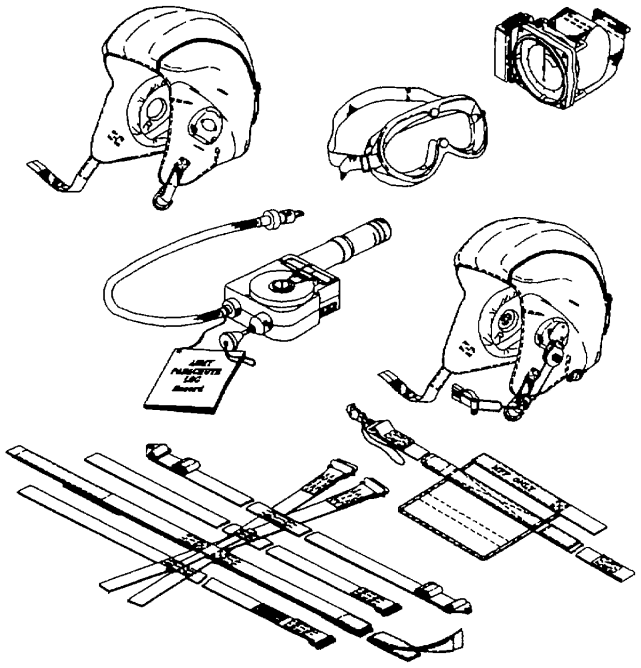
TECHNICAL MANUAL
UNIT MAINTENANCE MANUAL
INCLUDING
REPAIR PARTS AND SPECIAL TOOLS LIST
FOR
ANCILLARY EQUIPMENT FOR:
MILITARY FREE-FALL SYSTEM

HELMET, FREE-FALL, PARACHUTISTS, TYPE I
(NSNs 8415-018-4910, 8415-01-018-4911, 8415-01-018-4912)
HELMET, FREE-FALL, PARACHUTISTS, TYPE
(NSNs 8415-01-018-4913, 8415-01-018-4914, 8415-01-018-4915)
GOGGLES (NSN 8465-01-004-2893)
ALTIMETER, PARACHUTISTS (NSN 6660-01-213-9035)
SLING ASSEMQBLY, EQUIPMENT ATTACHING (NSN 1670-014)08-7755)
LINE, EQUIPMENT LOWERING (NSN XXXX-XX-XXX-XXX)
RELEASE ASSEMBLY, RIPCORD, AUTOMATIC, TYPE FF2 (NSN 1670-01-213-8145)



HEADQUARTERS, DEPARTMENT OF THE ARMY
31 July 1995

WARNING

- Due to the flammable properties and nylon-damaging substances, cleaning solvents other than tetrachloroethylene will not be used in the spot-cleaning of air delivery equipment

- Use tetrachloroethylene in well ventilated areas only. Repeated or prolonged inhalation of the solvent vapors can be detrimental to your health. Avoid repeated or prolonged skin contact with tetrachloroethylene. Tetrachloroethylene must not be taken internally. Failure to observe this warning may result in severe injury or death.

- Acetone and Methyl Ethyl Ketone are hazardous chemicals! Repeated or prolonged contact with liquid or inhalation of vapor can cause skin and eye irritation, dermatitis, narcotic effects, and damage to internal organs. Avoid contact with skin and eyes and do not breathe vapors. Always wear protective goggles and gloves, and use only in well-ventilated areas. Do not use near open flame or excessive heat. If you become dizzy while using one of these solvents, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical help In case of skin contact, wash contacted area thoroughly with soap and water.

- Use of compressed air can create airborne particles that may enter the eyes or penetrate skin. When used for cleaning and drying, compressed air shall not exceed 30 psig. Adequate chip guards and eye protection shall be used. Do not direct compressed air against skin.

- Do not attempt to cock the FF-2 release if the two white marks in the reset indicator are not aligned. Inaccurate time delay and operating altitude will result. Failure to observe this warning may result in severe injury or death to parachutist using the FF-2 release.

- Premature withdrawal of FF-2 release arming cable prior to reaching 2500 feet of altitude above desired opening altitude will result in inaccurate time delay and opening altitude

- After calculating FF-2 release opening altitude, the minimum arming altitude (opening altitude plus 2500 feet) should be ascertained. It is imperative that all concerned parachutists and aircrew members be aware of this minimum arming altitude.

- Do not remove test arming pin and keep open end of barrel pointed in a safe direction towards ceiling or floor. Removal of test arming pin will release main spring, expelling plunger with sufficient force to cause serious injury to personnel.

- Position shield over glass bell jar prior to operating test set. Failure to do so may result in serious injury to personnel.

TECHNICAL MANUAL
NO 10-1670-300-20&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 31 JULY 1995

UNIT AND DIRECT SUPPORT MAINTENANCE MANUAL

INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

FOR

ANCILLARY EQUIPMENT FOR: MILITARY FREE-FALL SYSTEM

HELMET, FREE-FALL, PARACHUTISTS, TYPE I
(NSNs 8415-01-018-4910, 8415-01-018-4911, 8415-01-018-4912)
HELMET, FREE-FALL, PARACHUTISTS, TYPE 1I
(NSNs 8415-01-018-4913, 8415-01-018-4914, 8415-01-018-4915)
GOGGLES (NSN 8465-01-004-2893)
ALTIMETER, PARACHUTISTS (NSN 6660-01-213-9035)
SLING ASSEMBLY, EQUIPMENT ATTACIHING (NSN 1670-01-008-7755)
LINE, EQUIPMENT LOWERING (NSN XXXX-XX-XXX-XXXX)
RELEASE ASSEMBLY, RIPCORD, AUTOMATIC, TYPE FF2 (NSN 1670-01-213-8145)

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 form 2028-2, located in the back of this manual) direct to Commander, U.S. Army Aviation and Troop Command, ATTN AMSAT-I-MP, 4300 Goodfellow Blvd. St. Louis, MO 63210-1798.

Air Force users submit AFTO Form 22 (Technical Order System Publication Improvement Report and Reply) and forward to the Address prescribed for Army users. An information copy of the prepared AFTO Form 22 shall be furnished to SA-ALC/TILTR, Kelly AFB, TX 78241-6421.

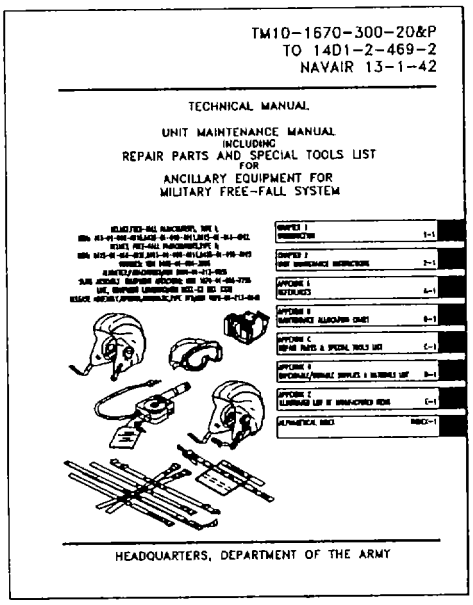
Navy users mail comments to Commander, Space and Naval Warfare Systems Command, Attn: SPAWAR 8122, Washington, DC 20363-5100.

In either case, a reply will be furnished to you.

TABLE OF CONTENTS

HOW TO USE THIS MANUAL

This manual, (TM 10-1670-300-20&P), contains general information, operating instructions, PMCS instructions, troubleshooting steps, and maintenance instructions for the Ancillary Equipment for Military Free-fall System. Use the front cover index and thumb bleeds at the edge of the pages to quickly find the sections of the manual shown on the cover.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TECHNICAL MANUAL

UNIT MAINTENANCE MANUAL
INCLUDING
REPAIR PARTS AND SPECIAL TOOLS LIST
FOR
ANCILLARY EQUIPMENT FOR
MILITARY FREE-FALL SYSTEM

HEADQUARTERS, DEPARTMENT OF THE ARMY

The manual has been divided into chapters, sections and paragraphs that are numbered in sequence. Pages, paragraphs, and illustrations are numbered by chapter. For example, chapter 2, page 3, is marked page 2-3; chapter 1, paragraph 5 is marked 1-5; table 2-1 is the first table in chapter 2. To quickly find specific information, use the table of contents. For example, the front cover index states that chapter 1 begins on page 1-1. The table of contents on page i tells you the exact page where the paragraph you want is located.

CHAPTER 1

INTRODUCTION

Section I. GENERAL INFORMATION

1-1. SCOPE. This manual describes Unit and Direct Support Maintenance procedures for Ancillary Equipment Military Free-Fall System. This equipment is used by airborne qualified personnel.

1-2. MAINTENANCE FORMS AND PROCEDURES. Department of the Army forms and procedures used for the Ancillary Equipment for: Military Free-fall System maintenance will be those prescribed by DA PAM 738-750.

1-3. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE. Destruction of Army materiel to prevent enemy use shall be in accordance with TM 750-244-3.

1-4. PREPARATION FOR STORAGE OR SHIPMENT. For instructions for preparing Ancillary Equipment for Military Free-Fall System for storage or shipment, refer to paragraphs 2-18 thru 2-20.

1-5. QUALITY ASSURANCE (QA). Ancillary Equipment for Military Free-Fall System is inspected in accordance with MIL-STD-105 at government acceptance.

1-6. NOMENCLATURE CROSS-REFERENCE LIST. This list will consist of the cross reference list, a list of abbreviations/acronyms, and a glossary of terms used throughout the manual. Some of the common terms to be included:

Official Nomenclature	Common Name.
Release, Ripcord, Automatic, Type FF-2	FF-2 Release
Helmet, Free-fall Parachutist's, Type I	Helmet
Helmet, Free-fall Parachutist's, Type II	Jumpmaster's Helmet
Line, Equipment Lowering	Lowering Line
Sling Assembly, Equipment Attaching	Equipment Attaching Sling

1-7. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR). If your Ancillary Equipment for Military Free-Fall System 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 your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 (Product Quality Deficiency Report). Mail it to us at: Commander, US Army Aviation and Troop Command, AITN. AMSAT-I-MDO, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798 We will send you a reply.

1-8. CORROSION PREVENTION AND CONTROL.

a. Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern It is important that corrosion problems with the Ancillary Equipment for Military Free-Fall System are reported so that problems can be corrected and improvements can be applied to future items.

b. While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling or breaking of these materials may be a corrosion problem.

c. If a corrosion problem is identified, it can be reported using Standard Form 368, Quality Deficiency Report Use of key words such as "corrosion", "rust", "deterioration", or "cracking" will assure that the information is identified as a CPC problem. This form should be submitted to the address specified in DA Pam 738-750.

1-9. LIST OF ABBREVIATIONS. The following abbreviations are used in this manual.

CPC	Corrosion Prevention and Control
EIR	Equipment Improvement Recommendation
ESC	Equipment Serviceability Criteria
HAHO	High Altitude High Opening
HALO	High Altitude Low Opening
MWO	Modification Work Order
MTOE	Modified Table of Organizational Equipment
NBC	Nuclear, Biological, Chemical
Ni-Cad	Nickel-Cadmium
TMDE	Test, Measurement, and Diagnostic Equipment
U/M	Unit of Measure
UOC	Usable On Code

Section II. EQUIPMENT DESCRIPTION

1-10. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

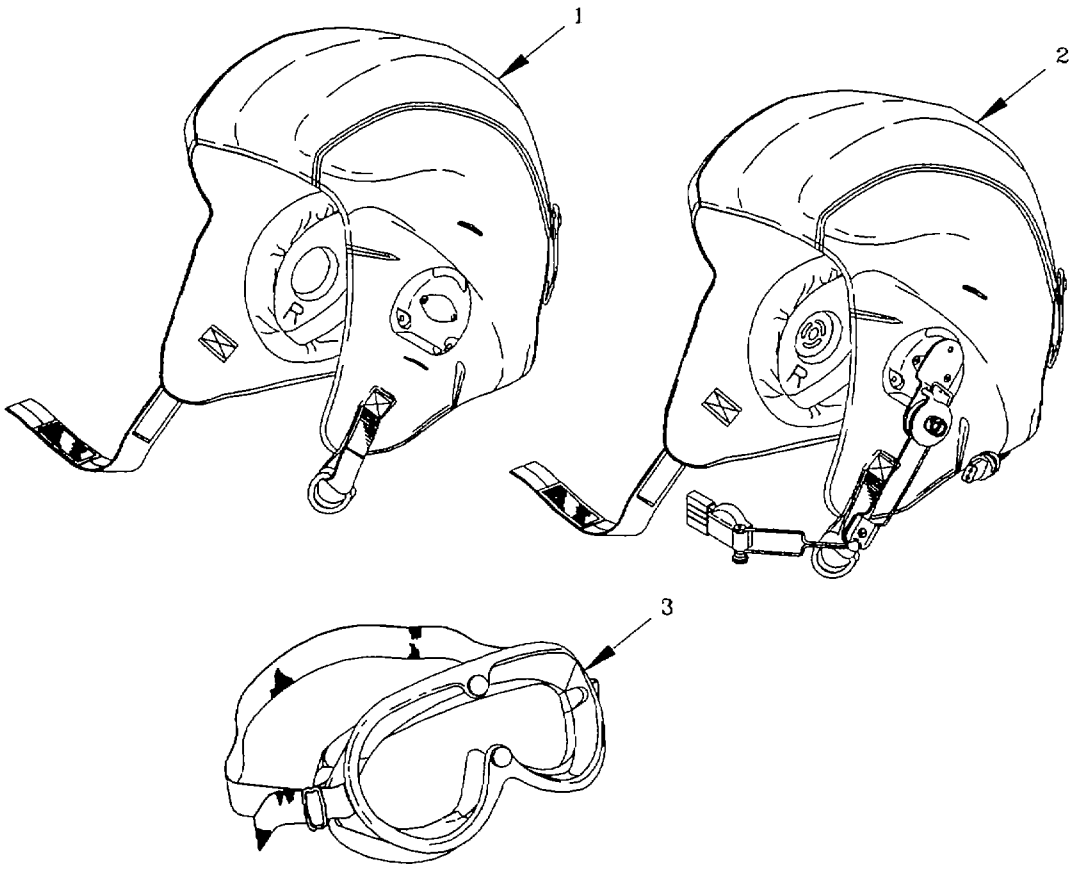
a. Characteristics.

- Lightweight
- Rugged

b. Capabilities and Features.

- Provides parachutist communication with aircraft.
- Automatically deploys parachute at preset altitude.
- Allows for carriage of individual equipment.

1-11. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS. The Ancillary Equipment for Military Free-Fall System is not issued as a set, all components can be requisitioned separately. The system consists of the following components depicted and described by the following paragraphs and illustrations.

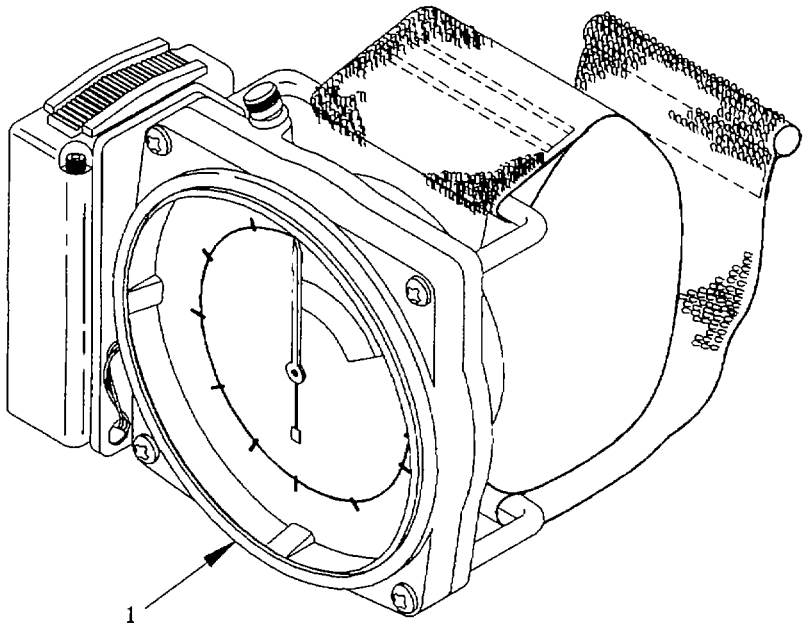


a. Helmet, Free-fall Parachutist.

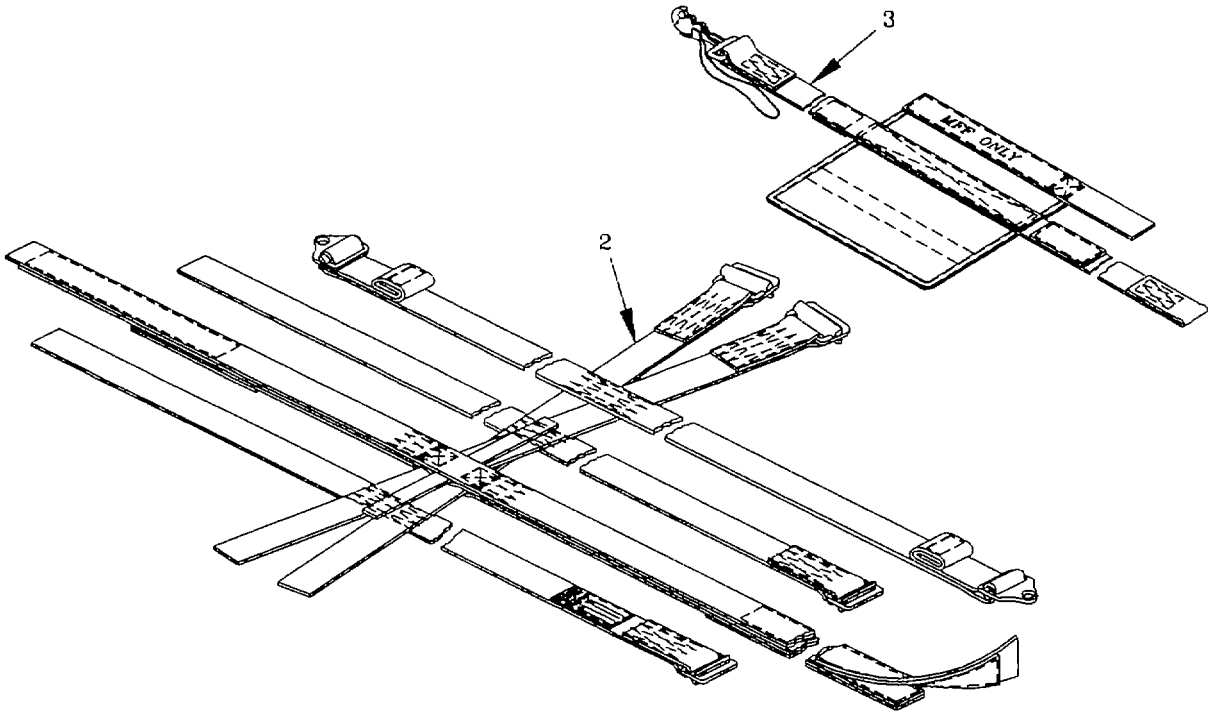
(1) *Type I; Without Communication Equipment.* The Type I Free-fall Parachutist Helmet (1) is a leather helmet provides protection to the parachutist, but no communication capabilities.

(2) *Type II; With Communication Equipment.* The Type II Free-fall Parachutist Helmet II (2), also called Jumpmaster's Helmet, is identical to the Type I, but adds a boom microphone and ear phones.

b. Goggles. Sun and Wind Goggles (3) are a rubber goggle with adjustable headstrap.

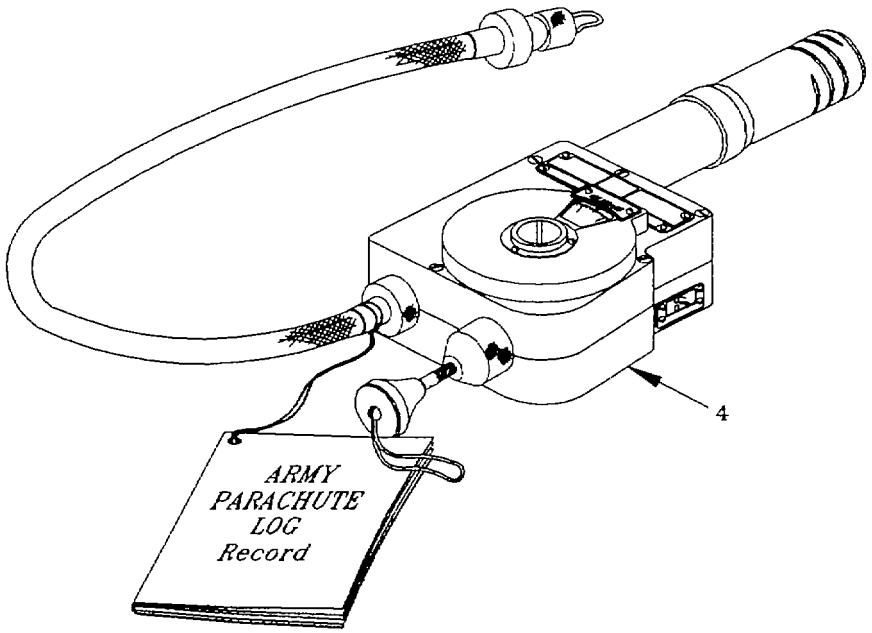


c. Altimeter, Parachutists. The Altimeter, Parachutists (1) has a lighted face to allow night use and is secured to the parachutists wrist with adjustable hook and loop fastener tapes.



d. Sling Assembly, Equipment Attaching. The Sling Assembly, Equipment Attaching (2) is made of nylon web.

e. Line, Equipment Lowering. Line, Equipment Lowering (3) is a length of nylon web, attaching hardware, and a pocket into which the folded line is stored.



f. Release Assembly. Ripcord. Automatic. Type FF2. The FF-2 Release (4) automatically deploys parachute at altitude specified on millibar knob.

1-12. EQUIPMENT DATA.

a. Free-fall Parachutist Helmet.
Sizes: Small, Medium, Large
Type I: without communications equipment
Type II: with communications equipment

b. Goggles.
Sizes: one only

c. Equipment Lowering Line.
Length: 8 ft

1-13. EQUIPMENT CONFIGURATION. Exact usage of Ancillary Equipment for Military Free-Fall System is indicated by the mission. Refer to applicable field manual for guidance.

Section III. PRINCIPLES OF OPERATION

1-14. GENERAL. The Ancillary Equipment for Military Free-fall System is used on High Altitude Low Opening (HALO) and High Altitude High Opening (HAHO) parachute operations. The equipment is to provide safety to parachutists, a means of communication between parachutists and supporting aircraft, determination of jump/opening altitude, and a means of lowering personal equipment prior to landing. The FF-2 release automatically activates ripcord when altitude reaches that set in advance.

CHAPTER 2

UNIT MAINTENANCE

Section I . REPAIR PARTS; TOOLS, SPECIAL TOOLS; TEST MEASUREMENT AND DIAGNOSTIC EQUIPMENT (TMDE), AND SUPPORT EQUIPMENT

2-1. COMMON TOOLS AND EQUIPMENT. For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE), CTA 50-970, or CTA 8-100, as applicable to your unit.

2-2. SPECIAL TOOL, TMDE, AND SUPPORT EQUIPMENT. The tool and test equipment requirements required for the maintenance of the Ancillary Equipment for Military Free-fall System are listed in Appendix B, Section III, Tool and Test Equipment List.

2-3. REPAIR PARTS. Repair parts for the Ancillary Equipment for Military Free-fall System are listed and illustrated in Appendix C, Section II, Repair Parts and Special Tools List.

Section II. SERVICE UPON RECEIPT

2-4. SERVICE UPON RECEIPT OF MATERIEL.

a. Unpacking. Each component of Ancillary Equipment for Military Free-fall System is separately packaged in accordance with PPP-B-636. Use care when unpacking to avoid damaging equipment.

b. Shipping Materials. Save the shipping cartons and crates for reuse when possible.

c. Checking Unpacked Equipment. Inspect each unpacked component for damage and completeness, and application of all pertinent Modification Work Orders (MWOs) as follows:

(1) *Damage.* Check the equipment for damage incurred during shipment Report any damage on DD Form 6, Packaging Improvement Report. Also note damage on DA Form 2404, Equipment Inspection and Maintenance Worksheet and initiate corrective maintenance procedures in accordance with Section V of this manual.

(2) *Completeness.* Inspect the contents of shipment against the packing slip to see If any items are missing. Report any discrepancies in accordance with DA Pam 738-750. The equipment may be placed in service provided missing items do not affect function or safety of the equipment.

(3) *Modifications.* Check DA Pam 25-30 to see if there are any MWOs applicable to the equipment you are unpacking. If any MWOs are listed, check DA Form 2408-5, Equipment Modification Record to see if MWOs have been applied to the equipment. The MWO number will be shown near the equipment nomenclature label. If a current MWO Is listed in DA Pam 25-30, but there is no evidence that it has been applied to the equipment you are unpacking, note discrepancy on DA Form 2404, Equipment Inspection and Maintenance Worksheet.

D After-Use Receipt. When an item is returned to the unit following its use for airdrop, it must be serviced before further use. The service is performed to remove foreign matter from the equipment and to permit early detection of obvious defects requiring maintenance. Perform the following:

(1) Inspect the item in accordance with Table 2-1.

