*TM 10-1670-282-23&P
T.O. 13C5-30-2
NAVAIR 13-1-33

TECHNICAL MANUAL

UNIT AND DIRECT SUPPORT (DS) MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

FOR

PARACHUTE, CARGO TYPE: 34-FOOT DIAMETER, MODEL G-14 LOW-VELOCITY CARGO PARACHUTE NSN 1670-00-999-2658

*The following manuals, TM 101670-275-23&P, TM 10-167027623&P, TM 101670277-23&P, TM 101670-278-23&P, TM 10-1670-279-23&P, TM 10167028023&P, TM 10-1670-281-23&P, TM 10-1670-282-23&P, in their entirety, supersede TM 10-1670-215-23, dated 7 December 1973, including all changes.

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10 SEPTEMBER 1991**

TM 10-1670-282-23&P
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NAVAIR 13-1-33
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CHANGE

HEADQUARTERS
DEPARTMENT OF THE ARMY
THE AIR FORCE AND THE NAVY

NO. 1

WASHINGTON, D.C., 30 June 1993

Unit and Direct Support (DS) Maintenance Manual
(Including Repair Parts and Special Tools List)

PARACHUTE, CARGO TYPE: 34-FOOT DIAMETER MODEL G-14
LOW-VELOCITY CARGO PARACHUTE
NSN 1670-00-999-2658

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

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1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages	Insert pages
iii and iv	iii and iv
- - -	2-106.1 and 2-106.2
2-107 and 2-108	2-107 and 2-108
C-15 and C-16	C-15 and C-16
C-17 and C-18	C-17 and C-18
D-3 and D-4	D-3 and D-4
- - -	E-1/(E-2 blank)

2. Retain this sheet in front of manual for reference purposes.

TM 10-1670-282-23&P
T.O. 13C5-30-2
NAVAIR 13-1-33
C 1

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WARNING

DEATH could result if inspections are not performed as specified in this manual. Perform all inspections as specified.

WARNING

DEATH from burns or parachute failure could result if cleaning solvents other than tetrachloroethylene are used in cleaning this equipment. Other solvents shall not be used because of their flammable properties and nylon-damaging substances.

WARNING

Prolonged inhalation of tetrachloroethylene vapors can cause respiratory injury. Provide adequate ventilation when using it. Also avoid skin contact. Repeated exposure can cause injury.

WARNING

Exercise extreme care when using petroleum products to destroy equipment by fire, as severe bums or DEATH could result.

WARNING

FIRST AID

For First Aid treatment, refer to FM 21-11.

a/(b blank)

ARMY TM 10-1670-282-23&P
AIR FORCE T.O. 13C5302
NAVY NAVAIR 131-33

TECHNICAL MANUAL

HEADQUARTERS,
DEPARTMENTS OF THE ARMY
THE AIR FORCE AND THE NAVY
WASHINGTON, D.C.- 10 September 1991

NO. 10-1670-282-23&P

Unit And Direct Support (DS) Maintenance Manual
(Including Repair Parts and Special Tools List)
for
PARACHUTE, CARGO TYPE: 34-FOOT DIAMETER, MODEL G-14
LOW-VELOCITY CARGO PARACHUTE
NSN 1670-00-9992658

Current as of 4 May 1990

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 directly to: Commander, U.S. Army Troop Support Command, ATTN: AMSTR-MMTS, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished directly to you.

Reports by U.S. Air Force units should be submitted on AFTO Form 22 (Technical Order System Publication Improvement Report) and forwarded to the address prescribed above for the Army. An information copy of the prepared AFTO Form 22 shall be furnished to SA-ALC/MMI LRA, Kelly AFB, TX 78241-5000.

For Navy, 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 directly to you.

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TABLE OF CONTENTS

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TABLE OF CONTENTS (cont)

LIST OF ILLUSTRATIONS

LIST OF ILLUSTRATIONS (cont)

LIST OF TABLES

CHAPTER 1

INTRODUCTION

OVERVIEW

This chapter Includes the general information common to all parachute manuals and specific information pertinent to the parachute described In this manual.

Section I. GENERAL

1-1. Scope. The scope of this manual is described in the following subparagraphs.

a. Type of Manual. This manual provides unit and intermediate direct support (DS) maintenance instructions for parachute NSN 1670-00-999-2658. This is a 34-Foot Diameter, Model G-14 Low-Velocity Cargo Parachute (figure 1-1). This manual also provides a Repair Parts and Special Tools List located at Appendix C.

b. Equipment Name. 34-Foot Diameter, Model G-14 Low-Velocity Cargo Parachute, hereinafter called the 34-Foot Cargo Parachute.

c. Pulse of Equipment. The parachute provides low-velocity air delivery of non-fragile supplies.

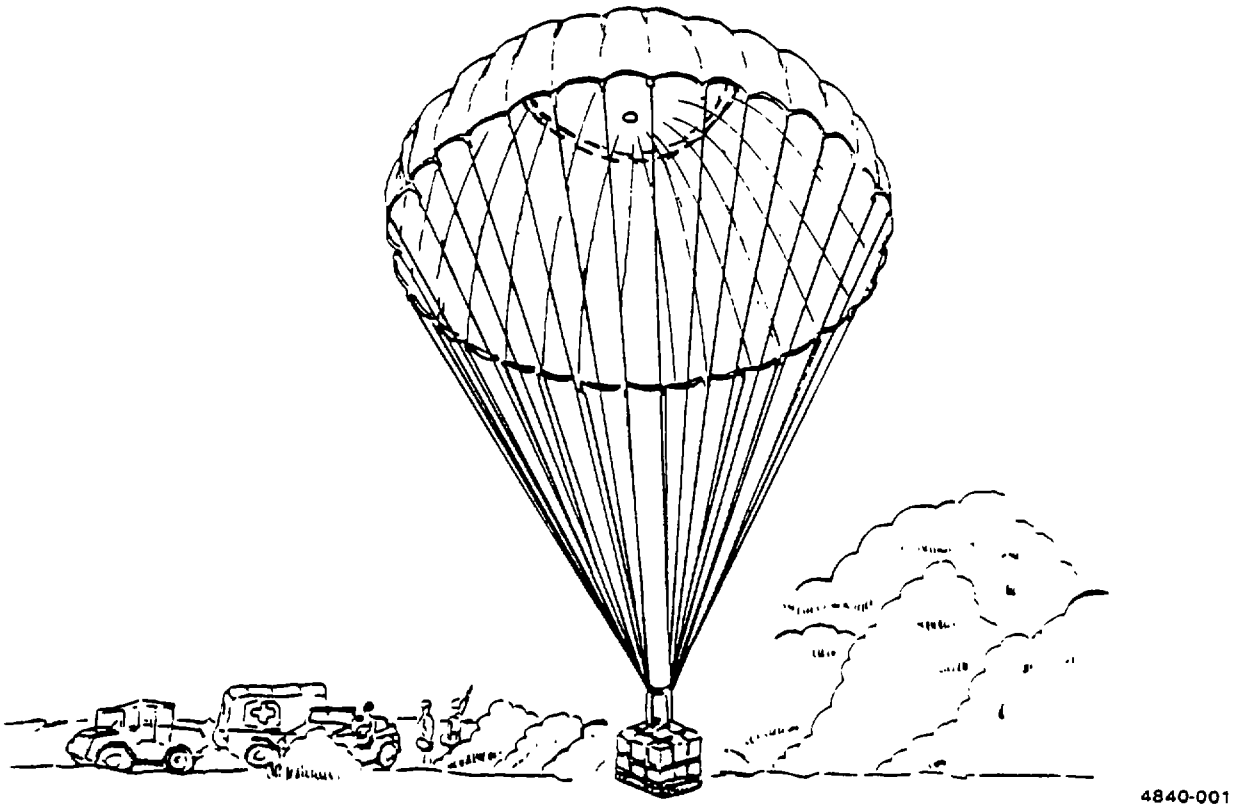


Figure 1-1. 34-Foot Diameter Low-Velocity Cargo Parachute.

1-2. **Maintenance Forms and Records**. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System and DA PAM 738-751, The Army Maintenance Management System (Aviation).

1-3. **Destruction of Army Materiel to Prevent Enemy Use**. Destruction methods are described in the following subparagraphs.

a. General.

(1) Objective. Methods of destruction used to inflict damage on delivery equipment should make it impossible to restore equipment to a usable condition in a combat zone by either repair or cannibalization.

(2) Authority. Destruction of a parachute that is in imminent danger of capture by an enemy is a command decision that must be made by a battalion or higher commander or the equivalent.

(3) *Implementation plan.* All units which possess air delivery equipment should have a plan for the implementation of destruction procedures.

(4) *Training.* All personnel who use or perform such functions as rigging, packing, maintenance, or storage of air delivery equipment should receive thorough training on air delivery equipment destruction procedures and methods. The destruction methods demonstrated during training should be simulated. Upon completion of training, all applicable personnel should be thoroughly familiar with air delivery equipment destruction methods and be capable of performing destruction without immediate reference to any publication.

(5) Specific methods. Specific methods of destroying Army materiel to prevent enemy use shall be by mechanical means, fire or by use of natural surroundings.

b. Destruction by Mechanical Means. Air delivery equipment metal assemblies, parts, and packing aids shall be destroyed using hammers, bolt cutters, files, hacksaws, drills, screwdrivers, crowbars, or other similar devices to smash, break, bend or cut.

WARNING

Exercise extreme care when using petroleum products to destroy equipment by fire, as these materials are highly flammable.

c. Destruction by Fire. Items that can be destroyed by fire shall be burned. The destruction of equipment by use of fire is an effective method of destroying low-melting-point metal items. However, mechanical destruction should be completed first, whenever possible, before initiating destruction by fire. When items to be destroyed are made of metal, textile materials (or some comparable low combustible material) should be packed under and around the items, then soaked with a flammable petroleum product and ignited. Proper concentration of equipment which is suitable for burning will provide a hotter and more destructive fire.

d. Destruction By Use of Natural Surroundings. Small vital parts of assemblies which are easily accessible may be disposed of as follows: Disposal or denial of equipment to an enemy may be accomplished through use of natural surroundings. Accessible vital parts may be removed and scattered through dense foliage, buried in dirt or sand, or thrown into a lake, stream, or other body of water. Total submersion of equipment in a body of water will provide water damage as well as concealment. Salt water will inflict extensive damage to air delivery equipment.

1-4. **Preparation for Storage or Shipment**. For storage, refer to Chapter 2, Section VII of this manual.

1-5. **Reporting of Equipment Improvement Recommendations (EIR)**. If your parachute system needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at: Commander, U.S. Army Troop Support Command, ATTN: AMSTR-QS, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. We will send you a reply.

Section II. EQUIPMENT DESCRIPTION AND DATA

1-6. **Equipment Characteristics, Capabilities and Features**. A summary of the characteristics, capabilities and features of the equipment Is contained in the following subparagraphs.

a Characteristics. Provides a capability to deliver non-i ragile supplies and equlpmer4 using low-velocity air delivery method.

b. Capabilities and Features.

(1) Capable of supporting up to 500 pounds.

(2) Increased accuracy.

(3) Low cost.

(4) Designed for decelerating and stabilizing low-velocity air delivery cargo.

(5) Components of the system.

(a) Canopy assembly.

(b) Static line.

(c) Pack.

(d) Drogue.

1-7. **Location and Description of Major Components**. The following subparagraphs contain locations and descriptions of major components (figure 1-2).

a. Canopy . A cotton muslin cloth cargo canopy of biconical construction, 32 suspension lines, a riser assembly and a clevis to attach parachute assembly to cargo bundle.

b. Static Line. A 15 1/2-foot line made of type VIII cotton webbing with a large loop formed at one end and a small formed loop and clevis at the other end. May be used in either breakaway or non-breakaway method of deployment.

c. Pack. An envelope-type cotton cloth bag used to deploy the cargo canopy.

d. Drogue. A nylon duck cloth drogue is constructed with a body, four vanes and a nylon cord attaching loop.

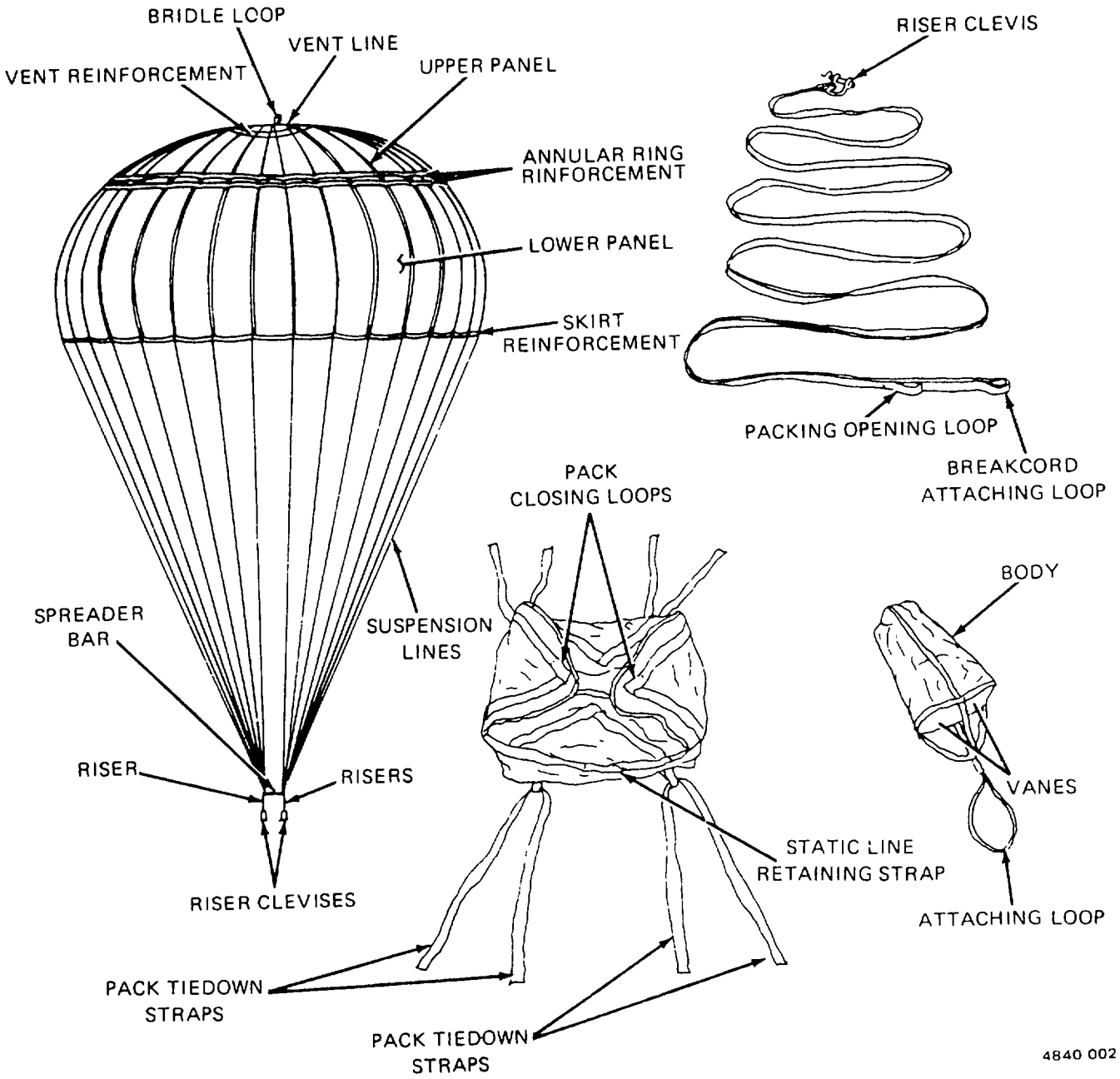


Figure 1-2. Major Components of Parachute Assembly.

1-8. **Equipment Data.** The following listing summarizes the specific capabilities and limitations of the equipment and other critical data needed by the unit and intermediate direct support (DS) maintenance personnel for maintenance of the 34-foot low-velocity cargo parachute.

a. Weight (packed for use).....37lbs. (approx)

b. Dimensions (packed for use).....16 in. lg by 16 in. wd. By 15-in. h.

c. *Cube* (packed for use) 2.0 cubic feet

d. Canopy Assembly.

Shape	Flat-circular
Diameter	34 feet
Design	Biconnical with annular ring
No. of gores	32
No. of panels per gore	2
Gore material	Type III, 3.8 oz. cotton muslin cloth
No. of radial tapes	32
No. of vent lines	16
Vent line material	Type IA coreless nylon cord
No. of V-tabs	32
Suspension line material	Type IA coreless nylon cord
Length of suspension line (riser suspension line attaching loop to canopy skirt)	27 1/2 feet
Length of canopy (skirt reinforcement tape to vent reinforcement tape)	16 feet

e *Riser Assembly.*

Length	30 in.
Number of riser devises used	2
Number of riser straps	2

f *Pack*

Bag height	15 in.
Bag length	16 3/4 in.
Bag width	16 3/4 in.

g. *Static Line.*

Length	15 1/2 feet
Number of riser devises used	1

h *Static line drogue.*

Body length	9 in.
Number of vanes	4
Individual vane length	2 3/4 in.
Attaching cord material	Type III nylon cord
Attaching cord finished loop length	5 3/4 in.

1-9. **Safety, Care, and Handling**.

a. *Safety.* It is imperative that you observe all safety precautions specified on the warning page in the front of this manual. You must also observe specific warnings and cautions specified throughout this manual. The *warnings are* provided to tell you how to protect yourself from death or serious injury.

b. *Care and Handling.* Observe the following precautions:

(1) Use care in handling packed parachutes as metal parts could cause personal injury.

(2) Remove all jewelry when packing or performing maintenance on the parachute. Damage to the canopy *materials* could result from watches, rings, bracelets, etc.

(3) Use every effort to protect the parachute from the weather elements, dust, dirt, oil, grease, acids, and direct sunlight.

(4) Cover canopy during periods of inactivity. Avoid exposing canopy for prolonged periods to sunlight, inspection lights or fluorescent lights. Nylon material is subject to deterioration by ultraviolet light.

(5) Use a heated building to store parachutes when available. Store parachute in a dry, well-ventilated location, protected from pilferage, dampness, fire, dirt, insects, rodents, and direct sunlight.

CHAPTER 2

UNIT AND DIRECT SUPPORT (DS) MAINTENANCE INSTRUCTIONS

OVERVIEW

This chapter contains information necessary to maintain the 34Foot Cargo Parachute on the unit and intermediate direct support (DS) maintenance levels in accordance with the Maintenance Allocation Chart for the equipment. It includes the following:

a. Procedures for processing a new or used parachute assembly upon receipt.

b. Assembly of components prior to packing.

c. Preventive maintenance procedures to ensure continued serviceability of all components.

d. As-required inspections and maintenance procedures performed prior to packing such as shakeout and airing, cleaning and drying, and acidity and salt-water contamination tests.

e. Detailed packing procedure.

f. Repair methods and repair or replacement procedures for all components of the parachute assembly.

Section I. REPAIR PARTS, 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) applicable to your unit.

2-2. **Special Tools, TMDE and Support Equipment**. Special Tools, TMDE and Support Equipment are not required.

2-3. **Repair Parts**. Repair parts are listed and illustrated in Appendix C of this manual.

Section II. SERVICE UPON RECEIPT

Paragraph Page

2-4. **Initial Receipt**. The following describes the procedures for processing parachutes upon initial receipt.

a. *General Procedures for Air Delivery Equipment.* When the air delivery equipment is initially procured from a supply source and issued to a using unit, the item(s) will be unpacked from the shipping container(s) and inspected by a qualified parachute rigger (MOS 43E). The inspection performed will be a technical/rigger-type which will be conducted as outlined in paragraph 2-13. Upon completion of the inspection, the item(s) will be tagged as prescribed in DA PAM 738-751. Serviceable equipment may then be entered either into storage or into use in airdrop operations, as applicable. An unserviceable item will be held and reported in accordance with DA PAM 738-750.

b. *Inspection Personnel.* Personnel other than parachute rigger personnel may assist in the unpacking process of initially received parachutes as directed by the local air delivery equipment maintenance officer. However, the maintenance officer will insure that the entire unpacking effort is conducted under the direct supervision of a qualified rigger (MOS 43E).

c *ConfigurationICondition.* Acceptance of new equipment from the manufacturer is based upon inspections made of sample lots which have been randomly selected in accordance with military standards. It is incumbent upon the using activity personnel to bear this in mind whenever equipment is first placed in service. Changes will sometimes evolve from the original equipment design and sometimes contracts are authorized to make deviations in material and construction techniques. Air delivery equipment that has been in the field cannot 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 originally desired, such equipment shall be airworthy, safe, of the desired configuration, and adequate for intended use.

d. *Parachute Log Record.* The Army Parachute Log Record DA Form 10-42 or DA Form 3912 is a history-type maintenance document which accompanies the parachute canopy and pack assemblies through the period of service of the individual assembly. The log record provides a means of recording maintenance actions performed on a parachute canopy assembly. Normally, a log record is initiated and attached to the riser upon receipt by a using unit. However, N the item Is subjected to alteration or modification by a maintenance activity during the interim period from date of manufacture to receipt by a using unit, the log record will be prepared by the activity performing the maintenance function. Once initiated, a log record will be attached to and contained in an affixed parachute log record/inspection data pocket until such time as the parachute canopy assembly is destroyed or rendered unfit for further use or repair. Additionally, should an item that requires a log record be transferred from one unit to another, the log record for the parachute assembly will accompany the item in the transfer action. A

prepared log record will not be removed or separated from a parachute, and especially a packed parachute, except as directed by the local air delivery equipment maintenance activity officer. A log record which is illegible, lost, damaged, soiled, or precludes further entries due to lack of space will be replaced upon the next repack or inspection, as applicable, with a serviceable item from stock.

e. *Installing Attaching Tie.* Install attaching tie as follows:

(1) Cut a 30-inch length of size 6 waxed nylon thread (item 36/37, Appendix D) and double the thread length to form a 15-inch length, double strand.

(2) Pass the looped end of the double thread length around the centerfold of the log record and form a slip loop on the outside at the log record top (A, figure 2-1).

(3) Pass the thread length running ends through the corner attaching hole from the front cover of the log record (B, figure 2-1) and ensure running ends are routed over that part of the thread length located along the log record centerfold (C, figure 2-1).

(4) Complete the attachment tie by making a half hitch on top of the slip loop made in (2) above.

(5) Thread one running end of the log record attachment tie (D, figure 2-1) in a tacking needle and pass the tacking needle with attached thread end through the edge binding of the applicable parachute log record/inspection data pocket.

(6) Remove the thread end from the tacking needle and make a finished 10-inch long log attaching loop by securing the two thread ends together with an overhand knot.

(7) Insert log record into the pocket and secure the record within pocket using the pocket flap and applicable type flap fastener.

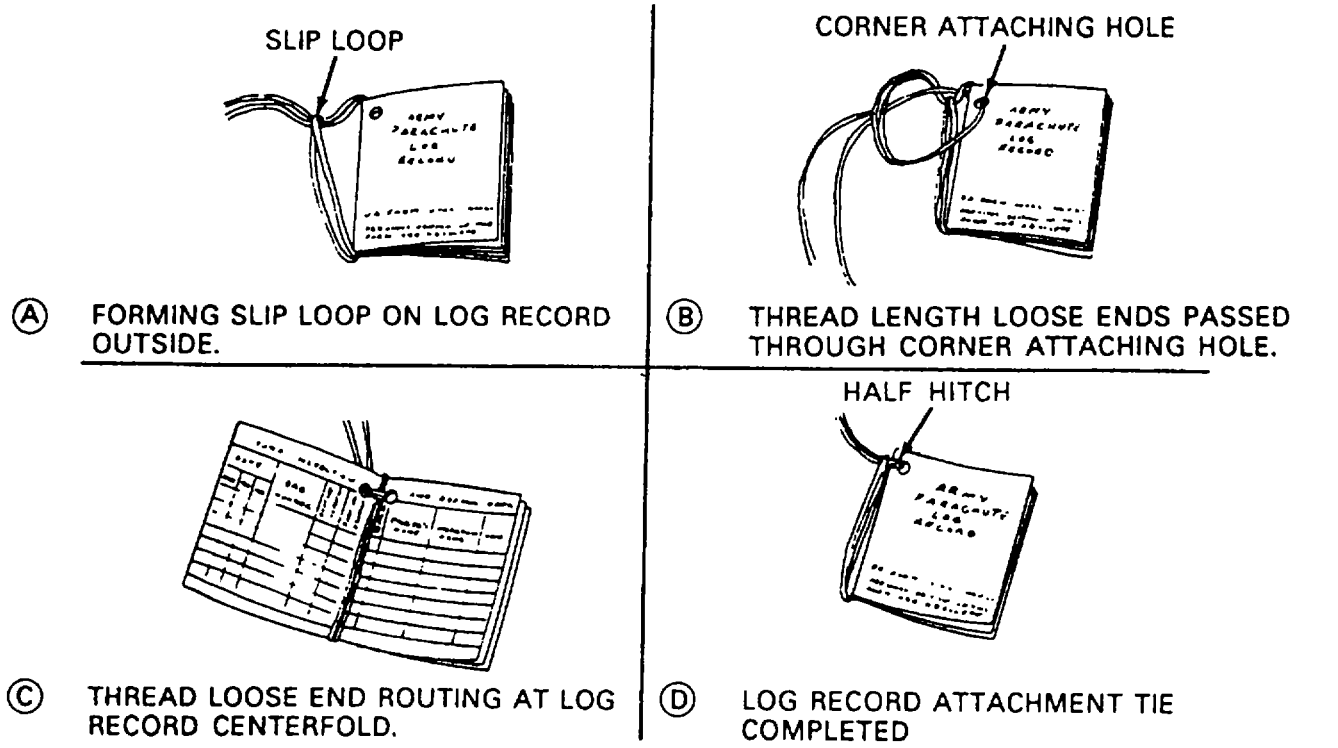


Figure 2-1. Installing Attachment Tie on Parachute Log Record.

f. *Accomplishing a Log Record.* Upon completion of the first technical/rigger-type inspection, the individual performing the inspection will initially prepare a log record for an individual parachute and accomplish subsequent record entries using the following procedures:

NOTE

Log record book entries will be made with a suitable type blue or black marking device that cannot be erased.

(1) Inside front cover. Using the information provided on the parachute canopy data block, make the following entries on the inside front cover of the log record (figure 2-2). Entries may be continued on the inside of the back cover, if necessary.

NOTE

A parachute canopy serial number is recorded in a log record as a method of establishing control for maintenance, EIR (Equipment Improvement Report) and QODR (Quality Deficiency Report) documentation, and to insure the correct original record is reattached should the record become detached. A canopy serial number will not be used for property accountability, except in test projects or other special instances.

(a Serial number. Enter the parachute canopy assembly serial number.

(b Type. Enter the parachute type.

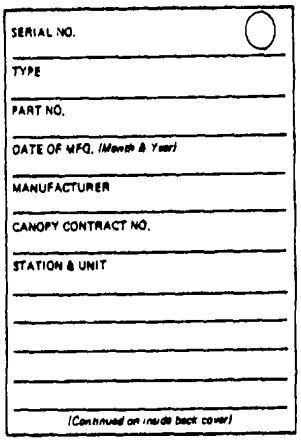
(c) Part number. Enter the part number of the parachute canopy.

(d) Date of manufacture. Enter the month and year the parachute canopy was manufactured.

(e) Manufacturer. Enter the name of the parachute canopy manufacturer.

(f) Canopy contract number. Enter the entire contract number specified for the parachute canopy.

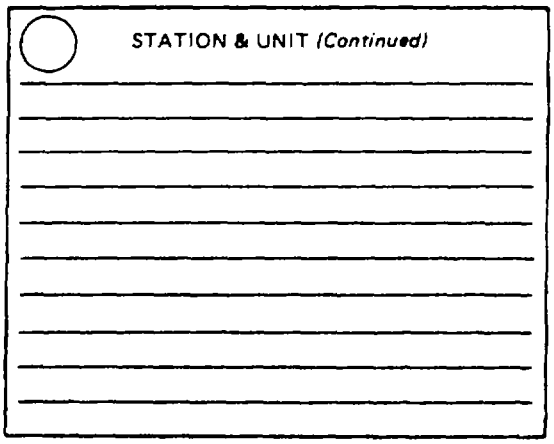
(g) Station and unit. Enter the name of the station and unit to which the parachute canopy is currently assigned. When a parachute is transferred permanently to another station and/or unit, the original entry will be lined out and the name of the receiving station and/or unit will be entered.



4840-004

Figure 2-2. Inside Front Cover of Parachute Log Record.

(2) Inside back cover. Entries may be continued on the inside back cover, if necessary (figure 2-3.)



4840-005

Figure 2-3. Inside Back Cover of Parachute Log Record.

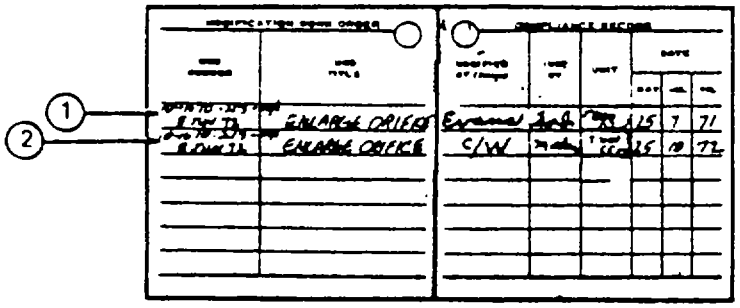
(3) Modification work order compliance record page. When a modification is performed on a parachute canopy, the following entries will be made on the "Modification Work Order Compliance Record" pages of the Log Record (figure 2-4)

(a) MWO number. Enter the publication number and date of the Modification Work Order (MWO) which describes the MWO (1, figure 2-4).

(b) MWO title. Enter a short, abbreviated title extracted from the MWO prescribing the work.

(c) Modified by. Enter the last name of the individual who has performed the modification. If the original log record for the parachute has been lost, and it has been ascertained through inspection that a particular modification has been accomplished, the entry for this column will be C/W "Complied With" (2, figure 2-4), which signifies the applicable MWO has been complied with.

(d) Inspected by. The individual who accomplished the inspection required after modification will sign this entry with last name only.



1. MODIFICATION WORK ORDER COMPLIANCE COMPLETED.
2. MODIFICATION COMPLETED BY UNKNOWN DUE TO LOST ORIGINAL LOG RECORD.

4840-006

Figure 2-4. Log Record Entries for the Modification Work Order Compliance Record Page.

(e) Unit. Enter the unit designation responsible for performing the MWO or in the event of a lost Log Record, the unit to which the inspector is assigned.

(f) Date. Enter the date (day, month, and year) the modification work was completed.

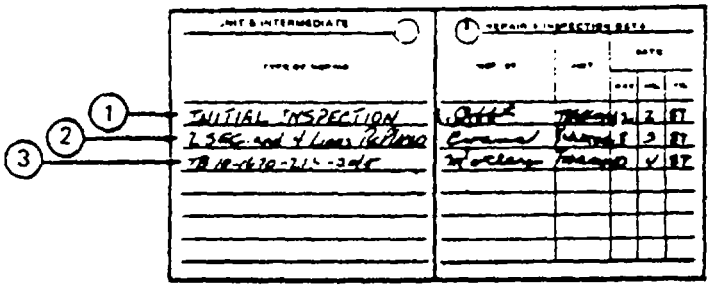
(4) *Unit and intermediate repair and inspection data.* When a parachute canopy assembly is initially received from a supply source and a technical/rigger-type inspection is performed, the inspection accomplishment will be documented on the "Unit and Intermediate Repair and Inspection Data" page of the individual Parachute Log Record (figure 2-5). Additional entries will also be made on this page each time the canopy assembly is repaired or is administered an inspection in compliance with a one-time inspection Technical Bulletin (TB). The page completion criteria is as follows:

(a) Type of repair. Enter the type of repair, completion of initial inspection, repair accomplishment, Technical Bulletin Inspection compliance.

(b) Inspection by. The individual who accomplished the inspection required will sign this entry with last name.

(c) Unit. Enter the unit designation responsible for performing the type of repair.

(d) Date. Enter the day, month and year the repair was performed.

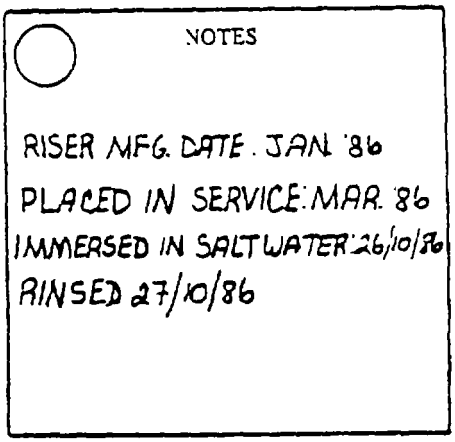


1. COMPLETION OF INITIAL INSPECTION.
2. REPAIR ACCOMPLISHMENT.
3. TECHNICAL BULLETIN INSPECTION COMPLIANCE.

4840-007

Figure 2-5. Log Record Entries for Unit and Intermediate Repair and Inspection Data Page.

(5) Note page. A page is provided at the back of a parachute log record to accommodate recording of additional data pertinent to the serviceability of a parachute canopy assembly (figure 2-6.) This shall also include the month and year the item was placed in service.



4840-008

Figure 2-6. Data Entries for a Log Record Note Page.

2-5. **Receipt of Used Parachute**. Upon initial receipt of used parachute proceed as follows:

a. Follow procedures given in paragraph 2-4a, and check each component for excessive wear and *tear.*

b. If defects of damages are discovered, process the parachute for maintenance at the maintenance level assigned by the Maintenance Allocation Chart (Appendix B).

2-6. **After-Use Receipt**. When a parachute is received at the maintenance activity following its use during air delivery, it must be given a shakeout and aired (para 2-11) and, if necessary, cleaned (para 2-12) before it can be returned to service. If a parachute is issued but not used, it does not need to be given a shakeout; however, it must be aired if it has been subjected to conditions of dampness.

2-7. **Checking Unpacked Equipment After Shipment**.

a. Inspect equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on SF Form 364, Packing Improvement Report.

b. Check the equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions in DA PAM 738-750.

c. Check to see whether the equipment has been modified.

Section III. ASSEMBLY

2-8. **Assembly of the 34-Foot Cargo Parachute**.

NOTE

The procedure for assembling components of parachute is incorporated in the packing procedure, paragraph 2-16.

Section IV. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-9. **PMCS Procedures**. The following describe PMCS procedures on the unit and intermediate direct support (DS) maintenance levels.

a *General*. Table 2-1 lists preventive maintenance checks and services. The purpose of PMCS is to ensure that the 34-foot cargo parachute is operational.

b. *Frequency of Performing PMCS*. PMCS will be performed before equipment is packed for use, during modification and repair, after use, or at any time deemed necessary by the air delivery equipment maintenance officer.

c. *PMCS Columnar Fntries Table 2-1.* Enter data in columns as follows:

(1) Item number The item number column shall be used as a source of the item number required for the "TM Number" column on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) when recording the results of PMCS

(2) *IntervaL* This column identifies the required PMCS level.

(3) *Item to be inspected.* Contains the common name of the item to be inspected

(4) *Procedures.* Provides a brief description of the procedure by which the checks are to be performed.

d. Recording Defects. All defects discovered during the inspection will be recorded using the applicable specifics In DA PAM 738-750, DA PAM 738-751, and TB 43-0002-43, Maintenance Expenditure Limits for FSC Group 1670.

e. Overage Items. During any inspection or at any time that an item is found to be overage (shelf/service life has expired as specified in TB 43-0002-43), the item will be removed from service, condemned and tagged in accordance with DA PAM 738-751.

f. Conservation of Resources. To conserve time and labor, and to avoid evacuation to an intermediate maintenance activity, unit/detachment commanders may designate, in writing, rigger personnel to accomplish classification inspection of overage air delivery equipment.

g. Inspection Function Requirement. Normally, a technical/rigger-type inspection will be performed by air delivery equipment maintenance personnel at a packing, rigging, or repair activity. The inspection of initial receipt items will be performed as a separate function from packing or rigging activity; the Hem to be inspected will be placed in proper layout on packing surface or suitable sized floor area. Should defect or damage be discovered at any point during the inspection, the inspection will be terminated and the applicable item will be processed and forwarded to 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 Air Delivery, Parachute Recovery and Aircraft Personnel Ejection System. Any defect discovered during a unit level repair activity inspection which exceeds the capability of that activity will require the affected area to be evacuated to an Intermediate maintenance function for further determination of economic repair and repair accomplishment, if applicable.

NOTE

Parachutes which are deemed unserviceable by a packing or rigging activity will be rigger-rolled prior to being sent to a repair activity.

Table 2-1. Unit and Intermediate Direct Support (DS) Preventive Maintenance Checks and Services (PMCS).

B-Before D-During A-After

ITEM NO.	INTERVAL B	INTERVAL D	INTERVAL A	ITEM TO BE INSPECTED	PROCEDURES
					NOTE Any defective material noted must be repaired prior to use.
				G-14 34-Foot Cargo Parachute	
1	•			Parachute Packed for Use	Visually check visible parts for serviceability and completeness without opening pack. Check parachute inspection data record for pack date.
2	•		•	Canopy	As canopy is raised, lowered, and suspended during shakeout, check for dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, tears; broken lines and webbing.
	•		•	Fabric Materials	Legibility of data markings; completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, thin spots, loose weaving; loose or broken stitching, lines, or webbing.
	•		•	Hardware Components	Riser clevis assemblies for corrosion, rough spots, burrs, breaks, cracks, bends; missing tie cord, clevis pin or safety pin.
3	•		•	Pack, Static Line, and Drogue	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, and breaks.
	•		•	Fabric Materials	Completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes; loose or broken stitching.
	•		•	Hardware Components	Clevis assembly for corrosion, rough spots, breaks, cracks, bends; missing tie cord, pin, and safety pin.

Section V. UNIT AND INTERMEDIATE DIRECT SUPPORT (DS) MAINTENANCE PROCEDURES

2-10. **General Information**. The following paragraphs contain general information pertinent to unit and intermediate maintenance procedures:

a. *Scope.* This section contains maintenance procedures which are the responsibility of the specified technician as authorized by the maintenance allocation chart (MAC) and the Source, Maintenance and Recoverability (SMR) coded items that are identified in the repair parts and special tools list (RPSTL).

b. *Maintenance Functions/Procedures.* Each paragraph identifies a maintenance function specified in the MAC. All maintenance procedures required to complete a maintenance function are identified under "This task covers:", in the order in which the work is most logically accomplished.

2-11. **Shakeout and Airing**.

This task covers:	a. Shakeout	b. Airing
Tools:		*Equipment Condition:*
Brush, Scrub, Household, Item 1, Appendix B		Parachute suspended

a. *Shakeout.* The shakeout will be accomplished by a two-person team either indoors within a shakeout room or outdoors at a shakeout tower. Each parachute will be suspended by the bridle loop and all debris removed by shaking the canopy thoroughly or by brushing with a dry, soft-bristled brush as detailed below:

(1) With assistance from no.2 person, no.1 person will connect the snap on a pulley rope to canopy bridle loop (A, figure 2-7).

(2) Through use of pulley rope, no.2 person will raise the canopy to a suitable height which will enable the no.1 person to perform shakeout on each of the canopy gores. Until gore shaking process is completed no. 2 person will maintain a steady pull on pulley rope to hold the suspended canopy at working height needed by the no.1 person.

(3) The no.1 person will grasp any two consecutive suspension lines, one in each hand (B, figure 2-7), and vigorously shake the first gore. When the gore is free of debris, no.1 person passes the line from the right hand to the left hand and grasps next consecutive suspension line in right hand. No.1 person will shake out each consecutive gore until all suspension lines are held in the left hand and all gores are free of debris.

(4) Once the gore shaking process is completed, no. 2 person will slowly raise suspended canopy higher as no. 1 person clears suspension lines of debris and removes entanglements (C, figure 2-7) when possible.

(5) After suspension lines have been cleared, no. 2 person may hold or temporarily secure pulley rope while no.1 person proceeds to clear debris from other parachute components such as risers or pack.

(6) When all components are free of debris, no. 2 person will slowly lower canopy while the no.1 person S-folds suspension lines Into pack (0, figure 2-7). After suspension lines have been completely folded no.1 person will accordion-fold canopy length on top of folded lines.

(7) As canopy folding is being completed, no.1 person disconnects bridle loop from pulley rope snap. Secure the folded canopy assembly for further handling.

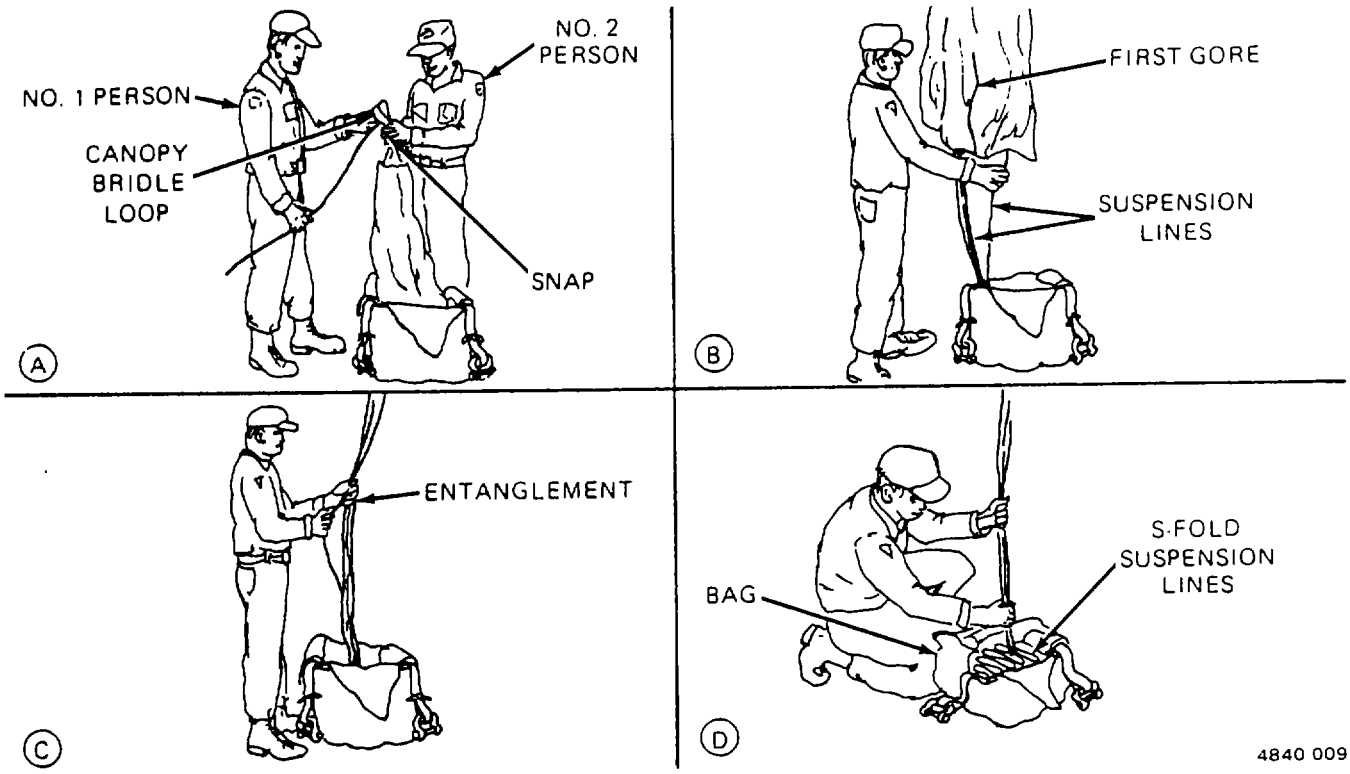


Figure 2-7. Shakeout

b. *Airing*. Where dampness and mildew are prevalent, air delivery equipment will be aired at frequent intervals according to the severity of the prevailing conditions. Parachutes that have been previously packed or are unpacked, which have been subjected to conditions of dampness or mildew, will be aired for a period of at least 6 hours prior to being repacked. Air delivery items may be aired either indoors or outdoors in dry weather. However, fabric items will not be aired in direct sunlight. Airing may be accomplished by suspending or elevating the applicable item(s) in a manner which would allow entire exposure to the circulation of air. Outside facilities used for the shakeout of parachutes may be used for the airing of air delivery equipment i weather conditions permit. If the shakeout facilities are inadequate for airing, the applicable item(s) may be suspended or elevated at several points or by draping over suitable type objects which would not cause damage.

