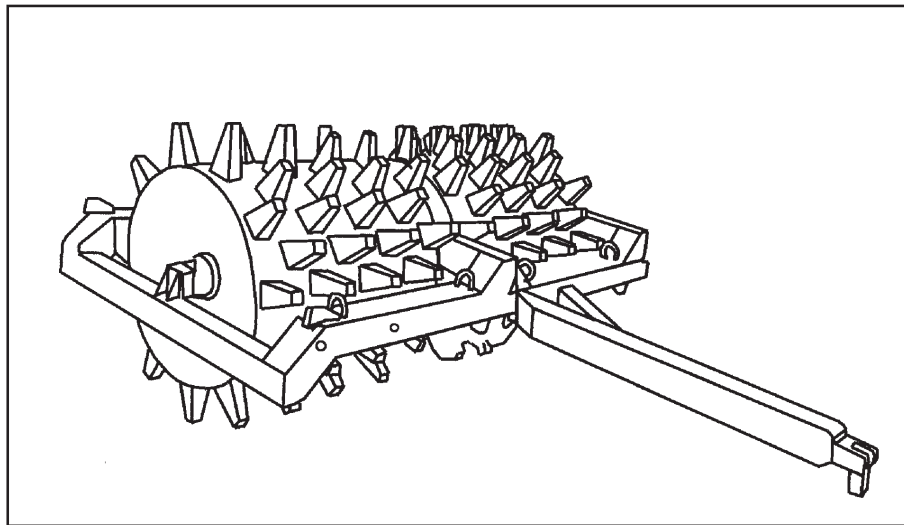


AIRDROP OF SUPPLIES AND EQUIPMENT: RIGGING ROAD ROLLERS



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HEADQUARTERS
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DEPARTMENT OF THE ARMY

HEADQUARTERS UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
FORT MONROE, VIRGINIA 23651-5000

REPLY TO
ATTENTION OF

ATCD-SL (70-1f)

21 Oct 96

MEMORANDUM FOR DEPUTY CHIEF OF STAFF OPERATIONS AND PLANS,
400 ARMY PENTAGON, ATTN: DAMO-FDL, WASHINGTON
DC 20310-0400

SUBJECT: Quartermaster (QM) Functional Area Assessment (FAA)
Response

1. References:

a. Message, HQDA, DAMO-FDL, 231825Z Apr 96, subject: QM FAA Results.

b. Memorandum, HQ TRADOC, ATCG, 29 Jul 96, Army Airdrop Capabilities Assessment.

2. At the 29 Mar 96 QM FAA briefing to the Director of Army Staff, the decision was reached to revisit the Army's decision to "shelf" Low Altitude Parachute Extraction System (LAPES) (reference 1a).

a. Reference 1b, solicited CINCs input for their positions on LAPES and assessments of airdrop capabilities. The CINCs responses will be used to chart the direction and role for airdrop in the 21st century.

b. Based on the responses received (enclosure), there is no strong support for LAPES airdrop capability at this time. The consensus for the airdrop capabilities is to continue support for current Low Velocity Airdrop System (LVAD), develop a 500-foot LVAD and further explore Advanced Precision Aerial Delivery System (APADS).

3. Further, we will continue to maintain a range of airdrop capabilities to support all contingencies throughout the Army. The results of the Army Airdrop Capabilities Assessment also will be incorporated into the Operational Concept for Aerial Delivery Operations and Improved Cargo Aerial Delivery Capability Mission Needs Statement being developed by the Quartermaster Directorate of Combat Developments, U.S. Army Combined Arms Support Command (CASCOM).

4. The HQ TRADOC POC is MAJ Higgins, Airborne Airlift Action Office, ATCD-SL, E-mail: higginsn@emh10.monroe.army.mil, DSN 680-2469/3921, datafax DSN 680-2520.

ATCD-SL

SUBJECT: Quartermaster (QM) Functional Area Assessment (FAA)
Response

FOR THE DEPUTY CHIEF OF STAFF FOR COMBAT DEVELOPMENTS:

Encl

JOHN A. MANDEVILLE
Colonel, GS
Director, Combat Service Support

CF:

USACASCOM (ATCL-CG/ATCL-QC/ATCL-MES)

USAQMC&S (ATSM-CG/ATSM-ABN/FS)

USANRDEC (SSCNC-UT/AMSSC-PM)

ORGANIZATION	LAPES	LVAD	500' LVAD	APADS	SPTS/ NOT SPEC
USSOCOM		X	X	X	
EUCOM					X
CENTCOM		X	X		
FORSCOM		X	X	X	
TRANSCOM					X
SOUTHCOM	X			X	
VIII ARMY					X
ACOM					X

USSOCOM: Memorandum specifically states that the command does not support LAPES airdrop capability, but supports LVAD as well as APADS.

EUCOM: Draft memorandum specifically states that the command support the need for a low level airdrop capability. However, memorandum summarizes that the specific capability is not important as to have a capability to meet the required mission/threat profile.

CENTCOM: Memorandum specifically states that the command does not support LAPES airdrop capability, but support both current LVAD and 500-foot LVAD airdrop capabilities.

FORSCOM: 1st Endorsement specifically states that the command does not support LAPES airdrop capability, however supports LVAD, 500-foot LVAD and APADS.

TRANSCOM: Memorandum does not specifically address any airdrop capability as it talks to the 21st century requiring the full spectrum of tactical delivery methods.

SOUTHCOM: Memorandum specifically supports LAPES and APADS airdrop capabilities for their command.

