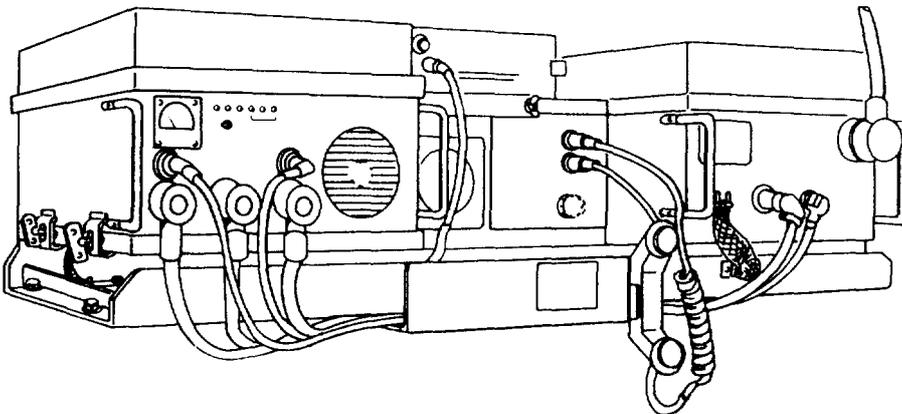


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TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL, AND DIRECT SUPPORT  
MAINTENANCE MANUAL,  
INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST  
FOR  
INSTALLATION KIT, ELECTRONIC EQUIPMENT  
MK-2460/GRC-193A  
(NSN 5820-01-189-9798)



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DESTRUCTION NOTICE—Destroy by any method that will prevent disclosure of contents or reconstruction of the document.

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IN CARRIER, PERSONNEL, FULL TRACKED,  
M113A1 , AND IN CARRIER COMMAND POST,  
LIGHT TRACKED, M577A1 FOR RADIO SET  
AN/GRC-193A



**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 DRY WOODEN POLE OR A DRY 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**

**WARNING**

Observe all **WARNINGS** and Cautions when performing any instruction or procedure to prevent personal injury or equipment damage.

**WARNING**

When drilling near the gas tank, drill only in an adequately ventilated area and ensure that neither gasoline nor gasoline fumes are escaping from gas cans or the gas tank. Failure to observe this warning could result in an **Explosion** that could result in damage to equipment and/or loss of life.

**WARNING**

Failure to ground the drill properly could result in an electrical **Shock** that could cause serious injury or death.

**WARNING**

Failure to wear safety glasses or goggles while drilling in metal could cause serious eye damage, including Loss of Sight.

**WARNING**

Two persons are required to lift and install the Mounting Base, the Power Amplifier, and the Antenna Coupler when performing this procedure, in accordance with **MIL-STD 1472B** Human Engineering Design Criteria For Military Systems, Equipment and Facilities. One person should not attempt these steps alone.

**WARNING**

Make sure power control (VOLUME) on RT is in fully CCW position (OFF).

**WARNING**

DO NOT CLEAN THE EQUIPMENT IF THE POWER IS ON.

**WARNING**

THE FOLLOWING PROCEDURE REQUIRES THE BREAKING OF RADIO SILENCE. UNAUTHORIZED VIOLATION OF RADIO SILENCE COULD RESULT IN COURT MARTIAL OR POSSIBLE DEATH FROM HOSTILE ACTION.

**WARNING**

Adequate ventilation should be provided while using **TRICHLOROTRI-FLUOROETHANE**. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since **TRICHLOROTRIFLUORO-ETHANE** dissolves natural oils, prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

TECHNICAL MANUAL  
 No. 11-2300-474-13 & P

HEADQUARTERS  
 DEPARTMENT OF THE ARMY  
 Washington, DC, 1 September 1987

**OPERATOR'S, ORGANIZATIONAL, AND DIRECT SUPPORT**  
**INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST**  
**INSTALLATION KIT, ELECTRONIC EQUIPMENT**  
**MK-2460/GRC-193A**  
**(NSN 5820-01-189-9798)**  
**IN CARRIER, PERSONNEL, FULL TRACKED, M113A1 , AND**  
**IN CARRIER COMMAND POST, LIGHT TRACKED, M577A1 FOR**  
**RADIO SET AN/GRC-193A**

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA 2028-2 located in the back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ME-MP, Fort Monmouth, New Jersey 07703-5000. In either case, a reply will be furnished direct to you.

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## HOW TO USE THIS MANUAL

This manual is designed to help you install, operate, and maintain Radio Set AN/GRC-193A in Carrier, Personnel, Full Tracked, M113A1, and in Carrier Command Post, Light Tracked, M577A1 using the MK-2460/GRC-193A Electronic Equipment Installation Kit.

Paragraphs in this manual are numbered by chapter and order of appearance within a chapter. A subject index appears at the beginning of each chapter listing sections that are included in that chapter. A more specific subject index is located at the beginning of each section to help you find the exact paragraph you're looking for.

Warning pages are located in the front of this manual. You should learn all warnings before operating, installing, or performing maintenance procedures on the equipment.

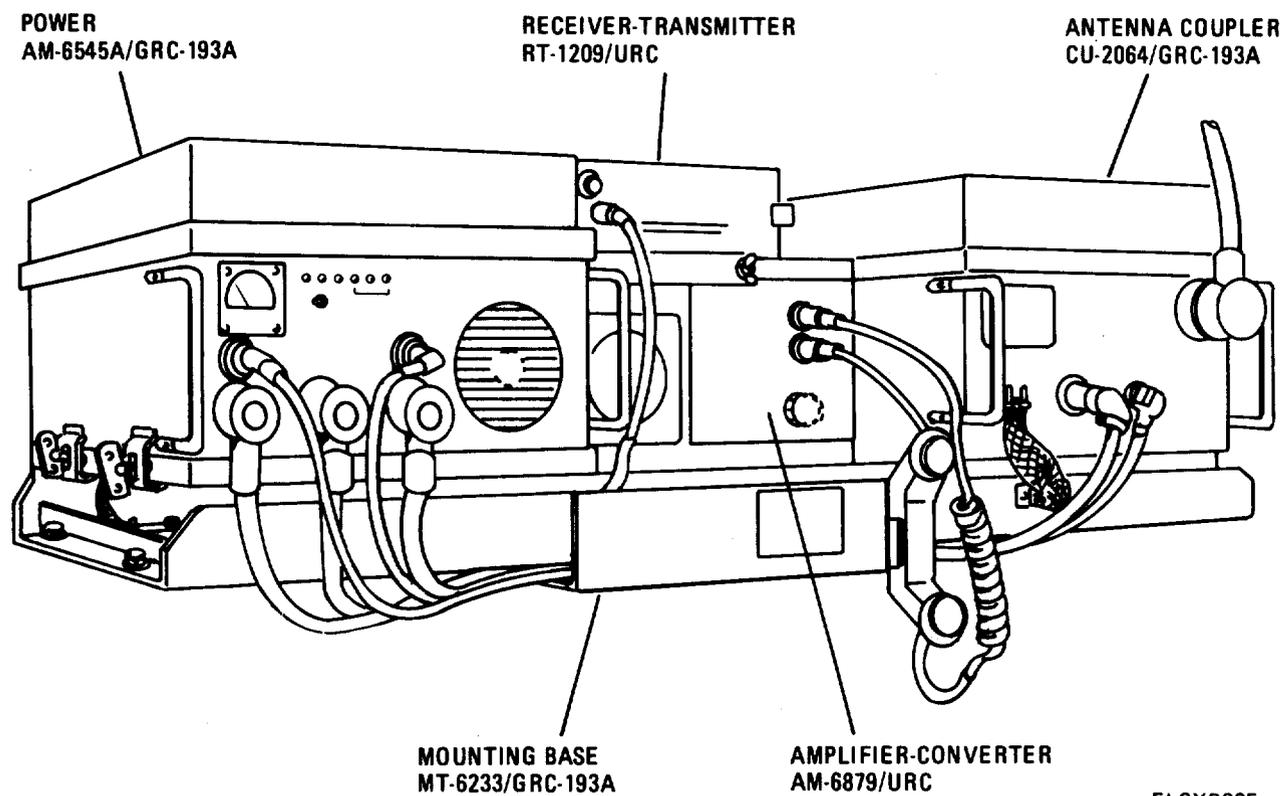
Read all preliminary material found at the beginning of each task. It contains important information and safety instructions necessary to complete procedures.

Instructions for installation are located in paragraph 2-6.

Instructions for performing PMCS are located in paragraphs 3-3 and 3-7.

There is a Maintenance Allocation Chart (MAC) located in appendix B which is current as of July 1986.

Measurements in this manual are given in both US standard and metric units.



INSTALLATION KIT, ELECTRONIC EQUIPMENT  
MK-2460/GRC-193A

**CHAPTER 1  
INTRODUCTION**

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**Section I. GENERAL INFORMATION**

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**1-1. SCOPE.**

This manual provides instructions for installing Installation Kit, Electronic Equipment MK-2460/GRC-193A (kit) (NSN 5820-01-189-9798), in Carrier, Personnel, Full Tracked, M113A1, and in Carrier Command Post, Light Tracked, M577A1. This installation allows the mounting of Radio Set AN/GRC-193A.

**1-2. CONSOLIDATED INDEX OF PUBLICATIONS AND BLANK FORMS.**

Refer to the latest issue of DA Pam 25-30 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

**1-3. MAINTENANCE FORMS, RECORDS, AND REPORTS.**

REPORTS OF MAINTENANCE AND UNSATISFACTORY EQUIPMENT

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by **DA Pam 738-750** as contained in Maintenance Management Update.

REPORT OF PACKAGING AND HANDLING DEFICIENCIES

Fill out and forward **SF 364** (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR **4140.55/NAVMATINST 4355.73B/AFR 400-54/MCO 4430.3H**.

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 4610.33C/AFR 75-18/MCO P4610.19D, DLAR 4500.15.**

**1-4. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).**

If your equipment needs improvement, let us know. Send us an **EIR**. You, the user, are the only one who can tell us what you don't like about the design. Put it on an **SF 368** (Quality Deficiency Report). Mail it to Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-PA-MA-D, Fort Monmouth, New Jersey 07703-5000. We'll send you a reply.

**1-5. NOMENCLATURE CROSS-REFERENCE LIST.**

This list contains common names used in place of official nomenclature in this manual.

COMMON NAME	OFFICIAL NOMENCLATURE
M577/M113 INSTALLATION KIT	INSTALLATION KIT, ELECTRONIC EQUIPMENT MK-2460/GRC-193A

**1-6. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE.**

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

**1-7. PREPARATION FOR STORAGE AND SHIPMENT.**

Equipment shall be prepared for storage or shipment by performing preventive maintenance checks and services (PMCS) as prescribed in the PMCS charts included in this manual. These procedures should also be done when removing equipment from storage to ensure operational readiness.

Packing of equipment for storage or shipment will normally be performed at a packing facility or by a packaging team.

**1-8. DISPOSITION OF UNUSED PARTS**

Dispose of unused parts in accordance with **DOD 4160.21-M** and **AR 755-2.**

**1-9. LIST OF ABBREVIATIONS.**

The following is a list of abbreviations used in this manual.

---

 ABBREVIATIONS
 

---

AAL . . . . .	Additional Authorization List
AC . . . . .	Amplifier-Converter
AC or ac . . .	Alternating Current
Amps . . . . .	Amperes
ANT	Antenna
ANT CPLR CB	Antenna Coupler Circuit Breaker
AVG . . . . .	Average
C . . . . .	Celsius (Centigrade)
COEIL : . . . .	Components of End Item List
CONT . . . . .	Control
C U . . . . .	Antenna Coupler
C W . . . . .	Continuous Wave
D-RCV . . . .	Data Receive
D-TR . . . . .	Data-Transmit/Receive
dB . . . . .	Decibel
DC or dC . . . .	Direct Current
DISREP . . . . .	Discrepancy in Shipment Report
EIR . . . . .	Equipment Improvement Recommendations
EMI . . . . .	Electromagnetic Interference
F . . . . .	Fahrenheit
FSCM . . . . .	Federal Supply Code for Manufacturers
FSK . . . . .	Frequency-Shift Keying
FT . . . . .	Foot or Feet
HF . . . . .	High Frequency
Hz . . . . .	Hertz
kg . . . . .	Kilograms
kHz . . . . .	Kilohertz
lb . . . . .	Pounds
LSB . . . . .	Lower Sideband
MAC . . . . .	Maintenance Allocation Chart
MHz . . . . .	Megahertz
mW . . . . .	Milliwatts
msec. . . . .	millisecond
NVIS . . . . .	Near Vertical Incidence Skywave
PA . . . . .	Power Amplifier
PA CB . . . . .	Power Amplifier Circuit Breaker
PEP . . . . .	Peak-Envelope Power
PMCS . . . . .	Preventive Maintenance Checks and Services
PTT . . . . .	Push-To-Talk
RDY . . . . .	Ready
rf . . . . .	Radio Frequency
RFI . . . . .	Radio Frequency Interference
ROD . . . . .	Report of Discrepancy
RT . . . . .	Receiver Transmitter
SINAD. . . . .	The ratio of signal plus noise plus distortion over the noise plus distortion
SSB . . . . .	Single Sideband
SPKR . . . . .	Speaker
TMDE . . . . .	Test Measurement and Diagnostic Equipment

---

ABBREVIATIONS

---

TTY .	Teletypewriter
TUN .	Tune
U/M .	Unit of Measure
UHF .	Ultra High Frequency
USB .	Upper Sideband
uV .	Microvolts
VHF .	Very High Frequency
V-RCV	Voice-Receive
V-TR	Voice Transmit/Receive
XMT	Transmit

**1-10. DEFINITION OF UNUSUAL TERMS.**

Nominal . . . . . The stated or specified value as opposed to the actual value

**Section II. EQUIPMENT DESCRIPTION**

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Description of Components . . . . .	1-12	1-5
Parts Identification List . . . . .	1-13	1-5
Installation Drawings . . . . .	1-14	1-7

**1-11. PURPOSE AND USE.**

The MK-2460/GRC-193A Electronic Equipment Installation Kit is a grouping of items used to modify Carrier, Personnel, Full Tracked, M113A1, and Carrier Command Post, Light Tracked, M577A1 for, the installation of Radio Set AN/GRC-193A as shown in the installation drawings on the following pages.

**1-12. DESCRIPTION OF COMPONENTS.**

The installation kit is made up of the components listed below. When applicable, attaching hardware is enclosed in a bag and fastened to the equipment.

- a. Mounting Base, Electrical Equipment MT-6233, 755017B0700 is a rack unit for Radio Set AN/GRC-193A used with Carrier, Personnel, Full Tracked, M113A1, and in Carrier Command Post, Light Tracked, M577A1.
- b. AB-652 Antenna Mast Base, (NSN 5820-00-078-4770).
- c. MS-116-A Antenna Section SC-D-12521 (NSN 5985-00-199-8831) (Quantity 3).
- d. MS-117-A Antenna Section SC-D-12521 (NSN 5985-00-115-7149).
- e. MS-118-A Antenna Section SC-D-12521 (NSN 5985-00-238-7474).
- f. Antenna Tip Assembly SC-D-446046 (NSN 5985-00-930-7223).
- g. CF-475B Cover SM-D-500428 (NSN 5820-00-078-4769).
- h. Antenna Guard Assembly, SC-C-446008 (NSN 5820-00-493-3055).
- i. Clamp SC-B-19491 (NSN 5340-00-286-2491).
- j. Rope SM-B-500418 (NSN 4020-00-073-3276(20 ft./2 ea.)).
- k. Antenna Adapter 755017B0765 (NSN 5985-01-192-8599).
- l. Installation Instructions 755017B0927.

**1-13. PARTS IDENTIFICATION LIST.**

The following list of parts is for identification during installation and does not constitute a bill of material (BOM). This list of parts is used with the installation drawings in paragraph 1-14 to locate and

identify the parts for installation of the AN/GRC-193A Radio Set in the M113A1 and 577A1 vehicles, using the MK-2460 Electronic Equipment Installation Kit.

PARTS IDENTIFICATION LIST

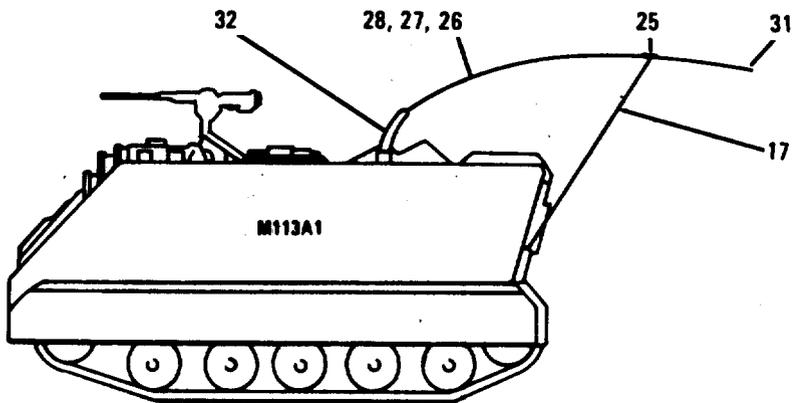
ITEM NO,	QTY	FSCM NO.	PART NUMBER	DESCRIPTION
1	4	96906	MS15795-807	WASHER, FLAT NO. 8
2	2	96906	MS15795-808	WASHER, FLAT NO. 10
3	4	96906	MS35338-137	WASHER, LOCK NO. 8
4	2	96906	MS35338-138	WASHER, LOCK NO. 10
5	4	96906	MS35338-140	WASHER, LOCK NO. 5/16
6	4	96906	MS35338-141	WASHER, LOCK NO. 3/8
7	16	96906	MS35335-63	WASHER, LOCK, STAR, NO. 3/8
8	4	96906	MS35649-284	NUT, 8-32
9	2	96906	MS35650-104	NUT, 10-32
10	8	96906	MS35690-610	NUT, 3/8-16
11	4	96906	MS35307-341	BOLT, 5/16-18 X 2-1/4 LG
12	12	96906	MS35307-362	BOLT, 3/8-16 X 1 -1/4 LG
13	4	96906	MS22693-648	SCREW, 8-32 X 3/8 LG 100°
14	2	96906	MS51958-67	SCREW, 10-32 X 1.0 LG
15	1	80372	755017B6832-6	DRILL BIT, 7/16
16	1	80372	755017A4029	LABEL, DECAL
17	2	80063	SM-B-500418	ROPE, 20 FT LONG
18	1	80372	755017B0825	I-BOX, AUDIO
19	1	80063	SC-C-49639-1	ADAPTER
20	1	80372	755017B0756	MOUNT (RT)
21	1	80372	755017B0759	MOUNTING BASE, MT-6233/GRC-193A
22	1	80372	SM-C-582924	CABLE, ANTENNA
23	1	80372	755017B0630	CABLE, AUDIO
24	1	80372	755017B8739	CABLE, CONTROL (AM-RT)
25	1	80063	SC-B-19491	CLAMP
26	1	80063	SC-D-12521	MAST SECTION, MS-118-A
27	1	80063	SC-D-12521	MAST SECTION, MS-117-A
28	3	80063	SC-D-12521	MAST SECTION, MS-116-A
29	1	80063	SC-D-49679	MAST BASE, ANTENNA AB-652
30	1	80372	755017B0746	CABLE HANGER ASSEMBLY
31	1	80063	SC-C-446046	ANTENNA TIP ASSEMBLY
32	1	80063	SM-D-500428	ANTENNA SHEATH
33	1	80372	H-250/V	HANDSET
34	1	80372	755017A0150	RECEIVER-TRANSMITTER, RT-1209/URC
35	1	80372	755017A1800	AMPLIFIER CONVERTER, AM-6879/URC