2-12. **Cleaning and Drying.**

This task covers:

a. Cleaning fabric items with cleaning solvent
b. Cleaning fabric items with dishwashing compound
c. Drying fabric items
d. Cleaning metal items
e. Equipment immersed in salt water
f. Equipment immersed in fresh water

Materials/Parts:

Tetrachloroethylene, Item 21, Appendix D
Dishwashing Compound, Item 13, Appendix D
Rag, Wiping, Item 18, Appendix D
Lubricant, Solid Film, Item 41, Appendix D
Cloth, Abrasive, Item 5, Appendix D
Brush, Scrub, Item 3, Appendix D

Special Environmental Condition:

Ventilation required as repeated or prolonged inhalation of cleaning solvent vapors can be detrimental to human health.

Equipment Condition

Layout on packing table or other suitable area.

WARNING

Due to flammable properties and nylon-damaging substances, cleaning solvents other than tetrachloroethylene will not be used in the spot-cleaning of air delivery equipment. Tetrachloroethylene will only be used in areas where substantial ventilation is available. Repeated or prolonged inhalation of the solvent vapors can be detrimental to human health. In addition, avoid prolonged or repeated contact of the solvent fluid with areas of the skin. Tetrachloroethylene must not be taken internally.

CAUTION

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

NOTE

Cleaning of parachutes should be held to a minimum and should be performed only when necessary to prevent malfunction or deterioration. When a parachute contains debris, or when it is soiled by dirt, oil, grease, rust, corrosion, or other foreign substances to such an extent that cleaning is necessary, the cleaning should be performed manually and should be limited to the soiled area only, unless the parachute has been contaminated by water. The methods of cleaning must be determined by the nature of the substance to be removed.

NOTE

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

a. *Cleaning Fabric Items with Cleaning Solvent*. Use cleaning solvent to clean fabric items as follows:

(1) Gently brush with a soft bristle brush.

(2) Spot clean with cleaning solvent tetrachloroethylene.

(a) Rub soiled area with a clean cloth dampened with tetrachloroethylene.

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

NOTE

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

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

(1) Gently brush with a soft bristle brush.

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

(a) Dissolve 1/2 cup of dishwashing compound in one gallon of warm water.

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

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

NOTE

Fabric items will not be dried in direct sunlight or by laying an item on the ground.

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

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

(2) Drying time may be reduced by using electric circulating fans.

(3) When heat is used, the heat temperature shall not exceed 1600F (710C). Preferred temperature is 140F (60-C).

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

CAUTION

Use care not to damage the adjacent fabric materials.

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

WARNING

Use tetrachloroethylene only in areas where substantial ventilation is provided. Repeated or prolonged inhalation can be detrimental to human health. Avoid prolonged or repeated contact with skin areas. Tetrachloroethylene must not be taken internally.

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

NOTE

Shield adjacent fabric material before spraying solid film lubricant.

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

NOTE

A small amount of lubricant will not damage fabric, but may cause discoloration and make fabric appear soiled.

e. Equipment Immersed in Salt Water. Equipment made of cotton fabric immersed in salt water are to be condemned. See paragraph 2-13e, for equipment disposition.

f. *Equipment Immersed in Fresh Water*. Any air delivery equipment that has been immersed in a fresh water lake, river or stream will not require rinsing unless it has been ascertained that the water is dirty, oily or otherwise contaminated. Procedures for handling a fresh water immersed parachute are as follows:

(1) Contaminated fresh water. If the air delivery equipment has been immersed in contaminated fresh water, rinse, dry and, if applicable, repair the item(s). Rinse the item(s) as follows:

(a) Place the parachute assembly in a large water-tight container filled with a suitable amount of fresh, clean water to cover the assembly.

NOTE

If the water-soaked parachute assembly is too large to be placed into a rinsing container, then the rinsing process will be effected by applying fresh, clean water to the assembly using a hose.

(b) Agitate the container contents by hand for 5 minutes.

(c) Remove the parachute assembly from the container and suspend or elevate it in a shaded area, allowing a 5-minute drainage period. Do not attempt to wring the fabric or the suspension lines.

(d) Repeat the procedures in steps (a) through (c) above, twice, using fresh, clean water for each rinse.

(e) After the third rinse, allow the parachute assembly to drain thoroughly. Upon completion of draining, dry the assembly in accordance with procedures in c., above.

(f) When dried, perform a technical/rigger-type inspection of the parachute assembly. Corroded metal components, or corrosion-stained fabrics or suspension lines, will be either repaired or replaced as prescribed by the Maintenance Allocation Chart (MAC) in Appendix B.

(g) Record any repairs, immersion and rinsing in the NOTES page of the parachute log record (figure 2-6).

(2) Uncontaminated fresh water. If air delivery equipment has been immersed in uncontaminated fresh water, item(s) will be cleaned and dried as outlined in this paragraph. Minor discoloration of fabric items resulting from immersion in uncontaminated fresh water may occur. No attempt should be made to eliminate a minor discoloration as a slight discoloring is preferable to employing vigorous techniques that may damage fabric. Small stains caused by petroleum products or blood will be removed using spot-cleaning procedures in a., or b., above.

2-13. **Inspection**.

This task covers:

a. Routine
b. Pack-In-Process
c. Modified/Rigger-Type
d. In-storage
e. Equipment Disposition

Equipment Condition:

Packed/Unpacked

a. *Routine Inspection*. A routine inspection is a visual check performed to ascertain the serviceability of all visible components of a parachute that is packed or rigged for use. The inspection will be made on all components that can be inspected without opening the parachute pack. This inspection will be administered by a parachute rigger prior to use. Parachutes issued for an air delivery operation and not deployed will receive a routine inspection prior to being placed into ready-for-issue storage.

b. *Pack-in-Process Inspection*. A pack-in-process inspection is performed at specified intervals during the packing of a parachute to insure that only authorized procedures and methods are being used. The inspection will be accomplished by a parachute rigger other than the packer or rigger preparing the applicable equipment for use. The intervals at which the inspection is performed is as follows:

(1) After the parachute is placed in proper layout.

(2) After gores are folded and flatfold is completed.

(3) After canopy is longfolded.

(4) After suspension lines are stowed.

(5) After canopy is stowed and break cord tied.

(6) After pack closing tie.

(7) After parachute is completely packed.

c. *Modified/Rigger-Type Inspection Procedures.*

(1) Overall inspection. An overall inspection will be made on the 26-foot cargo parachute 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 enclosed and properly attached as prescribed in paragraph 2-4e. Further, remove the log record from the pocket and evaluate the recorded entries to insure compliance with paragraph 2-4e.

(b) Assembly completeness. Ensure that the applicable assembly is complete and no components or parts are missing.

(c) Operational adequacy. Check item components and parts to ensure proper assembly, which includes attachment and alinement, and that assembled product functions in prescribed manner. Further ensure that no stitch formation or sewn seam has been omitted.

(d) Markings and stenciling. Inspect each assembly and components for faded, illegible, obliterated, or missing informational data, identification numbers.

(e) Foreign material and stains. Inspect each assembly and related components for 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 (1) above, a detailed inspection will be performed on materials which constitute 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 safety pins.

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

(c) 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, whipping, and weaving; weak spots, wear, and deterioration.

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

d. In-Storage Inspection. An in-storage inspection is a physical check conducted on a random sample of air delivery equipment which is located in storage. The purpose of the inspection is to insure that the equipment is ready for issue, that the item is properly identified and segregated from other types of equipment, that no damage or deterioration of equipment has been incurred, and that all modifications or similar action requirements have been completed. The inspection shall also concern the methods and procedures applied to the storage of air delivery items, the adequacy of storage facilities, efforts of pest and rodent control, and protection against unfavorable climatic conditions. Air delivery equipment which is in storage will be inspected at least semiannually and at more frequent intervals if prescribed by the local parachute maintenance officer. The frequency of inspection may vary according to the type of storage facilities and local climatic conditions. In-storage inspection will be conducted only by parachute rigger personnel designated by local parachute maintenance officer.

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

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

(2) *Disposition of condemned air delivery equipment*. Condemned equipment, other than fatality parachutes, will be removed from service and disposed of in accordance with current directives listed In Appendix A of this manual.

(3) *Rejected equipment*. Equipment which, prior to use, is deemed unserviceable for use will be reported in an Equipment Improvement Recommendation (EIR) in accordance with DA Pam 738-750, as authorized by AR 750-1. Each applicable Item which Is defective will be held and safeguarded pending receipt of disposition instructions from the National Maintenance Point (NMP). In all Instances, EIR exhibit material will be handled as prescribed In DA Pam 738-750. If the quality or the serviceability of an item Is questionable, clarification and assistance may be obtained by contacting Commander, U.S. Army Troop Support and Aviation Materiel Readiness Command, ATTN: AMSTR-0P, 4300 Goodfellow Blvd., St. Louis, Missouri 63120.

(4) *Equipment of doubtful serviceability*. Equipment which has had previous use and has not exceeded normal fair wear or aging criteria, but of which further serviceability Is doubtful, will be tagged as prescribed in DA PAM 738-751. In addition, the equipment will be reported In an Equipment Improvement Recommendation (EIR) In accordance with DA Pam 738-750 and AR 750-1. The item(s) in question will be held as EIR exhibit material as outlined In DA Pam 738-750 pending receipt of disposition Instructions from the National Maintenance Point (NMP). A maintenance activity holding EIR exhibit material will not tamper with the applicable item(s) or make any attempt to ascertain cause factors. Unnecessary handling of EIR exhibit material may disturb or after peculiar aspects of the affected Item(s) which might affect the judgment of engineering personnel who have the responsibility for final evaluation of EIR actions.

2-14. **Acidity Test.**

This task covers: Acidity test

Tools:

Packing Paddle, Item 11, Appendix B

Equipment Condition:

Unpacked.
Layout on packing table or other suitable area.

Materials/Parts:

Medicine Dropper, Item 42, Appendix D
Three-Color pH Paper, Item 43, Appendix D
Spool with Color Chart, Item 44, Appendix D

a. *Fabric and Webbing Acidity Test*. Components and parts that are constructed from fabric or webbing will be administered an acidity test whenever the material is discolored, stained, or the presence of acid is suspected. The acidity test will be accomplished using approved colorimetric pH paper, strip type, with the color comparison chart on the side of each manufacturer's dispenser, to determine the acidity level in steps of 1 pH on fabric or webbing item.

b. *Test Procedure*. Perform test as follows:

(1) Using a medicine dropper or equivalent type applicator, place one to two drops of water on the item in the intended test area. If water drops do not penetrate the material, gently rub the moistened area with a flat side of a clean metal packing paddle.

(2) Tear a suitable length of calorimetric pH paper from dispenser, place the piece of pH paper on the wetted area and press the full surface of the paper against the material with a flat side of the packing paddle used in step (1) above. Insure the pH paper becomes thoroughly wet.

(3) Using the color comparison chart enclosed in the dispenser, compare the color of the moistened pH paper strip with the pH 1-3 color scale. If the color of the pH paper matches the numerical pH 1-3, the acidity present in the material exceeds the acceptable level and the item is to be condemned and processed for disposition in accordance with paragraph 2-13e.

(4) After a packing paddle has been used as outlined in steps (1) and (2), above, thoroughly rinse and dry the paddle before using the paddle for any other functions.

2-15. **Salt-Water Contamination Test.**

This task covers: Inspection

Equipment Condition:

Layout on packing surface or other suitable area.

NOTE

Clean or condemn equipment known or suspected of salt contamination.

Inspection. Look for a white crystalline residue.

2-16. Packing the G-14 34-Foot Cargo Parachute.

This task covers:

a. Inspection
b. Orientation
c. Preparing Parachute for Proper Layout
d. Removing Inversion
e. Removing Turns
f. Removing Tangles
g. Removing Twists
h. 'Proper Layout
i. Folding the Gores
j. Longfolding the Canopy
k. Preparing to Stow Suspension Lines
l. Stowing Suspension Lines
m. Stowing the Canopy
n. Attaching a Nonbreaking Static Line and Drogue
o. Attaching Breakaway Static Line
p. Closing the Pack
q. Stowing the Static Line
r. Completing Pack

Tools:

Packing Weights, Item 12, Section 1I1, Appendix B
Line Separator, Item 8, Section 111, Appendix B

Equipment Condition:

Parachute cleaned (reference paragraph 2-12) and given a shakeout (reference paragraph 2-11).

Materials/Parts:

Cord, Nylon, Type l1l, Item 12, Appendix D
Retainer Band, Rubber, Item 1, Appendix D
Tape, Pressure Sensitive, Item 39, Appendix D
Thread, Cotton, Ticket No. 8/7, Item 22, Appendix D
Webbing, Nylon, Tubular, 3/4-In. OD, Item 40, Appendix D
Webbing, Cotton, Type 1, 1/4-in., Item 30, Appendix D

References:

DA PAM 738-751
TB 43-0002-43

WARNING

Failure to detect areas of damage may result in malfunction of the parachute and injury or loss of life to personnel.

a. *Inspection*. If defects or damages are discovered during inspection of a parachute, the parachute must be rigger-rolled and processed for maintenance in accordance with para. 2-46. A modified/rigger-type inspection and a pack-in-process inspection must be performed in conjunction with each packing of a parachute (refer to para. 2-13).

(1) *Modified/rigger-type inspection*. Before each parachute is packed for air delivery, it must be given a modified/rigger-type inspection by the packer in accordance with paragraph 2-13c(2).

(2) *Pack-in-process inspection*. A pack-in-process inspection must be performed by a designated supervisory rigger, other than the packer, at seven intervals during the packing procedure. The inspection is performed to assure that the parachute is packed according to authorized packing procedures (refer to para. 2-13).

2-16. **Packing the G-14 34-Foot Cargo Parachute (cont).**

b. *Orientation*. Throughout this manual, all directions (right, left, upper, lower, top, bottom, clockwise, and counterclockwise) are given from the rigger's point of view, as the rigger stands at the tension plate end of the packing table facing the apex hook end of the table (figure 2-8).

(1) Top, that portion of the equipment that is farthest from the packing surface.

2) Bottom, that portion of the equipment that is nearest to the packing surface.

c. Preparing Parachute for Proper Layout. Place packing tools in convenient locations on the packing table. Lay the canopy assembly lengthwise on the packing table, attach the bridal loop to the packing table apex hook (figure 2-9) and elongate canopy.

NOTE

When inversion, turns, tangles and twist are present in the canopy assembly, the proper sequence for removal to achieve proper layout is to remove an inversion first, remove turns secondly, then remove tangles and, finally, remove twist.

d. Removing Inversions.

(1) *Canopy inversion*. Check canopy vent lines to determine if canopy has been Inverted. Canopy Is Inverted when vent lines are located inside upper lateral band. Remove inversion as follows:

(a) Detach bridal loop from apex fitting and pass vent through canopy.

(b) Pass vent out of canopy skirt, between two adjacent suspension lines (figure 2-10).

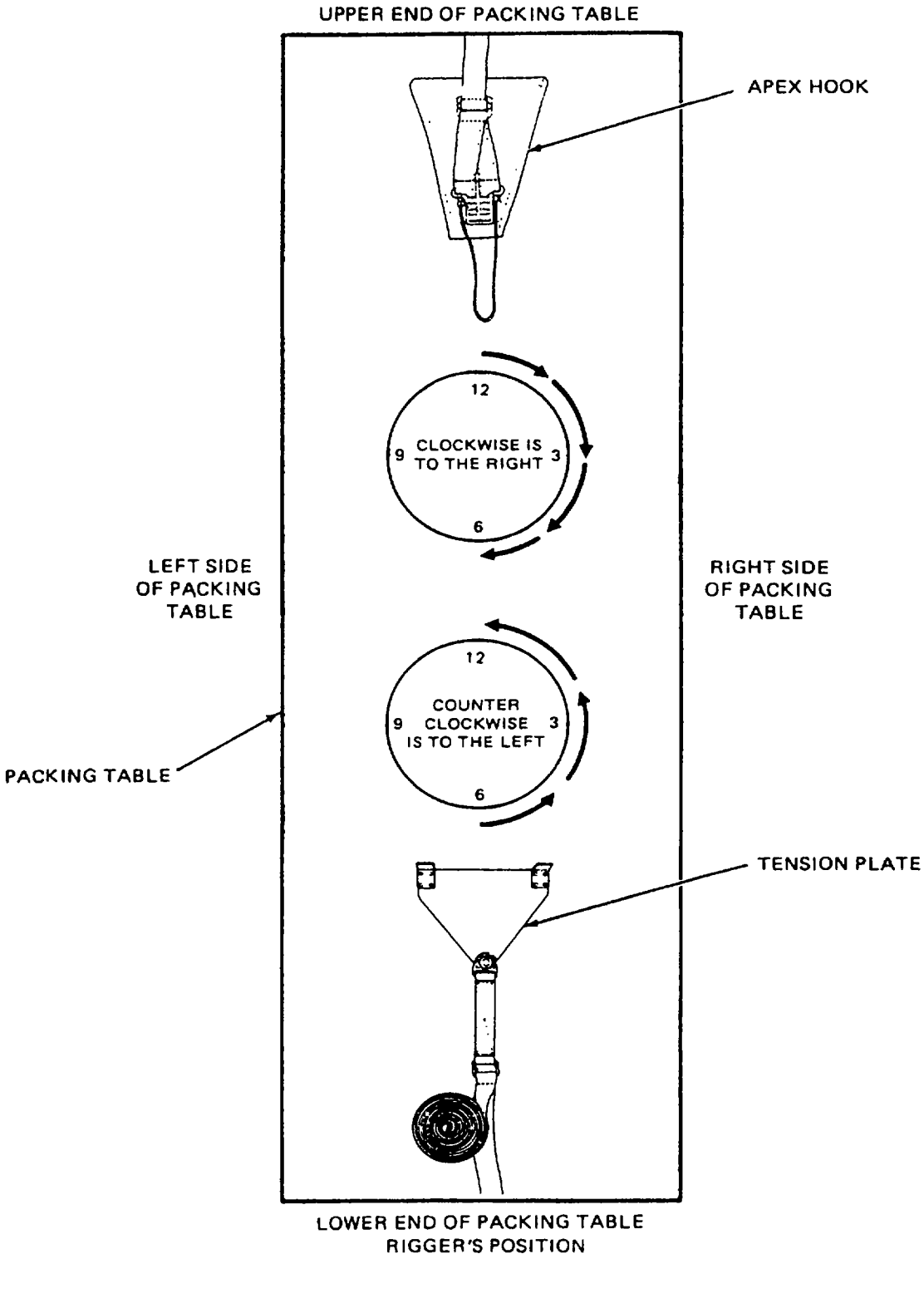


Figure 2-8. Rigger's Orientation.

2-16. **Packing the G-14 34-Foot Cargo Parachute (cont).**

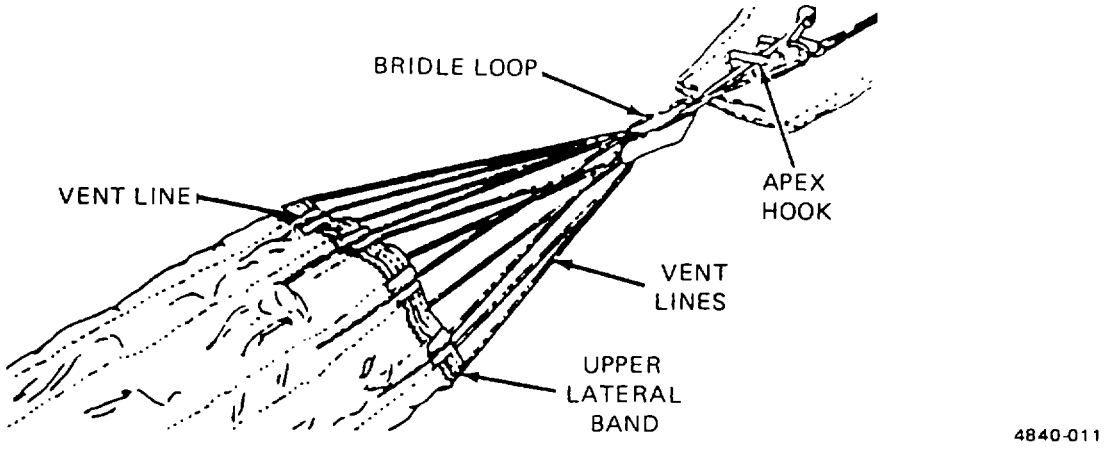


Figure 2-9. Canopy Attached to Packing table Apex Hook.

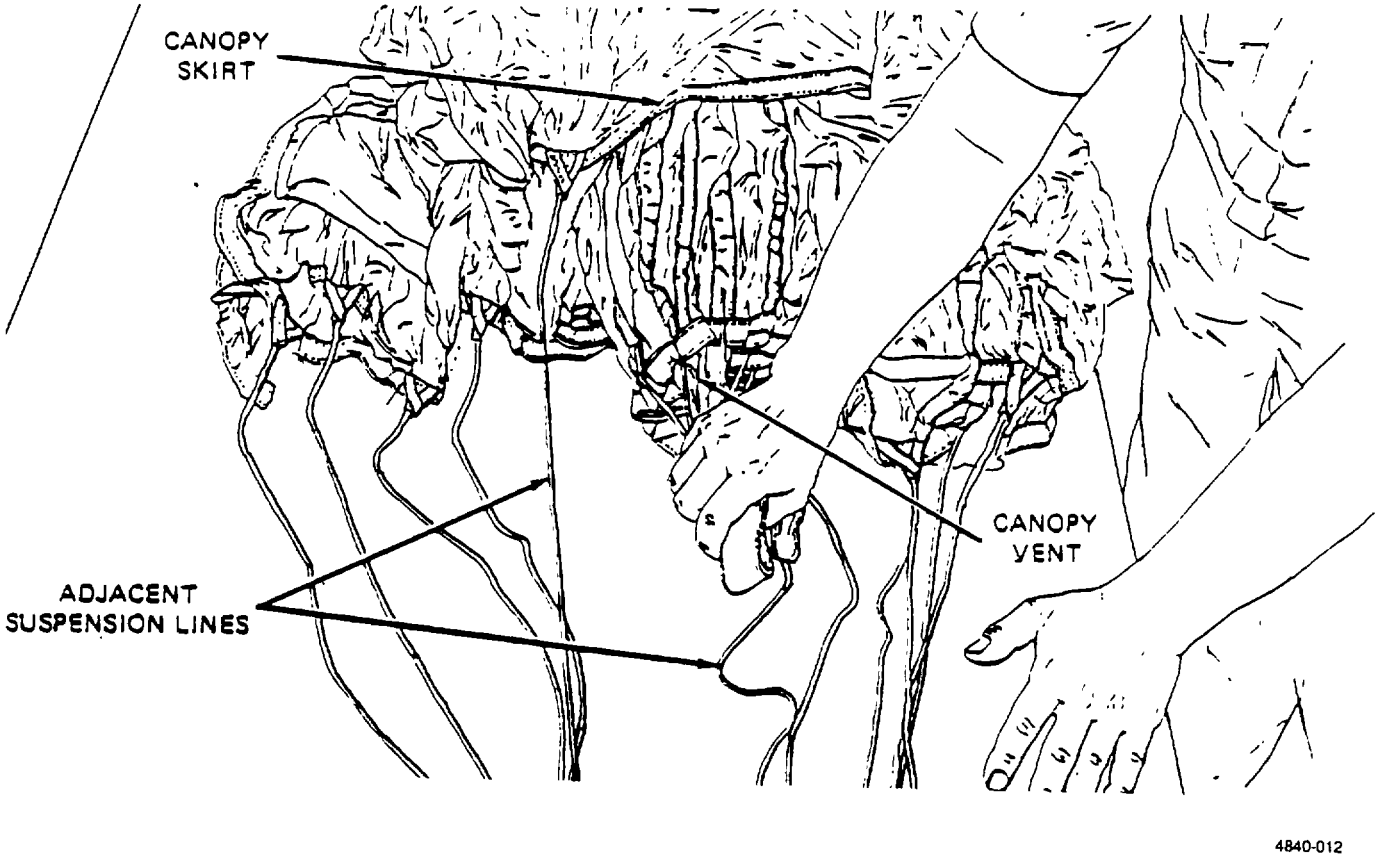


Figure 2-10. Removing Inversion.

(2) *Partial inversion.* If vent lines are on outside of canopy and pocket bands are on inside, or visa versa, a partial inversion exists. Remove a partial inversion as follows:

(a) Detach bridle loop from apex fitting. Trace radial and vertical tapes to annular ring where tapes turn under to inside canopy (figure 2-11).

(b) Pull canopy vent or risers through canopy and out through annular ring. Attach bridle loop to apex fitting on packing table.

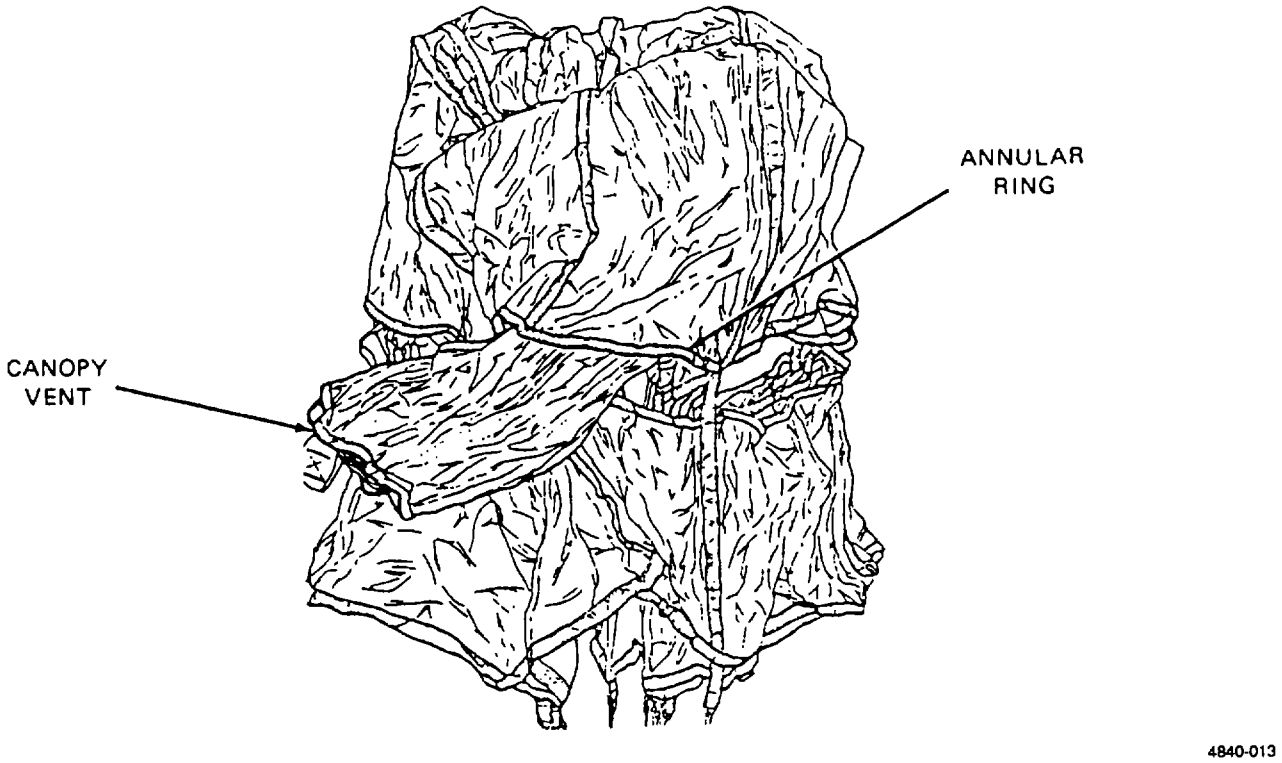


Figure 2-11. Removing Partial Inversion.

2-16. **Packing the G-14 34-Foot Cargo Parachute (cont).**

e. *Removing Turns*. A turn exists when one group of suspension lines is rotated around opposite group of lines. To remove a turn, rotate lines in a direction opposite to direction of turn (figure 2-12).

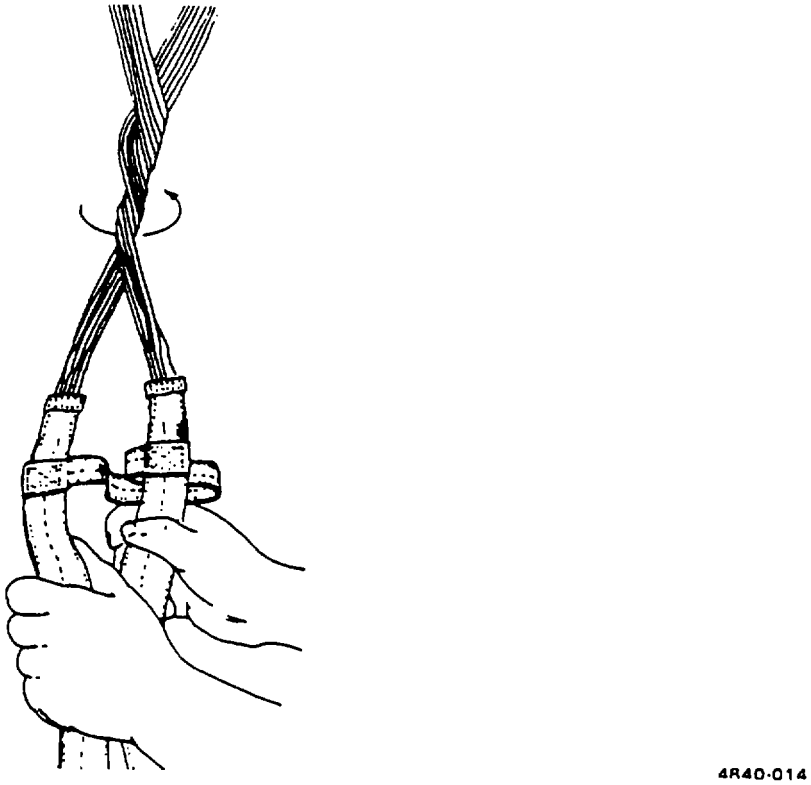


Figure 2-12. Removing Turns.

f. *Tangles*. Maintain separation between two line groups and work tangle(s) to a point close to risers. With left hand, select top line(s) forming a tangle and lift them away from remaining lines. Reach through formed opening with right hand and pull risers through opening (figure 2-13).

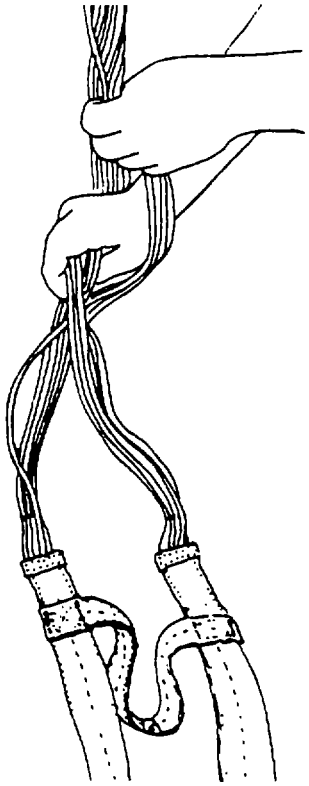


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Figure 2-13. Removing Tangles.

g. *Twists*. Grasp top inside suspension lines of canopy skirt and trace these lines down to risers (figure 2-14). Rotate risers between suspension line groups in a direction opposite to that of twist. Attach risers to tension plate.

2-16. **Packing the G-14 34Foot Cargo Parachute (cont).**

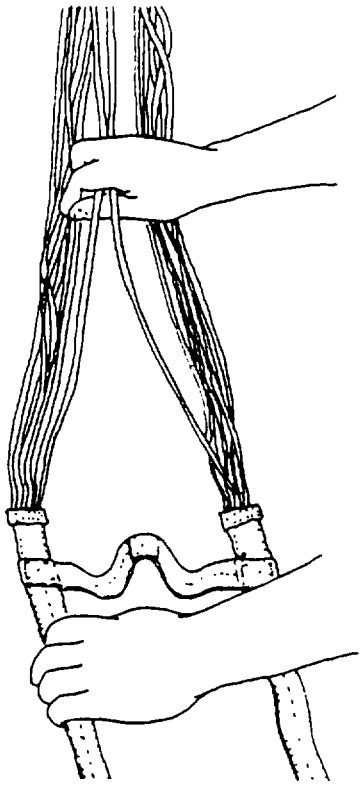

Figure 2-14. Removing Twists.

h. *Proper Layout.*

(1) Locate top center gore of canopy and divide suspension lines into two groups. Lines 1 thru 16 should be in left group, lines 17 thru 32 in right group, lines 1 and 32 should be located on top of their respective groups, lines 16 and 17 on the bottom (figure 2-15).

(2) Check canopy assembly for proper layout by raising top and bottom center gores, and tracing suspension lines to connector loops. Lines 1 and 32, top inside riser. Lines 16 and 17, bottom inside riser (figure 2-15).

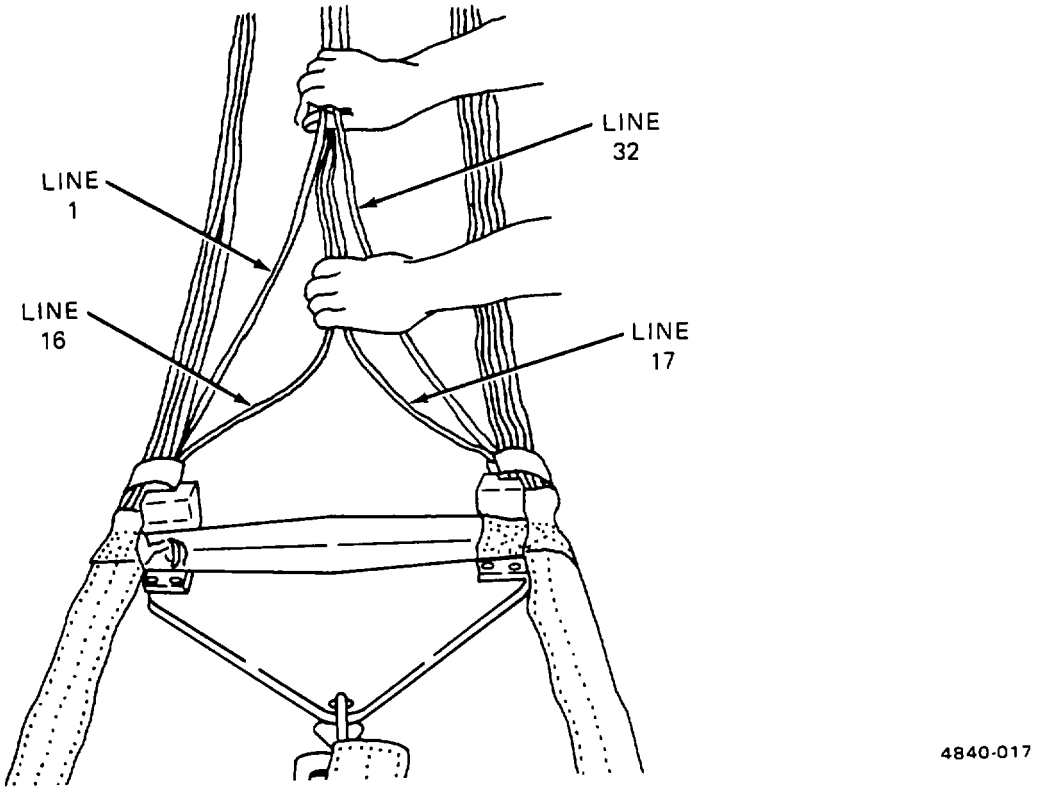

Figure 2-15. Proper Layout.

i. *Folding the Gores.*

(1) Apply tension to the canopy assembly.

(2) Pick up the right group of suspension lines (lines 17 through 32) with the left hand, and while holding the top center gore in position with the right hand (figure 2-16), flip the right group of gores over the left group of gores. During the gore flipping process, simultaneously pull the bottom center gore to the right side of the table.

(3) Using the right hand, pick up line 17, pull the line to the right side of the table, and place the line between the thumb and forefinger of the right hand.

(4) With the thumb and forefinger of the left hand, raise line 18 to expose the gore between lines 17 and 18 (figure 2-17).

(5) Move line 18 to the right table edge in a manner which allows the gore between lines 17 and 18 to fold neatly and drape over the right edge of the table (figure 2-18). Place line 18 in the right hand on top of line 17.

(6) Repeat proceduresl4)and(5)above for each succeeding line in the right group until gore 32 is folded. Scissor the right suspension line group between the middle finger and the forefinger of the right hand (figure 2-19). Rotate the hand one-quarter turn clockwise.

2-16. **Packing the G-14 34-Foot Cargo Parachute (cont).**

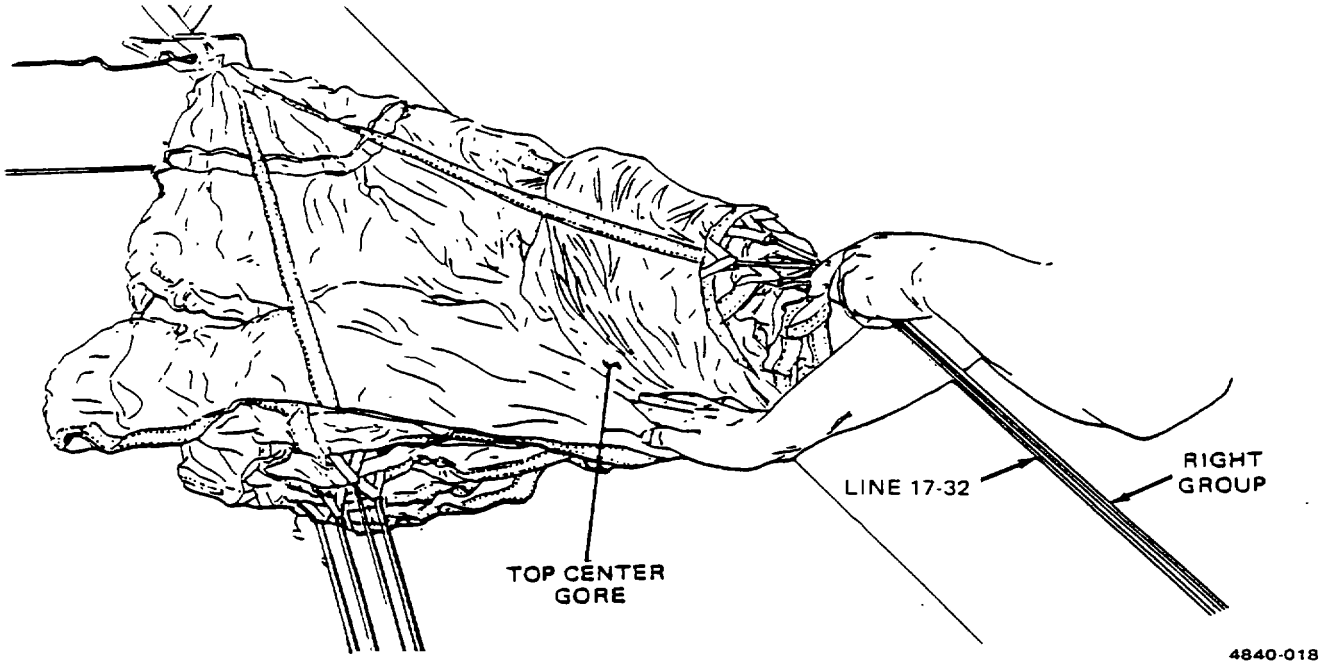

Figure 2-16. Flipping Right Group of Gores.

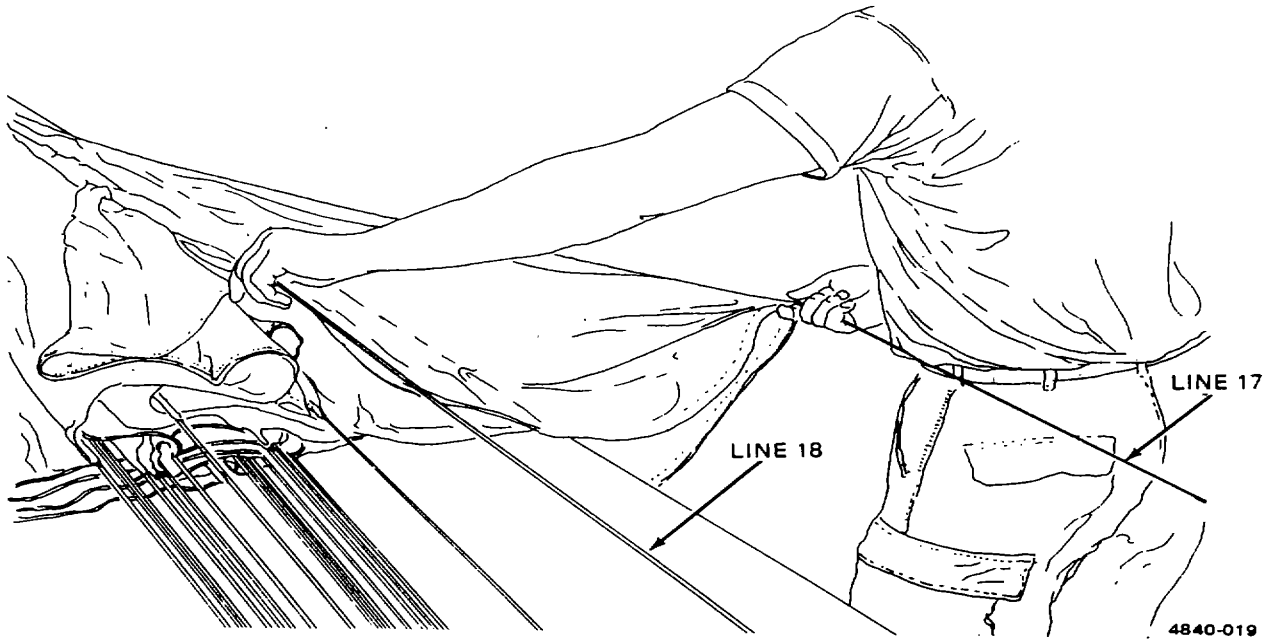

Figure 2-17. Exposing Gore Between Suspension Lines.

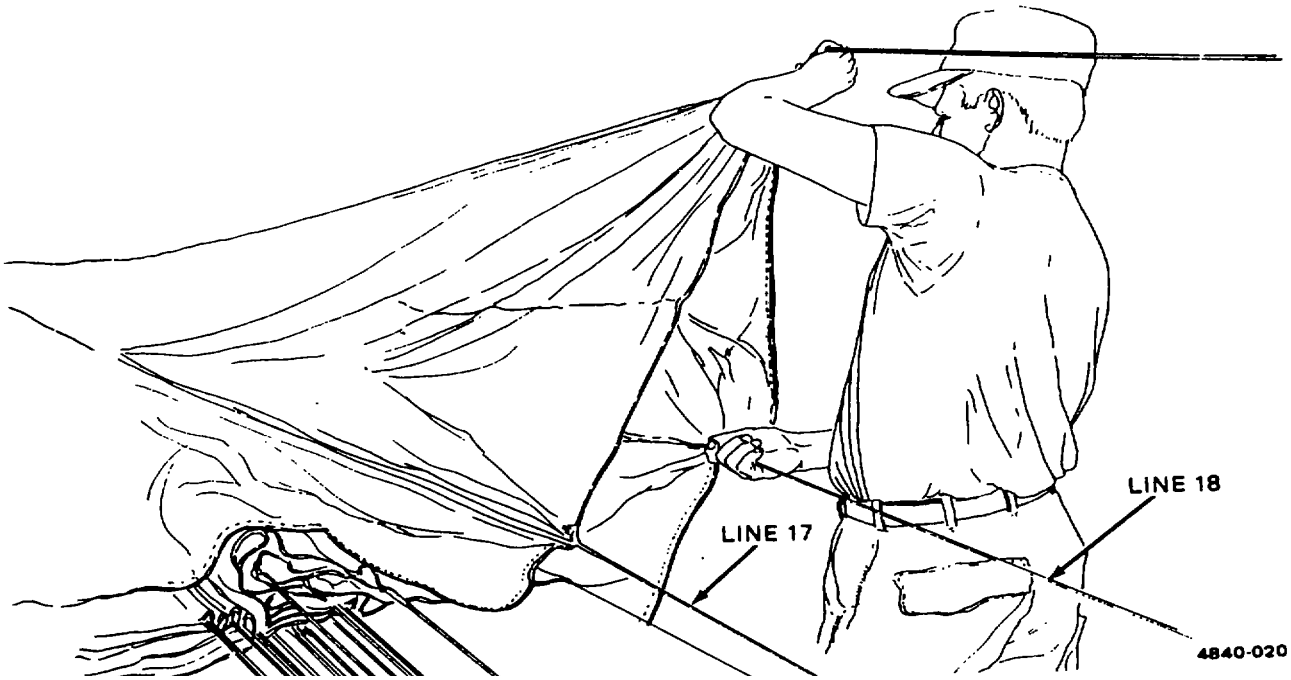

Figure 2-18. Draping Gores Between Suspension Line.

