

CHANGE

No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 13 October 1965

Operator and Organizational Maintenance Manual**RADIO SET AN/GRC-106, INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST**

TM 11-5820-520-12, 25 August 1965, is changed as follows:

Change the title of the manual as shown above.

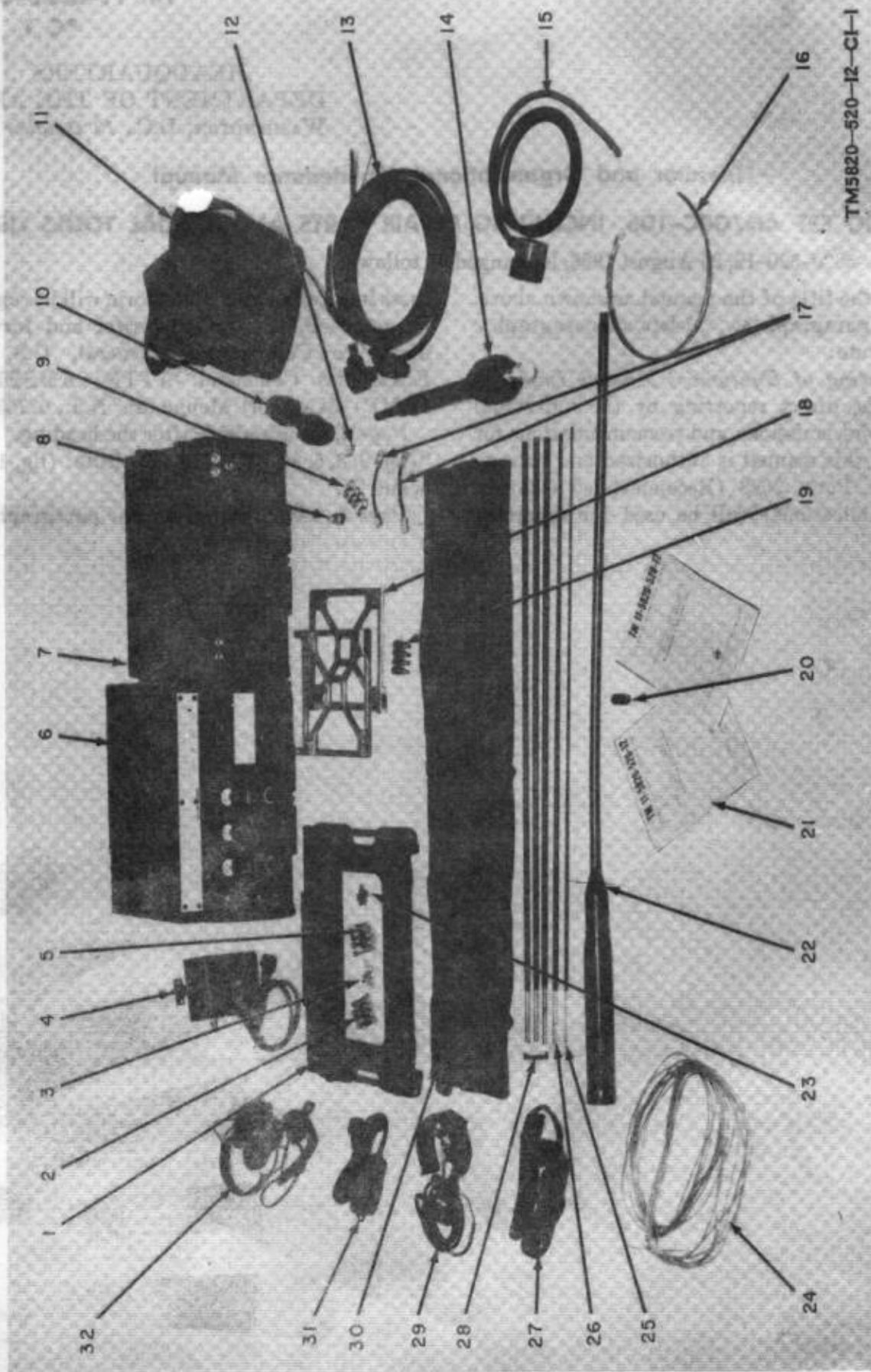
Page 5, paragraph 3c. Delete subparagraph c and substitute:

c. Reporting of Equipment Manual Improvements. The direct reporting by the individual user of errors, omissions, and recommendations for improving this manual is authorized and encouraged. DA Form 2028 (Recommended Changes to DA Publications) will be used for reporting

these improvements. This form will be completed using pencil, pen, or typewriter and forwarded direct to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-MR-(NMP)-MA, Fort Monmouth, N.J., 07703.

