
ORGANIZATIONAL MAINTENANCE

REPAIR PROCEDURES

LS-1 DROGUE PARACHUTE ASSEMBLY

PART NO. 1.9083GR-3

List of Effective Work Package Pages

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Reference Material

None

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Record of Applicable Technical Directives

None

1. INTRODUCTION.

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

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

a. Review all applicable instructions in this WP prior to starting repair.

b. Ensure that all necessary support equipment and materials required are available.

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 completion of work.

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

4. CONTAINER ASSEMBLY.

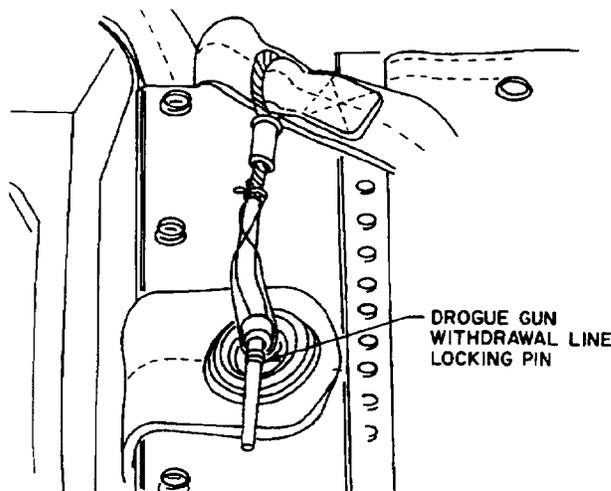
5. DROGUE GUN WITHDRAWAL LINE SAFETY TIE REPLACEMENT.

Materials Required

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

a. Completely remove loose or broken safety tie.

b. Safety-tie locking pin by looping a 12-in. length of size A thread, single and unwaxed, under pin. Tie off with four half-hitches (Figure 1).



6.2-6176

Figure 1. Replacement of Drogue Gun Withdrawal Line Safety Tie

c. Close protective cover, ensuring that withdrawal line exits cover at left side.

6. REPACK SCHEDULE.

a. Scheduled repack cycle is 448 days. ■

ORGANIZATIONAL MAINTENANCE

PACKING PROCEDURES

LS-1 DROGUE PARACHUTE ASSEMBLY

PART NO. 1.9083GR-3

List of Effective Work Package Pages

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Reference Material

Organizational, Intermediate and Depot Maintenance, Parachute Loft Requirements/Administration WP 003 00
 Maintenance Instructions, Personnel Survival, Navy Model T-2B/T-2C Aircraft NAVAIR 01-60GAB-2-2.2

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Record of Applicable Technical Directives

None

1. GENERAL.

a. Packing instructions are provided with the assumption that they will be carried out under ideal conditions in a parachute loft WP 003 00. When a drogue 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 procedures be interrupted after the operation has started. If the packing operation is interrupted due to unforeseen circumstances, the drogue parachute assembly shall be completely repacked as detailed in this Work Package (WP).

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

d. This WP provides packing procedures for both original issue and in-service drogue parachute assemblies. Packing procedures are the same for all assemblies.

2. PRELIMINARY PROCEDURES.

Support Equipment Required

Part Number	Nomenclature
—	Dowel
—	Stamp Pad
	-or-
A-A-130	Adjustable Metal Stencil
	-or-
—	Rubber Stamp Kit
	-or-
Style No. 8	Printing Set
	-or-
GG-P-655	Printing Set

Materials Required

Specification or Part Number	Nomenclature
TT-I-1795	Ink, Marking, Black
MIL-I-6903	Ink, Marking, Light Blue

Specification or Part Number

Nomenclature

V-T-295

Thread, Nylon, Size A, Type I or II, Class A

MS20995CU20

Wire, Copper, 0.020 in.

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 assembly.

c. Count and record number of packing tools.

d. Clean packing table.

3. LAYOUT OF DROGUE PARACHUTE ASSEMBLY.

a. Lay out drogue parachute assembly full length on packing table.

4. INSPECTION (SPECIAL).

a. Maximum scheduled repack cycle is 448 days.