## PARTS IDENTIFICATION LIST (CONTINUED)

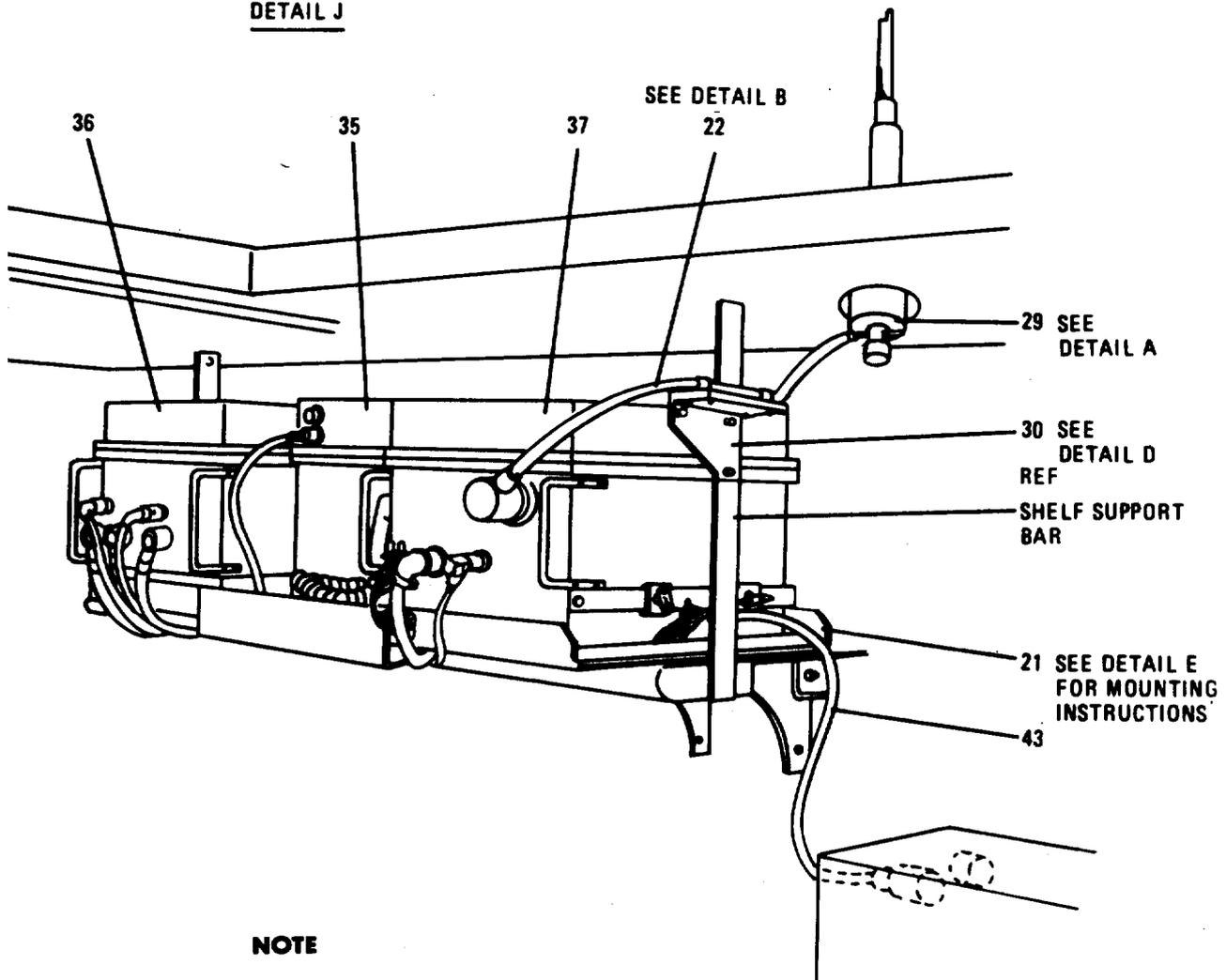
ITEM NO.	QTY	FSCM NO.	PART NUMBER	DESCRIPTION
36	1	80372	755017A3000	AMPLIFIER, POWER AM-6545A/GRC-193A
37	1	80372	755017A8000	COUPLER, ANTENNA CU-2064/GRC-193A
38	1	80372	755017B0769	CPLR AND ANT BASE ASSY
39	1	80372	755017B0738	CABLE ASSY, AUDIO (AM-RT)
40	1	80372	755017B0736	CABLE ASSY (PA-AM)
41	1	80372	755017B0715	CABLE ASSY COAX (PA-AM)
42	1	80372	755017B0716	CABLE ASSY COAX (PA-CU)
43	1	80372	755017B0740	CABLE ASSY, POWER
44	1	80372	755017B0732	CABLE ASSY, CNTRL (PA-CU)
45	1	80372	755017B0759	MOUNTING BASE, MT-6233/GRC-193A
46	1	80372	755017B0814	CABLE ASSY, AUDIO-W1
47	1	96906	MS15795-810	WASHER, PLAT, NO. 1/4
48	1	96906	MS35338-139	WASHER, LOCK, NO. 1/4
49	1	96906	MS35387-308	BOLT, 1/4-20 X 1 LG
50	1	80372	755017B0140	CABLE, COAX
51	1	80372	755017B0110	CABLE, CNTRL
52	1	80063	RC-435/U	REEL, CABLE
53	1	80063	SC-C-446079	ROD, GROUND
54	1	80063	SC-C-446047-1	BRAID, 52 IN LG
55	2	80063	SC-C-446047-2	TERMINAL
56	1	80372	755017B0765	ADAPTER, ANTENNA
57	1	80063	AS-2259/GR	ANTENNA, NVIS

## 1-14. INSTALLATION DRAWINGS.

The following installation drawing used with the parts identification list locate and identify the pieces that comprise the MK-2460/GRC- 193A Electronic Equipment Installation Kit.



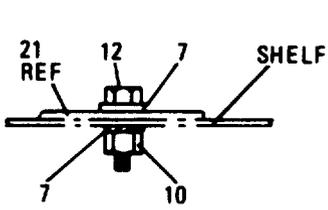
**M113A1 ANTENNA GUARD APPLICATION  
DETAIL J**



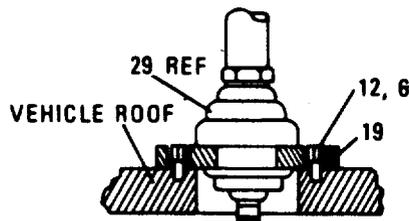
**NOTE**

ITEMS 17,18,46 THRU 57  
NOT ILLUSTRATED

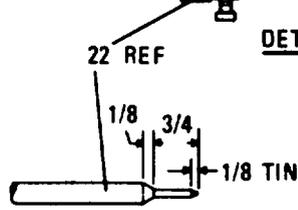
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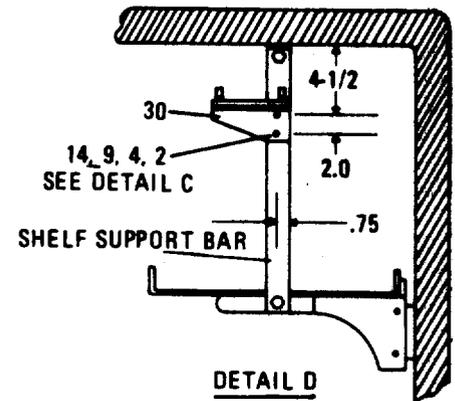
DETAIL E



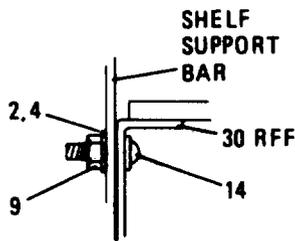
DETAIL A



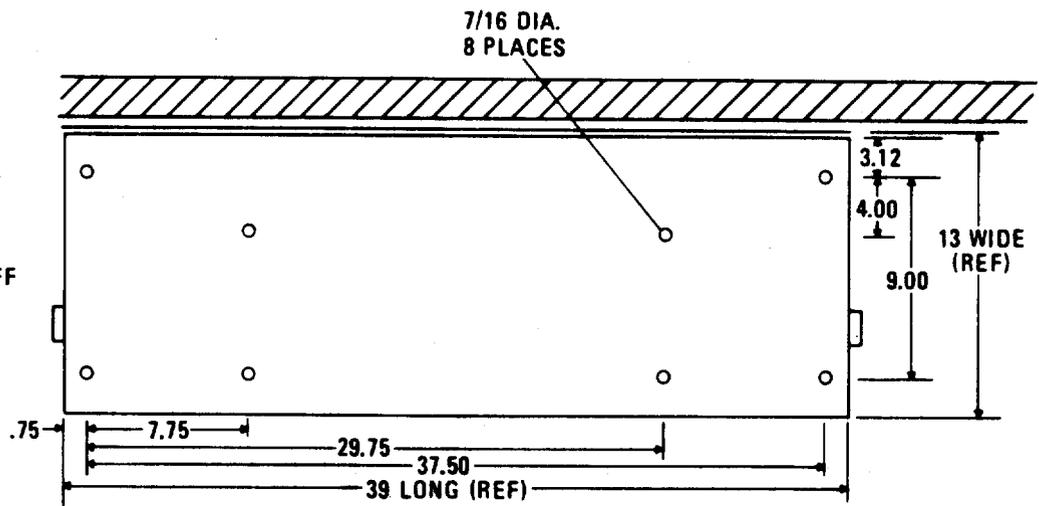
WIRE LEAD-IN PREP  
DETAIL B



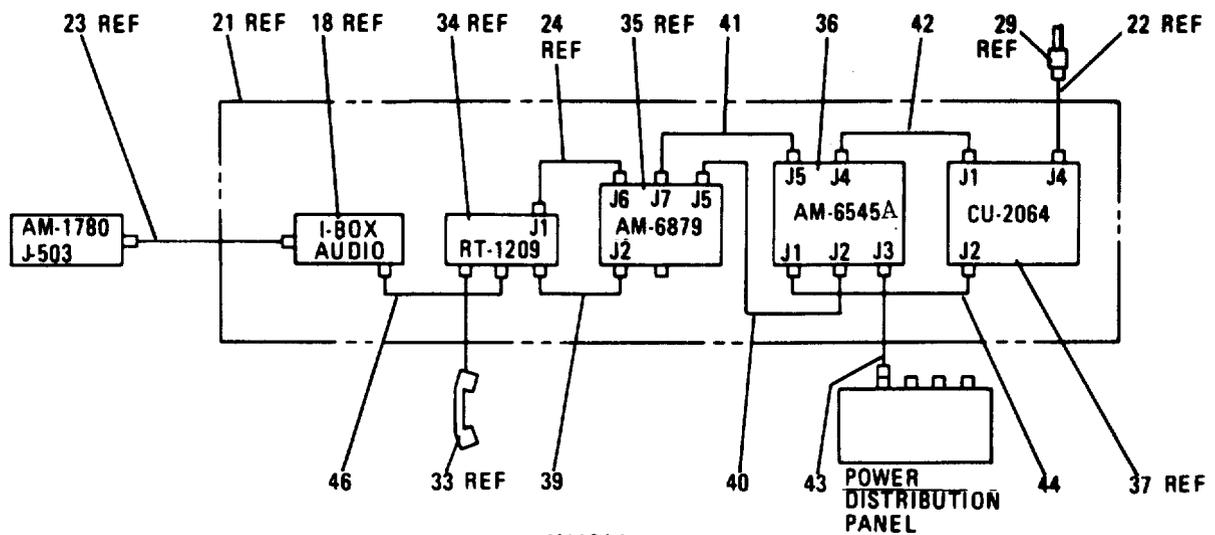
DETAIL D



DETAIL C

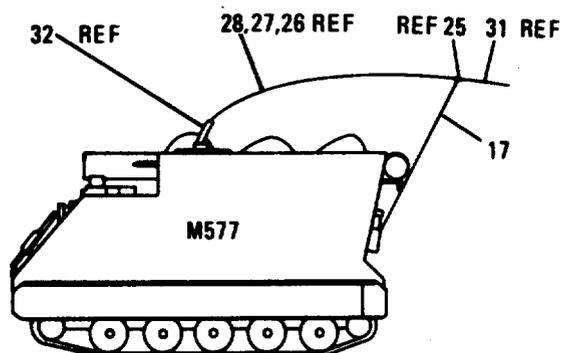


SHELF DRILLING LAYOUT  
DETAIL G

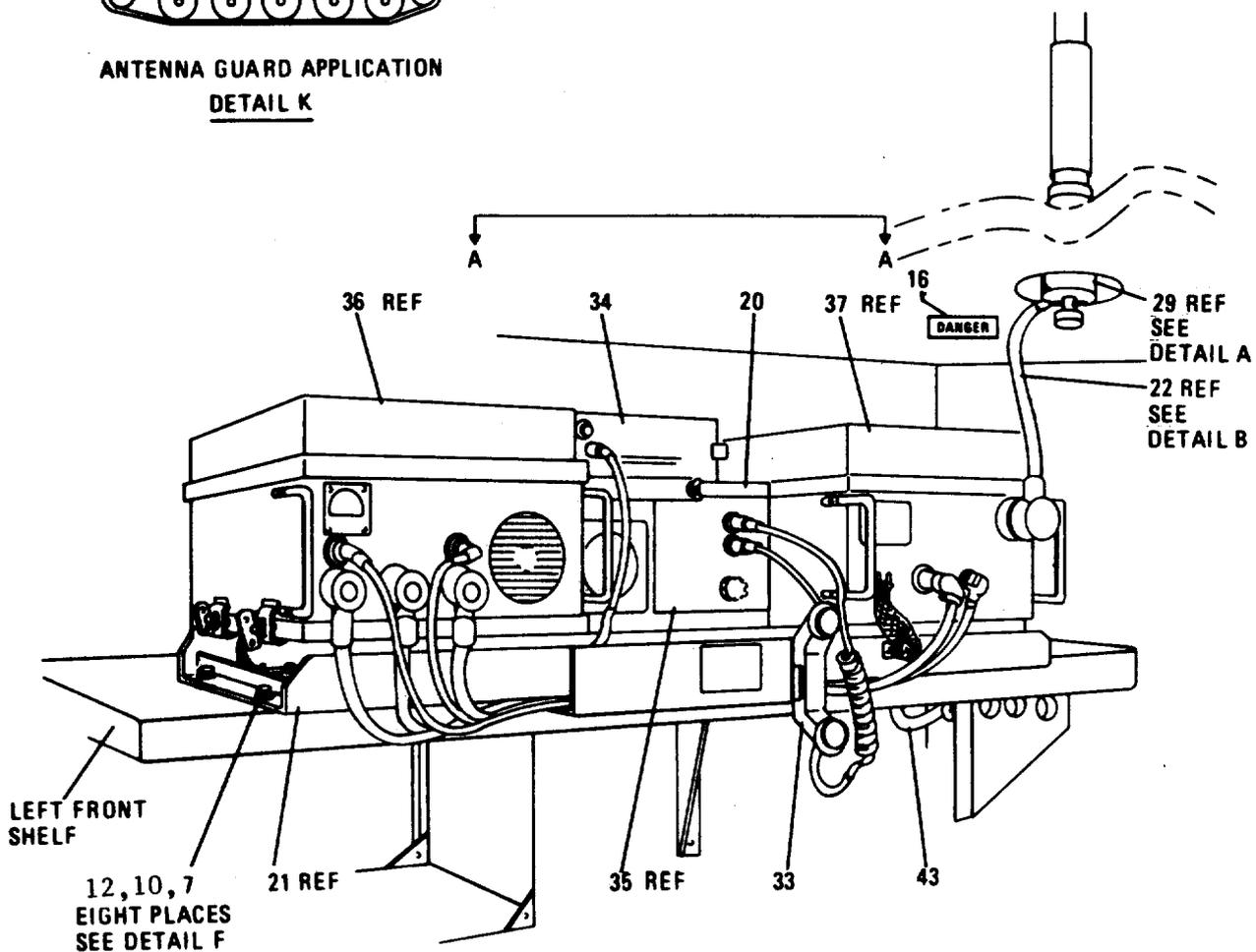


M113A1  
CORDING DIAGRAM

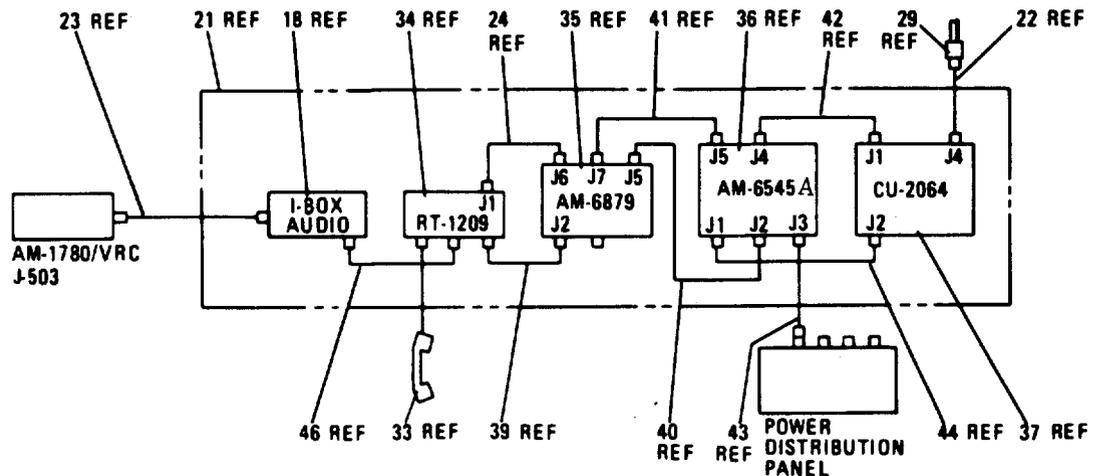
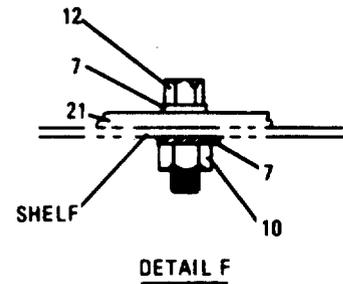
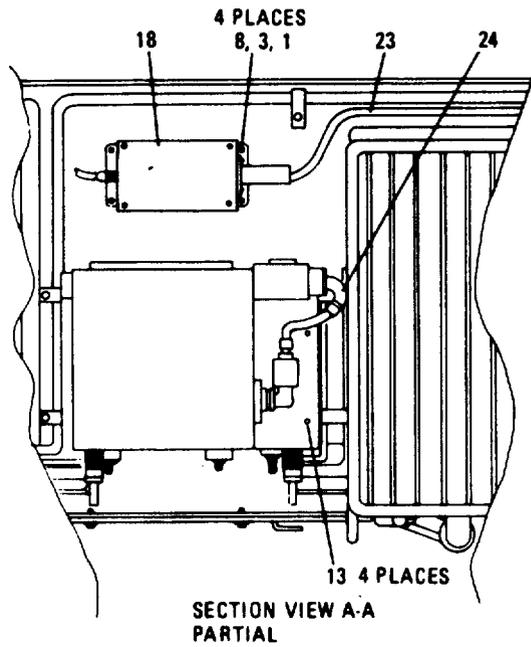
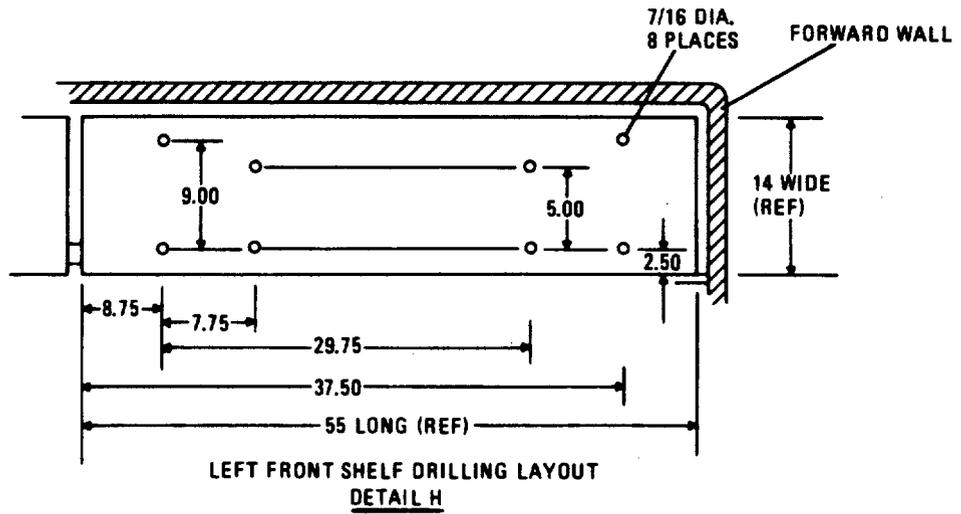
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ANTENNA GUARD APPLICATION  
DETAIL K



EL9XB008



EL9X8009

**CHAPTER 2**

**SERVICE UPON RECEIPT AND INSTALLATION**

Subject	Section	Page
Unpacking, Preparation and Required Tools and Equipment . . .	I	2-1
Installation . . . . .	II	2-3

**Section 1. UNPACKING, PREPARATION AND REQUIRED TOOLS AND EQUIPMENT**

Subject	Paragraph	Page
Unpacking . . . . .	2-1	2-1
Checking Unpacked Equipment . . . . .	2-2	2-2
Preparation For Installation . . . . .	2-3	2-3
Tools and Equipment Required . . . . .	2-4	2-3

**WARNING**

Observe all **WARNINGS** and Cautions when performing any instruction or procedure to prevent personal injury or equipment damage.

