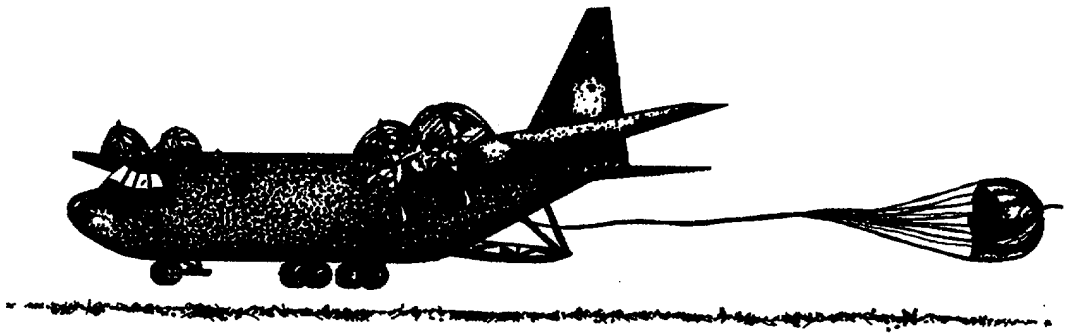
TECHNICAL MANUAL

UNIT MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST
FOR
ANCILLARY EQUIPMENT FOR:
LOW ALTITUDE PARACHUTE EXTRACTION SYSTEM (LAPES)

LINK SUSPENSION, TYPE IV NSN 1670-00-783-5988
EXTRACTION LINE, DROUGE, 60-FOOT NSN 1670-01-064-4452
LINK, EXTRACTION, NSN 1670-01-072-1378
BRIDLE, EXTRACTION LINE PANEL NSN 1670-01-035-6054
PLATE, CLEVIS, 3-3/4 INCH NSN 1670-00-003-1953
PLATE, CLEVIS, 5-1/2 INCH NSN 1670-00-003-1954
SPACER, SMALL NSN 5365-00-005-1577
SPACER, LARGE NSN 5365-00-007-3414
BOLT, MACHINE, 1 INCH DIA X 4 INCH LONG NSN 5306-00-435-8994
NUT, HEX, 1-INCH NSN 5310-00-232-5165
LINK, EXTRACTION, 4-POINT NSN 1670-00-006-2752
LINK, EXTRACTION, 7-POINT NSN 5340-01-283-4524
LINK PROTECTOR NSN 1670-01-283-4522
LINE, EXTRACTION PARACHUTE NSNs 1670-01-062-6313, 1670-01-064-4454
ROPE, EXTRACTION NSN 1670-01-283-4523
LINE, DROUGE NSN 1670-01-036-0724
LINE EXTRACTION, PLATFORM NSNs
1670-01-062-6306, 1670-01-062-6308, 1670-01-064-4453, 1670-01-062-6309
BAR, ATTITUDE CONTROL NSN 1670-00-003-4389
SHACKLE, LARGE NSN 4030-00-090-5354
TIE DOWN, CARGO NSN 1670-00-937-0271
DRIVE-OFF AID NSNs 1670-01-344-0825, 1670-00-431-8486



DISTRIBUTION STATEMENT A: Approved for public release, distribution is unlimited

This manual together with TM 10-1670-296 20&P, 15 September 1995, TM 10-1670-298 20&P, 15 September 1995, and TM 10-1670-299 20&P, 15 September 1995 supersedes TM 10-1670-240-20, 14 April 1970 including all changes

HEADQUARTERS, DEPARTMENT OF THE ARMY
15 SEPTEMBER 1995

TECHNICAL MANUAL
NO 10-1670-297-20&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D C, 15 September 1995

UNIT MAINTENANCE MANUAL

INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST
FOR
ANCILLARY EQUIPMENT FOR
LOW ALTITUDE PARACHUTE EXTRACTION SYSTEM (LAPES)

LINK SUSPENSION TYPE IV NSN 1670-00-783-5488; EXTRACTION LINE, DROUGE 60-FOOT NSN 1670-01-064-4452; LINK EXTRACTION: NSN 1670 01-072-1378; BRIDLE, EXTRACTION LINE PANEL: NSN 1670-01-035-6054; PLATE, CLEVIS, 3 3/4 INCH: NSN 1670-00-003-1953; PLATE, CLEVIS, 5 1/2 INCH: NSN 1670-00-003-1954; SPACER, SMALL: NSN 5365-00-005-1577; SPACER, LARGE: NSN 5365-00-007-3414; BOLT, MACHINE, 1 INCH DIA X 4 INCH LONG: NSN 5306-00-435-8994; NUT,HEX, 1 INCH: NSN 5310-00-232-5165; LINK, EXTRACTION, FOUR POINT: NSN 1670-00-006-2752; LINK, EXTRACTION, SEVEN-POINT: NSN 5340-01-4524; LINK PROTECTOR: NSN 1670-01-283-4522; LINE, EXTRACTION, PARACHUTE: NSNs 1670-01-062-6313, 1670-01-064-4454, ROPE,EXTRACTION: NSN 1670-01-283-4523; LINE, DROUGE: NSN 1670-01-036-0724; LINE, EXTRACTION, PLATFORM: NSNs 1670-01-062-6306, 1670-01-062-6308, 1670-01-064-4453, 1670-01-062-6309; BAR, ATTITUDE CONTROL: NSN 1670-00-003-4389;SHACKLE, LARGE: NSN 4030-00-090-5354; TIE DOWN, CARGO: NSN 1670-00-937-0271; DRIVE-OFF AID: NSN 1670-01-344-0825,1670-00-431-8486

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, US 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 SAALC/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.

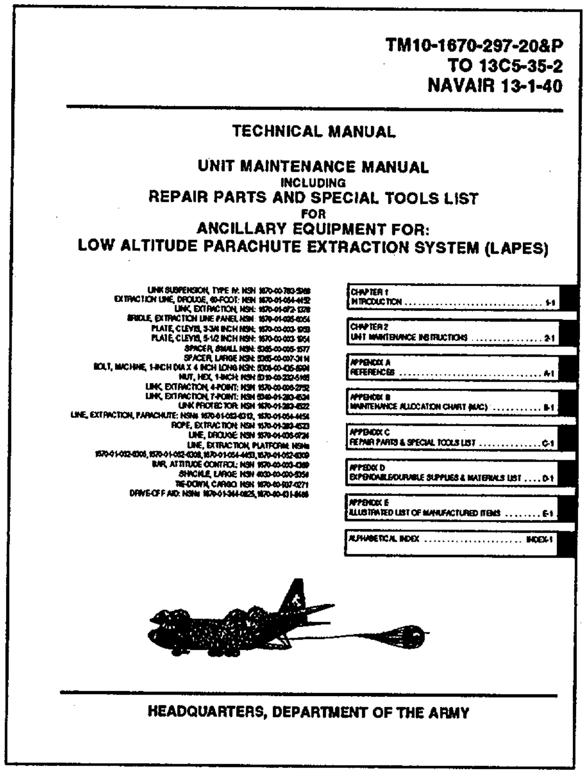
*This manual together with TM 10-1670-296-20&P, 15 September 1995 TM 10-1670-298-20&P, 15 September 1995, and TM 10-1670-299-20&P,15 September 1995, supersedes TM 10-1670-240-20, 14 April 1970, including all changes.

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT)

HOW TO USE THIS MANUAL

This manual, (TM 10-1670-297-20&P), contains general information, PMCS and maintenance instructions for Ancillary Equipment for Low Altitude Parachute Extraction System (LAPES). 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.



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 3, paragraph 5 is marked 3-5; figure 2-3 is the third illustration 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 maintenance procedures for the Ancillary Equipment for Low Altitude Parachute Extraction System (LAPES). This equipment is used by airborne qualified personnel This manual does not cover platforms or parachutes.

1-2. MAINTENANCE FORMS AND PROCEDURES. Department. of the Army forms and procedures used for the LAPES Ancillary Equipment 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 LAPES Ancillary Equipment for storage or shipment refer to section VII of chapter 2.

1-5. QUALITY ASSURANCE (QA). LAPES Ancillary Equipment is inspected in accordance with MIL-STD-105 at government acceptance.

1-6. NOMENCLATURE CROSS-REFERENCE LIST.

Official Nomenclature	Common Name
Bar attitude control	ACB
Link Single Suspension or Extraction Type IV	Type IV Link
Plates Clevis	Two point link assembly
Shackle Large	Large Clevis

1-7. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR). If your LAPES Ancillary Equipment needs Improvement let us know. Send us an EIR. You the user are the only one who can tell us what you don't like about 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, ATTN: 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 LOUPES Ancillary Equipment 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 and acronyms are used in this manual

ACB	Attitude Control Bar
CPC	Corrosion Prevention and Control
CTA	Common Table of Allowances
DS	Direct Support
EIR	Equipment Improvement Recommendation
ESC	Equipment Serviceability Criteria
LAPE	Low Altitude Parachute Extraction
LAPES	Low Altitude Parachute Extraction System
MWO	Modification Work Order
MTOE	Modified Table of Organizational Equipment
NBC	Nuclear Biological Chemical
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.

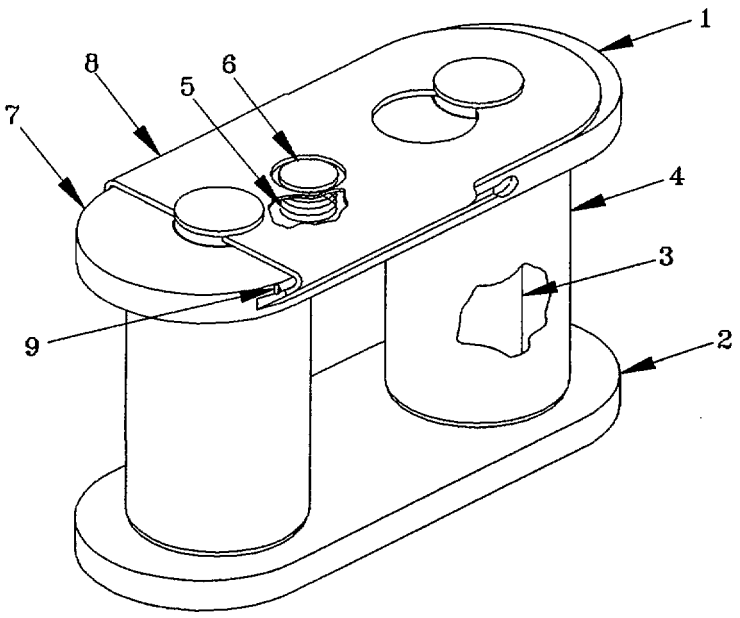
a. Characteristics

- All equipment is lightweight and heavy-duty.
- Equipment can be combined in multiple configurations for customization.

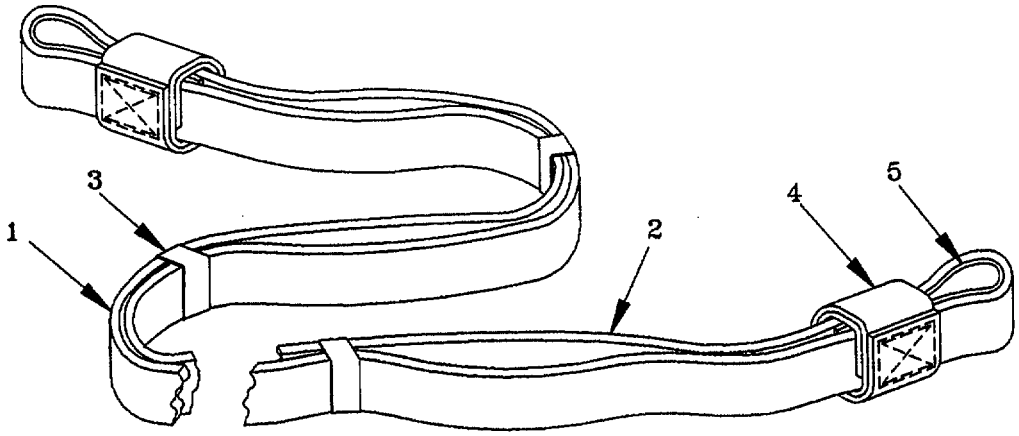
b. Capabilities and Features

- Safely drop platform loads without landing aircraft.
- Drop single platform or multiple articulated platforms.

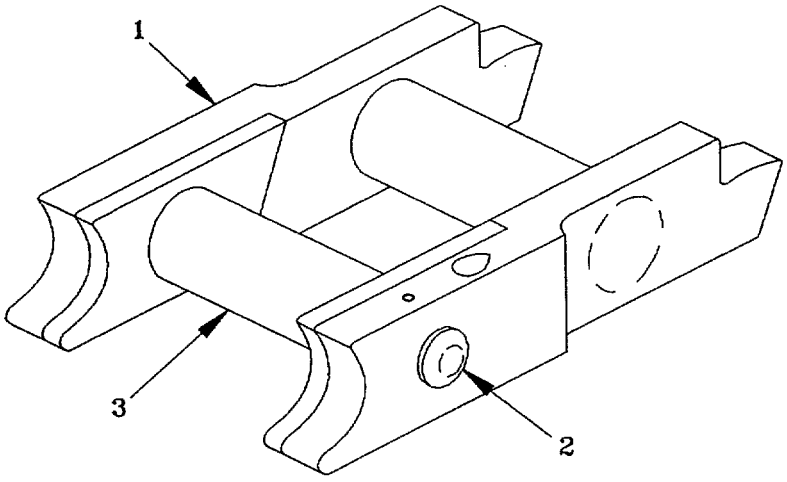
1-11. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS. The LAPES Ancillary Equipment Is not Issued as a set all components can be requisitioned separately. The system consists of the following components described and depicted by the following paragraphs and illustrations.



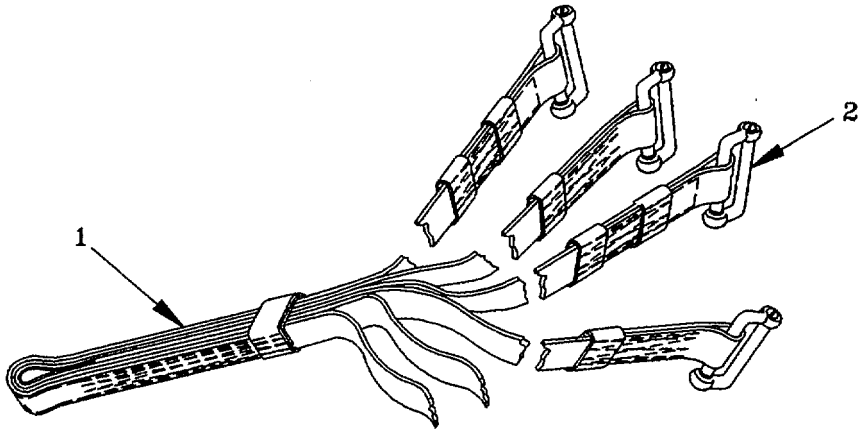
a. Links Single Suspension or Extraction Type IV. The Type IV Link (1) consists of a body (2) pins (3) rollers (4) spring (5), button (6) plate (7) and lock (8). Stops (9) on the side link plate prevent removal of the side link cover lock. This assembly is used in the formation of the extractions system. The Type IV Link may also be used in instances where a single extraction link is required.



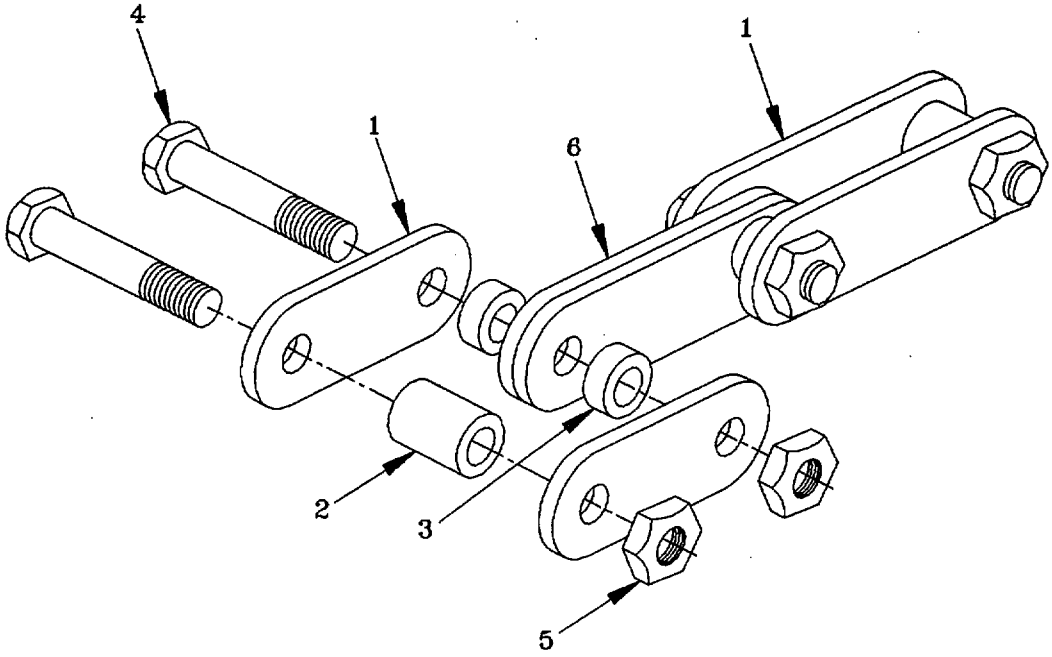
b. Extraction Line, Drogue. The 60-Foot Drogue Extraction Line (1) is a multi-loop line which consists of two plies of type XXVI webbing (2) wrapped with fixed keepers (3) and sliding keepers (4). Loop ends are reinforced with buffers. (5) This line is used between drouge and extraction parachute(s).



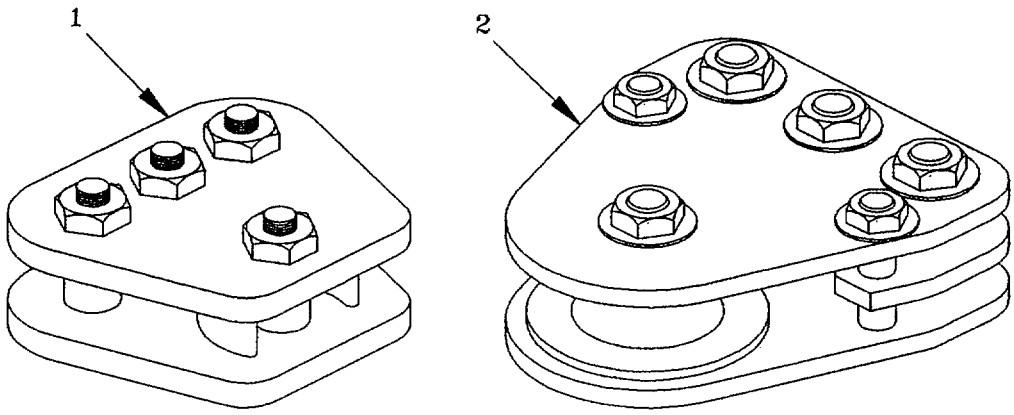
c. Link, Extraction. Extraction Link (1) is used to attach drouge line to extraction parachute(s). In the event of an aborted drop, the drouge may be jettisoned by activating the jettison release mechanism (2) which separates the jettison link (30 from the extraction link (1).



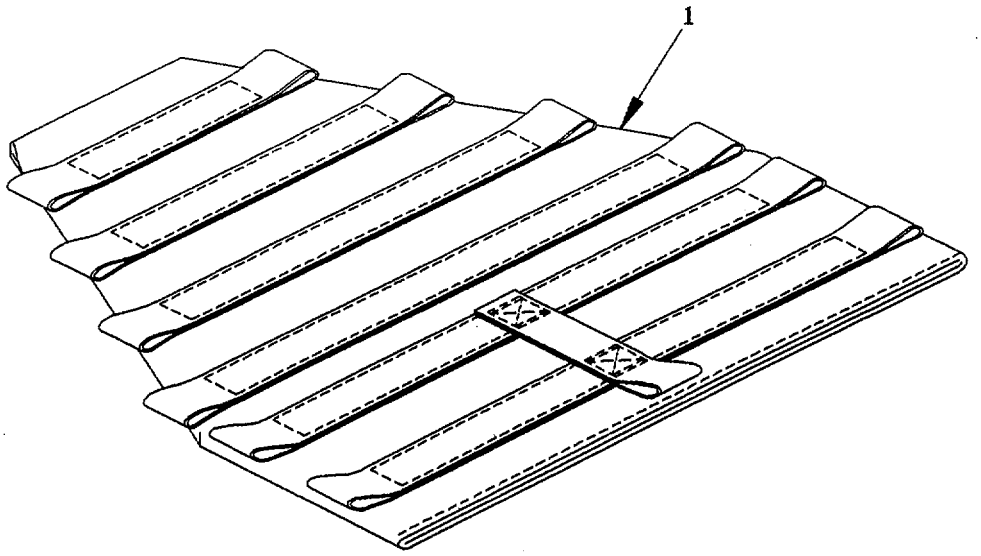
d. Extraction Line Panel Bridle. The Extraction Line Panel Bridle (1) is used to connect extraction line to line bag via Connector Links (2).



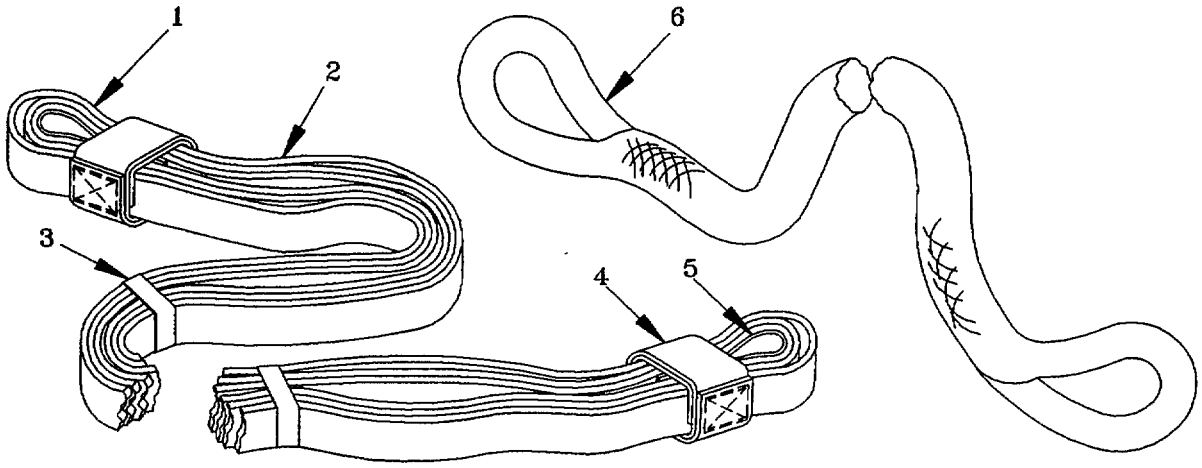
e. Clevis Plates, Spacers, Bolts and Nuts. Clevis plates (1) come in two sizes, 3-3/4 and 5-1/2 inch. These clevis plates are used in pairs and assembled as required using large spacer (2) and small spacer (3) and secured with bolts (4) and nuts (5). Assemblies (also called two-point links are used to join extraction lines to LAPES platform, or between LAPES platforms to form articulated link (6) for tandem loads. The length used is determined by the load being rigged.



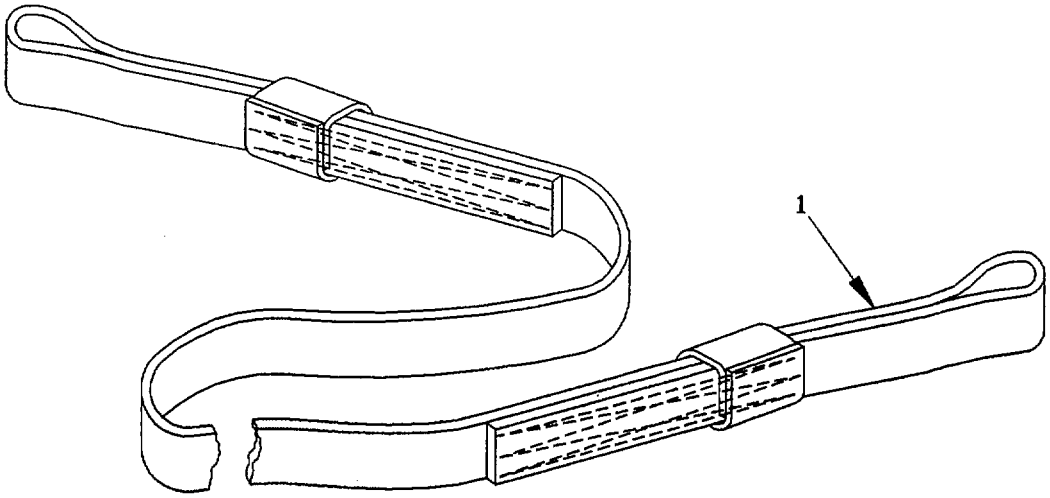
f. Four- and Seven-point Extraction Links. The Four-point Extraction Link (1) and Seven-point Extraction Link (2) are used to connect extraction lines and also provide for multiple extraction parachutes to be connected to the extraction line. Four-point extraction link is used with multi-loop extraction lines, while seven-point extraction link is used with nylon/polyester double-braid rope extraction line.



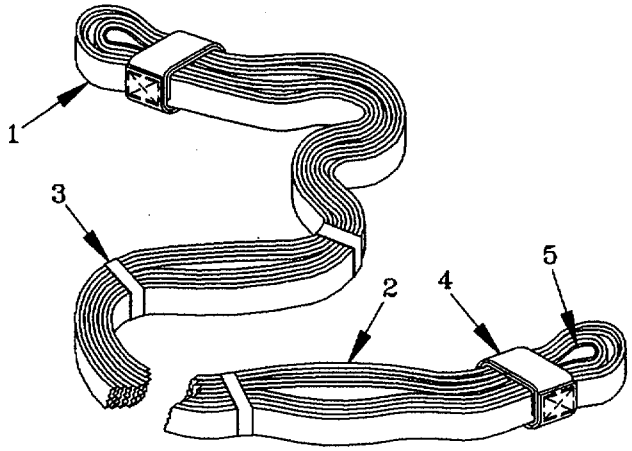
g. Link Protector. Link Protector (1) is a fabric covered pad used in pairs to protect aircraft floor from damage due to seven-point link movement.