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)
Drogue Parachute	None	10
Withdrawal Line	2	10

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

(2) Compare configuration of parachute assembly to that shown in NAVAIR 13-1-6.2 Record of Applicable Technical Directives, and Illustrated Parts Breakdown.

6. DROGUE ASSEMBLY.

a. Canopy fabric surface, seams, and suspension lines at canopy peak for contamination, mildew, cuts, tears, fraying, and loose or missing stitching.

b. Suspension lines from canopy skirt hem to confluence point for fraying, ruptures, contamination, presence of twists, and security of attachment at skirt hem.

c. Withdrawal line for contamination, curts, fraying, loose or broken stitching, and proper attachment to the drogue parachute. (QA)

d. Risers for contamination, cuts, fraying, burns, loose or broken stitching, and attachment of risers to suspension lines at confluence point. (QA)

e. Lanyard securing pin for nicks, burrs, dirt, corrosion, bends, and proper attachment to the lanyard.

f. Leather buffers for security of attachment, cuts, cracks, and fraying.

7. APPLICATION OF MARKINGS (ORIGINAL ISSUE).

a. When a parachute part is placed in service from stores, the month/year of opening manufacturer's individual shipping container shall be stenciled on it.

b. When using a stamp pad, moisten pad with ink. Pad must be evenly coated and free of clots.

c. Make a test impression to determine correctness of marking and inking.

NOTE

When stamping canopy material, place paper towels behind area to be stamped to prevent smearing or blotching.

d. Stamp marking on canopy skirt hem of drogue parachute assembly.

e. Stamp marking on withdrawal line.

f. Allow marking to dry for 20 to 30 min.

g. Verify correctness of all markings. (QA)

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

8. PACKING.

9. ATTACHMENT OF WITHDRAWAL LINE TO VENT LINES.

a. Stretch drogue canopy and risers full length on packing table.

b. Separate risers into two groups with long risers positioned on top of short risers. Separate suspension lines at skirt hem into two equal groups on each side of nameplate gore.

c. Suspension lines must run free from skirt hem to risers. Remove any tangles or twists.

d. Pass loop end of drogue gun withdrawal line closest to drogue container locking pin around vent lines at canopy peak. Pass opposite end of withdrawal line thru loop and pull tight, securing withdrawal line to vent lines (Figure 1). (QA)

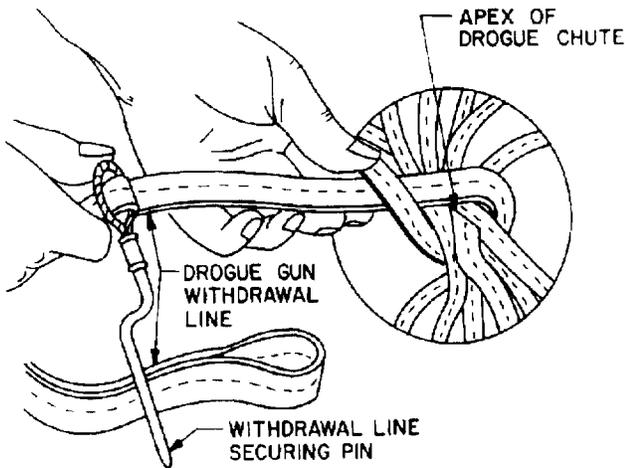


Figure 1. Attachment of Withdrawal Line to Vent Lines

6.2-5746

10. STOWAGE OF RISERS AND CANOPY INTO DROGUE CONTAINER.

Support Equipment Required

Part Number	Nomenclature
—	Dowel

Materials Required

Specification or Part Number	Nomenclature
MS20995CU20	Wire, Copper 0.020-in.
V-T-295	Thread, Nylon, Size A, Type I or II, Class A

a. Helper shall grasp each group of suspension lines at skirt hem and lift drogue canopy, off packing table. Packer shall grasp each group of risers, long risers on top of short risers, and position them over back of ejection seat. Helper shall position drogue canopy in front of seat (Figure 2).