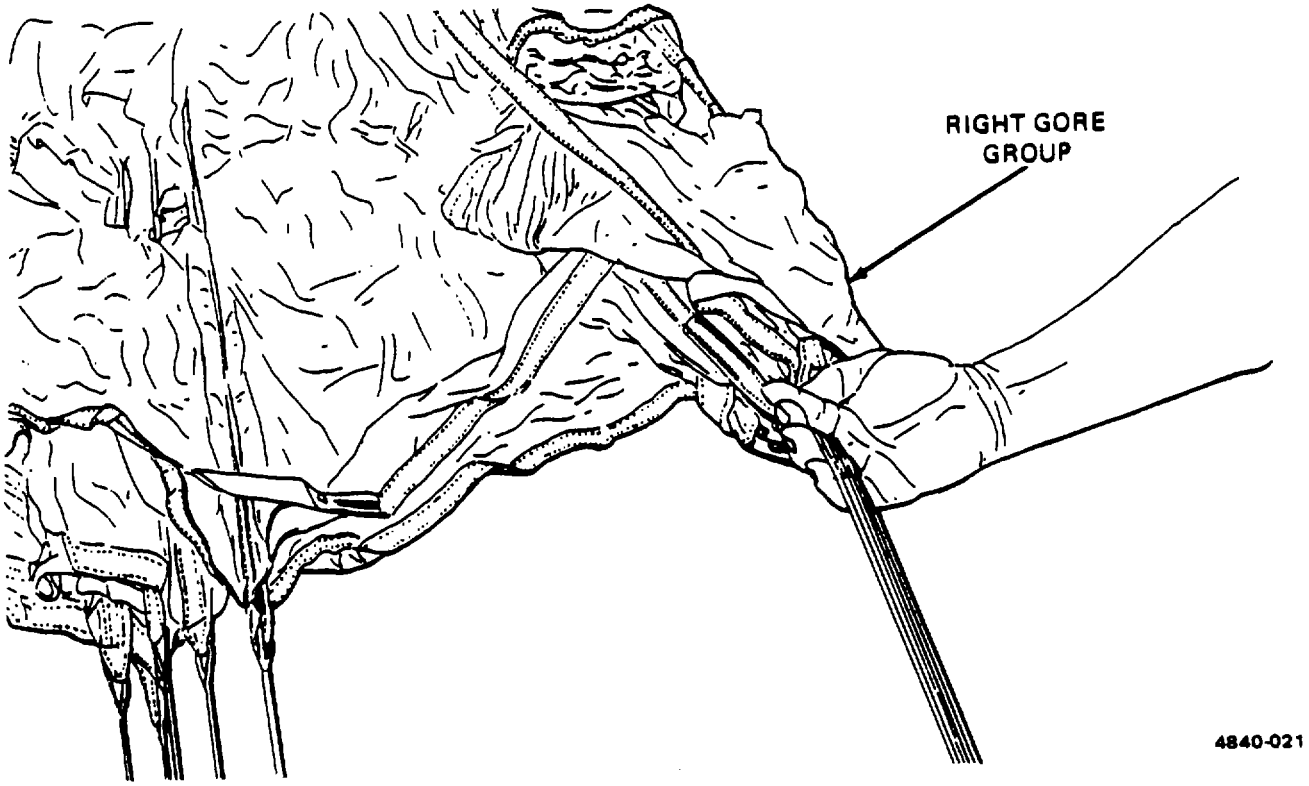

Figure 2-19. Right Gore Group Fold Completed.

2-16. **Packing the G-14 34-Foot Cargo Parachute (cont).**

(7) Using the left hand, raise line 1 to expose the top center gore.

(8) Bring the left hand down to the right, allowing the top center gore to fold over the right gore group. Place line 1 between the right hand thumb and forefinger.

(9) Repeat the procedures in (7) and (8) above for succeeding lines 2 through 15.

(10) Using the left hand, grasp the canopy skirt reinforcement (lower lateral band) at a point 6 inches to the right of line 16. Insert the left elbow under line 16 and gore 16 (figure 2-20). Lower the left arm and allow gore 15 to fold to the right and gore 16 to fold to the left of the folded gores.

(11) Insert the two suspension line groups into a line separator.

(12) Holding the line separator and the two suspension line groups with the left hand, grasp the canopy with the right hand and pull the canopy off the right side of the table, allowing all folded gores to drape to the side of the table (figure 2-21).

(13) Slide the canopy back onto the table and rotate the suspension lines and line separator one-half turn counterclockwise which will permit the separator base to rest on the table.

(14) Place packing weight on suspension lines next to line separator.

(15) Apply second tension to suspension lines.

(16) Placing the middle finger between the two groups, grasp the top of lower lateral band and separate the left side from the right side and continue separation of the canopy until you reach the apex.

(17) Fine dress the bottom gores by pulling gently on the left and right sides of the canopy, moving from lower lateral band to apex.

(18) Dress the top gores by pulling gently to the lower lateral band.

(19) Ensure that there are 16 gores in each gore group.

(20) The canopy is in flatfold (figure 2-22).

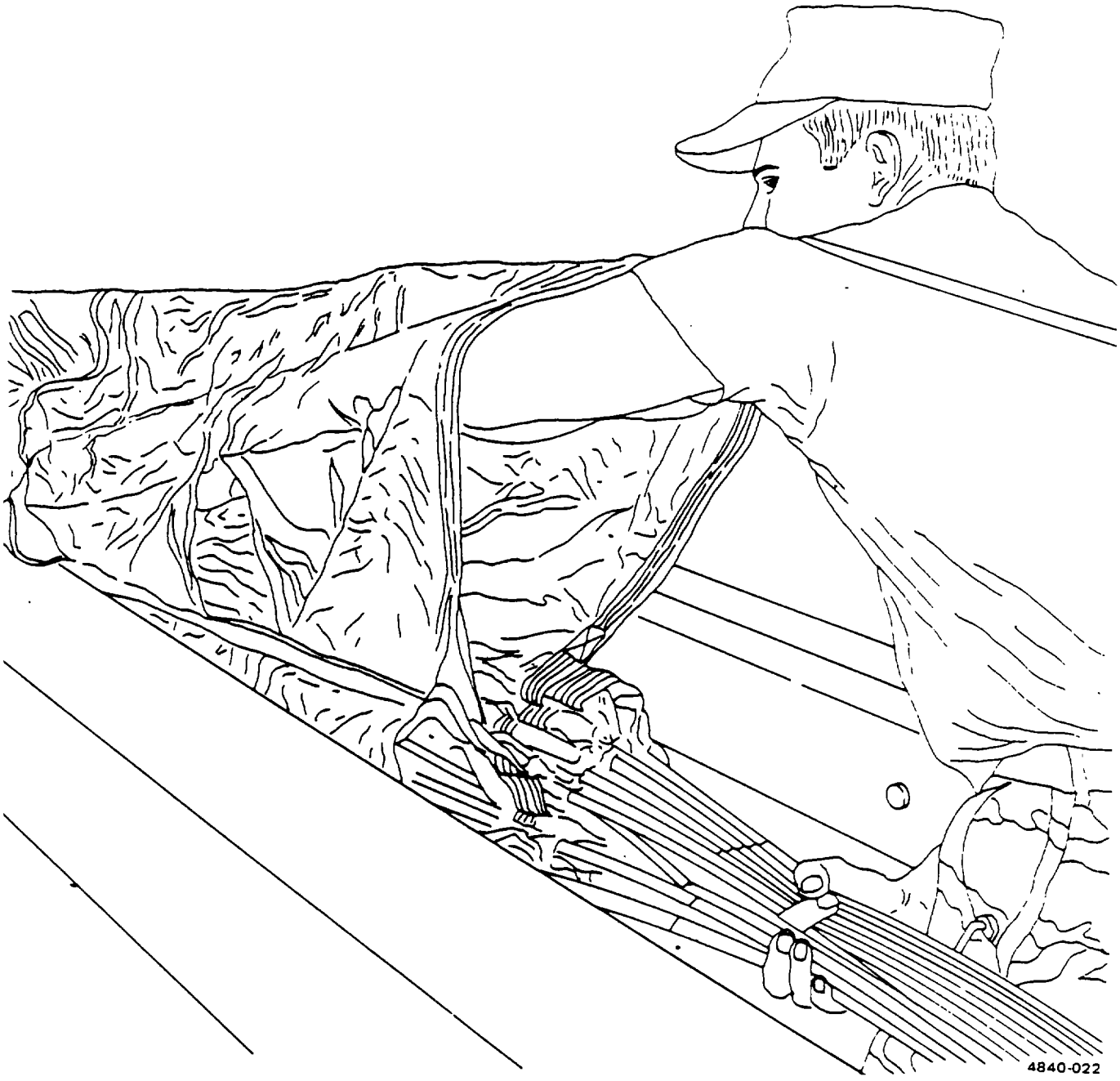

Figure 2-20. Folding Gores 15 and 16.

2-16. **Packing the G-14 34-Foot Cargo Parachute (cont).**

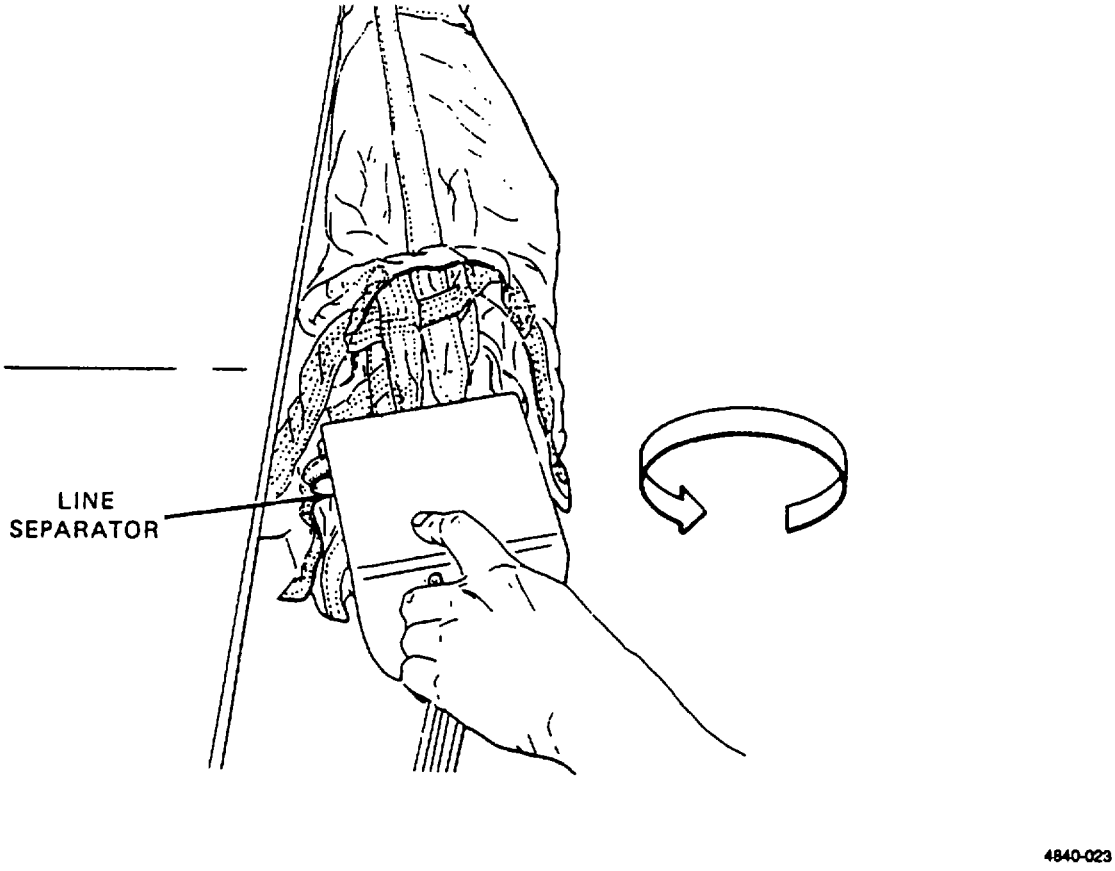

Figure 2-21. Draping Folded Canopy to Right Side of Table.

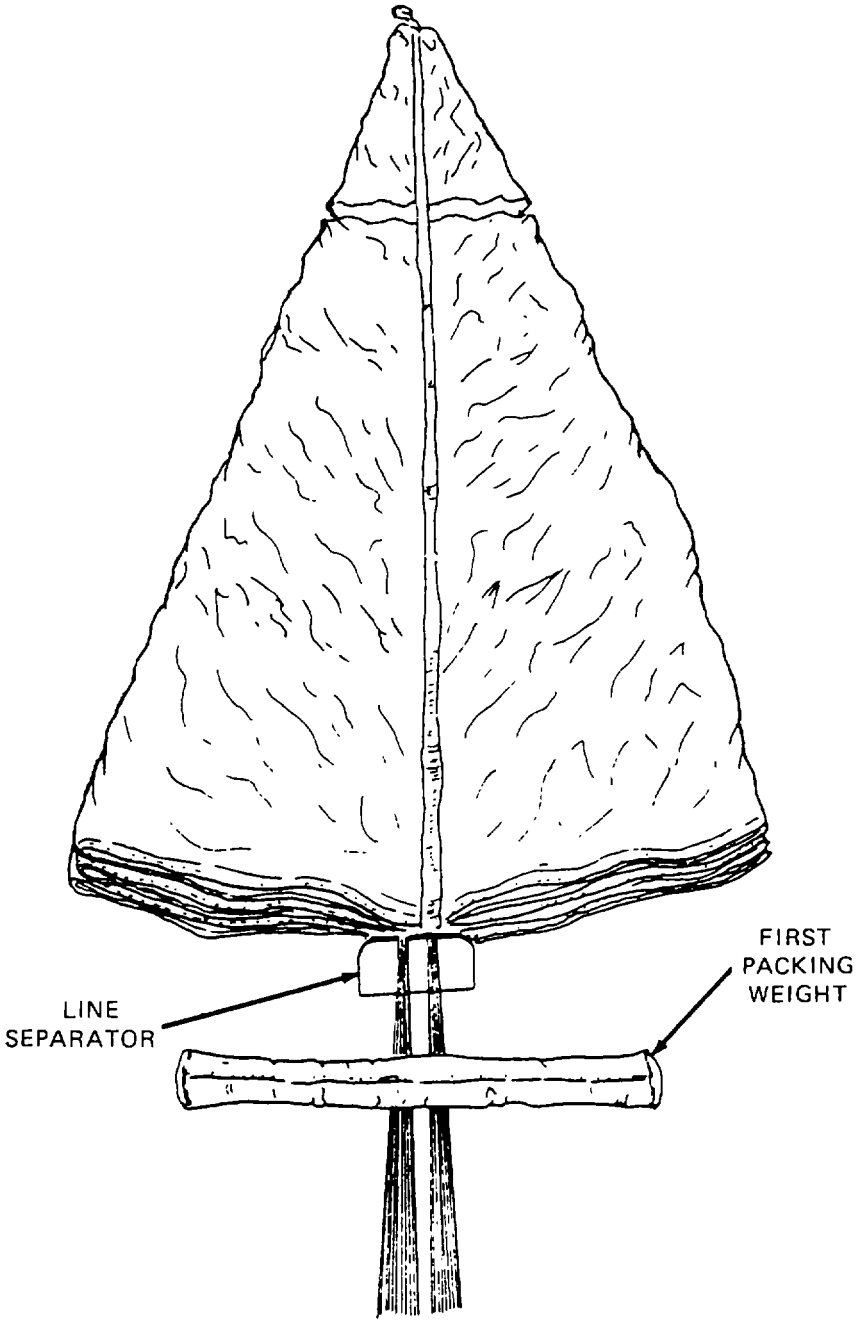

Figure 2-22. Canopy Flatfold Completed.

2-16. **Packing the G-14 34-Foot Cargo Parachute (cont).**

j. *Longfolding the Canopy.*

(1) Grasp the lower lateral band with left hand and canopy with right hand. Fold edges toward canopy center to the radial seam. Place first packing weight on lower lateral band.

(2) Continue folding right group in same manner until you reach the annular ring. Place second packing weight here. Continue folding until you reach approximately 48 inches from top apex and place third packing weight here.

(3) Fold the left gore group in a similar manner adjusting packing weights to hold both groups of gores (figure 2-23). Long fold is now complete.

k. *Preparing to Stow suspension Lines.*

(1) Position the parachute pack on the table adjacent to the area at which the suspension lines are attached to the risers. Roll the pack sides down to aid the stowage of the suspension lines.

(2) To secure the suspension line stows, install rubber retainer bands, as required, at equal intervals along the left and right suspension line retaining straps on the inside bottom of the pack.

(3) Release tension from the canopy and position the risers, spreader bar, and the suspension lines on the lower edge of the pack bottom (figure 2-24).

I. *Stowing Suspension Lines.*

(1) Form and secure the first suspension line stow at the lower right corner of the pack.

(2) While holding the first stow in position on the pack, rotate the pack one-quarter turn counterclockwise, place one riser in each pocket.

(3) Form and secure the second suspension line stow at the lower left corner of the pack, making the stows the same width as the inside bottom of the pack (figure 2-25).

(4) Continue stowing suspension lines alternately from right to left until the lines are stowed within 12 to 14 inches of the canopy skirt. Remove risers from pockets and rotate the pack one-quarter turn clockwise. Reposition the spreader bar (figure 2-26).

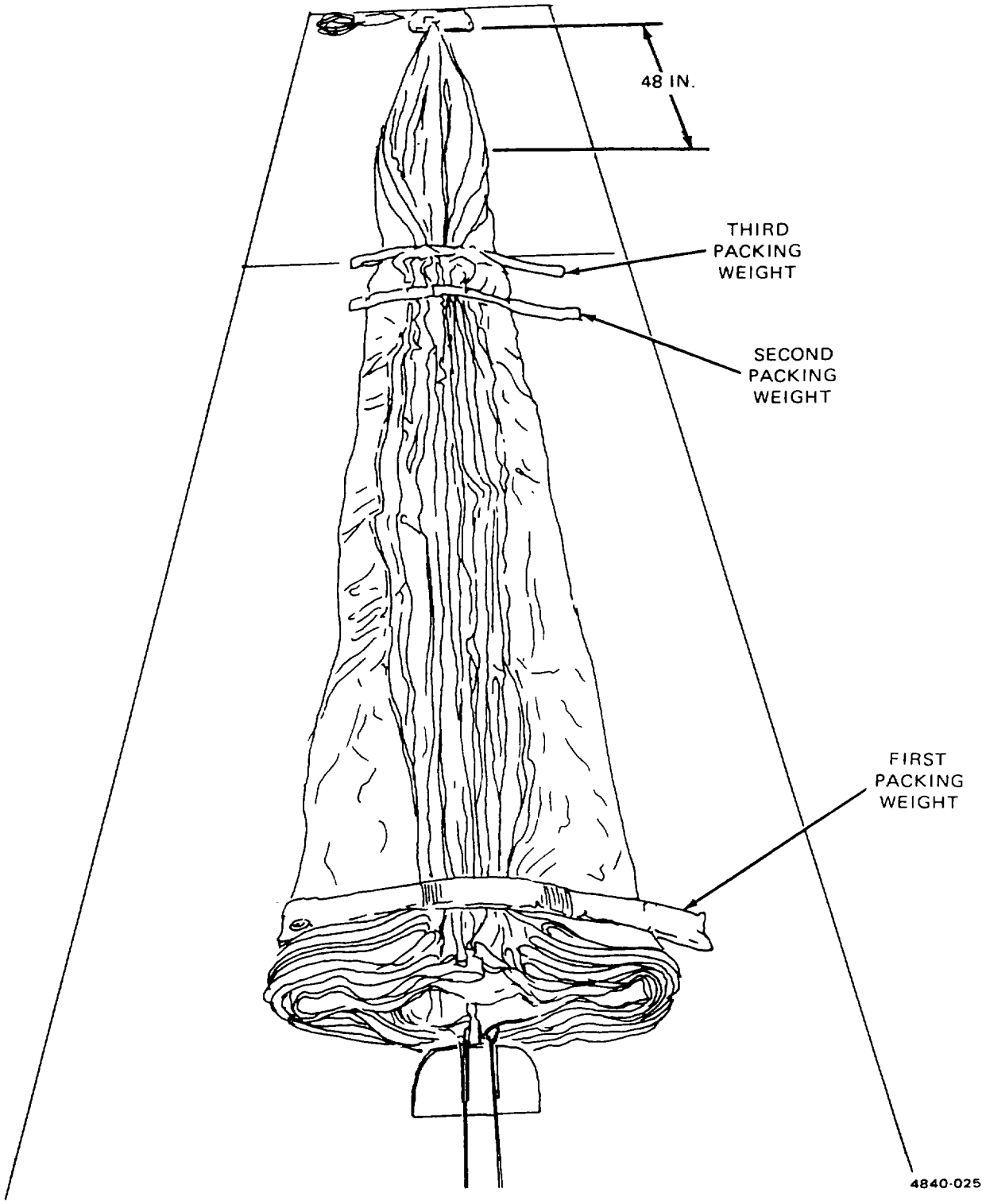

Figure 2-23. Canopy Longfold Completed.

2-16. **Packing the G-14 34-Foot Cargo Parachute (cont).**

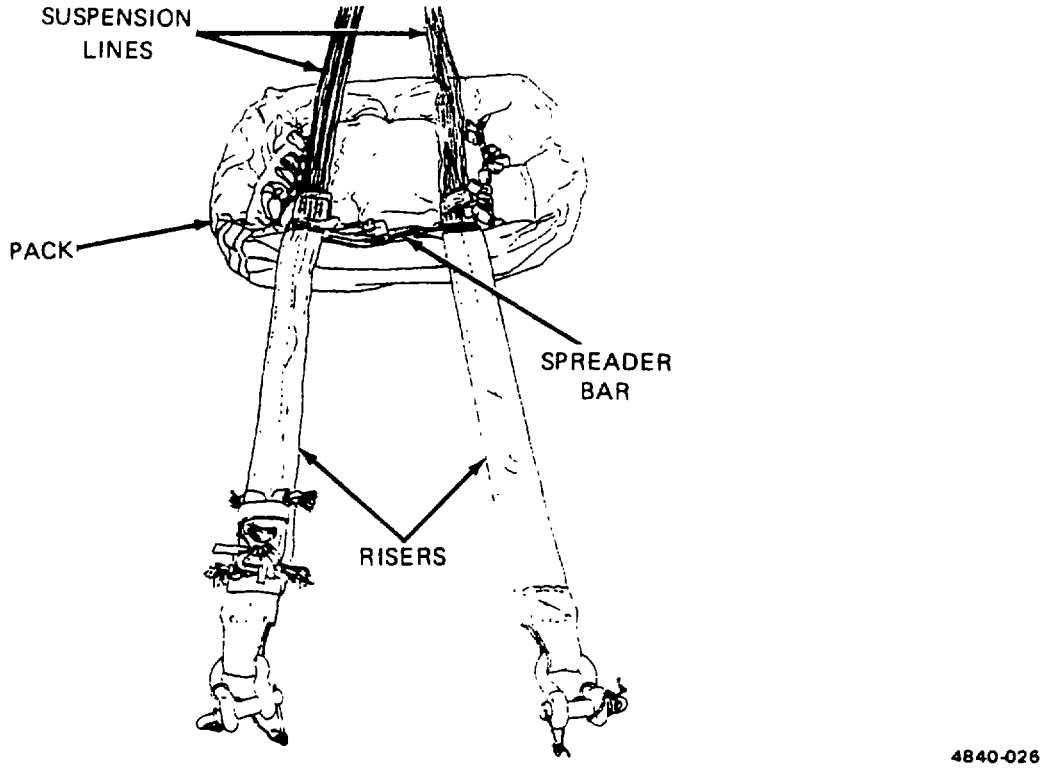

Figure 2-24. Suspension Line Stowage Preparation.

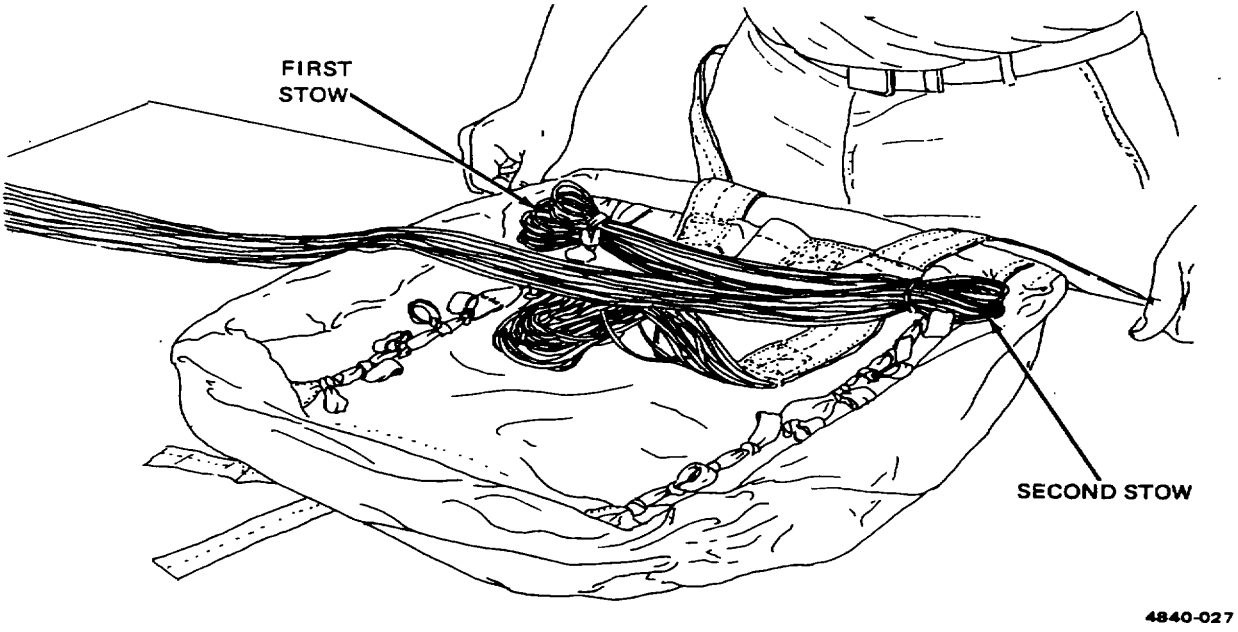

Figure 2-25. First and Second Suspension Line Stows.

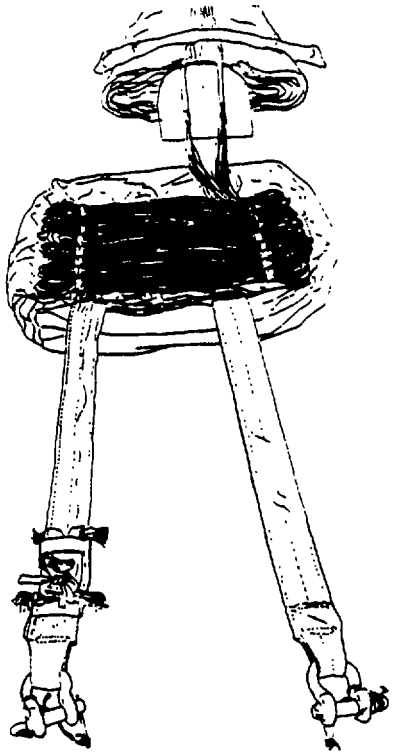

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Figure 2-26. Suspension Line Stowage Complete.

m. *Stowing the Canopy.*

(1) Remove the bridle loop from the vent attaching hook.

(2) Holding the pack firmly in position with the left hand, grasp the canopy skirt with the right hand and place the canopy over the stowed suspension lines. Aline the canopy skirt with the lower edge of the pack Inside bottom.

(3) Place the left hand on top of the canopy at the upper edge of the pack, place the right hand under the canopy at a point 15 inches above the positioned left hand and accordion fold the canopy into the pack. Unroll the pack sides (figure 2-27).

NOTE

After every two canopy stows, unroll pack.

(4) Continue accordion folding the canopy into the pack until the vent lines and bridle loop are centered on top of the folded canopy. Insure the left riser extends from the pack's lower left corner and the right riser extends from the pack's lower right corner.

2-16. **Packing the G-14 34-Foot Cargo Parachute (cont).**

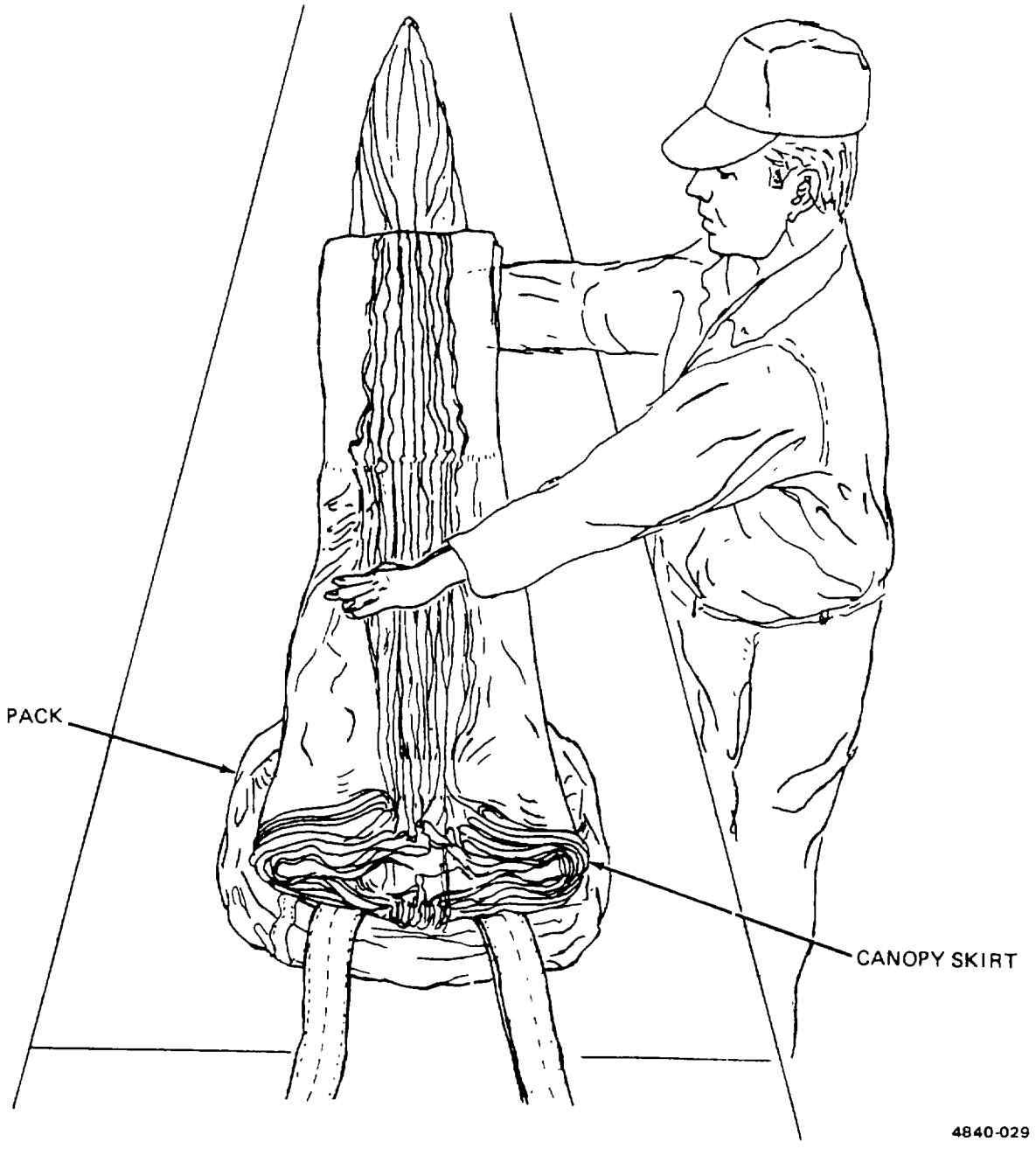


Figure 2-27. Canopy Accordion Fold.

n. Attaching a Nonbreakaway Static Line and the Drogue.

(1) Static Line.

(a) Cut a 12-inch length of type III nylon cord and remove the core threads.

(b) Position the static line breakcord attaching loop at a point above and adjacent to the canopy bridle loop.

(c) Pass one end of the cord length through the canopy bridle loop and center the cord length in the loop.

(d) Pass each end of the cord length through the static line breakcord attaching loop from opposite directions (figure 2-28) and draw the cord ends tight.

(e) Secure the cord ends together on top of the breakcord attaching loop with a surgeon's knot and a locking knot (figure 2-29). Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

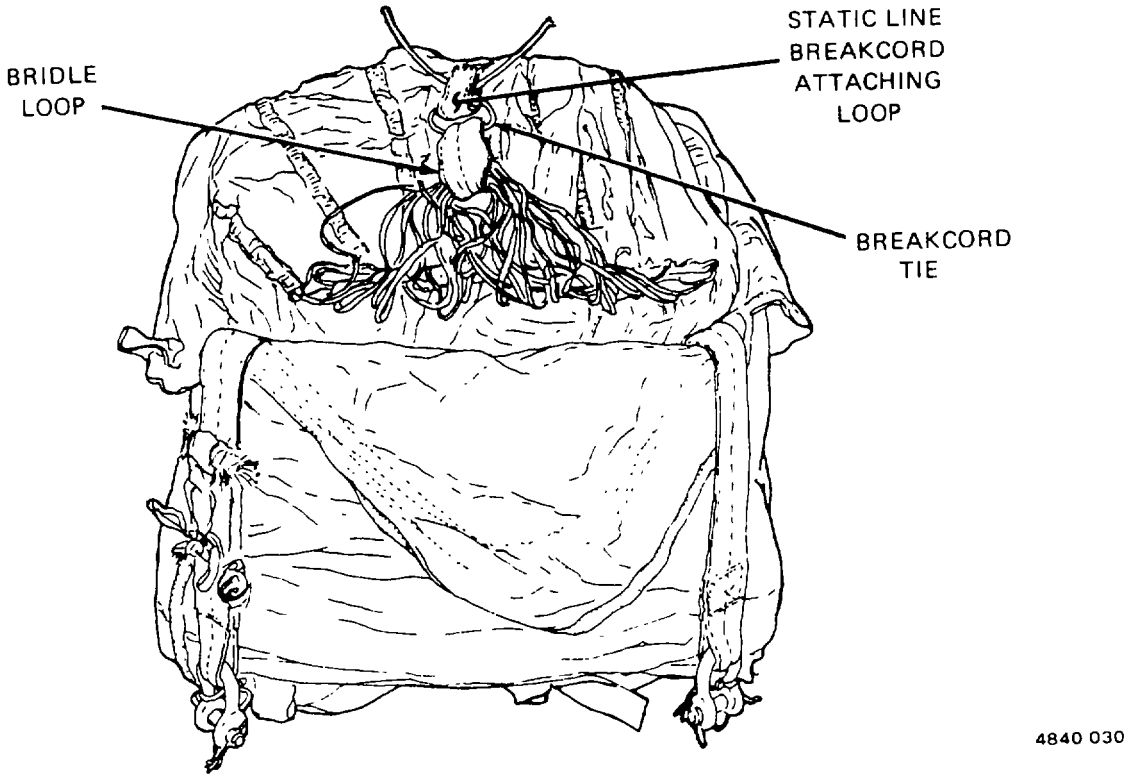


Figure 2-28. Installing Breakcord Tie on Non-Breakaway Static Line.

2-16. Packing the G-14 34-Foot Cargo Parachute (cont).

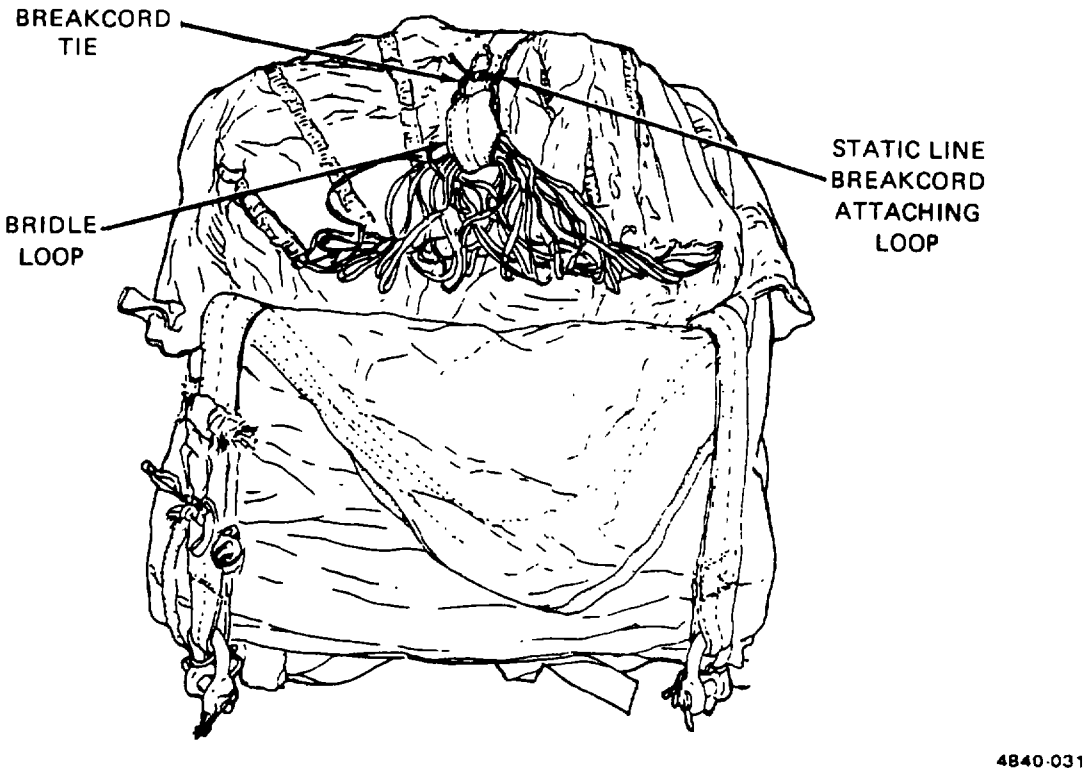


Figure 2-29. Non-Breakaway Static Line Breakcord.

(2) Drogue. A drogue may be attached during packing or after packing using the following procedures, as applicable:

(a) During packing.

1 After the static line is attached to the canopy bridle loop, pass 3 to 4 inches of the drogue attaching loop through the static line breakcord attaching loop.

2 Pass the drogue body through the extended drogue attaching loop end and draw the drogue attaching loop tight.

3 Stow the drogue body on top of the canopy adjacent to the canopy vent (figure 2-30) and insure the drogue does not become entangled in the vent lines.

(b) After packing completed.

1 Pull the pack flaps as far apart as possible without cutting the pack closing tie and locate the static line breakcord attaching loop.

2 Attach and stow the drogue using the procedures in (a) above.

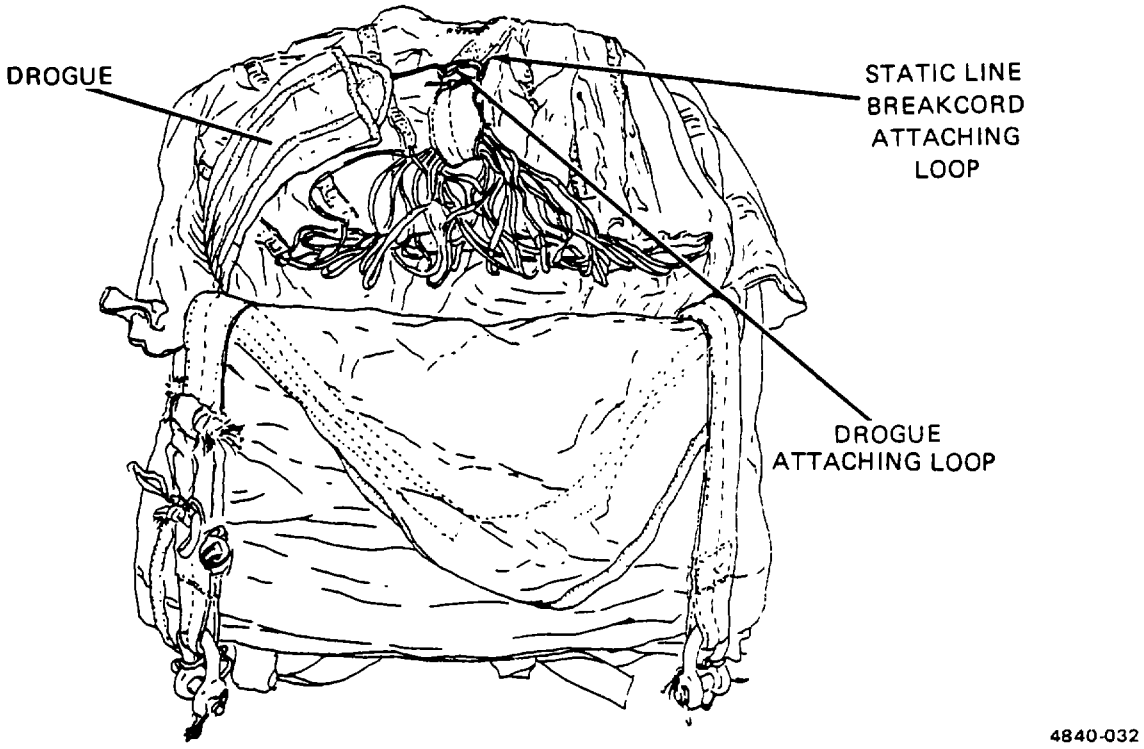


Figure 2-30. Drogue Attached to Static Line.

o. Attaching Breakaway Static Line.

(1) Cut an appropriate length of 1/2-inch wide tubular nylon webbing.

(2) Position the static line breakcord attaching loop at a point adjacent to the canopy bridle loop.

(3) Attach the static line breakcord attaching loop to the canopy bridle loop by making one turn single with the cord length, forming an 8-inch loop in the cord length between the two loops (figure 2-31).

(4) Secure the cord ends with a surgeon's knot and a locking knot. Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the locking knot.

2-16. Packing the G-14 34-Foot Cargo Parachute (cont).

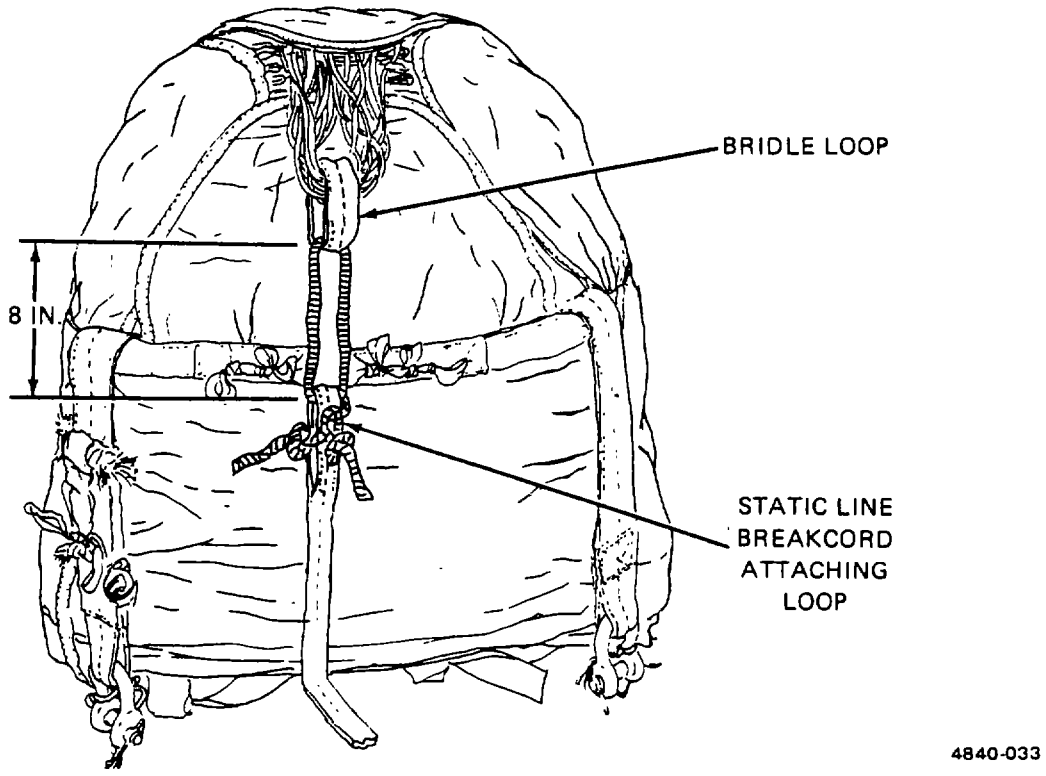


Figure 2-31. Breakaway Static Line Connected.

p. Closing the Pack.

