CHANGE
No. 9

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, *14 November 1978*

Operator's and Organizational Maintenance Manual
RADIO SET AN/GRC-106 (NSN 5820-00-402-2263)
AND
RADIO SET AN/GRC-106A (NSN 5820-00-223-7548)

This Change current as of 13 June 1978

TM 11-5820-520-12, 25 February 1971, is changed as follows:
1. The title of the manual is changed as written above.
2. New or changed material is indicated by a vertical bar.
3. Remove old pages and insert new pages as indicated below:

Remove	*Insert*
None	3 Warning pages
i and ii	i and ii
1-1 through 1-6	1-1 through 1-6
1-6.1/(1-6.2 blank)	None
2-5	2-5/(2-6 blank)
3-7 through 3-8.1	3-7 through 3-8.1
3-9	3-9
4-1 and 4-2	4-1 through 4-2.1
5-1 through 5-2.1	5-1 and 5-2
A-1	A-1/(A-2 blank)
None	C-1 through C-5

4. File this change sheet in front of the publication for reference purposes.

By Order of the Secretary of the Army:

BERNARD W. ROGERS
General, United States Army
Chief of Staff

Official:

J. C. PENNINGTON
Brigadier General, United States Army
The Adjutant General

Distribution:
To be distributed in accordance with DA Form 12-51, Operator Maintenance requirements for AN/GRC-106.

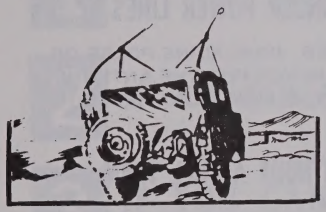
WARNING

SERIOUS INJURY OR EVEN DEATH CAN HAPPEN IF THE FOLLOWING ARE NOT CAREFULLY OBSERVED WHEN INSTALLING AND USING THE ANTENNAS USED WITH YOUR RADIO SETS.

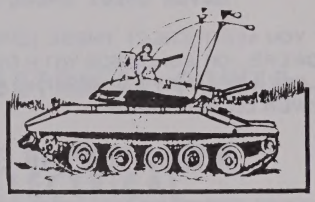
BEFORE ANY MISSION FIND OUT

1. ARE THERE ANY POWERLINES IN YOUR AREA OF OPERATION?
2. HOW HIGH ARE THESE POWERLINES?
3. HOW TALL ARE THE POLES OR TOWERS CARRYING POWERLINES?

MOBILE OPERATION WITH WHIP ANTENNAS





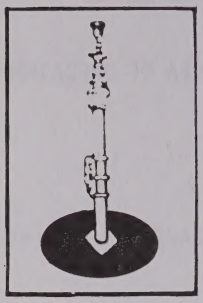


DO NOT STOP YOUR VEHICLE UNDER POWER LINES.

- IF POSSIBLE, TRY TO MAINTAIN MOBILE COMMUNICATIONS WITH YOUR ANTENNA(S) TIED DOWN.
- MAKE SURE AN ANTENNA TIP CAP IS SECURELY TAPED ON THE END OF EACH WHIP ANTENNA.
- DO NOT LEAN AGAINST OR TOUCH A WHIP ANTENNA WHILE THE TRANSMITTER IS ON.
- DURING CROSS-COUNTRY OPERATION, DO NOT ALLOW ANYONE TO STICK AN ARM, LEG OR WEAPON OVER THE SIDES OF THE VEHICLE. IF YOUR ANTENNA ACCIDENTALLY TOUCHES A POWERLINE AND A LEG, ARM OR WEAPON CONTACTS A DAMP BUSH OR THE GROUND, A SERIOUS OR FATAL ACCIDENT CAN HAPPEN.
- IF YOU ARE NOT SURE THAT AN ANTENNA ON YOUR VEHICLE WILL CLEAR A POWERLINE, STOP BEFORE YOU GET CLOSE TO THE POWERLINE AND EITHER CAREFULLY TIE DOWN THE ANTENNA OR REMOVE ANTENNA SECTIONS TO MAKE SURE THAT YOU CAN SAFELY DRIVE UNDER THE POWER LINE.

FIXED OPERATION WITH LONG RANGE ANTENNAS

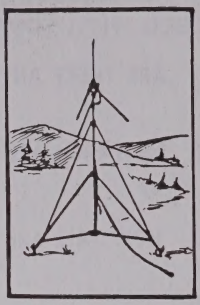
WARNING



TELESCOPING ANTENNA MAST



TYPICAL TOWER



EXTENDED RANGE ANTENNA



DOUBLET ANTENNA

NEVER ERECT THESE LONG RANGE ANTENNAS DIRECTLY UNDER POWER LINES.

IF YOU MUST ERECT THESE LONG RANGE ANTENNAS NEAR POWERLINES, POWERLINE POLES OR TOWERS, OR BUILDINGS WITH OVERHEAD POWERLINE CONNECTIONS, NEVER PUT THE ANTENNA CLOSER THAN TWO TIMES THE ANTENNA HEIGHT FROM THE BASE OF THE POWERLINE, POLE, TOWER OR BUILDINGS.