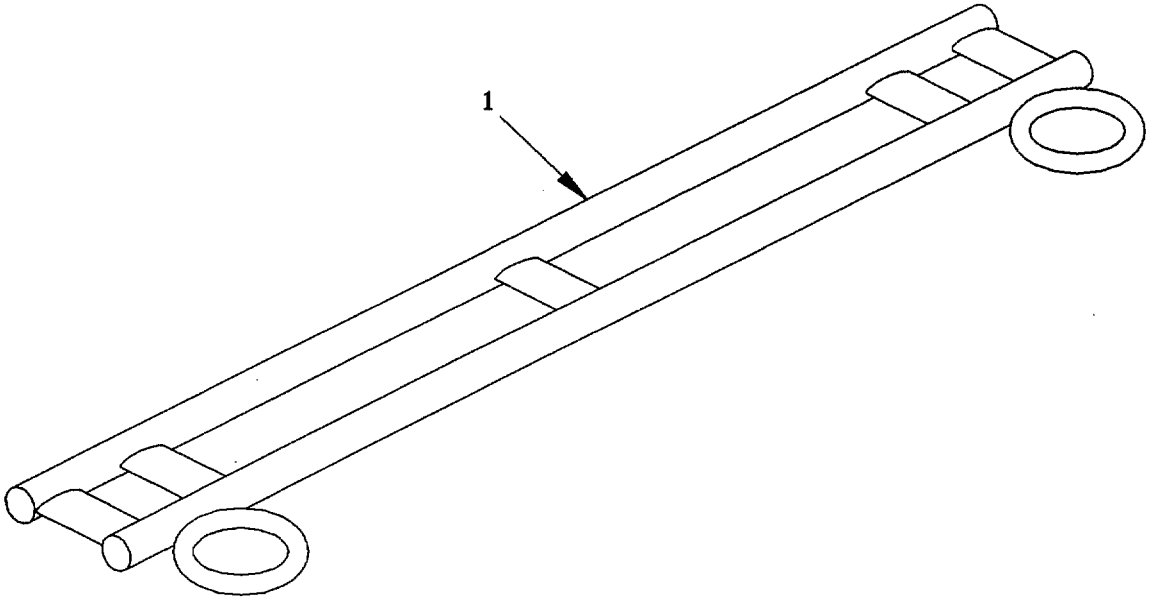
h. Line Extraction Parachute. The Parachute Extraction Line is a multi-loop line (1)made up of six or twelve plies of type XXVI webbing (2) with fixed keepers (3), sliding keepers (14) and buffers (5); or, a 60-Foot, seven inch circumference Extraction Rope (6) made of double-braid nylon/polyester composite. The weight of the load extracted will determine which Parachute Extraction Line is used.



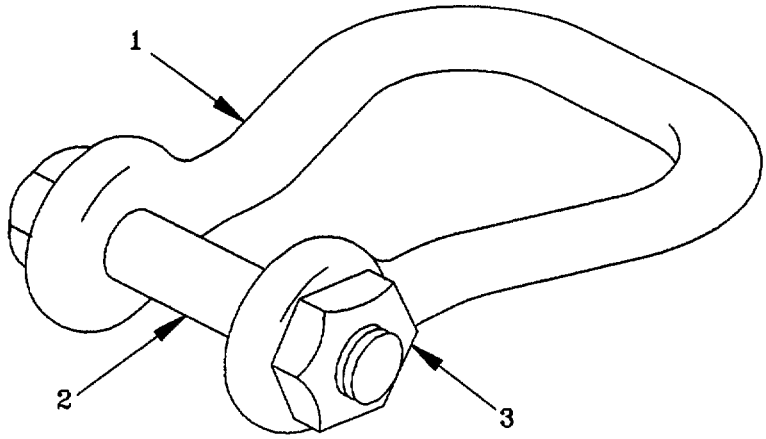
i. Drogue Line. Drogue line (1) is made of type XXIII nylon webbing and is used between drouge parachute and extraction link.



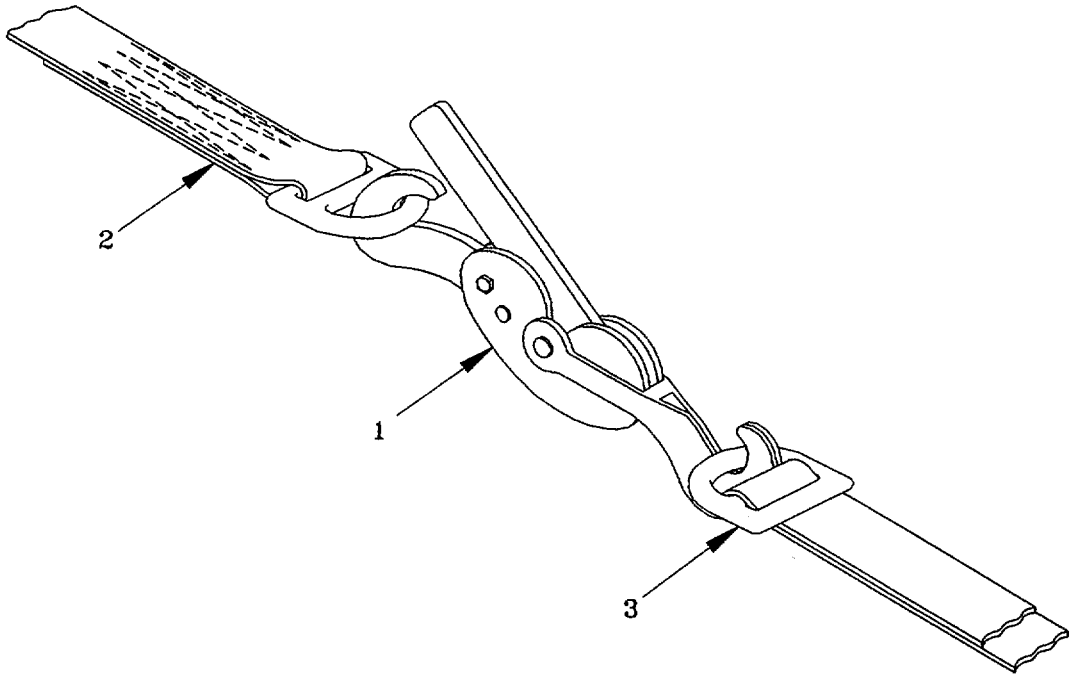
j. Line, Extraction, Platform. The Platform Extraction Line (1) is a multi-loop line made up of eight plies of type XXVI webbing (2) with fixed keepers (3), sliding keepers (4), and buffers (5) used to extract platform from aircraft. Lengths are 3-, 16-, 20-, and 28-foot.



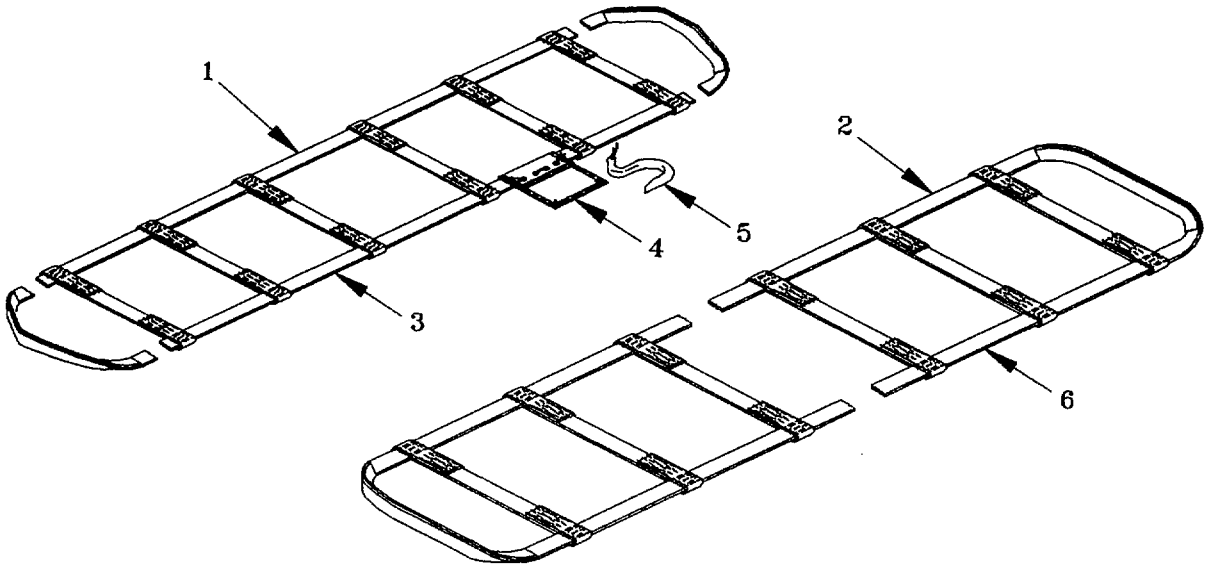
k. Attitude Control Bar. The Attitude Control Bar (1) consists of a welded steel pipe frame with a 6-inch ring welded at each end. The bar is used to control the attitude (nose up) of the load during a LAPES extraction.



l Shackle, Large. The Large Shackle (1) is used in forming extraction systems, forming bridles, and attaching lines to parachutes. It is secured with a bolt (2) and nut (3).



m. Ten-Thousand Pound Capacity Aircraft Cargo Tie-down. Aircraft cargo tie-downs are used to secure equipment and supplies to airdrop platforms. A ten thousand pound binder (1) is used with adjustable 15-foot webbing (2) and heavy duty Dee ring (3).



n Drive-off Aids. The drive-off aids are used to assist in the removal of a vehicle from an airdrop platform after the airdrop when the honeycomb will not allow the wheels to make contact with the platform.

(1) *Type I Drive-off Aid.* The type I drive-off aid assembly (1) consists of two tract on webs (3) each with a pocket (4) and hook (5)

(2) *Type V Drive-off Aid.* The type V drive-off aid assembly (2) consists of two traction webs (6)

1-12. EQUIPMENT CONFIGURATION. Exact usage of LAPES Ancillary Equipment is dictated by the particular load being rigged. Refer to applicable field manual for guidance.

Section III. PRINCIPLES OF OPERATION

1-13. GENERAL. Ancillary Equipment for LAPES provides the means for performing a Low Altitude Parachute Extraction (LAPE). LAPE is the process of delivering vehicles or other equipment to the ground by first lashing it to a platform and then extracting from an low-flying aircraft via one or more parachutes. The equipment falls the short distance (usually about five to ten feet) to the ground and comes to rest after sliding a distance.

The Ancillary Equipment for LAPES consists of all equipment required to perform such a drop including platforms, lines, ropes, links, and parachutes. Parachutes and platforms are included in the MAC (Appendix B, Section II) of this manual, but actual maintenance procedures may be found In their respective TMs.

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 TOOLS, TMDE, AND SUPPORT EQUIPMENT. The tool and test equipment requirements required for the maintenance of LAPES Ancillary Equipment are listed in Appendix B. Section III, Tool and Test Equipment List.

2-3. REPAIR PARTS. Repair parts for LAPES Ancillary Equipment are listed and illustrated in the Repair Parts and Special Tools List (RPSTL), Appendix C of this manual.

Section II. SERVICE UPON RECEIPT

2-4. SERVICE UPON RECEIPT OF MATERIEL.

NOTE

Acceptance of new airdrop equipment from manufacturers is based upon inspections made of sample lots which have been randomly selected in accordance with military standards. It is incumbent upon using activity personnel to bear this in mind whenever equipment is placed in service.

Changes will sometimes evolve from the original equipment design and some times contractors are authorized deviations material and construction techniques. Airdrop equipment that has been in the field can not be expected to meet exacting manufacturing specifications; however, the equipment should closely reflect desired design characteristics.

Since repairs modifications and/or changes can alter or detract from the configuration original desired, such equipment shall be air worthy, safe and of the desired configuration and adequate for intended use.

a. Unpacking. Each component of LAPES Ancillary Equipment 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 chapter.

(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 is 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 MWO's 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. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-5. INTRODUCTION TO PMCS TABLE. The LAPES Ancillary Equipment 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 (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.

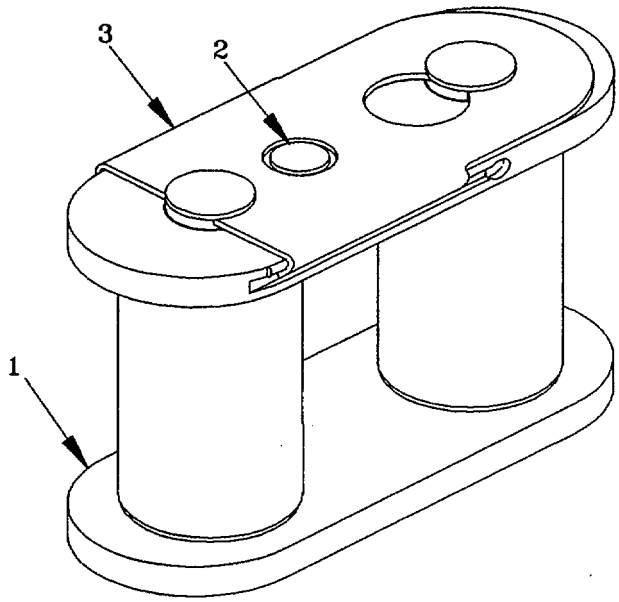
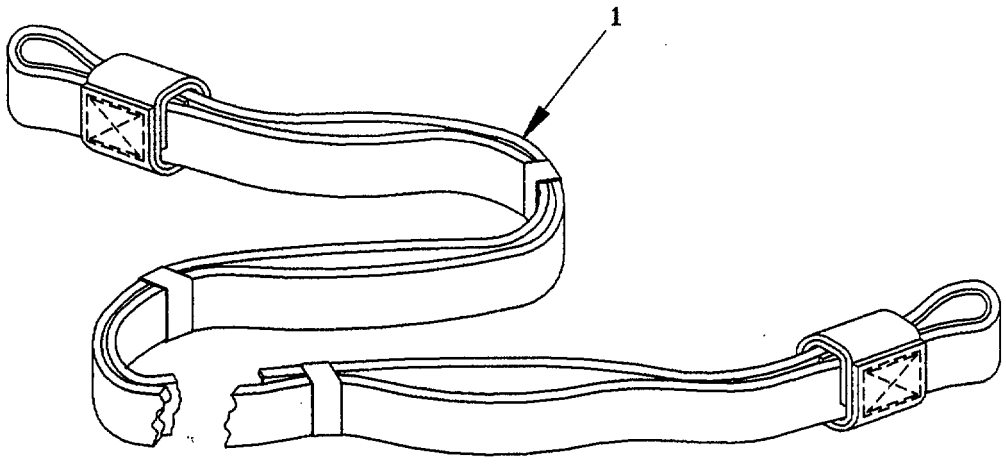
(2) *Interval Column.* This column tells you when you must do the procedure in the procedure column. The BEFORE procedures must be done before you operate or use the equipment for its intended mission. DURING procedures must be done during the time you are operating or using the equipment for its intended 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.

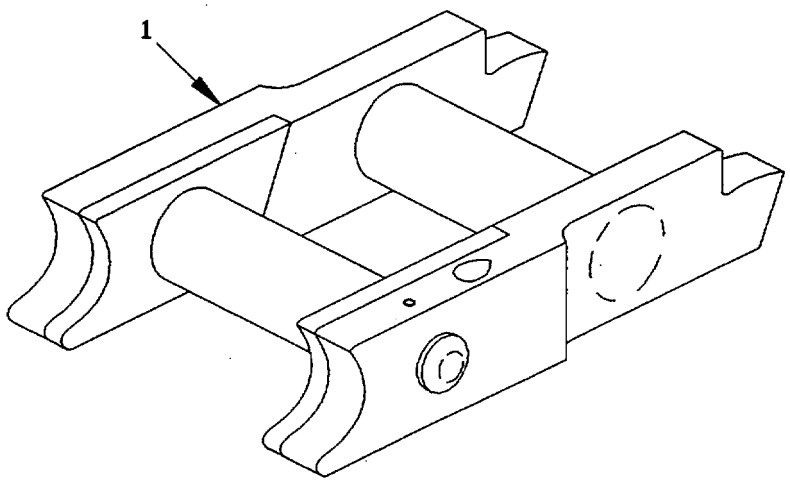
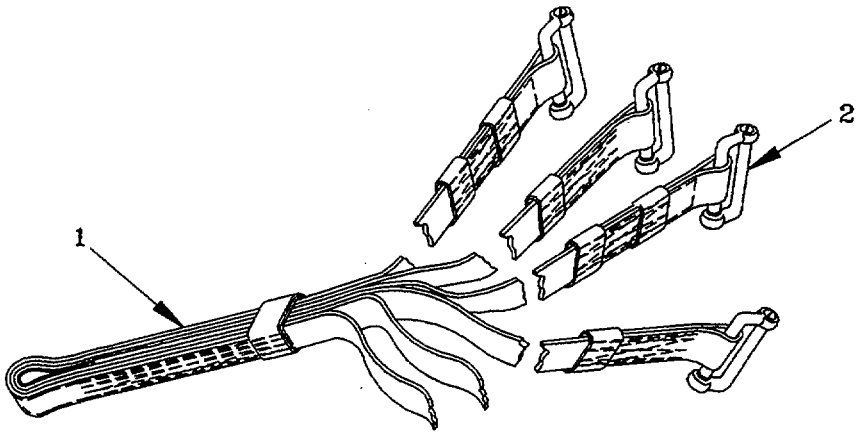
(3) *Location-Item to Check/Service Column* This column describes the location and the Item to be checked or serviced.

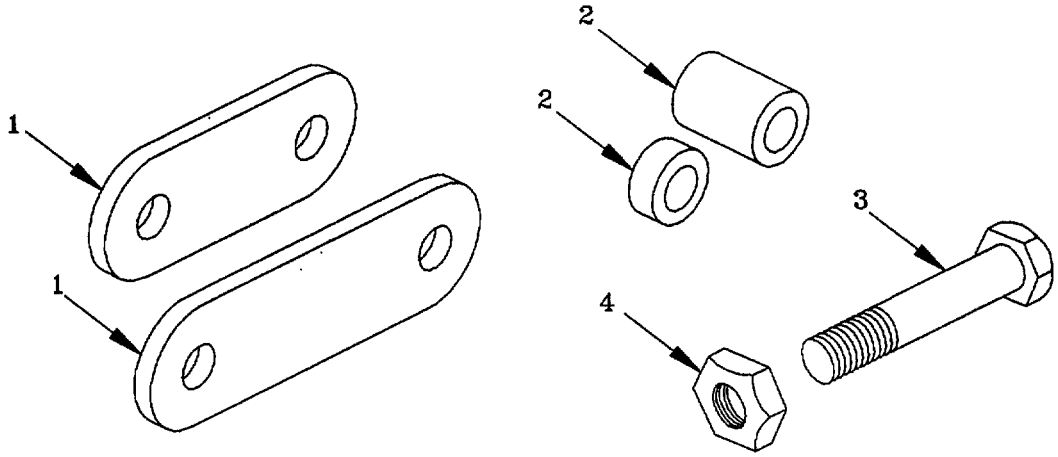
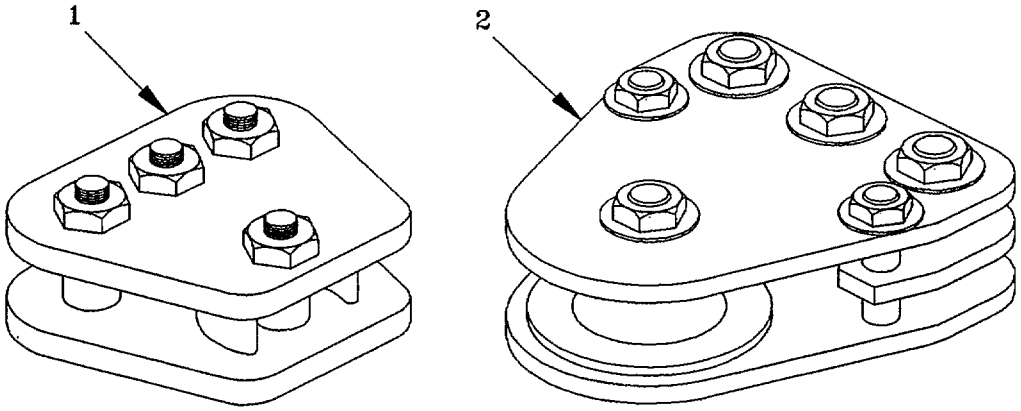
(4) *Procedure Column.* This column gives the procedure you must follow to check or service the item listed in the Check/Service column to know if the equipment is ready or available for its intended mission or for operation. You must perform the procedure at the time specified in the interval column.

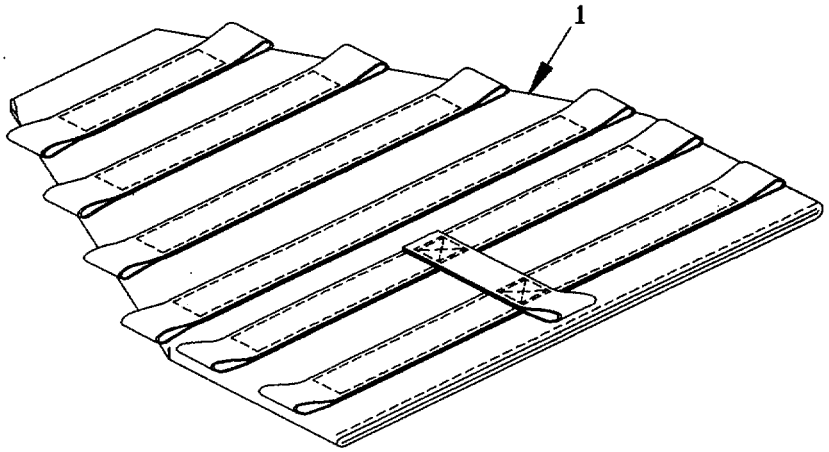
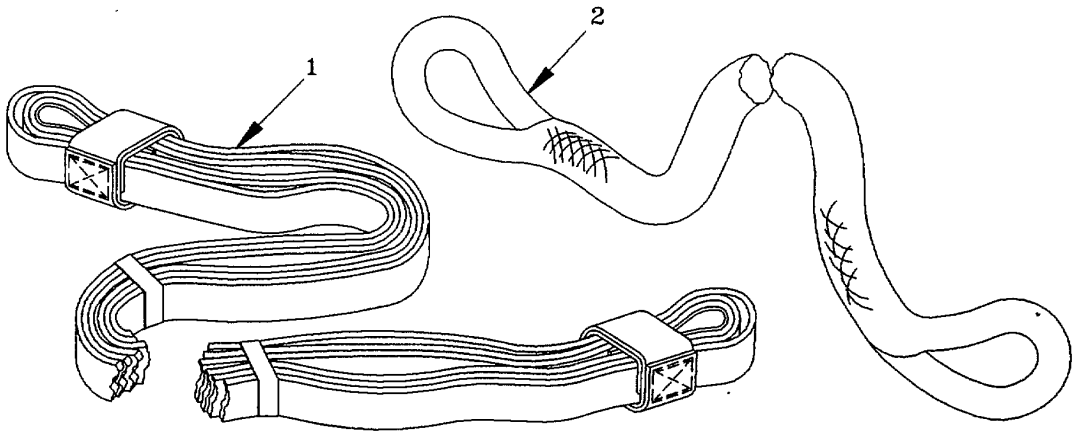
(5) *Not Fully Mission Capable If: Column.* Information in this column tells you what faults will keep your equipment from being capable of performing its primary mission. If you perform check and service procedures that show faults listed in this column, do not operate the equipment. Follow standing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

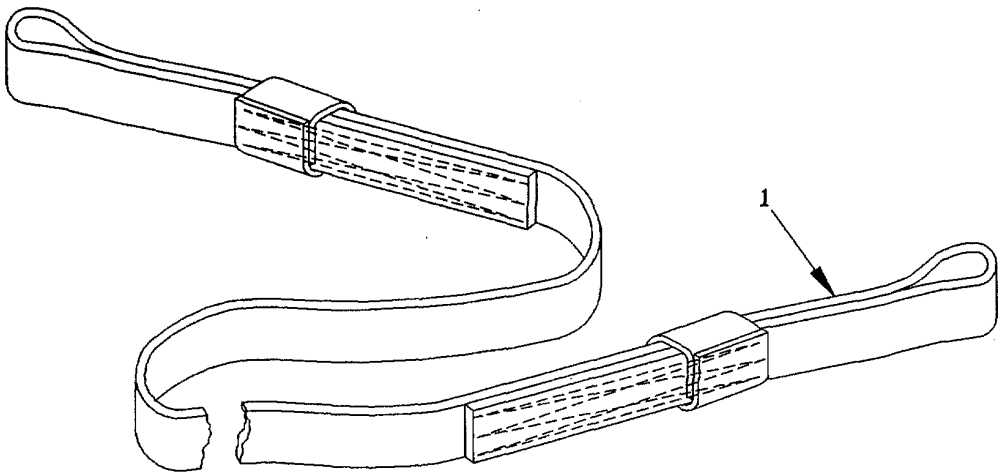
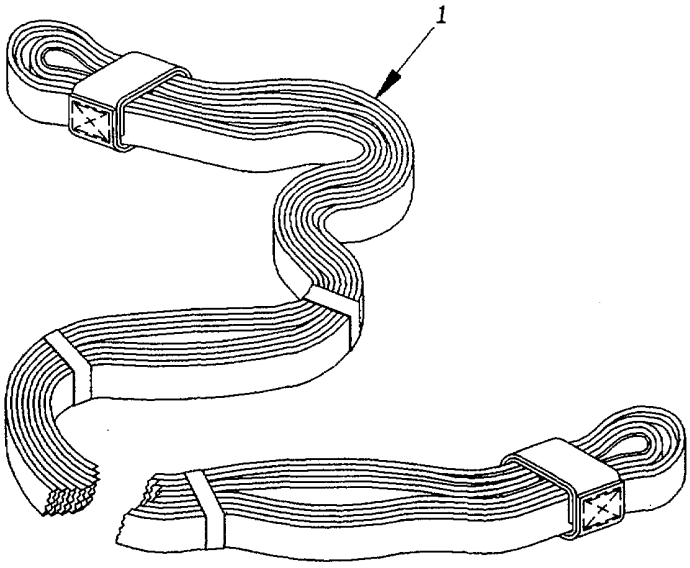
Table 2-1. Unit Preventive Maintenance Checks and Services

Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
				
1	Before	Type IV Link	Inspect link (1), for bends, breaks cracks, burrs or rough areas. Ensure proper operation of button (2) and lock (3).	Link (1) has bends, breaks, Cracks. Surfaces have burrs or rough areas. Button (2) or lock (3) does not function properly.
				
