DEPARTMENT OF THE ARMY TECHNICAL MANUAL

ORGANIZATIONAL AND DS MAINTENANCE MANUAL

INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS

HEADSET-MICROPHONE 19LB-87

Headquarters, Department of the Army, Washington, D. C.
20 April 1970

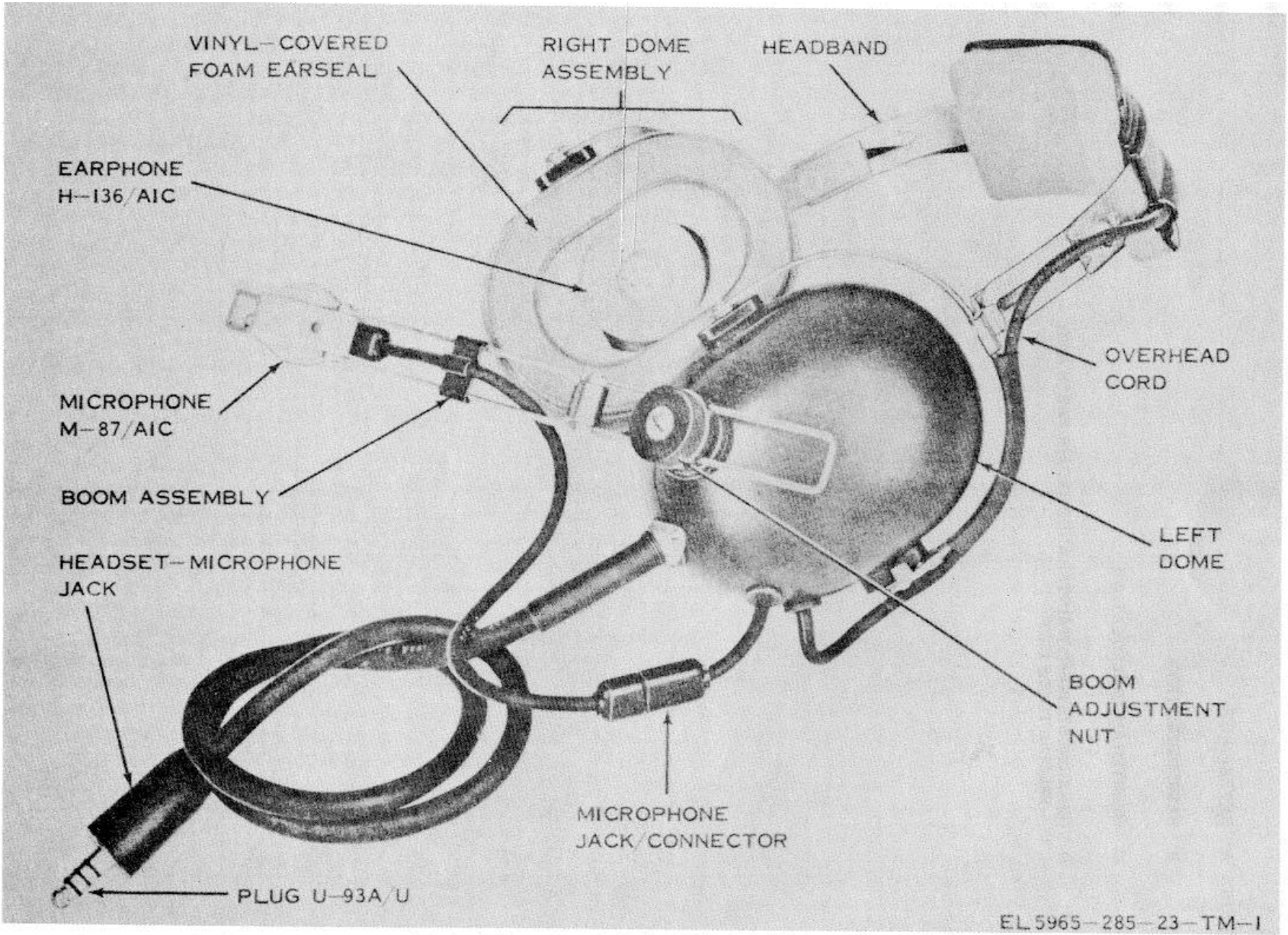

Figure 1-1. Headset-Microphone 19LB-87.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual describes Headset-Microphone 19LB-87 (fig. 1-1) and covers equipment installation, operation, functioning, and organizational and direct support maintenance. It includes cleaning and inspection of the equipment, and replacement of parts available to organizational and direct support maintenance personnel.

b. The basic issue items list appears in appendix B, the maintenance allocation chart is in appendix C, and the repair parts and special tool lists appear in appendix D.

NOTE

Appendixes B, C, and D are current as of January 1970.

1-2. Indexes of Publications

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

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

1-3. Form and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Use equipment forms and records in accordance with instructions given in TM 38-750.

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58 (Army), NAVSUP Pub 378 (Navy), AFR 71-4 (Air Force), and MCO P4030.29 (Marine Corps).

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 5538 (Army), NAVSUP Pub 459 (Navy), AFM 75-34 (Air Force), and MCO P4610.19 (Marine Corps).

d. Reporting of Equipment Publication Improvements. The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-EM, Fort Monmouth, N. J., 07703.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use.

The 19LB-87 is a lightweight headset-microphone designed to provide intelligible communication in a high-noise environment. The 19LB-87 is used with classified electronic communication equipment under control of the Army Security Agency (ASA). Information regarding specific application of this headset-microphone is available from the ASA on a need-to-know basis.

1-5. Technical Characteristics

Type:
- H-136/AIC earphone ..... Moving coil, dynamic.
- M-87/AIC microphone ..... Moving coil, dynamic, noise canceling.

Frequency response:
- H-136/AIC earphone ..... 200 to 6,000 Hz.
- M-87/AIC microphone ..... 200 to 6,000 Hz.

Impedance:

H-136/AIC earphone	20 ohms.
M-87/AIC microphone	5 ohms (nominal).
Headset (two earphones in parallel)	10 ohms.
Microphone dc resistance	3.5 ohms (nominal).
Earphone audio output level	115 to 120 db above 1 milliwatt.
Acoustic attenuation of headset filters to outside noise	31 db at 1 kHz.