(1) Fold the vent lines and the canopy bridle loop on top of the stowed canopy inside the pack. Fold the pack closing flaps over the stowed canopy assembly.

NOTE

In the following step, be sure that none of the webbing passes over the static line.

(2) Thread an appropriate length of type 1, 1/4-inch cotton webbing through the lower end flap closing loop, the static line pack opening loop, the left side flap closing loop, the upper end flap closing loop, under the static line, and through the right side flap closing loop (figure 2-32).

(3) Draw the webbing length taut and secure the webbing ends with a surgeon's knot and a locking knot (figure 2-33). Trim tie ends to 2 inches.

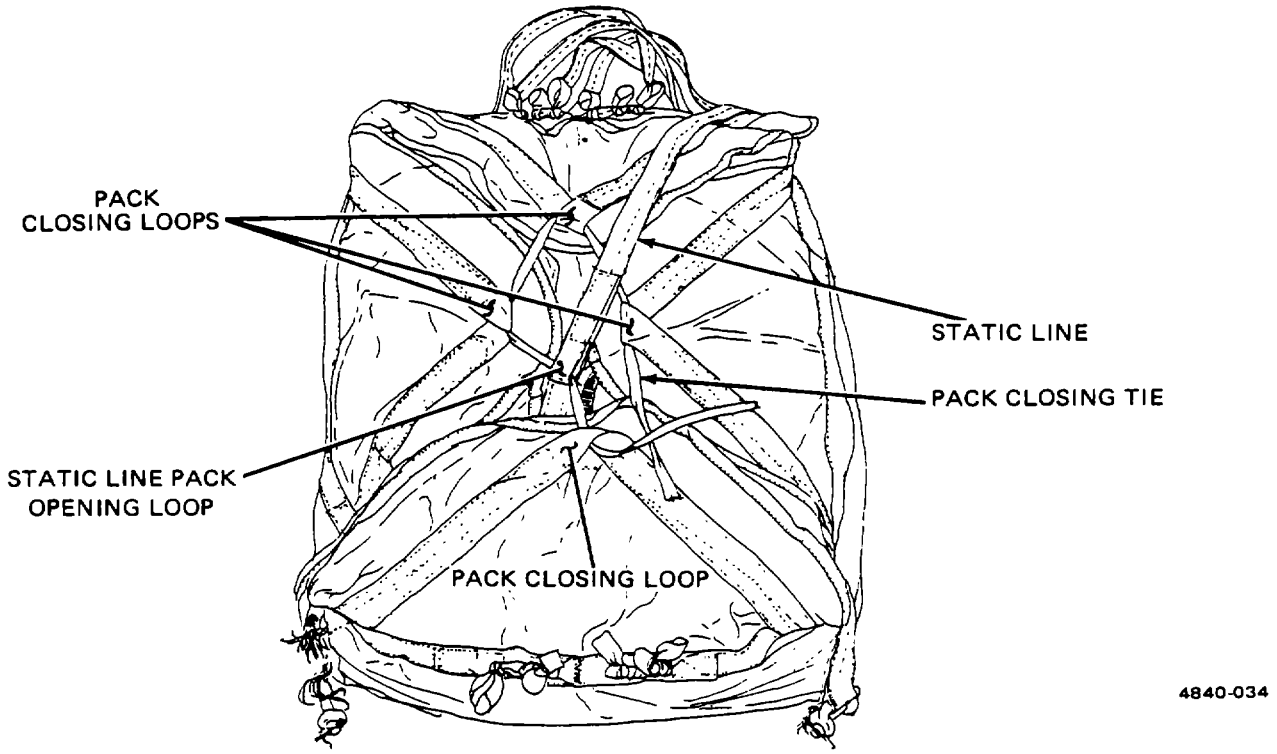


Figure 2-32. Installing Pack Closing Tie.

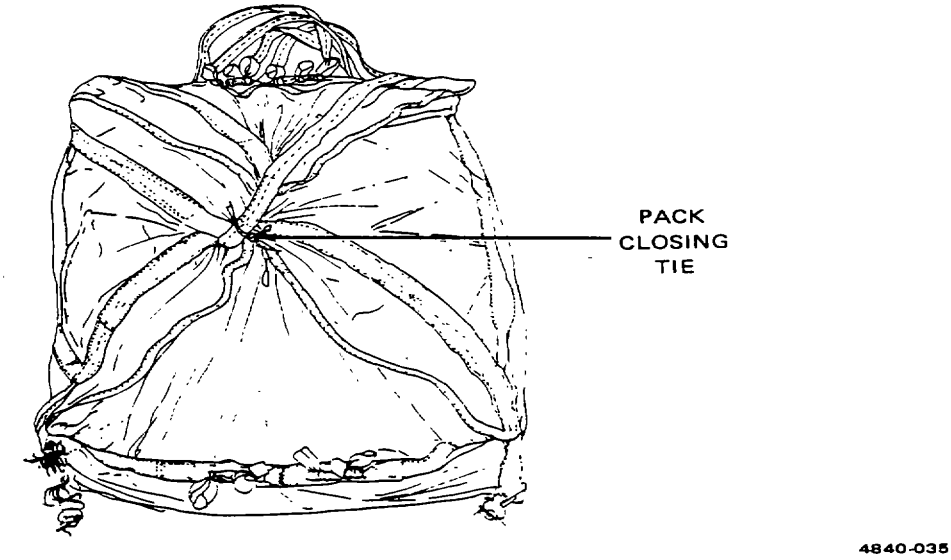


Figure 2-33. Pack Closing Tie Complete.

2-16. Packing the G-14 34-Foot Cargo Parachute (cont).

q. Stowing the Static Line.

(1) Install two rubber retainer bands on each of the four loops formed on the static line retaining straps located at the upper and lower ends of the pack.

(2) Stow the static line, forming the first stow at the upper right of the pack and the second stow at the lower right of the pack. Make each stow to extend 2 inches beyond the outer edge of the static line retaining strap (figure 2-34). Secure each stow with an installed rubber retainer band.

(3) Using the procedure in (2) above, continue stowing the static line length alternately from right to left until the static line Is completely stowed (figure 2-35).

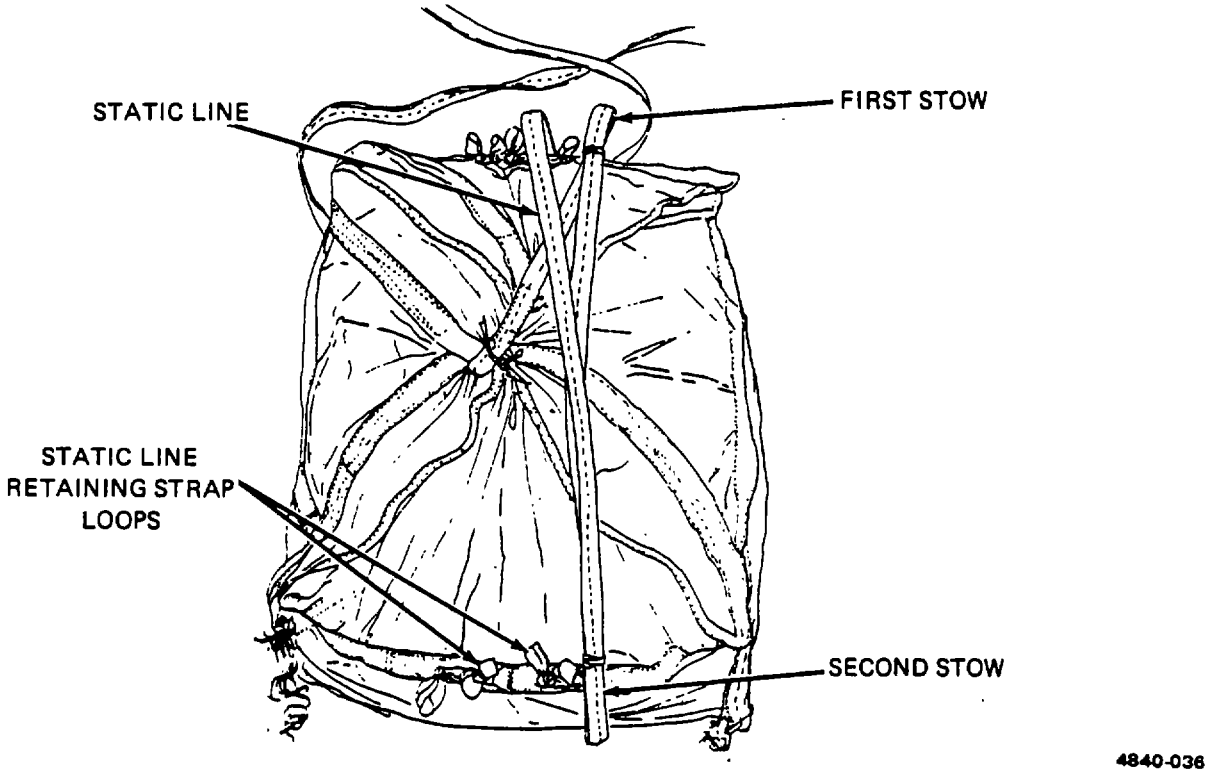


Figure 2-34. First and Second Static Line Stowed.

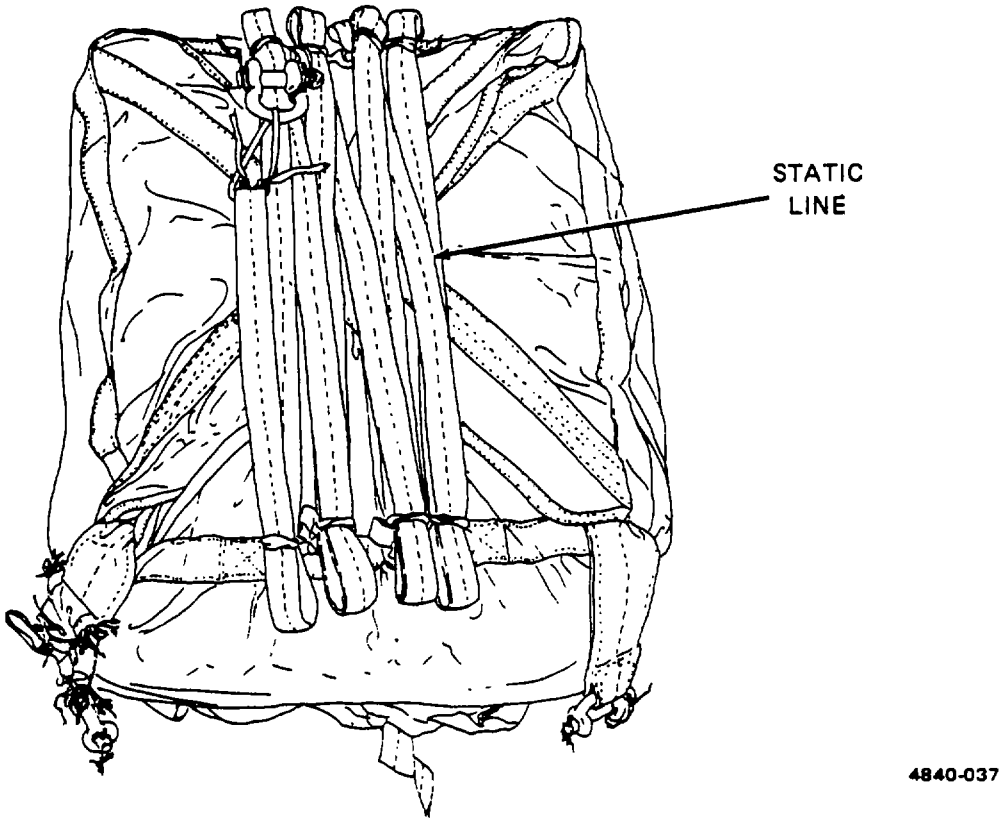


Figure 2-35. Static Line Stow Complete.

r. Completing the Pack.

(1) Fold the risers diagonally across the top of the pack and temporarily secure each of the riser devises with a pack tiedown strap on the upper end of the pack (figure 2-36).

(2) Temporarily secure the pack tiedown straps at the lower end of the pack by tying the straps together.

(3) Remove the Army Parachute Log Record (DA Form 10-42 or 3912) from the inspection data pocket (log record pocket) on the left riser strap and record the pack data as prescribed in paragraph 2-4. Upon completion of the entries, return the record to the pocket.

(4) When a G-14 cargo parachute Is to be used on an aircraft that is not equipped with an anchor line cable and a breakaway static line is required, perform the following:

(a) Fold the static line riser clevis back against the static line webbing and secure the clevis to the webbing with at least two turns of pressure-sensitive tape.

(b) Cut a 12-inch length of nylon cord and remove the core threads. Center the cord length in the clevis attaching loop on the static line end (figure 2-37). Make a temporary tie.

2-16. Packing the G-14 34-Foot Cargo Parachute (cont).

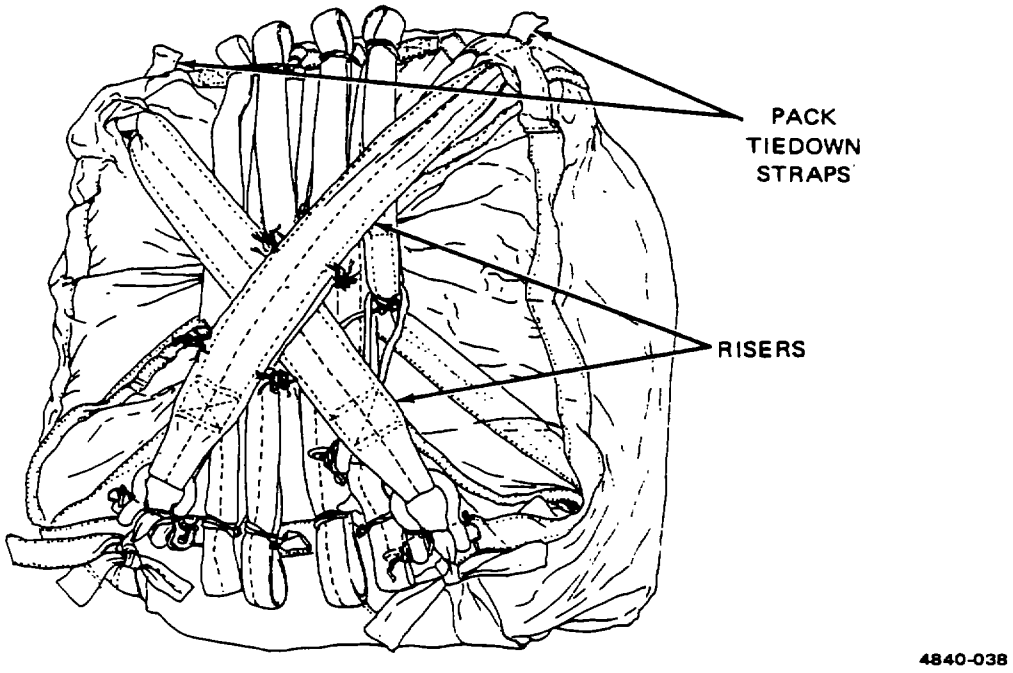


Figure 2-36. Risers Stowed and Clevis Temporarily Secured.

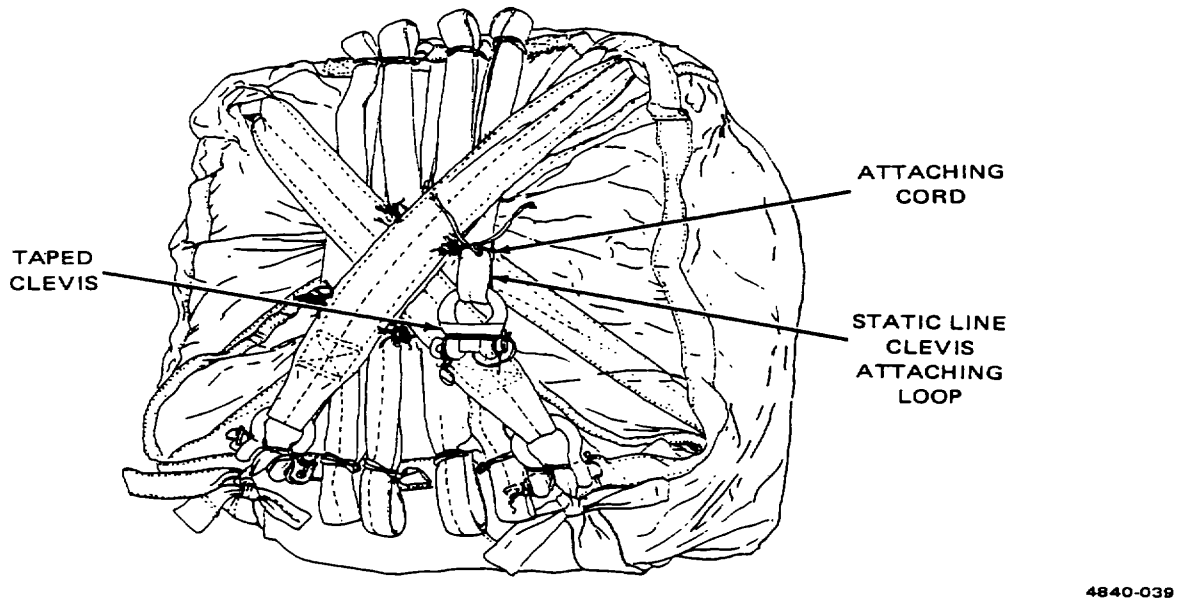


Figure 2-37. Breakaway Static Line Clevis Taped and Attaching Cord Installed.

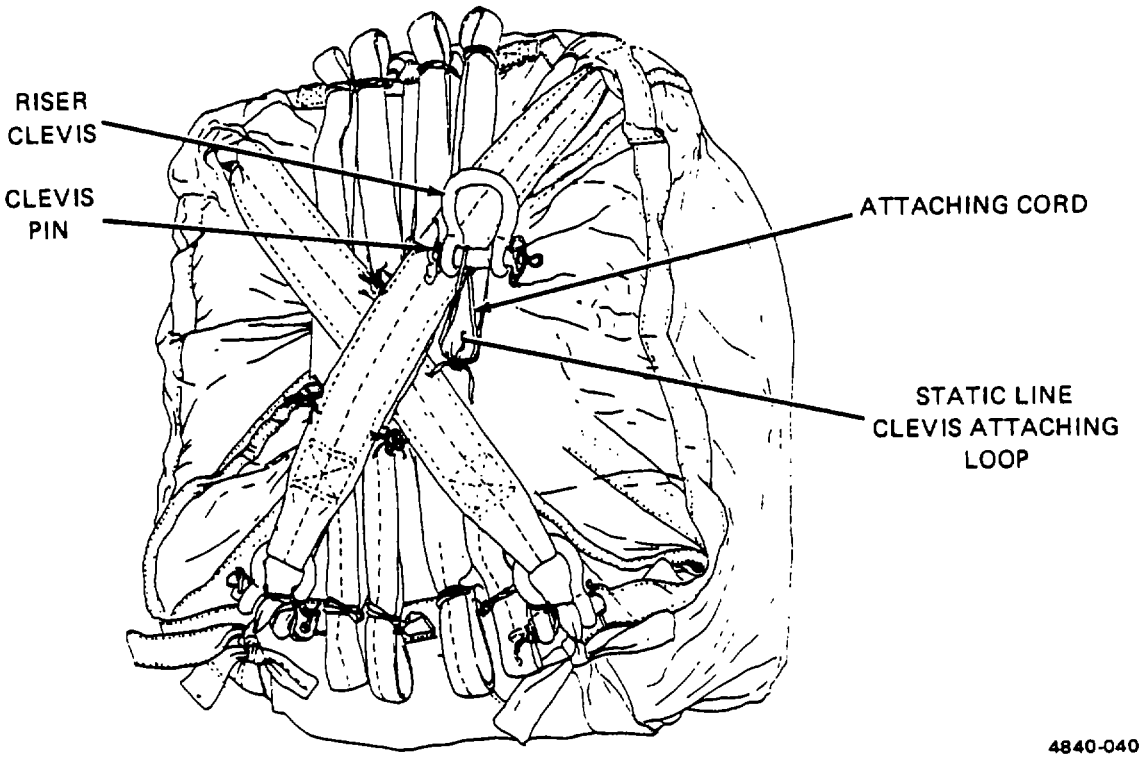


Figure 2-38. Attaching Cord Connecting to Riser.

(5) When a G-14 cargo parachute is to be used with a breakaway static line which will be connected to an anchor line cable, the following shall be accomplished:

(a) Remove the riser clevis from the static line end, reinstall the clevis pin and safety pin in the clevis, and position the clevis above the static line end with the clevis pin facing the static line clevis attaching loop.

(b) Cut a 12-inch length of nylon cord and remove the core threads. Center the cord length around the clevis pin of the riser clevis removed in (a) above. Insure the cord ends are alined.

(c) Pass each cord end through the static line clevis attaching loop from opposite directions and form a 4-inch long loop between the clevis pin and the static line end (figure 2-38). Secure the cord running ends on top of the static line clevis attaching loop with a surgeon's knot and a locking knot. Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the locking knot.

Section VI. REPAIR

NOTE

Repair and replacement of parachute components is performed in accordance with the general repair instructions in this section, and in specific paragraphs applicable to the item being repaired.

2-17. Sewing Procedures.

This task covers:
a. Basting and Temporary Tacking
b. Stitching and Restitching
c. Darning
e. Zig-Zag Sewing

Tools:

Specified in paragraph applicable to the item being repaired.

Equipment Condition:

Unpacked. Canopy with defects recorded and clean.

Materials/Parts:

Specified in paragraph applicable to the item being repaired.

CAUTION

When performing repair on a G-14 parachute that requires cutting of stitching or original part, ensure that adjacent material is not damaged during the cutting process.

NOTE

Sewing requirements will vary according to the type of item being repaired and the type of repair being made. The type of sewing machine, type of thread, the stitch range, and the stitch pattern, if applicable, required to accomplish a sewing procedure will be specified in the paragraph applicable to the Item being repaired. All original stitching that is cut during the performance of a sewing procedure will be removed from the applicable item. Immediately after the accomplishment of a machine sewing procedure, trim thread ends to a point as close as possible to the material which has been sewn.

a. Basting and Temporary Tacking. Basting and temporary tacking are hand-sewing methods used to temporarily hold layers of cloth fabric together while a repair is being performed. The following is a list of procedures which apply to basting and temporary tacking actions:

(1) Basting and temporary tacking should be made using thread which is of a contrasting color to the material being worked.

(2) On small cargo parachute canopies, basting will be made using a single strand of size A nylon thread or ticket no. 24 cotton thread.

(3) When basting, do not tie knots at any point in the thread length. The sewing should be made with two stitches per inch.

(4) Temporary tacking will usually be made using a length of size E nylon thread. However, an alternate type thread may be specified within the paragraph applicable to the item.

(5) Immediately upon completion of a repair, remove previously made basting or temporary tacking stitches.

2-17. Sewing Procedures (cont).

b. Stitching and Restitching. Perform stitching and restitching as follows, referring to tables 2-2 and 2-3:

(1) Parachute canopy assemblies. The stitching and restitching made on parachute canopies should be accomplished with thread that is contrasting in color to the fabric being restitched. If contrasting color thread is not available, thread of matching color may be used, providing all other specifications are met. Straight stitching and restitching on parachute canopy assemblies should be locked by at least 2 inches at each end of a stitch row, when possible. Zig-zag stitching does not require locking; however, zig-zag restitching should extend at least 1/4 inch into undamaged stitching at each end, when possible. When restitching parachute canopy assemblies, stitch directly over the original stitching and follow the original stitch pattern as closely as possible.

Table 2-2. Sewing Machine Code Symbols.

Code symbol	Sewing machine
LD	SEWING MACHINE, INDUSTRIAL: General sewing; 301 stitch; light duty; NSN 3530-01-177-8590.
MD ZZ	SEWING MACHINE, INDUSTRIAL: Zig-zag; 308 stitch; medium duty; NSN 3530-01-181-1421.
LD ZZ	SEWING MACHINE, INDUSTRIAL: Zig-zag; 308 stitch, light duty; NSN 3530-01-181-1420.
HD	SEWING MACHINE, INDUSTRIAL: General sewing; 301 stitch; heavy duty, NSN 3530-01-177-8588.
MD	SEWING MACHINE, INDUSTRIAL: General Sewing; 301 stitch; medium duty, NSN 3530-01-177-8591.
DN	SEWING MACHINE, INDUSTRIAL: Darning; lock stitch; NSN 3530-01-177-8589.
LHD	SEWING MACHINE, INDUSTRIAL: 301 stitch; light heavy duty; NSN 3530-01-186-3079.
ND	SEWING MACHINE, INDUSTRIAL: 301 stitch, double-needle; NSN 3530-01-182-2873.

Table 2-3. Stitching and Restitching Specifications.

Component	Recommended sewing machine (code symbol)	Stitches per inch	Thread size
Canopy			
Bridle Loop	HD	5 to8	6
Vent Line	ZZ	7 to 11	E
Vent Reinforcement (upper later band)	LD	7 to 11	E
Panel (upper and lower)	LD	7 to 11	E
	DN	Darn	E
Radial Tape	LD	7 to 11	E
Annular Ring Reinforcement (upper and lower)	LD	7 to 11	E
Skirt Reinforcement (lower lateral band)	LD	7 to 11	E
Suspension Line Reinforce-	ZZ	7 to 11	E
ment Loop (V-tab)	LD	7 to 11	3
Suspension Line Reinforcement	MD	5 to 8	E
Suspension Line	ZZ	7 to 11	E
Riser Assembly	HD	5 to 8	3
Spreader	HD	5 to 8	3
Riser Strap Buffer	HD	5 to 8	3
Parachute Inspection Data Pocket	LD	7 to 11	E
Tie Cord Loop	ZZ	7 to 11	E
Tie Cord	ZZ	7 to 11	E
Pack			
Edge Binding	MD	7 to 11	E
Pack Closing Loop	MD	7to 11	E
Tiedown Strap loop	HD	5 to 8	3
Panels and Flaps	DN	Darn	E
Static Line Retaining Loop	MD	7 to 11	E
Static Line			
Static Line Webbing Length	MD	7 to 11	E
Breakcord Attaching Loop	HD	5 to 8	6
Clevis Attaching Loop	HD	5 to 8	6
Pack Attaching Loop	HD	5 to 8	3
Static Line Parachute Drogue			
Body and Vanes	DN	Darn	E
Reinforcement Tape	LD	7 to 11	E
Attaching Loop	ZZ	7 to 11	E

2-17. Sewing Procedures (cont).

(2) Other parachute items. Stitching and restitching on other parachute items constructed from cloth, canvas, and webbing should be accomplished with thread which matches the color of the original stitching, when possible. All straight stitching should be locked by backstitching at least 1/2 inch. Restitching should be locked by overstitching each end of the stitch formation by 1/2 inch. Zig-zag stitching does not require locking; however, zig-zag restitching should extend at least 1/4 inch into undamaged stitching at each end, when possible. Restitching should be made directly over the original stitching, following the original stitch pattern as closely as possible.

c. Darning. (Refer to tables 2-2 and 2-3). Darning is a sewing procedure used to repair limited size holes, rips, and tears in assorted air delivery items constructed from textile material such as parachute canopy gore sections. A darning repair may be made either by hand or sewing machine, depending upon the method preferred and the availability of equipment. However, a darning machine should be used to dam small holes and tears where fabric is missing. Darning of previously patched material can be performed provided darning size limitations prescribed in the paragraph applicable to the item are not exceeded. A darning repair will be performed using the following procedures, as appropriate:

(1) Machine darning. Proceed as follows:

(a) Using an authorized marking aid of contrasting color, mark a square around the damaged area and ensure that the marking is at least 1/4 inch back from each edge of the damaged area. The marking will be made with the warp and filling of the material.

(b) Darn the damaged area by sewing the material in a back-and-forth manner, using size A or E nylon thread, allowing the stitching to run with the warp or filling of the fabric (A, figure 2-39).

(c) Turn the material and stitch back and forth across the stitching made in (b), above, until the hole or tear is completely darned (B, figure 2-39).

(d) If applicable, restencil informational data, gore number(s), or identification marks using the criteria in paragraph 2-19.

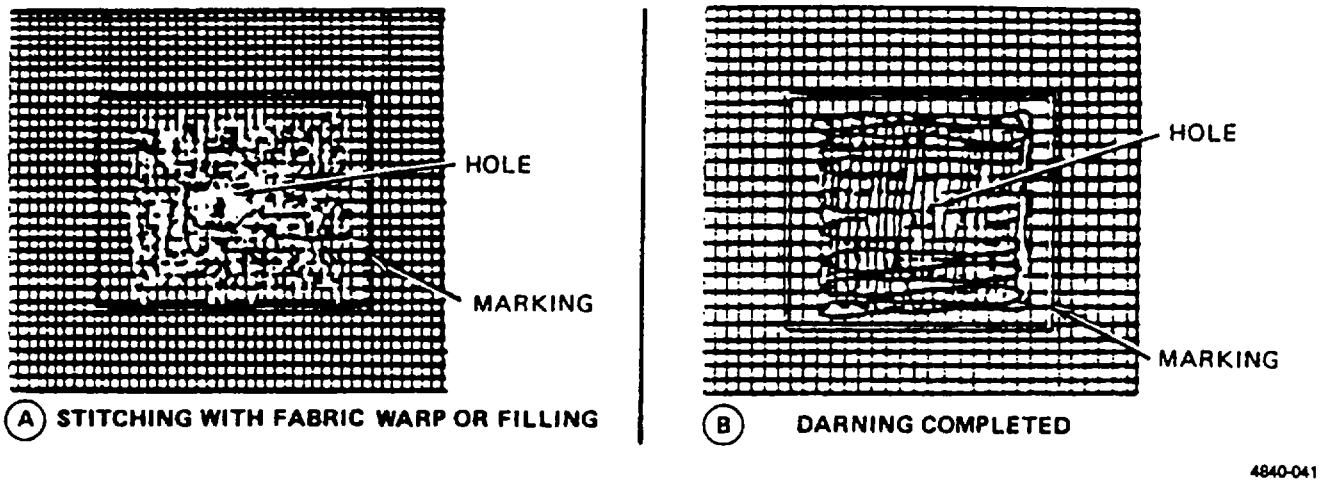


Figure 2-39. Darning Method Using a Darning Sewing Machine.

(2) Hand darning. When repair of a hole or tear is made by hand darning, the darn should match the original weave of the damaged material as closely as possible. Hand darning will be performed as follows:

(a) Using an authorized marking aid of contrasting color, mark a square around the damaged area and ensure that the marking is a least 1/4 inch back from edge of the damaged area. The marking will be made with the warp and filling of the material.

(b) Using a darning needle and a length of size A or E nylon thread, begin darning at one corner of the marked area. Working in the direction of the fabric warp or filling, pass the needle and thread back and forth through the material until the opposite diagonal corner of the marked area is reached (A, figure 2-40).

(c) Turn the material and weave the needle and thread back and forth across the stitching made in (b), above, until the hole Is completely darned (B, figure 2-40).

(d) If applicable, restencil informational data or identification marks as outlined in paragraph 2-19.

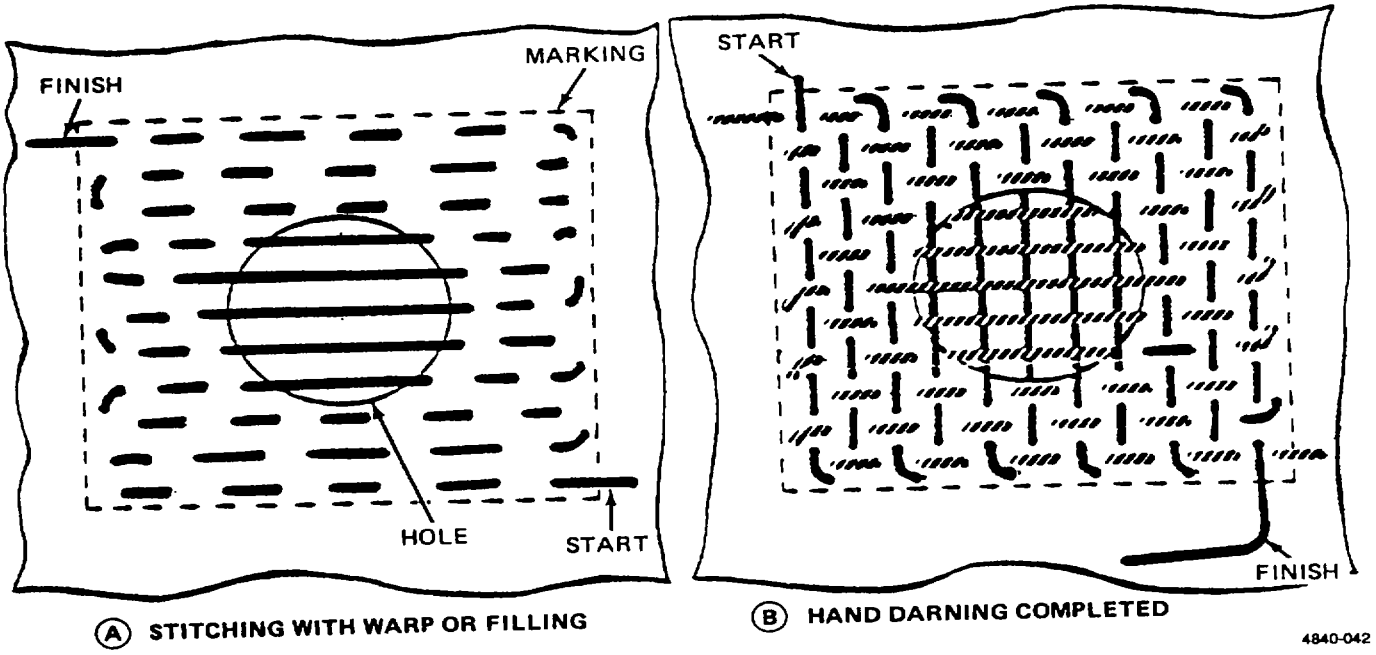


Figure 2-40. Hand Darning Method.

d. Zig-Zag Sewing. (Refer to Tables 2-2 and 2-3). Air delivery items, except the canopy, made from textile materials that have sustained cut or tear damage may be repaired by zig-zag sewing provided the applicable damaged area does not have any material missing and the cut or tear is straight or L-shaped. Should the damaged area be irregular shaped or have material missing, the repair will be achieved by either darning or patching, as required. A zig-zag sewing repair will be accomplished with a zig-zag sewing machine, using the following procedure:

(1) Set the sewing machine to the maximum stitch width.

2-17. Sewing Procedures (cont).

(2) Beginning at a point 1/4 inch beyond one end of the cut or tear, stitch lengthwise along the damaged area to a point 1/4 inch beyond the opposite end of the cut or tear (A, figure 2-41). The cited stitching procedure will also apply to an L-shaped cut or tear (B, figure 2-41).

(3) If applicable, restencil informational data or identification marks as prescribed in para. 2-19.

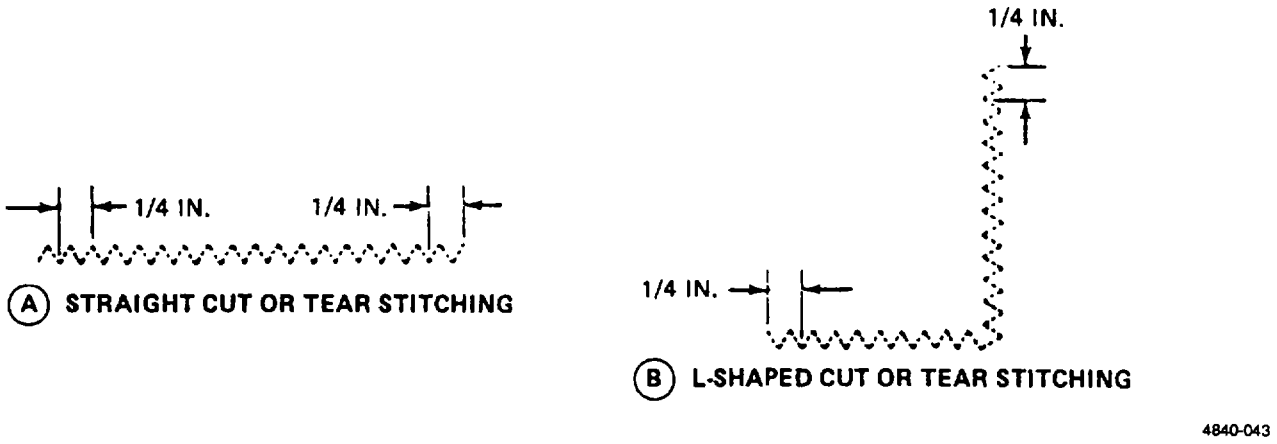


Figure 2-41. Repair Method Using a Zig-Zag Sewing Machine.

2-18. Searing and Waxing.

This task covers: a. Searing b. Waxing
Tools:

Knife, Hot Metal, Item 6, Appendix B Unpacked
Pot, Melting, Electric, Item 14, Appendix B

Materials/Pants:

Beeswax, Item 2, Appendix D
Wax, Paraffin, Item 29, Appendix D
Equipment Condition:

CAUTION

Cotton tape, webbing, or cord will not be seared.

NOTE

Fabric materials such as cord, tape, and webbing that are cut for use in the maintenance of parachutes will normally be heat-seared or dipped in a melted wax mixture, as applicable, to prevent the material from fraying or unraveling. However, in some instances the preparation of the material may not be necessary and will be specified accordingly.

a. Searing. The cut ends of nylon tape, webbing, and cord lengths may be prepared by heat-searing which is performed by pressing the raw end of the material against a hot metal surface (knife) until the nylon has melted sufficiently. Avoid forming a sharp edge or lumped effect on the melted end.

b. Waxing. The fraying or unraveling of cotton or nylon tape, webbing, and cord length ends may be prevented by dipping 1/2 inch of the raw end of the material into a thoroughly melted mixture of half beeswax and half paraffin in an electric melting pot. The wax temperature should be substantial enough to ensure the wax completely penetrates the material rather than just coating the exterior fabric.

2-19. Marking and Restenciling.

This task covers: a. Marking b. Restenciling

Materials/Parts:

Brush, Stenciling, Item 4, Appendix D
Ink, Marking, Item 14, Appendix D
Marker, Felt Tip, Black, Item 15, Appendix D
Pen, Ball Point, Item 16, Appendix D
Stencilboard, Oiled, Item 19, Appendix D

Equipment Condition:

Layout on packing table or other suitable area.

NOTE

Stenciling should be used whenever possible. A ballpoint pen or felt tip marker should be used only where stenciling is not possible, or when stenciling devices are not available. However, only felt tip markers that contain parachute marking ink and marked "FOR PARACHUTE MARKING" are authorized for use in marking air delivery hems. Any type ball point pen using black or blue ink may be used for marking on labels only.

Original stenciled data or marking that becomes faded, illegible, obliterated, or removed as a result of performing a repair procedure will be remarked with a ballpoint pen, felt tip marker, or restenciled. All marking or restenciling will be done on, or as near as possible to, the original location and should conform to the original lettering type and size.

a. Marking. Using a marking device, such as a ballpoint pen or felt tip marker, mark on, or as near as possible to, original location and conform to original lettering type and size.

b. Restenciling. Proceed as follows:

(1) Cut oiled stencilboard to original lettering type and size of data to be restenciled.

(2) Place cut stencilboard over, or as near as possible to, original marking to be restenciled.

(3) Place additional sheet of stencilboard beneath the area to be restenciled to prevent the marking ink from penetrating to other areas.

(4) Hold stencilboard in place and, using stenciling brush filled with parachute marking ink, restencil original marking.

2-20. Parachute Canopy.

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

Equipment Condition:

Cleaned (paragraph 2-12)
Inspected (paragraph 2-9, 2-13)
Unpacked, canopy laid flat.

a. Inspect. Refer to paragraphs 2-9 and 2-13 for inspection procedures.

b. Service. Refer to paragraph 2-12 for cleaning procedures.

c. Repair. Refer to individual component/assembly repairs and replacement procedures.

d. Replace. Replace an unserviceable/unrepairable parachute with a serviceable parachute canopy from stock.

2-21. Bridle Loop.

This task covers: a. Repair b. Replace

Tools:

Knife, Item 5, Appendix B
Pot, Melting, Item 14, Appendix B
Sewing Machine, Heavy Duty, Item 19, Appendix B
Shears, Item 15, Appendix B
Yardstick, Item 25, Appendix B

Materials/Parts:

Marking Aid, Item 15/16, Appendix D
Thread, Nylon, Size 6, Item 27/28, Appendix D
Webbing, Cotton, Type VIII, Item 32, Appendix D

Equipment Condition:

Cleaned (paragraph 2-12)
Inspected (paragraph 2-9, 2-13)
Unpacked, canopy laid flat.

a. Repair. Restitch broken or loose stitching, according to original construction. Use nylon thread size 6. Overstitch 1/2 inch to lock stitches.

b. Replace. Replace a damaged or missing bridle loop as follows:

(1) Remove damaged bridle loop by cutting stitching.

(2) Cut a 10-inch length of 1 3/4-inch wide, type VIII cotton webbing and wax ends.

(3) Using a marking aid, mark webbing at a point 2-inches from each end.

(4) Pass one end of webbing through vent lines and join webbing ends together above vent lines with a 2-inch long overlap (figure 2-42). Ensure the webbing length encircles all vent lines.

(5) Using a heavy duty sewing machine with size 6 thread, secure overlapped webbing ends together by stitching a 1 1/2-inch long single-X-box stitch formation, with two double ends 1/4-inch back. Stitching will be 5 to 8 stitches per inch, using specifics in table 2-3.

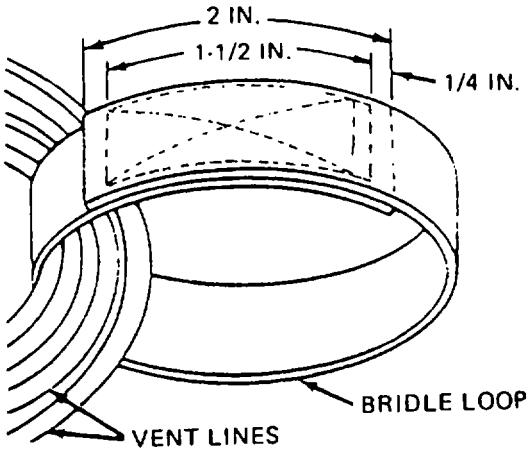


Figure 2-42. Bridle Loop Replacement Details.

2-22. Vent Lines.

This task covers: a. Repair b. Replace

Tools:

Knife, Hot Metal, Item 6, Appendix B
Knife, Item 5, Appendix B
Pot, Melting, Item 14, Appendix B
Sewing Machine, Zig-Zag Item 18, Appendix B
Shears, Item 15, Appendix B
Yardstick, Item 25, Appendix B

Materials/Parts:

Coreless, Nylon, Type IA, Item 11, Appendix D
Marking Aid, Item 15/16, Appendix D
Thread, Nylon, Size E, Items 23/24, Appendix D

Equipment Condition:

Inspected (paragraph 2-9)
Cleaned (paragraph 2-12)
Unpacked, canopy in proper layout

a. Repair.

(1) Restitch. Using a zig-zag sewing machine, restitch broken or loose stitching according to original pattern using size E nylon thread.

(2) Splicing.

NOTE

A damaged vent line may be spliced only once.

(a) Using a marking aid, mark the canopy at each end of original vent line.

(b) Cut a length of type IA coreless nylon cord, long enough to extend 3-inches beyond damage, on each side. Wax the ends.

