

ORGANIZATIONAL, INTERMEDIATE, AND DEPOT MAINTENANCE

DESCRIPTION AND PRINCIPLES OF OPERATION

NES-14 PERSONNEL PARACHUTE ASSEMBLY

PART NO. 607AS102-6

(MK-GRU7, MK-GRU7A, AND MK-GRUEA7 DROGUE PARACHUTE SYSTEMS)

List of Effective Work Package Pages

<u>Page No.</u>	<u>Chg. No.</u>						
1	8	3 thru 7	0	8	4	9	8
2	4						

Reference Material

Illustrated Parts Breakdown, NES-14 Personnel Parachute Assembly	WP 016 04
Illustrated Parts Breakdown, MK-GRU7/MK-GRU7A/MK-GRUEA7 Drogue Parachute Assemblies	WP 017 03

Alphabetical Index

<u>Title</u>	<u>Page</u>
Configurations	2
Description	2
General	2
Principles of Operation	2
Automatic Operation Above 13,000-Ft. Altitude	2
Automatic Operation Below 13,000-Ft. Altitude	8
Manual Operation	8
Repack Schedule	9
Subassembly Configurations	2

Record of Applicable Technical Directives

<u>Type/No.</u>	<u>Date</u>	<u>Title and ECP No.</u>	<u>Date Inc.</u>	<u>Rescission Date</u>
ACC 577	30 Nov 93	Stowage Tray Mounting NES-14 (ECP 16264)	1 Oct 94	31 Dec 01

1. DESCRIPTION.

2. GENERAL. The NES-14 Personnel Parachute Assembly and the MK-GRU7, MK-GRU7A, and MK-GRUEA7 Drogue Parachute Assemblies are part of the MK-GRU7, MK-GRU7A and MK-GRUEA7 Escape system and are designed for use with a PCU-33/P or PCU-56/P parachute restraint harness.

3. The NES-14 assembly includes a multicolored (white, olive green, international orange, and sand shade), 28 ft. diameter, flat, circular, nylon canopy with 28 gores and pulldown vent lines (PDV). Water deflation pockets are provided on alternate gores. The canopy is packed in a hardshell container and installed in the ejection seat.

4. The PCU-33/P or PCU-56/P parachute restraint harness incorporates the aircrew's parachute harness and provides attachment points for the lap and shoulder restraint systems. The harness members are channeled thru the torso vest to retain it in position and facilitate donning.

5. When aboard the aircraft and seated, the aircrew connects the canopy release fittings on the parachute riser to canopy release adapters on the parachute restraint harness. The survival kit and lapbelt restraint straps are also connected to the parachute restraint harness by means of the lapbelt adapters.

6. The MK-GRU7, MK-GRU7A, and MK-GRUEA7 drogue parachutes are used to stabilize and decelerate the seat and to position the seat in the proper attitude for aircrew separation.

7. The drogue parachute consist of two parachutes: a 22-in. diameter controller drogue and a 5 ft. diameter stabilizer drogue parachute, both made of cotton material. Both parachutes are interconnected by a connecting line and packed together within the headbox container.

8. CONFIGURATIONS. Authorized configurations for the NES-14 and the MK-GRU7, MK-GRU7A and MK-GRUEA7 parachute assemblies are shown in (Figures 1 and 2). Refer to Illustrated Parts Breakdowns work packages WP 016 04 and WP 017 03 for exact configuration requirements.

9. SUBASSEMBLY CONFIGURATIONS. The subassemblies listed below make up the NES-14 and are shown in (Figure 3). Refer to WP 016 04 for detailed information on subassemblies.

Pilot Parachute Assembly

Withdrawal Line Assembly

Withdrawal Line Connector Strap

Canopy Assembly

Riser Assembly

Cross-Connector Straps

Ripcord Assembly

Canopy Release

Parachute Harness Sensing Release Units (PHSRU)

Stowage Tray

Pulldown Vent Lines

Back Pad Assembly

Container Assembly

Container Opening Spring Assembly

10. PRINCIPLES OF OPERATION.

11. AUTOMATIC OPERATION ABOVE 13,000 FT. ALTITUDE. When an aircrew ejects from the aircraft above the ejection seat predetermined aircrew/seat separation altitude, the following functions take place:

a. The ejection seat drogue gun fires a piston, deploying the controller drogue. The controller drogue parachute, in turn, deploys the stabilizer drogue parachute. The duplex drogue parachute system decelerates and stabilizes the seat.

b. The aircrew continues to free fall while still restrained in seat. The stabilizer drogue remains attached to the seat by a scissor shackle. As the preset altitude is reached (13,000 ± 1500 ft.) and after a 2.0 sec. time delay, the barostat allows the seat time release mechanism to operate which opens the scissor shackle. At the same time, the harness restraints, lapbelt, leg restraints, and face curtain are unlocked.

c. The stabilizer drogue now free from the seat, pulls the withdrawal line from the parachute container. As the withdrawal line reaches full line stretch, the ripcord locking pins are removed from the locking cones, permitting the grommets, locking cones, and end tabs to separate. The container spring opening assemblies pull the end and side flaps apart, exposing the canopy and allowing the pilot parachute to deploy.

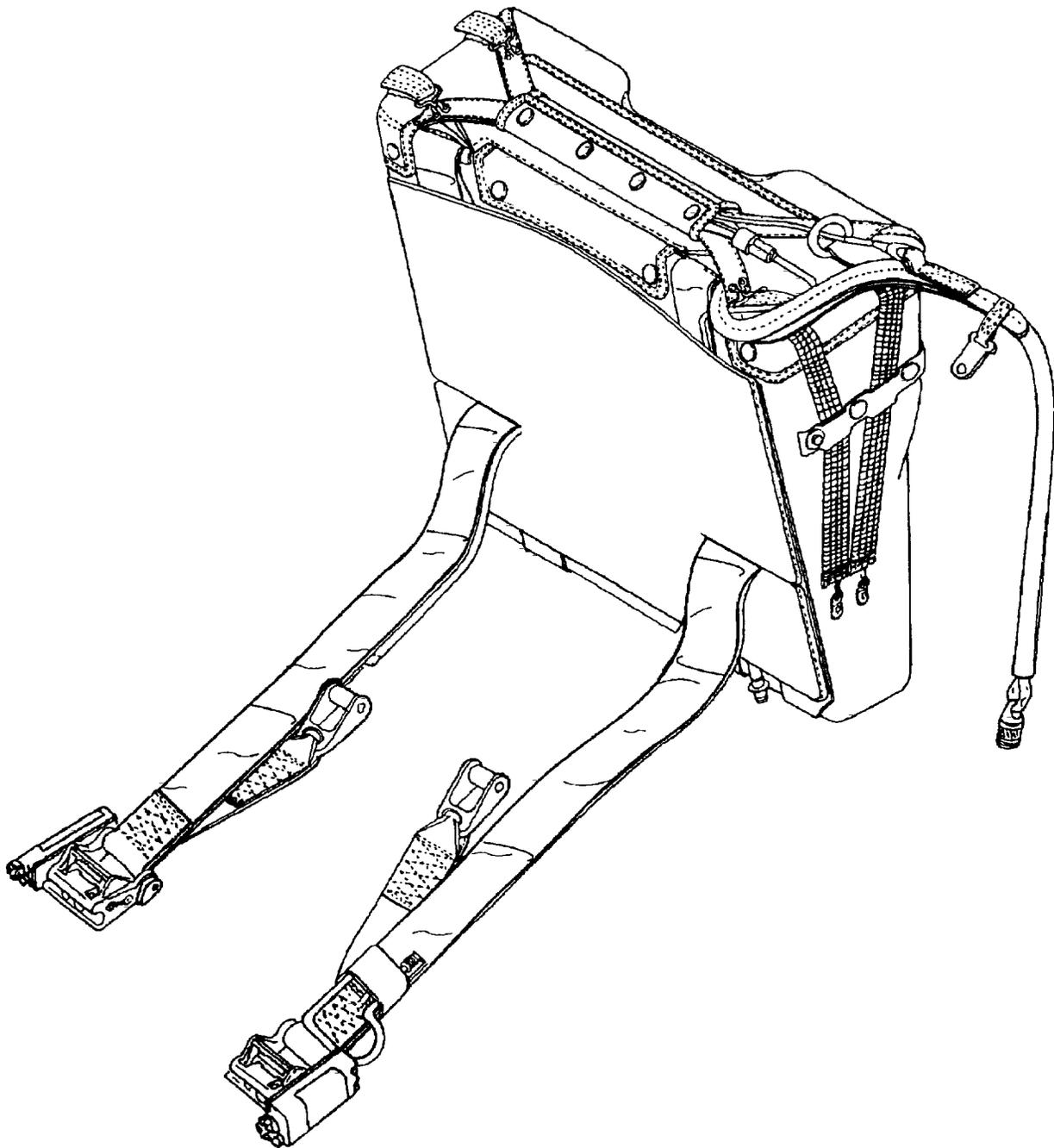


Figure 1. Personnel Parachute Assembly, NES-14

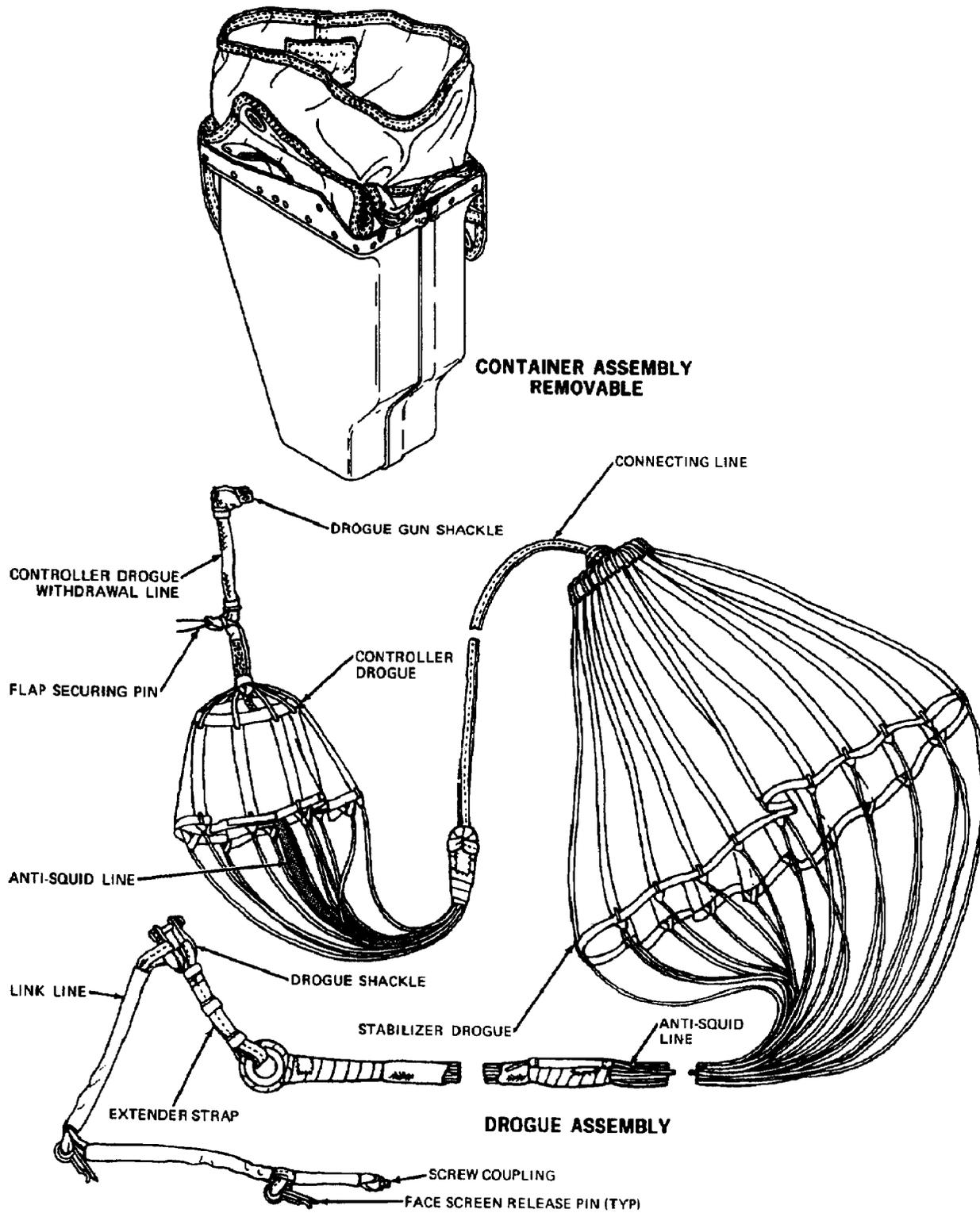
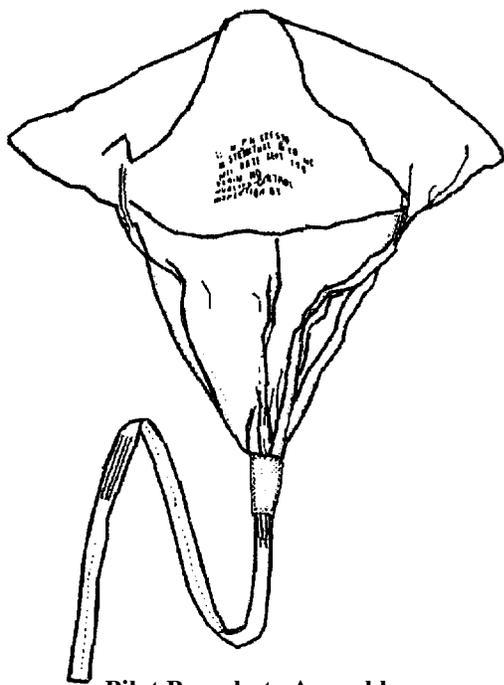
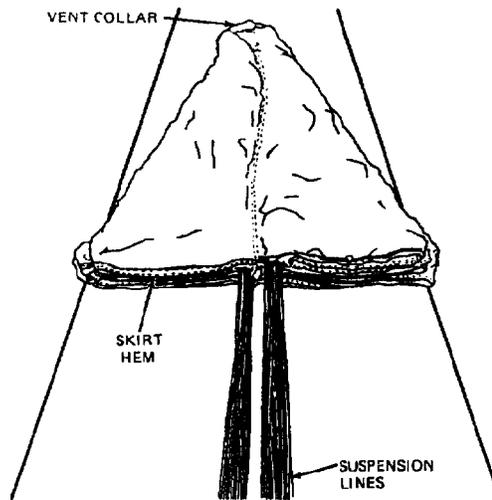


Figure 2. Drogue Parachute System Martin-Baker, MK-GRU7, MK-GRU7A and MK-GRUEA7



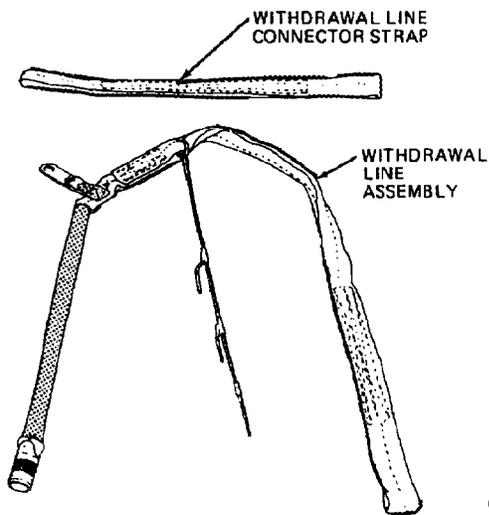
Pilot Parachute Assembly

6.2-5158



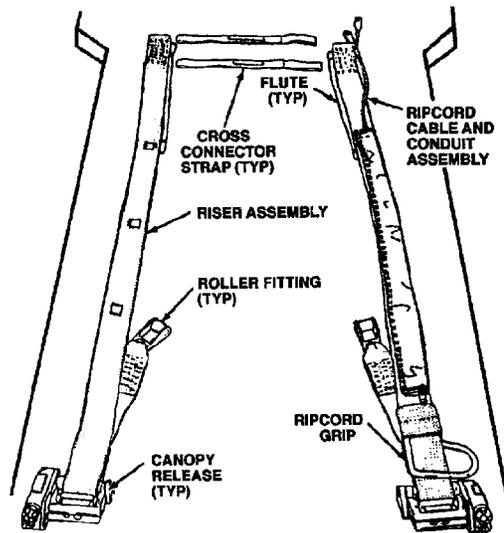
Canopy Assembly

6.2-5158B



Withdrawal Line Assembly, Withdrawal Line Connector Strap

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Riser Assembly, Cross Connector Straps, Ripcord Assembly

6.2-5158C

Figure 3. Subassemblies, NES-14 (Sheet 1 of 3)

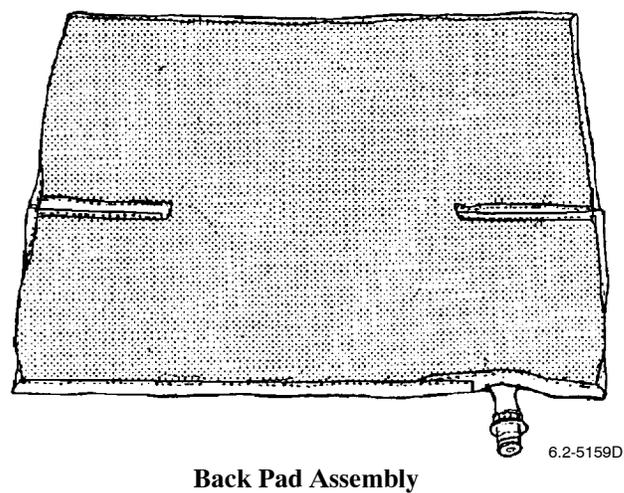
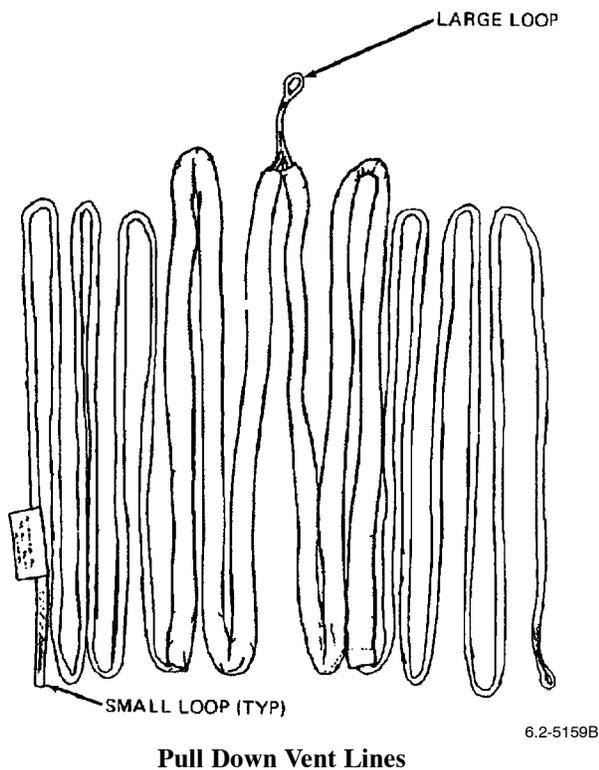
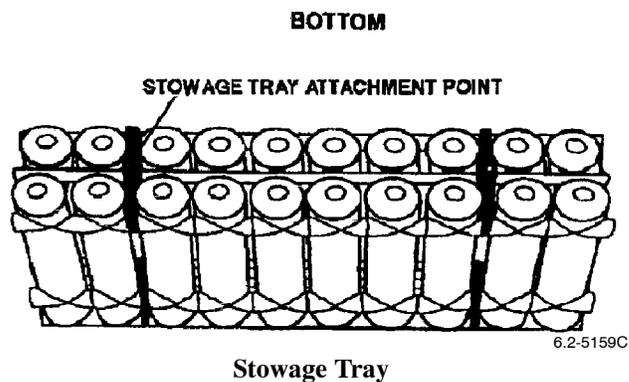
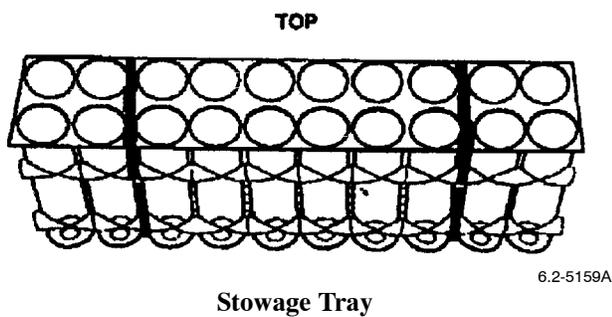
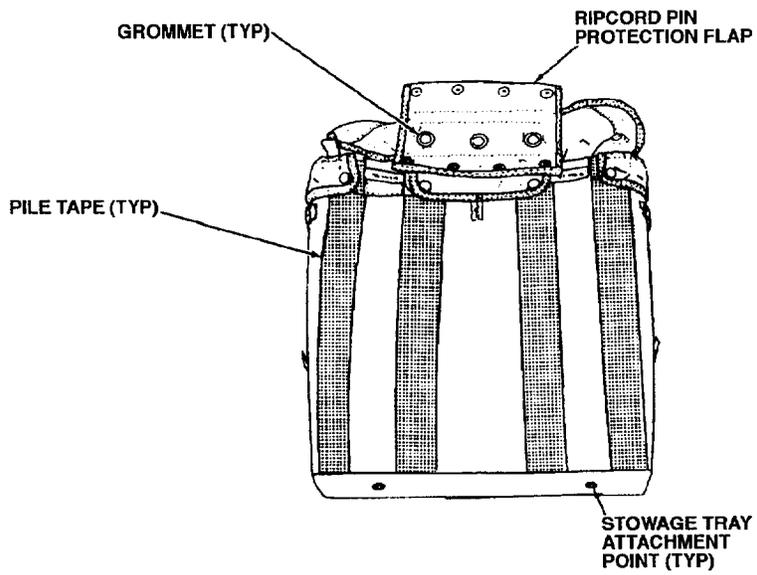


Figure 3. Subassemblies, NES-14 (Sheet 2 of 3)



Container Assembly (Front)

6.2-5160A



Container Assembly (Back)

6.2-5160B

Figure 3. Subassemblies, NES-14 (Sheet 3 of 3)

d. The stabilizer drogue, still attached to the withdrawal line which is attached to the canopy apex, extracts the canopy followed by the suspension lines. The canopy starts to inflate during this operation. The PDV lines, which are shorter than the suspension lines bear the load of the drogue parachutes and prevent squidding of the canopy. However, the PDV lines may break during high speed openings.

e. As the canopy deploys, a load is applied to the risers, separating the cross-connector straps from their fastener tape connection and pulling them from the container. The connector link ties break and the canopy fully opens, separating the aircrew from the seat.

f. The aircrew descends suspended from the canopy by the risers and the PCU-33/P or PCU-56/P parachute restraint harness.

g. During descent, the aircrew may manually actuate the four-line release system which will reduce oscillation and allow the aircrew to maneuver the parachute to a less hazardous landing site.

h. Upon landing, the aircrew disengages the canopy from the PCU-33/P or PCU-56/P parachute restraint harness by actuating the canopy release fittings.

i. The parachute harness sensing release units will provide an automatic backup method of releasing the risers after the aircrew makes a seawater entry.

12. AUTOMATIC OPERATION BELOW 13,000 FT. ALTITUDE. When an aircrew ejects from the aircraft at or below the ejection seat predetermined aircrew/seat separation altitude, the following functions take place:

a. The ejection seat drogue gun fires a piston, deploying the controller drogue. The controller drogue parachute, in turn, deploys the stabilizer drogue parachute. The duplex drogue parachute system decelerates and stabilizes the seat.

b. After a 2.0 sec. time delay, the seat time release mechanism opens the scissor shackle. At the same time, the harness restraints, lapbelt, leg restraints, and face curtain are unlocked.

c. The stabilizer drogue, now free from the seat, pulls the withdrawal line from the parachute container. As the withdrawal line reaches full line stretch, the ripcord locking pins are removed from the locking cones, permitting the grommets, locking cones, and end tabs to separate. The container spring opening assemblies pull the end and side flaps apart, exposing the canopy and allowing the pilot parachute to deploy.

d. The stabilizer drogue, still attached to the withdrawal line which is attached to the canopy apex, extracts the canopy followed by the suspension lines. The canopy starts to inflate during this operation. The PDV lines which are shorter than the suspension lines, bear the load of the drogue parachutes and prevent squidding of the canopy. However, the PDV lines may break during high speed openings.

e. As the canopy deploys, a load is applied to the riser, separating the cross-connector straps from their fastener tape connection and pulling them from the container. The connector link ties break and the canopy fully opens, separating the aircrewmember from the seat.

f. The aircrew descends suspended from the canopy by the risers and the PCU-33/P or PCU-56/P parachute restraint harness.

g. During descent, the aircrew may manually actuate the four-line release system which will reduce oscillation and allow the aircrew to maneuver the parachute to a less hazardous landing site.

h. Upon landing, the aircrew disengages the canopy from the PCU-33/P or PCU-56/P parachute restraint harness by actuating the canopy release assembly.

i. The parachute harness sensing release units will provide an automatic backup method of releasing the risers after the aircrew makes a seawater entry.

13. MANUAL OPERATION. If the aircrew should have to manually separate from the seat or if he is forced to select manual bailout, the following functions take place once he is clear of the seat/aircraft:

a. Manually pulling the ripcord grip removes the ripcord locking pins from the locking cones, permitting the grommets, locking cones, and end tabs to separate. The container spring opening assemblies pull the end and side flaps apart, exposing the canopy and allowing the pilot parachute to deploy.

b. The aircrew falling away from the pilot parachute causes the canopy to be extracted from the container followed by the suspension lines. The canopy starts to inflate during this operation.

c. As the canopy deploys, a load is applied to the risers, separating the cross-connector straps from their fastener tape connection and pulling them from the container. The connector link ties break and the canopy fully opens separating the aircrew from the seat.

d. The aircrew descends suspended from the canopy by the risers and the PCU-33/P or PCU-56/P parachute restraint harness.

e. During descent, the aircrew may manually actuate the four-line release system which will reduce oscillation and allow the aircrew to maneuver the parachute to a less hazardous landing site.

f. Upon landing, the aircrew disengages the canopy from the PCU-33/P or PCU-56/P parachute restraint harness by actuating the canopy release assembly.

g. The parachute harness sensing release units will provide an automatic backup method of releasing the risers after the aircrew makes a seawater entry.