NEVER ATTEMPT TO ERECT ANY LONG RANGE ANTENNA WITHOUT A FULL TEAM.

BEFORE ERECTING ANY LONG RANGE ANTENNA, INSPECT ALL THE PARTS MAKING UP THE ANTENNA KIT. DO NOT ERECT THE ANTENNA IF ANY PARTS ARE MISSING OR DAMAGED.

DO AS MUCH OF THE ASSEMBLY WORK AS POSSIBLE ON THE GROUND.

WHEN ERECTING THE ANTENNA, ALLOW ONLY TEAM PERSONNEL IN THE ERECTION AREA.

MAKE SURE THAT THE AREA FOR THE ANCHORS IS FIRM. IF THE GROUND IS MARSHY OR SANDY, GET SPECIFIC INSTRUCTIONS FROM YOUR CREW CHIEF OR SUPERVISOR ON HOW TO REINFORCE THE ANCHORS.

WHEN SELECTING LOCATIONS FOR ANCHORS, AVOID TRAVELED AREAS AND ROADS. IF YOU CANNOT AVOID THESE AREAS, GET SPECIFIC INSTRUCTIONS FROM YOUR SUPERVISOR AS TO WHAT CLEARANCE YOUR GUY WIRES AND ROPES MUST HAVE OVER THE TRAVELED AREAS AND ROAD.

CLEARLY MARK ALL GUY WIRES AND ROPES WITH THE WARNING FLAGS OR SIGNS SUPPLIED BY YOUR UNIT. IN AN EMERGENCY, USE STRIPS OF WHITE CLOTH AS WARNING STREAMERS.

IF YOU SUSPECT THAT POWERLINES HAVE MADE ACCIDENTAL CONTACT WITH YOUR ANTENNA, STOP OPERATING, ROPE OFF THE ANTENNA AREA, AND NOTIFY YOUR SUPERIORS.

IF THE WEATHER IN YOUR AREA CAN CAUSE ICE TO FORM ON YOUR LONG RANGE ANTENNA AND ITS GUY WIRES AND ROPES, ADD EXTRA GUYS TO SUPPORT THE SYSTEM. ROPE OFF THE AREA AND POST IT WITH WARNING SIGNS LIKE "BEWARE OF FALLING ICE."

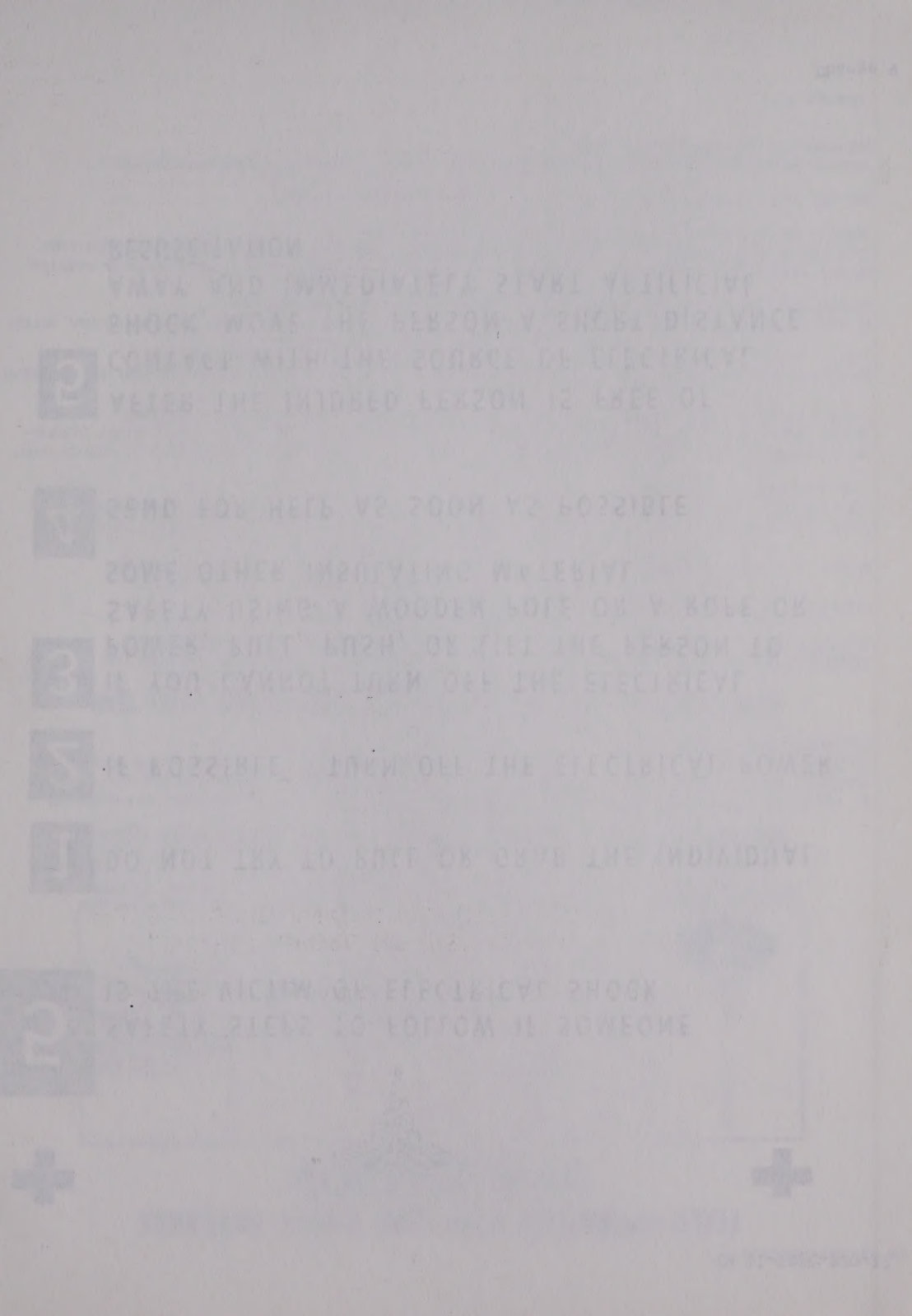
DO NOT TRY TO ERECT ANY ANTENNA DURING AN ELECTRICAL STORM.