VIII ARMY: E-Mail note for VIII Army states that the command has no input to the assessment as their plans call for a limited employment of airdrop.

ACOM: Sent request for input on 30 Sep 96. Received verbal response on 16 Oct 96 stating command is indifferent on the specific capability received.



DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
FORT MONROE, VIRGINIA 23651-3000

REPLY TO
ATTENTION OF

6 SEP 1995

ATCD-SL (70-1f)

MEMORANDUM FOR

Major General Thomas W. Robison, Commander, U.S. Army Combined
Arms Support Command and Fort Lee, Fort Lee, VA 23801-6000
Major General Robert K. Guest, Commander, U.S. Army Quartermaster
Center and School, Fort Lee, VA 23801-5030

SUBJECT: Low Altitude Parachute Extraction System (LAPES)
Disassembly.

1. References:

a. Message, HQ TRADOC, ATCD-SL, 100930Z Jan 95, subject:
LAPES.

b. OVVM Note, HQ USACASCOM, 30 March 95, subject: TRADOC
Disassembly of LAPES.

2. The U.S. Army and other services recently have concurred that
LAPES will be terminated, as this capability is no longer required
as a viable wartime contingency airdrop option. However,
Headquarters, Department of the Army (DA), Deputy Chief of Staff
for Operations and Plans, has agreed that LAPES technology will be
shelved, and all specialized equipment preserved for possible
future use.

3. Take the necessary steps to terminate training and leader
development concerning LAPES operations. Major General Guest's
questions regarding the disassembly of LAPES (enclosed) with
following guidance will be utilized:

a. "Does the U.S. Army Quartermaster Center and School
(USAQMC&S) continue to publish LAPES procedures in their joint
field manual (FMs)/technical order manuals?" "Do we publish the
LAPES procedures that have been written but not been printed yet?"
Publishing LAPES procedures in all joint publications, Army FMs,
regulations, etc., will be discontinued and addressed in the next
revision of the aforementioned documents. Concurrently, all LAPES
procedures that have been written and not printed will not be
published.

6 SEP 1995

ATCD-SL
SUBJECT: Low Altitude Parachute Extraction System (LAPES)
Disassembly

b. "Do we keep LAPES in our programs of instruction (POIs)?" "Do we teach LAPES to other services and our allies?" The USAQMC&S will remove LAPES procedures from PCI and cease teaching LAPES to other services and/or allies.

c. "What do we teach to folks that have LAPES equipment in their war reserves?" All instruction concerning LAPES procedures will be discontinued whether LAPES equipment is located in units or in war reserves.

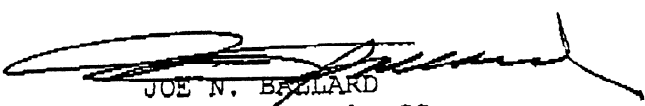
d. "What is the DA/TRADOC guidance on disposition of unit, depot, and war reserves LAPES equipment?" All LAPES equipment in war reserves and depot should be preserved with the exception of a few items that can be utilized in other existing airdrop capabilities. Specifically, the Type V airdrop platforms and attitude control bars of the LAPES system are being utilized to augment current Low Velocity Airdrop Systems (LVADS) loads.

e. "What is the guidance to U.S. Army Test and Experimentation Command on force development test and experimentation certification of LAPES loads?" The certification of all LAPES loads at the Airborne Special Operations Test Directorate will be redirected toward testing and certification of LVADS loads.

4. HQ TRADOC POC is CPT Higgins or CPT Phillips, ATCD-SL, DSN 680-2469/3921, datafax DSN 680-2520.

FOR THE COMMANDER:

Encl


JOE N. BALLARD
Major General, GS
Chief of Staff

CF:
HQDA (DAMO-FDL)
CDR, NRDEC (SAFNC-UA)
CDR, FORSCOM (FCJ3-FC)
CDR, OPTEC (CSTE-CS, CSTE-OPM)
CDR, ATCOM (AMSAT-W-TD)
DIR, ABNSOTD (ATCT-AB)
HQ TRADOC (ATCD-L, ATCD-RM, ATDO-A, ATTG-IT)

Date and time 07/18/95 10:28:11

From: HIGGINSN--MON1
To: HIGGINSN--MON1

From: OPT NEIL HIGGINS, (AAACO), 680-2469
Subject: TRADOC "DISASSEMBLY" OF LAPES

* AIRBORNE AIRLIFT ACTION OFFICE *
* (AAACO) *

** Forwarding note from BRUNEAUN--OMSNAMES 07/18/95 10:27 ***
Received: from LEE-EMH2.ARMY.MIL by MONROE-EMH2.ARMY.MIL (IBM VM SMTP V2R2)
with TOP; Tue, 18 Jul 95 10:27:22 EDT
Received: from LEE1 by LEE-EMH2.ARMY.MIL (IBM VM SMTP V2R2) with SMTP id 3547;
Tue, 18 Jul 95 10:29:34 EDT

Comments: Converted from PROFS to RFC822 format by PUMP V2.2X
Date: Tue, 18 Jul 95 10:29:26 EDT
From: NORMAN BRUNEAU <BRUNEAUN@LEE-EMH2.ARMY.MIL>
Subject: TRADOC "DISASSEMBLY" OF LAPES
To: "NEIL HIGGINS- AAACO " <HIGGIN@MONROE-EMH1.ARMY.MIL>