2	Before	Drogue Extraction Line	Inspect extraction line drouge (1) for loose or broken stitching cuts, worn or frayed webbing and presence of foreign matter.	Extraction line drouge (1) has loose or broken stitching cuts, worn or frayed webbing, or foreign matter present.

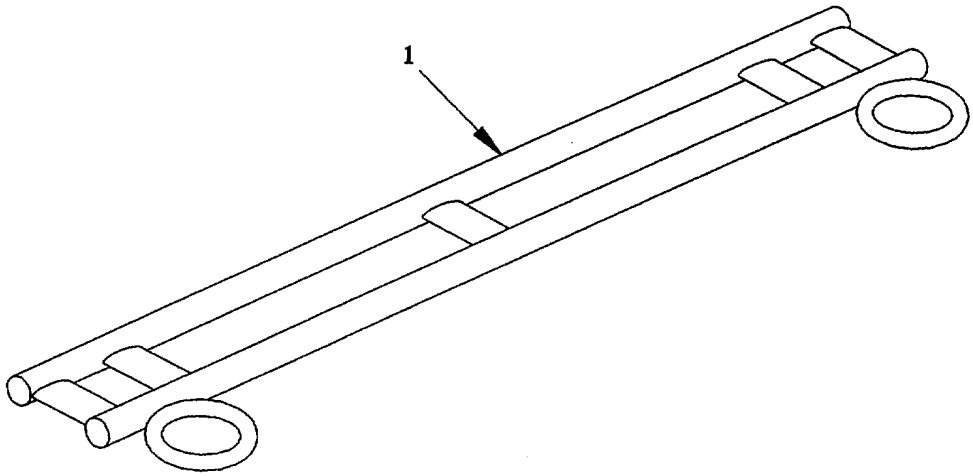
Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
				
3	Before	Extraction Link	Inspect link extraction (1) for rough arena, bends, breaks, cracks. Depress release pin firmly to remove jettison link	Link extraction (1) has rough areas, bends, breaks, cracks. Release mechanism does not function properly.
				
2	Before	Extraction Line Panel Bridle	Inspect bridle (1) for loose or broken stitching cuts, worn or frayed webbing and presence of foreign matter. Inspect for damaged or missing connector links (2).	Bridle (1) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present. Connect link (2) is damaged or missing.

Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
				
5	Before	Clevis Plates,3-3/4 and 5-1/2 Inch; Spacers, small and large; Bolts; Nuts	Inspect plates (1) and spacers (2) for rough areas, bends, breaks, cracks. Ensure threads on bolt (3) and nut (4) are not stripped or damaged.	Plate (1) or (2) spacer has rough areas, bends, breaks, cracks. Bolt (3) or nut (4) has stripped or damaged threads.
				
6	Before	Extraction Links, Four-and Seven-point	Inspect four-point extraction link (1) and seven-point extraction link (2) for rough areas, bends, breaks, cracks. Ensure fastener threads are not stripped or damaged.	Extraction link (1) or (2) has rough areas, bends, breaks, cracks. Fasteners have stripped or damaged threads.

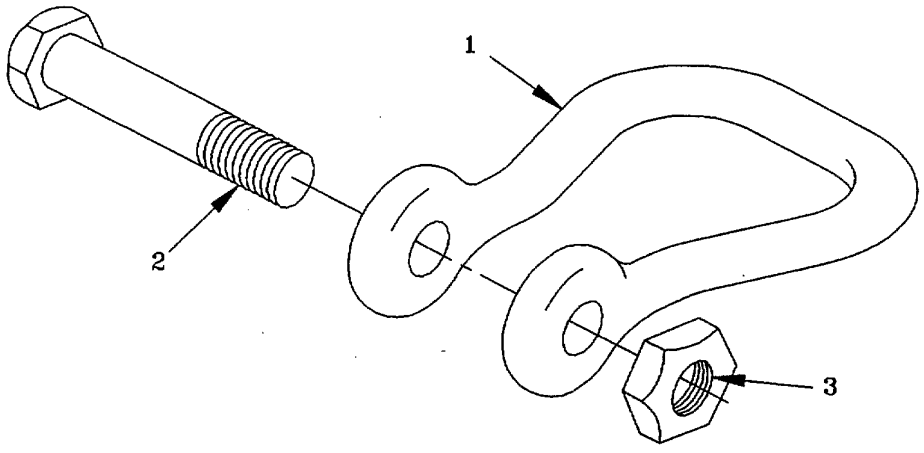
Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
				
7	Before	Tank Protector	Inspect link protector (1) for loose or broken stitching cuts, worn or frayed webbing and presence of foreign matter.	Link protector (1) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present.
				
8	Before	Parachute Extraction Line	Inspect multi-loop line (1) for loose or broken stitching, cuts, worn or frayed webbing and presence of foreign matter. Inspect rope (2) for wear, cut strands, melted strands, and exposed core.	Multi-loop line (1) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present. Rope (2) has excessive wear, 3 or more consecutive broken strands, melted strands, or exposed core.

Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
				
9	Before	Drouge Line	Inspect Drouge line (1) for loose or broken stitching, cuts, worn or frayed webbing and presence of foreign matter.	Drouge line (1) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present.
				
10	Before	Platform Extraction Line	Inspect multi-loop line (1) for loose or broken stitching, cuts, worn or frayed webbing and presence of foreign matter.	Multi-loop line (1) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present.

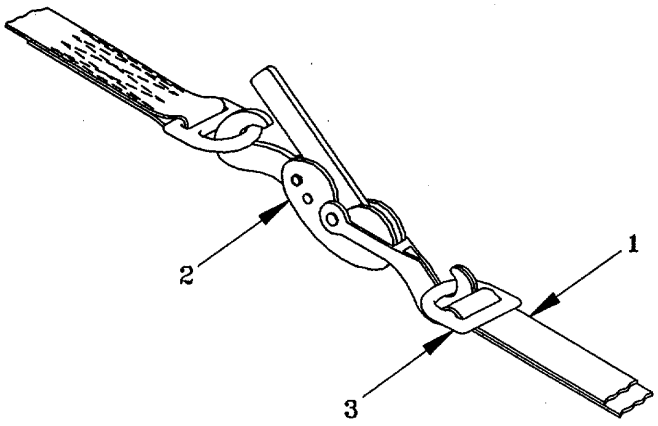
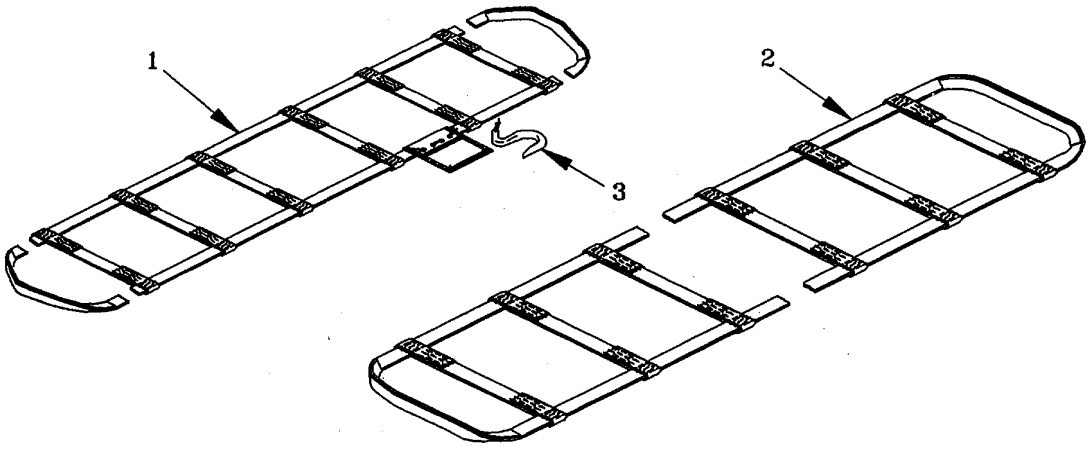
Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:



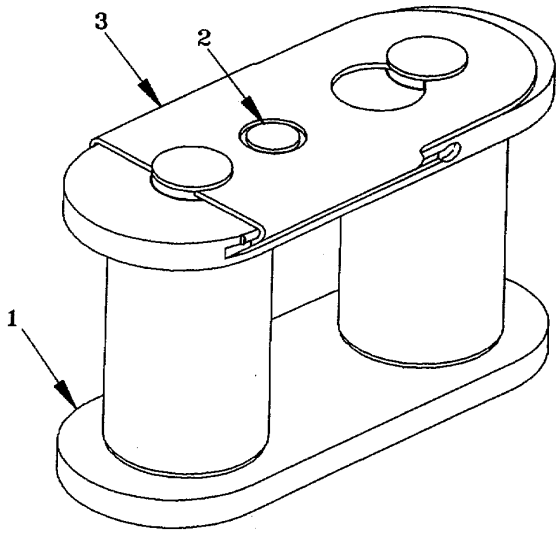
11	Before	Attitude Control Bar	Inspect attitude control bar (1) for rough areas, bends, breaks, Cracks.	Attitude control bar (1) has rough areas, bends, breaks, cracks.



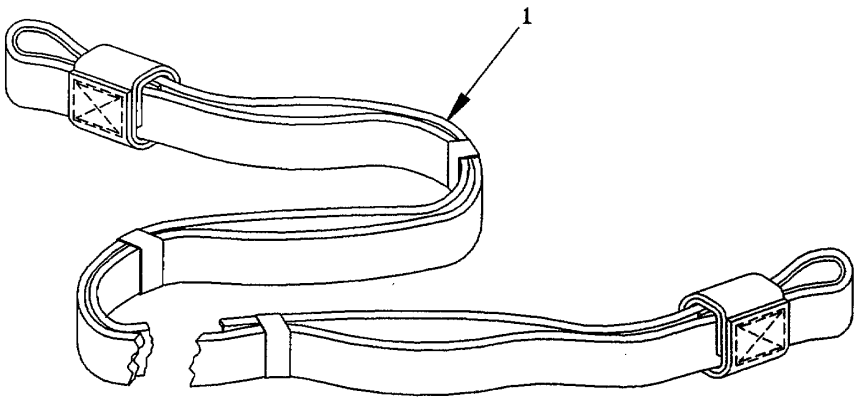
12	Before	Large Shackle	Inspect shackle (1) for rough areas, bends, breaks, cracks. Ensure threads on bolt (2) and nut (8) are not stripped or damaged.	Shackle (1) has rough areas, bends, breaks, cracks. Bolt (2) or nut (8) has stripped or damaged threads.

Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
				
13	Before	Cargo Tie-down	Inspect cargo tie-dow (1) for loose or broken stitching, cuts, worn or frayed webbing and presence of foreign matter. Inspect binder (2) and dee rings (3) for rough areas, burrs, bends, breaks or cracks. Ensure binder (2) functions properly.	Cargo tie-down (1) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present. Binder or dee ring (3) has rough areas, burrs, bends, breaks or cracks. Binder (2) does not function properly.
				
14	Before	Drive-off Aids	Inspect drive-off aids (1) and (2) for loose or broken stitching, cuts, worn or frayed webbing and presence of foreign matter. Ensure hook (3) is present and not bent (type I only).	Drive-off aid (1) or (2) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present. Hook (3) is missing or bent missing (type I only).

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

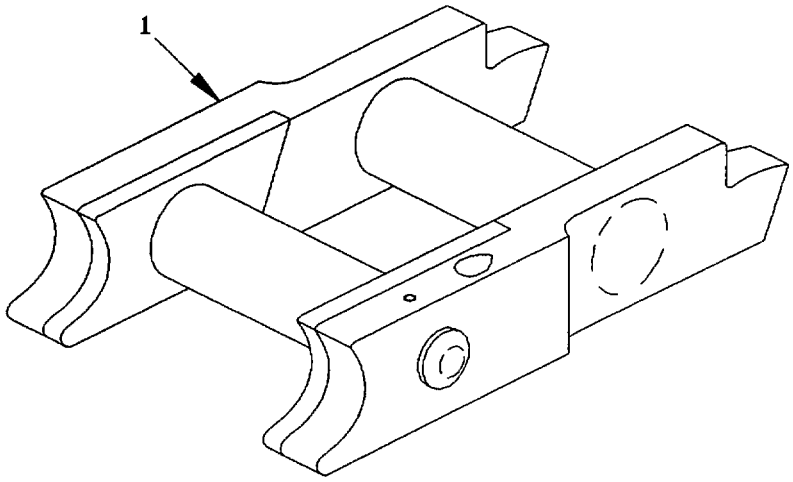


1	After	Type IV Link	Inspect link (1) for bends, breaks cracks, burrs or rough areas. Ensure proper operation of button (2) and lock (3).	Link (1) has bends, breaks, cracks. Surfaces have burrs or rough areas. Button (2) or look (8) does not function properly.



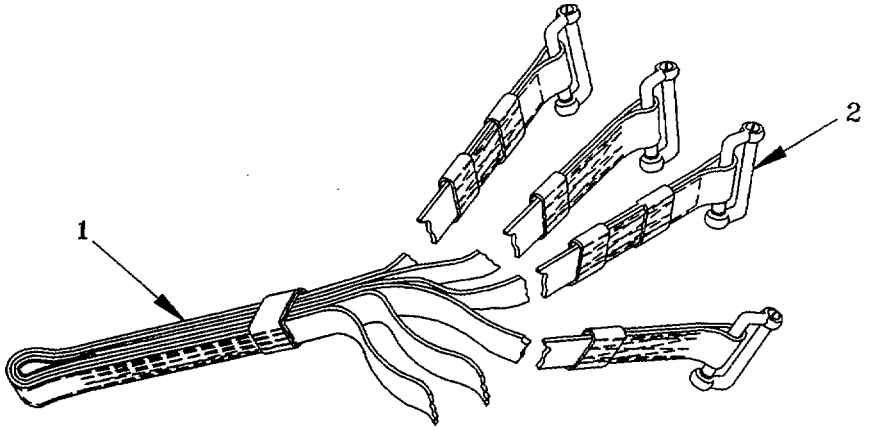
2	After	Drouge Extraction Line	Inspect extraction line, drouge (1) for loose or broken stitching cuts, worn or frayed webbing and presence of foreign matter.	Extraction line, drouge (1) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present.

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



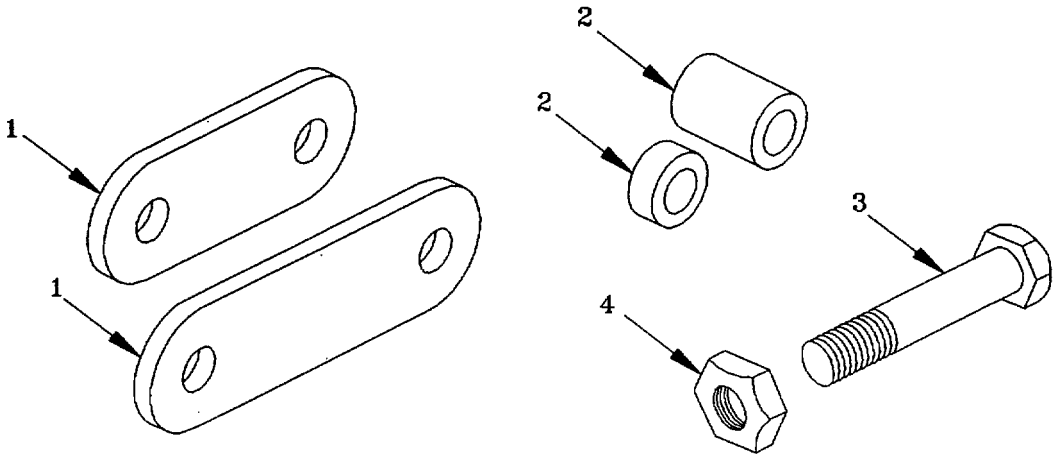
3	After	Extraction Link	Inspect link, extraction (1) for rough areas, bends, breaks, Cracks. Depress release pin firmly to remove jettison link.	Link, extraction (1) has rough areas, bends, breaks, cracks. Release mechanism does not function properly.

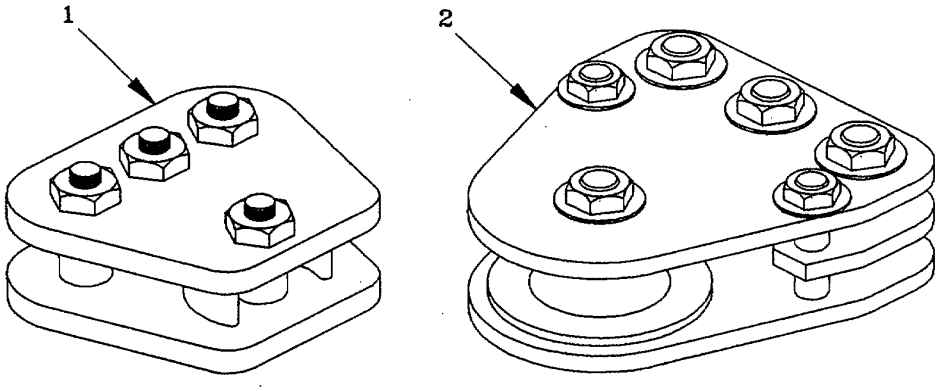
t

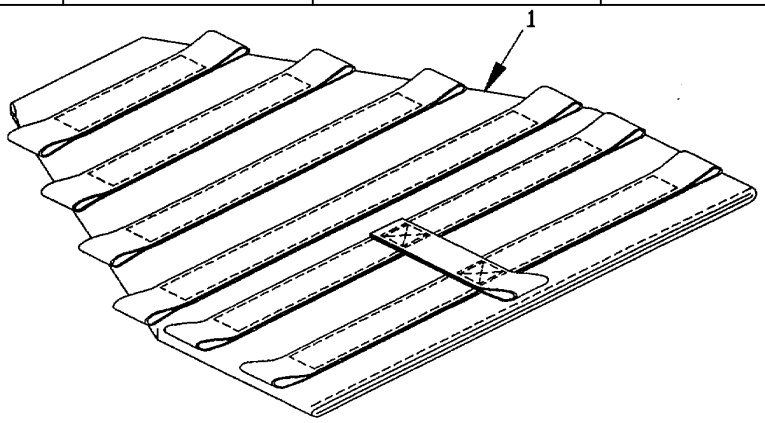
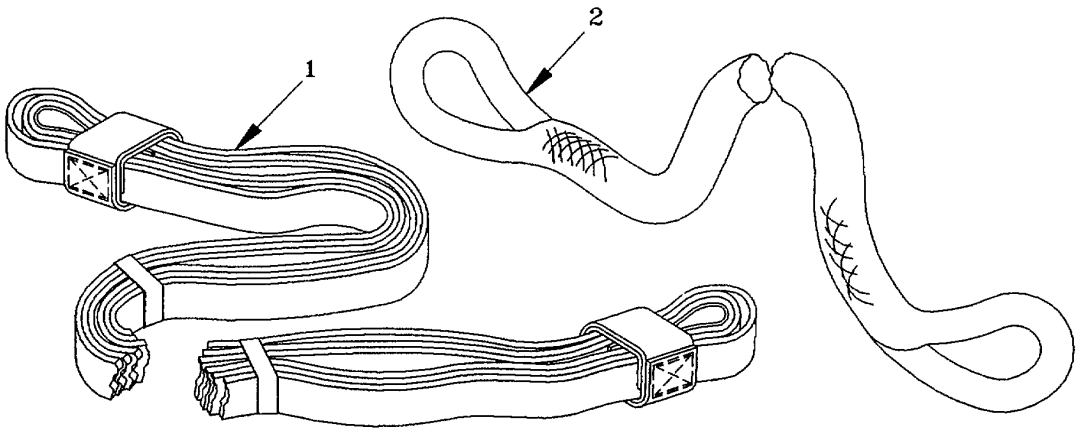


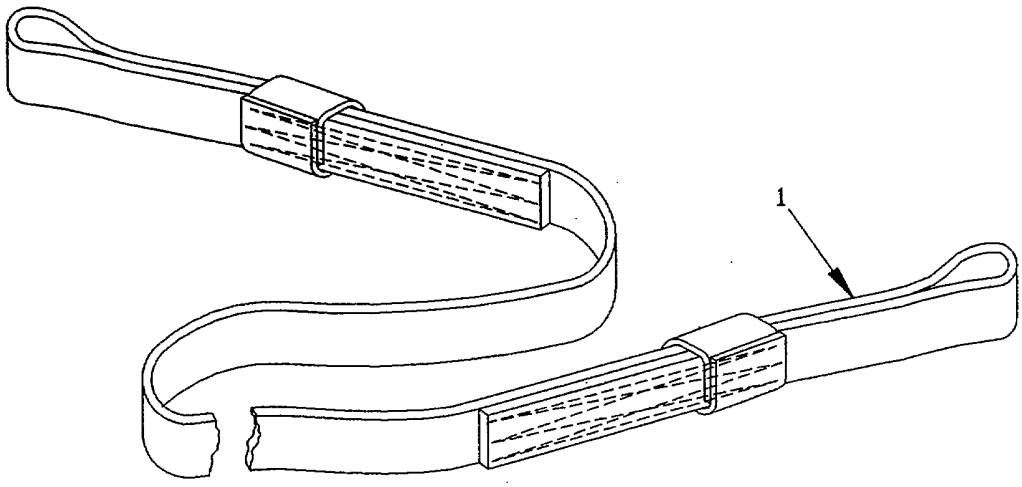
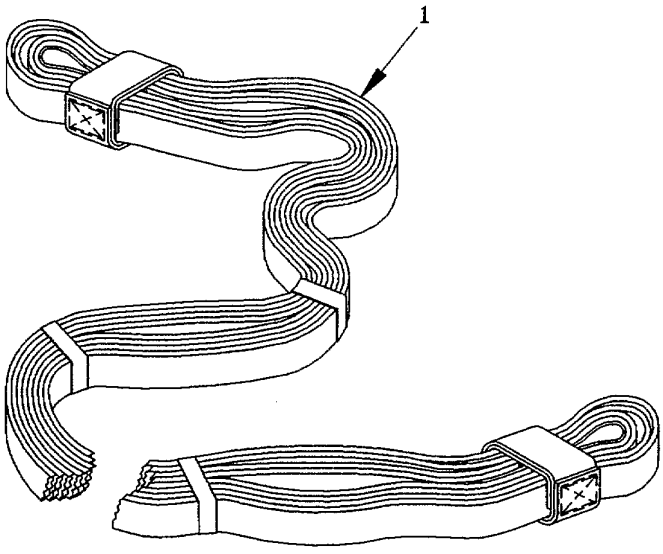
4	After	Extraction Line Panel Bridle	Inspect bridle (1) for loose or broken stitching, cuts, worn or frayed webbing and presence of foreign matter. Inspect for damaged or missing connector links (2).	Bridle (1) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present. Connector link (2) is damaged or missing.

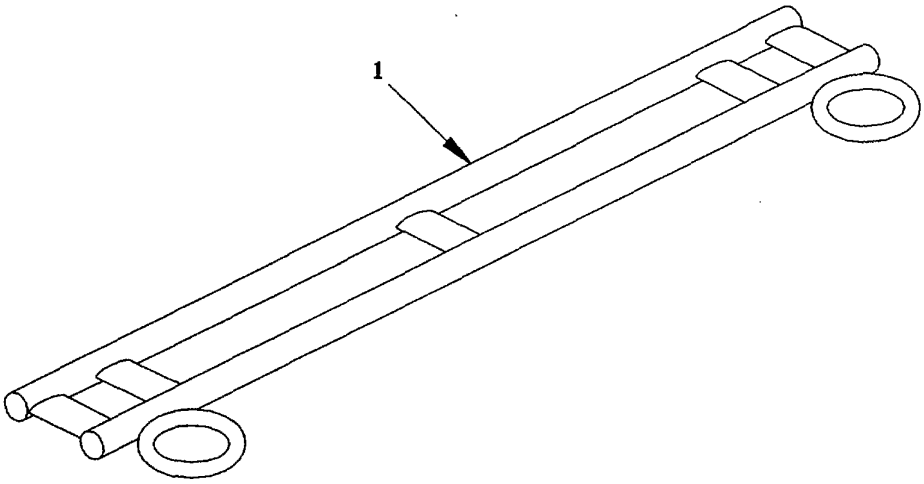
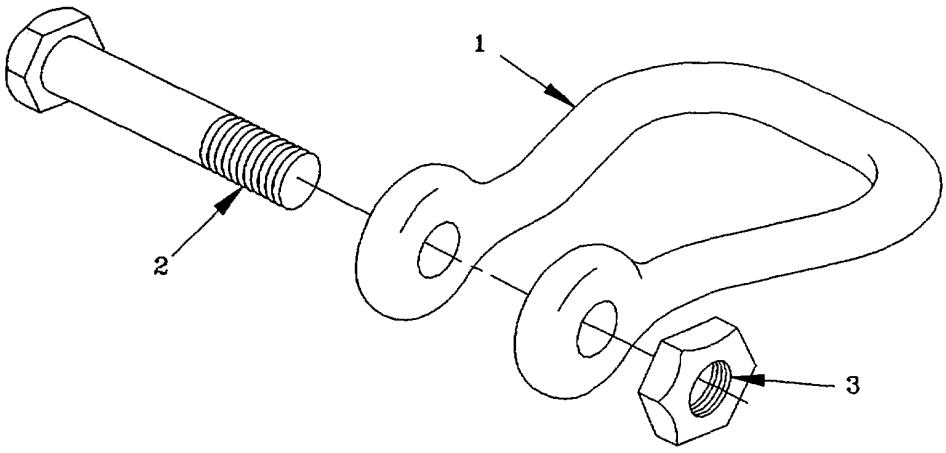
Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
5	After	Clevis Plates, 3-/4 and 5-1/2 Inch; Spacers, small and large; Bolts; Nuts	Inspect plates (1) and spacers (2) for rough areas, bends, breaks, cracks. Ensure threads on bolt and nut (4) are not stripped or damaged.	Plate (1) or (2) spacer has rough areas, bends, breaks, (3)cracks. Bolt (3) or nut (4) has stripped or damaged threads.
6	After	Extraction links, Four- and Seven point	Inspect four-point extraction link (1) and seven-point extraction link (2) for rough areas, bends, breaks, cracks. Ensure fastener threads are not stripped or damaged.	Extraction link (1) or (2) has rough areas, bends, breaks, cracks. Fasteners have stripped or damaged threads.