(2) Clean and dry the item. Compressed air hose may be used to remove foreign matter from inaccessible locations

Section III. UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-5. INTRODUCTION TO PMCS TABLE. The Ancillary Equipment for Military Free-fall System must be inspected regularly to find, correct and prevent defects. Record all defects found during the performance of PMCS and the steps taken to correct them on a DA Form 2404, Equipment Inspection and Maintenance Worksheet, or in accordance with local SOP. Instructions for reporting/correcting noted deficiencies are contained in DA Pam 738-750.

a. General. Table 2-1 (UNIT PMCS Table) has been provided so you can maintain your equipment in good operating condition and keep it ready for its primary mission. All inspection listed are technical/rigger type.

b. Warnings and Cautions. Always observe the WARNINGs and CAUTIONs appearing in your PMCS table WARNINGs and CAUTIONs appear before applicable procedures. You must observe these WARNINGs and CAUTIONs to prevent serious injury to yourself or others and prevent your equipment from being damaged.

c. Explanation of Table Entries

(1) *Item No. Column.* Numbers in this column are for reference. When completing DA Form 2404 (Equipment Inspection and Maintenance Worksheet), include the item number for the check/service indicating a fault Item numbers also appear in the order that you must do your checks and services for the intervals listed.

(2) *Interval Column.* This column tells you when you must do the procedure in the procedure column. The BEFORE procedures must be done before you operate or use the equipment for its intended mission. DURING procedures must be done during the time you are operating or using the equipment for its intended mission. AFTER procedures must be done immediately after you have operated or used the equipment. QUARTERLY procedures must be done every 90 days after issue.

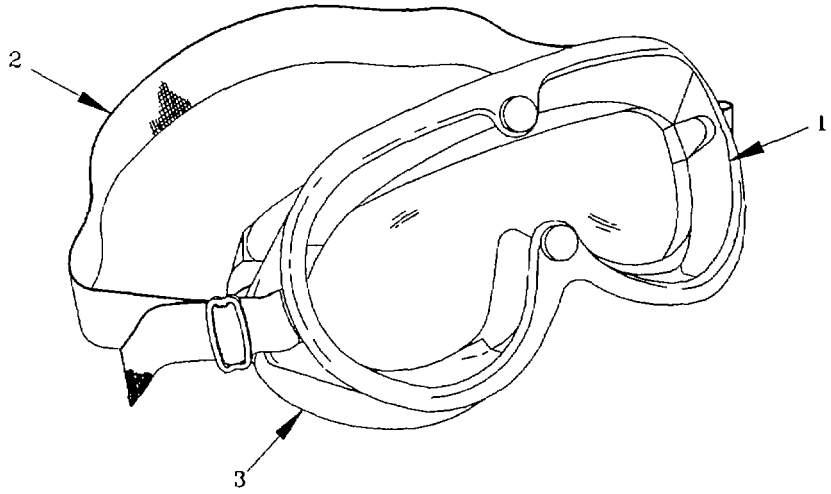
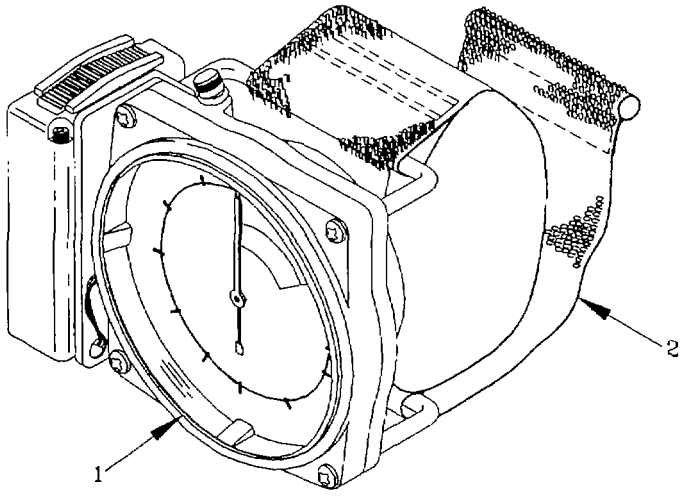
(3) *Location - Item to Check/Service Column.* This column describes the location and the item to be checked or serviced.

(4) *Procedure Column.* This column gives the procedure you must follow to check or service the item listed in the Check/Service column to know if the equipment is ready or available for its intended mission or for operation. You must perform the procedure at the time specified in the interval column

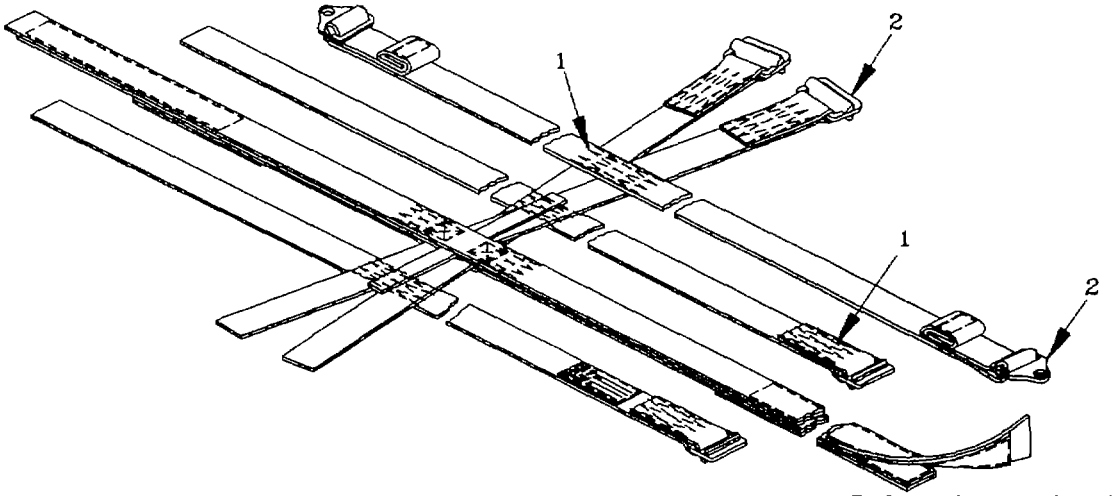
(5) *Not Fully Mission Capable If: Column.* Information in this column tells you what faults will keep your equipment from being capable of performing its primary mission. If you perform check and service procedures that show faults listed in this column, do not operate the equipment. Follow standing operating procedures for maintaining the equipment or reporting equipment failure.

Table 2-1. Unit Preventive Maintenance Checks and Services

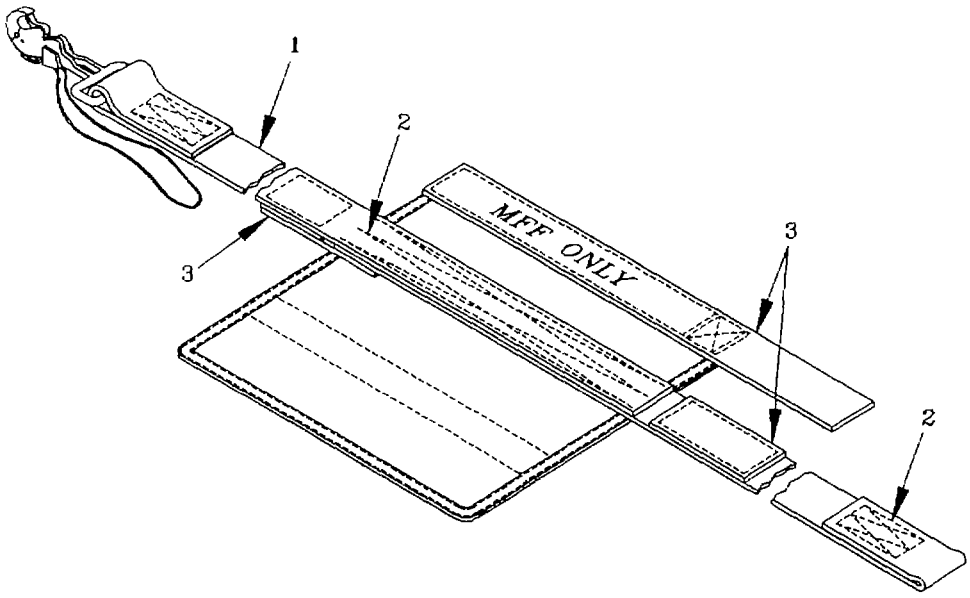
Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
1	Before	Free-fall Parachutist Helmet (Types I and II)	Check for dirt, foreign matter, cuts, distortion of helmet shell (1), broken or missing chin strap (2), goggle headband retainers (3), and snap fasteners (4). Check for loose, missing or torn tacking (5) on earpieces Type II Only. Inspect for intercom serviceability.	Dirt or foreign matter are present, helmet shell (1) is distorted, chin strap (2), goggle headband retainer (3) or snap fastener is broken or missing. Earpiece tacking is loose, missing or torn. Type II Only Intercom is Unserviceable.

Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
				
2	Before	Goggles	Check for missing, cracked, or marred lens (1), broken or missing headstrap (2), serviceability of strapping (3).	Lens (1) is missing, cracked or marred, headstrap (2) is broken or missing, strapping (3) is unserviceable.
				
3	Before	Altimeter	Inspect for broken or missing lens (1) and serviceability of wriststrap (2). Find out-of-date label to ensure that altimeter has been tested in last 90 days. Open battery compartment and inspect for corrosion.	Lens (1) is broken or missing, or wriststrap (2) is not serviceable. Altimeter has not been tested in last 90 days. Corrosion exists in battery compartment.

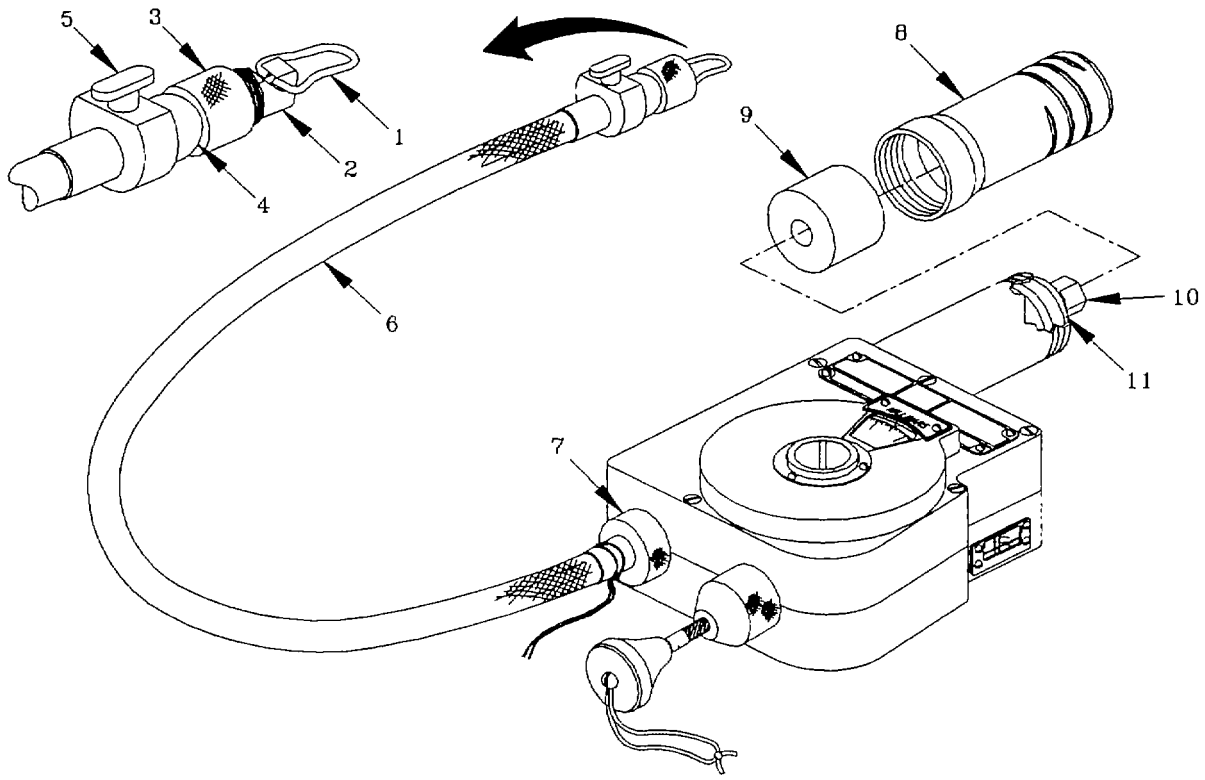
Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:



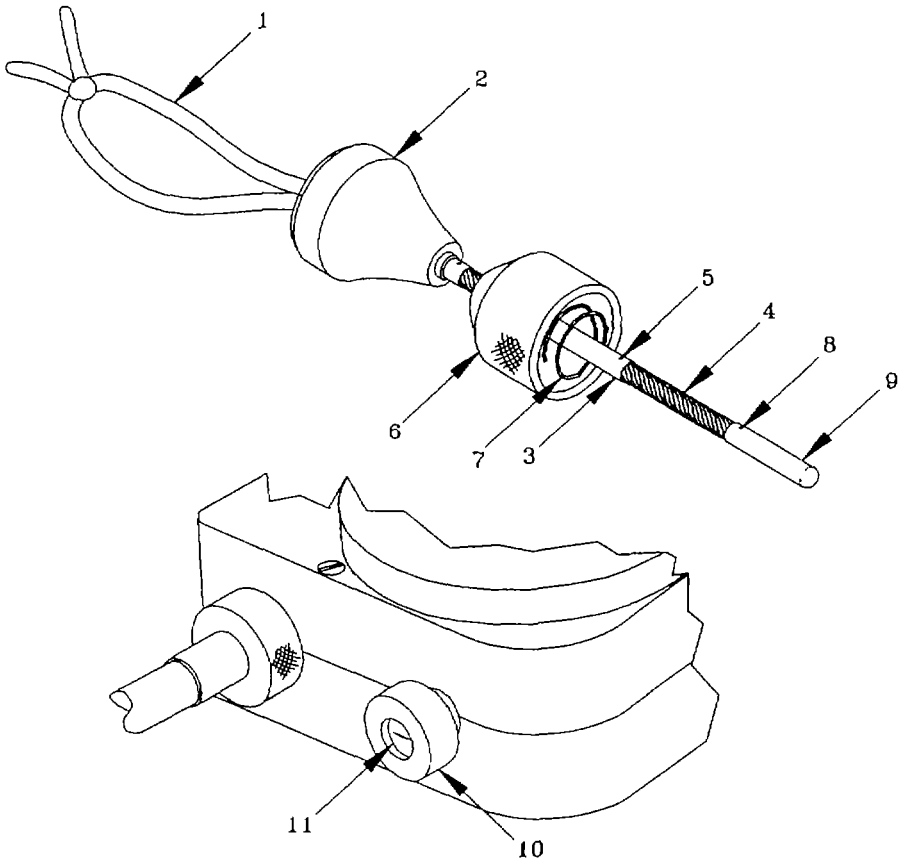
4	Before	Equipment Attaching Sling	Inspect for broken, loose or missing stitching (1) on fabric. Inspect for rust, burrs, rough spots and corrosion on hardware, or missing hardware (2)	Broken or loose stitching (1). Rust, burrs, rough spots or corrosion on hardware, or missing hardware (2).



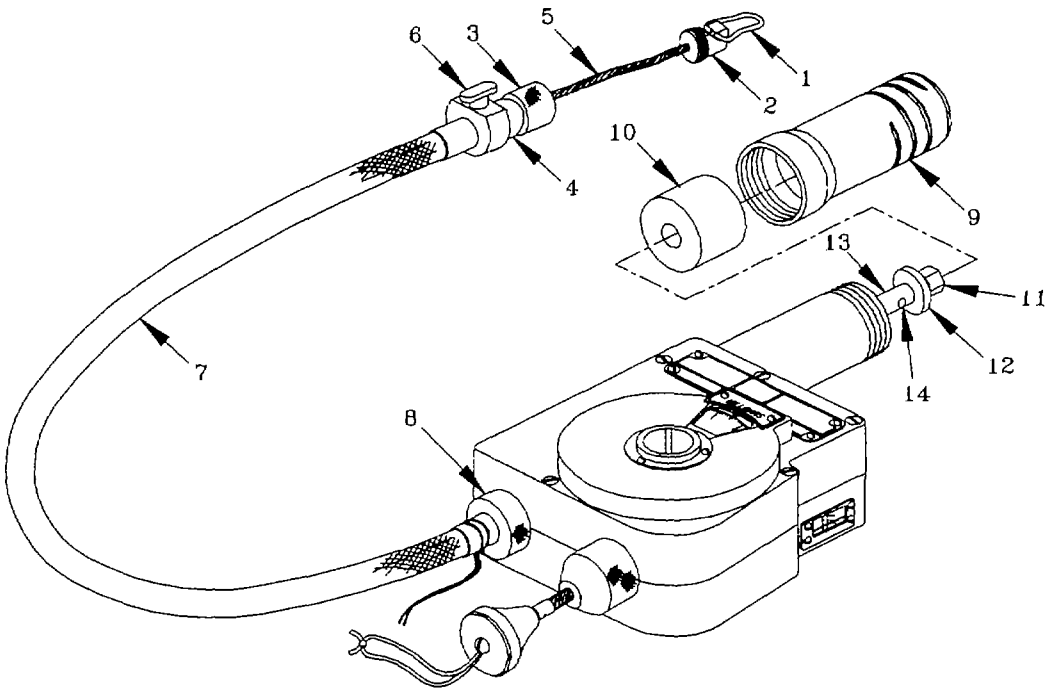
5	Before	Equipment Lowering Line	Inspect for frays or cuts in webbing (1) or stitching (2). Damaged or missing fastener tapes (3).	Frays or cuts in webbing (1) or stitching (2). Damaged or missing fastener tapes (3).

Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
				
6	Before	FF-2 Release (UN-LOADED) Power Cable Assembly & Frangible Cap	Inspect withdrawal hook (1) for proper gap. Inspect withdrawal hook retainer clamp (2) for minimum 0 1 inch cable portuding Inspect withdrawal hook retainer clamp knurled nut (3) and rubber pad (4) for damage. Ensure rectangular key (5) is not offset of canted more than 15 degrees. Inspect power cable housing (6) for damage (broken strands of armor cable). Ensure power cable housing knurled nut (7) is properly seated. Remove frangible cap (8) and inspect for cracks and corrosion. Ensure there are no marks or tapes placed on frangible cap (8) Inspect rubber buffer (9) for dry rot, cracks. Ensure power cable lock nut (10) is 7/16-inch and properly seated and securely fastened to power cable rod. Ensure threadless washer (11) is present and serviceable.	Withdrawal hook (1) gap is too large or too small. Cable does not portrude thru withdrawal hook retainer clamp (2) 1/16-mich withdrawal hook retainer clamp knurled nut (3) or rubber pad (4) is damaged. Rectangular key (5) is offset or canted more than 15 degrees. Power cable housing (6) is damaged. Power cable housing knurled nut (7) is damaged. Frangible cap (8) is cracked or corroded. Rubber buffer (9) is damaged or has dry rot. Power cable lock nut (10) is not 7/16-inch or is not serviceable. Threadless washer (11) is not present or serviceable

Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
		Arming Pin Assembly (Removed)	Inspect lanyard (1) for three inch loop of type III nylon cord. Inspect knob (2) for cracks, chips. Inspect swedge (3) for proper attachment. Ensure no strands of upper cable (4) are broken. Look for cable in inspection hole (5). Inspect knurled nut (6) for cracks and ensure two studs are present. Ensure spring (7) for proper tension and lack of corrosion. Inspect lower portion of cable (4) for broken strands and ensure cable is visible through inspection hole (8) in arming pin (9). Inspect arming pin (9) for straightness. Inspect arming pin guide bush (10) is properly seated and tight. Ensure arming pin guide bush seal (11) is present and serviceable	Lanyard (1) is not present or not serviceable. Knob (2) is cracked. Swedge (3) is not secure or upper portion of cable (4) has broken strands. Cable (4) is not visible in inspection hole (5). Knurled nut (6) is cracked or missing stud. Spring (7) is corroded or lacks tension. Lower portion of cable (4) has broken strands, is not secure to swedge, or is not visible thru inspection hole (8). Arming pin (9) is not straight. Arming pin guide bush (10) is not properly seated. Arming pin guide bush seal (11) is not present or not serviceable.



Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
		FF-2 Release (LOADED) Power Cable Assembly & Frangible Cap	Inspect withdrawal hook (1) for proper gap. Inspect withdrawal hook retainer clamp (2) for minimum 0.1 inch cable portuding. Inspect withdrawal hook retainer clamp knurled nut (3) and rubber pad (4) for damage. There must be at least three threads of knurled nut exposed. Inspect exposed power cable (5) for broken strands. Ensure rectangular key (6) is not offset or canted more than 15 degrees. Inspect power cable housing (7) for damage (broken strands of armor cable). Ensure power cable housing knurled nut (8) is properly seated. Remove frangible cap (9) and inspect for cracks and corrosion. Ensure there are no marks or tapes placed on frangible cap (9). Inspect rubber buffer (10) for dry rot, cracks. Ensure power cable lock nut (11) is 7/16-inch and properly seated and securely fastened to power cable rod. Ensure threadless washer (12) is present. Inspect power cable rod (13) to ensure that hole (14) is round NOT oblong	Withdrawal hook (1) gap is too large or too small. Cable does not portrude thru withdrawal hook retainer clamp (2) 1/16-inch withdrawal hook retainer clamp knurled nut (3) or rubber pad (4) is damaged. Exposed power cable (5) has broken strands. Rectangular key (6) is offset or canted more than 15 degrees. Power cable housing (7) is damaged Power cable housing knurled nut (8) is damaged. Frangible cap (9) is cracked or corroded. Rubber buffer (10) is damaged or has dry rot. Power cable lock nut (11) is not 7/16-inch or is not serviceable. Threadless washer (12) is not present or serviceable. Hole (14) in power cable rod (13) is oblong.



Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
		Arming Pin Assembly (Attached)	Inspect lanyard (1) for three inch loop of type III nylon cord. Inspect knob (2) for cracks, chips. Inspect swedge (3) for proper attachment. Ensure no strands of cable (4) are broken. Look for cable in inspection hole (5). Inspect knurled nut (6) for cracks and ensure two studs are present. Inspect spring (7) for proper tension and lack of corrosion. Inspect arming pin guide bush (8) is properly seated and tight.	Lanyard (1) Is not present or not serviceable. Knob (2) Is cracked. Swedge (3) is not secure or upper portion of cable (4) has broken strands. Cable (4) is not visible in inspection hole (5). Knurled nut (6) is cracked or missing stud. Spring (7) is corroded or lacks tension. Arming pin guide bush (8) is not properly seated.

Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:

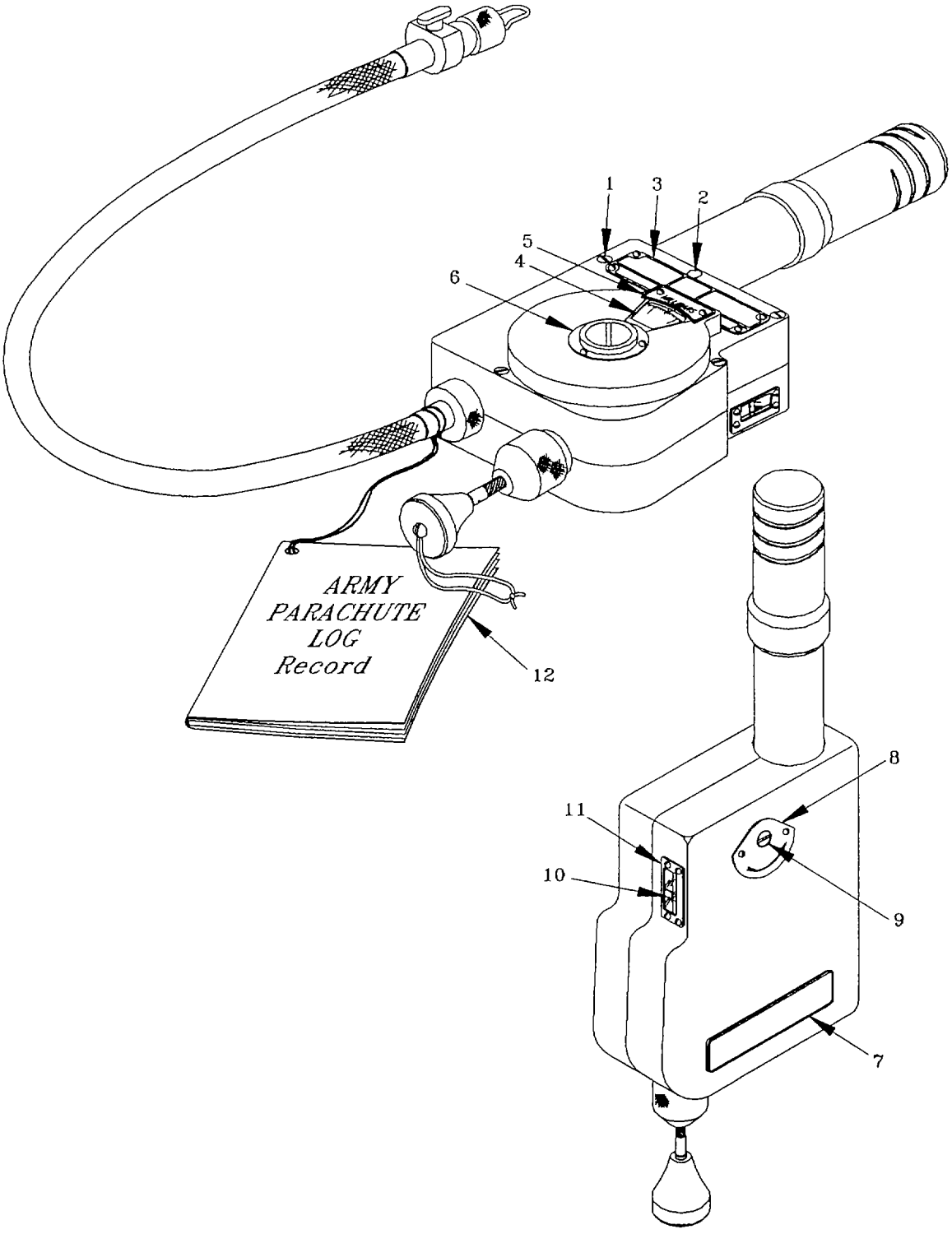


Table 2-1. Unit Preventive Maintenance Checks and Services

Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
		FF-2 Release LOADED & UNLOADED Front and Rear Case Halves	Ensure six front and one rear case half screws (1) are present. Ensure sealant (2) is present on bottom center case screw on front case half. Ensure information data plate (3) is present and secured with four screws. Ensure information data plate (3) is not scratched or damaged and all information is present. Millibar indicator window (4) and frame (5) are secured with two screws. Ensure window (4) is not scratched or broken. Millibar dial knob frame (6) is secured with three screws and is not dented or damaged. On rear, manufacturers plate (7) is not scratched or dented. Reset access port frame (8) is secured with two screws. Ensure reset access port frame (8) Is not dented, scratched or damaged. Reset access port plug screw (9) is present. Reset indicator window (10) and frame (11) secured with four screws, window (10) is not scratched, frame (11) is not dented or damaged. Ensure case half protective coating is not scratched or chipped.	Six front and one rear case half screws (1) are not present. Sealant (2) is not present on bottom center case screw on front case half. Information data plate (3) is not present, not secured with four screws. Information data plate (3) is scratched or damaged or information is not present. Millibar indicator window (4) and frame (5) are not secured with two screws. Window (4) is scratched or broken. Millibar dial knob frame (6) is not secured with three screws or is dented or damaged. Manufacturers plate (7) is scratched or dented. Reset access port frame (8) is not secured with two screws. Reset access port frame (8) is dented, scratched or damaged. Reset access port plug screw (9) is not present. Reset indicator window (10) and frame (11) not secured with four screws, window (10) is scratched, frame (11) Is dented or damaged. Case half protective coating is scratched or chipped.
		FF-2 Release Log Record Book	Ensure log record book (12) is present and inspect for entries pertaining to initial and subsequent altitude test.	Log record book (12) is not present or any log entries are questionable.

Section IV. UNIT MAINTENANCE PROCEDURES

2-6. GENERAL. This section contains Unit Maintenance procedures for the Ancillary Equipment for Military Free-fall System as authorized by the Maintenance Allocation Chart (MAC), Appendix B of this manual. Procedures include instructions for inspecting, servicing, repairing and replacing assemblies and subassemblies. All maintenance procedures in this section can be performed by one person unless otherwise stated in the initial setup Read all WARNINGS, CAUTIONS, NOTES and instructions carefully before attempting a procedure. Read and observe the WARNINGS at the front of this manual

2-7. INSPECTION AND DISPOSITION.

a. Routine Inspection. A routine inspection is a visual check performed to ascertain the serviceability of all visible components of each item of equipment. The inspection will be administered by a parachute rigger prior to use. Equipment issued for an operation and not used will receive a routine inspection prior to being placed into ready-for-issue storage.

b. Technical Rigger-Type Inspection. A technical/rigger-type inspection is a complete and thorough inspection of an individual airdrop item, including associated parts and components. The following paragraphs outline criteria applicable to accomplishing a technical/rigger-type inspection. It will be performed by a qualified parachute rigger in accordance with AR 750-32.

(1) *Inspection Intervals.*

(a) Upon initial receipt of procured equipment issued to a using unit by a supply source.

(b) Immediately before equipment is packed or rigged for use in airdrop operations.

(c) Before and after repairs or modifications are made.

(d) At any other time as deemed necessary by the airdrop equipment maintenance officer.

(2) *Inspection Function Requirement.* Normally, a technical/rigger-type inspection will be performed at a packing, rigging, or repair activity. The inspection of initial receipt items will be performed as a separate function from packing or rigging operations When the inspection is conducted at a packing or rigging activity, the item to be inspected will be placed in proper layout

on a packing table or suitable sized floor area. Should a defect or damage by discovered at any point during the inspection, the inspection will be terminated and the applicable item will be processed and forwarded to a repair activity. The repair activity in turn, will conduct a technical/rigger type inspection that will be performed by only those parachute rigger personnel cited in AR 750-32. The repair activity inspection of personnel parachutes will be made on a shadow table. Any defect discovered during a unit level repair activity inspection which exceeds the capability of that activity will require the affected item to be evacuated to a direct support maintenance facility for determination of economic repair and its application, if applicable.

(3) *Technical/rigger-type Inspection Procedures*

(a) **Overall Inspection.** An overall inspection will be made of individual parachutes and other airdrop equipment items to ascertain the following:

1. Log Record/parachute Inspection Data Pocket and Form. As applicable inspect the assembly log record/ parachute inspection data pocket to insure the Army Parachute Log Record (DA form 10-42 or 3912) is inclosed and properly attached. Further, remove the log record from the pocket and evaluate the recorded entries.

2. Assembly Completeness Insure that the applicable assembly is complete and no components or parts are missing.

3. Operational Adequacy. Check the item components and parts to insure proper assembly which includes attachment and alignment, and that the assembled product function in the prescribed manner. Further insure that no stitch formation or sewn seam has been omitted, with particular attention directed to static lines, harnesses, risers, slings, extraction lines, adapter webs, and parachute canopies.

4. Markings and Paint. Inspect each assembly and associated components for faded, illegible, obliterated, or missing informational data, identification numbers, and warning marks. Also check for chipped, worn, or peeled paint, as applicable.

5. Foreign Material and Stains. Inspect each assembly and related components for the presence of dirt or similar type foreign material. Also check for evidence of mildew, moisture, oil, grease, pitch, resin, or contamination by salt water.

(b) **Detailed Inspection.** In addition to the overall inspection performed in (1) above, a detailed inspection will be performed on the materials which constitute the assembly or component construction using the following criteria, as applicable:

1. Metal. Inspect for rust, corrosion, dents, bends, breaks, burrs, rough spots, sharp edges, wear, deterioration; damaged, loose, or missing nuts, bolts, screws, safety pins, or rivets; improper swaging or welding; loss of spring tension.

2. Plastic and Wood. Inspect for bends, breaks, dents, holes, rough spots, sharp edges, and wear.

3. Cloth. Inspect for breaks, burns, cuts, frays, holes, rips, snags, tears; loose, missing, or broken stitching or tacking; weak spots, wear, or deterioration.

4. Fabric Tape, Webbing, and Cordage. Inspect for breaks, burns, cuts, frays, holes, snags, tears, incorrect weaving, and sharp edges formed from searing, loose, missing, or broken stitching, tacking, shipping, and weaving; weak spots, wear, and deterioration.

5. Pressure-sensitive (adhesive) Tape. Inspect for burns, holes, cuts, tears, weak spots; looseness and deterioration.

6. Rubber and Elastic. Inspect for burns, cuts, holes, tears, weak spots; loss of elasticity and deterioration.

7. Felt. Inspect for cuts, tears, burns, breaks, holes, and thin spots.

8. Leather. Inspect for burns, cuts, holes, tears, loose missing or broken stitching; thin spots and deterioration.

c. In-Storage Inspection.

(1) An in-storage inspection is a physical check conducted on a random sample of air delivery equipment which is located in storage. The purpose of the inspection is to ensure that the item is ready for issue, that the item is properly identified and segregated from other types of equipment, that no damage or deterioration of the equipment has taken place, and that all modification work orders (MWO) have been completed. The inspection shall also concern the methods of storage of air delivery items, the adequacy of storage facilities, efforts of pest and rodent control, and protection from unfavorable climatic conditions.

(2) Air delivery equipment which is in storage will be inspected at least semiannually and at more frequent intervals if prescribed by the local parachute maintenance officer. The frequency of inspection may vary according to the type of storage facilities and local climatic conditions.

(3) In-storage inspection will be conducted only by parachute rigger designated by local parachute maintenance officer.

d. Salt-Water Contamination Test. To test for possible salt water contamination, lay the item out on a suitable surface and look for a white crystalline residue.

d. Equipment Disposition. Air delivery equipment may be rendered unserviceable by either normal fair wear or by aging and will subsequently be repaired, modified, or condemned, as appropriate. Equipment that is uneconomically repairable (outdated) will be condemned. Disposition of air delivery equipment that is condemned, unserviceable, or for which serviceability is uncertain, will be accomplished using the following procedures as applicable:

(1) An air delivery item which requires repair or modification will be tagged in accordance with DA Pam 738-751. Subsequent work will be performed on the item at the maintenance level specified for the maintenance function on the MAC, Appendix B, Section II of the manual.

(2) *Disposition of Condemned Air Delivery Equipment.* Condemned equipment, other than being involved in a fatality, will be removed from service and disposed in accordance with current directives listed in Appendix A of this manual.

(3) *Rejected Equipment.* Equipment which, prior to use is deemed unserviceable will be reported in an Equipment Improvement Recommendation (EIR) in accordance with DA PAM 738-750, as authorized by AR 750-1. Each applicable item which is defective will be held and safeguarded pending receipt of disposition instructions from the National Maintenance Point (NMP) In all instances, EIR exhibit materiel will be handled as prescribed in DA Pam 738-750. If quality or the serviceability of an item is questionable, clarification and assistance may be obtained by contacting Commander, US Army Aviation and Troop Command (ATCOM), ATTN: AMSTR-QP, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798.

(4) *Equipment of Doubtful Serviceability.* Equipment which has had previous use and has not exceeded normal fair wear or aging criteria, but of which further serviceability is doubtful will be tagged be tagged as prescribed in DA Pam 738-751. In addition, the equipment will be reported on an EIR in accordance with DA Pam 738-750 and Ar 750-1. The item(s) in question will be held as EIR exhibit materiel as outlined in DA Pam 738-750 pending receipt of disposition instructions from NMP. A maintenance activity holding EIR exhibit materiel will not tamper with the item(s) or make any attempt to ascertain the cause factors. Unnecessary handling of EIR exhibit materiel may disturb or alter peculiar aspects of the affected item(s) which might affect the judgement of engineering personnel who have the responsibility for final evaluation of EIR actions.

2-8. AIRING.

a. Where dampness and mildew are present, air delivery equipment will be aired at frequent intervals according to the severity of the prevailing conditions. Equipment that has been subjected to conditions of dampness or mildew will be aired for a period of at least six hours prior to returning to service.

b. Air delivery equipment may be aired either indoors or outdoors in dry weather, however fabric items will not be aired in direct sunlight. Outside facilities used for the shakeout of parachutes may be used for the airing of air delivery equipment if weather conditions permit.

c. Airing may be accomplished by suspending or elevating the applicable items in a manner which would allow entire exposure to the circulation of air. If equipment being aired is to be elevated at several points by draping over objects, ensure that the objects used would not cause damage to the equipment being aired.

2-9. CLEANING AND DRYING.

WARNING

Due to the flammable properties and nylon-damaging substances, cleaning solvents other than tetrachloroethylene will not be used in the spot-cleaning of air delivery equipment.

CAUTION

If during cleaning there exists a possibility that the substance to be removed contains acid or some other destructive ingredient, the item will be evacuated to intermediate maintenance activity for determination as to the nature of the substance and item disposition If the item can not be identified or if normal repair procedures will not eliminate all traces of chemical or acid damage, the applicable item will be condemned.

NOTE

Do not use cleaning solvents to clean item soil caused by air sickness. Use a solution of hand dishwashing compound to clean this type of soiling.

a. Cleaning Fabric Items with Cleaning Solvent. Use cleaning solvent (tetrachloroethylene) to clean a soiled item as follows:

(1) Gently brush soiled area with a soft bristle brush

WARNING

- Due to the flammable properties and nylon-damaging substances, cleaning solvents other than tetrachloroethylene will not be used in the spot-cleaning of air delivery equipment

- Use tetrachloroethylene in well ventilated areas only. Repeated or prolonged inhalation of the solvent vapors can be detrimental to your health. Avoid repeated or prolonged skin contact with tetrachloroethylene. Tetrachloroethylene must not be taken internally. Failure to observe this warning may result in severe injury or death.

(2) Spot clean with cleaning solvent as follows.

(a) Rub soiled area with a clean cloth dampened with cleaning solvent.

(b) Rinse cleaned area by repeating the rubbing process with a clean portion of the cloth dampened with cleaning solvent.

NOTE

Do not wring out the rinsed area if an excessive amount of cleaning solvent was applied.

b. Cleaning Fabric Items with a Solution of Hand Dishwashing Compound. Use hand dishwashing compound to clean fabric items as follows:

(1) Gently brush soiled area with a soft bristled brush.

(2) Spot clean with a solution of hand dishwashing compound as follows.

(a) Dissolve 1/2 cup of hand dishwashing compound (Appendix D, Item 8) in one gallon of warm water.

(b) Rub soiled area with a clean cloth dampened with the solution of hand dishwashing compound and water.

(c) Rinse cleaned area by repeating rubbing process with a clean portion of the cloth dampened with clean fresh water.

c. Drying Fabric Items. Dry fabric items as follows:

(1) Suspend or elevate item in a well ventilated room or in a heated frying room.

(2) Drying time may be reduced by the use of electric circulating fans.

(3) When heat is used, the heat temperature shall not exceed 160°F (71°C). Preferred temperature is 140°F (60°C).

d. Cleaning Metal Items. Clean metal items as follows.

CAUTION

Use care not to damage adjacent fabric areas when cleaning metal items

(1) Remove burrs, rough spots, rust or corrosion from metal items by filing with metal file or by buffing and polishing with an abrasive cloth.

WARNING

Use tetrachloroethylene in well ventilated areas only. Repeated or prolonged inhalation of the solvent vapors can be detrimental to your health. Avoid repeated or prolonged skin contact with tetrachloroethylene. Tetrachloroethylene must not be taken internally. Failure to observe this warning may result in severe injury or death.

(2) Remove all oils and filings by brushing and dipping in tetrachloroethylene. Allow to dry.

CAUTION

Shield adjacent fabric areas before spraying solid film lubricant on metal items. A small amount of solid film lubricant will not damage, but may cause discoloration and make fabric appear soiled.

(3) Spray metal items with a solid film lubricant and allow to dry for 24 hours

d. Equipment Immersed in Salt Water. Equipment made of cotton fabric immersed in salt water are to be condemned Air delivery equipment made from material other than cotton shall be thoroughly rinsed in fresh water prior to returning to service FF-2 Release immersed in salt water shall be considered unserviceable.

e. Equipment Immersed in Fresh Water. Any air delivery equipment that has been immersed m a fresh water lake, river, or stream will not require rinsing unless it has been ascertained that the water is dirty, oily, or otherwise contaminated.

2-10. GENERAL MAINTENANCE PROCEDURES. Maintenance and repair procedures being applied to the Ancillary Equipment for Military Free-fall System will be limited to those authorized in the Maintenance Allocation Chart, Appendix B. The following general maintenance procedures apply

a. Darning and Patching. There is no limit to the number of darns that may be applied as long as the overall strength of the fabric is not significantly reduced. Darning and patching procedures shall be accomplished as outlined in TM 10-1670-201-23. Holes or tears that exceed 1 inch m length or 1 inch m diameter will not be machine or hand darned However, any cut or tear may be repaired with zigzag stitching, provided no adjacent material is missing or damaged Holes and tears larger than 1 inch in length or diameter will be patched.

b. Stitching and Restitching. Stitching and Restitching of Ancillary Equipment for Military Free-fall System will be accomplished with thread that matches the color of the original stitching if possible All straight stitching will be backed by backstitching at least 1/2 inch Restitching will be locked by overstitching each end of the stitch formation by 1/2 inch Zigzag stitching does not require locking; however, zigzag restitching will extend at least 1/2 inch into undamaged stitching at each end, when possible. Keep proper thread tension to prevent loose top or bobbin thread, and excessively tight stitching resulting m puckering of the materials sewn. The stitching lock shall be imbedded m the center of the material. Restitching will be made directly over the original stitching, following the original stitch pattern as closely as possible See Table 2-2, Stitching Specifications

c. Cleaning and Deburring Metal Items. Remove burrs, rough spots, rust, or corrosion from metal items by either filing with a metal file, or buffing with a crocus cloth

d. Searing and Waxing. When specified in the separate repair procedures, nylon based fabrics will be heat seared or immersed in melted wax to prevent fraying or unraveling Proceed as follows.

CAUTION

Cotton based fabrics or cord will not be heat sealed. These fabrics burn rather than melt. Serious material damage will result

(1) *Searing.* The ends of nylon tape, webbing, and cord lengths will be prepared by heat searing This is accomplished by pressing the raw end of the fabric against a hot metal surface until the nylon maternal has melted and formed a seal Avoid creating sharp ends or material lumping at the end.

(2) *Waxing.* The fraying or unraveling of cotton or nylon tape, webbing, and cord length can be prevented by dipping approximately 1/2 inch of the raw fabric end into a thoroughly melted mixture of half bees wax and half paraffin The wax temperature must be high enough to insure that the wax completely penetrates the material rather than just coating the exterior.

e. Re-stenciling, and re-painting. Original stenciled data or markings that become faded, illegible, or obliterated as a result of applying repairs will be re-stenciled in the same manner, at or as near as possible to the original location. A ball-point pen or felt tip marker that contains parachute marking ink and is labeled "FOR PARACHUTE MARKING" may be used when stenciling is not possible Painted markings on airdrop equipment that are chipped or worn will be repainted with the same color enamel paint Metal and wood items may be repainted with olive drab paint as required.

Table 2-2. STITCHING SPECIFICATIONS

Component	Sewing Machine	Recommended Stitches per Inch (Code Symbol)	Thread Size
Helmet, free-fall parachutists, type I			
Edge binding	MD	7-11	E
Chin Strap	LD	7-11	E
Lowering Line	HD	6-9	3
	MD	7-11	E
Sling Assembly, Equipment Attaching	HD	5-8	3

2-11. HELMET, FREE-FALL PARACHUTISTS.

This task covers: a. Inspect b. Repair c. Replace

INITIAL SETUP

NOTE

The following procedures apply to both type I (without communication equipment) and type II (with communication equipment) helmet.

Tools:
Sewing machine, light duty
Needle, tacking
Screwdriver, flat tip (Appendix B, Section III, Item 1)
Wrench, Allen (Appendix B, Section III, Item 2)

Materials/Parts:
Thread, nylon
Thread, cotton
Helmet, free-fall parachutists, type I
Ear cushion, right or left

Equipment Condition:
Helmet should be cleaned before performing maintenance procedures.

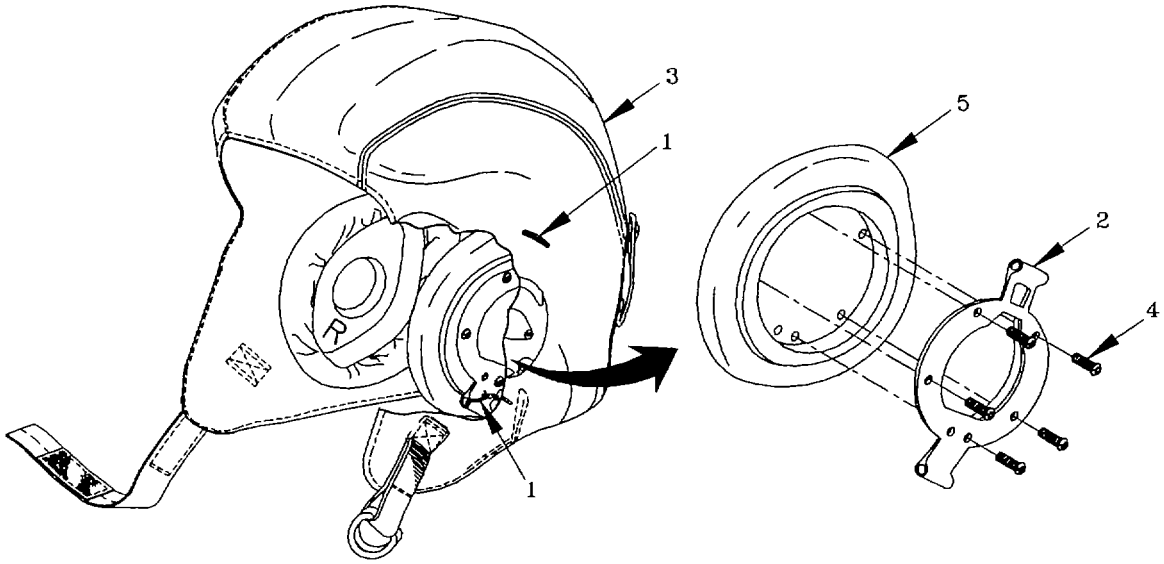
INSPECT

Perform inspection of Helmet, parachutists in accordance with Table 2-1 and paragraph 2-10

REPAIR

a. Restitching. Restitch loose, broken, or missing edge stitching in accordance with Table 2-2, paragraph 2-13, and original construction details.

b. Replace Ear Cushion. Replace or repair loose ear cushion as follows:



(1) Cut tacking (1) that secures bracket (2) to helmet (3) and remove bracket (2) from helmet (3)

(2) Remove five screws (4) securing ear cushion (5) to bracket (2)

(3) Gently pry unserviceable ear cushion (5) from bracket (2)

(4) Install five screws (4) to secure a serviceable ear cushion (5) to bracket (2)

(5) Tack bracket (2) to helmet (3) using doubled cotton tacking (1) in two places

REPLACE

Replace unserviceable helmet, free-fall parachutists, type I with a serviceable one from stock.

2-12. HELMET, FREE-FALL PARACHUTISTS, TYPE II ONLY.

This task covers: a. Inspect b. Repair c. Replace

INITIAL SETUP

Tools:
Knife
Screwdriver, cross tip (Appendix B, Section III, Item 3)
Screwdriver, flat tip (Appendix B, Section III, Item 1)
Sewing machine, light duty
Wrench, Allen (Appendix B, Section III, Item 2)

Materials/Parts:
Earphone
Earphone connecting cord
Microphone boom
Thread, nylon

Equipment Condition:
Helmet should be cleaned before performing maintenance procedures

INSPECT

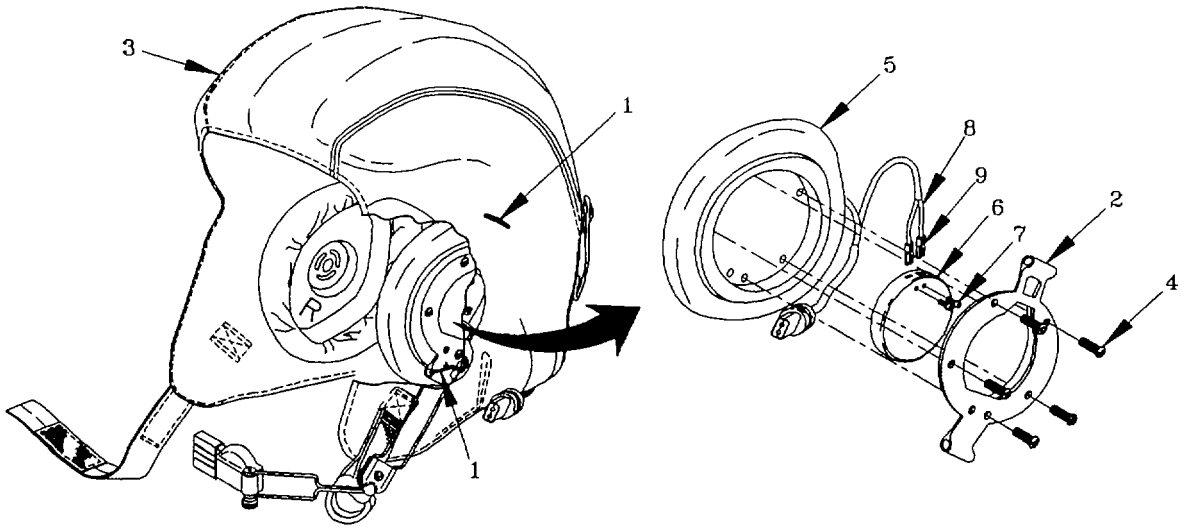
Perform inspection of helmet in accordance with Table 2-1 and paragraph 2-10.

REPAIR

a. Restitching. Restitch loose, broken, or missing edge stitching in accordance with Table 2-2, paragraph 2-13, and original construction details.

b. Replace Ear Cushion. Replace or repair loose ear cushion m accordance with paragraph 2-14b.

c. Replace Earphone. Replace unserviceable earphone as follows:



(1) Cut tacking (1) that secures bracket (2) to helmet (3) and remove bracket (2) from helmet (3).