(c) Center the cord over damage and secure the splice by stitching a 1/8-inch wide row of double-throw zig-zag stitching the full length of the splice. Stitch according to specifications in table 2-3.

b. Replace. Replace an unserviceable vent line as follows:

CAUTION

When removing original vent line, avoid cutting into radial tape.

(1) Remove original vent line by cutting the stitching securing it to the radial tape and vent reinforcement (upper lateral band).

(2) Cut 18-inch length of type I A coreless nylon cord and wax ends.

(3) Using a marking aid, mark the cord 2 1/2-inches from each end.

(4) Position cord in original vent line location and aline the 2 1/2-inch marks with upper edge of vent reinforcement (upper lateral band).

(5) Using details in figure 2-43, secure each end of vent line to the vent line reinforcement (upper lateral band) and applicable radial tape, with 1/8-inch wide double-throw zig-zag stitching. Stitch in accordance with the specifications in table 2-3.

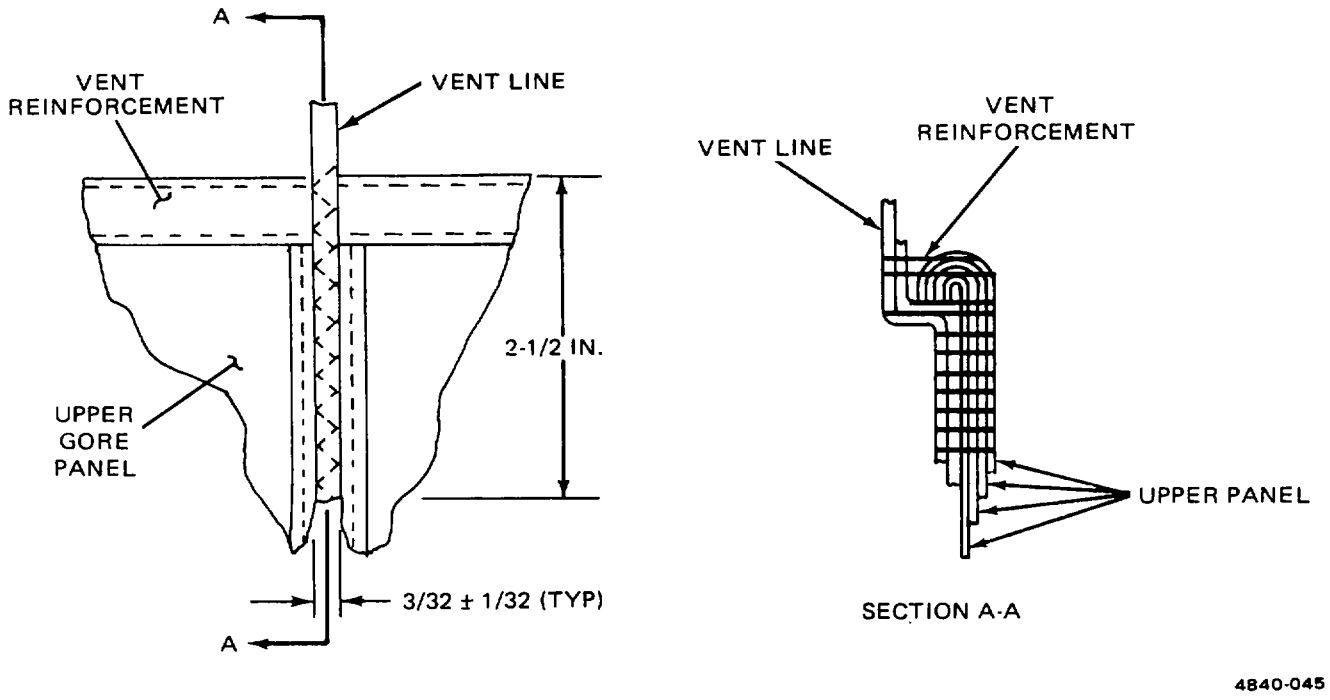


Figure 2-43. Vent Line Replacement Details.

2-23. Vent Reinforcement (Upper Lateral Band).

This task covers: Repair

Tools:

Knife, Item 5, Appendix B
Pot, Melting, Item 14, Appendix B
Sewing Machine, Light Duty, Item 17, Appendix B
Shears, Item 15, Appendix B

Materials/Parts:

Marking Aid, Item 15/16, Appendix D
Thread, Nylon, Size E, Item 23/24, Appendix D
Webbing, Nylon, 9/16-inch, Type I, Item 33, Appendix D

Equipment Condition:

Cleaned (paragraph 2-12)
Inspected (paragraph 2-9, 2-13)
Unpacked, canopy laid flat.

a. Restitching. Restitching of vent reinforcement webbing is authorized. Use light duty sewing machine and size E nylon thread of contrasting color. Stitch over original stitch pattern. Lock each row of stitches two inches at each end.

b. Splicing. Repair a damaged vent reinforcement (upper lateral band) as follows:

(1) Cut a length of 9/16-inch wide, type I nylon webbing, long enough to extend 1-inch beyond two vent lines on each side and sear ends.

(2) Center webbing over damaged area on top of four vent lines (figure 2-44).

(3) Secure the splice by stitching a box-stitch formation, 1/8-inch from edge along full length of splice. Stitch using specifics in table 2-3.

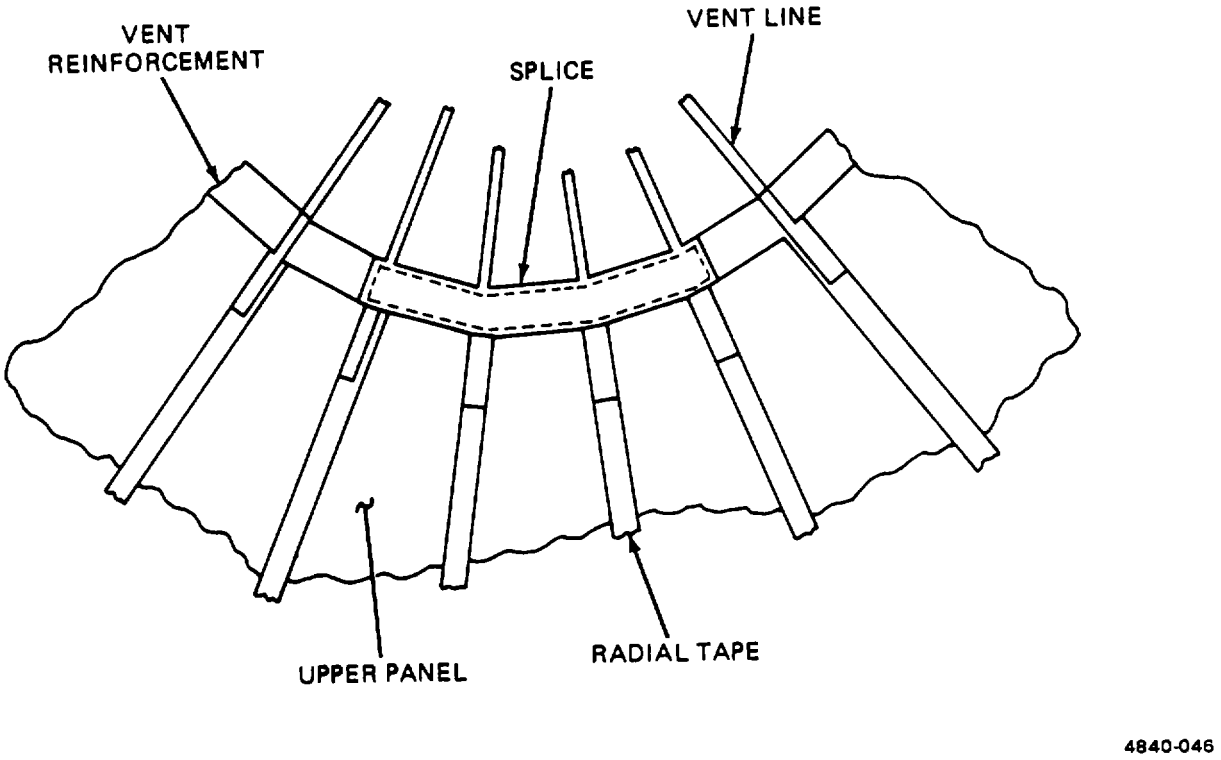


Figure 2-44. Vent Reinforcement Splicing Details.

2-24. Gore Panel (Upper and Lower).

This task covers: a. Repair Replace

Tools:

Knife, Item 5, Appendix
Needle, Tacking, Item 10, Appendix B
Shears, Item 15, Appendix B
Sewing Machine, Light Duty, Item 17, Appendix B
Sewing Machine, Darning, Item 21, Appendix B
Push Pins
Iron, Household, Item 4, Appendix B

Materials/Parts:

Cotton, Muslin, Type 1II, 3.8 Oz, Item 7, Appendix D
Brush, Stenciling, Item 4, Appendix D
Marking Aid, Item 15/16, Appendix D

Materials/Parts (cont):

Thread, Size E, 23/24, Appendix D
Tape, Pressure Sensitive, 1-In. Wide, Item 39, Appendix D

Equipment Condition:

Cleaned (paragraph 2-12)
Inspected (paragraph 2-9, 2-13)
Parachute laid out on table.

NOTE

Replacement of a gore panel (upper and lower) is accomplished at the Direct Support (DS) maintenance level only, in accordance with the Maintenance Allocation Chart (MAC), Appendix B.

a. Repair.

(1) Restitching. Stitching and restitching made on parachute canopies should be accomplished with size E nylon thread that is contrasting in color to the fabric being stitched or the original thread being restitched. If contrasting color thread is not available, thread of matching color may be used, providing all other specifications are met. Straight stitching and restitching should be locked by at least two inches at each end of a stitch row, when possible. Zig-zag restitching should extend at least 1/4-inch into undamaged stitching at each end, when possible. Restitch directly over the original stitching and follow the original stitch pattern as closely as possible.

(2) Darning. Darn a hole or tear in a gore section which does not exceed 3/4 inch in length or diameter as prescribed in para. 2-17, using size E nylon thread. There is no limit to the number of dams which may be made on a gore panel.

(3) Patching. Use a patch to repair holes which exceed 3/4 inch in length or diameter using either the sewn patch or the pressure sensitive patch (iron-on) methods.

(a) Limitations. The following limitations apply to the G-14 34-foot cargo parachute.

WARNING

The limitations prescribed for parachute canopy patching will be stringently adhered to under all circumstances and without any deviations.

1 A patch will not be applied to a damaged area that has been previously patched.

2 There is no limitation to the number of patches or size of patch to each canopy panel or gore panel. However, determination should be made as to the most economical method to be used, i.e., two or more patches versus one large patch or one large patch versus a panel replacement. A patch applied to a parachute canopy may extend from radial seam to radial seam.

(b) Sewn patches. There are two types of sewn patches authorized, the basic and miscellaneous. A basic patch is used to repair damaged cloth when the affected area is no closer than 1 inch from a radial tape, vent reinforcement tape or skirt reinforcement tape. Should a damaged area be closer than 1 inch to the cited areas, a miscellaneous patch will be made.

NOTE

Sewn patches on the canopy will be applied to the inside and may be square or rectangular in shape.

1 Using an authorized marking aid of contrasting color, mark a square or rectangle around area to be patched and insure one side of marked square or rectangle is parallel to warp or filling of fabric.

2 Cut damaged area fabric along lines made in 1 above. Further cut fabric diagonally at each corner to allow a 112 inch foldback in raw edges. Cut stitching and lay aside or remove any item which will interfere with miscellaneous patch application.

3 Make 1/2 inch foldback on each raw edge. Pin and baste each foldback to complete prepared hole. Basting will be performed using procedures in paragraph 2-17a.

4 Using 3.8 ounce cotton muslin cloth, mark and cut a patch 2-1/2 inches wider and longer than inside measurements of prepared hole. Insure patch material is marked and cut along warp or filling of fabric.

5 Center patch material over prepared hole and insure warp or filling of patch material matches warp or filling of fabric being patched. Pin patch material in position.

6 Make 1/2 inch foldunder on each edge of patch material and baste patch to prepared area. Basting will be performed using procedures in paragraph 2-17a.

7 Remove pushpins securing item to the repair table and secure patch by stitching, using the stitching specifics outlined in table 2-3. Make first row of stitching completely around patch. Invert canopy and make a second row of stitching around prepared hole. Stitching will be performed in accordance with paragraph 2-17.

2-24. Gore Panel (Upper and Lower) (cont).

(c) Pressure-sensitive (iron-on) patch. This method of applying a basic patch is a heat and pressure (iron-on) technique using pressure-sensitive-coated cotton balloon cloth. This method is limited to use on the cotton muslin canopies such as the 34-foot cargo parachute. A complete gore panel replacement will be performed when an individual panel has been patched extensively with the pressure-sensitive patch material and an apparent stiffening of the panel occurs. The stiffening effect may adversely affect the proper layout and packing of a parachute canopy. Apply a pressure-sensitive (iron-on) patch as follows:

1 Smooth all wrinkles from material surrounding the damaged area.

2 Cut a piece of pressure-sensitive-coated cotton balloon cloth large enough to extend 1 inch beyond all edges of the damaged area. If damaged area extends to a point within 1 inch of upper lateral band, only a sewn patch as outlined in (b), above, will be allowed.

3 Place coated cloth patch over damaged area with adhesive side facing down. If damaged area has no material missing, patch will be applied to the inside of canopy only. Whenever damaged area has a space between the edges of material which indicates that material is missing, patch will be applied to both inside and outside of canopy (figure 2-45).

4 Using a household-type electric iron with heat regulated for cotton material, apply heat and pressure simultaneously to patch material for at least 30 seconds. Insure that all of patch material is subjected to heat and pressure, and that all edges of patch have adhered to canopy material. Also insure that temperature of iron remains constant during patch application effort and that no other part of canopy is underneath area being patched.

(4) Restenciling. As required, restencil identification markings using procedures in paragraph 2-19.

b. Replace. Replace an upper or lower gore panel which is damaged beyond repair as follows:

(1) Invert the canopy to locate the inside of the damaged panel to the outside and place the canopy on a repair table.

(2) Secure each of the adjacent radial tapes, the vent or skirt reinforcement, as applicable, and the upper or lower annular ring reinforcement, as applicable, to the table with pushpins.

(3) Remove the affected panel by cutting the panel material at a point within 1/2 inch of the inside edge of each radial tape, the vent or skirt reinforcement (upper or lower lateral band), as applicable, and the applicable annular ring reinforcement.

(4) Make a 1/2-inch foldback on each of the inside cut edges and baste each foldback according to the basting procedures outlined in para. 2-17.

(5) Cut a piece of type III 3.8-ounce cotton muslin cloth according to the applicable details in figure 2-46 and place the cloth in the original panel location.

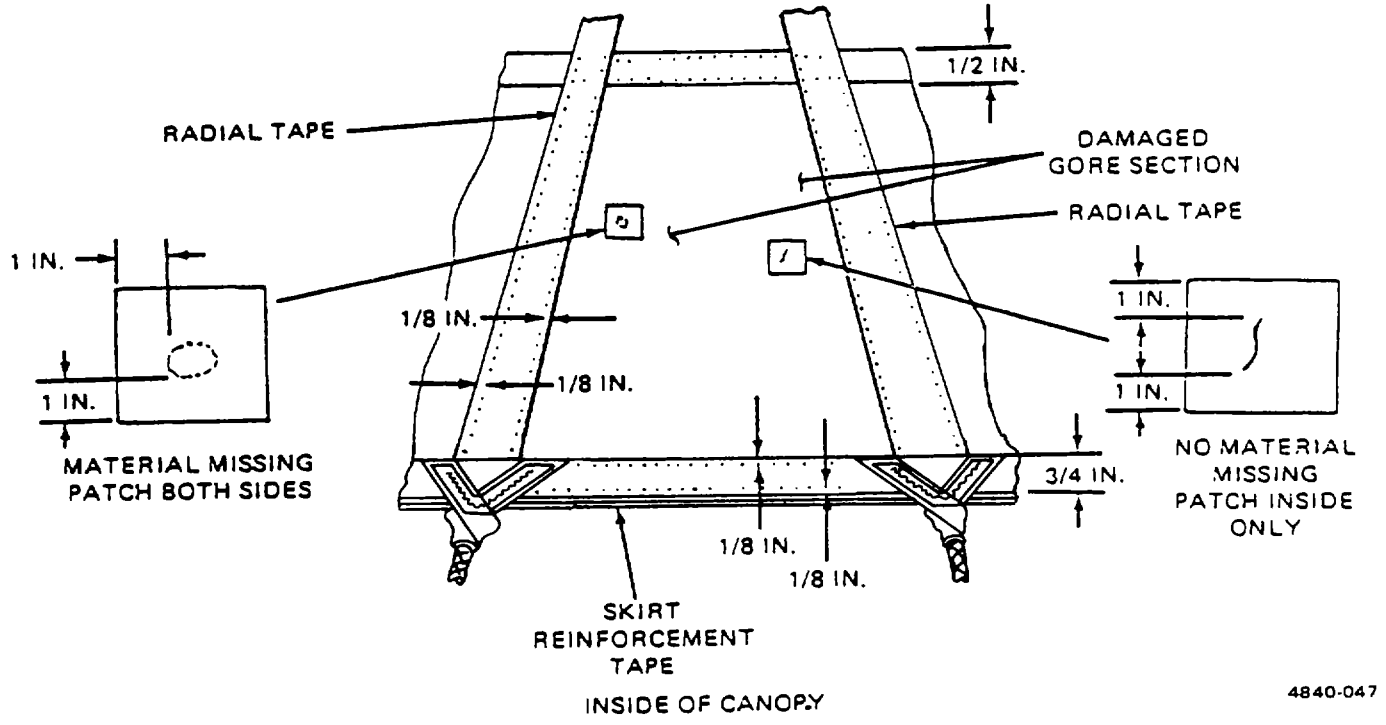


Figure 2-45. Pressure Sensitive Patch.

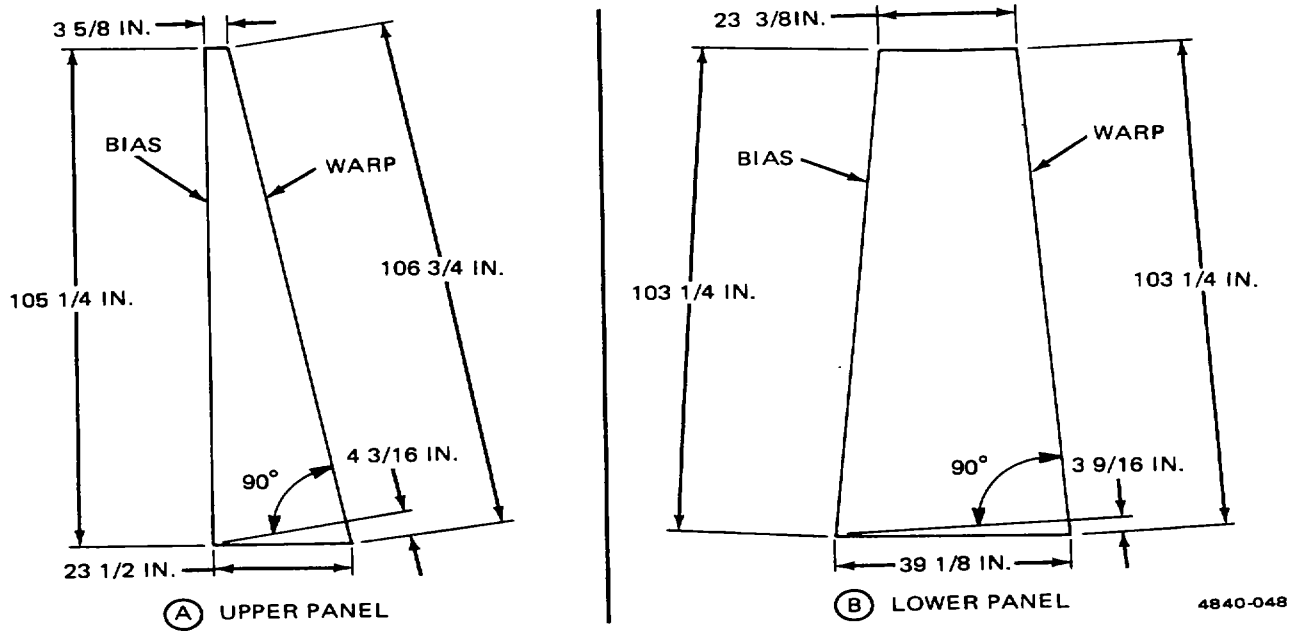


Figure 2-46. Canopy Panel Fabrication Details.

2-24. Gore Panel (Upper and Lower) (cont).

(6) On each side of the cloth material, make a 1/2-inch turnunder and insure the folded edge is alined with the outside edge of the radial tape (figure 2-47). Temporarily secure the turnunders to the radial tapes by basting in accordance with para. 2-17.

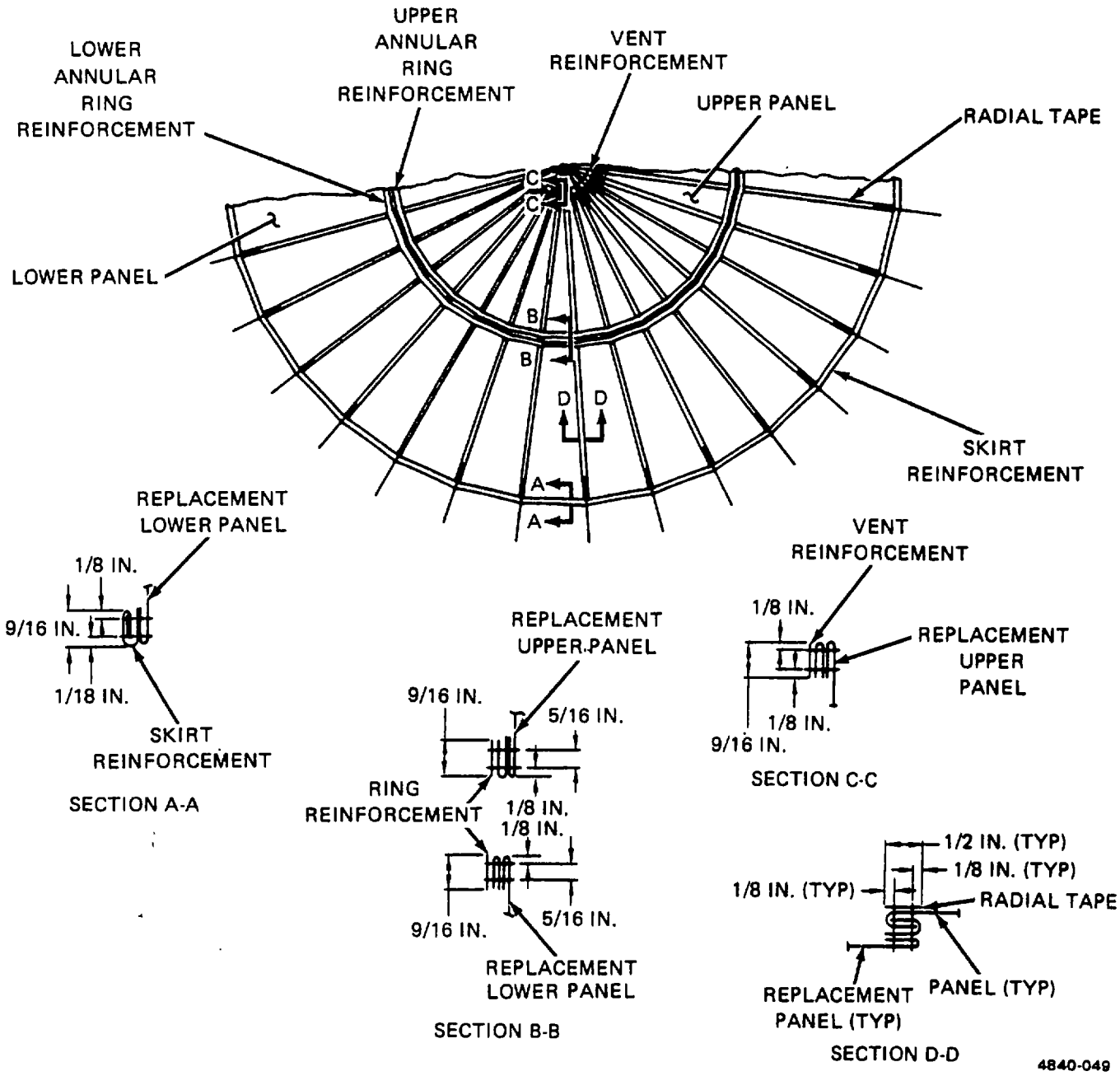


Figure 2-47. Panel Replacement Details.

(7) On the upper and lower ends of the cloth material, make a 1/2-inch tumunder. Insure the folded edge of the upper end is a lined with the upper edge of the vent reinforcement (upper lateral band) or lower annular ring reinforcement, as applicable.

(8) A line the folded edge of the lower end with the lower edge of the upper annular ring reinforcement or skirt reinforcement (lower lateral band), as applicable.

(9) Temporarily secure the turnunders by basting in accordance with para. 2-17. Remove the pushpins used in 1 above.

(10) Begin securing the replacement panel by stitching a single row, 1/8 Inch, along the outer edge of all the panel folded edges. Stitching will be made using the specifics in table 2-3.

(11) Reinvert the canopy to the outside and trim the raw edges of the panel material along the inside edge of each seam surrounding the replacement panel.

(12) Complete the panel installation by stitching a second single row along the Inside of the panel folded edges, 1/8 Inch out from the inside edge of each radial tape, the vent or skirt reinforcement (upper or lower lateral band), as applicable, and the applicable annular ring reinforcement. Stitching will be made using the specifics in table 2-3.

2-25. **Radial Tape**.

This task covers: **Repair**

Tools:

Knife, Item 5, Appendix B
Knife, Hot Metal, Item 6, Appendix B
Sewing Machine, Light Duty, Item 17, Appendix B
Yardstick, Item 25, Appendix B

Equipment Condition:

Inspected (paragraph 2-9)
Cleaned (paragraph 2-12)
Unpacked, laid flat.

Materials/Parts:

Webbing, Nylon, Type IV, 1/2-Inch Wide, Item 34, Appendix D
Thread, Nylon, Size E, Item 23/24, Appendix D
Pencil, Marking Aid, Item 15/16, Appendix D

a. *Restitching.* Restitch radial tape. Using a light duty sewing machine and size E nylon thread of contrasting color. Stitch over original pattern. Lock each row of stitches two inches at each end.

b. *Splicing.* Splice damaged radial tape as follows:

(1) Place canopy on a repair table with damaged side of radial tape facing up and smooth out canopy material in affected area.

NOTE

There is no limit to the number of splices that may be made on radial tape. When splicing an area previously spliced, remove old splice material before attempting a second splice.

(2) Cut a length of 1/2-inch wide nylon webbing long enough to extend 6 inches beyond each side of damaged area and sear ends as specified in paragraph 2-18.

(3) Center tape length over damaged area. Using a light duty sewing machine and size E nylon thread, secure splice by stitching a box-stitch formation along full length of splice (figure 2-48).

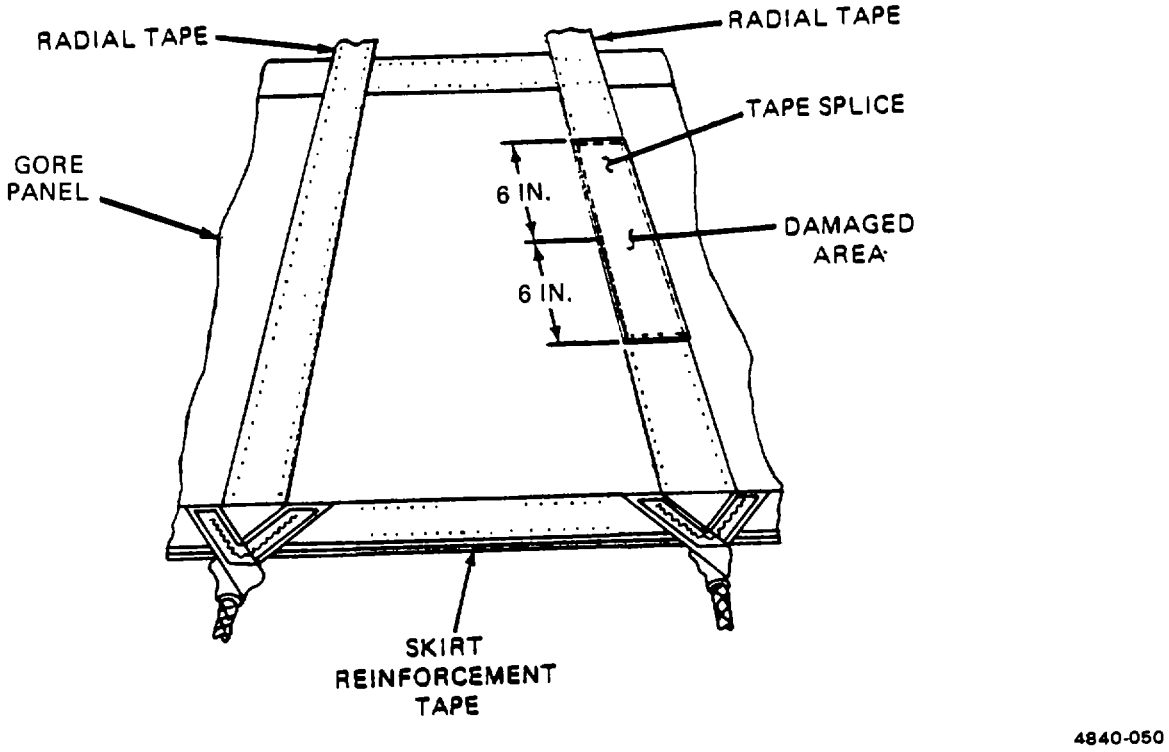


Figure 2-48. Radial Tape Splicing Details.

2-26. Annular Ring Reinforcement (Upper and Lower).

This task covers: **Repair**

Tools:

Knife, Item 5, Appendix B
Knife, Hot Metal, Item 6, Appendix B
Sewing Machine, Light Duty, Item 17, Appendix B
Yardstick, Item 25, Appendix B

Equipment Condition:

Inspection (paragraph 2-9)
Cleaned (paragraph 2-12)
Unpacked, canopy laid flat

Materials/Parts:

Pencil, Marking Aid, Item 15/16, Appendix D
Webbing, Nylon, Type I, 911/ Inch Wide, Item 33, Appendix D
Thread, Nylon, Size E, Item 23124, Appendix D

a. *Restitching.* Restitching of vent reinforcement tape is authorized. Use a light duty sewing machine and size E nylon thread of contrasting color. Stitch over the original stitch pattern. Lock each row of stitches two inches at each end.

NOTE

Annular ring reinforcement may be spliced only once.

b. *Splicing.* Splice damaged annular ring reinforcement as follows:

(1) Cut a length of 9/1 6Inch wide nylon webbing long enough to extend 6inches each side of damaged area, and sear ends as specified In paragraph 2-18.

(2) Center webbing length over damaged area. Using a light-duty sewing machine and size E nylon thread secure splice by stitching a box-stitch formation along full length of splice (figure 2-49).

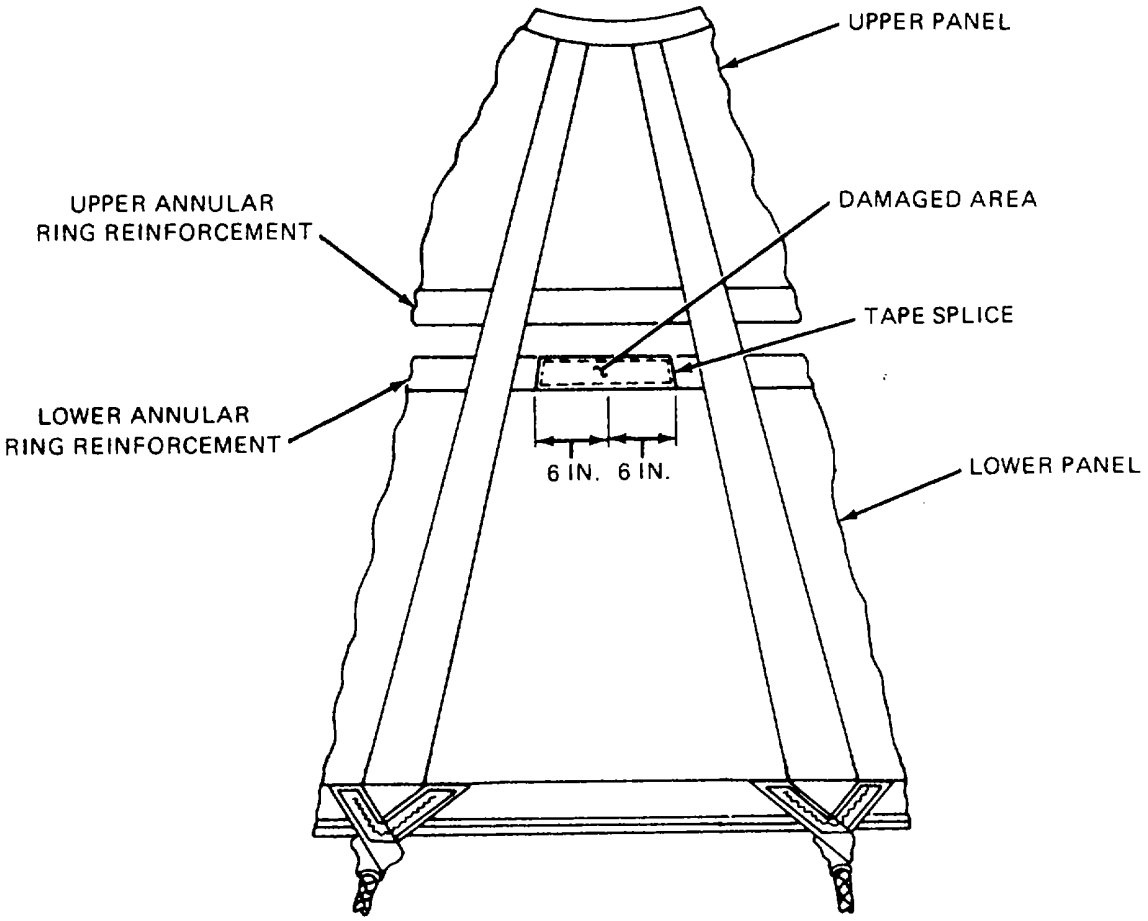


Figure 2-49. Annular Ring Reinforcement Splice Detail.

2-27. Skirt Reinforcement (Lower Lateral Band).

This task covers: Repair

Tools

Knife, Item 5, Appendix B
Knife, Hot Metal, Item **6,** Appendix B
Sewing Machine, Light Duty, Item 17, Appendix B
Sewing Machine, Zig-Zag, Item 18, Appendix B
Yardstick, Item 25, Appendix B

Materials/Parts:

Webbing, Nylon, Type **I,** 9/16-Inch Wide, Item 33, Appendix D
Thread, Nylon, Size E, Item 23/24, Appendix D

Equipment Condition:

Inspected (paragraph 2-9)
Cleaned (paragraph 2-11)
Unpacked, lying flat on repair table

a. *Stitching.* Stitch skirt reinforcement, using a light duty sewing machine and size E nylon thread. Stitch over original pattern. Lock each row of stitches 1/4 inch at each end.

b. *Splicing.* Splice a damaged skirt reinforcement as follows:

(1) Cut a length of 9/16-inch wide nylon webbing long enough to extend 6 inches beyond each side of damage, and sear ends.

(2) Center webbing length over damaged area and secure the splice by stitching a box-stitch formation along entire splice (figure 2-50).

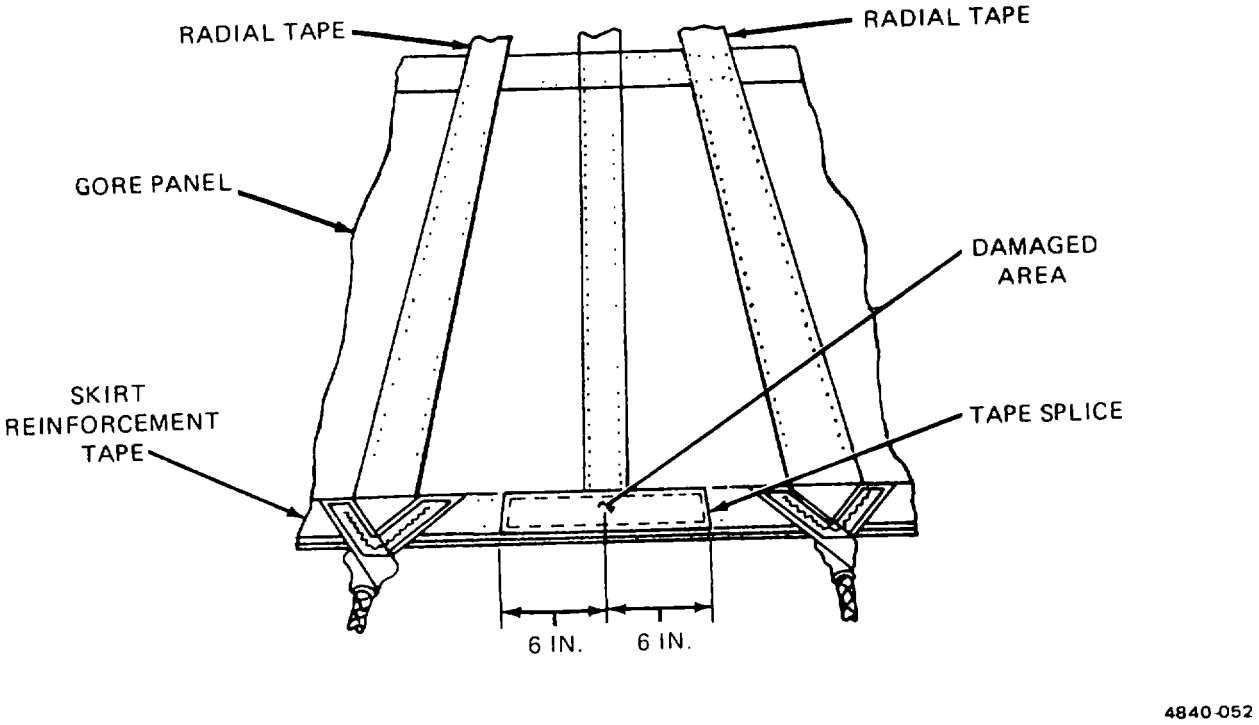


Figure 2-50. Skirt Reinforcement (Lower Lateral Band) Splice Details.

2-28. **V-Tab**.

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

Tools:

Knife, Item 5, Appendix B
Knife, Hot Metal, Item 6, Appendix B
Sewing Machine, Light-Duty, Item 17, Appendix B
Yardstick, Item 25, Appendix B

Equipment Condition:

Inspected (paragraph 2-9, 2-13)
Cleaned (paragraph 2-12)
Unpacked, laid flat on repair table

Materials/Parts:

Webbing, Nylon, Type **I,** 9/16-Inch Wide, Item 33, Appendix D
Thread, Nylon, Size E, Item 23/24, Appendix D

a. *Repair.* Restitch broken or loose stitching according to original pattern. Stitching details as per table 2-3.

b. *Replace.* Replace an unserviceable V-tab as follows:

(1) Using a suitable marking aid, mark the suspension line at the lower edge of the skirt reinforcement.

(2) Cut stitching securing original V-tab and suspension line.

(3) Cut a 5-inch length of 9/16-inch wide, nylon webbing and sear ends.

(4) Center material lengthwise under suspension line, butting the upper edge of material against the lower edge of the skirt reinforcement.

(5) Pass each end of the material over the top of the suspension line. Draw ends snug to develop a tight wrap.

(6) Secure, each end of replacement V-tab to skirt reinforcement with tacking. Bias-trim each end even with the upper edge of the skirt reinforcement (A, figure 2-51).

(7) Pull suitable length of suspension line through V-tab (B, figure 2-51) and pull to one side.

(8) Stitch V-tab to skirt reinforcement using a single row of double-throw zig-zag stitching making a V-shaped design (C, figure 2-51).

NOTE

Ensure the suspension line is pulled to one side.

(9) Also, stitch a single row, along edges of V-tab.

(10) Turn skirt reinforcement right side out and pull suspension line through V-tab and a line the mark made in step (1) with lower edge of skirt reinforcement.

(11) Beginning at a point 1/4 inch below V-tab and skirt reinforcement, stitch a single row of double-throw zig-zag stitching (D, figure 2-51) according to original details.

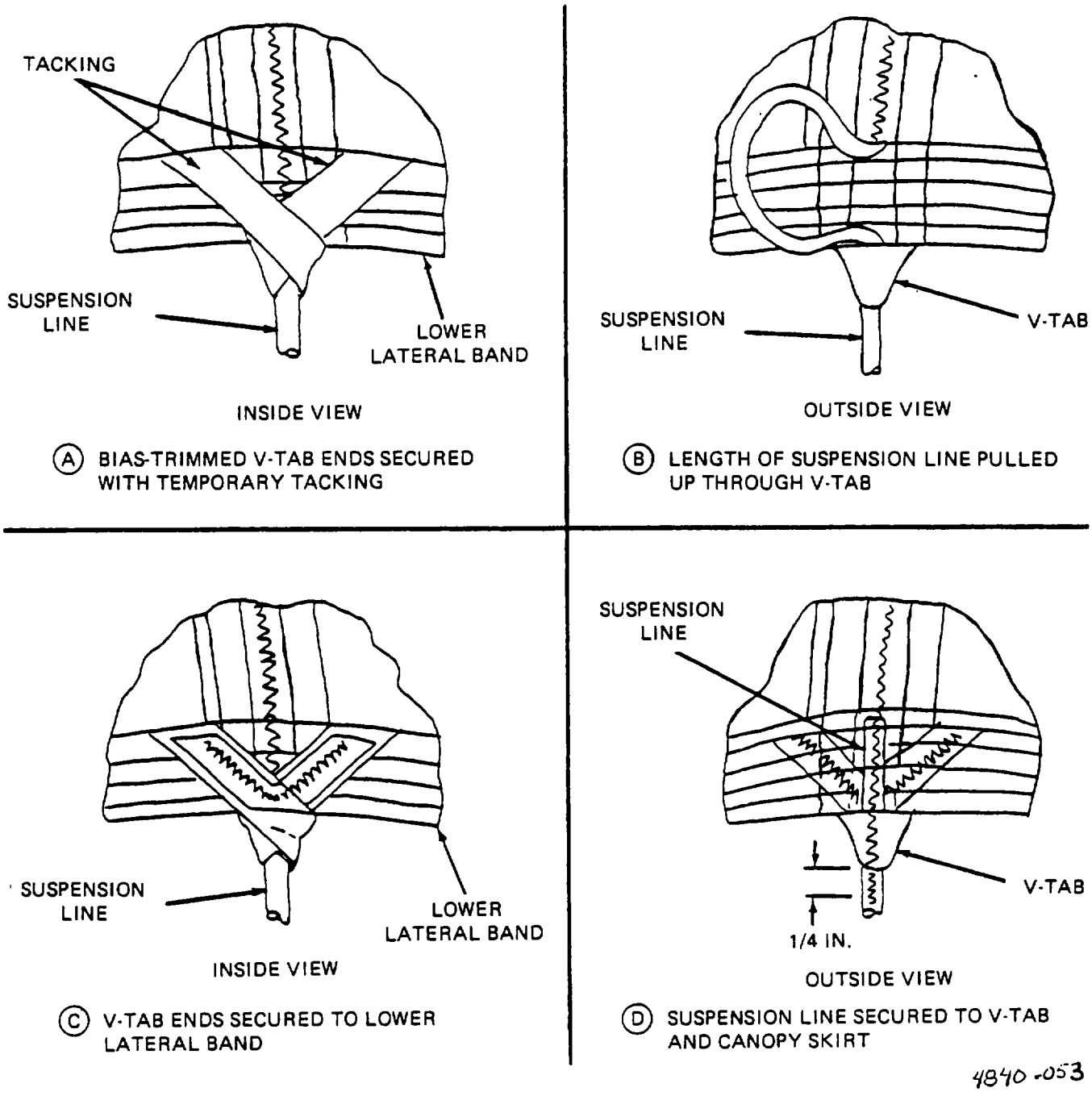


Figure 2-51. V-Tab Replacement Details.

2-29. **Suspension Line**.