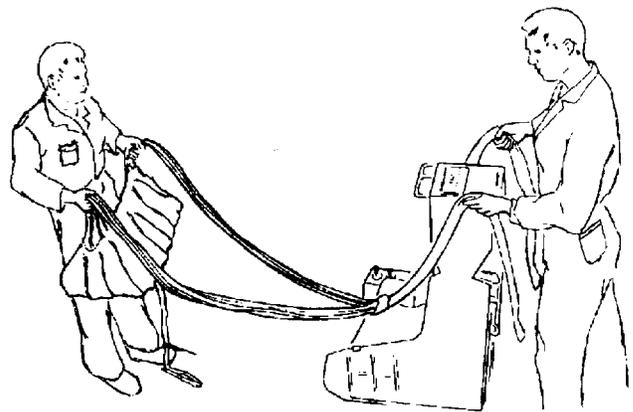


Figure 2. Helper Shall Grasp Each Group

6.2-5747

b. Attach long and short risers to ejection seat roller fitting on back of seat per instructions NAVAIR 01-60GAB-2-2.2.

c. Route each group of risers thru metal channels located on rear side of headrest (Figure 3).

d. With helper holding drogue canopy, in front of ejection seat, packer shall accordion fold left group of risers into forward position of drogue container, from left to right, until confluence point is at top of drogue container. Lay confluence point on top of risers. Packers shall accordion fold right group of risers into rear portion of drogue container in same manner (QA)

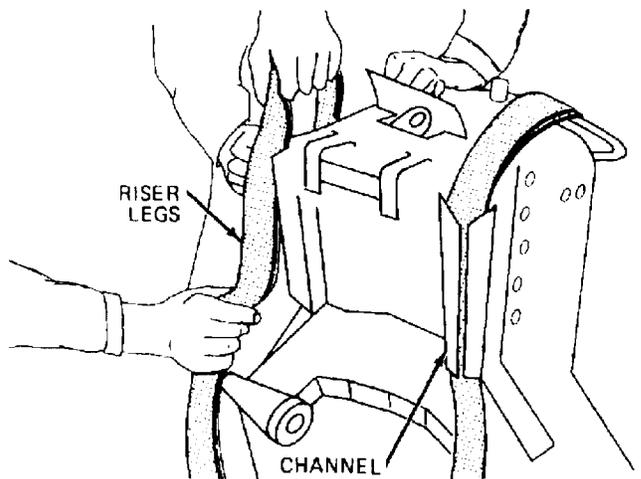


Figure 3. Route Each Group of Risers

6.2-5747A

e. Safety-wire risers and channels on all seats, using 0.020-in. copper wire (Figure 4). (QA)

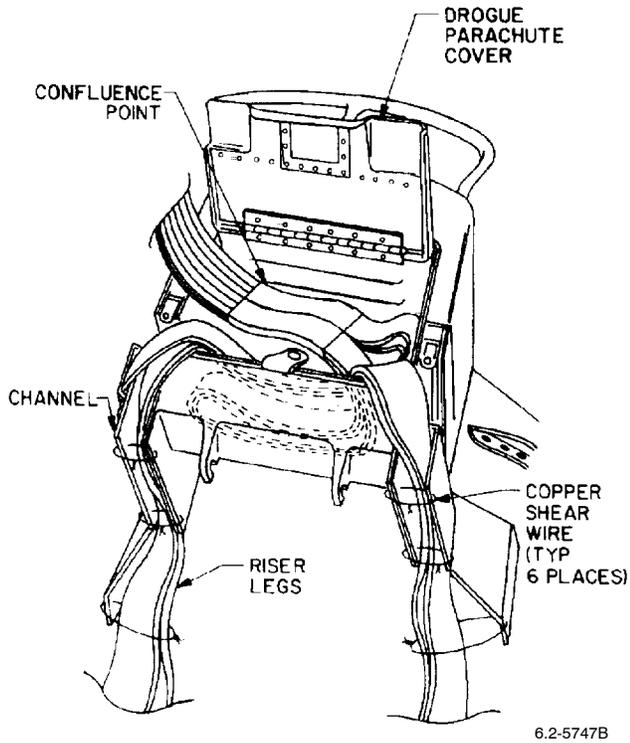


Figure 4. Safety-Wire Risers

f. Remove all twists in each group of suspension lines (Figure 5).