(2) Remove five screws (4) securing ear cushion (5) to bracket (2).

(3) Gently pry ear cushion (5) from bracket (2)

(4) Lift unserviceable earphone (6) from ear cushion (5)

(5) Loosen two set screws (7) which secure wires (8) to earphone (6) and pull wires (8) with terminals (9) from earphone (6).

(6) Insert wires (8) and terminals (9) into serviceable earphone (6) and tighten set screws (7)

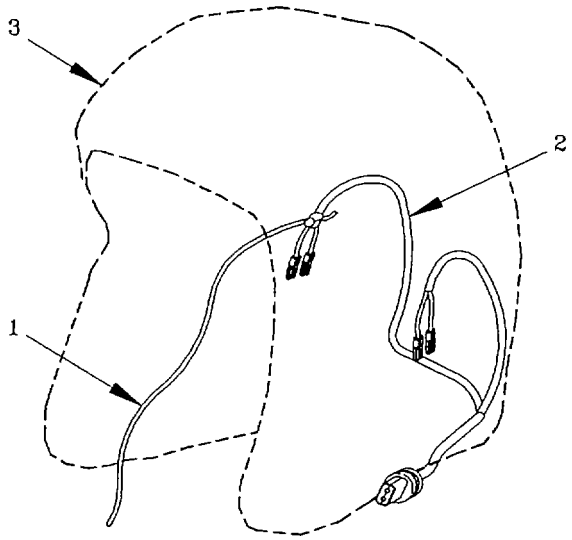
(7) Place earphone (6) into ear cushion (5) and install bracket (2).

(8) Install five screws (4) to secure ear cushion (5) to bracket (2)

(9) Tack bracket (2) to helmet (3) using doubled cotton tacking (1) in two places.

d. Replace Earphone Cord. Replace earphone cord as follows:

(1) Remove bracket, ear cushion, and earphone in accordance with steps c(1) through c(5) above.



(5) Obtain an 18" length of type I nylon cord (1) (hereafter referred to as "attaching cord") and tie it to end of the earphone connecting cord (2) on the right side of helmet (3)

(6) Pull the connecting cord (2) from the helmet (3), using care not to pull running ends of attaching cord (1) under the helmet liner.

(7) Remove the earphone connecting cord (2) from the attaching cord (1).

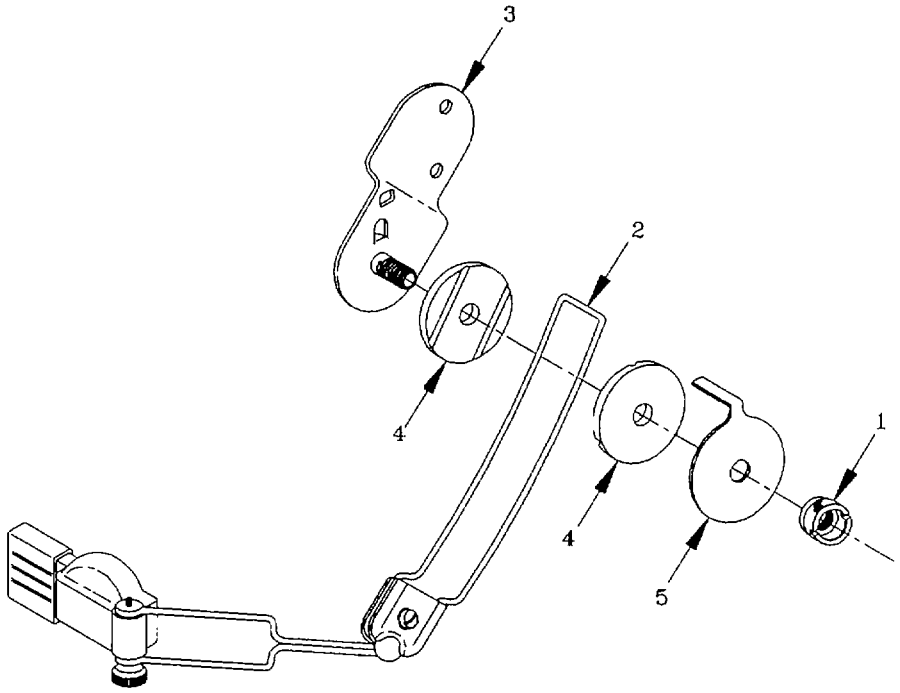
(8) Attach serviceable earphone connecting cord (2) to attaching cord (1).

(9) Pull and work the attaching cord (1) with earphone connecting cord (2) back between the liner and the helmet (3) to the original position.

(10) Remove attaching cord (1).

(11) Install earphone, ear cushion, and bracket in accordance with steps c(6) through c(9) above

e. Replace Boom Microphone. Replace boom microphone as follows



(1) Loosen and remove knurled nut (1) securing boom microphone (2) to bracket (3).

(2) Dissemble the bracket (3) to remove boom microphone (2).

(3) Position serviceable boom microphone (2) between slotted washers (4) and install outer plate (5). Ensure boom microphone is aligned with slots in both washers.

(4) Install knurled nut (1) onto bracket (3) to secure boom microphone (2) and hand tighten.

REPLACE

Replace unserviceable helmet, free-fall parachutists, type II with a serviceable one from stock.

2-13. GOGGLES.

This task covers: a. Inspect b. Replace

INITIAL SETUP

Materials/Parts:

Goggles, sun and wind

INSPECT

Inspect goggles in accordance with Table 2-1 and paragraph 2-10.

REPLACE

Replace unserviceable goggles with a serviceable pair from stock.

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2-14. ALTIMETER

This task covers: a. Inspect b. Test
c. Service d. Repair
e. Replace

INITIAL SETUP

Tools:
Screwdriver, cross tip (Appendix B, Section III, Item 3)
Sewing machine, light duty
Shears

Materials/Parts:
Altimeter, parachutists
Battery, Nickel-Cadmium
Fastener tape, hook (Appendix D, Item 10)
Fastener tape, loop (Appendix D, Item 9)
Thread, Nylon

INSPECT

Inspect altimeter in accordance with Table 2-1 and paragraph 2-10

TEST

a. Functional Test. Free-fall parachutist's pressure altimeter shall be tested every 90 days, or whenever accuracy is doubtful.

(1) Set the master altimeter in the vacuum test chamber at 29.92 inches.

(2) Observe the indicated altitude on the master altimeter in the test chamber and set the test altimeter at the same altitude.

(3) Place the test altimeter in the test chamber in a manner that will allow test altimeter and master altimeter to be observed simultaneously

(4) Close the chamber and evacuate to an altitude of 30,000 feet. As the chamber is evacuated, check the test altimeter against the master altimeter at indicated altitudes of 2500, 5000, 10,000, 15,000, and 30,000 feet When compared to the master altimeter the test altimeter should read within the tolerances for the cited altitudes listed in Table 2-3. The altimeter shall remain at each altitude for not less than one minute before the reading is taken.

NOTE

When reducing altitude m the test chamber, tap the master altimeter lightly with finger tips frequently to prevent lag.

(5) Stop the chamber at 30,000 feet and allow the test altimeter to be equilibrated. Reduce altitude at a rate of 180 to 250 feet per second and observe both altimeters.

The test altimeter should read within the tolerances for the cited altitudes as listed in Table 2-3.

(6) If the test altimeter does not meet the requirements indicated in steps (4) and (5) above, it is considered unserviceable and shall be replaced.

(7) If the test altimeter satisfactorily meets the requirements the altimeter is serviceable for use.

(8) Place a suitable length of pressure-sensitive tape (masking tape) in an accessible location on the test altimeter which will permit the tape to be observed while the altimeter is in use. Calculate next test due by advancing today's date by 90 days. Record next test due date (day, month, year) and the last name of the individual performing the test Tape marking will be made with a suitable type marking device

Table 2-3. ALTIMETER TOLERANCES FOR ALTITUDE TEST CHAMBER

Master Altimeter Altitude Reading (Feet)	Test Altimeter Acceptable Tolerance (Feet)
2500	+/- 300
5000	+/- 350
10,000	+/- 400
15,000	+/- 400
20,000	+/- 400
30,000	+/- 500

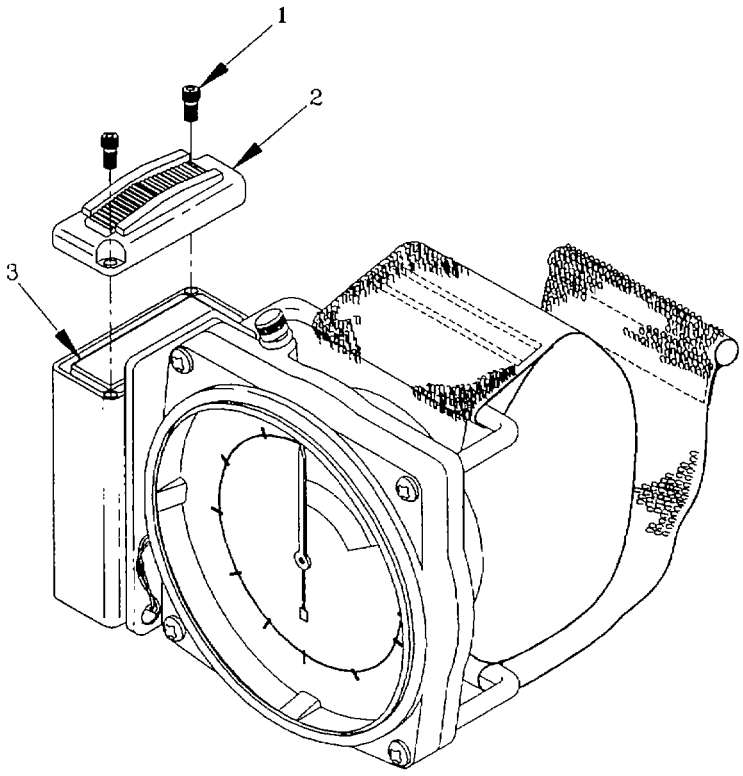
SERVICE

a. Cleaning. Clean by wiping frame and lens with a clean, soft, dry cloth.

b. Replace Battery.

NOTE

Ni-Cad cells self-discharge 1% per day at 20°C (68°F) and 10% per day at 45°C (113°F). For reliable operation, charge battery before use.



(1) Remove two set screws (1) and remove switch assembly (2).

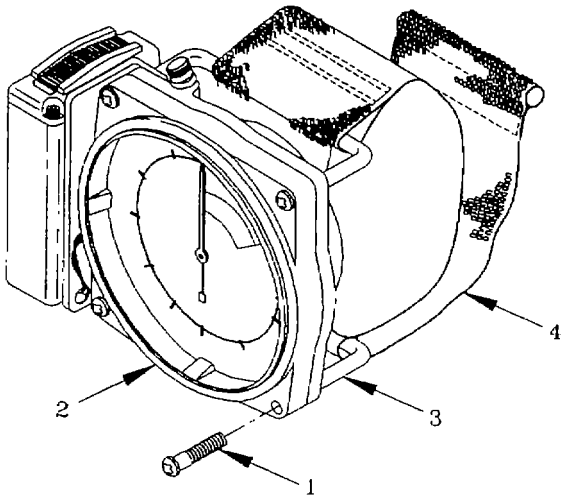
(2) Replace battery (3) with a serviceable and fully charged one

(3) Install switch assembly (2) and two set screws (1)

REPAIR

g. Repair Wriststraps. Repair broken stitching by restitching with thread, Nylon in accordance with paragraph 2-11, Table 2-2, and original construction details.

h. Replace Wriststrap. Replace unserviceable wriststrap as follows:



(1) Remove four screws (1) on face of altimeter (2) and remove handles (3) holding wriststrap (4).

(2) Slip unserviceable wriststrap (4) off handles (3).

(3) Make a new wriststrap m accordance with Appendix E, Illustrated List of Manufactured Items.

(4) Slip serviceable wriststrap (4) onto handles (3) of altimeter (2).

(5) Install four screws (1) and two handles (3) on altimeter (2).

REPLACE

Replace unserviceable altimeter with a serviceable one from stock.

2-15. SLING ASSEMBLY, EQUIPMENT ATTACHING.

This task covers: a. Inspect b. Repair c. Replace

INITIAL SETUP

Tools:
Sewing machine

Materials/Parts:
Nylon webbing
Quick fit connector

INSPECT

Inspect sling assembly m accordance with Table 2-1 and paragraph 2-10.

REPAIR

Repair sling assembly m accordance with paragraph 2-11, Table 2-2 and original construction details.

REPLACE

Replace unserviceable equipment attaching sling with a serviceable one from stock.

2-16. LINE, EQUIPMENT LOWERING.

This task covers:	a. Inspect	b. Fabricate
	c. Repair	d. Replace

INITIAL SETUP

Tools:
Knife
Sewing machine

Materials/Parts:
Brush, stenciling (Appendix D, Item 3)
Fastener tape, hook
Fastener tape pile
Ink, marking (Appendix D, Item 11)
Line, lowering, 15 ft
Pen, ball-point (Appendix D, Item 14)
Stencilboard, oiled (Appendix D, Item 17)
Thread, nylon, size 5

INSPECT

Inspect lowering line in accordance with Table 2-1 and paragraph 2-10.

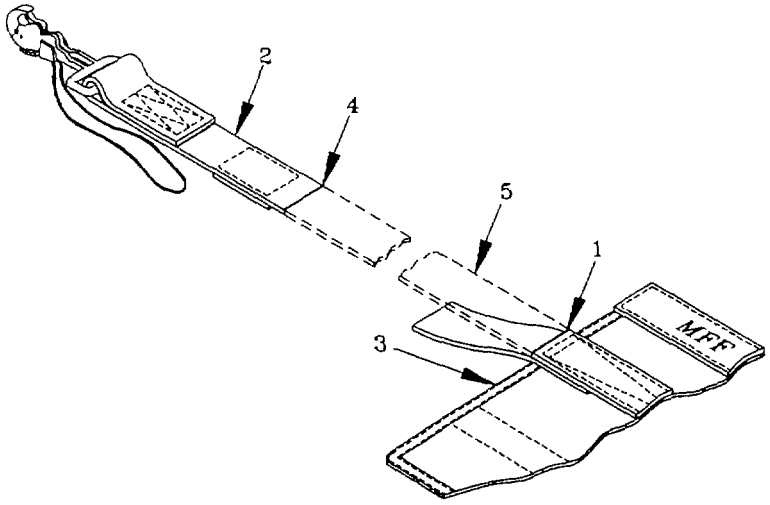
FABRICATE

NOTE

This function describes modification of a 15 ft lowering line into an 8 ft lowering line for Military Free-fall use.

a. Obtain a serviceable 15 ft. lowering line.

b. Modify as follows:

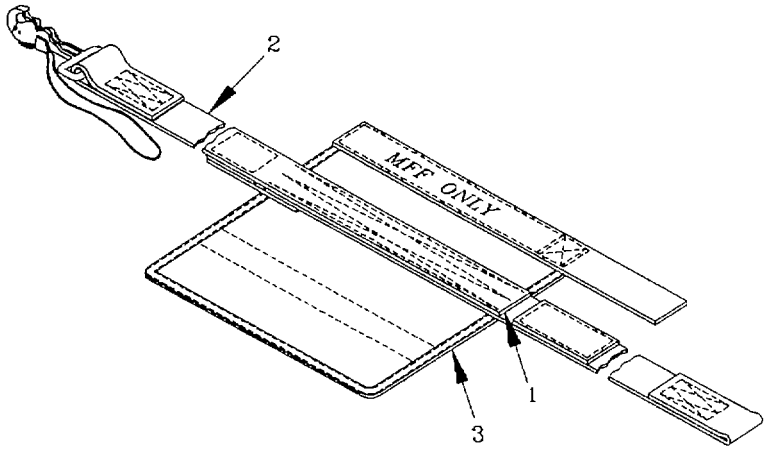


(1) Place one mark (1) on lowering line (2) at edge of retainer/stow flap (3).

(2) Place a second mark (4) 72 in. away from first mark (1).

(3) Carefully cut lowering line (2) at marks (1) and (4) and discard removed section of webbing (5).

(4) Sear both cut ends of lowering line (2) at (1) and (4).



(5) Position cut edge (1) of lowering line (2) on retainer/stow flap (3), aligning it with right edge of retainer/stow flap (3). Ensure that pile tab on cut lowering line section is facing down directly over existing portion of lowering line.

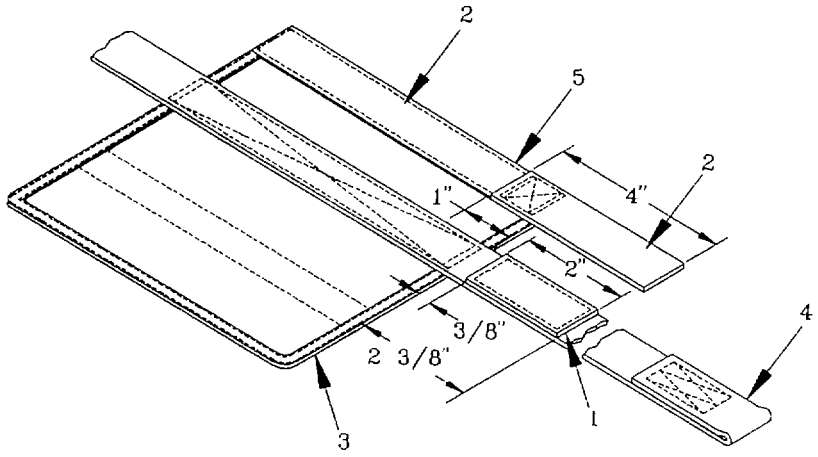
(6) Secure cut lowering line section (2) to retainer/stow flap by stitching with three point WW stitch pattern.

c. Marking New Lowering Line. Mark outside of retainer/stow flap with a one inch stencil and black ink with the letters "MFF ONLY".

REPAIR

a. Repair Lowering Line. Repair lowering line in accordance with paragraph 2-11, Table 2-2 and original construction details.

b. Replace Hook/pile Fastener Tape on Retainer/Stow Flap.



(1) Remove unserviceable hook fastener tape (1) and/or pile fastener tape (2), as required.

(2) Cut a 2-mnch length of hook fastener tape (1) or a 4-mnch length of pile fastener tape (2) as required.

(3) Place a mark 3/8 inch from retainer binding (3) on folded loop end of lowering line (4).

(4) With hook side facing up, align 2-inch hook fastener tape (1) with 3/8 inch marking, and stitch with a single box stitch.

(5) Place a mark 1-inch from the binding edge (5) on pile flap retainer (6) at folded loop end of lowering line (4).

(6) With pile side facing up, position edge of 4-inch pile fastener tape (2) on 1-inch marking with other end extending over binding edge (5) Stitch to pile flap retainer (6) with a single x-box stitch.

REPLACE

Replace unserviceable lowering line with a serviceable from stock.

2-17. RELEASE, ASSEMBLY, RIPCORD, AUTOMATIC, TYPE FF2.

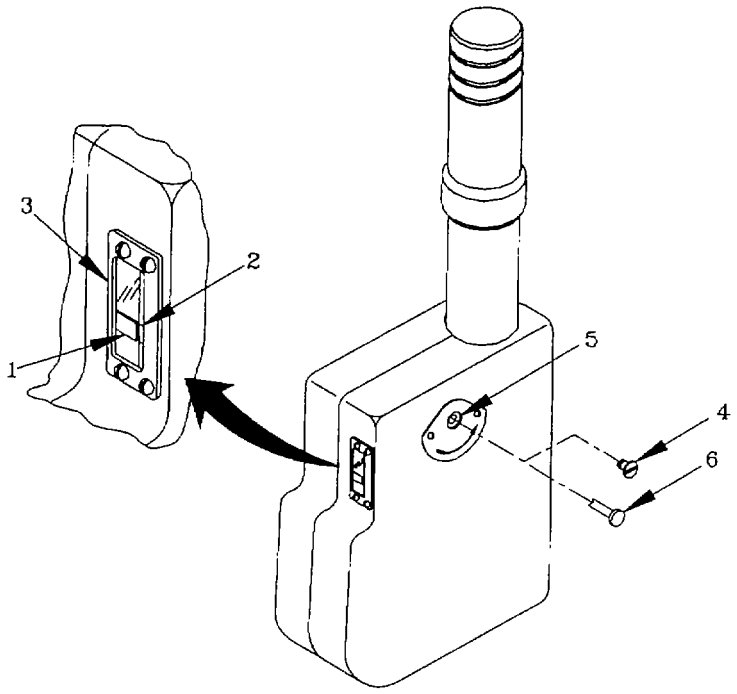
This task covers: a. Reset b. Service
c. Test d. Adjust
e. Replace

INITIAL SETUP

Tools:
Tool kit, FF-2 (Appendix B, Section III, Item 4)
Reset key
Test arming pin
Stopwatch, ten-second sweep (Appendix B, Section III, Item 6)
Torque Driver (Appendix B, Section III, Item 9)
Stirrup cocking tool (Appendix B, Section III, Item 5)
Test chamber (Appendix B, Section III, Item 7)
Test scale (Appendix B, Section III, Item 8)

Materials/Parts:
Withdrawal hook
Power cable
Arming pin assembly
Lanyard (type III nylon cord) (Appendix D, Item 6)
Case screws
Power cable lock nut
Power cable washer
Timing set screws
Rubber seal, upper, main spring and plunger barrel
Rubber seal, lower, main spring and plunger barrel
Arming pin guide bush
Arming pin guide bush seal
Methyl Ethyl Ketone (Appendix D, Item 13)
Cyanoacrylate instant cure adhesive (Appendix D, Item 7)
Sealant, 20/20 or eq. (Appendix D, Item 16)
Loctite (Appendix D, Item 12)

RESET



Check to see that reset indicator bar (1) is aligned with reset indicator mark (2) in reset indicator window (3) If not aligned, then FF-2 Release must be reset. Proceed as follows:

(1) Remove reset access port plug screw (4) from the reset access port (5) located on rear FF-2 release.

NOTE

- Attempting to reset an FF-2 release shall be limited to six attempts. If the FF-2 release fails to reset by the sixth attempt, the FF-2 release shall be considered unserviceable

- Turning of the reset key should result in an audible resetting of the FF-2 release mechanism and alignment of reset indicator bar with reset indicator mark in reset indicator window.

(2) Insert reset key (6) into reset access port (5). Depress and turn reset key (6) one-half turn counterclockwise, then remove reset key (6).

(3) Listen and look to ensure that FF-2 Release has been reset. If FF-2 Release has not been reset, repeat attempt to reset up to five more times. If FF-2 Release does not reset by the sixth attempt, consider it unserviceable and remove it from service.

(4) Reinstall reset access port plug screw (4) into reset access port (5) on FF-2 Release.

SERVICE

NOTE

• FF-2 releases attaining 25 live operations since being placed m service from depot storage or previous cleaning of 365 days of service will be considered unserviceable even if they pass all functional tests Unserviceable FF-2 releases will be serviced in accordance with these procedures.

• FF-2 releases attaining 200 live operations or four years of service from depot storage will be evacuated to Depot for overhaul by manufacturer.

a. Initiate DA Form 2404 or locally approved form (see Figure 2-<REF> for example).

Record Forms

Irvin HITE-FINDER FF-2 Release
Field Service Worksheet

Unit _____ Senal Number _____

Time Interval Tests

1st _____ 2nd _____ 3rd _____
Before During After

Operating Height Test

Millibar Setting _____ Activation Altitude _____

(Circle one) Serviceable Unserviceable

Inspector

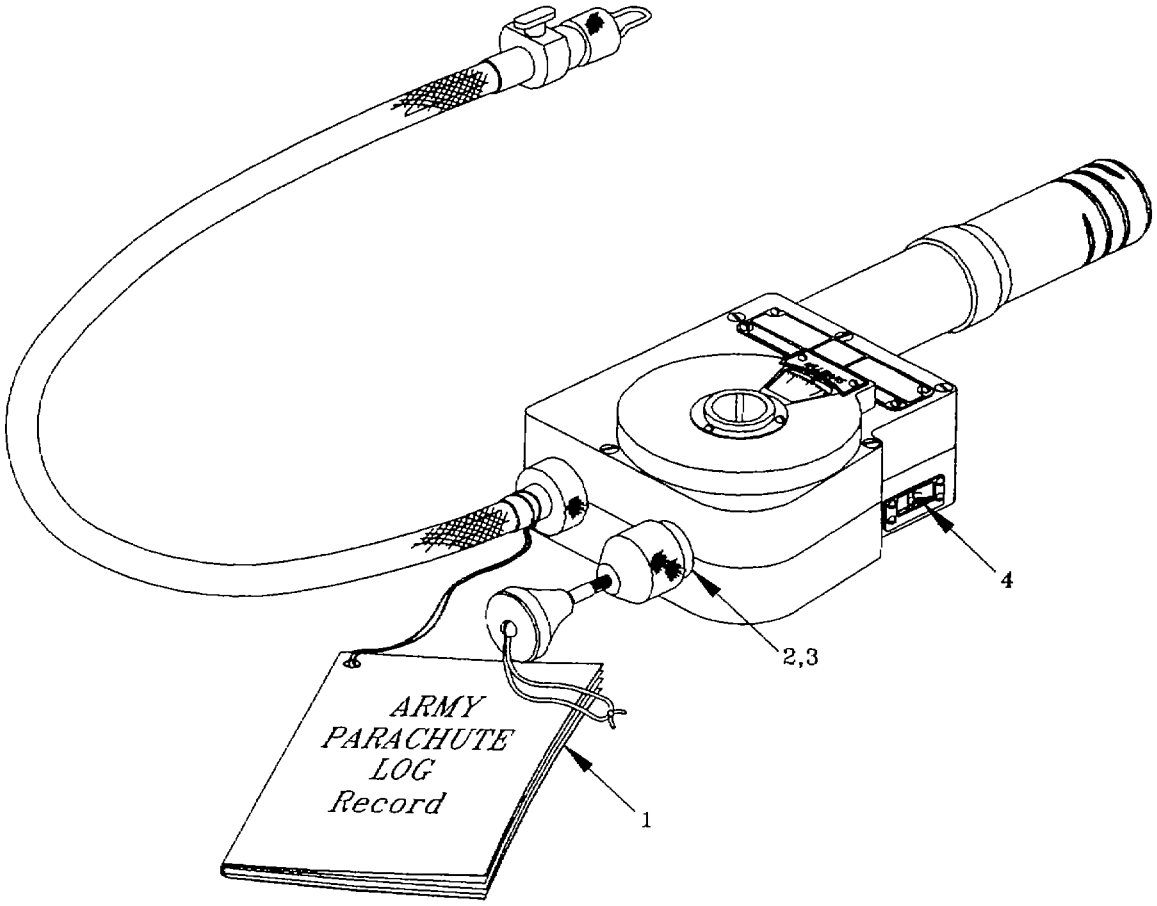
Date

NOTE Make two copies of this form One copy will go to servicing unit, the other stays at DS/GS maintenance facility

Remarks

Figure 2-1. SAMPLE LOCALLY APPROVED FORM

b. Exterior Inspection.