1-6. Description

Headset-Microphone 19LB-87 is composed of the assemblies described in a through f below.

a. Headband Assembly. The headband assembly consists of a spring steel band with sliding hardware, two stirrups, top pad with nomenclature label, a foam headpad, and an overhead cord. The headband assembly provides the correct force and mechanical adjustment to fit nearly every shape of human head and retain the necessary acoustic seal.

b. Dome Assembly, Right. The right dome assembly consists of a plastic dome which attaches to the stirrup with two retaining rings. Within the dome shell is an earphone assembly (an H-136/AIC earphone plus coupler), a retaining ring, and a foam acoustic pad. Affixed to the outside of the dome shell is an ear seal and a ring of plastic foam covered by a vinyl plastic film.

c. Dome Assembly, Left. The left dome assembly consists of the same components listed in b above, plus the boom guide assembly, a microphone jack cord, and an attached telephone plug cord assembly.

d. Boom Assembly. The boom assembly consists of a two-section, hinged wire boom which carries the M-87/AIC microphone, the microphone extension cord, and the microphone cord retainer. It is attached to the left dome assembly by the boom guide assembly.

e. Telephone Plug Cord Assembly. The telephone plug cord assembly consists of a length of four conductor cord, one end with the conductors joined to connectors within the left dome assembly, and the other end fitted with a U-93A/U connector plug.

f. Boom Guide Assembly. The boom guide assembly provides the hardware for attaching the microphone boom assembly to the left dome shell. It incorporates the mechanical adjustments for positioning the boom assembly.

1-7. Installation and Operating Instructions

a. Headset Installation.

(1) Extend the microphone boom assembly to its outer limit by loosening the knurled boom-adjusting nut.

WARNING

Unless a good acoustic seal is achieved, the hearing of a wearer, in the noise environment for which the headset is designed, can be permanently damaged.

(2) Place the headset on the head. The correct position of the headband is slightly forward of the highest point of the head when the wearer is looking straight forward. The correct position of the headband is such that when the wearer pulls downward on both domes, the headband pulls straight down without a tendency to move forward or behind its resting place. The headset must be properly positioned to obtain a good acoustic seal.

b. Microphone Installation.

CAUTION

Never use the microphone more than one-fourth of an inch from the speaker's lips.

(1) With the microphone-headset properly positioned on the wearer's head, fold the microphone boom assembly so that the microphone is positioned in front of the wearer's lips. The correct position for the microphone is slightly off-center and barely touching the lips.

CAUTION

Overtightening the knurled boom guide assembly nut can break the plastic shell of the left dome assembly.

(2) With the microphone properly positioned, tighten the knurled boom guide nut until the boom assembly is held securely in place.

c. Operating Procedure. Insert the U-93A/U connector plug into the proper receptacle on the equipment, or into a U-94A/U plug connector with an extension cord. The headset-microphone is then capable of continuously sending and receiving audio information. Use of a U-94A/U plug connector is desirable in a high-noise level environment as it can provide push-to-talk operation.

CHAPTER 2

MAINTENANCE

Section I. PREVENTIVE MAINTENANCE INSTRUCTIONS

2-1. Preventive Maintenance

Preventive maintenance is the systematic care, servicing, and inspection of equipment to prevent the occurrence of trouble, reduce downtime, and assure that the equipment is serviceable.

a. Systematic Care. The procedures given in paragraphs 2-3, 2-4, and 2-5 cover routine systematic care and cleaning essential to the proper upkeep and operation of the equipment.

b. Preventive Maintenance Checks and Services. The preventive maintenance checks and services (para 2-3 and 2-4) outline functions to be performed at daily and weekly intervals. These checks and services are to maintain Army electronic equipment in a combat-serviceable condition; that is, in good general (physical) condition and in good operating condition. To assist the operator and organizational maintenance repairman, the chart indicates what to check, how to check, and the normal conditions. The References column lists the paragraphs that contain supplementary information. Records and reports of these checks and services must be made in accordance with the requirements set forth in TM 38-750.

2-2. Preventive Maintenance Checks and Services Periods

Daily preventive maintenance checks and services on the 19LB-87 are performed in accordance with procedures given in paragraph 2-3; weekly checks are performed in accordance with procedures given in paragraph 2-4. The weekly checks should also be performed under the conditions given below.

a. When the equipment is initially installed.

b. When any unit is reinstalled after removal for any reason.

c. At least once a week if the equipment is maintained in a standby condition.

2-3. Daily Preventive Maintenance Checks and Services Chart

Check and service the 19LB-87 when it is not needed for normal operations.

Sequence No.	*Item to be inspected*	*Procedure*	*References*
1	Headset-microphone.	Inspect for completeness	Fig. 1-1.
2	Exterior surfaces	Remove dirt, fungus, grease, and moisture from all exposed surfaces. Inspect for breaks, cracks, damaged finishes, loose or broken parts, and loose connections.	Para 2-5.
3	Electrical cord assemblies.	Inspect cords for cuts, breaks, fraying, and deterioration. Inspect plugs and connections for snug fit and good contact.	Fig. 1-1.
4	Operation	Check for normal operation and functional response of the headset by using it with associated equipment. Follow the operating instructions for the associated equipment.	Para 1-7*c*.

2-4. Weekly Preventive Maintenance Checks and Services Chart

The headset-microphone will be inspected visually by organizational maintenance personnel to see that none of the mechanical or electrical assemblies are broken, cracked, or missing. Pay particular attention to the moving parts of the headband assembly to see that they do not bind and are not bent or distorted. If there is any defect, refer the headset-microphone to direct support category of maintenance for repair.

Sequence No.	*Item to be inspected*	*Procedure*	*References*
1	Overall physical condition.	Inspect mechanical assemblies to insure that no part is missing, damaged, or broken or has reached a mechanical condition where further use would result in marginal reliability.	Fig. 1-1.
2	Exterior	Inspect exterior of dome shells for cracks. Check to see that pressure equalization holes in each dome shell are open. Clean pressure equalization holes if blocked.	Fig. 1-1.
3	Interior	Inspect interior of earphones and microphones for dirt, moisture, fungus, and corrosion. Clean as needed.	Para 2-5.
4	Headband cover and ear seals,	Inspect headband and ear seals for dirt and worn or torn spots. Ear seals may be removed and cleaned, if soiled. Ear seals should be replaced if damaged or hardened.	Para 2-5.
5	Microphone	Inspect microphone for tightness and condition of moisture barrier. Check microphone guard for proper mounting.	Fig. 1-1.
6	Publications	Check to see that all publications are complete, serviceable, and current.	DA Pam 310-4.
7	Modifications	Check DA Pam 310-7 to determine if new applicable MWO's have been published. All URGENT MWO's must be applied immediately.	TM 38-750.

