

CHAPTER 13 FABRICATING AIR FORCE AIRDROP EQUIPMENT

Section I

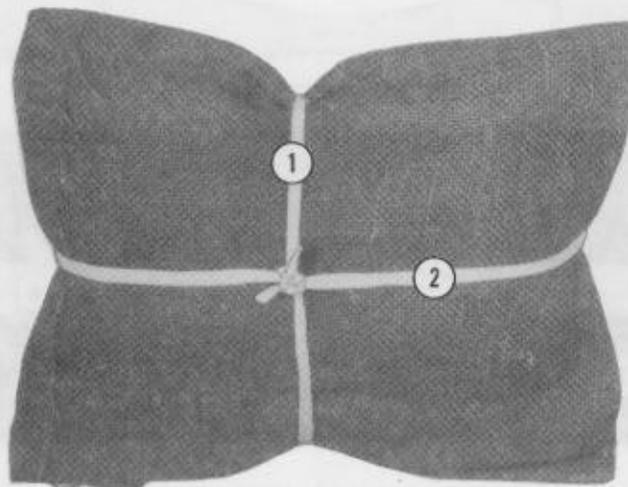
AIR FORCE UNILATERAL TRAINING

13-1. Description of SATB

This chapter tells and shows how to make an SATB for use in unilateral training by the Air Force. The SATB is used to simulate personnel, heavy equipment, and container airdrops from a C-130 or C-141 aircraft. It consists of a sandbag filled with 13 1/2 pounds of sand or gravel and a locally made canvas bag. A 15-foot cargo extraction parachute deployment bag may be substituted for the canvas bag.

13-2. Preparing Sandbag

Fill a sandbag with 13 1/2 pounds of sand or gravel. Wrap the excess portion of the bag around the filled portion to make a compact unit. Secure the bag as shown in Figure 13-1.



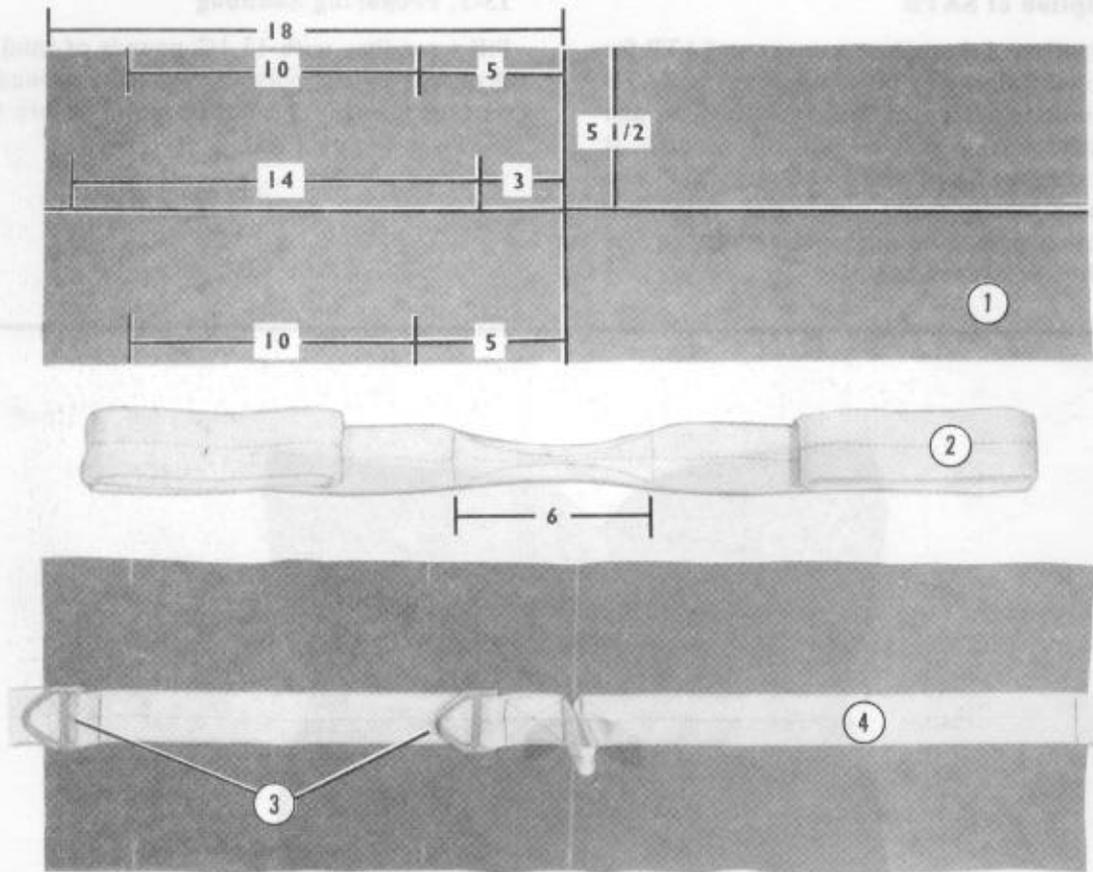
- ① Pass a length of type I, 1/4-inch cotton webbing around two sides of the bag. Pull the webbing tight, and tie the ends of the webbing together with a surgeon's knot and a locking knot.
- ② Pass a length of type I, 1/4-inch cotton webbing around the opposite sides of the bag. Pull the webbing tight, and tie the ends of the webbing together with a surgeon's knot and a locking knot.