KEEP A SHARP EYE ON YOUR ANCHORS AND GUYS. CHECK THEM DAILY AND IMMEDIATELY BEFORE AND AFTER BAD WEATHER.



5 SAFETY STEPS TO FOLLOW IF SOMEONE IS THE VICTIM OF ELECTRICAL SHOCK

1. DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL
2. IF POSSIBLE , TURN OFF THE ELECTRICAL POWER
3. IF YOU CANNOT TURN OFF THE ELECTRICAL POWER, PULL, PUSH, OR LIFT THE PERSON TO SAFETY USING A WOODEN POLE OR A ROPE OR SOME OTHER INSULATING MATERIAL
4. SEND FOR HELP AS SOON AS POSSIBLE
5. AFTER THE INJURED PERSON IS FREE OF CONTACT WITH THE SOURCE OF ELECTRICAL SHOCK, MOVE THE PERSON A SHORT DISTANCE AWAY AND IMMEDIATELY START ARTIFICIAL RESUSCITATION



TECHNICAL MANUAL
No. 11-5820-520-12

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, *25 February 1971*

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

RADIO SET AN/GRC-106 (NSN 5820-00-402-2263) AND RADIO SET AN/GRC-106A (NSN 5820-00-223-7548)

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

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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 uses Receiver-Transmitter, Radio RT-834/GRC. It includes the installation, operation, and operator and organizational maintenance. It also contains instructions for cleaning and inspection to 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 in and prescribed by TM 38-750.

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Packaging Improvement Report) as prescribed in AR 700-58/NAVSUPINST 4030.29/AFR 71-13/MCO P4030.29A, and DLAR 4145.8.

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(NAVSUPINST 4610.33A/AFR 75-18/MCO P4610.19B and DLAR 4500.15.

d. Reporting Equipment Improvement Recommendations (EIR). EIR's will be prepared using Standard Form 368, Quality Deficiency Report. Instructions for preparing EIR's are provided in TM 38-750, The Army Maintenance Management System. EIR's should be mailed direct to Commander, US Army Communications and Electronics Materiel Readiness Command ATTN: DRSEL-ME-MQ, Fort Monmouth, New Jersey 07703. A reply will be furnished direct to you.

e. 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 Communications and Electronics Materiel Readiness Command ATTN: DRSEL-ME-MQ, Fort Monmouth, NJ 07703.

f. Administrative Storage. The procedures for administrative storage are given in paragraph 3-9.

g. Destruction of Army Electronics Materiel. Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

