T.O. 00-75-5

TECHNICAL MANUAL

USE, INSPECTION AND MAINTENANCE

STOKES RESCUE LITTERS

F09603-87-C-1900

BASIC AND ALL CHANGES HAVE BEEN MERGED TO MAKE THIS A COMPLETE PUBLICATION

This publication supercedes TO 00-75-5 TOPS 101, dated 29 June 1982.

Published under authority of the Secretary of the Air Force

1 APRIL 1979

CHANGE 4 - 30 JUNE 1988

LIST OF EFFECTIVE PAGES

INSERT LATEST CHANGED PAGES. DESTROY SUPERSEDED PAGES.

NOTE: The portion of the text affected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by miniature pointing hands. Changes to wiring diagrams are indicated by shaded areas.

Dates of issue for original and changed pages are:

Original ..... 0..... 1 Apr 79
Change..... 1..... 22 Jan 81
Change..... 2..... 28 Jan 81
Change..... 3..... 8 Apr 82
Change..... 4..... 30 Jun 1988

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 36, CONSISTING OF THE FOLLOWING:

Page No.	*Change No.	Page No.	*Change No.	Page No.	*Change No.
Title	4				
A	4				
i	3				
ii Blank	0				
1-1 - 1-2	3				
2-1 - 2-4	3				
3-1	4				
3-2	3				
3-3 - 3-5	0				
3-6 Blank	0				
4-1 - 4-3	1				
4-4	4				
5-1 - 5-4	3				
6-1 - 6-3	0				
6-4 Blank	0				
7-1 - 7-5	0				
7-6 Blank	0				
8-1 - 8-2	0				

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

SECTION I

INTRODUCTION

1-1. GENERAL. The purpose of this manual is to provide all technical information related to the use, inspection, and maintenance of the modified Stokes Rescue Litter utilized by the Aerospace Rescue and Recovery Service (ARRS).

NOTE

The procedures detailed in this manual are presented in a logical sequence for proper performance of the steel Stokes Rescue Litter, NSN 6530-00-042-8131. However, several different models of the Stokes litter are presently utilized by ARRS. Modifications to this directive are authorized when dimensions of the different litters prohibit full utilization of presented modification instructions and dimensions. The intent of this directive must be followed, and all modifications must be tested for proper performance prior to operational use.

1-2. DESCRIPTION OF THIS DIRECTIVE.

1-3. Contents. This manual consolidates and updates information on configurations, applications, and maintenance of the Stokes Rescue Litter presently in use by ARRS.

1-4. Recent Develop Tents. This manual reflects major changes recently tested by the 1550 Aircrew Training and Test Wing, Kirtland AFB, New Mexico. The 1550 ATTW Pararescue School and Operational Test and Evaluation Division are designated OPR for this manual, with final approving authority delegated to ARRS/DOR. Major changes are summarized as follows:

a. Authorization and directions for construction and the use of a breakdown (two piece) Stokes Litter.

b. Mandatory use of locking carabiners (snap links) instead of hooks to connect Stokes litter hoist cables to the litter.

c. Optional use of 3/16 inch woven hoist cable instead of present wrapped steel cable for Stokes litter hoist cables.

d. Mandatory use of nicopress swage sleeves or wire rope threaded clamps to replace U clamps presently utilized on Stokes litter hoisting cables. (See Figure 4-1 for national stock numbers).

e. Mandatory construction and use of snow cover for litters utilized by the pararescue team responsible for rescues in mountaineous and snow areas.

f. Optional construction of snow skids (skaggs for the Stokes litter skaggs are utilized for easier overland transportation of a patient in a snow environment.

g. Mandatory construction and use of a flotation collar for Stokes litters utilized in helicopter water recoveries.

h. Mandatory use of a patient sleeping bagifor all operational ARRS units. Either the modified or standard patient sleeping bag may be used.

i. Mandatory weight testing of litter cables and litter.

j. Mandatory installation of inspection tag.

1-5. Comments and Recommendations. Suggested changes to this manual should be submitted to HQ ARRS/DOR Scott AFB IL 62225 by AFTO Form 22.

1-6. Training Equipment Markings. Operational litters and litter accessories may be utilized for training. Any equipment damaged during training must be repaired or replaced. Equipment intended for operational use will be painted olive drab.

1-7. Supplementary Publications. The following publication supplements this manual:

a. ARRSR 167-1.

1-8. Responsibilities. Inspections, and configuration changes to the litter are top responsibility of unit operations. Aircraft Commanders are responsible for insuring proper equipment and accessories are available or mission protection.

1-9. Inspection. Fabrication and repair of the accessories and litter modifications are the responsibility of unit operations section. The unit maintenance section is responsible for scheduling fabrication or maintenance.

1-10. Service Life. Service life of the litter and accessories will be determined by condition rather than age. A policy of condemning equipment where more than minor installation are observed will affect adequate protection of personnel and allow a gradual retirement of older equipment. When doubt exists in the minds of repair personnel, when repaired the equipment will function properly, the equipment salvaged.

1-11. Prior to Placing Into Service. Prior to placing Stokes litters into service, the below tests and inspections will be accomplished and documented. To insure proper preventative maintenance measures are initiated, the following will also be accomplished. Steel joining rods will be removed. Holes will be filled with RTV Rub Adhesive Silicone Paste, to a minimum of one inch at a depth to allow the reinsertion of steel joining rods. All rivets will be replaced to secure rods. All other joining holes will be filled in the same manner to allow an unobstructed insertion of joining rods when litter is assembled. Tests and inspections as noted in paragraph 2-2a.

1-12. Operational Storage. Unit Commanders may remove and locally store operationally configured Stokes Litters, if local flying or special missions preclude carrying the litter as normal equipment on all aircraft. Normally, storage of Stokes Litters will be in an area readily available to aircraft for immediate upload.

NOTE: This does not apply to alert designated aircraft.

SECTION II

INSPECTION AND MAINTENANCE

2-1. GENERAL. The Stokes litter, with or without frame modifications and accessory equipment, will be inspected prior to each flight or alert period by the pararescue/ medical technician crew member. On flights without medical personnel, the flight engineer will assure the minimum equipment required by the appropriate standard configuration manual is on board and serviceable.

2-2. Maintenance Function Responsibilities.

a. Weight Testing. Annually the litter, with or without modifications, and litter hoisting cables will be subjected to a suspension (hanging) test with a 600-pound load in litter. While suspended, make a visual inspection for cracked welds, cracked tubes, pinholes, security of wire mesh, evidence of wear at hoisting cable attaching points. The cables, carabiners, and hardware will be visually inspected for wear, corrosion, and signs of breakage, slippage, and fatigue.

b. Patient restraining straps will be inspected and marked in accordance with TO 13A1-1-1.

c. Corrosion Prevention. All litters, cables, and accessories will be completely washed in fresh water after immersion or contact with salt water. To insure the proper preventative maintenance measures after use and prior to being stored, the major support rods will be filled with RTV Rubber Adhesive Silicone Paste. The tubes will be filled to a minimum depth of one inch.

2-3. Operations Responsibilities.

a. Accessory Equipment. An annual inspection will be accomplished and do mented for all accessory equipment. Inspect or wear rotting, mildew, mold, tears, cuts, brken stitches, and fraying of fabric parts.

b. Coordinate with unit maintenance on all modifications and repairs to the Stokes litter and accessory equipment.

c. Documentation.

(1) The unit configuration NCO will insure:

(a) All litters litter hoisting cables, and accessories will be assigned local control numbers.

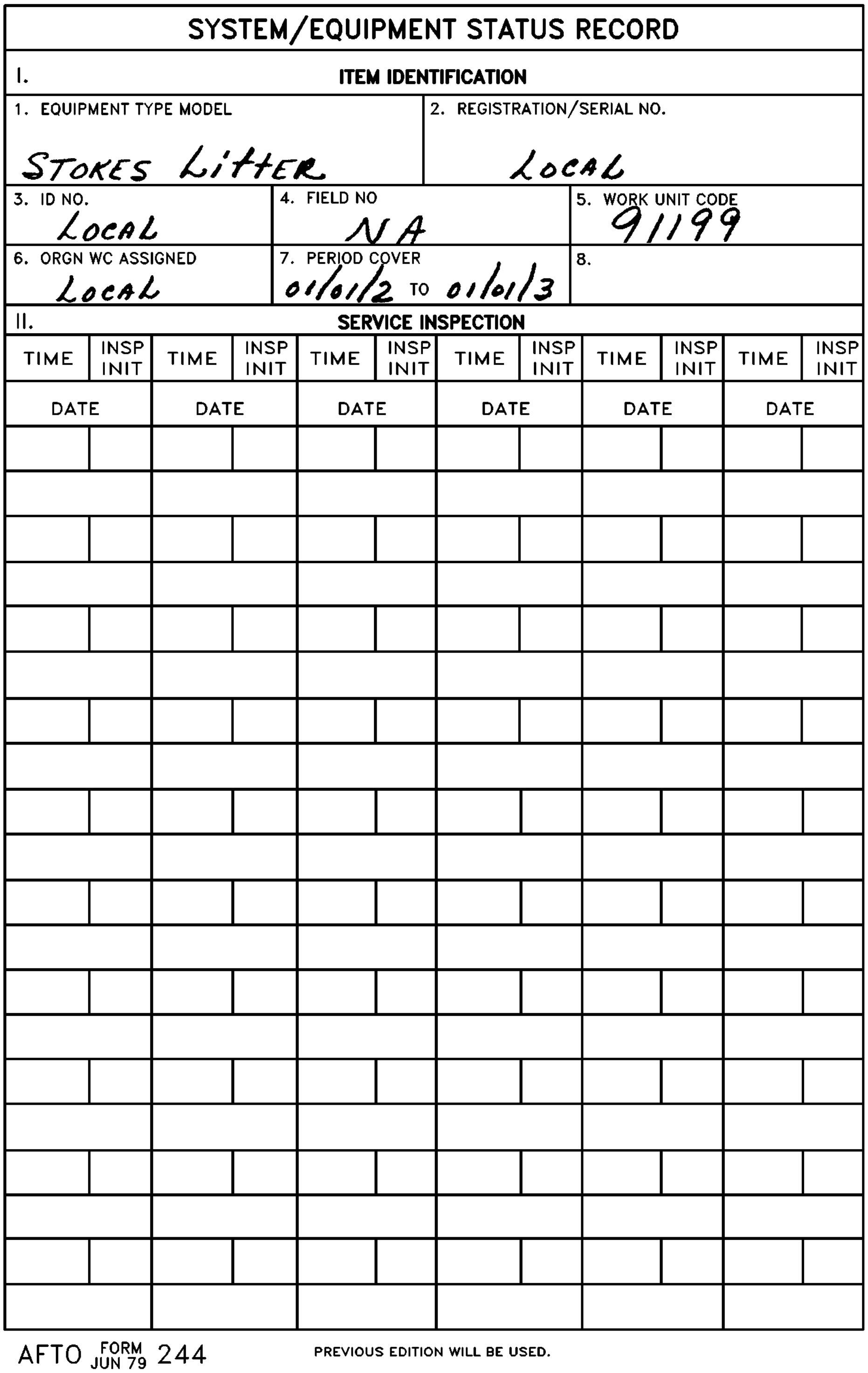
(b) An AFTO Form 244 will be maintained on each litter and/or litter hoisting cable by local control number. The AFTO Form 244 will show the date item was placed into service. The annual inspection placed will also be recorded. Form 244 sample on 2-2, Figure 2-1 and 2-2.