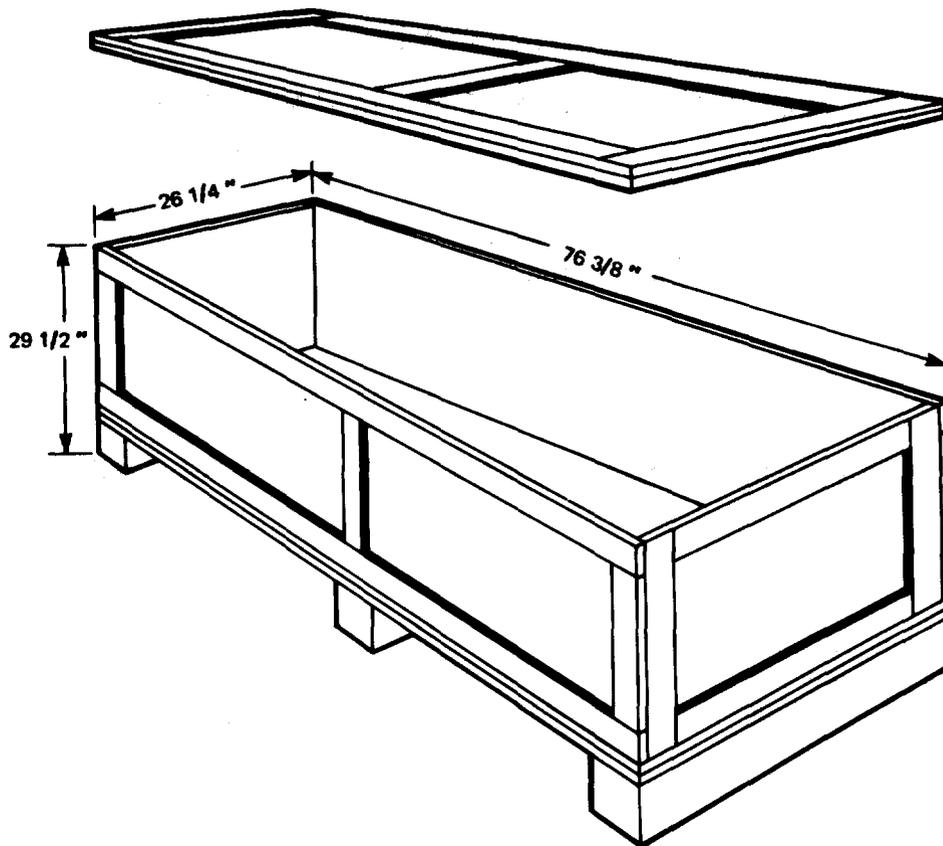
**2-1. UNPACKING.**

When packed for shipment, the components of the installation kit are contained in individual cartons. All cartons are usually packed in a large cardboard carton which may or may not be installed inside a wooden packing crate. When packed for overseas shipment, the cardboard carton is enclosed in moistureproof paper.

Unpack the equipment from the case as follows:

**CAUTION**

Do not open case with prybar or crowbar, equipment within case may be damaged.



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1. Cut and fold back any metal straps around wooden packing case.
2. Remove nails from cover and one side of wooden packing case.
3. Remove cover and one side.
4. Open moistureproof barrier cover in outer carton and remove carton from case.
5. Open carton and moistureproof barrier covering inner carton.
6. Remove inner carton and open.
7. Remove contents from inner carton. Save cartons, inner blocking, fillers, etc., for future limited storage of installation kit.

## 2-2. CHECKING UNPACKED EQUIPMENT.

1. Inspect the equipment for damage incurred during shipment. If any damage has been found, report on **SF 364 (Report of Discrepancy (ROD))**.
2. Check the equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions of **DA Pam 738-750** and paragraph 1-3,

Maintenance Forms, Records, and Reports. Shortage of minor assemblies or spare parts which do not affect usage should not prevent use of the kit.

3. Check that all applicable **Modification Work Orders (MWO's)** have been applied to the equipment. Current MWO's for the equipment will be listed in **DA Pam 25.20**.

**2-3. PREPARATION FOR INSTALLATION.**

To perform the installation of the MK-2460/GRC-193A Electronic Equipment Installation Kit a suitable site must be selected. The installation procedure calls for holes to be drilled in the vehicle; therefore, electrical power should be available to operate an electrical drill and to provide lighting if necessary.

**2-4. TOOLS AND EQUIPMENT REQUIRED.**

The following tools and equipment are required for the installation of the MK-2460/GRC-193A Electronic Equipment Installation Kit.

1. Tool Kit, Electronic Equipment TK-105/G.
2. Portable drop light.
3. Hammer, Ball-peen, 16 oz.
4. Center punch, 1 /2x6-inch.
5. 5/16-inch drill bit (NSN 5133-00-227-9662).
6. 7/16-inch drill bit (NSN 5133-00-227-9670).
7. Tape measure.

**Section II. INSTALLATION**

Subject	Paragraph	Page
Warnings and Precautions . . . . .	2-5	2-3
Installation Procedures . . . . .	2-6	2-4
Preliminary Procedures . . . . .	2-6.1	2-5
Installation of MT-6233/GRC-193A Mounting Base . . . . .	2-6.2	2-5
Installation of Antenna Assembly . . . . .	2-6.3	2-8

**2-5. WARNINGS AND PRECAUTIONS.**

Before installing the MK-2460/GRC-193A, read the instructions below. Observe all **WARNINGS** and **Cautions** while performing the installation procedure.

**WARNING**

When drilling near the gas tank, drill only in an adequately ventilated area and ensure that neither gasoline nor gasoline fumes are escaping from gas cans or the gas tank. Failure to observe this warning could result in an **Explosion** that could result in damage to equipment and/or loss of life.

**WARNING**

Failure to ground the drill properly could result in an electrical **Shock** that could cause serious injury or death.

**WARNING**

Failure to wear safety glasses or goggles while drilling in metal could cause serious eye damage, including **Loss of Sight**.

1. Ensure that all electrical equipment, including the drill, is properly grounded.
2. Always wear safety glasses or goggles when drilling in metal.
3. Ensure that vehicle is close to power source for operation of electrical equipment.
4. Move kit close to where equipment will be installed.
5. Remove all burrs and sharp edges after drilling, and remove metal shavings and chips from vehicle.
6. Read and follow instructions and figures carefully.

**2-6. INSTALLATION PROCEDURES.**

Before starting, familiarize yourself with the entire installation procedure. Identify all major parts and components of radio set and installation kit as shown in paragraph 1-13, Parts Identification, and paragraph 1-14, Installation Drawings.

Refer to installation drawings paragraph 1-14, as required in the following steps of this procedure.

**WARNING**

Two persons are required to lift and install the mounting base, the power amplifier, and the Antenna Coupler when performing this procedure, in accordance with **MIL-STD 1472B** Human Engineering Design Criteria For Military Systems, Equipment, and Facilities. One person should not attempt these steps alone.

### 2-6.1. Preliminary procedures.

Before proceeding with the installation, remove all accessory items from the vehicle that would be in the way during installation.

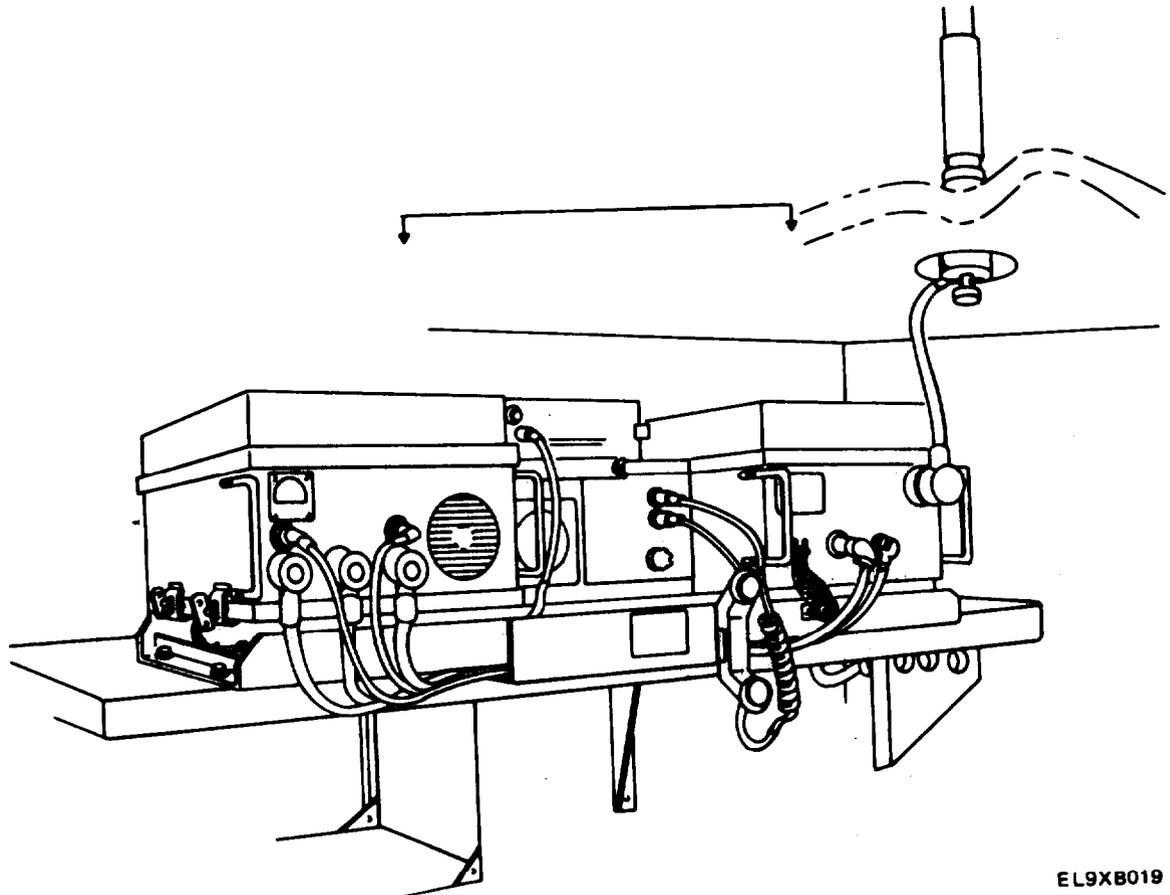
### 2-6.2. Installation of MT-6233/GRC-193A Mounting Base.

To install the MT-6233/GRC- 193A Mounting Base, as shown in installation drawings (Roadside). Perform the following steps as indicated:

#### NOTE

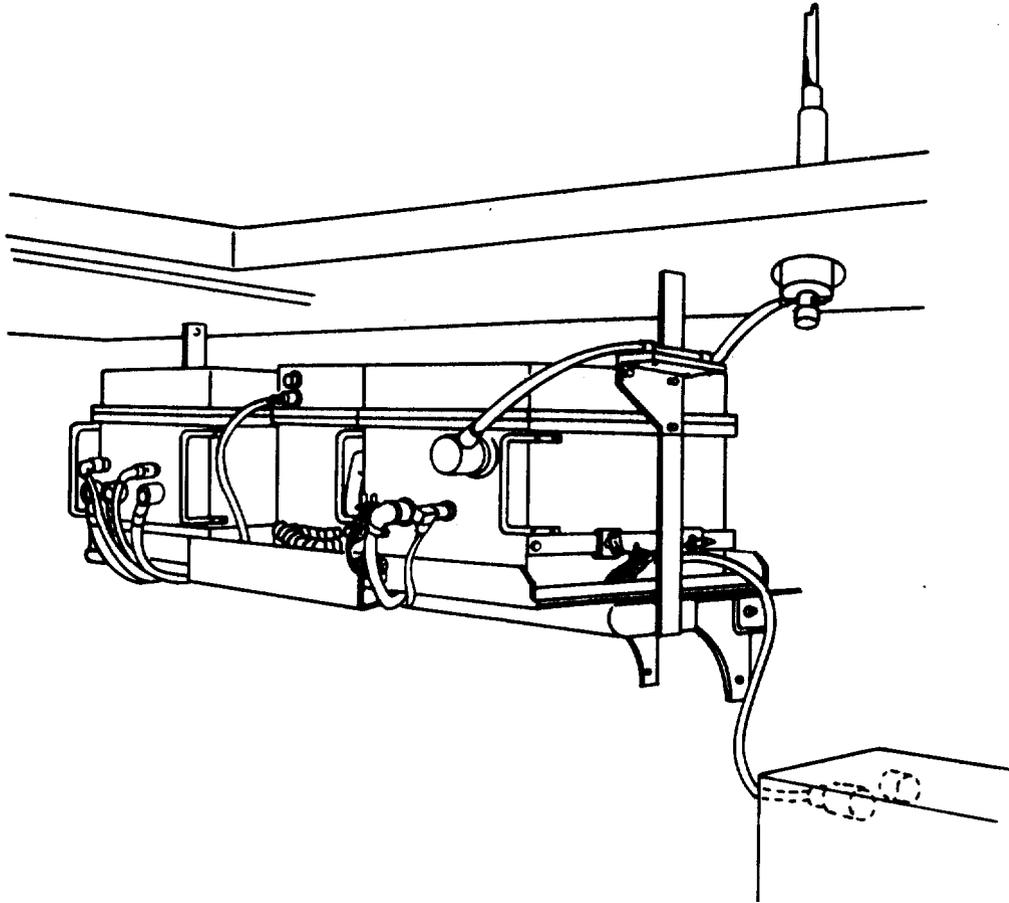
If the units of the Radio Set AN/GRC-193A are received installed on Mounting Base MT-6233/GRC-193A, remove all units from the Mounting Base by disconnecting all cable connectors, loosening all retaining clamp thumbscrew fasteners, and lifting all units from the Mounting Base. Do not remove the cables from the Mounting Base.

1. For the M577A1 installation, position the Mounting Base (item 21) on the roadside shelf as shown below. Position the Mounting Base on the shelf so that the right end is five (5) inches from the front wall. Push the Mounting Base toward the roadside wall until the channel along the front of the Mounting Base fits snugly against the front edge of the shelf.



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- 1A.. For the M113A1 installation, position the Mounting Base (item 21) on the curbside shelf as shown below. (If the vertical space above the shelf is not at least 14-3/8 inches, the original location of the shelf has been altered. Restore the shelf to its original location to accommodate this installation.) Center the mounting base on the shelf. This should leave about an inch on each end of the Mounting Base. Push the mounting base toward the curbside wall until the channel along the front of the mounting base fits snugly against the front edge of the shelf.



2. Scribe each of the eight (8) mounting hole positions on the shelf through the holes in the mounting base.
3. Remove the mounting base from the shelf.
4. Center punch the eight mounting hole positions on the shelf. Using a 7/16-inch drill bit, drill the eight holes at the marked positions.
5. Reposition mounting base (item 21) on shelf and fasten it to the vehicle shelf using the 3/8-inch bolts, nuts, and star lockwashers (items 12, 10, and 7) provided. Place a star lockwasher (item 7) under each bolt head, insert bolt down through the mounting base (item 21) and the vehicle shelf. On the underside of the shelf, use the star lockwasher (item 7) followed by a nut (item 10) on each bolt. Tighten the bolts firmly.

6. Loosen the thumbscrews that hold the mounting clamps in place on the mounting base.
7. Install the small Receiver-Transmitter mounting base (item 20) on top of Amplifier-Converter AM-6879/GRC- 193A so that the wing nut clamps are at the front and the lip on the rear of the mounting base faces upward. Use the four No. 8 countersunk screws (item 13) provided to attach the mounting base to the amplifier-converter.
8. Remove the grounding strap from the amplifier-converter by removing the attaching bolt. save the strap for future installations where separate grounding of the unit may be required. Replace the bolt and tighten firmly.
9. Lift the amplifier-converter into its position on the center of Mounting Base MT-6233/GRC-193A (item 21). Before tightening the thumbscrew clamp fasteners, make the cable connections given in step 10.
10. Make the following cable connections to the Amplifier- Converter:
  - a. Connect control cable (item 24) P2 to jack J6 (rear of unit).
  - b. Connect control cable assembly (item 40) P1 to jack J5 (rear of unit).
  - c. Connect audio cable (item 39) P2 to AUDIO jack J2.
  - d. Connect RF cable assembly (item 41) P1 to jack J7 on the amplifier-converter (rear of unit).
11. Tighten the thumbscrew clamp fasteners that hold the amplifier-converter in place on the mounting base.
12. Install Receiver-Transmitter RT-1209/URC (item 34) on the mounting base (item 20) above the amplifier converter. Position and tighten the thumbscrew clamp fasteners. Make the following cable connections:
  - a. Connect audio cable (item 39) P1 (from Amplifier Converter AM-6879) to the lower AUDIO jack on the front panel of the receiver-transmitter.
  - b. Connect the control cable (item 24) P2 to jack J1 on the right side of the receiver-transmitter. Finger tighten the two screws that secure P2 to J1.
13. Install Antenna Coupler CU-2064/GRC-193A (item 37) in the right-hand position of the mounting base (item 21) and tighten thumbscrew clamp fasteners. Make the following connections:
  - a. Connect control cable assembly (item 44) connector P2 to jack J2.
  - b. Connect RF cable assembly (item 42) P1 to jack J1.
  - c. Connect ground strap from mounting base to either ground stud on the antenna coupler using the wing nut provided.

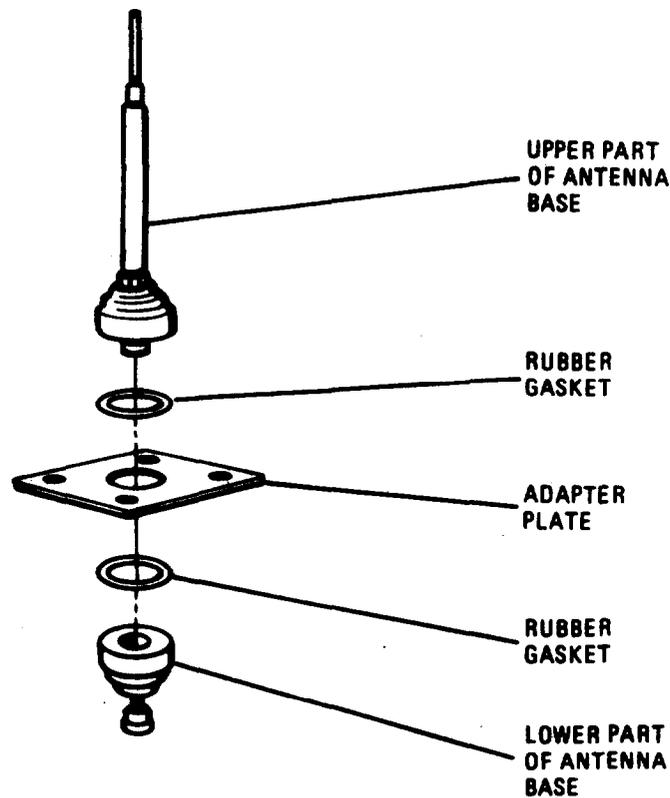
14. Install AM-6545A/GRC-193A Power Amplifier (item 36) in the left-hand position on mounting base (item 21) and tighten thumbscrew clamp fasteners. Make the following cable connections:

- a. Connect cable assembly (item 44) P1 to jack J 1.
- b. Connect control cable assembly (kern 40) P2 to jack J2.
- c. Connect RF cable assembly (item 42) P2 to jack J4.
- d. Connect RF cable assembly (item 41) P1 to jack J5.

**2-6.3 Installation of Antenna Assembly (Roadside at top of vehicle for MI 13A1; curb side for M577A1).**

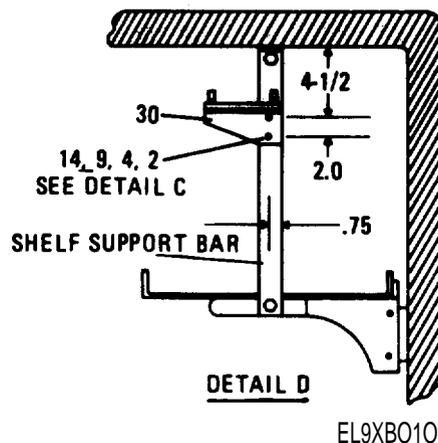
Perform the following steps as indicated:

1. To install Antenna Mast Base AB-652 (item 29) on the antenna base adapter (item 19), first unscrew the lower section of the antenna mast base from the upper section and separate the two rubber gaskets between them. Place one rubber gasket on top of the adapter and place the upper section of the antenna mast base through the hole in the gasket and the adapter. Position the other gasket underneath the adapter and screw the lower section of the antenna mast base onto the upper section making sure the two gaskets remain properly positioned. Tighten securely.