** Resending note of 06/30/95 09:23

From: LARRY MC MILLIAN AAA <MCILLI@MONROE-EMH1.ARMY.MIL>
To: NORMAN BRUNEAU
Subject: TRADOC "DISASSEMBLY" OF LAPES

NEIL- HERE ARE THE QUESTIONS THAT MG GUEST WANTS DA/ TRADOC TO ANSWER RE LAPES, AS I UNDERSTAND HIS GUIDANCE. I HAVE DISCUSSED THESE W/ OUR ABN DPT. IF THESE QUESTIONS MAKE SENSE, GIVE ME AN "UP" BEFORE I FORMALLY SEND ANYTHING OUT. MG GUEST WANTS SPECIFIC GUIDANCE FM TRADOC ON LAPES, RESPONSE NEEDS TO BE CLEAR AND TO THE POINT. A LOT OF THIS WILL HINGE ON WHAT ACC PLANS TO DO W/ LAPES NOW THAT THE AIR STAFF HAS GIVEN THEM THE GREEN LIGHT TO KILL IT. IF THEY PLAN TO PLACE IT ON THE SHELF OR KEEP A LIMITED OR CONTINGENCY CAPABILITY, THAT WILL DRIVE YOUR ANSWER TO US, AT THIS POINT I THINK ACC WILL DO WHATEVER THE ARMY WANTS, AS THEIR PRIMARY CUSTOMER. I WILL NOT REHASH HOW THE ARMY DECIDED THEY DIDNT NEED LAPES. QUESTIONS FOLLOW:

- DOES THE GMS CONTINUE TO PUBLISH LAPES PROCEDURES IN THEIR JOINT FM/TO MANUALS?
- DO WE PUBLISH THE LAPES PROCEDURES THAT HAVE BEEN WRITTEN BUT HAVE NOT BEEN PRINTED YET?
- DO WE REMOVE ALL LAPES PROCEDURES FROM ALREADY PUBLISHED MANUALS?
- DO WE KEEP LAPES IN OUR POI?
- DO WE TEACH LAPES TO OTHER SERVICES AND OUR ALLIES?
- WHAT DO WE TEACH TO FOLKS THAT HAVE LAPES EQUIPMENT IN THEIR WAR RESERVES?
- WHAT IS THE DA/TRADOC GUIDANCE ON DISPOSITION OF UNIT, DEPOT, AND WAR RESERVE LAPES EQUIPMENT?
- WHAT IS THE GUIDANCE TO TEXCOM ON THE FUTE CERTIFICATION OF LAPES LOADS?

I KNOW THESE ARE TOUGH QUESTIONS, BUT THEY HAVE TO BE ASKED. HQ STAFFS CANNOT SIMPLY SAY "KILL IT" AND MOVE ON TO THE NEXT ISSUE. I DONT THINK WE ARE DOING OUR JOB IF WE LEAVE IT UP TO THE SCHOOLHOUSE TO INTERPRET SKETCHY GUIDANCE. THAT PLACES US IN THE POSSIBLE POSITION OF BEING ACCUSED OF NOT FOLLOWING ORDERS.

LETS TALK.....NORM

TRK 2/47

SEP 11 11 08:30AM CSSRD FT MONROE VA 66 11

DEPARTMENT OF THE ARMY
QUARTERMASTER CENTER AND SCHOOL
1201 22D STREET
FORT LEE, VIRGINIA 23801-1601

ATSM-ABN-FS

15 Dec 96

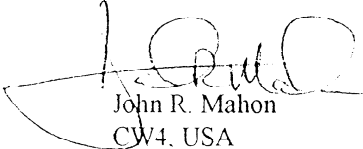
MEMORANDUM FOR RECORD

SUBJECT: Airdrop Equipment Update

Reference:

- a. Phone conversation between CW4 Mahon, CASCOM and Dick Harper, Weapons System Management Office, Army Aviation Troop Command. Subject : sab
- b. Phone conversation between CW4 Mahon, CASCOM and Don Stump, Logistics Management Specialist, Office, Deputy Chief of Staff for Logistics. Subject. sab
- c. Phone conversation between CW4 Mahon, CASCOM and Chief Msgt Okraneck, Hqrs Air Combat Command. Subject sab
- d. msg dtg R 181348Z Feb 94. subject: FCIF item: Type II platforms, PEFTC and SL/CS for Air Force unilateral training

1. Based on information received from the references a-c above, the following update is provided per request ref c, above.
 - a. The type II modular platform no longer exists within any contingency stocks. Therefore, maintaining Joint Inspection training program is no longer required for this equipment.
 - b. The Parachute Extraction Transfer Force Coupling (PEFTC) no longer exists within any contingency stocks. Therefore, maintaining Joint Inspection training program is no longer required for this equipment.
 - c. The metric platform interim rigging procedures are no longer valid as they apply to metric platforms. Those rigging procedures which have dual application with the type V platform are still valid for the type V platform.
 - d. The static line connector strap (SL/CS) currently has limited application. Only those loads that specifically require this system are authorized use of this system. The SL/CS is not an across the board substitute for the Extraction Force Transfer Coupling (EFTC). These authorized loads are specific in nature and will normally be found in the special operations arena of airdrop loads. This system is not authorized for use IAW ref d, above.
2. For additional questions/information contact the undersigned at DSN 687-4733, Fax 3084.