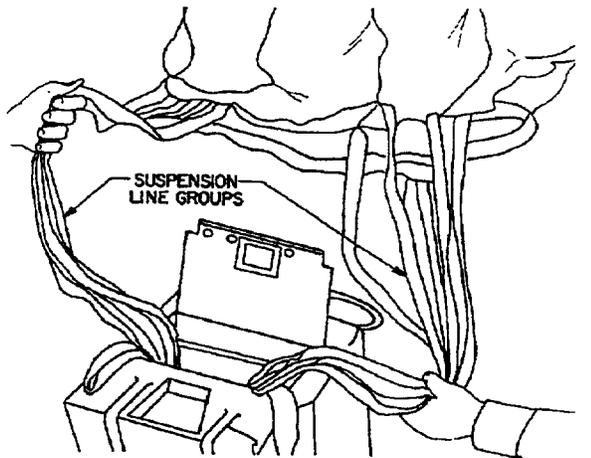


Figure 5. Remove All Twists

g. Helper shall hold drogue canopy above ejection seat. Packer shall accordion fold left group of suspension lines into forward portion of drogue container, from left to right. Packer shall accordion fold right group of suspension lines into rear portion of drogue container in same manner.

WARNING

Do not fold drogue canopy into container.

h. Helper shall lower canopy, skirt hem first, into drogue container (Figure 6).

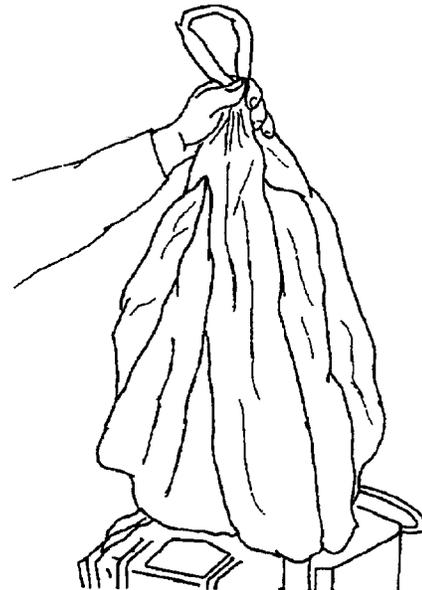


Figure 6. Helper Shall Lower Canopy

i. Packer shall press canopy straight down into container, with apex positioned on top, in center. Tuck canopy into corners of container using a 1-in. diameter round end dowel (Figure 7).