Page 6, paragraph 6, after the heading. Delete "(fig. 2, 3, 5, and 7)" and substitute: (fig. 1.1, 2, 3, 5, and 7).

Page 7. Add figure 1.1 after paragraph 6.



TM5820-520-12-C1-1

Figure 1.1. Radio Set AN/GRC-106, less spare parts.

- | | | | |
|----|---|----|--|
| 1 | Mounting MT-3140/GRC-106. | 17 | Cable Assembly, Radio Frequency CG-409G/U (8 in.) (2). |
| 2 | Capscrew, hexagonal head, 1/4-28, 2.0 in. (8). | 18 | Crossbar, welded assembly, long (2). |
| 3 | Lockwasher, internal and external teeth for 1/4 in. dia bolt (8). | 19 | Mounting hardware for crossbar, welded assembly, long (4). |
| 4 | Dynamic Loudspeaker LS-166/U. | 20 | Brass antenna sheath clamp. |
| 5 | Capscrew, hexagonal head, 1/4-28, 2.5 in. (8). | 21 | TM 11-5820-520-12 (2). |
| 6 | Amplifier, Radio Frequency AM-3349/GRC-106. | 22 | Antenna cover. |
| 7 | Receiver-Transmitter, Radio RT-662/GRC. | 23 | Nut, plain, hexagonal, 1/4-28 (8). |
| 8 | Adapter, Connector UG-201A/U. | 24 | Rope, braided filament, 20 ft (2). |
| 9 | Lug, terminal for 3/8 in. stud (4). | 25 | Mast Section MS-118-A. |
| 10 | Cable Assembly, Special Purpose, Electrical CX-10099/U (7 in.). | 26 | Mast Section MS-117-A. |
| 11 | Antenna Group AN/GRA-50. | 27 | Handset H-33/PT. |
| 12 | Adapter, Connector UG-306/U. | 28 | Mast Section MS-116-A (3). |
| 13 | Cable Assembly, Special Purpose, Electrical CX-10071/U (10 ft 0 in.) (2). | 29 | Telegraph Key KY-116/U. |
| 14 | Mast Base AB-652/GR. | 30 | Bag CW-206/GR (including running spares). |
| 15 | Lead, Electrical CX-10171/U (6 ft 0 in.). | 31 | Microphone M-29/U. |
| 16 | Bonding jumper. | 32 | Headset H-227/U. |

Figure 1.1.—Continued

Page 12, paragraph 12. Add the following under the paragraph heading: (fig. 6.1).
Add figure 6.1 after figure 6.