John R. Mahon
CW4, USA
Senior Airdrop Systems
Technician

CHANGE
No. 5

**HEADQUARTERS
DEPARTMENT OF THE ARMY
DEPARTMENT OF THE AIR FORCE
Washington, DC, 30 May 1997**

**AIRDROP OF SUPPLIES AND EQUIPMENT
RIGGING ROAD ROLLERS**

This change adds the procedures for rigging the MDG 96 towed sheepsfoot road roller for low-velocity airdrop on a type V platform. The distribution restriction is also changed. The destruction notice is no longer needed.

FM 10-528/TO 13C7-26-71, 25 November 1977, is changed as follows:

1. New or changed material is identified by a vertical bar (█) in the margin opposite the changed material.
2. File this transmittal page in front of the publication
3. Remove old pages and insert new pages as indicated below:

Remove pages

cover

i-ii

vii

1-1

Insert pages

cover

i-ii

vii-viii

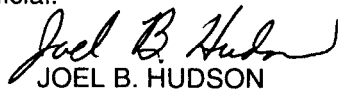
1-1

11-1 through 11-21

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By Order of the Secretary of the Army:

Official:



JOEL B. HUDSON

*Administrative Assistant to the
Secretary of the Army*

03449

DENNIS J. REIMER
*General, United States Army
Chief of Staff*

DISTRIBUTION:

Active Army, Army National Guard, and U.S. Army Reserve: To be distributed in accordance with the initial distribution number 110911, requirements for FM 10-528.

FIELD MANUAL
No. 10-528
TECHNICAL ORDER
No. 13C7-26-71

HEADQUARTERS
DEPARTMENT OF THE ARMY
DEPARTMENT OF THE AIR FORCE
Washington, DC, 25 November 1977

**AIRDROP OF SUPPLIES AND EQUIPMENT:
RIGGING ROAD ROLLERS**

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PREFACE

SCOPE

This manual tells and shows how to prepare and rig the following towed road rollers for low-velocity airdrop on the type II platform from C-130 and C-141 aircraft: the 7- to 35-ton, W-2, MDG 96, vibrating, and 13-wheel. This manual also gives procedures for rigging the W-2, MDG 96, vibrating and 13-wheel towed road rollers for LAPE airdrop on the metric platform from C-130 aircraft. Additionally, procedures are given for rigging the following towed road rollers for low-velocity airdrop on the type V platform from C-130, C-141, C-17, and C-5 aircraft: 11-wheel, 13-wheel, Type I, M435, and MDG 96. This manual gives procedures for rigging the Type I and M435 towed road rollers for LAPE airdrop on the type V platform from C-130 aircraft. It is designed for use by all parachute riggers.

USER INFORMATION

The proponent of this publication is HQ TRADOC. You are encouraged to report any errors or omissions and to suggest ways for making this a better manual. Army personnel, send your comments on DA Form 2028 directly to:

Aerial Delivery and Field Services Department
USA Quartermaster Center and School
1010 Shop Road
Fort Lee, Virginia 23801-1502

Air Force personnel, send your reports on AFTO Form 22 through:

Headquarters
Air Mobility Command (AMC/DOTX)
402 Scott Drive, Unit 3A1
Scott AFB, Illinois 62225-5302

to:

Aerial Delivery and Field Services Department
USA Quartermaster Center and School
1010 Shop Road
Fort Lee, Virginia 23801-1502

Also send information copy of AFTO Form 22 to:

SA-ALC/TILD
485 Quentin Roosevelt Road
Kelly AFB, Texas 78241-6421

CHAPTER 1 INTRODUCTION

1-1. Description of Items

The towed road rollers covered in this manual are listed below. Dimensions and weights are given in the description of items paragraph in each chapter.

- a. 7- to 35-ton ballast pneumatic tire roller
- b. Model W-2 sheepsfoot roller
- c. Model MDG 96 sheepsfoot roller
- d. 13-wheel pneumatic tire roller
- e. 11-wheel pneumatic tire roller.
- f. M435 4- to 35-ton ballast pneumatic tire roller
- g. Type I, SM 54 vibrating smooth drum roller
- h. DED gas/VP4D diesel vibrating roller

1-2. Special Considerations

A copy of this manual should accompany the rigged load to the aircraft. The loads covered in this manual may include hazardous materials such as explosives, gasoline, or batteries. When included, these items must be packaged, marked, and labeled according to AFJMAN 24-204/TM 38-250.

CHAPTER 11

RIGGING MODEL MDG 96 SHEEPSFOOT ROLLER ON A TYPE V PLATFORM FOR LOW-VELOCITY AIRDROP

11-1. Description of Load

The MDG 96 towed sheepsfoot roller is rigged on a 12-foot type V airdrop platform. The unrigged roller weighs 7,440 pounds. It is 140 inches long, reducible to 77 inches; 54 inches high, and 119 inches wide.