(c) Litter and litter hoisting cables will have small metallic tags affixed with local control number and date of last inspection stamped thereon. Tags will be no larger than 2 inches by 3/4 inch. Tags will be secured with safety wire to:

1 Hoisting cable, on the longer cable above loop.

2 Litter; lower cross-bar at foot of litter.

EXAMPLE: PROOF TESTED 8/74
INSPECTED 8/74



SYSTEM/EQUIPMENT STATUS RECORD

I. ITEM IDENTIFICATION

1. EQUIPMENT TYPE MODEL: STOKES LITTER		2. REGISTRATION/SERIAL NO.: LOCAL
3. ID NO.: LOCAL	4. FIELD NO: NA	5. WORK UNIT CODE: 91199
6. ORGN WC ASSIGNED: LOCAL	7. PERIOD COVER: 01/01/2 TO 01/01/3	8.

II. SERVICE INSPECTION

TIME	INSP INIT	TIME	INSP INIT	TIME	INSP INIT	TIME	INSP INIT	TIME	INSP INIT	TIME	INSP INIT
DATE		DATE		DATE		DATE		DATE		DATE	

AFTO FORM JUN 79 244 PREVIOUS EDITION WILL BE USED.

L9903228

Figure 2-1. System/Equipment Status Record (Sheet 1 of 2)

III.		INSPECTION			
INSPECTION REQUIREMENT	INTERVAL	DATE DUE	DATE COMPL	DATE DUE	DATE COMPL
Wt. CK	ANNUAL	01/01/2_	05/01/2	05/01/3	
IV.		SUPERVISORY REVIEW			
EMPLOY NO.	DATE	EMPLOY NO.	DATE	EMPLOY NO.	DATE
B. Baldwin CMS	01/05/2				

L9903229

Figure 2-1. System/Equipment Status Record (Sheet 2 of 2)

V. MAINTENANCE/DELAYED DISCREPANCY

9. DATE DISCOVERED	10. DISCOVERED BY SUP DOC NO.	SYM BOL	DISCREPANCY	11. JOB CON NO.	CORRECTIVE ACTION	12. DATE CORRECTED	CORRECTED BY INSPECTED BY
01/01/2.	J. Moore	D	Stores litter Due wt ck.	001-0001	Wt ck. OW	05/01/2	D. Ducks
02/01/2	J. Moore	X	Frame cracked at Rt. Front	002-0001	Repaired Frame	04/01/2	D. Ducks H. Hoge

Figure 2-2. Maintenance/Delayed Discrepancy AFTO Form 244

SECTION III
FABRICATIONAND REPAIR OF BREAKDOWN STOKES LITTER

3-1. GENERAL. The use of the breakdown Stokes litter is primarily designed as a time saving recovery method for combat hoist recoveries. By lowering the litter in its nested configuration on a pararescue person's back (Figure 3-1), critical helicopter hover time is saved by eliminating an extra up and down trip on the hoist. If qualified ground personnel are available at the recovery site, the assembled litter can be lowered without pararescue person.

3-2. Additional Advantages. The breakdown litter in its folded configuration can be stored on board ARRS H-1 helicopters as prepositioned equipment. The litter and all necessary accessory equipment can be backpacked overland to a survivor by one person (Figure 3-2).

3-3. MODIFICATION PROCEDURES

NOTE

Only steel or steel alloy Stokes litters will be used for helicopter hoisting and mountain rescue operations. Aluminum litters will not be used or modified.

3-4. Step-By-Step Procedure (See Figures 3-3 and 3-4).

a. Remove wooden slat board, Item A.

b. Cut chicken wire at modification location, item B.

c. Pull chicken wire away from modification site.

d. Cut litter, four main tubes and four support tubes at item B.

e. Insert four 9/16 inch diameter steel rods, 10 inches long, item C, five inches into the four main tubes of the head end of litter, item D.

f. Drill a 114 inch diameter hole, 2 1/2 inches from litter cut, through the tubing and the rod (centered), location shown by item E.

g. Rivet the four rods into the head section of litter (also at item E).

h. Sand or file the exposed section of the steel rods until they slip easily into the open tubing of the foot end of the litter.

i. Slide the foot end of litter into place so that the cut ends of the tubes are flush.

j. Drill a 1/4 inch hole through the foot end tubing and the rod (centered) 2 112 inches from tubing cut. Holes at item F are vertical (litter flat on ground), and holes at item G are horizontal. These holes are for pip pins.

k. Bend two pieces of steel tubing (1/4 inch diameter x 28 1/2 inches long) into place (position shown by items H and 1).

l. Weld 1/4 inch diameter tubing to litter main and support tubing.

m. Cut the wooded slat board utilizing item J dimensions.

n. Reinstall two-piece wooden slat board and secure into position by heavy gauge safety wire.

o. Cover slat boards with chicken wire and use aircraft safety wire to secure chicken wire to newly added support tubing.

p. Acquire 4 pip pins meeting MILSTD 17990.

q. Identify compatible halves with color codes using a different color for each complete Stokes litter. As a minimum, these colors will be painted on litter between item f and item e.

r. Painting and priming procedures for Stokes litter.

(1) Wash steel/steel alloy with pretreatment primer per MIL-C-8514.

(2) Apply one coat epoxy primer per MIL-P-23377.

(3) Apply two coats of Aliphatic Isocyanate Urethane (Polyurethane) per MIL-C-83286.

NOTE

Color is option per FED-STD-595.

MIL-C-8514	Coating Compound, Metal Pretreatment, Resin-Acid (M004-1160)
MIL-P-23377	Primer Coatings: Epoxy-Polyamide, Chemical and Solvent Resistant (M012-0044)
MIL-C-83286	Coating Urethane, Aliphatic Isocyanate, For Aerospace Applications (X553-1663)
FED-STD-595	Colors (AM00-2374)

3-5. Repair of steel litters. Weld repairs are permitted using the heli-arc method only. Steel litters shall be proof tested after any weld repair. (See paragraph 2-2.)

3-6. Once a Stokes litter has been modified into a two-piece unit, the NSN changes from 6530-00-042-8131 to 6530-01-066-0452. This new number will be reflected on unit property accounts.

3-7. Restraint Belt Installation. A total of three MC1A safety belts (cap, troop, FSN 1680-00-725-5927) will be used to secure survivors in the Stokes litter. Located across chest, waist and legs. A TAG line attached to the litter may be used if necessary to prevent oscillation during recovery. The following procedures will be used when installing safety belts.

a. Completely remove the snap hook belt portions of the MC-1A safety belt.

b. Thread a 32-inch length of nylon webbing, FSN 8305-00-263-3598. through the safety belt size adjuster (where the snap hook strap was routed).

c. Run the doubled ends of the webbing through a parachute quick fit adapter, FSN 5340-00-721-7709. (P/NMS 22019), passing the webbing ends through the adapter underneath, over the sliding bar and back through the adapter.

d. Slide the quick fit adapter approximately to within two inches of the bell size adjuster.

e. Run the doubled webbing ends around the Stokes litter small longitudinal bar and reroute back through the quick fit adapter, which secures the safety belt to the litter.

f. Safety the webbing ends by routing over the quick fit adapter and through the far side.

