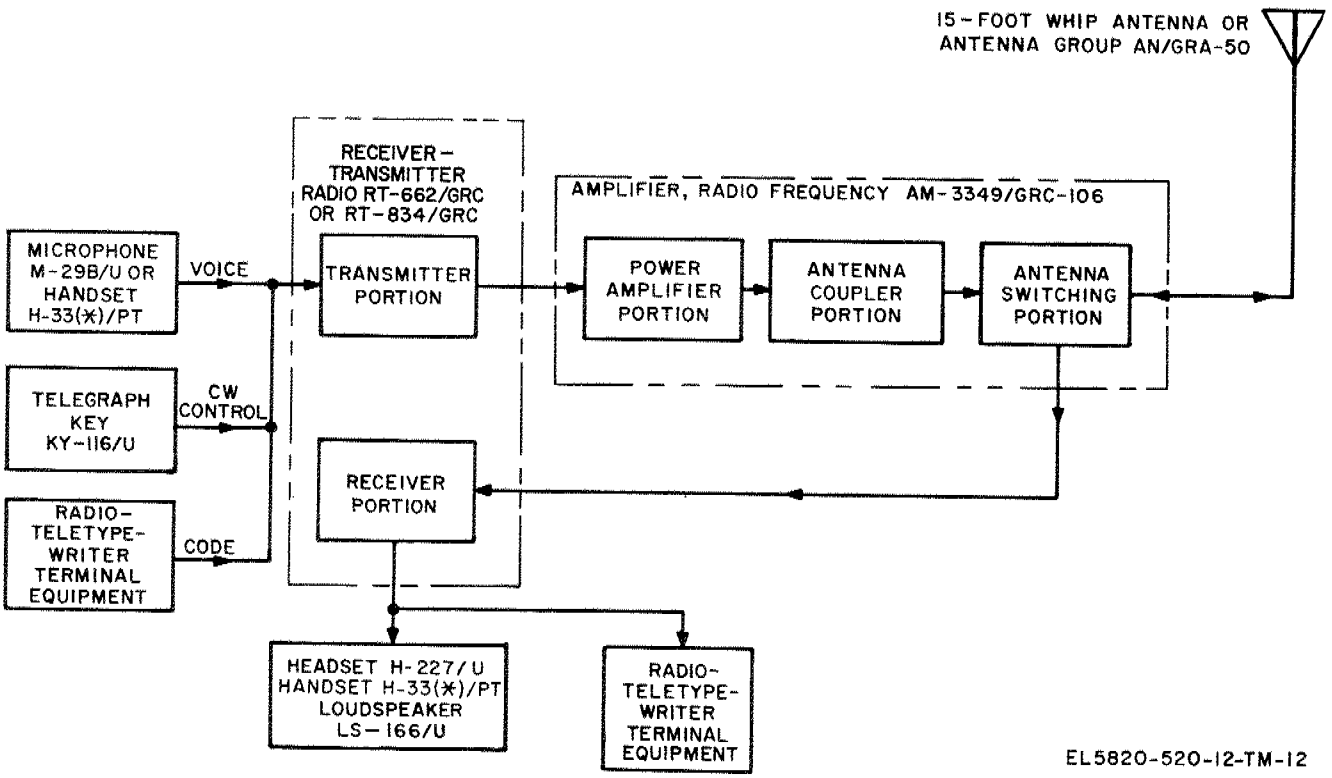


Figure 1-11. Radio Set AN/GRC-106(*), equipment application.

ating frequency. The rate at which these signals are turned on and off determines the code.

(5) *Nsk transmission.* The nsk operation is exactly the same as fsk operation ((4) above), except that the shift is 85 Hz instead of 850 Hz and the RF output frequencies are 2762.5 and 2847.5 Hz above the front panel selected operating frequency.

b. Receiving Signal Paths. The AN/GRC-106(*) is capable of receiving ssb, compatible am., cw, conventional double-sideband am., and with suitable radioteletypewriter terminal equipment, fsk and nsk signals.

(1) *Ssb reception.* The ssb signals present at the 15-foot whip antenna or the AN/GRA-50 are applied through the AM-3349/GRC-106 antenna switching portion to the RT-662/GRC or RT-834/GRC receiver portion. The receiver portion amplifies the incoming RF signal, converts it to a 1.75-MHz IF by a triple heterodyning process, and demodulates the signal by inserting it and a 1.75-MHz local carrier into a product detector. The resulting audio signals then are amplified to a 10-milliwatt (mw) level for monitoring with the H-227/U or H-33(*)/PT and to a 2-watt level for monitoring with the LS-166/U.

(2) *Compatible am.* Compatible am. (usb and carrier) signals are processed the same as the ssb signals ((1) above).

(3) *Conventional double-sideband am. reception.* Conventional double-sideband am. signals are converted to a 1.75-MHz IF the same as ssb signals ((1) above). With the receiver-transmiter tuned to the exact carrier frequency of the received signal, the lower-sideband (lsb) portion and carrier of the received signal are suppressed by a crystal filter. The remaining usb portion is applied to a product detector along with the 1.75-MHz local carrier to accomplish the necessary demodulation. The resulting audio signals are amplified to a 10-mw level for monitoring by an H-227/U or H-33(*)/PT, and to a 2-watt level for monitoring by an LS-166/U.

(4) *Cw reception.* The cw signals are processed the same as ssb signals ((1) above), except that a frequency of 1.752 MHz $\pm$0.005, generated by a variable beat-frequency oscillator (bfo), is inserted into the product detector instead of the 1.75-MHz local carrier. This allows the operator to adjust the audio cw tone or to reduce co-channel cw interference by nulling out the other signal.

(5) *Fsk and nsk reception.* The fsk and nsk

signals are processed in the same manner as ssb signals ((1) above). The receiver output signals are applied to the radioteletypewriter terminal equipment where they are converted for the teletypewriter printout.

1-15. Differences in Models

Differences exist between Radio Set AN/GRC-106 and Radio Set AN/GRC-106A. These differences are listed in table 1-2.

Table 1-2. Differences in Radio Sets AN/GRC-106 and AN/GRC-106A

Radio Set AN/GRC-106	Radio Set AN/GRC-106A
1. The AN/GRC/106 uses Receiver-Transmitter, Radio RT-662/GRC.	1. The AN/GRC-106A uses Receiver-Transmitter, Radio RT-834/GRC.
2. The RT-662/GRC tunes in 1-kHz increments	2. The RT-834/GRC tunes in 100-Hz increments.
3. The RT-662/GRC has 5 tuning controls which can be used to select any one of 28,000 operating frequencies.	3. The RT-834/GRC has 6 tuning controls which can be used to select any one of 280,000 operating frequencies.
4. Early model RT-662/GRC (Serial numbers 1 through 220) have a NOISE BLANKER OFF ON switch.	4. The addition of the 100-Hz control on the front panel uses the space where the FREQ VERNIER is located on the RT-662/GRC. The FREQ VERNIER is located where the BFO control is placed on the RT-662/GRC. The BFO control is located in the space previously used by a NOISE BLANKER switch on serial numbered 1 through 220 RT-662/GRC.
5. Starting with serial number 221 the space previously used by the NOISE BLANKER switch on the front panel is not used.	

CHAPTER 2
INSTALLATION

WARNINGS

1. Operation and maintenance personnel should be familiar with the requirements of TB SIG 291 before attempting installation or operation of Radio Set AN/GRC-106(*). Injury or DEATH could result from failure to comply with safe practices.
2. To prevent injury to personnel or equipment, the aluminum support poles for the Radar Scattering Camouflage Screen NSN 1080-00-103-1246, must be positioned a minimum of 4 feet from the antenna.

CAUTION

In installations where radar scattering camouflage screen is being used, remove garnish (vinyl) material for an 8-inch radius centered about the whip antenna, leaving the cord netting intact for mechanical strength. The antenna must be in the center of the garnish free area, to prevent the AN/GRC-106(*) radiating rf energy, from destroying the camouflage screen.

NOTES

1. During installation of radar scattering camouflage screen, cut all but one side of the garnish material within an 8-inch radius of the antenna to form a flap. Do not cut the netting. Lay the garnish flap back to expose the netting, and temporarily secure the flap to the screen with plastic straps provided in the repair kit (NSN 1080-00-108-1114).
2. Place the antenna in the center of the exposed netting and assure a minimum of 8 inches between the antenna and any portion of the garnish material. Place all aluminim support poles, a minimum distance of 4 feet from the radio antenna.
3. After the AN/GRC-106(*) is removed from underneath the screen system, make necessary repairs to the screen by removing the plastic straps holding down the garnish flap. Reposition the garnish flap in its original position and secure it in place with plastic straps.

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

2-1. Unpacking

Unpack the equipment as follows:

CAUTION

Be careful when cutting so that equipment packed in containers is not dented, scratched, or cut.

a. Cut and fold back metal straps. Use a pair of tin shears or a large pair of diagonal cutting pliers.

b. Cut tape and fold back the packing case flaps.

c. Remove the packages and packing material from the case.

d. Open the packages and remove the contents.

2-2. Checking Unpacked Equipment

a. Inspect the equipment for damage that may have occurred during shipment. If the equipment has been damaged, fill out and forward DD Form 6 (para 1-3*b*).

b. Check to see that the equipment is complete as listed on the packing slip. If a packing slip is not available, check the equipment against the list given in paragraph 1-6. Report all discrepancies in accordance with TM 38-750. The equipment should be placed in service even though a minor assembly or part that does not affect proper functioning is missing.

c. Check to see whether the equipment has been modified. If the equipment has been modified, the MWO number will appear on the front panel, near the nomenclature plate. Check also to see whether all MWO's current at the time the equipment is placed in use have been applied.

NOTE

Current MWO's applicable to the equipment are listed in DA Pam 310-7.

d. Check the latest issue of DA Pam 310-4 and its latest changes to see whether you have the latest editions of all applicable maintenance literature. (Equipment issued by depots may have been in stock for some time and may contain superseded manuals.)

2-3. Siting

The best location for Radio Set AN/GRC-106(*) depends on the type of vehicle or shelter, and the terrain. The AN/GRC-106(*) will have a greater effective range if the antenna is high and clear of obstructions. Valleys and other low places are poor locations for radio reception and transmission, because the surrounding high terrain absorbs RF energy. Clear, strong signals cannot be expected if the AN/GRC-106(*) is operated under, or close to, steel bridges, underpasses, powerlines, and power units. If the tactical situation permits, choose a location on a hilltop or other high place. A flat surrounding terrain is desirable. Generally, reception and transmission are better over water than over land.

Section II. INSTALLATION INSTRUCTIONS

2-4. Tools Required for Installation

The tools required for installation of Radio Sets AN/GRC-106(*) must be selected according to the type of installation and the kind of vehicle to be used. Two 1/2- by 9/16-inch openend wrenches (supplied) and a set of Allen wrenches will be required for any installation.

NOTE

Refer to SB 11-131 for Federal stock number of installation unit required.

2-5. Typical Installation of Radio Set AN/GRC-106(*)

a. The installation of the AN/GRC-106(*) includes the attachment of the MT-3140/GRC-106 and mast base AB-652/GR to the vehicle to be used. After selecting the appropriate installation unit, position and attach these two items in accordance with the installation unit instructions. After the MT-3140/GRC-106 and AB-652/GR have been secured, install the AN/GRC-106(*) as outlined in *b* through *l* below.

b. Grasp one release handle on the MT-3140/GRC-106 in each hand; simultaneously pull the handles forward from their securing holes and rotate them toward the outside of the unit. An adjusting nut has been secured to both rear sides of the MT-3140/GRC-106, and one adjusting nut (fig. 2-1) comes with each of the two crossbar assemblies. Screw the adjusting nut on one crossbar assembly to the beginning of its threaded shaft. Place the head of the adjusting nut on the crossbar assembly into the front hole provided (one on the right and one on the left) on the MT-3140/GRC-106. Push the crossbar assembly toward the back of the MT-3140/GRC-106 to engage the rear threaded shaft of the crossbar assembly with the rear adjusting nut on the MT-3140/GRC-106. Turn the adjusting nuts until the set is held securely when the release handles are turned and placed in their respective holes. Secure the jamnuts, using one of the opened wrenches supplied (1/2 by 9/16 inch).

c. Repeat instructions in *b* above for the other crossbar assembly.

d. Position the RT-662/GRC or the RT-834/GRC on the MT-3140/GRC-106 so that the feet on the bottom of the RT-662/GRC or RT-834/GRC set securely in the holes in the MT-3140/GRC-106.

e. Position the AM-3349/GRC-109 on top of the RT-662/GRC or RT-834/GRC or on a separate MT-3140/GRC-106, depending on the type of installation. Set the feet on the bottom of the AM-3349/GRC-106 into the appropriate holes.

NOTE

For installations requiring side-by-side mounting of the units, two sets of shorter crossbar assemblies and another MT-3140/GRC-106 are required.

f. Position the crossbar assemblies so that they are resting against the sides of the unit. Using one of the 1/2- by 9/16-inch openend wrenches supplied with the MT-3140/GRC-106, alternately tighten the two adjusting screws on each crossbar assembly until the respective crossbar is just touching the bottom of the mounting notch. Tighten each adjusting nut one-quarter turn. If necessary, tighten the Allen screws in each pivot assembly until a point of resistance is reached.

g. To insure that the tension on the crossbar assemblies is correct, grasp one release handle in

each hand. Simultaneously pull the handles forward and rotate them toward the outside of the unit. Rotate the handles back and push them into the slots in the front of the MT-3140/GRC-106. If tension is correct, no binding will occur during this procedure. and the equipment will be secured on the MT-3140/GRC-106.

h. If the release handles cannot be rotated as described in *g* above, alternately loosen the two adjusting nuts on each crossbar until the procedure in *g* above can be performed properly.

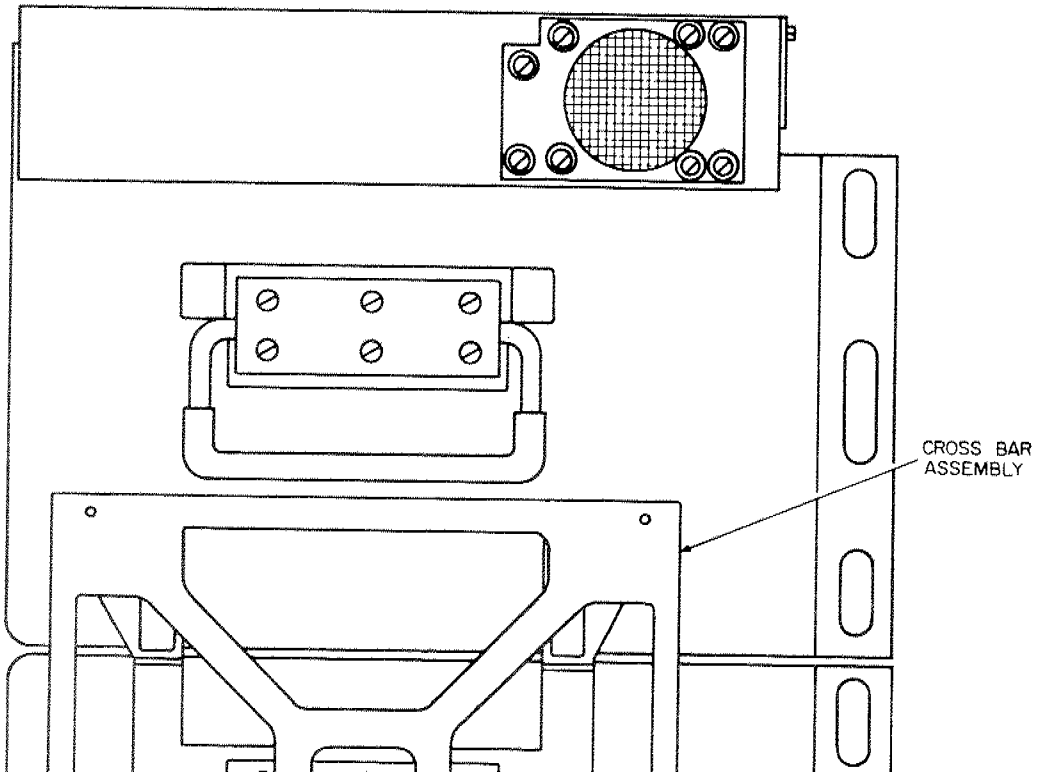
i If the equipment is not secured, alternately tighten the two adjusting nuts on each crossbar until the procedure in *g* above can be performed properly.

j. Pull the release handles forward and simultaneously rotate them toward the outside of the unit. If the friction is correct, the crossbar assemblies will move out from the case as the release handles are rotated. Enough friction should be present so that the crossbar assemblies and release handles remain where they are released. If the friction is not enough, adjust the Allen head screw in each pivot assembly until sufficient friction is obtained.

CAUTION

Do not tighten the Allen head screws so that the cam will not move within the pivot assembly.

k. After the friction has been checked and adjusted (*j* above), rotate the release handles simultaneously toward each other and push them into the respective slots in the front of the MT-3140/GRC-106.


CROSS BAR
ASSEMBLY

2-6. Typical Interconnection

(fig. 2-1)

Set the AM-3349/GRC-106 PRIM. POWER switch and the RT-662/GRC or RT-834/GRC SERVICE SELECTOR switch at OFF.

a. Install two Insulators IN-104 or equivalent in the tapped holes in the crossbar assembly. Thread Lead, Electrical CX-10171/U (6 feet) through the insulators. Cut the cable to length and attach in accordance with the installation unit instructions.

b. To assemble a 15-foot whip antenna, screw two mast sections MS-116-A together, screw mast section MS-117A into one mast section MS-116-A, and screw mast section MS-118-A into mast section MS-117-A. Attach the remaining mast section MS-116-A to mast base AB-652/GR in accordance with the installation kit instructions.

c. Slide the antenna cover down over the MS-116-A attached to the AB-652/GR as far as it will go. Secure the cover in place with the brass antenna sheath clamp at the top of the cover. Screw the assembled mast sections to the MS-116-A that is attached to the AB-652/GR.

d. To install Antenna Group AN/GRA-50 (doublet), refer to TM 11-5820-467-15. Connect the AN/GRA-50 rf transmission cable to the AM-3349/GRC-106 50 OHM LINE receptacle.

e. To install two Cable Assemblies, Special Purpose, Electrical CX-10071/U (10 feet), connect one each to the POWER and PRIM. POWER connectors on the RT-662/GRC or RT-834/GRC and AM-3349/GRC-106 front panels, respectively. Dress the two cables along the vehicle chassis in accordance with the installation unit instructions.

(1) Cut the cables to required length. Solder either two terminal lugs or power connector to cable leads. Connect one terminal lug to the positive center conductor and one terminal lug to the negative braided loom shield. Connect either the

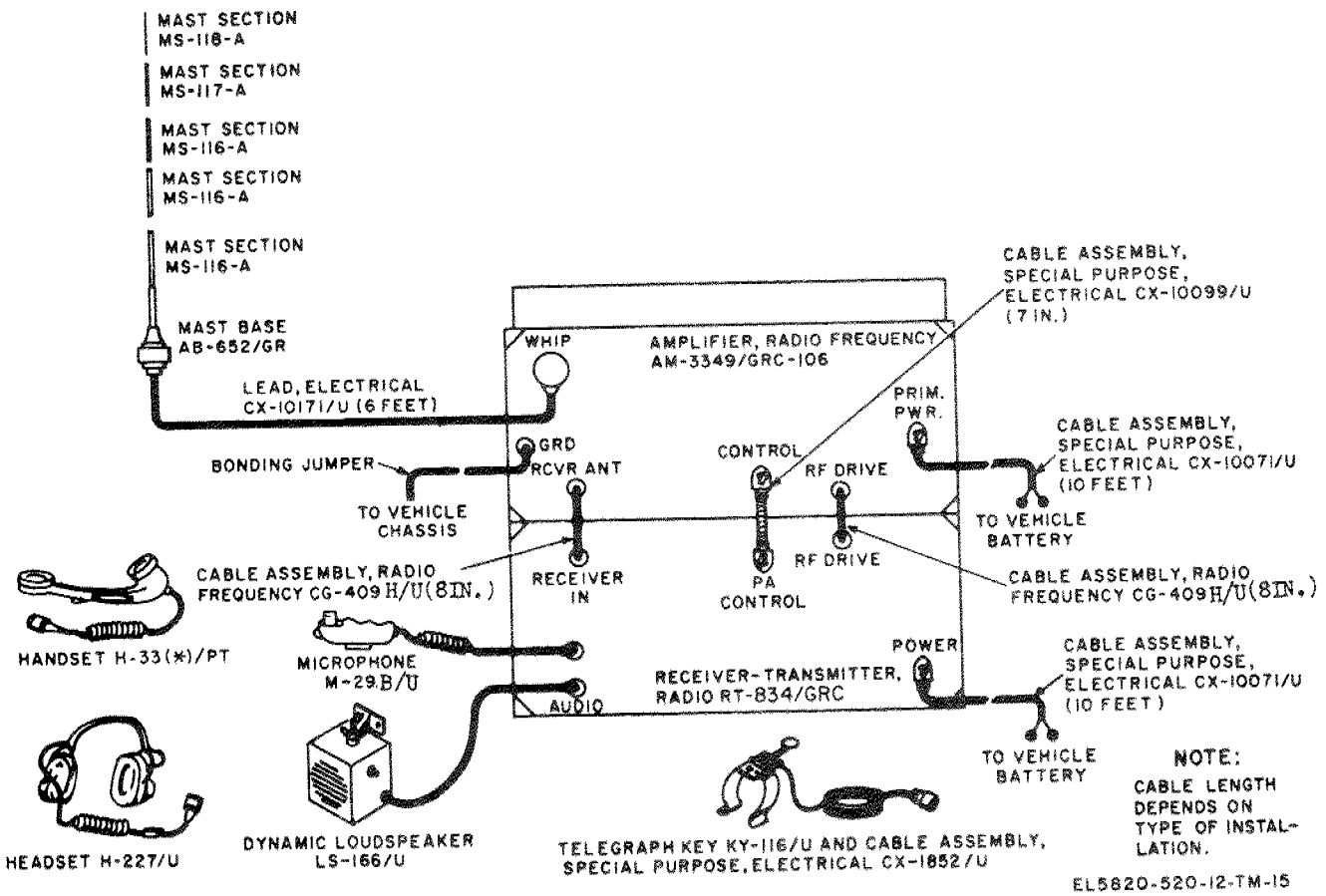


Figure 2-2. Radio Set AN/GRC-106(*), typical cording diagram.

terminal lugs or the power connector to the dc source.

(2) The two CX–10071/U can be connected to a 27-volt dc power source by the procedures given below—

(*a*) Directly to vehicle battery.

(*b*) To vehicle battery through Electrical Transient Suppressor MX–7778/GRC, TM 11–5915–223–12.

(*c*) To dc power source such as PP–4763A/GRC, TM 11–5820–765–12.