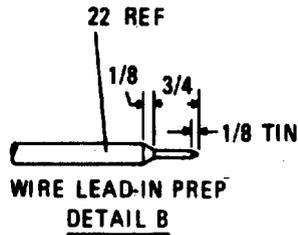


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2. Install the antenna mast base (item 29) (with adapter, item 53, attached) in the hole provided in the roof of the tracked vehicle, using the 3/8-inch bolts (item 12) and 3/8-inch lockwashers (item 6) as shown in detail A. Place a lockwasher under each bolt head, insert the roof. Tighten the 3/8-inch bolts.
3. Thread one of the three MS-116A antenna mast sections (item 28) onto the antenna mast base (item 29). Slide antenna sheath (item 32) over the installed antenna mast section.
4. Thread together the four remaining antenna mast sections. Begin by threading together the two MS-116A (item 28) antenna mast sections. Then thread antenna mast section MS-117A (item 27) onto antenna mast section MS-116A (item 28) and finally thread antenna mast section MS-118A (item 26) onto antenna mast section MS-117A (item 28).
5. Slide the antenna guard (item 25) over the MS-118A antenna mast section.
6. Push the antenna tip assembly (item 31) onto the end of antenna section MS-118A. Make sure the tip assembly is pushed all the way on to the antenna tip so that it locks firmly into place.
7. Thread the four assembled mast sections onto the lower mast section already installed in the antenna mast base. Make sure all sections of the mast are tight and secure.
8. For the M113A1, install antenna cable (item 22) with cable hanger assembly (item 30) between jack J4 of Antenna Coupler CU-2064 (item 37) and the antenna terminal on the bottom of AB-652 antenna mast base (item 29), as shown below.



Drill two 7/32-inch holes in the shelf support bar using cable hanger assembly (item 30) as a template. Mount cable hanger assembly (item 30) using the #10 screws, nuts, lockwashers, and flat washers (items 14,9,4, and 2) provided. Cut and prepare antenna cable (item 22) as per detail B so that there is approximately 2 inches of slack in the cable.



WIRE LEAD-IN PREP  
DETAIL B

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9. For the M577A1 install antenna cable (item 22) between jack J4 of CU-2064 Antenna Coupler (item 37) and the antenna terminal on the bottom of AB-652 antenna mast base (item 29) as shown on installation drawings. If required, cut and prepare antenna cable (item 22) as shown above, so that there is approximately 2 inches of slack in the cable.
10. Make sure VOLUME switch/control on the receiver-transmitter is in the fully CCW (OFF) position before performing next step.
11. Install the power cable, part of MT-6233/GRC-193A Mounting Base (item 21 ), between AM-6545 Power Amplifier (item 36) jack J3 and the vehicle power distribution panel for both the M113A1 and the M577A1 tracked vehicles.

**CHAPTER 3**  
**MAINTENANCE INSTRUCTIONS**

Subject	Section	Page
Operator's Maintenance . . . . .	I	3-1
Organizational Maintenance . . . . .	II	3-7
Direct Support Maintenance . . . . .	III	3-8

**Section I. OPERATOR'S MAINTENANCE**

Subject	Paragraph	Page
Scope of Operator's Maintenance. . . . .	3-1	3-1
Material Required For Maintenance . . . . .	3-2	3-1
Operator Preventive Maintenance Checks and Services . . . . .	3-3	3-1
Cleaning . . . . .	3-4	3-5

**3-1. SCOPE OF OPERATOR'S MAINTENANCE.**

Operator's maintenance consists of cleaning and inspections. The person performing maintenance checks will observe the following instructions.

**3-2. MATERIAL REQUIRED FOR MAINTENANCE.**

The material required for operator maintenance is listed below and shown in Appendix E.

- a. Cleaning cloth.
- b. Trichlorotrifluoroethane.
- c. Soft brush.

**3-3. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS).**

To ensure operational readiness of Electronic Equipment Installation Kit MK-2460/GRC-193A, it must be inspected at definite intervals so that defects may be found and corrected before they result in serious damage or failure. The Preventive Maintenance Checks and Services (**PMCS**) which must be done are listed on page 3-2.

The Preventive Maintenance Checks and Services procedures are required to keep your equipment in good operating condition. They include (B) before installation, (D) during installation, and (A) after installation.

Perform the before and after checks if you are the assigned operator and have not operated the equipment since the last check or if you are operating the equipment for the first time.

If the equipment fails to operate, see operator troubleshooting procedures in chapter 3, section I of this manual. Use **DA Pam 738-750** as a guide for reporting problems and using forms.

Routine checks like equipment inventory, cleaning components, checking for frayed and damaged cables, replacing items not in use, checking for loose hardware and safety wires, and corrosion on receptacles and connectors are not listed in the **PMCS** tables. You should do these things any time you see they need to be done as a matter of good preventive maintenance. If you find a routine check in the **PMCS**, it was listed because other operators reported problems with this item.

The **ITEM NO.** column in the **PMCS** table is to be used as source number for the **TM** number column on **DA Form 2404**, Equipment Inspection and Maintenance Worksheet, for recording **PMCS** results.

The **EQUIPMENT IS NOT READY/AVAILABLE IF:** column tells you why your equipment cannot be used if the **ITEM TO BE INSPECTED** does not meet **PROCEDURE** needs.

**NOTE**

Always keep in mind the **WARNINGS** and cautions when doing **PMCS** or any routine checks.

**OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES**

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED	PROCEDURE	FOR READINESS REPORTING EQUIPMENT IS NOT READY/AVAILABLE IF:
	B	D	A			
				<b>WARNING</b>  <b>DO NOT CLEAN THE EQUIPMENT IF THE POWER IS ON.</b>		
1	*	*	*	Exterior surfaces	Clean the exterior surfaces of the units comprising the AN/GRC-193A.	
2	*	*	*	Intercabling and connectors	Check all interconnecting cables and connectors for cracks and breaks. Check to see that the bonding jumper grounds the equipment. Replace cables that have cuts, cracks, or broken connectors.	Cables have been cut, have cracks and breaks, or the bonding jumper is missing.

**OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (CONTINUED)**

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED	PROCEDURE	FOR READINESS REPORTING EQUIPMENT IS NOT READY/AVAILABLE IF:
	B	D	A			
3	●	●	●	Meter face (glass)	Check to see that the meter faces (glass) are not loose or broken.	Glass on either the AM-6545A/GRC-193A or the RT-1209/URC is loose or broken.
4			●	Fuses	Check fuses on AM-6879/URC for correct value or quantity.	Fuses are not the correct value.
5			●	CU-2064 and AM-6545A fan intake and output louvers	Check to see that there are no items in front or in back of the CU-2064 or the AM-6545A that will obstruct air flow through the units.	Air is not moving through the intakes or outputs.
6			●	Rubber seals on AM-6545A circuit breakers	Check to ensure that the seals on AM-6545A circuit breakers are not damaged or missing.	Rubber seals are broken or missing.
7		●	●	Knobs, controls, and switches	While making the operational checks, observe that the mechanical action of each knob, switch, and control is smooth and free of external or internal binding.	
				<b>WARNING</b>		
				<b>THE FOLLOWING PROCEDURE REQUIRES THE BREAKING OF RADIO SILENCE. UNAUTHORIZED VIOLATION OF RADIO SILENCE COULD RESULT IN COURT MARTIAL OR POSSIBLE DEATH FROM HOSTILE ACTION.</b>		
8		*		Operational checks	Operate the equipment on an authorized frequency to verify its capabilities.	Signals transmitted are not received, are not clear, or the AN/G RC-193A will not transmit or receive.

**OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (CONTINUED)**

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED	PROCEDURE	FOR READINESS REPORTING EQUIPMENT IS NOT READY/AVAILABLE IF:
	B	D	A			
9	●			Antenna Tip Cap	Check to see that the tip cap is secured to the tip of the top element. If cap is not available, make covering for tip of antenna using electrical or masking tape.	Antenna tip is not covered.  NOTE: The equipment is operable, but it is recommended that this item be fixed.
10	●			Antenna Tiedown (Whip)	The antenna should be pulled down to an angle that will not endanger personnel or interfere with powerlines.	Antenna angle can cause injury to personnel or contact power lines.  NOTE: The equipment is operable, but it is recommended that this item be fixed.
11	*			Voice or CW Operation	Check to see that all interconnect cables are connected per FO- 1 in TM 11-5820-924-13.	System interconnect cables not connected as shown in FO-1 of System manual TM 11-5820-924-13.
12	*			Secure Voice Operation	Check to see that all interconnect cables are connected per FO-2 in system manual TM 11-5820-924-13.	System interconnect cables not connected as shown in FO-2 of system manual TM 11-5820-924-13.
13	*			TTY Operation (XMT Only)	Check to see that the teletypewriter is connected to the Amplifier-Converter terminals marked TTY KEY.	Teletypewriter not connected to Amplifier-Converter TTY KEY terminals correctly.
14	*			TTY Operation (XMT/REC)	Check to see that the teletypewriter is connected to the Amplifier-Converter terminals marked TTY KEY or DC LOOP.	Teletypewriter not connected to Amplifier-Converter terminals marked TTY KEY or DC LOOP.

**OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (CONTINUED)**

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED	PROCEDURE	FOR READINESS REPORTING EQUIPMENT IS NOT READY/-AVAILABLE IF:
	B	D	A			
15	*			DC Loop Current	Determine the correct loop drive current. Connect an AN/PSM-45 Digital Multimeter to the METER terminals on the Amplifier-Converter, set to read DC volts on the zero to 1 volt scale. Turn the VOLUME/OFF/MAC control on the Receiver-Transmitter clockwise until the power is ON. Wait 1 minute for the RT to warm up. Using a screwdriver, adjust the DC LOOP ADJ screw until the AN/PSM-45 meter reads 0.20 for 20 MA operation or 0.60 for 60 MA operation.	DC loop current is incorrect (Either 20 mA or 60 mA).
		NOTE :				
		This task will be accomplished by organizational or Higher Category of Maintenance				

**NOTE**

If your equipment fails to operate, troubleshoot equipment using operator troubleshooting chart (chapter 3, section I). Report any deficiencies using **DA Form 2404**.

**3-4. CLEANING.**

Inspect all components of installation kit. All exterior surfaces must be free of dust, grease, and fungus.

- a. Remove dust and dirt with a clean soft cloth.

**WARNING**

Adequate ventilation should be provided while using **TRICHLOROTRIFLUOROETHANE**. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since **TRICHLORO-TRIFLUOROETHANE** dissolves natural oils, prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

- b. Remove grease, ground-in dirt, and fungus from the equipment using a dampened (not wet) cloth with trichlorotrifluoroethane.
- c. Clean cables with a soft cloth. If necessary, use a dampened cloth with a mild soap to remove dirt from the cables.

**Section II. ORGANIZATIONAL MAINTENANCE**

Subject	Paragraph	Page
Scope of Organization Maintenance . . . . .	3-5	3-7
Tools and Materials Required . . . . .	3-6	3-7
Quarterly Preventive Maintenance . . . . .	3-7	3-7
Touchup Painting . . . . .	3-8	3-7
Removal of Installation Kit . . . . .	3-9	3-7

**3-5. SCOPE OF ORGANIZATIONAL MAINTENANCE.**

This section contains instructions covering organizational maintenance of the kit. Organizational maintenance includes:

- a. Quarterly preventive maintenance.
- b. Touchup Painting.

**3-6. TOOLS AND MATERIALS REQUIRED.**

- a. Tool Kit, Electronic Equipment TK-101/G.
- b. Multi meter AN/URM-105.
- d. Trichlorotrifluoroethane.

**3-7. QUARTERLY PREVENTIVE MAINTENANCE.**

Quarterly maintenance will be scheduled in accordance with the requirements of **DA Pam 738-750 (TAMMS)**. All deficiencies will be noted and recorded, and those not corrected during inspection and service will be reported immediately to a higher maintenance category by use of forms and procedures specified in **DA Pam 738-750 (TAMMS)**. Daily services constitute a part of the quarterly maintenance checks and must be performed concurrent y. Perform all checks and services as specified in **TM 9-2300-257-20**.

**3-8. TOUCHUP PAINTING.**

When the finish on any metal parts of the equipment has been scarred, damaged, or corroded, lightly sand it with fine sandpaper and clean the surface down to the bare metal. Refer to the applicable cleaning and refinishing practices specified in **TB 43-0118**.

**3-9. REMOVAL OF INSTALLATION KIT.**

When Carrier, Personnel, Full Tracked, M113A1, and Carrier Command Post, Light Tracked, M577A1 has to be turned back to supply, the installation holes must be filled, repaired, repainted, and equipment configuration changes returned to original condition.

**Section III. DIRECT SUPPORT MAINTENANCE**

Subject	Paragraph	Page
Scope of Direct Support Maintenance. . . . .	3-10	3-8
Direct Support Troubleshooting . . . . .	3-11	3-8
Direct Support Maintenance Instructions . . . . .	3-12	3-8

**3-10. SCOPE OF DIRECT SUPPORT MAINTENANCE.**

This section contains instructions covering direct support maintenance of the MK-2460/GRC-193A installation kit.

- a. Direct support maintenance includes all organizational maintenance procedures and is performed only by those personnel who have the training required to perform such maintenance.
- b. Included in the full range of direct support maintenance is repair and replacement of components authorized at the direct support level of maintenance.
- c. The normal standard equipment condition to start a maintenance task is power off.
- d. All tasks at the direct support level can be done by one technician.
- e. Direct support maintenance for this equipment consists of removal, troubleshooting and, if necessary, repair of cable assemblies by connector replacement. Troubleshoot by performing continuity tests using referenced schematic diagrams in TM 11-5820-924-13.

**NOTE**

For a list of tools and test equipment necessary for direct support maintenance, see appendix B.

**3-11. DIRECT SUPPORT TROUBLESHOOTING.**

- a. Direct support troubleshooting consists of determining which items allocated for replacement at the direct support maintenance level are at fault. Replacement (Repair) consists of two steps, removal and installation.
- b. The schematic or wiring diagrams required by the repair technician to troubleshoot the cable assemblies authorized for replacement on the MT-6233/GRC-193A Mounting Base are listed and shown in Technical Manual **TM 11-5820-924-13**, Radio Set AN/GRC-193A.

**3-12. DIRECT SUPPORT MAINTENANCE INSTRUCTIONS.**

RF Cable Assembly 755017B0716 (item 42) Removal.

1. Disconnect the P2 cable connector from the J4 ANT CPLR RF jack of Power Amplifier AM-6545A/GRC-193A (item 36).

2. Disconnect the P1 cable connector from the J1 PA RF jack of Antenna Coupler CU-2064/GRC-193A (item 37).
3. Using a Phillips screwdriver and an adjustable wrench, loosen and remove the four sets of pan head screws, flatwashers, and lockwashers securing the cable cover to the MT-6233/GRC-193A mounting base. Remove the cable cover from the MT-6233/GRC-193A mounting base.
4. Using an adjustable wrench, loosen and remove the cable straps, flatwashers, lockwashers, and nuts securing the 755017B0716 cable assembly (item 42) to the MT-6233/GRC-193A mounting base. Remove the 755017B0716 cable assembly (item 42).

#### RF Cable Assembly 755017B0716 (item 42) Installation.

1. Position the replacement 755017B0716 cable assembly (item 42) on the MT-6233/GRC-193A mounting base so that the P1 cable connector can be attached to PA RF jack J1 on Antenna Coupler CU-2064/GRC-193A (item 37) and the P2 cable connector can be attached to ANT CPLR RF jack J4 on Power Amplifier AM-6545A/GRC-193A (item 36).
2. Install cable strap, flatwasher, lockwasher, and nut onto the staked stud, in three places.
3. Apply two drops of locking compound to threaded studs.
4. Using an adjustable wrench, tighten the cable straps, flatwashers, lockwashers, and nuts until the cable clamps, securing the 755017B0716 cable assembly (item 42) to the MT-6233/GRC-193A mounting base, are snug on the cable assembly.
5. Position the cable cover over the cables on the MT-6233/GRC-193A mounting base.
6. Using a Phillips screwdriver and an adjustable wrench, tighten the four sets of pan head screws, flatwashers, and lockwashers securing the cable cover to the MT-6233/GRC-193A mounting base.

#### RF Cable Assembly 755017B0715 (item 41) Removal.

1. Disconnect the P2 cable connector from the J5 RT RF jack of Power Amplifier AM-6545A/GRC-193A (item 36).
2. Disconnect the P1 cable connector from the J7 RF jack of Amplifier-Converter AM-6879/URC (item 35).
3. Using a Phillips screwdriver and an adjustable wrench, loosen and remove the four sets of pan head screws, flatwashers, and lockwashers securing the cable cover to the MT-6233/GRC-193A mounting base. Remove the cable cover from the MT-6233/GRC-193A mounting base.
4. Using a small adjustable wrench, loosen and remove the cable straps, flatwashers, lockwashers, and nuts securing the 755017B0715 cable assembly (item 41 ) to the MT-6233/GRC-193A mounting base. Remove the 755017B0715 cable assembly (item 41) from the MT-6233/GRC-193A mounting base.

RF Cable Assembly 755017B0715 (item 41) Installation.

1. Position the replacement 755017B0715 cable assembly (item 41) on the MT-6233/GRC-193A mounting base so that the P1 cable connector can be attached to the RF jack J7 on Amplifier-Converter AM-6879/URC (item 35) and the P2 cable connector can be attached to RT RF jack J5 on Power Amplifier AM-6545A/GRC-193A (item 36).
2. Install cable strap, flatwasher, lockwasher, and nut onto the staked stud, in three places.
3. Apply two drops of locking compound to threaded studs.
4. Using an adjustable wrench, tighten the cable straps, flatwashers, lockwashers, and nuts until the cable clamps, securing the 755017B0715 cable assembly (item 41) to the MT-6233/GRC-193A mounting base, are snug on the cable assembly.
5. Position the cable cover over the cables on the MT- 6233/GRC-193A mounting base.
6. Using a Phillips screwdriver and an adjustable wrench, tighten the four sets of pan head screws, flatwashers, and lockwashers securing the cable cover to the MT-6233/GRC-193A mounting base.

Control Cable Assembly 755017B0732 (item 44) Removal.

1. Disconnect the P1 cable connector from the J 1 ANT CPLR CONT jack of Power Amplifier AM-6545A/GRC-193A (item 36).
2. Disconnect the P2 cable connector from the J2 PA CONTROL jack of Antenna Coupler CU - 2064/GRC-193A (item 37).
3. Using a Phillips screwdriver and an adjustable wrench, loosen and remove the four sets of pan head screws, flatwashers, and lockwashers securing the cable cover to the MT-6233/GRC-193A mounting base.
4. Remove the cable cover from the MT-6233/GRC-193A mounting base.
5. Using an adjustable wrench, loosen and remove the cable straps, flatwashers, lockwashers, and nuts securing the 755017B0732 cable assembly (item 44) to the MT-6233/GRC-193A mounting base.
6. Remove the 755017B0732 cable assembly (item 44) from the MT-6233/GRC- 193A mounting base.

RF Cable Assembly 755017B0732 (item 44) Installation.

1. Position the replacement 755017B0732 cable assembly (item 44) on the MT-6233/GRC-193A mounting base so that the P2 cable connector can be attached to PA CONTROL jack J2 on Antenna Coupler CU-2064/GRC-193A (item 37) and the P1 cable connector can be attached to ANT CPLR jack J1 on Power Amplifier AM-6545A/GRC-193A (item 36).
2. Install cable strap, flatwasher, lockwasher, and nut onto the staked stud, in three places.
3. Apply two drops of locking compound to threaded studs.

4. Using an adjustable wrench, tighten the cable straps, flatwashers, lockwashers, and nuts until the cable clamps, securing the 755017B0732 cable assembly (item 44) to the MT-6233/GRC-193A mounting base, are snug on the cable assembly.
5. Position the cable cover over the cables on the MT-6233/GRC-193A mounting base.
6. Using a Phillips screwdriver and an adjustable wrench, tighten the four sets of pan head screws, flatwashers, and lockwashers securing the cable cover to the MT-6233/GRC-193A mounting base.