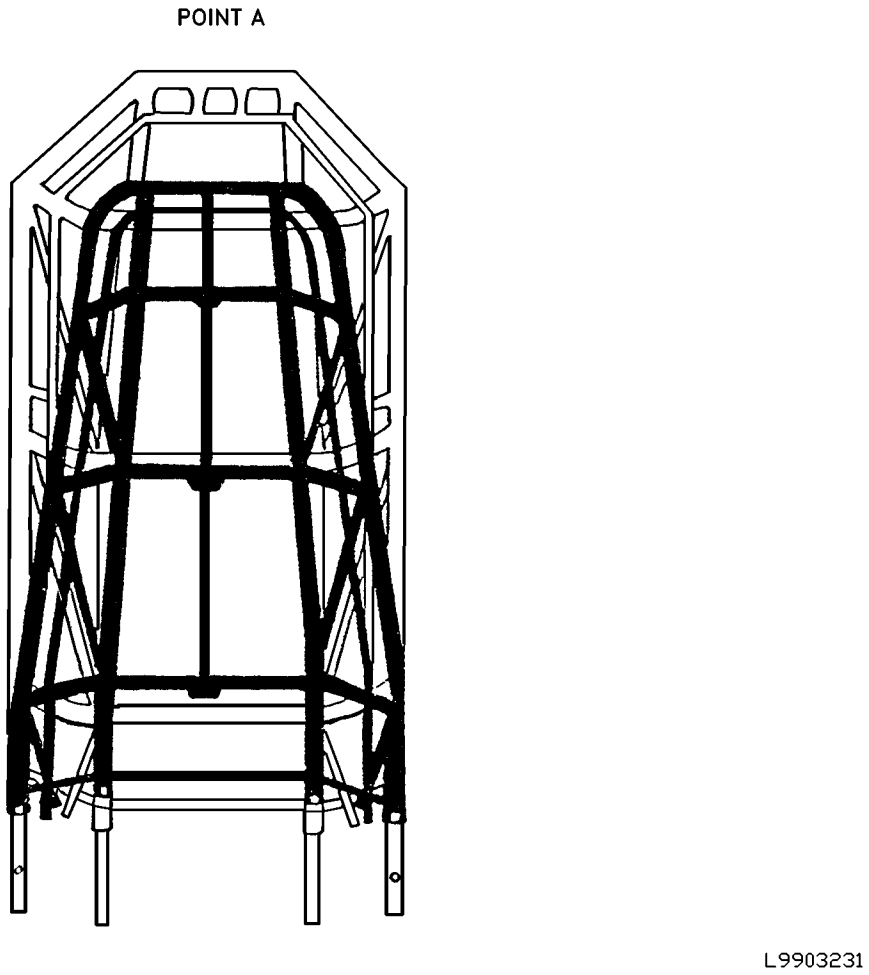


Figure 3-1. Modified Stokes Litter Nested Configuration

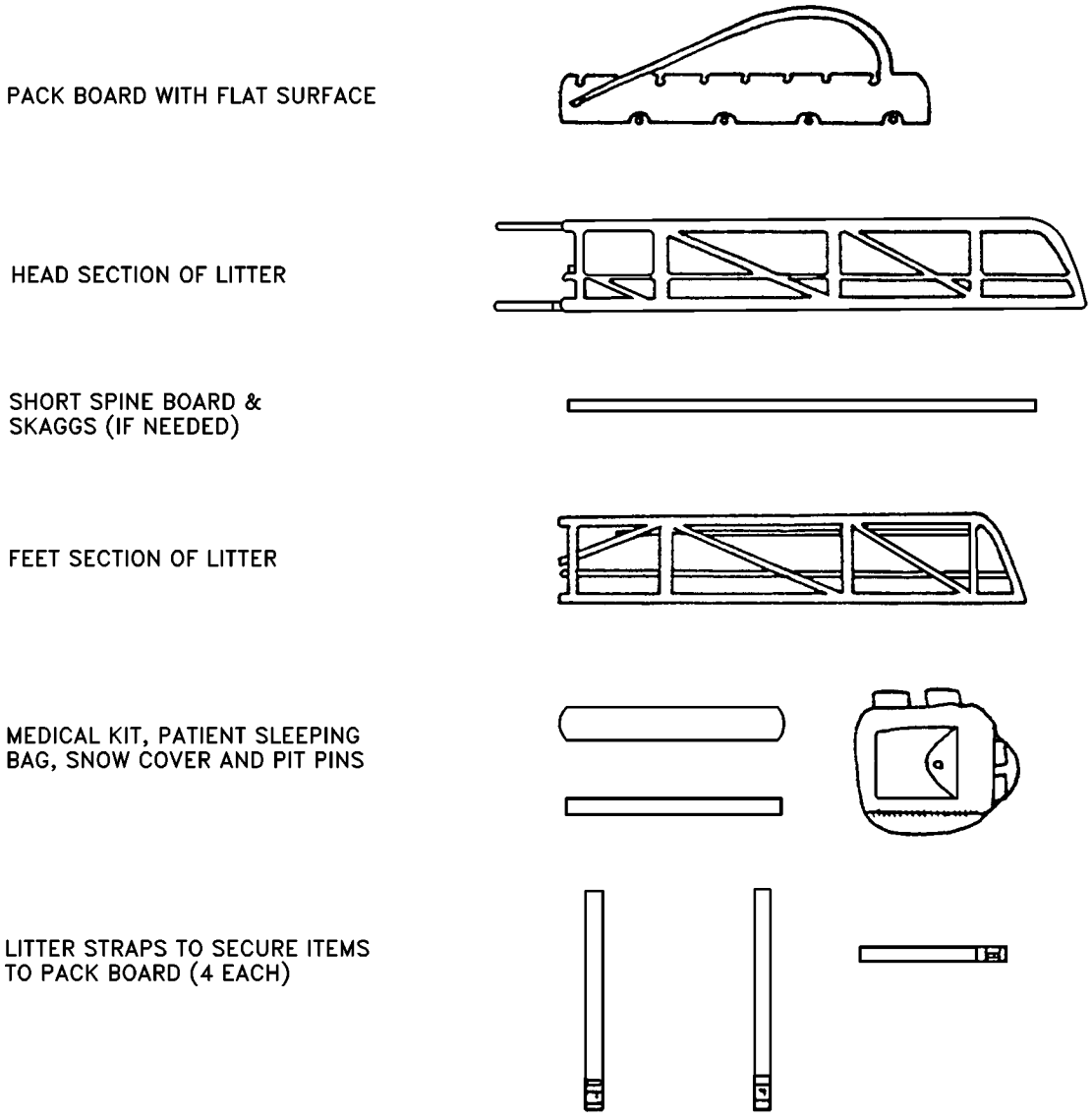


Figure 3-2. Modified Stokes Litter Over Land Travel Configuration

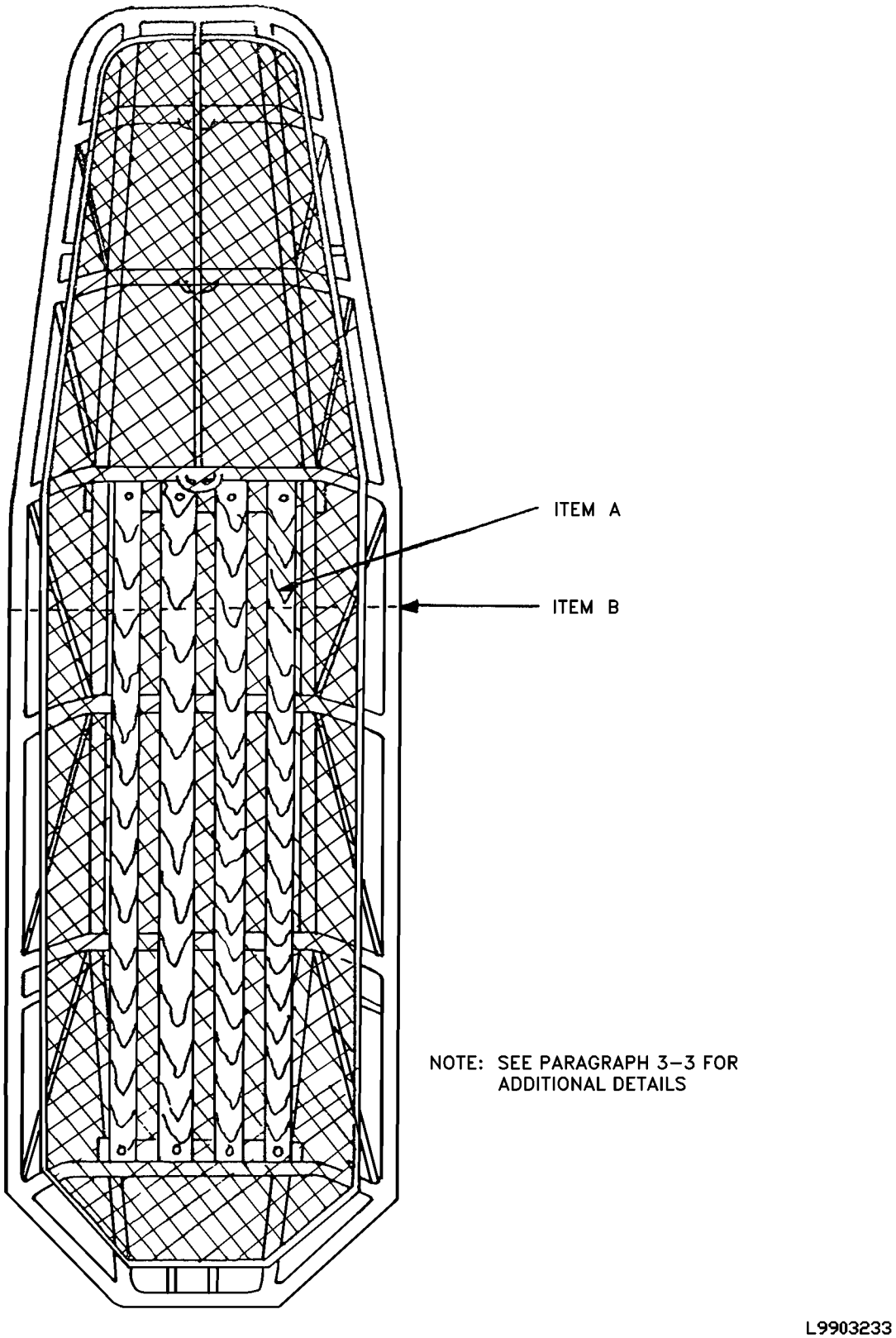


Figure 3-3. Standard Stokes Litter , (NSN 6530-00-042-8131)

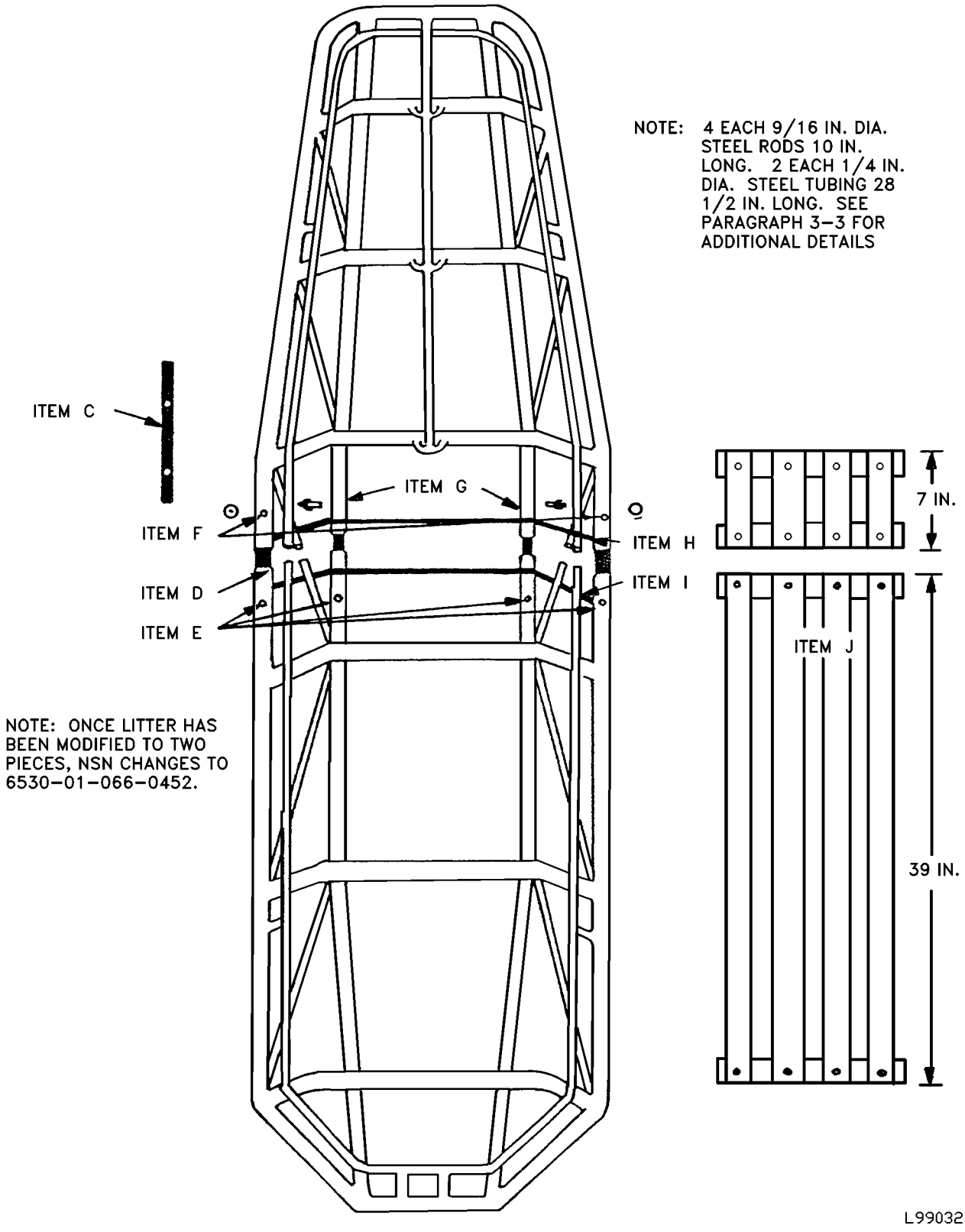


Figure 3-4. Stokes Litter Modification

SECTION IV

FABRICATION OF LITTER HOISTING CABLES

4-1. GENERAL. Present Stokes litter hoist cables have eight possible slippage points and are held together by 16 U-shaped cable clamps. The newly developed hoist cables will reduce possible slippage points to four and the number of clamps to six. Utilization of nicopress sleeves or threaded wire rope clamps is mandatory.