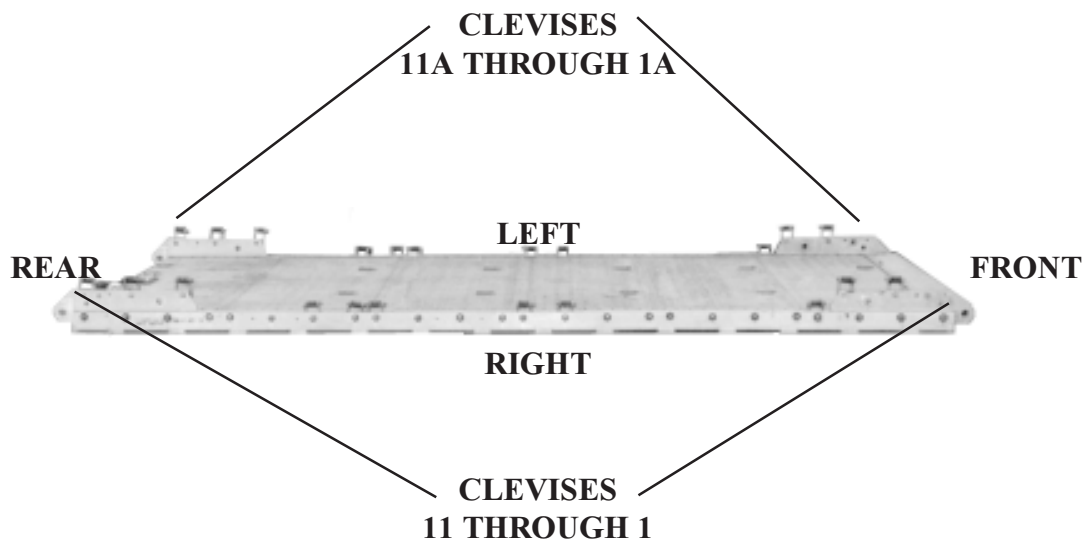
11-2. Preparing Platform

a. Inspecting Platform. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.

b. Installing Tandem Links. Install tandem links on the front and rear of each rail as shown in Figure 11-1.

c. Installing and Numbering Clevises. Bolt and number 22 clevis assemblies as shown in Figure 11-1.

- Notes:** 1. The nose bumper may or may not be installed.
2. Measurements given in this chapter are from the front edge of the platform, NOT from the front edge of the nose bumper.



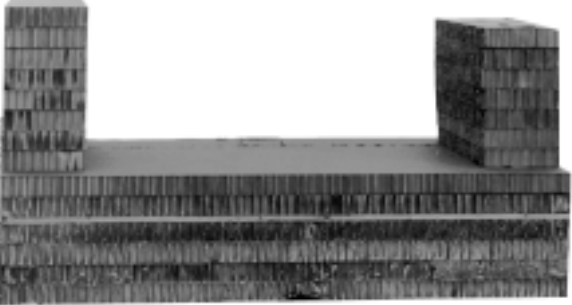
Step:

1. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
2. Install a tandem link on the rear of each platform side rail using holes 22, 23, and 24.
3. Install clevises on bushings 3 and 4 of each front tandem link.
4. Install clevises on bushings 1, 2, and 4 of each rear tandem link.
5. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 4, 11, 12, 16, 17, and 18.
6. Starting at the front of the platform, number the clevises bolted to the right side of the platform from 1 through 11, and those bolted to the left side from 1A through 11A.
7. Label the tie-down rings according to FM 10-500-2/TO 13C7-1-5.

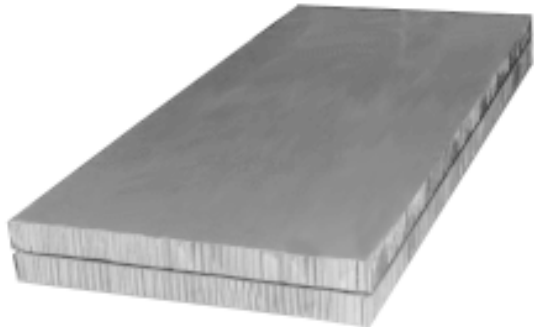
Figure 11-1. Platform prepared

11-3. Preparing and Positioning Honeycomb Stacks

Prepare the honeycomb stacks as shown in Figure 11-2. Position the honeycomb stacks on the platform as shown in Figure 11-3.



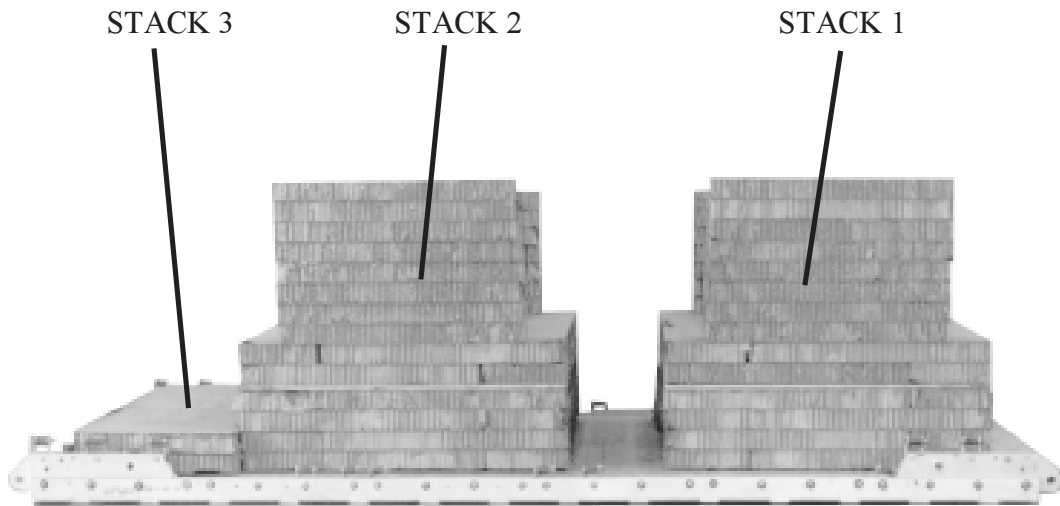
FRONT
STACKS 1 AND 2



STACK 3

Stack Number	Pieces	Width (inches)	Length (inches)	Material	Instructions
1 and 2	4	83	36	Honeycomb	Alternate layers to form a four-layer base 83 -by 48 inches.
	4	83	12	Honeycomb	
	1	83	48	3/4-inch plywood	Glue flush on base.
	2	83	36	Honeycomb	Form two additional layers 83 -by 48 inches.
	2	83	12	Honeycomb	
3	7	12	36	Honeycomb	Center and glue flush with left side of base.
	8	12	36	Honeycomb	Center and glue flush with right side of base.
3	2	88	24	Honeycomb	Glue flush together.