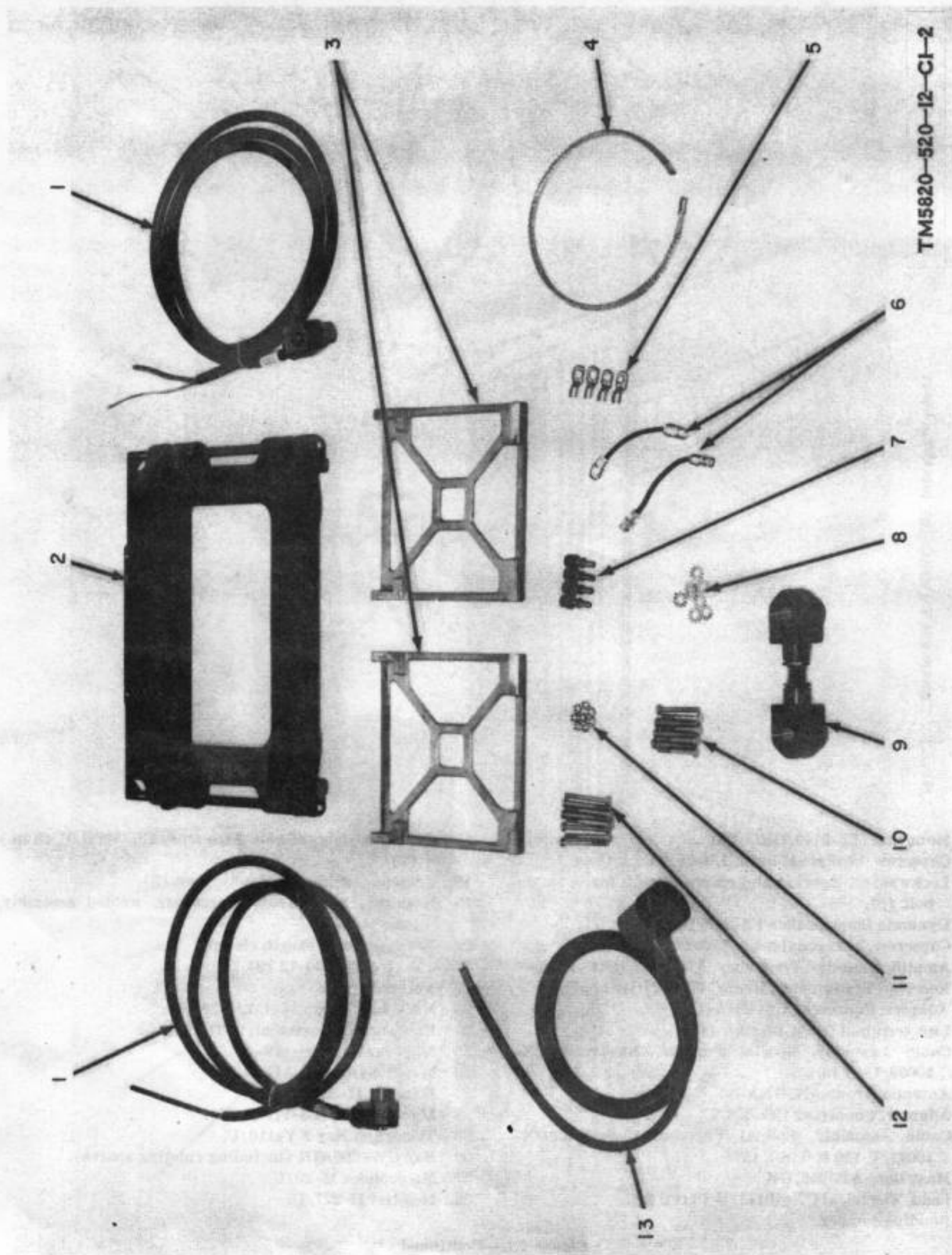


Figure 6.1. Radio Set AN/GRC-106, mounting system components.

- | | |
|---|---|
| 1 Cable Assembly, Special Purpose, Electrical CX-10071/U (10 ft 0 in.) (2). | 8 Lockwasher, internal and external teeth for $\frac{1}{4}$ in. dia bolt (8). |
| 2 Mounting MT-3140/GRC-106. | 9 Cable Assembly, Special Purpose, Electrical CX-10099/U (7 in.). |
| 3 Crossbar, welded assembly, long (2). | 10 Capscrew, hexagonal head, $\frac{1}{4}$ -28, 2.0 in. (8). |
| 4 Bonding jumper. | 11 Nut, plain, hexagonal, $\frac{1}{4}$ -28 (8). |
| 5 Lug, terminal for $\frac{3}{8}$ in. stud (4). | 12 Capscrew, hexagonal head, $\frac{1}{4}$ -28, 2.5 in. (8). |
| 6 Cable Assembly, Radio Frequency CG-409G/U (8 in.) (2). | 13 Lead, Electrical CX-10171/U (6 ft 0 in.). |
| 7 Mounting hardware for crossbar, welded assembly, long (4). | |

Figure 6.1.—Continued

Page 54, appendix I. Add the following references:

- | | |
|--------------------|---|
| SB 11-573 | Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment. |
| TB SIG 364 | Field Instructions for Painting and Preserving Electronics Command Equipment. |
| TM 11-5820-467-25P | Organizational, Field and Depot Maintenance Repair Parts and Special Tool Lists: Antenna Group AN/GRA-50. |

Page 70. Delete section II and substitute:

| SECTION II. OPERATOR'S FUNCTIONAL PARTS LIST | | | | | | | | | |
|--|----------------------|--|---------------|-----|------------|--------------|----------|--|--|
| FEDERAL STOCK NUMBER | DESIGNATION BY MODEL | DESCRIPTION | UNIT OF ISSUE | EXP | QTY AUTH | ILLUSTRATION | | | |
| | | | | | | FIGURE NO. | ITEM NO. | | |
| 5820-082-3491 | | RADIO SET AN/GRC-106 | | NX | | | | | |
| ITEMS COMPRISING AN OPERABLE EQUIPMENT | | | | | | | | | |
| ORD THRU AGC | | TECHNICAL MANUAL TM 11-5820-520-12 | | | 2 | | | | |
| 5935-666-1649 | | ADAPTER, CONNECTOR UG-306/U: MS35368 (Not installed) | | | 1 8 | | | | |
| 5935-201-3090 | | ADAPTER CONNECTOR UG-201A/U: Sig dwg SC-D-72309 (Not installed) | | | 1 8 | | | | |
| 5820-078-4771 | | AMPLIFIER, RADIO FREQUENCY AM-3349/GRC-106: 2-30 mc freq range output; 400 w oper power reqt 28 v dc; 8 in x 13 in x 18 in o/a (Not installed) | | NX | 1 3 | | | | |
| 5820-078-4769 | | COVER, ANTENNA: Polyethylene; 49-1/4 in lg x 1.8 in OD (base) x 0.64 in OD (neck) Colvin-Friedman p/n CF-457B (Not installed) | | | 1 8 | | | | |
| 5985-892-0758 | | ANTENNA GROUP AN/GRA-50 (Not installed) | | NX | 1 8, 9, 12 | | | | |
| 5995-985-8014 | | LEAD ELECTRICAL CX-10171/U (6 ft) G-D p/n 666275-844; Sig dwg SM-C-502182 (Not installed) | | | 1 12 | | | | |
| 5820-571-1828 | | ANTENNA SHEATH CLAMP: Brass, Collins Radio #542-3032-002 (Not installed) | | | 1 9 | | | | |
| 5820-497-9644 | | BAG CW-206/GR: Sig dwg SC-DL-23003 (Not installed) | | | 1 2 | | | | |
| 5820-078-4770 | | MAST, BASE AB-652/GR: F/mtg 15 ft whip antenna, Sig dwg SC-DL-49678 (Not installed) | | | 1 8 | | | | |
| 5995-170-5573 | | LEAD, ELECTRICAL: 24 in lg; Sig dwg SC-B-27840 (Not installed) | | | 1 | | | | |
| 5995-985-8005 | | CABLE ASSEMBLY, SPECIAL PURPOSE ELECTRICAL CX-10099/U (7 in): Sig dwg SC-C-52115 (Not installed) | | | 1 12 | | | | |
| 5995-985-8006 | | CABLE ASSEMBLY, RADIO FREQUENCY CG-4090/U (8 in): Sig dwg SC-DL-157329 (Not installed) | | | 2 12 | | W6, W7 | | |
| 5995-985-7898 | | CABLE ASSEMBLY, SPECIAL PURPOSE ELECTRICAL CX-10071/U (10 ft) SC-C-52115 (Not installed) | | | 2 12 | | W2, W3 | | |
| 5995-349-4844 | | CABLE ASSEMBLY, SPECIAL PURPOSE ELECTRICAL CX-1852/U (6 ft): Sig dwg SC-O-72385 (Not installed) | | | 1 12 | | | | |
| 5820-226-5727 | | CROSSBAR: Welded assy lg; G-D p/n 666274-138; Sig dwg SM-C-500868 (Not installed) | | | 2 | | | | |
| 5965-243-6420 | | DYNAMIC LOUDSPEAKER LS-166/U: Sig dwg SC-DL-2677 (Not installed) | | NX | 1 7 | | | | |
| 5920-280-4960 | | FUSE, CARTRIDGE: 2 amp, 250v; type PO2A250V2A (Installed in equip) | | | 1 2 | | | | |