2-5. Cleaning

Use mild soap and warm water to clean the metalwork or vinyl-covered foam ear seals. Handle the parts carefully and dry them thoroughly.

Section II. DIRECT SUPPORT TROUBLESHOOTING AND REPAIRS

2-6. Maintenance

While the headset-microphone is connected to an associated equipment, and an abnormal condition or result (weak or no sound, or distorted sound) is observed, refer to the direct support troubleshooting chart (para 2-7) and perform the checks and corrective measures indicated for the symptom observed. Paragraph 2-8 contains detailed information for performing resistance checks with Multimeter TS-352B/U. Paragraphs 2-9, 2-10, and 2-11 give instructions for removal and replacement of the microphone element, the earphone assembly, and the plug and cord assembly.

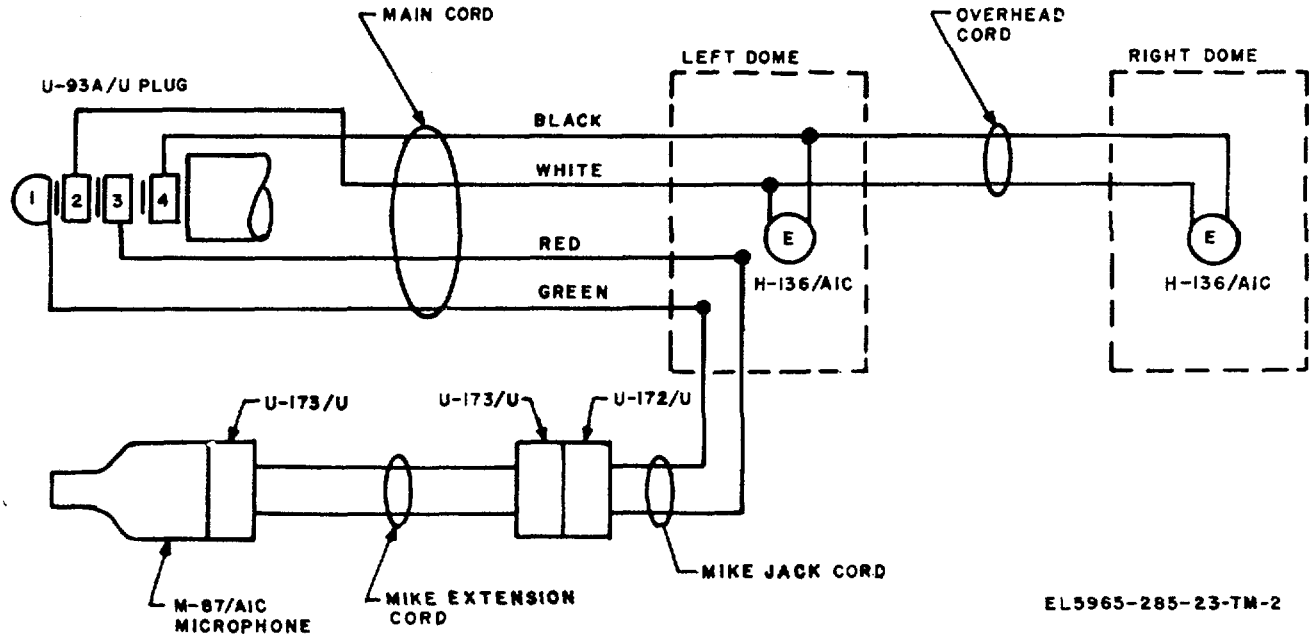

Figure 2-1. Headset-microphone schematic diagram.

2-7. Troubleshooting Chart

Item No.	*Trouble symptom*	*Probable trouble*	*Checks and corrective measures*
1	No sound at either earphone, and no audio signal from microphone.	Defective plug and cord assembly	Check plug and cord by resistance checks at the U-93A/U plug connector (fig. 2-1, para 2-8). If incorrect, check cord assembly by continuity. Replace if necessary (para 2-11).
2	No sound in either earphone.	*a.* Defective plug and cord assembly	*a.* Perform checks of 1 above.
		b. Loose solder connections in left dome assembly.	*b.* Check solder connections. Replace plug and cord assembly or re-solder connections as necessary.
3	No sound in left earphone.	*a.* Defective earphone	*a.* Remove and replace left earphone (para 2-10).
		b. Loose connection at left earphone.	*b.* Tighten loose earphone setscrews.
		c. Loose solder connection in left dome assembly.	*c.* Check solder connections and re-solder if necessary.

Item No.	*Trouble symptom*	*Probable trouble*	*Checks and corrective measures*
4	No sound in right earphone.	*a*. Defective earphone.....	a. Remove and replace right earphone (para 2-10).
		b. Loose connection at right earphone.	*b*. Tighten loose earphone setscrews.
		c. Loose solder connections in left dome assembly.	*c*. Check solder connections and re-solder if necessary.
		d. Defective overhead cord	*d*. Remove and check continuity of overhead cord.
5	No audio signal transmitted from microphone.	*a*. Defective microphone	*a*. Remove and replace microphone.
		b. Loose connections at microphone or in left dome assembly.	*b*. Tighten loose microphone setscrews.
		c. Defective microphone extension cord.	*c*. Check continuity of microphone extension cord.
		d. Defective microphone jack cord.	*d*. Check continuity of jack cord.
		e. Defective solder connections in left dome assembly.	*e*. Check and resolder connections in left dome assembly. Replace microphone cords as necessary.
6	Distorted or garbled reception.	Cracked, bent, or broken diaphragm in earphone.	Replace earphone.
7	Distorted or garbled transmission (determined not to be fault of associated equipment).	Defective microphone.....	Replace microphone.