6.2-5747B

6.2-5748A

6.2-5748

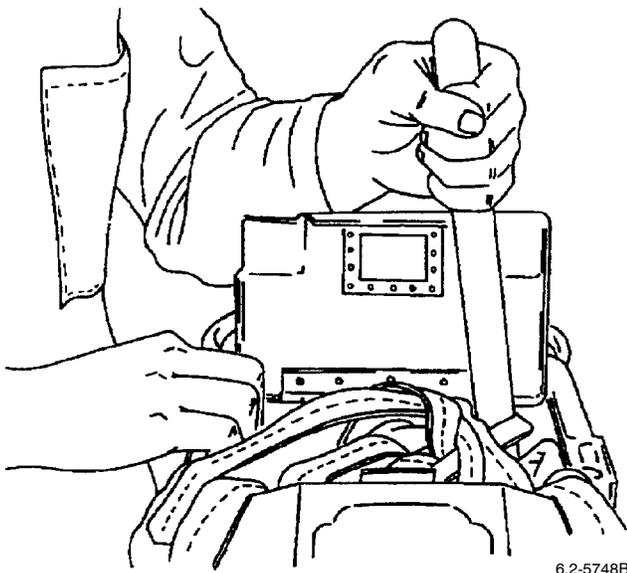


Figure 7. Press Canopy Straight Down

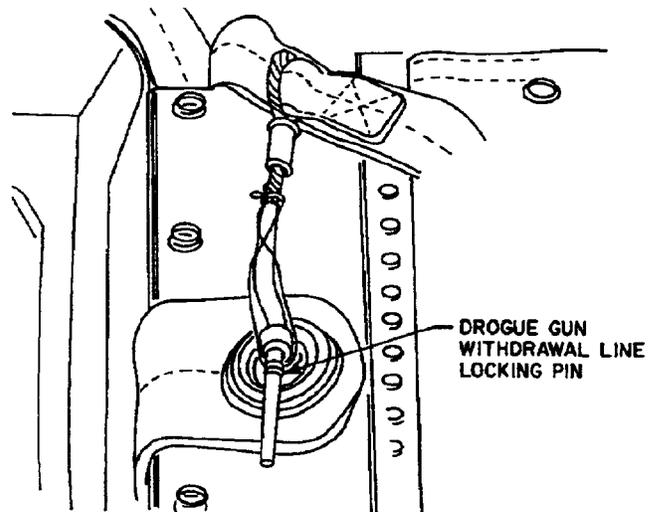


Figure 9. Hold Container Over Locking Cone

6.2-6176

j. Route drogue gun withdrawal line out left rear corner of container. Close drogue container cover over locking cone. Ensure that drogue gun withdrawal line passes thru slot in left rear corner of cover (Figure 8).

l. Attach loop in end of drogue gun withdrawal line to drogue gun (Figure 10).

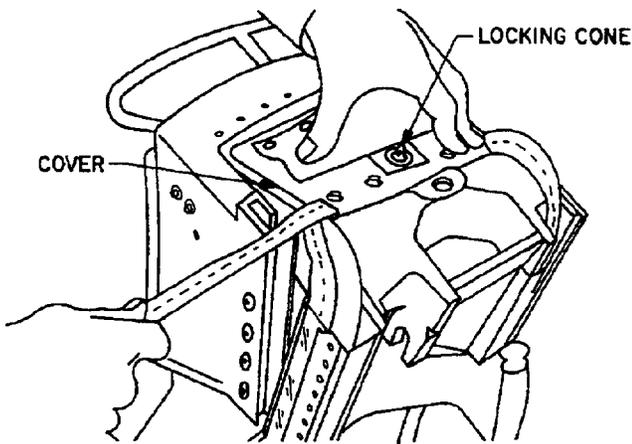


Figure 8. Route Drogue Gun Withdrawal Line

6.2-5748C

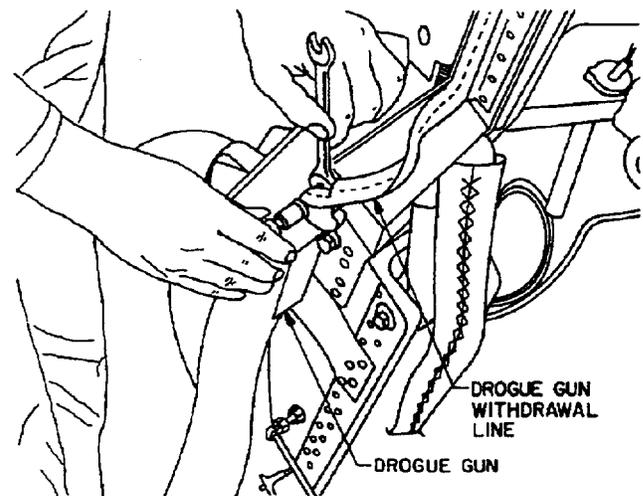
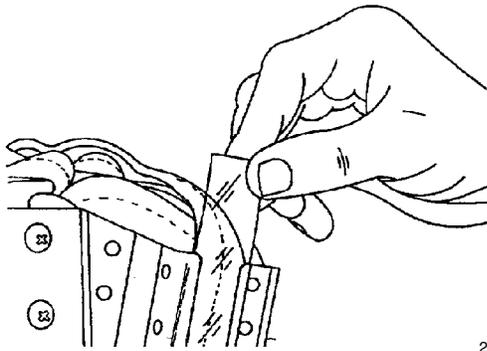


Figure 10. Attach Loop

6.2-6176A

k. Hold container cover over locking cone and insert drogue gun withdrawal line locking pin. Insert approximately half of the locking pin into the locking cone. Locking pin shall not protrude past the protective cover. Adjust locking pin as necessary. Safety-tie locking pin by looping a 12-in. length of size A thread, single, under pin; tie off with four half-hitches (Figure 9).