Figure 11-2. Honeycomb stacks prepared

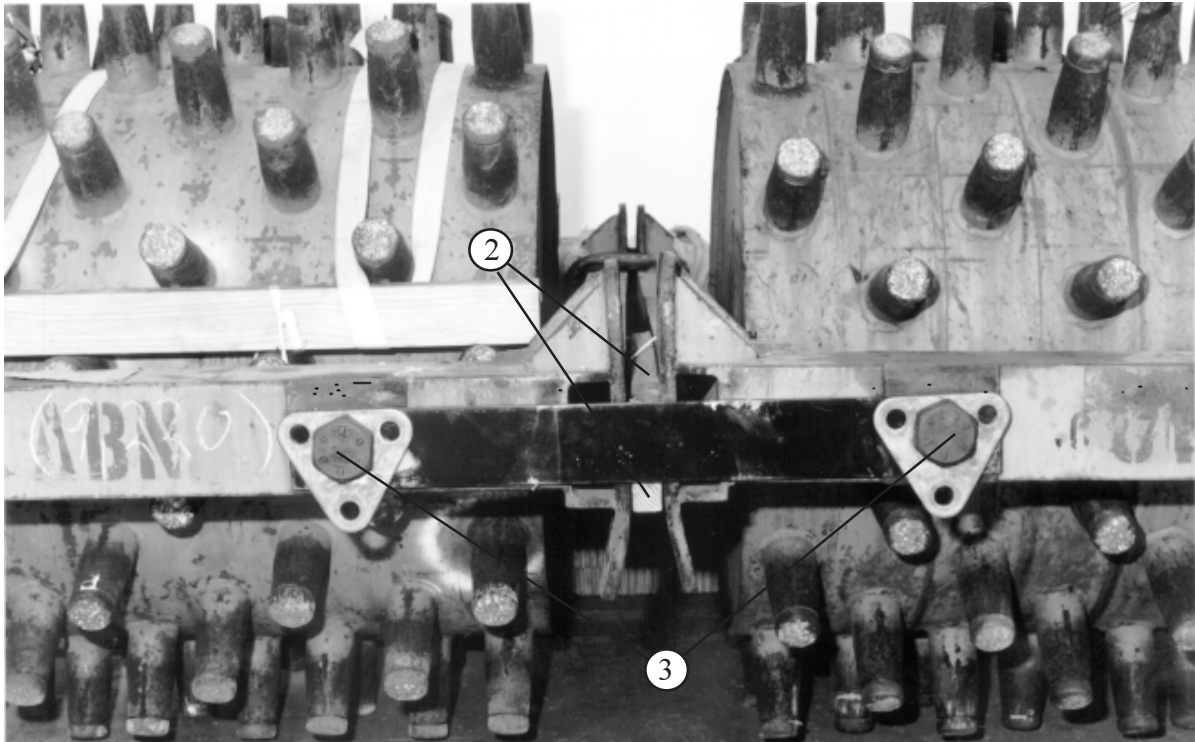


Stack Number	Position of Stack on Platform
1	Place stack: Centered and 5 1/2 inches from the front edge of the platform.
2	Centered and 14 1/2 inches from stack 1.
3	Flush with the rear of stack 2 and 6 1/2 inches from the right side rail.

Figure 11-3. Honeycomb stacks placed on platform

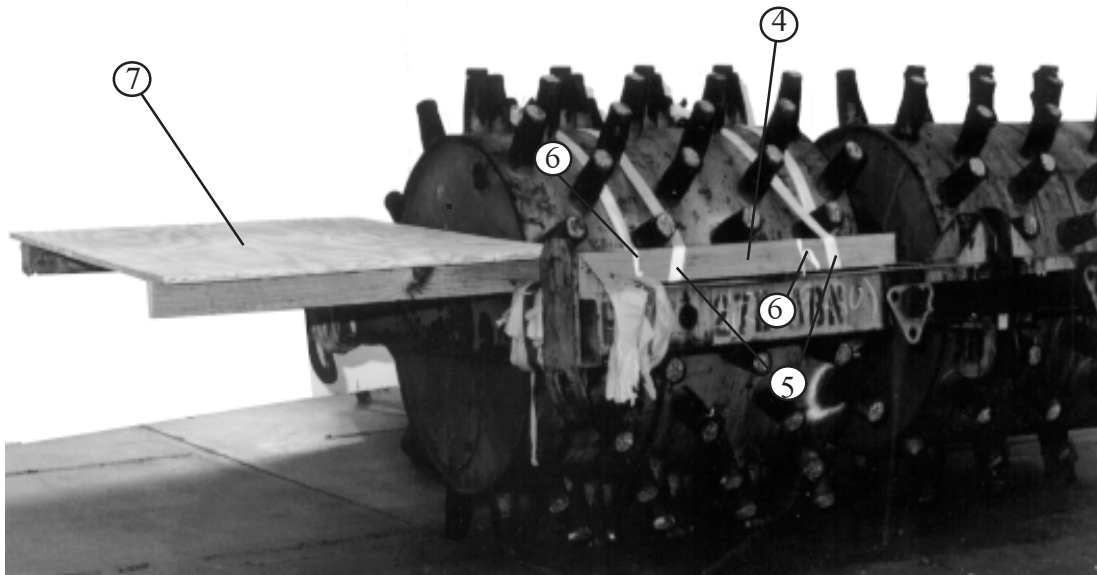
11-4. Preparing Roller and Installing Parachute Stowage Platform

Prepare the roller and install the parachute stowage platform as shown in Figure 11-4.