2-8. Equipment Checks

The electrical characteristics of the 19LB-87 can be checked with Multimeter TS-352B/U.

a. The microphone element and associated wiring may be checked using the X1 ohmmeter function of the multimeter. With the microphone element positioned near the ear, touch the multimeter leads to the first and third terminals of the U-93A/U telephone plug. A sharp, loud, audible click should be heard and the ohmmeter should indicate a resistance of 3.5 ohms. The same test can be performed with the microphone element removed from the headset-microphone by touching the multimeter leads to the terminals on the microphone element.

b. The earphone assembly and associated wiring can be checked in a similar way. With the headset properly positioned on the head, and the multimeter set on the X1 ohmmeter function, touch the meter leads to the second and fourth terminals of the U-93A/U telephone plug. A sharp, loud, audible click should be heard from each earphone and the ohmmeter should indicate a resistance of 10 ohms. An individual earphone can be checked in the same way after it has been removed from its dome assembly. A sharp click should again be heard and the ohmmeter should indicate a resistance of 20 ohms.

c. Ohmmeter checks at the telephone plug should yield the following results:

Contacts	*Resistance (ohms)*
1-2	∞
1-3	3.5
1-4	∞
2-3	∞
2-4	10
3-4	∞

2-9. Removal and Replacement of Microphone Element

a. Remove the two fastening screws from the base of the microphone element.

b. Disconnect the microphone extension cord from the microphone element.

c. Remove the machine screw that secures

the microphone element to the boom assembly.

d. Remove the teflon microphone bushing from the mounting hole of the microphone element.

e. To replace the microphone element, follow the procedures of a through d above in reverse order.

2-10. Removal and Replacement of Earphone Assembly

a. Remove the vinyl-covered foam ear seal.

b. Remove the two self-tapping screws that fasten the receiver holder to the dome bosses.

c. Lift the receiver holder clear of the dome assembly.

d. Remove the earphone from the receiver holder.

CAUTION

Do not overtighten the earphone set-screws or the self-tapping receiver holder screws.

e. Loosen the two small setscrews that hold the wire terminals in place.

f. To replace the earphone assembly, follow the procedures of a through e above in reverse order.

2-11. Removal and Replacement of Plug and Cord Assembly

a. *Removal.*

(1) Remove the earphone assembly from the left dome assembly following the procedures of paragraph 2-10.

(2) Remove the plastic foam filter elements from the dome shell.

(3) Remove the protective electrical tape and unsolder the four conductors of the audio cord.

(4) Unbolt the two machine screws that hold the cord spring and slide the cord spring down the cord.

(5) Remove the wire clamp and slip the audio cord through the grommet and out of the left dome assembly.

(6) Slide the cord spring off the cord.

b. Replacement.

(1) Slide the cord spring onto the audio cord.

(2) Insert the end of the audio cord, through the rubber grommet, into the left dome assembly.

(3) Slide the wire clamp onto the cable, but do not tighten.

(4) Solder the audio cord connectors to the appropriate wires inside the left dome assembly; be careful to follow the color code indicated in figure 2-1.

(5) Cover each solder joint with a layer of insulating tape.

(6) Tighten the wire clamp.

(7) Position the cord spring and bolt it into place.

(8) Insert and position the foam filter elements.

(9) Replace the earphone element (para 2-9).

CHAPTER 3

REPACKAGING AND DEMOLITION

3-1. Repackaging for Shipment or Limited Storage

a. No disassembly of the headset-microphone is required for shipment. The tactical situation dictates the time available and the amount of effort that can be given to shipment preparations. The headset-microphone may also be shipped with the associated equipment.

b. Protect the headset-microphone against moisture damage by wrapping it with moisture-vaporproof paper or place it in a plastic bag.

3-2. Authority for Demolition

Demolition will be done only on order of the commander. Use the destruction procedures outlined in paragraph 3-3 to prevent further use of the equipment, either by repair or cannibalization.

NOTE

The standard procedures for destruction of the overall system, of which the headset-microphone is a part, include destruction of the headset-microphone when installed.

3-3. Methods of Destruction

Use any of the following methods to destroy the equipment:

a. *Smash*. Smash the dome assemblies, connector jacks, and microphone. Use sledges or handaxes.

b. *Cut*. Cut the interconnecting cables; use knives or handaxes.

c. *Burn*. Burn the unit and technical manuals; use gasoline, kerosene, or flamethrowers.

d. *Dispose*. Scatter the destroyed parts or throw them into streams.

APPENDIX A

REFERENCES

The following is a list of publications available to maintenance personnel of Headset-Microphone 19LB-87.

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders.
DA Pam 310-7	U.S. Army Equipment Index of Modification Work Orders.
TM 11-6625-366-15	Organizational, DS, GS, and Depot Maintenance Manual: Multimeter TS-352B/U.
TM 38-750	Army Equipment Record Procedures.

APPENDIX B

BASIC ISSUE ITEMS

Section I. INTRODUCTION

B-1. Scope

This appendix lists items comprising an operable equipment and those required for installation, operation, or operator's maintenance for Headset-Microphone 19LB-87.

B-2. Explanation of Columns

The following is a list of explanations of columns in section II.

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

(1) *Source code (s)*. Not used.

(2) *Maintenance code (m)*. The lowest category of maintenance authorized to install the item is indicated by the second code in the column. The maintenance category code and its explanation is -

Code	*Explanation*
C....	Operator/crew

(3) *Recoverability code (R)*. The recoverability code is the third code in the column. It indicates whether unserviceable items should be returned for recovery or salvage. Recoverability code and its explanation is as follows:

Code	*Explanation*
R -	Applies to repair parts and assemblies that are economically repairable at DSU and GSU activities and are normally furnished by supply on an exchange basis.

NOTE

When no code is indicated in the recoverability column, the part will be considered expendable.

b. Federal Stock Number Column. This column indicates the Federal stock number for the item.

c. Description Column. This column includes the Federal item name and any additional description of the item which may be required. A part number or other reference number is followed by the applicable five-digit Federal Supply Code for Manufacturers. Usable on code column is not used.

d. Unit of Issue Column. The unit used as a basis of issue (e.g., ea, pr, ft, yd, etc.) is given in this column.

e. Quantity Incorporated in Unit Pack Column. Not used.

f. Quantity Incorporated in Unit Column. The total quantity of the item used in the equipment is given in this column.

g. Quantity Furnished With Equipment Column. This column lists the quantity of the item supplied for initial operation of the equipment and/or the quantities authorized to be kept on hand by the operator for maintenance of the equipment.

h. Quantity Authorized Column. Not used.

i. Illustrations Column.

(1) *Figure number (a)*. The number of the illustration on which the item is shown is indicated in this column.

(2) *Item No. or reference designation (b)*. Not used.

B-3. Federal Supply Codes

This paragraph lists the Federal supply code with the associated manufacturer's name.

Code	*Manufacturer*
	David Clark Co.