4-2. FABRICATION OF CABLES. Fabrica-tion of the Stokes litter hoisting cables is in accord-ance with figure 4-1. The utilization of 3/16 inch wovensteel cable is recommended due to its weight,flexibility, and capability to resist wear. A recommended source is salvaged lengths of rescue hoist cable.

4-3. CAPPING OF CABLES. All cable ends will becapped with wire rope ball ends to prevent slippage through sleeves and insure loose ends do not fray.

4-4. FABRICATION MATERIALS. Materials needed for fabrication of litter hoisting cables are listed in table 4-1.

4-5. CABLE TO LITTER ATTACHMENTS. Locking steel 'D' carabiners, rated at 4800 pounds or more, are utilized to connect the hoisting cables to the hoist hook and to the litter frame. (See figure 4-2.)

4-6. INSPECTION. Weight testing and inspec-tion will be in accordance with Chapter 2, para-graph 2-2. If hoist cable is utilized for litter hoist-ing cables, the applicable aircraft inspection and rejection criteria for the hoist cable will be utilized.

Table 4-1. Fabrication Materials

DESCRIPTION	SIZE	NSN	QUANTITY
Wire Rope Ball End	1/4 INCH	4030-00-132-9173	4
Wire Rope Ball End	3/16 INCH	4030-00-580-9041	4
Nicopress Wire Swaging Sleeve	1/4 INCH	4030-00-132-9160	6
Nicopress Wire Swaging Sleeve	3/16 INCH	4030-00-132-9162	6
Clamp, Wire Rope, Threaded	1/4 INCH	4030-00-893-7753	6
Clamp, Wire Rope, Threaded	3/16 INCH	4030-00-984-0130	6
Wire Rope Thimble	1/4 INCH	4030-00-262-1894	6
Wire Rope Thimble	3/16 INCH	4030-00-171-4912	6
Stubai Model 85 Steel 'D' Locking Carabiner	NSL	(See figure 4-2 for complete description)	5
Recommended Source:	Liberty Organization Post Office Box 306 Montrose, CA. 91020		