Control, indicator or connector	Function
	SSB NSK — All standby functions repeated. Receive and transmit switching controlled by M-29B/U or H-33(*)/PT push-to-talk switch in conjunction with vox switch, or ancillary radioteletypewriter terminal equipment. Provides squelch and vox capability. Permits usb voice transmission and receptions to be made. Permits nsk transmission and receptions to be made when using the appropriate ancillary radioteletypewriter terminal equipment.
	FSK — All standby functions repeated. Receive and transmit switching controlled by ancillary radioteletypewriter terminal equipment. Squelch and vox capability disabled. Permits fsk transmissions and receptions to be made using the appropriate ancillary radioteletypewriter terminal equipment.
	AM — All standby functions repeated. Receive and transmit switching is controlled by M-29B/U or H-33(*)/PT push-to-talk switch in conjunction with vox switch. Permits usb voice signals with a reinserted carrier (compatible am.) to be transmitted and received. Conventional doublesideband signals also may be received. Provides squelch and vox capability.
	CW — All standby functions repeated. Bfo circuit is energized. External modulation capability disabled. Squelch and vox disabled. Energizes 2-kHz generator. Cw transmission is accomplished by keying KY-116/U.
RECEIVER IN:	
Connector	Coaxial connector used for connecting the received signals routed through AM-3349/GRC-106.
Binding post	Spring-loaded post used for connecting a long wire antenna when the RT-662/GRC or RT-834/GRC is used only as a receiver.
IF IN connector	Coaxial connector used for connecting an external 1.75-MHz IF during transmit mode of operation (requires internal jumpering).
IF OUT connector	Coaxial connector used for connecting the internal third IF signal to external equipment (receive operation only).
RF DRIVE connector	Coaxial connector used for connecting the RF output from the RT-662/GRC or RT-834/GRC to RF input of AM-3349/GRC-106.
PA CONTROL connector	Used for connecting all controls functions to and from AM-3349/GRC-106.
FREQ STD connector	Coaxial connector used for connecting an external 5-MHz frequency standard or for connecting the internal 5-MHz standards to external equipment. *Note.* INT-EXT switch in the frequency standard module must be set at EXT if external standard is used.
POWER connector	Used for connecting the +27-volt dc primary power from the vehicle generating system.
AUDIO GAIN control	Adjusts the audio output levels.
BFO control	Varies bfo circuit output frequency.

CHAPTER 3

OPERATING INSTRUCTIONS

Section I. OPERATOR'S CONTROLS AND INDICATORS

3-1. Damage From Improper Control Settings

When operating Radio Set AN/GRC-106(*), observe the warnings and cautions.

WARNING

Dangerous voltages exist at the AM-3349/GRC-106 50-OHM LINE and WHIP antenna connectors. Be careful when working around the antenna or antenna connectors. Radiofrequency voltages as high as 10,000 volts exist at these points. Operator and maintenance personnel should be familiar with the requirements of TB SIG 291 before attempting installation or operation of Radio Set AN/GRC-106(*). Injury or DEATH could result from improper or careless operation.

NOTE

This section covers only items used by the operator. Items used by maintenance personnel are covered in instructions for the appropriate maintenance category.

CAUTIONS

1. Do not key the AN/GRC-106(*) until the tuning procedure (para 3-6) has been completed. Damage to the equipment may result. If the operating frequency is changed by at least a 100-Hz increment during operation, the equipment will automatically program to the new frequency and prevent the AM-3349/GRC-106 from being keyed until the HV RESET switch is set to TUNE and then back to OPERATE. This serves as a reminder to the operator that the ANT. TUNE and ANT. LOAD controls must be readjusted to match the antenna to the AM-3349/GRC-106 each time the operating frequency is changed.
2. Do not place any items on the top of the AM-3349/GRC-106 that will in any way obstruct airflow through the heat exchanger. Overheating and damage to the equipment may result.

3-2. Operator's Controls, Indicators, and Jacks

Controls and indicators on the RT-662/GRC and RT-834/GRC are shown in figures 3-1 and 3-2 and are listed in table 3-1. The controls and indicators on the AM-3349/GRC-16 are shown in figure 3-3 and are listed in table 3-2.

Table 3-1. RT-662/GRC and RT-834/GRC Controls, Indicators, and Connectors

Control, indicator or connector	Function
Note. Except where noted, controls, indicators, and connectors are common to both Receiver-Transmitters, Radio RT-662/GRC and RT-834/GRC.	
SERVICE SELECTOR switch	Selects mode of operation. *Switch position* — *Equipment response* OFF — No primary power applied. OVEN-ON — Primary power is applied. Frequency standard oven assembly is energized. STAND BY — Primary power is applied. AN/GRC-106(*) is initially inoperative, but ready to operate after a 60-second delay. Frequency standard oven assembly is energized. Initiates 60-second delay in AM-3349/GRC-106 when the AM-3349/GRC-106 PRIM. PWR switch is on.

Control, indicator or connector	Function
	SSB NSK ——— All standby functions repeated. Receive and transmit switching controlled by M-29B/U or H-33(*)/PT push-to-talk switch in conjunction with vox switch, or ancillary radioteletypewriter terminal equipment. Provides squelch and vox capability. Permits usb voice transmission and receptions to be made. Permits nsk transmission and receptions to be made when using the appropriate ancillary radioteletypewriter terminal equipment.
	FSK ——— All standby functions repeated. Receive and transmit switching controlled by ancillary radioteletypewriter terminal equipment. Squelch and vox capability disabled. Permits fsk transmissions and receptions to be made using the appropriate ancillary radioteletypewriter terminal equipment.
	AM ——— All standby functions repeated. Receive and transmit switching is controlled by M-29B/U or H-33(*)/PT push-to-talk switch in conjunction with vox switch. Permits usb voice signals with a reinserted carrier (compatible am.) to be transmitted and received. Conventional doublesideband signals also may be received. Provides squelch and vox capability.
	CW ——— All standby functions repeated. Bfo circuit is energized. External modulation capability disabled. Squelch and vox disabled. Energizes 2-kHz generator. Cw transmission is accomplished by keying KY-116/U.
RECEIVER IN:	
Connector ———	Coaxial connector used for connecting the received signals routed through AM-3349/GRC-106.
Binding post ———	Spring-loaded post used for connecting a long wire antenna when the RT-662/GRC or RT-834/GRC is used only as a receiver.
IF IN connector ———	Coaxial connector used for connecting an external 1.75-MHz IF during transmit mode of operation (requires internal jumpering).
IF OUT connector ———	Coaxial connector used for connecting the internal third IF signal to external equipment (receive operation only).
RF DRIVE connector ———	Coaxial connector used for connecting the RF output from the RT-662/GRC or RT-834/GRC to RF input of AM-3349/GRC-106.
PA CONTROL connector ———	Used for connecting all controls functions to and from AM-3349/GRC-106.
FREQ STD connector ———	Coaxial connector used for connecting an external 5-MHz frequency standard or for connecting the internal 5-MHz standards to external equipment. *Note.* INT-EXT switch in the frequency standard module must be set at EXT if external standard is used.
POWER connector ———	Used for connecting the +27-volt dc primary power from the vehicle generating system.
AUDIO GAIN control ———	Adjusts the audio output levels.
BFO control ———	Varies bfo circuit output frequency.
SQUELCH switch ———	In the ON position, the squelch circuits are energized, eliminating receiver background noise in the absence of received signals.
FREQ. VERNIER control ———	Provides for continuous frequency tuning of ±600 Hz about any 1-kHz increment in received mode of operation. *Note.* The FREQ VERNIER control on the RT-834/GRC provides continuous frequency tuning of ±600 Hz about any 100-Hz increment in receive mode of operation.
MANUAL RF GAIN control ———	Varies the sensitivity of the receiver circuits.
Signal level meter ———	When transmitting, a relative indication on RF output is provided. When receiving, a relative indication of the RF input signal level is provided in dB above the agc threshold.
Vox switch ———	Selects the method by which the AN/GRC-106 is keyed when transmitting in ssb or compatible am. mode of operation.

Control, indicator, or connector	Function
	Switch position — *Equipment response* VOX — RT-662/GRC or RT-834/GRC and AM-3349/GRC-106 are keyed by voice. PUSH TO VOX — RT-662/GRC or RT-834/GRC and AM-3349/GRC-106 are keyed by voice when the M-29B/U or H-33(*)/PT push-to-talk switch is depressed. PUSH-TO-TALK — RT-662/GRC or RT-834/GRC and AM-3349/GRC-106 are keyed by the M-29B/U or H-33(*)/PT push-to-talk switch when depressed.
MC controls, 2 each	Provide selection of the 10-MHz and 1-MHz digits of the operating frequency. The display above each control indicates the digit selected.
KC controls, 3 each	Provide selection of the 100-kHz, 10-kHz, and 1-kHz digits of the operating frequency. The display above each control indicates the digit selected. *Note.* The MHz and kHz controls on the RT-834/GRC perform the same functions as the MC and KC controls on the RT-662/GRC.
100 Hz control	Provides selection of the 100-Hz digits of the operating frequency on the RT-834/GRC only.
NOISE BLANKER*	In ON position ignition (pulse) noise desensitizes RT-662/GRC receiver.
AUDIO connectors, 2 each	Two 10-pin connectors, parallel-connected, used for connecting the H-33(*)/PT, M-29B/U, H-227/U, KY-116/U, and LS-166/U to the RT-662/GRC or RT-834/GRC.
FUSE 2 AMP	Provides protection for primary power (+27 volts dc) input line.
SPARE	Contains a spare 2-ampere fuse.

*NOISE BLANKER OFF ON switch is not used on RT-662/GRC starting with serial number 221 Order FR-36-039-B-6-31886(E) (fig. 1-5). Receivers with serial numbers above 220 are not desentized by ignition noise.

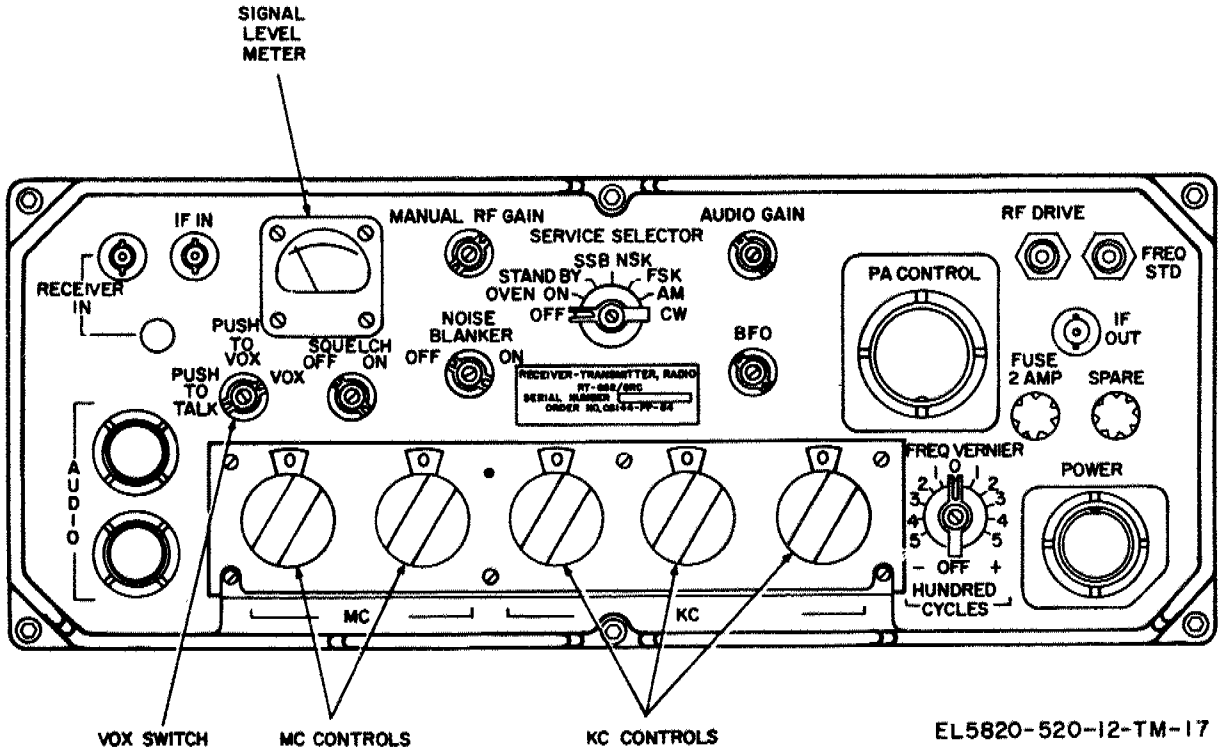


Figure 3-1. Receiver-Transmitter, Radio RT-662/GRC, controls, indicators, and connectors.

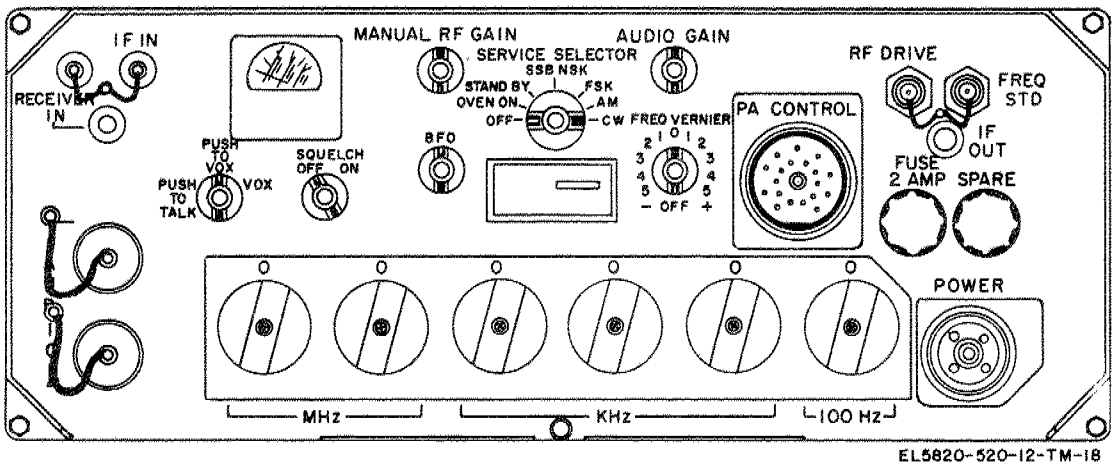


Figure 3-2. Receiver-Transmitter, Radio RT-834/GRC, controls, indicators, and connectors.

Table 3-2. Amplifier, Radiofrequency AM-3349/GRC-106 Controls, Indicators, and Connectors

Control, indicator, or connector	Function
ANT. TUNE control	Used in conjunction with ANT. LOAD control to match antenna to 50-ohm output of the final amplifier stage of the AM-3349/GRC-106 according to the operating frequency.
ANT. TUNE counter	Provides an indication of ANT. TUNE control position. Initially set by ANT. TUNE control to setting indicated on antenna tuning and loading chart or LOGGING CHART according to desired operating frequency and type of antenna being used.
ANT. TUNE meter	Indicates relative degree of mistuning between antenna and AM-3349/GRC-106. The unit is correctly tuned when indication is at center zero.
ANT. LOAD control	Used in conjunction with ANT. TUNE control to match the antenna to 50-ohm output of the final amplifier of the AM-3349/GRC-106 according to the operating frequency.
ANT. LOAD counter	Provides an indication of ANT. LOAD control position. Initially set by ANT. LOAD control to setting indicated on antenna tuning and loading chart or LOGGING CHART according to desired operating frequency and type of antenna being used.
ANT. LOAD meter	Indicates relative degree of mistuning between antenna and AM-3349/GRC-106. The unit is correctly tuned when indication is at center zero.
TEST METER	Monitors the parameters selected by the TEST METER switch when the AM-3349/GRC-106 is keyed in an operating mode. *Switch position* — *Equipment response* PRIM. VOLT — Primary voltage supplied to the AM-3349/GRC-106 by the power source. LOW VOLT — Output voltage from low voltage power supply. HIGH VOLT — Output voltage from high voltage power supply. DRIVER CUR. — Cathode current of driver amplifier tube. GRID DRIVE — Signal level at the grid of final amplifier tubes. PA. CUR. — Plate current of the final amplifier tubes. POWER OUT — Power output from AM-3349/GRC-106.
HV RESET switch	High voltage overload relay must be manually reset by switching from OPERATE to TUNE for 30 seconds, and back to OPERATE. *Switch position* — *Equipment response* TUNE — Transmitter portions of RR-662/GRC or RT-834/GRC and the AM-3349/GRC-106 are keyed. All modulating capabilities removed and local carrier is inserted for tuning AM-3349/GRC-106. Sensitivities of the ANT. LOAD and ANT. TUNE meters are increased to permit matching of antenna to 50-ohm output of the final amplifier of the AM-3349/GRC-106 according to the selected operating frequency.

Control, indicator or connector	Function
*	*Switch position* OPERATE ——— *Equipment response* All circuits are connected for transmitting. Keying of the AN-GRC-106(*) is accomplished at the RT-662/GRC or RT-834/GRC. If the frequency is changed while in this position, the AM-3349/GRC-106 cannot be keyed until the HV RESET switch is turned to TUNE for 30 seconds for retuning, and back to OPERATE before keying the AN/GRC-106(*).
PRIM. PWR switch	Applies or removes primary voltage when the RT-662/GRC or RT-834/GRC front panel SERVICE SELECTOR switch is in any position other than OFF or OVEN ON. Also acts as low voltage circuit breaker. Will automatically remove primary power when overloaded. To reset, set switch at OFF and then at ON.
Antenna tuning and loading chart.	Lists approximate initial settings of ANT. TUNE counter for various operating frequencies and type of antenna. Chart listings vary according to type of antenna. Insure that the correct chart for the installation and type of antenna is being used. ANT. LOAD counter settings are given also.
LOGGING CHART	Used to log ANT. TUNE counter and ANT. LOAD counter settings for specified operating frequencies. Provides quick reference for future tuning and enables tuning to be accomplished without breaking radio silence.
WHIP connector	Used for connecting 15-foot whip antenna.
50 OHM LINE connector	Used for connecting doublet antenna (AN/GRA-50).
GRD binding post	Used for connecting the AN/GRC-106(*) system ground to vehicle.
RCVR. ANT. connector	Used for connecting antenna to the RT-662/GRC or RT-834/GRC receiver portion when the AN/GRC-106(*) is operating in receive mode.
CONTROL connector	Used for connecting control functions to and from the RT-662/GRC or RT-834/GRC.
RF DRIVE connector	Used for connecting output RF signals from the receiver-transmitter portion to input of the AM-3349/GRC-106.
PRIM. POWER connector	Used for connecting +27-volt dc primary power from vehicle generating system.

*Caution: The ON OFF PRIM PWR switch shaft is easily broken. Use a minimum turning force when setting this switch.

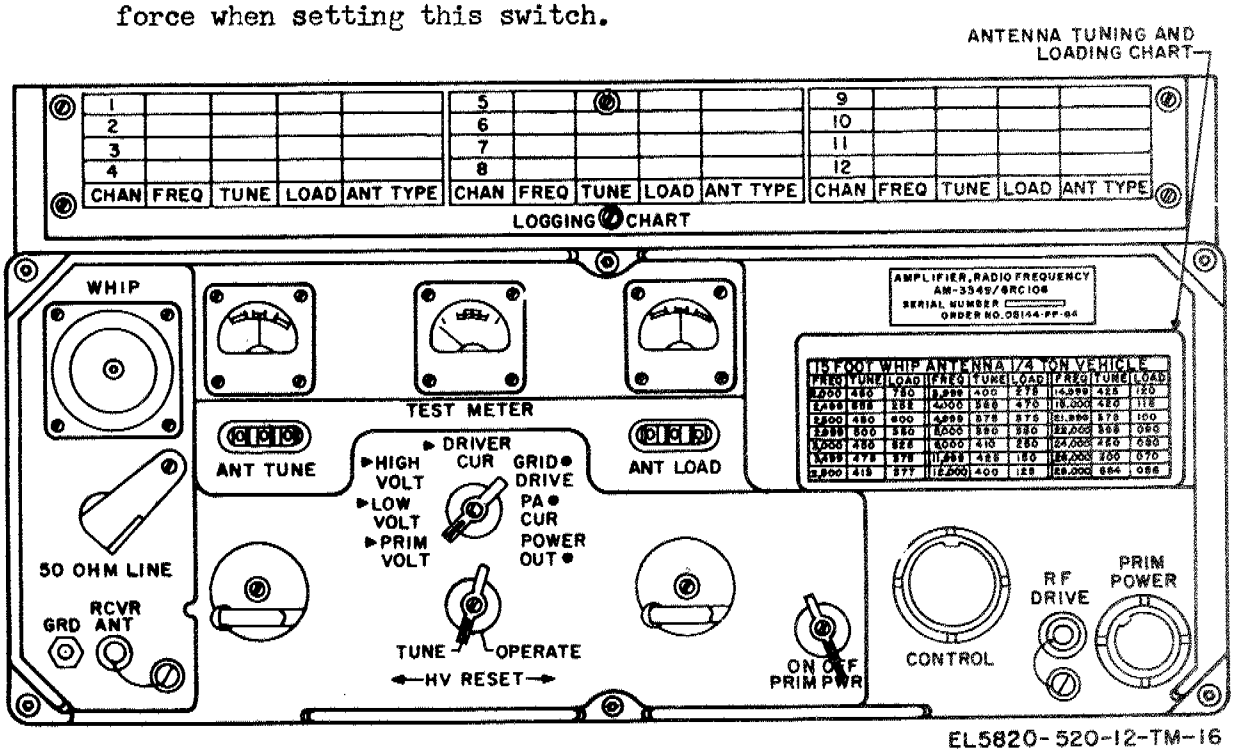


Figure 3-3. Amplifier, Radiofrequency AM-3349/GRC-106 controls, indicators, and connectors.

Section II. OPERATING PROCEDURES

3-3. Types of Operation

The Radio Set AN/GRC-106(*) is capable of the following types of operation:

a. Ssb voice transmission and reception (usb only).

b. Compatible am. transmission and compatible usb or conventional double-sideband am. reception.

c. Cw transmission and reception.

NOTE

When operating in the cw mode, the transmitted RF is 2 kHz higher than the frequency indicated on the RT-662/GRC or RT-834/GRC control panels.

d. Fsk and nsk transmission and reception when the appropriate ancillary radio teletypewriter terminal equipment and high capacity vehicle generating system are used.

e. To operate the equipment for any particular type of operation, perform the following procedures:

(1) Starting procedure (para 3-5).
(2) Tuning procedure (para 3-6).
(3) Operating procedure (para 3-7).
(4) Stopping procedure (para 3-8).

3-4. Preliminary Starting Procedure

Prior to equipment operation, switches and controls should be in a shutdown status as per table 3-3.

CAUTION

To avoid damage to components in the AN/GRC-106(*) when the system is installed in a vehicle, always make sure the AN/GRC-106(*) is turned off when starting the vehicle engine.

NOTES

1. The antenna tuning and loading chart provides approximate initial settings for the AM-3349/GRC-106 ANT TUNE and ANT LOAD counters for various operating frequencies, when the AN/GRC-106(*) and a 15-foot whip antenna are installed and operated in a 1/4-ton vehicle.
2. After AN/GRC-106(*) has been initially installed and tuned to an assigned operating frequency, record the AM-3349/GRC-106 ANT TUNE and ANT LOAD counter settings, and the ANT TYPE on the LOGGING CHART. The LOGGING CHART provides a quick reference for future tuning to these previously used frequencies, and enables tuning to be accomplished without breaking radio silence.

Table 3-3. Preliminary Starting Procedure for Radio Set AN/GRC-106(*)

Step	Unit	Control of switch position	Action or indication
1	RT-662/GRC or RT-834/GRC	SERVICE SELECTOR switch: OVEN ON	Allow a minimum of 10 minutes for warmup.
2	RT-662/GRC or RT-834/GRC	MANUAL RF GAIN control: Fully clockwise	None.
3	RT-662/GRC or RT-834/GRC	AUDIO GAIN control: Approximately midrange	None.
4	RT-662/GRC or RT-834/GRC	SQUELCH switch: OFF	None.
5	RT-662/GRC or RT-834/GRC	FREQ. VERNIER control: OFF	None.
6	RT-662/GRC or RT-834/GRC	VOX switch: PUSH TO TALK	None.
7	RT-662/GRC or RT-834/GRC	BFO control: Approximately midrange	None.
*8	RT-662/GRC	NOISE BLANKER: OFF	None.
**9	AM-3349/GRC-106	HV RESET switch: OPERATE	None.
***10	AM-3349/GRC-106	PRIM. PWR switch: OFF	None.