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| FEDERAL STOCK NUMBER | DESIGNATION BY MODEL | DESCRIPTION | UNIT OF ISSUE | EXP | QTY AUTH | ILLUSTRATION | |
|-------------------------|-------------------------|--|---------------------|-----|-------------|--------------|----------|
| | | | | | | FIGURE NO. | ITEM NO. |
| | | AN/GRC-106 (continued) | | | | | |
| 5965-163-9947 | | HANDSET H-33E/PT, H-33F/PT (Not installed) | | NX | 1 7 | | |
| 5965-226-2915 | | HEADSET, ELECTRICAL H-227/U: Sig dwg SC-DL-436200 (Maintenance parts in TM 11-5965-260-15P are applicable for maintenance support of H-227/U.) (Not installed) | | NX | 1 7 | | |
| 5970-498-3745 | | INSULATOR IN-104: Sig dwg SC-D-4779 (Not installed) | | | 4 | | |
| 5805-503-3395 | | KEY, TELEGRAPH KY-116/U: Sig dwg SC-DL-45824 (Not installed) | | NX | 1 7 | | |
| 5940-636-5761 | | LUG TERMINAL; F/3/8 in stud; Sherman #316 (Not installed) | | | 4 2 | | |
| 5820-199-8831 | | MAST SECTION MX-116-A: Sig dwg SC-DL-100588 (Not installed) | | | 3 2 | | |
| 5820-199-8843 | | MAST SECTION MS-117-A: Sig dwg SC-DL-100588 (Not installed) | | | 1 2 | | |
| 5820-199-8841 | | MAST SECTION MS-118-A: Sig dwg SC-DL-100588 (Not installed) | | | 1 2 | | |
| 5965-892-0722 | | MICROPHONE, M-29/U (Not installed) | | NX | 1 7 | | |
| 5820-078-5614 | | MOUNTING WT-3140/GRC-106: GD/E #666274-097; Sig dwg SM-C-500797 (Not installed) | | | 1 | | |
| 5310-543-4568 | | NUT, FLAIN HEXAGON: 1/4-28 MS35690-422 (Not installed) | | | 8 | | |
| 5820-078-4766 | | RECEIVER-TRANSMITTER RADIO RT-662/GRC: A1, A3a, A9c emission; 2-30 mc freq range; one band; 28vdc; 7 in x 12 in x 18 in o/a (Not installed) | | NX | 1 5 | | |
| 4020-073-3276 | | ROPE: Polyethelene glycol terphthalate; 1/8 in dia; Ashaway #9-CS-0022X 2 ea 20 ft lengths (Not installed) | | ft | 40 8 | | |
| 5305-582-6744 | | SCREW, CAP, HEXAGON HEAD: 1/4-28 x 2 in lg; MS35292-14 (Not installed) | | | 8 2 | | |
| 5305-753-4367 | | SCREW, CAP, HEXAGON HEAD: 1/4-28 x 2-1/2 in lg; MS35292-16 (Not installed) | | | 8 2 | | |
| 5310-889-2528 | | WASHER, LOCK: Internal and external tooth for 1/4 dia bolt; MS45904-68 (Not installed) | | | 8 2 | | |
| 5120-226-5790 | | WRENCH, OPEN END, FIXED: 1/2 x 9/16 in opening; Snap-on-Tool Corp #VS-1618 (Not installed) | | | 2 2 | | |
| | | RUNNING SPARE ITEMS | | | | | |
| 5920-280-4960 | | FUSE, CARTRIDGE: 2 amp, 250v; type F02A250V2A (Not installed) | | | 5 2 | | |

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APPENDIX IV

ORGANIZATIONAL REPAIR PARTS LIST

Section I. INTRODUCTION

1. General

a. This manual lists the quantities of repair parts authorized for organizational maintenance and constitutes a basis of requisitioning when the major item of equipment is authorized to the organization. These equipments are issued on the basis of allowances prescribed in equipment authorization tables and other documents which are a basis of requisitioning. This equipment is combat essential.