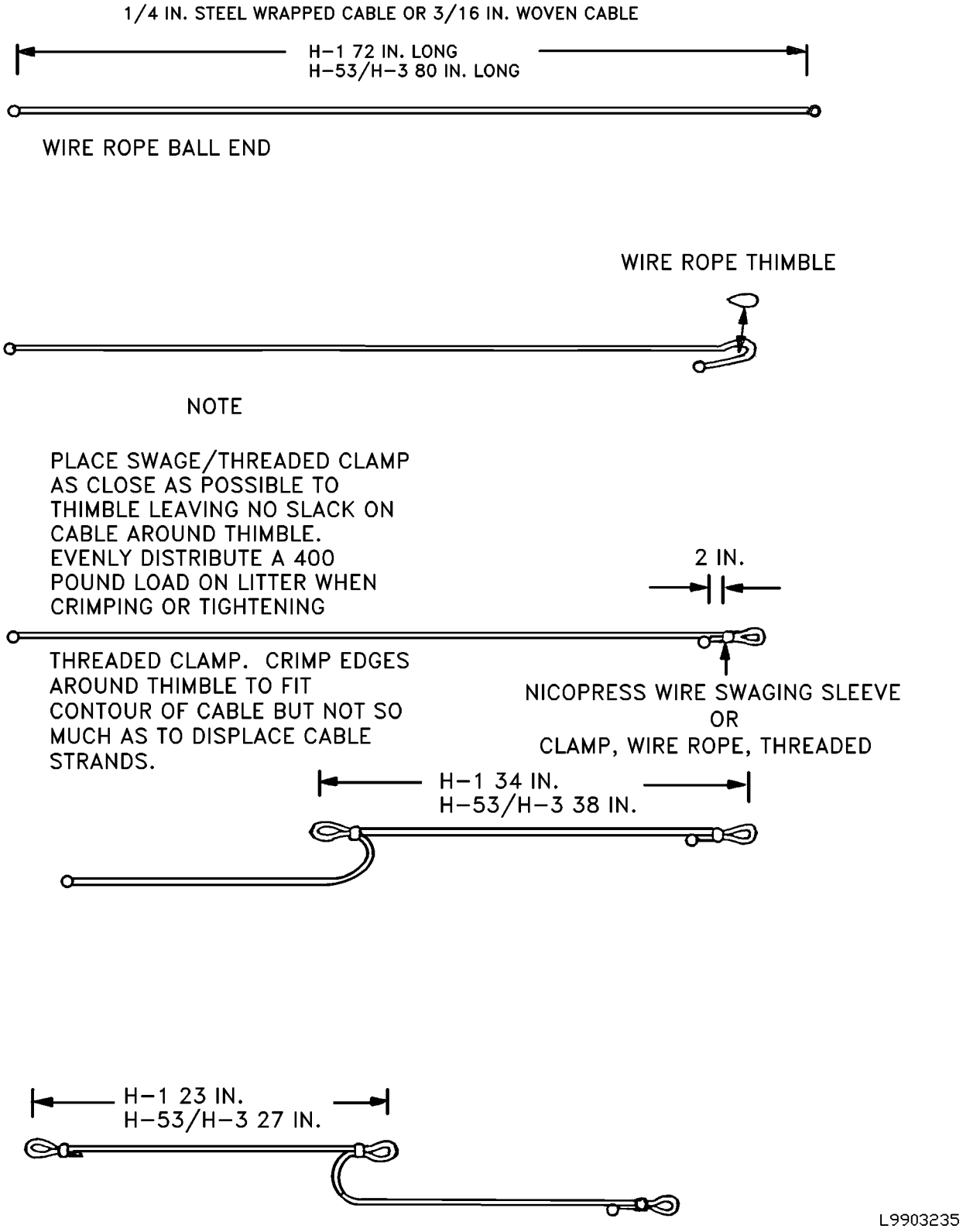


Figure 4-1. Fabrication of Litter Hoisting Cables

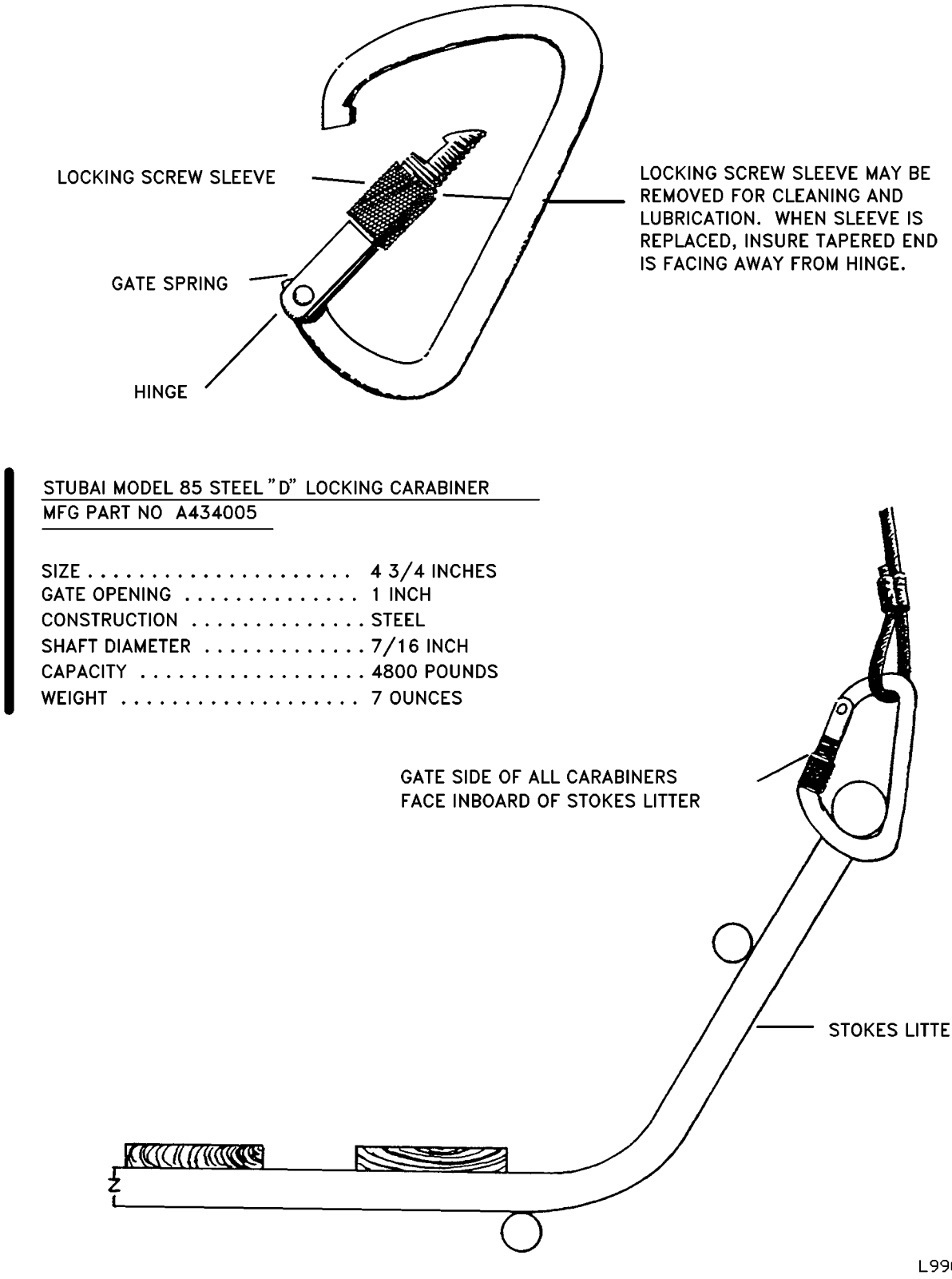


Figure 4-2. Carabiner and Positioning on Litter

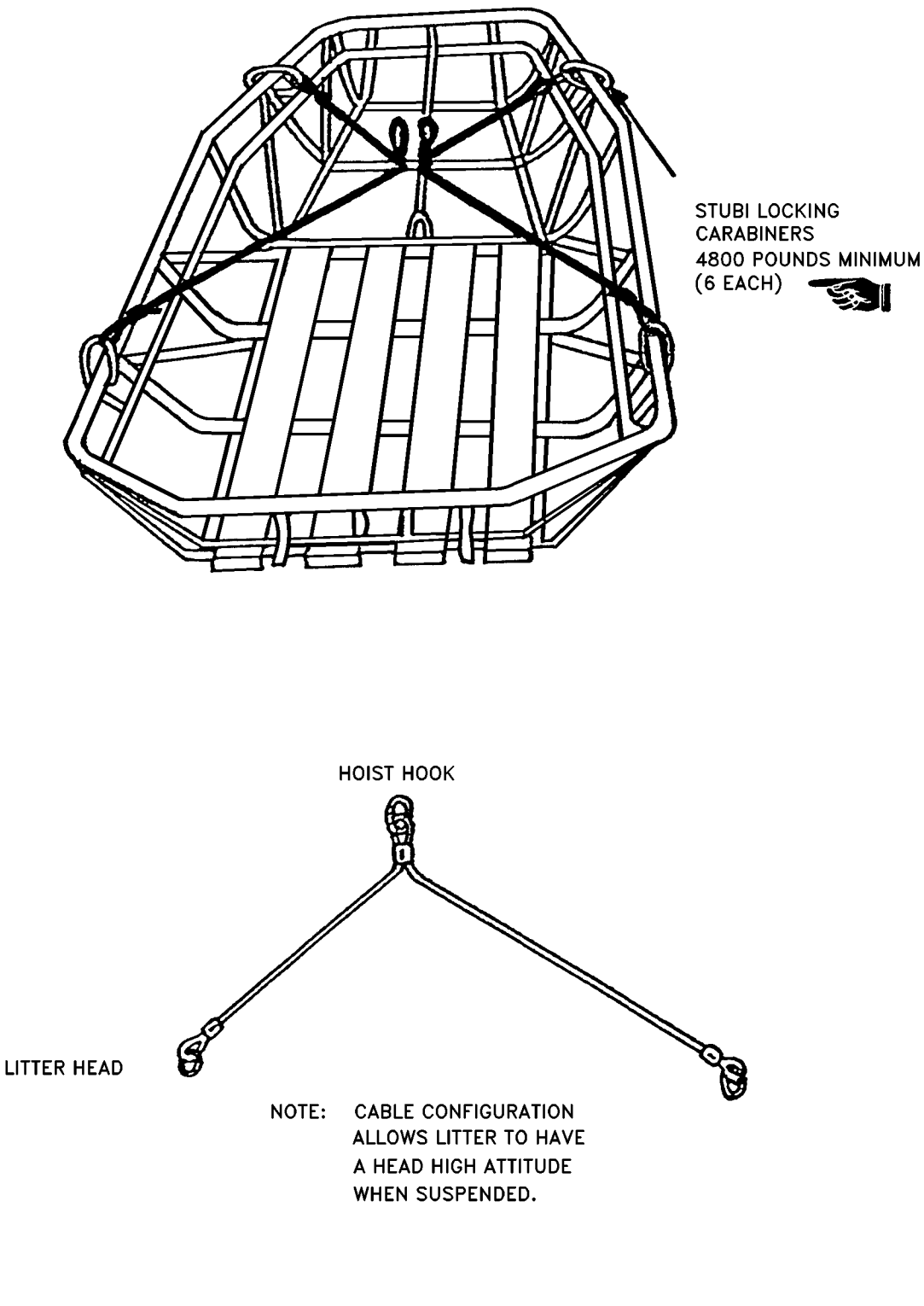


Figure 4-3. Stokes Litter Helicopter Sling Attachments

SECTION V

FABRICATION OF STOKES LITTER FLOTATION COLLAR

5-1. GENERAL. The flotation collar for the Stokes rescue litter is similar to a U.S. Coast Guard collar. It is designed to support an unconscious patient in moderate seas. The two-piece collar attaches to the litter with ties. The collar is designed for use on all ARRS helicopters. Use of the flotation collar is mandatory for all units with a water area of responsibility.

5-2. FABRICATION. To fabricate flotation collars, complete the following steps.

a. Cut one piece of nylon duck fabric 18 inches wide and 9 feet 3 inches long.

b. Cut one piece of nylon duck fabric 18 inches wide and 45 inches long.

c. Cut four circular end pieces of nylon duck fabric 8 inches in diameter. Then cut tabs (see Fig 5-2).

d. Cut twelve pieces of 9/16 inch webbing 32 inches long and heat sear ends.

NOTE

All stitching will be done with size E nylon thread. Stitch spacing will be 8 to 10 stitches per inch.

e. Sew 1/2 inch seams on long sides of sleeves and 1 1/2 inch seams on short sides.

f. Using the strap stitch pattern in Figure 5-2, sew lengths of nylon webbing onto nylon duck as indicated. in Figure 5-1 for long sleeve and Figure 5-2 for short sleeve.

g. Install snap fasteners as shown in Figures 5-1 and 5-2. Insure snaps do not interfere with ties.

h. Sew the circular end pieces to the inside of sleeve ends. Stitching will follow the tab contours. Two rows of reinforcing stitching will then be sewn through all tabs. Where sleeve sides overlap at end caps, several rows of reinforcing stitching will be sewn.

i. Cut one length of 5-inch diameter Ethafoam to 108 inches. Then measure and cut out wedges as shown in Figure 5-1.

j. Cut one length of 5-inch diameter Ethafoam to 42 inches-. Then measure and cut out wedges as shown in Figure 5-2.

k. Insert the 5-inch diameter Ethafoam into sleeves insuring that the cut out wedges are facing up and centered under snaps. Snap sleeve edges together.

5-3. INSTALLATION. Position the 108-inch flotation collar to the outside of the head end of the Stokes litter. Align the ties to the inside of the center horizontal brace and secure with ties using square knots. Repeat procedure with the 42-inch flotation collar at foot end of litter. See Figure 5-3 for additional guidance.

5-4. FABRICATION MATERIALS. Materials required for fabrication of flotation collars are listed in Table 5-1.

Fabrication Materials

Table 5-1. Fabrication Materials

Description	Size	NSN
Webbing, Nylon	9716 in.	8305-00-261-8857
Nylon Duck, Sage Green		8305-00-765-2863
Cap, Fastener Lift Dot Snap		5325-00-543-2892
Socket		5325-00-276-4946
Post		5325-00-276-4978
Stud		5325-00-838-1787
Ethafoam 220 (Flotation factor of 55 pounds per cubic foot)		non-listed
Recommended Source:	Rem Pack Foam 84-T Daton Ave, Pasaic, NJ 07055	