*Starting with serial number 221 on order FR-36-039-1-31866(E), the NOISE BLANKER was not included.
**HV RESET switch must be in OPERATE position, whenever, the AN/GRC-106(*) is turned OFF or ON.
***When PRIM. PWR switch is set at ON, pause 90 seconds before using the TEST METER.

3-5. Starting Procedure

Determine that the equipment is in a shutdown status table 3-3, and proceed as follows:

a. Place the RT-662/GRC or RT-834/GRC SERVICE SELECTOR switch to STANDBY and the AM-3349/GRC PRIM. PWR switch to ON, and allow 90 seconds for warmup. Observe that the AM-3349/GRC-106 blowers are energized and that the signal level meter indicates in the extreme right portion of the meter scale. If indication is abnormal refer to table 4-2, Items 1 and 2.

b. Set the RT-662/GRC or RT-834/GRC SERVICE SELECTOR switch to SSB NSK (or any operate mode FSK, AM, or CW). Signal level meter will return to extreme left portion of meter scale.

c. Set the AM-3349/GRC-106 TEST METER switch to PRIM. VOLT. Observe that the test meter pointer indicates within the area of the two dark green wedges (top scale) when the SERVICE SELECTOR switch is in the SSB, NSK, FSK, AM, and CW positions. If the indication is abnormal refer to table 4-2, item 3.

3-6. Tuning Procedures

Perform the starting procedure (para 3-5) before attempting to tune the AN/GRC-106(*). To tune the AN/GRC-106(*) for receiving and transmitting at the desired operating frequency, proceed as follows:

a. Set the RT-662/GRC or RT-834/GRC MHz and kHz controls to assigned operating frequency.

b. Note the AM-3349/GRC-106 ANT TUNE and ANT LOAD predetermined setting on the antenna tuning and loading chart, or the LOGGING CHART.

c. Adjust the AM-3349/GRC-106 ANT TUNE control to match the numbers on the chart used.

d. Adjust the AM-3349/GRC-106 ANT LOAD control to match the numbers on the chart used.

CAUTIONS

1. The AM-3349/GRC-106 HV RESET switch should not stay in TUNE position for more than two minutes. If more than two minutes are required, move the AM-3349/GRC-106 HV RESET switch to OPERATE and the RT-662/GRC or RT-834/GRC SERVICE SELECTOR switch to STANDBY for 5 minutes cooling. After 5 minutes cooling set the SERVICE SELECTOR switch to the previous position, and the HV RESET switch to TUNE, and proceed with the tuning procedure.
2. ANT TUNE and ANT LOAD controls will interact with each other. To center their respective meter pointers, rotate them slowly in the direction opposite to that of their meter pointer deflection.
3. Be sure the antenna is attached for proper loading to prevent damage to the equipment while performing *e* through *l* below.

e. Set the AM-3349/GRC-106 HV RESET switch to TUNE. Wait for a deflection on the ANT TUNE and ANT LOAD meters.

f. Adjust the AM-3349/GRC-106 ANT LOAD control for a center scale reading on the ANT LOAD meter.

(1) Rotate control in the direction that the meter pointer is to move. Adjust the ANT TUNE control for a center scale reading on the ANT TUNE meter.

(2) Rotate control in the direction that the meter pointer is to move, keeping the ANT LOAD meter as close to center scale as possible.

(3) Tuning of the AM-3349/GRC-106 is complete when simultaneous center scale readings are obtained on the ANT TUNE and ANT LOAD meters. (If indication is abnormal, refer to Operator Troubleshooting (table 4-2, item 6).)

g. Set the AM-3349/GRC-106 TEST METER switch to LOW VOLT. TEST METER pointer indicates within green portion area of top scale. (If indication is abnormal, refer to Operator Troubleshooting (table 4-2, item 4).)

h. Set the AM-3349/GRC-106 TEST METER switch to HIGH VOLT. TEST METER pointer indicates within green portion area of top scale. (If indication is abnormal, refer to Operator Troubleshooting (table 4-2, item 5).)

i. Set the AM-3349/GRC-106 TEST METER switch to DRIVER CUR. TEST METER pointer indicates within the two dark green wedges of top scale. (If indication is abnormal, refer to Operator Troubleshooting (table 4-2, item 7).)

j. Set the AM-3349/GRC-106 TEST METER switch to GRID DRIVE. TEST METER pointer indicates just below (to the left of) gray portion of the bottom scale. (If indication is abnormal,

refer to Operator Troubleshooting (table 4-2, item 7).)

k. Set the AM-3349/GRC-106 TEST METER switch to PA CUR. TEST METER pointer indicates just below (to the left of) the gray portion of the bottom scale. (If indication is abnormal, refer to Operator Troubleshooting (table 4-2, item 7).)

l. Set the AM-3349/GRC-106 TEST METER switch to POWER OUT. TEST METER pointer indicates just below (to the left of) gray area of scale. (If indication is abnormal, refer to Operator Troubleshooting (table 4-2, item 7).)

CAUTION

The HV RESET switch should not stay in TUNE position for more than two minutes.

m. Turn the AM-3349/GRC-106 HV RESET switch to OPERATE.

NOTE

ANT TUNE and ANT LOAD counter settings should be logged in the logging chart with a pencil after *m* above has been completed. These settings may be used for future tuning references unless ANT TUNE and ANT LOAD meter pointers indicate in the red (left or right of center scale) portion of the scale during operation. If the settings cannot be used, repeat tuning procedure *e* through *m* above.

3-7. Operating Procedure

Perform the procedures given in paragraphs 3-5 and 3-6, and *a* and *b* below before operating the AN/GRC-106(*). The desired audio accessories (H-33(*)/PT, H-227/U, M-29B/U, LS-166/U, and KY-116/U) should be corrected to the AUDIO connectors on the RT-662/GRC or RT-834/GRC front panels. The operating procedures are essentially the same for all modes of operation. To operate the AN/GRC-106(*), follow the procedures listed in *a* and *b* below.

CAUTION

If the operator changes frequency by at least a 100-kHz increment during operation, the AN/GRC-106 will automatically program to the new frequency and prevent keying the AM-3349/GRC-106. The HV RESET switch must be set at TUNE and the AM-3349/GRC-106 returned to the new frequency. Failure to readjust the ANT. LOAD and ANT. TUNE controls (para 3-6) (each time a frequency change is made) before setting the HV RESET switch back to OPERATE could result in damage to the AM-3349/GRC-106.

NOTE

Unless otherwise noted, all controls and indicators referred to in *a* and *b* below are those of the RT-662/GRC or RT-834/GRC.

a. Receive. To receive in any mode of operation, proceed as follows:

(1) Set the HV RESET switch on the AM-3349/GRC front panel at OPERATE.

NOTE

When receiving only, to conserve power, set the AM-3349/GRC-106 PRIM. PWR switch at OFF and the HV RESET switch at OPERATE.

(2) Set the RT-662/GRC or RT-834/GRC SERVICE SELECTOR switch at the desired operate position (SSB NSK, AM, FSK or CW).

(3) Adjust the AUDIO GAIN control for a comfortable listening level.

(4) If the noise level is undesirable in the absence of received signals, set the SQUELCH switch at ON.

NOTES

1. In the cw and fsk modes of operation, the squelch circuit is automatically disabled. When operating in the nsk mode of operation, the SQUELCH switch should be set at OFF. In the am. or ssb mode of operation, with the SQUELCH switch set at ON, the audio output is not completely squelched with high noise levels. A low level of audio is always present to indicate that the receiver portion of the RT-662/GRC or RT-834/GRC is operating.
2. The RT-662/GRC or RT-834/GRC MANUAL RF GAIN Control setting should not be altered unless the AN/GRC-106(*) is being operated in close proximity (10 miles or less) with only one other radio set. The MANUAL RF GAIN control can then be ro-

tated to some counterclockwise position that provides an indication on the signal level meter that is roughly one or two divisions below the indication of the received signal strength. This will reduce background noise and minimize adjacent channel interference when not receiving a signal. Rotating the MANUAL RF GAIN control counterclockwise desensitizes the RT-662/GRC or RT-834/GRC. If the operating frequency or location is changed, the MANUAL RF GAIN control should be returned to its maximum clockwise position to insure that the signals are not lost. In net operation the MANUAL RF GAIN control is left in the maximum clockwise position.

(5) When using the MANUAL RF GAIN control to reduce noise and improve reception, note the signal level meter indication in the presence of a signal. Rotate the MANUAL RF GAIN control slowly counterclockwise until the signal level meter indication is slightly lower (one or two divisions) with no signal present than it is with a signal present.

(6) When receiving cw signals, adjust the BFO control for a comfortable tone.

(7) When receiving am., fsk, or nsk signals from radio sets other than the AN/GRC-106(*), adjust the FREQ. VERNIER control for the best reception obtainable.

b. Transmit. To transmit in any mode of operation, proceed as follows:

NOTE

The AM-3349/GRC-106 must be keyed in order to check the low voltage power supply, high voltage power supply, driver cathode current, or final amplifier plate idling current. To check the value of any of the above items, and if radio silence is necessary, disconnect the CG-409 H/U cable from the RF DRIVE con-

nector before keying the AM-3349/GRC-106.

(1) Set the AM-3349/GRC-106 front panel HV RESET switch at OPERATE.

(2) Set the RT-662/GRC or RT-834/GRC SERVICE SELECTOR switch at the desired operate position (SSB NSK, FSK, AM, or CW).

NOTE

Insure that the AM-3349/GRC-106 PRIM. PWR switch is set at ON.

(3) If the RT-662/GRC or RT/GRC SERVICE SELECTOR switch is at SSB NSK or AM, turn the vox switch to the desired position ((*a*), (*b*), or (*c*) below) and key the AN/GRC-106(*) transmitter as follows:

NOTE

Speak with a moderately loud voice directly into the microphone when the vox switch is set either to PUSH TO VOX or VOX.

(a) VOX. The M-29B/U or H-33(*)/PT is live at all times and the operator's voice keys the AN/GRC-106(*) transmitter every time he speaks. The AN/GRC-106(*) transmitter remains keyed for approximately 1/2 second at the end of a transmission.

(b) PUSH TO VOX. Depress the M-29B/U or H-33(*)/PT push-to-talk switch. With the M-29B/U or H-33(*)/PT push-to-talk switch depressed, the AN/GRC-106(*) transmitter is keyed by the operator's voice. The AN/GRC-106(*) transmitter will remain keyed for approximately ½ second at the end of the conversation. Release the push-to-talk switch to receive without the ½-second delay.

(c) PUSH TO TALK. Depress the M-29B/U or H-33(*)/PT push-to-talk switch to key the AN/GRC-106(*) transmitter and release the push-to-talk switch to receive.

(4) With the SERVICE SELECTOR switch at CW((2) above), the vox switch is disabled. Key the AN/FRC-106(*) transmitter with the KY-116/U.

(5) With the SERVICE SELECTOR switch at FSK ((2) above), the vox switch is disabled. The AN/GRC-106(*) transmitter is keyed by the appropriate ancillary radioteletypewriter terminal equipment.

NOTE

If a cable or Adaptor Connector UG-201A/U is connected to AM-3349/GRC-106 50 OHM LINE RF power will not eminate from the AM-3349/GRC-106 WHIP connector.

3-8. Stopping Procedure

Radio Set AN/GRC-106(*) may be placed in standby or completely shut down. Normally, the complete shutdown takes approximately 3 minutes. In an emergency, the AN/GRC-106(*) may be stopped immediately.

a. Standby. Keep HV RESET switch at OPERATE. Set the RT-662/GRC or RT-834/GRC SERVICE SELECTOR switch at STANDBY.

b. Complete Shutdown. Use the complete shutdown procedure for the AN/GRC-106(*) only when the equipment is to be off for long periods. For periods of 1 hour or less, place the equipment in standby (*a* above). To shut down the equipment completely, proceed as follows:

(1) Set the RT-662/GRC or RT-834/GRC SERVICE SELECTOR switch to STAND BY. Allow 2 minutes for the AN/GRC-106(*) to cool before proceeding. Keep the HV RESET switch at OPERATE, when AN/GRC-106(*) is turned ON or OFF.

(2) Set the AM-3349/GRC-106 PRIM. PWR switch and the RT-662/GRC or RT-834/GRC SERVICE SELECTOR switch to OFF.

c. Emergency Stopping. To turn the AN/GRC-106(*) off in an emergency, set the RT-662/GRC or RT-834/GRC SERVICE SELECTOR switch at OFF.

NOTE

When operating the AN/GRC-106(*) in cold climates and shutdown is to be for 10 hours or less, set the RT-662/GRC or RT-834/GRC SERVICE SELECTOR switch to OVEN ON.

CHAPTER 4

OPERATOR'S MAINTENANCE INSTRUCTIONS

WARNING

Dangerous voltages exist at the AM-3349/GRC-106 50 OHM LINE and WHIP antenna connectors. Be careful when working around the antenna connectors. Radio-frequency voltages as high as 10,000 volts exist at these points. Operator and maintenance personnel should be familiar with the requirements of TB SIG 291 before attempting installation or operation of Radio Set AN/GRC-106(*). Injury or DEATH result from failure to comply with safe practices.

4-1. Scope of Operator's Maintenance

a. The following is a list of maintenance duties normally performed by the AN/GRC-106(*) operator. These procedures do not require special tools or test equipment.

b. Operator's maintenance for the AN/GRC-106(*) consists of the following:

(1) Operator preventive maintenance checks and services (table 4-1).

(2) Cleaning (para 4-3).

(3) Troubleshooting (para 4-4).

(4) Replacement of fuses and mast sections (para 4-5 and 4-6).

4-2. Operator's Preventive Maintenance

Operator's preventive maintenance is the systematic care, servicing, and inspection of equipment to prevent the occurrence of trouble, to reduce downtime, and to insure equipment serviceability.

a. Systematic Care. The procedures given in paragraphs 4-3 and 4-4 cover routine systematic care and cleaning essential for proper equipment operation and maintenance.

b. Preventive Maintenance Checks and Services. The preventive maintenance checks and services (table 4-1) outline functions to be performed at specific intervals. These checks and services are to maintain Army electronic equipment in a combat serviceable condition; that is, in good general (physical) condition and in good operating condition. To assist operators in maintaining combat serviceability, the chart indicates what to check, how to check, and the normal conditions. Where no entry exists in the *References* column, the defect cannot be remedied by the operator; therefore, higher category of maintenance or repair is required. Record and reports of these checks and services must be made in accordance with the requirements set forth in TM 38-750.

c. Preventive Maintenance Checks and Services Periods. Preventive maintenance checks and services of the AN/GRC-106(*) are required daily. These checks and services must be accomplished daily and under the special conditions listed in (7) through (4) below.

(1) Before vehicle starts on a mission.

(2) When equipment is initially installed.

(3) When equipment is reinstalled after removal for any reason.

(4) At least once each week if equipment is maintained in standby condition.

Table 4-1. Operator's Preventive Maintenance Checks and Services

Sequence No.	Item to be inspected	Procedure	References
1	Exterior surfaces	Clean the exterior surfaces of the units comprising the AN/GRC-106(*). **WARNING** Do not clean the equipment if the power is on.	Para 4-3.
2	Intercabling and connectors	Check all interconnecting cables and connectors for cracks and breaks. Replace cables that have cracks or broken connectors.	Fig. 2-2.

Sequence No.	Item to be inspected	Procedure	References
3	Meter faces (glass)	Check to see that the meter faces (glass) are not loose or broken.	Figs. 3–1, 3–2, and 3–3.
4	Fuses	Check fuses for correct value. Check spares for quantity and proper value.	
5	Knobs, controls, and switches	While making the operational checks (item 6) observe that the mechanical action of each knob, switch, and control is smooth and free of external or internal binding.	Figs. 3–1, 3–2, and 3–3.
		WARNING The following procedure requires the breaking of radio silence. This manual does not authorize the breaking of radio silence imposed by any command. Unauthorized violation of radio silence could result in courtmartial or possible death from hostile action.	
6	Operational check	Operate the equipment on an authorized frequency to verify its capabilities.	Para 3–7.

4–3. Cleaning

Inspect the exterior of the Radio Set AN/GRC–106(*) components. The exterior surfaces should be free of dust, dirt, grease, moisture, fungus, rust, and corrosion.

a. Remove dust, moisture, and loose dirt with a clean, soft cloth.

WARNING

The fumes of trichloroethane (NSN 6810–00–292–9625) are toxic. Provide thorough ventilation whenever used. NO NOT use near an open flame. Trichloroethane is not flammable, but exposure of the fumes to an open flame converts the fumes to highly toxic dangerous gases.

b. Remove grease, fungus, and ground-in dirt from the equipment covers; use a cloth dampened (but not wet) with trichloroethane.

c. Remove dust or dirt from plugs and jacks with a brush.

CAUTION

Do not press on the face glass of the meters when cleaning.

d. Clean the front panels, meters, and control knobs; use a soft, clean cloth. If dirt is difficult to remove, dampen the cloth with water; mild soap may be used for more effective cleaning.

4–4. Operator Troubleshooting

Troubleshooting of this equipment is based upon the operational check contained in the daily operator's preventive maintenance checks and services (table 4–1). To troubleshoot the equipment, perform an operational check and proceed through this check until an abnormal condition or result is observed. When an abnormal condition or result is observed, turn to the troubleshooting procedures (table 4–2) and determine if items numbered 1 through 7 describe a similar condition in the *Symptom* column. If the corrective measures indicated do not result in correcting the trouble, higher category of maintenance is required. It is assumed that the RT–834/GRC or RT–662/GRC front panel fuse has been checked by the operator and that the vehicular generating system or external power source is in working order; these items are not listed in the *Check and corrective measure* column of table 4–2.

4–5. Removal and Replacement of Fuses

The RT–662/GRC or RT–834/GRC front panel FUSE 2 AMP. may be replaced by the operator.

a. Removal. Replace FUSE 2 AMP. as follows:

Table 4-2. Operator Troubleshooting

Item No.	Symptom	Probable trouble	Check and corrective measure
1	Blower motors in AM-3349/GRC-106 do not energize.	Probable troubles are—	
		a. Defective RT-662/GRC or RT-834/GRC.	*a.* Higher category repair required.
		b. Improper seating of the connector on Cable Assembly, Special Purpose, Electrical CX-10071/U that is connected to the AM-3349/GRC-106 PRIM. POWER connector (fig. 2-2).	*b.* Tighten the CX-10071/U connector screw handle.
		c. Loose connections at vehicle storage battery terminals.	*c.* Tighten connections at vehicle storage battery.
		d. Improper connector seating of Cable Assembly, Special Purpose, Electrical CX-10099/U.	*d.* Tighten the CX-10099/U cable connectors screw handles.
		e. Defective AM-3349/GRC-106	*e.* Set PRIM. PWR switch at OFF, then back to ON. If blower motors still do not energize, notify next higher category of maintenance.
2	Signal level meter pointer on the RT-662/GRC or RT-834/GRC front panel does not move to extreme right side of scale.	*a.* FUSE 2 AMP. on the RT-662/GRC or RT-834/GRC front panel is burned out.	*a.* Check fuse. Replace if necessary (para 4-5).
		b. Improper seating of the connector on Cable Assembly, Special Purpose, Electrical CX-10071/U that is connected to the RT-662/GRC or RT-834/GRC POWER connector (fig. 2-2).	*b.* Tighten CX-10071/U connector screw handle.
		c. Loose connections at vehicle storage battery terminals.	*c.* Tighten connections at vehicle storage battery.
3	TEST METER pointer does not indicate in the area of the two dark green wedges (top scale), when TEST METER switch is set at PRIM VOLT.	Defective AM-3349/GRC-106	Insure that blower motors are energized. If energized, higher category repair is required. If blower motors are not energized, set PRIM. PWR switch at OFF and then back to ON. If blower motors still do not energize and the TEST METER does not provide an indication, notify next higher category of maintenance.
4	TEST METER pointer does not indicate in the area of the two dark green wedges (top scale), when TEST METER switch is set at LOW VOLT.	Defective AM-3349/GRC-106	Higher category repair is required.
5	TEST METER pointer does not indicate in the area of the two dark green wedges (top scale), when TEST METER switch is set at HIGH VOLT.	Defective AM-3349/GRC-106	Set HV RESET switch at TUNE, wait approximately 30 seconds, and then turn it back to OPERATE. If indication is still abnormal, higher category repair is required. ***Caution:*** Be sure PRIM. PWR switch is set at OFF before checking cables or whip antenna.
6	Adjustment of the ANT. TUNE and ANT. LOAD controls does not vary indication of ANT. TUNE and ANT. LOAD meters.	*a.* Improper connector seating on CX-10171/U.	*a.* Check seating and tighten connectors on CX-10171/U.
		b. Broken or defective whip antenna	*b.* Check antenna. Replace broken whip antenna mast sections (para 4-7).

Item No.	Symptom	Probable trouble	Check and corrective measure
7	TEST METER pointer on AM-3349/GRC-106 does not indicate in correct portion of meter scale when TEST METER switch is set at PA. CUR., DRIVER CUR., GRID DRIVE, or POWER OUT.	Same as item 3	Same as item 3.

(1) Set the RT-662/GRC or RT-834/GRC SERVICE SELECTOR switch at OFF.

(2) Turn the fuse holder counterclockwise.

(3) Remove the fuse holder from the receptacle.

(4) Remove the defective fuse from the fuse holder.

b. Replacement.

(1) Insert the replacement fuse (located in SPARE fuse holder) in the fuse holder.

(2) Replace the fuse holder in the receptacle and tighten the fuse holder by turning it clockwise.

4-6. Removal and Replacement of Whip Antenna Mast Sections

The operator may replace the mast sections of the 15-foot whip antenna. Replace the mast sections as follows:

WARNING

During removal, disassembly, erection, assembly, or repair of the whip antenna, conform to all safety requirements in TB SIG 291. Injury or DEATH could result from failure to comply with safe practices.

a. Removal.

(1) Unscrew the two tip mast sections MS-116-A, one MS-117-A, and one MS-118-A from the bottom MS-116-A.

(2) Remove brass antenna sheath clamp.

(3) Remove antenna cover.

(4) Unscrew the bottom MS-116-A from mast base AB-652/GR.

(5) Disassemble the four mast sections by unscrewing them.

b. Replacement.

(1) Replace any defective mast sections with a spare of the same type.

(2) Screw the two MS-116-A, one MS-117-A, and one MS-118-A together.

(3) Screw the remaining MS-116-A into the AB-652/GR.

(4) Slide antenna cover over the MS-116-A attached to the AB-652/GR.

(5) Secure antenna cover, using the brass antenna sheath clamp.

(6) Screw the four assembled mast sections into the MS-116-A secured to the AB-652/GR.

CHAPTER 5

ORGANIZATIONAL MAINTENANCE

NOTE: If either component of Radio Set AN/GRC-106 or AN/GRC-106A requires repair, turn in both the RT-662/GRC or RT-834/GRC, and AM-3349/GRC-106.

WARNING

Dangerous voltages exist at the AM-3349/GRC-106 50-OHM LINE and WHIP antenna connectors. Be careful when working around the antenna connectors. Radio-frequency voltages as high as 10,000 volts exist at these points. Operator and maintenance personnel should be familiar with the requirements of TB SIG 291 before attempting installation or operation of Radio Set AN/GRC-106(*). Injury or DEATH could result from failure to comply with safe practices.