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

Tools:

Knife, Item **5,** Appendix B
Knife, Hot Metal, Item **6,** Appendix B
Sewing Machine, Zig-Zag, Item **18,** Appendix B
Splice Aid, Item 26, Appendix B
Yardstick, Item 25, Appendix B

Equipment Condition:

Inspected (paragraph 2-9, 2-13)
Cleaned (paragraph 2-12)
Canopy laid flat on repair table

Materials/Parts:

Cord, Nylon, Coreless, Type IA, Item 11, Appendix D
Thread, Nylon, Size E, Items 23/24, Appendix D

a. *Repair*.

(1) *Restitching*. Stitch and restitch with thread, nylon, size E, that Is contrasting in color to the fabric being stitched or original thread being restitched. If contrasting color thread Is not available, thread of matching color may be used, providing all other specifications are met. Straight stitching and restitching should be locked by at least two inches at each end of a stitch row when possible. Zig-zag restitching should extend at least 1/4 inch into undamaged stitching at each end, when possible. Restitch directly over the original stitching and follow the original stitch pattern as closely as possible.

(2) *Splicing*. A suspension line may be spliced one time as follows:

(a) Cut a length of type IA coreless nylon cord long enough to extend 3 Inches beyond each side of damaged area. Sear or wax each end of cord 1/2 Inch In accordance with paragraph 2-18.

(b) Center cord length over damaged area. Using a zig-zag sewing machine and size E nylon thread, secure splice by stitching a 1/8-inch wide row of double-throw zlg-zag stitching the full length of splice, extend stitching 1/2 Inch beyond each end. Stitching will be 7 to 11 stitches per Inch (para. 2-17).

b. *Replace*. Replace an unserviceable suspension line by fabricating as follows:

(1) At the canopy skirt, remove the suspension line upper end by cutting the stitching which secures the line within the reinforcing loop and to the radial tape.

(2) At the riser, remove the suspension line reinforcement from the applicable riser strap by cutting the stitching which secures the reinforcement over the lower end of the applicable suspension line group.

(3) Cut the stitching which secures the suspension line lower end to the riser strap and remove the line lower end to complete removal of the original suspension line from the canopy.

(4) Cut a length of type IA coreless nylon cord 3 inches longer than an adjacent suspension line and wax one end.

(5) Using a suitable marking aid, mark the cord length at a point 3 inches from the waxed end.

(6) Pass the waxed cord end through the suspension line reinforcing loop and position the cord end in the original suspension line upper end location on the canopy skirt.

(7) A line the cord mark with the lower edge of the skirt reinforcement (lower lateral band).

(8) Secure the positioned cord end to the radial tape and the reinforcing loop by stitching a 1/8-inch wide row of double-throw zig-zag stitching to a point **1/4** inch below the reinforcing loop (A, figure 2-52). Stitching will be made using the specifics in table 2-2.

(9) Restitch the V-tab (suspension line reinforcing loop) as prescribed in paragraph 2-28.

(10) Apply partial tension to the suspension lines and measure the replacement line under equal tension with an adjacent line.

(11) Using a suitable marking aid, mark the replacement line at the upper edge of the applicable riser strap. Release tension.

(12) At a point 3 inches below the mark made in 7 above, cut and remove any excess cord length. Wax the line end.

(13) Place the lower end of the line length in the original suspension line location on the riser strap and a line the mark made in 11 above, with the riser strap upper edge.

(14) Secure the lower end of the suspension line to the riser strap by stitching a 1/8-inch wide by 3-inch long row of double-throw zig-zag stitching (B, figure 2-52), using the specifics in table 2-3.

(15) Install a suspension line reinforcement over the suspension lines and around the riser strap as outlined in paragraph 2-30.

2-29. **Suspension Line (cont)**.

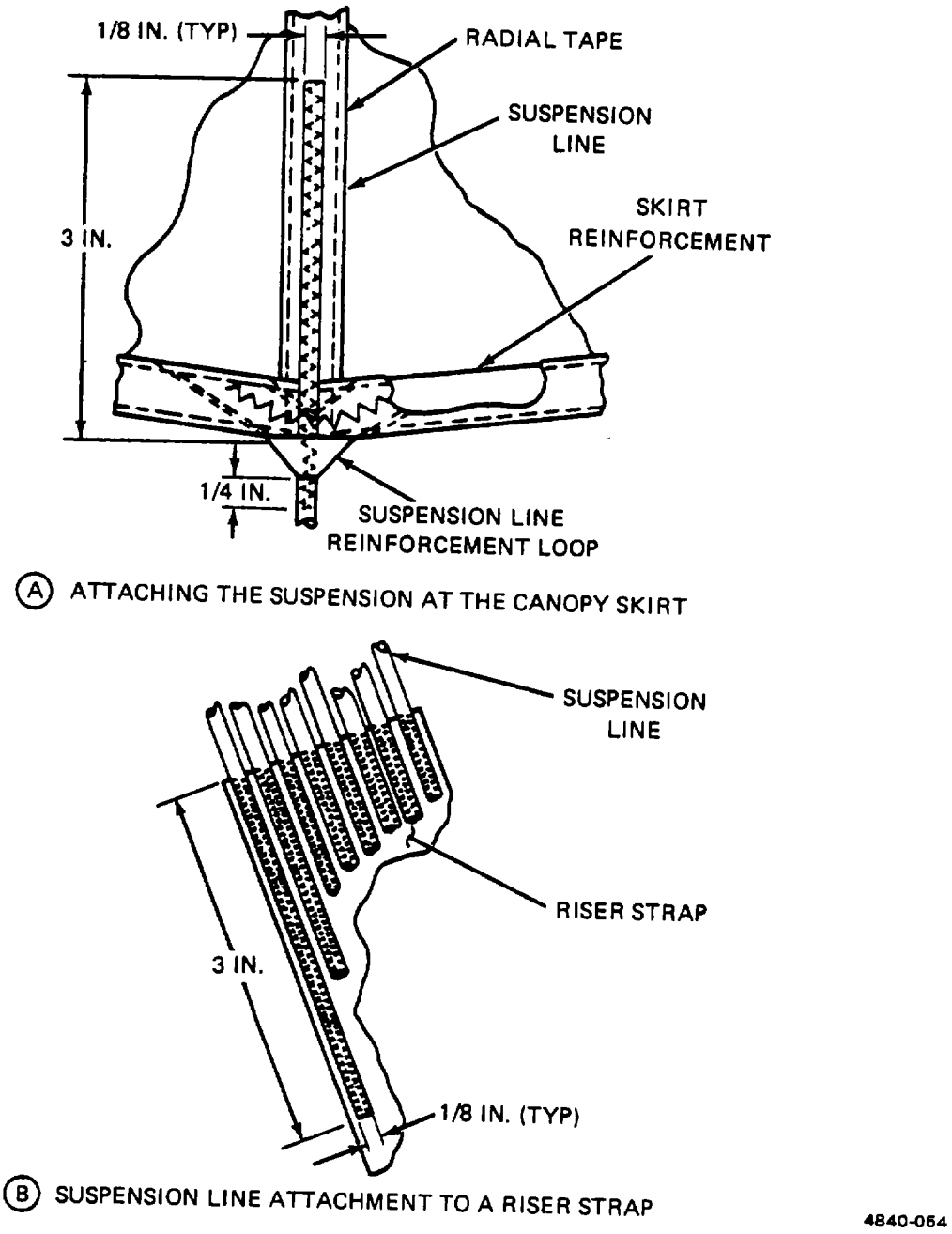


Figure 2-52. Suspension Line Replacement Details.

2-30. **Suspension Line Reinforcement**.

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

Tools: Equipment Condition:

Knife, Item 5, Appendix B
Knife, Hot Metal, Item 6, Appendix B
Sewing Machine, Medium Duty, Item 20, Appendix B
Yardstick, Item 25, Appendix B

Inspected (paragraph 2-9, 2-13)
Cleaned (paragraph 2-12)
Unpacked, laid flat on table

Materials/Parts:

Webbing, Nylon, Type XII, Item 36, Appendix D
Thread, Nylon, Size 3, Items 25/26, Appendix D

a. *Restitch.* Restitch broken or loose stitching, using a medium duty sewing machine and size 3 nylon thread, according to original construction details using the specifics In table 2-3.

b. *Replace.* Replace a damaged suspension line reinforcement by fabricating as follows:

(1) Remove the original reinforcement by cutting the stitching which secures the reinforcement webbing to the suspension lines and the riser strap upper end.

(2) Cut a 5 1/4-inch length of type XII nylon webbing and sear the ends.

(3) Place one end of the webbing length across the suspension lines in the original reinforcement location and a line the edge of the webbing end with the outside edge of the riser strap.

(4) Using the webbing running end, make 1 1/2 turns around the riser strap and secure the reinforcement by stitching a single-X-box-stitch formation with two double ends according to original construction details and figure 2-53. Stitching will be made using the specifics in table 2-3.

2-30. **Suspension Line Reinforcement (cont).**

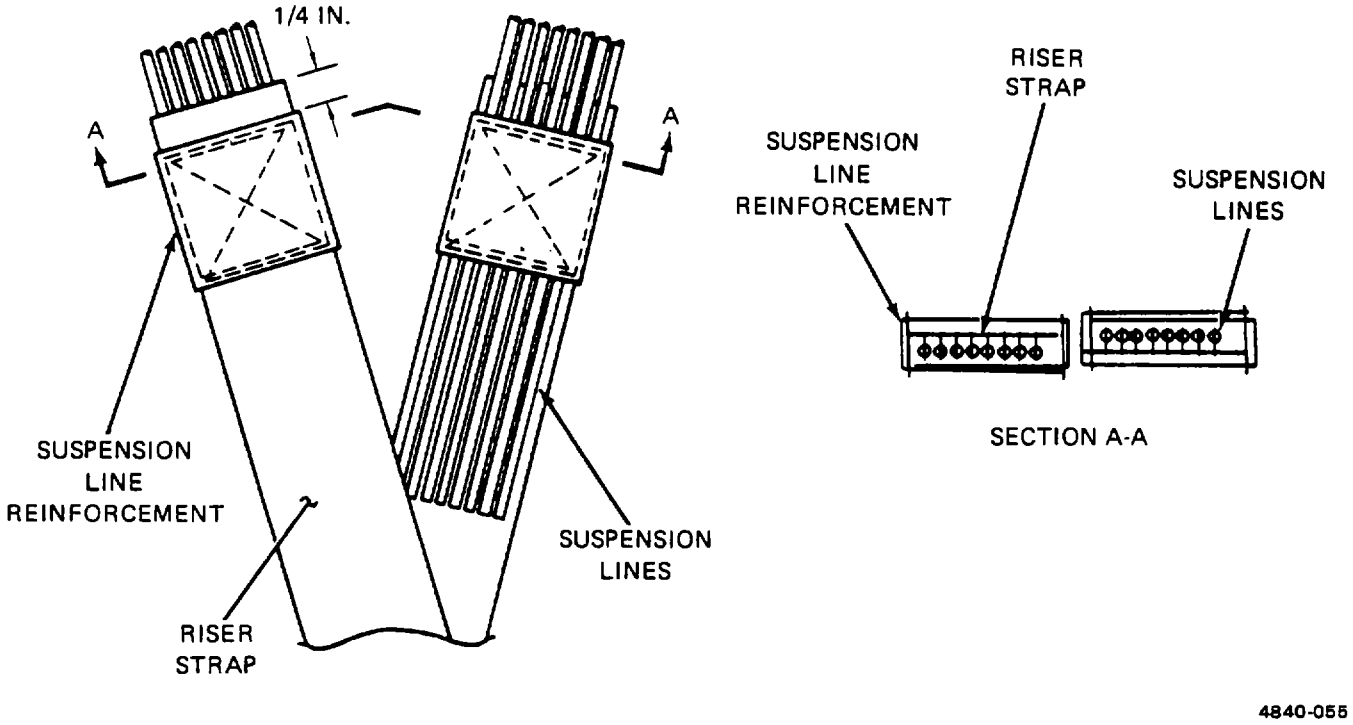


Figure 2-53. Suspension Line Reinforcement Replacement Details.

2-31. **Riser**.

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

Tools:

Knife, Item 5, Appendix B
Knife, Hot Metal, Item 6, Appendix B
Pot, Melting, Item 14, Appendix B
Sewing Machine, Heavy Duty, Item 19, Appendix B
Webbing, Cotton, Type VIII, Item 32, Appendix D
Tacking Needle, Item 10, Appendix B
Yardstick, Item 25, Appendix B

Materials/Parts:

Beeswax, Item 2, Appendix D
Marking Aid, Item 15/16, Appendix D
Tape, Pressure-Sensitive, 1 -Inch Wide, Item 39, Appendix D
Thread, Nylon, Size 3, Item 25/26, Appendix D

Materials/Parts (cont):

Thread, Waxed, Ticket No. 5, Item 40, Appendix D
Webbing, Cotton, 1/4 Inch Wide, Item 30, Appendix D
Webbing, Nylon, Type VI, Item 35, Appendix D
Wax, Paraffin, Item 29, Appendix D

Equipment Condition:

Inspected (paragraph 2-9, 2-13)
Cleaned (paragraph 2-12)
Unpacked, laid flat on repair table

a. Repair.

(1) *Stitching*. Using heavy duty sewing machine, stitch and restitch with size 3 nylon thread which matches the color of the original stitching, when possible. Lock all straight stitching by backstitching at least 1/2 inch. Restitch directly over the original stitching, following the original stitch pattern as closely as possible.

(2) *Restencil*. As required, restencil identification marking using procedures in paragraph 2-19.

(3) *Splicing*. Each of the two riser straps and the spreader bar may be spliced one time as follows:

NOTE

Splicing will be performed on a left riser when the damaged area extends into the parachute inspection data pocket (log record pocket). When this occurs, a log record pocket from stock will be installed in this location in accordance with procedures in paragraph 2-32.

(a) Cut a length of type VI nylon webbing long enough to extend 2 inches beyond each side of damaged area and sear ends (para. 2-18).

(b) Center webbing length over damaged area (figure 2-54). Using a heavy duty sewing machine and size 3 nylon thread, secure each end of splice by stitching a single-X-box-stitch formation, with two double ends, 1/8 inch in from each side edge of splice material. Overstitch each end of splice material by one stitch on each point of stitch formation. Stitching shall be 5 to 8 stitches per inch.

2-31. **Riser (cont)**.

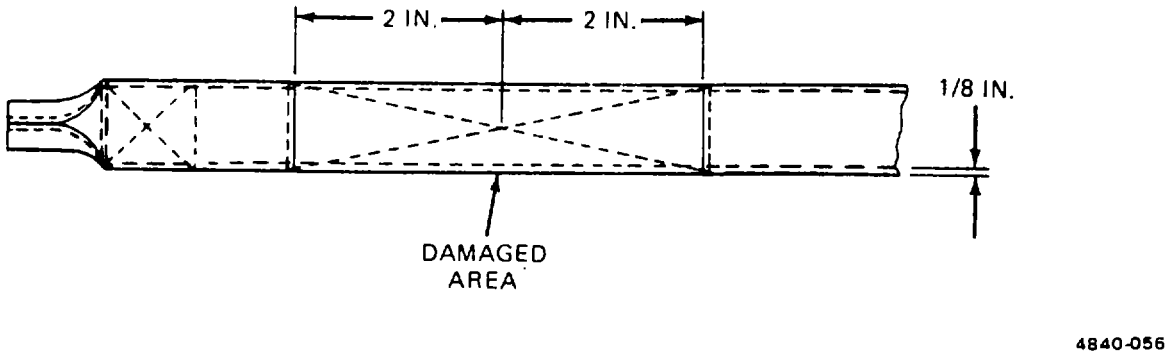


Figure 2-54. Riser Splicing Details.

b. *Replacement.* Replace an unserviceable individual riser strap, a spreader bar, or the entire riser assembly by fabricating as follows (refer to figure 2-55):

NOTE

Prior to disconnecting a riser strap from the suspension lines, temporarily secure the applicable suspension line group to prevent disarrangement by passing a suitable length of 1/4 inch type I cotton webbing through the loops on the lower end of the suspension lines and tying the webbing ends together.

(1) *Left riser strap.*

(a) Remove the riser clevis from the lower end of the affected riser strap and retain the clevis for further use, if serviceable.

(b) Remove the parachute inspection data pocket (log record pocket) by cutting the tacking at four points. Retain the pocket for further use, if serviceable.

(c) At the upper end of the riser strap, cut the stitching which secures the suspension line reinforcement to the strap and remove the reinforcement.

(d) Remove the suspension line from the upper end of the riser strap by cutting the stitching which secures the lower end of suspension line to the riser strap.

(e) Place the line groups separately to one side and insure the lines do not become mixed or entangled during the removal process.

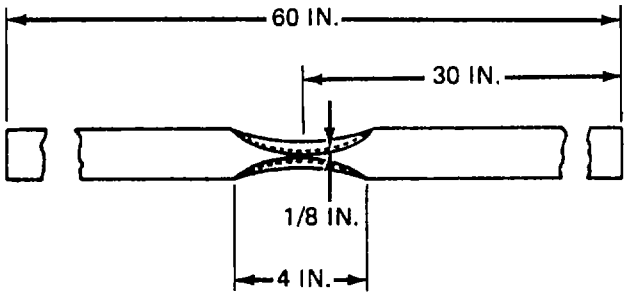
(f) Cut the stitching which secures the applicable spreader bar end loop to the damaged riser strap and remove the riser strap by pulling the strap through the spreader bar end loop.

(g) Cut a 60 inch and a 6-inch length of type VI nylon webbing and sear the ends.

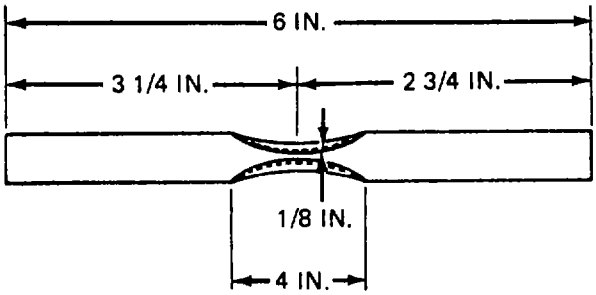
(h) At the center of the 60-inch webbing length, roll 2 inches of the webbing edges in to the center of the webbing width (A, figure 2-55).

(i) Secure each rolled edge with a 4-inch long row of stitching according to original construction details. Stitching will be made in accordance with paragraph 2-17 and using the specifics in table 2-3.

(j) Using the 6-inch webbing length and the details in (B, figure 2-55), roll 4 inches of the webbing edges in to the center of the webbing width and secure each rolled edge with a row of stitching. Stitching will be made In accordance with paragraph 2-17, and using the specifics in table 2-3.



(A) FORMING THE LOOP ON THE RISER STRAP WEBBING



(B) FORMING THE LOOP ONTHE RISER STRAP LOOP BUFFER 4840-057

Figure 2-55. Riser Strap Clevis Attaching Loop Construction Details.

(k) Double the 60-Inch webbing length with the rolled edges facing to the inside of the fold and a line the running ends.

(*l*) Fold the 6-inch webbing length with the rolled edges facing out and allow one end of the folded strap to overlap by 1/2 inch. The folded webbing will form a buffer for the riser strap clevis attaching loop.

(m) Insert the folded 6-inch webbing length into the loop formed on the folded 60-inch webbing length with the rolled edges a lined and facing each other.

(n) Beginning at a point 2 inches back from the webbing fold, secure the plies of the riser strap and the buffer together by stitching a 1 1/2-inch long single-X-box-stitch formation, with one double end. Stitching will be made in accordance with paragraph 2-17, and using the specifics in table 2-3.

2-31. **Riser (cont).**

(o) Using a suitable marking aid, mark the folded riser strap at a point 5 inches from the strap running ends.

(p) Beginning at a point 3 1/2 inches above the clevis attaching loop, secure the riser strap webbing plies together by making a row of stitching along each webbing edge to the 5-inch mark made in (o) above. Stitching will be made in accordance with paragraph 2-17, and using the specifics in table 2-3.

(q) Pass the riser strap running ends through the spreader bar end loop and a line the mark made in (o) above with the upper edge of the spreader bar webbing.

(r) Secure the spreader end loop to the riser strap by stitching a single-X-box-stitch formation, with one double end. Stitching will be made in accordance with paragraph 2-17, and using the specifics in table 2-3.

CAUTION

When arranging and installing the suspension lines on a G-14 34-foot-diameter cargo parachute riser strap, insure the lines do not become disarranged or entangled.

(s) Position the two suspension line groups removed in (d) above on the riser strap running ends according to original construction details and the details in figure 2-56.

(t) Secure each suspension line by stitching a 1/8-inch wide by 3-inch long row of double-throw zig-zag stitching, using the specifics in table 2-3.

(u) Using the procedures in paragraph 2-30 above, install a replacement suspension line reinforcement on each of the riser strap running ends.

(v) Reinstall the parachute inspection data pocket (log record pocket), if serviceable, on the left riser strap by hand tacking the pocket at four points using two turns double, ticket No. 5 waxed cotton thread at each point. Secure each of the tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 114 inch.

(w) As applicable, stencil the riser identification markings on the right riser strap according to original stenciling details, using the procedures in paragraph 2-17.

(x) Attach a serviceable riser clevis to the clevis attaching loop on the lower end of the riser strap.

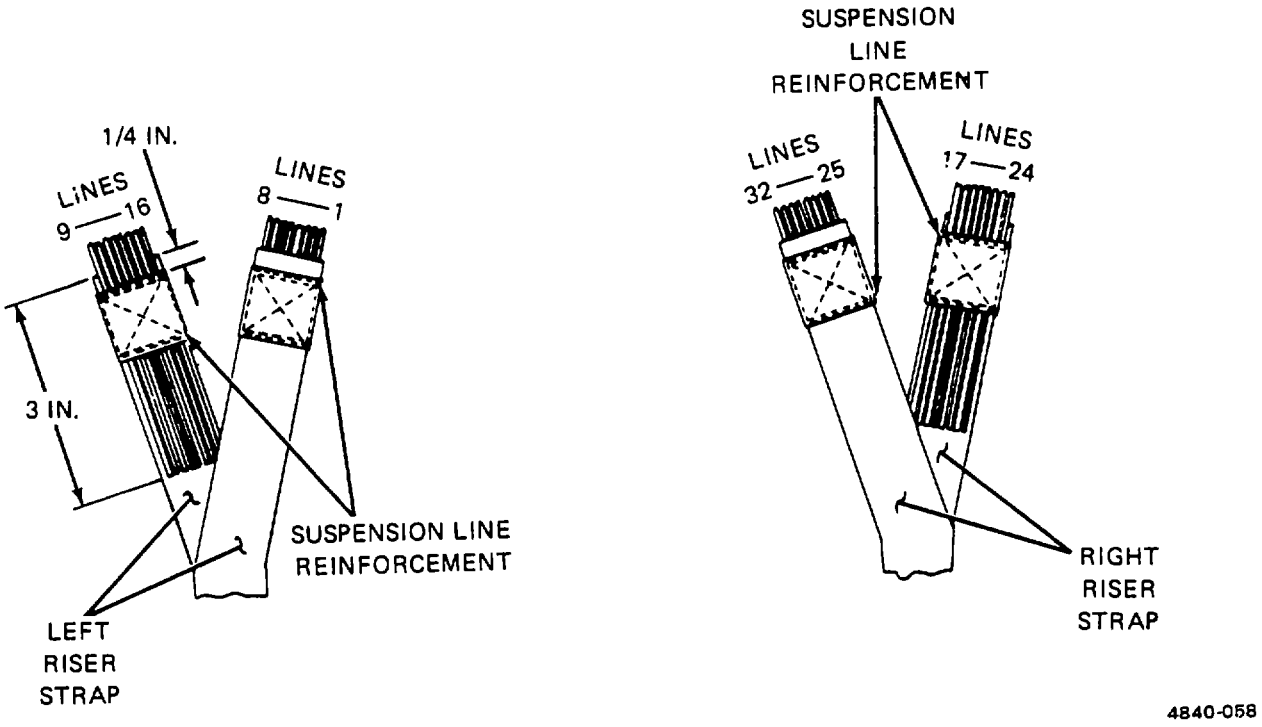


Figure 2-56. Suspension Line Arrangement on Riser Straps.

(2) Right riserstrap. Replace a right riser strap using the procedures in paragraph (1), above. However, details for attaching the parachute inspection data pocket (log record pocket) do not apply to the right riser strap. In addition, only the riser identification markings will be stenciled on the right riser strap. The stenciling will be performed according to original stenciling details, using the procedures in paragraph 2-19.

(3) Spreader bar.

(a) Cut and remove the stitching which secures the spreader bar webbing around each of the riser straps. Remove the spreader bar from the riser assembly by cutting the spreader bar webbing.

(b) Cut a 27-inch length of type VI nylon webbing and sear the ends.

(c) Using a suitable marking aid, mark the webbing length at a point 8 1/2 inches from each end.

(d) Center the webbing length between the riser straps in the original spreader bar location.

(e) Pass the left webbing end around the left riser strap and a line the webbing end with the mark made in (c) above.

(f) Secure the formed spreader bar end loop to the riser strap by stitching a single-X-box-stitch formation, with one double end, according to original construction details and the details in figure 2-57. Stitching will be made in accordance with paragraph 2-17, and using the specifics in table 2-3.

2-31. Riser (cont).

(g) Secure the running ends of the spreader bar left end loop together by stitching a row of stitching along each edge and a 1 1/2-inch long single-X-box-stitch formation, with two double ends, according to the details in figure 2-57. Stitching will be made in accordance with paragraph 2-17, and using the specifics in table 2-3.

(h) Using the procedures in (d) and (e) above, form and secure the spreader bar right end *loop* to the right riser strap.

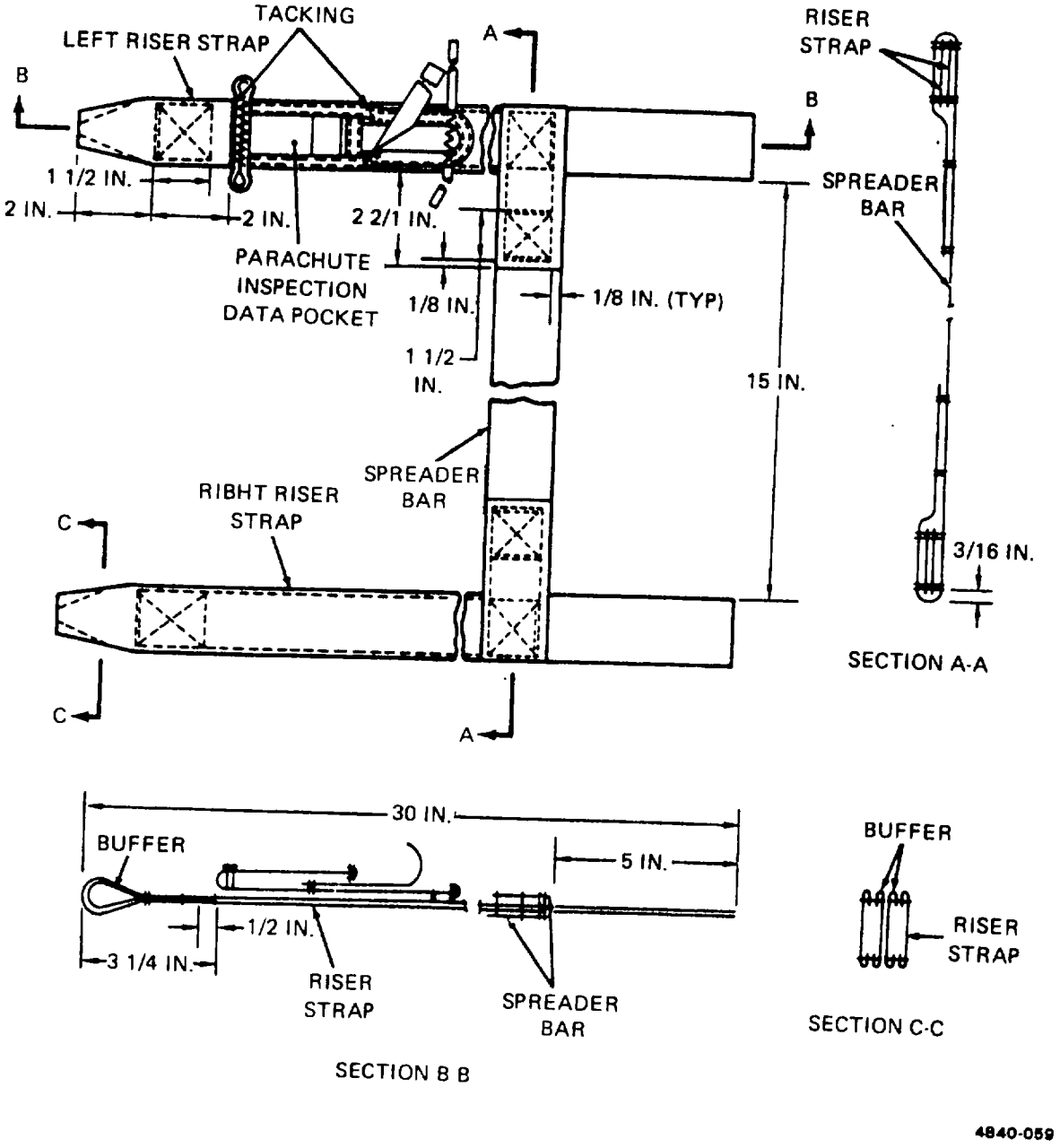


Figure 2-57. Riser Construction Details.

2-32. **Riser Clevis**.

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

Tools:

Knife, Item 5, Appendix B
Knife, Hot Metal, Item 6, Appendix B
Yardstick, Item 25, Appendix B

Equipment Condition:

Inspected (paragraph 2-9, 2-13)
Cleaned (paragraph 2-12)
Laid out on work table

Materials/Parts:

Cord, Nylon, Type 1, Item 10, Appendix D
Wire, Item 38, Appendix D

a. *Repair.* Repair a riser clevis using the following procedures:

(1) Replacing a clevis pin retaining cord.

(a) Cut and remove original clevis pin retaining cord from riser clevis body, clevis pin and safety pin (figure 2-58).

(b) Cut a 16-inch length of type I nylon cord and sear ends.

(c) Pass one half of cord length around riser clevis body, join ends and make a square knot snug against clevis body (figure 2-58).

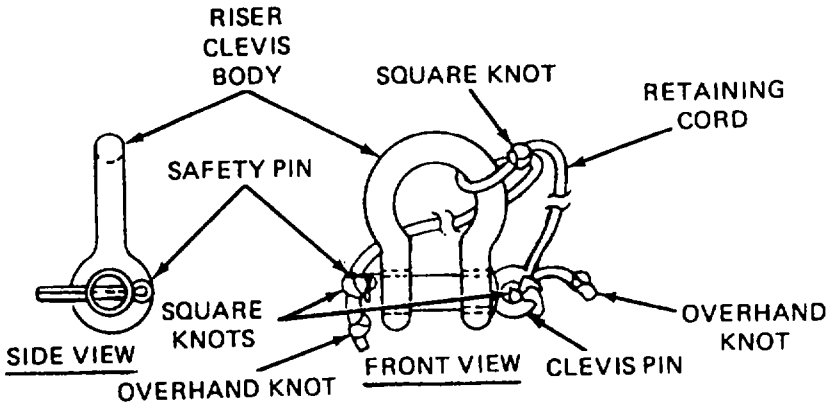


Figure 2-58. Replacing Clevis Pin Retaining Cord.

2-32. **Riser Clevis (cont**).

(d) Pass one tie running end through the eye of clevis pin and secure the tie end snug with a square knot, leaving a 3/8-inch long running end.

(e) Make an overhand knot in the remaining running end at a point within 3/16 inch of the square knot.

(f) Secure opposite cord running end to the eye of safety pin using procedures in (d) and (e) above.

(2) *Replacing a clevis safety pin.*

(a) Remove original safety pin from clevis assembly by untying overhand knot and square knot which secure pin to clevis.

(b) Cut a 5-inch length of 0.080-inch diameter CRS wire.

(c) Using cut wire length, form a 3 1/8-inch long riser clevis safety pin (figure 2-59).

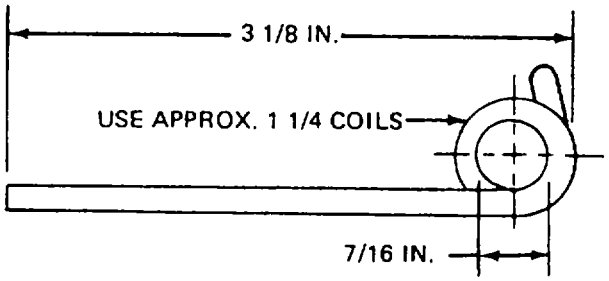


Figure 2-59. Forming Riser Clevis Safety Pin.

(d) Reinstall safety pin in clevis pin.

(e) Pass tie running end through eye of safety pin. Make an overhand knot in running end.

(f) Secure tie end against safety pin with a square knot, leaving a 3/8-inch running end.

b. *Replacement.* Replace an unserviceable or missing riser clevis with a serviceable item from stock.

2-33. **Inspection Data Pocket.**

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

Tools:

Pot, Melting, Item 14, Appendix B
Knife, Item 5, Appendix B
Needle, Tacking, Item 1 0, Appendix B

Materials/Parts:

Beeswax, Item 2, Appendix D
Parafin, Item 9, Appendix D
Thread, Waxed, Cotton, Ticket 5, Item 40, Appendix D

a. *Repair*.

Tacking. Tack the pocket at four points (figure 2-60) using two turns double ticket no. 5 waxed cotton thread. Secure the tacking ends at each tacking point with a surgeon's knot and a locking knot. Trim ends to **1/4** inch.

b. *Replace*. Replace a missing or unserviceable parachute inspection data pocket with a serviceable one from stock.

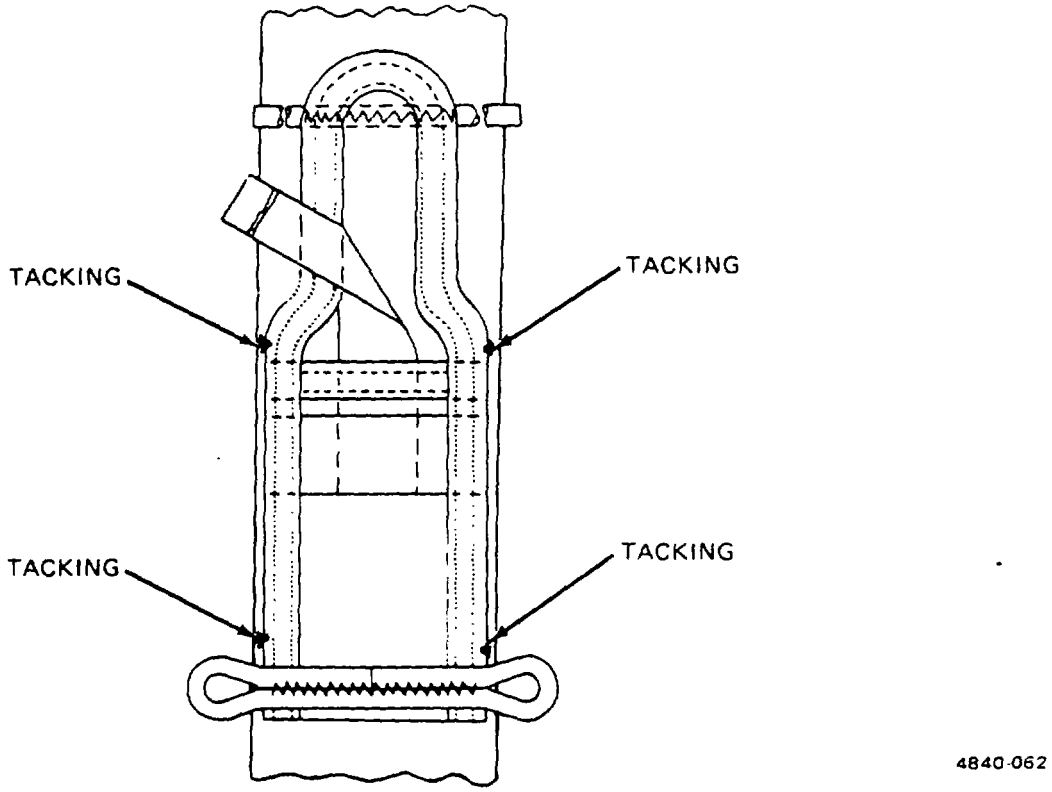


Figure 2-60. Parachute Inspection Data Pocket Tacking Details.

2-34. **Pack**.

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

Equipment Condition:

Inspected (paragraph 2-9)
Cleaned (paragraph 2-12)
Detached from canopy and static line

a. *Inspect* Refer to paragraphs 2-9 and 2-13 for inspection procedures.

b. *Service.* Refer to paragraph 2-12 for cleaning procedures.

c. *Repair.* Refer to individual repair procedures in the following paragraphs.

d. *Replace.* An unrepairable deployment bag will be replaced with a serviceable bag from stock.

2-35. **Pack** Edge Binding.

This task covers: **a. Repair**

Tools:

Knife, Item 5, Appendix B
Sewing Machine, Medium Duty, Item 20, Appendix B
Pot, Melting, Item 14, Appendix B
Yardstick, Item 25, Appendix B

Equipment Condition:

Inspected (paragraph 2-9, 2-13)
Cleaned (paragraph 2-12)
Laid out on work table

Materials/Parts:

Beeswax, Item 2, Appendix D
Thread, Nylon, Size E, Items 23124, Appendix D
Tape, Cotton, Type III, 3/4-Inch Wide, Item 20, Appendix D

Repair.

(1) Restitching. Restitch broken or loose stitching, using a medium duty sewing machine with size E nylon thread. Stitch over original pattern. Lock each row of stitches 2 Inches.

(2) Splicing. Splice a flap edge as follows:

NOTE

Two splices may be made on the edge binding of each flap on the G-14 cargo parachute pack.

(a) Cut a length of type IIII cotton tape long enough to extend 1 inch beyond damaged area, and wax ends.

(b) Center the tape over the damaged area, secure splice with two rows of stitching the full length of the splice according to original pattern (figure 2-61).

2-35. **Pack Edge Binding (cont).**

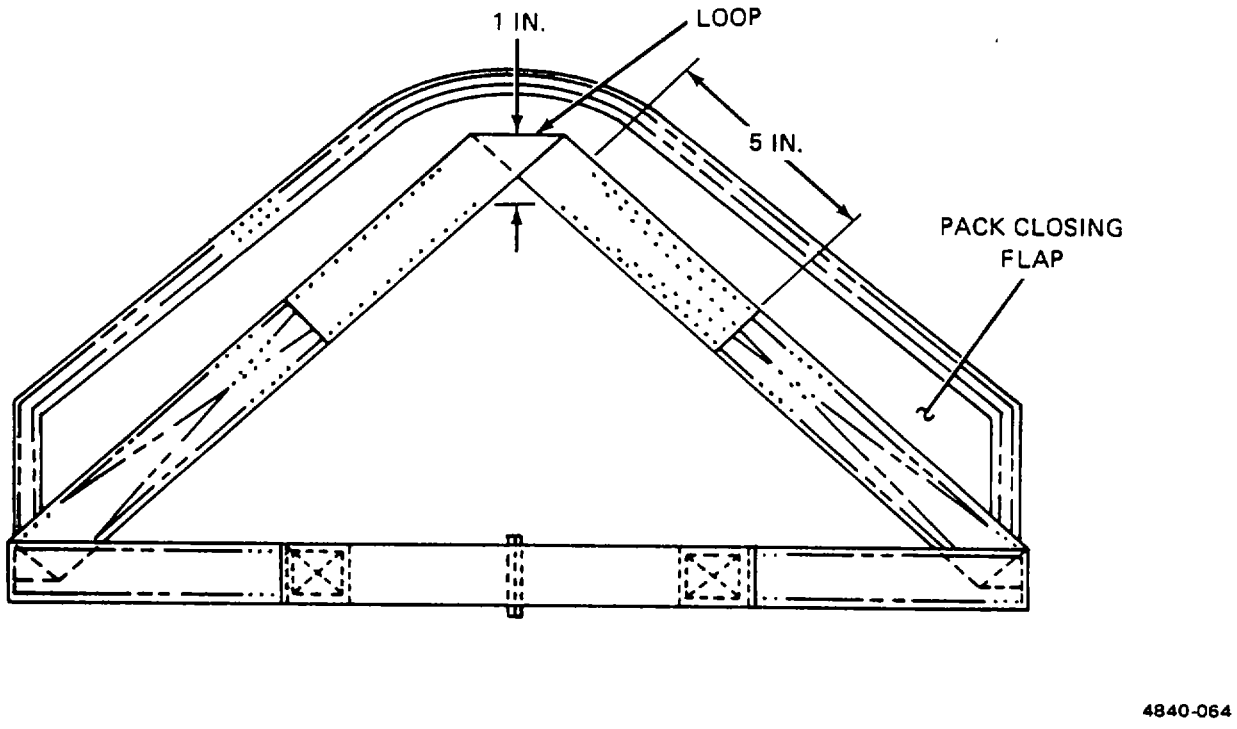


Figure 2-61. Pack Edge Binding Splice Details.

2-36. **Pack Closing Loop**.

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

Tools:

Knife, Item 5, Appendix B
Pot, Melting, Item 14, Appendix B
Sewing Machine, Medium Duty, Item 20, Appendix B
Yardstick, Item 25, Appendix B

Equipment Condition:

Inspected (paragraph 2-9, 2-13)
Cleaned (paragraph 2-12)
Laid out on work table

Materials/Parts:

Wax, Item 2, Appendix D
Thread, Nylon, Size E, Item 23/24, Appendix D
Webbing, Cotton, Type 11, 1-Inch Wide, Item 31, Appendix D

a. *Repair.* Repair a side or center main strap as follows:

Restitching. Restitch broken or loose stitching, using a medium duty sewing machine with size E nylon thread. Stitch over original pattern and lock each row by 2 inches.

b. *Replace.* Replace a damaged pack closing loop on a pack closing flap by fabricating as follows:

(1) Remove the original pack closing loop by cutting the loop material at a point adjacent to the upper end of each stitch formation located on each side of the loop.

(2) Cut a 12-inch length **of** type **11** cotton webbing and wax the ends.

(3) Make a fold at the webbing center to form a loop according to original construction details.

(4) Position the folded material in the original loop location, allowing the running ends to extend over the original stitched loop ends.

(5) At a point **1** Inch below the top of the formed loop, secure each running end of the replacement loop by stitching a 5-inch long two-point-WW-stitch formation according to the details in figure 2-62. Stitching will be made in accordance with paragraph 2-17, and using the specifics in table 2-3.

2-36. **Pack Closing Loop (cont).**

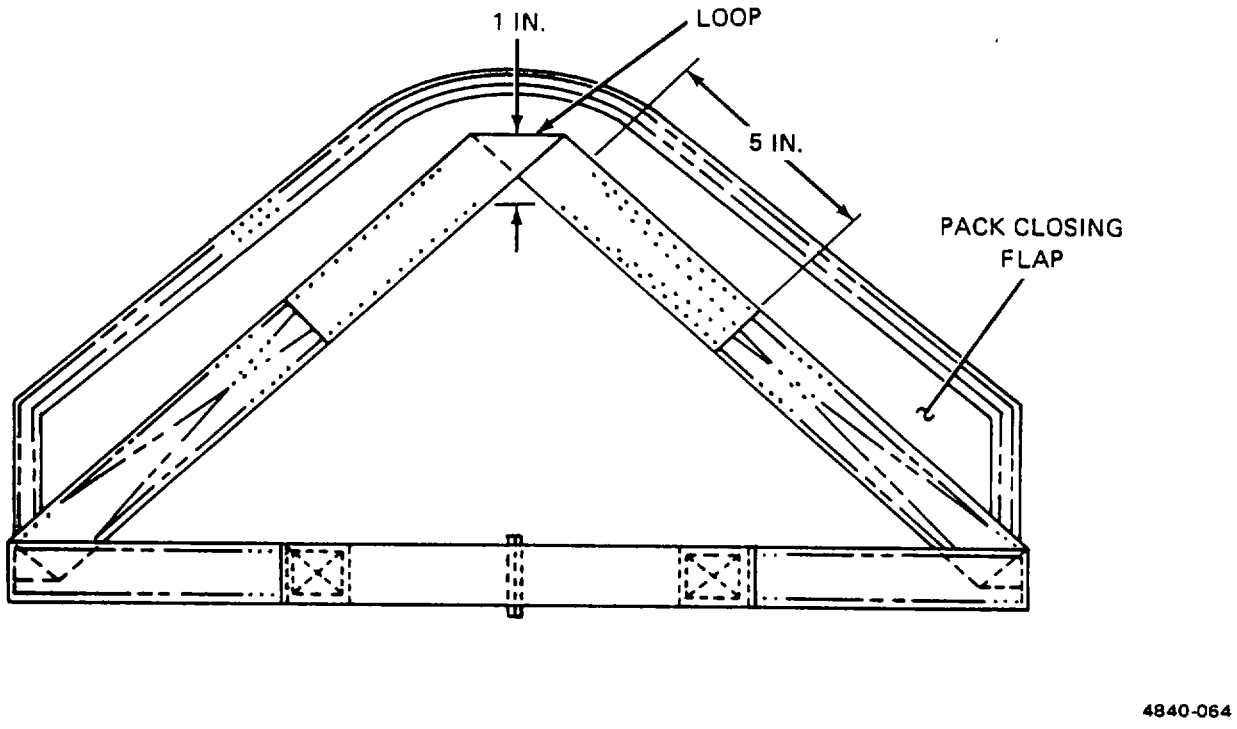


Figure 2-62. Pack Closing Loop Replacement Details.