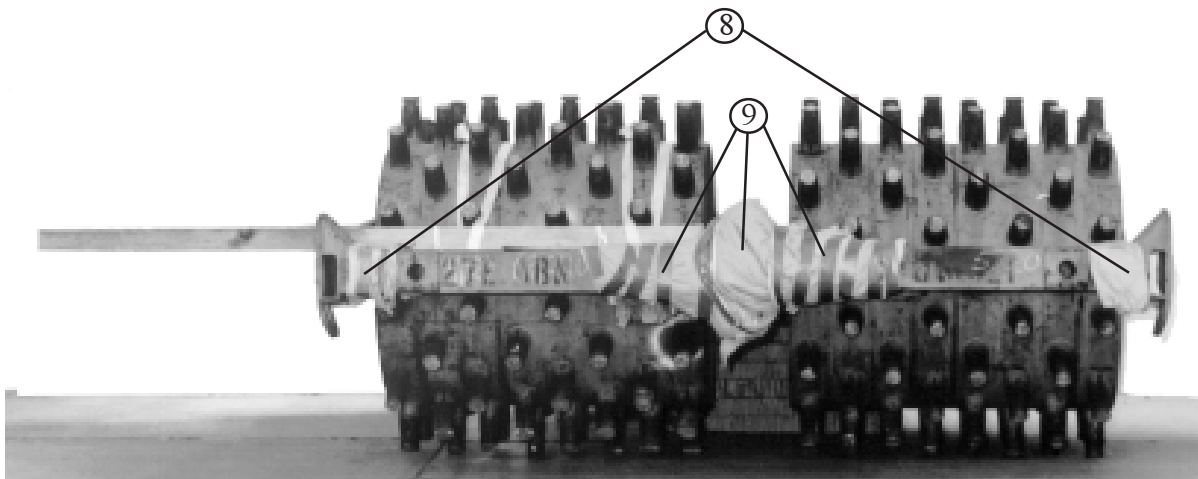
- ① Remove the plugs and drain all ballast from the rollers. Replace and tighten the plugs. Remove the towing tongue from the frame sections (not shown).
- ② Tie a length of 2- by 6-inch lumber between the frame sections to maintain spacing. (The length of the lumber will vary among rollers.)
- ③ Align the holes in the section bar (1/2-inch steel 4 inches by 36 inches) with the towing tongue bolt holes. Place a side plate from a three-point link assembly over each towing tongue bolt as a spacer. Bolt the section bar to the frame sections using the towing tongue bolt holes.

Figure 11-4. Roller prepared and parachute stowage platform installed



- ④ Place an 8-foot piece of 4- by 4-inch lumber on the frame section at the rear of the load, even with the front edge of the rear roller, and resting on a row of teeth so that the lumber is horizontal.
Note: It may be necessary to raise the roller and rotate it slightly so that the lumber will rest horizontally.
- ⑤ Pass two 15-foot lashings over the roller and around each piece of lumber. Pass the front lashing around the third row of teeth. Pass the rear lashing around the seventh row of teeth. Fasten the lashings over the roller.
- ⑥ Tie the lumber to the next lower row of teeth on each side in two places with 1/2-inch tubular nylon webbing.
- ⑦ Center and nail a 60- by 48-inch piece of 3/4-inch plywood over the lumber flush with the ends of the 4- by 4's. Center a 2-inch hole in each 48-inch side of the plywood 3 inches from the edge, measured on center.

Figure 11-4. Roller prepared and parachute stowage platform installed (continued)

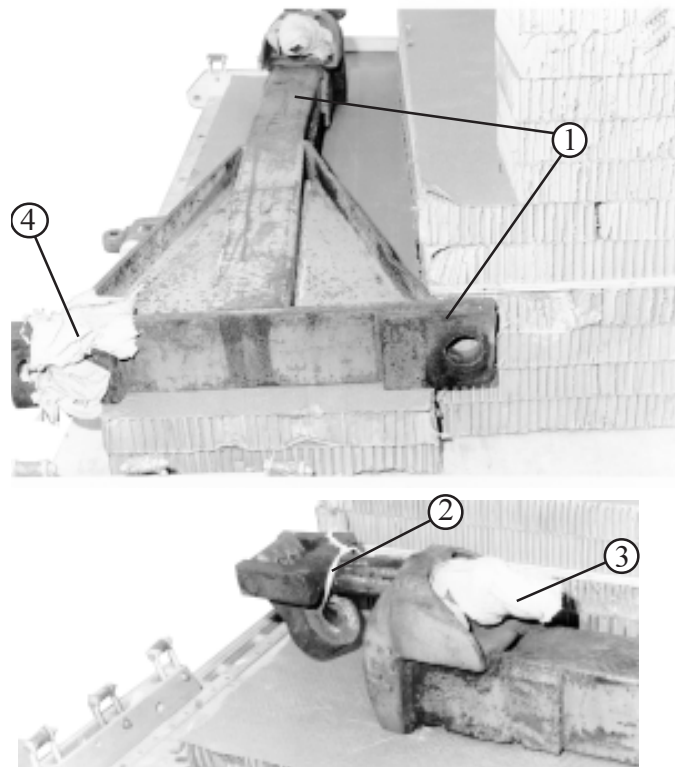


- ⑧ Pad the outside corners of the frame sections with cellulose wadding taped in place.
- ⑨ Pad the frame junction areas at the middle of the roller with cellulose wadding taped in place.