(1) Inspect Log Record (DA Form 3912) entries (1) pertaining to accomplishment of initial and subsequent altitude test.

(a) Check the number of live operations since being placed in service from depot storage or previous servicing.

(b) Check the length of time the FF-2 Release has been m service.

(2) Ensure arming pin guide bush (2) and arming pin guide bush sea] (3) are present and serviceable

(3) Inspect for broken reset indicator window (4).

r

(4) *Main Spring Test.* Perform main spring test as follows:

(a) Ensure millibar setting (1)) is at 570 m/b.

(b) Ensure that the frangible cap (2) is securely tightened on main spring and plunger barrel

(c) Ensure that FF-2 Release is not loaded. If FF-2 Release is loaded, remove arming pin (3) to fire.

(d) Reset FF-2 Release in accordance with RESET function above.

(e) Insert the test arming pin (4).

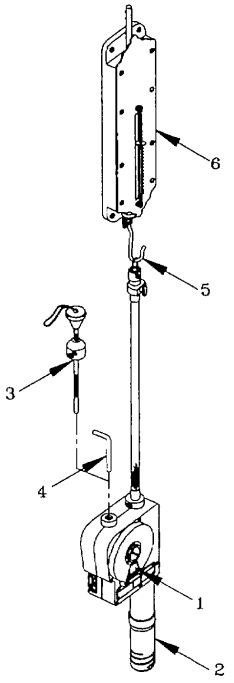
(f) Connect withdrawal hook (5) to vertically-mounted test scale (6).

(g) Gradually pull downward tension on the FF-2 Release until test scale indicator disk passes 50 lb mark. Slowly release the tension.

(h) Check to see that the FF-2 Release has not armed itself under the 50 lb load. If it has, FF-2 Release mainspring is unserviceable and must be replaced.

(i) Remove withdrawal hook (5) from test scale (6).

(j) Record accomplishment of main spring strength test for a serviceable FF-2 Release by making an appropriate entry on "Organizational, Field and Depot Repair and Inspection Data" page of individual FF-2 Release log record.



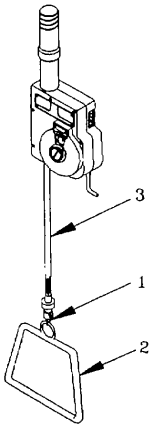
(5) Reset FF-2 Release in accordance with RESET function above.

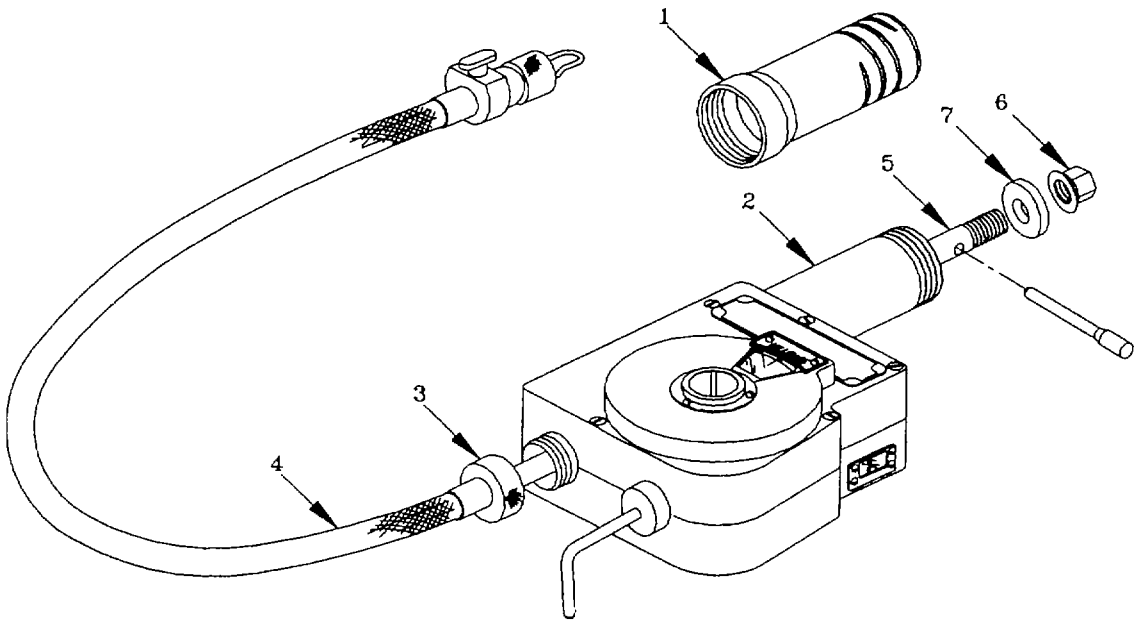
(6) Load FF-2 Release using stirrup cocking tool as follows:

(a) Place withdrawal hook (1) on stirrup cocking tool (2).

(b) Place one foot in stirrup cocking tool (2) and pull FF-2 Release upwards until main spring is compressed, power cable (3) is fully extended and has locked into extended position.

(d) Remove withdrawal hook (1) from stirrup cocking tool (2).





(7) Remove frangible cap (1) from main spring and plunger barrel (2) and set it aside.

(8) Loosen power cable housing knurled nut (3).

(9) Push power cable (4) toward FF-2 Release until power cable rod (5) is exposed at opening of main spring and plunger housing (2).

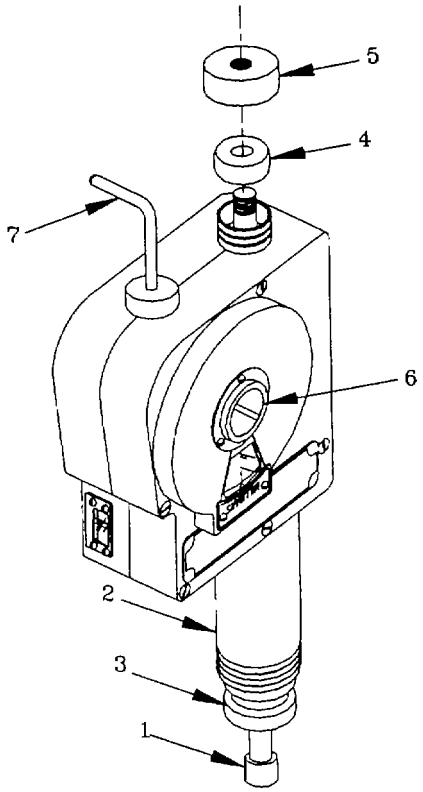
(10) Insert awl or special tool through hole on power cable rod (5).

(11) While holding awl or special tool and rod power cable (5) firmly, remove power cable nut (6) and threadless washer (7).

WARNING

Do not remove test arming pin and keep open end of barrel pointed m a safe direction towards ceiling, floor, or safe wall. Removal of test arming pin will release main spring, expelling plunger with sufficient force to cause serious injury to personnel.

(12) Carefully remove entire power cable assembly (8) from FF-2 Release (2) and set it aside.



(13) Immediately insert safety bar (1) through bottom portion of main spring and plunger barrel (2), plunger (3), and main spring (not visible). Install safety bar pad (4) and safety bar nut (5) Screw safety bar nut (5) finger-tight and ensure that it is properly seated.

(14) *First Time Interval Test.*

(a) Ensure that millibar knob (6) is set to 570 m/b and test arming pin (7) is installed Reset FF-2 Release in accordance with RESET function above.

(b) Firmly grasp FF-2 Release in one hand so that test arming pin (7) faces upwards.

(c) Position a ten-second sweep stopwatch in palm of other hand with thumb directly on plunger and middle finger around short stem of test arming pin (7).

(d) Using a short, quick pull, simultaneously activate FF-2 Release and stopwatch by removing test arming pin (7) and at the same time depressing stopwatch plunger.

NOTE

First time test result should be permanently recorded, but does not have to be within tolerance of 5.5 to 6.5 seconds; second and third time test must fall within tolerance, but need not be identical.

(e) When FF-2 Release fires, stop stopwatch and read and record time indicated.

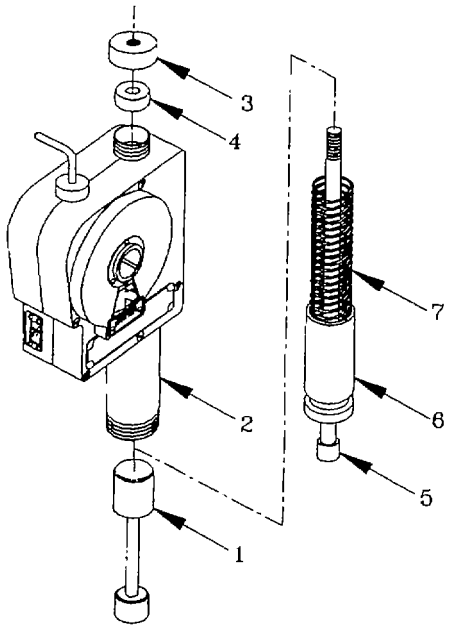
b. Interior Inspection.

NOTE

The FF-2 Release will be disassembled to perform this inspection, any unserviceable components will be replaced during this inspection in accordance with REPAIR function and Maintenance Allocation Chart (MAC, Appendix B, Section II).

(1) If loaded, fire FF-2 Release Ensure that the millibar setting is 570 m/b and safety bar is properly installed Reset the FF-2 Release and install test arming pin.

(2) *Inspect Main Spring and Plunger.*



(a) Insert plunger loading tool (1) metal portion first through the bottom portion of main spring and plunger barrel (2).

(b) Grasp FF-2 Release firmly and with the rubber end of plunger loading tool (1) on work table, apply just enough downward force to relieve tension on safety bar nut (3).

(c) Remove safety bar nut (3) and safety bar pad (4) and gradually relieve downward force on FF-2 Release.

(d) Slide the plunger loading tool (1), safety bar (5), plunger (6), and main spring (7) out of main spring and plunger barrel (2).

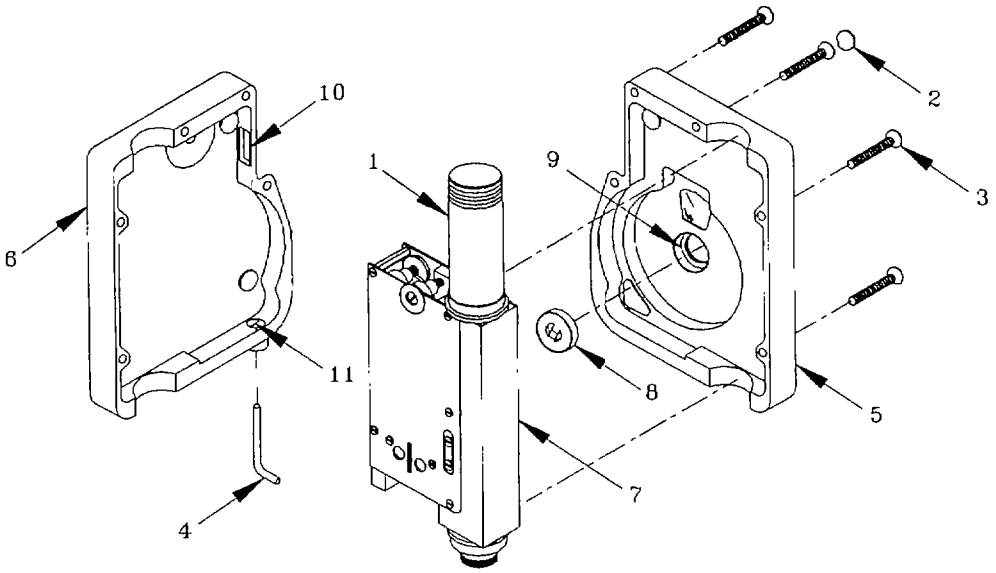
(e) Inspect the plunger (6) for cracks, corrosion, and unusual scratch marks.

(f) Inspect the main spring (7) for unusual distortion, cracks, and corrosion.

(3) *Inspect Inside of Barrel.*

CAUTION

When using the shotgun type nylon brush, always hold the FF-2 Release mechanism higher than the brush and brush with a clockwise motion. This will prevent debris from entering the mechanism and also prevent the brush from separating from the handle.



(a) Using penlight inspect main spring and plunger barrel (1) for debris

(b) Remove debris from main spring and plunger barrel (1) with shotgun-type nylon brush as required

(4) *Inspect FF-2 Release Case Halves.*

(a) Remove sealant (2) from bottom center screw on front case half.

(b) Remove all seven case screws (3) (six front and one rear)

CAUTION

Never permit the firing mechanism to lay on its millibar dial. Damage to mechanism may result

(c) Remove test arming pin (4), separate case halves (5) and (6) and carefully remove firing mechanism (7).

(a) Inspect top case half.

1. There should be one triangular rubber pad and one round rubber pad on inside of top case half (5).

2. Remove millibar knob (8) and ensure that O ring (9) is present and serviceable.

NOTE

Due to the ability of the neoprene rubber bush seal to retain a set position ("memory characteristic"), once the arming pin has been inserted it is virtually impossible for the seal to achieve a total seal after it has been used If the slit opening is doubtful, it should be replaced.

(b) Inspect bottom case half.

1. There should be two round rubber pads on inside of bottom case half (6).

2. Ensure the reset indicator window (10) is present and not broken.

3. Point bottom case half (6) toward a light source to ensure that no light penetrates through arming pin guide bush seal (11).

(c) Replace rubber pads, arming pin guide bush, or arming pin guide bush seal as required. (Replace arming pin guide bush seal in accordance with REPAIR function below)

(5) *Inspect Firing Mechanism.*

CAUTION

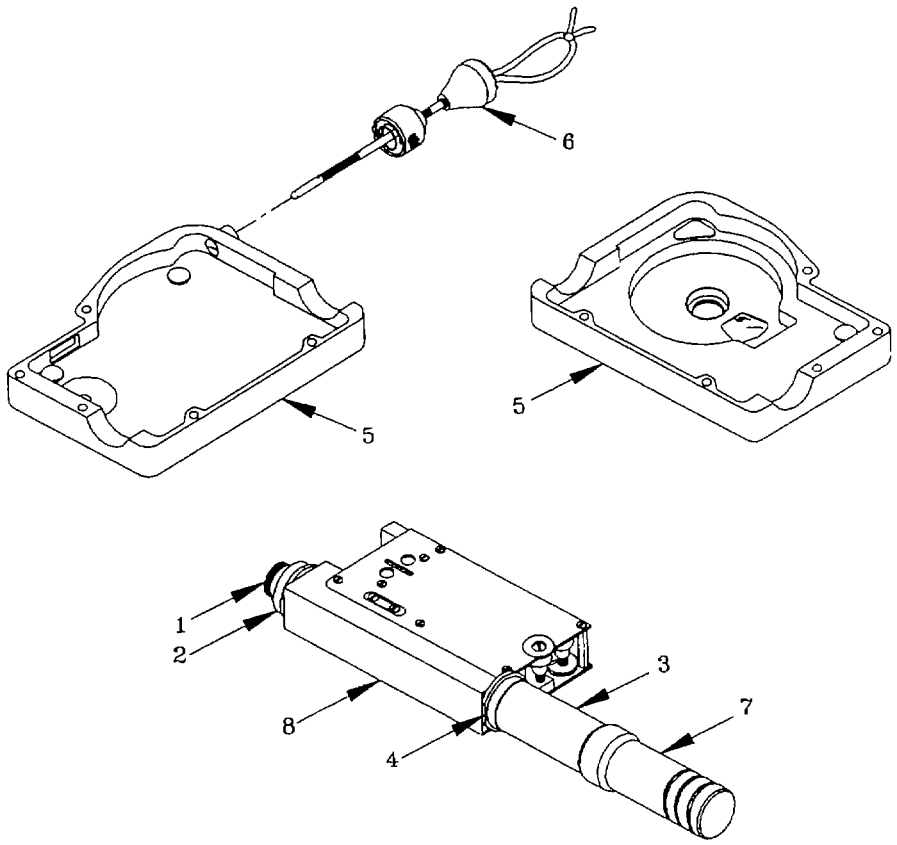
Never permit the firing mechanism to lay on its millibar dial Damage to mechanism may result

NOTE

• Change the rubber seal whenever unserviceable or every 25 operations, whichever comes first

• Unused rubber seals must be stored in a sealed plastic bag at all times.

• When replacing rubber seals, ensure that flat portion of rubber seal is aligned with flat side of firing mechanism.



(a) Inspect short portion of main spring and plunger barrel (top) (1) Ensure that rubber seal (2) is present and serviceable Replace rubber seal (2) if required

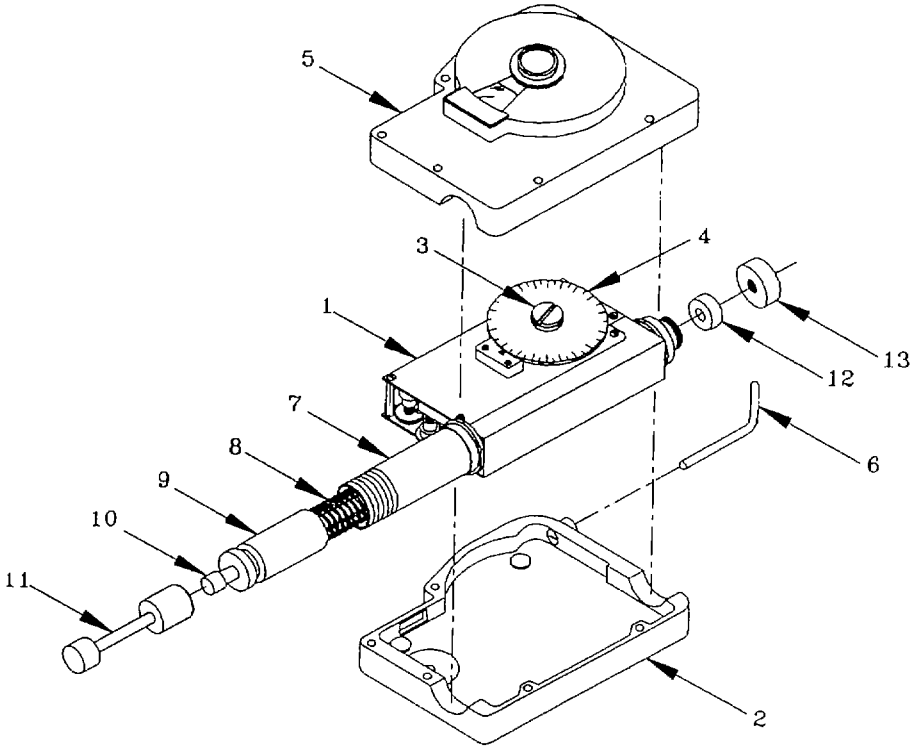
(b) Inspect long portion of main spring and plunger barrel (bottom) (3) Ensure that rubber seal (4) is present and serviceable. Replace rubber seal (4) if required.

(6) *Clean FF-2 Release.*

(a) Clean case halves (5), arming pin assembly (6), and frangible cap (7) by brushing with a soft bristle brush or shotgun-type nylon brush and compressed air.

(b) Clean FF-2 Release mechanism (8) by blowing with compressed ambient air not exceeding 15 psi. While blowing out FF-2 Release mechanism, keep long end of main spring and plunger barrel (3) lower than rest of mechanism and always handle with care.

(7) *Assemble FF-2 Release.*



(a) Set firing mechanism (1) back in bottom case half (2) Install millibar knob (3) on top of millibar dial (4) and install top case half (5). *Do not install case screws at this time.*

(b) Ensure that the millibar setting is 570 m/b Reset FF-2 Release in accordance with RESET function above

(c) Install test arming pin (6)

(d) Through bottom portion of main spring and plunger barrel (7) insert main spring (8), plunger (9), and safety bar (10) threaded end first.

(e) Using plunger loading tool (11), load FF-2 Release and install safety bar pad (12) and safety bar nut (13)

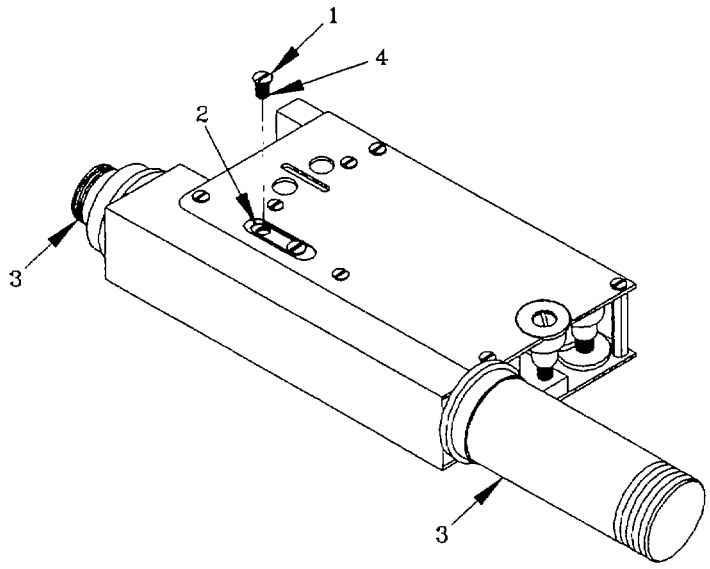
(8) *Second time interval test*

(a) Perform a second time interval test. This time, the time check must be within the acceptable time tolerance of 5.5 to 6.5 seconds.

(b) If the FF-2 mechanism is not within tolerance, make necessary adjustments as follows:

NOTE

- Before loosening timing set screws, ensure that the mechanism is reset, otherwise inconsistent time readings will result.
- Never completely remove both timing set screws as this will set the holes in the timing block and timing plates out of alignment.



1. Loosen two timing set screws (1)

2. Move the timing block (2) toward shorter end of barrel (3) for a shorter timing setting, or toward longer end of barrel (3) for a longer time setting

3. Tighten set screws (1) and repeat second time test.

4. When second time interval test falls within acceptable tolerances, remove *one* of the old timing screws (1) and install a *new* one that has received one to two drops of Loctite grade 161 sealant (4) on its tip. Install timing set screw with fingers only

NOTE

Use only authorized torque screwdriver calibrated within the last 120 days for this function

5. Torque new timing set screw to 6 inch-lbs.

6. Repeat steps (4) and (5) above for other timing set screw (1).

NOTE

Millibar knob should be installed on millibar dial before assembling case halves.

(c) Record acceptable second time interval test results in Log Record Book (DA Form 3912) on the "Organizational, Field, and Depot Repair and Inspection Data" page and DA Form 2404 or locally approved form.

(d) Replace case halves

(9) Install all case screws so that they are flush with case halves

(10) Check to ensure that millibar setting is 570 m/b. Reset FF-2 Release and install test arming pin

(11) *Third Time Interval Test.*

(a) Perform a third time interval test.

(b) The third time test must be within acceptable tolerance, but does not necessarily need to be the same value as that of the second time test

(c) If the third time check is not within acceptable tolerance, repeat procedures in step (8) above.

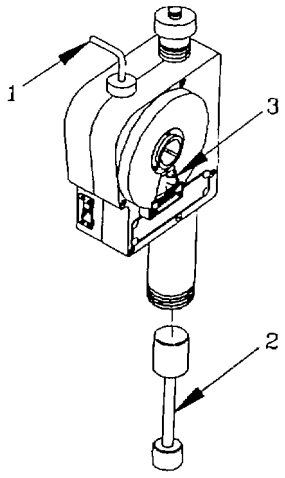
(d) Record acceptable third time interval test results m Log Record Book (DA Form 3912) on the "Organizational, Field, and Depot Repair and Inspection Data" page and DA Form 2404 or locally approved form.

c. Operating Height Test Perform operating height test as follows:

(1) Prepare for operating height test.