#### Control Cable Assembly 755017B0736 (item 40) Removal.

1. Disconnect the P2 cable connector from the J2 RT CONT jack of Power Amplifier AM-6545A/GRC-193A (item 36).
2. Disconnect the P1 cable connector from the J5 power and control jack of Amplifier-Converter AM-6879/URC (item 35).
3. Using a Phillips screwdriver and an adjustable wrench, loosen and remove the four sets of pan head screws, flatwashers, and lockwashers securing the cable cover to the MT-6233/GRC-193A mounting base. Remove the cable cover from the mounting tray.
4. Using a small adjustable wrench, loosen and remove the cable straps, flatwashers, lockwashers, and nuts securing the 755017B0736 cable assembly (item 40) to the MT-6233/GRC-193A mounting base. Remove the 755017B0736 cable assembly (item 40).

#### RF Cable Assembly 755017B0736 (item 40) Installation.

1. Position the replacement 755017B0736 cable assembly (item 40) on the MT-6233/GRC-193A mounting base so that the P1 cable connector can be attached to the power and control jack J5 on Amplifier-Converter AM-6879/URC (item 35) and the P2 cable connector can be attached to RT CONT jack J2 on Power Amplifier AM-6545A/GRC-193A (item 36).
2. Install cable strap, flatwasher, lockwasher, and nut onto the staked stud, in three places.
3. Apply two drops of locking compound to threaded studs.
4. Using an adjustable wrench, tighten the cable straps, flatwashers, lockwashers, and nuts until the cable clamps, securing the 755017B0736 cable assembly (item 40) to the MT-6233/GRC-193A mounting base, are snug on the cable assembly.
5. Position the cable cover over the cables on the MT-6233/GRC-193A mounting base.
6. Using a Phillips screwdriver and an adjustable wrench, tighten the four sets of pan head screws, flatwashers, and lockwashers securing the cable cover to the MT-6233/GRC-193A mounting base.

#### Power Cable Assembly 755017B0740 (item 43) Removal.

1. Disconnect the P2 cable connector from the J3 PWR jack of Power Amplifier AM-6545A/GRC-193A (item 36).

2. Disconnect the other end of the 755017B0740 power cable assembly (item 43) from the vehicle power source.
3. Using a Phillips screwdriver and an adjustable wrench, loosen and remove the four sets of pan head screws, flatwashers, and lockwashers securing the cable cover to the MT-6233/GRC-193A mounting base. Remove the cable cover from the MT-6233/GRC-193A mounting base.
4. Using a small adjustable wrench, loosen and remove the cable straps, flatwashers, lockwashers, and nuts securing the 755017B0740 cable assembly (item 43) to the MT-6233/GRC-193A mounting base. Remove the 755017B0740 cable assembly (item 43) from the MT-6233/GRC-193A mounting base.

Power Cable Assembly 755017B0740 (item 43) Installation.

1. Position the replacement 755017B0740 cable assembly (item 43) on the MT-6233/GRC-193A mounting base so that the P1 cable connector can be attached to the PWR jack J3 on Power Amplifier AM-6545A/GRC-193A (item 36) with the other end of the cable toward the vehicle power source.
2. Install cable strap, flatwasher, lockwasher, and nut onto the staked stud, in four places.
3. Apply two drops of locking compound to threaded studs.
4. Using an adjustable wrench, tighten the cable straps, flatwashers, lockwashers, and nuts until the cable clamps, securing the 755017B0740 cable assembly (item 43) to the MT-6233/GRC-193A mounting base, are snug on the cable assembly.
5. Position the cable cover over the cables on the MT-6233/GRC-193A mounting base.
6. Using a Phillips screwdriver and an adjustable wrench, tighten the four sets of pan head screws, flatwashers, and lockwashers securing the cable cover to the MT-6233/GRC-193A mounting base.

Audio Cable Assembly 755017B0738 (item 39) Removal.

1. Disconnect the cable connector from the AUDIO jack (J2) of Amplifier-Converter AM-6879/URC (item 35).
2. Disconnect the cable connector from the AUDIO jack on the front of Receiver-Transmitter RT-1209/URC (item 34).
3. Using a Phillips screwdriver, loosen and remove the panhead screws, flatwashers, and lockwashers securing the cable clamps and the Audio Cable Assembly (item 39) to the MT-6233/GRC-193A mounting base. Remove the Audio Cable Assembly (item 39) from the MT-6233/GRC-193A mounting base.

Audio Cable Assembly 755017B0738 (item 39) Installation.

1. Position the replacement 755017B0738 Audio Cable Assembly (item 39) on the MT-6233/GRC-193A mounting base so that the cable connector on one end of the cable assembly (either end, it does not matter) can be attached to one of the AUDIO jacks on front of Receiver-Transmitter RT-1209/URC (item 34) and the other connector on the other end of

the cable assembly can be attached to the AUDIO jack (J2) on the front of Amplifier-Converter AM-6879/URC (item 35).

2. Install cable strap, flatwasher, lockwasher, and nut onto the staked studs, in three places.
3. Apply two drops of locking compound to threaded studs.
4. Using an adjustable wrench, tighten the cable straps, flatwashers, lockwashers, and nuts until the cable clamps, securing the 755017B0738 audio cable assembly (item 39) to the MT-6233/GRC-193A mounting base, are snug on the cable assembly.

#### Audio I-Box Cable Assembly 755017B0825 (item 18) Removal.

1. Disconnect the cable connector from the AUDIO jack of the 755017B0825 Audio I-Box Assembly (item 18).
2. Disconnect the W1 audio cable (item 23) from jack J503 on the intercom system (AM-1780).
3. Using a flat-blade screwdriver, loosen and remove the four pan head screws, flatwashers, and lockwashers securing the 755017B0825 AUDIO I-Box Assembly (item 18) to the mounting tray. Remove the 755017B0825 AUDIO I-Box Assembly (item 18).

#### Audio W-1 Cable Assembly 755017B0814 (item 46) Removal.

1. Using a flat-blade screwdriver, loosen and remove the eight panhead screws, flatwashers, and lockwashers securing the cover and gasket to the housing of the 755017B0825 Audio I-Box Assembly (item 18). Remove the cover and the gasket from the housing.
2. Using a wrench, loosen the coupling nuts that secure the 755017B0814 W-1 Audio Cable Assembly (item 46) to the 755017B0825 Audio I-Box Assembly (item 18).
3. Using a flat-blade screwdriver, loosen and remove the four panhead screws, flatwashers, and lockwashers used to secure the printed wire board of the 755017B0814 W-1 Audio Cable Assembly (item 46) to the housing of the 755017B0825 Audio I-Box Assembly (item 18).
4. Lift the printed wire board out of the housing. Using a low wattage soldering iron, unsolder the W-1 cable leads from the printed wire board, marking each lead and where it was connected.
5. Remove the printed wire board and slip the cable portion of the 755017B0814 W-1 Audio Cable Assembly (item 46) through the housing of the 755017B0825 Audio I-Box Assembly (item 18).

#### Audio W-1 Cable Assembly 755017B0814 (item 46) Installation.

1. Slide the coupling nuts onto the cable portion of the 755017B0814 replacement Audio W-1 Cable Assembly (item 46). Insert the replacement cable through the housing of the 755017B0825 Audio I-Box Assembly (item 18).
2. Using a low wattage soldering iron connect the leads of the 755017B0814 replacement cable to the printed wire board as recorded in the disassemble procedure; Audio W- 1 Cable Assembly 755017B0814 (item 46) Removal.

3. Using a flat-blade screwdriver, install and tighten the four panhead screws, flatwashers, and lockwashers used to secure the printed circuit board portion of the Audio W-1 Cable Assembly 755017B0814 (item 46) to the housing of Audio I-Box Assembly 755017B0825 (item 18).
4. Using a flat-blade screwdriver, install and tighten the eight panhead screws, flatwashers, and lockwashers used to secure the gasket and cover to the 755017B0825 Audio I-Box Assembly (item 18).
5. Using a wrench, tighten the coupling nuts securing the cable portion of the Audio W-1 Cable Assembly 755017B0814 (item 46) to the 755017B0825 Audio I-Box Assembly (item 18).

Audio I-Box Cable Assembly 755017B0825 (item 18) Installation.

1. Position the replacement 755017B0825 Audio I-Box assembly (item 18) on the MT-6233/GRC-193A mounting base so that the cable connector on the end of the Audio Cable Assembly 755017B0630 (item 23) can be attached to the AUDIO jack on the 755017B0825 Audio I-Box Assembly (item 18) and the connector on the end of the 755017B0814 Audio W-1 Cable Assembly can be connected to one of the Audio jacks on Receiver-Transmitter RT-1209/U RC (item 34).
2. Using a flat-blade screwdriver, install and tighten the four panhead screws, flatwashers, and lockwashers used to secure the 755017B0825 Audio I-Box Assembly (item 18) to the MT-6233/GRC-193A mounting base. Attach the cable connectors firmly making sure not to cross-thread or over tighten the connectors.

General Cable Assembly Repair.

1. Refer to system technical manual Radio Set AN/GRC-193A TM 11-5820-924-13 for schematics and wiring diagrams of system interconnect cables.
2. Replace unserviceable cable connectors with serviceable like cable connectors, using the soldering techniques indicated in technical bulletin **TB SIG 222**, Solder and Soldering.

**APPENDIX A****REFERENCES**

AR 735-11-2	Report of Item and Packaging Deficiencies
AR 755-2	Disposal of Excess, Surplus, Foreign Excess, Captured, and Unwanted Materiel
CTA 50-970	Expendable/Durable Items (Except Medical, Class V, Repair Parts and Heraldic Items)
DA Form 2028	Recommended Changes to Publications and Blank Forms
DA Form 2404	Equipment Inspection and Maintenance Worksheet
DA Pam 25-30	Consolidated Index of Army Publications and Blank Forms
DA Pam 738-750	The Army Maintenance Management System (TAMMS)
MIL-STD-1472B	Human Engineering Design Criteria For Military Systems, Equipment, and Facilities
SB 11-131	Vehicular Radio Sets and Authorized Installation
SB 38-100	Preservation, Packaging, Packing and Marking Materials, Supplies, and Equipment Used by the-Army
SF 361	Discrepancy in Shipment Report (DISREP)
SF 364	Report of Discrepancy (ROD)
SF 368	Quality Deficiency Report
TB SIG 222	Solder and Soldering
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 Communications, Radar and Direction Finder Equipment
TB 43-0118	Field Instructions for Painting and Preserving Electronics Command Equipment, Including Camouflage Pattern Painting of Electrical Equipment Shelters
TM 750-244-2	Procedures for Destruction of Electronic Materiel to Prevent Enemy Use (Electronics Command)

TM 11-2300-474-13 & P

TM 9-2300-257-20                    Organizational Maintenance Manual: Carrier, Personnel, Full Tracked, Armored: M113A1 (NSN 2350-00-968-6321) and M113A2 (2350-01-068-4077) Carrier, Command Post, Light, Tracked: M577A1 (2350-00-056-6808) and M577A2 (2350-01-068-4089); Carrier, Mortar, 107-MM, Self-Propelled: M106A1 (2350-00-076-9002) and M106A2 (2350-01-069-6931) and 81-MM, Self-Propelled: M125A1 (2350-00-071-0732) and M125A2 (2350-01-068-4087); Carrier, Flame Thrower, Self-Propelled: M132A1 (2350-00-056-6809); Chassis, Gun, Anticraft Artillery, 20-MM, Self-Propelled (XM 163 Weapons System), M741 (2350-00-115-4418) and Recovery Vehicle, Light, Armored: XM806E1 (2350-00-808-6104)

TM 11-5820-924-13                    Operator's, Organizational, and Direct Support Maintenance Manual for Radio Set AN/GRC-193A

TM 11-6625-203-12                    Operator's and Organizational Maintenance for Multimeters AN/URM-105 and AN/URM-105C, (including Multimeters ME-77/U, and ME-77C/U)

**APPENDIX B**  
**MAINTENANCE ALLOCATION CHART**  
**ELECTRONIC EQUIPMENT INSTALLATION KIT**

**Section I. INTRODUCTION**

**B-1. GENERAL.**

This appendix provides a summary of the maintenance operations for the MK-2460/GRC-193A. 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 (SECT. II).**

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, ie., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.
- d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operation characteristics to the specified parameters.
- e. Align. To adjust specified variable elements of an item to bring 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 comparisons 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 or system.
- h. Replace. The act of substituting a serviceable like type part, subassembly, or module (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 or assembly), end item, or system.

i. Overhaul. That maintenance effort (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i e., DMWR) 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 material 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, assemblies, 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. When items are listed without maintenance functions, it is solely for the purpose of having the group numbers in the MAC and RPSTL coincide.

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a “work time” 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 “work time” figures will be shown for each category. The number of task-hours specified by the “work time” 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 areas 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 tool sets, (not individual tools) and special tools, test and support equipment required to perform the designated function.

f. Column 6, Remarks. Column 6 contains an alphabetic code which leads to the remark in Section IV, Remarks, which is pertinent to the item opposite the particular code.

**B-4. TOOL AND TEST EQUIPMENT REQUIREMENTS (SECT. III).**

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

**B-5. REMARKS (SECT. IV).**

- a. Reference Code. This code refers to the appropriate item in Section II, column 6,
- b. Remarks. This column provides the required explanatory information necessary to clarify items appearing in Section II.

**Section II. MAINTENANCE ALLOCATION CHART FOR  
INSTALLATION KIT,ELECTRICAL EQUIPMENT MK-2460/GRC-193A**

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINT. FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND TEST EQUIP.	(6) REMARKS
			C	O	F	H	D		
00	INSTALLATION KIT MK-2460/GRC-193A 755017B0925 (NSN 5820-01-189-9798)	INSTALL		5.0				2,5	A
		INSPECT		1.0					
		REPLACE		2.2				2,4	
		REPAIR SERVICE	0.1		2.2			1,3,4	
01	MOUNTING BASE MT-6233/GRC-193A 755017B0759	INSPECT		0.5					A
		TEST		0.5				2,4	
		REPLACE REPAIR		2.0		1.0		2 1,3,4	
0101	CABLE ASSY/PWR 755017B0740	INSPECT		0.5					A
		TEST		0.5				2,4	
		REPLACE REPAIR		0.5		1.0		2 1,3,4	
0102	CABLE ASSY (PA-AM) 755017B0736	INSPECT		0.5					A
		TEST		0.5				2,4	
		REPLACE REPAIR		0.5		1.0		2 1,3,4	
0103	CABLE ASSY, CNTRL 755017B0732	INSPECT		0.5					A
		TEST		0.5				2,4	
		REPLACE REPAIR		0.5		1.0		2 1, 3, 4	
0104	CABLE ASSY, RF 755017B0716	INSPECT		0.5					A
		TEST		0.5				2,4	
		REPLACE REPAIR		0.5		1.0		2 1,3,4	
0105	CABLE ASSY, RF 755017B0715	INSPECT		0.5					A
		TEST		0.5				2,4	
		REPLACE REPAIR		0.5		1.0		2 1,3,4	
0106	CABLE ASSY, S/P 755017B0738	INSPECT		0.5					A
		TEST		0.5				2,4	
		REPLACE REPAIR		0.5		1.0		2 1,3,4	

**Section II. MAINTENANCE ALLOCATION CHART FOR  
INSTALLATION KIT, ELECTRICAL EQUIPMENT MK-2460/GRC-193A (CONTINUED)**

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINT. FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND TEST EQUIP.	(6) REMARKS
			C	O	F	H	D		
0107	CABLE ASSY, AUDIO 755017B0814	INSPECT		0.5					A
		TEST		0.5				2,4	
		REPLACE REPAIR		0.5				2 1,3,4	C
02	CABLE ASSY, INTERCOM 755017B0772	INSPECT		0.5					A
		TEST		0.5				2,4	
		REPLACE REPAIR		0.5				2 1,3,4	D
0201	CABLE ASSY 755017B0830	INSPECT		0.5					A
		TEST		0.5				2,4	
		REPLACE REPAIR		0.5				2 1,3,4	C
0202	INTERCOM BOX AUDIO 755017B0825	INSPECT		0.5					A
		TEST		0.5				2,4	
		REPLACE REPAIR		0.5				2 1,3,4	D
03	ANTENNA MAST BASE AB-652	INSPECT		0.5					A
		REPLACE		0.5				2	
		REPAIR		0.1				2	B

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS FOR  
 INSTALLATION KIT, ELECTRICAL EQUIPMENT MK-2460/GRC-193A

(1) TOOL OR TEST EQUIPMENT REF CODE	(2) MAINTENANCE CATEGORY	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
1	F	TOOL KIT, ELECTRONIC EQUIPMENT TK-100/G 80058	5180-00-605-0079	TK-100/G
2	O	TOOL KIT, ELECTRONIC EQUIPMENT TK-101/G 80058	5180-00-064-5178	TK-101/G
3	F	TOOL KIT, ELECTRONIC EQUIPMENT TK-105/G 80058	5180-00-610-8177	TK-105/G
4	O, F	MULTIMETER, DIGITAL AN/PSM-45 80058	6625-01-139-2512	AN/PSM-45
5	O	SHOP EQUIPMENT, AUTOMOBILE 80058	4910-00-754-0654	

**Section IV. REMARKS FOR  
INSTALLATION KIT, ELECTRICAL EQUIPMENT MK-2460/GRC-193A**

REFERENCE CODE	REMARKS
A	INSPECT INSTALLATION KIT FOR COMPLETENESS AND DAMAGE.
B	REPAIR BY REPLACING UNSERVICEABLE ITEM WITH SERVICEABLE ITEM.
C	REPAIR BY REPLACEMENT OF CABLE CONNECTORS.
D	REPAIR BY REPLACEMENT OF CABLE ASSEMBLY CIRCUIT CARD.
E	SEE SERVICE MAINTENANCE ROUTINE SCHEDULE.

## APPENDIX C

### COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LISTS

#### Section I. INTRODUCTION

##### C-1 . SCOPE.

This appendix lists components of end item and basic issue items for Installation Kit MK-2460/GRC-193A to help you inventory items required for safe and efficient operation.

##### C-2. GENERAL.

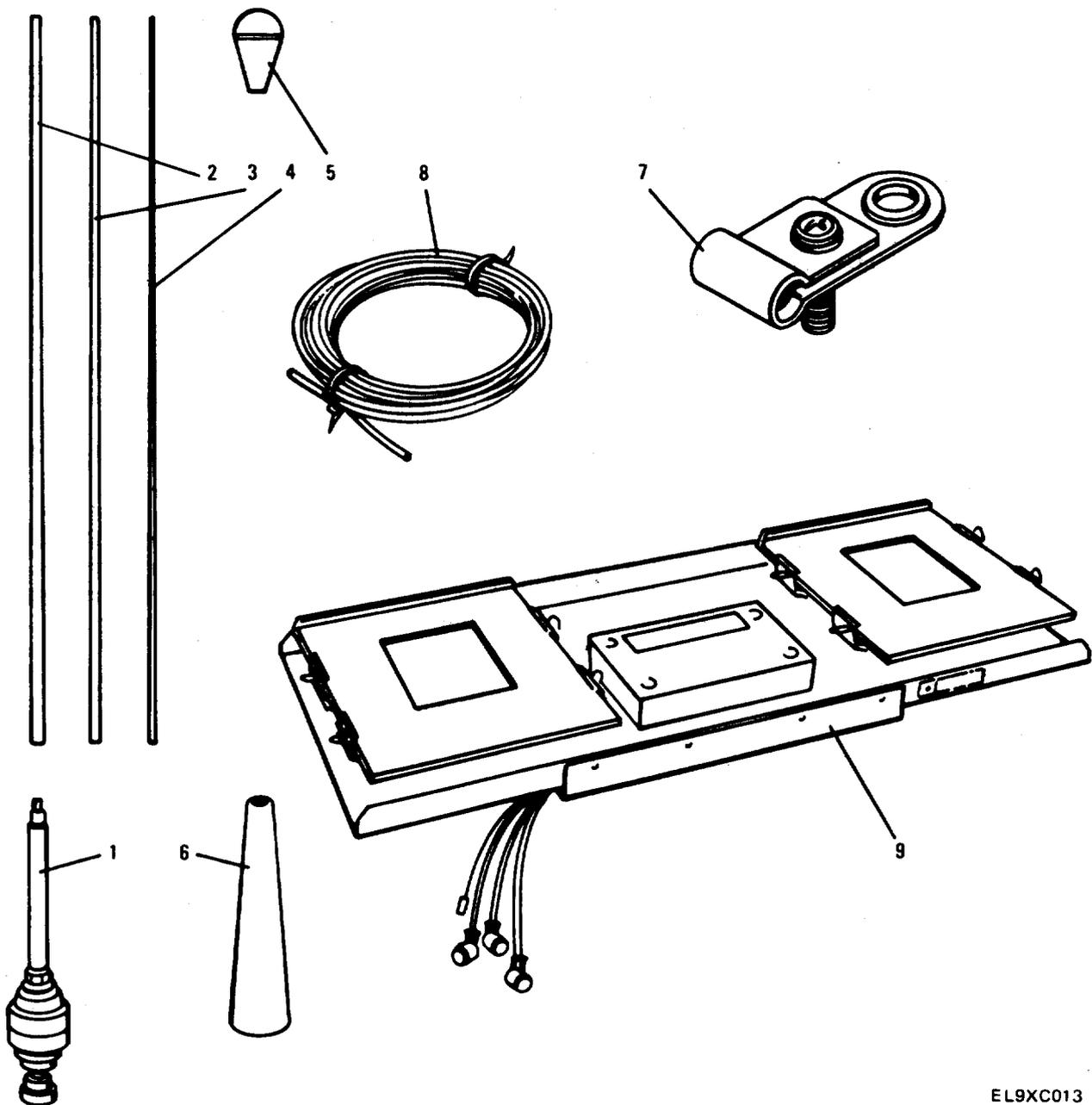
The Components of End item and Basic Issue Items Lists are divided into the following sections:

- a. Section II. Components of the End Item. These items when assembled, comprise the Installation Kit MK-2460/GRC-193A 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. These are the minimum essential items required to place the Installation Kit MK-2460/GRC-193A in operation, to operate it, and to perform emergency repairs.