Section II. BASIC ISSUE ITEMS

(1) SMR Code Index No.	(2) Federal stock number	Reference No. & Mfr. code	(3) Description	Usable on code	(4) Unit of issue	(5) Qty inc in unit pack	(6) Qty inc in unit	(7) Qty Furn with Equip	(8) Qty Auth	(9) Illus-tration (a) Fig. no.	(9) Illus-tration (b) Item No. Reference Designation
			Headset-Microphone 19LB-87								
			No part authorized operator/crew								
			No accessories, tools, or test equipment are to be issued with this equipment								
			No basic issue items are mounted in or on the equipment								

APPENDIX C

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

C-1. General

This appendix provides a summary of the maintenance operations covered in the equipment literature for Headset-Microphone 19LB-87. 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.

C-2. Explanation of Format for Maintenance Allocation Chart

a. Group Number. Group numbers correspond to the reference designation prefix assigned in accordance with ASA Y32.16, Electrical and Electronics Reference Designations. They indicate the relation of listed items to the next higher assembly.

b. Component Assembly Nomenclature. This column lists the item names of component units, assemblies, subassemblies, and modules on which maintenance is authorized.

c. Maintenance Function. This column indicates the maintenance category at which performance of the specific maintenance function is authorized. Authorization to perform a function at any category also includes authorization to perform that function at higher categories. The codes used represent the various maintenance categories as follows:

Code	*Maintenance category*
C.....	Operator/crew
O	Organizational maintenance
F.....	Direct support maintenance
H.....	General support maintenance
D.....	Depot maintenance

d. Tools and Equipment. The numbers appearing in this column refer to specific tools and equipment which are identified by these numbers in section III.

e. Remarks. Self-explanatory.

C-3. Explanation of Format for Tool and Test Equipment Requirements

The columns in the tool and test equipment requirements chart are as follows:

a. Tools and Equipment. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool for the maintenance function.

b. Maintenance Category. The codes in this column indicate the maintenance category normally allocated the facility.

c. Nomenclature. This column lists tools, test, and maintenance equipment required to perform the maintenance functions.

d. Federal Stock Number. This column lists the Federal stock number.

e. Tool Number. Not used.

Section II. MAINTENANCE ALLOCATION CHART

Group Number (a)	Component assembly nomenclature (b)	Maintenance functions (c)											Tools and equipment (d)	Remarks (e)
		Inspect	Test	Service	Adjust	Align	Calibrate	Install	Replace	Repair	Overhaul	Rebuild		
1	Headset-Microphone 19LB-87	O	O	O	-	-	-	-	O	-	-	-	1	Operational test and visual inspection. Replace whole unit if defective. Service by cleaning ear seals. Replace ear seals as needed.
	...		F	-	-	-	-	-	-	F	-	-	2,3,4	Repair by replacing defective microphone assembly, earphone assembly, and/or electrical cord, together with attaching hardware.
	...													Not recommended for overhaul or rebuild.
1A1	Headset-Earphone Assembly (includes left and right	O	-	-	-	-	-	-	-	-	-	-	-	Visual inspection.
	dome assemblies and headband assembly).			F	-	-	-	-	-	F	-	-	2,3,4	Repair by replacing defective component.
1A2	Microphone Assembly (microphone element	O	-	-	-	-	-	-	-	-	-	-	-	Visual inspection.
	and boom guide plus associated wiring).		F	-	-	-	-	-	-	F	-	-	2,3,4	Repair by replacing defective component.
1A3	Telephone Plug Cord	O	-	-	-	-	-	-	-	-	-	-	-	Visual inspection.
	...		F	-	-	-	-	-	-	F	-	-	2,3,4	Repair by replacing defective component.

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS

Tool or test equipment reference code	*Maintenance category*	*Nomenclature*	*Federal stock number*	*Tool number*
1	O	Tool Kit TK-101/G	5180-064-5178	
2	F	Tool Kit TK-100/G	5180-605-0079	
3	F	Multimeter TS-352B/U	6625-242-5023	
4	F	Tool Kit TK-105( )/G	5180-610-8177	

APPENDIX D

GENERAL SUPPORT, MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

D-1. Scope

This appendix lists repair parts and special tools required for the performance of direct support, general support, and depot maintenance of the Headset-Microphone 19LB-87.

D-2. General

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

a. Repair Parts - Section II. A list of repair parts authorized for the performance of maintenance at the direct support, general support, and depot level.

b. Special Tools, Test and Support Equipment - Section III. Not applicable.

c. Index - Federal Stock Number Cross-Reference to Figure and Item Number or Reference Designation - Section IV. A list of Federal stock numbers in ascending numerical sequence followed by a list of reference numbers in ascending alpha-numeric sequence, cross-referenced to illustration figure number and item number.

d. Index - Reference Designation Cross-Reference to Page Numbers - Section V. Not applicable.

D-3. Explanation of Columns

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

a. Source, Maintenance, and Recoverability Codes (SMR), Column 1:

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

Code	*Explanation*
P	Repair parts which are stocked in or supplied from the GSA/DSA, or Army supply system, and authorized for use at indicated maintenance categories.
P2	Repair parts which are procured and stocked for insurance purposes because the combat or military essentiality of the end item dictates that a minimum quantity be available in the supply system.
P9	Assigned to items which are NSA design controlled: unique repair parts, special tools, test, measuring and diagnostic equipment, which are stocked and supplied by the Army COMSEC logistic system, and which are not subject to the provisions of AR 380-41.
P10	Assigned to items which are NSA design controlled: special tools, test, measuring and diagnostic equipment for COMSEC support, which are accountable under the provisions of AR 380-41, and which are stocked and supplied by the Army COMSEC logistic system.
M	Repair parts which are not procured or stocked, but are to be manufactured in indicated maintenance levels.
A	Assemblies which are not procured or stocked as such, but are made up of two or more units. Such component units carry individual stock numbers and descriptions, are procured and stocked separately, and can be assembled to form the required assembly at indicated maintenance categories.
X	Parts and assemblies which are not procured or stocked and the mortality of which normally is below that of the applicable end item or component. The failure of such part or assembly should result in retirement of the end item from the supply system.
X1	Repair parts which are not procured or stocked. The requirement for such items will be filled by use of the next higher assembly or component.

Code	*Explanation*
X2 -	Repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain same through cannibalization. Where such repair parts are not obtainable through cannibalization, requirements will be requisitioned, with accompanying justification, through normal supply channels.
G -	Major assemblies that are procured with PEMA funds for initial issue only as exchange assemblies at DSU and GSU level. These assemblies will not be stocked above DS and GS level or returned to depot supply level.