Section I. MAINTENANCE

5-1. Scope of Organizational Maintenance

a. This chapter contains instructions covering organizational maintenance of Radio Set AN/GRC-106(*). Included are instructions for preventive and periodic maintenance services, troubleshooting, and repair functions to be performed by the organizational repairman.

b. Organizational preventive maintenance of the AN/GRC-106(*) includes—

(1) Organizational preventive maintenance (para 5-3).

(2) Monthly maintenance (para 5-4).

(3) Monthly preventive maintenance checks and services (table 5-1).

(4) Cleaning and preservation (para 5-5).

(5) Troubleshooting (table 5-2).

(6) Cable removal (para 5-7).

(7) Front panel gasket replacement (para 5-8).

5-2. Tools, Materials, and Test Equipment Required

The materials, test equipment, and tools, authorized for organizational maintenance are listed in *a*, *b*, and *c* below.

a. Materials.

(1) Cleaning compound (trichloroethane FSN 6810-292-9625).

(2) Cleaning cloth.

(3) EC-847 cement (FSN 8040-936-3274).

b. Test Equipment. Multimeter AN/URM-105 (TM 11-6625-203-12).

c. Tools. The tools required for organizational maintenance are contained in Tool Kit, Electronic Equipment TK-101/G (SC5180-91-CL-R13).

5-3. Organizational Preventive Maintenance

a. Organizational preventive maintenance is the systematic care, inspection, and servicing of equipment to maintain it in serviceable condition, prevent breakdowns, and assure maximum operational capability. Preventive maintenance is the responsibility of all categories of maintenance concerned with the equipment, and includes the inspection, testing, and repair or replacement of parts, subassemblies, or units that inspection and tests indicate would probably fail before the next scheduled periodic service. The preventive maintenance checks and services for the AN/GRC-106(*) are made at monthly intervals, unless otherwise directed by the commanding officer.

b. Maintenance forms and records to be used and maintained on this equipment are specified in TM 38-750.

5-4. Monthly Maintenance

Perform the maintenance functions indicated in monthly preventive maintenance checks and services (table 5-1) once each month. A month is defined as 30 calendar days of 8-hour-per-day operation. If the equipment is operated 16 hours

a day, the monthly preventive maintenance checks and services should be performed at 15-day intervals. Adjustment of the maintenance interval must be made to compensate for any unusual operating condition. Equipment maintained in a standby (ready for immediate operation) condition must have monthly preventive maintenance checks and services. Equipment in limited storage (requires service before operation) does not require monthly maintenance.

Table 5-1. Monthly Preventive Maintenance Checks and Services

Sequence No.	Item to be inspected	Procedure	References
1	Modification	Check DA Pam 310-7 to determine if new applicable MWO's have been published. All URGENT MWO's must be applied immediately.	DA Pam 310-7.
2	Completeness	Insure that the equipment is complete	Para 1-6.
3	Spare parts	Check all spare parts for general condition and method of storage. All shortages must be on valid requisitions.	Para 1-6.
4	Installation	See that the equipment is properly installed. See that all bolts, nuts, and washers are correctly positioned and properly tightened.	Para 2-6.
5	Publications	See that all publications are complete, serviceable, and current.	DA Pam 310-4.
6	Mounting	Inspect seating and stability of mounting. Check for loose or missing hardware.	Fig. 2-2.
7	Antenna	Inspect the antenna for defects. Check to see if the whip section is bent or damaged. ***Warning:*** Do not perform repairs on an antenna while it is mounted.	Figs. 1-3 and 1-4.
8	Accessible pluck-out items	Check seating of lamps and fuses. Firmly seat if necessary.	
9	Interior cleaning	Remove dust and dirt from the interior of the AN/GRC-106(*) with a clean, lint free cloth or soft brush. A mild stream of compressed air may be used to remove dust from inaccessible areas. ***Warning:*** Compressed air is dangerous and can cause serious bodily harm. It can also cause mechanical damage to the equipment. Do not use compressed air to dry parts where trichloroethane has been used.	
10	Capacitors	Check to see that fixed capacitors have no leaks or abnormal bulges.	
11	Resistors	Inspect resistors for cracks, chipping, discoloration, and blistering.	
12	Transformers and chokes	Inspect transformers and chokes for evidence of overheating.	
13	Terminal boards	Inspect terminal boards for cracks, loose connections, and breaks.	
14	Gaskets	Inspect gaskets for leaks, cracks, and worn or loose edges.	Para 5-8.
15	Preservation	Check all surfaces for evidence of fungus. Remove rust and corrosion, and spot-paint bare spots.	Para 5-5.
16	External blower (AM-3349/GRC-106).	Check the blower for cleanliness and effectiveness in exchanging air.	Fig. 1-8.
17	Operational check	Check the equipment by operating it	Para 3-7.

5-5. Cleaning and Preservation

NOTE

The heat exchanger assembly is watertight and isolated from all other portions of the unit. Water and forced air will pass through the heat exchanger assembly without endangering the chassis components.

a. To clean the heat exchanger assembly, it is not necessary to remove the chassis. Turn the unit up on its left side (as viewed from front panel) and flush out the heat exchanger assembly grillwork with water or forced air.

NOTE

Insure that the chassis is tightly secured to the case before performing the procedures in *b* below.

b. Remove rust and corrosion from metal surfaces by lightly sanding them with fine sandpaper. Brush two thin coats of paint on the bare metal to protect it from further corrosion. Refer to the applicable painting and preserving practices specified in TB 746-10.

Section II. TROUBLESHOOTING AND REPAIR

Table 5-2. Organizational Troubleshooting

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
1	Blower motors do not energize.	Defective CX-10071/U or CX-10099/U cables.	Set PRIM. PWR switch to OFF, then back to ON. (See table 3-3 for control settings.) Blower motors should be heard. If blower motors cannot be heard, see that signal level meter pointer is in the extreme right position. If meter pointer is not in the extreme right position, higher category of maintenance is required.
		Low voltage circuit breaker (PRIM PWR switch) drop out. Defective RT-662/GRC or RT-834/GRC.	If meter pointer is in the extreme right position, disconnect CX-10071/U cable from PRIM. POWER connector (para 5-7). Use Multimeter AN/URM-105 to check for 27 volts dc between pins A or B and C or D of cable connector. If 27 volts dc is not present, replace CX-10071/U cable. If 27 volts dc is present, disconnect CX-10099/U cable* from AN/GRC-106(*) (para 5-7). Use Multimeter AN/URM-105 to check for continuity between pins N and A, and N and D. If continuity does exist, replace CX-10099/U cable. * Extreme care must be exercised to prevent damaging the CX-10099/U cable. Just one end is never disconnected to make a continuity check. Installations that use the CX-11016( )/G cable do not have this problem. If continuity does not exist, check continuity between pin N of the connector on each end of CX-10099/U cable. If continuity does exist, higher category of maintenance is required. If continuity does not exist, replace CX-10099/U cable. Reconnect CX-10071/U cable to PRIM. POWER connector.
2	Signal level meter pointer is not in extreme right position.	Defective cable CX-10071/U. Defective RT-662/U or RT-834/GRC.	Disconnect CX-10071/U cable from POWER connector (para 5-7). Use Multimeter AN/URM-105, to check for 27 volts dc between pins A or B and C or D of the cable connector. If 27 volts dc is not present, replace CX-10071/U cable. If 27 volts dc is present, higher category of maintenance is required.
3	TEST METER pointer does not indicate in the area of the two dark green wedges (top scale), when TEST METER switch is set at PRIM VOLT.	Defective AM-3349/GRC-106.	Higher category of maintenance required.

No. Item	Trouble symptom	Probable trouble	Checks and corrective measures
4	TEST METER pointer does not indicate in the area of the two dark green wedges (top scale), when TEST METER switch is set at LOW VOLT.	Defective CX-10099/U cable. High voltage circuit breaker (HV RESET switch) drop out.	Set HV RESET switch to OPERATE. Wait approximately 30 seconds and set switch back to TUNE. TEST METER should indicate in the area of the two dark green wedges (top scale). Disconnect CX-10099/U cable from the CONTROL and PA. CONTROL connectors (para 5-7). Use Multimeter AN/URM-105 to check for continuity between pin E of the connector on each end of CX-10099/U cable. Repeat continuity check for pins S, U, V, and R. If continuity exists, higher category of maintenance is required. If continuity does not exist, replace CX-10099/U cable. Reconnect CX-10099/U to CONTROL and PA. CONTROL connectors (para 5-7).
5	TEST METER pointer does not indicate in the area of the two dark green wedges (top scale), when TEST METER switch is set at HIGH VOLT.	Defective AM-3349/GRC-106.	Higher category of maintenance required.
	ANT. TUNE and ANT. LOAD controls do not vary the indication on ANT. LOAD meters when adjusted.	Defective cable CX-10171/U or CG-409H/U.	*Warning:* Be extremely careful when disconnecting CX-10171/U cable or when working around the antenna. RF voltages as high as 10,000 volts exist at the WHIP connector and on the antenna. Insure that SERVICE SELECTOR switch is set to OFF. Set TEST METER switch at GRID DRIVE. TEST METER should indicate just below the start of the gray wedges of the bottom scale. If TEST METER indicates just below the start of the gray wedges of the bottom scale, disconnect CX-10171/U cable from WHIP connector and check CX-10171/U cable for continuity to Mast Base AB-652/GR and for shorts to the vehicle body; use Multimeter AN/URM-105. If CX-10171/U cable shows continuity and is not shorted, insure that the antenna being used is operational. If antenna is operational, reconnect CX-10171/U cable to WHIP connector and notify higher category of maintenance. If TEST METER fails to indicate with the TEST METER switch set at GRID DRIVE, note RT-662/GRC or RT-834/GRC front panel signal level meter indication. Signal level meter pointer should indicate in the upper three-quarters of the scale. If it does not, higher category of maintenance is required. If signal level meter pointer indicates in the upper three-quarters of the scale, disconnect CG-409H/U cable from both RF DRIVE connectors (para 5-7). Use Multimeter AN/URM-105 to check for continuity and shorts. If CG-409H/U cable is shorted, or if continuity does not exist, replace the cable. If continuity exists in CG-409H/U, set TEST METER switch at DRIVER CUR. TEST METER should indicate within the area of the dark green wedges (top scale).

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
			If TEST METER indicates within the area of the dark green wedges (top scale) higher category of maintenance is required. Reconnect CG-409H/U cable to both RF DRIVE connectors (para 5-7).
6	TEST METER does not indicate correctly when TEST METER switch is set at DRIVER CUR., GRID DRIVE, PA. CUR., or POWER OUT.	Defective AM-3349/GRC-106.	Higher category of maintenance required.
7	Unable to receive	Defective CG-409H/U cable or H-33(*)/PT, LS-166/U, or H-227/U. *Note.* When receiving with the AM-3349/GRC-106 PRIM PWR switch at ON, the RT-662/GRC or RT-834/GRC will be in transmit *unless* HV RESET switch is set at OPERATE.	Disconnect CG-409H/U cable from RECEIVER IN connector. Connect a coaxial cable from the FREQ STD connector to the RECEIVER IN connector. Set MC and KC controls at 04998 on RT-662/GRC and 049980 on RT-834/GRC to include 100-Hz control setting. Set AUDIO GAIN control fully clockwise and listen for a 2-kHz tone in the audio accessory. If the 2-kHz tone is heard, disconnect CG-409H/U cable from RCVR. ANT. connector (para 5-7). Use Multimeter AN/URM-105 to check CG-409H/U for continuity and shorts. If continuity does not exist or if shorted, replace CG-409H/U cable. If CG-409H/U cable is not defective, use Multimeter AN/URM-105 to check for continuity between WHIP and RCVR. ANT. connectors. If continuity does not exist, higher category of maintenance is required. If the 2-kHz tone cannot be heard, replace minor electrical component (fig. 1-2). If the 2-kHz tone still not heard, higher category maintenance is required. Disconnect coaxial cable from RECEIVER IN and FREQ STD connectors. Reconnect CG-409H/U cable to RECEIVER IN and RCVR. ANT. connectors.
8	Unable to transmit	Defective KY-116/U, H-33/PT, or M-29B/U.	Set SERVICE SELECTOR switch at CW and key the AN/GRC-106(*). Signal level meter pointer should indicate in the upper portion of the scale. If it does not, replace keying device. If replacement of the keying device does not correct the problem, higher category of maintenance is required. If the signal level meter indicates in the upper half of the scale, set TEST METER switch at POWER OUT. The TEST METER should indicate in the area of the dark green wedges (top scale). If the TEST METER indicates in the area of the dark green wedges (top scale), the receiver at the distant station is defective. If the TEST METER indicates in the gray wedges area of the scale (bottom scale), below (to the left of) the green wedges area, set the TEST METER switch at GRID DRIVE. The TEST METER should now indicate in the area of the dark green wedges (top scale). If the TEST METER indicated in the area of the dark green wedges (top scale) the receiver at the distant station is defective.

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
			If the TEST meter indicates above the dark green wedges area (top scale), set TEST METER switch at PA. CUR. TEST METER should indicate just into the start of the gray wedges area (bottom scale). If none of the above corrective measures remedy the defects, higher category of maintenance is required.

5-6. General

Troubleshooting of Radio Set AN/GRC-106(*) is based on the operational checks contained in monthly preventive maintenance checks and services table 5-1. To troubleshoot the equipment, perform all functions given in monthly preventive maintenance checks and services table 5-1 and proceed until an abnormal condition or result is observed. When an abnormal condition or result is observed turn to troubleshooting table 5-2. Review the *Trouble symptom* column for a similar symptom and then perform the checks and corrective measures in troubleshooting table 5-2. If the corrective measures indicated do not result in correcting the trouble, higher category of maintenance is required. It is assumed that the RT-662/GRC or RT-834/GRC front panel fuse has been checked by the operator and that the vehicular generating system is in working order. Cable removal and front panel gasket replacement are also given in this section.

5-7. Typical Cable Removal

To remove the interconnecting cables from the RT-834/GRC or RT-662/GRC and AM-3349/GRC-106 for testing, repair, or replacement, use the procedure outlined in *a* through *e* below.

CAUTION

Do nut pull on the cable; hold the connector when pulling the cable free.

a. Lead, Electrical CX-10171/U. Remove the CX-10171/U from the 15-foot whip antenna by turning the binding post counterclockwise and pulling the CX-10171/U out of the slot in the binding post. Remove the CX-10171/U from the AM-3349/GRC-106 by unscrewing and pulling the connector straight out of the WHIP connector.

b. Cable Assembly, Special Purpose, Electrical CX-10071/U. Remove the two battery lugs on each CX-10071/U cable from the vehicle storage battery terminals. Remove one CX-10071/U cable from the RT-834/GRC or RT-662/GRC POWER connector, and one CX-10071//U cable from the AM-3349/GRC-106 PRIM. POWER connector as follows:

(1) Pry up screw handle on cable connector.

(2) Turn cable connector screw handle counterclockwise until the cable connector is free from panel connector.

c. Cable Assembly, Special Purpose, Electrical CX-10099/U. Remove CX-10099/U cable from the AM-3349/GRC-106 CONTROL connector and the RT-834/GRC or RT-662/GRC PA CONTROL connector by performing the procedure given in *b* (1) and (2) above.

d. Bonding Jumper. Remove the end of the bonding jumper from the vehicle chassis. Remove the other end from the AM-3349/GRC-106 GRD binding post by depressing the GRD bind post and pulling the cable free.

e. Cable Assembly, Radio Frequency CG-409H/U. Remove CG-409H/U from the RT-834/GRC or RT-662/GRC front panel RF DRIVE and RECEIVER IN connectors, and AM-3349/GRC-106 front panel RF DRIVE and RCVR. ANT. connectors as follows:

(1) Depress the coaxial connector on the CG-409H/U.

(2) Turn the coaxial connector counterclockwise until loose.

(3) Pull the coaxial connector straight out from the front panel connectors.

5-8. Front Panel Gasket Replacement

If the front panel gasket on the RT-834/GRC, RT-662/GRC, or AM-3349/GRC-106 is cracked, broken, frayed, worn, or out of the groove and

flattened, replace it as follows:

a. Remove the old gasket.

WARNING

The fumes of trichloroethane (FSN 6810-292-9625) are toxic. Provide thorough ventilation whenever used. DO NOT use near an open flame. Trichloroethane is not flammable, but exposure of the fumes to an open flame converts the fumes to highly toxic, dangerous gases.

b. Remove all old cement and dirt from the groove in which the front panel gasket is seated; use a cleaning cloth dampened (not wet) with trichloroethane (FSN 6810-292-9625).

c. Spread a thin film of EC-847 cement (FSN 8040-936-3274) in the groove.

d. Place gasket into the groove and gently press to insure complete cementing.

CAUTION

Let cement dry for at least 1 hour before placing the chassis back into the case.

CHAPTER 5.1
MATERIAL USED IN CONJUNCTION WITH MAJOR ITEM

5.1-1. General

In some types of operation it is desirable to operate Radio Set AN/GRC-106(*) by remote control. To accomplish this type of operation Control Group AN/GRA-6, TM 11-5038, can be used. Prior to performing the procedures in paragraph 5.1-2 be sure that applicable operating instructions and requirements in chapter 3 have been complied with.

5.1-2. Procedures

a. To use Control Group AN/GRA-6 for remote control of Radio Set AN/GRC-106(*) connect the equipment as follows:

(1) Connect Plug Connector U-77/U (part of Interconnecting Box J-654/G) to one of the audio connectors on either RT-662/GRC or RT-834/GRC.

(2) Connect one of the cable connectors (P-1 or P-2), part of Cable Assemblies W-1 or W-2 on Local Control C-434/GRC to one of the Receptacle Connectors U-79/U on J-654/G (See note below).

(3) Connect field wire to the C-434/GRC connectors LINE L1 and L2 and unreel the field wire needed to reach the remote site. Connect the field wire to C-433/GRC connectors LINE L1 and L2.

(4) At the remote site connect Handset H-33(*)/PT to the C-433/GRC AUDIO connector.

b. If Radio Set AN/GRC-106(*) has been correctly tuned but cannot be keyed from the remote site, reverse the field wires connected to the C-433/GRC LINE L1 and L2 connectors.

NOTE

This is required to open the connection at Pin J of the audio connectors.

CHAPTER 6

SHIPMENT, LIMITED STORAGE, AND DEMOLITION

Section I. SHIPMENT AND LIMITED STORAGE

6-1. Disassembly of Equipment

a. General. The following instructions are recommended as a guide for preparing Radio Set AN/GRC-106(*) for shipment or limited storage. Instructions are included for disconnecting cables, dismantling the antenna, and removing the RT-834/GRC or RT-662/GRC and AM-3349/GRC-106 from the MT-3140/GRC-106.

b. Disconnection of Cables (fig. 2-2).

(1) Insure that RT-662/GRC or RT-834/GRC SERVICE SELECTOR switch and the AM-3349/GRC-106 PRIM. PWR switch are set at OFF.

(2) Disconnect the CX-10171/U from the AM-3349/GRC-106 WHIP connector.

(3) Disconnect CX-10071/U cable from the AM-3349/GRC-106 PRIM. POWER connector and from vehicle storage battery terminals.

(4) Disconnect CX-10071/U cable from RT-662/GRC or RT-834/GRC POWER connector and from vehicle storage battery terminals.

(5) Disconnect CX-10099/U cable from the AM-3349/GRC-106 CONTROL connector and from the RT-662/GRC or RT-834/GRC PA CONTROL connector.

(6) Disconnect CG-409H/U cable from the AM-3349/GRC-106 and RT-662/GRC or RT-834/GRC RF DRIVE connectors.

(7) Disconnect CG-409H/U cable from the AM-3349/GRC-106 RCVR. ANT. connector and from the RT-662/GRC or RT-834/GRC RECEIVER IN connector.

(8) Disconnect bonding jumper from AM-3349/GRC-106 GRD binding post and from vehicle chassis.

(9) Disconnect any minor electrical component that is connected to receiver-transmitter AUDIO connectors.

c. Disassembly of Antenna.

(1) Remove the four top mast sections by unscrewing the two top mast sections MS-116-A, one MS-117-A, and one MS-118-A from the bottom MS-116-A.

(2) Disassemble the four mast sections by unscrewing them from each other.

(3) Loosen and remove the brass antenna sheath clamp.

(4) Remove the antenna cover.

(5) Remove the bottom MS-116-A from Mast Base AB-652/GR.

(6) Remove the AB-652/GR from the vehicle.

d. Component Disassembly (fig. 2-1).

(1) Pull the release handles on MT-3140/GRC-106 forward and simultaneously rotate them toward the outside of the units.

(2) Lift the AM-3349/GRC-106 off the RT-662/GRC or RT-834/GRC, or from its own MT-3140/GRC-106.

(3) Lift the RT-662/GRC or RT-834/GRC off MT-3140/GRC-106, if necessary.

(4) Unscrew the two insulators IN-104 from the left crossbar assembly.

(5) Remove the crossbar assemblies from MT-3140/GRC-106 by loosening the jamnuts and adjusting screws.

(6) Remove the MT-3140/GRC-106 from the vehicle.

(7) If Dynamic Loudspeaker LS-166/U has been installed in the vehicle, remove it.

6-2. Material Requirements for Repackaging

Table 6-1 lists the materials required to repackage the units of Radio Set AN/GRC-106(*). The materials are listed according to the unit or group to be packed, with the system packing crate listed last. For stock numbers of the materials listed, refer to SB 38-100.

Table 6-1. Material Required for Repackaging

Unit to be packed	Material	Quantity	Size (in.)
Receiver-Transmitter, Radio RT-662/GRC or RT-834/GRC.	Corrugated, W5c, B-flute	26 sq ft	19⅞ x 15¼ x 9⅝
	Carton, corrugated, W5c	1	
	Corrugated, A/B Doublewall	1 sheet	9 x 18 x ⅞
	Tape, PPP-T-76, 3-inch		150
Amplifier, Radio Frequency AM-3349/GRC-106.	Carton, corrugated, W5c	1	12 x 15 x 19⅞
	Corrugated, W5c, B-flute	30 sq ft	
	Corrugated, A/B Doublewall water-resistant.	1 sheet	8 x 18 x ⅞
	Tape, PPP-T-76, 3-inch		140
Audio accessories	Carton, corrugated, W5c	1	6¾ x 13 x 13½
	Corrugated, flexible	12 sq ft	
	Wrapping paper, grade A	12 sq ft	
	Barrier bags, greaseproof-waterproof	1	6 x 16
		1	7 x 10
	Tape, PPP-T-76, 2-inch		275
Antenna Group AN/GRA-50	Carton, corrugated, W5c	1	6⅝ x 14½ x 14½
	Corrugated, flexible	12 sq ft	
	Tape, PPP-T-76, 2-inch		200
	Envelope, paper	1	3 x 5
Whip antenna group	Carton, corrugated, W5c	1	6⅝ x 10½ x 49½
	Corrugated flexible	2 sq ft	
	Barrier bags, greaseproof-waterproof	2	2 x 42
		3	3 x 4
	Masking tape, ¾-inch		72
	Tape, PPP-T-76, 3-inch		100
Cables	Carton, corrugated, W5c	1	8½ x 11⅝ x 13⅝
	Corrugated flexible	6 sq ft	
	Clear bags	2	5 x 6
		2	3 x 4
	Barrier bags	1	8 x 10
		1	5 x 12
		2	10 x 12
	Tape, PPP-T-76, 2-inch		110
Mechanical installation material	Carton, corrugated, W5c	1	5½ x 14⅞ x 19⅝
	Corrugated, flexible	8 sq ft	
	Masking tape, ¾-inch		50
	Envelope, paper	1	3 x 5
	Tape, PPP-T-76, 3-inch		120
Operator and Organizational Maintenance Manual, Radio Set AN/GRC-106(*) TM 11-5820-520-12.	Barrier bags	2	9 x 12
	Masking tape, ¾-inch		48
Radio Set AN/GRC-106(*)	Crate, plywood, nailed per PPP-B-621	1	17½ x 27½ x 51
	Carton, corrugated, W5c, B-flute (dummy)	1	4½ x 15⅛ x 20⅛
	Creased sheet filler, corrugated, W5c, B-flute.	1 sheet	38¼ x 49½ (4⅝ x 6¼ x 49½ folded).