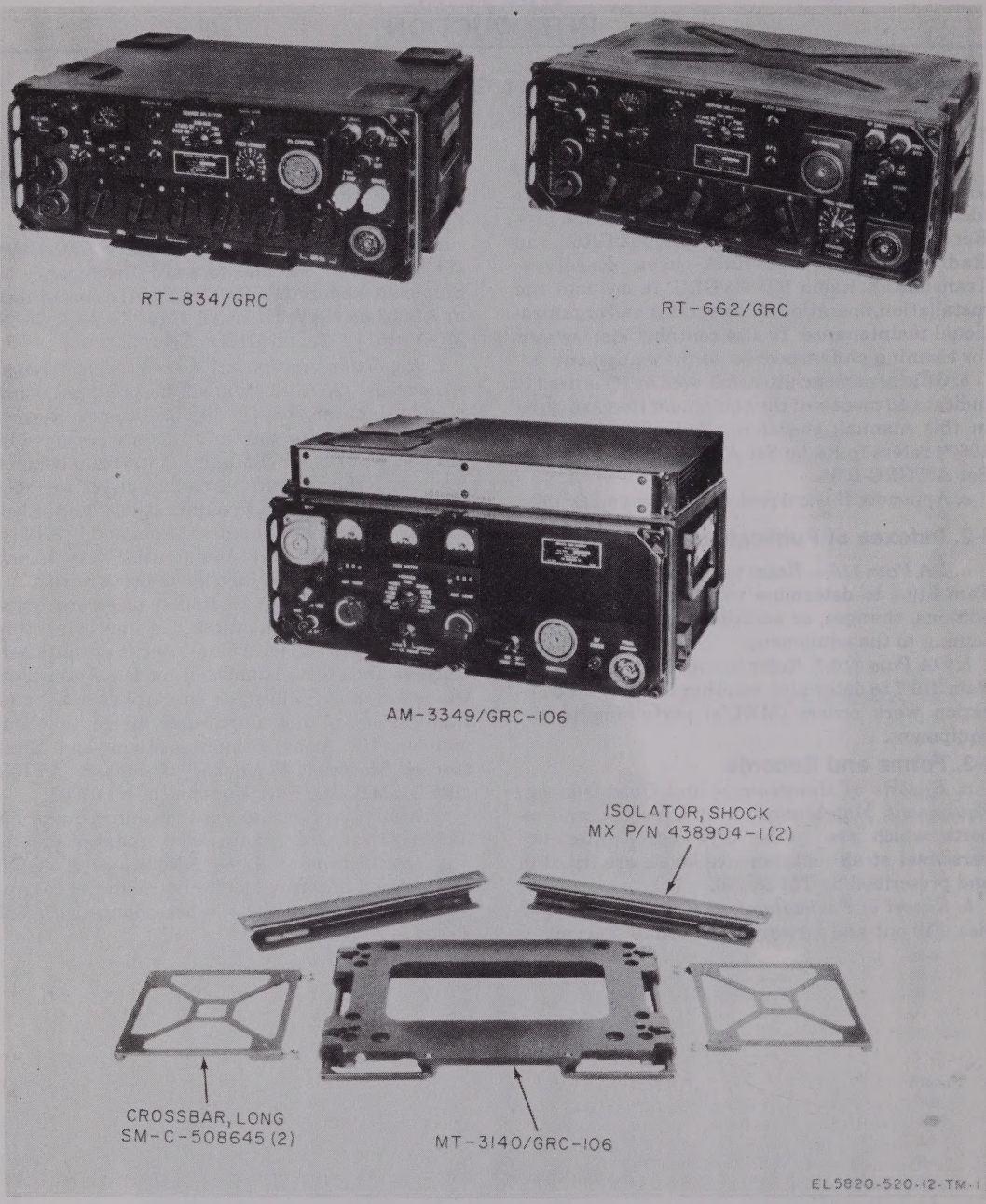


Figure 1-1. Radio Set AN/GRC-107(*), major components, and mounting parts issued with some installations.

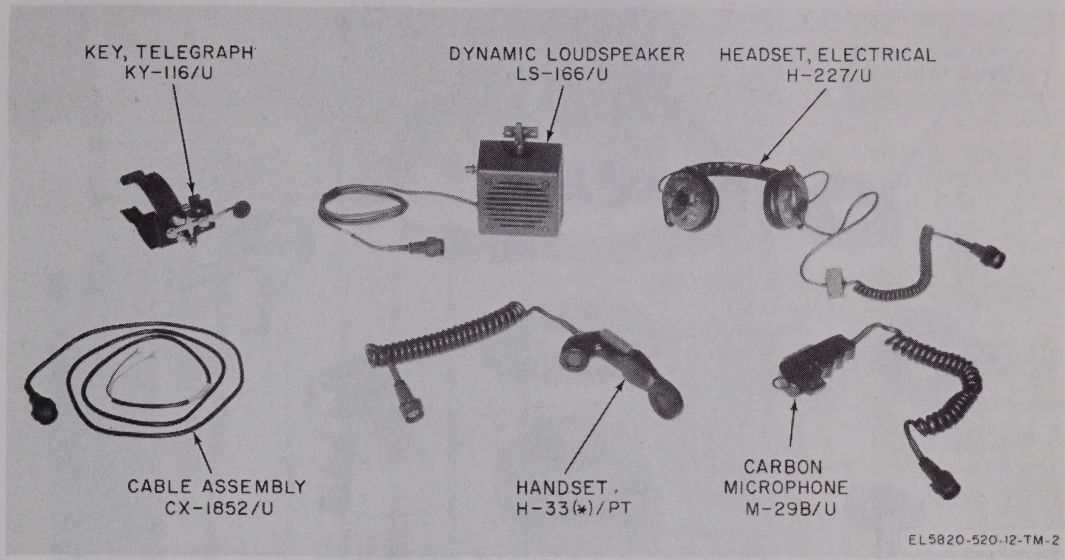


Figure 1-2. Radio Set AN/GRC-106(*), minor electrical components.

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. 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.