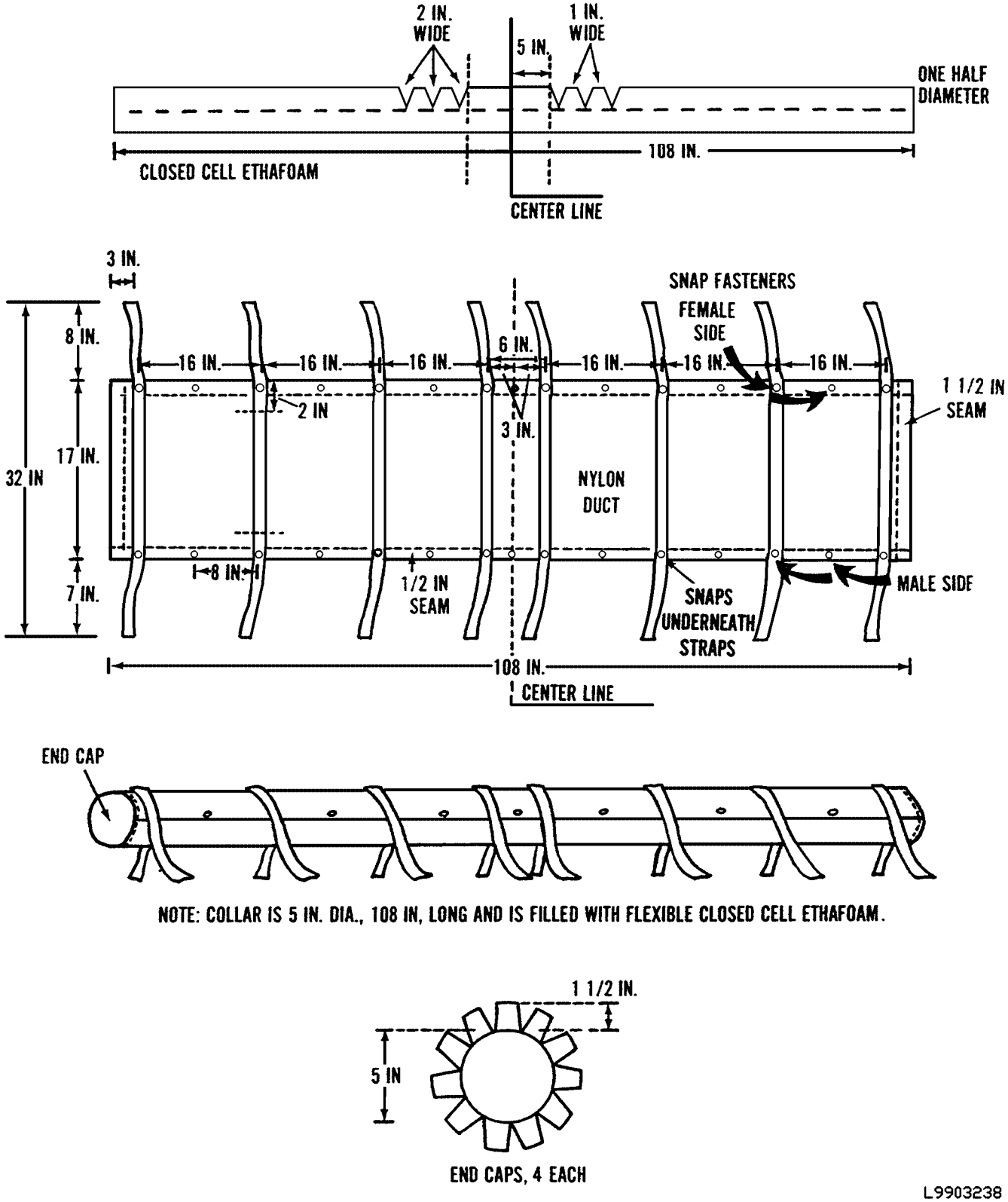


Figure 5-1. STOKES LITTER FLOTATION COLLAR

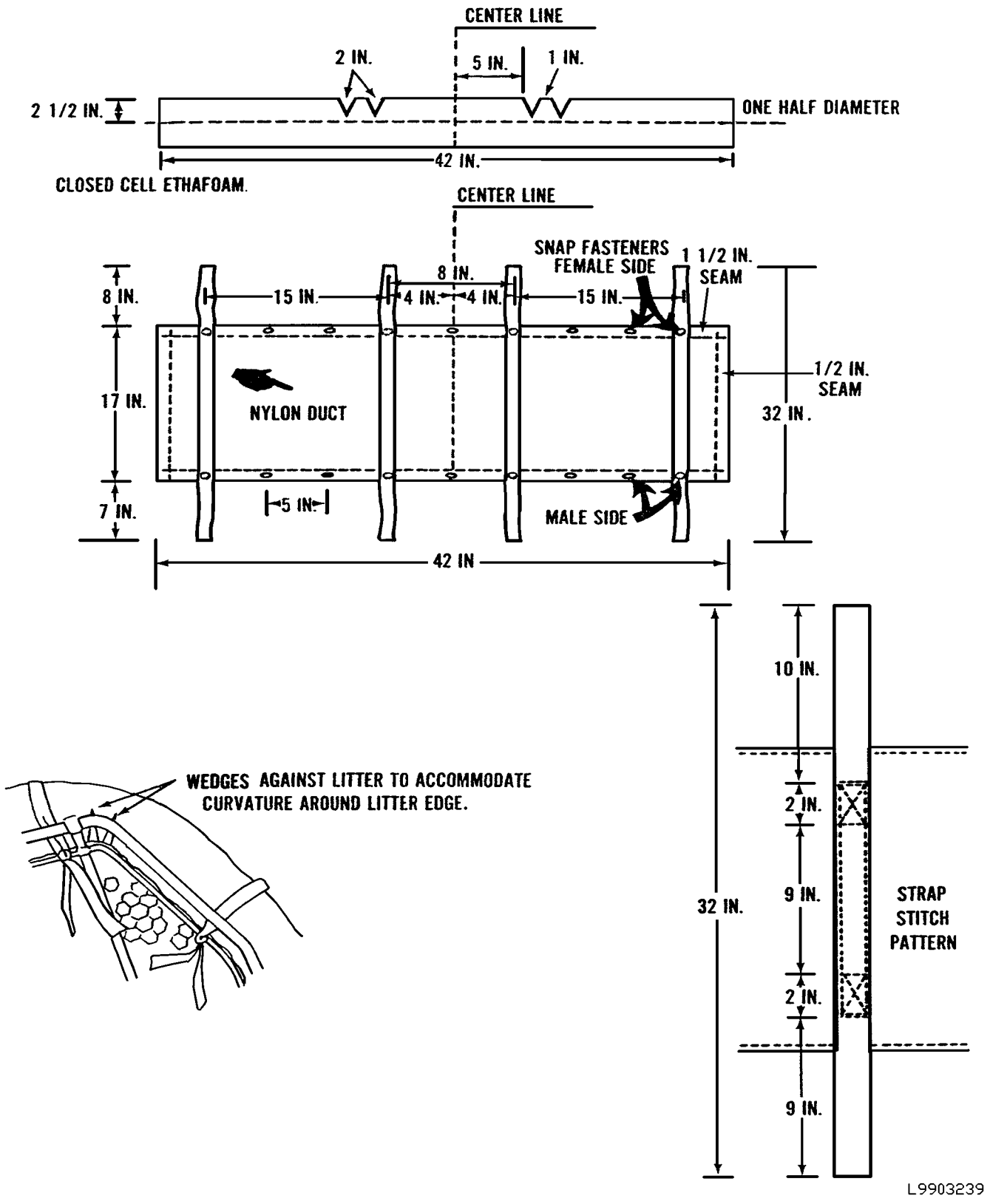


Figure 5-2. STOKES LITTER FLOTATION COLLAR

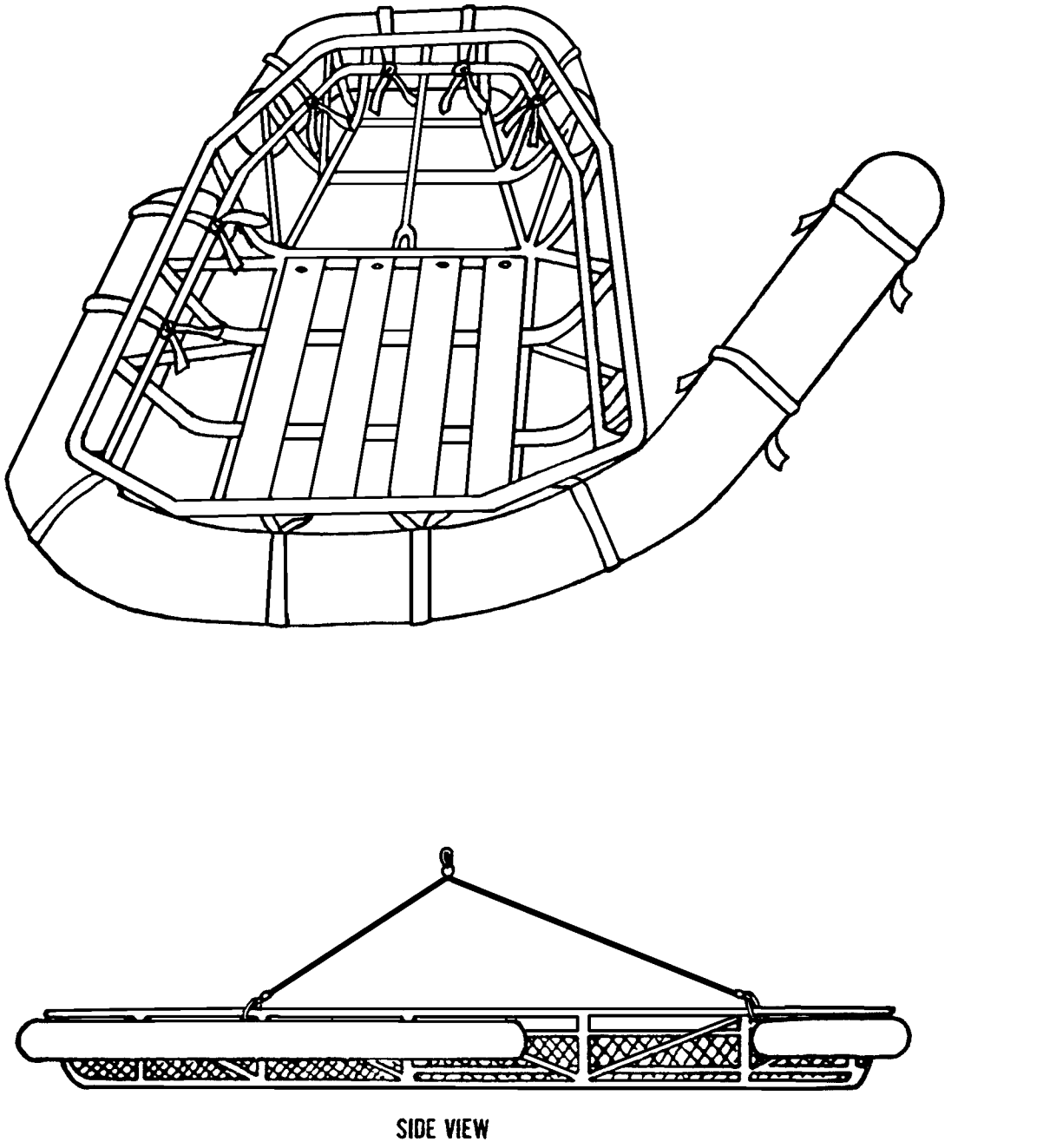


Figure 5-3. STOKES LITTER FLOTATION COLLAR

SECTION VI

FABRICATION OF SHORT SPINE BOARD

6-1. GENERAL. The short spine board is designed for use on patients with diagnosed back injuries. The short spine board allows the head, neck and spine to be immobilized, unlike the full spine board that immobilizes the entire body. The short spine board is recommended due to its compatibility with the Stokes litter and its capability for a one-person operation.

6-2. FABRICATION. The short spine board is constructed of 1/2 inch thick finished plywood coatedwith epoxy resin and refinished, painted olive drab and waxed. Construction is in accordance with figure 6-1.

6-3. TORSO STRAPS. Torso straps are utilized to secure the patient to the short spine board. Fabrication of the straps is in accordance with figure 6-2.

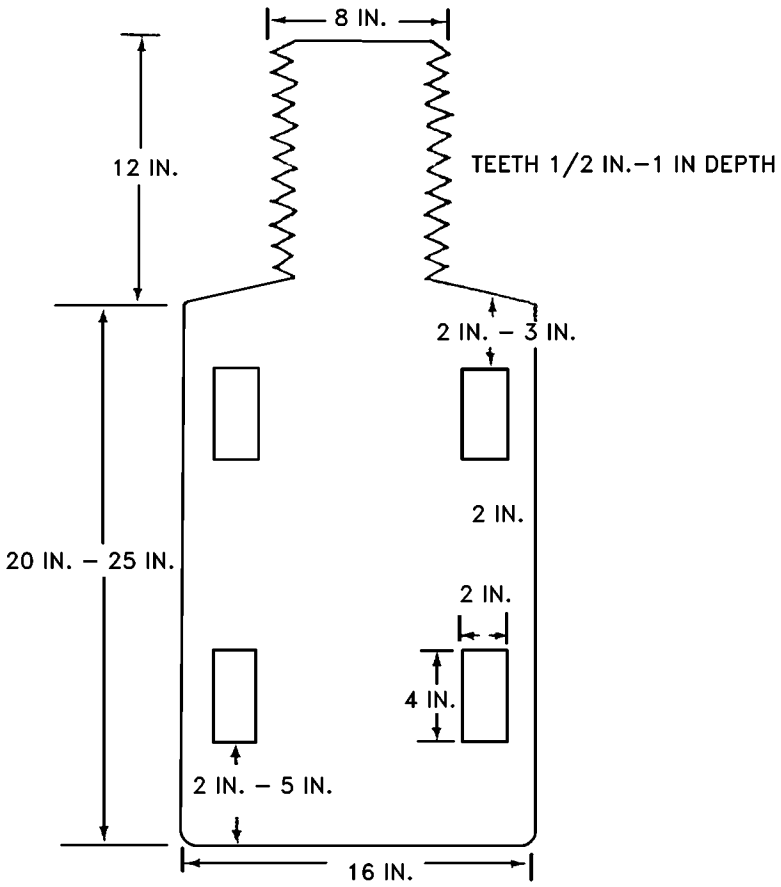


Figure 6-1. Short Spine Board

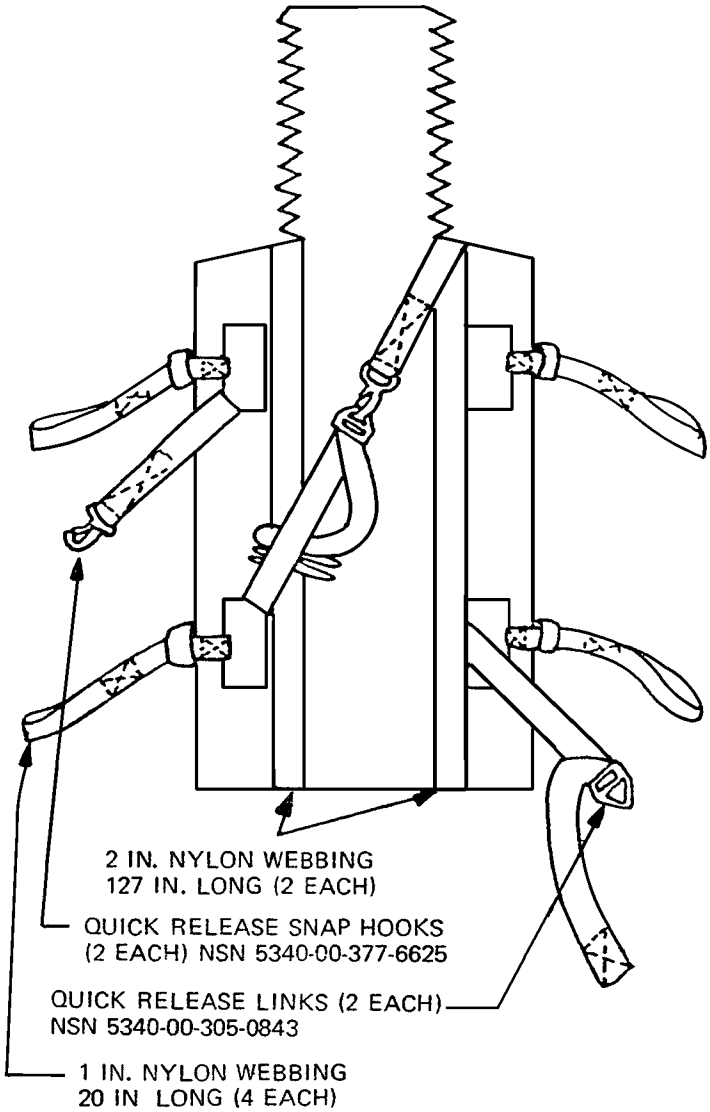


Figure 6-2. Completed Short Spine Board

SECTION VII

FABRICATION OF SNOW AND ICE ATTACHMENTS

7-1. GENERAL. Any ground movement of the Stokeslitter in snow or ice conditions in the past has been extremely tiresome, hazardous, and time consuming. In most cases rescue units purchased Akaios for such needs. The utilization of a detachable cover allows the litter to slide over snow and ice; however, movement with a patient still required two people. The addition of snow skids (skaggs)eased the friction problem enough so that one person on snowshoes or skis could pull a patient over level or descending terrain.