6-3. Repackaging Equipment

a. General. The specific packing requirements may vary with the conditions of shipment or storage and the materials available. Adapt the materials listed in table 6-1 and the procedures below to fit the immediate requirements. The procedures below refer specifically to the materials listed in table 6-1, and they cover packing the entire equipment. If any unit or group is to be packed alone, refer to the procedure for that unit or group.

b. RT-662/GRC or RT-834/GRC.

(1) Fold a piece of corrugated cardboard to

form a spring (shock) pad for the bottom of the carton. Set spring pad in carton.

(2) Place the receiver-transmitter in the center of the carton.

(3) Fold sheets of corrugated cardboard to form spring pads for the front, rear, and both sides of the receiver-transmitter. Set spring pads in place.

(4) Slide sheet of doublewall corrugated cardboard between front spring pad and carton wall.

(5) Fold sheet of corrugated cardboard to form a spring pad for the top of the receiver-transmitter. Set spring pad in place.

(6) Close carton cover and tape all edges.

c. AM-3349/GRC-106. The procedure for packing the AM-3349/GRC-106(*) is the same as that for the RT-662/GRC or RT-834/GRC (*b* above).

d. Audio Accessories.

(1) Wrap H-33(*)/PT and H-227/U with wrapping paper.

(2) Wrap all audio accessories with flexible corrugated cardboard. Tape wrappings.

(3) Place the H-33(*)/PT, KY-116/U, and Cable Assembly, Special Purpose, Electrical CX-1852/U in barrier bags.

(4) Fold sheets of flexible corrugated cardboard to form small cartons for all other audio accessories.

(5) Arrange all small packages in bottom of carton.

(6) Fold sheet of flexible corrugated cardboard to form a spring pad for top of carton. Set spring pad in place.

(7) Close top of carton and tape all edges.

e. Antenna Group AN/GRA-50.

(1) Gather all small hardware and place in paper envelope.

(2) Wrap all units with flexible corrugated cardboard. Tape wrappings.

(3) Arrange all packages in bottom of carton.

(4) Fold sheet of flexible corrugated cardboard to form a spring pad for top of carton. Set spring pad in place.

(5) Close top of carton and tape all edges.

f. Whip Antenna Group.

(1) Place Adapter, Connector UG-201A/U; Adapter, Connector UG-306/U; the brass antenna sheath clamp; each of the mast sections; and each of the insulators in a barrier bag.

(2) Arrange all units in bottom of carton.

(3) Fold flexible corrugated cardboard to form fillers where needed.

(4) Close top of carton and tape all edges.

g. Cables.

(1) Coil the two Cable Assemblies, Special Purpose, Electrical CX-10071/U and Lead, Electrical CX-10171/U and place each in a clear bag.

(2) Place each of the other cables in a barrier bag.

(3) Arrange cables in bottom of carton.

(4) Fold flexible corrugated cardboard to form filters as needed.

(5) Close top of carton and tape all edges.

h. Mechanical Installation Material.

(1) Gather all small hardware and place in paper envelope.

(2) Wrap MT-3140/GRC-106 and the two crossbar-welded assemblies with flexible corrugated cardboard. Tape wrappings.

(3) Arrange packages in bottom of carton.

(4) Fold flexible corrugated cardboard to form filters as needed.

(5) Close top of carton and tape all edges.

i. Running Spares.

(1) Gather all small hardware and place in paper envelopes.

(2) Place fuses and insulator in clear bags.

(3) Place each mast section in a barrier bag.

(4) Wrap the two 1/2- by 9/16-inch wrenches with flexible corrugated cardboard. Tape all wrappings.

(5) Arrange packages in bottom of carton.

(6) Fold flexible corrugated cardboard to form fillers as needed.

(7) Close top of carton and tape all edges.

j. Manuals.

(1) Place each manual in a barrier bag.

(2) Tape bag closed.

k. Shipping Crate. If the entire AN/GRC-106 is to be stored or shipped, prepare the wooden shipping crate for the cartons prepared in *b* through *j* above.

Section II. DEMOLITION TO PREVENT ENEMY USE

6-4. Authority for Demolition

Demolition of the equipment will be accomplished only upon order of the commander. Use the destruction procedures outlined in paragraph 6-5 to prevent further use of the equipment.

6-5. Methods of Destruction

Any of the methods of destruction given below may be used. The available time is the major factor in determining the method to be used. The tactical situation will determine in what manner the destruction order will be carried out.

a. Smash. If time is a limiting factor, puncture the right front side of the RT-662/GRC or RT-834/GRC case with a pickaxe or ax to smash the frequency standard module. Smash the controls, indicators, and connectors of the AM-3349/GRC-106 and the RT-662/GRC or RT-834/GRC with the heaviest tool on hand.

b. Cut. Cut the cables and wires.

WARNING

Be extremely careful when using gasoline for destruction.

c. Burn. Burn the instruction literature first. Burn as much of the equipment as is flammable. Pour gasoline on the cut cables and internal wiring and ignite it. Use a flamethrower to burn spare parts or pour gasoline on the spare parts and ignite them.

WARNING

Be extremely careful with explosives and incendiary devices. Use these items only when the need is urgent.

d. Explore. Use explosives to complete demolition or to cause maximum destruction when time does not permit demolition by other means. Smash the front panels and place the explosive charges inside the equipment to cause maximum destruction. Incendiary grenades are usually most effective if destruction of small parts and wiring is desired.

e. Dispose. Bury or scatter destroyed parts in slit trenches, foxholes, or throw them into waterways.

APPENDIX A
REFERENCES

Following is a list of applicable references available to the operator and the unit repairman of Radio Sets AN/GRC-106(*).

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders.
DA Pam 310-7	U.S. Army Equipment Index of Modification Word Orders.
SB 11-131	Vehicular Radio Sets and Authorized Installations.
SB 11-573	Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment.
SB 38-100	Preservation, Packaging, Packing and Marking Materials, Supplies, and Equipment Used by the Army.
SC 5180-91-CL-R13	Sets, Kits, and Outfits Components List: Tool Kit, Electronic Equipment TK-101/G (FSN 5180-064-5178).
TB 43-0118	Field Instructions for Painting and Preserving Electronics Command Equipment Including Camouflage Pattern Painting of Electrical Equipment Shelter.
TB SIG 291	Safety Measures to be Observed When Installing and Using Whip Antennas, Field Type Masts, Towers, Antennas, and Metal Poles That Are Used With Communication, Radar, and Direction Finder Equipment (TO 31P5-1-1).
TM 11-5820-467-15	Operator's, Organizational, Direct Support, General Support, and Depot Maintenance Manual: Antenna Group AN/GRA-50.
TM 11-5820-765-12	Operator and Organizational Maintenance Manual: Power Supplies PP-4763/GRC and PP-4763A/GRC.
TM 11-5915-223-12	Operator's and Organizational Maintenance Manual Including Repairs Parts and Special Tools Lists: Suppressor, Electrical Transient MX-7778/GRC.
TM 11-5965-202-35	Field and Depot Maintenance: Handsets H-33D/PT, H-33E/PT, and H-33F/PT (TO 31W1-2PT-364).
TM 11-5965-222-14P	Operator's, Organizational, Direct Support, and General Support Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools): Dynamic Loudspeaker LS-166/U, FSN 5965-243-6420.
TM 11-5965-260-24P	Organizational, Direct Support, and General Support Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools): Headset, Electrical H-140A/U (FSN 5965-892-1010).
TM 11-6625-203-12	Operator and Organizational Maintenance: Multimeter AN/URM-105 and AN/URM -105C Including Multimeter ME-77/U and ME-77C/U.
TM 38-750	The Army Maintenance Management System (TAMMS).
TM 740-90-1	Administrative Storage of Equipment.

APPENDIX B

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

B-1. General

This appendix provides a summary of the maintenance operations for the AN/GRC-106 and AN/GRC-106A. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

B-2. Maintenance Function

Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and to detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition; i.e., to clean, preserve, drain, paint, or to replenish fuel/lubricants/hydraulic fluids or compressed air supplies.

d. Adjust. Maintain within prescribed limits by bringing into proper or exact position, or by setting the operating characteristics to the specified parameters.

e. Align. To adjust specified variable elements of an item to about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipment used in precision measurement. Consists of the comparison of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Install. The act of emplacing, seating, or fixing into position an item, part, module (component or assembly) in a manner to allow the proper functioning of the equipment/system.

h. Replace. The act of substituting a serviceable like-type part, subassembly, model (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services (inspect, test, service, adjust, align, calibrate, replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module/component/assembly, end item or system.

j. Overhaul. That periodic maintenance effort (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (e.g., DWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like-new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like-new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours, miles, etc.) considered in classifying Army equipment/components.

B-3. Column Entries

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies and modules with the next higher assembly.

b. Column 2, Component/Assembly. Column 2 contains the noun names of components, assem-

blies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Functions. Column 3 lists the functions to be performed on the item listed in column 2.

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a "worktime" figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate "worktime" figures will be shown for each category. The number of man-hours specified by the "worktime" figure represents the average time required to restore an item (assembly, subassembly, component, module, end item or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. Subcolumns of column 4 are as follows:

C—Operator/crew
O—Organizational
F—Direct support
H—General support
D—Depot

e. Column 5, Tools and Equipment. Column 5 specifies by code, those common toolsets (not individual tools) and special tools, test, and support equipment required to perform the designated function.

B-4. Tool and Test Equipment Requirements (Table I)

a. Tool or Test Equipment Reference Code. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool or test equipment for the maintenance functions.

b. Maintenance Category. The codes in this column indicate the maintenance category allocated the tool or test equipment.

c. Nomenclature. This column lists the noun name and nomenclature of the tools and test equipment required to perform the maintenance functions.

d. National/NATO Stock Number. This column lists the National/NATO stock number of the specific tool or test equipment.

e. Tool Number. This column lists the manufacturer's part number of the tool followed by the Federal Supply Code for Manufacturers (5-digit) in parentheses.

(Next printed page is B-3)

SECTION II MAINTENANCE ALLOCATION CHART FOR AN/GRC-106 AND AN/GRC-106A

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT
			C	O	F	H	D	
00	RADIO SET AN/GRC-106 AND AN/GRC-106A	Inspect		0.2				1
		Test[1]		0.3				16 thru 29
		Test[2]			0.5	1.0		15 thru 38
		Test[3]					2.0	18 thru 44
		Test[4]						2
		Service		1.0				3,4
		Adjust[5]			1.0		2.0	2 thru 14
		Adjust[6]						3,4
		Align[7]			2.0	4.0		3 thru 14
		Align[8]					5.0	2 thru 14
		Align[9]						3,4
		Install			2.0			2
		Repair[10]		0.5				3,4
		Repair[11]			2.5			3 thru 14
		Repair[12]				10.0		2 thru 14
		Repair[13]					20.0	2 thru 14
		Overhaul					40.0	2 thru 14
		Rebuild					80.0	
01	RECEIVER-TRANSMITTER RT-662/GRC AND RT-834/GRC	Inspect		0.2				16 thru 29
		Test[2]			0.5	1.0		15 thru 38
		Test[3]					2.0	18 thru 44
		Test[4]						2
		Service		0.5				3,4
		Adjust[5]			1.0		2.0	2 thru 14
		Adjust[6]						3,4
		Align[7]			1.0	2.0		3 thru 14
		Align[9]						3,4
		Install			1.0			2
		Repair[14]		0.5				3,4
		Repair[15]			1.0			3 thru 14
		Repair[12,16]				5.0		2 thru 14
		Repair[13]					10.0	2 thru 14
		Overhaul					20.0	2 thru 14
		Rebuild					40.0	
0101	CHASSIS ASSEMBLY 1A1	Inspect			0.5			3,4
		Service			1.0			2 thru 14
		Rebuild					5.0	
010101	FRONT END PROTECTION ASSEMBLY 1A1A1A10	Inspect			0.3			15 thru 38
		Test[4]				0.5		3,4
		Adjust[6]				0.5		3,4
		Repair[17]			0.9			3 thru 14
		Repair[13]				1.5		2 thru 14
		Rebuild					3.0	
010102	INTERNAL ALC ASSEMBLY 1A1A2A5	Inspect			0.3			15 thru 38
		Test[4]				0.5		3 thru 14
		Adjust[6]				0.5		3,4
		Repair[17]			0.9			3 thru 14
		Repair[13]				1.5		2 thru 14
		Rebuild					3.0	
010103	100 HZ SYNTHESIZER 1A1A2A8	Inspect			0.3			15 thru 38
		Test[4]				0.5		3 thru 14
		Adjust[6]				0.5		3,4
		Repair[17]			0.9			3 thru 14
		Repair[13]				1.5		2 thru 14
		Rebuild					3.0	

See footnotes at end of chart.

SECTION II MAINTENANCE ALLOCATION CHART FOR AN/GRC-106 AND AN/GRC-106A

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT
			C	O	F	H	D	
0101	VOLTAGE REGULATOR ASSEMBLY 1A1A2A9	Inspect		0.3				
		Test[4]				0.5		15 thru 38
		Adjust				0.5		3 thru 14
		Repair[17]			0.9			3,4
		Repair[13]				1.5		3 thru 14
		Rebuild					3.0	2 thru 14
0102	100 KHZ SYNTHESIZER MODULE 1A2	Inspect			0.3			
		Test				0.5		15 thru 38
		Service			0.5			3,4
		Adjust				1.0		3 thru 14
		Align				1.0		3 thru 14
		Repair[17]			0.5			3,4
		Repair[13]				4.0		3 thru 14
		Rebuild					8.0	2 thru 14
0103	FREQUENCY STANDARD MODULE 1A3	Inspect			0.3			
		Test				0.5		15 thru 38
		Service			0.5			3,4
		Adjust				1.0		3 thru 14
		Align				1.0		3 thru 14
		Repair[17]			0.5			3,4
		Repair[13]				3.0		3 thru 14
		Rebuild					5.2	2 thru 14
0104	10 AND 1 KHZ SYNTHESIZER MODULE 1A4	Inspect			0.3			
		Test				0.5		15 thru 38
		Service			0.5			3,4
		Adjust				1.0		3 thru 14
		Align				1.0		3 thru 14
		Repair[17]			0.5			3,4
		Repair[13]				3.0		3 thru 14
		Rebuild					5.0	2 thru 14
0105	TRANSMITTER IF AND AUDIO MODULE 1A5	Inspect			0.3			
		Test				0.5		15 thru 38
		Service			1.0			3,4
		Adjust				1.0		3 thru 14
		Align				1.0		3 thru 14
		Repair[17]			0.5			3,4
		Repair[13]				4.0		3 thru 14
		Rebuild					5.2	2 thru 14
0106	FREQUENCY DIVIDER MODULE 1A6	Inspect			0.3			
		Test				0.5		15 thru 38
		Service			0.3			3,4
		Adjust				1.0		3 thru 14
		Align				1.0		3 thru 14
		Repair[17]			0.5			3,4
		Repair[13]				4.0		3 thru 14
		Rebuild					5.8	2 thru 14
0107	RECEIVER IF MODULE 1A7	Inspect			0.3			
		Test				0.5		15 thru 38
		Service			0.3			3,4
		Adjust				1.0		3 thru 14
		Align				1.0		3 thru 14
		Repair[17]			0.5			3,4
		Repair[13]				4.0		3 thru 14
		Rebuild					6.4	2 thru 14

See footnotes at end of chart.

SECTION II MAINTENANCE ALLOCATION CHART FOR AN/GRC-106 AND AN/GRC-106A

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT
			C	O	F	H	D	
0108	TRANSLATOR MODULE 1A8	Inspect				0.3		
		Test					1.0	18 thru 44
		Service				0.3		3 thru 14
		Adjust					1.0	3 thru 14
		Align					1.0	3 thru 14
		Repair[17]				0.5		3,4
		Repair[13]					6.0	2 thru 14
		Rebuild					8.5	2 thru 14
0109	MHZ SYNTHESIZER MODULE 1A9	Inspect			0.3			
		Test				0.5		15 thru 38
		Service			0.3			3,4
		Adjust				1.0		3 thru 14
		Align				1.0		3 thru 14
		Repair[17]			0.5			3,4
		Repair[13]				2.0		3 thru 14
		Rebuild					4.5	2 thru 14
0110	RECEIVER AUDIO MODULE 1A10	Inspect			0.3			
		Test				0.5		15 thru 38
		Service			0.3			3,4
		Adjust				1.0		3 thru 14
		Align				1.0		3 thru 14
		Repair[17]			0.5			3,4
		Repair[13]				2.0		3 thru 14
		Rebuild					4.2	2 thru 14
0111	DC-TO-DC CONVERTER AND REGULATOR MODULE 1A11	Inspect			0.3			
		Test				0.5		15 thru 38
		Service			0.3			3,4
		Adjust				1.0		3 thru 14
		Align				1.0		3 thru 14
		Repair[17]			0.5			3,4
		Repair[13]				2.0		3 thru 14
		Rebuild					5.2	2 thru 14
0112	RF AMPLIFIER MODULE 1A12	Inspect				0.3		
		Test					1.5	18 thru 44
		Service				0.3		3 thru 14
		Adjust			1.0			3,4
		Align[18]			1.0			3,4
		Align[9]					2.0	2 thru 14
		Repair[19]			2.0			3,4
		Repair[13]					4.0	2 thru 14
		Rebuild					16.5	2 thru 14
0113	CASE ASSEMBLY	Inspect		0.1				2
		Service		0.5				
		Rebuild					5.0	2 thru 14

See footnotes at end of chart.

SECTION II MAINTENANCE ALLOCATION CHART FOR AN/GRC-106 AND AN/GRC-106A

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT
			C	O	F	H	D	
02	AMPLIFIER, RADIO FREQUENCY AM-3349/GRC-106	Inspect		0.2				
		Test[20]			0.5			16 thru 29
		Test[4]				1.0		15 thru 38
		Service		0.5				2
		Adjust[21]			1.0			3,4
		Adjust[6]				2.0		3 thru 14
		Align[7]			1.0			3,4
		Align[9]				2.0		3 thru 14
		Install			1.0			3,4
		Repair[22]			2.0			3,4
		Repair[23]				4.0		3 thru 14
		Repair[13]					10.0	2 thru 14
		Overhaul					20.0	2 thru 14
		Rebuild					40.0	2 thru 14
0201	CHASSIS ASSEMBLY 2A1	Inspect			0.3			
		Service			0.5			3,4
		Adjust[6]			1.0			3 thru 14
		Repair[24]			1.0			3,4
		Repair					2.0	2 thru 14
		Overhaul					20.0	2 thru 14
0202	TURRET ASSEMBLY 2A2	Inspect			0.3			
		Test					1.0	18 thru 44
		Adjust			1.0			3,4
		Align			1.0			3,4
		Repair[25]			2.0			3 thru 14
		Repair[13]					4.0	2 thru 14
		Rebuild					12.5	2 thru 14
0203	ANTENNA COUPLER ASSEMBLY 2A3	Inspect			0.3			
		Test					1.0	18 thru 44
		Adjust					1.0	2 thru 14
		Align					1.0	2 thru 14
		Repair[26]			1.0			3,4
		Repair[13]					2.0	2 thru 14
		Rebuild					4.0	2 thru 14
0204	DISCRIMINATOR ASSEMBLY 2A4	Inspect			0.3			
		Test					1.0	18 thru 44
		Adjust					1.0	2 thru 14
		Align					1.0	2 thru 14
		Repair[17]			1.0			3,4
		Repair[13]					2.0	2 thru 14
		Rebuild					4.0	2 thru 14
0205	FRONT PANEL ASSEMBLY 2A5	Inspect			0.3			
		Test[27]			0.5			16 thru 29
		Test[4]					1.0	18 thru 44
		Repair[28]			1.0			3,4
		Repair[13]				2.0		3 thru 14
		Rebuild					4.0	2 thru 14
020501	FILTER ASSEMBLY 2A5A1	Inspect			0.3			
		Test					1.0	18 thru 44
		Repair[17]			1.0			3,4
		Repair[13]					1.0	2 thru 14
		Rebuild					2.0	2 thru 14

See footnotes at end of chart.

SECTION II MAINTENANCE ALLOCATION CHART FOR

AN/GRC-106 AND AN/GRC-106A

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT
			C	O	F	H	D	
020502	DC-TO-DC CONVERTER 2A5A2	Inspect			0.3			15 thru 38
		Test				1.0		3,4
		Repair[29]			1.0			3 thru 14
		Repair[13]				1.0		2 thru 14
		Rebuild					2.0	
020503	PLATE ASSEMBLY 2A5A3	Inspect			0.3			15 thru 38
		Test				1.0		3,4
		Repair[30]			1.0			3 thru 14
		Repair[13]				2.0		? thru 14
		Rebuild					2.0	
020504	SCREEN RECTIFIER ASSEMBLY 2A5A4	Inspect					0.5	18 thru 44
		Test					1.0	? thru 14
		Repair					1.0	2 thru 14
		Rebuild					1.0	
020505	TERMINAL BOARD ASSEMBLY 2A5A5	Inspect			0.3			15 thru 38
		Test				1.0		3,4
		Repair[17]			0.5			3 thru 14
		Repair[13]				1.0		? thru 14
		Rebuild					2.0	
020506	START CIRCUIT ASSEMBLY 2A5A6	Inspect			0.3			15 thru 38
		Test				1.0		3,4
		Repair[17]			0.5			3 thru 14
		Repair[13]				1.0		? thru 14
		Rebuild					2.0	
020507	PROTECTION CIRCUIT 2A5A7	Inspect			0.3			15 thru 38
		Test				1.0		3,4
		Repair[17]			0.5			2 thru 14
		Repair[13]					2.0	? thru 14
		Rebuild					2.0	
0206	CASE ASSEMBLY 2A6	Inspect		0.3				2
		Service		0.6				3,4
		Repair[31]			2.0			3 thru 14
		Repair[13]					4.0	2 thru 14
		Rebuild					4.5	
020601	INVERTER ASSEMBLY 2A6A1	Inspect			0.3			18 thru 44
		Test					1.0	3,4
		Repair[17]			1.0			2 thru 14
		Repair[13]					2.0	2 thru 14
		Rebuild					3.0	
0207	RELAY ASSEMBLY 2A7	Inspect			0.3			16 thru 29
		Test[32]			1.0			15 thru 38
		Test[4]				1.0		3,4
		Repair[33]			1.0			3 thru 14
		Repair[13]				2.0		2 thru 14
		Rebuild					4.3	
0208	DRIVE ASSEMBLY 2A8	Inspect				0.3		16 thru 29
		Test[34]			0.5			18 thru 44
		Test[4]				1.0	1.0	3,4
		Adjust			0.5			3,4
		Repair[35]					2.0	2 thru 14
		Repair[13]					3.5	2 thru 15
		Rebuild						

See footnotes at end of chart.