Figure 13-1. Sandbag secured

13-3. Fabricating SATB

Make a canvas bag as shown in Figure 13-2. Sew the sandbag inside the canvas bag according to instructions in Figure 13-2.

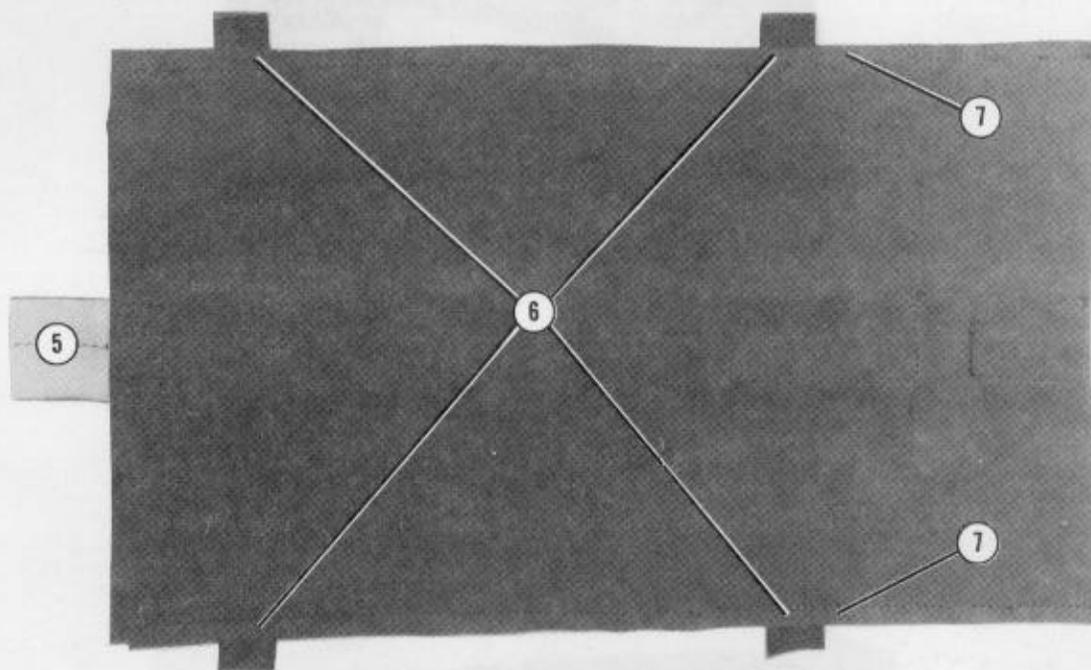
- Notes:**
1. All dimensions are given in inches.
 2. Stitches should be sewn with size FF, olive drab nylon thread.



Note: The canvas (duck cloth) may be painted orange or yellow for easy identification.