7-2. SNOW COVER. The snow cover allows the litter to be supported by snow and moved over it. The cover can be utilized with or without the skaggs and skagg mounts. A litter with patient can behoisted safely into any ARRS helicopter.

WARNING

Hoisting of an empty litter with snow cover installed is extremely hazardous and will not be attempted.

7-3. FABRICATION. The snow cover is fabricated in accordance with figures 7-1 and 7-2.

7-4. SNOW SKIDS (SKAGGS). To each movement of the litter with attached snow cover over snow, four pieces of 2 inch x 4 inch wood are added.Optional use of salavaged skis mounted on 3 1/2 inch posts is authorized. The wooden skaggs are epoxied, painted, and waxed. Construction of the skaggs is in accordance with figure 7-3. Construction of the skagg mounts is shown in figure 74.

7-5. INSTALLATION. Installation of the skaggs requires eight 5/16 inch diameter holes be cut in the snow cover. Installation is in accordance with figure 7-3.

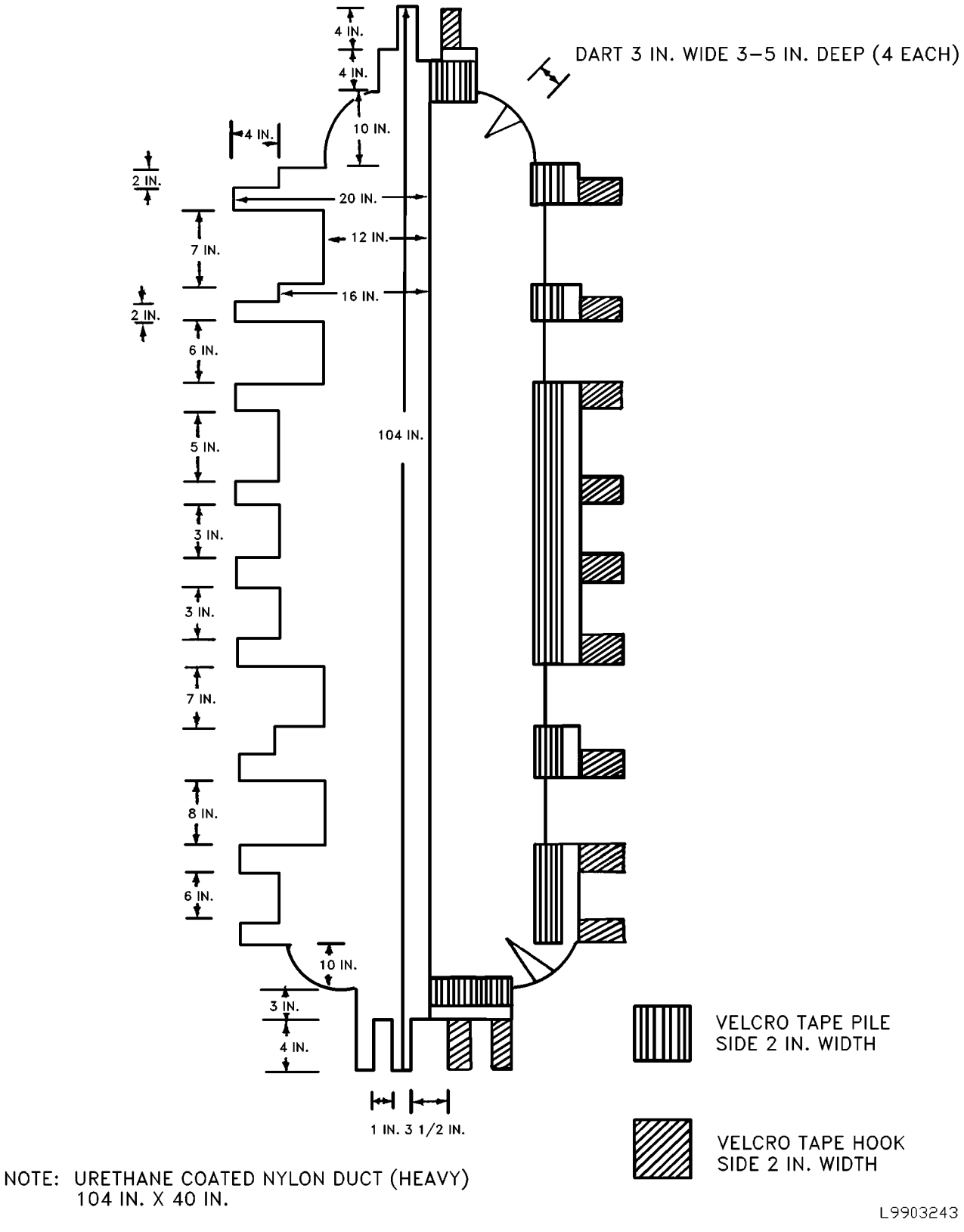


Figure 7-1. Snow Cover

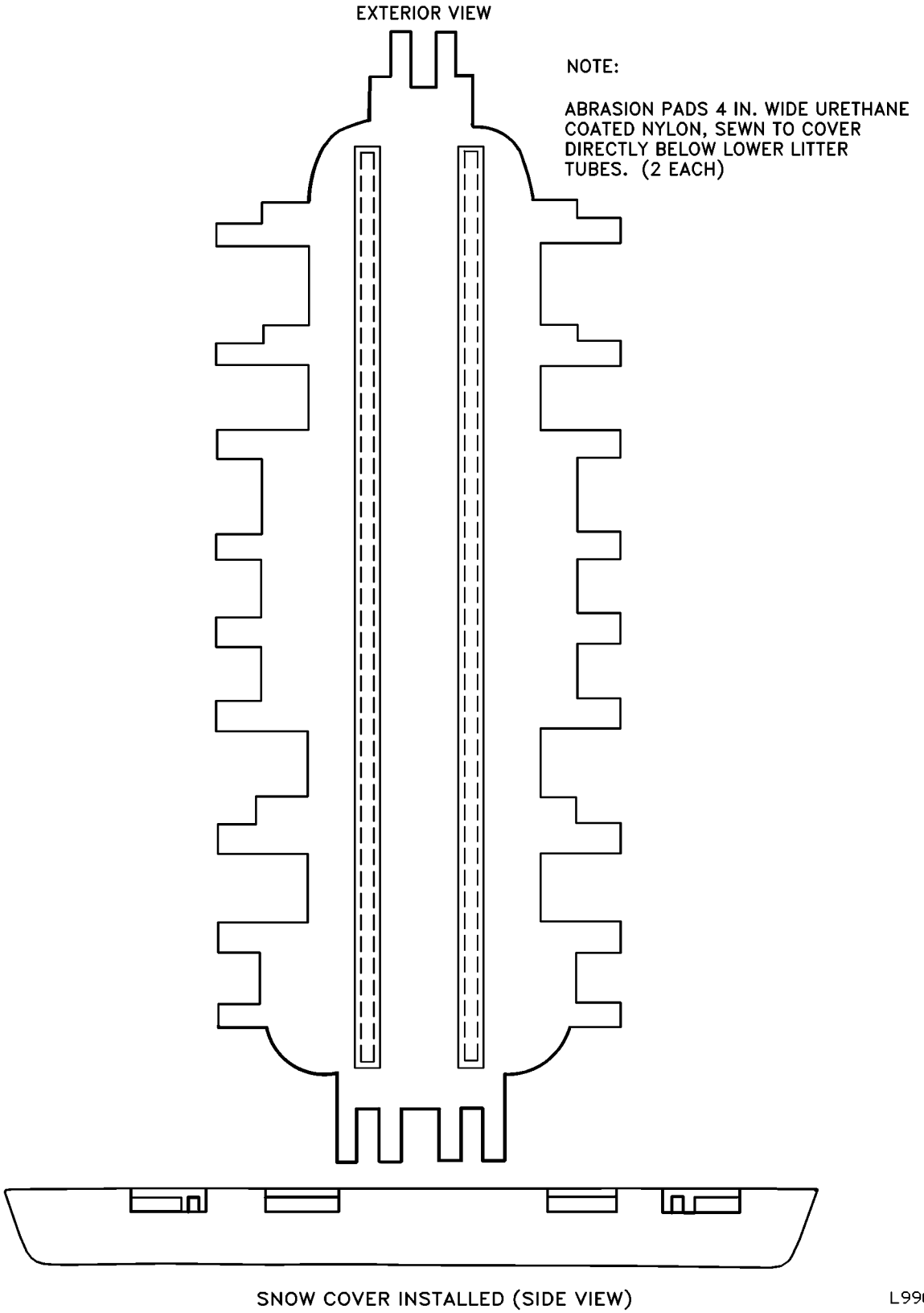
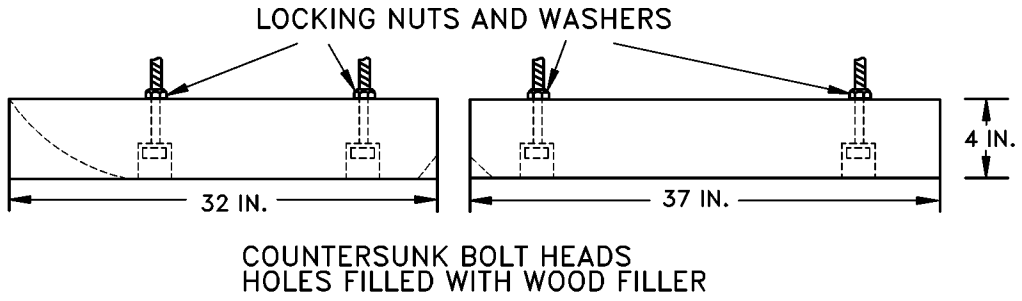


Figure 7-2. Snow Cover (Exterior and Side Views)



NOTE: 4 LENGTHS OF 2 IN. X 4 IN. WOOD, TWO 32 IN. LONG, TWO 37 IN. LONG. INSURE THE 1/4 IN. BOLTS DO NOT PROTRUDE FAR ENOUGH INTO THE LITTER TO INJURE A PATIENT.