SECTION II MAINTENANCE ALLOCATION CHART FOR

AN/GRC-106 AND AN/GRC-106A

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT
			C	O	F	H	D	
0209	PA STATOR ASSEMBLY 2A9	Inspect			0.3			
		Test				0.5		15 thru 38
		Adjust				1.0		3 thru 14
		Repair[17]			1.0			3,4
		Repair[13]				2.0		3 thru 14
		Rebuild					3.4	2 thru 14
03	MOUNTING ASSEMBLY MT-3140/GRC-106	Inspect		0.1				
		Service		0.2				2
		Install		0.4				2
		Repair					1.0	3,4
		Rebuild					2.0	3,4
04	INTERCONNECTIN CABLES	Inspect	0.1					
		Test		0.2				1
		Test			0.3			21
		Replace		0.4				2
		Repair				1.5		3,4
05	ANTENNA GROUP AN/GRA-50	Repair[36]						
06	LOUDSPEAKER LS-166/U	Repair[37]						
08	MAST BASE AB-652/GR	Inspect	0.1					
		Test[1]	0.3					
		Test[13]			0.5			16 thru 29
		Repair[17]	1.0					2
09	MAST SECTIONS MS-116-A, MS-117-A, MS-118-A	Inspect		0.2				
		Service		0.5				2
		Install		0.5				2
		Repair[17]		0.5				2
10	TELEGRAPH KEY KY-116/U	Inspect		0.1				
		Service		0.3				2
		Install		0.1				
		Repair[17]		0.1				
11	HEADSET H-227/U	Repair[17]		0.1				
12	HANDSET H-33()/PT	Repair[17]		0.1				
13	MICROPHONE M-29B/U	Repair[17]		0.1				

(1) Operational test only.
(2) All test except GS testing and module test.
(3) All test except module testing.
(4) All test.
(5) All adjustments except module adjustments.
(6) All adjustments.
(7) Mechanical alignment only.
(8) All alignment except module alignment.
(9) All alignment.
(10) Repair by replacement of knobs, fuse, external screws, running spare items, and external cables.
(11) Repair by replacement of tubes, modules, and other plug-in, pluck out items, (switches) external connectors and meters.
(12) Repair of modules.
(13) All repairs.
(14) Repair by replacement of knobs, fuses, external screws and running spare items.
(15) Repair by replacement of tubes, modules (not 1A12) relays and other pluck out items, RF coil strips, switches, external connectors, meters, and chassis mounted components.
(16) Repair by replacement of 1A12.
(17) Repair by replacement only.
(18) Alignment of RF coils only.
(19) Repair by replacement of RF coils only.
(20) All test except GS and individual subassembly tests.
(21) All adjustments except turret assembly adjustments.
(22) Repair by replacement of tubes, relays, 2A3, 2A4, 2A7, and other assemblies, Repair by replacing switches, external connectors, meters, and RF coil strips.
(23) All repairs except repair of gears.'
(24) Repair by replacement of tubes, blowers, and other assemblies requiring little or no soldering.
(25) Repair by replacement of RF coil strips only.
(26) Repair by replacement of 2A3C26, 2A3L1 and the active 2A3 assembly only.
(27) Only that testing necessary to fault locate to a defective circuit.
(28) Repair by replacement of relays, 2A5A1, 2A5A2, 2A5A3, 2A5A6, 2A5A7 and other items not requiring extensive soldering, also replacement of meters, switches, external connectors, and 2A5Q1.
(29) Repair by replacement or relays, 2A5A2Q2 and 2A5Q1.
(30) Repair by replacement of assembly and 2A5A3K1.
(31) Repair by replacement of blower and 2A6A1.
(32) Fault locate relay only.
(33) Repair by replacement of relays and assemblies.
(34) Fault location only.
(35) Repair by replacement of tubes, tube shield, and shield retainer.
(36) See TM 11-5820-467-15.
(37) See TM 11-5965-222-14P.

TABLE I. TOOL AND TEST EQUIPMENT REQUIREMENTS FOR

AN/GRC-106 AND AN/GRC-106A

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	O	MULTIMETER AN/URM-105	6625-00-884-1758	
2	O,D	TOOL KIT, ELECTRONIC EQUIPMENT TK-101/G	5180-00-064-5178	
3	F,H,D	TOOL KIT, ELECTRONIC EQUIPMENT TK-100/G	5180-00-605-0079	
4	F,H,D	TOOK KIT, ELECTRONIC EQUIPMENT TK-105/G	5180-00-610-8177	
5	H,D	TORQUE WRENCH	5120-00-230-6380	
6	H,D	KEY, SOCKET HEAD SCREW	5120-00-827-2967	
7	H,D	EXTENSION SOCKET HEAD WRENCH	5120-00-243-1689	
8	H,D	CROWFOOT ATTACHMENT	5120-00-181-6764	
9	H,D	HANDLE, SOCKET WRENCH	5120-00-240-5396	
10	H,D	SOCKET	5120-00-235-5807	
11	H,D	UNIVERSAL JOINT	5120-00-224-9215	
12	H,D	THERMOMETER	6685-00-444-6000	
13	H,D	STOP WATCH	6645-00-250-4680	
14	H,D	BLOWER, EXTERNAL		
15	H	DIGITAL VOLTMETER AN/GSM-64()	6625-00-165-5779	
16	F,H	SIGNAL GENERATOR AN/GRM-50	6625-00-868-8353	
17	F,H	SIGNAL GENERATOR AN/URM-127 (2 ea.)	6625-00-783-5965	
18	F,H,D	ELECTRICAL DUMMY LOAD DA-75/U	6625-00-177-1639	
19	F,H,D	MULTIMETER ME-26()/U ME-26A/U ONLY FOR H,D	6625-00-360-2493	
20	F,H,D	POWER SUPPLY PP-4763()/GRC	5820-00-937-7690	
21	F,H,D	MULTIMETER TS-352B/U	6625-00-553-0142	
22	F,H,D	OSCILLOSCOPE AN/USM-281A	6625-00-228-2201	
23	F,H,D	ELECTRON TUBE TEST SET TV-2/U	6625-00-669-0263	
24	F,H,D	ELECTRONIC VOLTMETER AN/URM-145	6625-00-973-3986	
25	F,H,D	ELECTRONIC VOLTMETER ME-30()/U	6625-00-643-1670	
26	F,H,D	FREQUENCY METER AN/USM-207	6625-00-911-6368	
27	F,H,D	ATTENUATOR CN-1128/U (HP-3550)	5985-00-957-1860	
28	F,H,D	TELEGRAPH KEY KY-116/U	5805-00-503-3395	
29	F,H,D	TEST AND EXTENDER CABLES		
30	H,D	DUMMY LOAD GROUP OA-4539/GRC-106	5985-00-089-4379	
31	H,D	RADIO TEST SET AN/USM-306	6625-00-459-8568	
32	H,D	PROBE T-CONNECTOR HP-11042A	6625-00-713-4356	
33	H,D	LOUDSPEAKER LS-166/U	5965-00-243-6420	
34	H,D	HANDSET H-33/PT	5965-00-163-9947	
35	H,D	AUDIO LEVEL METER TS-585/U	6625-00-244-0501	
36	H,D	RF SIMULATOR SM-442A/GRC	6625-00-937-4029	
37	H,D	TRANSISTOR TEST SET TS-1836/U	6625-00-893-2628	
38	H,D	SPECTRUM ANALYZER TS-723()/U	6625-00-668-9418	

TABLE I. TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR

AN/GRC-106 AND AN/GRC-106A

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
39	D	SIGNAL GENERATOR HP-606B	6625-00-494-8565	
40	D	SYNCHRONIZER HP-8708A	6625-00-247-1079	
41	D	AVENTEK AMPLIFIER AG-10		
42	D	WAVE ANALYZER TS-1830/U (HP-302A)	6625-00-958-4473	
43	D	DIGITAL VOLTMETER FLUKE 8100A	6625-00-433-4234	
44	D	SIGNAL GENERATOR TS-4121C/U	6625-00-435-2588	

APPENDIX C

ORGANIZATIONAL REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

C-1. Scope

This appendix lists repair parts required for the performance of organizational maintenance of Radio Sets AN/GRC-106 and AN/GRC-106A.

NOTE

No special tools, test, and support equipment required.

C-2. General

This Repair Parts List is divided into the following sections:

a. Repair Parts for Organization Maintenance—Sections II and V. A list of repair parts authorized for the performance of maintenance at the organizational level.

b. Index—Federal Stock Number and Reference Number Cross-Reference to Figure and Item Number or Reference Designation—Sections III and VI. A list of Federal stock numbers in ascending numerical sequence, followed by a list of reference numbers in ascending alphanumeric sequence, cross-referenced to illustration figure number and reference designation or item number.

c. Index-Reference Designation Cross-Reference to Page Number—Sections IV and VII. A list of reference designations cross-referenced to page numbers.

C-3. Explanation of Columns

The following provides an explanation of columns in the tabular lists:

a. Source, Maintenance, and Recoverability Codes (SMR).

(1) Source code indicates the selection and source for the listed item. Source codes are:

Code	Explanation
A	Assemblies which are not procured or stocked as such, but are made up of two or more units. Such component units carry individual stock numbers and descriptions, are procured and stocked separately, and can be assembled to form the required assembly at indicated maintenance categories.
M	Repair parts which are not procured or stocked, but are manufactured at indicated maintenance levels.
P	Repair parts which are stocked in or supplied from GSA/DSA, or Army supply system, and authorized for use at indicated maintenance categories.
X1	Repair parts which are not procured or stocked. The requirement for such items will be filled by use of the next higher assembly or component.

(2) Maintenance code indicates the lowest category of maintenance authorized to install the listed item. The maintenance level code is:

Code	Explanation
O	Organizational maintenance

(3) Recoverability code indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable.

b. Federal Stock Number. Indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description. Indicates the Federal item name and any additional description of the item required. A part number, or other reference number, is followed by the applicable five-digit Federal supply code for manufacturers which is preceded and followed by slashes(/).

d. Unit of Measure (U/M). A 2-character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

e. Quantity Incorporated in Unit. Indicates the quantity of the item used in the assembly group. Subsequent appearances of the same item in the same assembly are indicated by the letters "REF".

f. Allowances (15-Day Organizational Maintenance). Items authorized for requisition as required are identified by an asterisk in the allowance collumn.

g. Illustrations.

(1) *Figure number.* Indicates the figure number of the illustration in which the item is shown.

(2) *Item number or reference designation.* Indicates the callout number or reference designation used to identify the item in the illustration.

C-4. Special Information

Parts which require manufacturer or assembly at a category higher than that authorized for installation will indicate in the source column the higher category; i.e., MD.

C-5. Location of Repair Parts

a. This appendix contains four cross-referenced indexes (sec III, IV, VI, and VII) to be used to locate a repair part when either the Federal stock number, reference number (manufacturer's part number), or reference designation is known. The first column in each index is prepared in numerical or alphanumeric sequence in ascending order. Where a Federal stock number is not listed, refer to the reference number (manufacturer's part number) immediately following the Federal stock number.

b. When the Federal stock number or reference number is known, follow the procedures given in (1) and (2) below.

(1) Refer to the index of Federal stock numbers and reference numbers (sec III and VI) and locate the Federal stock number or reference number. The Federal stock number or reference number is cross-referenced to the applicable figure and reference designation.

(2) When the reference designation is determined, refer to the reference designation index (sec IV and VII). The reference designations are listed in numeric-alpha ascending order and cross-referenced to the page number on which they appear in the repair parts lists (sec II and V). Refer to the page number noted in the index and locate the reference designation in the repair parts lists (col 7*b*).

c. When the reference designation is known, follow the procedures given in *b*(2) above.

d. When neither the Federal stock number, reference number, nor reference designation is known, identify the part in the illustration and follow directions given in *c* above; or scrutinize column 3 of the repair parts lists (sec II and V).

C-6. Abbreviations

ASSY	Assembly
MSTRE	Moisture
PROT	Protective
PUR	Purpose
SPEC	Special

C-7. Federal Supply Codes for Manufacturers

Code	*Manufacturer*
37695	Magnavox Co.
80058	Joint Electronic Type Designation System
80063	Army Electronics Command Procurement and Production Directorate
96906	Military Standards

(Next printed page is C-5)

SECTION II REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE AVW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P O	7610-757-2828	PLATE,INSTRUCTION SMD508586 /80063/	EA	1	*	*	*	*		2A6MP15
P O		SCREW,MACHINE SMC500791-5 /80063/	EA	6	*	*	*	*		2A6MP15H6
P O		WASHER,FLAT SMC500896-1 /80063/	EA	6	*	*	*	*		2A6MP15H6
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	2	*	*	*	*		2A1A5MP7
P O	5305-054-5650	SCREW,MACHINE MS51957-16 /96906/	EA	1	*	*	*	*		2A1A5MP7H1
P O		SPACER,SLEEVE SMB502828 /80063/	EA	1	*	*	*	*		2A1A5MP7H1
P O		WASHER,FLAT SMC500896-3 /80063/	EA	1	*	*	*	*		2A1A5MP7H1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						2A1A5MP7MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						2A1A5MP7MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						2A1A5MP7MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						2A1A5MP7MP4
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	REF	*	*	*	*		2A1A5MP8
P O	5305-054-5650	SCREW,MACHINE MS51957-16 /96906/	EA	1	*	*	*	*		2A1A5MP8H1
P O		SPACER,SLEEVE SMB502828 /80063/	EA	1	*	*	*	*		2A1A5MP8H1
P O		WASHER,FLAT SMC500896-3 /80063/	EA	1	*	*	*	*		2A1A5MP8H1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						2A1A5MP8MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						2A1A5MP8MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						2A1A5MP8MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						2A1A5MP8MP4
P O	5930-755-6647	FLAG,ANTENNA SWITCH SMC502108 /80063/	EA	1	*	*	*	*		2A1A5MP9
P O		SCREW,MACHINE SMB502891 /80063/	EA	1	*	*	*	*		2A1A5MP9H1
P O		SPACER SMB502930 /80063/	EA	1	*	*	*	*		2A1A5MP9H1
P O	5355-613-7120	KNOB MS91522-1 /96906/	EA	2	*	*	*	*		2A1A5MP10
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		2A1A5MP10H1
P O		SPACER SMB502930 /80063/	EA	2	*	*	*	*		2A1A5MP10H2
P O	5355-613-7120	KNOB MS91522-1 /96906/	EA	REF	*	*	*	*		2A1A5MP11
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		2A1A5MP11H1
P O		SPACER SMB502930 /80063/	EA	2	*	*	*	*		2A1A5MP11H2
P O	5355-945-6596	KNOB SMC502491 /80063/	EA	2	*	*	*	*		2A1A5MP12
P O		NUT,PLAIN,HEXAGON MS25082-7 /96906/	EA	1	*	*	*	*		2A1A5MP12H1

SECTION II REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		2A1A5MP12H1
P O	5355-945-6596	KNOB SMC502491 /80063/	EA	REF	*	*	*	*		2A1A5MP13
P O		NUT,PLAIN,HEXAGON MS25082-7 /96906/	EA	1	*	*	*	*		2A1A5MP13H1
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		2A1A5MP13H1
P O	5355-926-5270	KNOB,CONTROL SMC503203 /80063/	EA	1	*	*	*	*		2A1A5MP14
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		2A1A5MP14H1
MD O		PLATE,IDENTIFICATION SMC508581 /80063/	EA	1						2MP4
P O	5820-078-4769	ANTENNA COVER SMD500428 /80063/	EA	1	*	*	*	*	1-4	28
P O	5895-892-0758	ANTENNA GROUP,AN/GRA-50 ANGRA50 /80058/	EA	1	*	*	*	*	1-3	15
P O	8105-200-2329	BAG,CW-206/GR CW206GR /80058/	EA	1	*	*	*	*	1-4	16
P O	5995-578-6353	CABLE ASSY,CG-409G/U CG409GU /80058/	EA	2	*	*	*	*	1-1	19
P O	5995-578-6353	CABLE ASSY,CG-409G/U CG409GU /80058/	EA	REF	*	*	*	*	1-1	20
P O	5995-349-4844	CABLE ASSY,CX-1852/U CX1852U /80058/	EA	1	*	*	*	*	1-2	7
P O	5995-985-8005	CABLE ASSY,SPECPUR,CX-10099/U SMC502991 /80063/	EA	1	*	*	*	*		13
P O	5340-857-3247	CAP-PLUG,PROT,DUST&MSTRE SEAL MS25177-24 /96906/	EA	2	*	*	*	*		13MP2
P O	5340-857-3247	CAP-PLUG,PROT,DUST&MSTRE SEAL MS25177-24 /96906/	EA	REF	*	*	*	*		13MP3
P O	5995-985-7998	CABLE ASSY,SPECPUR,CX-10071/U SMD502972 /80063/	EA	2	*	*	*	*		11
P O	5995-985-7998	CABLE ASSY,SPECPUR,CX-10071/U SMD502972 /80063/	EA	REF	*	*	*	*		12
P O		CLAMP,ANTENNA SCB19491 /80063/	EA	1	*	*	*	*		8
P O	5965-163-9947	HANDSET,H-33/PT H33PT /80058/	EA	1	*	*	*	*	1-2	9
P O	5965-226-2915	HEADSET,H-227/U H227U /80058/	EA	1	*	*	*	*	1-2	10
P O		INSULATOR,IN-104 IN104 /80058/	EA	2	*	*	*	*		21
P O		INSULATOR,IN-104 IN104 /80058/	EA	REF	*	*	*	*		22
P O	6150-170-5573	JUMPER,ELECTRICAL,SCB27840-4 SCB27840-4 /80063/	EA	1	*	*	*	*		23
P O	5805-171-3370	KEY,TELEGRAPH,KY-116/U KY116U /80058/	EA	1	*	*	*	*	1-2	14
P O	5995-985-8014	LEAD,ELECTRICAL SMC502924 /80063/	EA	1	*	*	*	*		17
P O	5340-821-7306	CAP-PLUG,PROT,DUST&MSTRE SEAL MS25177-32 /96906/	EA	1	*	*	*	*		17MP1
P O	5965-243-6420	LOUDSPEAKER,LS-166/U LS166U /80058/	EA	1	*	*	*	*	1-2	24
P O	5820-078-4710	MAST BASE,AB-652/GR AB652GR /80058/	EA	1	*	*	*	*	1-4	25
P O	5985-199-8831	MAST,SECTION,MS-116A MS116A /80058/	EA	3	*	*	*	*	1-4	26A
P O	5985-199-8831	MAST,SECTION,MS-116A MS116A /80058/	EA	REF	*	*	*	*	1-4	26B

SECTION II REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P O	5985-199-8831	MAST,SECTION,MS-116A MS116A /80058/	EA	REF	*	*	*	*	1-4	26C
P O	5985-115-7149	MAST,SECTION,MS-117A MS117A /80058/	EA	1	*	*	*	*	1-4	28
P O	5985-238-7474	MAST,SECTION,MS-118A MS118A /80058/	EA	1	*	*	*	*	1-4	29
P O	5965-194-9770	MICROPHONE,M-29/U M29U /80058/	EA	1	*	*	*	*	1-2	27
P O		NUT,SELF-LOCKING,CAP SMB502980 /80063/	EA	2	*	*	*	*		3A1MP2
P O		NUT,SELF-LOCKING,CAP SMB502980 /80063/	EA	REF	*	*	*	*		3A1MP3
P O		NUT,SELF-LOCKING,CAP SMB502980 /80063/	EA	2	*	*	*	*		3A2MP2
P O		NUT,SELF-LOCKING,CAP SMB502980 /80063/	EA	REF	*	*	*	*		3A2MP3
P O		COLLAR,SHAFT SMB500793 /80063/	EA	2	*	*	*	*		3MP18
P O	5305-719-5346	SETSCREW MS51963-35 /96906/	EA	2	*	*	*	*		3MP18H2
P O		COLLAR,SHAFT SMB500793 /80063/	EA	REF	*	*	*	*		3MP19
P O	5305-719-5346	SETSCREW MS51963-35 /96906/	EA	2	*	*	*	*		3MP19H2
P O		CRANK,HAND SMC502095 /80063/	EA	2	*	*	*	*		3MP20
P O	5315-614-3586	PIN,SPRING MS16562-212 /96906/	EA	1	*	*	*	*		3MP20H1
P O		CRANK,HAND SMC502095 /80063/	EA	REF	*	*	*	*		3MP21
P O	5315-614-3586	PIN,SPRING MS16562-212 /96906/	EA	1	*	*	*	*		3MP21H1
MD O		PLATE,IDENTIFICATION SMC508583 /80063/	EA	1						3MP23
P O		SCREW,DRIVE SMD500797-3 /80063/	EA	4	*	*	*	*		3MP23H4
P O		SCREW,MACHINE SMB502988 /80063/	EA	1	*	*	*	*		3H7
MD O		COVER,CONTROL DIAL SMD500139 /80063/	EA	1						1A1MP26
P O		SCREW,MACHINE SMC500791-3 /80063/	EA	6	*	*	*	*		1A1MP26H6
P O		WASHER,FLAT SMC500896-3 /80063/	EA	6	*	*	*	*		1A1MP26H6
P O	5355-727-8506	KNOB SMD500501 /80063/	EA	3	*	*	*	*		1A1MP28
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		1A1MP28H1
P O	5355-727-8506	KNOB SMD500501 /80063/	EA	REF	*	*	*	*		1A1MP29
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		1A1MP29H1
P O	5355-727-8506	KNOB SMD500501 /80063/	EA	REF	*	*	*	*		1A1MP30
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		1A1MP30H1

SECTION II REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51 100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	5	*	*	*	*		1A1A1MP7
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP7MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP7MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						1A1A1MP7MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						1A1A1MP7MP4
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	REF	*	*	*	*		1A1A1MP8
P O		SCREW,MACHINE SMC502829-1 /80063/	EA	1	*	*	*	*		1A1A1MP8H1
P O		SPACER,SLEEVE SMB502828 /80063/	EA	1	*	*	*	*		1A1A1MP8H1
P O		WASHER,FLAT SMC500896-3 /80063/	EA	1	*	*	*	*		1A1A1MP8H1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP8MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP8MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						1A1A1MP8MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						1A1A1MP8MP4
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	REF	*	*	*	*		1A1A1MP9
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP9MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP9MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						1A1A1MP9MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						1A1A1MP9MP4
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	REF	*	*	*	*		1A1A1MP10
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP10MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP10MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						1A1A1MP10MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						1A1A1MP10MP4
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	REF	*	*	*	*		1A1A1MP11
P O		SCREW,MACHINE SMC502829-1 /80063/	EA	1	*	*	*	*		1A1A1MP11H1
P O		SPACER,SLEEVE SMB502828 /80063/	EA	1	*	*	*	*		1A1A1MP11H1
P O		WASHER,FLAT SMC500896-3 /80063/	EA	1	*	*	*	*		1A1A1MP11H1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP11MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP11MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						1A1A1MP11MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						1A1A1MP11MP4