##### 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. 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 the 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. Description. Indicates the Federal item name and, if required, a minimum description to identify the item.
- e. 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 to an adjacent area.
- f. Usable on Code. Not applicable.
- g. Quantity Required (Qty Reqd). This column lists the quantity of each item required for a complete major item.

Section II. COMPONENTS OF END ITEM

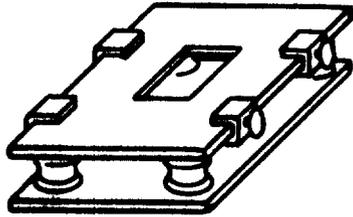


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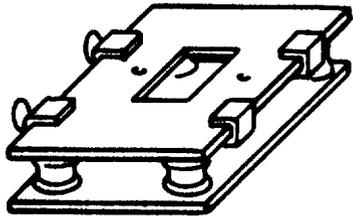
SECTION II. COMPONENTS OF END ITEM				
(1)	(2)	(3)	(4)	(5)
ILLUS	NATIONAL STOCK	DESCRIPTION	USABLE	QTY
NUMBER	NUMBER	FSCM AND PART NUMBER	ON CODE	U/M RQR
1	5820-00-078-4770	MAST BASE, ANTENNA (80058) AB-652/GR		EA 1
2	5820-00-199-8831	ANTENNA SECTION (80063) MS-116-A		EA 3
3	5985-00-115-7149	ANTENNA SECTION (80063) MS-117-A		EA 1
4	5985-00-238-7474	ANTENNA SECTION (80063) MS-118-A		EA 1
5	5995-00-930-7223	ANTENNA TIP ASSEMBLY (80063) SC-D-446046		EA 1
6	5820-00-078-4769	COVER, ANTENNA (80063) SM-D-500428		EA 1
7	5340-00-286-2491	CLAMP ASSEMBLY, ANTENNA (80063) SC-B-19491		EA 1
8	4020-00-073-3276	ROPE (80063) SM-B-500418		FT 40
9	5820-01-133-3975	MOUNTING, BASE, ELECTRICAL EQUIPMENT (80058) MT-6233/GRC-193A 755017B0759		EA 1



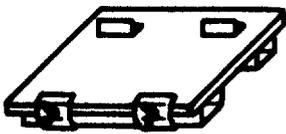
1  
MOUNTING TRAY



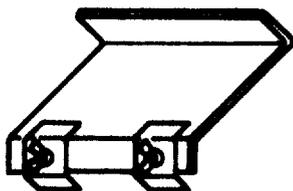
2  
ANT CPLR MTG TRAY



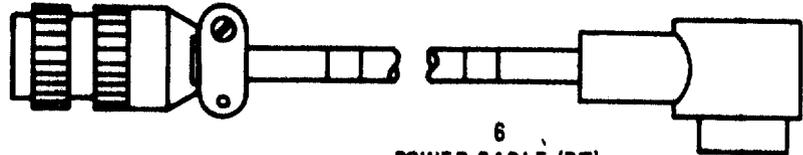
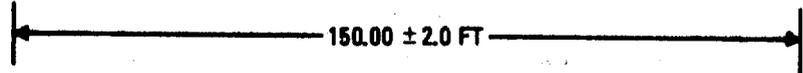
3  
PWR AMPL MTG TRAY



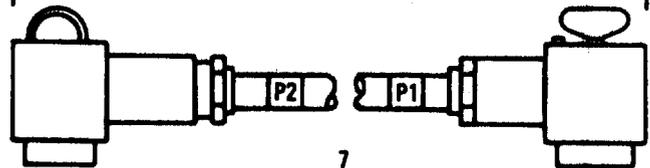
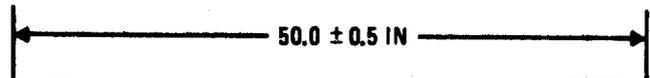
4  
AM MTG PLATE ASSY



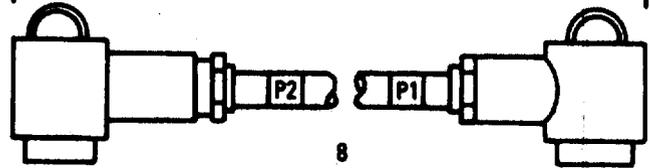
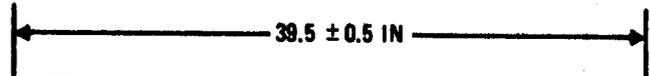
5  
RT MTG PLATE ASSY



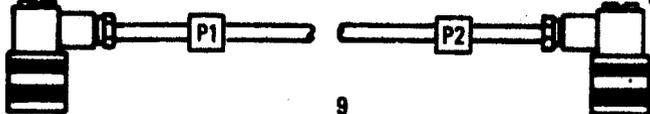
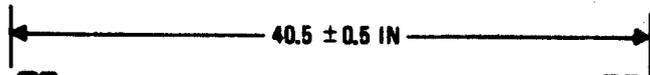
6  
POWER CABLE (RT)



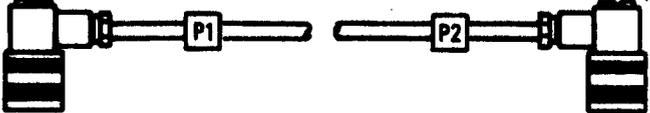
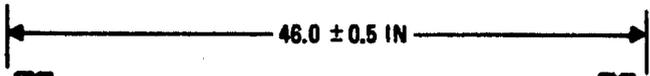
7  
CONTROL CABLE (PA-AM)



8  
CONTROL CABLE (PA-CU)



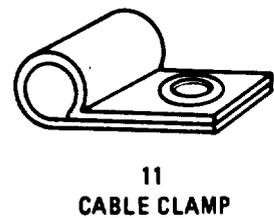
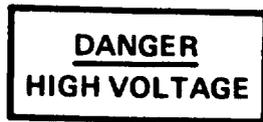
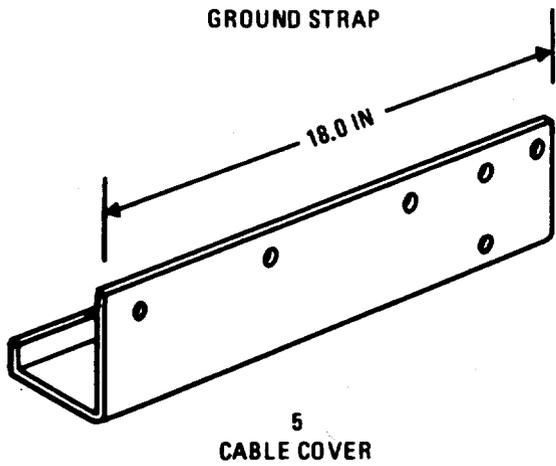
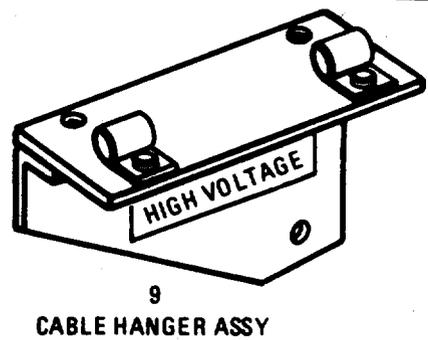
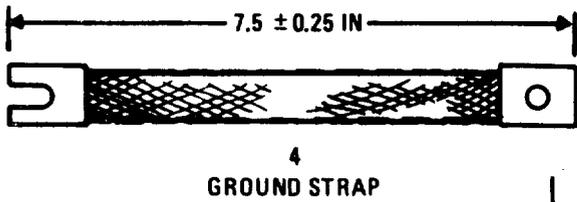
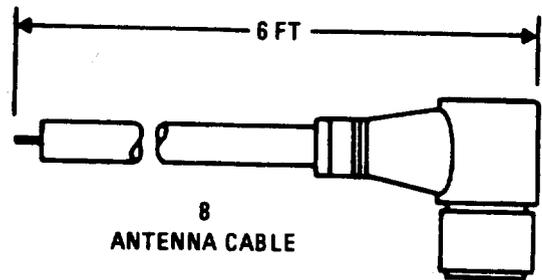
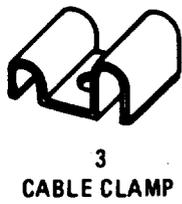
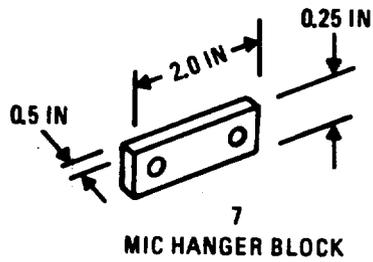
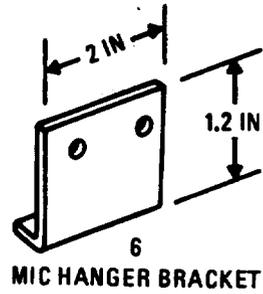
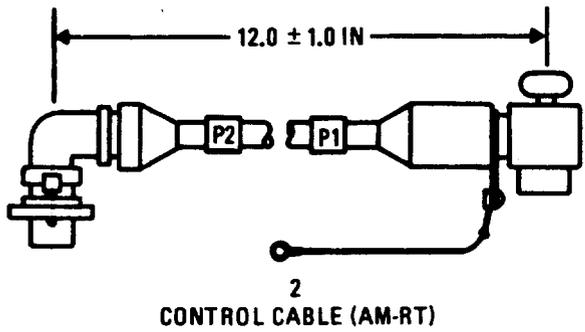
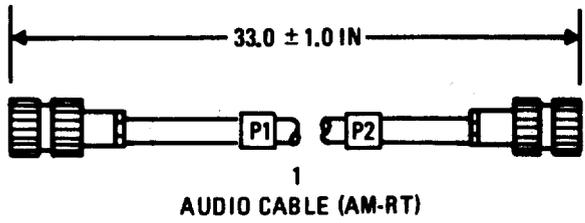
9  
COAXIAL CABLE (PA-CU)



10  
COAXIAL CABLE (PA-AM)

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SECTION II. COMPONENTS OF END ITEM (CONTINUED)				
(1)	(2)	(3)	(4)	(5)
ILLUS	NATIONAL STOCK	DESCRIPTION	USABLE	QTY
NUMBER	NUMBER	FSCM AND PART NUMBER	ON CODE	U/M RQR
1		TRAY, MOUNTING (80372) 755017B0760		EA 1
2		MOUNTING TRAY, ANTENNA COUPLER (80372) 755017A9005-1		EA 1
3		MOUNTING TRAY, POWER AMPLIFIER (80372) 755017A9015-1		EA 1
4		MOUNTING PLATE ASSY, AMPLIFIER (80372) 755017B0757		EA 1
5		MOUNTING PLATE ASSY, RECEIVER-TRANSMITTER (80372) 755017B0756		EA 1
6		CABLE ASSEMBLY, POWER (80372) 755017B0740		EA 1
7		CABLE ASSY, CONTROL (PA-AM) (80372) 755017B0736		EA 1
8		CABLE ASSY, CONTROL (PA-CU) (80372) 755017B0732		EA 1
9		CABLE ASSY, COAXIAL (PA-CU) (80372) 755017B0716		EA 1
10		CABLE ASSY, COAXIAL (PA-AM) (80372) 755017B0715		EA 1



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SECTION II. COMPONENTS OF END ITEM (CONTINUED)

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM AND PART NUMBER	USABLE ON CODE	(4) U/M	(5) QTY RQR
1		CABLE ASSY,AUDIO (AM-RT) (80372) 755017B0738		EA	1
2		CABLE ASSY,CONTROL (AM-RT) (80372) 755017B0739		EA	1
3		CLAMP,CABLE (80372) 755017A9052		EA	6
4		STRAP,GROUND (80372) 755017A9048-3		EA	1
5		COVER,CABLE (80372) 755017B0743		EA	1
6		BRACKET,MIC HANGER (80372) 755017B0707		EA	1
7		BLOCK MIC HANGER (80372) 755017B0708		EA	1
8		CABLE,ANTENNA (80063) SM-C-502924		EA	1
9		CABLE HANGER ASSY (80372) 755017B0746		EA	1
10		LABEL,DECAL (80372) 755017A4029		EA	1
11	5340-00-721-5815	CLAMP,LOOP (96906) MS25281R5		EA	2

SECTION II. COMPONENTS OF END ITEM				
(1)	(2)	(3)	(4)	(5)
ILLUS	NATIONAL STOCK	DESCRIPTION	USABLE	QTY
NUMBER	NUMBER	FSCM AND PART NUMBER	ON CODE	U/M RQR
		TM 11-2300-474-13 & P	EA	1

**APPENDIX D**  
**ADDITIONAL AUTHORIZATION LIST**

**Section I. INTRODUCTION**

**D-1. SCOPE.**

This appendix lists additional items you are authorized for the support of the MK-2460/GRC-193A.

**D-2. GENERAL.**

This list identifies items that do not have to accompany the MK-2460/GRC- 193A and that do not have to be turned in with it. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

**D-3. EXPLANATION OF LISTING.**

National stock numbers, decryptions, and quantities are provided to help you identify and request the additional items you require to support this equipment. The items are listed in alphabetical sequence by item name under the type document (i.e., CTA, MTOE, TDA, or JTA) which authorizes the item(s) to you.

- a. Column (1), National Stock Number. This column indicates the national stock number assigned to the item.
- b. Column (2), Description. This column indicates the national item name and, if required, a minimum description to identify and locate the item. The last line of each item description indicates the vender part number, if available, followed by the FSCM (in parentheses).
- c. Column (3), Unit of Measure (UNIT OF MEAS.). This column indicates the measure used in performing the actual operation/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr).
- d. Column (4), Quantity Authorized (QTY AUTH.). Indicates the quantity of the item authorized to be used with/on the equipment.

SECTION II. ADDITIONAL AUTHORIZATION LIST

(1)	(2)	(3)	(4)
NATIONAL	DESCRIPTION	UNIT	
STOCK	USABLE	OF	QTY
NUMBER	PART NUMBER (FSCM) ON CODE	MEAS.	AUTH.
5133-00-227-9662	DRILL BIT, 5/16-INCH (96906)	EA	1
5133-00-227-9666	DRILL BIT, 3/8-INCH (96906)	EA	1

## APPENDIX E REPAIR PARTS AND SPECIAL TOOLS LIST

### SECTION I INTRODUCTION

#### E-1. Scope

This manual lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE), and other special support equipment required for performance of organizational and direct support maintenance of the MK-2460/GRC-193A. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the source, maintenance and recoverability (SMR) codes.

#### E-2. General

This Repair Parts and Special Tools List is divided into the following sections:

*a. Section II. Repair Parts List.* A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending numeric sequence, with the parts in each group listed in ascending item number sequence. Figure numbers are listed directly beneath the group header.

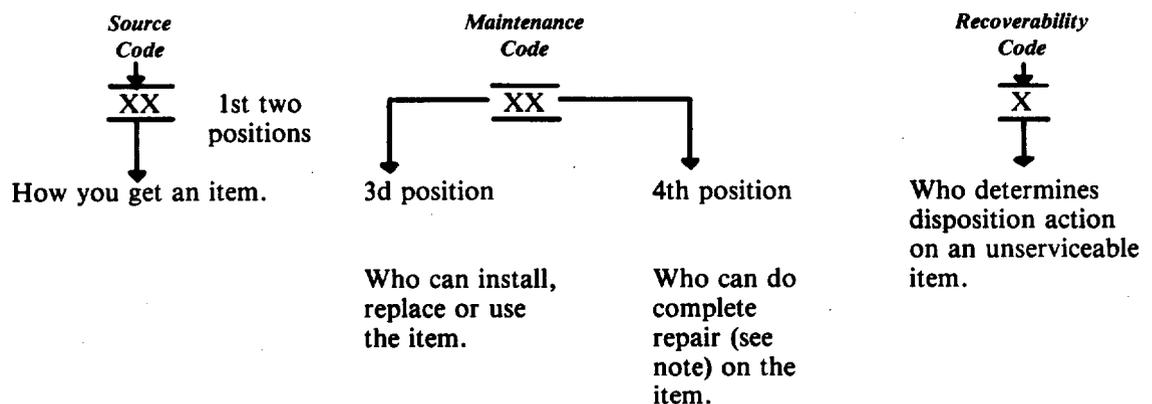
*b. Section III. Special Tools List.* Not applicable.

*c. Section IV. National Stock Number and Part Number Index.* A list, in National item identification number (NIIN) sequence, of all National stock numbered items appearing in the listings, followed by a list in alphameric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

#### E-3. Explanation of Columns (Section II and III)

*a. Item No. (Column (1)).* Indicates the number used to identify items called out in the illustration.

*b. SMR Code (Column (2)).* The source, maintenance, and recoverability (SMR) code is a five-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:



**NOTE**

Complete repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) *Source Code.* The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follows:

<i>Code</i>	<i>Explanation</i>
PA	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the third position of the SMR code.
PB	
PC	
PD	

**NOTE**

PE  
PF  
PG

Items coded PC are subject to deterioration.

KD	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the third position of the SMR code. The complete kit must be requisitioned and applied.
KF	
KB	

MO— Made at erg/ AVUM category	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by the part number in the description and usable on code (UOC) column and listed in the Bulk Material group of the repair parts list. If the item is authorized to you by the third position code of the SMR code, but the source code indicates it is made at a higher category, order the item from the higher category of maintenance.
MF — Made at DS/ AVUM category	
MH— Made at GS category	
ML — Made at Spec- ialized Repair Activity (SRA)	
MD— Made at Depot	

AO — Assembled by org/ AVUM category	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the category of maintenance indicated by the source code. If the third position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher category, order the item from the higher category of maintenance.
AF — Assembled by DS/ AVIM category	
AH — Assembled by GS category	
AL — Assembled by SRA	
AD — Assembled by Depot	

- XA— Do not requisition an "XA" coded item. Order its next higher assembly.
- XB — If an "XB" item is not available from salvage, order it using the FSCM and part number given.
- XC — Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturers part number.
- XD — Item is not stocked. Order an "XD" coded item through normal supply channels using the FSCM and part number given, if no NSN is available.

**NOTE**

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.

(2) *Maintenance Code.* Maintenance codes tell you the category of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance category authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following categories of maintenance.

<i>Code</i>	<i>Application/Explanation</i>
C	— Crew or operator maintenance done within organizational or aviation maintenance.
O	— Organizational or aviation unit category can remove, replace, and use the item.
F	— Direct support or aviation intermediate category can remove, replace, and use the item.
H	— General support category can remove, replace, and use the item.
L	— Specialized repair activity can remove, replace, and use the item.
D	— Depot category can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance category with the capability to do complete repair (i.e., perform all authorized repair functions). This position will contain one of the following maintenance codes:

**NOTE**

Some limited repair may be done on the item at a lower category of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

<i>Code</i>	<i>Application/Explanation</i>
O	— Organizational or aviation unit is the lowest category that can do complete repair of the item.
F	— Direct support or aviation intermediate is the lowest category that can do complete repair of the item.
H	— General support is the lowest category that can do complete repair of the item.
L	— Specialized repair activity (designate the specialized repair activity) is the lowest category that can do complete repair of the item.
D	— Depot is the lowest category that can do complete repair of the item.
Z	— Nonreparable. No repair is authorized.
B	— No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B" coded item.) However, the item may be reconditioned by adjusting, lubricating, etc., at the user category.