- ① Make a main body strap from a 56-inch length of type VIII nylon webbing. Mark the webbing at points 25 inches from each end. Form a pendulum line attaching loop by rolling the edges between the marks and sewing the rolls in place with a lockstitch.
- ② Lay out an 11- by 36-inch piece of canvas, and mark it as shown.
- ③ Sew two V-rings to the canvas with a box stitch or a single X-box stitch as shown.
- ④ Sew the edges of the main body strap to the canvas as shown.

Figure 13-2. SATB fabricated



- ⑤ Fold the canvas in half lengthwise with the main body strap on the inside.
- ⑥ Make tie tabs by cutting four 4-inch lengths of type IV, 1-inch nylon webbing. Fold the webbing in half lengthwise, and mark each piece 1 inch from the folded end.
- ⑦ Start sewing the two long outside seams with a double row of locking stitches. Sew the tie tabs to the canvas by inserting the folded end of the tie tabs inward on the 10-inch marks (step 2).

Figure 13-2. SATB fabricated (continued)

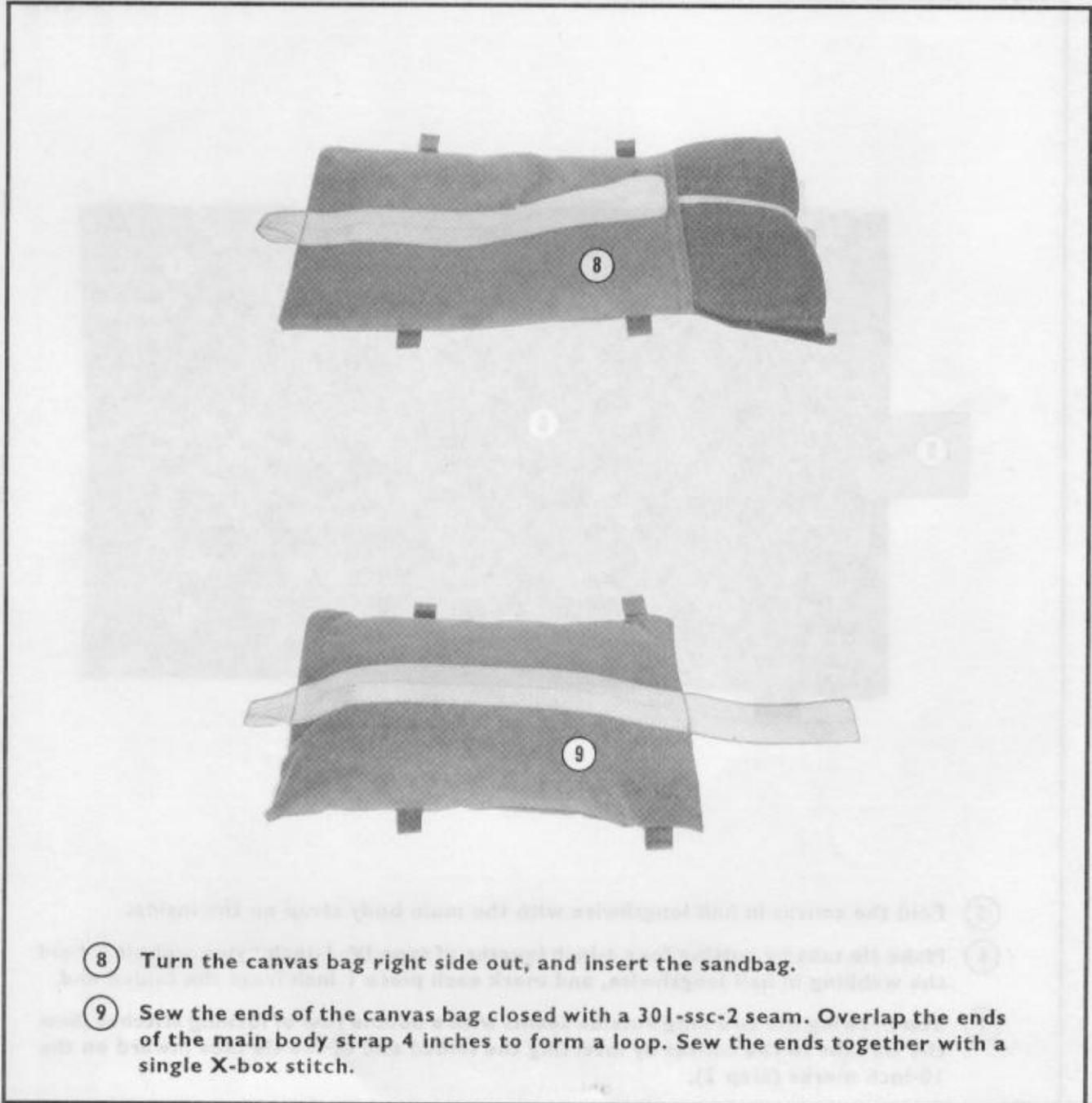


Figure 13-2. SATB fabricated (continued)

13-4. Attaching Pendulum Line

Attach an 85-inch, type IV coreless nylon cord pendulum line to the pendulum line attaching loop of the SATB as shown in Figure 13-3.

NOTE: When the load is dropped from a C-130 aircraft, a 40-inch pendulum line may be used.

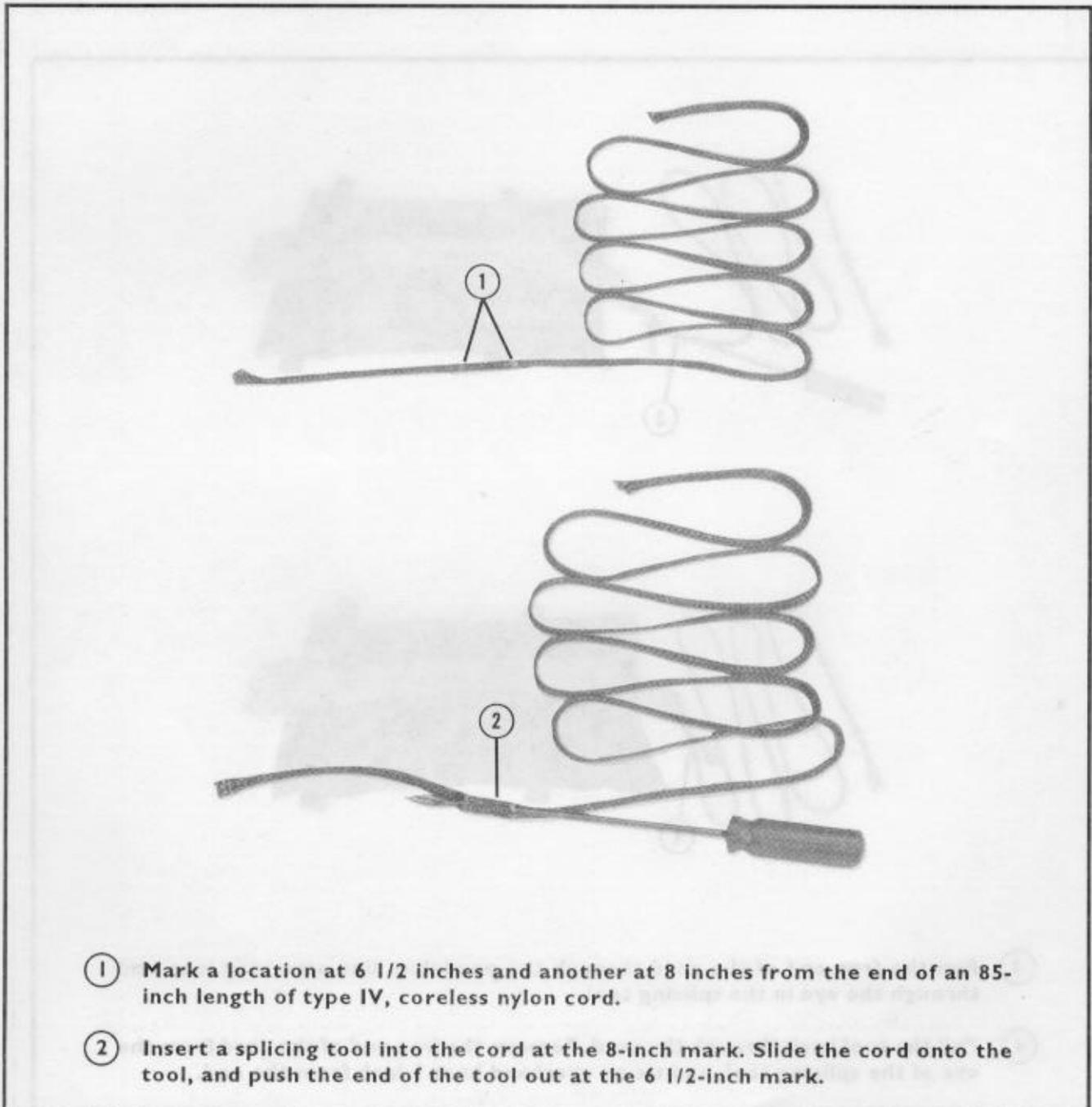
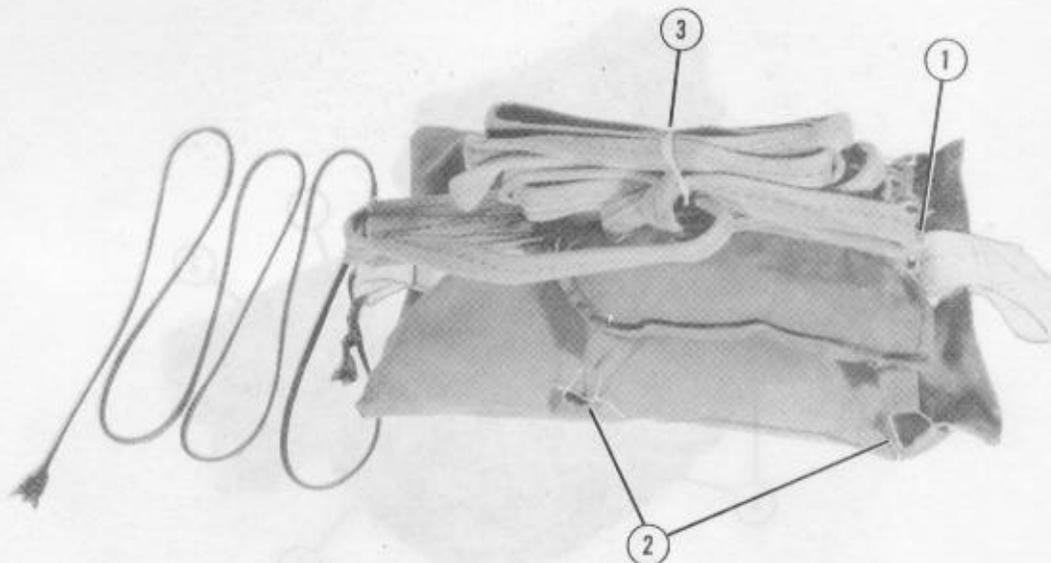