14. REPACK SCHEDULE.

a. Scheduled repack cycle is 672 days for the F-14A/B Aircraft.

b. Scheduled repack cycle is 728 days for the EA-6B Aircraft.

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ORGANIZATIONAL MAINTENANCE

REPAIR PROCEDURES

NES-14 PERSONNEL PARACHUTE ASSEMBLY

PART NO. 607AS102-6

List of Effective Work Package Pages

<u>Page</u> <u>No.</u>	<u>Chg.</u> <u>No.</u>	<u>Page</u> <u>No.</u>	<u>Chg.</u> <u>No.</u>	<u>Page</u> <u>No.</u>	<u>Chg.</u> <u>No.</u>	<u>Page</u> <u>No.</u>	<u>Chg.</u> <u>No.</u>
1 thru 4	6						

Reference Material

None

Alphabetical Index

<u>Title</u>	<u>Page</u>
Back Cushion Slip Cover Replacement	3
Container Assembly	2
Spring Opening Assembly Replacement	2
Introduction	2
Parachute Harness Sensing Release Unit (PHSRU)	3
PHSRU Battery and Sensor Plug Replacement	4
PHSRU Torque Seal Replacement	3
Ripcord Assembly	2
Ripcord Assembly and the Retainer Webbing Tackings Replacement	2
Riser Assembly	2
Four-Line Release Lanyard Pull Loop Tackings Replacement	2

Record of Applicable Technical Directives

<u>Type/No.</u>	<u>Date</u>	<u>Title and ECP No.</u>	<u>Date Inc.</u>	<u>Rescission Date</u>
ACC 577	30 Nov 93	Stowage Tray Mounting NES-14 (ECP 16264)	1 Oct 94	31 Dec 01

1. INTRODUCTION.

2. This work package (WP) contains instructions for organizational level repair to ensure that the parachute remains in ready-for-issue (RFI) status.

3. When performing repairs detailed in this WP, follow these guidelines:

a. Review all applicable instructions prior to starting any repair.

b. Ensure that all necessary support equipment and materials required are available prior to starting any repair.

c. When required, remove enough material from its source for immediate use only. Ensure that the material identification ticket remains with the source material at all times. Material that cannot be identified will not be used.

d. To ensure conformity, all repair work shall be carefully inspected and compared to applicable instructions at the completion of the work.

e. A quality assurance (QA) inspector shall examine the finished work.

4. RISER ASSEMBLY.

5. FOUR-LINE RELEASE LANYARD PULL LOOP TACKINGS REPLACEMENT.

Materials Required

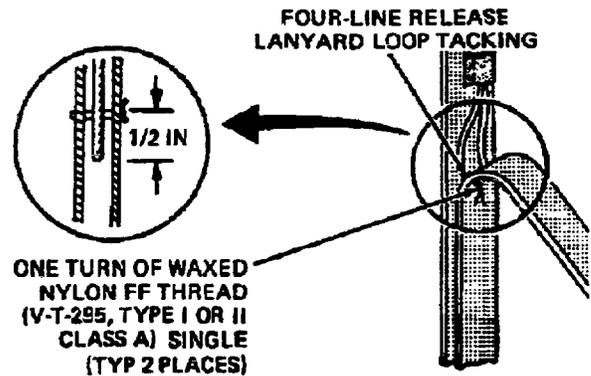
Specification or Part Number	Nomenclature
V-T-295	Thread, Nylon, Size FF, Type I or II, Class A

NOTE

Tie off all tackings with a surgeon's knot topped with a square knot, followed with a binder knot per WP 002 00. Trim off excess leaving 1/2-in.

a. Fully extend the pull loop and position it between the risers.

b. Tack at the centerline of the riser, thru riser cover, 1/2-in. above the bottom of the pull loop with one turn of size FF thread, single and waxed; tie off (Figure 1).



6.2-5655

Figure 1. Replacement of Four-Line Release Lanyard Pull Loop Tackings

6. CONTAINER ASSEMBLY.

7. SPRING OPENING ASSEMBLY REPLACEMENT.

Materials Required

Specification or Part Number	Nomenclature
60A113D11-2	Spring Assembly, Container Opening

a. Measure length of replacement spring opening assembly. Proper length is 9 1/4 ± 1/8-in. measured with no tension applied from end of one hook to end of other hook.

b. Inspect replacement spring opening assembly per WP 016 02.

c. With hook facing inboard, attach end of spring assembly without pull tab to lower eye on side of container. Crimp hook on to each spring opening assembly to each eye on the container.

d. Attach opposite end of spring assembly to eye on end flap. Ensure that the pull tabs are facing out and are positioned for fastening on the side flaps.

8. RIPCORD ASSEMBLY.

9. RIPCORD ASSEMBLY AND RETAINER WEB-BING TACKINGS REPLACEMENT.

Materials Required

Specification or Part Number	Nomenclature
V-T-295	Thread, Nylon, Size FF, Type I or II, Class A
V-T-295	Thread, Nylon, Size 6, Type I or II, Class A

NOTE

Tie off all tackings with a surgeon's knot topped with a square knot, followed with a binder knot per WP 002 00. Trim off excess leaving 1/2-in.

a. Lay the riser flat; measure and mark the upper riser 2 1/2-in. above the top edge of the ripcord channel and 1/4-in. below the bottom edge of the ripcord channel (Figure 2).

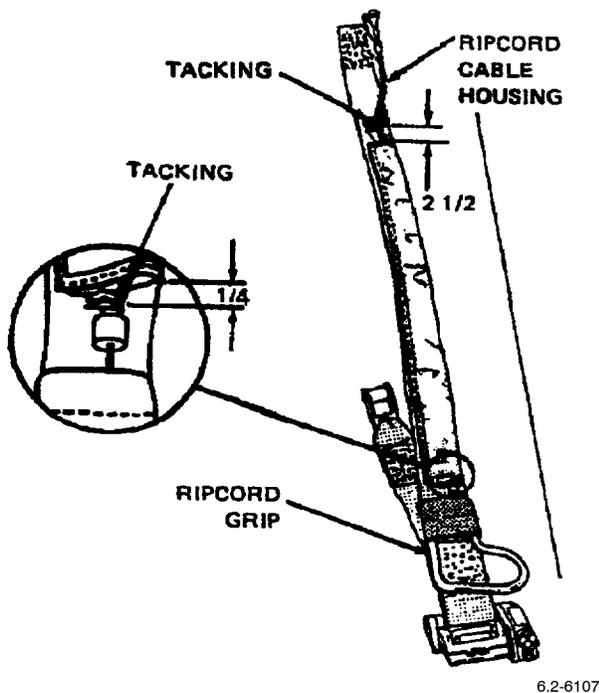
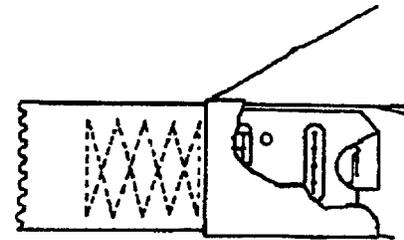


Figure 2. Ripcord Assembly Replacement

b. Position the ripcord housing on the markings.

c. Tack to the upper riser with six turns of size 6 thread, doubled and waxed; tie off.

d. Handstitch the retainer cover webbing to the bottom side of the riser assembly at each corner with one turn of size FF thread, doubled and waxed. Tackings shall pass thru both layers of the cover webbing and the bottom riser webbing. Pull tacking taut and tie off (Figure 3).



TACKING 4 PLACES

6.2-5885

Figure 3. Replacement of Retainer Webbing Tackings

e. Tie an overhand knot as close to the securing knot as possible and cut the bitter ends leaving 1/2-in. Sear the ends. (QA)

10. BACK CUSHION SLIP COVER REPLACEMENT.

- a. Remove and replace old slip cover.
- b. Replace when worn, torn or frayed.

11. PARACHUTE HARNESS SENSING RELEASE UNIT (PHSRU).

12. PHSRU TORQUE SEAL REPLACEMENT.

Materials Required

Specification or Part Number	Nomenclature
F-900 Torque Seal (Color Optional)	Sealing Compound
a. Torque loose screws to a value of 11 to 13 in-lbs.	

b. Apply torque seal to the plug assembly, sensor plug and electronics package attaching screws (Figure 4).

13. PHSRU BATTERY AND SENSOR PLUG REPLACEMENT.

Support Equipment Required

Specification or Part Number	Nomenclature
FLUKE-77	Multimeter
SA852AS112	Torque Driver
SA852AS113	Torque Tool, Sensor Plug
GGG-W-641	Socket Handle, 1/4-in. Drive
3405AS101-2	Socket, Special 7/16 x 1/4-in. Drive

a. Perform PHSRU Organizational Level Maintenance in accordance with WP 024 02 for the following tasks:

- (1) Removal of battery.
- (2) Installation of battery.
- (a) Conduct the following:
 - 1) Battery voltage check.
 - 2) Battery polarity check.
 - 3) Battery installation.

- 4) Final check.
- (3) Removal of sensor plug.
- (4) Installation of sensor plug.
 - (a) Conduct the following:
 - 1) Sensor plug resistance check.
 - 2) Final check.

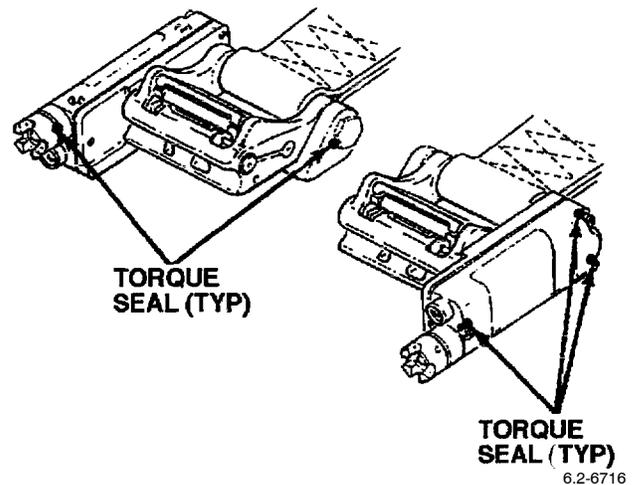


Figure 4. Replacement of Torque Seal on PHSRU

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INTERMEDIATE AND DEPOT MAINTENANCE
PACKING PROCEDURES
NES-14 PERSONNEL PARACHUTE ASSEMBLY
PART NO. 607AS102-6

List of Effective Work Package Pages

<u>Page No.</u>	<u>Chg. No.</u>						
1	11	5	11	21	11	23	11
2 thru 4	9	6 thru 20	9	22	9		

Reference Material

Cartridge Actuated Devices (CADS) and Propellant Actuated Devices (PADS) (IETM)	NAVAIR 11-100-1.1
Intermediate and Depot Maintenance, Common Repair Procedures	WP 004 00
Introduction, Organizational, Intermediate and Depot Maintenance with Illustrated Parts Breakdown, Emergency Personnel and Drogue Parachute Systems	WP 002 00
Organizational, Intermediate and Depot Maintenance, Parachute Loft Requirements/Administration	WP 003 00
Organizational, Intermediate and Depot Maintenance, Support Equipment	WP 005 00

Alphabetical Index

<u>Title</u>	<u>Page</u>
Final Checkout	22
General	3
Inspection (Special)	4
Canopy Assembly	5
Container Assembly	6
Pilot Parachute Assembly	5
Ripcord Assembly	6
Risers and Cross-Connector Straps	6
Service Life Check and Configuration Updating	4
Suspension Line Continuity Check	5
Withdrawal Line	6
Layout of Rigged Parachute Assembly	3
Packing	7
Attachment of Pulldown Vent Lines and Withdrawal Line to Canopy Apex	10
Closing of Container	17
Installation of Riser Covers	14
Installation of Stowage Tray Into Container	14
Stowage of Canopy	15
Stowage of Suspension Lines	12
Whipping and Folding of Canopy	7
Parachute Harness Sensing Release Unit (PHSRU), MXU-746/P and MXU-747/P	21
Preliminary Procedures	3
Ripcord Grip Pull Check	20
Ripcord Pin Pull Check	20

Record of Applicable Technical Directives

<u>Type/No.</u>	<u>Date</u>	<u>Title and ECP No.</u>	<u>Date Inc.</u>	<u>Rescission Date</u>
ACC 577	30 Nov 93	Stowage Tray Mounting NES-14	1 Oct 94	31 Dec 01

1. GENERAL.

a. Packing instructions are provided with the assumption that they will be carried out under ideal conditions in a parachute loft Work Package (WP) 003 00. When a parachute assembly must be packed under unfavorable conditions, provisions must be made to protect it from possible damage and excessive humidity.

b. In no case shall the packing of a parachute assembly be interrupted after the packing operation has been started. If the packing operation is interrupted due to unforeseen circumstances, the parachute assembly shall be completely repacked per instructions contained in this WP.

c. Quality Assurance (QA) points have been included in the packing procedures. When a procedural step is followed by "QA" there is a quality assurance requirement. Witnessing of QA steps may be omitted by the QA if their satisfactory completion is verified in later steps.

d. During packing procedures, the packer shall be positioned on the left side of packing table and the helper on the right side, when viewed from the riser end of the table.

2. PRELIMINARY PROCEDURES.

Support Equipment Required

Part Number	Nomenclature
TMA2	Hex Head Driver 1/16-in. Bit
Refer to WP 005 00	Fid
Refer to WP 005 00	Guide Tube
Refer to WP 005 00	Line Stowing Aid
Refer to WP 005 00	Long Bar
Refer to WP 005 00	Long Pin, Pilot Parachute
FLUKE 77	Multimeter
Refer to WP 005 00	Ripcord Pinlock
DPP-50	Scale, Spring
Refer to WP 005 00	Shot Bag (4)
11-1-3512	Small Line Separator

Part Number	Nomenclature
Refer to WP 005 00	Temporary Locking Pin (2)

TQS6	Torque Meter
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Materials Required

Specification or Part Number	Nomenclature
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C-B-191	Beeswax
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PIA-C-5040	Cord, Nylon, Type I or IA
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MIL-I-19166	Tape, Electrical Insulation, 3/4-in. Wide
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F-900 Torque Seal (Color Optional)	Sealing Compound
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V-T-295	Thread, Nylon, Size FF, Type I or II, Class A
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a. Ensure that all support equipment and materials required are available prior to starting.

b. Inspect packing tools for nicks, burrs, or sharp edges which may cause damage to the parachute.

c. Count and the record number of packing tools.

d. Clean the packing table.

3. LAYOUT OF RIGGED PARACHUTE ASSEMBLY.

a. Completely open the parachute container and detach the spring opening assemblies.

b. Remove the back cushion and the two stowage tray securing screws holding the stowage tray in the container.

c. Remove the canopy from the container.

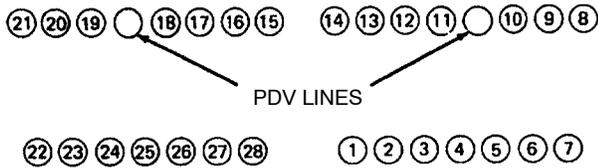
d. Remove the stowage tray from the container.

e. Cut lanyard pull loop tacking. Remove and scrap the used riser covers.

f. Remove the suspension lines from the stowage tray.

g. Insert the tension hooks into the connector links and then into the packing table.

- h. Disconnect the pull down vent (PDV) lines and withdrawal line from the apex.
- i. Connect one end of a 16 ft. nylon cord to the vent lines and the other end to the large loop of PDV lines.
- j. Lay out the canopy and suspension lines and stretch full length on a clean packing table.
- k. Locate gore 28 (nameplate gore) and place it bottom-most in the center of the packing table.
- l. Attach the tension strap hook to the canopy vent lines.
- m. Tension the canopy using the tension strap.
- n. Separate the suspension lines into two equal groups with lines 15 thru 28 on the packer's side and lines 1 thru 14 on the helper's side. Grasping each group of lines, walk from the skirt hem to the connector links, removing any twists between the two groups (Figure 1).



6.2-5869

Figure 1. Arrangement and Orientation of Suspension Lines on Connector Links

- o. Pull the canopy vent collar below the vent hem. Ensure that the vent hem is even.
- p. Straighten the vent hem if necessary.
- q. Pull the vent collar back to its original position.

4. INSPECTION (SPECIAL).

- a. Maximum scheduled repack cycle is 672 days for the F-14A/B Aircraft.
- b. Maximum scheduled repack cycle is 728 days for the EA-6B Aircraft.

5. SERVICE LIFE CHECK AND CONFIGURATION UPDATING.

NOTE

Unless otherwise noted, parachute component life shall start on the month of the date of manufacture and expire on the last day of that month.

- a. All internal service life components, including cartridges, shall be replaced if service life expires prior to the next repack cycle. Repack cycles may be shortened to correspond to the first component that is expiring prior to the next inspection cycle. An external overage component (i.e. Parachute Harness Sensing Release Unit Cartridge) can be replaced without a parachute repack.

NOTE

Upon initiation of any Quality Deficiency Report (QDR), contact the In-Service Support Team at NAWCWD, China Lake, CA.

- b. When replacing an external overage component without a parachute repack, draw a single red line through any information pertaining to that component on the Parachute Record (OPNAV 4790/101). The replacement component will be annotated on the next available line. The QA who witnessed the task shall apply the QA stamp to the right of the entry and complete the VIDS/MAF (OPNAV 4790/60).

- c. A parachute assembly may be opened to permit compliance with a Technical Directive. After completion of directive, the parachute assembly repack cycle may be re-based if all parachute components have the necessary life available or may be returned with the original repack date in order to keep it aligned with the actual aircraft inspection cycle.

- d. When a component reaches the service/total life limit, it shall be returned to supply for disposition.

- e. If parts received from supply are lacking a date of manufacture and are new in manufacturer's packaging, they may be used for one complete repack cycle, then removed. Place "No Date of Manufacture" in the Date of Manufacture's block on the Parachute Record (OPNAV 4790/101). Submission of a Quality Deficiency Report (QDR) shall follow each occurrence.

f. Components without a service/total life shall be removed from service if the components do not pass inspection, as determined by Quality Assurance Representative (QAR) or Collateral Duty Inspector (CDI).

g. Check date placed in-service and date of manufacture on each parachute part for service/total life as follows:

Nomenclature	Service Life (Yr)	Total Life (Yr)
Battery	4	4
Canopy Assembly	None	15
Cartridge MW19	Refer to NAVAIR 11-100-1.1	
Cross-Connector Strap	(See Note 1)	(See Note 1)
Electronics Package Assembly	None	8
PDV Lines	(See Note 1)	(See Note 1)
Pilot Parachute		15
Pilot Parachute Connector Strap		15
Riser Assembly	None	15
Withdrawal Line	3	None
Withdrawal Line Connector Strap	7	None

NOTE 1: Replace at Canopy Assembly replacement.

NOTE 2: Deleted.

(1) Markings for completeness, legibility, and agreement with information on Parachute Record (OPNAV 4790/101).

(2) Compare configuration of parachute assembly to that shown in WP 002 00 Record of Applicable Technical Directives, and Illustrated Parts Breakdown.

6. SUSPENSION LINE CONTINUITY CHECK.

a. Grasp line 15 on left side of gore 14 and raise line to a height sufficient to ensure that the line is free of dips and twists from skirt hem to connector links. Continue this procedure with lines 16 thru 28. (QA)

b. Use same procedure as in paragraph a, above on right side of gore 14 except that packer shall start with line 14 and work thru line 1. (QA)

c. Pass PDV lines under top group of suspension lines and attach to top connector links between lines 10 and 11, and 18 and 19 (Figure 1). (QA)

7. CANOPY ASSEMBLY.

a. Canopy skirt hem, fabric surface, diagonal seams, radial seams, vent hem, water deflation pockets, for cuts, holes, ruptures, contamination, deterioration, broken vent ring, and loose or broken stitching.

b. Suspension lines and canopy apex lines for fraying, ruptures, protruding inner core lines, burns, contamination, and presence of twists.

c. Attachment of suspension lines at skirt hem for security and condition of V-tabs.

d. Attachment of four-line release anchor loops to suspension lines 3 and 26.

e. Attachment of four-line release lanyard to anchor loops on suspension lines 3 and 26.

f. Activate the four-line release and retacking per WP 004 00. (QA)

g. Pulldown vent (PDV) line.

(1) Lines for twists, fraying, burns, ruptures, stitch pattern, and proper material.

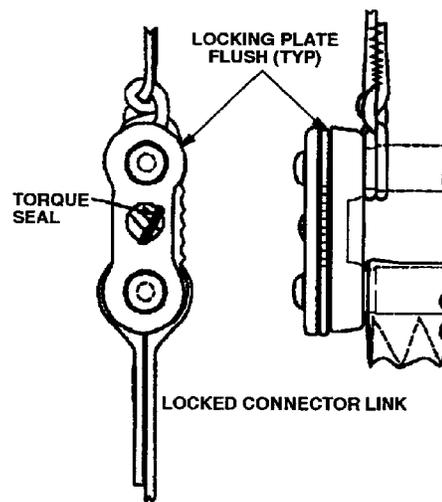
(2) Ensure that sleeve tackings are not missing, loose, or broken.

(3) Proper attachment to connector links.

h. Connector links for corrosion, distortion, nicks, burrs, sharp edges, cracks, and security of ties.

i. Connector links for defective yoke and plate assemblies. Maximum of 1/32-in. play allowable in plate.

j. Torque seal unbroken with yoke and plate assemblies installed with knurled portion facing up and screwheads facing outboard (Figure 2). (QA)



6.2-1101

Figure 2. Torque Seal Unbroken

8. PILOT PARACHUTE ASSEMBLY.

a. Fabric surfaces and seams for cuts, tears, fraying, and loose or broken stitching.

b. Seam area at crown for seam separation.

- c. Spring assembly for distortion.
- d. Loose or broken tackings (4 places) at bottom of coil spring.
- e. Locking cone and grommet for cracks, condition, and security of attachment.
- f. Bridle for cuts, fraying, and loose or broken stitching.

9. WITHDRAWAL LINE.

- a. Webbing for contamination, cuts, fraying, deterioration, and loose or broken stitching.
- b. Cable and closure pins for corrosion, broken strands, nicks, loose swage fittings, bends, or burrs.
- c. Quick release connector for corrosion, cracks, bends, dents, nicks, burrs, sharp edges, stripped threads, damaged swivel, and presence of stake pin.
- d. Lug end for nicks, dents, corrosion, and security of attachment to withdrawal line.

10. RISERS AND CROSS-CONNECTOR STRAPS.

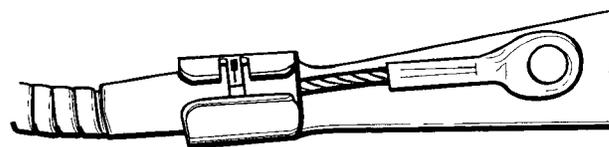
- a. Webbing for contamination, oil, grease, acid, rust at points of contact with metal parts, cuts, twists, fading, wear, fraying, abrasions, and loose or broken tackings and stitching.
- b. Four-line release lanyard flute and ripcord channel for wear and proper attachment.
- c. Four-line release and release lanyard pull loops for loose or broken tackings.
- d. Proper attachment of cross-connector straps to connector links.
- e. Cross-connector straps for contamination, cuts, fraying, burns, loose or broken stitching, and presence and proper attachment of hook and pile tape.
- f. Grip pocket for contamination, cuts, tears, fraying, and loose or broken stitches.
- g. Loose or broken stitching securing retainer to the riser.
- h. Retainer for corrosion, sharp edges, bends, twists, and dents.

- i. Pulley fitting assembly for corrosion, damage, and security of attachment.

11. RIPCORD ASSEMBLY.

- a. Cable for corrosion, bends, broken strands, and security of swaged terminal ball and terminal fitting.

- (1) Ensure terminal fitting is secured to cable housing by means of center crimp in the cable housing slot (Figure 3).

**Figure 3. Terminal Fitting Center Crimp**

- b. Cable eyelet for cracks.
- c. Housing for corrosion, dents, loose ferrules, breaks, and cracks, and security of plate.
- d. Housing to riser tacking for security of attachment.
- e. Grip for dents, cracks, and corrosion.

12. CONTAINER ASSEMBLY.

- a. Container for crazing and cracks. Security of attachment of pressure sensitive tape, over the two studs near top of container.
- b. Grommets, cones, fasteners, and end tabs for security of attachment.
- c. Cones for cracks corrosion, nicks, and gouges, and fasteners for proper operation.
- d. Fabric area for seam separations, loose or broken stitching, cuts, tears, contamination, and deterioration.
- e. Stowage tray for crazing and cracks.
- f. Spring opening assemblies for broken springs, contamination, corrosion, cuts, fraying, bent or broken hooks, elasticity, and loose or broken stitching.

- g. Spring opening eyes (8) for security of attachment.
- h. Grommets and washers for proper placement and condition.

NOTE

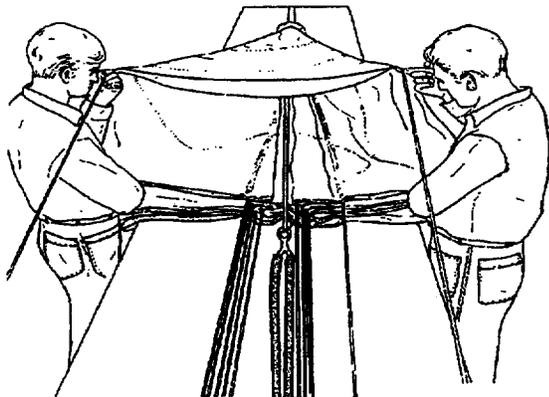
For Double "L" Connector Link, refer to WP 016 03 for disassembly, assembly, and inspection instructions.

- i. Fastener for nicks, gouges, corrosion, and security.
- j. Suspension line tray foam for deterioration and security (inside of container).
- k. Rivets for security of attachment of securing lugs. Rivets must completely fill countersink.