SECTION II REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P O		COVER,ELECTRICAL CONNECTOR SMC502637 /80063/	EA	2	*	*	*	*		1A1A1MP12
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP12MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP12MP2
X1 O		CORD,NYLON SMB502833-2 /80063/	EA	1						1A1A1MP12MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMC125743 /80063/	EA	1						1A1A1MP12MP4
X1 O		GASKET SMB125744 /80063/	EA	1						1A1A1MP12MP5
X1 O		RIVET,TUBULAR SMB125745 /80063/	EA	1						1A1A1MP12H1
P O		COVER,ELECTRICAL CONNECTOR SMC502637 /80063/	EA	REF	*	*	*	*		1A1A1MP13
P O		SCREW,MACHINE SMC502829-1 /80063/	EA	1	*	*	*	*		1A1A1MP13H1
P O		SPACER,SLEEVE SMB502828 /80063/	EA	1	*	*	*	*		1A1A1MP13H1
P O		WASHER,FLAT SMC500896-3 /80063/	EA	1	*	*	*	*		1A1A1MP13H1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP13MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP13MP2
X1 O		CORD,NYLON SMB502833-2 /80063/	EA	1						1A1A1MP13MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMC125743 /80063/	EA	1						1A1A1MP13MP4
X1 O		GASKET SMB125744 /80063/	EA	1						1A1A1MP13MP5
X1 O		RIVET,TUBULAR SMB125745 /80063/	EA	1						1A1A1MP13H1
P O	5920-519-5723	FUSE,CARTRIDGE F02A250V2A /81349/	EA	2	*	*	*	*		1A1A1F1
P O	5920-519-5723	FUSE,CARTRIDGE F02A250V2A /81349/	EA	REF	*	*	*	*		1A1A1F2
P O	5355-727-8497	KNOB SMC500407 /80063/	EA	5	*	*	*	*		1A1A1MP15
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP15H1
P O	5355-727-8497	KNOB SMC500407 /80063/	EA	REF	*	*	*	*		1A1A1MP16
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP16H1
P O	5355-727-8497	KNOB SMC500407 /80063/	EA	REF	*	*	*	*		1A1A1MP17
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP17H1
P O	5355-727-8497	KNOB SMC500407 /80063/	EA	REF	*	*	*	*		1A1A1MP18
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP18H1
P O	5355-727-8497	KNOB SMC500407 /80063/	EA	REF	*	*	*	*		1A1A1MP19
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP19H1
P O	5355-945-6596	KNOB SMC502491 /80063/	EA	2	*	*	*	*		1A1A1MP20
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP20H1

SECTION II REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P O	5355-945-6596	KNOB SMC502491 /80063/	EA	REF	*	*	*	*		1A1A1MP21
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP21H1
P O	5355-727-8500	KNOB SMD500502 /80063/	EA	2	*	*	*	*		1A1A1MP22
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		1A1A1MP22H1
P O	5355-727-8500	KNOB SMD500502 /80063/	EA	REF	*	*	*	*		1A1A1MP23
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		1A1A1MP23H1
MD O		PLATE,IDENTIFICATION SMC508584 /80063/	EA	1						1A1MP31
P O		RUNNING SPARE PARTS KIT 705461-1 /37695/	EA	1	*	*	*	*		18
P O		CLAMP,ANTENNA,S SC819491 /80063/	EA		*	*	*	*		18MP1
P O	5920-519-5723	FUSE,CARTRIDGE F02A250V2A /81349/	EA		*	*	*	*		18F1
P O	5985-199-8831	MAST,SECTION,MS MS116A /80058/	EA		*	*	*	*	1-4	18E1
P O	5985-115-7149	MAST,SECTION,MS MS117A /80058/	EA		*	*	*	*	1-4	18E2
P O	5985-238-7474	MAST,SECTION,MS MS118A /80058/	EA		*	*	*	*	1-4	18E3
P O		NUT,PLAIN,HEXAG MS51972-1 /96906/	EA		*	*	*	*		18H1
P O		SCREW,CAP,HEXAG MS35308-314 /96906/	EA		*	*	*	*		18H1
P O		SCREW,CAP,HEXAG MS35308-316 /96906/	EA		*	*	*	*		18H1
P O		SCREW,MACHINE 107588-1 /37695/	EA		*	*	*	*		18H1
P O		TERMINAL,LUG SMB500422 /80063/	EA		*	*	*	*		18E5
P O	5310-543-2740	WASHER,LOCK MS35333-74 /96906/	EA		*	*	*	*		18H1
P O		WASHER,LOCK MS45904-68 /96906/			*	*	*	*		18H1
P O		WRENCH,OPEN END 808075-1 /37695/	EA	2	*	*	*	*		MP32A
P O		WRENCH,OPEN END 808075-1 /37695/	EA	REF	*	*	*	*		MP33A

SECTION III INDEX-FEDERAL STOCK NUMBER AND REFERENCE NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER OR REF. DESIGNATION
5305-054-5650		2A1A5MP7H1
5305-054-5650		2A1A5MP8H1
5305-719-5346		3MP18H2
5305-719-5346		3MP19H2
5310-543-2740		18H1
5315-614-3586		3MP20H1
5315-614-3586		3MP21H1
5340-821-7306		17MP1
5340-857-3247		13MP2
5340-857-3247		13MP3
5355-613-7120		2A1A5MP10
5355-613-7120		2A1A5MP11
5355-727-8497		1A1A1MP15
5355-727-8497		1A1A1MP16
5355-727-8497		1A1A1MP17
5355-727-8497		1A1A1MP18
5355-727-8497		1A1A1MP19
5355-727-8500		1A1A1MP22
5355-727-8500		1A1A1MP23
5355-727-8506		1A1MP28
5355-727-8506		1A1MP29
5355-727-8506		1A1MP30
5355-926-5270		2A1A5MP14
5355-945-6596		1A1A1MP20
5355-945-6596		1A1A1MP21
5355-945-6596		2A1A5MP12
5805-171-3370	1-2	14
5820-078-4710	1-4	25
5820-078-4769	1-4	28
5895-892-0758	1-3	15
5920-519-5723		1A1A1F1
5920-519-5723		1A1A1F2
5920-519-5723		18F1
5930-755-6647		2A1A5MP9
5965-163-9947	1-2	9
5965-194-9770	1-2	27
5965-226-2915	1-2	10
5965-243-6420	1-2	24
5985-115-7149	1-4	18E2
5985-115-7149	1-4	28
5985-199-8831	1-4	18E1
5985-199-8831	1-4	26A
5985-199-8831	1-4	26B
5985-199-8831	1-4	26C
5985-238-7474	1-4	18F3
5985-238-7474	1-4	29
5995-349-4844	1-2	7
5995-578-6353	1-1	19
5995-578-6353	1-1	20
5995-985-7998		11
5995-985-7998		12
5995-985-8005		13
5995-985-8014		17
6150-170-5573		23
7610-757-2828		2A6MP15
8105-200-2329	1-4	16

SECTION III INDEX-FEDERAL STOCK NUMBER AND REFERENCE NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

FEDERAL STOCK NUMBER	FIGURE NUMBER		ITEM NUMBER OR REF. DESIGNATION
REFERENCE NO.	MFG. CODE	FIG. NO.	REFERENCE DESIGNATION
AB652GR	80058	1-4	(25)
ANGRA50	80058	1-3	(15)
CG409GU	80058	1-1	(19)
CG409GU	80058	1-1	(20)
CW206GR	80058	1-4	(16)
CX1852U	80058	1-2	(7)
F02A250V2A	81349		1A1A1F1
F02A250V2A	81349		1A1A1F2
F02A250V2A	81349		18F1
H227U	80058	1-2	(10)
H33PT	80058	1-2	(9)
KY116U	80058	1-2	(14)
LS166U	80058	1-2	(24)
MS116A	80058	1-4	18E1
MS116A	80058	1-4	26A
MS116A	80058	1-4	26B
MS116A	80058	1-4	26C
MS116A	80058	1-4	18E2
MS117A	80058	1-4	(28)
MS118A	80058	1-4	18E3
MS118A	80058	1-4	(29)
MS16562-212	96906		3MP20H1
MS16562-212	96906		3MP21H1
MS25082-7	96906		2A1A5MP12H1
MS25082-7	96906		2A1A5MP13H1
MS25177-24	96906		13MP2
MS25177-24	96906		13MP3
MS25177-32	96906		17MP1
MS35308-314	96906		18H1
MS35308-316	96906		18H1
MS35333-74	96906		18H1
MS45904-68	96906		18H1
MS51957-16	96906		2A1A5MP7H1

FEDERAL STOCK NUMBER	FIGURE NUMBER		ITEM NUMBER OR REF. DESIGNATION
REFERENCE NO.	MFG. CODE	FIG. NO.	REFERENCE DESIGNATION
MS51957-16	96906		2A1A5MP8H1
MS51963-35	96906		3MP18H2
MS51963-35	96906		3MP19H2
MS51972-1	96906		18H1
MS91522-1	96906		2A1A5MP10
MS91522-1	96906		2A1A5MP11
M294	80058	1-2	(27)
SCB19491	80063		(8)
SCB19491	80063		18MP1
SCB27840-4	80063		(23)
SMB125744	80063		1A1A1MP12MP5
SMB125744	80063		1A1A1MP13MP5
SMB125745	80063		1A1A1MP12H1
SMB125745	80063		1A1A1MP13H1
SMB500422	80063		18E5
SMB500793	80063		3MP18
SMB500793	80063		3MP19
SMB501079-1	80063		1A1A1MP15H1
SMB501079-1	80063		1A1A1MP16H1
SMB501079-1	80063		1A1A1MP17H1
SMB501079-1	80063		1A1A1MP18H1
SMB501079-1	80063		1A1A1MP19H1
SMB501079-1	80063		1A1A1MP20H1
SMB501079-1	80063		1A1A1MP21H1
SMB501079-1	80063		2A1A5MP12H1
SMB501079-1	80063		2A1A5MP13H1
SMB501079-1	80063		2A1A5MP14H1
SMB501079-2	80063		1A1A1MP22H1
SMB501079-2	80063		1A1A1MP23H1
SMB501079-2	80063		1A1MP28H1
SMB501079-2	80063		1A1MP29H1
SMB501079-2	80063		1A1MP30H1
SMB501079-2	80063		2A1A5MP10H1

SECTION III INDEX-FEDERAL STOCK NUMBER AND REFERENCE NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

FEDERAL STOCK NUMBER	FIGURE NUMBER		ITEM NUMBER OR REF. DESIGNATION
REFERENCE NO.	MFG. CODE	FIG. NO.	REFERENCE DESIGNATION
SMB501079-2	80063		2A1A5MP11H1
SMB502634	80063		1A1A1MP7
SMB502634	80063		1A1A1MP8
SMB502634	80063		1A1A1MP9
SMB502634	80063		1A1A1MP10
SMB502634	80063		1A1A1MP11
SMB502634	80063		2A1A5MP7
SMB502634	80063		2A1A5MP8
SMB502828	80063		1A1A1MP8H1
SMB502828	80063		1A1A1MP11H1
SMB502828	80063		1A1A1MP13H1
SMB502828	80063		2A1A5MP8H1
SMB502828	80063		2A1A5MP7H1
SMB502832	80063		1A1A1MP7MP4
SMB502832	80063		1A1A1MP8MP4
SMB502832	80063		1A1A1MP9MP4
SMB502832	80063		1A1A1MP10MP4
SMB502832	80063		1A1A1MP11MP4
SMB502832	80063		2A1A5MP7MP4
SMB502832	80063		2A1A5MP8MP4
SMB502833-1	80063		1A1A1MP7MP3
SMB502833-1	80063		1A1A1MP8MP3
SMB502833-1	80063		1A1A1MP9MP3
SMB502833-1	80063		1A1A1MP10MP3
SMB502833-1	80063		1A1A1MP11MP3
SMB502833-1	80063		2A1A5MP7MP3
SMB502833-1	80063		2A1A5MP8MP3
SMB502833-2	80063		1A1A1MP12MP3
SMB502833-2	80063		1A1A1MP13MP3
SMB502834	80063		1A1A1MP7MP1
SMB502834	80063		1A1A1MP7MP2
SMB502834	80063		1A1A1MP8MP1
SMB502834	80063		1A1A1MP8MP2

FEDERAL STOCK NUMBER	FIGURE NUMBER		ITEM NUMBER OR REF. DESIGNATION
REFERENCE NO.	MFG. CODE	FIG. NO.	REFERENCE DESIGNATION
SMB502834	80063		1A1A1MP9MP1
SMB502834	80063		1A1A1MP9MP2
SMB502834	80063		1A1A1MP10MP1
SMB502834	80063		1A1A1MP10MP2
SMB502834	80063		1A1A1MP11MP1
SMB502834	80063		1A1A1MP11MP2
SMB502834	80063		1A1A1MP12MP1
SMB502834	80063		1A1A1MP12MP2
SMB502834	80063		1A1A1MP13MP1
SMB502834	80063		1A1A1MP13MP2
SMB502834	80063		2A1A5MP7MP1
SMB502834	80063		2A1A5MP7MP2
SMB502834	80063		2A1A5MP8MP1
SMB502834	80063		2A1A5MP8MP2
SMB502891	80063		2A1A5MP9H1
SMB502930	80063		2A1A5MP9H1
SMB502930	80063		2A1A5MP10H2
SMB502930	80063		2A1A5MP11H2
SMB502980	80063		3A1MP2
SMB502980	80063		3A1MP3
SMB502980	80063		3A2MP2
SMB502980	80063		3A2MP3
SMB502988	80063		3H7
SMC125743	80063		1A1A1MP12MP4
SMC125743	80063		1A1A1MP13MP4
SMC500407	80063		1A1A1MP15
SMC500407	80063		1A1A1MP16
SMC500407	80063		1A1A1MP17
SMC500407	80063		1A1A1MP18
SMC500407	80063		1A1A1MP19
SMC500791-3	80063		1A1MP26H6
SMC500791-5	80063		2A6MP15H6
SMC500896-1	80063		2A6MP15H6

SECTION III INDEX-FEDERAL STOCK NUMBER AND REFERENCE NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

FEDERAL STOCK NUMBER	FIGURE NUMBER		ITEM NUMBER OR REF. DESIGNATION
REFERENCE NO.	MFG. CODE	FIG. NO.	REFERENCE DESIGNATION
SMC500896-3	80063		1A1MP26H6
SMC500896-3	80063		1A1A1MP8H1
SMC500896-3	80063		1A1A1MP11H1
SMC500896-3	80063		1A1A1MP13H1
SMC500896-3	80063		2A1A5MP7H1
SMC500896-3	80063		2A1A5MP8H1
SMC502095	80063		3MP20
SMC502095	80063		3MP21
SMC502108	80063		2A1A5MP9
SMC502491	80063		1A1A1MP20
SMC502491	80063		1A1A1MP21
SMC502491	80063		2A1A5MP12
SMC502491	80063		2A1A5MP13
SMC502637	80063		1A1A1MP12
SMC502637	80063		1A1A1MP13
SMC502829-1	80063		1A1A1MP8H1
SMC502829-1	80063		1A1A1MP11H1
SMC502829-1	80063		1A1A1MP13H1
SMC502924	80063		(17)
SMC502991	80063		(13)
SMC503203	80063		2A1A5MP14
SMC508581	80063		2MP4
SMC508583	80063		3MP23
SMC508584	80063		1A1MP31
SMD500139	80063		1A1MP26
SMD500428	80063	1-4	(28)
SMD500501	80063		1A1MP28
SMD500501	80063		1A1MP29
SMD500501	80063		1A1MP30
SMD500502	80063		1A1A1MP22
SMD500502	80063		1A1A1MP23
SMD500797-3	80063		3MP23H4
SMD502972	80063		(11)
SMD502972	80063		(12)
SMD508586	80063		2A6MP15
1N104	80058		(21)
1N104	80058		(22)
107588-1	37695		18H1
705461-1	37695		(18)
808075-1	37695		MP32A
808075-1	37695		MP33A

SECTION IV INDEX – REFERENCE DESIGNATION CROSS REFERENCE TO PAGE NUMBER

SECTION V REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P O	7610-757-2828	PLATE,INSTRUCTION SMD508586 /80063/	EA	1	*	*	*	*		2A6MP15
P O		SCREW,MACHINE SMC500791-5 /80063/	EA	6	*	*	*	*		2A6MP15H6
P O		WASHER,FLAT SMC500896-1 /80063/	EA	6	*	*	*	*		2A6MP15H6
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	2	*	*	*	*		2A1A5MP7
P O	5305-054-5650	SCREW,MACHINE MS51957-16 /96906/	EA	1	*	*	*	*		2A1A5MP7H1
P O		SPACER,SLEEVE SMB502828 /80063/	EA	1	*	*	*	*		2A1A5MP7H1
P O		WASHER,FLAT SMC500896-3 /80063/	EA	1	*	*	*	*		2A1A5MP7H1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						2A1A5MP7MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						2A1A5MP7MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						2A1A5MP7MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						2A1A5MP7MP4
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	REF	*	*	*	*		2A1A5MP8
P O	5305-054-5650	SCREW,MACHINE MS51957-16 /96906/	EA	1	*	*	*	*		2A1A5MP8H1
P O		SPACER,SLEEVE SMB502828 /80063/	EA	1	*	*	*	*		2A1A5MP8H1
P O		WASHER,FLAT SMC500896-3 /80063/	EA	1	*	*	*	*		2A1A5MP8H1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						2A1A5MP8MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	FA	REF						2A1A5MP8MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						2A1A5MP8MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						2A1A5MP8MP4
P O	5930-755-6647	FLAG,ANTENNA SWITCH SMC502108 /80063/	EA	1	*	*	*	*		2A1A5MP9
P O		SCREW,MACHINE SMB502891 /80063/	EA	1	*	*	*	*		2A1A5MP9H1
P O		SPACER SMB502930 /80063/	EA	1	*	*	*	*		2A1A5MP9H1
P O	5355-613-7120	KNOB MS91522-1 /96906/	EA	2	*	*	*	*		2A1A5MP10
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		2A1A5MP10H1
P O		SPACER SMB502930 /80063/	EA	2	*	*	*	*		2A1A5MP10H2
P O	5355-613-7120	KNOB MS91522-1 /96906/	EA	REF	*	*	*	*		2A1A5MP11
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		2A1A5MP11H1
P O		SPACER SMB502930 /80063/	EA	2	*	*	*	*		2A1A5MP11H2
P O	5355-945-6596	KNOB SMC502491 /80063/	EA	2	*	*	*	*		2A1A5MP12
P O		NUT,PLAIN,HEXAGON MS25082-7 /96906/	EA	1	*	*	*	*		2A1A5MP12H1

SECTION V REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		2A1A5MP12H1
P O	5355-945-6596	KNOB SMC502491 /80063/	EA	REF	*	*	*	*		2A1A5MP13
P O		NUT,PLAIN,HEXAGON MS25082-7 /96906/	EA	1	*	*	*	*		2A1A5MP13H1
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		2A1A5MP13H1
P O	5355-926-5270	KNOB,CONTROL SMC503203 /80063/	EA	1	*	*	*	*		2A1A5MP14
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		2A1A5MP14H1
MO O		PLATE,IDENTIFICATION SMC508581 /80063/	EA	1						2MP4
P O	5820-078-4769	ANTENNA COVER SMD500428 /80063/	EA	1	*	*	*	*	1-4	28
P O	5985-892-0758	ANTENNA GROUP,AN/GRA-50 ANGRA50 /80058/	EA	1	*	*	*	*	1-3	20
P O	8105-200-2329	BAG,CW-206/GR CW206GR /80058/	EA	1	*	*	*	*	1-4	21
P O	5995-578-6353	CABLE ASSY,CG-409G/U CG409GU /80058/	EA	2	*	*	*	*	1-1	22
P O	5995-578-6353	CABLE ASSY,CG-409G/U CG409GU /80058/	EA	REF	*	*	*	*	1-1	23
P O	5995-349-4844	CABLE ASSY,CX-1852/U CX1852U /80058/	EA	1	*	*	*	*	1-2	24
P O	5995-985-8005	CABLE ASSY,SPECPUR,CX-10099/U SMC502991 /80063/	EA	1	*	*	*	*		13
P O	5340-857-3247	CAP-PLUG,PROT,DUST&MSTRE SEAL MS25177-24 /96906/	EA	2	*	*	*	*		13MP2
P O	5340-857-3247	CAP-PLUG;PROT,DUST&MSTRE SEAL MS25177-24 /96906/	EA	REF	*	*	*	*		13MP3
P O	5995-985-7998	CABLE ASSY,SPECPUR,CX-10071/U SMD502972 /80063/	EA	2	*	*	*	*		11
P O	5995-985-7998	CABLE ASSY,SPECPUR,CX-10071/U SMD502972 /80063/	EA	REF	*	*	*	*		12
P O		CLAMP,ANTENNA SMC500427 /80063/	EA	1	*	*	*	*		MP1
P O		CLAMP,ANTENNA,SCB19491 SCB19491 /80063/	EA	1	*	*	*	*		25
P O	5965-163-9947	HANDSET,H-33/PT H33PT /80058/	EA	1	*	*	*	*	1-2	26
P O	5965-226-2915	HEADSET,H-227/U H227U /80058/	EA	1	*	*	*	*	28	27
P O	6150-170-5573	JUMPER,ELECTRICAL,SCB27840-4 SCB27840-4 /80063/	EA	1	*	*	*	*		29
P O	5805-171-3370	KEY,TELEGRAPH,KY-116/U KY116U /80058/	EA	1	*	*	*	*	1-2	30
P O	5995-985-8014	LEAD,ELECTRICAL SMC502924 /80063/	EA	1	*	*	*	*		17
P O	5340-821-7306	CAP-PLUG,PROT,DUST&MSTRE SEAL MS25177-32 /96906/	EA	1	*	*	*	*		17MP1
P O	7650-089-9570	GROUNDING KIT SCC446196 /80063/	EA	1	*	*	*	*		36
MF O		BAG SCB849729-7 /80063/	EA	1						36MP1
P O	5310-877-8566	NUT,PLAIN,CAP MS24680-85 /96906/	EA	REF	*	*	*	*		36H10
P O	5310-877-8566	NUT,PLAIN,CAP MS24680-85 /96906/	EA	REF	*	*	*	*		36H11
P O	5310-768-0319	NUT,PLAIN,HEXAGON MS51968-2 /96906/	EA	3	*	*	*	*		36H6