(a) Inspect and test automatic ripcord release test set to ensure that it meets serviceability criteria.

(b) Reset FF-2 Release m accordance with RESET function above

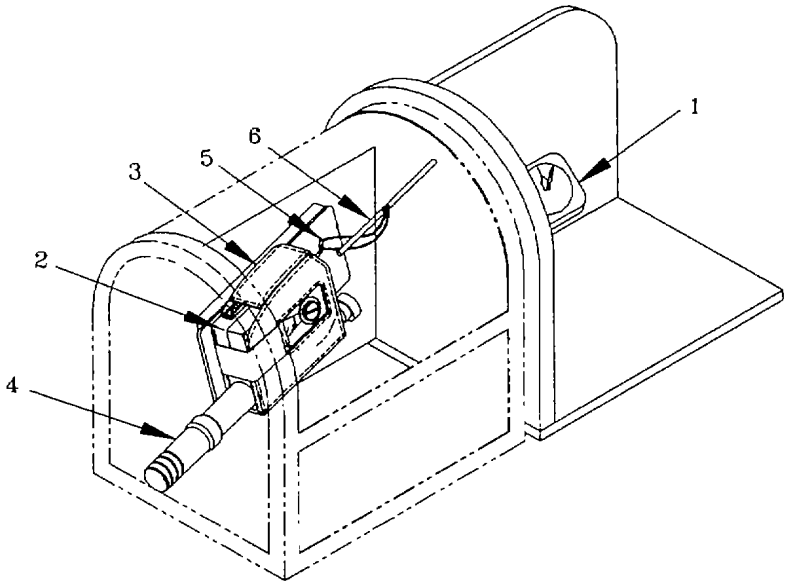


(c) Install test arming pin (1).

(d) Load FF-2 Release using plunger loading tool (2).

(e) Set FF-2 Release millibar setting (3) to desired setting (see Table 2-4).

(*2) Perform operating height test.*



(a) Set automatic ripcord release test set master altimeter [l) to ze.92 inches of mercury (standard barometric pressure at sea level)

(b) Install FF-2 Release (2) in adaptor plate stowage pocket (3). Ensure that frangible cap (4) is installed and that it has been secured with cover retaining strap equipped with hook fastener.

(c) Install FF-2 Release (2) m test set by attaching adaptor plate (3) to center attachment plate with locking bars on center plate. Attach test arming pin (5) to arming withdrawal rod (6).

WARNING

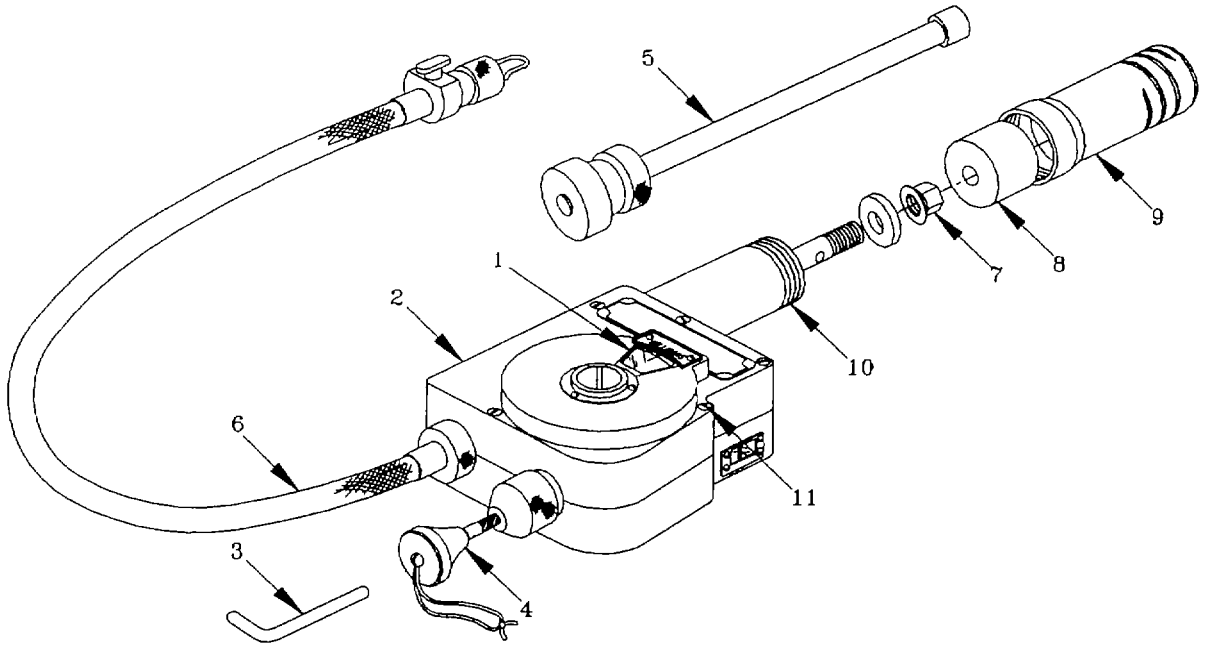
- Position shield over glass bell jar prior to operating test set Failure to do so may result in serious injury to personnel.
- Premature withdrawal of test arming pin prior to reaching 2500 feet of altitude above desired altitude setting will result in an inaccurate time delay and opening altitude.
- After calculating FF-2 Release opening altitude, minimum arming altitude (opening altitude plus 2500 feet) should be ascertained. It is imperative that all concerned parachutists and aircrew members be aware of minimum arming altitude.

(d) Close chamber and evacuate to an altitude above FF-2 Release arming pin withdrawal altitude that corresponds to millibar setting. Withdraw test arming pin prior to descending to prescribed withdrawal altitude. (Allow chamber to stabilize).

(e) Reduce chamber altitude at a rate slow enough to be able to note altitude reading on master altimeter when delay mechanism becomes activated. If available, a stethoscope may be placed against frame of altitude chamber to facilitate listening.

(f) The altitude at which release time delay mechanism began to function must be within tolerance listed in column 4, Table 2-4 that corresponds to previously established millibar setting and arming pin withdrawal altitude. If release time delay does not operate within the prescribed tolerances in Table 2-4, the release is considered unserviceable and will be removed from service.

(3) Record the results of the operating height test and remove FF-2 Release from the test set. On the "Inspection" page of DA Form 3912, enter the date of test, altitude; millibar dial setting made on the FF-2 Release; altitude at which the time delay mechanism started; signature of the inspector testing the FF-2 Release, and unit at which FF-2 Release was tested. Record results on DA Form 2404 or locally approved form as well



(4) Set millibar setting (1) back at 570 m/b, reset FF-2 Release (2) and replace test arming pin (3) with arming pin assembly (4).

(5) Reload FF-2 Release (2) and remove safety bar assembly (5).

(6) Immediately install power cable assembly (6) of required length and reset access port plug screw. Install a new locknut (7) on power cable rod (6). Place rubber buffer (8) in frangible cap (9) (one only) and place frangible cap (9) on barrel (10).

(7) Using sealant type 2020 or equal, seal bottom center case screw (11) on top case half.

Table 2-4 CRITERIA FOR TESTING FF-2 RELEASE DELAY MECHANISM

Millibar dial setting (millibars)	Arming pin withdrawal altitude (feet)	Time delay mechanism starting altitude (6-second delay) (feet)	Acceptable tolerances (feet)
1000	5,000	1,445	+310 = 1,755 -110 = 1,334
960	6,000	2,565	+310 = 2,875 -110 = 2,455
920	8,000	3,730	+350 = 4,080 -120 = 3,610
880	9,000	4,930	+380 = 5,310 -140 = 4,790
840	10000	6,180	+420 = 6,600 -160 = 6,020
800	11,000	7,475	+420 = 7,895 -160 = 7,315
760	13,000	8,825	+470 = 9,295 -200 = 8,625
720	14,000	10,235	+520=10,755 -250 = 9,985

INSTALL

a. Inspection Prior to Use Prior to cocking an FF-2 Release for use, ensure it has been inspected in accordance with above procedures. Evidence of damage to any component of the FF-2 Release, or evidence that the FF-2 Release has been immersed in salt water shall be cause to consider the item unserviceable and it shall be removed from service.

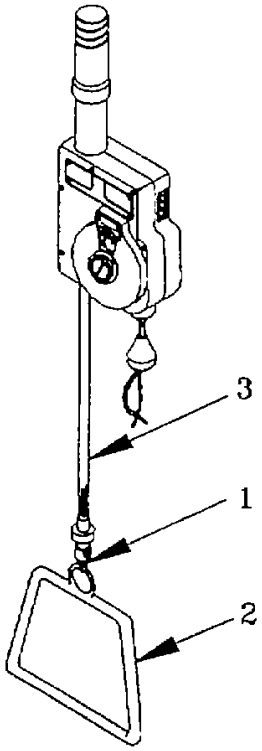
b. Cocking the FF-2 Release for Use.

WARNING

Do not attempt to cock the FF-2 Release if reset indicator bar is not aligned with reset indicator mark. Inaccurate time delay and operating altitude will result Failure to observe this warning may result in severe injury or death to parachutist using the FF-2 Release.

NOTE

- FF-2 Releases attaining 25 live operations since being placed in service from depot storage or previous cleaning will be considered unserviceable even though they pass all functional checks Unserviceable FF-2 Releases will be evacuated to a DS facility for servicing
- Any FF-2 Release attaining 200 live operations or four years of service since being placed m service from depot storage will be evacuated to depot for overhaul.
- Firing to FF-2 Release with the power cable installed constitutes a live operation



(1) Reset FF-2 Release m accordance with RESET function above.

(2) Place withdrawal hook (1) on stirrup cocking tool (2)

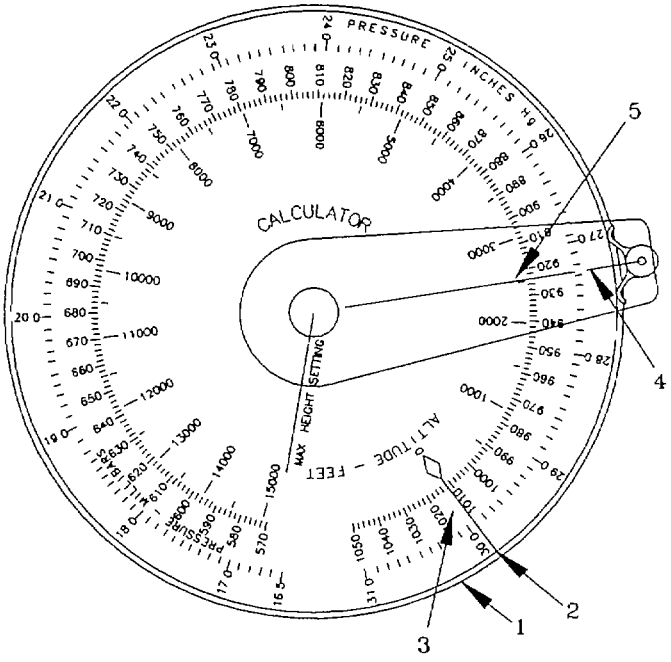
(3) Place one foot m stirrup cocking tool (2) and pull FF-2 Release upward until the main spring (not visible) m FF-2 Release is compressed and power cable (3) is fully extended and locked into extended position.

(4) Remove foot from stirrup cocking tool (2) and remove power cable withdrawal hook (1) from stirrup cocking tool (2).

(5) FF-2 Release is now cocked and ready for setting and installation.

c. Setting the Opening Altitude. Setting the opening altitude of FF-2 Release will be accomplished immediately prior to use, as atmospheric conditions will cause the barometric pressure in a drop area to vary on a day-to-day basis. Since the function of the FF-2 Release is directly affected by prevailing barometric pressure at a given point, the opening altitude of the FF-2 Release will be calculated on the FF-2 calculator and the applicable millibar setting will be made on the release on a daily basis

(1) Ascertain barometric pressure of an intended drop zone m inches of mercury or millibars. *As an example,* consider pressure at 29.92 inches of mercury which is equal to 1012 millibars.



(2) Set the arrow on calculator (1) at "29.9" on outside scale (2) which coincides with "1012" millibar setting on center scale (3).

(3) Set hairline indicator (4) on desired opening altitude m feet which is located on inside scale (5). In this example, 2500 feet is opening altitude

(4) Read corresponding millibar setting under hairline indicator (4). For the example 2500 feet desired opening altitude, millibar setting to be made on FF-2 Release is "924". Recheck the arrow setting made in previous steps and ensure no inadvertent movements were made.

(5) Turn millibar knob on side of FF-2 Release until "924" is aligned with arrow in millibar window

WARNING

- Premature withdrawal of FF-2 Release arming cable prior to reaching 2500 feet of altitude above desired opening altitude will result in inaccurate time delay and opening altitude

- After calculating FF-2 Release opening altitude, the minimum arming altitude (opening altitude plus 2500 feet) should be ascertained It is imperative that all concerned parachutists and aircrew members be aware of this minimum arming altitude

NOTE

When in use, FF-2 Release aneroid will release timing mechanism to begin operating six seconds above the altitude/millibar setting. With the example provided above, the timing mechanism will start operation at 6 seconds or 1080 feet (180 feet per second rate of descent times six seconds) above the 2500 feet (924 millibar) setting. 2500 plus 1080 equals 3580 feet above surface of the drop zone

(6) Make appropriate log entries as follows

(a) Fill in date

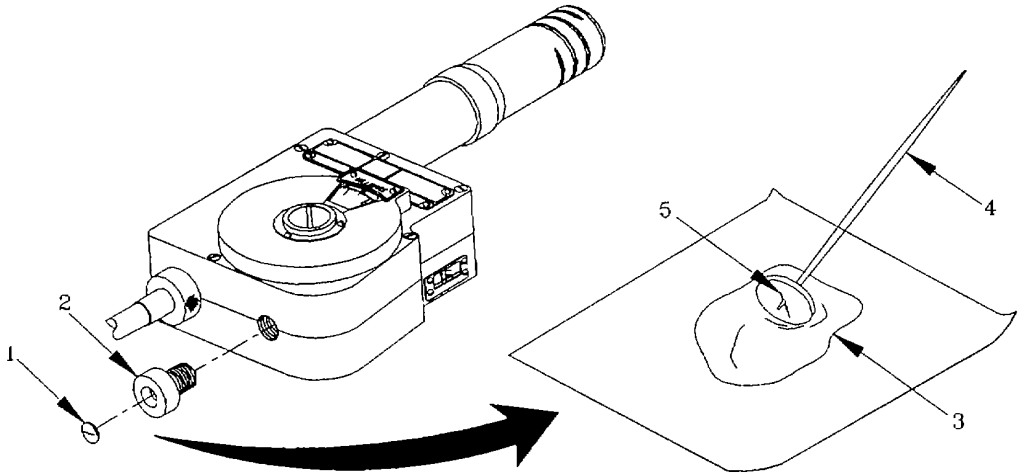
(b) Under number of Jumps column, record number of operations Number 1 will always be used when FF-2 Release is tested in test chamber, and each operation thereafter will be numbered consecutively 2 through 25

(c) Apply signature of individual cocking FF-2 Release

(d) Fill in unit designation

REPAIR

Replace Arming Pin Bush Seal.



WARNING

Acetone and Methyl Ethyl Ketone are hazardous chemicals! Repeated or prolonged contact with liquid or inhalation of vapor can cause skin and eye irritation, dermatitis, narcotic effects, and damage to internal organs. Avoid contact with skin and eyes and do not breathe vapors Always wear protective goggles and gloves, and use only in well-ventilated areas. Do not use near open flame or excessive heat. If you become dizzy while using one of these solvents, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical help. In case of skin contact, wash contacted area thoroughly with soap and water.

(1) Remove unserviceable arming pin guide bush seal (1) from arming pin guide bush (2) by soaking in Acetone or Methyl Ethyl Ketone (Appendix D, Item 13) for approximately four to five hours. Ensure that all unserviceable seal (1) is removed and inside of bush (2) is clean and dry.

(2) Deposit one drop of cyanoacrylate instant cure adhesive (3) (Appendix D, Item 7) on a piece of paper, cardboard, stencil board, or other clean surface.

CAUTION

Ensure that no adhesive is allowed to spread on the top or bottom portion of the rubber seal.

(3) Holding serviceable seal (1) with toothpick or other small, sharp instrument (4) inserted in slit (5), slowly rotate seal (1) in adhesive (6) until all of outer edge of seal (1) is lightly coated Next, tilt seal (1) whereby it can be rotated again to apply a light coat of adhesive (3) on bottom outer edge of seal (1)

(4) Using toothpick or other instrument (4), carefully insert seal (1) into bush (2)

(5) Remove toothpick or other instrument (4) from slit (5) and use it to press seal (1) fully into the seat of bush (2).

(6) Allow bush (2) and seal (1) to sit for two hours before install into FF-2 Release.

REPLACE

Replace an unserviceable FF-2 Release with a serviceable one from stock.

Section V. PREPARATION FOR STORAGE OR SHIPMENT

2-18. SPECIAL INSTRUCTIONS FOR ADMINISTRATIVE STORAGE.

a. Placement of Ancillary Equipment for Military Free-fall System in administrative storage should be for brief periods of time when a maintenance resource shortage exists. Items should be in mission readiness within 24 hours or within the time factors as determined by the directing authority During the storage period, appropriate maintenance records will be kept.

b. Before placing the equipment in administrative storage, current preventive maintenance checks and services should be completed, shortcomings and deficiencies should be corrected, and applicable Modification Work Orders (MWO) applied.

c. Storage Site Selection Ancillary Equipment for Military Free-fall System should be stored in a controlled temperature, dry, and well ventilated environment.

d. Inspection. Refer to paragraph 2-7 for inspection instructions.

e. Cleaning and drying Clean and dry the Ancillary Equipment for Military Free-fall System in accordance with procedures described in TM 38-230-1.

2-19. PRESERVATION. If the Ancillary Equipment for Military Free-fall System are to be stored without regular PMCS being performed, consult TM 38-230-2 for preservation requirements

2-20. PREPARATION FOR SHIPMENT. Prepare the Ancillary Equipment for Military Free-fall System for shipment by packing components into original or similar containers m which they were received

APPENDIX A

REFERENCES

A-1. SCOPE. This appendix lists all forms, field manuals, technical manuals, military specifications, standards and miscellaneous publications referenced in this manual

A-2. FORMS.

Report of Item Discrepancy ..... SF 364
Product Quality Deficiency Report ..... SF 368
Recommended Changes to Publications and Blank Forms ..... DA Form 2028
Recommended Changes to Equipment Technical Publications ..... DA Form 2028-2
Uncorrected Fault Record ..... DA Form 2408-14
Equipment Inspection and Maintenance Worksheet ..... DA Form 2404

A-3. FIELD MANUALS.

General Repair for Tents, Canvas and Webbing ..... FM 10-16

A-4. TECHNICAL MANUALS.

Packaging of Material, Preservation ..... TM 38-230-1
Administrative Storage of Equipment ..... TM 740-90-1
Procedures for Destruction of Equipment to Prevent Enemy Use ..... TM 750-244-3

A-5. MISCELLANEOUS PUBLICATIONS.

The Army Maintenance Management System (TAMMS) ..... DA Pam 738-750
Functional User's Manual for the Army Maintenance Management
System Aviation (TAMMS-A) ..... DA Pam 738-751
Army Logistics Readiness and Sustainability ..... AR 700-138

A-6. MILITARY SPECIFICATIONS AND STANDARDS.

Color, Marking, and Camouflage Patterns Used on Military Equipment ..... TB 43-0147

APPENDIX B

MAINTENANCE ALLOCATION CHART (MAC)

Section I. INTRODUCTION

B-1. THE ARMY MAINTENANCE SYSTEM MAC.

a. This introduction (Section I) provides a general explanation of all maintenance and repair functions authorized at various maintenance levels under the Standard Army Maintenance System concept

b. The Maintenance Allocation Chart (MAC) in Section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC m column (4) as.

Unit - includes two subcolumns, C (operator/crew) and O (unit) maintenance

Direct Support - includes an F subcolumn.

General Support - includes an H subcolumn

Depot - includes a D subcolumn

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from Section II.

d Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS. Maintenance functions are 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 (e g. by sight, sound, or feel).

b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, 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: e g. to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases

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

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

B-2. MAINTENANCE FUNCTIONS (CONT).

f. Calibrate To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments 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. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the 3d position code of the SMR code.

i. Repair The application of maintenance services[1] including fault location/troubleshooting[2], removal/installation, and disassembly/assembly[3] procedures, and maintenance actions[4] to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure m a part, subassembly, module (component or assembly), end item, or system.

j. Overhaul. That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/ operational condition as required by maintenance standards m appropriate technical publications (i.e., DMWR). 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 service/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment The rebuild operation includes the act of returning to zero those age measurements (e.g. hours, miles) considered in classifying Army equipments/components.

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II.

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

b. Column 2, Component/Assembly. Column 2 contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

---

1 Services - Inspect, test, service, adjust, align, calibrate, and/or replace

2 Fault location/troubleshooting - The process of investigating and detecting the cause of equipment malfunctioning, the act of isolating a fault within a system or unit under test (UUT).

3 Disassembly/assembly - The step-by-step breakdown (taking apart) of a spare/functional group coded item to the level of its least component, that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).

4 Actions - Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

c. Column 3, Maintenance Functions. Column 3 lists the functions to be performed on the item listed in Column 2 (For detailed explanation of these functions, see paragraph B-2.)

d. Column 4. Maintenance Level. Column 4 specifies each level of maintenance authorized to perform each function listed in Column 3, by indicating work time required (expressed as man-hours in whole hours or decimals) in the appropriate subcolumn This work-time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work-time figures are to be shown for each level. 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 (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as follows

C.....	Operator or crew maintenance
O.....	Unit maintenance
F..... ..	Direct support maintenance
L.....	Specialized Repair Activity (SRA)5
H.....	General support maintenance
D..... .	Depot maintenance

e. Column 5. Tools and Test Equipment Reference Code. Column 5 specifies, by code, those common tool sets (not individual tools), common TMDE, and special tools, special TMDE, and special support equipment required to perform the designated function. Codes are keyed to tools and test equipment m Section III

f. Column 6. Remarks When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks contained in Section IV

[5] This maintenance level is not included m Section II, column (4) of the Maintenance Allocation Chart. Functions to this level of maintenance are identified by a work-time figure in the "H" column of Section II, column (4), and an associated reference code is used in the Remarks column (6). This code is keyed to Section IV, Remarks, and the SRA complete repair application is explained there.

B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, SECTION III.

a. Column 1, Reference Code. The tool and test equipment reference code corresponds with a code used in the MAC, Section II, Column 5.

b Column 2, Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

c Column 3, Nomenclature. Name or identification of the tools or test equipment

d. Column 4, National Stock Number The National Stock Number of the tool or test equipment

e. Column 5, Tool Number The manufacturer's part number, model number, or type number.