13. PACKING.

14. WHIPPING AND FOLDING OF CANOPY.

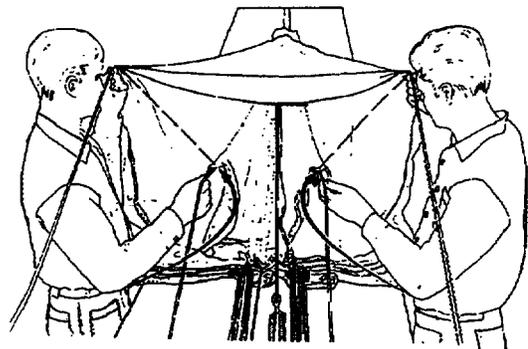
a. Packer and helper shall lift suspension line on each side of top gore up and out. Skirt hem between lines shall be taut so that canopy apex can be seen on inside, while holding suspension lines up. Packer and helper shall whip gore hanging from line outwards to prepare canopy for folding (Figure 4).



6.2-5179A

Figure 4. Lift Suspension Lines on Each Side of Gore

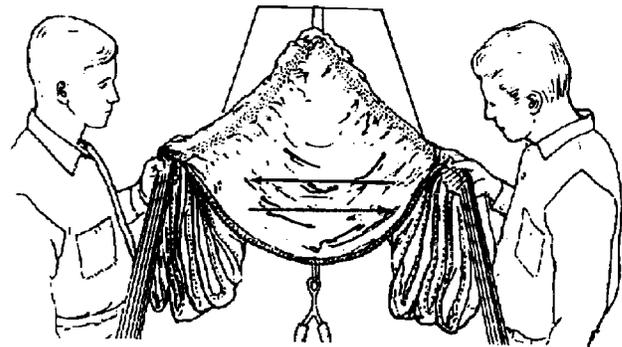
b. Draw next suspension line upwards to suspension line in hand, using a rapid, circular motion (Figure 5).



6.2-5179B

Figure 5. Draw Next Suspension Line Upwards

c. Continue whipping operation for all gores. Ensure that radial seams are not overlapped by gore material. Move whipped gores rapidly back and forth across packing table (Figure 6).

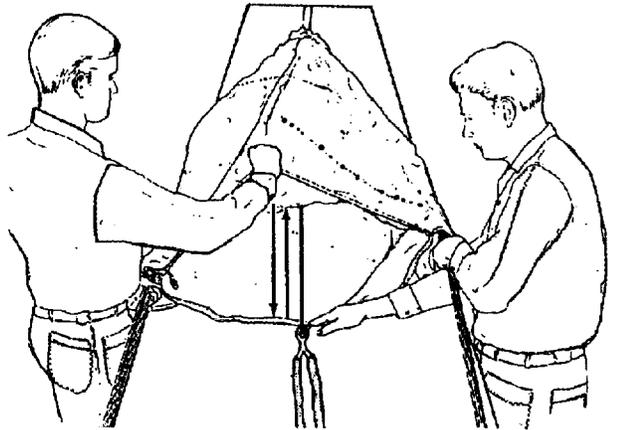


6.2-5179C

Figure 6. Continue Whipping Operation

d. Two groups of suspension lines shall be stretched to edges of packing table with folded gores hanging over sides. Packer and helper shall grasp all folds at outer edges on skirt hem and hold suspension line groups at edges of packing table. Packer and helper shall simultaneously move folds up and down rapidly, in a whipping motion, to end wrinkles.

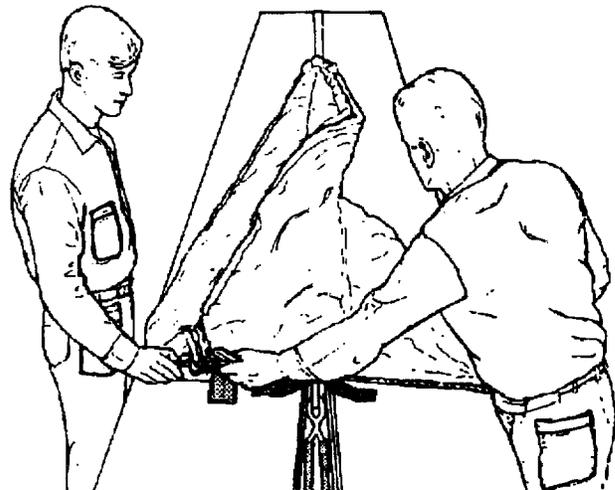
e. Packer shall flap top gore up and down at skirt hem center as helper holds bottom gore at skirt hem center (Figure 7).



6.2-5179D

Figure 7. Packer Flap Top Gore Up and Down

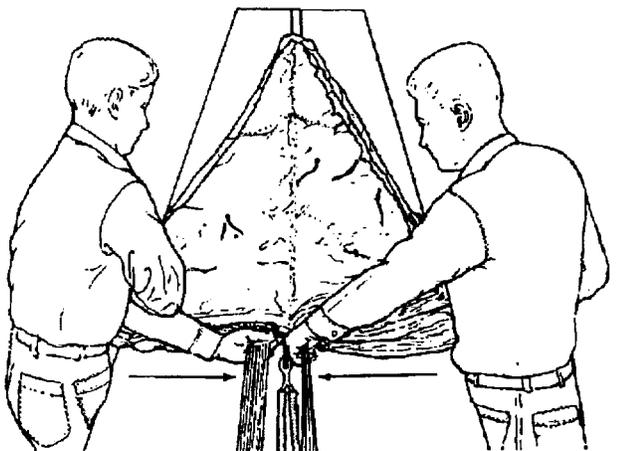
h. Helper shall rotate all gores as a group, except bottom gore, from helper's side to packer's side of packing table (Figure 9).



6.2-5180B

Figure 9. Helper Rotate All Gores Except Bottom Gore

f. On signal, both packer and helper shall draw their respective gores, at skirt hem center, towards table edge while at same time bringing suspension line groups to center of packing table (Figure 8).

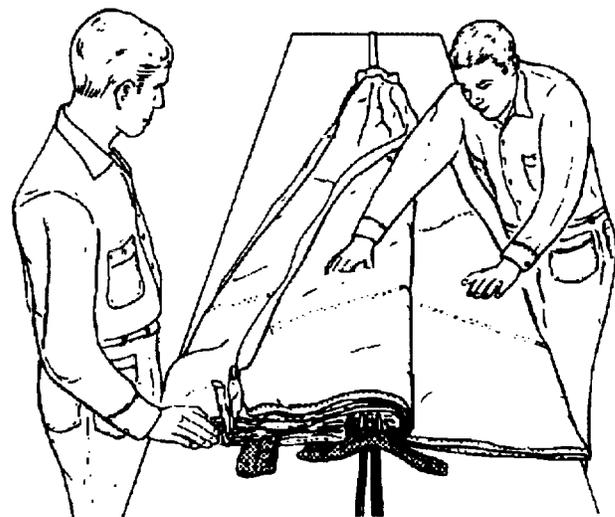


6.2-5180A

Figure 8. Draw Respective Gores to Center

g. Insert suspension line groups into their respective slots in small line separator and place shot bag on lines. Packer shall place second shot bag across skirt hem on left side of suspension lines. The PDV lines are routed under small line separator.

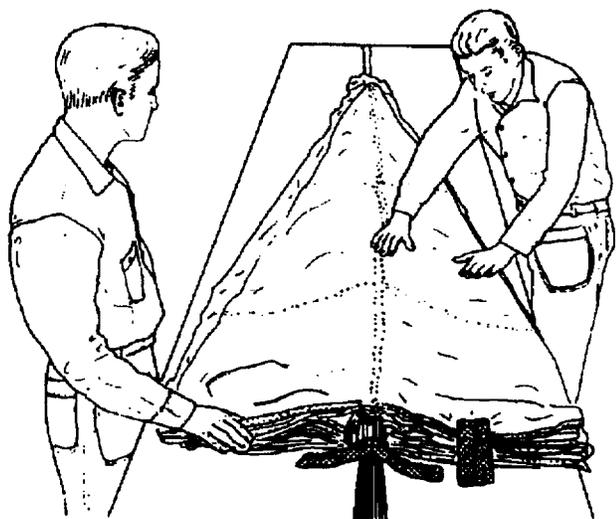
i. Helper shall straighten and smooth bottom gore on helper's side of packing table throughout its length to apex (Figure 10).



6.2-5180C

Figure 10. Helper Straighten and Smooth Each Gore

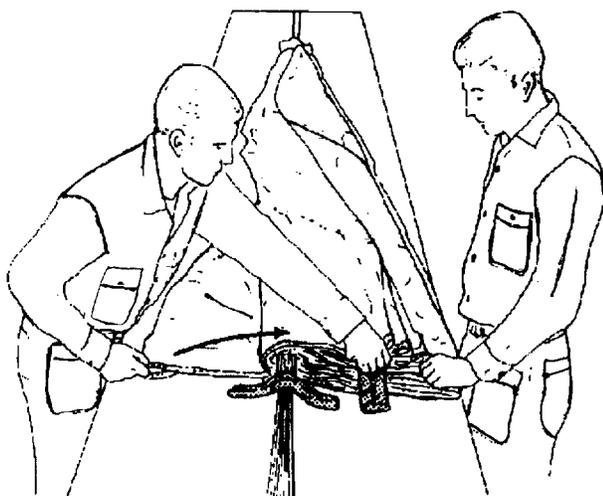
j. Return gores above shot bag on helper's side of packing table to packer's side one at a time. Each fold shall be straightened and smoothed (Figure 11).



6.2-5180D

Figure 11. Packer Return Folded Gores Above Shot Bag

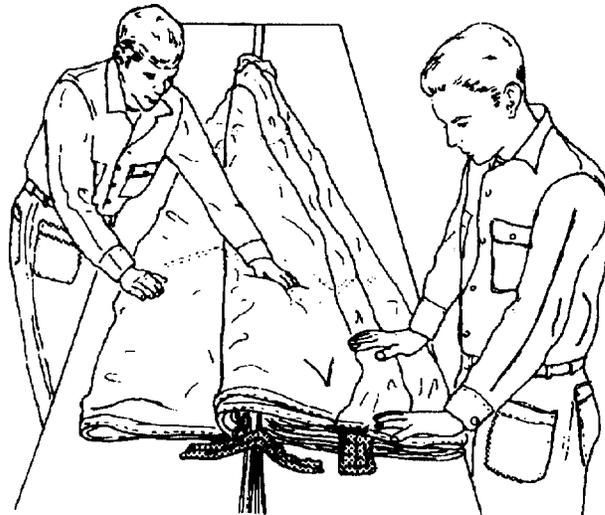
k. Packer shall rotate all gores as a group, except bottom gore, from packer's side to helper's side of packing table (Figure 12).



6.2-5180E

Figure 12. Packer Rotate All Gores Except Bottom Gores

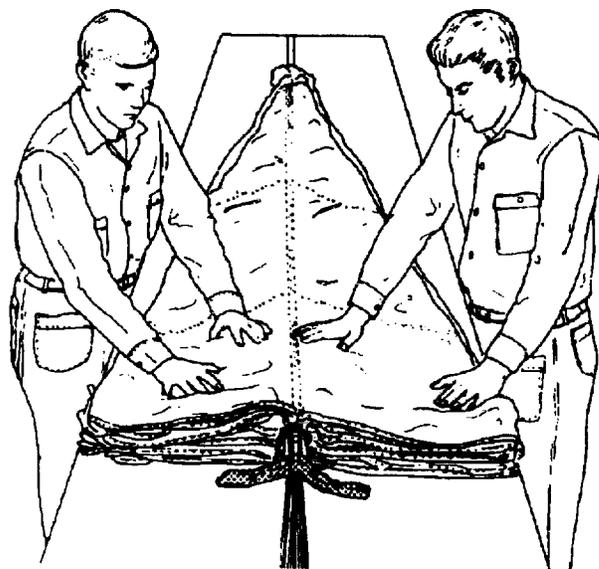
l. Packer shall straighten and smooth bottom gore on packer's side of packing table thru out its length to apex (Figure 13).



6.2-6112A

Figure 13. Packer Straighten and Smooth Each Gore

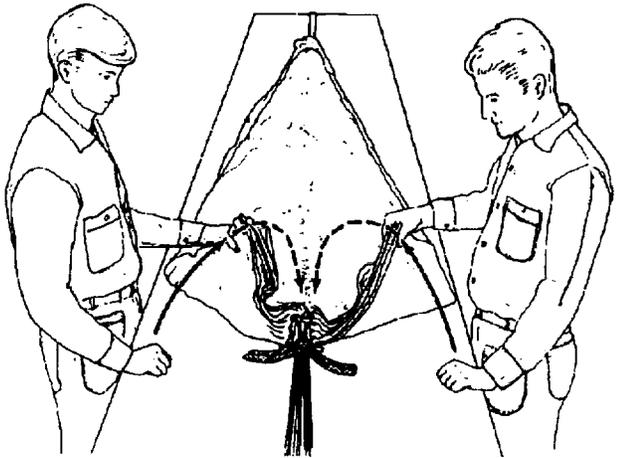
m. Packer shall straighten and smooth each gore. Remove shot bag from canopy (Figure 14).



6.2-6112B

Figure 14. Helper Return Folded Gores Above Shot Bag

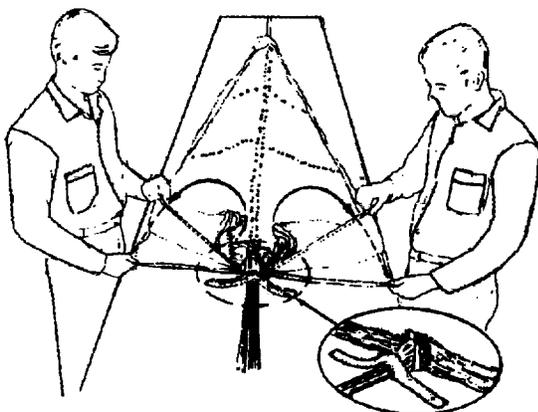
n. Packer and helper shall grasp skirt hem at midsections of gores and rotate towards suspension lines (Figure 15).



6.2-6112C

Figure 15. Grasp Midsections of Gores and Rotate

o. Packer and helper shall grasp bottommost gore fold and extend outwards, aligning edge of skirt hem and suspension line V-tab reinforcements. The remaining 13 gores shall be aligned in a similar manner. Ensure that all V-tab reinforcements face same direction and that 14 gores have been counted on each side (Figure 16).

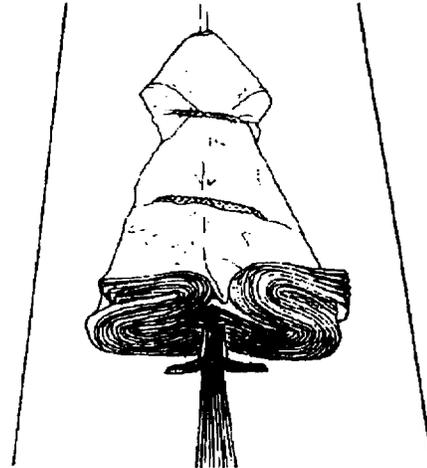


VIEW AFTER COUNTING AND ALIGNMENT

6.2-6112D

Figure 16. Each Fold Shall Be Aligned

p. Packer and helper shall grasp skirt hem and folded gores and S-fold canopy towards center. Butt S-folds together. Canopy cannot be S-folded throughout entire length, but will break two-thirds the distance to apex. Place two shot bags on folded canopy (Figure 17).



6.2-6112E

Figure 17. Grasp Skirt Hem and Folded Gores and S-Fold Towards Center

15. ATTACHMENT OF PULLDOWN VENT LINES AND WITHDRAWAL LINE TO CANOPY APEX.

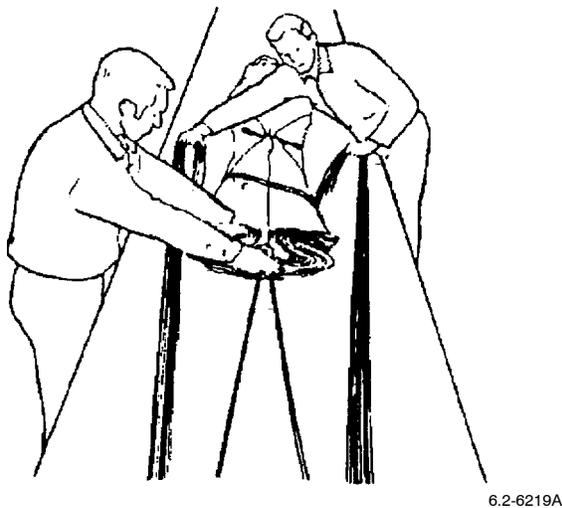
NOTE

Tie off all tackings with a surgeon's knot topped with a square knot, followed with a binder knot per WP 002 00. Trim off excess leaving 1/2-in.

a. Release tension from canopy and remove tension strap from canopy apex but not from PDV line messenger cord. Remove small line separator and shot bag.

b. Separate suspension lines from PDV lines 14-ft. 6-in. from connector links and spread each group to edge of table.

c. While helper holds suspension lines at edges of table, Packer shall draw canopy down center of table, between suspension lines, to a point where suspension lines between helper's hands and skirt hem become taut and PDV lines protrude thru vent hem (Figure 18).

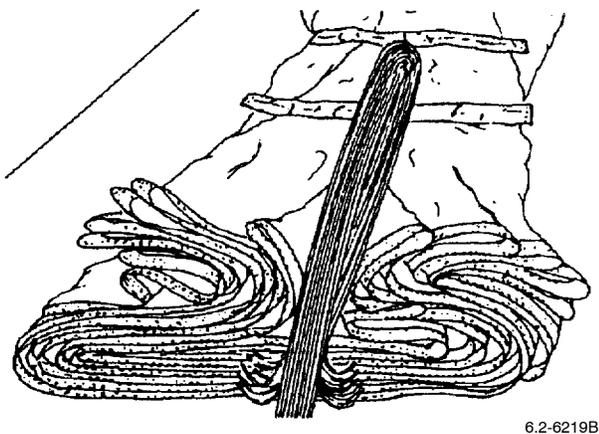


6.2-6219A

Figure 18. Packer Shall Draw Canopy Down Center of Table

d. Remove the messenger cord from PDV lines at apex.

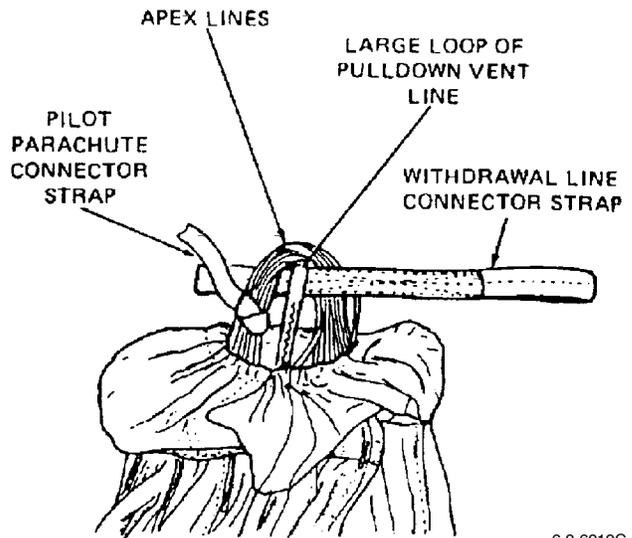
e. Packer and helper shall bring their respective group of suspension lines to center of canopy (Figure 19).



6.2-6219B

Figure 19. Respective Group of Suspension Lines to Center of Canopy

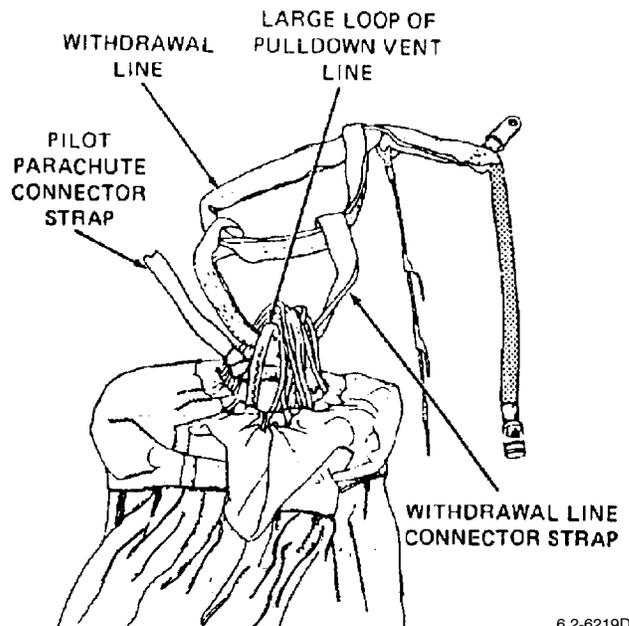
f. Route withdrawal line connector strap thru group of apex suspension lines and thru large loop of PDV line (Figure 20). (QA)



6.2-6219C

Figure 20. Routing of Withdrawal Line Connector Strap

g. Pass loop end of withdrawal line thru both loops of withdrawal line connector strap and position to right of pilot parachute connector strap. Pass free end of withdrawal line thru loop (Figure 21). (QA)



6.2-6219D

Figure 21. Pass Loop End Thru Both Loops of Withdrawal Line Connector Strap

h. Pull remainder of line thru loop and draw tight (Figure 22).

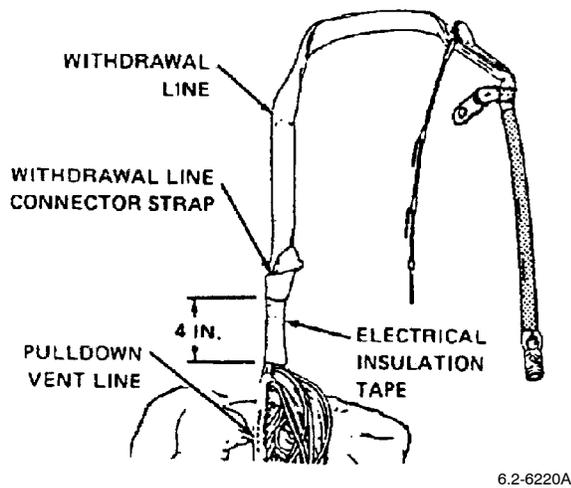


Figure 22. Pull Remainder of Line Thru Loop

i. Tape withdrawal line connector strap together using electrical insulation tape for a distance of 4-in. centered between lark's head knot of withdrawal line and vent lines. (Pilot parachute not shown for clarity) (Figure 22).

j. Remove tension hooks from packing table. Remove connector links from tension hooks. Tie each group of connector links together on each side using waxed size FF thread, single; tie off (Figure 23).

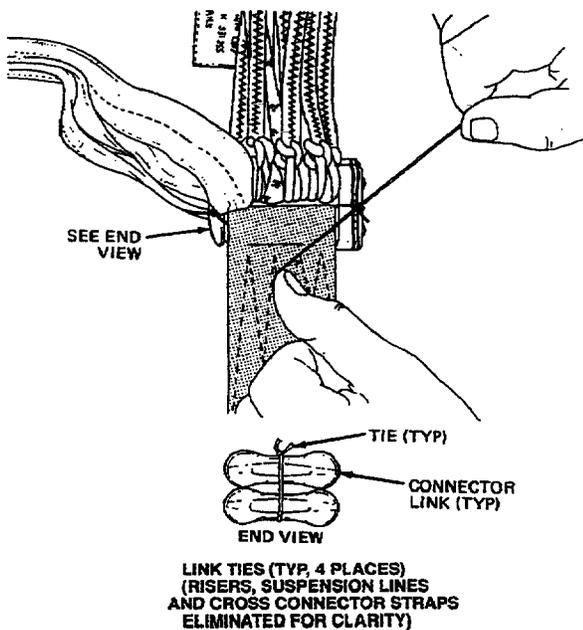


Figure 23. Remove Tension Hooks

16. STOWAGE OF SUSPENSION LINES.

NOTE

When stowing suspension lines, incorporate the use of a line stowing aid as shown in WP 005 00. The helper shall hold the suspension lines with the stowing aid in the stowage compartment until stows are inserted properly.

All stows shall extend full length into the stowage tubes. No slack in the suspension lines shall be on top of the stowage tray between stows.

Beeswax may be lightly applied to the stowage aids as a lubricant.

a. Position stowage tray under suspension lines. Ensure that forward side is facing up (Figure 24).

b. Numerical sequence of stowage tray compartments is shown in (Figure 24).

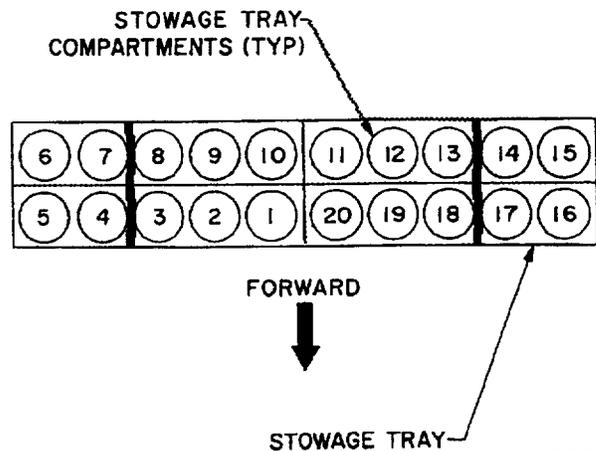
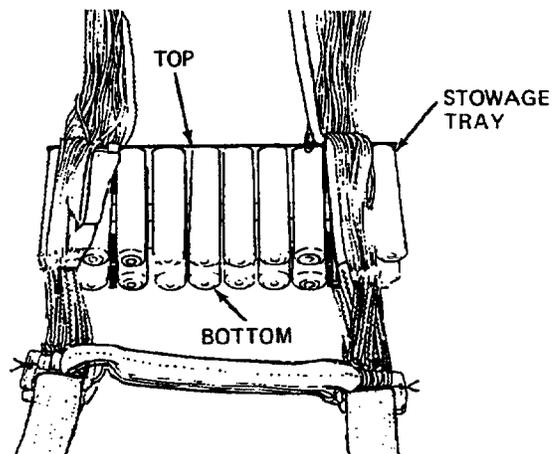


Figure 24. Positioning of Stowage Tray

WARNING

The suspension line group on helper's side must pass under PDV lines before making first stow. Do not stow PDV lines before stowing number 11, 12, or 13 as applicable.