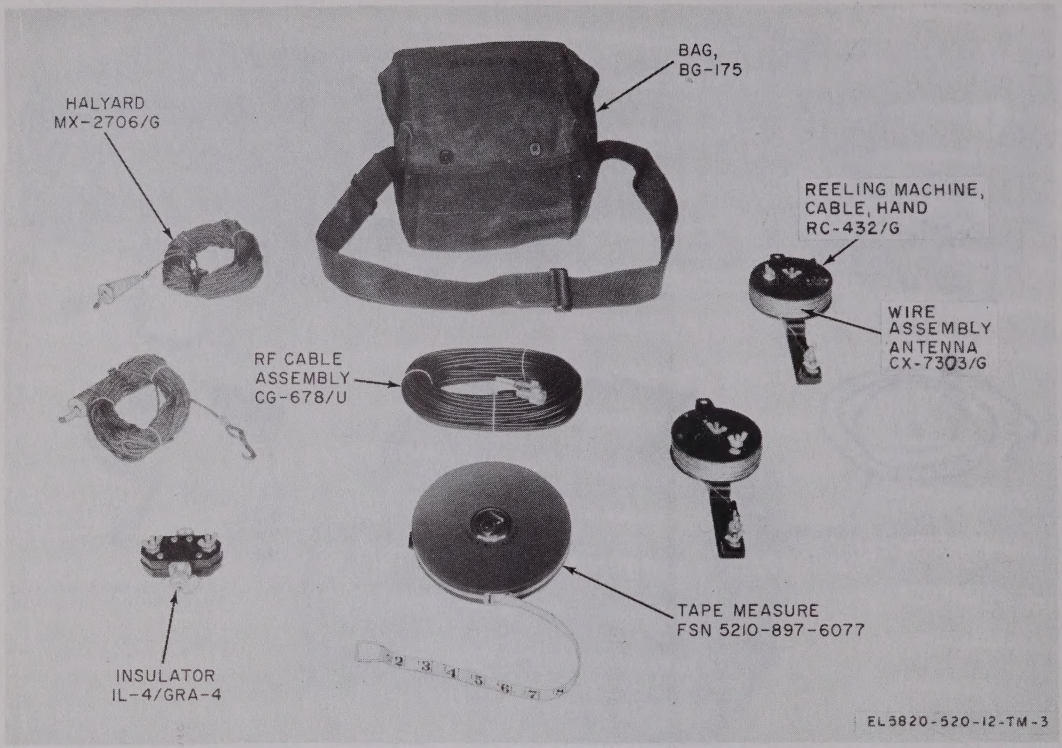


Figure 1-3. Components of Antenna Group AN/GRA-50.

1-5. Technical Characteristics

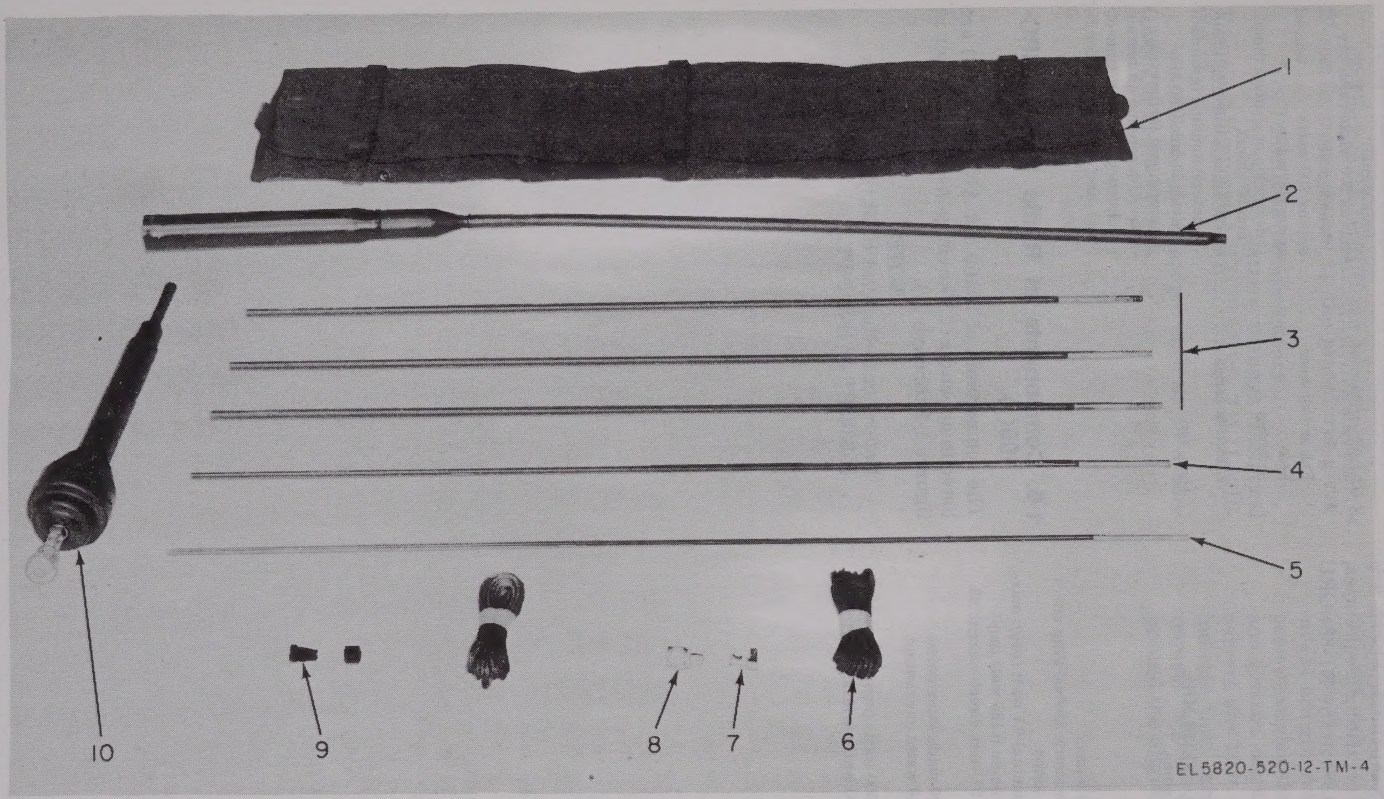
a. RT-662/GRC.