(3) *Recoverability Code.* Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability y code is entered in the fifth position of the SMR Code as follows:

*Recoverability  
codes**Application/Explanation*

- Z — Nonreparable item. When unserviceable, condemn and dispose of the item at the category of maintenance shown in the third position of SMR Code.
- O — Repairable item. When uneconomically repairable, condemn and dispose of the item at organizational or aviation unit category.
- F — Repairable item. When uneconomically repairable, condemn and dispose of the item at the direct support or aviation intermediate category.
- H — Repairable item. When uneconomically repairable, condemn and dispose of the item at general support category.
- D — Repairable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot category.
- L — Repairable item. Condemnation and disposal not authorized below specialized repair activity (SRA).
- A — Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. *FSCM (Column (3))*. The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

d. *Part Number (Column (4))*. Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), 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.

**NOTE**

When you use a NSN to requisition an item, the item you receive may have a different part number from the part ordered.

e. *Description and Usable on Code (UOC)(Column (5))*. This column includes the following information.

(1) The Federal item name and, when required, a minimum description to identify the item.

(2) The statement "END OF FIGURE" appears just below the last item description in Column (5) for a given figure in both section II and section III.

J Qty (*Column (6)*). Indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, sub functional group, or an assembly. A 'V' appearing in this column in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

**E-4. Explanation of Columns (Section IV)**

a. *National Stock Number (NSN) Index*.

(1) *Stock number column*. This column lists the NSN by National item identification number (NIIN) sequence. The NHN consists of the last nine digits of the NSN. When using this column to locate an item, ignore the first four digits of the NSN. When requisitioning items use the complete NSN (13 digits).

(2) *Fig. column*. This column lists the number of the figure where the item is identified/located. The illustrations are in numerical sequence in sections II and III.

(3) *Item column*. The item number identifies the item associated with the figure listed in the adjacent Fig. column. This item is also identified by the NSN listed on the same line.

*b. Part Number Index.* Part numbers in this index are listed by part number in ascending alphameric sequence.

(1) *FSCM column.* This column lists the Federal supply code for manufacturer (FSCM).

(2) *Part number column.* This column indicates the part number assigned to the item.

(3) *Stock number column.* This column lists the National stock number for the associated part number and manufacturer identified in the part number and FSCM columns to the left.

(4) *Fig. column.* This column lists the number of the figure where the item is identified/located in sections II and III.

(5) *Item column.* The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

### **E-5. Special Information**

*National Stock Numbers.* National stock numbers (NSN's) that are missing from P source coded items have been applied for and will be added to this TM by future change/revision when they are entered in the Army Master Data File (AMDF). Until the NSN's are established and published, submit exception requisitions to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-MM, Fort Monmouth, NJ 07703-5000 for the part required to support your equipment.

### **E-6. How to Locate Repair Parts**

*a. When National stock number or part number is not known.*

(1) *First.* Using the table of contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

(2) *Second.* Find the figure covering the assembly group or subassembly group to which the item belongs.

(3) *Third.* Identify the item on the figure and note the item number.

(4) *Fourth.* Refer to the Repair Parts List for the figure to find the part number for the item number noted on the figure.

(5) *Fifth.* Refer to the Part Number Index to find the NSN, if assigned.

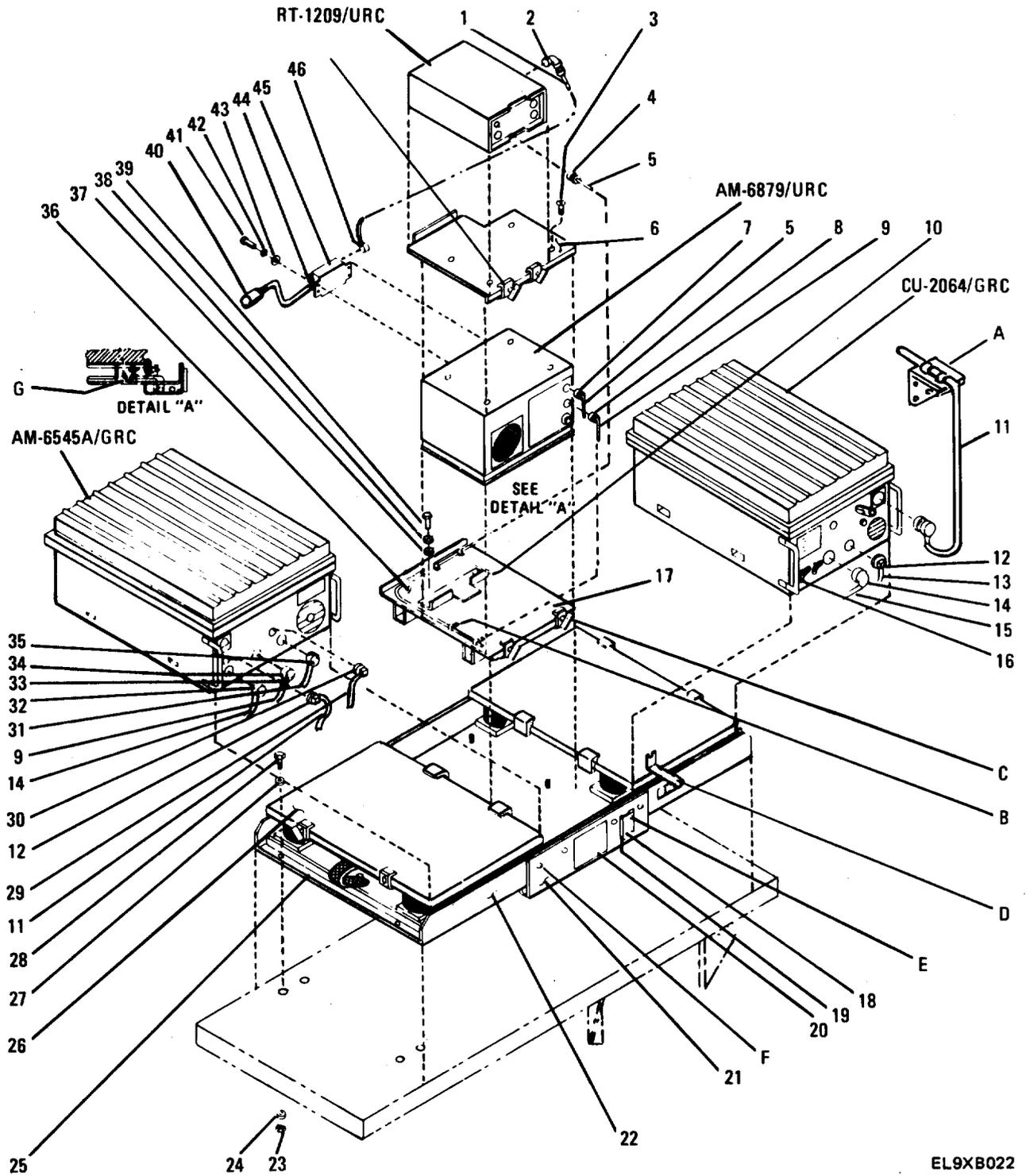
*b. When National stock number or part number is known.*

(1) *First.* Using the Index of National stock numbers and part numbers, find the pertinent National stock number or part number. The NSN index is in National item identification number (NIIN) sequence (para 4a(1)). The part numbers in the part number index are listed in ascending alphameric sequence (para 4 b ). Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

(2) *Second.* After finding the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

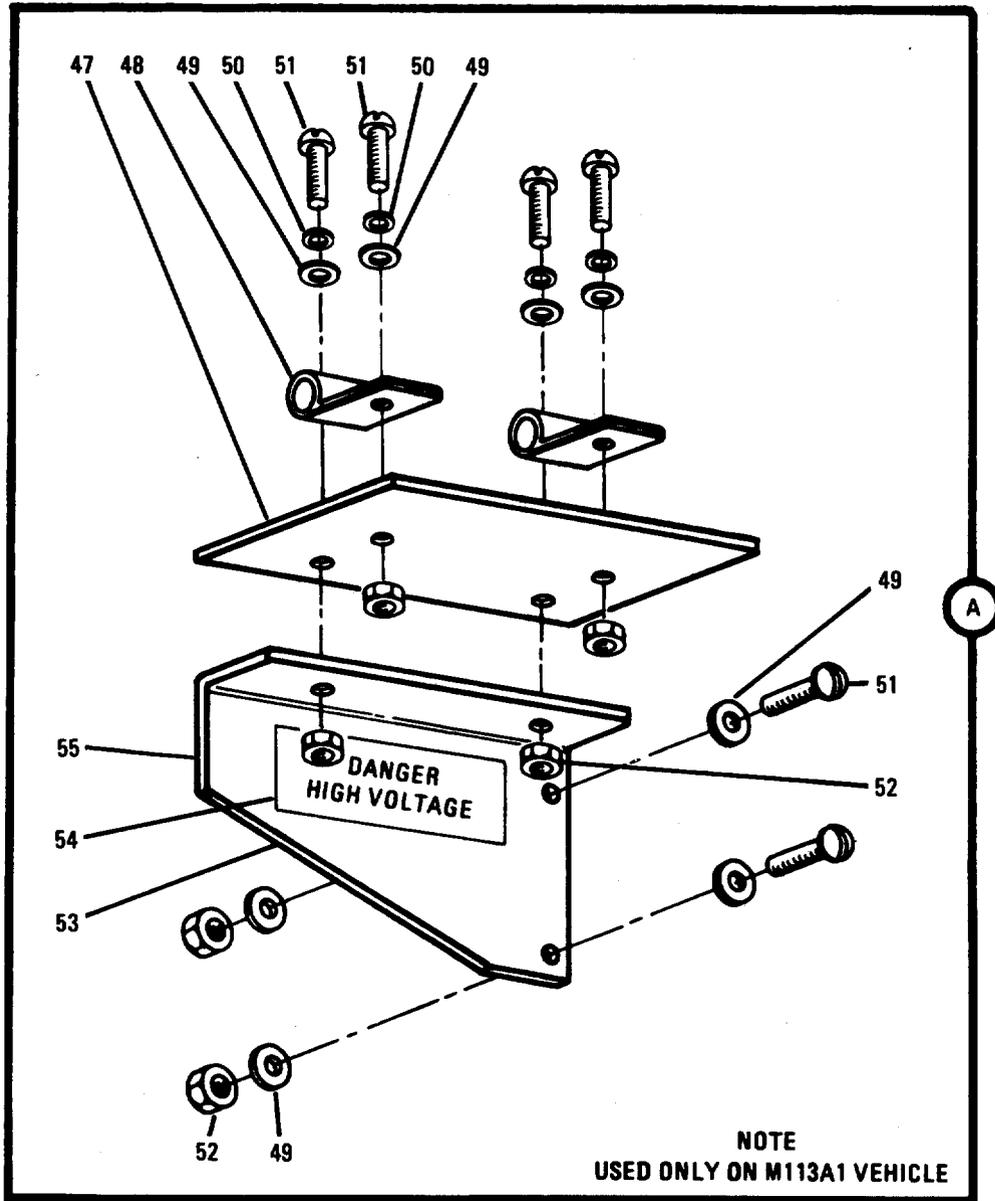
### **E-7. Abbreviations**

Not applicable.

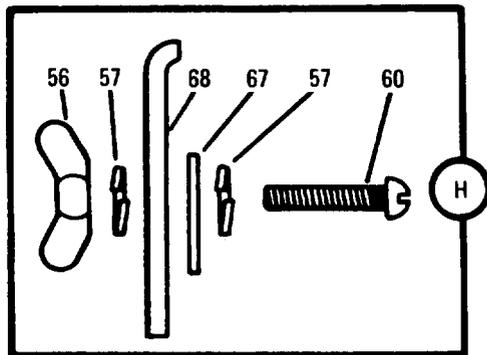
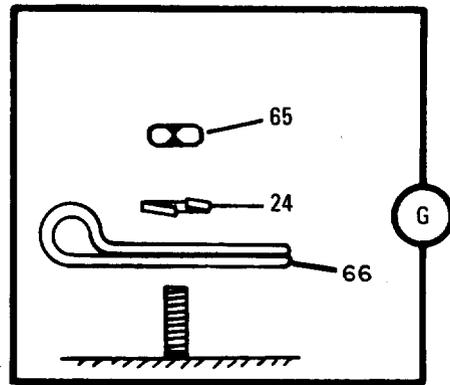
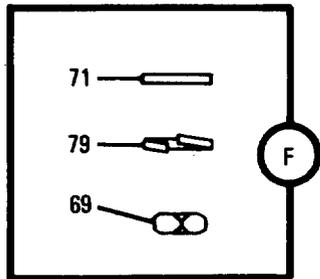
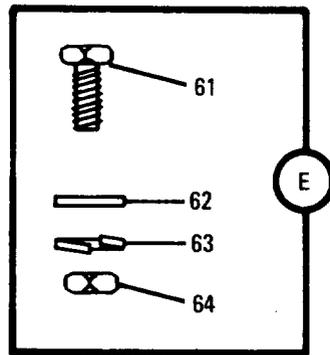
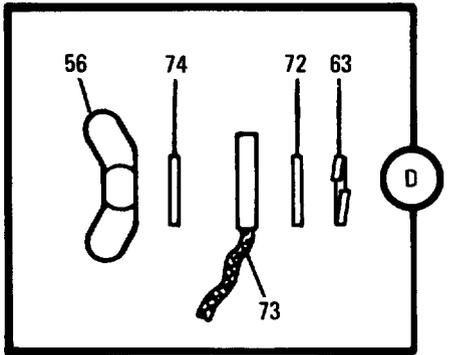
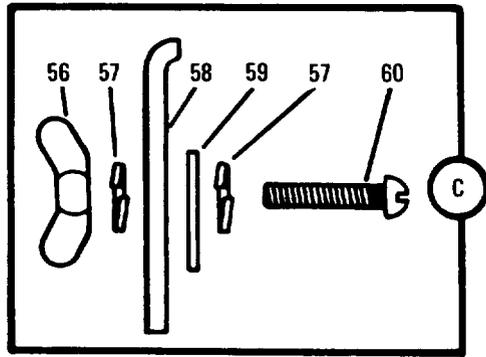
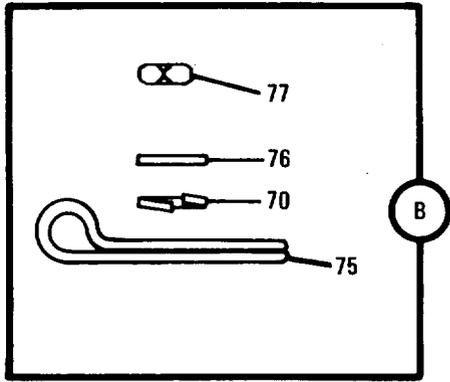


EL9XB022

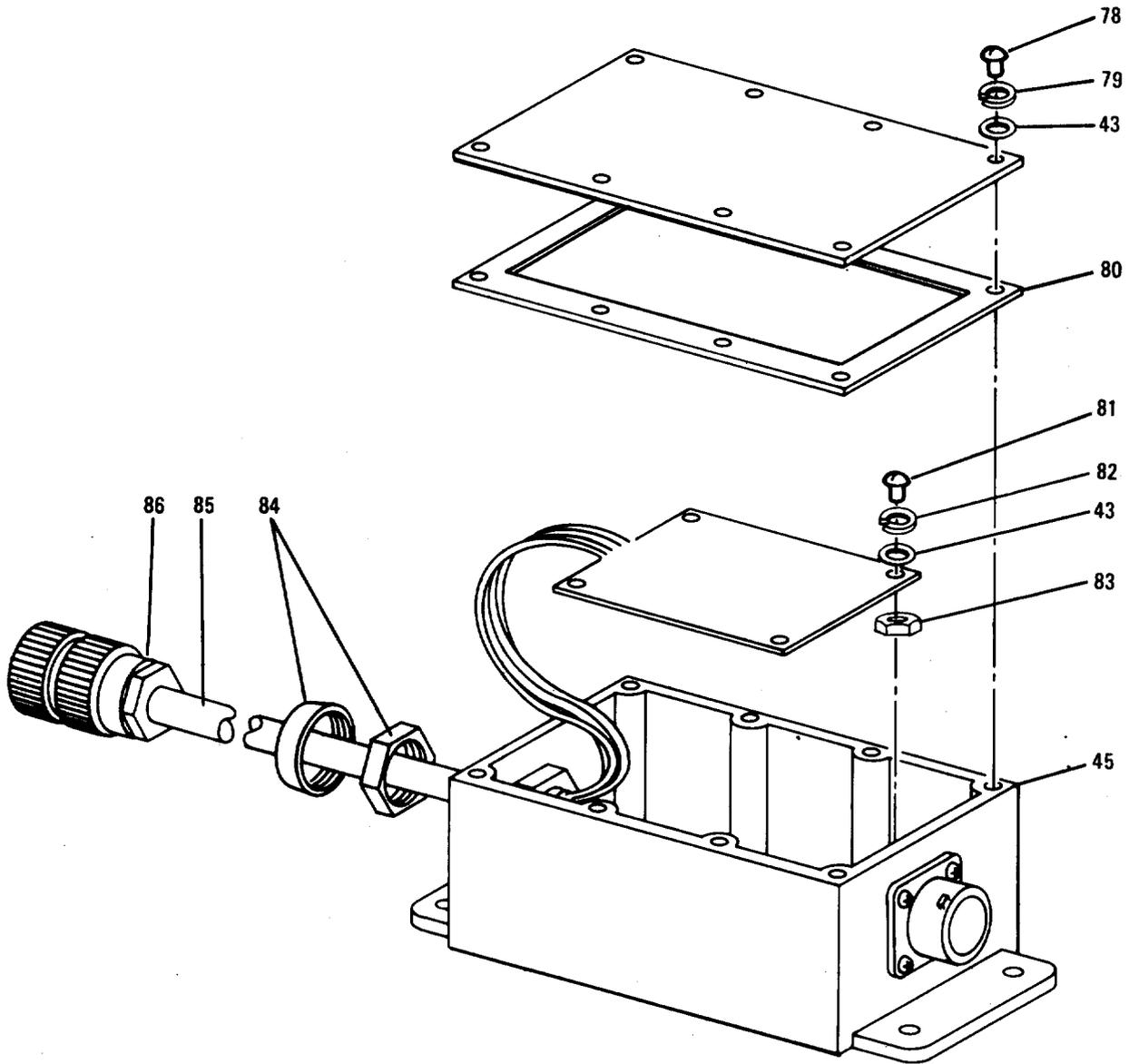
E-1 Installation Kit, Electronic Equipment, MK-2460/GRC-193A (Excluding Antenna Equipment Group 03)  
(Sheet 1 of 4)