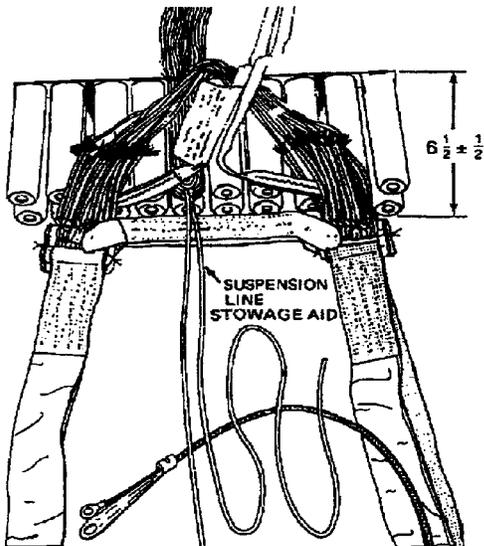
c. Helper shall grasp PDV lines and place outboard of stowage tray on helper's side. Suspension line group on helper's side must pass under PDV lines before making first stow. (QA)

WARNING

Rapid removal of the line stowage aids can cause damage to suspension lines.

d. Stow suspension lines.

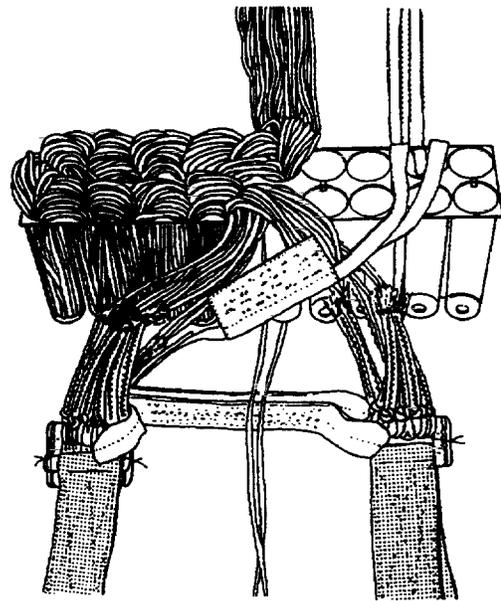
e. Using the line stowage aid, begin stowing only suspension lines in stowage compartment 1. Suspension lines shall extend full length of tube (Figure 25).



6.2-6114A

Figure 25. Begin Stowing Suspension Lines

f. Continue stowing the suspension lines in sequence until suspension lines are same length as PDV lines (stow 11, 12, or 13). No slack shall be allowed to form in suspension lines on top of stowage tray between stow tubes (Figure 26).

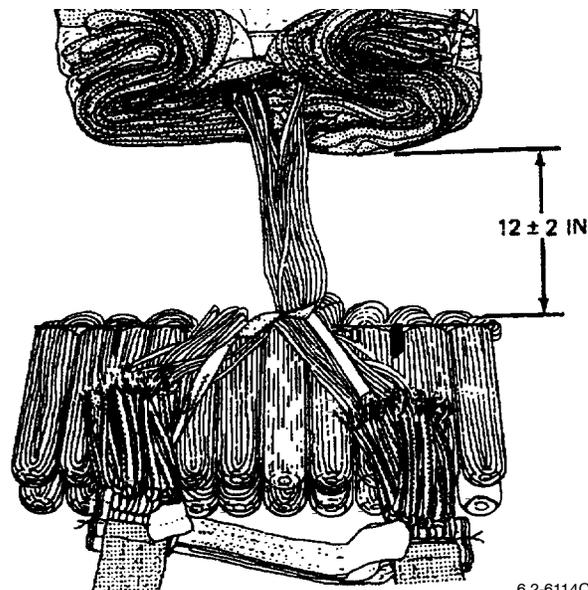


6.2-6114B

Figure 26. Continue Stowing Suspension Lines

g. Starting with stow 11, 12, or 13, as applicable, stow both suspension and PDV lines to and including stow 19.

h. Ensure that 12 ± 2 -in. remain between top of stowage tray and skirt of canopy. Remaining suspension lines and PDV lines may be stowed in stowage compartment 20 to achieve specified dimension (Figure 27). (QA)



6.2-6114C

Figure 27. Ensure that 12 ± 2 -in. Remain Between Top of Stowage Tray and Skirt

17. INSTALLATION OF RISER COVERS.

- a. Lay new riser cover on table with hook fastener facing up and canopy release assembly end to the left. Center riser assembly on cover with shoulder harness link facing up. Separate front riser from rear riser.
- b. Line up 1 1/2-in spaces on riser cover around riser pile fastener tape.
- c. Secure hook fastener to pile, working from middle of riser to each end. (QA)
- d. Secure front and rear risers together by securing riser pile fastener to riser hook fastener. (QA)
- e. Tack at centerline of riser, thru riser cover, 1/2-in. above bottom of steering handle loop with one turn of size FF thread, single and waxed; tie off.
- f. Repeat steps a thru e for other riser. On left riser cover 5-in. from connector link end make a 1-in. vertical cut, using a hot knife for ripcord housing (Figure 28).

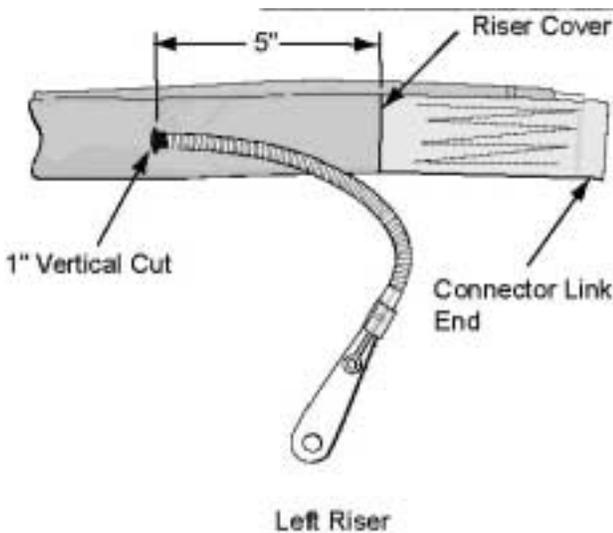
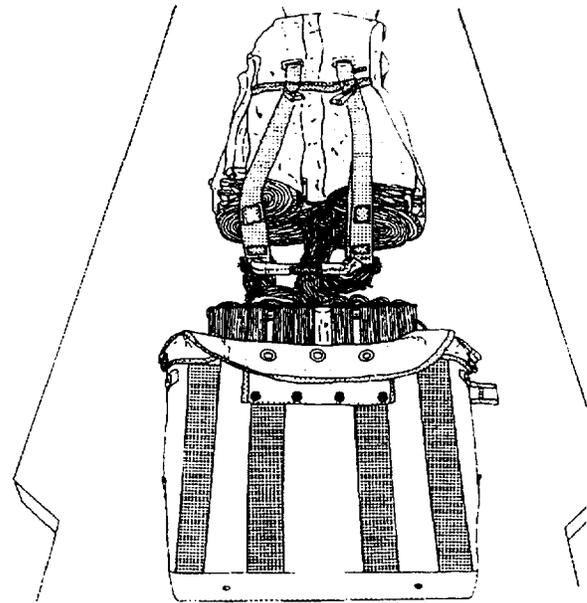


Figure 28. Vertical Cut on Left Riser

18. INSTALLATION OF STOWAGE TRAY INTO CONTAINER.

- a. Position container on packing table with open end toward stowage tray and all container flaps folded out. Fold risers onto canopy and move container up to stowage tray. Front of container has pile tape and should be facing up (Figure 29).

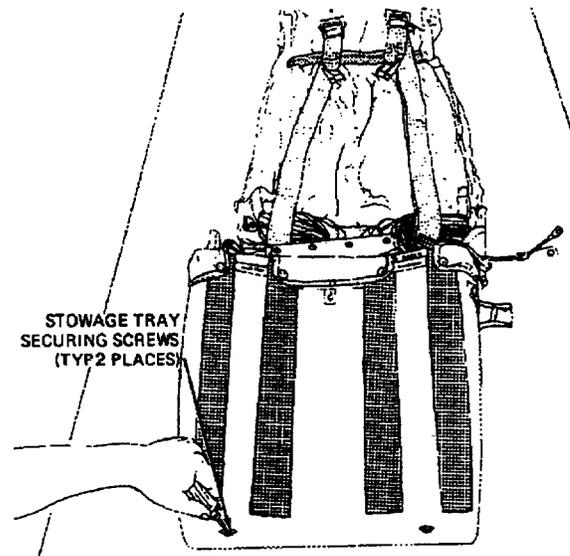


6.2-6115A

Figure 29. Position Container on Packing Table

- b. Insert stowage tray into container ensuring that none of lines are disturbed. Push tray evenly into molded rubber stop until tray attachment points are aligned with those of container. (QA)

- c. Insert two screws and washers and tighten the two line stowage tray securing screws. Torque screws to a torque value of 20 in-lbs. Apply torque seal to the line stowage tray mounting screws (Figure 30).



6.2-6115B

Figure 30. Insert and Tighten Tray

d. Position risers and cross-connector straps in container. Align hook tape sewed to risers with pile tape located inside container. When aligned, press firmly into place. Fold remainder of risers over onto container (Figure 31).

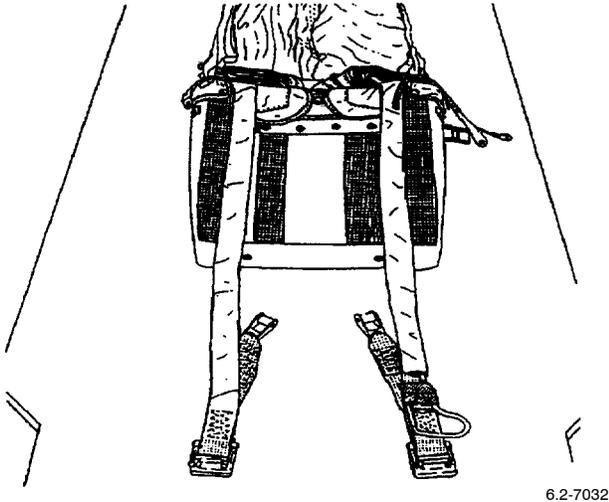


Figure 31. Position Risers and Cross-Connector Straps

19. STOWAGE OF CANOPY.

a. Remove shot bags from canopy. Position canopy S-folds 8-in. apart (Figure 32). (QA)

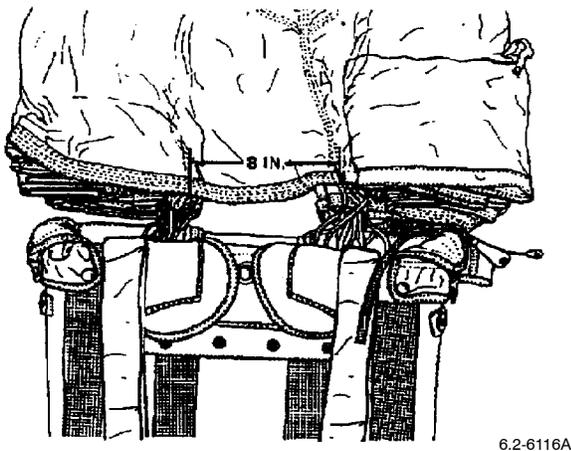


Figure 32. Placement of Container

WARNING

Use extreme care when stowing canopy. Ensure that risers and cross-connector strap do not separate from their fastener tape connection.

b. Place container in packing stand (Figure 33).

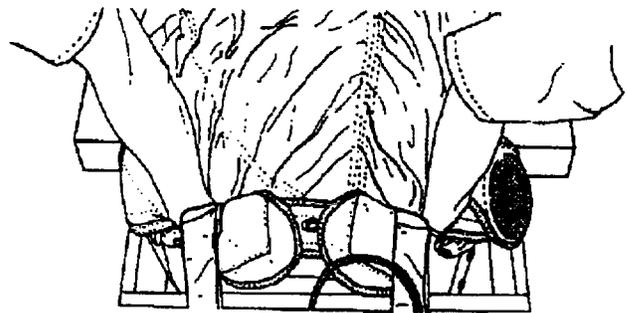


Figure 33. Begin Stowing Canopy

c. Place a long bar between canopy and cross-connector strap to keep riser straps secured to container during canopy stowage.

d. Begin stowing canopy by pushing skirt as far down into container as possible. This permits bulk of canopy to be positioned on sides of container (Figure 33).

e. Accordion-fold canopy, keeping folds on packer's side of parachute container creating a 4 1/2-in. void on helper's side of container. Stow until 5 1/2 ± 1/2-ft. exit from container to apex of canopy (Figure 34).

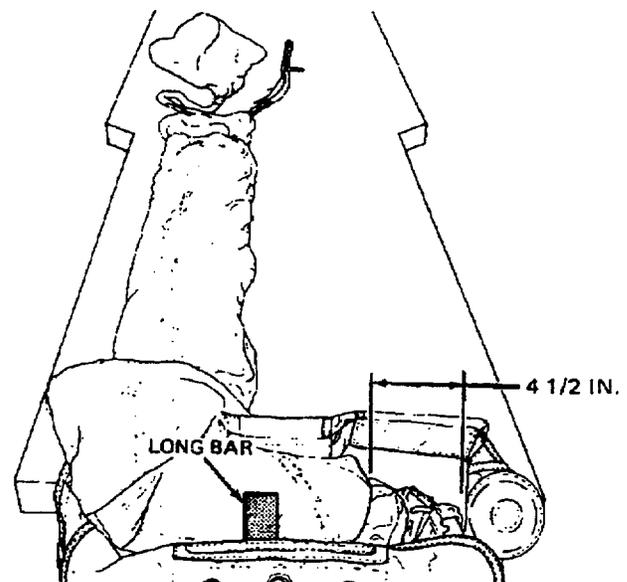


Figure 34. Accordion-Fold Canopy

f. Remaining $5\frac{1}{2} \pm \frac{1}{2}$ ft. should exit container on helper's side. Remove long bar from container (Figure 35). (QA)

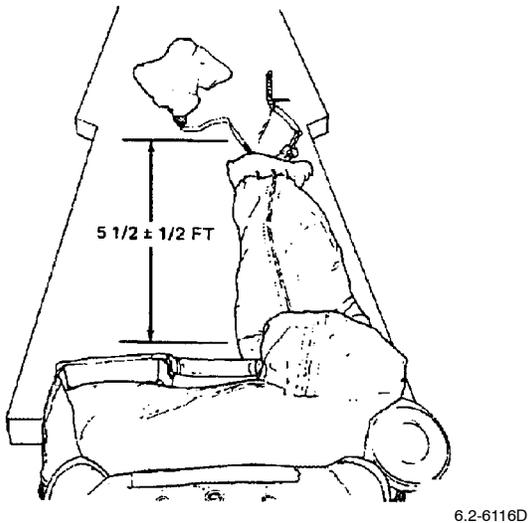


Figure 35. Remaining $5\frac{1}{2} \pm \frac{1}{2}$ -ft. Should Exit Container on Helper's Side

NOTE

Temporary pin helping lines are made of nylon cord 18-in. in length.

g. Position rear flap with locking cones over canopy. Insert temporary pin helping lines thru holes in center and left (packer's side) locking cone (Figure 36).

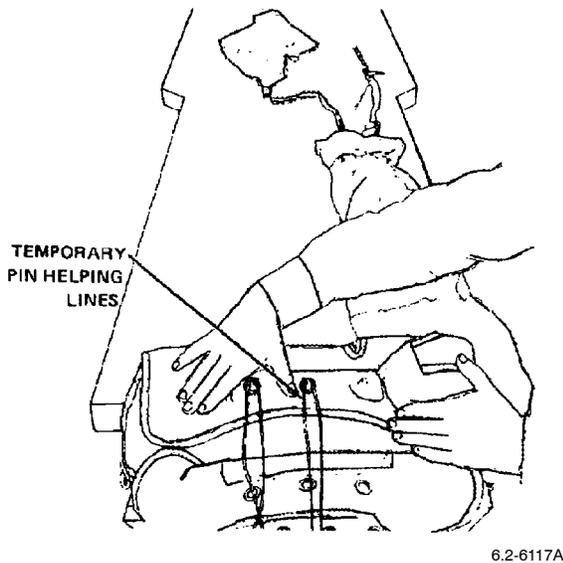


Figure 36. Position Rear Flap with Locking Cones over Canopy

h. Place end protector flap on packer's side of container into position. Route two temporary pin helping lines thru grommets in forward flap (Figure 37).

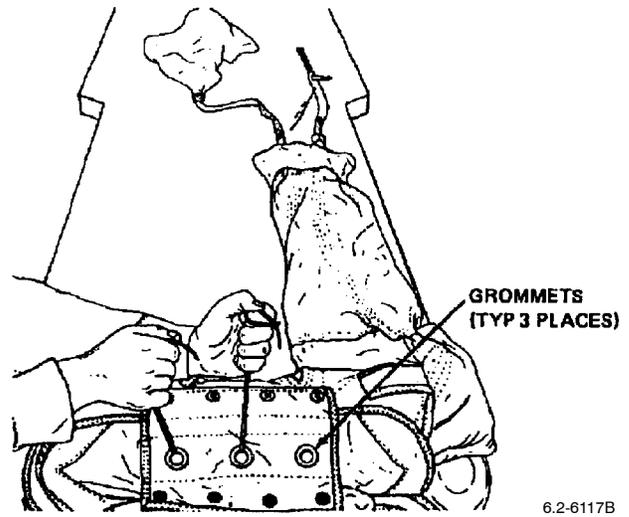


Figure 37. Place End Protector Flap on Packer's Side of Container

i. Draw two temporary pin helping lines taut, thus drawing front flap grommets over rear flap locking cones. At this time, end flap on packer's side of container is pulled in and placed over locking cone. Secure with temporary locking pins (Figure 38).

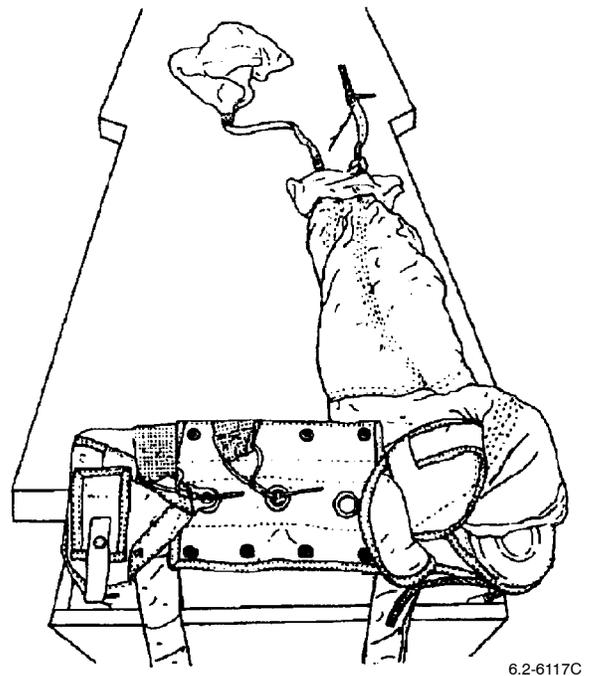
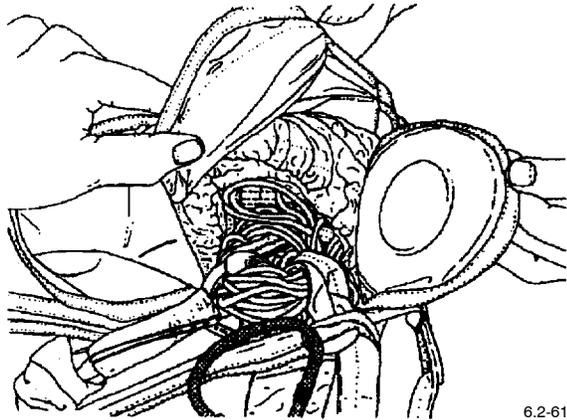


Figure 38. Draw Two Temporary Pin Helping Line Taut

j. Stow remaining $5 \frac{1}{2} \pm \frac{1}{2}$ -ft. of canopy down into space provided on helper's side of parachute container. Apex of canopy should be spread out to relieve bulk on helper's side of container (Figure 39). (QA)



6.2-6117D

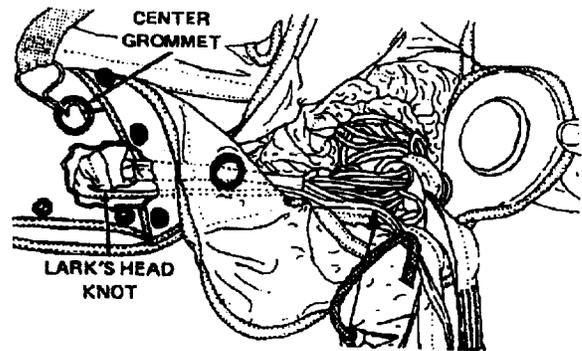
Figure 39. Stow Remaining $5 \frac{1}{2} \pm \frac{1}{2}$ -Ft. of Canopy Down into Space on Helper's Side of Container

20. CLOSING OF CONTAINER.

CAUTION

- Ensure that Lark's head knot is pulled tight.
- Ensure that Lark's head knot is aligned along forward edge of container even with center grommet.

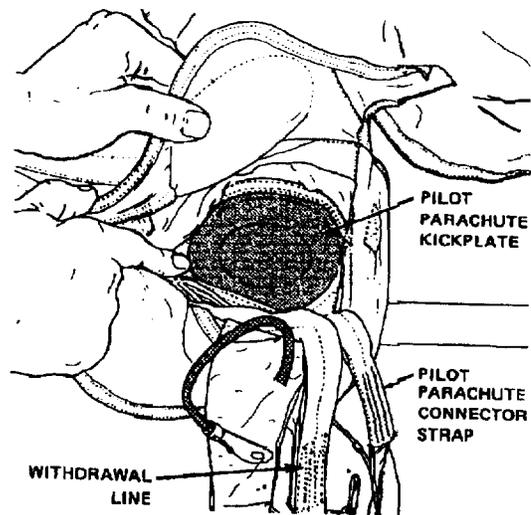
a. With apex of canopy located on helper's side of container, route withdrawal line along forward edge of container aligning Lark's head knot with center grommet. Withdrawal line and pilot parachute connector strap shall exit forward section of container on ripcord grip side (Figure 40).



6.2-6118A

Figure 40. Route Withdrawal Line Along Forward Edge of Container

b. Position pilot parachute kickplate into position on top of apex of canopy. Kickplate shall be 1-in. below top edge of container (Figure 41).



6.2-6118B

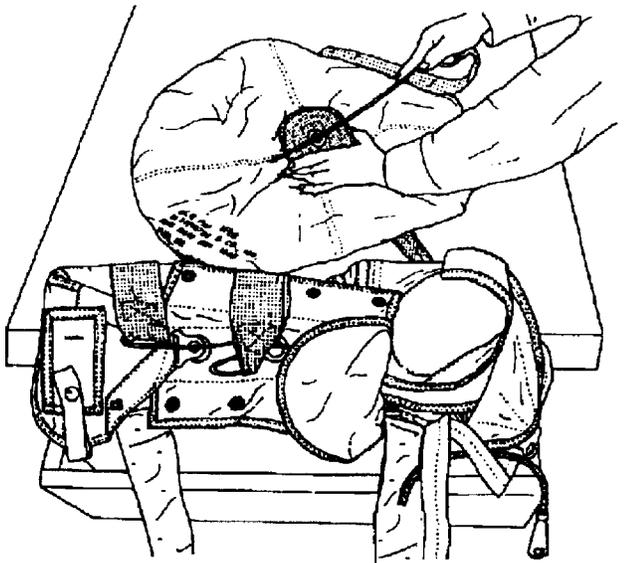
Figure 41. Position Pilot Parachute Kickplate

c. Ensure that hook and pile tape has not separated from container behind kickplate. (QA)

WARNING

Do not trap pilot parachute cloth under spring of pilot parachute.

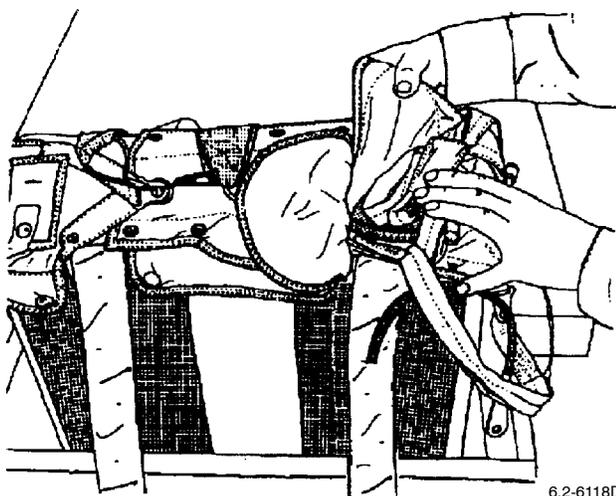
d. Compress pilot parachute, insert temporary locking pin into locking cone (Figure 42).



6.2-6118C

Figure 42. Compress Pilot Parachute

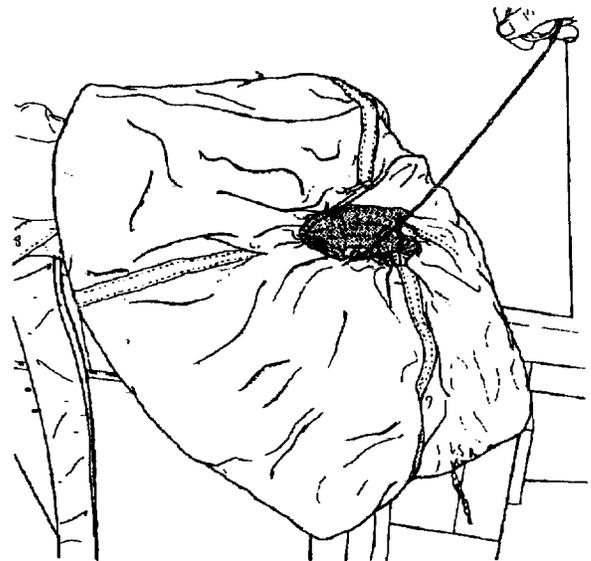
e. Accordion-fold pilot parachute connector strap flat on top of kickplate (Figure 43).