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 frequench-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-662/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.



Item No.	*Name of Item*
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

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 operatiung 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-note ..... 1,000 watts (nominal).
  - Voice ..... 800 watts (average).

Power output:
- CW ..... approx 200 watts
- Compatible am ..... approx 200 watts (with two tone signal)
- Ssb voice ..... approx 200 watts (with two tone signal)
- Fsk or nsk voice ..... approx 200 watts
- Nsk ..... aprox 200 watts
- Antenna ..... 15-foot whip or doublet (nommal 50 ohms).
- Effective range ..... 5 to 20 miles (8.045 to 32.18 kilometers) nominal (groundwave); 50 miles (80 kilometers), and farther (skywave), depending on terrain frequency, antenna, time of day, and atmospheric conditions.

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

The components of Radio Set AN/GRC-106(*) are listed in appendix C. 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.

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.

NOTE

Before connecting Cable Assembly, Special Purpose, Electrical CX-10071/U to POWER jack on RT-662/GRC or RT-834/GRC, check to see that both pins C and D on J24 are grounded. If only one pin has been grounded the lead between the pin and ground might not handle the load current and burn open. If measurements indicate that only one pin is grounded, request higher category maintenance ground the ungrounded pin.

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.

d. Set AM-3349/GRC-106 TEST METER switch to POWER OUT.

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.

(2.1) Place HV RESET switch on AM-3349/GRC-106 to OPERATE position.

(2.2) Place TEST METER function switch on AM-3349/GRC-106 to PRIM VOLT position.

(2.3) Place HV RESET switch of AM-3349/GRC-106 to TUNE position and observe that the test meter pointer indicates within the area of the two dark green wedges (top scale) of the test meter.

(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 indi-

cates 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* in *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-106 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). This should improve reception.

(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 deisred 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-106 or RT-834/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/GRC-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.

3-9. Administrative Storage

If Radio Set AN/GRC-106(*) is not to be operated for 1 to 45 days it may be put in administrative storage. The procedure for placing AN/GRC-106(*) in administrative storage is outlined below:

a. Perform the operator's and organizational preventive maintenance checks and services.

b. Turn equipment off and disconnect all external cables, handset key, headset, speaker, or microphone.

c. Place minor components and unattached cables (such as CG-409H/U, and CX-10099/U) in a suitable plastic bag and tie the bag securely to a handle on AM-3349/GRC-106.

d. Store AN/GRC-106(*) on a shelf in a dry cool room.

e. To take AN/GRC-106(*) out of administrative storage reverse the above procedures in *a* through *d* above.

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 could 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, to insure eqiupment 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 table indicates what to check, how to check, and the normal conditions. Where no reference is given in the procedures 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 (1) 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.

NOTES

Before you operate, always keep in mind the CAUTIONS and WARNINGS.

The *Item No.* column in table 4-1 shall be used as a source of item numbers for the *TM Number* column on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) in recording results of PMCS.

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

NOTE

Within designated interval, these checks are to be performed in the order listed.

B-Before D-During

Item No.	Interval B	Interval D	Items to be inspected	Procedure	For readiness reporting equipment is not ready/ available if:
1	*		Exterior surfaces	**WARNING** Do not clean the equipment if the power is on. Clean the exterior surfaces of the units comprising the AN/GRC-106(*) (para 4-3).	

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

Item No.	Interval B	Interval D	Items to be inspected	Procedure	For readiness reporting equipment is not ready/ available if:
2	*		Intercabling and connectors	Check all interconnecting cables and connectors for cracks and breaks. Check to see that the bonding jumper grounds the equipment (fig. 2-2). Replace cables that have cuts, cracks, or borken connectors.	Cables have been cut, have cracks and breaks, or the bonding jumper is missing.
3	*		Meter faces (glass)	Check to see that the meter faces (glass) are not loose or broken (fig. 3-1, 3-2, and 3-3).	
4	*		Fuses	Check fuses for correct value. Check spares for quantity and proper value.	Fuses are not the correct value.
5	*		AM-3349/GRC-106 heat exchanger	Check to see that there are no items on top of the AM-3349/GRC-106 that will obstruct air-flow through the heat exchanger.	Air is not moving freely through the heat exchanger.
6		*	Knobs, controls, and switches	While making the operational checks (item 7) observe that the mechanical action of each knob, switch, and control is smooth and free of external or internal binding.	
			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 court martial or possible death from hostile action.		
7		*	Operational check	Operate the equipment on an authorized frequency to verify its capabilities.	Signals transmitted or received are not clear, or the AN/GRC-106(*) will not transmit or receive.