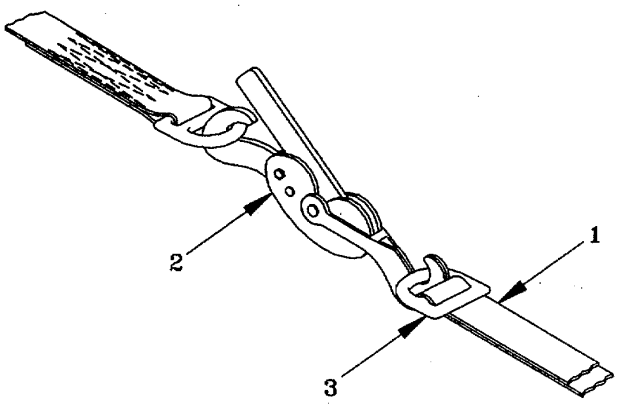
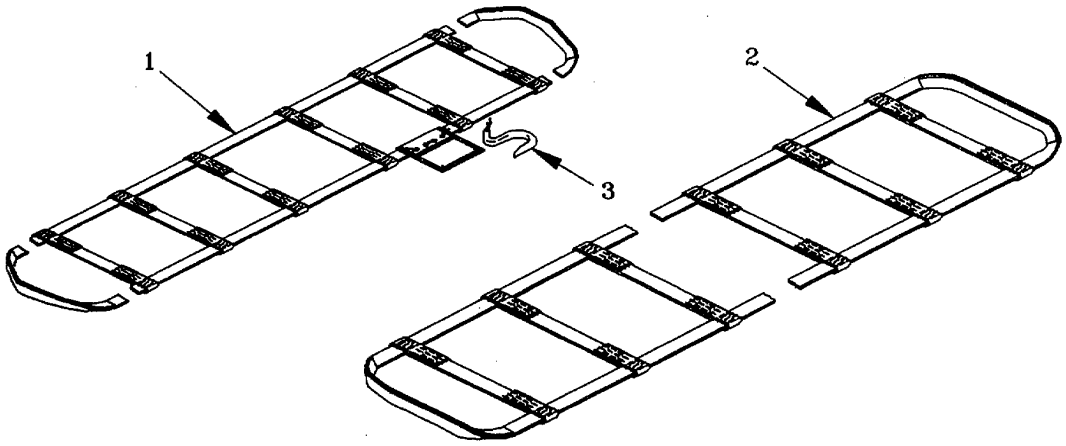




Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
				
7	After	Link Protector	Inspect link protector (1) for loose or broken stitching, cuts, worn or frayed webbing and presence of foreign matter.	Link protector (1) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present.
				
8	After	Parachute Extraction Line	Inspect multi-loop line (1) for loose or broken stitching, cuts, worn or frayed webbing and presence of foreign matter. Inspect rope (2) for wear, cut strands, melted strands, and exposed core.	Multi-loop line (1) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present. Rope (2) has excessive wear, 3 or more consecutive broken strands, melted strands, or exposed core.

Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
				
9	After	Drouge Line	Inspect drouge line (1) for loose or broken stitching, cuts, worn or frayed webbing and presence of foreign matter.	Drouge Line (1) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present.
				
10	After	Platform Extraction Line	Inspect multi-loop line (1) for loose or broken stitching, cuts, worn or frayed webbing and presence of foreign matter.	Multi-loop line (1) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present.

Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
				
11	After	Attitude Control Bar	Inspect attitude control bar (1) for rough areas, bends, breaks, cracks.	Attitude control bar (1) has rough areas, bends, breaks, cracks.
				
12	After	Large Shackle	Inspect shackle (1) for rough areas, bends, breaks, cracks. Ensure threads on bolt (2) and nut (3) are not stripped or damaged.	Shackle (1) has rough areas, bends, breaks, cracks. Bolt (2) or nut (3) has stripped or damaged threads.

Item No	Interval	Location Item to Check/Service	Procedure	Not Fully Mission Capable If:
				
13	After	Cargo Tie-down	Inspect cargo tie-dow (1) for loose or broken stitching, cuts, worn or frayed webbing and presence of foreign matter. Inspect binder (2) and dee rings (3) for rough areas, burrs, bends, breaks or cracks. Ensure binder (2) functions properly.	Cargo tie-down (1) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present. Binder or dee ring (S) has rough areas, burrs, bends, breaks or cracks. Binder (2) does not function properly.
				
14	After	Drive-off Aids	Inspect drive-off aids (1) and (2) for loose or broken stitching, cuts, worn or frayed webbing and presence of foreign matter. Ensure hook (8) is present and not bent (type I only).	Drive-off aid (1) or (2) has loose or broken stitching, cuts, worn or frayed webbing, or foreign matter present. Hook (3) is missing or bent missing (type I only).

Section IV. UNIT MAINTENANCE PROCEDURES

2-6. GENERAL. This section contains Unit Maintenance procedures for the LAPES Ancillary Equipment as authorized by the Maintenance Allocation Chart (MA), 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 and understand all WARNINGS, CAUTIONS, NOTES and instructions carefully before attempting a procedure. Read and observe the WARNINGS at the front of this manual.

2-7. TECHNICAURIGGER 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.

a. Inspection Intervals.

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

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

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

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

b. **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 an organizational 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.

c. **Technical/rigger-type Inspection Procedures**.

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

(a) **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.

(b) **Assembly Completeness.** Insure that the applicable assembly is complete and no components or parts are missing.

(c) **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.

(d) 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.

(e) **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.

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

(a) **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 <½ rivets; improper swaging or welding; loss of spring tension.

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

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

(d) 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 sealing; weak spots, wear, and deterioration.

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

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

(g) Felt. Inspect for cuts, tears, burns, breaks, holes, and thin spots.

(h)Leather. Inspect for burns, cuts, holes, tears, loose missing or broken stitching, thin spots and deterioration.

2-8. GENERAL MAINTENANCE PROCEDURES. Maintenance and repair procedures being applied to the LAPES Ancillary Equipment will be limited to those authorized in the Maintenance Allocation Chart, Appendix B. The following general maintenance procedures apply:

a. **Stitching and Restitching.** Stitching and restitching of LAPES Ancillary Equipment 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 11/2 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 in puckering of the materials sewn. The stitching lock shall be imbedded in 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.

b. **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.

c. **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 material 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.

d. **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 ballpoint 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	Recommended Sewing Machine (Code Symbol)	Stitches per Inch	Thread Size
Multi-loop lines			
Buffers	VHD or HD	8-11	FF
Loop ends and splices	VHD or HD	5-8	6
Sliding Keepers	HD	5-8	3
Extraction Line Panel Bridle	VHD or HD	5-8	5
Link Protector	VHD or HD	5-7	5
	L	8-11	FF
Drouge Line	HD	5-7	6
Cargo Tie-down	VHD OR HD	5-8	6
Drive-off Aids			
Type I	HD	5-8	6
Type V	HD	5-8	6

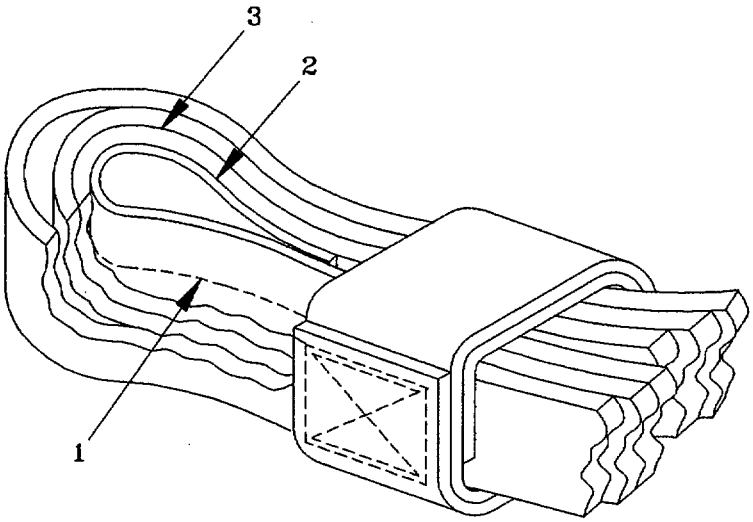
2-9. REPAIR OF MULTI-LOOP LINES.

NOTE

These repair procedures may be used for any of the LAPES Multi-loop Lines. See individual paragraphs for repair parts.

a. **Restitch Overlapping Ends and Webbing Splices**. Restitch overlapping ends and webbing splices in accordance with paragraph 2-8, Table 2-2, and original construction details.

b. **Replace Buffer.**



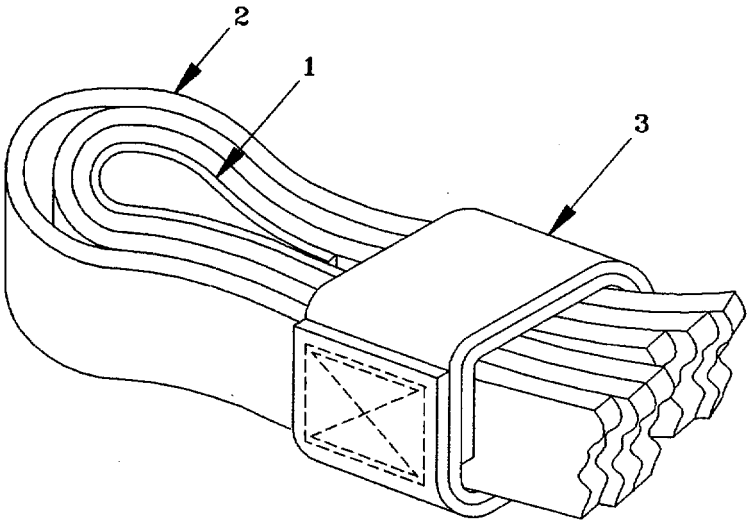
(1) Cut the stitching (1) securing buffer (2) to inside loop (3) and remove buffer (2).

(2) Fabricate new buffer (2) in accordance with Appendix E, Illustrated List of Manufactured Items.

(3) Fold buffer (2) in half and insert into loop (3). Offset buffer ends by 1 inch.

(4) Using VHD or HD sewing machine and 8-11 stitches per inch, stitch buffer (2) to inside loop (3) with size FF thread (1) longitudinally along the center line. Stitch one inch beyond buffer with no backstitch.

c. **Replace Sliding Keeper.**



(1) Remove buffer (1) from line loop end (2) in accordance with step b(1) and b(2) above.

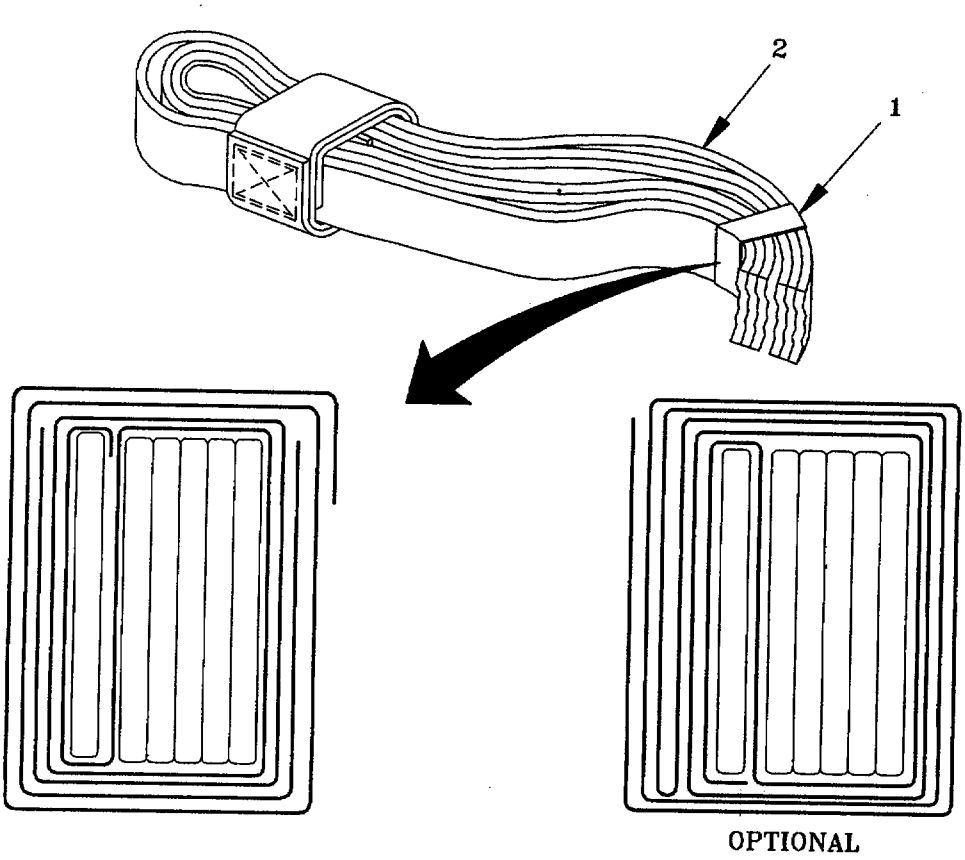
(2) Slide unserviceable sliding keeper (3) off line (2).

(3) Fabricate new sliding keeper (3) in accordance with Appendix E, Illustrated List of Manufactured Items.

(4) Slide sliding keeper (3) onto line (2).

(5) Install buffer (1) in accordance with step b(3) and b(4) above

d. Replace Fixed Keeper. Fixed Keepers are formed from pressure sensitive, nylon filament reinforced tape, type IV (Appendix D, Item 12). Replace as follows:



(1) Remove fixed keeper (1), if required, using care not to damage webbing (2).

(2) Starting on an outer ply, wrap the first tape strip (1) around this ply with the gum side against the webbing (2).

(3) Wrap tape (1) around the outside of all plies for two full turns with the gummed side away from the webbing (2).

(4) Cut the tape or, (optional method) fold it over gum-side to gum-side.

(5) Wrap tape (1) in opposite direction two full turns with gum side toward previous wraps.

(6) Cut tape (1).

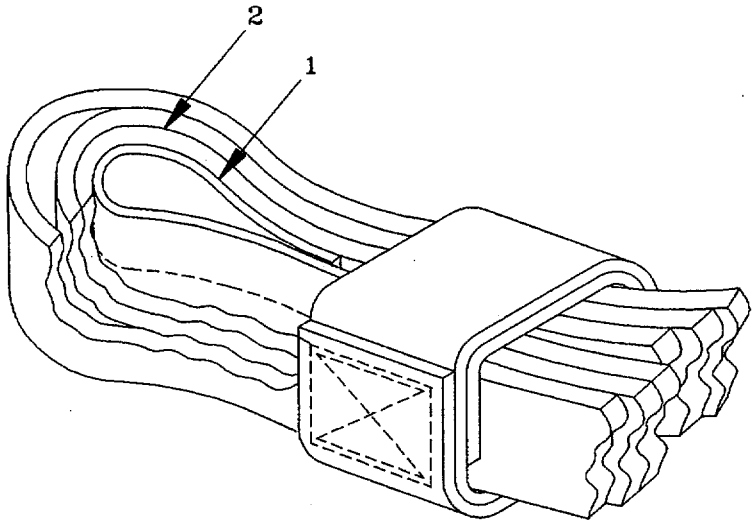
e. Splicing. Splicing is the replacement of a portion of unserviceable webbing with a new, serviceable webbing attached at each end. Each of the two sewn areas is considered a splice. Splicing may be performed on webbing loops of all lines, except the 3-foot lines. Three splices per loop are permitted on lines less than 20 feet in length. Four splices per loop are permitted on lines 20 to 60 feet in length. Five splices per loop are permitted on lines longer than 60 feet. The total number of splices per loop permitted includes the original connector splice. Splice line as follows:

f.

NOTE

Splicing shall not be performed when a damaged area is within 24 inches of another splice or connector overlap. A splice may extend to a point not closer than 12 inches from a webbing loop end. The original webbing loop connector may be cut if it is directly adjacent to a damaged area. Splices will be centered between fixed keeper.

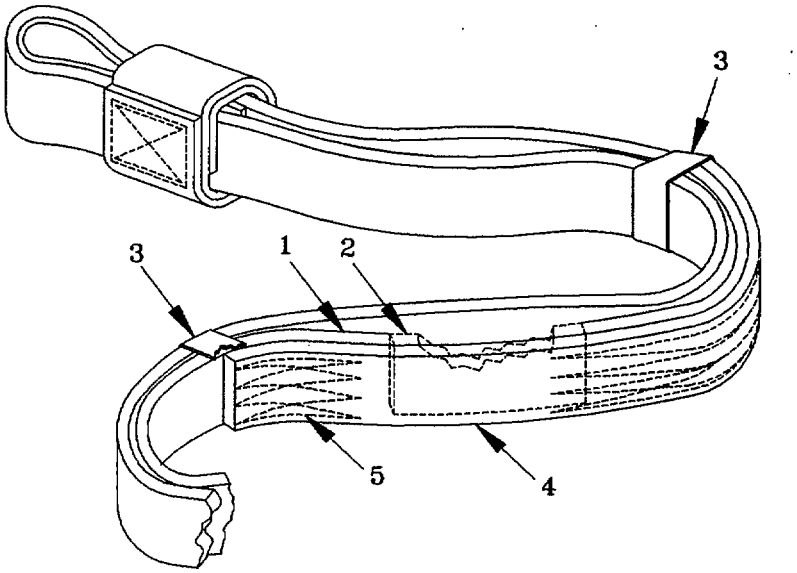
(*1) If splice would be within 12 inches of the loop end,* proceed as follows.



(a) When inside loop is damaged, remove buffers (1) in accordance with b(1) and b(2) above

(b) Adjust damaged loop (2) so splice will not be within 12 inches of the webbing loop end. Ensure splice will not be centered under fixed keepers.

(c) For inside loops, install buffers (1) in accordance with b(3) and b(4) above.



(2) Cut webbing (1) on both sides of the damaged area (2) with cuts between the fixed keepers (3). Sear the ends of remaining webbing (1).

(4) Remove fixed keepers (3) from the portion of loop (1) to be spliced.

(5) Cut replacement type XXVI nylon webbing (4) to the length of damaged webbing removed (2) plus 16-11/4 inches for splice allowance. Sear both ends.

(6) Position one end of replacement webbing (4) on outside of remaining webbing (1) so that it overlaps remaining webbing (1) by 8-1/8 inches.

(7) Using an HD sewing machine and 4 to 6 stitches per inch, sew a 4-point WW stitch formation (5) using size 6 thread.

(8) Repeat steps (6) and (7) above for other end of replacement webbing.

(9) Install fixed keepers (3) in accordance with step d above.

2-10. TYPE IV LINK.

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

INITIAL SETUP

Tools:
File, bastard, 10-inch (Appendix B, Section III, Item 1)

Materials/Parts:
Type IV Link

INSPECT

Perform a technical/rigger-type inspection of type IV link in accordance with paragraph 2-7.

REPAIR

Make repairs to type IV link in accordance with paragraph 2-8.

REPLACE

Replace unserviceable type IV link with a serviceable one from stock.

2-11. DROUGE EXTRACTION LINE.

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

INITIAL SETUP

Materials/Parts:
Multi-loop line (60'/1-loop)
Fixed keeper
Sliding keeper
Buffer
Thread, nylon, sizes FF, 3, and 6 (Appendix D, Items 15, 16 & 18)

INSPECT

Perform technical/rigger inspection of Multi-loop line, fixed keepers, sliding keepers, and buffers in accordance with paragraph 2-7.

REPAIR

Refer to paragraph 2-9, Repair of Multi-loop Lines for repair procedures.

REPLACE

Replace unserviceable drouge extraction line with a serviceable one from stock.

2-12. EXTRACTION LINK.

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

INITLAL SETUP

Tools:
File, bastard, 10-inch (Appendix B, Section III, Item 1)

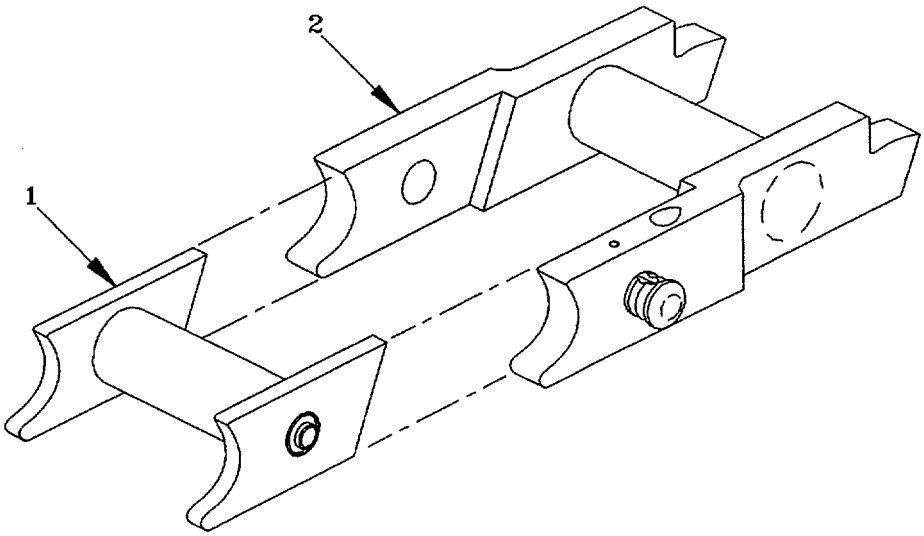
Materials/Parts:
Extraction link
Jettison link

INSPECT

Perform a technical/rigger-type inspection of extraction link in accordance with paragraph 2-7.

REPAIR

a. Repair extraction link in accordance with paragraph 2-8.



b. Replace Jettison Link. Remove unserviceable jettison link (1) from extraction link (2) and install a serviceable one from stock.

REPLACE

Replace unserviceable extraction link with a serviceable one from stock.

2-13. EXTRACTION LINE PANEL BRIDLE.

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

INITIAL SETUP

Tools:
Screwdriver, flat tip (Appendix B, Section III, Item 2)

Materials/Parts:
Extraction line panel bridle
Connector link
Screw, slotted
Thread, nylon, size 5 (Appendix D, Item 17)

INSPECT

Perform a technical/rigger-type inspection of extraction line panel bridle including connector link in accordance with paragraph 2-7.

REPAIR

a. Repair extraction line panel bridle in accordance with paragraph 2-8 and original construction. Refer to Table 2-2 for specific stitching details.

b. Replace Connector Link Replace unserviceable connector link with a serviceable one from stock.

REPLACE

Replace unserviceable extraction line panel bridle with a serviceable one from stock

2-14. CLEVIS PLATES, SPACERS, BOLTS AND NUTS.

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

INITIAL SETUP

Tools:
File, bastard, 12-inch (Appendix B, Section III, Item 3)
Wrench, open-end, 1-7/16 and 1-5/8 inch (Appendix B, Section III, Item 4)
Wrench, open-end, 1-1/2 and 1-3/4 inch (Appendix B, Section III, Item 5)

Materials/Parts:
Clevis plate, 3-3/4 inch
Clevis plate 5-1/2 inch
Small spacer
Large spacer
Bolt, machine, 1-inch diameter, 4 inches long
Nut, hex, 1-inch

INSPECT

Perform a technical/rigger-type inspection of clevis plates, spacers, bolts and nuts in accordance with paragraph 2-7.

REPAIR

Repair clevis plates and spacers in accordance with paragraph 2-8.

REPLACE

Replace unserviceable clevis plate, spacer, bolt or nut with a serviceable one from stock.

2-15. FOUR-POINT EXTRACTION LINK.

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

INITIAL SETUP

Tools:
File, bastard, 10-inch (Appendix B, Section III, Item 1)
File, bastard, 12-inch (Appendix B, Section III, Item 3)
Wrench, open-end, 1-7/16 and 1-5/8 inch (Appendix B, Section III, Item 4)
Wrench, open-end, 1-1/2 and 1-3/4 inch (Appendix B, Section III, Item 5)

Materials/Parts:
Four-point extraction link
Bolt, machine
Nut, hex
Spacer, sleeve

INSPECT

Perform a technical/rigger-type inspection of four-point extraction link including bolt, nut and spacer in accordance with paragraph 2-7.

REPAIR

a. Repair four-point extraction link in accordance with paragraph 2-8.

b. Replace Bolts; Nuts; or Spacer. Replace unserviceable bolts, nuts, or spacer with serviceable ones from stock.

REPLACE

Replace unserviceable four-point extraction link with a serviceable one from stock.

2-16. SEVEN-POINT EXTRACTION LINK.

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

INITIAL SETUP

Tools:
File, bastard, 12-inch (Appendix B, Section III, Item 3)
Ratchet, 3/4 inch drive (Appendix B, Section III, Item 6)
Socket, 12-point, 1-5/16 inch (Appendix B, Section III, Item 7)
Socket, 12-point, 1-1/4 inch (Appendix B, Section III, Item 8)
Socket, 12-point, 1-7/8 inch (Appendix B, Section III, Item 9)
Socket, 12-point, 1-11/16 inch (Appendix B, Section III, Item 10)

Materials/Parts:
Seven-point extraction link
Spacer
Spool
Bolt
Nut
Spool, rope

INSPECT

Perform technical/rigger-type inspection of seven-point extraction link, spacer, spools, bolts and nuts in accordance with paragraph 2-7.

REPAIR

a. Repair seven-point extraction link in accordance with paragraph 2-8.

b. Replace Spacers, Spools, Bolts or Nuts. Replace unserviceable spacers, spools, bolts or nuts with serviceable ones from stock.

REPLACE

Replace seven-point extraction link with serviceable one from stock.

2-17. LINK PROTECTOR.

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

INITIAL SETUP

Materials/Parts:
Link protector
Thread, nylon, size FF and 5 (Appendix D, Items 15 & 17)

INSPECT

Perform technical/rigger-type inspection of link protector in accordance with paragraph 2-7.