6.2-6118D

Figure 43. Accordion-Fold Pilot Parachute

f. Helper shall position pilot parachute in container on top of kickplate (Figure 44).

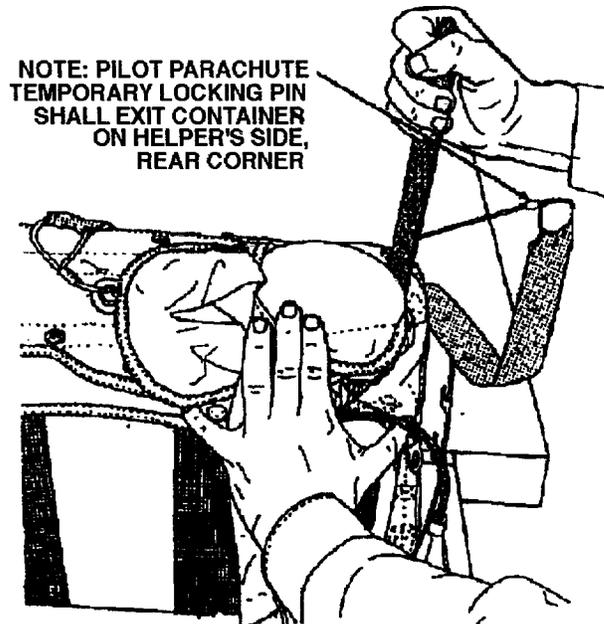


6.2-5193A

Figure 44. Helper Shall Position Pilot Parachute

g. Tuck skirt hem around periphery of crown. Pilot parachute temporary locking pin shall exit container on helper's side, rear corner.

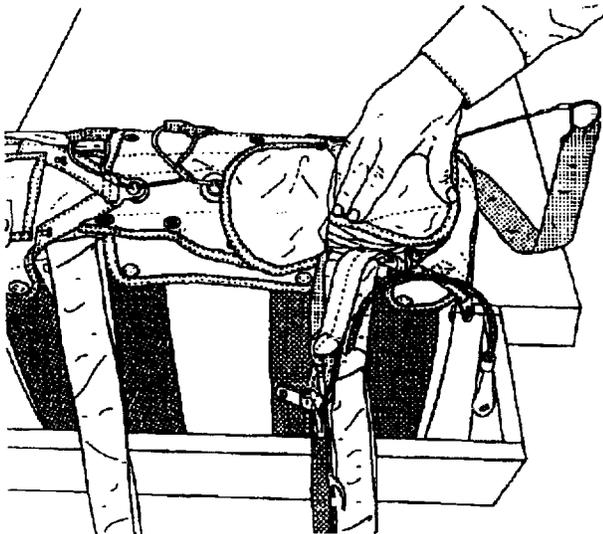
h. Using a fid, helper shall tuck in rear tab located on rear flap on helper's side of container (Figure 45).



6.2-5193B

Figure 45. Helper Shall Tuck in Rear Tab

i. Accordion-fold withdrawal line behind riser on helper's side of container (Figure 46).



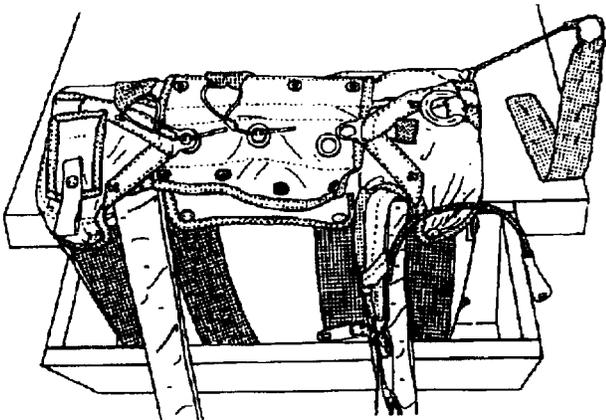
6.2-5193C

Figure 46. Accordion-Fold Withdrawal Line

NOTE

Ensure that 3-in. remain between container and ripcord cable attachment point.

j. Position end flap on helper's side of container into position (Figure 47).

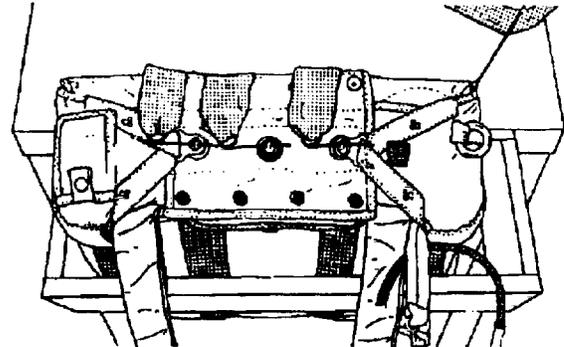


6.2-5193D

Figure 47. Position End Flap

k. Route temporary pin helping lines thru cone on helper's side of container. Route helping line thru grommet and pull taut, thus drawing front flap grommets over rear flap locking cones. At this time, end flap on helper's side of container is pulled up and placed over locking cone. Secure with temporary locking pins.

l. Remove temporary pin helping lines. (QA) If necessary, pull on upper protector flap to compress pack ends for end tab installation (Figure 48).



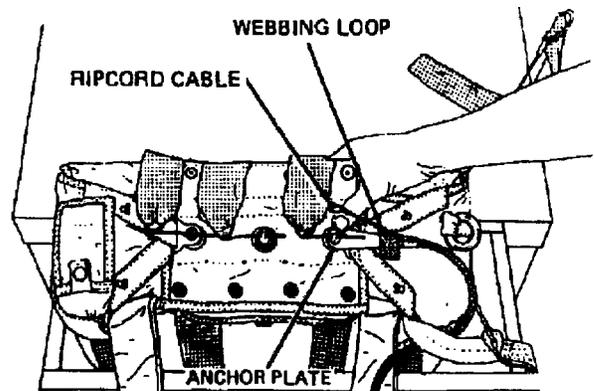
6.2-6119A

Figure 48. Remove Temporary Pin

WARNING

Ensure that manual ripcord cable passes over webbing loop.

m. Pass manual ripcord anchor plate thru webbing loop on end flap. Manual ripcord cable shall pass over loop. Helper shall hold end tab over locking cone on withdrawal line end of container, and packer shall remove temporary locking pin. Packer shall position anchor plate over locking cone and insert temporary locking pin (Figure 49).



6.2-6119B

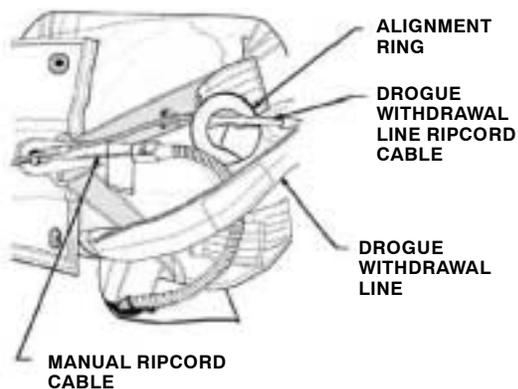
Figure 49. Pass Manual Ripcord Anchor Plate Thru Webbing Loop

WARNING

Ensure that withdrawal line passes over manual ripcord cable housing.

Use of pins as alignment aids during installation may cause bending of pins and result in excessive pull forces.

n. Route withdrawal line pins thru alignment ring. Insert curved ripcord pin thru eye on end of manual ripcord cable. Helper shall partially insert curved ripcord pin into locking cone with anchor plate as packer removes temporary locking pin. Insert straight ripcord pins into second and third locking cones in same manner (Figure 50). (QA)



6.2-6119C

Figure 50. Routing of Withdrawal Line

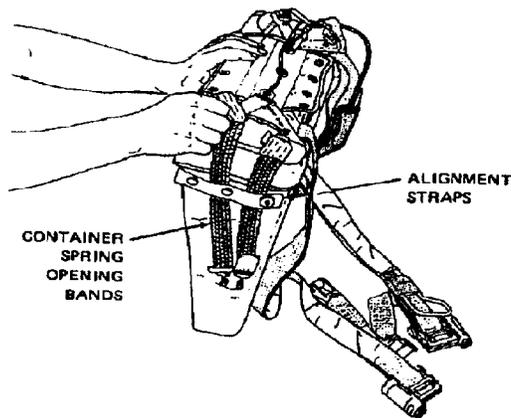
WARNING

Ensure that ripcord pins are centered in locking cones so that shoulder of ripcord pin is not jammed against locking cone.

NOTE

Ensure that manual ripcord housing passes over forward container spring opening band.

o. Center all ripcord pins in cones. Remove pilot parachute temporary locking pin. Remove container from packing stand, route container spring opening bands thru alignment straps, and attach to container. Ensure that manual ripcord housing assembly passes over forward container spring opening band (Figure 51).



6.2-6119D

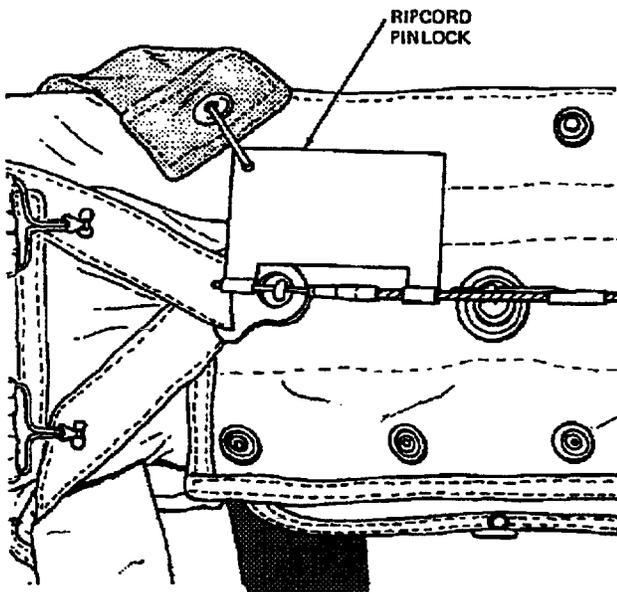
Figure 51. Center All Ripcord Pins

21. RIPCORD GRIP PULL CHECK.

- a. Reinstall parachute in stand.
- b. Ensure ripcord grip is fully seated in ripcord retainer.
- c. Set spring scale to zero.
- d. Attach scale to grip using Type IIA or III nylon cord.
- e. Helper shall hold ripcord in place and, using a straight steady pull, remove grip from retainer. The force required to remove grip from retainer shall be 15 ± 5 lbs. (QA)

22. RIPCORD PIN PULL CHECK.

- a. Remove ripcord grip from ripcord handle clip. Insert ripcord pinlock on bottom ripcord pin (Figure 52).



6.2-5196

Figure 52. Ripcord Pin Pull Check

b. Attach spring scale to ripcord grip with a nylon cord. Set spring scale to zero.

c. Using scale, apply a straight steady force to ripcord grip until initial movement of ripcord pins is observed. Most allowable force is 15 lbs. (QA)



Ripcord pinlock must be removed.

d. Remove ripcord pinlock. Install ripcord grip in ripcord handle clip. (QA)

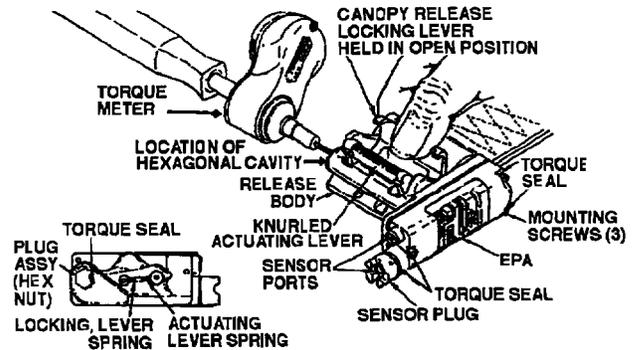
e. If necessary, reposition ripcord pins so they are centered in locking cones.

23. PARACHUTE HARNESS SENSING RELEASE UNIT (PHSRU), MXU-746/P AND MXU-747/P.

a. Measure the knurled actuating lever torque as follows:

(1) Hold locking lever in the open position and insert the torque meter with 1/16-in. hex head driver into actuating lever cavity.

(2) Rotate actuating lever to just prior to contact with body. Acceptable torque values are 28 to 50 in-oz. (Figure 53). (QA)



6.2-1112

Figure 53. Rotate Actuating Lever

b. Check battery voltage as follows:

(1) Install test leads in multimeter observing proper polarity.

(2) Select VDC and scale exceeding 26 VDC.



Avoid touching the meter probes together when making this test. Firing of the PHSRU may result.

(3) Contact negative (black) probe to sensor plug assembly center conductor. Contact positive (red) probe to EPA sensor center conductor.

(4) Reading of +22.5 volts DC or greater indicates PHSRU is serviceable. (QA)

c. If plug assembly was removed, perform the following:

(1) Forward complete packed parachute assembly to either non-destructive inspection lab or medical facility for X-ray.

(2) From review of X-ray (Figure 54), if plug assembly is suspected or known to be partially or fully recessed, the unit shall have a shear pin integrity check per WP 024 02.

(3) Record inspection on Parachute Record (OPNAV 4790/101).

(4) Attach X-rays to the Parachute Record (OPNAV 4790/101).

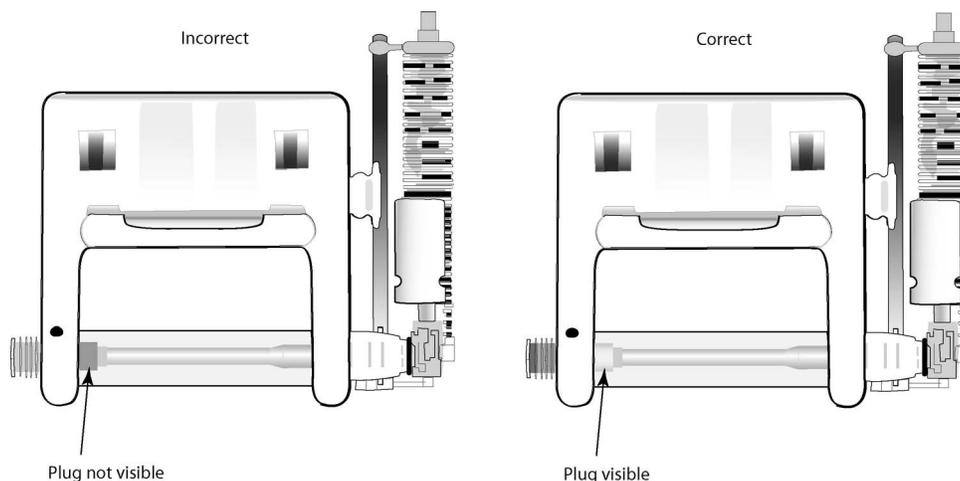


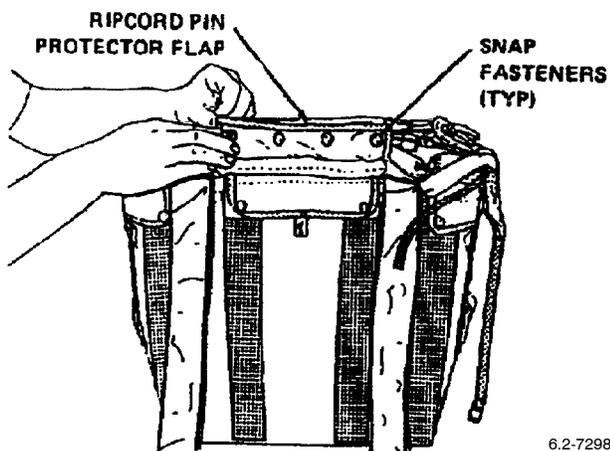
Figure 54. PHSRU X-Ray

(5) If voltage is below +22.5 volts DC, replace battery per WP 024 02.

(6) Record voltage for each EPA in the Local Use Block on the Parachute Record (OPNAV 4790/101).

24. FINAL CHECKOUT.

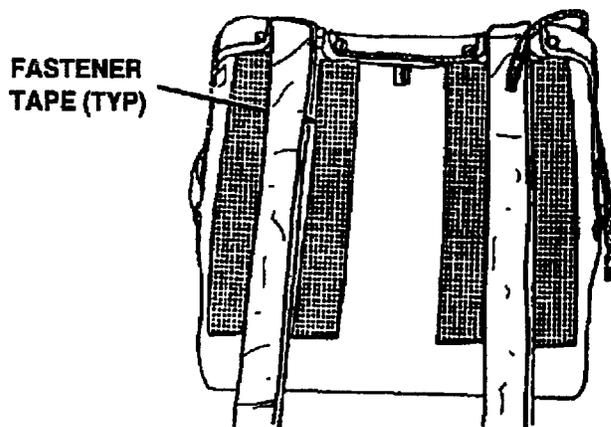
a. Close ripcord pin protector flap by means of four snap fasteners (Figure 55).



6.2-7298

Figure 55. Close Ripcord Pin Protector Flap

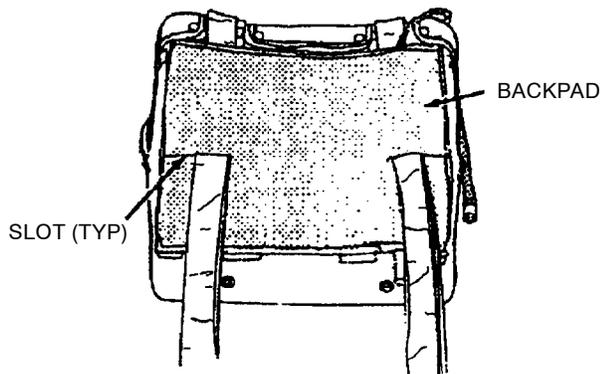
b. Lay container on table and route risers between pile tape on front of container (Figure 56).



6.2-7299

Figure 56. Lay Container on Table

c. Align hook tape on back cushion with pile tape on container. Risers should exit thru slots in back cushion (Figure 57).



6.2-7300

Figure 57. Align Hook Tape on Back Cushion

d. Account for all the packing tools. examine packed parachute for general condition.

e. Packer shall complete and sign Parachute Record (OPNAV 4790/101). (QA)

f. QA inspector shall examine completeness and accuracy of all entries on Parachute Record (OPNAV 4790/101).

g. QA inspector shall sign Parachute Record (OPNAV 4790/101).

h. Send a (legible) copy of new Parachute Record to: Commander, Code 461000D, NAVAIRWARCENWPN-DIV, 1900 N Knox Road Stop 6206, China Lake, CA 93555-6106.

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INTERMEDIATE AND DEPOT MAINTENANCE

REPAIR PROCEDURES

NES-14 PERSONNEL PARACHUTE ASSEMBLY

PART NO. 607AS102-6

List of Effective Work Package Pages

<u>Page No.</u>	<u>Chg. No.</u>						
1 thru 22		10					

Reference Material

Intermediate and Depot Maintenance, Common Repair Procedures	WP 004 00
Intermediate and Depot Maintenance, Maintenance Procedures, Parachute Harness Sensing Release Units (PHSRU), MXU-746/P and MXU-747/P	WP 024 02
Intermediate and Depot Maintenance, Original Issue Rigging Procedures, Parachute Harness Sensing Release Units (PHSRU) MXU-746/P and MXU-747/P	WP 024 01
Intermediate and Depot Maintenance, Packing Procedures, NES-14 Personnel Parachute Assembly	WP 016 02
Introduction, Organizational, Intermediate and Depot Maintenance with Illustrated Parts Breakdowns, Emergency Personnel and Drogue Parachute Systems	WP 002 00
Organizational, Intermediate and Depot Maintenance, Illustrated Parts Breakdown, NES-14 Personnel Parachute System	WP 016 04
Organizational, Intermediate and Depot Maintenance, Parachute Loft Requirements/Administration	WP 003 00
Organizational, Intermediate and Depot Maintenance, Support Equipment	WP 005 00

Alphabetical Index

<u>Title</u>	<u>Page</u>
Canopy Assembly Repairs	4
Removal and Reinstallation of Suspension Lines for Proper Sequencing	4
Replacement of Canopy Assembly	5
Container Assembly Repairs	13
Fabrication of Container Strap Assembly	13
Installation of Parachute Harness Sensing Release Units (PHSRU)	20
Repair of Cracks, Holes, and Scratches	15
Repair of Cracks or Holes	16
Repair of Stowage Tray	19
Repair of Surface Scratches and Cracks	13
Replacement of Alignment Ring Securing Tape	19
Replacement of Container Assembly	19
Replacement of Container Assembly Pressure Sensitive Tape Over Studs	19
Replacement of Container Securing Lug	20
Replacement of Container Strap Assembly Rivet	13
Replacement of Forward Flap Assembly Plastic Stiffener	18
Replacement of Spring Opening Assembly	19
Cross-Connector Strap Repair	21
General	21
Replacement of Cross-Connector Strap	21
Introduction	3

Alphabetical Index (Cont.)

<u>Title</u>	<u>Page</u>
Pilot Parachute Repairs	3
Replacement of Pilot Parachute	3
Replacement of Pilot Parachute Loose or Broken Tacking (Plate Assembly)	3
Pull Down Vent (PDV) Line Repair	6
General	6
Replacement of Pull Down Vent Line	7
Replacement of Pull Down Vent Line Tacking	6
Replacement of MS22021-1 Connector Link (Speed Link) with MS22002-1 (Double "L") Connector Link	21
Ripcord Assembly Repair	20
General	20
Replacement of Ripcord Assembly	20
Riser Assembly Repair	8
Fabrication of Riser Cover	9
Installation of Riser Covers	11
Repair of Ripcord Grip Retainer	11
Replacement of Ripcord Grip Retainer	12
Replacement of Ripcord Grip Retainer Cover	12
Replacement of Riser Assembly	8
Withdrawal Line and Connector Strap Repairs	3
Replacement of Withdrawal Line and Connector Strap	4

Record of Applicable Technical Directives

<u>Type/No.</u>	<u>Date</u>	<u>Title and ECP No.</u>	<u>Date Inc.</u>	<u>Rescission Date</u>
ACC 577	30 Nov 93	Stowage Tray Mounting NES-14 (ECP 16264)	1 Oct 94	31 Dec 01

1. INTRODUCTION.

a. This Work Package (WP) contains instructions for the maintenance, repair, replacement, and fabrication of various parachute parts or subassemblies to ensure that items of equipment remain in a Ready-For-Issue (RFI) status. Selected repairs shall be documented on the Parachute Record (OPNAV 4790/101). For common repairs refer to WP 004 00.

2. PILOT PARACHUTE REPAIRS.

a. Repair of the pilot parachute and bridle is limited to the following:

- (1) Cleaning of contaminated areas.
- (2) Replacement of loose or broken tacking.

b. Replace pilot parachute for any of the following:

- (1) Service/total life has expired per WP 016 02.
- (2) Seam separations, holes, tears and loose or broken stitching (yarn separation is acceptable) that may affect safe operation of the parachute.
- (3) Pilot parachute spring is broken or distorted.
- (4) Pilot parachute locking cone or grommet is loose or damaged.

3. REPLACEMENT OF PILOT PARACHUTE.

- a. Inspect replacement pilot parachute per WP 016 02.
- b. Remove tension hook from apex lines, and then remove pilot parachute.
- c. Count 14 apex lines in sequence. Pass the replacement pilot parachute bridle around apex lines. Form a Lark's head knot by passing entire pilot parachute thru loop end of bridle and drawing tight (Figure 1).
- d. Mark date placed in service on pilot parachute per WP 004 00. (QA)

4. REPLACEMENT OF PILOT PARACHUTE LOOSE OR BROKEN TACKING (PLATE ASSEMBLY).

Materials Required

Specification or Part Number	Nomenclature
V-T-295	Thread, Nylon, Size 6, Type I or II, Class A

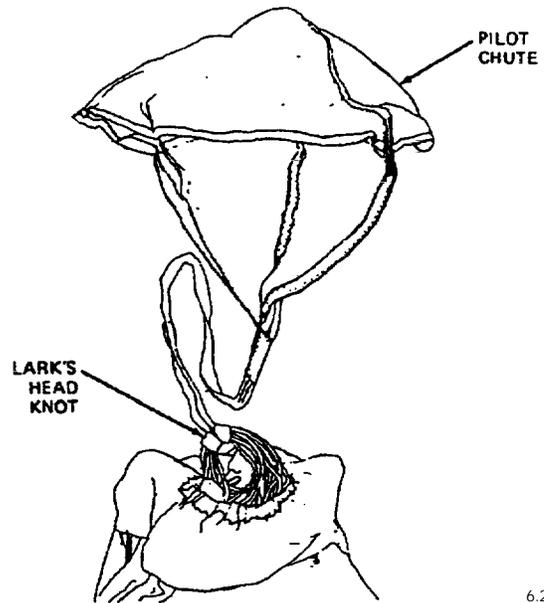


Figure 1. Removal and Replacement of Pilot Parachute

6.2-6218

NOTE

Tie off all tackings with a surgeon's knot topped with a square knot, followed with a binder knot per WP 002 00. Trim off excess leaving 1/2-in.

- a. Remove broken tacking, or completely remove loose tacking.

NOTE

The plate is attached at the base of the coil spring.

- b. Locate the four holes in plate within pilot parachute fabric.
- c. Tack thru holes with two turns of size 6 thread, doubled and waxed; tie off.

5. WITHDRAWAL LINE AND CONNECTOR STRAP REPAIRS.

- a. Repair of withdrawal line and connector strap is limited to cleaning of contaminated area.
- b. Replace withdrawal line or connector strap for any of following:
 - (1) Service/total life has expired per WP 016 02.
 - (2) Any damage that exists that may affect safe operation of parachute.