NOTE

If your equipment fails to operate, troubleshoot with proper equipment. Report any deficiencies using the proper forms; see TM 38-750.

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 are toxic. Provide thorough ventilation whenever it is used; avoid prolonged or repeated breathing of vapor. Do not use near an open flame or hot surface; trichloroethane is nonflammable but heat converts the fumes to a highly toxic phosgene gas the inhalation of which could result in serious injury or death. Prolonged or repeated skin contact with trichloroethane can cause skin inflammation. When necessary, use gloves, sleeves and aprons which the solvent cannot penetrate.

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 there is 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:

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) Typical 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) Trichloroethane (NSN 6810-00-292-9625).
(2) Cleaning cloth.
(3) RTV 112, Mfg Code 01139 (Cement).
(4) Silicone compound (NSN 6850-00-880-7616).

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.

NOTE

Before you operate, always keep in mind the CAUTIONS and WARNINGS.

Table 5-1. Monthly Preventive Maintenance Checks and Services

Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, adjusted as necessary
1	Modifications	Check DA Pam 310-7 to determine if new applicable MWO's have been published. All URGENT MWO's must be applied immediately.
2	Completeness	Check to see that the equipment is complete (para 1-6).
3	Publications	See that all publications are complete, serviceable and current (DA Pam 310-4).
4	Mounting	Inspect seating and stability of mounting. Check for loose or missing hardware (fig. 1-10 and 2-1).
5	Installation	See that the equipment is properly installed. Check to see that all bolts, nuts, and washers are correctly positioned and properly tightened (para 1-6).
6	Antenna	Check the antenna for defects. Check to see if the whip section is bent or damaged.
7	Mast Base AB-652/GR	Check interior and exterior for rust and corrosion. Disassemble the AB-652/GR (using suitable crescent wrench) to check for the entry of water. If necessary, replace washer NSN 5310-00-189-8907 and the electrical cap NSN 5999-00-264-9213. Clean interior, then reassemble and check exterior for cleanliness. Clean as necessary using a wire brush and trichloroethane. Coat exterior corrodible parts with a light film of silicone compound NSN 6850-00-880-7616. (Cap used to cover antenna support when mast sections are removed.)
8	Accessible pluckout items	Check seating of lamps and fuses. Firmly seat if necessary.
9	Preservation	Check all surfaces for evidence of fungus. Remove rust and corrosion, and spot-paint bare spots (para 5-5). **NOTES** *Before you operate,* always keep in mind the CAUTIONS and WARNINGS. *While you operate,* always keep in mind the CAUTIONS and WARNINGS.
10	Externalblower (AM-3349/GRC-106)	Check the blower for cleanliness and effectiveness in exchanging air (fig. 1-8).
11	Dc connections in installations where Power Supply PP-4763/GRC or PP-4763A/GRC is used.	Check dc connections for cleanliness and see that nuts are tight. Coat connections with a light film of silicone compound (para 5-2). **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 court martial or possible death from hostile action.
12	Operational check	Check the equipment by operating it (para 3-7).

NOTE

If your equipment fails to operate, troubleshoot with proper equipment. Report any deficiencies using the proper forms (TM 38-750).

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 750-244-2	Procedures for Destruction of Electronic Materiel to Prevent Enemy Use (Electronics Command).

APPENDIX C
COMPONENTS OF END ITEM LIST

Section I. INTRODUCTION

C-1. Scope

This appendix lists integral components of and basic issue items for the AN/GRC-106(*) to help you inventory items required for safe and efficient operation.

C-2. General

This Components of End Item List is divided into the following sections:

a. Section II. Integral Components of the End Item. Not applicable. These items, when assembled, comprise the AN/GRC-106(*) and must accompany it whenever it is transferred or turned in. The illustrations will help you identify these items.

b. Section III. Basic Issue Items. Not applicable. These are the minimum essential items required to place the AN/GRC-106(*) in operation, to operate it, and to perform emergency repairs. Although shipped separately packed they must accompany the AN/GRC-106(*) during operation and whenever it is transferred between accountable officers. The illustrations will assist you with hard-to-identify items. This manual is your authority to requisition replacement BII, based on TOE/MTOE authorization of the end item.

C-3. Explanation of Columns

a. Illustration. This column is divided as follows:

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

(2) *Item number.* The number used to identify item called out in the illustration.

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

c. Description. Indicates the Federal item name and, if required, a minimum description to identify the item. The part number indicates the primary number used by the manufacturer, which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items. Following the part number, the Federal Supply Code for Manufacturers (FSCM) is shown in parentheses.

d. Location. The physical location of each item listed is given in this column. The lists are designed to inventory all items in one area of the major item before moving on to an adjacent area.

e. Usable on Code. Not applicable.

f. Quantity Required (Qty Reqd). This column lists the quantity of each item required for a complete major item.

g. Quantity. This column is left blank for use during an inventory. Under the Rcvd column, list the quantity you actually receive on your major item. The Date columns are for your use when you inventory the major items.