Figure 13-3. Pendulum attached to SATB

13-5. Packing and Installing Pilot Parachute

Pack a 68-inch pilot parachute as outlined in TM 10-1670-281-23&P/TO 13C5-32-2, but make the apex and bag-closing ties with single lengths of ticket number 8/4 cotton thread. Install the pilot parachute on the SATB as shown in Figure 13-4.



- ① Attach the pilot parachute deployment line to the deployment line attaching loop of the SATB with a connector link.
- ② Tie the pilot parachute to the SATB with single ties of ticket number 8/4 cotton thread.
- ③ Fold the static line, and secure the folds with a retainer band.

Figure 13-4. Pilot parachute installed on SATB

13-6. Attaching Marker Light

For night operations, tie a distress marker light or chemical light to a tie tab with a double length of type I, 1/4-inch cotton webbing.

13-7. Using Extraction Parachute Deployment Bag

If a 15-foot cargo extraction parachute deployment bag is substituted for the canvas bag used to enclose the sandbag, prepare the SATB as described below.

a. Place the filled sandbag in the deployment bag, and tie the deployment bag closed.

b. Safety a 68-inch pilot parachute to the deployment bag as shown in Figure 13-5.

13-8. Equipment Required

Use the equipment listed in Table 13-1 to rig the SATB.