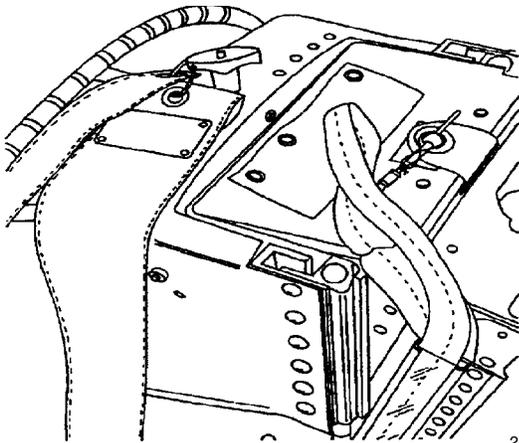
m. Route drogue gun withdrawal line thru channel on rear left side of headrest. Insert two clear plastic strips into channel to retain withdrawal line in position (Figure 11). (QA)



2101-10

Figure 11. Routing of Drogue Gun Withdrawal Line

- n. Fold withdrawal line over locking pin (Figure 12).



2101-11

Figure 12. Folding of Withdrawal Line

- o. Snap withdrawal line locking pin protective cover closed. Drogue gun withdrawal line shall exit protective cover at left side.

11. FINAL CHECKOUT.

- a. Account for all packing tools.
- b. Examine packed drogue parachute for general condition.
- c. Packer shall complete and sign Parachute Record (OPNAV 4790/101). (QA)
- d. Send a (legible) copy of new Parachute Record to: Commander, Code 461000D, NAVAIRWARCENWPNDIV, 1900 N Knox Road Stop 6206, China Lake, CA 93555-6106.

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INTERMEDIATE AND DEPOT MAINTENANCE

REPAIR PROCEDURES

LS-1 DROGUE PARACHUTE ASSEMBLY

PART NO. 1.9083GR-3

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Reference Material

Intermediate and Depot Maintenance, Common Repairs	WP 004 00
Organizational, Intermediate and Depot Maintenance, Parachute Loft Requirements/Administration	WP 003 00

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Replacement of Riser Sleeves	2
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Record of Applicable Technical Directives

None

1. INTRODUCTION.

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

2. DROGUE PARACHUTE ASSEMBLY REPAIRS.

3. GENERAL.

a. Repair of the drogue parachute assembly is limited to the following:

- (1) Cleaning of contaminated areas.
- (2) Replacement of drogue gun withdrawal line.
- (3) Replacement of riser sleeves.

4. REPLACEMENT OF DROGUE GUN WITHDRAWAL LINE.

a. Remove defective drogue gun withdrawal line from vent lines.

b. Stretch drogue canopy and risers full length on packing table.

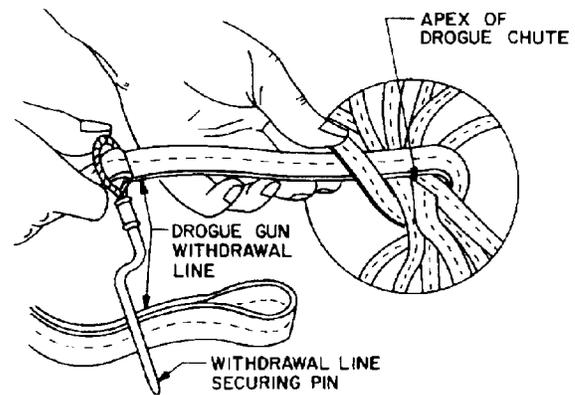
c. Separate risers into two groups with long risers positioned on top of short risers. Separate suspension lines at skirt hem into two equal groups on each side of nameplate gore.

d. Suspension lines must run free from skirt hem to risers. Remove any tangles or twists.

e. Pass loop end of drogue gun withdrawal line closest to drogue container locking pin around vent lines at canopy peak. Pass opposite end of withdrawal line thru loop and pull tight, securing withdrawal line to vent lines (Figure 1). (QA)

f. Mark date placed in service on withdrawal line.