SECTION II INTEGRAL COMPONENTS OF END ITEM

(1) ILLUSTRATION (A) FIG NO.	(1) ILLUSTRATION (B) ITEM NO.	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION PART NUMBER (FSCM)	(4) LOCATION	(5) USABLE ON CODE	(6) QTY REQD	(7) QUANTITY RCVD	(7) QUANTITY DATE
1-1		5820-00-402-2263	RADIO SET AN/GRC-106 consisting of:					
1-1		5820-00-078-4766	RECEIVER-TRANSMITTER RT-662/GRC					
1-1		5820-00-078-4771	AMPLIFIER, RF AM-3349/GRC-106					
1-1		5820-00-223-7548	RADIO SET AN/GRC-106A consisting of:					
1-1		5820-00-935-0033	RECEIVER-TRANSMITTER RT-834/GRC					
1-1		5820-00-078-4771	AMPLIFIER, RF AM-3349/GRC-106					
			PLUS THE FOLLOWING ITEMS:					
1-2		5965-00-163-9947	HANDSET H-33( )/PT			1		
1-2		5965-00-226-2915	HEADSET, ELECTRICAL H-227/U			1		
1-2		5965-00-892-0722	MICROPHONE M-29B/U			1		
1-2		5805-00-503-3395	KEY, TELEGRAPH KY-116/U			1		
1-2		5995-00-177-4501	CABLE, SPECIAL PURPOSE CX-1852/U			1		
		5820-00-138-8616	HARDWARE KIT FOR AN/GRC-106			1		
		5820-00-089-9656	GROUNDING KIT			1		
1-10		5995-00-985-7998	CABLE, ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-10071/U			2		
1-10		5995-00-985-8005	CABLE, ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-10099			1		
1-10		5995-00-985-8014	LEAD, ELECTRICAL CX-10171/U			1		
1-10		5995-00-578-6353	CABLE ASSEMBLY RADIO, FREQUENCY CG-409( )/U			2		
		5920-00-280-4960	FUSE 2A			2		
1-2		5965-00-243-6420	DYNAMIC LOUDSPEAKER LS-166/U			1		
		7690-00-620-2110	DECAL			2		
1-3		5985-00-892-0758	ANTENNA GROUP AN/GRA-50 consisting of:			1		
1-3		5995-00-823-2176	CABLE ASSEMBLY CG-687/U			1		
1-3		5985-00-893-1438	HALYARD MX-2706/G			2		
1-3		5970-00-405-8223	INSULATOR IL-4/GRA-4			1		
1-3		5895-00-896-3179	REELING MACHINE RC-432/G			2		
1-3		5985-00-757-2130	WIRE ASSEMBLY CX-7303/G			2		
1-3		5210-00-897-6077	TAPE, MEASURING			1		
1-3		6115-00-498-3973	BAG BG-175			1		
			WHIP ANTENNA consisting of:					
1-4		5820-00-078-4770	MAST BASE AB-652/GR			1		
1-4		5985-00-115-7149	MAST SECTION MS-117A			1		
1-4		5985-00-199-8831	MAST SECTION MS-116A			3		
1-4		5985-00-238-7474	MAST SECTION MS-118A			1		
1-4		5820-00-497-9644	BAG CW-206/GR			1		
1-4		5935-00-259-0205	ADAPTER, CONNECTOR UG-201A/U			1		
1-4		5935-00-847-2600	ADAPTER, CONNECTOR UG-306B/U			1		
		5985-00-930-7223	ANTENNA TIP ASSEMBLY			1		
1-4		5820-00-078-4769	ANTENNA COVER			1		
1-4		4020-00-073-3276	ROPE			40'		

SECTION II INTEGRAL COMPONENTS OF END ITEM

(1) ILLUSTRATION (A) FIG NO.	(1) ILLUSTRATION (B) ITEM NO.	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION PART NUMBER (FSCM)	(4) LOCATION	(5) USABLE ON CODE	(6) QTY REQD	(7) QUANTITY RCVD	(7) QUANTITY DATE
1-4		5820-00-571-1828	CLAMP					
		5340-00-694-1071	BRACKET			1		

SECTION III BASIC ISSUE ITEMS

(1) ILLUSTRATION (A) FIG NO.	(1) ILLUSTRATION (B) ITEM NO.	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION PART NUMBER (FSCM)	(4) LOCATION	(5) USABLE ON CODE	(6) QTY REQD	(7) QUANTITY RCVD	(7) QUANTITY DATE
			RUNNING SPARES					
			FUSE 2A 250V FO2A250V2A			5		
		5985-00-115-7149	MAST SECTION MS-117A			1		
		5985-00-199-8831	MAST SECTION MS-116A			2		
		5985-00-238-7474	MAST SECTION MS-118A			1		
			PUBLICATIONS					
			TM 11-5820-520-12					