REPAIR

Restitching. Restitch broken or loose stitching in accordance with paragraph 2-8 and original construction. Refer to Table 2-2 for specific stitching details.

REPLACE

Replace unserviceable link protector with serviceable one from stock.

2-18. PARACHUTE EXTRACTION LINE.

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

INITIAL SETUP

Materials/Parts:
Multi-loop line (60'/3-loop, 60'/6-loop)
Fixed keeper
Sliding keeper
Buffer
Extraction rope
Thread, nylon, size FF, 3, and 6 (Appendix D, Items 15, 16 & 18)

INSPECT

a. Perform a technical/rigger-type inspection of multi-loop line and extraction rope in accordance with paragraph 2-7.

b. Inspection/Replacement Criteria for Double-braided Nylon Rope. The following inspection/replacement guidelines will apply to 7-inch circumference extraction rope.

(1) The bulk of cover strands have been reduced by 50% or more for a lengthwise distance of the rope 4-1/2 inches or greater.

(2) There are three or more consecutive pulled strands that can not be reincorporated into the rope.

(3) There are three or more cut strands in rope cover.

(4) The rope core is visible through the cover.

(5) The cover strands have fused together as a result of melting over a lengthwise distance of 4-1/2 inches or more.

REPAIR

a. Repair Multi-loop Line. Refer to paragraph 2-9, Repair of Multi-loop Lines for repair procedures.

b. Repair Extraction Rope. To reincorporate a pulled strand, hold the rope slack on either side of the pulled strand(s), then snap the rope sharply. If the strand(s) can not be reincorporated into the cover, cut them from the points where they are pulled.

REPLACE

Replace unserviceable parachute extraction line (either extraction rope or multi-loop line) with a serviceable one from stock.

2-19. DROUGE LINE.

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

INITIAL SETUP

Materials/Parts:
Drouge line

INSPECT

Perform technical/rigger-type inspection in accordance with paragraph 2-7.

REPAIR

Restitching. Restitch broken or loose stitching in accordance with paragraph 2-8 and original construction. Refer to Table 2-2 for specific stitching details.

REPLACE

Replace unserviceable drouge line with a serviceable one from stock.

2-20. PLATFORM EXTRACTION LINE.

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

INITIAL SETUP

Materials/Parts:
Multi-loop line (3'/4-loop, 16'/4-loop, 20'/4-loop, 28'/4-loop)
Fixed keeper
Sliding keeper
Buffer
Thread, nylon, size FF, 3, and 6 (Appendix D, Items 15, 16 & 18)

INSPECT

Perform technical/rigger-type inspection of multi-loop line including fixed keepers, sliding keepers and buffers in accordance with paragraph 2-7.

REPAIR

Refer to paragraph 2-9, Repair of Multi-loop lines for repair procedures.

REPLACE

Replace unserviceable platform extraction line with a serviceable one from stock.

2-21. ATTITUDE CONTROL BAR.

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

INITIAL SETUP

Tools:
File, bastard, 10-inch (Appendix B, Section III, Item 1)

Materials/Parts:
Attitude control bar

INSPECT

Perform technical/rigger-type inspection of attitude control bar in accordance with paragraph 2-7.

REPAIR

Repair attitude control bar in accordance with paragraph 2-8.

REPLACE

Replace unserviceable attitude control bar with serviceable one from stock.

2-22. LARGE SHACKLE.

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

INITIAL SETUP

Tools:
Wrench, open-end, 1-1/2 and 1/3/4 inch (Appendix B, Section III, Item 5)

Materials/Parts:
Large shackle
Bolt
Nut

INSPECT

Perform technical/rigger-type inspection of large shackle, bolt and nut in accordance with paragraph 2-7.

REPAIR

Repair large shackle in accordance with paragraph 2-8.

Replace Bolt or Nut. Replace unserviceable bolt or nut with a serviceable one from stock.

REPLACE

Replace unserviceable large shackle with serviceable one from stock.

2-23. AIRCRAFT CARGO TIE-DOWN.

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

INITIAL SETUP

Tools:
File, Bastard, 10 Inch (Appendix B, Section III, Item 1)

Materials/Parts:
Aircraft cargo tie-down
Binder, load, 10K
Ring, dee, heavy duty
Thread, nylon, size 6 (Appendix D, Item 18)

INSPECT

Perform technical/rigger-type inspection of aircraft cargo tie-down in accordance with paragraph 2-7.

REPAIR

a. Restitching. Restitch aircraft cargo tie-down in accordance with paragraph 2-8 and original construction. Refer to Table 2-2 for specific stitching details.

b. Repair Binder and Dee Ring. Repair binder and dee rings in accordance with paragraph 2-8.

c. Replace Binder, Dee Ring or Strap. Replace unserviceable binder, dee ring, or strap with serviceable items from stock.

REPLACE

Replace unserviceable aircraft cargo tie-down with serviceable one from stock.

2-24. TYPE I DRIVE-OFF AID.

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

INITIAL SETUP

Tools:
File, Bastard, 10 Inch (Appendix B, Section III, Item 1)

Materials/Parts:
Type I drive-off aid
Web, traction
Hook
Webbing, tubular
Thread, nylon, size 6 (Appendix D, Item 18)

INSPECT

Perform technical/rigger-type inspection of type I drive-off aid in accordance with paragraph 2-7.

REPAIR

a. Restitching. Wristwatch broken or loose stitching in accordance with paragraph 2-8 and original construction. Refer to Table 2-2 for specific stitching details.

b. Repair Hook. Repair hook in accordance with paragraph 2-8.

c. Replace Tie Cord. Replace tie cord with 1/2 inch tubular webbing 24 inches long.

d. Replace Hook. Untie tie cord from hook, replace hook and secure it to tie cord with bowline knot.

REPLACE

Replace unserviceable type I drive-off aid with serviceable one from stock.

2-25. TYPE V DRIVE-OFF AID.

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

INITIAL SETUP

Materials/Parts:
Type I drive-off aid
Webbing
Thread, nylon, size 6 (Appendix D, Item 18)

INSPECT

Perform technical/rigger-type inspection of type V drive-off aid in accordance with paragraph 2-7.

REPAIR

Restitching. Restitch broken or loose stitching in accordance with paragraph 2-8 and original construction. Refer to Table 2-2 for specific stitching details.

REPLACE

Replace unserviceable type V drive-off aid with serviceable one from stock.

Section V. PREPARATION FOR STORAGE OR SHIPMENT

2-26. SPECIAL INSTRUCTIONS FOR ADMINISTRATIVE STORAGE.

a. Placement of LAPES Ancillary Equipment 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. LAPES Ancillary Equipment should be stored in a controlled temperature, dry, and well ventilated environment.

d. Inspection. In addition to the unit PMCS procedures, inspect the equipment for rips, tears, dirt and missing components.

e. Cleaning and drying. Clean and dry the ancillary equipment in accordance with procedures described in TM 38-230-1.

2-27. PRESERVATION. If the LAPES Ancillary Equipment are to be stored without regular PMCS being performed, consult TM 38-230-2 for preservation requirements.

2-28. PREPARATION FOR SHIPMENT. Prepare the LAPES Ancillary Equipment for shipment by packing components into original or similar containers in 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.

Army Parachute Log Record	DA Form 10-42, 3912
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
Equipment Inspection and Maintenance Worksheet	DA Form 2404
Equipment Modification Record	DA Form 2408-5
Packaging Improvement Report	DD Form 6

A-3. FIELD MANUALS.

Rigging Airdrop Platforms	FM 10-500-2

A-4. TECHNICAL MANUALS.

Organizational Maintenance Manual with Repair Parts and Special Tools List for Type V Airdrop Platform	TM 10-1670-268-20&P
Packaging of Material, Preservation	TM 38-230-1
Packaging of Material, Packaging	TM 38-230-2
Procedures for Destruction of Equipment to Prevent Enemy Use	TM 750-244-3
Unit and Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Cargo Type: 15-Foot Diameter Cargo Extraction Parachute	TM 10-1670-278-23&P
Unit and Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Cargo Type: 28-Foot Diameter Cargo Extraction Parachute	TM 10-1670-277-23&P
Unit and Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Cargo Type: 35-Foot Diameter, Ribbon, Cargo Extraction Parachute	TM 10-1670-294-23&P
Unit Maintenance Manual (Including Stowing Procedures) for Sling/Extraction Line Panel	TM 10-1670-286-20

A-5. MILITARY SPECIFICATIONS AND STANDARDS.

Color, Marking, and Camouflage Patterns Used on Military Equipment	TB 43-0147
Sampling Procedures and Tables for Inspection by Attributes	MIL-STD-105

A-6. MISCELLANEOUS PUBLICATIONS.

Consolidated Index of Army Publication and Forms	DA Pam 25-30
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
Maintenance of Supplies and Equipment	AR 750-1
Air Delivery, Parachute Recovery, and Aircraft Personnel Ejection Systems	AR 750-32

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 in 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 3rd 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 in 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 in 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 in 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 in 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 in 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

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTE NANCE FUNCTION	MAINTENANCE LEVEL					(5) TOOLS AND EQUIP	(6) REMARKS
			UNIT		DIRECT SUPPORT	GENERAL SUPPORT	DEPOT		
			C	O	F	H	D		
01	PARACHUTE, CARGO,	Inspect		1.0					A
	EXACRACON, 15-FOOT	Service		0.5					
		Repair			1.0				
		Replace		0.5					
02	LINK, SUSPENSION	Inspect		0.1					H
		Repair		0.1				1	
		Replace		0.1					
03	EXTRACTION LINE,	Inspect		0.1					H
	DROUGE, 60-FOOT	Service		0.5					B
		Repair		0.2					
		Replace		0.1					
0801	LINE, MULTI-LOOP	Inspect		0.1					H
		Repair		0.2					
		Replace		0.1					
0802	KEEPER, FIXED	Inspect		0.1					H
		Replace		0.1					
0303	KEEPER, SLIDING	Inspect		0.1					H
		Replace		0.1					
0304	BUFFER	Inspect		0.1					H
		Replace		0.1					
04	LINK, EXTRACTION	Inspect		0.1					H
		Repair		0.1				1	
		Replace		0.1					
0401	LINK, JETSON	Inspect		0.1					H
		Replace		0.1					
05	BRIDLE, EXTRACTION	Inspect		0.1					H
	LINE PANEL	Install		0.2				2	C
		Repair		0.1					
		Replace		0.1					
0501	LINK, CONNECTOR	Inspect		0.1					H
		Repair		0.1				2	
		Replace		0.1					
06	PANEL, SLING/	Inspect		0.1					D
	EXTRACTION LINE	Service		0.5					
		Repair		0.1					
		Replace		0.1					
07	PARACHUTE, CARGO,	Inspect		1.0					E
	EXTRACTION, 28-FOOT	Service		1.0					
	HD	Repair		1.0					
		Replace		1.0					
08	PARACHTE, CARGO,	Inspect		1.0					F
	EXTRACTION, 35-FOOT	Service		1.0					
		Repair		1.0					
		Replace		1.0					

Section II. MAINTENANCE ALLOCATION CHART (CONT)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL					(5) TOOLS AND EQUIP	(6) REMARKS
			UNIT		DIRECT SUPPORT	GENERAL SUPPORT	DEPOT		
			C	O	F	H	D		
09	PLATE, CLEVIS, 3-3/4 INCH	Inspect		0.1					H
		Repair		0.1				3	
		Replace		0.1					
10	PLATE, CLEVIS, 5-1/2 INCH	Inspect		0.1					H
		Repair		0.1				3	
		Replace		0.1					
11	SPACER, SMALL	Inspect		0.1					H
		Repair		0.1				3	
		Replace		0.1					
12	SPACE LARGE	Inspect		0.1					H
		Repair		0.1				3	
		Replace		0.1					
13	BOLT, MACHINE	Inspect		0.1					H
		Replace		0.1				4	
14	NUT, HEX	Inspect		0.1					H
		Replace		0.1				5	
15	LINK, EXTRACTION 4-POINT	Inspect		0.1					H
		Repair		0.1				1	
		Replace		0.1					
1501	BOLT, MACHINE	Inspect		0.1					H
		Replace		0.1				4	
1502	NUT, HEX	Inspect		0.1					H
		Replace		0.1				5	
1503	SPACER, SLEEVE	Inspect		0.1					H
		Replace		0.1				3	
16	LINK, EXTRACTION, 7-POINT	Inspect		0.1					H
		Repair		0.1				3	
		Replace		0.1					
1601	SPACER	Inspect		0.1					H
		Replace		0.1				3	
1602	SPOOL	Inspect		0.1					H
		Replace		0.1				3	
1603	BOLT	Inspect		0.1					H
		Replace		0.1				6,7	
1604	BOLT	Inspect		0.1					H
		Replace		0.1				6,8	
1605	NUT	Inspect		0.1					H
		Replace		0.1				6,9	
1606	NUT	Inspect		0.1					H
		Replace		0.1				6,10	
1607	SPOOL, ROPE	Inspect		0.1					H
		Replace							

Section II. MAINTENANCE ALLOCATION CHART (CONT)

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL					(5) TOOLS AND EQUIP	(6) REMARKS
			UNIT		DIRECT SUPPORT	GENERAL SUPPORT	DEPOT		
			C	O	F	H	D		
17	LINK, PROTECTOR	Inspect		0.1					H
		Repair		0.2					
		Replace		0.1					
18	LINE, PARACHUTE, EXTRACTION	Inspect		0.1					H
		Service		0.5					G
		Repair		0.2					
		Replace		0.1					
1801	LINE, MULTI-LOOP	Inspect		0.1					H
		Repair		0.1					
		Replace		0.1					
180101	KEEPER, FIXED	Inspect		0.1					H
		Replace		0.1					
180102	KEEPER, SLIDING	Inspect		0.1					H
		Replace		0.1					
180103	BUFFER	Inspect		0.1					H
		Replace		0.1					
1802	ROPE, EXTRACTION	Inspect		0.1					H
		Replace		0.1					
19	LINE, DROUGE	Inspect		0.2					H
		Service		0.5					B
		Repair		0.1					
		Replace		0.1					
20	LINE, EXTRACTION, PLATFORM	Inspect		0.1					H
		Service		0.5					B
		Repair		0.1					
		Replace		0.1					
2001	LINE, MULTI-LOOP	Inspect		0.1					H
		Repair		0.1					
		Replace		0.1					
2002	KEEPER, FIXED	Inspect		0.1					H
		Replace		0.1					
2003	KEEPER, SLIDING	Inspect		0.1					H
		Replace		0.1					
2004	BUFFER	Inspect		0.1					H
		Replace		0.1					
21	BAR, ATTITUDE CONTROL	Inspect		0.2					H
		Repair		0.1				1	
		Replace		0.1					
22	SHACKLE, LARGE	Inspect		0.1					H
		Repair		0.1				5	
		Replace		0.1					
2201	BOLT	Inspect		0.1					H
		Replace		0.1				5	

Section II. MAINTENANCE ALLOCATION CHART (CONT)

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL					(5) TOOLS AND EQUIP	(6) REMARKS
			UNIT		DIRECT SUPPORT	GENERAL SUPPORT	DEPOT		
			C	O	F	H	D		
2202	NUT	Inspect Replace		0.1 0.1				 5	H
23	PLATFORM, TYPE V	Inspect Replace		1.0 0.5					G
24	TIE-DOWN, CARGO, 15-FOOT	Inspect Repair Replace		0.1 0.1 0.1					H
2401	BINDER, LOAD, 10K INCH	Inspect Replace		0.1 0.1				 1	H
2402	RING, DEE HEAVY DUTY	Inspect Replace		0.1 0.1					H
2403	STRAP	Inspect Replace		0.1 0.1					H
25	DRIVE-OFF AID	Inspect Service Repair Replace		0.2 0.1 0.1 0.1					H
2501	WEB, TRACTION	Inspect Repair Replace		0.1 0.1 0.1					H
2502	HOOK	Inspect Replace		0.1 0.1					H
2503	POCKET	Inspect Repair		0.1 0.2					H

Section III. TOOL AND EQUIPMENT LIST

(1) TOOL & EQUIP	(2) LEVEL	(3) NOMENCLATURE	(4) NATIONAL STOCK NUMBER	(5) TOOL NUMBER
1	O	FILE, BASTARD, 10-INCH	5110-00-234-6539	
2	O	SCREWDRIVER FLAT TIP, 1/4 X 10	5110-00-293-0314	
3	O	FILE, BASTARD, 12-INCH	5110-00-239-7770	
4	O	WRENCH, OPEN-END, 1-7/16 AND 1-5/8 INCH	5120-00-277-2326	
5	O	WRENCH, OPEN-END, 1-1/2AND 1-3/4 INCH	5120-00-187-9810	
6	O	RATCHET, 3/4 INCH DRIVE	5120-00-249-1076	
7	O	SOCKET, 12 POINT, 1-5/16 INCH	5120-01-278-8251	
8	O	SOCKET, 12 POINT, 1-1/4 INCH	5120-00-109-6546	
9	O	SOCKET, 12 POINT, 1-7/8 INCH	5120-00-199-7769	
10	O	SOCKET, 12 POINT, 1-11/16NCH	5120-01-178-3012	

Section IV. REMARKS

(1) Remark Code	(2) Remarks
A	REFER TO TM 10-1670-278-23&P, UNIT AND DIRECT SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) FOR PARACHUTE, CARGO TYPE: 15-FOOT DIAMETIER, CARGO EXTRACTION PARACHUTE, NSN 1670-01-063-3715 AND 1670-00-052-1548 TO PERFORM ALL MAINTENANCE FUNCTIONS.
B	REFER TO TM 10-1670-286-20, UNIT MAINTENANCE MANUAL FOR SLING/EXRACTION LINE PANEL (INCLUDING STOWING PROCEDURES) FOR SERVICING EXTRACTION LINES AND DROUGE LINE.
C	REFER TO TM 10-1670-286-20, UNIT MAINTENANCE MANUAL FOR SLING/EXTRACTION LINE PANEL (INCLUDING STOWING PROCEDURES) FOR INSTALLING THE EXTRACTION LINE PANEL BRIDLE.
D	REFER TO TM 10-1670-286-20, UNIT MAINTENANCE MANUAL FOR SLING/EXTRACTION LINE PANEL (INCLUDING STOWING PROCEDURES) TO PERFORM ALL MAINTENANCE FUNCTIONS.
E	REFER TO TM 10-1670-277-23&P, UNIT AND DIRECT SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) FOR PARACHUTE, CARGO TYPE: 28-FOOT DIAMETER, CARGO EXTRACTION PARACHUTE, NSN 1670-00-262-1797 AND 1670-00-040-8135 TO PERFORM ALL MAINTENANCE FUNCTIONS.
F	REFER TO TM 10-1670-294-23&P, UNIT AND DIRECT SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) FOR PARACHUTE, CARGO TYPE: 35-FOOT DIAMEER, RIBBON, CARGO EXTRACTION PARACHUTE, NSN 1670-01-2834531 TO PERFORM ALL MAINTENANCE FUNCTIONS.
G	REFER TO TM 10-1670-268-20&P, ORGANIZATIONAL MAINTENANCE MANUAL WITH REPAIR PARTS AND SPECIAL TOOLS LIST FOR TYPE V AIRDROP PLATFORM TO PERFORM ALL MAINTENANCE FUNCTIONS.
H	INSPECT IS A TECHNICALRIGGER INSPECTION.

APPENDIX C
UNIT 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, direct support and general support maintenance of the Ancillary Equipment for Low Altitude Parachute Extraction 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 H. 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).

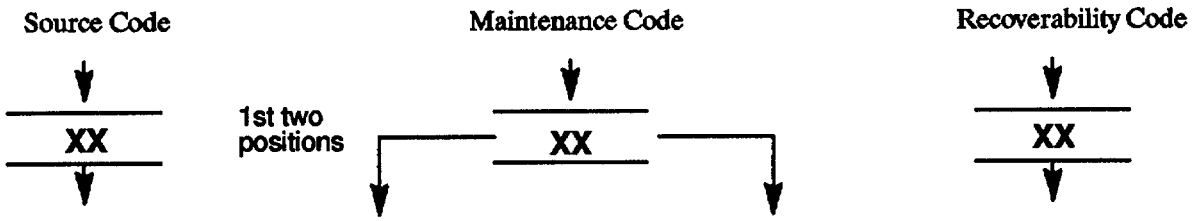
b. Section II. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance.

c. Section IV Cross-Reference Index. A list, in National Item Identification Number (IN) sequence, of all National stock numbered items appearing in the listing, followed by a list in 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 a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:



* 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.

Section I. INTRODUCTION - Continued

(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. If 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 hem.

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 (UOG) (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.

C.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-digit 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.

C.5 SPECIAL INFORMATION.

a. FABRICATION INSTRUCTIONS. Bulk materials required to manufacture items are listed in the Bulk Material Functional Group of this RPSTL. Part numbers for bulk materials are also referenced in the description column of the line entry for the item to be manufactured/fabricated.

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.

C.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 C.4.a). The part numbers in the Part Number index are listed in ascending alphanumeric sequence (see paragraph C.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 item number in the repair parts list for the figure.

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

Section II. REPAIR PARTS LIST

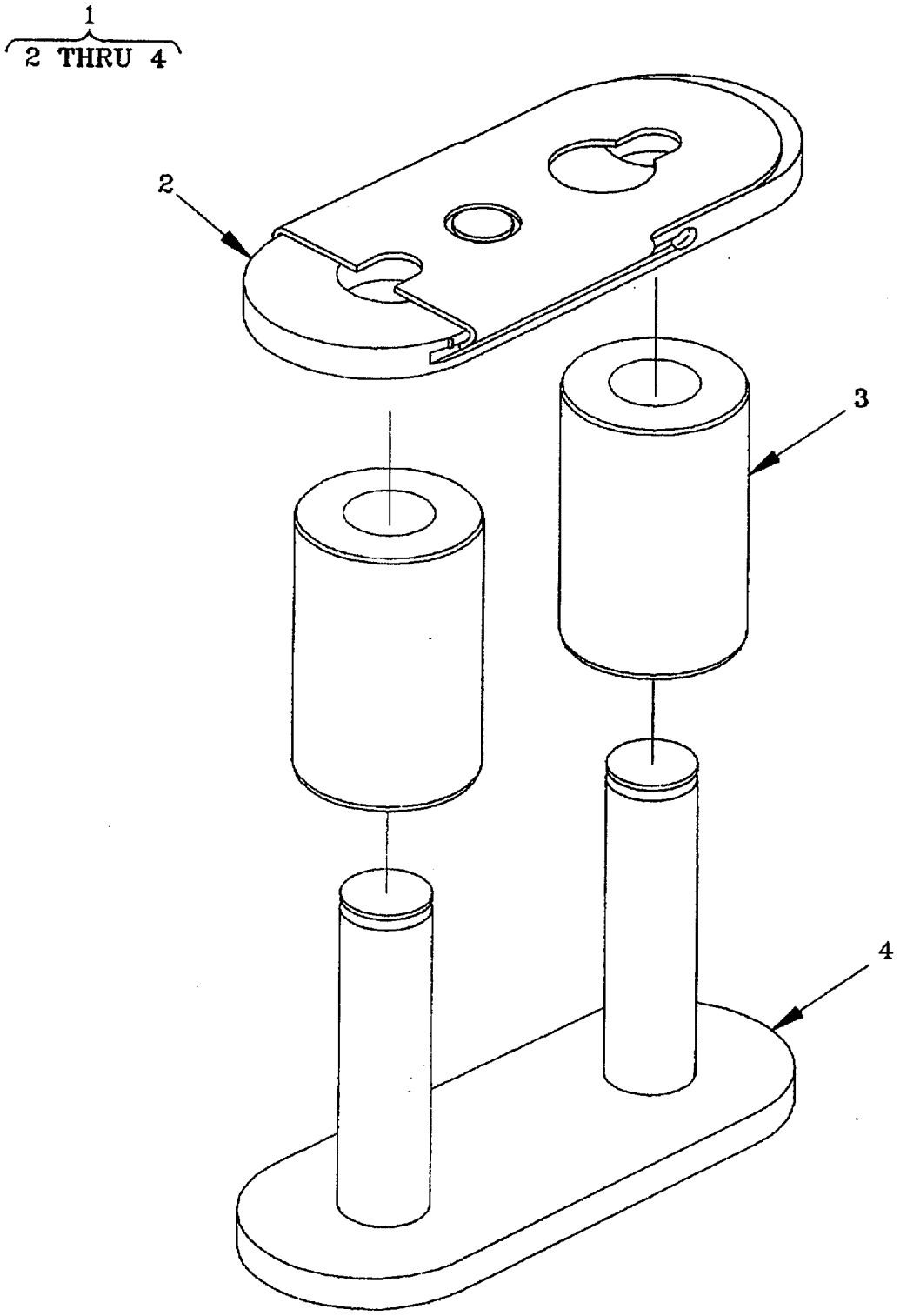


FIGURE C-1. LINK, SUSPENSION, TYPE IV

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 01. LINK, SUSPENSION, TYPE IV	
				FIG C-1. LINK, SUSPENSION, TYPE IV	
1.	PAOZZ	81337	11-1-3359	Link Suspension, Type IV	1
2.	XAOZZ	81337	11-1-3359-2	. Side Plate	1
3.	XAOZZ	81337	11-1-3359-3	. Spacer	2
4.	XAOZZ	81337	11-1-3359-4	. Body	1