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



6.2-5746

Figure 1. Replacement of Drogue Gun Withdrawal Line

5. REPLACEMENT OF RISER SLEEVES.

Materials Required

Specification or Part Number	Nomenclature
CCC-A-680	Artificial Leather, Treated A, C, Class II, Color Optional
CCC-C-700 (Alt)	Artificial Leather, Treated A, C, Class II
V-T-295	Thread, Nylon, Size E, 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 topped with a square knot, followed with a binder knot per WP 002 00. Trim off excess leaving 1/2-in.

a. Remove tacking securing riser sleeve to riser. Remove discrepant sleeve. Mark risers long sleeve and short sleeve locations.

b. Mark and cut 2 pieces 4 1/2-in. by 20 1/2-in. Mark and cut 2 pieces 4 1/2-in. by 41 1/2-in.

c. Fold cut pieces in half, lengthwise, finish side facing outside, using size E thread, sew together with two rows of stitching 3/32-in. from edges and 1/8-in. between rows of stitching (Figure 2).

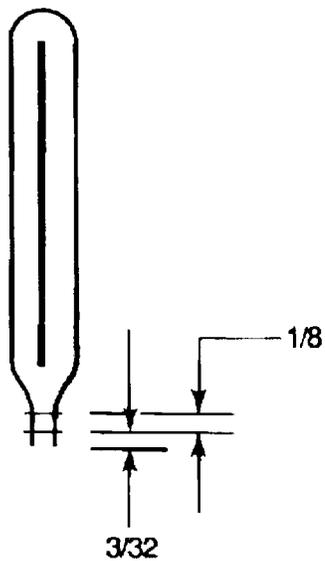


Figure 2. Sewing of Drogue Riser Sleeve

6.2-7089

d. Slide sleeve over riser loop ensuring that short sleeves are installed where short sleeves were removed and long sleeves are installed where long sleeves were removed. All sleeve seams should lay along one edge of riser and face in same direction.

e. Riser sleeve shall overlap loop sleeve by 3/4-in. Tack 3/8-in. from sleeve end, in center with one turn of size 6 thread, doubled and waxed; tie off. Tacking shall pass through riser sleeve, riser, loop sleeve, riser and riser sleeve (Figure 3).

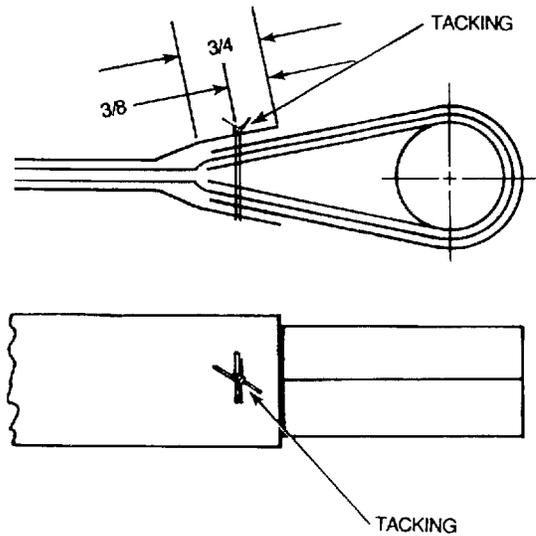


Figure 3. Tacking Drogue Riser Sleeve

6.2-7109

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ORGANIZATIONAL, INTERMEDIATE, AND DEPOT MAINTENANCE

ILLUSTRATED PARTS BREAKDOWN

LS-1 DROGUE PARACHUTE ASSEMBLY

PART NO. 1.9083GR-3

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Reference Material

Organizational Maintenance, Packing Procedures, LS-1 Drogue Parachute Assembly WP 021 01

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Record of Applicable Technical Directives

None

1. INTRODUCTION.

a. This Work Package (WP) contains information for ordering and identifying parts for the LS-1 Drogue Parachute Assembly (Figure 1).