B-5. EXPLANATION OF COLUMNS IN REMARKS, SECTION IV.

a Column 1, Remarks Code. The code recorded m column 6, Section II.

b. Column 2, Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

Section II MAINTENANCE ALLOCATION CHART

Group Number	Component/Assembly	Maintenance Function	(4) Maintenance Level						
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
01	HELMET, FREE-FALL	Inspect		0.1					
	PARACHUTIST'S, TYPE I	Repair		0.1				1	
		Replace		0.1					
0101	EDGE BINDING	Inspect		0.1					
		Repair		0.3					
0102	EAR CUSHION	Inspect		0.1				1	
		Repair		0.5					
02	HELMET, FREE-FALL	Inspect		0.1					
	PARACHUTIST'S, TYPE II	Repair		0.1				1,2,3	
	(W/COMMO)	Replace		0.1					
0201	EARPHONE	Inspect		0.1					
		Replace		0.5				1,2,3	
0202	EARPHONE CORD	Inspect		0.1					
		Replace		0.5				1,2,3	
0203	MICROPHONE BOOM	Inspect		0.1					
		Replace		0.5					
03	GOGGLES	Inspect		0.1					
		Replace		0.1					
04	ALTIMETER	Inspect		0.1					
		Test		0.4					
		Service		0.3				2	
		Repair		0.2					
		Replace		0.1					
0401	WRISTSTRAP, ALTIMETER	Inspect		0.1					
		Replace		0.1				3	
05	SLING, EQUIPMENT	Inspect		0.1					
	ATTACHING ASSEMBLY	Repair		0.3					
		Replace		0.1					
06	LINE, EQUIPMENT	Inspect		0.1					
	LOWERING	Repair		0.5					
		Replace		0.1					
07	RELEASE ASSEMBLY,	Inspect		0.2				4,5	
	RIPCORD, AUTOMATIC,	Install		0.5				4,5	
	TYPE FF-2	Test		0.5				6,7,8	
		Service		0.5				3,4,5	
		Adjust		0.5				1	
		Repair		1.0				1,3,4,5	
		Replace		0.2					
		Overhaul					4.0		

Section III TOOL AND EQUIPMENT LIST

(1) Tool & Equip	(2)Level	(3) Nomenclature	(4) National Stock Number	(5) Tool Number
1	0	SCREWDRIVER, FLAT TIP		
2	0	WRENCH, ALLEN		
3	0	SCREWDRIVER, CROSS TIP		
4	0	FF-2 BASIC TOOL KIT	1670 01 106 9091	
5	0	STIRRUP COCKING TOOL	1670 01 101 954X	
6	0	STOPWATCH	6645 01 128 4821	
7	0	TEST CHAMBER	1670 00 892 4237	
			4940 01 216 8322	
8	0	TEST SCALE	6635 00 705 5469	
9	0	TORQUE DRIVER	5120 00 401 1676	

Section IV. REMARKS

(1) Remark Code	(2) Remarks
	-NONE-

APPENDIX C

UNIT, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

C-1. SCOPE This RPSTL 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 unit maintenance of the Ancillary Equipment for Military Free-Fall System. It authorizes the requisitioning, Issue, and disposition of spares, repair parts and special tools as Indicated by the source, maintenance and recoverability (SMR) codes

C-2. GENERAL. In addition to this section, Introduction, this Repair Parts and Special Tools List is divided into the following sections

a. Section l. Repair Parts List A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance This list also Includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence Bulk materials are listed in item name sequence Items are shown in the associated illustration(s)/figure(s)

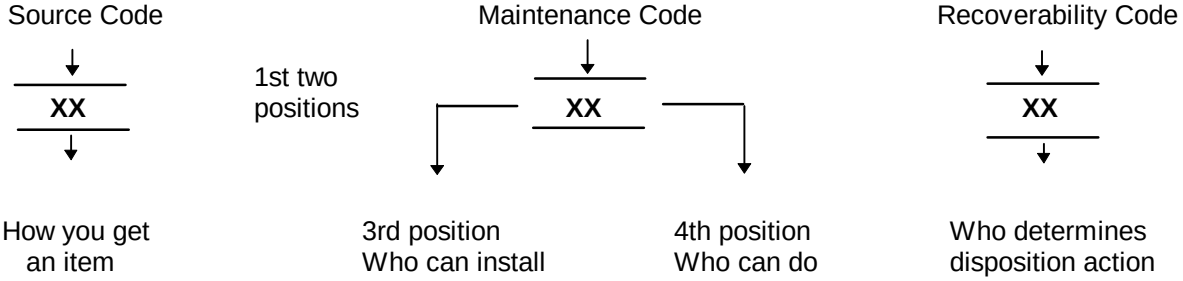
b. Section 1II. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information In DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance.

c. Section IV Cross-Reference Index A i1st, in National Item Identification Number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list n alphanumeric 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 The figure and item number index lists figure and item numbers in alphanumeric sequence and cross references NSN, CAGEC and part number

C-3. EXPLANATION OF COLUMNS (SECTIONS 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 a5-postilon code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:



replace or use the item	complete repair* on the item	on an unserviceable item

* 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.

Source Code	Explanation
PA, PB, PC**, PD, PE, PF, PG	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 3rd position of the SMR code. **NOTE: Items coded PC are subject to deterioration.
KD, KF, KB	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 3rd position of the SMR code The complete kit must be requisitioned and applied.
MO- (Made at Unit/AVUM Level) MF- (Made at DS/AVIM Level) MH- (Made at GS Level) ML- (Made at Specialized Repair Activity (SRA)) MD- (Made at Depot)	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 in this RPSTL. f the item Is authorized to you by the 3rd position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.
AO- (Assembled by Unit/AVUM Level) AF- (Assembled by DS/AVIM Level) AH- (Assembled by GS Category) AL- (Assembled by SRA) AD- (Assembled by Depot)	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 level of maintenance indicated by the source code if the 3rd position code of the SMR code authorizes you to replace the Item, but the source code indicates the items are assembled at a higher level, order the item from the higher level of maintenance

XA- Do not requisition "XA"-coded item Order Its next higher assembly (Refer to the NOTE below)

XB- If an "XB" Item is not available from salvage, order it using the CAGEC and part number given

XC- Installation drawing, diagram, instruction sheet, field service drawing, that Is identified manufacturer's part number

XD- Item is not stocked Order an "XD"-coded Item through normal supply channels using the CAGEC 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 level(s) 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 level authorized to remove, replace, and use an Item The maintenance code entered in the third position will indicate authorization to the following levels of maintenance

Maintenance Code	Application/Explanation
C-	Crew or operator maintenance done within unit/AVUM maintenance
O-	Unit level/AVUM maintenance can remove, replace, and use the item
F-	Direct support/AVIM maintenance can remove, replace, and use the Item
H-	General support maintenance can remove, replace, and use the Item.
L-	Specialized repair activity can remove, replace, and use the item
D-	Depot 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 level with the capability to do complete repair (I e, perform all authorized repair functions.)

NOTE

Some limited repair may be done on an Item at a lower level of maintenance, If authorized by the Maintenance Allocation Chart and SMR codes

Maintenance Code	Application/Explanation
O-	Unit/AVUM is the lowest level that can do complete repair of the item.
F-	Direct support/AVIM is the lowest level that can do complete repair of the item.
H-	General Support Is the lowest level that can do complete repair of the item
L-	Specialized repair activity Is the lowest level that can do complete repair of the item.
D-	Depot is the lowest level 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 level

(3) Recoverability Code Recoverability codes are assigned to items to indicate the disposition action on unserviceable items The recoverability 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 level of maintenance shown in 3d position of SMR Code
O-	Reparable item. When not economically reparable, condemn and dispose of the item at unit or AVUM level
F-	Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support or AVIM level.
H-	Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support level.
D-	Reparable item When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level.
L-	Reparable 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. CAGEC (Column (3)). The Commercial and Government Entity Code (CAGEC) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency/activity 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 an NSN to requisition an item, the item you receive may have a different part number from the number listed

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) Part numbers of bulk materials are referenced in this column In the line entry to be manufactured/fabricated
(3) 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.

f. QTY (Column (6)) The QTY (quantity per figure) column indicates the quantity of the item used in the breakout shown on the illustration/figure, which Is prepared for a functional group, subfunctional group, or an assembly A "V" appearing in this column instead of a quantity indicates that the quantity Is variable and may vary from application to application

4. EXPLANATION OF INDEX FORMAT AND COLUMNS (SECTION IV)

a. NATIONAL STOCK NUMBER (NSN) INDEX

(1) STOCK NUMBER Column. This column lists the NSN In national Item identification number (NIIN) sequence The NIIN consists of the last nine digits of the NSN, i e.

NSN
5305-01-574-1467
NIIN

When using this column to locate an Item, ignore the first four digits of the NSN Use the complete NSN (13 digits) when requisitioning items by stock number
(2) FIG. Column This column lists the number of the figure where the Item is Identified/located The figures are in numerical order In Section II and Section 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 alphanumeric sequence (I e , vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9, and each following letter or digit In like order)

(1) CAGEC Column The Commercial and Government Entity Code (CAGEC) Is a 5-digrt numeric code used to identify the manufacturer, distributor, or Government agency/activity that supplies the item
(2) PART NUMBER Column Indicates the primary number used by the manufacturer (Individual, 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
(3) STOCK NUMBER Column This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and CAGEC columns to the left.

(4) FIG. Column. This column lists the number of the figure where the item is identified/located in Section II and Section III.

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

c. FIGURE AND ITEM NUMBER INDEX

(1) FIG. Column This column lists the number of the figure where the item is identified/located in Section II and Section III.

(2) 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

(3) STOCK NUMBER Column This column lists the NSN for the item

(4) CAGEC Column. The Commercial and Government Entity Code (CAGEC) Is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

(5) PART NUMBER Column. Indicates the primary number used by the manufacturer (individual, 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.

5. SPECIAL INFORMATION.

a. USABLE ON CODE. The usable on code appears in the lower left comer of the Description Column heading. Usable on codes are shown as "UOC ." in the Description Column (justified left) on the last line of the applicable item description/nomenclature. Uncoded items are applicable to all models Identification of the usable on codes used in this RPSTL are:

Code	Used On
A	Model
B	Model
C	Model
D	Model

b. INDEX NUMBERS Items which have the word BULK in the figure column will have an index number shown in the item number column This index number is a cross-reference between the National Stock Number/Part Number Index and the bulk material list in Section II

6. HOW TO LOCATE REPAIR PARTS.

a. When National Stock Numbers or Part Numbers are NOT Known

(1) First. Using the table of contents, determine the assembly 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 use the Figure and Item Number Index to find the NSN.

b. When National Stock Number or Part Number is Known.

(1) First. Using the of National Stock Number and Part Number Indexes find the pertinent National Stock Number or Part Number The NSN index Is in National Item Identification Number (NIIN) sequence (see paragraph 4.a.). The part numbers in the Part Number Index are listed In ascending alphanumeric sequence (see paragraph 4 b). Both indexes cross-reference you to the illustration/figure and Item number of the Item you are looking for.

(2) Second. Turn to the figure and item number, verify that the item is the one you are looking for, then locate the stem number In the repair parts list for the figure.

7. ABBREVIATIONS. Abbreviations used in this manual are listed in MIL-STD-12.

Section II. REPAIR PARTS LIST- Continued

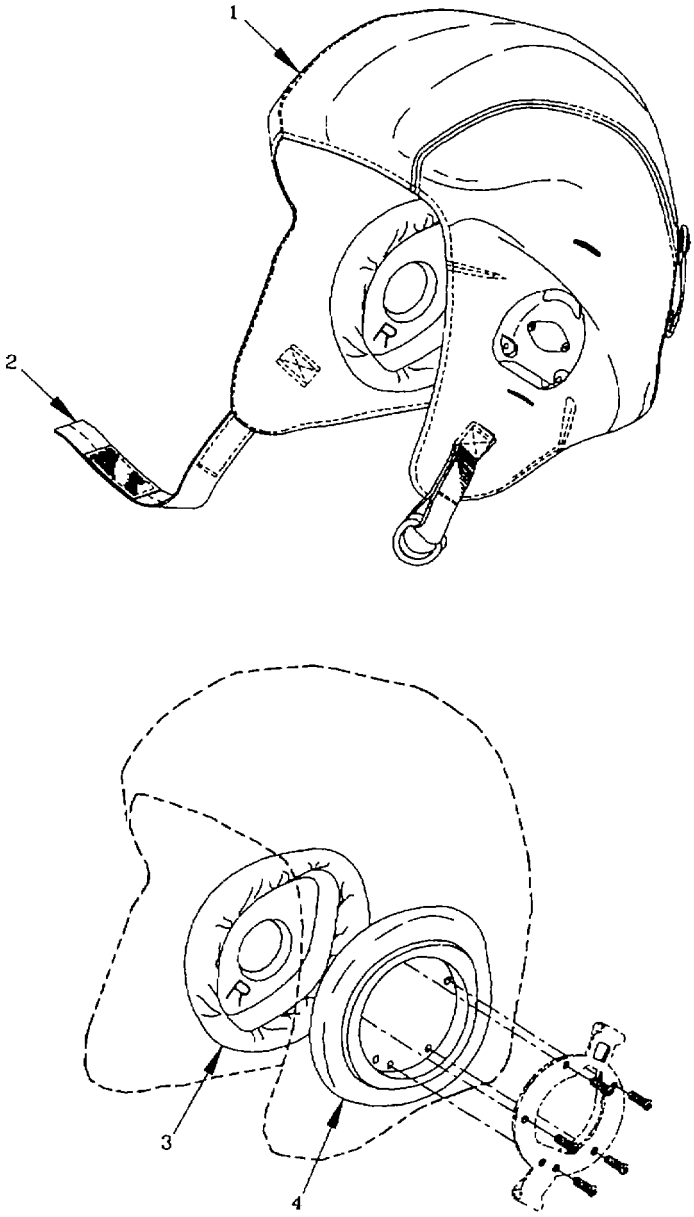


FIGURE C-1. HELMET, FREE-FALL, PARACHUTIST, TYPE I

Section II. REPAIR PARTS LIST- CONTINUED

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 1. HELMET, FREE-FALL PARACHUTIST, TYPE I, SMALL, MEDIUM, AND LARGE	
				FIGURE C-1 HELMET, FREE-FALL PARACHUTIST, MIL-H- 43174, TYPE I	
1	XAOZZ	81349	11-1-398-1	.Shell, Inner & Outer, Small	1
	XAOZZ	81349	11-1-398-2	.Shell, Inner & Outer, Medium	1
	XAOZZ	81349	11-1-398-3	.Shell, Inner & Outer, Large	1
2	XAOZZ	81337	11-1-2968	.Chin Strap	1
3	XAOZZ	98750	56E1258R	.Ear Cushion, Right	1
4	XAOZZ	98750	56E1258L	.Ear Cushion, Left	1
				END OF FIGURE	

Section II. REPAIR PARTS LIST- Continued

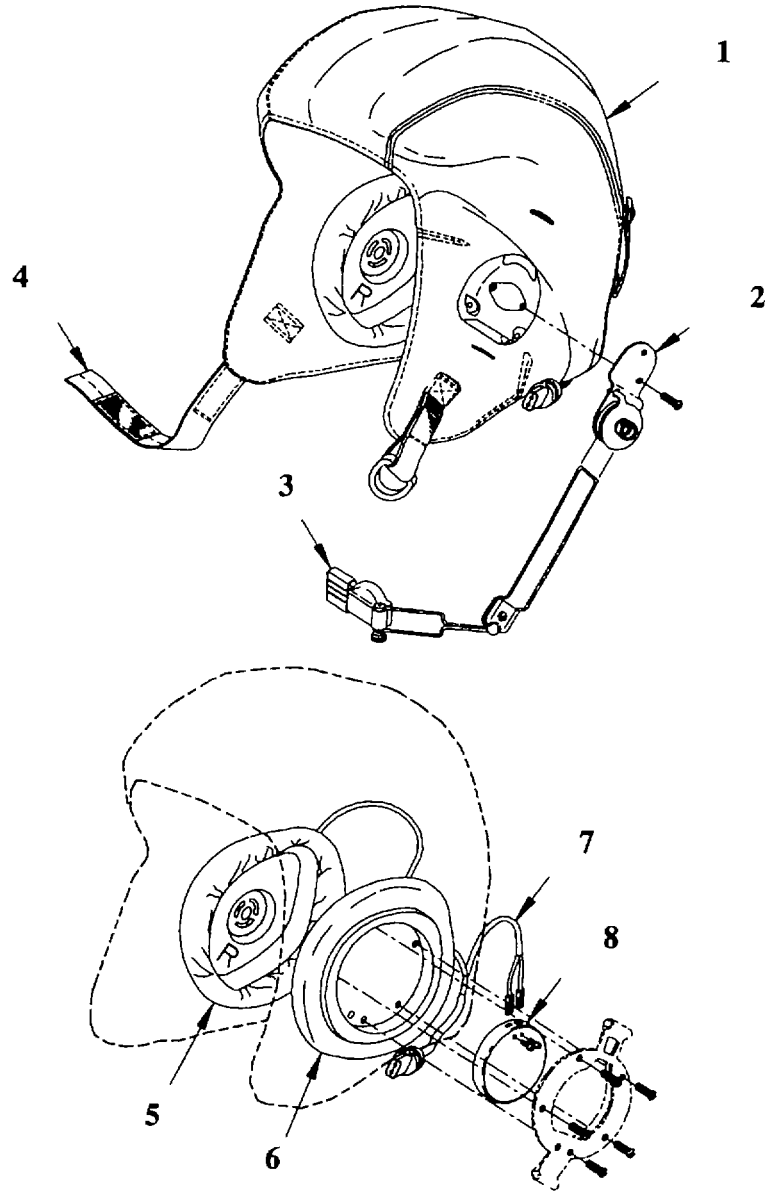


FIGURE C-2. HELMET, FREE-FALL, PARACHUTIST, TYPE II

Section II. REPAIR PARTS LIST-CONTINUED

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 2 HELMET, FREE-FALL PARACHUTIST, TYPE II	
				FIGURE C-2 HELMET, FREE-FALL PARACHUTIST, MIL-H- 43174, TYPE II, SMALL, MEDIUM,AND LARGE	
1	XAOZZ	81349	11-1-398-1	Shell, Inner & Outer, Small	1
	XAOZZ	81349	11-1-398-2	Shell, Inner & Outer, Medium	1
	XAOZZ	81349	11-1-398-3	Shell, Inner & Outer, Large	1
2	XAOZZ	81337	11-1-952	Bracket, Microphone	1
3	PAOZZ	81349	MIL-M-26542/2	Microphone, Dynamic	1
4	XAOZZ	81337	11-1-2968	Strap, Chin	1
5	XAOZZ	98750	56E1258R	Ear Cushion, Right	1
6	XAOZZ	98750	56E1258L	Ear Cushion, Left	1
7	PAOZZ	80058	CX-11257/A1C	Cord Assembly, Electric	1
8	PAOZZ	81339	MIL-E-25670	Earphone	1
				END OF FIGURE	

Section II. REPAIR PARTS LIST- Continued

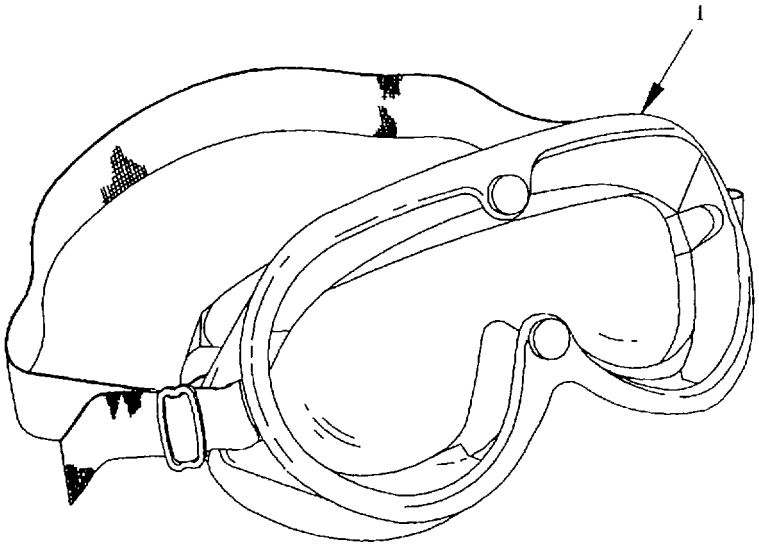


FIGURE C-3. GOGGLES, SUN, WIND AND DUST.

Section II. REPAIR PARTS LIST- CONTINUED

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 3. GOGGLES, SUN, WIND AND DUST	
				FIGURE C-3. GOGGLES, SUN, WIND AND DUST	
1	PAOZZ	81337	MIL-G-43914	Goggles, Sun, Wind and Dust	1
				END OF FIGURE	

Section II. REPAIR PARTS LIST - Continued

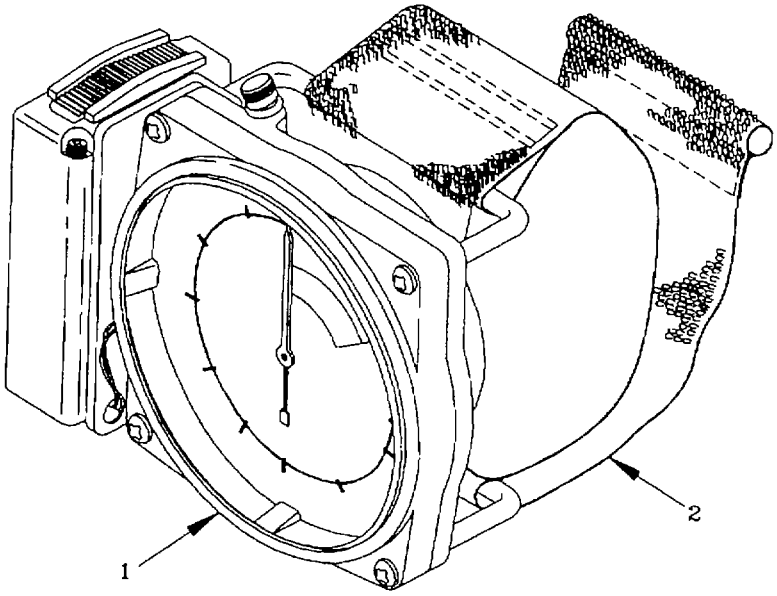


FIGURE C-4. ALTIMETER-BAROMETER

Section II. REPAIR PARTS LIST- CONTINUED

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 4. ALTIMETER-BAROMETER	
				FIGURE C-4 ALTIMETER-BAROMETER	
1	PAOZL	81337	11-1-3513	Altimeter-Barometer	1
2	MOOZZ	81337	11-1-3513-1	.Strap, Wrist, Altimeter	1
				END OF FIGURE	

Section II. REPAIR PARTS LIST - Continued

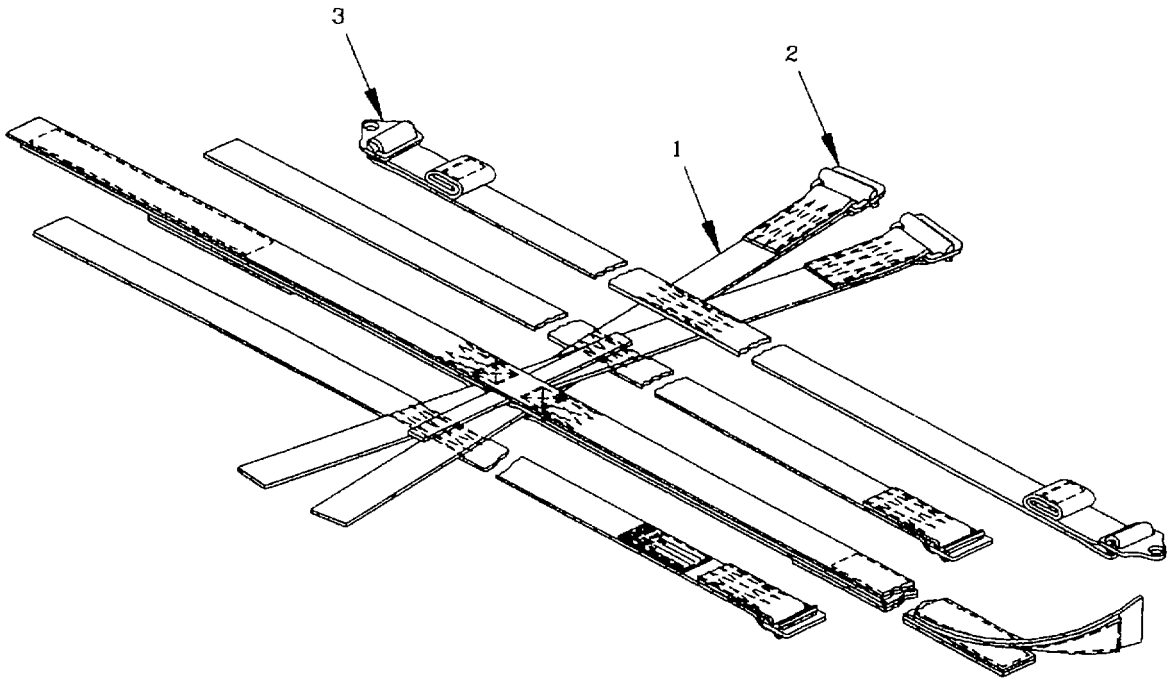


FIGURE C-5. SLING ASSEMBLY, EQUIPMENT ATTACHING

Section II. REPAIR PARTS LIST- CONTINUED

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 5. SLING ASSEMBLY, EQUIPMENT ATTACHING	
				FIGURE C-5 SLING ASSEMBLY, EQUIPMENT ATTACHING	
1	PAOZZ	81337	MIL-G-43914	Sling Assembly, Equipment Attaching	1
2	XAOZZ	81337	MS-23019	Adapter, Quick-Fit	4
3	XAOZZ	81337	MS-70116	Link, Connecting, Quick-Release	2
				END OF FIGURE	

Section II. REPAIR PARTS LIST- Continued

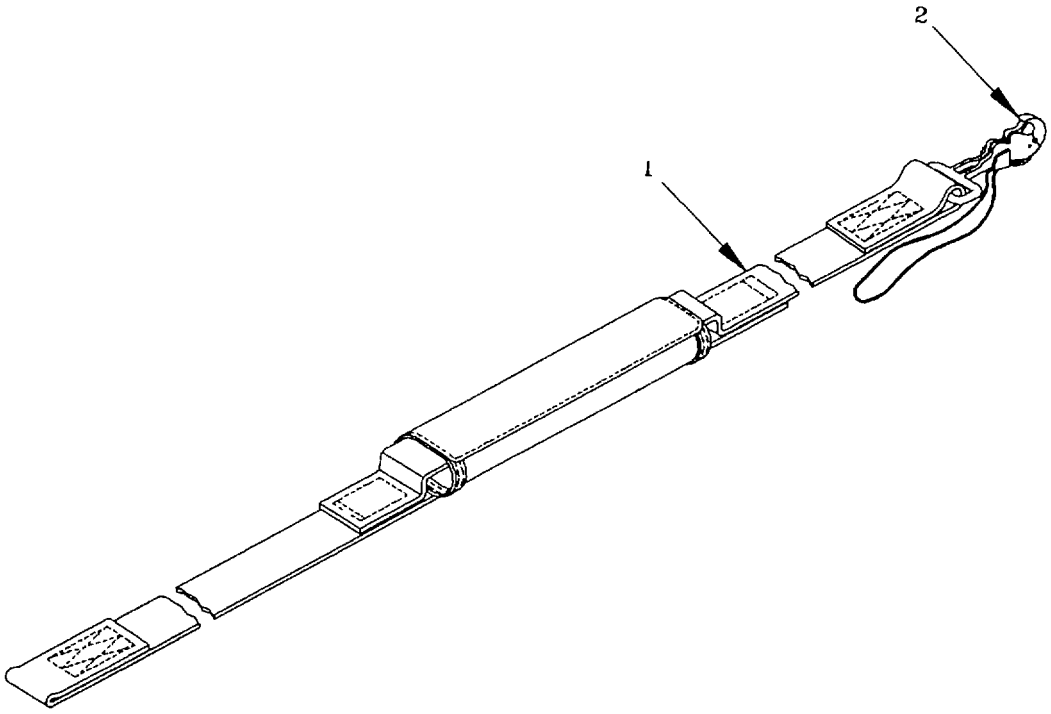


FIGURE C-6. LINE, EQUIPMENT LOWERING, 8-FOOT

Section II. REPAIR PARTS LIST- CONTINUED

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 6 LINE, EQUIPMENT LOWERING, 8-FOOT	
				FIGURE C-6 LINE, EQUIPMENT LOWERING, 8-FOOT	
1	MOOOZ	81337	11-1-2530-2	Line, Equipment Lowering	1
2	PAOZZ	96906	MS70120	. Snap Hook	1
				END OF FIGURE	