- ① Tie the deployment bag closed with ties of type III nylon cord.
- ② Attach the pilot parachute deployment line to both closing loops on the grommet side with the deployment line connector link.
- ③ Tie the pilot parachute bag closed with a single length of ticket number 8/4 cotton thread.
- ④ Tie the pilot parachute bag to the extraction parachute deployment bag with four ties. Make each tie using a single length of ticket number 8/4 cotton thread.

Figure 13-5. Pilot parachute tied to deployment bag

Table 13-1. Equipment required for rigging an SATB

| National Stock Number | Item | Quantity |
|-----------------------|---|-------------|
| 1670-00-815-2727 | Bag, deployment, 15-ft, cargo parachute | 1 |
| 1670-00-568-0323 | Band, rubber, retainer | 1 |
| 8305-00-242-3593 | Cloth, cotton duck, 60-in | As required |
| | Cord, nylon: | |
| 4020-00-262-2020 | Braided, type IV | As required |
| 4020-00-240-2146 | Type III, 550-lb | As required |
| 1670-00-217-2421 | Link assembly, L-bar type | 1 |
| 1670-00-216-7297 | Parachute, pilot, 68-in diam | 1 |
| 8105-00-285-4744 | Sandbag | 1 |
| 8310-00-102-4477 | Thread, cotton, ticket number 8/4 | As required |
| 1670-00-360-0471 | V-ring | 2 |
| | Webbing: | |
| 8305-00-268-2411 | Cotton, 1/4-in, type I | As required |
| | Nylon: | |
| 8305-00-268-2455 | Tubular, 1-in | As required |
| 8305-00-263-3591 | Type VIII | As required |

Section II

FABRICATION OF C-130 CDS PULLEY STRAP

13-9. Description of C-130 CDS Pulley Strap

This section tells and shows how to make a 1-inch tubular nylon webbing CDS pulley strap for use in C-130 aircraft. CDS pulley straps are used to suspend a pulley overhead in the aircraft to release the gate.

13-10. Preparing C-130 CDS Pulley Strap

Prepare a 1-inch tubular nylon webbing CDS pulley strap, in lengths as specified in TO 1C-130A9, as shown in Figure 13-6.