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

1

2 THRU 5

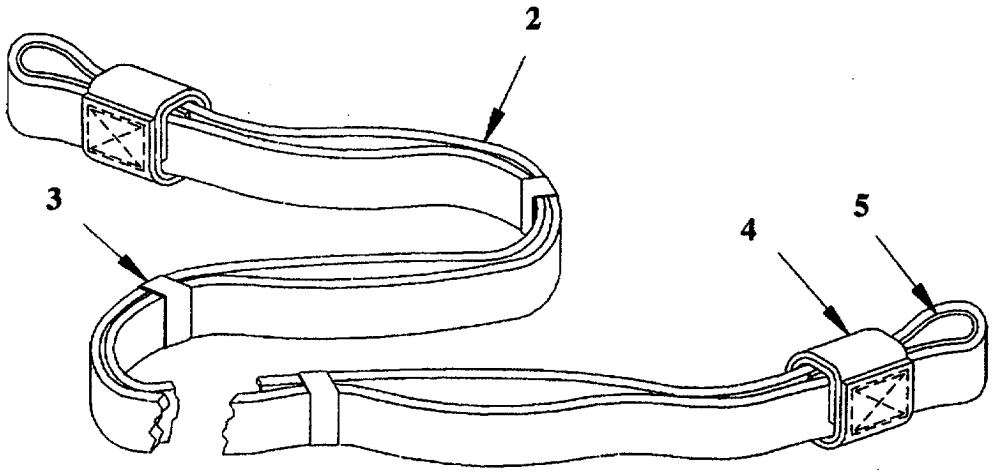


FIGURE C-2. EXTRACTION LINE, DROUGE, 60-FOOT

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 02. EXTRACTION LINE, DROUGE, 60 FOOT	
				FIG C-2. EXTRACTION LINE, DROUGE, 60 FOOT	
1.	XCOOO	81337	68F217	Extraction Line, Drouge, 60 Foot	1
2.	PAOOO	81337	68F217-45	. Line, Multi-Loop, 60 Foot, 1 Loop	1
3.	MOOZZ	81337	68F217-3	.. Keeper, Fixed	27
4.	MOOOO	81337	68F217-2	.. Keeper, Sliding	2
5.	MOOZZ	81337	68F217-5	.. Buffer	2

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

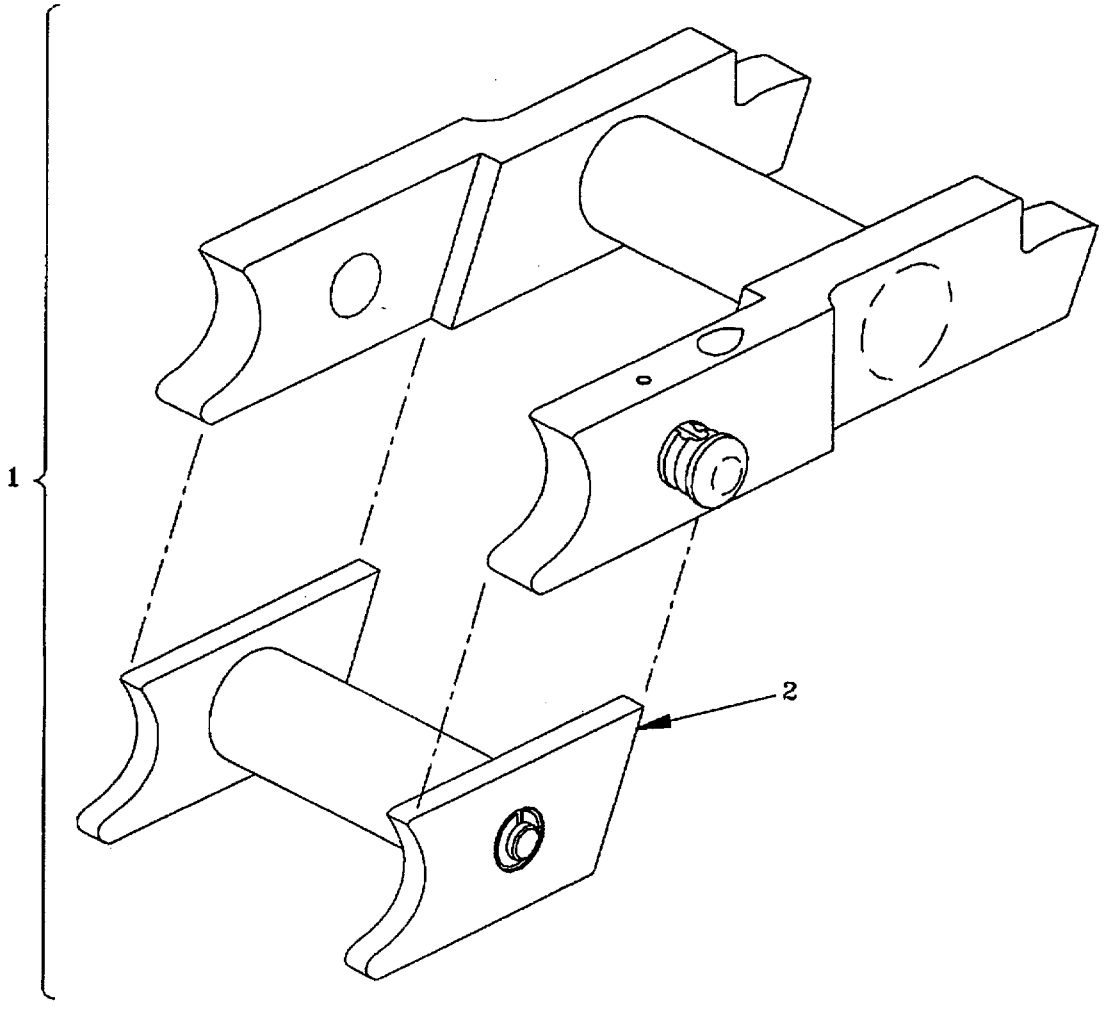


FIGURE C-3. LINK, EXTRACTION

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 03. LINK, EXTRACTION	
				FIG C-3. LINK, EXTRACTION	
1.	PAOZZ	81337	68F217	Link, Extraction.....	1
2.	PAOZZ	07878	68F217-45	. Link, Jettison.....	1

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

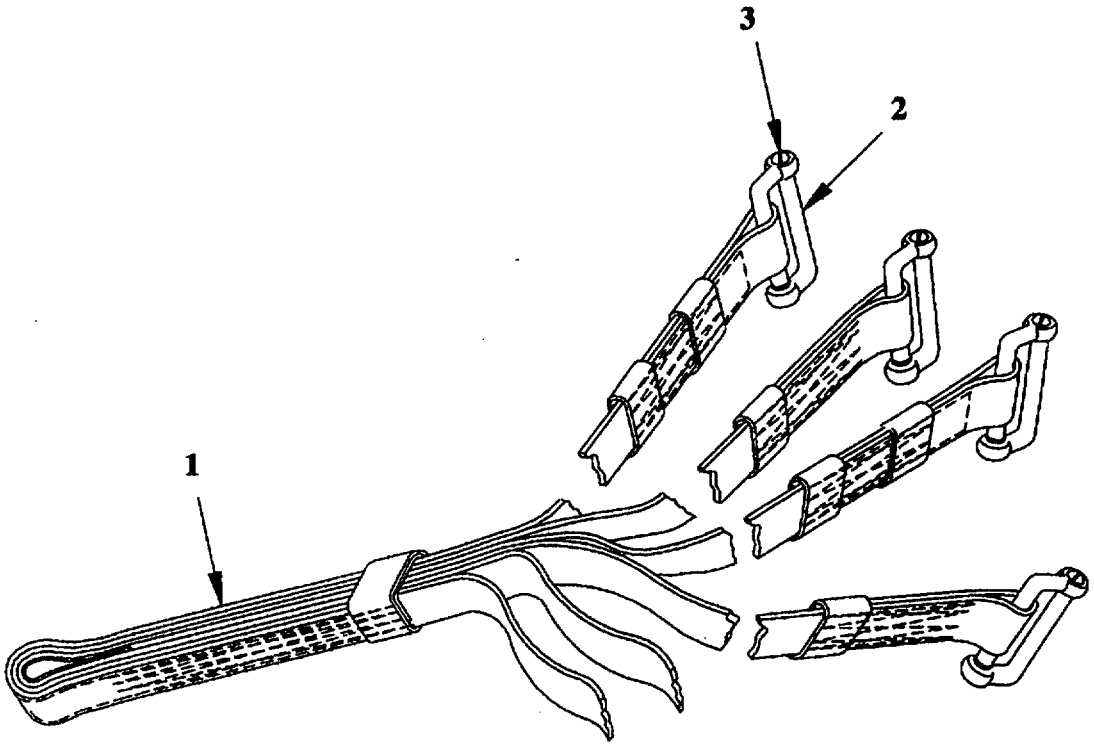


FIGURE C-4. BRIDLE, EXTRACTION LINE PANEL

SECTION II. REPAIR PARTS LIST - CONTINUED

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	(5)(6) QTY
				GROUP 04. BRIDE EXTRACTION LINE PANEL	
				FIG C-4. BRIDE EXTRACTION LINE PANEL	
1	PAOOO	81337	11-1-2586	Bride Extraction Line Panel	1
2	PAOOO	96906	MS22002-1	Link, Parachute Connector	4
3	PAOZZ	96906	MS22002-7	Set Screw	8

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

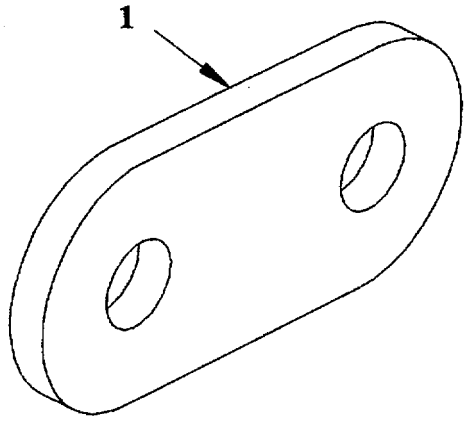


FIGURE C-5. PLATE, CLEVIS, 3 3/4-INCHES

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 05. PLATE, CLEVIS, 33/4-INCHES	
				FIG C-5. PLATE, CLEVIS, 33/4-INCHES	
1	PAOZZ	81337	66B1883-1	Plate, Clevis, 3 3/4-Inches	AR

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

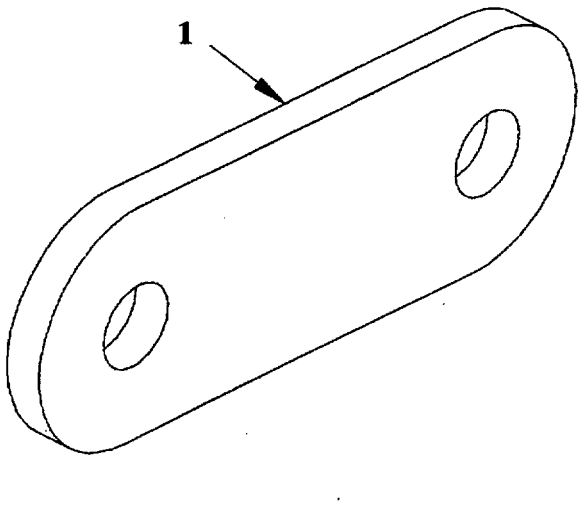


FIGURE C-6. PLATE, CLEVIS, 5 1/2-INCHES

SECTION II. REPAIR PARTS LIST - CONTNUED

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 06. PLATE, CLEVIS, 5 1/2-INCHES	
				FIG C-6. PLATE, CLEVIS, 5 1/2-INCHES	
1	PAOZZ	81337	66B1883-2	Plate, Clevis, 5 1/2-nches	AR

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

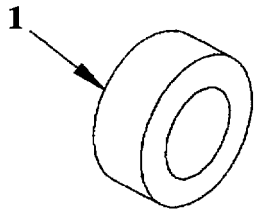


FIGURE C-7. SPACER, SMALL

SECTION II. REPAIR PARTS LIST - CONTINUED

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	(5) QTY	(6)
				GROUP 07. SPACER, SMALL		
				FIG C-7. SPACER, SMALL		
1	PAOZZ	98750	66B1 887	Spacer, Small	AR	

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

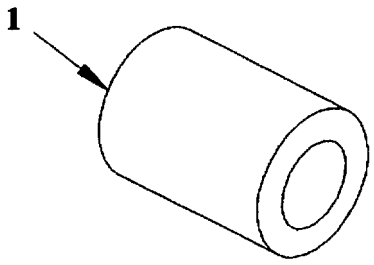


FIGURE C-8. SPACER, LARGE

SECTION IL R, PAIR PARTS LIST - CONTINUED

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 08. SPACER, LARGE	
				FIG C-8. SPACER, LARGE	
1	PAOZZ	98750	65B3650	Spacer, Large..... .....AR	

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

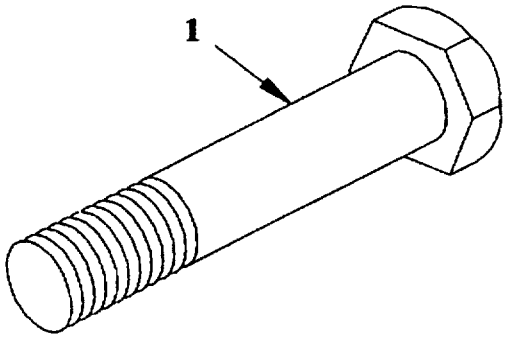


FIGURE C-9. BOLT, MACHINE

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 09. BOLT, MACHINE	
				FIG C-9. BOLT, MACHINE	
1	PAOZZ	81352	AN17-36A	Bolt, Machine ....AR	

END OF FIGURE

Section II. REPAIR PARTS LIST Continued

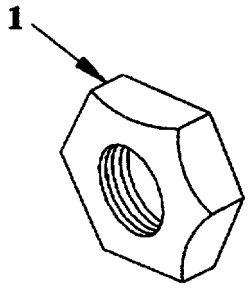


FIGURE C-10. NUT, PLAIN, HEX

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 10. NUT, PLAIN, HEX	
				FIG C-10. NUT, PLAIN, HEX	
1	PAOZZ	81352	AN315-15R	Nut, Plain, Hex.....AR	

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

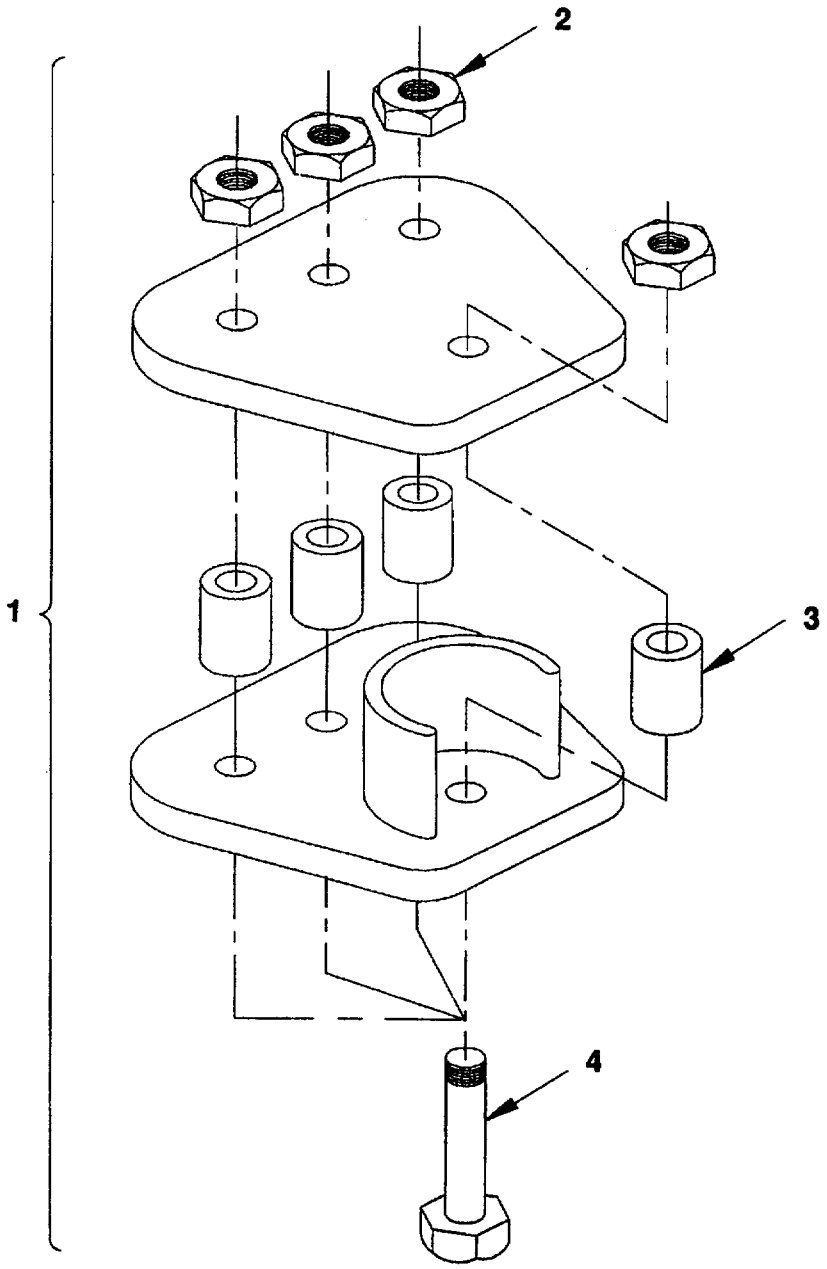


FIGURE C-11. LINK, EXTRACTION, FOUR-POINT

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 11. LINK, EXTRACTION, FOUR-POINT	
				FIG C-11. LINK, EXTRACTION, FOUR-POINT	
1	PAOOO	81337	65D3820	Link, Extraction, Four-Point	1
2	PAOZZ	88044	AN315-15R	.Nut, Plain Hex	4
3	PAOZZ	81337	67B2226	.Spacer, Sleeve	4
4	PAOZZ	81337	AN1 7-36A	.Bolt, Machine	4

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

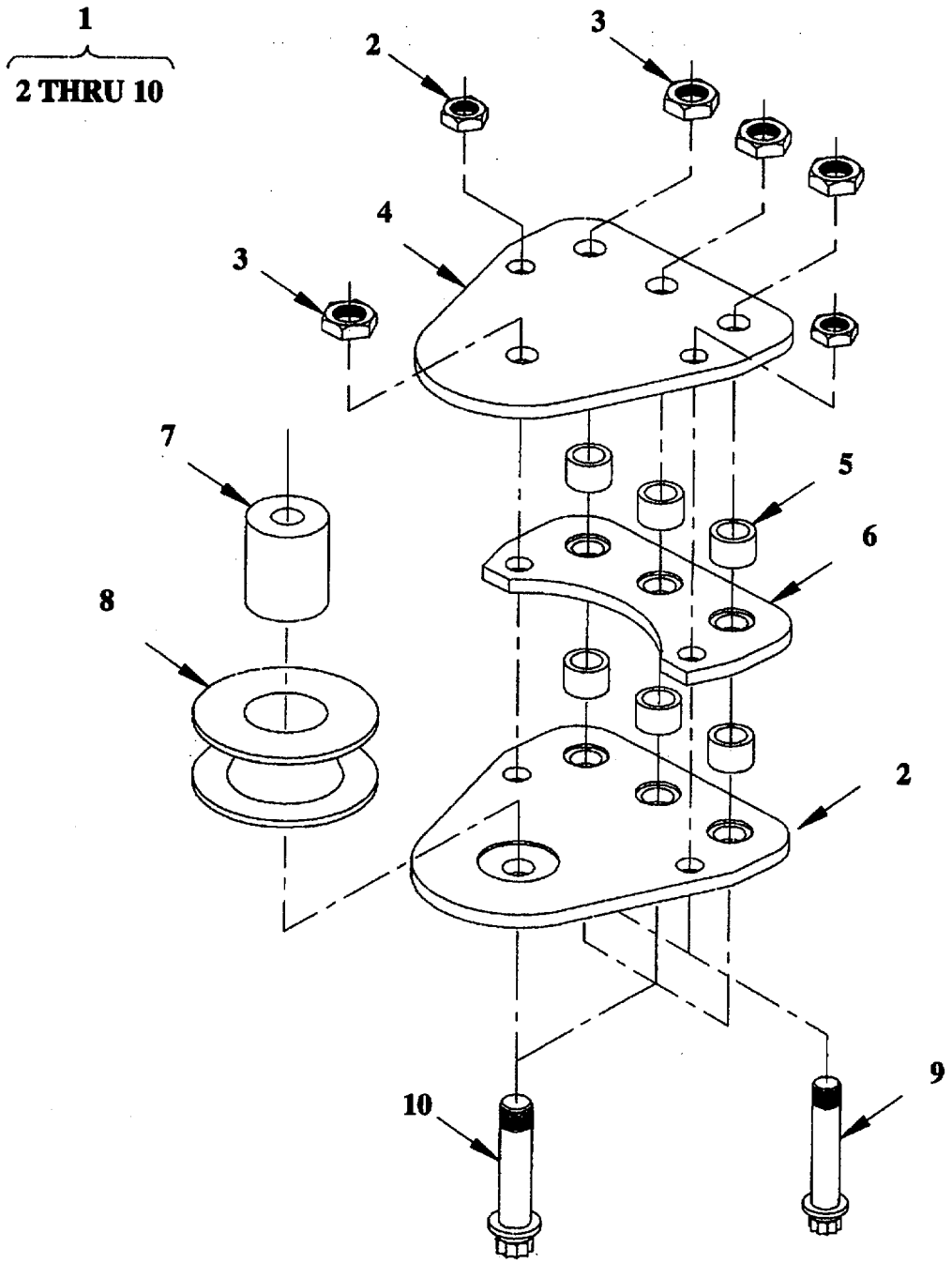


FIGURE C-12. LINK, EXTRACTION, SEVEN-POINT

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 12. LINK, EXTRACTION, SEVEN-POINT	
				FIG C-12. LINK, EXTRACTION, SEVEN-POINT	
1	PAOOO	81337	11-1-2941	Link, Extraction, Seven-Point	1
2	PAOZZ	81337	11-1-3595	.Nut, Special	2
3	PAOZZ	81337	11-1-3534	.Nut, Special	4
4	XAOZZ	81337	11-1-2942	.Plate, Side	4
5	XDOZZ	81337	11-1-2944	.Spacer	6
6	XAOZZ	81337	11-1-2943	.Plate, Center	1
7	XDOZZ	81337	11-1-2945	.Spacer	1
8	XDOZZ	81337	11-1-3769	.Spool, Rope	1
9	PAOZZ	81337	11-1-3593	.Bolt, Special	2
10	PAOZZ	81337	11-1-3592	.Bolt, Special	4

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

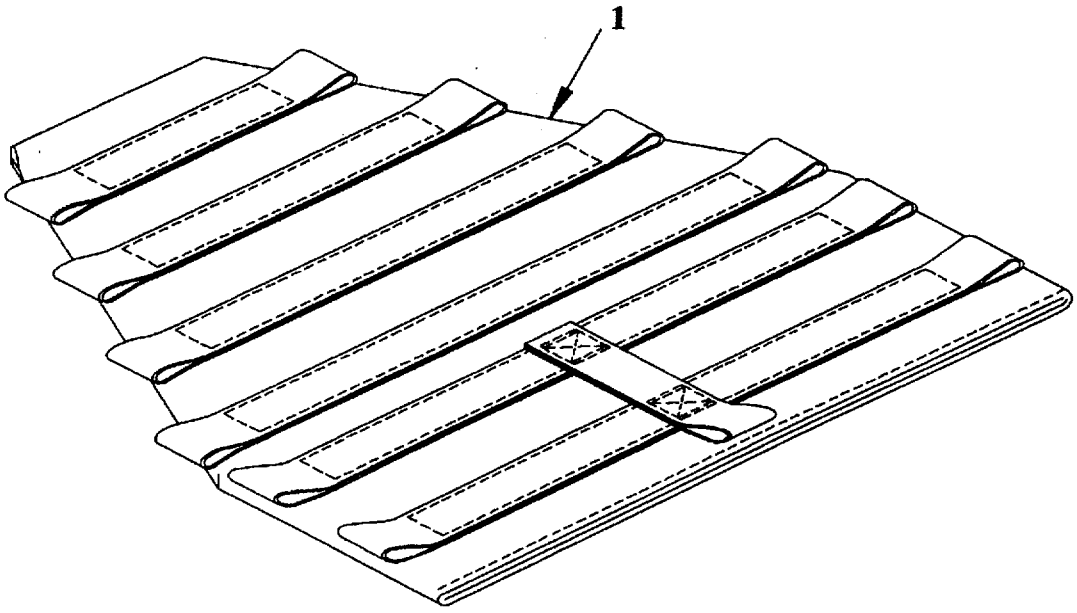


FIGURE C-13. LINK, PRTOTECTOR

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 13. LINK PROTECTOR	
				FIG C-13. LINK PROTECTOR	
1	PAOOO	81337	11-1-3443	Link Protector 1	

END OF FIGURE

Section II REPAIR PARTS LIST - Continued

1

2 THRU 5

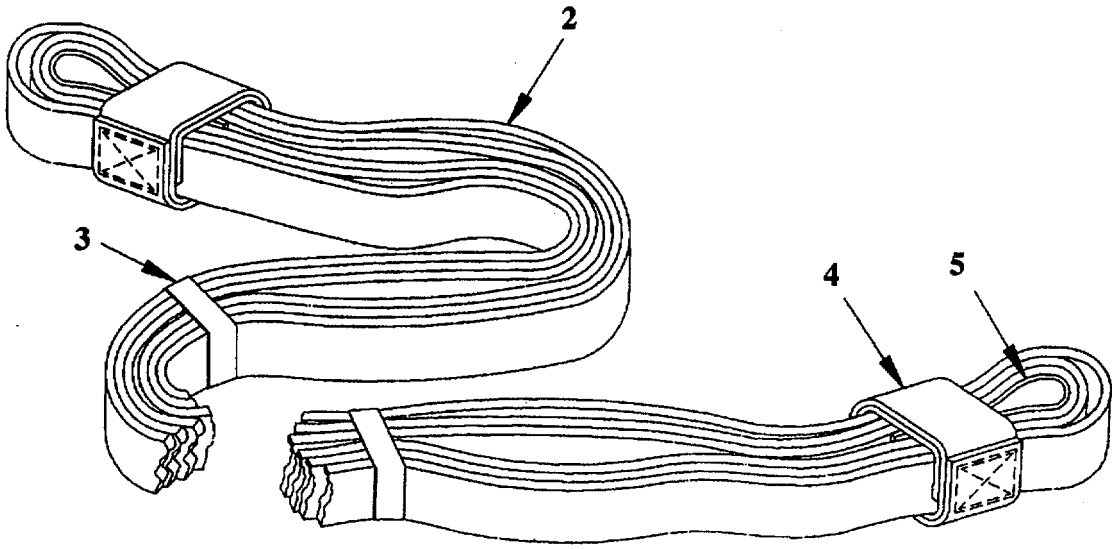


FIGURE C-14. LINE, EXTRACTION, PARACHUTE (Sheet 1 of 3)