6. REPLACEMENT OF WITHDRAWAL LINE AND CONNECTOR STRAP.

Materials Required

Specification or Part Number	Nomenclature
MIL-I-19166	Tape, Electrical, Insulation

- a. Inspect replacement withdrawal line and/or connector strap per WP 016 02.
- b. Remove tension hook from apex lines.
- c. Remove withdrawal line at Lark's head knot.
- d. Remove tape from connector strap and remove defective connector strap.
- e. Route replacement withdrawal line connector strap around apex lines of canopy and thru large loop of pull down vent (PDV) lines.
- f. Pass the replacement withdrawal line thru both loops in the withdrawal line connector strap, and route the connector end of the withdrawal line thru the withdrawal line loop (Figure 2). (QA)

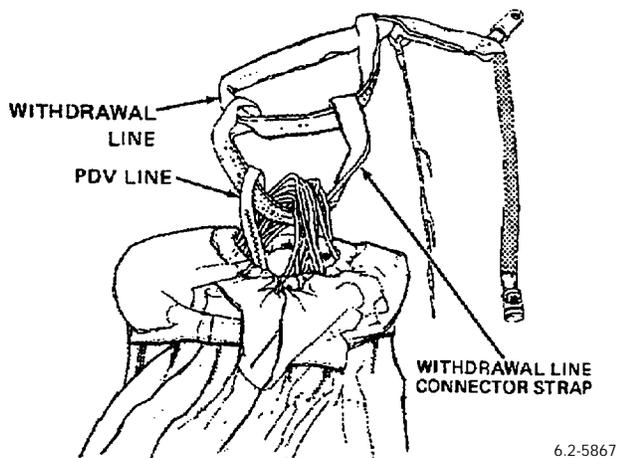


Figure 2. Replacement of Withdrawal Line and Connector Strap

- g. Pull remainder of line thru loop and draw tight.
- h. Tape withdrawal line connector strap together using electrical insulation tape for a distance of 4-in., centered between Lark's head knot of withdrawal line and vent lines (Figure 3).

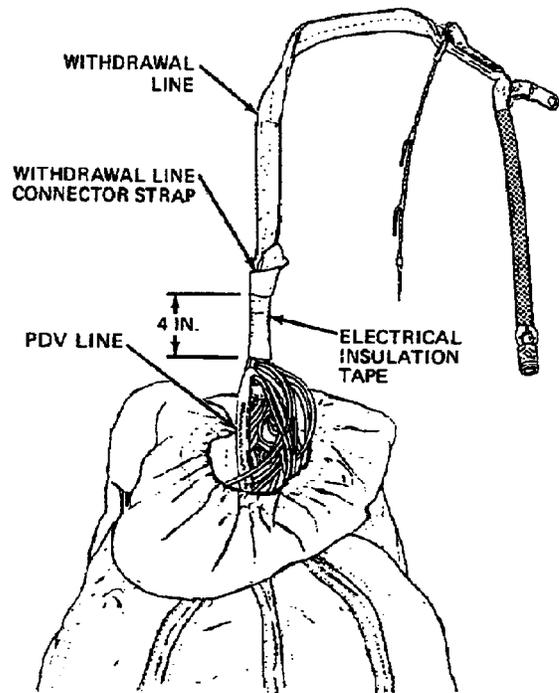


Figure 3. Installation of Insulation Tape to Withdrawal Line Connector Strap

- i. Mark date placed in service on replacement withdrawal line per WP 004 00. (QA)

7. CANOPY ASSEMBLY REPAIRS.

8. REMOVAL AND REINSTALLATION OF SUSPENSION LINES FOR PROPER SEQUENCING.

Support Equipment

Part Number	Nomenclature
Refer to WP 005 00	Temporary Locking Pin

Materials Required

Specification or Part Number	Nomenclature
F-900 Torque Seal (Color Optional)	Sealing Compound

NOTE

For Double "L" Connector Link, refer to Paragraph 41 for disassembly, assembly, and inspection instructions.

- a. Remove connector link yoke and plate.
- b. Slide suspension lines onto a temporary locking pin or rod.

CAUTION

Ensure clove-hitch and half-hitch at ends of suspension lines do not separate during handling.

c. Sequence lines on connector link bar per (Figure 4).

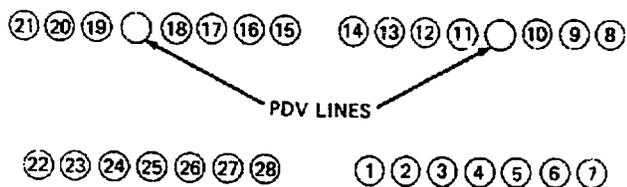


Figure 4. Arrangement and Orientation of Suspension Lines on Connector Links

6.2-5869

d. Attach yoke and plate to connector link so knurled plate portion faces up and screwheads face outboard.

e. Check suspension line continuity (Figure 4).

f. Tighten screw on yoke and plate to a torque value of 20 to 25 in-lbs. (QA)

g. Apply torque seal to screwhead.

9. REPLACEMENT OF CANOPY ASSEMBLY.

Support Equipment

Part Number	Nomenclature
Refer to WP 005 00	Temporary Locking Pin
—	Torque, Screwdriver

Materials Required

Specification or Part Number	Nomenclature
F-900 Torque Seal (Color Optional)	Sealing Compound
V-T-295	Thread, Nylon, Size E, Type I or II, Class A
PIA-C-5040	Cord, Nylon, Type III

NOTE

For Double “L” Connector Link, refer to Paragraph 41 for disassembly, assembly, and inspection instructions.

a. Remove pilot parachute, withdrawal line and withdrawal line connector strap from vent lines.

b. Remove four-line release rigging from connector links and then remove lanyard from riser flutes.

c. Remove connector link yoke and plates.

d. Remove PDV lines from connector links per Paragraph 13.

e. Remove connector links from riser loops and then reinstall yoke and plates.

f. Dispose of canopy per supply directives.

g. Lay out replacement canopy and stretch it to its full length on packing table.

h. Attach tension strap hook to canopy vent lines.

i. Locate gore 28 (nameplate gore) and place it bottommost in center of packing table.

j. At skirt hem, separate suspension lines into two equal groups with lines 15 thru 28 on packer’s side and 1 thru 14 on helper’s side (Figure 4). Grasping each group of lines, walk from skirt hem to connector links removing any dips and twists between two groups.

k. Place connector link holding lines 15 thru 21 on top of connector link holding lines 22 thru 28. Place connector link holding lines 8 thru 14 on top of connector link holding lines 1 thru 7. Insert tension hooks into connector links and insert hooks into packing table (Figure 4).

l. Apply tension.

m. Pull vent collar toward canopy and adjust vent hem.

n. Pull vent collar back to its original position.

o. Check suspension line continuity on left side of gore 14. Packer shall grasp line 15 at skirt hem and raise to a sufficient height to ensure line is free of dips and twists. Continue this procedure with lines 16 thru 28 (Figure 4). Helper shall be positioned at connector links to check lines selected by packer.

p. Check suspension line continuity on right side of gore 14. Packer shall grasp line 14 at skirt hem and raise to enough height to ensure line is free of dips and twists. Continue procedure with lines 13 thru 1 (Figure 4). Helper shall be positioned at connector links to check lines selected by the packer. (QA)

q. Inspect four-line release anchor loops for proper attachment to lines 3 and 26. Measure 30 ± 1/2-in. above upper connector link bar. Anchor loops must be attached with 2-in. of Type 304 single throw zigzag stitching.

r. Continue to inspect canopy per WP 016 02.

s. Record any damage on canopy damage chart WP 003 00.

t. Reattach pilot parachute, withdrawal line, withdrawal line connector strap, and PDV lines to apex lines Paragraph 13.

u. Lay out riser and cross-connector straps on packing table. Corresponding risers shall be placed on top of each other and positioned at connector links. Ripcord shall face up.

v. Remove connector links from tension hooks. Remove tension hooks from packing table.

w. Remove connector link yoke and plates from bottom connector links.

x. Insert connector links into bottom riser loops.

y. Reattach yoke and plates to bottom connector links ensuring knurled portions of plate faces up and screwheads face outboard.

z. Remove connector link yoke and plates from top connector links.

aa. While maintaining continuity, slide suspension lines onto a temporary locking pin or rod.

ab. Insert connector links into top riser loops.



Ensure that clove-hitch and half-hitch at ends of suspension lines do not separate during handling.

ac. Reinstall suspension lines 3 thru 7 and 26 thru 22 onto respective connector links.

ad. Reattach yoke and plates to top connector links ensuring knurled portion of plate faces up and screwheads face outboard.

ae. Insert tension hooks into connector links and then tension canopy.

af. Perform suspension line continuity check as in steps o and p. (QA)

ag. Tighten screws on top and bottom connector links to a torque value of 20 to 25 in-lbs. (QA)

ah. Apply torque seal to each connector link screwhead.

ai. Mark date placed in service on canopy per WP 004 00. Make proper entries on Parachute Record (OPNAV 4790/101). (QA)

aj. Fabricate four-line release lanyards per WP 004 00.

ak. Attach four-line release lanyards to suspension lines 3 and 26 per WP 004 00.

al. Rig four-line release lanyards per WP 004 00.

10. PULL DOWN VENT (PDV) LINE REPAIR.

11. GENERAL.

a. Repair of PDV lines is limited to cleaning of contaminated areas and replacement of tackings.

b. Replace PDV lines for any of following:

(1) Service/total life has expired per WP 016 02.

(2) Any damage that exists that may affect safe operation of the parachute.

12. REPLACEMENT OF PULL DOWN VENT LINE TACKING.

Materials Required

Specification or Part Number	Nomenclature
V-T-295	Thread, Nylon, Size A, Type I or II, Class A
V-T-295	Thread, Nylon, Size FF, Type I or II, Class A

NOTE

Tie off all tackings with a surgeon's knot topped with a square knot, followed with a binder knot per WP 002 00. Trim off excess leaving 1/2-in.

a. Replace missing, loose or broken tackings; tie off (Figure 5).

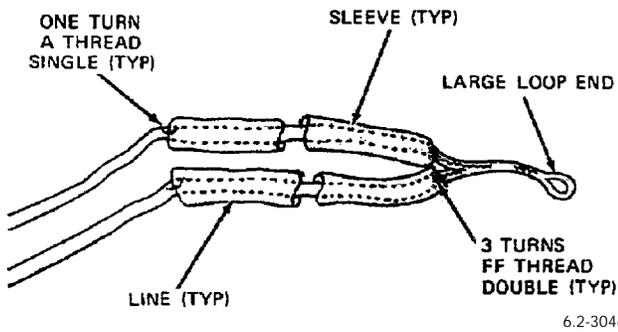


Figure 5. PDV Line Tacking Replacement

6.2-3046

13. REPLACEMENT OF PULL DOWN VENT LINE.

Materials Required

Specification or Part Number	Nomenclature
F-900 Torque Seal (Color Optional)	Sealing Compound
—	Torque Screwdriver
MIL-I-19166	Tape, Electrical, Insulation

NOTE

For Double "L" Connector Link, refer to Paragraph 41 for disassembly, assembly, and inspection instructions.

a. Remove and replace PDV lines per Figure 6.

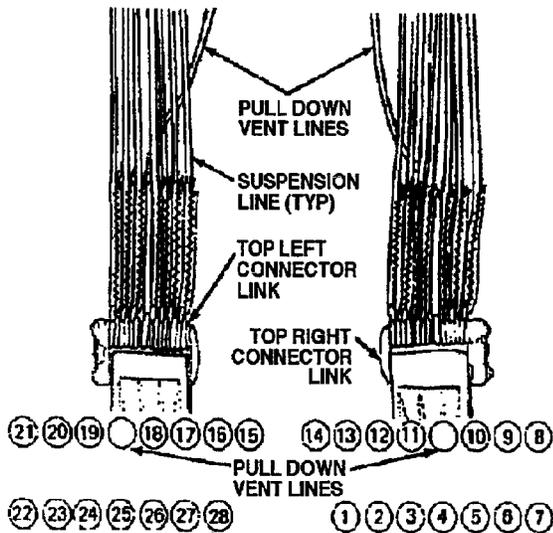


Figure 6. Attachment of PDV Lines To Connector Links

6.2-5168

b. Remove yoke, plates, and cross-connector strap from top connector links.

c. Remove damaged PDV lines from connector links and tie end (large loop) of new lines to old lines. Pull old lines out thru vent, bringing new lines up thru canopy.

d. Attach new PDV lines by securing small loop of one PDV line to top left connector link between suspension lines 18 and 19 and other PDV line to top right connector link between suspension lines 10 and 11.

NOTE

Ensure that knurled portions of connector link yoke and plates face up and screwheads face out-board.

e. Reattach cross connector strap, yoke, and plates to top connector links. Tighten screws to a torque value of 20 to 25 in-lbs. apply a torque seal to each connector link screwhead. Verify routing of PDV lines.

f. Route withdrawal line connector strap thru group of apex suspension lines and thru large loop of PDV line (Figure 7).

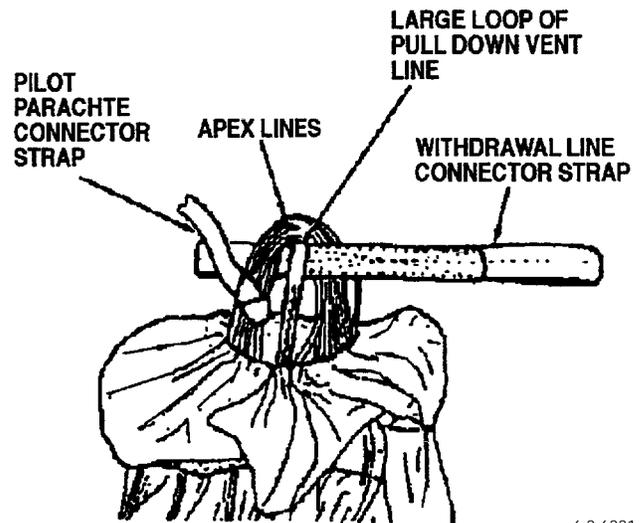
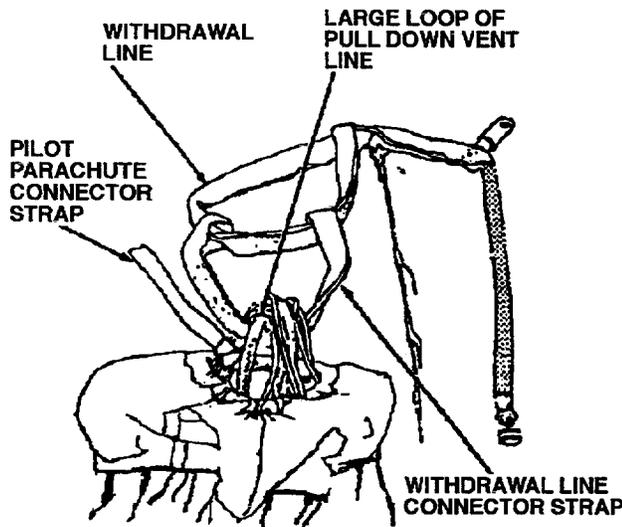


Figure 7. Routing of Withdrawal Line Connector Strap

6.2-6221

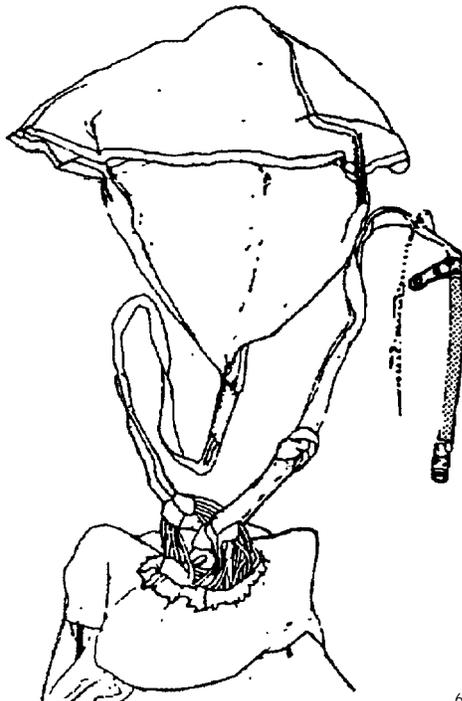
g. Pass loop end of withdrawal line thru both loops of connector strap and position to right of pilot parachute connector strap. Pass free end of withdrawal line thru loop (Figure 8). (QA)



6.2-6221A

Figure 8. Pass Loop End Thru Both Loops of Withdrawal Line Connector Strap

h. Pull remainder of line thru loop and draw tight (Figure 9).



6.2-6221B

Figure 9. Pull Remainder of Line Thru Loop

i. Tape withdrawal line connector strap together using 24-in. of electrical insulation tape for a distance of 4-in., centered between Lark's head knot of withdrawal line and vent lines.

j. Mark date placed in service on PDV lines and make proper entry on Parachute Record (OPNAV 4790/101) (Figure 3). (QA)

14. RISER ASSEMBLY REPAIR.

a. Repair of risers is limited to following:

- (1) Cleaning of contaminated areas.
- (2) Repair of stitching if less than three stitches are loose or broken.
- (3) Repair of loose or broken stitching on ripcord housing flute.
- (4) Removal/repair/replacement of four-line release flutes.

b. Replace risers for any of following:

- (1) Service/total life has expired per WP 016 02.
- (2) Cuts, tears, or holes in webbing.
- (3) Loose or broken stitching in excess of three stitches.
- (4) Damaged ripcord grip, roller fittings, retainer fittings, and ripcord housing flute.
- (5) Twists, fading, fusing, fraying, burns, contamination, and abrasion.

15. REPLACEMENT OF RISER ASSEMBLY.

Support Equipment

Part Number	Nomenclature
Refer to WP 005 00	Bodkin
—	Torque Screwdriver

Materials Required

Specification or Part Number	Nomenclature
F-900 Torque Seal (Color Optional)	Sealing Compound
V-T-295	Thread, Nylon, Size FF, Type I or II, Class A

NOTE

For Double "L" Connector Link, refer to Paragraph 41 for disassembly, assembly, and inspection instructions.

Tie off all tackings with a surgeon's knot topped with a square knot, followed with a binder knot per WP 002 00. Trim off excess leaving 1/2-in.

a. Insert a temporary locking pin in last daisy chain loop to prevent inadvertent release of daisy chain.

b. Carefully break tackings at top of flute and pull lanyard pull loop up thru flute.

c. Remove connector link yoke and plate from each connector link. Remove riser from connector links.

d. Loosely reattach connector link yoke and plate.

e. Lay out replacement riser on packing table with loop ends positioned toward connector links.

f. Remove yoke and plates from connector links. Slide riser loops onto connector link bars.

g. Attach yoke and plates to connector link bars so that knurled portions face up.

h. Check suspension line continuity (Figure 4). (QA)

i. Tighten screws on yoke and plates to a torque value of 20 to 25 in-lbs. (QA)

j. Apply torque seal to screwhead.

k. Using a bodkin or equal tool, insert and pull release lanyard pull loops thru proper lanyard flutes. Pull loops should extend completely thru flutes with tops of loops butted up against lower edge or flute.

l. Tack release lanyard to flute with one turn of size FF thread, single and waxed. Tacking shall pass thru outer cover of flute, thru the release lanyard, thru and around last daisy chain loop, and then back thru flute; tie off per WP 004 00.

m. With lanyard pull loop fully extended, tack risers together. Tack at center of risers and 1/2-in. above bottom of lanyard pull loop with one turn of size FF thread, single and waxed; tie off per WP 004 00.

n. Remove canopy release from defective riser and disassemble PHSRU per WP 024 02.

o. Install serviceable canopy release per WP 024 02.

p. Mark date placed in service on riser and make entry on Parachute Record (OPNAV 4790/101). (QA)

16. FABRICATION OF RISER COVER.

Support Equipment Required

Part Number	Nomenclature
—	Hot Knife
—	Shears
—	Square

Materials Required

Specification or Part Number	Nomenclature
PIA-C-7219	Cloth, Nylon Duck Type III, Class I, Sage Green
V-T-295	Thread, Nylon, Size E, Type I or II, Class A
MIL-F-21840	Fastener Tape, Hook Type II, Class I 5/8-in., Sage Green
MIL-F-21840	Fastener Tape, Pile Type II, 1-in. Sage Green

NOTE

If several riser covers are to be manufactured, it is recommended that a flat pattern (Template) be fabricated to ensure consistency.

a. Lay out a 32 x 5 3/8-in. piece of nylon cloth. Mark the top left portion of the riser cover with "canopy release end". This will be used as a reference.

b. Using flat pattern in Figure 10 as a guide, continue with riser cover lay out. Do not mark the 1-in. slit at this time.

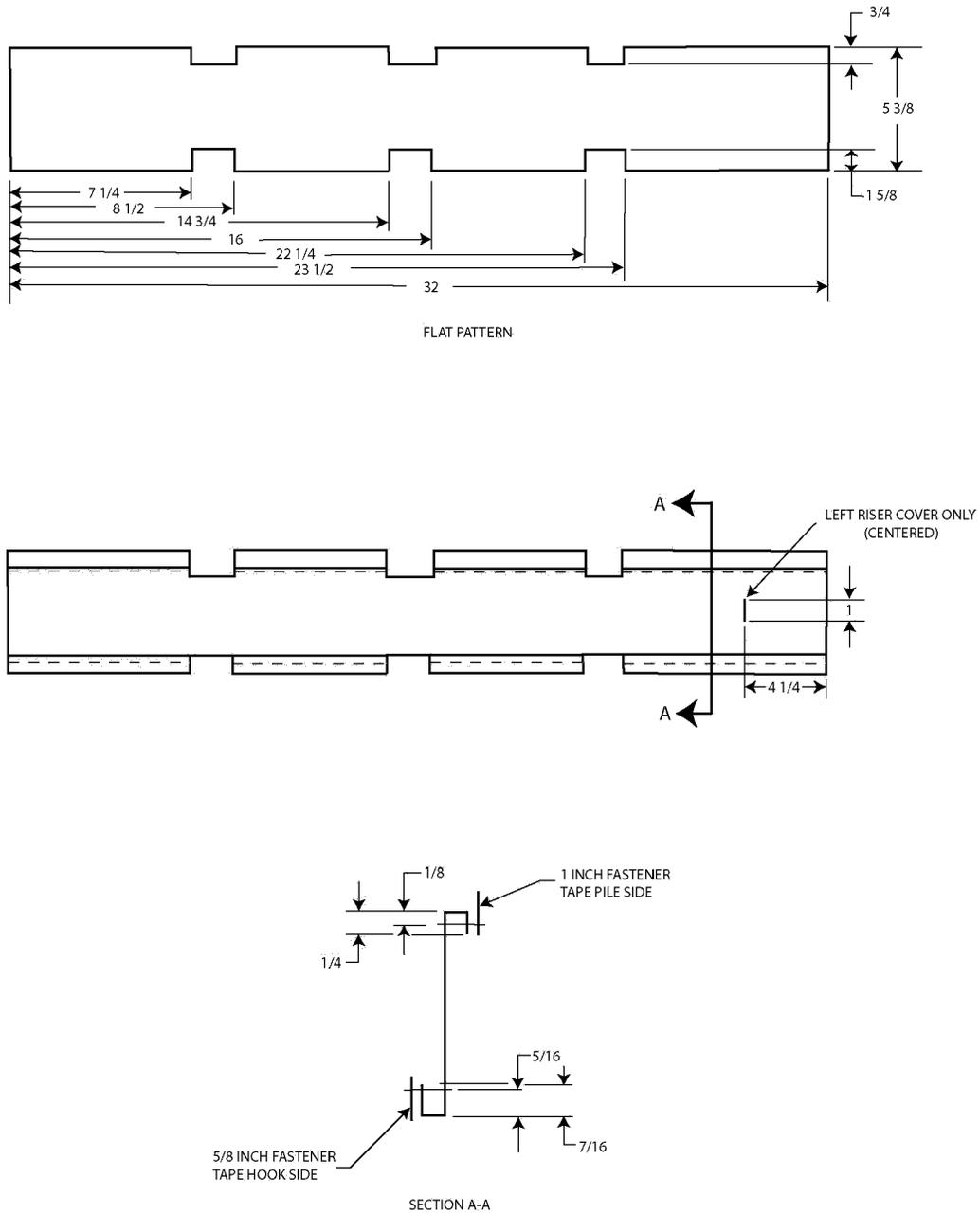


Figure 10. Riser Cover Fabrication

c. Using a hot knife, completely cut out the riser cover. Take care to reduce sharp edges.

d. With canopy release end facing up, fold the bottom of the riser cover over 7/16-in. and sew down using E thread.

e. Sew 5/8-in. hook fastener tape in place (Figure 10).

f. Turn riser cover over, with canopy release end to the left, fold the bottom portion over 1/4-in. and sew down using E thread.

g. Sew 1-in. pile fastener tape in place (Figure 10).

h. On left riser cover only, fold riser cover in half, matching nylon cloth only and mark the center, approximately 4 1/4-in. from right side. This will be where the 1-in. slit will be made for the ripcord cable housing.

i. Using hot knife, cut a 1-in. slit.

17. INSTALLATION OF RISER COVERS.

a. Lay new riser cover on table with hook fastener facing up and canopy release assembly end to the left. Center riser assembly on cover with shoulder harness link facing up. Separate front riser from rear riser.

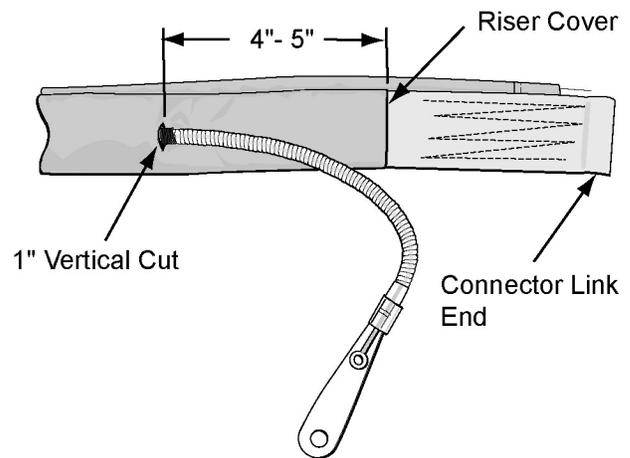
b. Line up 1 1/2-in. spaces on riser cover around riser pile fastener tape.

c. Secure hook fastener to pile, working from middle of riser to each end. (QA)

d. Secure front and rear risers together by securing riser pile fastener to riser hook fastener. (QA)

e. Tack at centerline of riser, thru riser cover, 1/2-in. above bottom of steering handle loop with one turn of size FF thread, single and waxed; tie off.

f. Repeat steps a thru e for other riser. On left riser cover 5-in. from connector link end make a 1-in. vertical cut, using a hot knife for ripcord housing (Figure 11).