b. Columns are as follows:

- (1) *Federal stock number.* This column lists the 11-digit Federal stock number.
- (2) *Designation by model.* Not used.
- (3) *Description.* Nomenclature or the standard item name and brief identifying data for each item are listed in this column. When requisitioning, enter the nomenclature and description.
- (4) *Unit of issue.* The unit of issue is each unless otherwise indicated and is the supply term by which the individual item is counted for procurement, storage, requisitioning, allowances, and issue purposes.
- (5) *Expendability.* Nonexpendable items are indicated by NX. Expendable items are not annotated.
- (6) *Quantity incorporated in unit.* This column lists the quantity of each part found in a given assembly, component, or equipment.
- (7) *Organizational.* The quantities indicated in this column are maximum levels of repair parts authorized to be kept on

hand by units performing organizational maintenance. The quantities are based on 100 equipments to be maintained for a 15-day period.

- (8) *Illustration.* The "Item No." column lists the reference designations that appear on the part in the equipment. These same designations are also used on any illustrations of the equipment. The numbers in the "Figure No." column refer to the illustrations where the part is shown.

2. Parts for Maintenance

When this equipment is used by signal service organizations organic to theater headquarters or communication zones to provide theater communications, those repair parts authorized up to and including general support are authorized for stockage by the organization operating this equipment.

3. Additional Repair Parts Authorization

An asterisk (*) indicates that an item is not authorized for stockage but if required, may be requisitioned for immediate use only.

4. Electron Tubes

The consumption rates given for tubes are conservative theoretical estimates and are provided for use only when more complete information, such as data based on operating experience, is not available. These figures are based on levels and requirements for equipment actually in use, not on authorizations or equipment stored in depots.

5. Requisitioning Information

a. The allowance factors are based on 100 equipments. In order to determine the number of parts authorized for the specific number of equipments supported, the following formula will be used and carried out to two decimal places.

$$\frac{\text{Specific number of equipments supported} \times \text{allowance factor}}{100} = \text{Number of parts authorized.}$$

b. Fractional values obtained from above computation will be rounded to whole numbers as follows:

- (1) When the total number of parts authorized is less than one, the quantity authorized will be one.
- (2) For all values above one, fractional values below 0.5 will revert to the next

lower number, fractional values of 0.5 or larger will advance to the next higher whole number.

c. The number of parts authorized, determined after application of *a* and *b* above, represent one prescribed load for a 15-day period. The items and computed quantities thereof must be on hand or on order at all times.

d. Major commanders will determine the number of prescribed loads second echelon units and organizations will carry. Unit and organizations authorized additional prescribed loads will utilize the formula explained in *a* above but will multiply the number of equipments supported by the number of authorized prescribed loads before completing the formula. Fractional values will be rounded to whole numbers as described above.