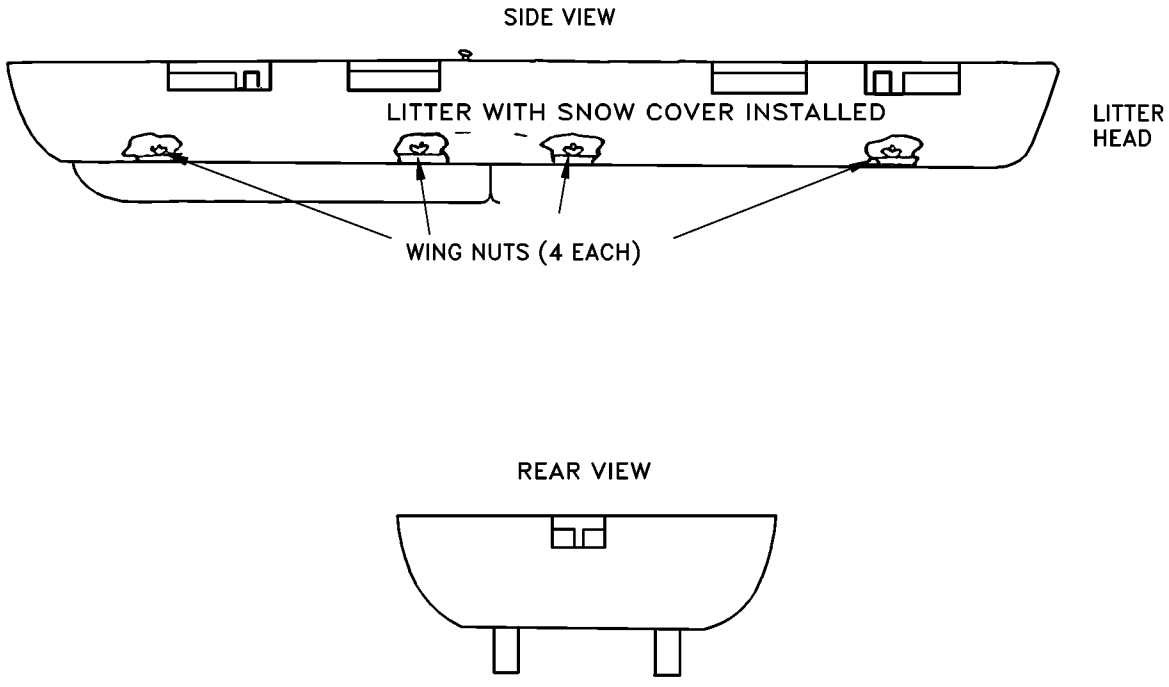


Figure 7-3. Modified Stokes Litter Snow Skids (Skaggs)

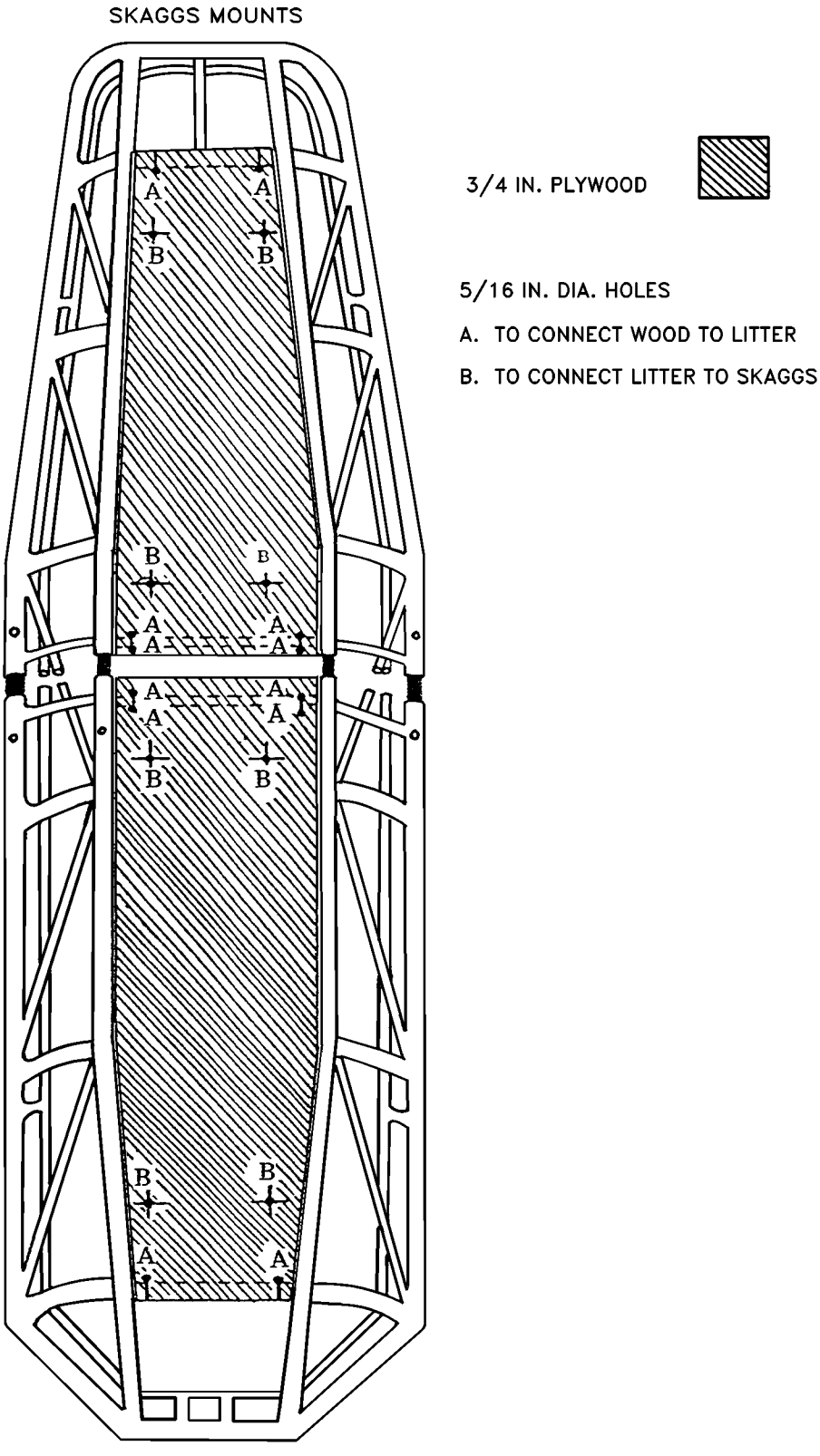


Figure 7-4. Modified Stokes Litter Skaggs Mount

SECTION VIII

MODIFICATION OF EXISTING SLEEPING BAGS FOR PATIENT USE

8-1. GENERAL. Present sleeping bags do not permit examination or treatment of a patient with exposure of that patient to the elements. Two sleeping bags, the mummy bag, and the SRU-15/P, NSN 8465-00-479-1792, offer the most protection for the least price. Patients in these modified bags can be examined, treated, and given IVs without hazardous exposure.

8-2. MODIFICATION. Sew the sleeping bags in the approximate location shown in figure 8-1. Cut between the sewn lines. Sew a 1 inch wide strip of pile velcro to the entire outer section of the cut in the sleeping bag. Sew 1 inch wide hook velcro to the inner or flap section of the bag.

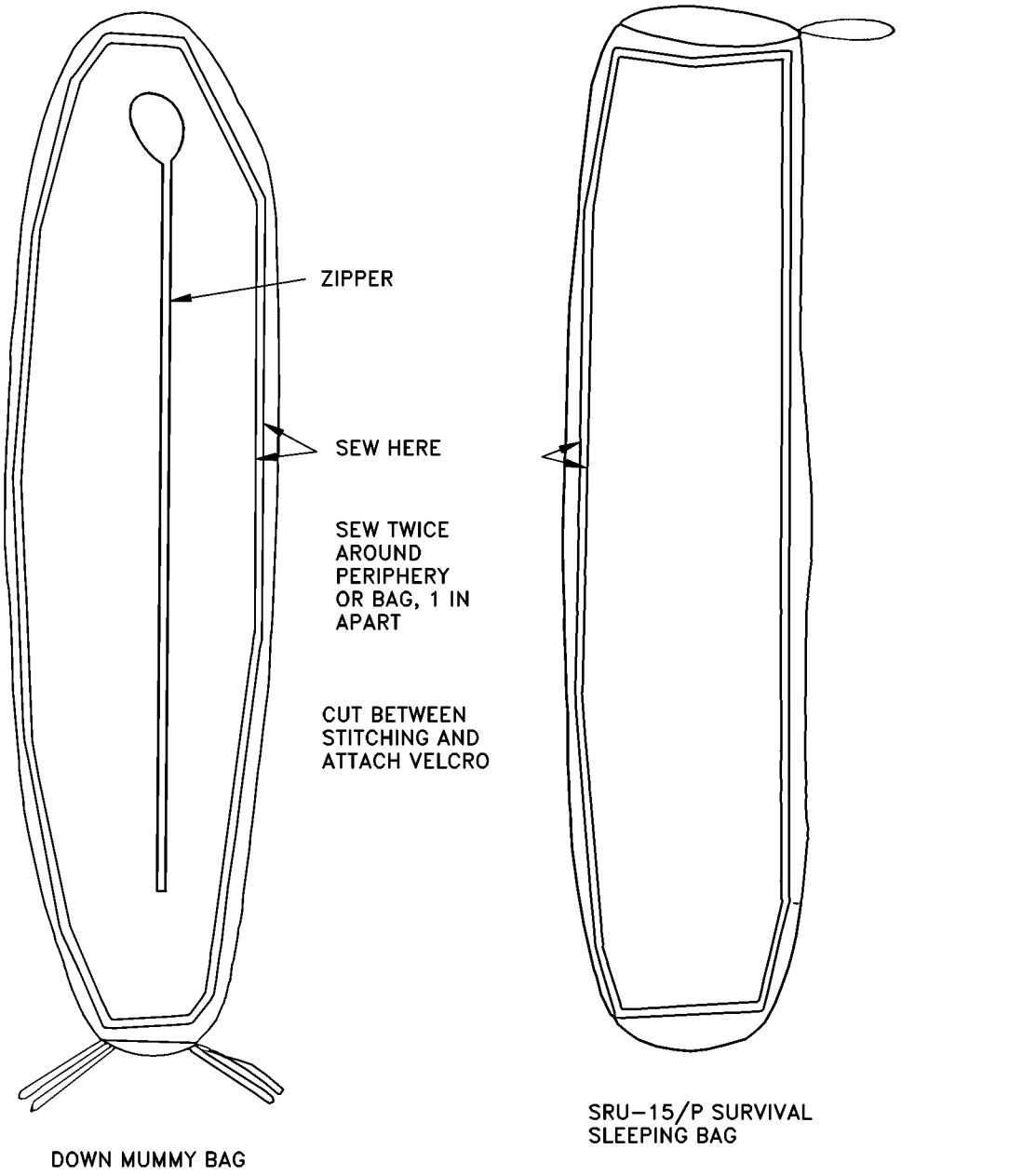


Figure 8-1. Modification of Existing Sleeping Bags for Patient Use