Section II. REPAIR PARTS LIST- Continued

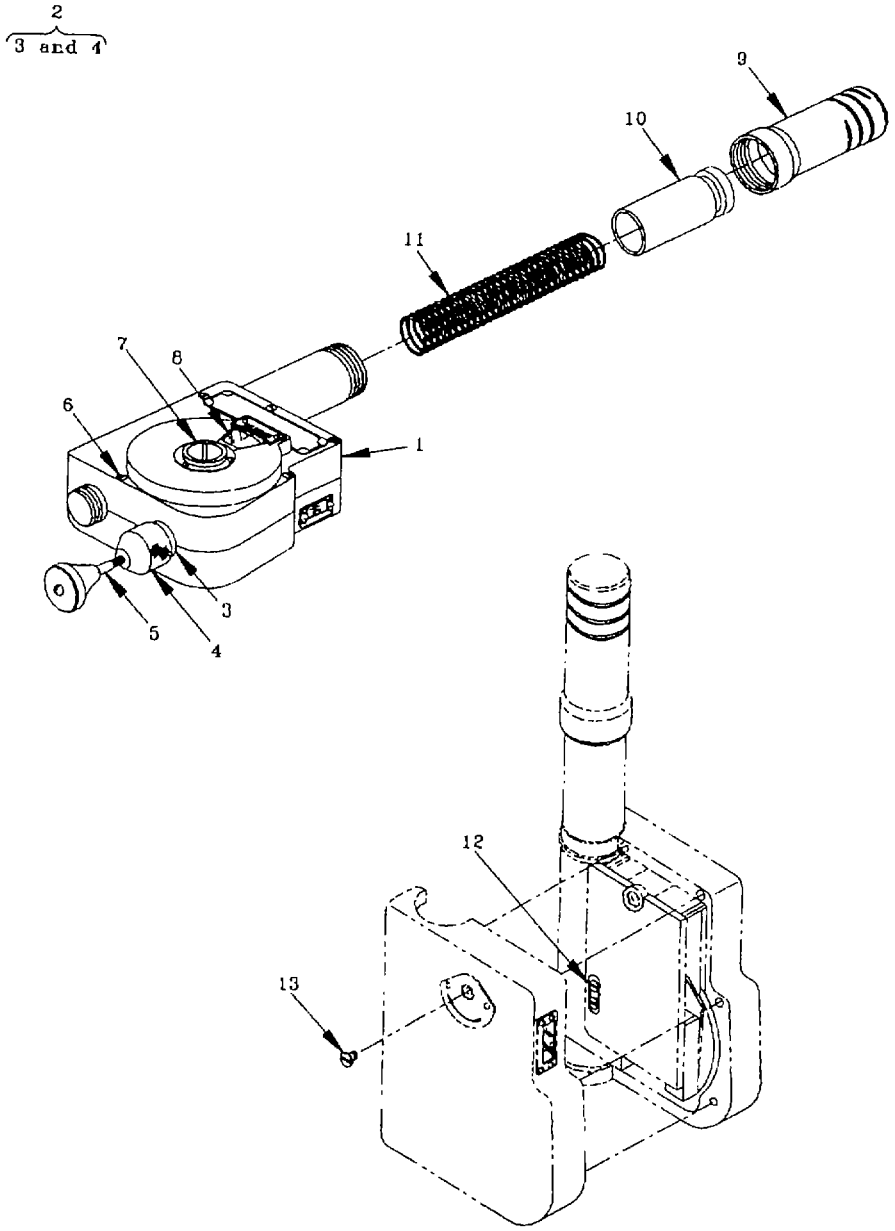


FIGURE C-7. RELEASE ASSEMBLY, RIPCORD, AUTOMATIC, TYPE FF2

Section II. REPAIR PARTS LIST- CONTINUED

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 7 RELEASE ASSEMBLY, RIPCORD, AUTOMATIC, TYPE FF2	
				FIGURE C-7 RELEASE ASSEMBLY, RIPCORD, AUTOMATIC, TYPE FF2	
				RELEASE ASSEMBLY, RIPCORD, AUTOMATIC, TYPE FF2	
1	PAOZL	81337	11-1-2155-2	Release Assembly, Ripcord	1
2	PAOZZ	09511	ID-62-6816	. Arming Pin Assembly	1
3	PAOZZ	09511	ID-62-6822	. ..Bushing, Arming Pin	1
4	PAOZZ	09511	ID-62-6821	. ..Nut, Plain, Knurled	1
5	XAOZZ	09511	ID-62-6819	. ..Knob	1
6	PAOZZ	09511	ID-62-100	. Screw, Case	1
7	PAOZZ	09511	ID-62-6243	. Knob, Millibar Setting	1
8	PAOZZ	09511	ID-62-6772	. Window	1
9	PAOZZ	09511	ID-62-6623	. Barrel Cap	1
10	PAOZZ	09511	ID-62-6999	. Plunger	1
11	PAOZZ	09511	ID-62-6162	. Spring	1
12	PAOZZ	09511	ID-62-6758	. Screw, Timing	1
13	PAOZZ	09511	ID-62-6064	. Screw Plug	1
				END OF FIGURE	

Section II. REPAIR PARTS LIST- Continued

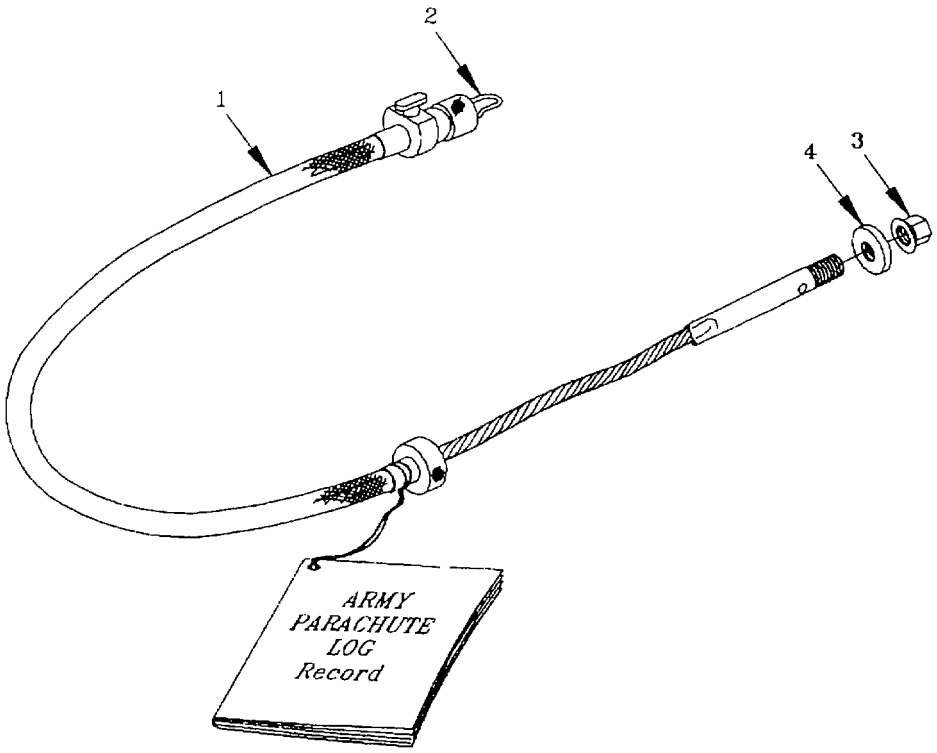


FIGURE C-8. LINE, EQUIPMENT LOWERING, 8FOOT

Section II. REPAIR PARTS LIST- CONTINUED

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 8 LINE, EQUIPMENT LOWERING, 8-FOOT	
				FIGURE C-8 LINE, EQUIPMENT LOWERING, 8-FOOT	
1	PAOOZ	09511	ID-62-6639-B/N	Cable and Housing Assembly, 22-inches	1
			ID-62-6639-501	Cable and Housing Assembly, 10 25-inches	1
			ID-62-6639-503	Cable and Housing Assembly, 12 25-inches	1
			ID-62-6639-505	Cable and Housing Assembly, 24-inches	1
			ID-62-6639-507	Cable and Housing Assembly, 14.25-inches	1
2	PAOOZ	09511	ID-62-6331	. Hook	1
3	PAOOZ	96906	MS21042-4	. Nut, Self-Locking	1
4	PAOOZ	09511	ID-62-6614	. Washer	1
				END OF FIGURE	

Section II. REPAIR PARTS LIST- CONTINUED

Not Applicable

Section IV. CROSS REFERENCE INDEX

CROSS-REFERENCE INDEX FIGURE AND ITEM NUMBER INDEX						
Fig	**Item**	**SMR**	**FSCM**	**Part Number**	**National Stock Number**	**Nomenclature**
1	**1**	XAOZZ	81349	11-1-398-1	8415-1-018-4910	**Shell, Inner & Outer, Small**
1		XAOZZ	81349	11-1-398-2	8415-01-018-4910	**Shell, Inner & Outer, Medium**
1		XAOZZ	81349	11-1-398-3	8415-01-018-4912	**Shell, Inner & Outer, Large**
1	**2**	XAOZZ	81337	11-1-2968		**Chin Strap**
1	**3**	XAOZZ	98750	56E12858R		**Ear Cushion, Right**
1	**4**	XAOZZ	98750	56E12858L		**Ear Cushion, Left**
2	**1**	XAOZZ	81349	11-1-398-1	8415-01-018-4913	**Shell, Inner & Outer, Small**
2		XAOZZ	81349	11-1-398-2	8415-01-018-4914	**Shell, Inner & Outer, Medium**
2		XAOZZ	81349	11-1-398-3	8415-01-018-4915	**Shell, Inner & Outer, Large**
2	**2**	XAOZZ	81337	11-1-952		**Bracket, Microphone**
2	**3**	PAOZZ	81349	**MIL-M-26542/2**	5965-00-755-4643	**Microphone, Dynamic**
2	**4**	XAOZZ	81337	11-1-2968		**Strap, Chin**
2	**5**	XAOZZ	98750	56E12858R		**Ear Cushion, Right**
2	**6**	XAOZZ	98750	56E12858L		**Ear Cushion, Left**
2	**7**	PAOZZ	80058	**CX-11257/A1C**	5995-00-930-7838	**Cord Assembly, Electric**
2	**8**	PAOZZ	81349	MIL-E-25670	5995-00-615-0104	**Earphone**
3	**1**	PAOZZ	81337	MIL-G-43914	846-01-004-2893	**Goggles, Sun, Wind and Dust**

Section IV. CROSS REFERENCE INDEX-CONTINUED

CROSS-REFERENCE INDEX FIGURE AND ITEM NUMBER INDEX						
Fig	**Item**	**SMR**	**FSCM**	**Part Number**	**National Stock Number**	**Nomenclature**
4	**1**	PAOZL	81337	11-1-3513	6660-01-213-9035	**Altimeter, Barometer**
4	**2**	MOOZZ	81337	11-1-3513-1		**Strap, Wrist, Altimeter**
5	**1**	PAOZZ	81337	11-1-2529	1670-01-008-7755	**Sling Assembly, Equip Attaching**
5	**2**	XAOZZ	81337	MS23019		**Adapter, Quick-Fit**
5	**3**	XAOZZ	81337	MS70116		**Link, Connecting, Quick Release**
6	**1**	MOOOZ	81337	11-1-2530-2		**Line, Equipment, Lowering**
7	**1**	PAOZL	81337	11-1-2155-2	1670-01-213-8145	**Release Assembly, Rip-cord**
7	**2**	PAOZZ	09511	ID-62-6816	5315-01-011-7490	**Arming Pin Assembly**
7	**3**	PAOZZ	09511	ID-62-6822	1670-01-118-1878	**Bushing, Arming Pin**
7	**4**	PAOZZ	09511	ID-62-6821	5330-01-118-1877	**Nut, Plain, Knurled**
7	**5**	PAOZZ	09511			
7	**6**	PAOZZ	09511	ID-62-100	5305-01-130-7218	**Screw, Case**
7	**7**	PAOZZ	09511	ID-62-6243	5355-01-149-5807	**Knob, Millibar Setting**
7	**8**	PAOZZ	09511	ID-62-6772	1670-01-132-0804	**Window**
7	**9**	PAOZZ	09511	ID-62-6623	1670-01-118-1880	**Barrel Cap**
7	**10**	PAOZZ	09511	ID-62-6999	1670-01-118-1876	**Plunger**
7	**11**	PAOZZ	09511	ID-62-6162	5360-01-118-1882	**Spring**
7	**12**	PAOZZ	09511	ID-62-6758	1670-01-130-7217	**Screw, Timing**
7	**13**	PAOZZ	09511	ID-62-6064	1670-01-093-4751	**Screw, Plug**

Section IV. CROSS REFERENCE INDEX-CONTINUED

CROSS-REFERENCE INDEX FIGURE AND ITEM NUMBER INDEX						
Fig	**Item**	**SMR**	**FSCM**	**Part Number**	**National Stock Number**	**Nomenclature**
8	1	PAOZZ	09511	ID-62-6639-B/N	1670-01-184-6105	**CABLE AND HOUSING ASSEMBLY, 22-inch**
8		PAOZZ		ID-62-6639-501	1670-01-184-6107	**CABLE AND HOUSING ASSEMBLY, 10 25-inch**
8		PAOZZ		ID-62-6639-503	1670-01-184-6108	**CABLE AND HOUSING ASSEMBLY, 12.25-inch**
8		PAOZZ		ID-62-6639-505		**CABLE AND HOUSING ASSEMBLY, 24-inch**
8		PAOZZ		ID-62-6639-507	1670-01-212-5550	**CABLE AND HOUSING ASSEMBLY, 14 25-inch**
8	2	PAOZZ	09511	ID-62-6331	1670-01-011-7489	**Hook**
8	3	PAOZZ	96906	MS21042-4	5310-00-807-1468	**Nut, Self-locking**
8	4	PAOZZ	09511	ID-62-6614	5310-01-118-1881	**Washer**

APPENDIX D

EXPENDABLE AND DURABLE ITEMS LIST

Section I. INTRODUCTION

D-1. SCOPE. This appendix lists expendable and durable items that you will need to operate and maintain the Ancillary Equipment for Military Free-fall System. This listing is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-790, Expendable/Durable Items (except medical, class V repair parts, and heraldic items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

D-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 item (e g. "Use cleaning compound, Appendix D, Item 3".)

b. Column 2. Level. This column identifies the lowest level of maintenance that requires the item.

c. Column 3. National Stock Number. This is the national stock number assigned to the item which you can use to requisition it.

d. Column 4 Item Name, Description, Commercial and Government Entity Code (CAGEC), and Part Number. This provides the other information you need to identify the item

e. Column 5. Unit of Measure. This code shows the physical measurement or count of an item, such as gallon, dozen, gross, etc.

Section II. EXPENDABLE/DURABLE SUPPLIES AND REQUIREMENTS LIST

(1) Item Number	(2) Level	(3) National Stock Number	(4) Item Name, Description CAGEC, Part Number	(5) U/M
1	O	8040-01090-9320	ADHESIVE,PIN SEAL (81 348)MI L-A-46050	EA
2	O	9160-00-253-1171	BEESWAX,TECHNICAL, 1 LB (81348)C-B-191	LB
3	O	7920-00-282-2490	BRUSH,SCRUB,HOUSEHOLD (81348)H-B-1490	EA
4	O	7520-00-248-9285	BRUSH,STENCILLING (81 348)H-B-00621	EA
5	O	5350-00-221-0872	CLOTH,ABRASIVE,FERRIC OXIDE AND QUARTZ (81348)MIL-C-4279	EA
6	O	4020-00-240-2154	CORD,FIBROUS,NYLON,TYPE I,NAT (81349)MIL-C-5040	YD
7	O	8040-00-142-9193	CYANOACRYLATE INSTANT CURE ADHESIVE	TB
8	O	7930-00-281-4730	DISHWASHING COMPOUND,HAND,FLAKE (81348)P-D-410	LB
9	O		FASTENER TAPE,LOOP,2-INCH,TYPE II (81348)MIL-F-21840	RL
10	O	8315-00-450-9837	FASTENER TAPE,HOOK,2-INCH,TYPE II (81 348)MIL-T-21 840	RL
11	O	7510-00-286-5362	INK,MARKING,PARACHUTE,STRATA-BLUE (81349)	PT
12			LOCTITE	OZ
13	O	6810-00-281-2785	METHYL ETHYL KETONE (81348)	GL
14	O	7520-00-491-2917	PEN,BALLPOINT (81 348)GG-B-0060	EA
15	O	7920-00-205-3570	RAG,WIPING (81348)DDD-R-30	BL
16	O		SEALANT, 2020	OZ
17	O	9310-00-160-7858	STENCILBOARD,OILED (81348)UU-S-625,TYPE II	SH
18	O	6810-00-270-9982	TETRACHOROETHYLENE,TECHNICAL (81348)0-T-236	GL
19	O	8310-00-262-2772	THREAD,COTTON,SIZE E,OD (81 348)V-T-295	YD
20	O	8310-01-279-6073	THREAD,COTTON,TICKET,8/4,NAT (81348)V-T-276	YD
21	O	8310-00-917-3945	THREAD,COTTON,TICKET,8/7,NAT. (81348)V-T-276	YD

APPENDIX E

ILLUSTRATED LIST OF MANUFACTURED ITEMS

E-1. SCOPE. This appendix includes simplified line drawings for each item authorized to be manufactured/fabricated, modified or mounted by Unit or Direct Support Maintenance Personnel

E-2. INTRODUCTION.

a. This appendix includes complete instructions for making items authorized to be manufactured or fabricated at Unit Maintenance

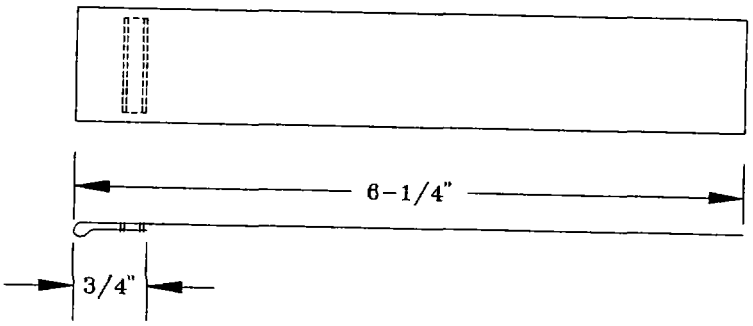
b. A part number in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the figure which covers fabrication criteria.

c. All bulk materials needed for manufacture of an Item are listed by part number or specification number in a tabular list on the illustration.

d. All dimensions are given m U.S Standard measures.

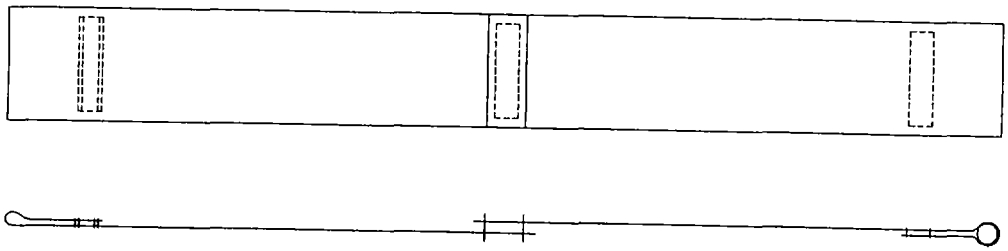
E-3. MANUFACTURED ITEMS PART NUMBER INDEX.

PART NUMBER	NOMENCLATURE	FIG NO
	Wriststrap, altimeter	E-1
	Lowering line, 8 FT	E-2



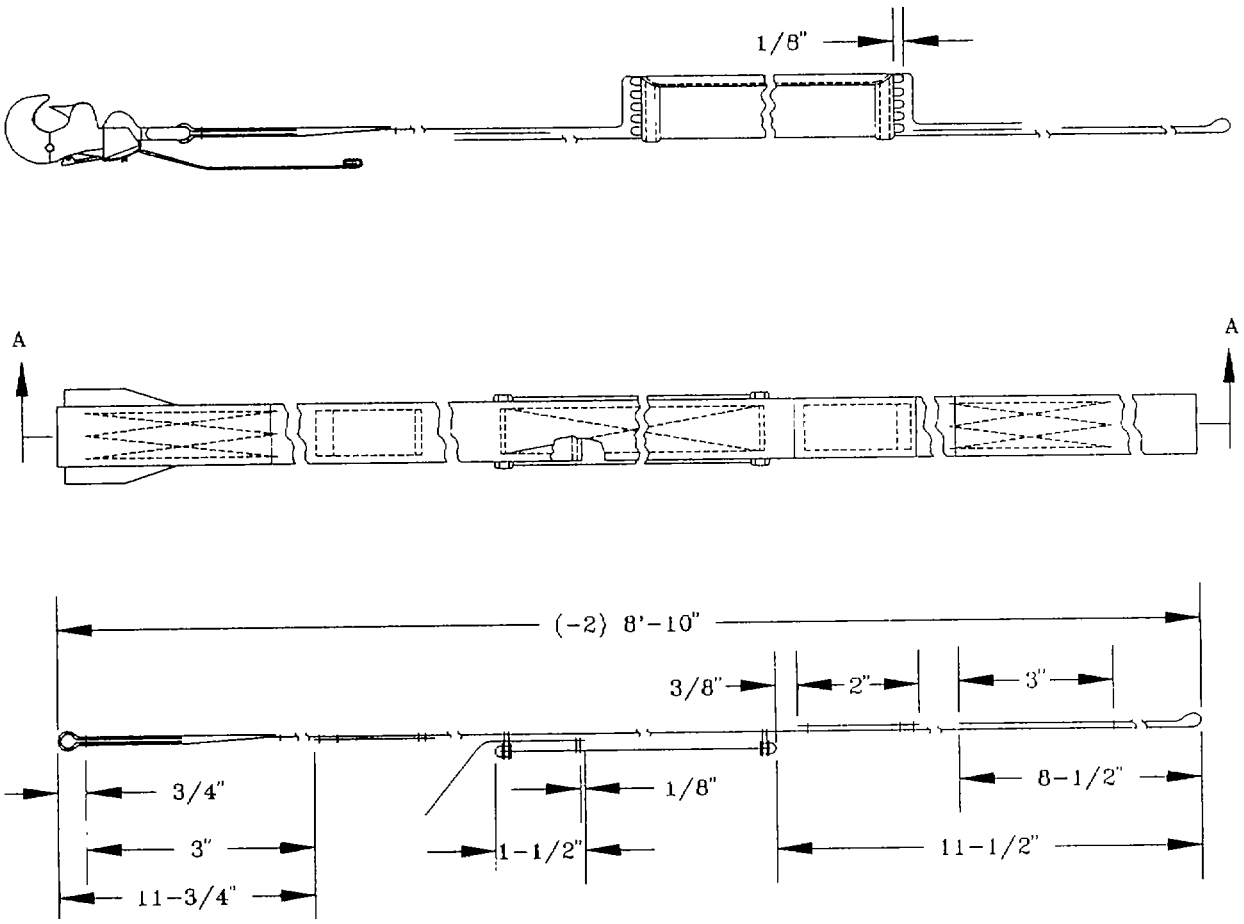
MAKE FROM FASTENER TAPE
HOOK AND PILE, TYPE II
2 IN. WIDE, BLACK.

2 REQ'D (1 EA ;HOOK AND PILE)



OPTIONAL CONSTRUCTION
HOOK AND PILE, SAME FACE

Figure E-1. WRISTSTRAP, ALTIMETER



SECTION A-A

NOTES:
1. SEAR ALL EXPOSED RAW EDGES OF WEBBING SMOOTH
2. SEW AS INDICATED IN PARAGRAPH 2-13 AND TABLE 2-3.
3. WEBBING TO BE TYPE III, 3/4 WIDE, CLR OD 7

Figure E-2. LOWERING LINE, 8 FT

ALPHABETIC INDEX

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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

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