Left Riser

Figure 11. Vertical Cut on Left Riser

18. REPAIR OF RIPCORD GRIP RETAINER.

a. Repair of grip retainer and cover is limited to following:

- (1) Replacement of defective grip retainer.
- (2) Replacement of stitching securing grip retainer to riser.
- (3) Replacement of ripcord grip retainer cover.

b. Repair or replace ripcord grip retainer for any of the following:

- (1) Grip retainer is corroded, bent, or cracked, where that damage may affect safe operation of parachute.
- (2) Stitching securing grip retainer to riser assembly is loose or missing.

c. Repair or replace grip retainer cover for any of the following:

- (1) Cover loose or deteriorated.
- (2) Tackings securing cover to riser are loose or missing.

19. REPLACEMENT OF RIPCORD GRIP RETAINER.

Materials Required

Specification or Part Number	Nomenclature
V-T-295	Thread, Nylon, Size FF, Type I or II, Class A
V-T-295	Thread, Nylon, Size 6, Type I or II, Class A

NOTE

Tie off all tackings with a surgeon's knot topped with a square knot, followed with a binder knot per WP 002 00. Trim off excess leaving 1/2-in.

a. Remove stitching securing grip retainer cover to riser and slide cover back.

b. Remove stitching securing ripcord grip retainer to webbing riser.

c. Measure $3 \frac{1}{4} \pm \frac{1}{8}$ -in. from end of riser and mark for reference.

d. Place grip retainer on riser with lower edge positioned at $3 \frac{1}{4}$ -in. reference mark.

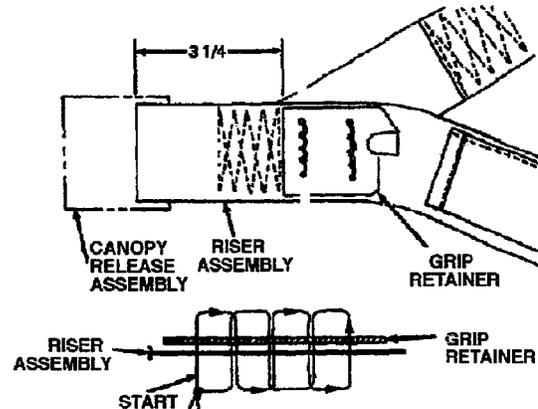
e. Handstitch grip retainer to riser using a running stitch with size 6 thread, doubled and waxed. Start handstitch by placing an overhand knot 5-in. from bitter end of thread, starting and ending underside of riser at same hole location; tie off. Repeat procedure for remaining set of holes (Figure 12). (QA)

f. Perform Ripcord Grip retainer test per WP 016 02.

g. Reinstall ripcord grip retainer cover by positioning cover over grip retainer with lower edges aligned.

h. Handstitch cover to riser on both edges with size FF thread, doubled and waxed; tie off (Figure 12). (QA)

20. REPLACEMENT OF RIPCORD GRIP RETAINER COVER.



6.2-5879

Figure 12. Ripcord Grip Retainer Replacement

Materials Required

Specification or Part Number	Nomenclature
PIA-W-4088	Webbing, Nylon, Type XII, 1 3/4-in. Wide, Class 1, 1A or 2
V-T-295	Thread, Nylon, Size FF, Type I or II, Class A

NOTE

Tie off all tackings with a surgeon's knot topped with a square knot, followed with a binder knot per WP 002 00. Trim off excess leaving 1/2-in.

a. Remove defective ripcord grip retainer cover.

b. Cut a 7-in. length of webbing.

c. Sear both ends of webbing to prevent fraying.

d. Mark $1 \frac{3}{4}$ -in. from bitter ends.

NOTE

Do not wrap cover around harness restraint strap.

e. Wrap webbing around riser over lapping the $1 \frac{3}{4}$ -in. mark (Figure 13).

f. Tack ripcord grip retainer cover to lower riser in four places with one turn of size FF thread, doubled and waxed (Figure 13). (QA)

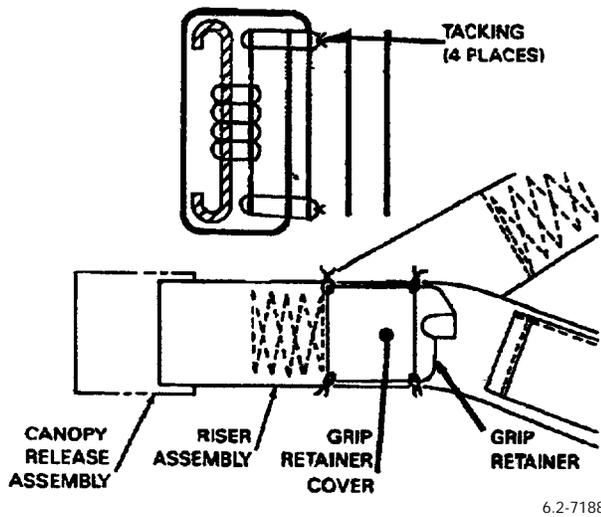


Figure 13. Ripcord Grip Retainer Cover Replacement

21. CONTAINER ASSEMBLY REPAIRS.

a. Repair of container is limited to following:

NOTE

Damaged areas on containers exceeding 3-in. either in length or width shall not be repaired. Damage (cracks, splits, etc.) extending into mounting bosses or into corners having less than 1-in. radii shall not be repaired.

(1) Surface scratches and cracks that penetrate but do not go thru first ply of laminate shall be repaired per Paragraph 24.

(2) Cracks, holes, and scratches that penetrate thru one or several plies of laminate but not thru surface opposite to that which is damaged shall be repaired per Paragraph 25.

(3) Cracks or holes which penetrate container wall shall be repaired per Paragraph 25.

(4) Damaged attachment points (grommet and washer) shall be removed and replaced per Paragraph 26.

22. REPLACEMENT OF CONTAINER STRAP ASSEMBLY RIVET.

Materials Required

Specification or Part Number	Nomenclature
AN970-3	Washer
MS20470A6-4	Rivet

a. Remove damaged rivet using care not to damage container or strap.

b. Install new rivet, head of rivet on inside of container, use washer previously removed or install new washer.

23. FABRICATION OF CONTAINER STRAP ASSEMBLY.

Materials Required

Specification or Part Number	Nomenclature
PIA-W-4088	Webbing, Nylon, Type XVII, 1-in., Class 1, 1A or 2
MS27980-6B	Socket, Snap Fastener
MS27980-1B	Snap, Fastener, Button

a. Cut a 6-in. length of nylon webbing and sear ends (avoid sharp ends).

b. Locate and install snap fasteners (Figure 14).

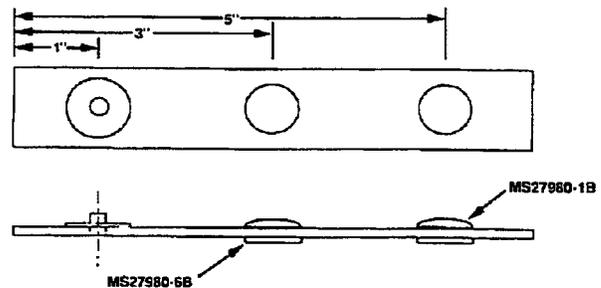


Figure 14. Fabrication of Container Strap Assembly

24. REPAIR OF SURFACE SCRATCHES AND CRACKS.

Materials Required

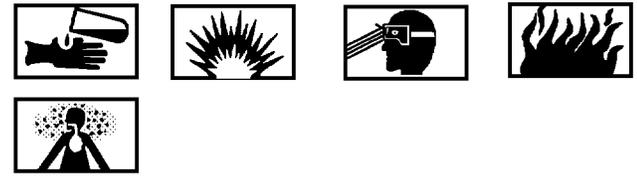
Specification or Part Number	Nomenclature
MIL-R-9300 (CAGE 86961)	Epoxy Resin, Type II, Form A, Grade D

Specification or Part Number	Nomenclature
O-D-1271	Hardener, (Diethylene Triamine)
MIL-C-9084	Glass Cloth, Type VIII B, Class 2
MIL-L-1953B	Lacquer, Color-34087, Class 2
MIL-P-23377	Epoxy Primer, Class 2
LP00370	Cellophane
O-A-51	Technical Acetone
PC451	Aluminum Oxide, Paper (240 Grit), Milled Glass Fiber
(CAGE 45255)	(Glass Floc), 1/32-in.



Technical Acetone, O-A-51 **1**

a. Clean damaged area with technical acetone, using a clean, cotton cloth. Clean about 2-in. past damaged area in all directions.



Epoxy Resin, MIL-R-9300 **6**



Diethylene Triamine, O-D-271 **4**

NOTE

Mix 100 parts of epoxy resin to 10 parts diethylene triamene (hardener). Do not mix more than can be used in 25 min.

b. Paint cleaned area with one or more coats of resin (number of coats to be applied depends on severity of damage).

c. Fill any small fractures with a mixture of resin and milled glass fibers (mix to a putty consistency).

d. Over coated surface, apply sheet of cellophane extending 2 to 3-in. beyond treated surface. Smooth out all entrapped air bubbles either by hand or with a rubber roller.

e. Allow resin to cure overnight at room temperature. If necessary, resin may be cured in an oven heated to 212_F (100_C) in order to reduce curing time.



Aluminum Oxide, PC 451 **2**

f. After resin has cured, remove cellophane sheet and lightly sand off any excess resin down to the original surface of the container. Clean sanded area with clean, cotton cloth.



Epoxy Primer, MIL-P-23377 **5**

g. Refinish surface with one coat of epoxy primer and two coats of camouflage green acrylic lacquer.

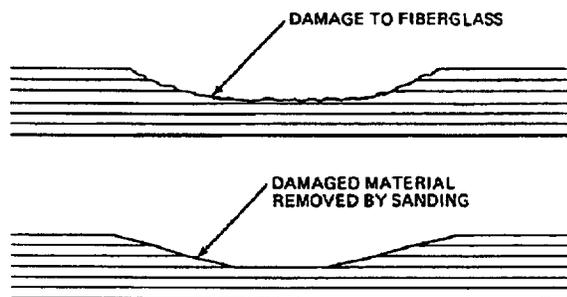
h. Upon completion of repair, return container to service.

25. REPAIR OF CRACKS, HOLES, AND SCRATCHES.

Materials Required

Specification or Part Number	Nomenclature
MIL-R-9300 (CAGE 86961)	Epoxy Resin, Type II, Form A, Grade D
O-D-1271	Hardener, (Diethylene Triamine)
MIL-C-9084	Glass Cloth, Type VIII B, Class 2
MIL-L-1953B	Lacquer, Color-34087, Class 2
LP00370	Cellophane
O-A-51	Technical Acetone
PC451	Aluminum Oxide, Paper (240 Grit)
MIL-P-23377	Epoxy Primer, Class 2

a. Sand any damaged areas lightly either by hand or machine to a smooth contour (Figure 15).



6.2-5877

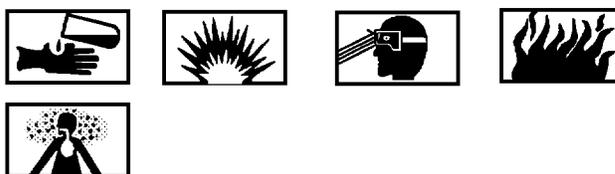
Figure 15. Sand Any Damaged Area



Technical Acetone, O-A-51

1

b. Clean sanded area with technical acetone, using clean, cotton cloth. Clean about 2-in. past sanded area in all directions.



Epoxy Resin, MIL-R-9300

6



Diethylene Triamine, O-D-1271

4

NOTE

Mix 100 parts of epoxy resin to 10 parts diethylene triamine (hardener). Do not mix more than can be used in 25 min.

c. Paint sanded area with one coat of resin.

d. Cut any sections of glass fabric to shape of damaged area. Soak cut sections in resin until resin content 50 percent has been achieved.

e. Place soaked sections of glass fabric in sanded depression area (Figure 16).

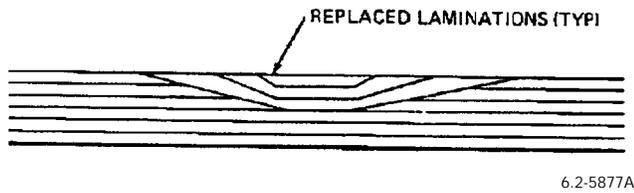


Figure 16. Placement of Soaked Sections

f. Place a sheet of cellophane over repaired area, and work out any excess resin.

g. Allow resin to cure overnight at room temperature. If necessary, resin may be cured in oven heated to 100°C (212°F) in order to reduce curing time.



Epoxy Primer, MIL-P-23377

5

h. After resin has cured, remove cellophane sheet and hand or machine sand surface of repaired area to remove excess resin. Clean sanded area with a clean cotton cloth.

i. Refinish surface with one coat of epoxy primer and two coats of camouflage black acrylic lacquer.

j. Upon completion of repair, return container to service.

26. REPAIR OF CRACKS OR HOLES.

Materials Required

Specification or Part Number

Nomenclature

MIL-R-9300 (CAGE 86961)

Epoxy Resin, Type II, Form A, Grade D

O-D-1271

Hardener, (Diethylene Triamine)

Specification or Part Number

Nomenclature

MIL-C-9084

Glass Cloth, Type VIII B, Class 2

MIL-L-1953B

Lacquer, Color-34087, Class 2

LP00370

Cellophane

O-A-51

Technical Acetone

PC451

Aluminum Oxide, Paper (240 Grit)

A-11 or B11

Plastic Hydrocal, (Locally Purchased)

MIL-P-265

Polyvinyl Alcohol, (Locally Purchased)

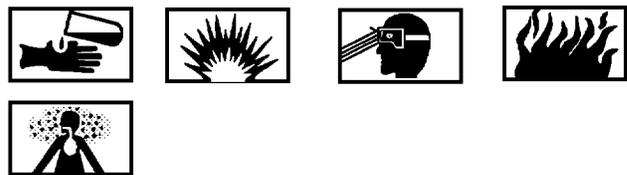
MIL-P-23377

Epoxy Primer, Class 2

NOTE

To repair extensively damaged containers, a mold must be used in forming/shaping replacement part to proper curvature. Plaster molds formed of materials such as Hydrocal A-11 or B-11 have proven satisfactory. Steps a thru e, below pertain to fabrication of molds; Steps g thru q, below pertain to container repairs.

a. Construct a suitable wood frame or container that follows roughly the contour of convex side of parachute container for holding soft plaster mold material.



Polyvinyl Alcohol, MIL-P-265

7

b. After plaster has been applied to frame, coat a similar undamaged area on parachute container with release agent (paste wax, polyvinyl alcohol, vinyl film, or cellophane); then embed container in soft plaster to form surface of required size and shape.

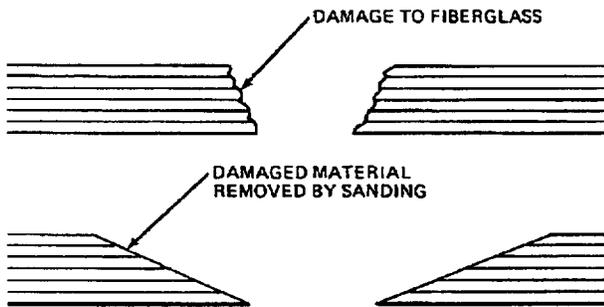
c. After plaster has hardened (set), remove container and allow mold to dry for 12 to 15 hr. mold should be oven-dried at about 104_C (220_F) for several hours.

d. Carefully hand sand mold surface with fine sandpaper; while mold is still warm, coat with DC-4 silicone grease.

e. After excess grease has been removed, spray or brush on two or three coats of releasing lacquer (grease lease 915 or XD-481) onto mold surface. When these coats of releasing lacquer are completely dry, apply additional coat of DC-4 silicone grease and rub off any excess. Mold is now ready for use.

f. Trim (cut out) damaged portion carefully to either circular or oval shape.

g. Carefully sand damaged area either by hand or machine a distance of at least 25 times thickness of container wall (Figure 17).

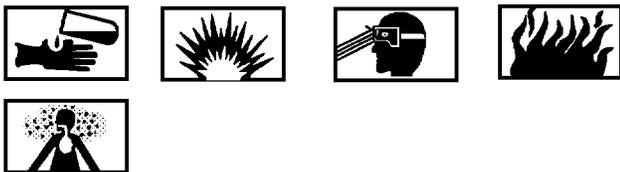


6.2-5881

Figure 17. Carefully Sand Damaged Area

h. Prepare glass-fabric laminations for repairing container wall by cutting largest piece of fabric to exact outer shape of the sanded surface.

i. Cut smallest piece so that it overlaps scarfed area a proportionate distance (depending upon number of plies in repair). Cut intermediate size pieces so they overlap equally.



Epoxy Resin, MIL-R-9300

6



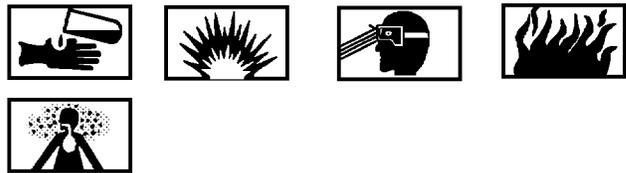
Diethylene Triamine, O-D-1271

4

NOTE

Mix 100 parts of epoxy resin to 10 parts diethylene triamine (hardener). Do not mix more than can be used in 25 min.

j. A convenient way to prepare these laminations is to brush-spread resin on them and then sandwich spread fabric between two sheets of colored cellophane. Sections of glass fabric can then be cut to shape without fraying at edges. Resin content of all applied fabric should be about 50 percent.



Polyvinyl Alcohol, MIL-P-265

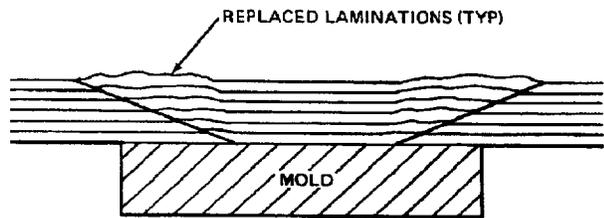
7

NOTE

When its necessary to use a mold to rebuild part of a container wall, surface of mold must be treated to prevent sticking (adhesion of resin). One or more coats of following release agents may be applied: Heavy duty paste wax, polyvinyl alcohol, vinyl film, polyester film, or cellophane.

k. (If required) place required mold inside container.

l. Lay/spread prepared sections of glass fabric into place as shown by first removing cellophane sheet from one side of fabric, placing exposed fabric into position over the damaged area, and then removing second sheet of cellophane (Figure 18).



6.2-5882

Figure 18. Lay/Spread Prepared Sections

m. Cover entire repaired area with a sheet of cellophane, and carefully work surface to remove as much excess resin as possible.

n. Allow resin to cure overnight at room temperature. If necessary, resin may be cured in an oven heated to 100°C (212°F) in order to reduce curing time.



Epoxy Primer, MIL-P-23377

5

o. After resin has cured, remove cellophane sheet and lightly sand off excess resin. Clean sanded area with a clean cotton cloth.

p. Refinish surface with one coat of epoxy primer and two coats of camouflage black acrylic lacquer.

q. Upon completion of repair, return container to service.

27. REPLACEMENT OF FORWARD FLAP ASSEMBLY PLASTIC STIFFENER.

Support Equipment

Part Number	Nomenclature
—	Punch, 5/32-in.
1412	Fastener, Chuck
1407	Fastener, Die
M-100	Press

Part Number	Nomenclature
—	Hook Knife

Materials Required

Specification or Part Number	Nomenclature
MIL-P-46144	ABS Plastic, Sheet, Type II, Class I or II, Grade A
MS27980-8B	Snap, Fastener, Eyelet
MS27980-7B	Stud, Snap Fastener
V-T-295	Thread, Nylon, Size E, Type I or II, Class A

NOTE

ABS Plastic is available from:

Uniroyal Inc. (CAGE 97488)
Sales Department
Warsaw, IN. 46580

a. Remove four fasteners from forward flap pocket containing stiffener.



During removal of stitches, use care not to damage binding tape.

b. At either end, remove stitching from 3/4-in. binding tape which encloses stiffener in pocket.

c. Remove stitching from end of flap which is sewed thru stiffener. Remove stiffener and discard.

NOTE

Ensure that proper malfunction description code is recorded.

d. Cut a new stiffener, 2 x 8 1/4-in. (rectangular shape). Install new stiffener into pocket.

e. Reinstall binding tape over stiffener pocket and secure with two rows stitching, then backstitch 1/2-in.

f. Punch four 5/32-in. holes thru stiffener, using existing stiffener pocket holes as a guide. Install stud and eyelet fasteners with stud facing downward, so that when flap is turned 90-degrees over ripcord, fasteners will match and can be mated.

g. On outer edge of flap, secure stiffener with one row stitching, then backstitch 1/2-in.

28. REPLACEMENT OF CONTAINER ASSEMBLY.

- a. Inspect replacement container per WP 016 02.
- b. Replace container at proper place during packing procedures.

29. REPLACEMENT OF CONTAINER ASSEMBLY PRESSURE SENSITIVE TAPE OVER STUDS.

Materials Required

Specification or Part Number	Nomenclature
MIL-I-19166	Tape, Pressure Sensitive

- a. Remove old pressure sensitive tape if applied.
- b. Cut two pieces of pressure sensitive tape 3 1/2-in. long.
- c. Apply one piece of tape horizontally over the two MS27980-7B studs located near the top side of the container just under the side flap. Apply a second piece of pressure sensitive tape to the other side. Ensure that the ends of the tape have adhered to the container surface so as to avoid peeling during parachute packing.

30. REPLACEMENT OF ALIGNMENT RING SECURING TAPE.

Materials Required

Specification or Part Number	Nomenclature
MIL-T-5038	Tape, Nylon, Type II, 1-in.
	-or-
MIL-T-5038	Tape, Nylon, Type IV, 1-in.
V-T-295	Thread, Nylon, Size FF, Type I or II, Class A

- a. Remove aft flap from container.
- b. Cut tape securing alignment ring to flap 1/8-in. from box-X stitching, two layers. Remove alignment ring and discard tape.
- c. Cut and sear a 4-in. length of tape.
- d. Route end of tape thru alignment ring fold in half and bring seared ends together.
- e. Place tape containing alignment ring on top of remaining tape containing box-X stitching with alignment ring toward end tab.
- f. Using size FF thread, secure with box-X stitch 3/4-in. by 1 1/4-in. Backstitch exposed ends a minimum of 1/2-in.

31. REPAIR OF STOWAGE TRAY.

a. (P/N 607AS113-12 or 128ESP1048-9). To repair defective stowage trays, remove bolts securing tubes together, replace defective tubes, (from salvaged trays) install bolts, and tighten self locking screws to show 10 to 12 threads beyond the nut.

32. REPLACEMENT OF SPRING OPENING ASSEMBLY.

Materials Required

Specification or Part Number	Nomenclature
60A113D11-2	Spring Assembly, Container Opening

- a. Measure length of replacement spring opening assembly. Proper length is 9 1/4 ± 1/8-in. measured with no tension from end of one hook to end of other hook.
- b. Inspect replacement spring opening assembly per WP 016 02.
- c. With hook facing inboard, attach end of spring assembly without pull tab to lower eye on side of container. Crimp hook on to each spring opening assembly to each eye on the container.
- d. Attach opposite end of spring assembly to eye on end flap. Ensure that the pull tabs are facing out and are positioned for fastening on the side flaps.

33. REPLACEMENT OF CONTAINER SECURING LUG.

Materials Required

Specification or Part Number	Nomenclature
MS20470AD57-7	Rivet (12)

- a. Drill out discrepant rivets. Enlarge holes to 5/32-in. diameter.
- b. Be careful not to damage lug plates.
- c. Install new rivet.

NOTE

Rivets must completely fill countersink.

- d. Rivet shop end must have a diameter of .218 - .230-in.
- e. Height of rivet shop end not to exceed height of shoulder on lug plate. Inspect. (QA)

34. INSTALLATION OF PARACHUTE HARNESS SENSING RELEASE UNITS (PHSRU).

- a. Install per WP 024 01 and WP 024 02.

35. RIPCORD ASSEMBLY REPAIR.

36. GENERAL.

- a. Repair of ripcord is limited to following:

- (1) Cleaning contaminated areas per WP 004 00.
- (2) Replacement of loose or broken tackings WP 016 01.

- b. Replace ripcord for any of the following:

- (1) Bent, broken, or cracked locking pins.
- (2) Corroded, frayed, or bent cable.
- (3) Loose cable swage ball or housing ferrule.
- (4) Corroded, cracked, or bent grip or housing.

37. REPLACEMENT OF RIPCORD ASSEMBLY.

Materials Required

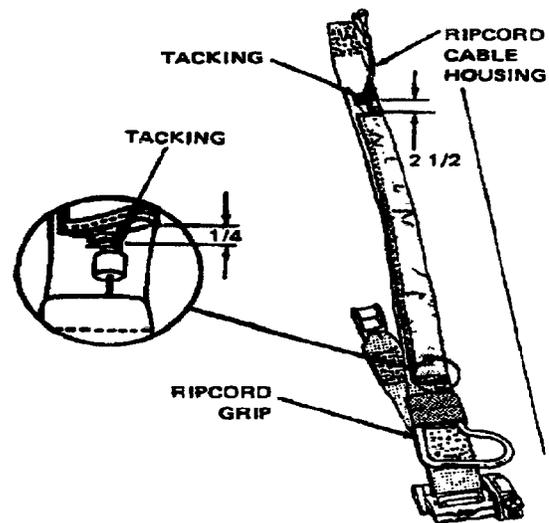
Specification or Part Number	Nomenclature
V-T-295	Thread, Nylon, Size 6, Type I or II, Class A

NOTE

Tie off all tackings with a surgeon's knot topped with a square knot, followed with a binder knot per WP 002 00. Trim off excess leaving 1/2-in.

- a. Completely remove ripcord housing and housing flute tackings.
- b. Remove ripcord from ripcord grip retainer and housing flute.
- c. Inspect replacement ripcord per WP 016 02.
- d. Pass the ripcord housing thru the ripcord housing flute on riser and then insert ripcord grip into ripcord retainer (Figure 19).

- e. Lay riser flat. Measure and mark the (upper riser) 2 1/2-in. above top edge of the ripcord channel and 1/4-in. below the bottom edge of the ripcord channel (Figure 19).