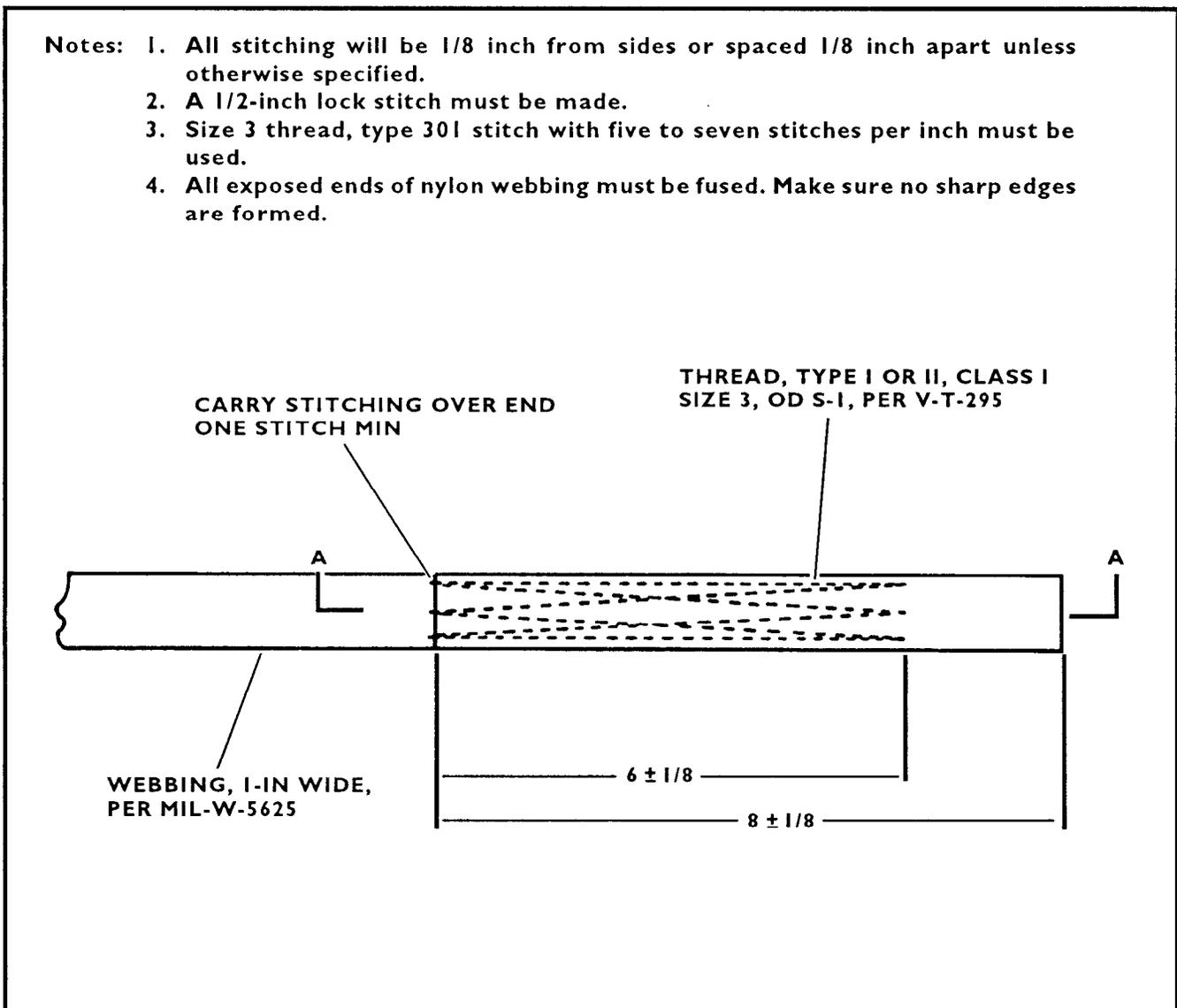


Figure 13-6. C-130 CDS pulley strap prepared

GLOSSARY

| | | | |
|--------|--------------------------------------|--------|---|
| AFB | Air Force base | ft | foot/feet |
| AFJMAN | Air Force joint manual | gal | gallon |
| AFR | Air Force regulation | GLLD | ground laser location designator |
| AFTO | Air Force technical order | HAARS | high-altitude airdrop resupply system |
| AMC | Air Mobility Command | HQ | headquarters |
| AR | Army regulation | in | inch |
| ATCF | air traffic control facility | lb | pound |
| attn | attention | MCRP | Marine Corps reference publication |
| CDS | container delivery system | no | number |
| CVRS | centerline vertical restraint system | POP | performance-oriented packaging |
| d | penny | SATB | standard airdrop training bundle |
| DA | Department of the Army | TM | technical manual |
| DD | Department of Defense | TO | technical order |
| diam | diameter | TRADOC | United States Army Training and Doctrine Command |
| FM | field manual | US | United States |
| FMFM | fleet Marine force manual | w | with |

REFERENCES

These documents must be available to the intended users of this publication.

AFR 55-40/AR 59-4. Joint Airdrop Inspection Records, Malfunction Investigations, and Activity Reporting. 27 November 1984.

*AFJMAN 24-204/TM 38-250. Preparing Hazardous Materials for Military Air Shipments. 25 November 1994.

FM 10-500-2/TO 13C7-1-5. Airdrop of Supplies and Equipment: Rigging Airdrop Platforms. 1 November 1990.

FM 10-516/TO 13C7-1-13. Airdrop of Supplies and Equipment: Reference Data for Airdrop Platform Loads. 31 October 1983.

FM 10-538/TO 13C7-1-18. Airdrop of Supplies and Equipment: Rigging Naval Emergency Air Cargo Delivery System (NEACDS). 6 August 1982.

FM 10-550/TO 13C7-22-71. Airdrop of Supplies and Equipment: Rigging Stinger Weapon Systems and Missiles. 29 May 1984.