SECTION V REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P O	5310-768-0319	NUT,PLAIN,HEXAGON MS51968-2 /96906/		EA	REF	*	*	*	*		36H7
P O	5310-768-0319	NUT,PLAIN,HEXAGON MS51968-2 /96906/		EA	REF	*	*	*	*		36H8
P O	5305-068-0506	SCREW,CAP,HEXAGON HEAD MS90726-6 /96906/		EA	3	*	*	*	*		36H3
P O	5305-068-0506	SCREW,CAP,HEXAGON HEAD MS90726-6 /96906/		EA	REF	*	*	*	*		36H4
P O	5305-068-0506	SCREW,CAP,HEXAGON HEAD MS90726-6 /96906/		EA	REF	*	*	*	*		36H5
MF O		STRAP SCB75180GR6 /80063/		EA	4						36MP5
MF O		STRAP SCB75180GR6 /80063/		EA	REF						36MP6
MF O		STRAP SCB75180GR6 /80063/		EA	REF						36MP7
MF O		STRAP SCB75180GR6 /80063/		EA	REF						36MP8
P O	5307-089-9568	STUD,SHOULDERED AND STEPPED SCB446197 /80063/		EA	2	*	*	*	*		36H1
P O	5307-089-9568	STUD,SHOULDERED AND STEPPED SCB446197 /80063/		EA	REF	*	*	*	*		36H2
P O	5310-209-1239	WASHER,LOCK MS35335-60 /96906/		EA	2	*	*	*	*		36H24
P O	5310-209-1239	WASHER,LOCK MS35335-60 /96906/		EA	REF	*	*	*	*		36H25
P O	5310-889-2528	WASHER,LOCK MS45904-68 /96906/		EA	12	*	*	*	*		36H12
P O	5310-889-2528	WASHER,LOCK MS45904-68 /96906/		EA	REF	*	*	*	*		36H13
P O	5310-889-2528	WASHER,LOCK MS45904-68 /96906/		EA	REF	*	*	*	*		36H14
P O	5310-889-2528	WASHER,LOCK MS45904-68 /96906/		EA	REF	*	*	*	*		36H15
P O	5310-889-2528	WASHER,LOCK MS45904-68 /96906/		EA	REF	*	*	*	*		36H16
P O	5310-889-2528	WASHER,LOCK MS45904-68 /96906/		EA	REF	*	*	*	*		36H17
P O	5310-889-2528	WASHER,LOCK MS45904-68 /96906/		EA	REF	*	*	*	*		36H18
P O	5310-889-2528	WASHER,LOCK MS45904-68 /96906/		EA	REF	*	*	*	*		36H19
P O	5310-889-2528	WASHER,LOCK MS45904-68 /96906/		EA	REF	*	*	*	*		36H20
P O	5310-889-2528	WASHER,LOCK MS45904-68 /96906/		EA	REF	*	*	*	*		36H21
P O	5310-889-2528	WASHER,LOCK MS45904-68 /96906/		EA	REF	*	*	*	*		36H22
P O	5310-889-2528	WASHER,LOCK MS45904-68 /96906/		EA	REF	*	*	*	*		36H23
P O	5965-243-6420	LOUDSPEAKER,LS-166/U LS166U /80058/		EA	1	*	*	*	*	1-2	4
P O	5820-078-4710	MAST BASE,AB-652/GR AB652GR /80058/		EA	1	*	*	*	*	1-4	5
P O	5985-199-8831	MAST,SECTION,MS-116A MS116A /80058/		EA	3	*	*	*	*	1-4	6A
P O	5985-199-8831	MAST,SECTION,MS-116A MS116A /80058/		EA	REF	*	*	*	*	1-4	6B
P O	5985-199-8831	MAST,SECTION,MS-116A MS116A /80058/		EA	REF	*	*	*	*	1-4	6C
P O	5985-115-7149	MAST,SECTION,MS-117A MS117A /80058/		EA	1	*	*	*	*	1-4	7

SECTION V REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P O	5985-238-7474	MAST,SECTION,MS-118A MS118A /80058/	EA	1	*	*	*	*	1-4	8
P O	5965-194-9770	MICROPHONE,M-29/U M29U /80058/	EA	1	*	*	*	*	1-2	9
P O		COLLAR,SHAFT SMB500793 /80063/	EA	2	*	*	*	*		3MP18
P O	5305-719-5346	SETSCREW MS51963-35 /96906/	EA	2	*	*	*	*		3MP18H2
P O		COLLAR,SHAFT SMB500793 /80063/	EA	REF	*	*	*	*		3MP19
P O	5305-719-5346	SETSCREW MS51963-35 /96906/	EA	2	*	*	*	*		3MP19H2
P O		CRANK,HAND SMC502095 /80063/	EA	2	*	*	*	*		3MP20
P O	5315-614-3586	PIN,SPRING MS16562-212 /96906/	EA	1	*	*	*	*		3MP20H1
P O		CRANK,HAND SMC502095 /80063/	EA	REF	*	*	*	*		3MP21
P O	5315-614-3586	PIN,SPRING MS16562-212 /96906/	EA	1	*	*	*	*		3MP21H1
MD O		PLATE,IDENTIFICATION SMC508583 /80063/	EA	1						3MP23
P O		SCREW,DRIVE SMD500797-3 /80063/	EA	4	*	*	*	*		3MP23H4
P O		SCREW,MACHINE SMB502988 /80063/	EA	1	*	*	*	*		3H7
MD O		COVER,CONTROL DIAL SMD501028 /80063/	EA	1						1A1MP24
P O		SCREW,MACHINE SMC500791-3 /80063/	EA	6	*	*	*	*		1A1MP24H6
P O		WASHER,FLAT SMC500896-3 /80063/	EA	6	*	*	*	*		1A1MP24H6
P O	5355-727-8506	KNOB SMD500501 /80063/	EA	3	*	*	*	*		1A1MP26
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		1A1MP26H1
P O	5355-727-8506	KNOB SMD500501 /80063/	EA	REF	*	*	*	*		1A1MP27
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		1A1MP27H1
P O	5355-727-8506	KNOB SMD500501 /80063/	EA	REF	*	*	*	*		1A1MP28
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		1A1MP28H1
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	5	*	*	*	*		1A1A1MP7
P O		SCREW,MACHINE SMC502829-1 /80063/	EA	1	*	*	*	*		1A1A1MP7H1

SECTION V REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P O		SPACER,SLEEVE SMB502828 /80063/	EA	1	*	*	*	*		1A1A1MP7H1
P O		WASHER,FLAT SMC500896-3 /80063/	EA	1	*	*	*	*		1A1A1MP7H1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP7MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP7MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						1A1A1MP7MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						1A1A1MP7MP4
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	REF	*	*	*	*		1A1A1MP8
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP8MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP8MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						1A1A1MP8MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						1A1A1MP8MP4
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	REF	*	*	*	*		1A1A1MP9
P O		SCREW,MACHINE SMC502829-1 /80063/	EA	1	*	*	*	*		1A1A1MP9H1
P O		SPACER,SLEEVE SMB502828 /80063/	EA	1	*	*	*	*		1A1A1MP9H1
P O		WASHER,FLAT SMC500896-3 /80063/	EA	1	*	*	*	*		1A1A1MP9H1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP9MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP9MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						1A1A1MP9MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						1A1A1MP9MP4
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	REF	*	*	*	*		1A1A1MP10
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP10MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP10MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						1A1A1MP10MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						1A1A1MP10MP4
P O		COVER,ELECTRICAL CONNECTOR SMB502634 /80063/	EA	REF	*	*	*	*		1A1A1MP11
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP11MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP11MP2
X1 O		CORD,NYLON SMB502833-1 /80063/	EA	1						1A1A1MP11MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMB502832 /80063/	EA	1						1A1A1MP11MP4
P O		COVER,ELECTRICAL CONNECTOR SMC502637 /80063/	EA	2	*	*	*	*		1A1A1MP12
P O		SCREW,MACHINE SMC502829-1 /80063/	EA	1	*	*	*	*		1A1A1MP12H1

SECTION V REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P O		SPACER,SLEEVE SMB502828 /80063/	EA	1	*	*	*	*		1A1A1MP12H1
P O		WASHER,FLAT SMC500896-3 /80063/	EA	1	*	*	*	*		1A1A1MP12H1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP12MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP12MP2
X1 O		CORD,NYLON SMB502833-2 /80063/	EA	1						1A1A1MP12MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMC125743 /80063/	EA	1						1A1A1MP12MP4
X1 O		GASKET SMB125744 /80063/	EA	1						1A1A1MP12MP5
X1 O		RIVET,TUBULAR SMB125745 /80063/	EA	1						1A1A1MP12H1
P O		COVER,ELECTRICAL CONNECTOR SMC502637 /80063/	EA	REF	*	*	*	*		1A1A1MP13
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	2						1A1A1MP13MP1
X1 O		BAND,MARKER,BLANK SMB502834 /80063/	EA	REF						1A1A1MP13MP2
X1 O		CORD,NYLON SMB502833-2 /80063/	EA	1						1A1A1MP13MP3
X1 O		COVER,ELECTRICAL CONNECTOR SMC125743 /80063/	EA	1						1A1A1MP13MP4
X1 O		GASKET SMB125744 /80063/	EA	1						1A1A1MP13MP5
X1 O		RIVET,TUBULAR SMB125745 /80063/	EA	1						1A1A1MP13H1
P O		FUSE,CARTRIDGE F02A250V2A /81349/	EA	2	*	*	*	*		1A1A1F1
P O		FUSE,CARTRIDGE F02A250V2A /81349/	EA	REF	*	*	*	*		1A1A1F2
P O	5355-727-8497	KNOB SMC500407 /80063/	EA	6	*	*	*	*		1A1A1MP15
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP15H1
P O	5355-727-8497	KNOB SMC500407 /80063/	EA	REF	*	*	*	*		1A1A1MP16
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP16H1
P O	5355-727-8497	KNOB SMC500407 /80063/	EA	REF	*	*	*	*		1A1A1MP17
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP17H1
P O	5355-727-8497	KNOB SMC500407 /80063/	EA	REF	*	*	*	*		1A1A1MP18
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP18H1
P O	5355-727-8497	KNOB SMC500407 /80063/	EA	REF	*	*	*	*		1A1A1MP19
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP19H1
P O	5355-727-8497	KNOB SMC500407 /80063/	EA	REF	*	*	*	*		1A1A1MP20
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP20H1
P O	5355-945-6596	KNOB SMC502491 /80063/	EA	1	*	*	*	*		1A1A1MP21
P O		SCREW,SELF-LOCKING SMB501079-1 /80063/	EA	1	*	*	*	*		1A1A1MP21H1

SECTION V REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P O	5355-727-8500	KNOB SMD500502 /80063/	EA	3	*	*	*	*		1A1A1MP22
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		1A1A1MP22H1
P O	5355-727-8500	KNOB SMD500502 /80063/	EA	REF	*	*	*	*		1A1A1MP23
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		1A1A1MP23H1
P O	5355-727-8500	KNOB SMD500502 /80063/	EA	REF	*	*	*	*		1A1A1MP24
P O		SCREW,SELF-LOCKING SMB501079-2 /80063/	EA	1	*	*	*	*		1A1A1MP24H1
MO O		PLATE,IDENTIFICATION SMC508648 /80063/	EA	1						1A1MP29
A O		RUNNING SPARE PARTS KIT 705462-1 /37695/	EA	1						18
P O		CLAMP,ANTENNA SCB19491 /80063/	EA		*	*	*	*		18MP1
P O		FUSE,CARTRIDGE F02A250V2A /81349/	EA	REF	*	*	*	*		18F1
P O	5985-199-8831	MAST,SECTION,MS MS116A /80058/	EA		*	*	*	*	1-4	18E1
P O	5985-115-7149	MAST,SECTION,MS MS117A /80063/	EA		*	*	*	*	1-4	18E2
P O	5985-238-7474	MAST,SECTION,MS MS118A /80063/	EA		*	*	*	*	1-4	18E3
P O		NUT,PLAIN,HEXAG MS51972-1 /96906/	EA	REF	*	*	*	*		18H1
P O		SCREW,CAP,HEXAG MS35308-314 /96906/	EA	REF	*	*	*	*		18H1
P O		SCREW,CAP,HEXAG MS35308-316 /96906/	EA	REF	*	*	*	*		18H1
P O		SCREW,MACHINE 107588-1 /96906/	EA	REF	*	*	*	*		18H1
P O		TERMINAL,LUG SMB500422 /80063/	EA		*	*	*	*		10
P O	5310-543-2740	WASHER,LOCK MS35333-74 /96906/	EA	REF	*	*	*	*		14
P O	5310-889-2528	WASHER,LOCK MS45904-68 /96906/	EA	REF	*	*	*	*		15
P O		WRENCH,OPEN END 808075-1 /37695/	EA	2	*	*	*	*		3MP32
P O		WRENCH,OPEN END 808075-1 /37695/	EA	REF	*	*	*	*		3MP33

SECTION VI INDEX-FEDERAL STOCK NUMBER AND REFERENCE NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER OR REF. DESIGNATION
5305-054-5650		2A1A5MP7H1
5305-054-5650		2A1A5MP8H1
5305-068-0506		36H3
5305-068-0506		36H4
5305-068-0506		36H5
5305-719-5346		3MP18H2
5305-719-5346		3MP19H2
5307-089-9568		36H1
5307-089-9568		36H2
5310-209-1239		36H24
5310-209-1239		36H25
5310-543-2740		14
5310-768-0319		36H6
5310-768-0319		36H7
5310-768-0319		36H8
5310-877-8566		36H10
5310-877-8566		36H11
5310-889-2528		15
5310-889-2528		36H12
5310-889-2528		36H13
5310-889-2528		36H14
5310-889-2528		36H15
5310-889-2528		36H16
5310-889-2528		36H17
5310-889-2528		36H18
5310-889-2528		36H19
5310-889-2528		36H20
5310-889-2528		36H21
5310-889-2528		36H22
5310-889-2528		36H23
5315-614-3586		3MP20H1
5315-614-3586		3MP21H1
5340-821-7306		17MP1
5340-857-3247		13MP2
5340-857-3247		13MP3
5355-613-7120		2A1A5MP10
5355-613-7120		2A1A5MP11
5355-727-8497		1A1A1MP15
5355-727-8497		1A1A1MP16
5355-727-8497		1A1A1MP17
5355-727-8497		1A1A1MP18
5355-727-8497		1A1A1MP19
5355-727-8497		1A1A1MP20
5355-727-8500		1A1A1MP22
5355-727-8500		1A1A1MP23
5355-727-8500		1A1A1MP24
5355-727-8506		1A1MP26
5355-727-8506		1A1MP27
5355-727-8506		1A1MP28
5355-926-5270		2A1A5MP14
5355-945-6596		1A1A1MP21
5355-945-6596		2A1A5MP12
5355-945-6596		2A1A5MP13
5805-171-3370	1-2	30
5820-078-4710	1-4	5
5820-078-4769	1-4	28
5930-755-6647		2A1A5MP9
5965-163-9947	1-2	26
5965-194-9770	1-2	9
5965-226-2915	28	27
5965-243-6420	1-2	4
5985-115-7149	1-4	7
5985-115-7149		18D2
5985-199-8831	1-4	6A
5985-199-8831	1-4	6B
5985-199-8831	1-4	6C
5985-199-8831		18F1
5985-238-7474	1-4	8
5985-238-7474		18E3
5985-892-0758	1-3	20

SECTION VI INDEX-FEDERAL STOCK NUMBER AND REFERENCE NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER OR REF. DESIGNATION
5995-349-4844	1-2	24
5995-578-6353	1-1	22
5995-578-6353	1-1	23
5995-985-7998		11
5995-985-7998		12
5995-985-8005		13
5995-985-8014		17
6150-170-5573		29
7610-757-2828		2A6MP15
7650-089-9570		36
8105-200-2329	1-4	21

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER OR REF. DESIGNATION

SECTION VI INDEX-FEDERAL STOCK NUMBER AND REFERENCE NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER OR REF. DESIGNATION	
REFERENCE NO.	MFG. CODE	FIG. NO.	REFERENCE DESIGNATION
AB652GR	80058	1-4	(5)
ANGRA50	80058	1-3	(20)
CG409GU	80058	1-1	(22)
CG409GU	80058	1-1	(23)
CW206GR	80058	1-4	(21)
CX1852U	80058	1-2	(24)
F02A250V2A	81349		1A1A1F1
F02A250V2A	81349		1A1A1F2
F02A250V2A	81349		18F1
H227U	80058	28	(27)
H33PT	80058	1-2	(26)
KY116U	80058	1-2	(30)
LS166U	80058	1-2	(4)
MS116A	80058		18F1
MS116A	80058	1-4	6A
MS116A	80058	1-4	6B
MS116A	80058	1-4	6C
MS117A	80063		18E2
MS117A	80058	1-4	(7)
MS118A	80063		18E3
MS118A	80058	1-4	(8)
MS16562-212	96906		3MP20H1
MS16562-212	96906		3MP21H1
MS24680-85	96906		36H10
MS24680-85	96906		36H11
MS25082-7	96906		2A1A5MP12H1
MS25082-7	96906		2A1A5MP13H1
MS25177-24	96906		13MP2
MS25177-24	96906		13MP3
MS25177-32	96906		17MP1
MS35308-314	96906		18H1
MS35308-316	96906		18H1
MS35333-74	96906	14	
MS35335-60	96906		36H24
MS35335-60	96906		36H25
MS45904-68	96906	15	
MS45904-68	96906		36H12
MS45904-68	96906		36H13
MS45904-68	96906		36H14
MS45904-68	96906		36H15
MS45904-68	96906		36H16
MS45904-68	96906		36H17
MS45904-68	96906		36H18
MS45904-68	96906		36H19
MS45904-68	96906		36H20
MS45904-68	96906		36H21
MS45904-68	96906		36H22
MS45904-68	96906		36H23
MS51957-16	96906		2A1A5MP7H1
MS51957-16	96906		2A1A5MP8H1
MS51963-35	96906		3MP18H2
MS51963-35	96906		3MP19H2
MS51968-2	96906		36H6
MS51968-2	96906		36H7
MS51968-2	96906		36H8
MS51972-1	96906		18H1
MS90726-6	96906		36H3
MS90726-6	96906		36H4
MS90726-6	96906		36H5
MS91522-1	96906		2A1A5MP10
MS91522-1	96906		2A1A5MP11
M29U	80058	1-2	(9)
SCB19491	80063		18MP1
SCB27840-4	80063	29	
SCB446197	80063		36H1
SCB446197	80063		36H2

SECTION VI INDEX-FEDERAL STOCK NUMBER AND REFERENCE NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER OR REF. DESIGNATION	
REFERENCE NO.	MFG. CODE	FIG. NO.	REFERENCE DESIGNATION
SCB49729-7	80063		36MP1
SCB75180GR6	80063		36MP5
SCB75180GR6	80063		36MP6
SCB75180GR6	80063		36MP7
SCB75180GR6	80063		36MP8
SCC4461.96	80063	36	
SMB125744	80063		1A1A1MP12MP5
SMB125744	80063		1A1A1MP13MP5
SMB125745	80063		1A1A1MP12H1
SMB125745	80063		1A1A1MP13H1
SMB500422	80063	10	
SMB500793	80063		3MP18
SMB500793	80063		3MP19
SMB501079-1	80063		1A1A1MP15H1
SMB501079-1	80063		1A1A1MP16H1
SMB501079-1	80063		1A1A1MP17H1
SMB501079-1	80063		1A1A1MP18H1
SMB501079-1	80063		1A1A1MP19H1
SMB501079-1	80063		1A1A1MP20H1
SMB501079-1	80063		1A1A1MP21H1
SMB501079-1	80063		2A1A5MP12H1
SMB501079-1	80063		2A1A5MP13H1
SMB501079-1	80063		2A1A5MP14H1
SMB501079-2	80063		1A1MP26H1
SMB501079-2	80063		1A1MP27H1
SMB501079-2	80063		1A1MP28H1
SMB501079-2	80063		1A1A1MP22H1
SMB501079-2	80063		1A1A1MP23H1
SMB501079-2	80063		1A1A1MP24H1
SMB501079-2	80063		2A1A5MP10H1
SMB501079-2	80063		2A1A5MP11H1
SMB502634	80063		1A1A1MP7
SMB502634	80063		1A1A1MP8
SMB502634	80063		1A1A1MP9
SMB502634	80063		1A1A1MP10
SMB502634	80063		1A1A1A1MP11
SMB502634	80063		2A1A5MP7
SMB502634	80063		2A1A5MP8
SMB502828	80063		1A1A1MP7H1
SMB502828	80063		1A1A1MP9H1
SMB502828	80063		1A1A1MP12H1
SMB502828	80063		2A1A5MP7H1
SMB502828	80063		2A1A5MP8H1
SMB502832	80063		1A1A1MP7MP4
SMB502832	80063		1A1A1MP8MP4
SMB502832	80063		1A1A1MP9MP4
SMB502832	80063		1A1A1MP10MP4
SMB502832	80063		1A1A1MP11MP4
SMB502832	80063		2A1A5MP7MP4
SMB502832	80063		2A1A5MP8MP4
SMB502833-1	80063		1A1A1MP7MP3
SMB502833-1	80063		1A1A1MP8MP3
SMB502833-1	80063		1A1A1MP9MP3
SMB502833-1	80063		1A1A1MP10MP3
SMB502833-1	80063		1A1A1MP11MP3
SMB502833-1	80063		2A1A5MP7MP3
SMB502833-1	80063		2A1A5MP8MP3
SMB502833-2	80063		1A1A1MP12MP3
SMB502833-2	80063		1A1A1MP13MP3
SMB502834	80063		1A1A1MP7MP1
SMB502834	80063		1A1A1MP7MP2
SMB502834	80063		1A1A1MP8MP1
SMB502834	80063		1A1A1MP8MP2
SMB502834	80063		1A1A1MP9MP1
SMB502834	80063		1A1A1MP9MP2
SMB502834	80063		1A1A1MP10MP1

SECTION VI INDEX-FEDERAL STOCK NUMBER AND REFERENCE NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER OR REF. DESIGNATION	
REFERENCE NO.	MFG. CODE	FIG. NO.	REFERENCE DESIGNATION
SMB502834	80063		1A1A1MP10MP2
SMB502834	80063		1A1A1MP11MP1
SMB502834	80063		1A1A1MP11MP2
SMB502834	80063		1A1A1MP12MP1
SMB502834	80063		1A1A1MP12MP2
SMB502834	80063		1A1A1MP13MP1
SMB502834	80063		1A1A1MP13MP2
SMB502834	80063		2A1H502834
SMB502834	80063		2A1A5MP7MP1
SMB502834	80063		2A1A5MP7MP2
SMB502834	80063		2A1A5MP8MP2
SMB502891	80063		2A1A5MP9H1
SMB502930	80063		2A1A5MP9H1
SMB502930	80063		2A1A5MP10H2
SMB502930	80063		2A1A5MP11H2
SMB502988	80063		3H7
SMC125743	80063		1A1A1MP12MP4
SMC125743	80063		1A1A1MP13MP4
SMC500407	80063		1A1A1MP15
SMC500407	80063		1A1A1MP16
SMC500407	80063		1A1A1MP17
SMC500407	80063		1A1A1MP18
SMC500407	80063		1A1A1MP19
SMC500407	80063		1A1A1MP20
SMC500427	80063		MP1
SMC500791-3	80063		1A1MP24H6
SMC500791-5	80063		2A6MP15H6
SMC500896-1	80063		2A6MP15H6
SMC500896-3	80063		1A1MP24H6
SMC500896-3	80063		1A1A1MP7H1
SMC500896-3	80063		1A1A1MP9H1
SMC500896-3	80063		1A1A1MP12H1
SMC500896-3	80063		2A1A5MP7H1
SMC500896-3	80063		2A1A5MP8H7
SMC502095	80063		3MP20
SMC502095	80063		3MP21
SMC502108	80063		2A1A5MP9
SMC502491	80063		1A1A1MP21
SMC502491	80063		2A1A5MP12
SMC502491	80063		2A1A5MP13
SMC502637	80063		1A1A1MP12
SMC502637	80063		1A1A1MP13
SMC502829-1	80063		1A1A1MP7H1
SMC502829-1	80063		1A1A1MP9H1
SMC502829-1	80063		1A1A1MP12H1
SMC502924	80063		(17)
SMC502991	80063		(13)
SMC503203	80063		2A1A5MP14
SMC508581	80063		2MP4
SMC508583	80063		3MP23
SMC508648	80063		1A1MP29
SMD500428	80063	1-4	(28)
SMD500501	80063		1A1MP26
SMD500501	80063		1A1MP27
SMD500501	80063		1A1MP28
SMD500502	80063		1A1A1MP22
SMD500502	80063		1A1A1MP23
SMD500502	80063		1A1A1MP24
SMD500797-3	80063		3MP23H4
SMD501028	80063		1A1MP24
SMD502972	80063		(11)
SMD502972	80063		(12)
SMD508586	80063		2A6MP15
107588-1	96906		18H1
705462-1	37695		(18)
808075-1	37695		3MP32
808075-1	37695		3MP33

SECTION VII INDEX – REFERENCE DESIGNATION CROSS REFERENCE TO PAGE NUMBER

By Order of the Secretary of the Army:

W. C. WESTMORELAND,
General, United States Army,
Chief of Staff.

Official:
KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

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