6.2-6107

Figure 19. Ripcord Assembly Replacement

- f. Position the ripcord housing on the markings, and tack to the upper riser with six turns of size 6 thread, doubled and waxed, tie ends of size 6 thread to underside of riser; tie off. (QA)

38. CROSS-CONNECTOR STRAP REPAIR.

39. GENERAL.

a. Repair of cross-connector straps is limited to cleaning of contaminated areas. Replace cross-connector straps if any other damage exists that may affect safe operation of parachute assembly.

40. REPLACEMENT OF CROSS-CONNECTOR STRAP.

Materials Required

Specification or Part Number	Nomenclature
—	Torque Screwdriver
F-900 Torque Seal (Color Optional)	Sealing Compound

NOTE

For Double "L" Connector Link, refer to Paragraph 41 for disassembly, assembly, and inspection instructions.

- a. Insert temporary locking pin in last daisy chain loop of four-line release lanyard.
- b. Remove connector link yoke and plates.
- c. Remove connector links from riser loops and then remove cross-connector strap.
- d. Inspect cross-connector strap for contamination, cuts, fraying, burns, and loose or broken stitching.
- e. Insert connector links thru loop in each end of cross-connector strap and then thru loops in riser assembly.
- f. Reattach yoke and plates to connector links ensuring knurled portions of plate face up and screwheads face outboard.
- g. Remove temporary locking pin from four-line release daisy chain.
- h. Tighten screws on top and bottom connector links to a torque value of 20 to 25 in-lbs. (QA)
- i. Apply torque seal to each connector link screwhead.
- j. Mark date placed in service on cross-connector strap.

k. Make proper entries on Parachute Record (OPNAV 4790/101). (QA)

41. REPLACEMENT OF MS22021-1 CONNECTOR LINK (SPEED LINK) WITH MS22002-1 (DOUBLE "L") CONNECTOR LINK.

NOTE

New canopies received from supply may have the Double 'L' Connector Links installed.

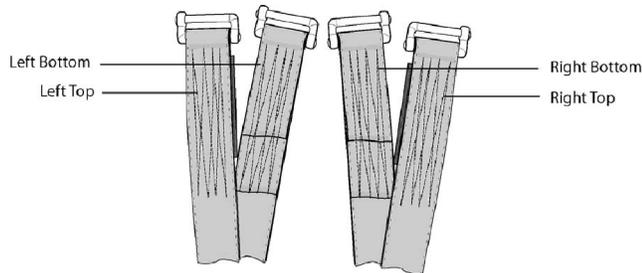
Instructions for attachment of Firing Lanyards, PDVL's, Four-Line Release Systems, etc., will remain the same and will be contained in the application parachute manual.

Materials Required

Specification or Nomenclature	Part Number
MS22002-1	Connector Link (Double "L")
F-900 Torque Seal (Color Optional)	Sealing Compound
—	Torque Screwdriver
MIL-S-43243 (See WP 002 00)	Separator, Link or Equivalent

- a. Remove yoke and plate assembly from parachute connector link, P/N MS22021-1.
- b. Slide suspension lines from connector link onto a temporary locking pin or rod.
- c. Remove cross-connector strap.
- d. Slide riser loop off connector link bar and dispose of connector link, P/N MS22021-1.
- e. Remove screws from the double "L" connector link, P/N MS22002-1 and separate the two halves of the link.
- f. It may be necessary to use a separator device to separate the two halves of the connector link if a separator device is not available, loosen both screws of the connector link by four turns. Place a long bar between the connector link bars to hold the link in place. Using a rawhide or rubber mallet, tap one screw head and then the other screw head several times until the connector link bars separate.

g. Install suspension lines on the new connector link bar. The short leg of the "L" connector is to be positioned to the inside (Figure 20).



Riser (Typ) with Double "L" Connector Links Installed

Figure 20. Double "L" Connector Link Layout

- h. Install cross-connector strap.
- i. Slide riser loop onto opposite connector link bar.
- j. Mate both halves of the connector link together.
- k. Install screws (2 each).

NOTE

Screws must make a minimum of 6 full turns prior to applying torque.

- l. Check suspension line continuity. (QA)
- m. Tighten screws to a torque value of 15 in-lbs. (QA)



Care must be taken when tightening screws as screwdriver may slip and cause minor injury.

NOTE

It may be necessary to check the torque value on each screw more than once due to the interference fit design feature of the connector link.

- n. Apply torque seal to both screw heads and allow to dry before proceeding with remainder of parachute packing.
- o. Repeat steps a through l on each riser group.
- p. Re-identify the parachute canopy by using an indelible black pen to cross out the existing part number and marking the new superceding part number per Illustrated Parts Breakdown (IPB) WP 016 04.

ORGANIZATIONAL, INTERMEDIATE AND DEPOT MAINTENANCE

ILLUSTRATED PARTS BREAKDOWN

NES-14 PERSONNEL PARACHUTE ASSEMBLY

PART NO. 607AS102-6

List of Effective Work Package Pages

<u>Page No.</u>	<u>Chg. No.</u>						
1	10	2 thru 6	9				

Reference Material

Intermediate and Depot Maintenance, Packing Procedures, NES-14 Personnel Parachute Assembly WP 016 02

Alphabetical Index

<u>Title</u>	<u>Page</u>
Introduction	1
Service/Total Life	1
Usable on Codes	1

List of Figures

<u>Title</u>	<u>Page</u>
NES-14 Personnel Parachute Assembly	2

Record of Applicable Technical Directives

<u>Type/No.</u>	<u>Date</u>	<u>Title and ECP No.</u>	<u>Date Inc.</u>	<u>Rescission Date</u>
ACC 577	30 Nov 93	Stowage Tray Mounting NES-14 (ECP 16264)	1 Oct 94	31 Dec 01

1. INTRODUCTION.

a. This Work Package (WP) contains information for ordering and identifying parts for the NES-14 Personnel Parachute Assembly (Figure 1). In addition, reference material provides configuration information on parachutes in production A-6 aircraft.

2. USABLE ON CODES.

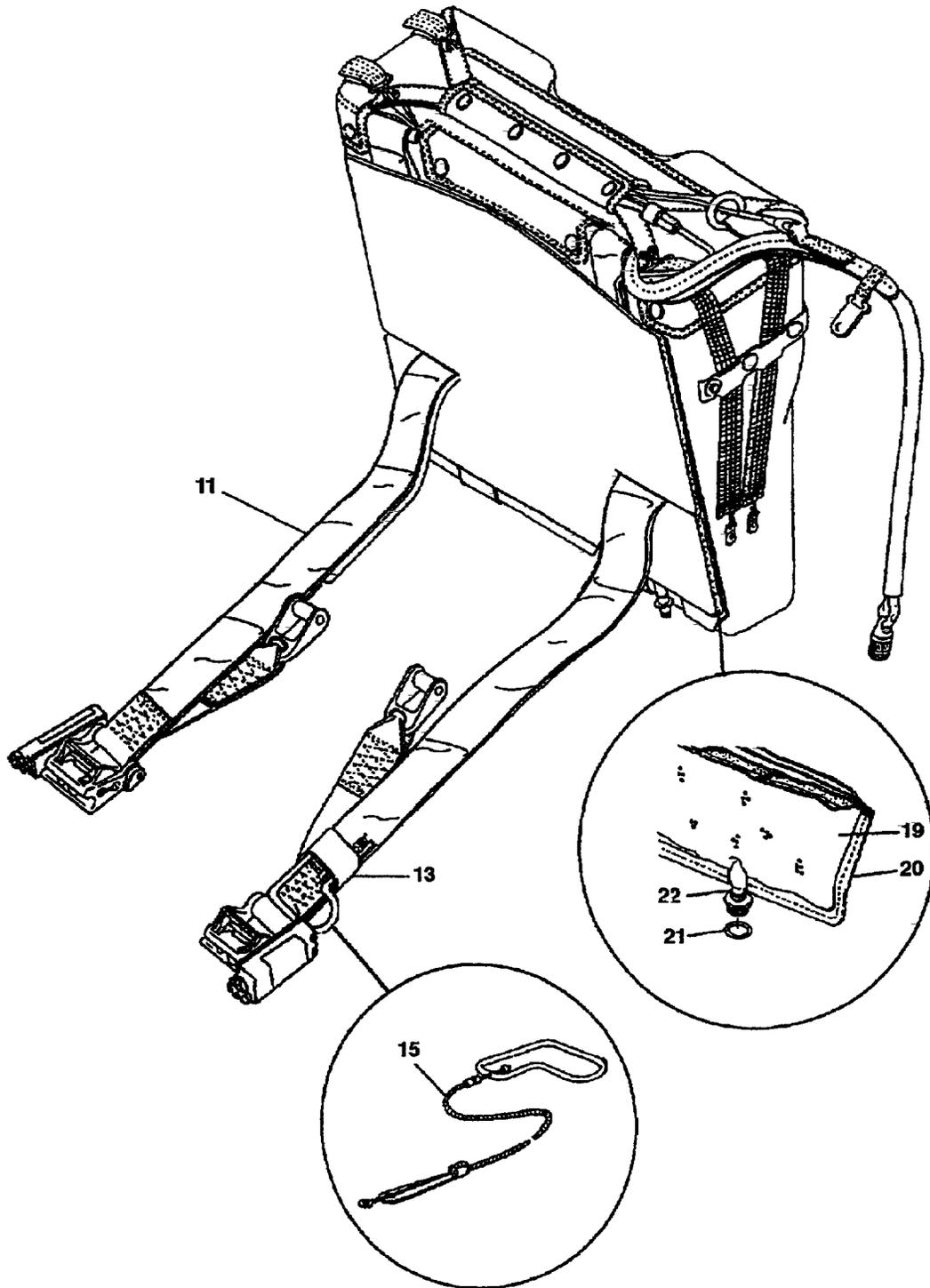
a. The usable on codes in this WP refer to the aircraft applications for the NES-14 Personnel Parachute Assembly.

b. The following usable on codes apply to this WP:

A - EA-6B, F-14

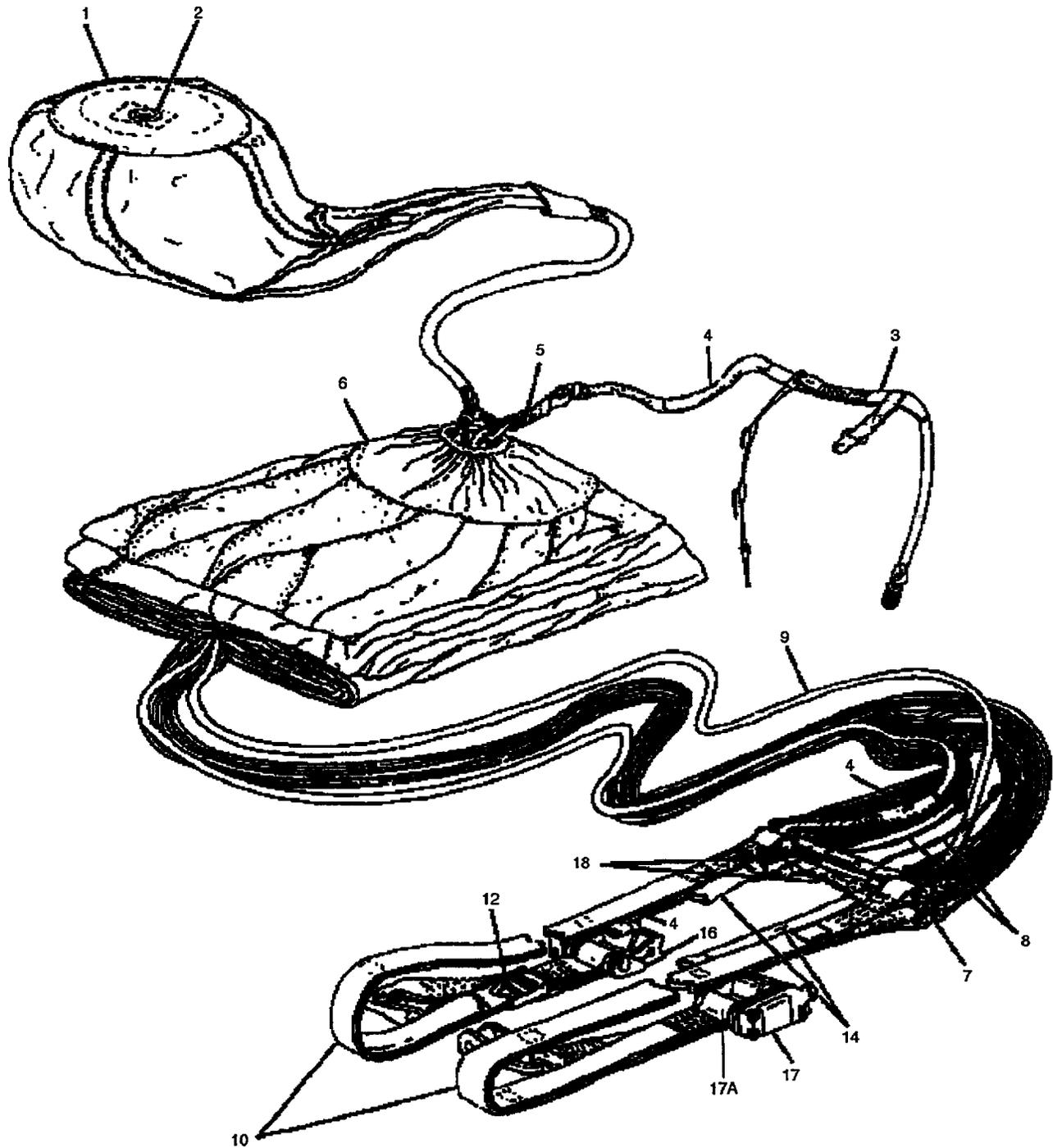
3. SERVICE/TOTAL LIFE.

a. The service/total life information is contained in WP 016 02.



6.2-5756

Figure 1. NES-14 Personnel Parachute Assembly (Sheet 1 of 5)



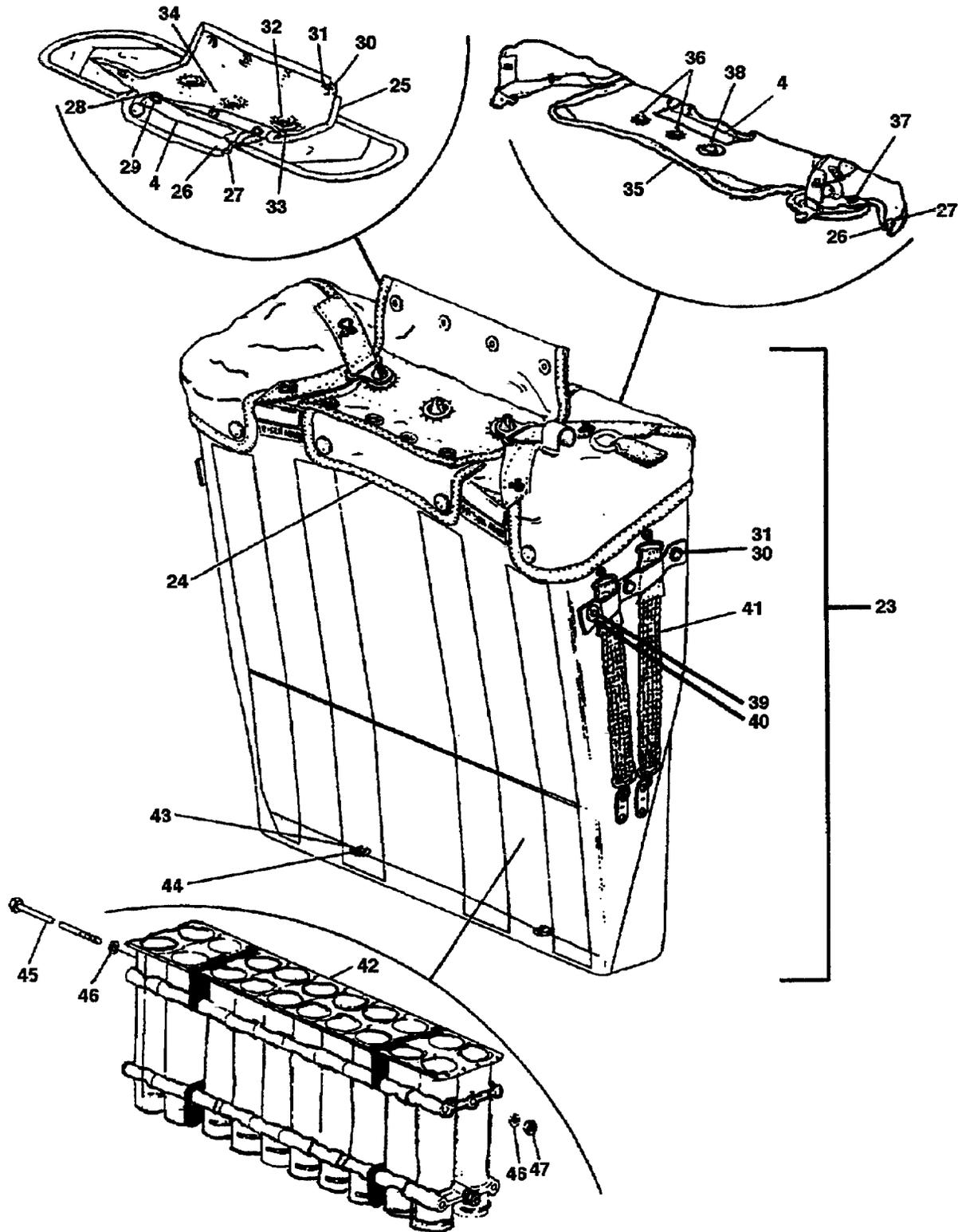
6.2-5757

Figure 1. NES-14 Personnel Parachute Assembly (Sheet 2 of 5)



INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY	USABLE ON CODE	SM&R CODE	
						1	2	3	4	5	6	7
	607AS102-6	PARACHUTE ASSEMBLY, NES-14	1	A	AGOGG	
	A51D60002-107	PARACHUTE ASSEMBLY, NES-14	1	A	AGOGG	
1	755AS105-1	. PARACHUTE ASSEMBLY, PILOT	1	*	PCGZZ	
	32-821552-15	. PARACHUTE ASSEMBLY, PILOT	1	*	PCGZZ	
	128SCES105-1	. PARACHUTE ASSEMBLY, PILOT/NOTE 1/	1	*	XBGZZ	
2	MS22058C1	. . GROMMET AND WASHER,	1		PAGZZ	
		PARACHUTE PACK				
3	607AS104-2	. LINE, WITHDRAWAL	1	*	PCGZZ	
	MB 300-1622	. LINE, WITHDRAWAL	1	*	PCGZZ	
	128SCES101-97	. LINE, WITHDRAWAL/NOTE 1/	1	*	XBGZZ	
4	676AS100-1	. . LABEL/SEE NOTE 2/	6		XBGZZ	
5	607AS106-1	. STRAP, CONNECTOR WITHDRAWAL LINE ...	1	*	PCGZZ	
	128ES10003-1	. STRAP, CONNECTOR/NOTE 1/	1	*	XBGZZ	
6	60A113E5-18	. CANOPY ASSEMBLY	1	*	PCGGG	
	60A113E5-20	. CANOPY ASSEMBLY (WITH DOUBLE "L"	1	*	PCGGG	
		CONNECTOR LINK INSTALLED)				
	GP521A18	. CANOPY ASSEMBLY /NOTE 1/	1	*	XBGZZ	
7	MS22021-1	. . LINK, REMOVABLE CONNECTOR	4	*	PAGZZ	
	MS22002-1	. . CONNECTOR LINK (DOUBLE "L")	4	*	PAGZZ	
8	666AS101-4	. . LANYARD, FOUR-LINE RELEASE	2		MGGZZ	
9	607AS118-1	. LINE ASSEMBLY, PDV	2	*	PCGZZ	
	128SCES101-75	. LINE ASSEMBLY, PDV/NOTE 1/	2	*	XBGZZ	
	MBEU6836PA	. LINE ASSEMBLY, PDV/NOTE 1/	2	*	XBGZZ	
10	607AS103-22	. RISER ASSEMBLY	1		PCGZZ	
11	607AS143-1	. . RISER COVER ASSEMBLY	1		PAGZZ	
12	755AS119-1	. . RETAINER, RIPCORD GRIP	1		XBGZZ	
13	607AS103-8	. . COVER, RETAINER	1		MDOZZ	
14	666AS102-3	. . FLUTE, FOUR-LINE RELEASE LANYARD ..	2		MGGZZ	
15	607AS109-3	. RIPCORD ASSEMBLY, PARACHUTE	1		PAGZZ	
	607AS109-1	. RIPCORD ASSEMBLY, PARACHUTE,	1		PAGZZ	
		(USE UNTIL EXHAUSTED)				
16	852AS117-3	. SENSING RELEASE UNIT, PARACHUTE	1		AGGGG	
		HARNES MXU-746/P LEFT SIDE				
17	852AS117-4	. SENSING RELEASE UNIT, PARACHUTE			AGGGG	
		HARNES MXU-747/P RIGHT SIDE				
17A	990055-1	. . RELEASE ASSEMBLY, CANOPY/99449/	2	*	PAGZZ	
	015-10307-5	. . RELEASE ASSEMBLY, CANOPY/99449/	2	*	PAGZZ	
		(USE UNTIL EXHAUSTED)				
18	607AS107-10	. CROSS CONNECTOR STRAP	1	*	PCGZZ	
	A51D60021-7	. CROSS CONNECTOR STRAP/NOTE 1/	1	*	XBGZZ	
	A51D60021-5	. CROSS CONNECTOR STRAP/NOTE 1/	1	*	XBGZZ	
	607AS107-9	. . STRAP ASSEMBLY, CROSS CONNECTOR ..	1	*	PCGZZ	
19	607AS108-22	. SLIP COVER	1		PAOZZ	
20	607AS108-9	. CUSHION ASSEMBLY, BACK	1	*	PAOZZ	
	A51D60025-9	. CUSHION ASSEMBLY, BACK/NOTE 1/	1	*	XBOZZ	
	A51D60025-1	. CUSHION ASSEMBLY, BACK/NOTE 1/	1	*	XBOZZ	

Figure 1. NES-14 Personnel Parachute Assembly (Sheet 3 of 5)



6.2-5758

Figure 1. NES-14 Personnel Parachute Assembly (Sheet 4 of 5)



INDEX NO.	PART NUMBER	DESCRIPTION							UNITS PER ASSY	USABLE ON CODE	SM&R CODE
		1	2	3	4	5	6	7			
21	MS28775-111	.	.	O-RING	.	.	.	.	1		PCOZZ
22	NAS397-10	.	.	CLAMP, RATCHET	.	.	.	.	1		PAGZZ
23	607AS110-2	.	.	CONTAINER ASSEMBLY	.	.	.	.	1	*	AGGGG
24	607AS111-10	.	.	CONTAINER SUB-ASSEMBLY	.	.	.	.	1		PAGGD
25	607AS114-1	.	.	FLAP ASSEMBLY, FORWARD	.	.	.	.	1	*	PCGZZ
	A51D60024-31	.	.	FLAP ASSEMBLY, FORWARD/NOTE 1/	.	.	.	.	1	*	XBGZZ
26	MS27983-1	.	.	FASTENER, BUTTON	.	.	.	.	6		PAGZZ
27	MS27983-2N	.	.	FASTENER, SOCKET	.	.	.	.	6		PAGZZ
28	MS27980-8B	.	.	FASTENER, EYELET	.	.	.	.	4		PAGZZ
29	MS27980-7B	.	.	FASTENER, STUD	.	.	.	.	4		PAGZZ
30	MS27980-1B	.	.	FASTENER, BUTTON	.	.	.	.	8		PAGZZ
31	MS27980-6B	.	.	FASTENER, SOCKET	.	.	.	.	8		PAGZZ
32	MS22048GC1	.	.	GROMMET	.	.	.	.	3		PAGZZ
33	60A113C25-1	.	.	WASHER, GROMMET	.	.	.	.	3		PAGZZ
34	607AS114-10	.	.	STIFFENER	.	.	.	.	1		MGGZZ
35	607AS115-1	.	.	FLAP ASSEMBLY, AFT	.	.	.	.	1	*	PCGZZ
	A51D60023-1	.	.	FLAP ASSEMBLY, AFT/NOTE 1/	.	.	.	.	1	*	XBGZZ
36	60A113C31-1	.	.	CONE, 0.338 GRIP	.	.	.	.	2		PAGZZ
37	60A113C28-1	.	.	EYE	.	.	.	.	4		PAGZZ
38	607AS128-1	.	.	CONE 0.540 GRIP	.	.	.	.	1	*	PAGZZ
	MB300-816	.	.	CONE /26512/	.	.	.	.	1		PAGZZ
39	607AS140	.	.	WASHER	.	.	.	.	2		PAGZZ
40	MS20470A-6	.	.	RIVET	.	.	.	.	2		PAGZZ
41	60A113D11-2	.	.	SPRING ASSEMBLY, CONTAINER	.	.	.	.	4	*	PAOZZ
				OPENING							
	MS70105-6	.	.	SPRING ASSEMBLY, CONTAINER	.	.	.	.		*	PAOZZ
				OPENING							
42	607AS113-12	.	.	TRAY ASSEMBLY, STOWAGE	.	.	.	.	1		PAGZZ
	128ESP10148-9	.	.	TRAY ASSEMBLY, STOWAGE	.	.	.	.	1	*	XBGZZ
				/26512//NOTE 1/							
				(USE UNTIL EXHAUSTED)							
				/ATTACHING PARTS/							
43	MS27039C4-08	.	.	SCREW, MACHINE	.	.	.	.	2		PAGZZ
44	MS15795-810	.	.	WASHER, FLAT	.	.	.	.	2		PAGZZ
				---*---							
45	607AS113-6	.	.	SCREW	.	.	.	.	2		PAGZZ
46	AN960D10L	.	.	WASHER, FLAT	.	.	.	.	4		PAGZZ
47	MS21042L3	.	.	NUT, SELF-LOCKING	.	.	.	.	2		PAGZZ

NOTES: 1. Delivered with new aircraft, but not stocked.
 2. Available at no cost from the In-Service Support Team (ISST).

Figure 1. NES-14 Personnel Parachute Assembly (Sheet 5 of 5)