(2) Maintenance code indicates the lowest category of maintenance authorized to install the listed item. The maintenance level codes are -

Code	*Explanation*
C.....	Operator/crew
O.....	Organizational maintenance
F	Direct support maintenance
H.....	General support maintenance
D.....	Depot maintenance

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

Code	*Explanation*
R -	Repair parts and assemblies that are economically repairable at DSU and GSU activities and are normally furnished by supply on an exchange basis.
S -	Repair parts and assemblies which are economically repairable at DSU and GSU activities and which normally are furnished by supply on an exchange basis. When items are determined by a GSU to be uneconomically repairable, they will be evacuated to a depot for evaluation and analysis before final disposition.
T -	High dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts normally are repaired or overhauled at depot maintenance activities.
U -	Repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, or high dollar value reusable casings or castings.

b. Federal Stock Number, Column 2. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description, Column 3. This column indicates the Federal item name and any additional description of the item required. The index number has been included as part of the description to aid the location of "same as" items. A part number or other reference :number is followed by the applicable five-digit Federal supply code for manufacturers in parentheses.

d. Unit of Measure (U/M), Column 4. A 2-character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based; e.g., ft, ea, pr, etc.

e. Quantity Incorporated in Unit, Column 5. This column indicates the quantity of the item used in Headset-Microphone 19LB-87. A "V" appearing in this column in lieu of a quantity indicates that a definite quantity cannot be indicated (e.g., shims, spacers, etc.).

f. 30-Day DS/GS Maintenance Allowances, Columns 6 and 7.

NOTE

Allowances in GS column are for GS maintenance only.

(1) The allowance columns are divided into three subcolumns. Indicated in each subcolumn, opposite the first appearance of each item, is the total quantity of items authorized for the number of equipments supported. Subsequent appearances of the same item will have the letters "REF" in the applicable

allowance columns. Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

(2) The quantitative allowances for DS/GS levels of maintenance will represent initial stockage for a 30-day period for the number of equipments supported.

(3) Determination of the total quantity of parts required for maintenance of more than 100 of these equipments can be accomplished by converting the equipment quantity to a decimal factor by placing a decimal point before the next to last digit of the number to indicate hundredths, and multiplying the decimal factor by the parts quantity authorized in the 51-100 allowance column. Example, authorized allowance for 51-100 equipments is 40; for 150 equipments multiply 40 by 1.50 or 60 parts required.

g. 1-Year Allowances Per 100 Equipments/Contingency Planning Purposes, Column 8. This column indicates opposite the first appearance of each item the total quantity required for distribution and contingency planning purposes. The range of items indicates total quantities of all authorized items required to provide for adequate support of 100 equipments for 1 year.

h. Depot Maintenance Allowance Per 100 Equipments, Column 9. This column indicates opposite the first appearance of each item, the total quantity authorized for depot maintenance of 100 equipments. Subsequent appearances of the same item will have the letters "REF" in the allowance column. Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

i. Illustration, Column 10. This column is divided as follows:

(1) Figure Number, Column 10a. Indicates the figure number of the illustration in which the item is shown.

(2) Item Number or Reference Designation, Column lob. Indicates the callout number or reference designation used to identify the item in the illustration.

D-4. Special Information

Repair parts mortality is computed from failure rates derived from experience factors with the individual parts in a variety of equipments. Variations in the specific application and periods of use of electronics equipment, the fragility of electronic piece parts, plus intangible material and quality factors intrinsic to the manufacture of electronic parts, do not permit mortality to be based on hours of end item use. However, long periods of continuous use under adverse conditions are likely to increase repair parts mortality.

D-5. Location of Repair Parts

a. This appendix contains one cross-reference index (sec. IV) to be used to locate a repair part when either the Federal stock number, reference number (manufacturer's part number), or item number is known. The first column in the index is prepared in numerical sequence followed by reference numbers in alpha-numeric sequence. The reference numbers (manufacturer's part numbers) are listed immediately following the last listed Federal stock number in the index of Federal stock numbers.

b. When the Federal stock number is known, follow the procedures given in (1), (2), and (3) below.

(1) Refer to the index of Federal stock numbers (sec. IV) and locate the Federal stock number. The Federal stock number is cross-referenced to the applicable figure and item number.

(2) Refer to the RPSTL (sec. II) and locate the figure number (coll 10a) and item number (col. 10b) as noted in the Federal stock number index.

(3) If the Federal stock number or manufacturer's part number is not listed in the index, refer to columns 2 and 3 of the RPSTL (sec. II) and locate the Federal stock number or part number by scrutiny of the numbers listed in columns 2 and 3.

c. When the item number is known, locate the item by scrutiny of column 10b of the repair parts list.

D-6. Federal Supply Code for Manufacturer

Code	*Manufacturer's name*
71483	Clark David Co Inc
80058	Joint Electronic Type Designation System
81349	Military Specifications
88044	Aeronautical Standards Group, Dept of Navy and Air Force.
96906	Military Standards
97151	Air Force Logistics Command