**FM 10-500-53/TO 13C7-18-41/MCRP 4-3.8. Airdrop of Supplies and Equipment: Rigging Ammunition. 1 March 1996.

***FM 10-500-9. Tactics, Techniques, and Procedures for Quartermaster Airdrop and Airdrop Support Units. 3 October 1995.

TM 10-1670-201-23/TO 13C-1-41. Organizational and Direct Support Maintenance for General Maintenance of Parachutes and Other Airdrop Equipment. 30 Oct 73.

TM 10-1670-265-12&P/TO 13C7-1-21. Operator's and Organizational Maintenance Manual Including Repair Parts and Special Tools for High Altitude Airdrop Resupply System: 2,200 Pound Capacity. 28 October 1982.

TM 10-1670-266-13&P. Operator's, Organizational and Direct Support Maintenance Manual Including Repair Parts and Special Tools List for Altitude Sensor Parachute Staging Unit (ASPSU) Test Set, FLT 4240. 30 January 1984.

TM 10-1670-267-12&P/TO 13C7-1-101. Operator's and Organizational Maintenance Manual Including Repair Parts and Special Tools List for High Altitude Airdrop Resupply System: 500 Pound Capacity. 29 August 1984.

*AFJMAN 24-204/TM 38-250 has superseded AFR 71-4/TM 38-250 (15 January 1988). Change 1 reflects this change. The basic manual still references the superseded publication. You may wish to make pen and ink changes to update the old reference citations accordingly.

**FM 10-500-53/TO 13C7-18-41/MCRP 4-3.8 has superseded FM 10-553/TO 13C7-18-41 (4 December 1981). Change 1 reflects this change. The basic manual still references the superseded publication. You may wish to make pen and ink changes to update the old reference citation accordingly.

***FM 10-500-9 has superseded TM 10-500-9/TO 13C7-1-9 (25 March 1966). Change 1 reflects this change. The basic manual still references the superseded publication. You may wish to make pen and ink changes to update the old reference citations accordingly.

TM 10-1670-275-23&P/TO 13C5-25-2. Unit and Intermediate Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Cargo Type: 12-Foot Diameter, High-Velocity Cargo Parachute. 17 March 1989.

TM 10-1670-276-23&P/TO 13C5-29-2. Unit and Intermediate Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Cargo Type: 26-Foot Diameter, High-Velocity Cargo Parachute. 28 September 1990.

TM 10-1670-278-23&P/TO 13C5-26-2. Unit and Intermediate Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Cargo Type: 15-Foot Diameter, Cargo Extraction Parachute. 6 November 1989.

TM 10-1670-279-23&P/TO 13C5-27-2. Unit and Intermediate Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Cargo Type: 22-Foot Diameter, Cargo Extraction Parachute. 30 August 1989.

TM 10-1670-281-23&P/TO 13C5-32-2. Unit and Intermediate Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Cargo Type: 64-Foot Diameter, Model G-12D and Model G-12E. 12 October 1990.

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TM 55-1520-210-10. Operator's Manual for UH-1H/V Helicopters. 15 February 1988.

TM 55-1520-237-10. Operator's Manual for UH-60A and EH-60A Helicopters. 8 January 1988.

TM 55-1520-240-10. Operator's Manual for CH-47D Helicopter. 10 November 1982.

TO 1C-130A9. The Cargo Loading Manual. 16 June 1980.

AFTO Form 22. Technical Order Publications Improvement Report. April 1973.

DA Form 2028. Recommended Changes to Publications and Blank Forms. February 1974.

**Shipper's Declaration for Dangerous Goods. Locally Procured Form.

***DD Form 1748-1. Joint Airdrop Inspection Record (Container). January 1995.

*TM 10-1670-298-20&P has superseded TM 10-1670-240-20/TO 13C7-49-11 (April 1970). Change 1 reflects this change. The basic manual still references the superseded publication. You may wish to make pen and ink changes to update the old reference citation accordingly.

**Shipper's Declaration for Dangerous Goods has superseded DD Form 1387-2 (February 1982). Change 1 reflects this change. The basic manual still references the superseded publication. You may wish to make pen and ink changes to update the old reference citations accordingly.

***DD Form 1748-1 has superseded DD Form 1748-4 (January 1984). Change 1 reflects this change. The basic manual still references the superseded publication. You may wish to make pen and ink changes to update the old reference citations accordingly.