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

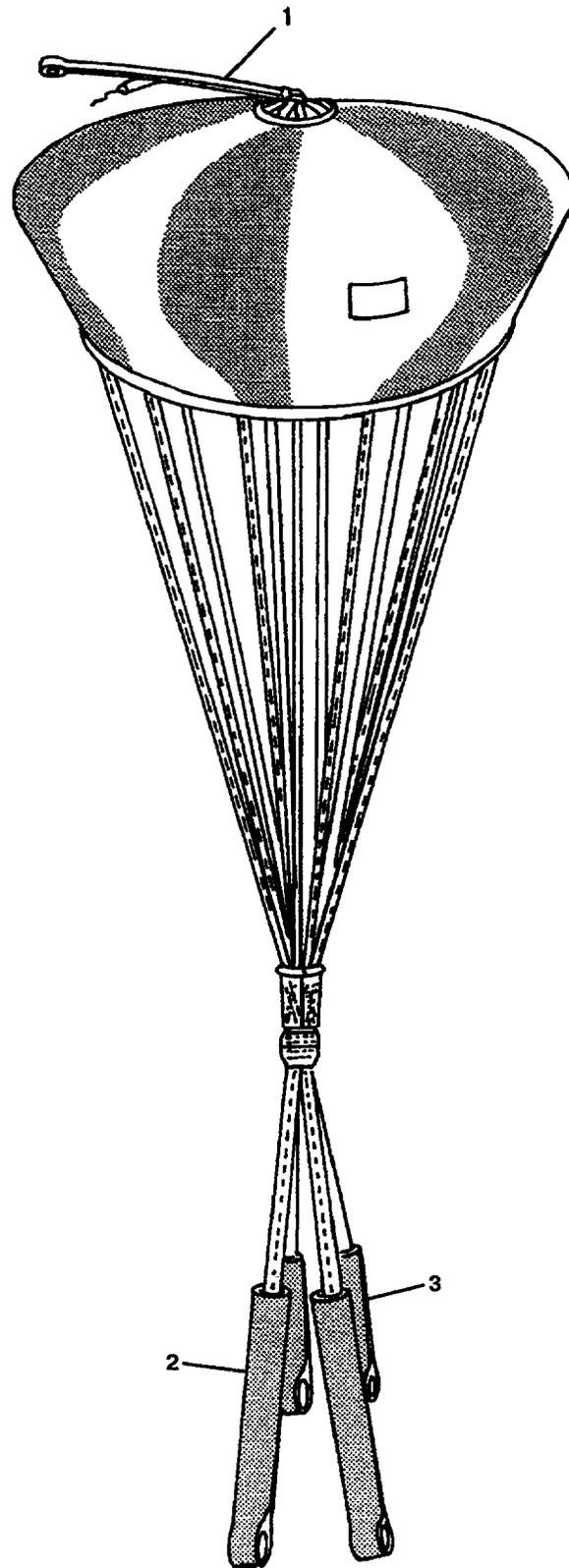
A - T-2

2. USABLE ON CODES.

a. The usable on codes in this WP refer to the aircraft applications for the LS-1 Drogue Parachute Assembly.

3. SERVICE/TOTAL LIFE.

a. The service/total life information is contained in WP 021 01.



6.2-5752A

Figure 1. LS-1 Drogue Parachute Assembly (Sheet 1 of 2)

INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY	USABLE ON CODE	SM&R CODE
		1 2 3 4 5 6 7			
	1.9083GR-3	DROGUE PARACHUTE ASSEMBLY, LS-1	REF	A	PCOGG
1	926AS111-1	. WITHDRAWAL LINE, DROGUE GUN	1		PAOZZ
2	3-7259-4	. SLEEVE ASSEMBLY, LONG	2		MGGZZ
3	3-7259-5	. SLEEVE ASSEMBLY, SHORT	2		MGGZZ

Figure 1. LS-1 Drogue Parachute Assembly (Sheet 2 of 2)



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