SECTION II. REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REF. NUMBER & MFR CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30 DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
		A001 HEADSET-MICROPHONE: 19LB-87; (97151)												D-1	
A-F		A002 CORD ASSEMBLY: 660825; (97151)		EA	1									D-1	1
M-F		A003 CLAMP, WIRE: 9506P-06; (71483)			EA	1									D-1 2
P-F	6145-635-5332	A004 CORD, ELECTRICAL: WF-14/U; (81349)		FT	3	*	*	2						D-1	3
P-F	5935-642-0626	A005 PLUG, ELECTRICAL: U-93A/U; (80058)		EA	1	*	*	2						D-1	4
P-F		A006 CORD ASSEMBLY: 66B823; (97151)		EA	1	*	*	*						D-1	5
M-F		A007 CLAMP, WIRE: SAME AS A003		EA	REF									D-1	5
A-F		A008 CORD ASSEMBLY: 66B824; (97151)		EA	1										
P-F		A008A CONTACT, ELECTRICAL: 55B12776; (97151)		EA	2	*	2	2						D-1	6B
P-F	6145-539-8058	A008B CORD, ELECTRICAL: WD-34/U; (80058)		FT	3	*	*	2						D-1	6A
M-F		A009 CLAMP, WIRE: SAME AS A003 EARPHONE ASSEMBLY RIGHT		EA	REF										
P-F		A011 CUSHION, EARPHONE: 66B830; (97151)		EA	1	*	*	2						D-1	7
P-F	5965-788-5466	A012 EARPHONE: H-136/AIC; (80058)		EA	1	*	2	2						D-1	8
P-F	5305-851-0191	A013 SETSCREW, HEADLESS: 2-56 x 3/32 FFS200 TYPE 1; (96906)		EA	2	*	*	*						D-1	9
P-F		A014 FILTER, ACOUSTICAL: 66B827; (97151)		EA	1	*	*	2						D-1	10
P-F		A015 FILTER, ACOUSTICAL: 66B829; (97151)		EA	1	*	*	2						D-1	11
P-F	5325-816-4241	A016 GROMMET, RUBBER: MS35490.27; (96906)		EA	1	*	2	2						D-1	12
P-F		A017 HOLDER, RECEIVER: 66B828; (97151)		EA	1	*	*	*						D-1	13
P-F		A018 SCREW, SELF TAPING: TYPE BF: M824626-11; (96906)		EA	2	*	*	*						D-1	14
X1-F		A019 SHELL, EARPHONE: 660821; (97151) EARPHONE ASSEMBLY LEFT		EA	1									D-1	15
P-F		A021 CUSHION, EARPHONE: SAME AS A011		EA	REF	REF	REF	REF						D-1	7
P-F	5965-788-5466	A022 EARPHONE: SAME AS A012		EA	REF	REF	REF	REF						D-1	8
P-F	5305-851-0191	A023 SETSCREW, HEADLESS 2-56 x 3/32: SAME AS A013		EA	REF	REF	REF	REF						D-1	9
P-F		A024 FILTER, ACOUSTICAL: SAME AS A014		EA	REF	REF	REF	REF						D-1	10
P-F		A025 FILTER, ACOUSTICAL: SAME AS A015		EA	REF	REF	REF	REF						D-1	11
P-F	5325-816-4241	A026 GROMMET, RUBBER: SAME AS A016		EA	REF	REF	REF	REF						D-1	12
P-F	5325-202-4004	A027 GROMMET, RUBBER: MS35489-64; (96906)		EA	1	*	*	*						D-1	16
P-F		A028 HOLDER, RECEIVER: SAME AS A017		EA	REF	REF	REF	REF						D-1	13

SECTION II. REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REF. NUMBER & MFR CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30 DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-F		A029 SCREW, SELF TAPPING TYPE: BF: SAME AS A018	EA	REF	REF	REF	REF						D-1	14
X1-F		A030 PLATE, ANCHOR: 11018; (97151)	EA	1									D-1	17
P-F	5310-938-2013	A031 NUT, PLAIN, HEXAGONAL: MS35649-224; (96906)	EA	2	*	*	*						D-1	18
P-F	5305-685-2005	A032 SCREW, MACHINE: MS51957-5; (96906)	EA	2	*	*	*						D-1	19
X1-F		A033 SHELL EARPHONE: 69037511-1; (97151)	EA	1									D-1	20
X1-F		A034 SPRING, CORD: 11181; (97151)	EA	1									D-1	21
		BOOMGUIDE ASSEMBLY												
X1-F		A036 NUT, KNURLED: 69A37516; (97151)	EA	1									D-1	22
P-F	5305-054-6666	A037 SCREW, MACHINE: MS51957-41; (96906)	EA	1	*	*	*						D-1	23
P-F	5305-059-3655	A038 SCREW, MACHINE: MS51958-59; (96906)	EA	1	*	*	*						D-1	24
X1-F		A039 STUD ASSEMBLY: 38363P-01; (71483)	EA	1									D-1	25
X1-F		A040 WASHER, CUPPED: 69A37513; (97151)	EA	1									D-1	26
P-F	5310-527-3634	A041 WASHER, ETERNAL TOOTH: MS35335-61; (96906)	EA	1	*	*	*						D-1	27
X1-F		A042 WASHER , SHOULDERED: 69A37514; (97151)	EA	1									D-1	28
X1-F		A043 WASHER, SLANTED, GROOVED: 69A37515; (97151)	EA	2									D-1	29
		HEADBAND ASSEMBLY												
X1-F		A045 HEADBAND: 66B835; (97151)	EA	1									D-1	30
P-F	5965-673-5378	A046 PAD, HEADBAND: 66B836; (97151)	EA	1	*	*	2						D-1	31
		MICROPHONE - DYNAMIC ASSEMBLY												
P-F	5995-848-7662	A048 CORD ASSEMBLY: CX-4434/U; (80058)	EA	1	*	*	2						D-1	32
P-F	5965-847-5500	A049 MICROPHONE, ELEMENT: DYNAMIC: M-87/AIC; (80058)	EA	1	*	*	2						D-1	33
P-F	5305-851-0191	A050 SETSCREW, HEADLESS 2-56 x 3/32: SAME AS A013	EA	2	REF	REF	REF						D-1	9
P-F	5965-844-9778	A051 SUPPORT MICROPHONE: ASSEMBLY: 67B1854; (97151)	EA	1	*	*	*						D-1	47
X1-F		A052 CLIP, CORD: 11086P01; (71483)	EA	1									D-1	34
P-F	5305-054-5643	A053 SCREW, MACHINE: MS51957-9; (96906)	EA	2	*	*	*						D-1	35
X1-F		A054 SUPPORT, ARM: MICROPHONE LONG: 67B1855: (97151)	EA	1									D-1	36
X1-F		A055 SUPPORT ARM: MICROPHONE SHORT: 67B1856; (97151)	EA	1									D-1	37
P-F	5965-674-5350	A056 STIRRUP ASSEMBLY: 22378G-01; (71483)	EA	1	*	*	*						D-1	48

SECTION II. REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REF. NUMBER & MFR CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30 DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATION (a) FIG. NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
X1-F		A057 BRACKET, CLAMP: 66B831; (97151)		EA	2									D-1	38
X1-F		A058 HOLDER, SWIVEL: 66B834; (97151)		EA	1									D-1	39
X1-F		A059 LINING, FRICTION: 66A841; (97151)		EA	2									D-1	40
X1-F		A060 LINING, FRICTION: 66B839; (97151)		EA	2									D-1	41
P-F	5310-263-2866	A061 NUT, STOP #8: MS21083; (96906)		EA	4	*	*	*						D-1	42
P-F	5340-530-4854	A062 RING, RETAINING: MS16633-4015; (96906)		EA	4	*	*	*						D-1	43
X1-F		A063 STOP, DOME: 28384P-01; (71483)		EA	2									D-1	44
P-F	5970-935-8992	A064 INSULATION, ELECTRICAL: MIL-I-631, TYPE F, FORM U, GRADE B, CLASS 1 CAT 1, 3/4" OD; (81349)		FT	1	*	2	2						D-1	45
P-F	5310-680-5691	A065 WASHER, FLAT: AN960-C10L; (88044)		EA	2	*	*	*						D-1	46