SECTION II. ORGANIZATIONAL FUNCTIONAL PARTS LIST

| FEDERAL STOCK NUMBER | DESIGNATION BY MODEL | DESCRIPTION | UNIT OF ISSUE | EXP | QTY IN UNIT | MAINT ORG | ILLUSTRATION |
|----------------------|----------------------|---|---------------|-----|-------------|-----------|-------------------|
| 5820-082-3491 | | RADIO SET AN/GRC-106 | | NX | | | |
| 5935-666-1649 | | ADAPTER CONNECTOR UG-306/U: MS35368 | | | 1 | * | 8 |
| 5935-201-3090 | | ADAPTER, CONNECTOR UG-201A/U: Sig dwg SC-D-72309 | | | 1 | * | 8 |
| 5820-497-9644 | | BAG CW-206/GR | | | 1 | * | 2 |
| 5995-349-4844 | | CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-1852/U (6 ft 6 in) | | | 1 | * | 7 |
| 5995-985-8005 | | CABLE ASSEMBLY SPECIAL PURPOSE ELECTRICAL CX-10099/U (7 in) | | | 1 | * | |
| 5820-078-4769 | | COVER, ANTENNA: Colvin-Friedman p/n CF-457B | | | 1 | * | 8 |
| 5970-498-3745 | | INSULATOR, IN-104: | | | 4 | * | |
| 5820-078-4770 | | MAST BASE AB-652/GR | | | 1 | * | 8 |
| 5820-199-8831 | | MAST SECTION MS-116-A | | | 3 | * | 2 |
| 5820-199-8843 | | MAST SECTION MS-117-A | | | 1 | * | 2 |
| 5820-199-8841 | | MAST SECTION MS-118-A | | | 1 | * | 2 |
| 4020-073-3276 | | ROPE, POLYETHYLENE: 1/8 in dia, Ashaway p/n 9-CS-0022X (Authorized allowances will be a minimum of or a multiple of 20 ft.) | | | 40 | * | |
| 5940-636-5761 | | TERMINAL LUG: Sherman p/n 316 | | | 4 | * | 2 |
| | | RECEIVER-TRANSMITTER RT-662/GRC | | | | | |
| 5820-078-4766 | | RECEIVER-TRANSMITTER, RADIO RT-662/GRC: A1, A3a, A9c emission, 2-30 mc freq range; one band; 28 v dc; 7 in x 12 in x 18 in o/a | | | | | 4 |
| 5355-727-8506 | | DIAL, CONTROL: rd w/bar face shape; marked 0 to 9 CCW; 1.940 in OD x 0.900 in thk; w/skirt SM-D-500501 | | | 3 | * | 5 |
| 5355-727-8500 | | DIAL, CONTROL: rd w/bar shape face; marked 0 to 9 CCW; 1.940 in OD x 0.900 in thk; 2 blank spaces between 9 and 0 Sig dwg SM-D-500502 | | | 2 | * | 5 MF94 MF95 |
| 5960-543-0219 | | ELECTRON TUBE: MIL type JAN 6AN5WA | | | 1 | 32.9 | V2 |
| 5960-892-0910 | | ELECTRON TUBE: MIL type JAN 6B26 | | | 1 | 32.9 | V1 |

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By Order of the Secretary of the Army:

HAROLD K. JOHNSON,
General, United States Army,
Chief of Staff.

Official:

J. C. LAMBERT,
Major General, United States Army,
The Adjutant General.

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Active Army:

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USACDCOA (1)
USACDCQMA (1)
USACDCTA (1)
USACDCADA (1)
USACDCARMA (1)
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USACDCARTYA (1)
USACDCSWA (1)
USACDCCEA (Ft Huachuca) (1)
USAMC (5)
USCONARC (5)
ARADCOM (5)
ARADCOM Rgn (2)
OS Maj Comd (4)
LOGCOMD (2)
USAECOM (30)
USAMICOM (4)
USASMC (2)
USASCC (4)

MDW (1)
Armies (2)
Corps (2)
USAC (3)
11th Air Aslt Div (3)
USATC (2)
Svc Colleges (2)
Br Svc Sch (2)
USMA (5)
WRAMC (1)
USACDCEC (10)
Instl (2) except
Ft Monmouth (70)
Ft Hancock (4)
Ft Gordon (10)
Ft Huachuca (10)
Ft Carson (25)
Ft Knox (12)
WSMR (5)
Army Pic Cen (2)
Army Dep (2) except SAAD (30),
TOAD (14), FTWOAD (10),
LEAD (3), SHAD (3), NAAD
(5), SVAD (5), CHAD (3),
ATAD (10), LBAD (14)
Gen Dep (2)
Sig Sec, Gen Dep (5)
Sig Dep (12)
USAERDAA (2)
USAERDAW (13)
Sig Fld Maint Shops (2)

USACRREL (2)
USASPTCP (Det A) (11)
Units organized under following
TOE's (2 copies each unless
otherwise indicated):
5-25 11-587
5-26 11-592
5-27 11-597
5-145 17
5-147 17-35
6-37 17-36
6-185 17-51
6-168 17-52
6-200 17-55
6-501 17-56
7 17-57
7-35 17-75
7-45 17-102
7-46 29-56
11-16 31-105
11-57 37
11-97 37-102
11-98 44-235
11-117 44-236
11-155 44-237
11-157 55-56
11-377 55-58
11-500 (Tms 57
AA-AE) (4)

NG: State AG (3).

USAR: None.

For explanation of abbreviations used see AR 320-50.