Section II. REPAIR PARTS LIST - Continued

6

7 THRU 10

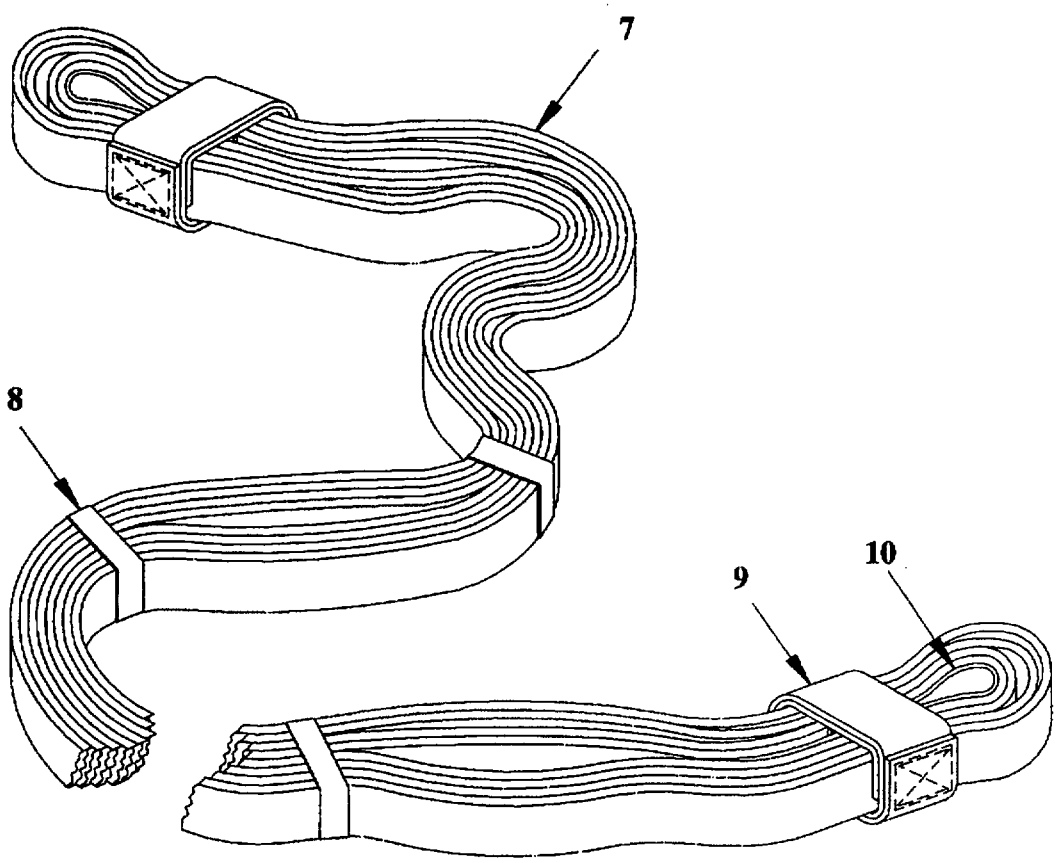


FIGURE C-14. LINE, EXTRACTION, PARACHUTE (Sheet 2 of 3)

Section II. REPAIR PARTS LIST - Continued

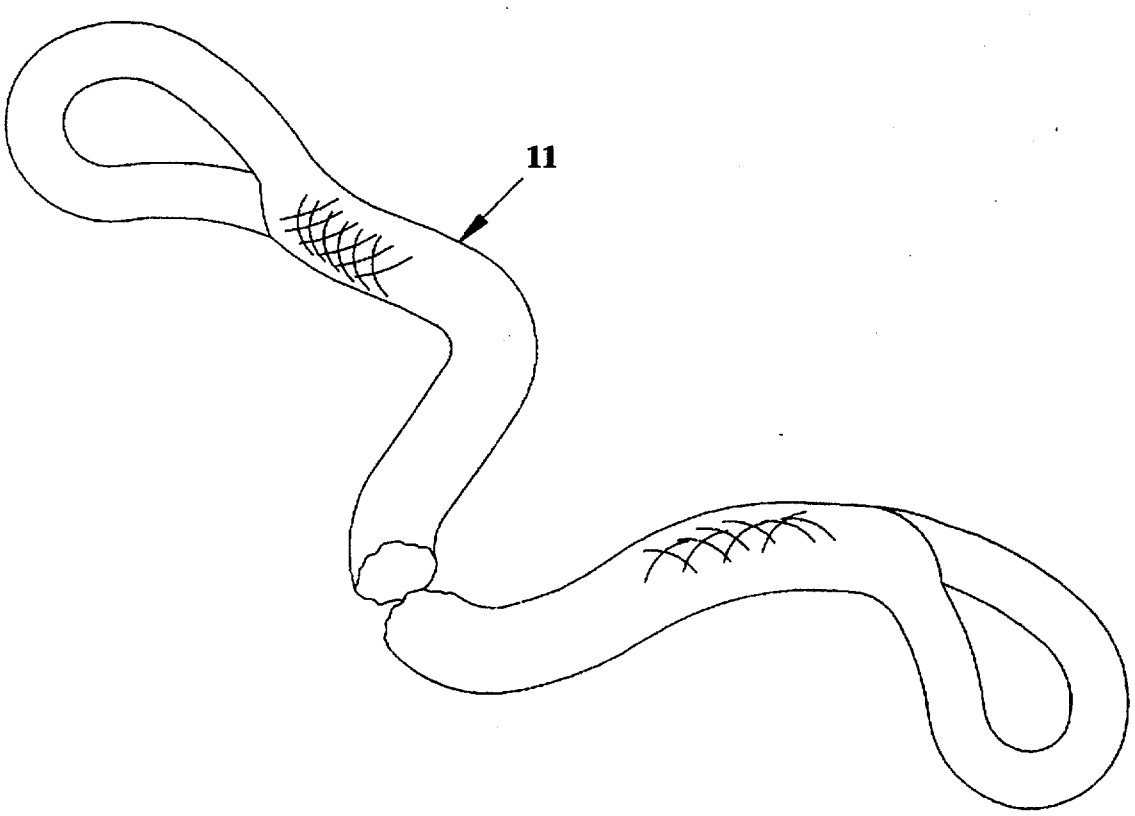


FIGURE C-14. LINE, EXTRACTION, PARACHUTE (Sheet 3 of 3)

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 14. LINE, EXTRACTION, PARACHUTE	
				FIG C-14. LINE, EXTRACTION, PARACHUTE	
1	XCOOO	81337	68F217	Line, Extraction, Parachute	1
2	PAOOO	81337	68F217-30	.Line, Multi-Loop, 60-Foot, 3-Loop	1
3	MOOZZ	81337	68F217-3	..Keeper, Fixed	27
4	MOOOO	81337	68F217-2	..Keeper, Sliding	2
5	MOOZZ	81337	68F217-5	..Buffer	2
6	XCOOO	81337	68F217	Line, Extraction, Parachute	1
7	PAOOO	81337	68F217-32	.Line, Multi-Loop, 60-Foot, 6-Loop	1
8	MOOZZ	81337	68F217-3	..Keeper, Fixed	27
9	MOOOO	81337	68F217-2	..Keeper, Sliding	2
10	MOOZZ	81337	68F217-5	..Buffer	2
11	PAOZZ	81337	11-1-3444	.Rope, Extraction, 60-Foot, 7-inch Circumference	1

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

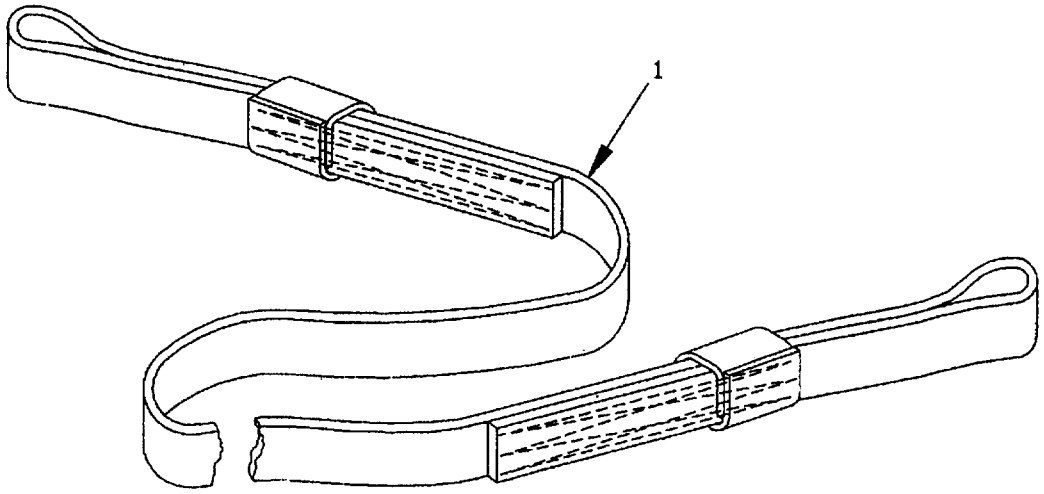


FIGURE C-15. LINE, DROUGE

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 15. LINE, DROUGE	
				FIG C-15. LINE, DROUGE	
1	PAOZZ	81337	11-1-2593	Line, Drouge 1	

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

1

2 THRU 5

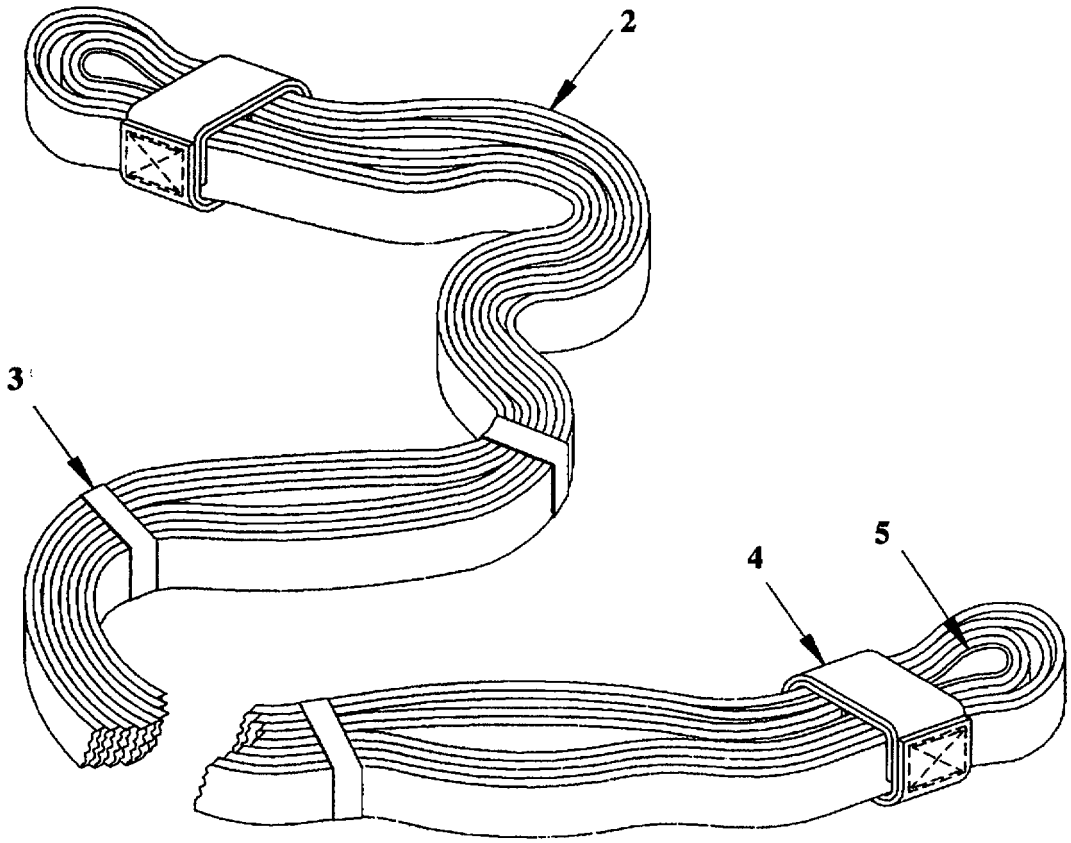


FIGURE C-16. LINE, EXTRACTION, PLATFORM (Sheet 1 of 4)

Section II. REPAIR PARTS LIST - Continued

6

7 THRU 10

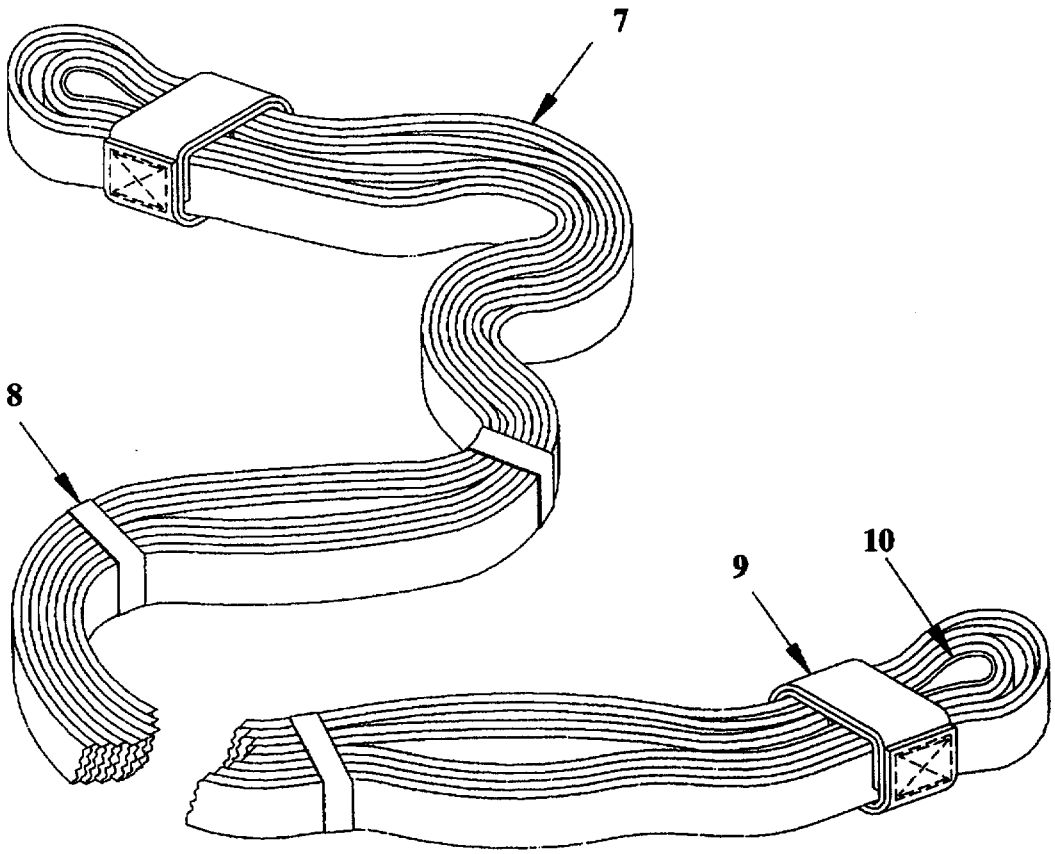


FIGURE C-16. LINE, EXTRACTION, PLATFORM (Sheet 2 of 4)

Section II. REPAIR PARTS LIST - Continued

11
12 THRU 15

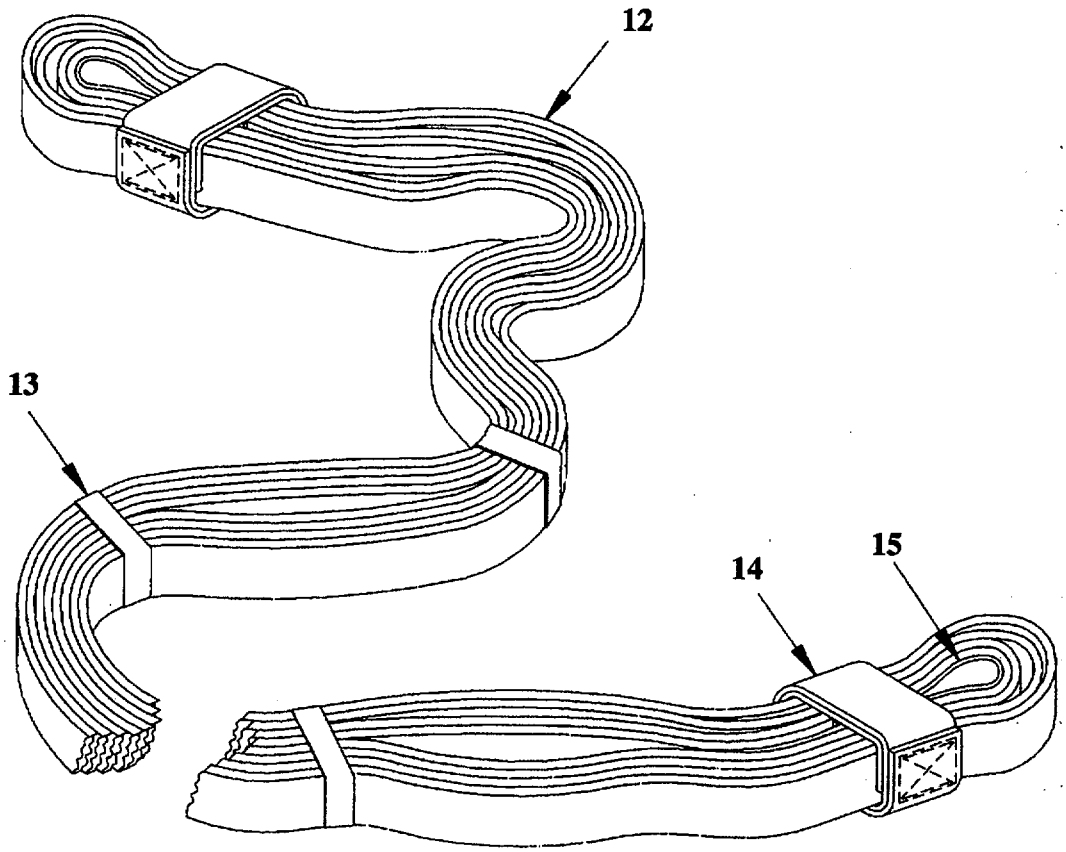


FIGURE C-16. LINE, EXTRACTION, PLATFORM (Sheet 3 of 4)

Section II. REPAIR PARTS LIST - Continued

16

17 THRU 20

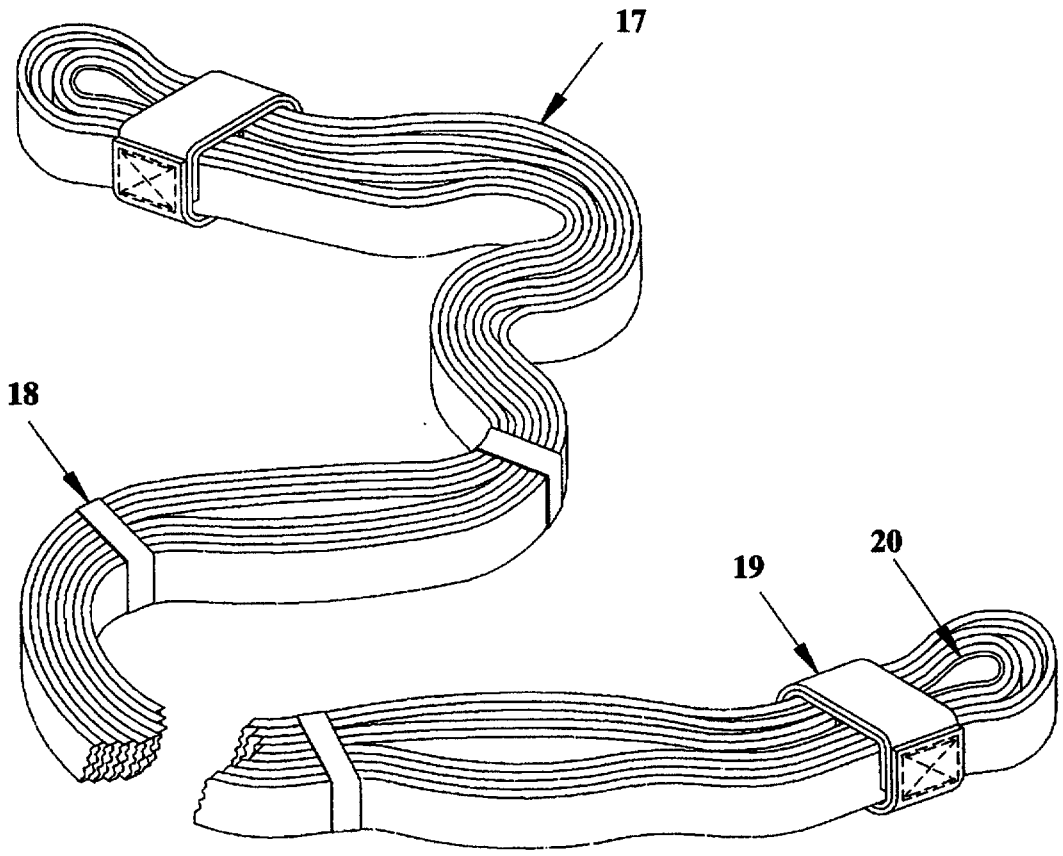


FIGURE C-16. LINE, EXTRACTION, PLATFORM (Sheet 4 of 4)

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 16. LINE, EXTRACTION, PLATFORM	
				FIG C-16. LINE, EXTRACTION, PLATFORM	
1.	XCOOO	81337	68F217	Line, Extraction, Platform	AR
2.	PAOOO	81337	68F217-52	. Line, Multi-Loop, 3-Foot, 4-Loop	2
3.	MOOZZ	81337	68F217-3	.. Keeper, Fixed	1
4.	MOOOO	81337	68F217-2	.. Keeper, Sliding	2
5.	MOOZZ	81337	68F217-5	.. Buffer	2
6.	XCOOO	81337	68F217	Line, Extraction, Platform	AR
7.	PAOOO	81337	68F217-55	. Line, Multi-loop, 16-Foot, 4-Loop	2
8.	MOOZZ	81337	68F217-3	.. Keeper, Fixed	25
9.	MOOOO	81337	68F217-2	.. Keeper, Sliding	2
10.	MOOZZ	81337	68F217-5	.. Buffer	2
11.	XCOOO	81337	68F217	Line, Extraction, Platform	AR
12.	PAOOO	81337	68F217-56	. Line, Multi-Loop, 20-Foot, 4-Loop	2
13.	MOOZZ	81337	68F217-3	.. Keeper, Fixed	7
14.	MOOOO	81337	68F217-2	.. Keeper, Sliding	2
15.	MOOZZ	81337	68F217-5	.. Buffer	2
16.	XCOOO	81337	68F217	Line, Extraction, Platform	AR
17.	PAOOO	81337	68F217-57	. Line, Multi-Loop, 28-Foot, 6-Loop	2
18.	MOOZZ	81337	68F217-3	.. Keeper, Fixed	11
19.	MOOOO	81337	68F217-2	.. Keeper, Sliding	2
20.	MOOZZ	81337	68F217-5	.. Buffer	2

END OF FIGURE

Section II. REPAIR PARTS LIST - Continued

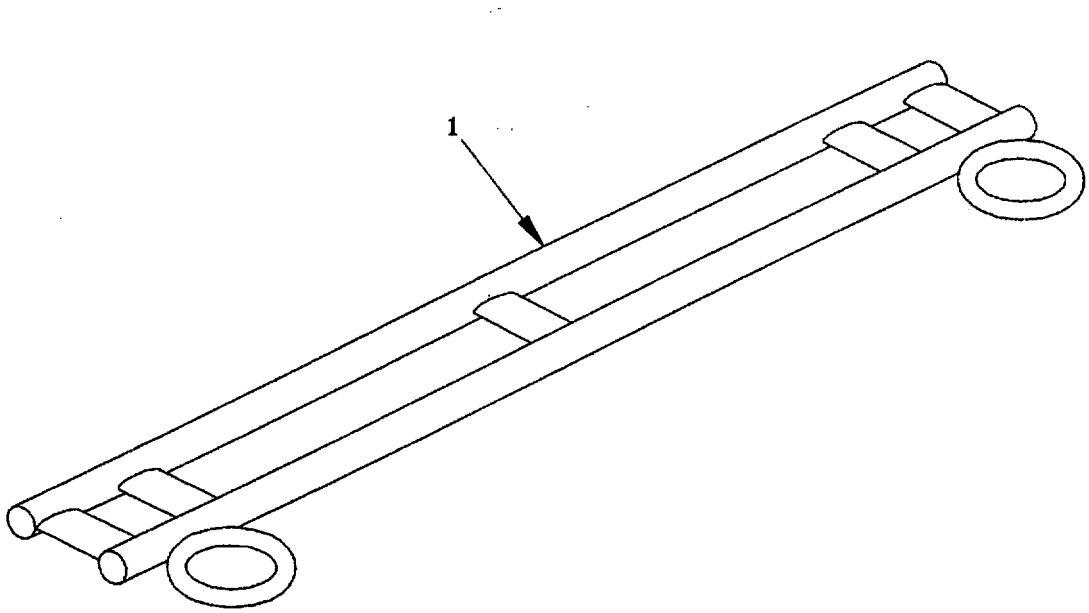


FIGURE C-17. BAR, ATTITUDE CONTROL

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 17. BAR, ATTITUDE CONTROL	
				FIG C-17. BAR, ATTITUDE CONTROL	
1	PAOZZ	81337	66C1885-2	Bar, Attitude Control	1
				END OF FIGURE	