2-37. **Pack Tiedown Strap Loop**.

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

Tools:

Knife, Item 5, Appendix B
Pot, Melting, Item 14, Appendix B
Sewing Machine, Heavy Duty, Item 19, Appendix B

Equipment Condition:

Inspected (paragraph 2-9, 2-13)
Cleaned (paragraph 2-12)
Deployment bag laid out on work table

Materials/Parts:

Wax, Item 2, Appendix D
Thread, Nylon, Size 3, Item 25/26, Appendix D
Webbing, Cotton, Type **11,** 1-Inch Wide, Item 31, Appendix D

a. *Repair*.

Restitching. Restitch broken or loose stitching, using a heavy duty sewing machine and size 3 nylon thread. Stitch over original pattern and lock each row with 1/4-inch stitching.

b. *Replace.* Replace a damaged pack tiedown strap loop at the pack bottom by fabricating as follows:

(1) Remove the original loop by cutting the loop along the outer edge of the pack bottom panels.

(2) On each side of the original loop location, cut and remove 1 1/2 inches of the pack bottom panel edge stitching.

(3) Cut and remove the stitching which secures the original loop material to the pack outside bottom panel.

(4) Cut an 8 1/4-inch length of type **11** cotton webb, g and wax the ends.

(5) Double the webbing length and at the original loop location, insert the a lined webbing ends under the original loop material, between the pack outside bottom panel and the inside bottom panel.

(6) Allow the folded end of the webbing to extend 1 1/2 inches beyond the outer edge of the bottom panels to form a loop.

(7) Secure the replacement loop between the pack bottom panels by stitching the bottom outside panel with a 2 5/8-inch long single-X-box-stitch formation according to the details in figure 2-63. Stitching will be made in accordance with paragraph 2-17 and using the specifics in table 2-3.

(8) Restitch the pack bottom panel edge stitching removed in 2 above, according to original construction details and paragraph 2-17 and using the specifics in table 2-3.

2-37. **Pack Tiedown Strap Loop (cont)**.

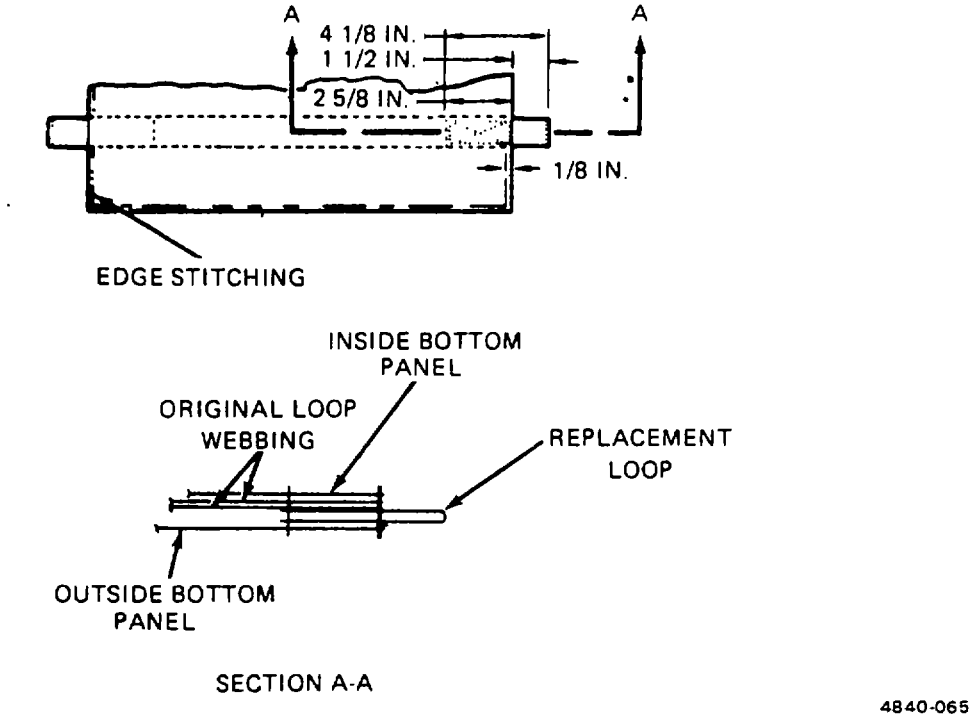


Figure 2-63. Pack Tiedown Strap Loop Replacement Details.

2-38. **Panels and Flaps**.

This task covers: Repair

Tools:

Shears, Item 15, Appendix B
Knife, Item 5, Appendix B
Sewing Machine, Darning, Item 21, Appendix B
Sewing Machine, Light Duty, Item 17, Appendix B
Yardstick, Item 25, Appendix B

Equipment Condition:

Inspected (paragraph 2-9, 2-13)
Cleaned (paragraph 2-12)
Laid out on work table

Materials/Parts:

Cloth, Duck, Cotton, 12.29 Oz, Type Ill, Item 9, Appendix D
Thread, Nylon, Size E, Item 25/26, Appendix D
Pencil, Marking Aid, Item 15/16, Appendix D

Repair.

(1) *Stitching*. Stitch and restitch broken or loose stitching with thread which matches the color of the original stitching, when possible. Use a light-duty sewing machine and size E nylon thread, 7 to 11 stitches per inch. Lock all straight stitching by backstitching at least 1/2 inch. Restitch by overstitching each end of the stitch formation by 1/2 inch. Restitch directly over the original stitching, following the original stitch pattern as closely as possible, in accordance with paragraph 2-17b.

(2) *Darning*. Darn a hole or tear which does not exceed 3/4 inch in length or diameter according to procedures in paragraph 2-17c, using a darning sewing machine with size E nylon thread, 7 to 11 stitches per inch. There is no limit to the number of darns which may be made on the bag panels and flaps.

(3) *Patching*. Patch a hole or tear which exceeds 3/4 inch in length or diameter using 12.29 ounce cotton duck cloth, a light-duty sewing machine and size E nylon thread, 7 to 11 stitches per inch and specifics in table 2-3. There is no limit to the number of patches which may be made on the bag panels and flaps. Proceed as follows:

NOTE

Patches may be applied to the inside or outside of pack.

(a) Smooth fabric around the damaged area, and secure with pushpins. Do not pin damaged area.

(b) Using an authorized marking aid of contrasting color, mark a square or rectangle around the area to be patched.

(c) Cut damaged area fabric along lines made in (b), above. Further cut fabric diagonally at each corner to allow a 1/2-inch foldback in raw edges.

2-38. **Panels and Flaps (cont).**

(d) Make a 1/2-inch foldback on each raw edge. Pin and baste each foldback to complete prepared hole. Basting will be performed using procedures in paragraph 2-17a.

(e) Using duck cloth, mark and cut a patch 2-1/2 inches wider and longer than Inside measurements of the prepared hole.

(f) Center patch material over prepared hole and pin patch material in position.

(g) Make a 1/2-in,h foldunder on each edge of patch material and baste patch to prepared area. Basting will be performed using procedures in paragraph 2-17.

(h) Remove pushpins securing the hem to repair table and secure the patch by stitching, using applicable details in figure 2-64 and stitch with a light-duty sewing machine, size E nylon thread, 7 to 11 stitches per inch. Make first row of stitching completely around patch. Turn pack Inside out and make a second row of stitching around prepared hole. Stitching will be performed in accordance with paragraph 2-17b.

(4) Restenciling. As required, restencil identification markings on the suspension line protector flap using procedures in paragraph 2-19.

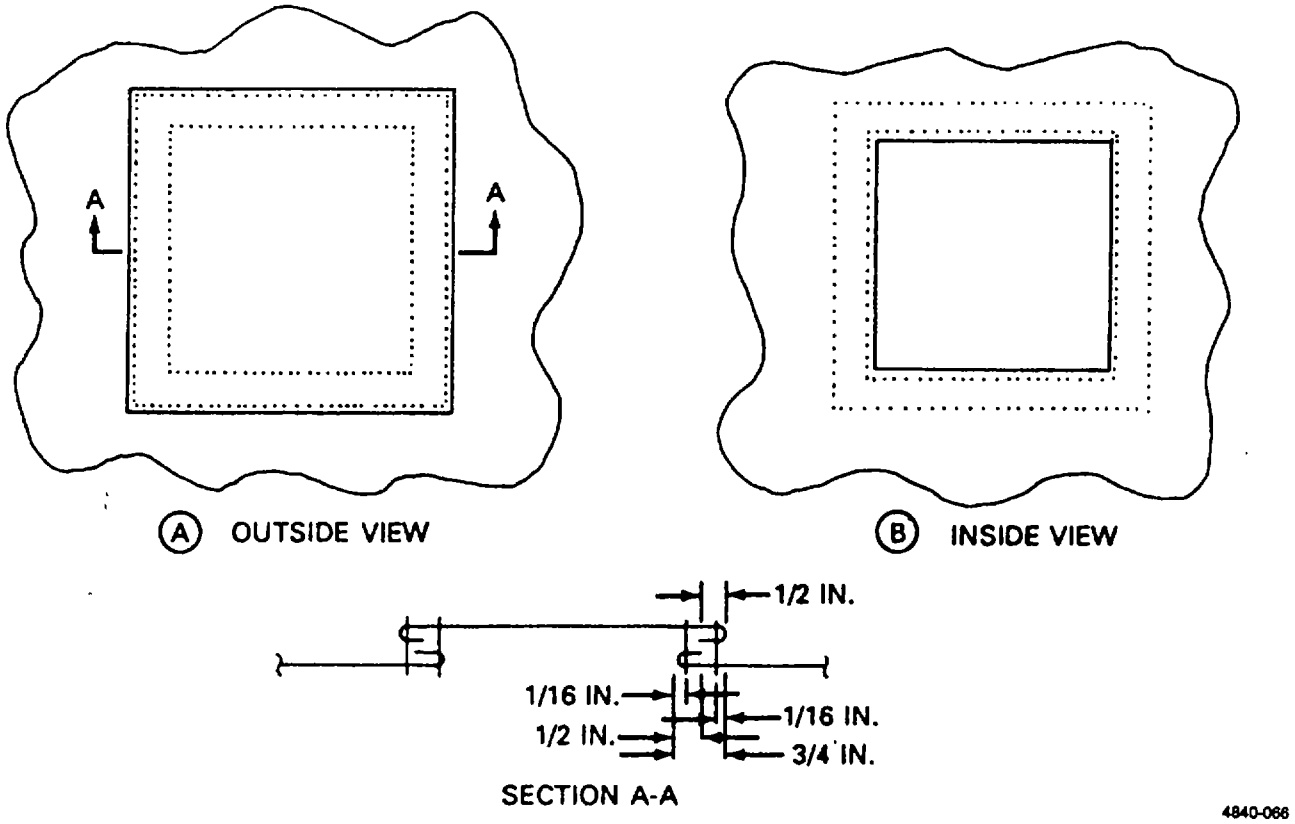


Figure 2-64. Patching Pack Panels and Flaps.

2-39. **Static Line Retaining Strap.**

This task covers: a. Repair b. Replace

Tools:

Pot, Melting, Item 14, Appendix B I
Knife, Item 5, Appendix B
Knife, Hot Metal, Item 6, Appendix B
Sewing Machine, Medium Duty, Item 20, Appendix B
Yardstick, Item 25, Appendix B

Materials/Parts:

Wax, Item 2, Appendix D
Webbing, Cotton, Type III, 1-Inch Wide, Item 31, Appendix D
Thread, Nylon, Size E, Item 23/24, Appendix D

Equipment Condition:

inspected (paragraph 2-9,2-13)
Cleaned (paragraph 2-12)
Laid out on work table

a. *Repair.*

Stitching. Stitch and restitch broken or loose stitching using medium duty sewing machine with size E nylon thread which matches the color of the original stitching, when possible. Restitch by overstitching each end of the stitch formation by 1/2 inch.

b. *Replace*. Replace a damaged static line retaining strap by fabricating as follows:

(1) Remove the original static line retaining strap by cutting the stitching which secures the strap to the pack reinforcing strap.

(2) Cut a 10 1/2-inch length of 1-inch wide, cotton webbing and wax the ends.

(3) Make a 1 1/4-inch long foldback on each of the webbing length and position the webbing in the original strap location with foldback ends facing down.

(4) Secure each folded end of the strap to the pack retaining strap by stitching a 1-inch long single-X-box-stitch formation with two double ends according to the details In figure 2-65.

(5) Secure the center of the replacement strap to the pack reinforcing strap by making three rows of stitching laterally across the webbing width. Stitching will be made in accordance with paragraph 2-17 and using the specifics in table 2-3.

2-39. **Static Line Retaining Strap (cont).**

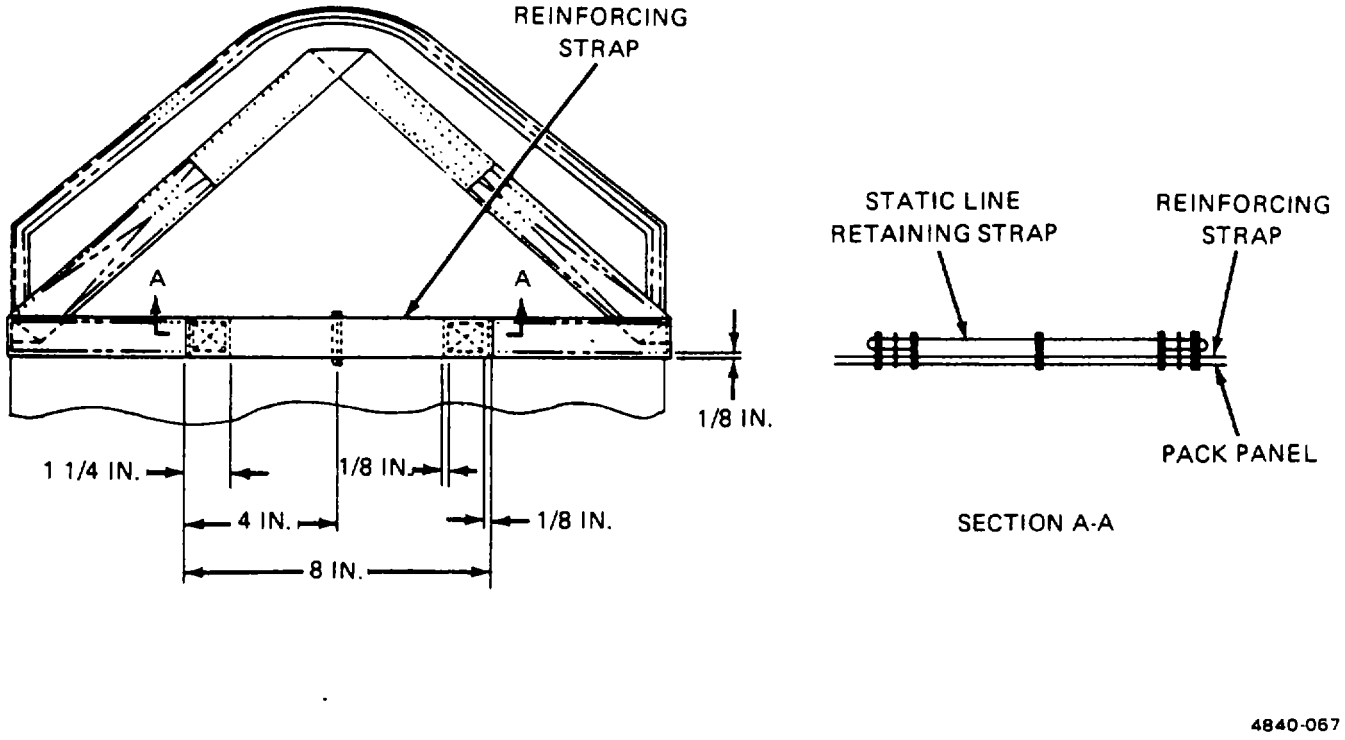


Figure 2-65. Pack Static Line Retaining Strap Attachment Details.

2-40. **Static Line.**

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

Tools:

Sewing Machine, Industrial, Zig Zag (Table 2-2)

Materials/Parts:

Tape, Pressure Sensitive, Item 45, Appendix D
Thread, Nylon, Size E, Item 23/24, Appendix D
Webbing, Nylon, Tubular, 3/4-inch, Item 46, Appendix D

Personnel Required:

43E(10) Parachute Rigger

Equipment Condition:

Inspected (paragraph 2-13)
Cleaned (paragraph 2-12)
Laid out on work table
Reference:

Group 03, MAC, Section II, Appendix B

a. *Inspect*. Refer to paragraphs 2-9 and 2-13 for inspection procedures.

b. *Service*. Refer to paragraph 2-12 for cleaning procedure.

c. *Repair.*

(1) *Stitching*. Stitch and restitch with size E nylon thread which matches the color of the original stitching, when possible. Lock all straight stitching by backstitching at least 1/2 inch. Restitch by overstitching each end of the stitch formation by 1/2 inch. Restitch directly over the original stitching, following the original stitch pattern as closely as possible.

(2) Marking and Restenciling. As required, restencil identification marks using the procedures in paragraph 2-19.

(3) Retaping. As required, retape riser clevis attaching loop located on one end of static line length as follows:

(a) Remove the remains of the original tape from the riser clevis attaching loop.

(b) Using a 2 1/2-inch length of 1-inch wide, pressure-sensitive tape, serve riser clevis attaching loop with one and a half turns (figure 2-65.1).

2-40. **Static Line (cont).**

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

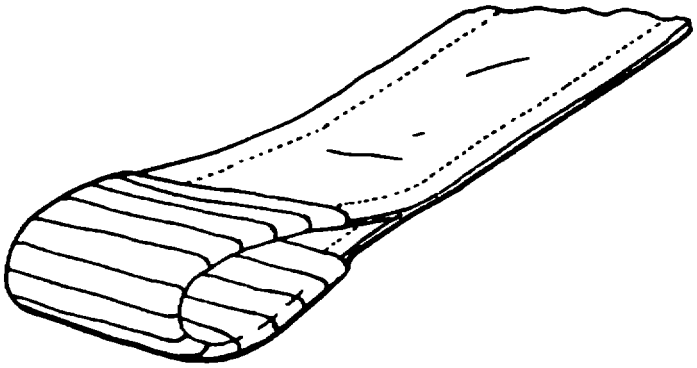


Figure 2-65.1. Retaping Riser Cevis Attaching Loop

d. *Replacement*. Replace an unserviceable static line by fabricating as follows:

(1) Remove riser clevis from clevis attaching loop. Retain riser clevis for further use, if serviceable.

(2) Cut a 192 1/2-inch length of 3/4-inch wide tubular nylon webbing and sear ends.

(3) Place a mark 14 inches from end and make a 7-inch long foldback on one end of the webbing length (figure 2-65.2). Beginning at seared edge, secure foldback by stitching two 3/16-inch wide by 4-inch long rows of double-throw zigzag stitching according to details in table 2-3. Stitching will be made using specifics in table 2-3.

(4) On opposite end of webbing length, mark 11 inches from end and make a 5 1/2-inch long foldback. Secure foldback using procedure in (3), above.

(5) Cut a 7 1/2 inch length of 3/4 inch wide tubular nylon webbing and sear the ends. Mark the static line 10 inches from end of the 3 inch loop. Mark the cut length of nylon 4 inches from one end and foldback along that line. Place 3 1/2 inch side of foldback against static line with the end of the 4 inch side aligned with the 10 inch mark on the static line. Beginning at seared edge, secure foldback by stitching two 3/16-inch wide by 2 1/2-inch long rows of double-throw zigzag stitching according to details in Table 2-3. Stitching will be made using specifics in Table 2-3.

2-40. **Static Line (cont).**

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

(6) Using a 2 1/2-inch of 1-inch wide, type I pressure-sensitive tape, serve the 1 1/2-inch long loop with one and a half turns.

(7) Stencil part numbers 11-1-219 on static line webbing using procedures in paragraph 2-19.

(8) Install a serviceable riser clevis on 1 1/2-inch long clevis attaching loop according to original riser clevis installation details.

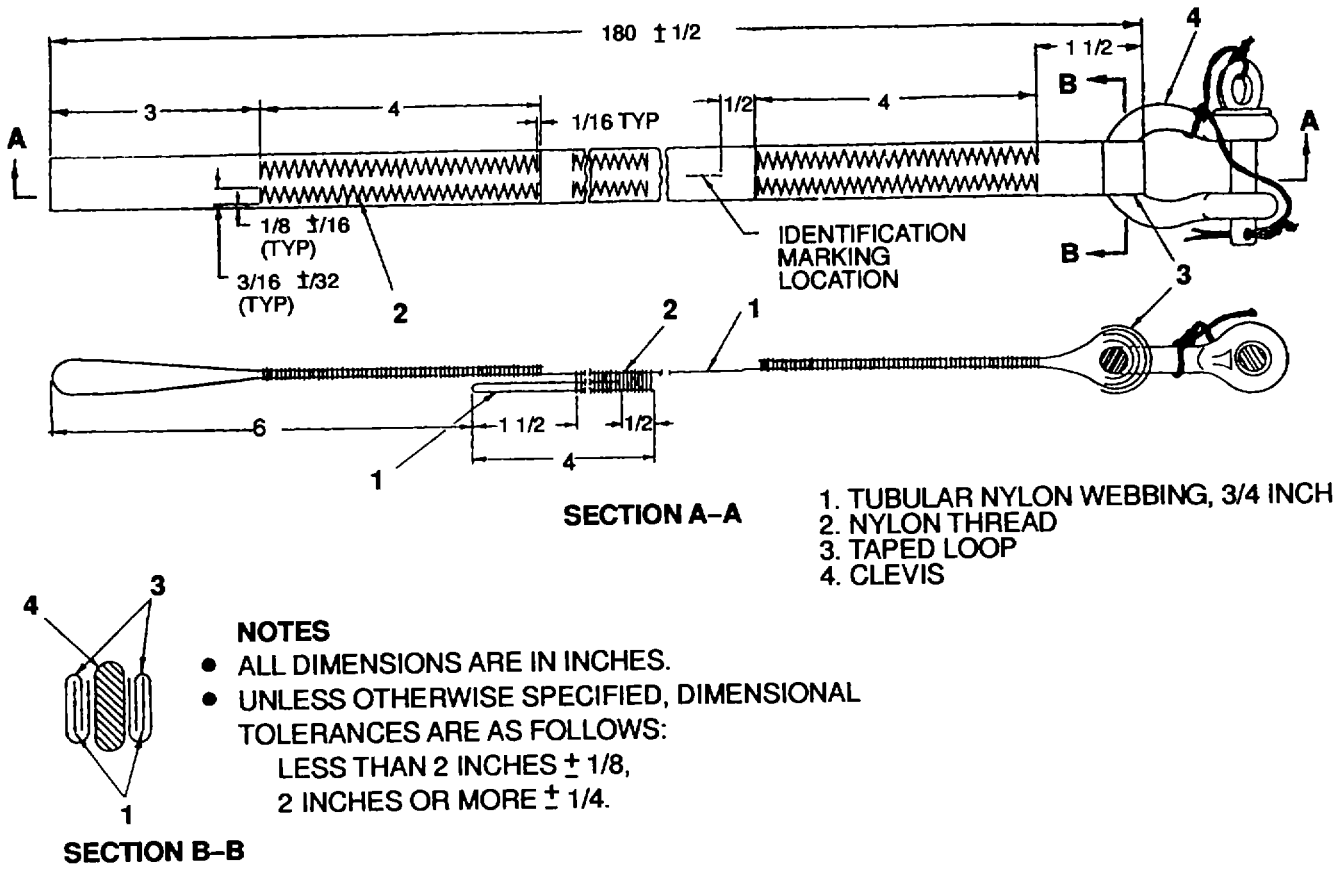


Figure 2-65.2. Static Line Construction Details

2-41. **Static Line Clevis.**

This task covers: a. Repair b. Replace

Tools:

Knife, item 5, Appendix B
Knie, Hot Metal, Item 6, Appendix B
Yardstick, Item 25, Appendix B

Equipment Condition:

Inspected (paragraph 2-9, 2-13)
Cleaned (paragraph 2-12)

Materials/Parts:

Wire, Item 38, Appendix D
Cord, Nylon, Type IA, hem 11, Appendix D

a. Repair. Repair a static line clevis using the following procedures, as applicable.

(1) Replacing a static line pin retaining cord.

(a) If applicable, cut and remove the original clevis pin retaining cord from the static line clevis body, the clevis pin, and the safety pin.

(b) Cut a 16-Inch length of type I nylon cord or an equivalent type cord and sear the ends.

(c) Pass one-half of the cord length around the static line clevis body, join the cord ends, and make a square knot snug against the clevis body (figure 2-66).

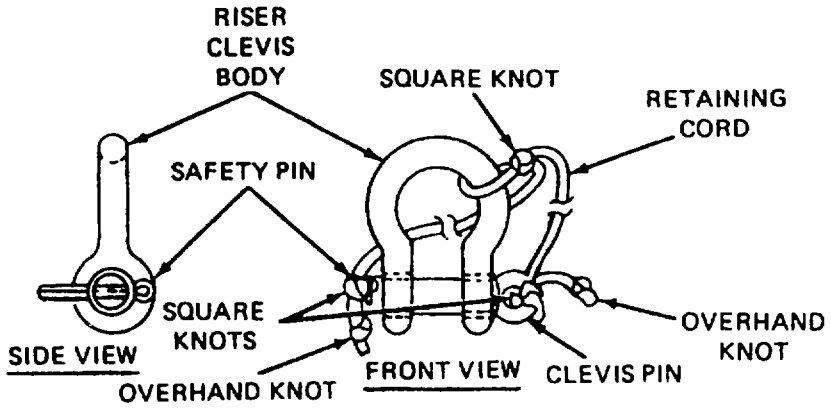


Figure 2-66. Static Line Clevis and Component.

(*d)* Pass one tie running end through the top of the clevis pin and secure the tie end snug against the clevis pin top with a square knot, leaving a 3/8-inch long running end.

(e) Make an overhand knot in the remaining running end at a point within 3/16 inch of the square knot.

(f) Secure the opposite cord running end to the top of the safety pin using the procedure in (d) above.

(2) Replacing a static line clevis safety pin.

(a) If applicable, remove the original safety pin from the static line clevis by untying the retaining cord running end which secures the pin to the clevis.

(b) Cut a 5-inch length of 0.080-inch diameter corrosion resisting steel wire.

(c) Using the cut wire length, form a 3 1/8-inch long static line clevis safety pin according to the details shown in figure 2-67.

(d) Attach the formed safety pin to the static line clevis using the original clevis pin retaining cord running end and the procedures in (1)(d) above.

b. *Replace*. Replace an unserviceable or missing static line clevis with a serviceable item from stock.

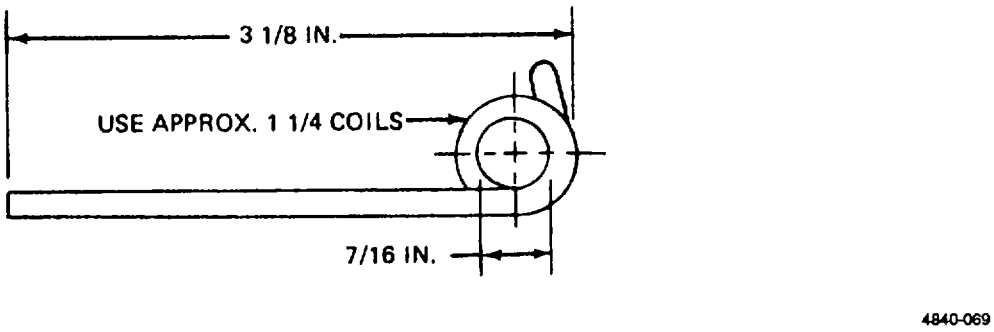


Figure 2-67. Static Line Clevis Safety Pin Construction.

2-42. **Drogue.**

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

Equipment Condition:

Inspected (paragraph 2-9, 2-13)
Cleaned (paragraph 2-12)
Detach from canopy

a. *Inspect*. Refer to paragraph 2-9 and 2-13 for inspection procedures.

b. *Service*. Refer to paragraph 2-12 for cleaning procedure.

c. *Replace*. Replace an unserviceable drogue with a serviceable one from stock.

Section VII. PREPARATION FOR STORAGE OR SHIPMENT

Paragraph Page

2-43. **Storage.**

a. *Storage Criteria*. Administrative storage of air delivery equipment will be accomplished in accordance with AR 750-1 and the instructions furnished below.

b. General Storage Requirements. To insure that serviceability standards of stored air delivery equipment are maintained, every effort will be exerted to adhere to the following storage requirements:

(1) When available, a heated building should be used to store parachutes and other air delivery items.

(2) Air delivery equipment will be stored in a dry, well-ventilated location and protected from pilferage, dampness, fire, dirt, insects, rodents, and direct sunlight.

(3) Air delivery equipment will not be stored in a manner which would prevent ventilation or interfere with light fixtures, heating vents, fire-fighting devices, cooling units, exits, or fire doors.

(4) Air delivery items will not be stored in a damaged, dirty, or damp condition.

(5) All stored air delivery items will be marked, segregated, and located for accessibility and easy identification.

(6) Air delivery equipment will not be stored in direct contact with any building floor or wall. Storage will be accomplished using bins, shelves, pallets, racks, or dunnage to provide airspace between the storage area floor and the equipment. If preconstructed shelving or similar storage accommodations are not available, locally fabricate storage provisions using suitable lumber or wooden boxes.

(7) All available materials handling equipment should be used as much as possible in the handling of air delivery items.

(8) Periodic rotation of stock, conversion of available space, proper housekeeping policies, and strict adherence to all safety regulations will be practiced at all times.

c. *Storage Specifics for Parachutes*. In addition to the storage requirements stipulated in subparagraph b. above, the following is a list of specifics which must be enforced when storing parachutes:

(1) Except for those assemblies required for contingency operation, parachutes will not be stored in a packed configuration.

(2) Stored parachute assemblies will be secured from access by unauthorized personnel.

(3) A parachute which is in storage, and is administered a cyclic repack and inspection, will not be exposed to incandescent light or indirect sunlight for a period of more than 36 hours. In addition, exposure to direct sunlight should be avoided entirely.

2-44. **In-Storage Inspection.**

a. *General Information*. An in-storage inspection is a physical check conducted on a random sample of parachutes which are located in storage.

b. *Intervals*. Parachutes in storage will be inspected at least semiannually and at more frequent intervals if prescribed by the local parachute maintenance officer.

c. *Inspection*. Inspect to insure that the parachute is ready for issue.

(1) Check the parachute for proper identification.

(2) Check that no damage or deterioration has been incurred.

(3) Ensure that all modifications or similar requirements have been completed.

(4) Check the adequacy of the storage facilities; efforts taken to control pests and rodents; and protection against unfavorable climatic conditions.

2-45. **Shipment.**

a. *Initial Shipment* The initial packaging and shipping of parachutes is the responsibility of item manufacturers who are required to comply with federal and military packing specifications as stipulated in contractual agreements. Air delivery equipment is normally shipped to depot activities by domestic freight or parcel post, packaged to comply with overseas shipping requirements. Except for those air delivery items which are unpackaged and subjected to random inspections or testing by a depot activity, parachutes received by a using unit will be contained in original packaging materials.

b. *Shipping Between Maintenance Activities*. The shipping of air delivery equipment between organizational and direct support maintenance activities will be accomplished on a signature verification basis using whatever means of transportation is available. Used parachutes and other fabric items will be tagged in accordance with DA PAM 738-751, and rolled, folded, or placed loosely in a parachute pack, or other suitable container, as required. Used wood and metal air delivery items will be tagged as prescribed in DA PAM 738-751 and placed in a suitable type container, if necessary. Unused air delivery equipment will be transported in original shipping containers. During shipment, every effort will be made to protect air delivery equipment from weather elements, dust, dirt, oil, grease, and acids. Vehicles used to transport parachutes will be inspected to ensure the items are protected from the previously cited material damaging conditions.

c. *Other Shipping Instructions*. Air delivery equipment destined for domestic or overseas shipment will be packaged and marked in accordance with AR 700-15 Packaging of Material, TM 38-230-1, and TM 38-230-2 Preservation, Packaging, Packing of Military Supplies and Equipment (Vol.1 and 2).

2-46. Accordion Folding/Rigger Rolling.

a. *Accordion Folding*. Personnel parachute canopy assemblies that are not packed for use should be accordion folded prior to entry into storage. To accordion fold a parachute canopy assembly, perform the following:

(1) Place the parachute canopy in proper layout under partial tension and dress the outside edges of both gore groups.

(2) Fold the left group of gores over the right group of gores (A, figure 2-68). Release tension.

(3) "Daisy Chain" the suspension lines and S-fold the "chained' lines on top of the applicable parachute pack (B, figure 2-68).

(4) Place the lower end of the canopy on top of the S-folded suspension lines and locate the lower edge of the canopy skirt at the lower end of the pack.

(5) Accordion fold the remaining canopy length neatly on top of the canopy lower end (C, figure 2-68). Turn the canopy vent under the last fold.

(6) Temporarily secure the folded canopy to the pack with available webbing (D, figure 2-68).

(7) Upon completion of the accordion folding process, place the folded parachute assembly in a suitable type container for storage.

2-46. **Accordion Folding/Rigger Rolling (cont).**

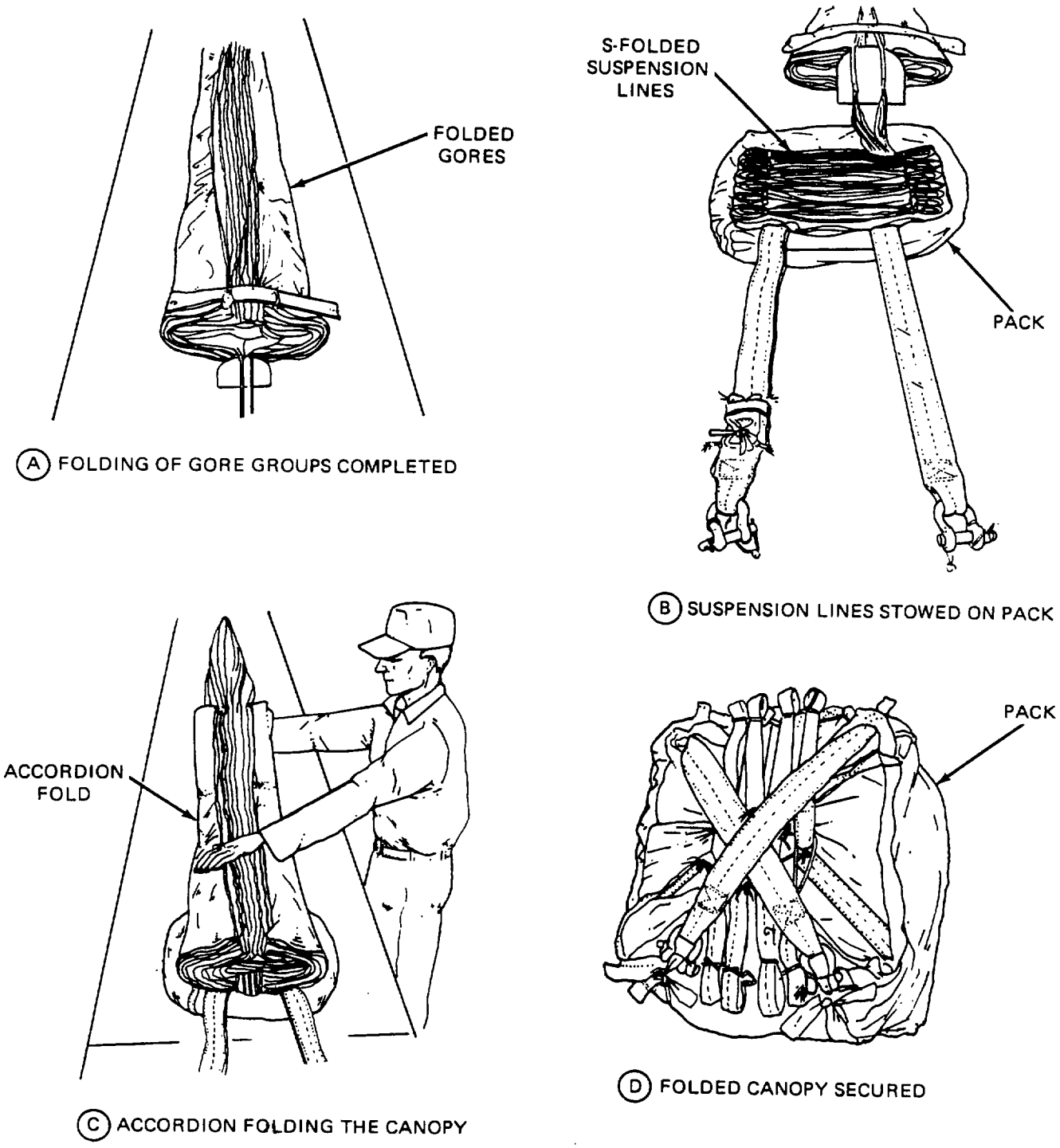


Figure 2-68. Accordion Folding a Parachute Canopy Assembly.

b. *Rigger Rolling*. Personnel parachute assemblies will be rigger rolled prior to being sent to or returned from a parachute repair activity for ease of handling and to prevent suspension line entanglement. Rigger roll a parachute as follows:

(1) Place the parachute in proper layout and apply partial tension.

(2) Grasp the right and left suspension line groups. Using a fast circular motion, flip each of the two gore groups up and to the center radial seam. Tighten each gore group roll by hand bringing both rolled gore groups together at the center radial seam (A, figure 2-69).

(3) Release tension and disconnect the canopy vent from the vent attaching device.

(4) Fold the canopy vent down between the rolled gore groups to a point within 18 inches of the canopy skirt lower edge.

(5) Beginning at the folded upper end of the canopy, roll the canopy tightly toward the, canopy skirt (B, figure 2-69). Ensure the width of the rolled canopy does not exceed the width of the applicable parachute pack.

(6) Continue rolling the canopy toward the lower end of the suspension lines and risers, locating the lines and riser webbing around the center of the roll (C, figure 2-69).

(7) Disconnect the suspension lines/risers from the attaching device and place the rolled canopy assembly on top of the pack.

(8) Secure the rolled canopy assembly within the confines of the pack using a length of suitable type cord (D, figure 2-69).

2-46. **Accordion Folding/Rigger Rolling (cont).**

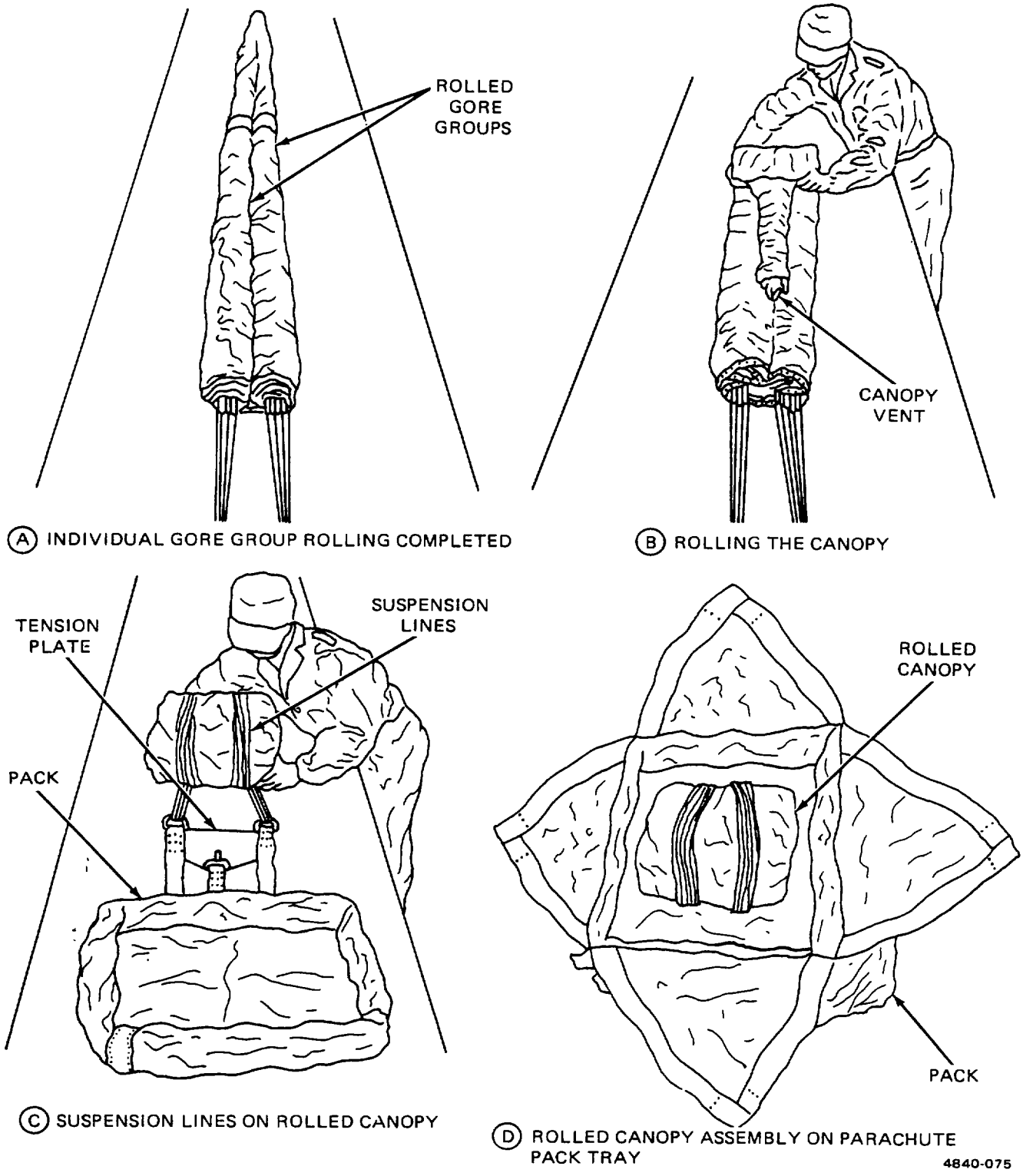


Figure 2-69. Rigger Rolling a Parachute Canopy Assembly.

APPENDIX A

REFERENCES

A-1. **Scope**. This appendix lists all forms, technical manuals, and miscellaneous publications referenced in, or to be used with, this manual.

A-2. **Publication indexes**. The following publication indexes should be consulted frequently for the latest changes or revisions of references given in this appendix and for new publications relating to the material covered in this manual:

Consolidated Index of Army Publications and Blank Forms	DA PAM 25-30
The Army Maintenance Management System (TAMMS)	DA PAM 738-750
The Army Maintenance Management System (Aviation)	DA PAM 738-751

A-3. **Technical Manuals.**

Preservation, Packaging, Packing of Military Supplies and Equipment (Volts 1 and 2)	TM 38-230-1 and TM 38-230-2
Procedures for the Destruction of Air Delivery Equipment to Prevent Enemy Use	TM 43-0002-1

A-4. **Field Manuals**.