SECTION IV. INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER OR REF. DESIGNATION
5305-054-5643	D-1	35
5305-054-6666	D-1	23
5305-059-3655	D-1	24
5305-685-2005	D-1	19
5305-851-0191	D-1	9
5310-263-2866	D-1	42
5310-527-3634	D-1	27
5310-680-5691	D-1	46
5310-938-2013	D-1	18
5325-202-4004	D-1	16
5325-816-4241	D-1	12
5340-530-4854	D-1	43
5935-642-0626	D-1	4
5965-673-5378	D-1	31
5965-674-5380	D-1	48
5965-788-5466	D-1	8
5965-844-9778	D-1	47
5965-847-5500	D-1	33
5970-985-8992	D-1	45
5995-848-7662	D-1	32
6145-539-8058	D-1	6A
6145-635-5332	D-1	3

MFR PART NO.	FED SUPPLY CODE	FIG NO.	REF. DES./ITEM NO.
MS24626-11	96906	D-1	14
11018	97151	D-1	17
11086P01	71483	D-1	34
11181	97151	D-1	21
28384P-01	71483	D-1	44
38363P-01	71483	D-1	25
55B12776	97151	D-1	6B
66A841	97151.	D-1	40
66B823	97151	D-1	5
66B827	97151	D-1	10
66B828	97151	D-1	13
66B829	97151	D-1	11
66B830	97151	D-1	7
66B831	97151	D-1	38
66B834	97151	D-1	39
66B835	97151	D-1	30
66B839	97151	D-1	41
66C821	97151	D-1	15
66C825	97151	D-1	1
67B1855	97151	D-1	36
67B1856	97151	D-1	37
69A37513	97151	D-1	26
69A37514	97151	D-1	28
69A37515	97151	D-1	29
69A37516	97151	D-1	22
69C37511-1	97151	D-1	20
9506P-06	71483	D-1	2

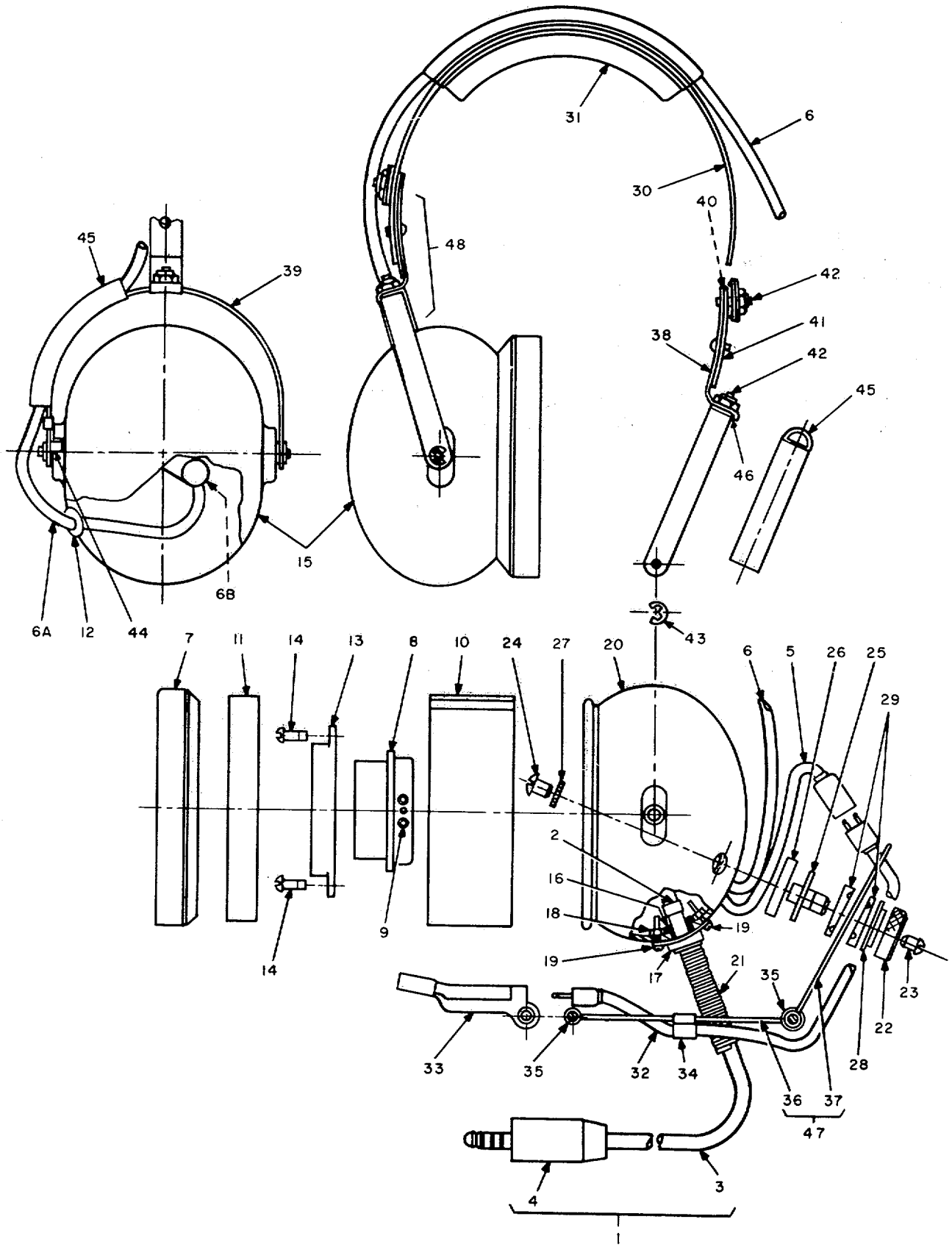

Figure D-1. Headset-Microphone 19LB-87.

By Order of the Secretary of the Army:

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

Official:

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