Section II. REPAIR PARTS LIST - Continued

1	
2THRU 4	

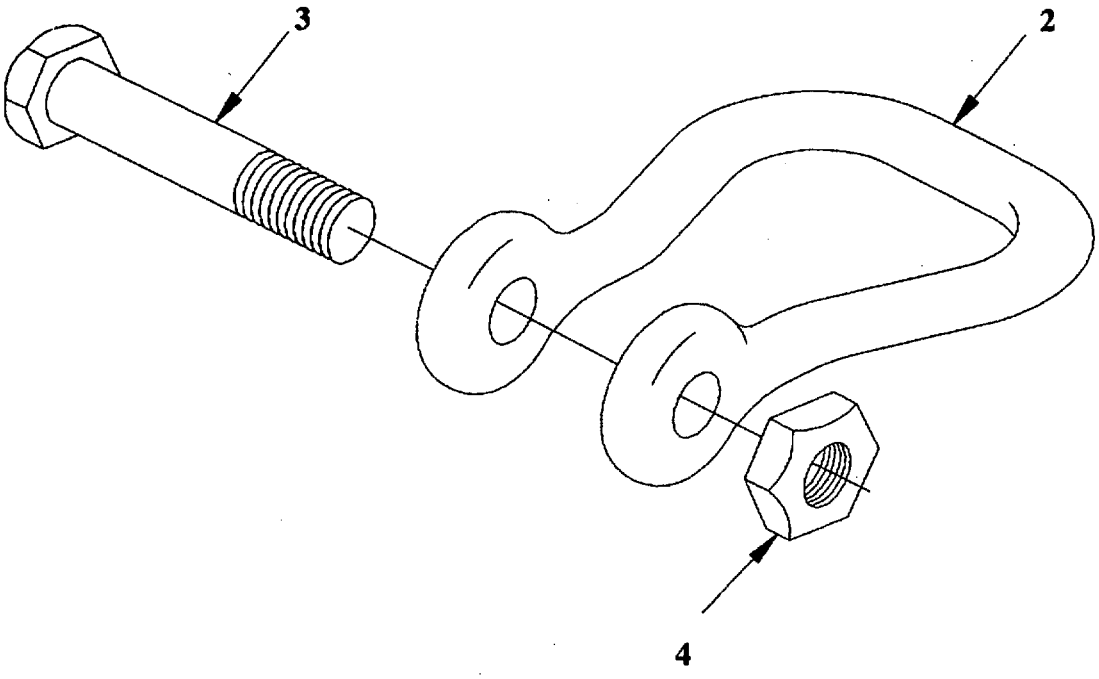


FIGURE C-18. CLEVIS, LARGE

SECION 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 18. CLEVIS, LARGE	
				FIG C-18. CLEVIS, LARGE	
1.	PAOZZ	96906	MS70087-3	Clevis, Large.....	AR
2.	PAOZZ	96906	MS70087-10	. Body	1
3.	PAOZZ	96906	MS70087-10	. Bolt, Aerial Delivery.....	1
4.	PAOZZ	96906	MS70087-10	. Nut, Plain Hex.....	1
				END OF FIGURE	

Section II. REPAIR PARTS LIST - Continued

1

2 THRU 4

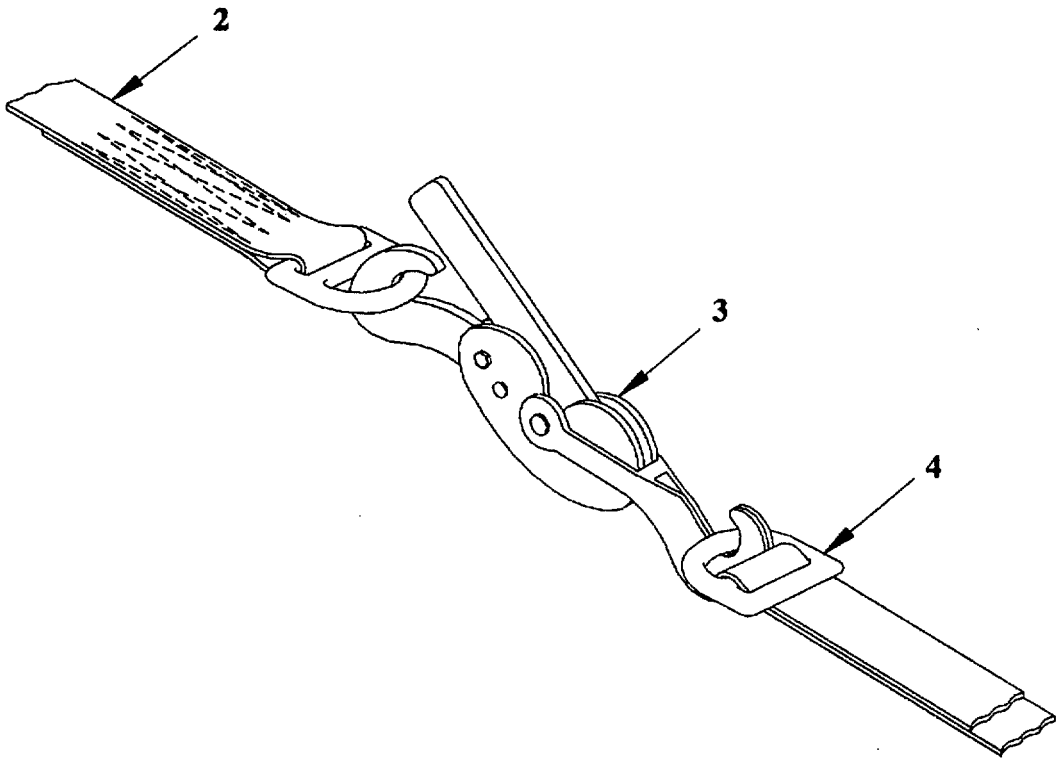


FIGURE C-19. TIE-DOWN, CARGO, 15-FOOT

SECION 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 19. TIE-DOWN, CARGO, 15-FOOT	
				FIG C-19. TIE-DOWN, CARGO, 15-FOOT	
1.	PAOZZ	81337	11-1-721	Tie-Down, Cargo, 15-Foot	AR
2.	PAOZZ	81337	11-1-892	Strap, Webbing.....	1
3.	PAOZZ	81337	11-1-901	Binder Load.....	1
4.	PAOZZ	96906	MS22046-8	Ring, D.....	1

END OF FIGURE

Section II. REPAIR PARTS LIST . Continued

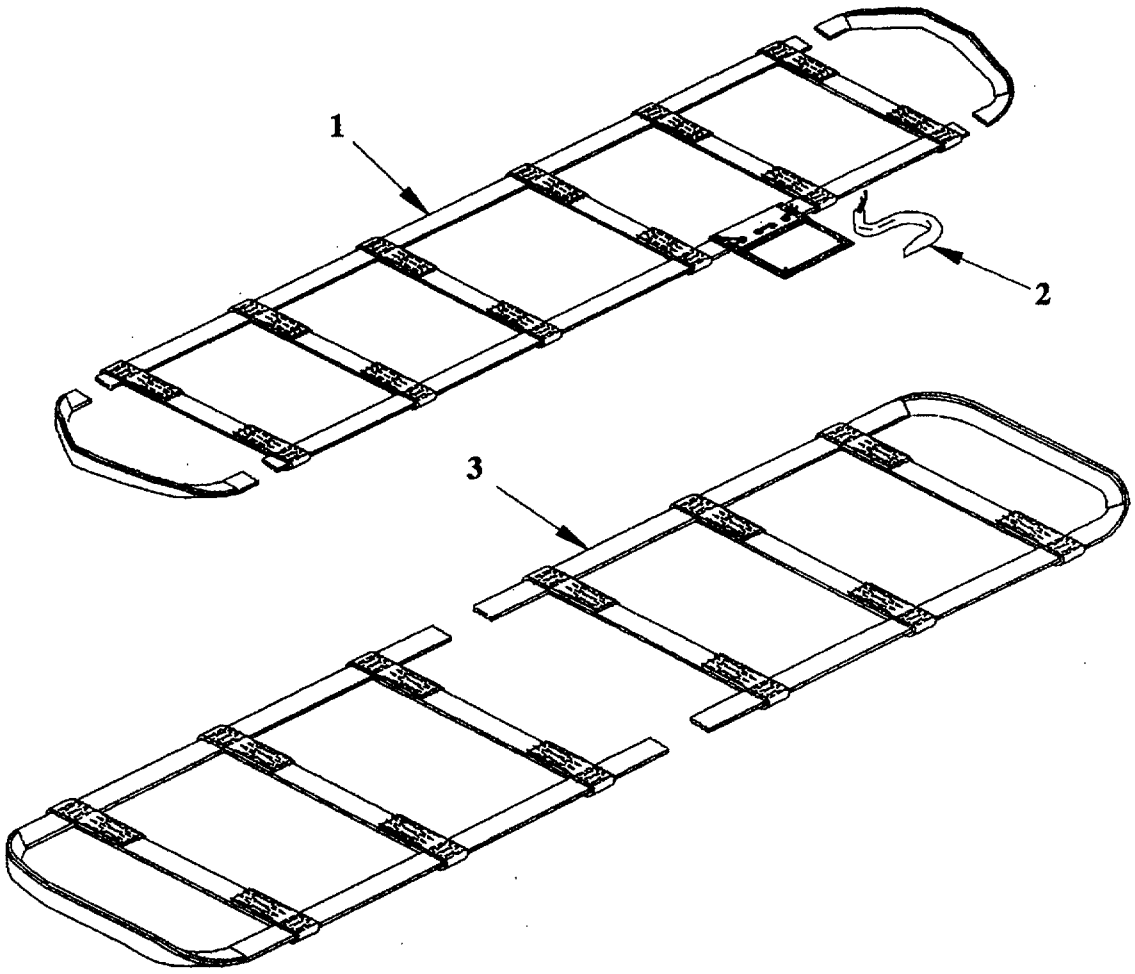


FIGURE C-20. DRIVE-OFF AIDS

SECION 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 20. DRIVE-OFF AIDS	
				FIG C-20. DRIVE-OFF AIDS	
1.	PAOZZ	81337	11-1-486	Drive-Off Aid, Air Drop.....	1
2.	PAOZZ	81337	11-1-1248	. Hook Platform.....	2
3.	PAOZZ	81337	11-1-3771	Drive-Off Aid, Type 5.....	1
				END OF FIGURE	

Section III. SPECIAL TOOLS LIST

Not Applicable

SECTION IV. CROSS REFERENCE INDEX

CROSS-REFERENCE INDEXES
FIGURE AND ITEM NUMBER INDEX

Fig	Item	SMR	FSCM	Part Number	National Stock Number	Nomenclature
1	1	PAOZZ	81337	11-1-3359		Link, Suspension, Type IV
1	2	XAOZZ	81337	11-1-3359-2		Side Plate
1	3	XAOZZ	81337	11-1-3359-3		Spacer
1	4	XAOZZ	81337	11-1-3359-4		Body
2	1	XCOOO	81337	68F217		Extraction Line, Drouge, 60-Foot
2	2	PAOOO	81337	68F217-45		Line, Multi-Loop,
2	3	MOOZZ	81337	68F217-3		60-Foot, 1 Loop Keeper, Fixed
2	4	MOOOO	81337	68F217-2		Keeper, Sliding
2	5	MOOZZ	81337	68F217-5		Buffer
3	1	PAOZZ	81337	68F217		Link, Extraction
3	2	PAOZZ	07878	68F217-45		Link, Jettison
4	1	PAOOO	81337	11-1-2586		Bride Extraction Line Panel
4	2	PAOOO	96906	MS22002-1		Link, Parachute Connector
4	3	PAOZZ	96906	MS22002-7		Set Screw
5	1	PAOZZ	81337	66B1883-1		Plate, Clevis, 3 3/4-Inches
6	1	PAOZZ	81337	66B1883-2		Plate, Clevis, 5 1/2-Inches
7	1	PAOZZ	98750	66B1887		Spacer, Small
8	1	PAOZZ	98750	65B3650		Spacer, Large
9	1	PAOZZ	81352	AN17-36A		Bolt, Machine
10	1	PAOZZ	81352	AN315-15R		Nut, Plain Hex
11	1	PAOOO	81337	65D3820		Link, Extraction, Four-Point
11	2	PAOZZ	88044	AN315-15R		Nut, Plain Hex
11	3	PAOZZ	81337	67B2226		Spacer, Sleeve
11	4	PAOZZ	81337	AN17-36A		Bolt, Machine

SECTION IV. CROSS REFERENCE INDEX - CONTINUED

CROSS-REFERENCE INDEXES
FIGURE AND ITEM NUMBER INDEX - Continued

Fig	Item	SMR	FSCM	Part Number	National Stock Number	Nomenclature
12	1	PAOOO	81337	11-1-2941		Link, Extraction, Seven-Point
12	2	PAOZZ	81337	11-1-3595		Nut, Special
12	3	PAOZZ	81337	11-1-3534		Nut, Special
12	4	XAOZZ	81337	11-1-2942		Plate, Side
12	5	XDOZZ	81337	11-1-2944		Spacer
12	6	XAOZZ	81337	11-1-2943		Plate, Center
12	7	XDOZZ	81337	11-1-2945		Spacer
12	8	XDOZZ	81337	11-1-3769		Spool, Rope
12	9	PAOZZ	81337	11-1-3593		Bolt, Special
12	10	PAOZZ	81337	11-1-3592		Bolt, Special
13	1	PAOOO	81337	11-1-3443		Link, Protector
14	1	XCOOO	81337	68F217		Line, Extraction, Parachute
14	2	PAOOO	81337	68F217-30		Line, Multi-Loop, 60-Foot, 3-Loop
14	3	MOOZZ	81337	68F217-3		Keeper, Fixed
14	4	M0000	81337	68F217-2		Keeper, Sliding
14	5	MOOZZ	81337	68F217-5		Buffer
14	6	XCOOO	81337	68F217-		Line, Extraction, Parachute
14	7	PAOOO	81337	68F217-32		Line, Multi-Loop, 60-Foot, 6-Loop
14	8	MOOZZ	81337	68F217-3		Keeper, Fixed
14	9	MOOOO	81337	68F217-2		Keeper, Sliding
14	10	MOOZZ	81337	68F217-5		Buffer
14	11	PAOZZ	81337	11-1-3444		Rope, Extraction, 60-Foot, 7-Inches Circumference
15	1	PAOZZ	81337	11-1-2593		Line, Drouge
16	1	XCOOO	81337	68F217		Line, Extraction, Platform

SECTION IV. CROSS REFERENCE INDEX - CONTINUED

CROSS-REFERENCE INDEXES
FIGURE AND ITEM NUMBER INDEX - Continued

Fig	Item	SMR	FSCM	Part Number	National Stock Number	Nomenclature
16	2	PAOOO	81337	68F217-52		Line, Multi-Loop, 3-Foot, 4-Loop
16	3	MOOZZ	81337	68F217-3		Keeper, Fixed
16	4	MOOOO	81337	68F217-2		Keeper, Sliding
16	5	MOOZZ	81337	68F217-5		Buffer
16	6	XCOOO	81337	68F217		Line, Extraction, Platform
16	7	PAOOO	81337	68F217-55		Line, Multi-Loop, 16-Foot, 4-Loop
16	8	MOOZZ	81337	68F217-3		Keeper, Fixed
16	9	MOOOO	81337	68F217-2		Keeper, Sliding
16	10	MOOZZ	81337	68F217-5		Buffer
16	11	XCOOO	81337	68F217		Line, Extraction, Platform
16	12	PAOOO	81337	68F217-56		Line, Multi-Loop, 20-Foot, 4-Loop
16	13	MOOZZ	81337	68F217-3		Keeper, Fixed
16	14	MOOOO	81337	68F217-2		Keeper, Sliding
16	15	MOOZZ	81337	68F217-5		Buffer
16	16	XCOOO	81337	68F217		Line, Extraction, Platform
16	17	PAOOO	81337	68F217-57		Line, Multi-Loop, 28-Foot, 6-Loop
16	18	MOOZZ	81337	68F217-3		Keeper, Fixed
16	19	MOOOO	81337	68F217-2		Keeper, Sliding
16	20	MOOZZ	81337	68F217-5		Buffer
17	1	PAOZZ	81337	66C1885-2		Bar, Attitude Control
18	1	PAOZZ	96906	MS70087-3		Clevis, Large
18	2	PAOZZ	96906	MS70087-10		Body
18	3	PAOZZ	96906	MS70087-10		Bolt, Aerial Delivery
18	4	PAOZZ	96906	MS70087-10		Nut. Plain Hex.

SECTION IV. CROSS REFERENCE INDEX - CONTINUED

CROSS-REFERENCE INDEXES
FIGURE AND ITEM NUMBER INDEX - Continued

Fig	Item	SMR	FSCM	Part Number	National Stock Number	Nomenclature
19	1	PAOZZ	81337	11-1-721		Tie-Down, Cargo,, 15-foor
19	2	PAOZZ	81337	11-1-892		Strap, Webbing
19	3	PAOZZ	81337	11-1-901		Binder, Load
19	4	PAOZZ	96906	MS22046-8		Ring, D-
20	1	PAOZZ	81337	11-1-486		Drive-off Aid, Air Drop
20	2	PAOZZ	81337	11-1-1248		Hook, Platform
20	3	PAOZZ	81337	11-1-3771		Drive-Off Aid, 3771

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 Low Altitude Parachute Extraction 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 5".)

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 MATERIAL LIST

(1) Item Number	(2) Level	(3) National Stock Number	(4) Item Name, Description CAGEC, Part Number	(5) U/M
1	O	9160-00-253-1171	BEESWAX, TECHNICAL, 1LB (81348)C-B-191	LB
2	O	7920-00-282-2490	BRUSH, SCRUB HOUSEHOLD (81348)H-B-1490	EA
3	O	7520-00-248-9285	BRUSHY, STENCILING (81348)H-B-00621	EA
4	O	5350-00-221-0872	CLOTH ABRASIVE, FERRIC OXIDE AND QUARTZ (81349)MIL-C-4279	EA
5	O	7930-00-281-4730	DISHWASHING COMPOUND, HAND, FLAKE (81348)P-D-410	LB
6	O	7510-00-286-5362	INK, MARKING, PARACHUTE, STRATA-BLUE (81349)	PT
7	O	7580-00-230-2734	MARKER, FELT TIP, BLACK (81348)GG-M-0014	EA
8	O	7520400-491-2917	PEN, BALLPOINT (81348)GG-B-0060	EA
9	O	7920-00-205-3570	RAG, WIPING (81348)DDD-R-30	BL
10	O	9310-00-160-7858	STENCILBOARD, OILED (81348)UU-S-625, TYPE II	SH
11	O	7510-00-582-4772	TAPE, PRESSURE SENSITIVE, 1-INCH (81348)PPP-T-97, TYPE II	RL
12	O	7510-00-952-7212	TAPE, PRESSURE SENSITIVE, 1-1/4 INCH (81348)PPP-T-97, TYPE IV	RL
13	O	6810-00-270-9982	TETRACHLOROETHYLENE, TECHNICAL (81348)O-T-236	GL
14	O	8310-00-917-3945	THREAD, COTTON, TICKET 8/7, NAT. (81348)V-T-276	YD
15	O	8310-00-227-1244	THREAD, NYLON, SIZE FF, OD (81348)V-T-295	YD
16	O	8130-00-267-3027	THREAD, NYLON, SIZE 3, OD (81348)V-T-295	YD
17	O	8310-00-262-2777	THREAD, NYLON, SIZE 5, OD (81348)V-T-295	YD
18	O	8310-00-262-2780	THREAD, NYLON, SIZE 6, OD (81348)V-T-295	YD
19	O	8305-00-260-2564	WEBBING, COTTON, TYPE VII, OD (81349)MIL-W-5665	YD
20	O	9160-00-285-2044	WAX, PARRAFIN, TECHNICAL, TYPE I, GRADE A (81348)V-W-95	LB
21	O	8305-01-206-9219	WEBBING, NYLON, TYPE XXVI, OD (81349)MIL-W-4088	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 Maintenance Personnel.

E-2. INTRODUCTION.

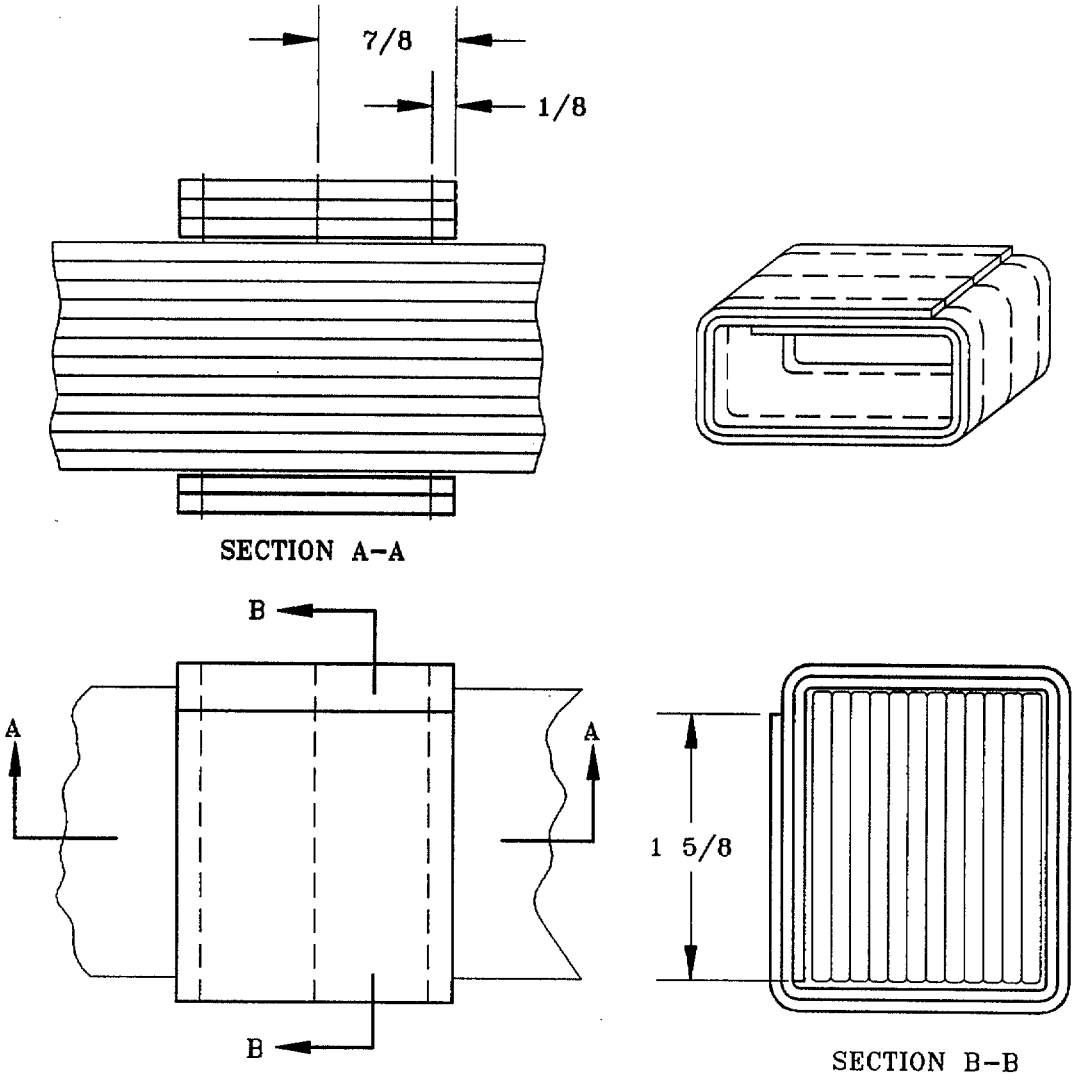
a. This appendix includes complete instructions for making items authorized to be manufactured or fabricated at Unit Maintenance.

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 in U.S. Standard measures.

E-3. MANUFACTURED ITEMS PART NUMBER INDEX .



NOTES:

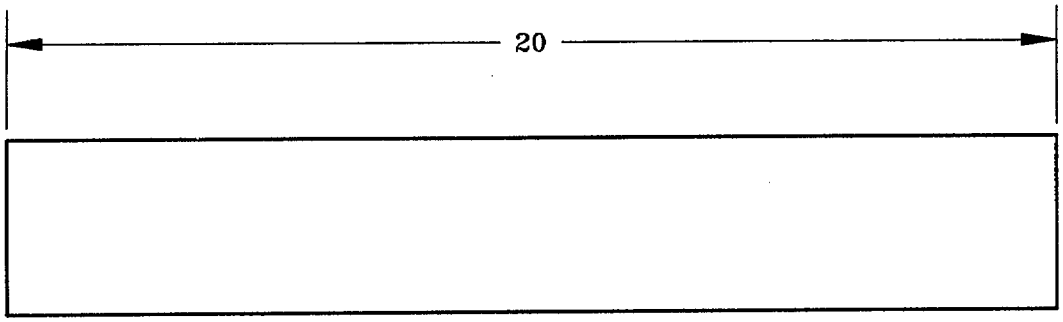
1. MAKE FROM NYLON WEBBING, P/N MIL-W-4088, TYPE VIII, CLASS 2, COLOR OD-7. AND THREAD, P/N V-T-295, TYPE I,II OR III, CLASS A COLOR ODS-1.

2. ALL MACHINE STITCHING TO BE IAW FED-STD-751 TYPE 301. 6 TO 7 STITCHES PER INCH.

3. STITCH TOGETHER SO AS TO OBTAIN AS SNUG A FIT AS POSSIBLE WHILE STILL BEING LARGE ENOUGH TO SLIDE IN IN PLACE ONTO LOOP WITH BUFFER STITCHED IN PLACE.

4. THE KEEPERS SHALL BE STITCHED AND SHAPED TO THE CONTOUR OF THE ASSEMBLED LINE AFTER WHICH THEY SHALL BE COMPLETELY DIPPED IN A MELTED MIXTURE OF 50% BEESWAX AND 50% PARAFFIN AT A TEMPERATURE OF 180°±20°.

Figure E-1. KEEPER, SLIDING



NOTES:

1. MAKE FROM NYLON WEBBING, P/N MIL-W-4088, TYPE XXVI, CLASS 2, COLOR OD-7.

Figure E-2. BUFFER

ALPHABETIC INDEX

By Order of the Secretaries of the Army, Air Force, and Navy:

DENNIS J. REIMER
General, United States Army
Chief of Staff

Official:
JOEL B. HUDSON
Acting Administrative Assistant to the
Secretary of the Army
00805

RONALD R. FOGELMAN
General, USAF
Chief of Staff

Official:

HENRY VICCELLIO, JR.
General, USAF
Commander, Air Force Materiel Command

J. E. BUFFINGTON
Rear Admiral, CEC, US Navy
Commander
Navy Facilities Engineering
Command

DISTRIBUTION:
To be distributed in accordance with DA Form 12-25-E, block no. 0308, reqirements for TM 10-1670-297-20&P

U.S. GOVERNMENT PRINTING OFFICE: 1995-655-121/20334

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL.

SOMETHING WRONG WITH PUBLICATION

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE

BE EXACT PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.

IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER	SIGN HERE

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

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

PIN: 073735-000