First Aid for Soldiers	FM 21-11

A-5. **Army Regulations.**

Dictionary of United States Army Terms	AR 310-25
Authorized Abbreviation and Brevity Codes	AR 310-50
Packaging of Material	AR 700-15
Army Materiel Maintenance Concepts and Policies	AR 750-1
Air Delivery, Parachute Recovery, and Aircraft Personnel Ejection Systems	AR 750-32

A-6. **Technical Bulletins.**

Maintenance Expenditure Limits for FSC Group 16	TB 43-0002-43

A-7. **Forms.**

Army Parachute Log Record	DA Form 3912 DA Form 10-42
Equipment Inspection and Maintenance Worksheet	DA Form 2024
Packing Improvement Report	SF Form 364
Quality Deficiency Report	SF Form 368

A-8. **Joint Regulations.**

Joint Airdrop Inspection Records, Malfunction Investigations, and Activity Reporting	AFR 55-10 AR 59-4 OPNAVINST 4630-24B MCO 13480.1B

APPENDIX B

MAINTENANCE ALLOCATION CHART

Section 1. INTRODUCTION

B-1. **General.**

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance levels.

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.

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 will be limited to and defined as follows:

a. *Inspect*. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (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; i.e., 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 or exact position, or by setting the operating characteristics to specified parameters.

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

f. *Calibrate*. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic 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 is shown as the 3d position code of the SMR code.

i. *Repair*. The application of maintenance services, including fault location/troubleshooting, removal/installation, and disassembly/assembly procedures, and maintenance actions to Identify trouble and 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 services/actions necessary for the restoration of unserviceable equipment to 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 (hours/miles, etc.) considered in classifying Army equipment/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. End item group shall be "00".

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

c. *Column 3. Maintenance/Function*. 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, by the listing of work time figure in the appropriate subcolumn(s), the level of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform the function listed in 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 will be shown, for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module and 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/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as follows:

C - Operator or crew
O - Unit Maintenance
F - Intermediate Direct Support Maintenance
H - Intermediate General Support Maintenance
D - Depot Maintenance

e. *Column 5. Tools and Equipment*. Column 5 specifies by code, those common tools sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. *Column 5. Remarks*. This column shall, when applicable contain a letter code, in alphabetic order, which shall be keyed to the remarks contained in Section IV.

B-4. **Explanation of Columns In Tool and Test Equipment Requirements, Section lll.**

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

b. *Column 2. Maintenance Category*. The best category of maintenance authorized to use the tool or test equipment.

c. *Column 3. Nomenclature*. Name or identification of the tool 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.

B-5. **Explanation of Columns In Remarks, Section IV.**

a. *Column 1. Reference 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 FOR G-14 34-FOOT DIAMETER CARGO PARACHUTE ASSEMBLY**

(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5)	(6)
			UNIT		INTERMEDIATE		DEPOT		
GROUP NUMBER	COMPONENT ASSEMBLY	MAINTENANCE FUNCTION	C	O	F	H	D	TOOLS AND EQUIPMENT	REMARKS
01	Canopy	Inspect		0.8					A
		Service		0.3					B
		Repair		0.4					D, E
		Replace		0.1					
	Bridle Loop	Replace		0.3					
		Repair		0.1					
	Vent Line	Replace		0.3					
		Repair		0.1					

G-14-34-FOOT DIAMETER CARGO PARACHUTE ASSEMBLY (cont)

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL UNIT C	UNIT O	INTERMEDIATE F	INTERMEDIATE H	DEPOT D	(5) TOOLS AND EQUIPMENT	(6) REMARKS
	Vent Reinforcement Band (Upper Lateral)	Repair		0.2					
	Gore Panel (Upper and Lower)	Replace			1.2				
		Repair		0.4					
	Radial Tape	Repair		0.4					
	Annular Ring Reinforcement (Upper and Lower)	Repair		0.3					
	Skirt Reinforcement (Lower Lateral Band)	Repair		0.3					
	V-Tab	Replace		0.4					
		Repair		0.3					
	Suspension Line	Replace		0.8					
		Repair		0.3					
	Suspension Line Reinforcement	Replace		0.4					
		Repair		0.3					
	Riser	Replace		0.6					
		Repair		0.3					
	Riser Clevis	Replace		0.1					
		Repair		0.1					
	Parachute Inspection Data Pocket	Replace		0.1					
		Repair		0.2					
02	Pack	Inspect		0.1					A
		Service		0.1					B
		Replace		0.1					
		Repair		0.3					E
Pack Edge Binding		Repair		0.3					
Pack Closing Loop		Replace		0.3					
Repair		0.1							

G-14-34-FOOT DIAMETER CARGO PARACHUTE ASSEMBLY (cont)

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL UNIT C	UNIT O	INTERMEDIATE F	INTERMEDIATE H	DEPOT D	(5) TOOLS AND EQUIPMENT	(6) REMARKS
	Pack Tiedown Strap	Replace		0.3					
	Loop	Repair		0.1					
	Panels and Flaps	Repair		0.3					
	Static Line Retaining Strap	Replace		0.3					
		Repair		0.1					
03	Static Line	Inspect		0.1					A
		Service		0.1					B
		Replace		0.4					
		Repair		0.1					E
	Static Line Clevis	Replace		0.1					
		Repair		0.2					
04	Drogue	Inspect		0.1					A
		Service		0.1					B
		Replace		0.1					

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS

Tool or test equipment ref code (1)	Maintenance Category (2)	Nonmenclature (3)	National NATO stock number (4)	PN Tool number (5)
1	O	Brush, Scrub, Household	7920-00-282-2940	H-B-1490
2	O	Brush, Stenciling	7520-00-248-9285	H-B-621
3	O	File, Flat	5110-00-249-2848	GGG-F-325
4	O	Iron, Household		
5	O	Knife	5110-00-162-2205	MIL-K-818C
6	O	Knife, Hot Metal	3439-01-197-7656	4025

TOOL AND TEST EQUIPMENT REQUIREMENTS (cont)

Tool or test equipment ref code (1)	Maintenance Category (2)	Nonmenclature (3)	National NATO stock number (4)	PN Tool number (5)
7	O	Lead, Pig, 5-pounds	9650-00-264-5050	QQ-C-40
8	O	Line Separator	1670-00-092-8661	11-1-17-1
9	O	Mallet, Rawhide	5120-00-293-3397	GGG-H-33
10	O	Needle, Tacking	8315-00-262-3733	FF-N-180
11	O	Packing Paddle	1670-00-764-6381	11-1-152
12	O	Packing Weight	1670-00-375-9134	66C38599
13	O	Pliers, Lineman	5120-00-756-1156	GGG-P471
14	O	Pot, Melting, Electric	5120-00-242-1276	WG441
15	O	Shears	5110-00-223-6370	GGG-S-278
16		Set, Chuck and Die	5120-00-694-5153	7540756
17	O	Sewing Machine, Light-Duty	See Table 2-2	
18	O	Sewing Machine, Zig-Zag	See Table 2-2	
19	O		Sewing Machine, Heavy-Duty,	See Table 2-2
20	O	Sewing Machine, Medium-Duty	See Table 2-2	
21	O	Sewing Machine, Darning	See Table 2-2	
22	O	Sewing Machine, Very Heavy-Duty	See Table 2-2	
23	O	Screwdriver, Flat Tip	5120-00-293-0314	GGG-S-121
24	O	Separator, Link	1670-00-072-4941	MIL-S-43243
25		Yardstick	5120-00-985-6610	GGG-Y-0035

Section IV. REMARKS

Reference Code	REMARKS/Notes
A	Inspect is a technical-rigger type inspection.
B	Service is to clean equipment.
C	Service is the packing of parachutes.
D	Repair by restitching, darning or restenciling canopy panel.
E	Repair at unit maintenance consists of darning, restitching, patching and replacement of parts authorized for organizational maintenance. Direct support repair consists of replacing gore panels.

APPENDIX C. UNIT AND DIRECT SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

SECTION I. INTRODUCTION

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 and direct support maintenance of the Parachute, Cargo type: 34-foot diameter, Model G-14 Low-Velocity Cargo Parachute. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the source, maintenance and recoverability (SMR) codes.

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

a. Section II. Repair Parts List. A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in item name sequence. Repair parts kits are listed separately in their own functional group within Section II. Repair parts for repairable special tools are also listed in this section. Items listed are shown on the associated illustration(s)/figure(s).

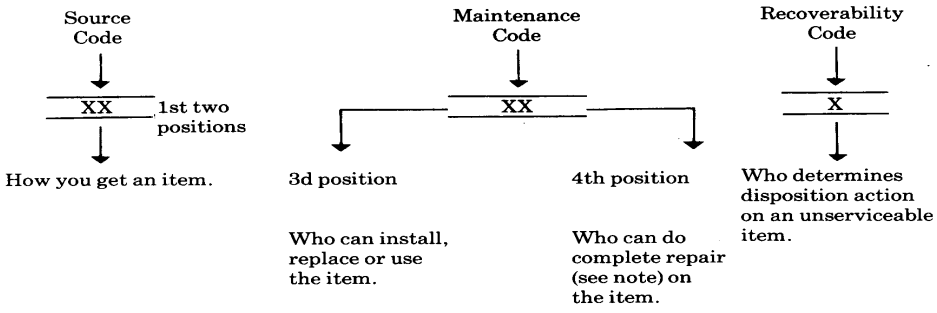
b. Section III. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance.

c. Section IV. Cross-references Indexes. A list, in National Item Identification Number (NIIN) 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 number in alphanumeric sequence and cross references NSN, CAGEC and part number.

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.

(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:

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 org/AVUM category MF—Made at DS/AVUM category MH—Made at GS category 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 org/AVUM category AF —Assembled by DS/AVUM category 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. Orderits next higher assembly. (Also, 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 by Reciprocating Compressor 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 7501.

(2) Maintenance Code. Maintenance codes tells 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 one of the following levels of maintenance.

Code		Application/Explanation
C	-	Crew or operator maintenance done within organizational or aviation unit maintenance.
0	-	Organizational or aviation unit category can remove, replace, and use the item.
F	-	Direct support or aviation intermediate level can remove, replace, and use the item.
H	-	General support level can remove, replace, and use the item.
L	-	Specialized repair activity can remove, replace, and use the item.
D	-	Depot level 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 the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes. This position will contain one of the following maintenance codes.

Code		Application/Explanation
O	-	Organizational or (aviation unit) is the lowest level that can do complete repair of the item.
F	-	Direct support or aviation intermediate 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	-	Non-reparable. 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 third position of SMR Code.

O - Reparable item. When not economically reparable, condemn and dispose of the item at organizational or aviation unit level

F - Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support or aviation intermediate 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, etc., that supplies the item.

d. PART NUMBER (Column (4)). Indicates the primary number used by the manufacturer, (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

NOTE

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

e. DESCRIPTION AND USABLE ON CODE (UOC) (Column (5). This column includes the following information:

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

(2) The physical security classification of the item is indicated by the parenthetical entry, e.g., Phy Sec C1 - Confidential, Phy Sec C1 (S) - Secret, Phy Sec C1 (T) - Top Secret.

(3) Items that are included in kits and sets are listed below the name of the kit or set.

(4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.

(5) Part numbers for bulk materials are referenced in this column in the line item entry for the item to be manufactured/fabricated.

(6) When the item is not used with all serial numbers of the same model, the effective serial numbers are shown on the last line(s) of the description (before UOC).

(7) The usable on code, when applicable (see paragraph 5, Special Information).

(8) In the Special Tools List section, the basis of issue (BOI) appears as the lastline(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionately.

(9) 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.

(10) The indenture, shown as dots appearing before the repair part, indicates that the item is **a** repair part of the next higher assembly.

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 in lieu of a quantity indicates that the quantity is variable and may vary from application to application.

4. EXPLANATION OF COLUMNS (SECTION IV).

a. NATIONAL STOCK NUMBER (NSN) INDEX.

(1) STOCK NUMBER column. This column lists the NSN by National item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN, i.e.

NSN
530-01-5741467
NIIN

When using this column to locate an item, ignore the first4 digits of the NSN. However, the complete NSN should be used when ordering 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, etc., 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 Sections II and III.

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

(5) PART NUMBER column. Indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

5. SPECIAL INFORMATION.

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

b. ASSOCIATED PUBLICATIONS. The publications listed below pertain to the and its components.

Publication	Short Title
NA	

NOTE

Associated publications shall not be listed here in combined narrative and RPSTL manuals.

6. HOW TO LOCATE REPAIR PARTS.

a. When National Stock Number or Part Number is NOT Known.

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

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

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

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

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

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

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

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

7. ABBREVIATIONS. Abbreviations used in this manual are listed in MIL-STD12.

SECTION II

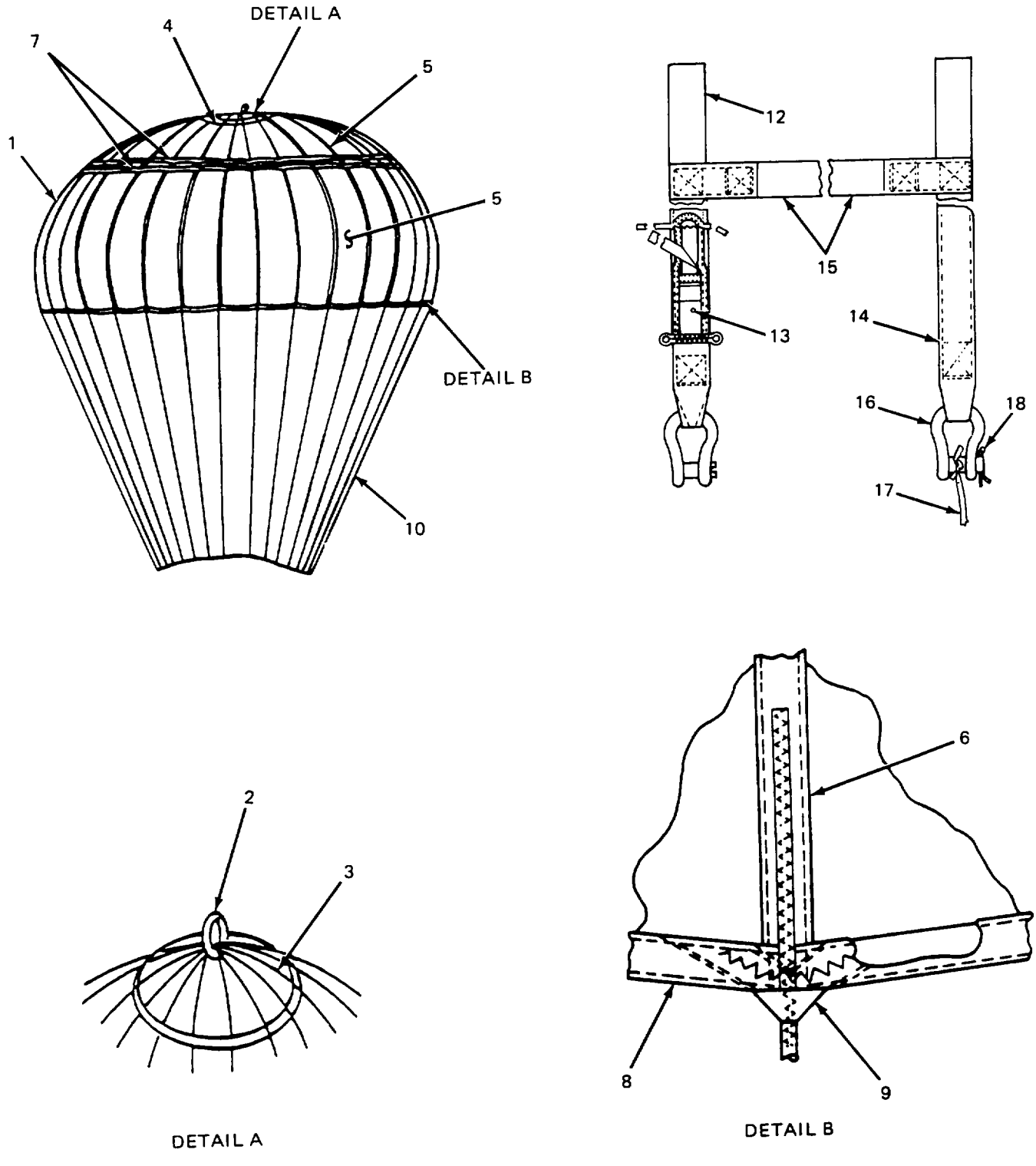


Figure C-1. 34-Foot Diameter Cargo Parachute Canopy.

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 01 CANOPY, 34-FOOT DIAMETER CARGO PARACHUTE	
				FIG. C-134-FOOT DIAMETER CARGO PARACHUTE CANOPY	
1	XAOFF	81377	11-1-579	CANOPY, CARGO, 34-FOOT DIAMETER	1
2	MOOOO	81377	11-1-579-7	LOOP, BRIDLE, MAKE FROM WEBBING, COTTON CLASS 2B, TYPE VIII, OD P/N MIL-W-5665 & THREAD, NYLON SIZE 6, P/N V-T-295	1
3	MFFFF	81377	11-1-579-3	LINE, VENT, MAKE FROM CORD NYLON, CORELESS TYPE I, OD P/N MIL-C-7515 & THREAD, NYLON, SIZE E, P/N V-T-295	16
4	MFFFF	81377	11-1-579-8	REINFORCEMENT, VENT, MAKE FROM WEBBING NYLON, TYPE I, 9/16-IN. W, OD & THREAD, NYLON, SIZE E, P/N V-T-295	1
5	MFFFF	81377	11-1-579-2	GORE, PANEL, MAKE FROM CLOTH, COTTON/ POLYESTER, TYPE XX, OD, P/N XXXXX	32
6	MFFFF	81377	11-1-580-4	TAPE, RADIAL, MAKE FROM, WEBBING, NYLON, TYPE IV, 1/2-IN. W, OD, P/N MIL-T-4088	32
7	MFFFF	81377	11-1-580-8	REINFORCEMENT, ANNULAR RING, MAKE FROM, WEBBING, NYLON, TYPE I, 9/16-IN. W, P/N MIL-W-4088	2
8	MFFFF	81377	11-1-579-8	REINFORCEMENT, SKIRT, MAKE FROM, WEBBING, NYLON, TYPE I, 9/16-IN. W, OD, P/N MIL-W-4088	1
9	MFFFF	81377	11-1-580-3	V-TAB, MAKE FROM WEBBING, NYLON, TYPE I, 9/16-IN. W, MIL-W-4088	32
10	MFFFF	81377	11-1-579-3	LINE, SUSPENSION, MAKE FROM CORD, NYLON, TYPE I, OD, P/N MIL-C-7515 & THREAD NYLON, SIZE E, P/N V-T-295 32	
11	MFFFF	81377	11-1-580-11	SUSPENSION, LINE REINFORCEMENT, MAKE FROM WEBBING, NYLON, TYPE XII, P/N MIL-W-4088.....	4
12	MFFFF	81377	11-1-581	RISER, PARACHUTE	1
13	PAOZO	81377	11-1-258-7	POCKET, PARACHUTE INSPECTION DATA, MAKE FROM WEBBING NYLON, TYPE II, 1-INCH WIDE P/N MIL-W-5665	1
14	MFFFF	81377	11-1-581-1.	STRAP, RISER MAKE FROM WEBBING NYLON, TYPE VI, OD, P/N MIL-W-4088 & THREAD NYLON, SIZE 3, P/N V-T-295	2
15	MFFFF	81377	11-1-581-2.	SPREADER, RISER MAKE FROM WEBBING NYLON, TYPE VI, OD, P/N MIL-W-4088 & THREAD NYLON, SIZE 3, P/N V-T-296	1

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				FIG. C-1 34-FOOT DIAMETER CARGO PARACHUTE CANOPY (CONT)	
16	PAOOZ	96906	MS70086-1	CLEVIS	*2*
17	MOOZZ	96906	MS70086	CORD, RETAINING, MAKE FROM CORD, NYLON TYPE IA, OD, PIN MIL-C-7515	2
18	PAOZZ	96906	MS24665-355	PIN, COTTER	*2*
				END OF FIGURE	

SECTION II

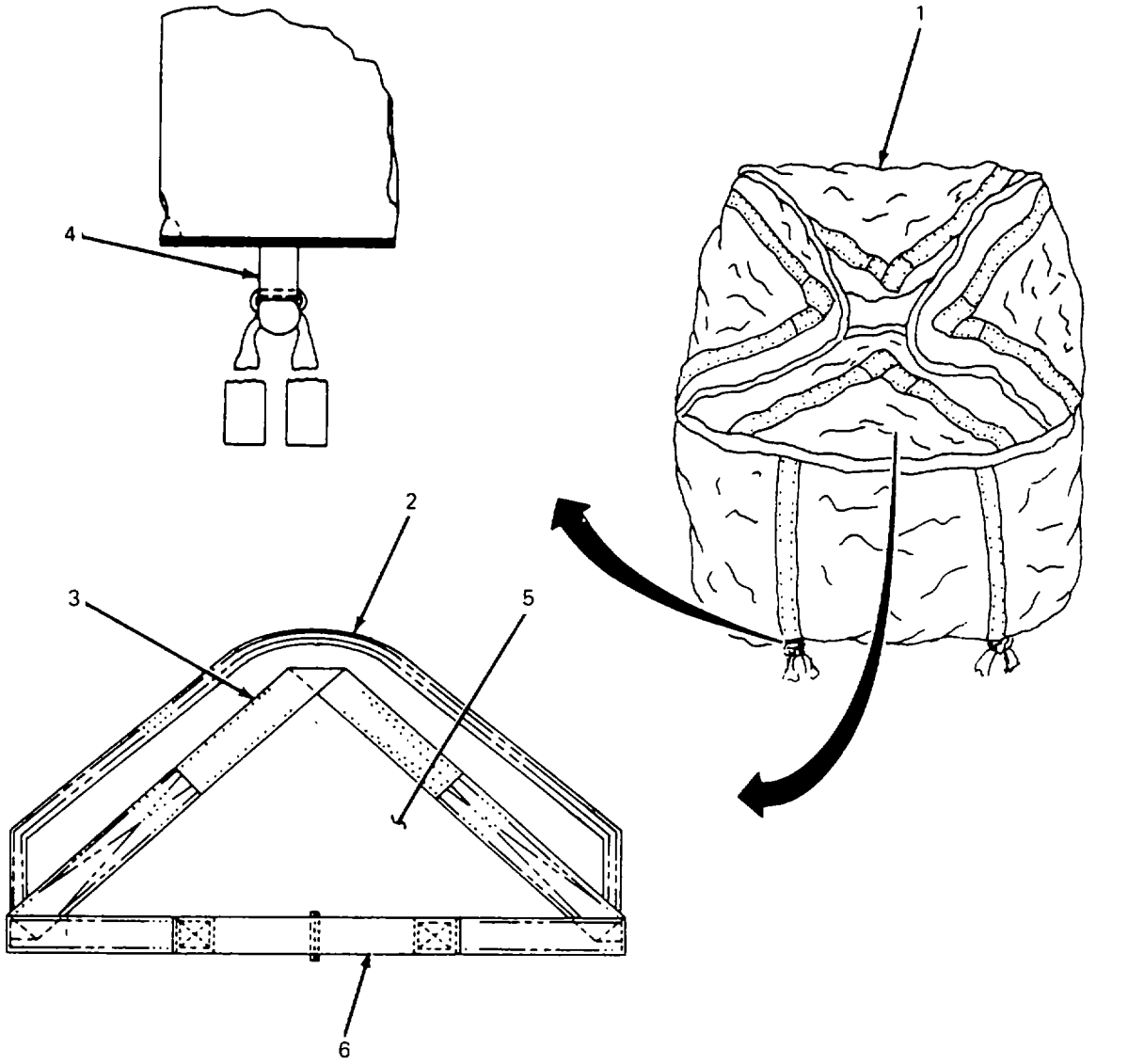
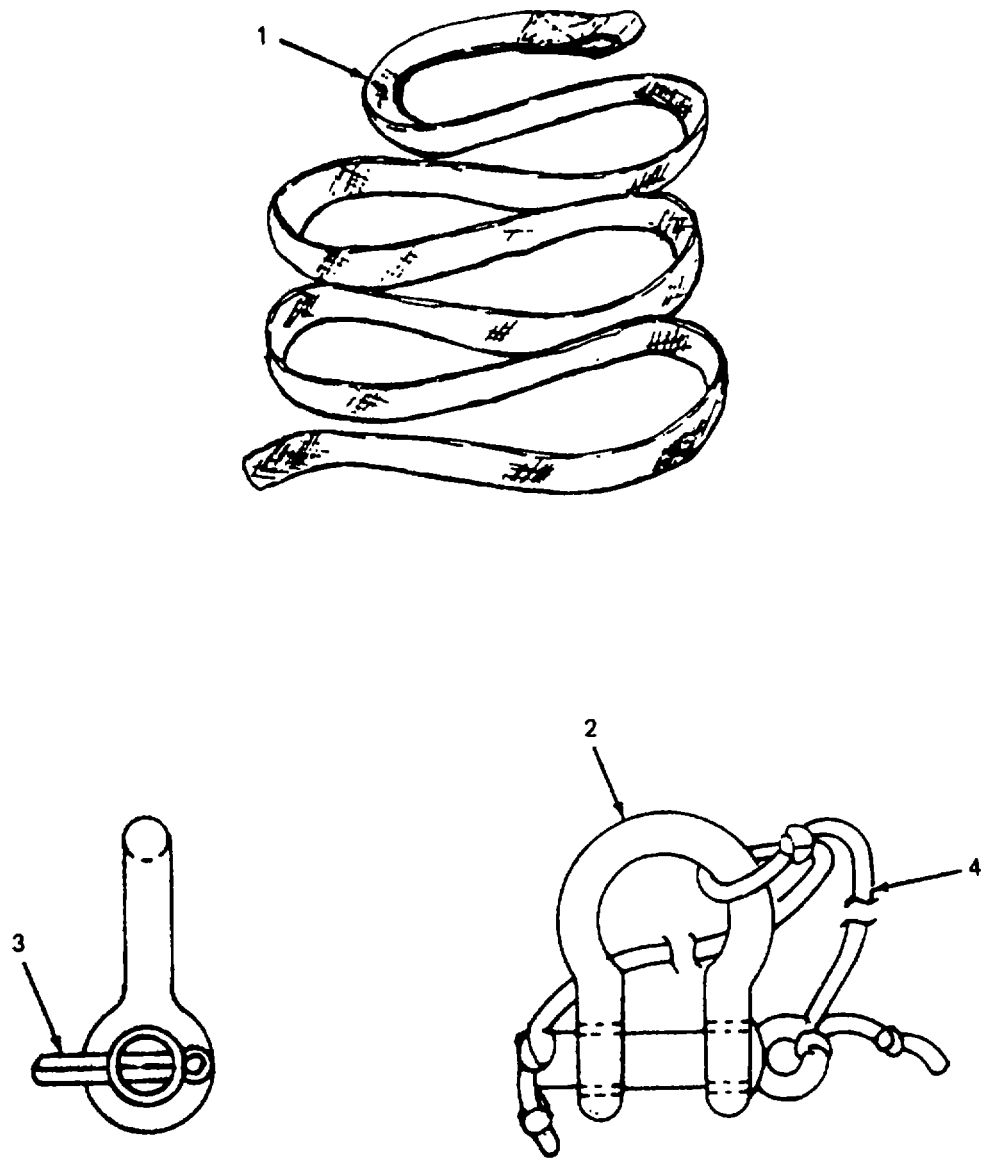


Figure C-2. Pack, Parachute.

Section II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 02 PACK, PARACHUTE	
				FIG C-2PACK, PARACHUTE 51 D6553	
1	PAOOO	98750	51 D6553	PACK, PARACHUTE	1
2	MOOOO	98750	51 D6554-6	BINDING, PACK EDGE, MAKE FROM TAPE, COTTON, 3/4-IN. WIDTH, TYPE 1II, OD, CLASS 4, P/N MIL-W-530 .	
3	MOOOO	98750	51 D6554-7	LOOP, PACK CLOSING, MAKE FROM WEBBING COTTON, TYPE II, OD, P/N MIL-W-5665 & THREAD NYLON SIZE E, P/N V-T-295	4
4	MOOOO	98750	51 D6554-4	LOOP, PACK TIEDOWN STRAP, MAKE FROM WEBBING, COTTON, TYPE II, OD, P/N MIL-W-5665 & THREAD NYLON, SIZE 3 P/N V-T-295	4
5	MOOOO	98750	51 D6554-5	PANELS AND FLAPS, MAKE FROM CLOTH, COTTON, DUCK, 12.29 OZ, TYPE 111, OD, CLASS B, P/N CCC-C-419 .	
6	MOOOO	98750	51D6554-9	STRAP, STATIC LINE RETAINING, MAKE FROM WEBBING, COTTON, TYPE II, OD, P/N MIL-W-5665, & THREAD NYLON, SIZE E, P/N V-T-295	2
				END OF FIGURE	

SECTION II



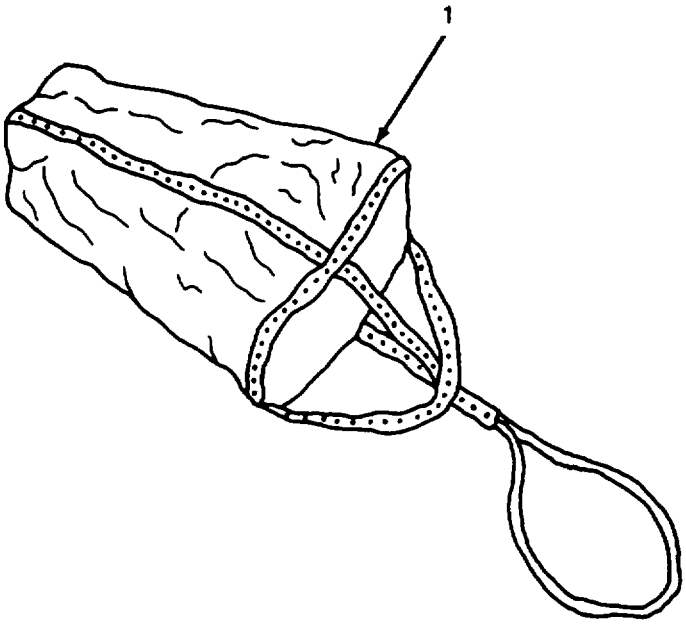
4840-09(

Figure C-3. Static Line.

Section II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 03 STATIC LINE	
				FIG. C-3 STATIC LINE 11-1-219	
1	MOOOO	81377	11-1-219	STATIC LINE, CARGO PARACHUTE, MAKE FROM,1 P/N MIL-W-5625, WEBBING NYLON TUBULAR, 3/4 INCH**I**	
2	PAODZ	96906	MS70086-1	CLEVIS	1
3	PAOZZ	96906	MS24665-355	PIN, COTTER.....	1
4	MOOZZ	96906	MS70086-CORD	CORD, RETAINING, MAKE FROM CORD NYLON, TYPE IA, OD, P/N MIL-C-7515	1
				END OF FIGURE	

SECTION II



4840-076

Figure C-4. Drogue, Parachute.

Section II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 04 DROGUE, PARACHUTE	
				FIG C-4 DROGUE, PARACHUTE 61 D2459	
1	PAOOO	98750	61D2459	DROGUE, PARACHUTE.....	1
				END OF FIGURE	

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 99 BULK MATERIALS FIG BULK	
1	PAOZZ	81349	MIL-C-7350	CLOTH, NYLON, PARACHUTE TYPE I, 3.5 OZ NATURAL	V
2	PAOZZ	81348	CCC-C-419	CLOTH, NYLON, PARACHUTE TYPE 1I1, 12.29 OZ, OD	V
3	PAOZZ	81349	MIL-C-7515	CORD, NYLON, TYPE IA, OD	V
4	PAOZZ	81349	MIL-C-5040	CORD, NYLON, TYPE IA, OD	V
5	PAOZZ	81349	MIL-T-43566	TAPE, TEXTILE, TYPE I, CLASS 4, 1 1/2-IN. WIDE OD.....	V
6	PAOZZ	81349	MIL-T-5561	TAPE, TEXTILE, TYPE 111, 3/4-IN. WIDE	V
7	PAOZZ	81349	V-T-295	THREAD, TYPE I, SIZE E, CLASS A OD	V
8	PAOZZ	81349	V-T-295	THREAD, TYPE I, SIZE E, CLASS A WHITE	V
9	PAOZZ	81349	V-T-295	THREAD, TYPE I, SIZE FF, CLASS A OD	V
10	PAOZZ	81349	V-T-295	THREAD, TYPE I, SIZE FF, CLASS A, WHITE	V
11	PAOZZ	81349	V-T-295	THREAD, TYPE I, SIZE 3, CLASS A, OD	V
12	PAOZZ	81349	V-T-295	THREAD, TYPE I, SIZE 3, CLASS A, WHITE	V
13	PAOZZ	81349	MIL-W-4088	WEBBING, NYLON, TYPE I, 9/16-IN. WIDE OD.....	V
14	PAOZZ	81349	MIL-T-5038	WEBBING, NYLON, TYPE IV, 1 -IN, WIDE OD	V
15	PAOZZ	81349	MIL-W-5625	WEBBING, NYLON, TUBULAR, 314-IN. WIDE OD	V
16	PAOZZ	81349	MIL-W-5665	WEBBING, TEXTILE, TYPE VIII, CLASS 2B OD	V
17	PAOZZ	81349	MIL-W-4088	WEBBING, TEXTILE, TYPE VI, OD	V
18	PAOZZ	81349	MIL-W-5665	WEBBING, TEXTILE, TYPE 11, 1-IN.W, OD	V
				END OF FIGURE	

Section III. SPECIAL TOOLS LIST

Not Applicable

SECTION IV **CROSS REFERENCE INDEXES**

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
8315-00-176-8083	BULK	7	8310-00-262-2770	BULK	9
8305-00-205-1478	BULK	1	8310-00-262-2772	BULK	8
1670-00-217-2421	C-2	10	8305-00-263-2472	BULK	16
5320-00-231-6589	C-3	1	8310-00-267-3024	BULK	11
8310-00-227-1244	BULK	10	8310-00-267-3027	BULK	12
8310-00-248-9714	BULK	13	8305-00-268-2455	BULK	14
8315-00-253-6292	BULK	5	1670-00-308-4221	C-3	6
8315-00-255-7673	BULK	6	1670-00-733-4883	C-1	2
8305-00-260-2564	BULK	18	1670-00-778-9809	C-i	3
8305-00-261-8579	BULK	15	1670-00-783-5988	C-1	4
8305-00-261-8585	BULK	17	4020-00-965-0473	BULK	4
4020-00-262-2020	BULK	3			

SECTION IV

CROSS REFERENCE INDEXES

PART NUMBER INDEX

FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
81349	MIL-C-7350	8305-00-205-1478	BULK	1
81349	MIL-C-7350		BULK	2
81349	MIL-C-73501		BULK	3
81349	MIL-C-75151	4020-00-965-0473	BULK	4
81349	MIL-G-26491	5320-00-231-6589	C-3	1
81349	MIL-T-5038	8315-00-255-7673	BULK	6
81349	MIL-T-5038	8315-00-176-8083	BULK	7
81349	MIL-T-43566	8315-00-253-6292	BULK	5
81349	MIL-T-5038	8305-00-263-2472	BULK	16
81349	MIL-W-4088	8305-00-261-858	BULK	17
81349	MIL-W-5038	8305-00-261-8579	BULK	15
81349	MIL-W-5625	8305-00-268-2455	BULK	14
81349	MIL-W-5665	8305-00-260-2564	BULK	18
96906	MS22002-1	1670-00-217-2421	C-2	10
96906	MS2202-7	5305-00-269-6657	C-2	11
81349	V-T-295	8310-00-227-1244	BULK	10
81349	V-T-295	8310-00-262-2772	BULK	8
81349	V-T-295	8310-00-262-2770	BULK	9
81349	V-T-295	8310-00-267-3024	BULK	11
81349	V-T-295	8310-00-267-3027	BULK	12
81349	V-T-295	8310-00-248-9714	BULK	13
98750	52K6329		C-i	2
98750	52K6329-46		C-2	5
98750	52K6329-16		C-2	6
98750	52K6329-13		C-2	8
98750	52K6329-17		C-2	9
98750	52K6329-18		C-2	2
98750	52K6329-19		C-2	3
98750	52K6329-20		C-2	7
98750	52K6329-21		C-2	1
98750	52D6330-1/7		C-2	4
98750	54C6335	1670-00-308-4221	C-3	6
81337	58J6099	1670-00-733-4883	C-1	2
81337	58J6099		C-3	2
81337	58J6099-10		C-3	8
81337	58J6099-11		C-3	7
81337	58J6099-15		C-3	5
81337	58J6099-17		C-3	3
81337	58J6099-19		C-3	4
	59C6196	1670-00-783-5988	C-1	4
	11-1-2582	1670-00-778-9808	C-1	3

APPENDIX D

EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. Scope. TI-is appendix lists expendable supplies arid materials you need to operate arid maintain the 26-Foot Diameter High-Velocity Cargo Parachute. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic 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 material (e.g., "Use Cloth, Abrasive Item 5, App. D").

b. *Column (2) - Level.* This column identifies the lowest level of maintenance that requires the listed item. (Enter as applicable).

C	-	Operator/Crew
0	-	Organizational Maintenance - Unit Maintenance
F	-	Direct Support Maintenance - Intermediate Maintenance
H	-	General Support Maintenance - Intermediate Maintenance
D	-	Depot Maintenance

c. *Column (3) - National Stock Number.* This is the National stock number assigned to the item; use it to request or requisition the item.

d. *Column (4) - Description.* Indicates the Federal item name and, if required, a description to identify the item.

e. *Column (5) - Unit of Measure (UIM).* Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLEIDURABLE SUPPLIES AND MATERIALS LIST

(1)	(2)	(3)	(4)	(5)
ITEM NUMBER	LEVEL	NATIONAL STOCK NUMBER	DESCRIPTION	U/M
1	0	1670-00-568-0323	Band, Retaining, Rubber (81348) MIL-B-1832	bx
2	0	9160-00-253-1171	Beeswax, Technical, 1 Lb (81348) C-B-191	lb
3	0	7920-00-282-2490	Brush, Scrub, Household (81349) H-B-1490	ea

EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (cont)

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
4	0	7520-00-248-9285	Brush, Stenciling (81348) H-B-00621	ea
5	0	5350-00-221-0872	Cloth, Abrasive, Ferric Oxide & Quartz (81348) P-C-458	sh
6	0	8305-01-014-1318	Cloth, Cotton, Musslin, Type III, 3.6 Oz, Od (81349) MIL-C-43677	yd
7	0	8305-00-433-5986	Cloth, Cotton, Muslin, Type 111, 3.8 Oz, Od (81349) M IL-C-4279	yd
8	0	8305-00-460-4200	Cloth, Cotton, Coated Balloon (81349) MIL-C-43677	yd
9	0	8305-00-185-9731	Cloth, Duck, Cotton, Type III, 12.29 Oz, Od (81348) CCC-C-419	yd
10	0	4020-00-240-2154	Cord, Nylon, Type I, Natural (81349) MIL-C-5040	yd
11	0	4020-00-926-1368	Cord, Nylon, Coreless, Type IA, OD (81349) MIL-C-7515	yd
12	0	4020-00-240-2146	Cord, Nylon, Type llll, Natural (81349) MIL-C-5040	yd
13	0	7930-00-281-4731	Dishtwashing Compound, Hand, Flake (81348) P-D-410	lb
14	0	7510-00-286-5362	Ink, Marking, Parachute, Strata-Blue (81349) MIL-1-6903	pt
15	0	7520-00-230-2734	Marker, Felt Tip, Black (81348) GG-M-0014	ea
16	0	7520-00-491-2917	Pen, Ballpoint (81348) GG-B-0060	ea
17	0	5315-00-012-0123	Pin, Cotter (96906) MS24665-355	ea
18	0	7920-00-205-3570	Rag, Wiping (81348) DDD-R-30	be
19	0	9310-00-160-7858	Stencilboard, Oiled (81348) UU-S-625 Type ll	sh
20	0	8315-00-281-3221	Tape, Cotton, Type III, 3/4 Inch, Od (81349) MIL-T-5661	yd
21	0	6810-00-270-9982	Tetrachlorethylene, Technical (81348) O-T-236	gl
22	0	8310-00-917-3945	Thread, Cotton, Ticket No.8/7, Natural (81348) V-T-276	yd
23	0	8310-00-262-2770	Thread, Nylon, Size E, Natural White (81348) V-T-295	yd

EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (cont)

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
24	0	8310-00-262-2772	Thread, Nylon, Size E, Od (81348) V-T-295	yd
25	0	8310-00-248-9714	Thread, Nylon, Size 3, Natural White (81348) V-T-295	yd
26	0	8310-00-267-3027	Thread, Nylon, Size 3, Od (81348) V-T-295	yd
27	0	8310-00-248-9716	Thread, Nylon, Size 6, Natural White (81348) V-T-295	yd
28	0	8310-00-262-2780	Thread, Nylon, Size 6, Od (81348) V-T-295	yd
29	0	9160-00-285-2044	Wax, Paraffin, Technical, Type I, Grade A, 1 Lb (81348) VV-W-95	lb
30	0	8305-00-268-2411	Webbing, Cotton, Type l, 1/4 Inch, Natural (81349) MIL-T-5661	yd
31	0	8305-00-260-2561	Webbing, Cotton, Type 11, 1 Inch, Od (81349) MIL-W-5665	ft
32	0	8305-00-260-2564	Webbing, Cotton, Type Vil, Od (81349) MIL-W-5665	ft
33	0	8305-00-260-6909	Webbing, Nylon, Type l, 9/16 Inch, Od (81349) MIL-W4088	ft
34	0	8305-00-479-1796	Webbing, Nylon, Type IV, 1/2 Inch, Od (81349) MIL-T-5038	ft
35	0	8305-00-281-3013	Webbing, Nylon, Type VI, Od (81349) MIL-W-4088	ft
36	0	8305-00-281-3012	Webbing, Nylon, Type XII, Od (81349) MIL-W-4088	ft
37	0	8305-00-268-2453	Webbing, Nylon, Tubular, 1/2 Inch (81349) MIL-W-5625	ft
38	0	9505-00-892-4616	Wire, Steel, .080 Inch (81348) QQ-W-423	lb
39	0	7510-00-074-4946	Tape, Pressure Sensitive, 1-Inch Wide	rl
40	0	8310-00-917-3942	Thread, Cotton, Ticket No.5	yd
41	0	7520-00-230-2734	Lubricant, Solid Film	gl

EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (cont)

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
42	0		Dropper, Medicine	
43	0		Paper, Three-Color PH	
44	0		Spool with Color Chart	
45	0	7510-00-663-0199	Tape, Pressure sensitive, 1 inch (81348), PPP-T-60	YD
46	0	3805-00-082-5751	Webbing, Nylon, Tubular, **3/4** inch, OD, (81349), MIL-W-5625	FT

APPENDIX E

ILLUSTRATED LIST OF MANUFACTURED ITEMS

Complete instructions for making items authorized to be manufactured or fabricated are located in Chapter 2, Section VII of this manual.

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INDEX

Subject **Paragraph**

A

B

C

D

E

INDEX (cont)

INDEX (cont)

Subject **Paragraph**

Q

R

S

INDEX (cont)

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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter 10 Millimeters 0 01 Meters 0 3937 Inches
1 Meter 100 Centimeters 1000 Millimeters 39 37 Inches
1 Kilometer 1000 Meters 0 621 Miles

WEIGHTS

1 Gram 0 001 Kilograms 1000 Milligrams 0 035 Ounces
1 Kilogram 1000 Grams 2 2 Lb
1 Metric Ton 1000 Kilograms 1 Megagram 1 1 Short Tons

LIQUID MEASURE

1 Milliliter 0 001 Liters 0 0338 Fluid Ounces
1 Liter 1000 Milliliters 33 82 Fluid Ounces

SQUARE MEASURE

1 Sq Centimeter 100 Sq Millimeters 0 155 Sq Inches
1 Sq Meter 10,000 Sq Centimeters 10 76 Sq Feet
1 Sq Kilometer 1,000,000 Sq Meters 0 0386 Sq Miles

CUBIC MEASURE

1 Cu Centimeter 1000 Cu Millimeters 0 06 Cu Inches
1 Cu Meter 1,000,000 Cu Centimeters 35 31 Cu Feet

TEMPERATURE

5/9 (F 32) C
212 Fahrenheit is equivalent to 100 Celsius
90 Fahrenheit is equivalent to 32 2 Celsius
32 Fahrenheit is equivalent to 0 Celsius
9/5 C + 32 F

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2 540
Feet	Meters	0 305
Yards	Meters	0 914
Miles	Kilometers	1 609
Square Inches	Square Centimeters	6 451
Square Feet	Square Meters	0 093
Square Yards	Square Meters	0 836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0 405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29 573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0 907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubit Feet	35.315
Cubic Meters	Cubic Yards	1,308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1 102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621

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