EL9XB023



EL9XB018

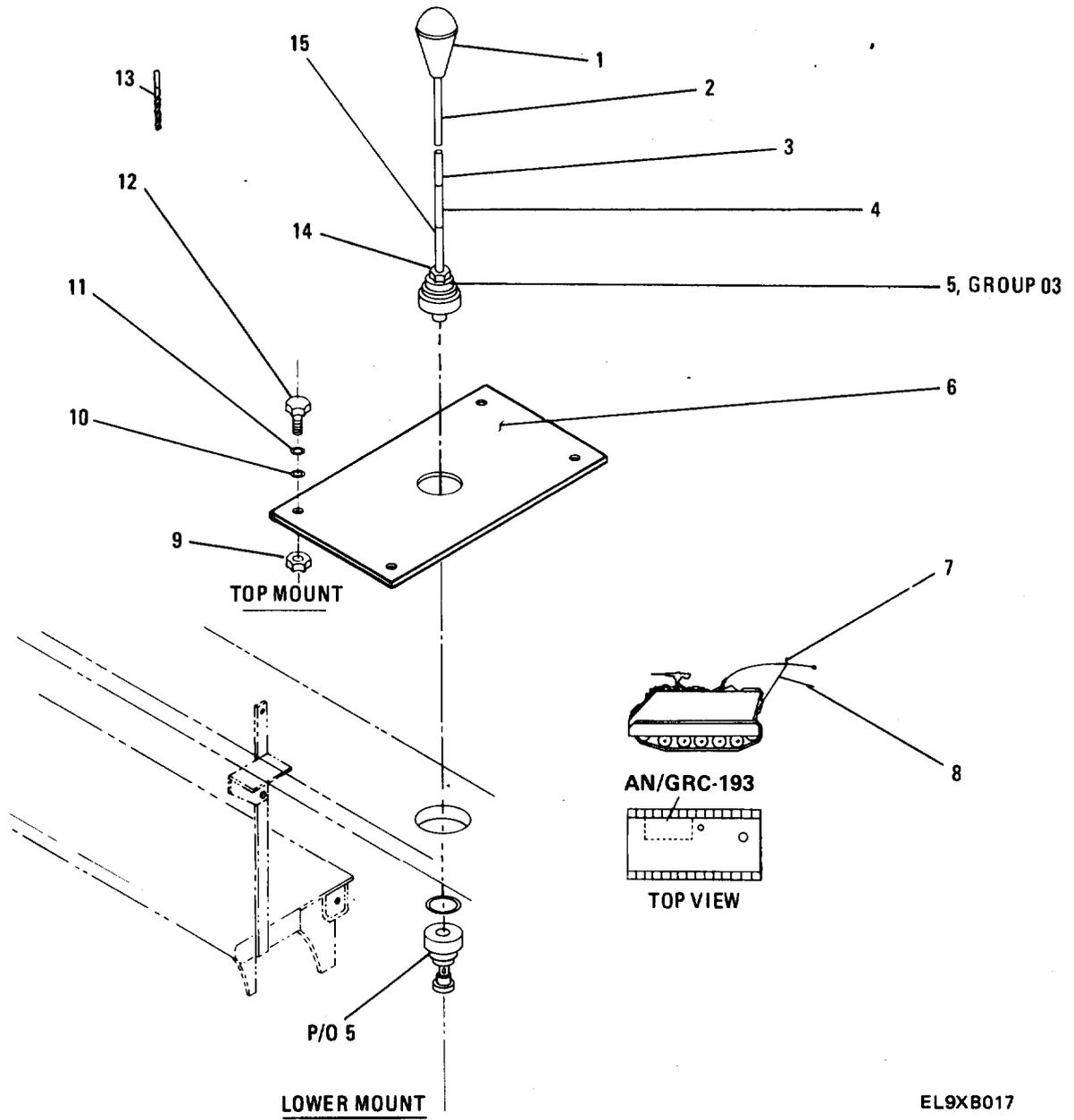


EL9XB021

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
GROUP 00 INSTALLATION KIT					
MK-2460/GRC-193A					
FIGURE E-1					
1	PAOFF	14304	755017B0830	CABLE ASSY SPECIAL	1
2	PAFZZ	77820	10-214614-6S	CONNECTOR, PLUG, ELEC	1
3	PAFZZ	96906	MS23693-C48	SCREW MACHINE	4
4	PAFZZ	81349	MW10M(M)D17	CONNECTOR, PLUG, ELEC	1
5	PAOFF	14304	755017B0736	CABLE ASSY S/P ELEC	1
6	XBFZZ	80372	755017B0756	MOUNT ASSY RT	1
7	PAFZZ	14304	755017B0733	CONN PLUG ELECT	1
8	XBFZZ	77820	10-214622-2P	CONNECTOR, PLUG, ELEC	1
9	PAOFF	14304	755017B0740	CABLE ASSY PWR ELEC	1
10	XBFZZ	80372	755017B0757	MOUNT AMPLIFIER	1
11	PAFZZ	80058	CX-10171/U	LEAD, ELECTRICAL	1
12	PAFZZ	98738	09P222385-1	CONNECTOR, PLUG, ELEC	1
13	PAOFF	14304	755017B0716	CABLE ASSY RF	1
14	PAFZZ	81349	MW10M(M)D17	CONNECTOR, PLUG, ELEC	1
15	PAOFF	14304	755017B0732	CABLE S/P ELECT ASM	1
16	PAFZZ	96906	MS35425-1032	NUT, WING	2
17	XBFZZ	80372	755017A9005-1	MOUNT COUPLER	1
18	XBFZZ	80372	755017B0707	BRKT ANGLE MIC HNGR	1
19	XBFZZ	80372	755017B0708	BLOCK MIC HANGER	1
20	XBFZZ	80372	755017B0748	PLATE IDENT	1
21	XBFZZ	80372	755017B0743	COVER CABLE	1
22	XBFZZ	80372	755017B0760	TRAY MOUNTING	1
23	PAFZZ	96906	MS51971-3	NUT, PLAIN, HEXAGON	8
24	PAFZZ	96906	MS35335-63	WASHER, LOCK	16
25	PAOFF	80058	MT-6233/GRC-193A	MOUNTING BASE, ELECT	1
26	XBFZZ	80372	755017A9015-1	MOUNT, AMPLIFIER	1
27	PAFZZ	96906	MS15795-808	WASHER, FLAT	2
28	PAFZZ	96906	MS35307-362	SCREW, CAP, HEXAGON H	8
29	PAOFF	14304	755017B0738	CABLE ASSY SPECIAL	1
30	PAFZZ	80058	U229U	CONNECTOR, PLUG, ELEC	1
31	PAOFF	14304	755017B0715	CABLE ASSY RADIO FR	1
32	PAFZZ	77820	PT08SE-14-15S	CONNECTOR, PLUG, ELEC	1
33	XBFZZ	04569	NW-512SJ	CABLE PWR ELECT	1
34	PAFZZ	81349	UW1220FA17	CONNECTOR, PLUG, ELEC	1
35	PAFZZ	91836	KN-59-06	CONNECTOR, PLUG, ELEC	1
36	XBFZZ	80372	755017B0758	PLATE MTG AMPLIFIER	1
37	PAFZZ	96906	MS15795-808	WASHER, FLAT	2
38	PAFZZ	96906	MS35338-138	WASHER, LOCK	2
39	PAFZZ	96906	MS51958-64	SCREW, MACHINE	2
40	XBFZZ	25330	UW1326FD15	CONNECTOR, PLUG, ELEC	9
41	PAFZZ	96906	MS35307-341	BOLT, MACHINE	4
42	PAFZZ	96906	MS35338-139	WASHER, LOCK	2
43	PAFZZ	96906	MS15795-803	WASHER, FLAT	16
44	PAOFF	14304	755017B0772	CABLE ASSY INTERCOM	1
45	PAOFF	14304	755017B0825	INTERCONNECTING BOX	1
46	PAFZZ	81349	MW10MMD15	CONNECTOR PLUG ELEC	1
47	XBFZZ	80372	755017B0745	BLOCK HANGER	1

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
48	PAFZZ	96906	MS25281-R8	CLAMP, LOOP	2
49	PAFZZ	96906	MS15795-808	WASHER, FLAT	4
50	PAFZZ	96906	MS35338-138	WASHER, LOCK	4
51	PAFZZ	96906	MS51958-65	SCREW, MACHINE	4
52	PAFZZ	96906	MS35650-104	NUT, PLAIN, HEXAGON	4
53	XBFZZ	80372	755017B0744	BRACKET ANGLE HNGR	1
54	XBFZZ	80372	755017A4029	PLATE IDENTIFICATIN	1
55	XBFZZ	80372	755017B0746	HANGER CABLE ASSY	1
56	PAFZZ	96906	MS35425-70	NUT, PLAIN, WING	2
57	PAFZZ	96906	MS35338-138	WASHER, LOCK	2
58	PAFZZ	14304	755017B0702	CLAMP	1
59	XBFZZ	80372	755017B0703	CLAMP PLATE	1
60	PAFZZ	96906	MS51958-64	SCREW, MACHINE	2
61	PAFZZ	96906	MS24693-C30	SCREW, MACHINE	2
62	PAFZZ	96906	MS15795-810	WASHER, FLAT	4
63	PAFZZ	96906	MS35338-139	WASHER, LOCK	4
64	PAFZZ	96906	MS35649-2254	NUT, PLAIN, HEXAGON	4
65	PAFZZ	96906	MS35650-104	NUT, PLAIN, HEXAGON	2
66	PAFZZ	96906	MS25281R5	CLAMP, LOOP	2
67	XBFZZ	80372	755017B0717	PLATE RT	1
68	XBFZZ	80372	755017B0718	CLAMP RT	1
69	PAFZZ	96906	MS35649-284	NUT, PLAIN, HEXAGON	10
70	PAFZZ	96906	MS35338-140	WASHER, LOCK	8
71	PAFZZ	96906	MS15795-807	WASHER, FLAT	10
72	PAFZZ	96906	MS15795-808	WASHER, FLAT	9
73	PAFZZ	80372	755017A9048-3	STRAP GROUND	1
74	PAFZZ	96906	MS15795-810	WASHER, FLAT	2
75	XBFZZ	80372	755017A9052	CLAMP LOOP	6
76	PAFZZ	96906	MS15795-812	WASHER, FLAT	8
77	PAFZZ	96906	MS35649-2314	NUT, PLAIN, HEXAGON	8
78	PAFZZ	96906	MS51958-64	SCREW, MACHINE	7
79	PAFZZ	96906	MS35338-137	WASHER, LOCK	10
80	XBFZZ	96906	MS51007-4	GASKET	1
81	PAFZZ	96906	MS51958-67	SCREW, MACHINE	2
82	PAFZZ	96906	MS35338-135	WASHER, LOCK	16
83	PAFZZ	96906	MS35649-244	NUT, PLAIN, HEXAGON	4
84	PAFZZ	28940	3210	BUSHING CONNECTOR	1
85	PAOFF	80372	755017B0814	CABLE ASSY	1
86	PAFZZ	81349	U229/U	CONNECTOR PLUG ELEC	1

END OF FIGURE



(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
GROUP 03 ANTENNA MAST BASE, AB-652					
FIGURE E-2					
1	PAFZZ	80063	SC-C-446046	ANTENNA TIP ASSEMB	1
2	PAFZZ	80063	MS-118-A	ANTENNA ELEMENT	1
3	PAFZZ	80063	MS-117-A	ANTENNA ELEMENT	1
4	PAFZZ	80063	MS-116-A	MAST SECTION	3
5	PAOZZ	80058	AB-652/GR	BASE, MAST	1
6	PAFZZ	80063	SC-C-49639-1	ADAPTER	1
7	PAFZZ	80063	SC-B-19491	CLAMP ASSY, ANTENNA	1
8	XBFZZ	80063	SM-B-500418	ROPE	40
9	PAFZZ	96906	MS35650-304	NUT, PLAIN, HEXAGON	2
10	PAFZZ	96906	MS35338-140	WASHER, LOCK	4
11	PAFZZ	96906	MS35338-141	WASHER, LOCK	4
12	PAFZZ	96906	MS35307-362	SCREW, CAP, HEXAGON H	4
13	XBFZZ	80372	755017B0832-6	DRILL BIT	1
14	PAFZZ	80063	SM-D-500428	COVER, ANTENNA	1
15	PAFZZ	14304	755017B0765	ADAPTER, ANTENNA TO	1

END OF FIGURE

## NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX					
STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5305-00-059-3660	E-1	39	5310-00-974-6623	E-1	70
	E-1	60		E-2	10
	E-1	78		E-2	11
5305-00-059-3661	E-1	51	5995-00-985-8014	E-1	11
5305-00-059-3663	E-1	81	5935-00-992-2035	E-1	30
5820-00-078-4769	E-2	14	5310-01-064-8787	E-1	56
5820-00-078-4770	E-2	5	5820-01-133-3975	E-1	25
5985-00-115-7149	E-2	3	5985-01-192-8599	E-2	15
5985-00-199-8831	E-2	4	5995-01-214-6358	E-1	29
5310-00-209-0790	E-1	24	5995-01-214-6366	E-1	31
5985-00-238-7474	E-2	2	5895-01-214-6389	E-1	45
5310-00-245-3615	E-1	77	5995-01-215-6170	E-1	9
5310-00-250-9477	E-1	64	5995-01-215-6172	E-1	15
5935-00-333-1799	E-1	12	5995-01-215-6173	E-1	13
	E-1	35		E-1	5
	E-1	48		E-1	44
5340-00-543-3934	E-1	48	5995-01-216-5510	E-1	44
5310-00-582-5677	E-1	62	5820-01-244-3369	E-2	6
	E-1	74			
	E-1	43			
5310-00-595-6211	E-1	27			
5310-00-619-1148	E-1	37			
	E-1	49			
	E-1	72			
	E-1	76			
	E-1	28			
5310-00-625-5756	E-1	28			
5305-00-717-5467	E-2	12			
5305-00-717-5593	E-1	61			
5340-00-721-5315	E-1	66			
5306-00-724-5678	E-1	41			
5935-00-780-9126	E-1	34			
5935-00-810-0437	E-1	2			
5935-00-815-2325	E-1	4			
	E-1	14			
	E-1	32			
5935-00-878-1452	E-1	32			
5310-00-880-5978	E-1	71			
5310-00-913-8881	E-1	23			
5985-00-930-7223	E-2	1			
5310-00-933-8118	E-1	82			
5310-00-933-8119	E-1	79			
5310-00-933-8120	E-1	38			
	E-1	50			
	E-1	57			
	E-1	42			
	E-1	63			
5310-00-933-8121	E-1	42			
5310-00-934-9748	E-1	63			
5310-00-934-9748	E-1	83			
5310-00-934-9759	E-1	69			
5310-00-934-9765	E-1	9			
	E-1	52			
	E-1	65			
	E-1	65			
5985-00-935-8653	E-2	7			

## NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
80058	AB-652/GR	5820-00-078-4770	E-2	5
80058	CX-10171/U	5995-00-985-8014	E-1	11
91836	KN-59-06	5935-00-333-1799	E-1	35
80063	MS-116-A	5985-00-199-8831	E-2	4
80063	MS-117-A	5985-00-115-7149	E-2	3
80063	MS-118-A	5985-00-238-7474	E-2	2
96906	MS15795-803	5310-00-595-6211	E-1	43
96906	MS15795-807	5310-00-880-5978	E-1	71
96906	MS15795-808	5310-00-619-1148	E-1	27
			E-1	37
			E-1	49
			E-1	72
96906	MS15795-810	5310-00-582-5677	E-1	62
			E-1	74
96906	MS15795-812	5310-00-625-5756	E-1	76
96906	MS23693-C48		E-1	3
96906	MS24693-C30	5305-00-717-5593	E-1	61
96906	MS25281-R8	5340-00-543-3934	E-1	48
96906	MS25281R5	5340-00-721-5315	E-1	66
96906	MS35307-341	5306-00-724-5678	E-1	41
96906	MS35307-362	5305-00-717-5467	E-1	28
			E-2	12
96906	MS35335-63	5310-00-209-0790	E-1	24
96906	MS35338-135	5310-00-933-8118	E-1	82
96906	MS35338-137	5310-00-933-8119	E-1	79
96906	MS35338-138	5310-00-933-8120	E-1	38
			E-1	50
			E-1	57
96906	MS35338-139	5310-00-933-8121	E-1	42
			E-1	63
96906	MS35338-140	5310-00-974-6623	E-1	70
			E-2	10
96906	MS35338-141	5310-00-984-7042	E-2	11
96906	MS35425-1032		E-1	16
96906	MS35425-70	5310-01-064-8787	E-1	56
96906	MS35649-2254	5310-00-250-9477	E-1	64
96906	MS35649-2314	5310-00-245-3615	E-1	77
96906	MS35649-244	5310-00-934-9748	E-1	83
96906	MS35649-284	5310-00-934-9759	E-1	69
96906	MS35650-104	5310-00-934-9765	E-1	52
			E-1	65
96906	MS35650-304	5310-00-934-9765	E-1	9
96906	MS51007-4		E-1	80
96906	MS51958-64	5305-00-059-3660	E-1	39
			E-1	60
			E-1	78
96906	MS51958-65	5305-00-059-3661	E-1	51
96906	MS51958-67	5305-00-059-3663	E-1	81
96906	MS51971-3	5310-00-913-8881	E-1	23
80058	MT-6233/GRC-193A	5820-01-133-3975	E-1	25
81349	MW10M(M)D17	5935-00-815-2325	E-1	4

## NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX	
		STOCK NUMBER	FIG. ITEM
81349	MW10M(M)D17	5935-00-815-2325	E-1 14
81349	MW10MMD15		E-1 46
04569	NW-512SJ		E-1 33
77820	PT08SE-14-15S	5935-00-878-1452	E-1 32
80063	SC-B-19491	5985-00-935-8653	E-2 7
80063	SC-C-446046	5985-00-930-7223	E-2 1
80063	SC-C-49639-1	5820-01-244-3369	E-2 6
80063	SM-B-500418		E-2 8
80063	SM-D-500428	5820-00-078-4769	E-2 14
81349	UW1220FA17	5935-00-780-9126	E-1 34
25330	UW1326FD15		E-1 40
81349	U229/U		E-1 86
80058	U229U	5935-00-992-2035	E-1 30
98738	09P222385-1	5935-00-333-1799	E-1 12
77820	10-214614-6S	5935-00-810-0437	E-1 2
77820	10-214622-2P		E-1 8
28940	3210		E-1 84
80372	755017A4029		E-1 54
80372	755017A9005-1		E-1 17
80372	755017A9015-1		E-1 26
80372	755017A9048-3		E-1 73
80372	755017A9052		E-1 75
14304	755017B0702		E-1 58
80372	755017B0703		E-1 59
80372	755017B0707		E-1 18
80372	755017B0708		E-1 19
14304	755017B0715	5995-01-214-6366	E-1 31
14304	755017B0716	5995-01-215-6173	E-1 13
80372	755017B0717		E-1 67
80372	755017B0718		E-1 68
14304	755017B0732	5995-01-215-6172	E-1 15
14304	755017B0733		E-1 7
14304	755017B0736	5995-01-215-7850	E-1 5
14304	755017B0738	5995-01-214-6358	E-1 29
14304	755017B0740	5995-01-215-6170	E-1 9
80372	755017B0743		E-1 21
80372	755017B0744		E-1 53
80372	755017B0745		E-1 47
80372	755017B0746		E-1 55
80372	755017B0748		E-1 20
80372	755017B0756		E-1 6
80372	755017B0757		E-1 10
80372	755017B0758		E-1 36
80372	755017B0760		E-1 22
14304	755017B0765	5985-01-192-8599	E-2 15
14304	755017B0772	5995-01-216-5510	E-1 44
80372	755017B0814		E-1 85
14304	755017B0825	5895-01-214-6389	E-1 45
14304	755017B0830		E-1 1
80372	755017B0832-6		E-2 13

**APPENDIX F****EXPENDABLE SUPPLIES AND MATERIALS LIST****Section I. INTRODUCTION****F-1. SCOPE.**

This appendix lists expendable supplies and materials you will need to operate and maintain the MK-2460/GRC-193A. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

**F-2. EXPLANATION OF COLUMNS.**

- a. Column (1) Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., " Use cleaning compound, item 3, App. F").
- b. Column (2) Level. This column identifies the lowest level of maintenance that requires the listed item.
  - C-Operator/Crew
  - O-Organizational Maintenance
  - F-Direct Support Maintenance
- c. Column (3) National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.
- d. Column (4) Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the part number followed by the Federal Supply Code for Manufacturer (FSCM) in parentheses, if applicable.
- e. Column (5) Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

SECTION II EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION (FSCM)	(5) U/M
1	C	7920-00-178-8315	BRUSH, DUSTING, BRISTLE	EA
2	C	8305-00-205-3496	CLOTH,COTTON CHEESECLOTH CCCC 440 (81348)	SQ YD
3	C	6850-00-984-5853	COMPOUND,CLEANING, (TRICHLOROTRIFLUOROETHANE) FREON PCA (18845)	QT
4	O	8030-01-144-0608	SEALING COMPOUND (LOCKTITE) 59231 50CC (05972)	EA
5	C	4020-00-073-3276	ROPE SM-B-500418 (80372)	FT

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PUBLICATION NUMBER TM 11-5840-340-12	PUBLICATION DATE 23 Jan 74	PUBLICATION TITLE Radar Set AN/PRC-76
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PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO	
2-25	2-28			<p>Recommend that the installation antenna alignment procedure be changed throughout to specify a 2° IFF antenna lag rather than 1°.</p> <p>REASON: Experience has shown that with only a 1° lag, the antenna servo system is too sensitive to wind gusting in excess of 25 knots, and has a tendency to rapidly accelerate and decelerate as it hunts, causing strain to the drive train. Hunting is minimized by adjusting the lag to 2° without degradation of operation.</p>
3-10	3-3		3-1	<p>Item 5, Function column. Change "2 db" to "3db."</p> <p>REASON: The adjustment procedure for the TRANS POWER FAULT indicator calls for a 3 db (500 watts) adjustment to light the TRANS POWER FAULT indicator.</p>
5-6	5-8			<p>Add new step f.1 to read, "Replace cover plate removed in step e.1, above."</p> <p>REASON: To replace the cover plate.</p>
		F03		<p>Zone C 3. On J1-2, change "+24 VDC to "+5 VDC."</p> <p>REASON: This is the output line of the 5 VDC power supply. +24 VDC is the input voltage.</p>

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