Figure 11-4. Roller prepared and parachute stowage platform installed (continued)

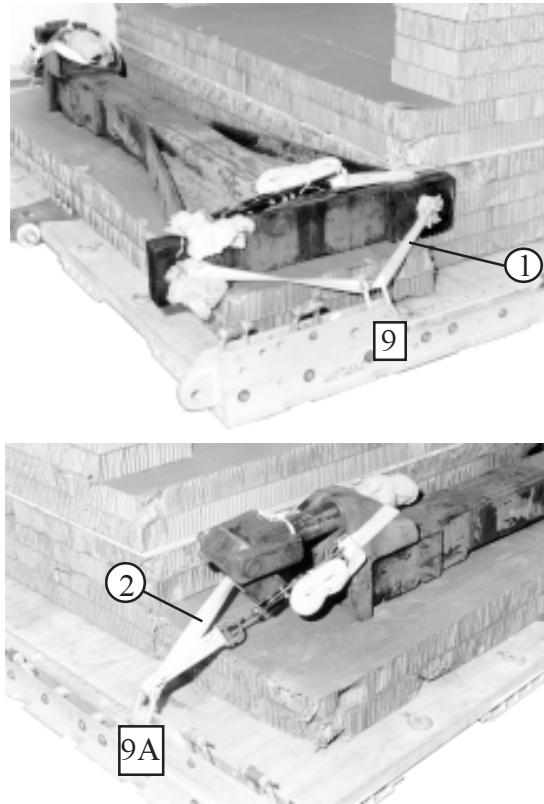
11-5. Positioning and Securing Towing Tongue

Place the towing tongue on the honeycomb and lash it to the platform as shown in Figure 11-5.



- ① Center the towing tongue on stack 3 with the lunette shaft on top and to the left. Align the right side of the tongue against stack 2 as shown. Crush the honeycomb on stack 2 enough to allow lashings to pass through the bolt hole.
- ② Pass a length of 1/2-inch tubular nylon webbing through the lunette hole. Tie the lunette to the lunette shaft.
- ③ Pad the lunette shaft with cellulose wadding taped in place.
- ④ Pad the bolt holes with cellulose wadding (only the left hole is shown padded).

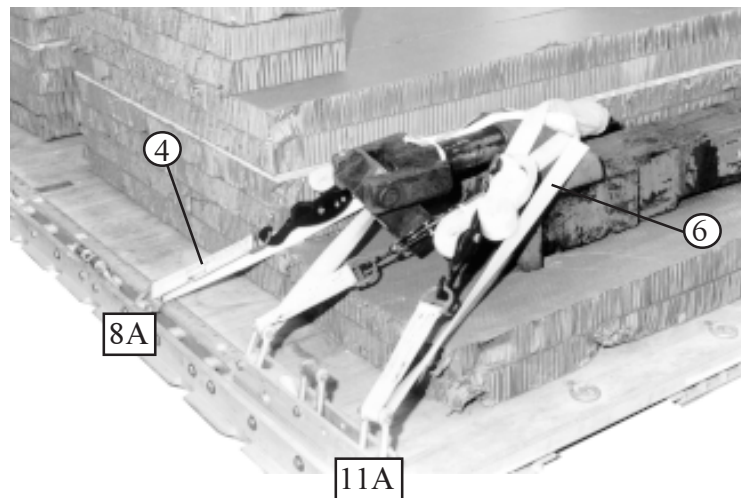
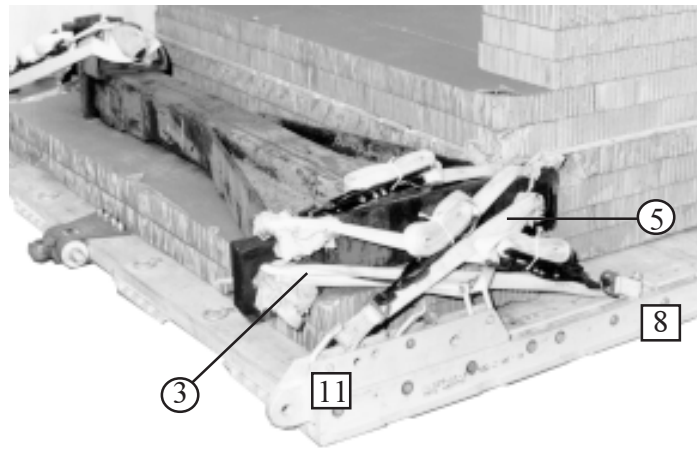
Figure 11-5. Towing tongue positioned and lashed to platform



⑤ Lash the towing tongue to the platform as shown below.

Lashing Number	Clevis Number	Instructions
1	9	Pass lashing: Through both bolt holes, and secure on top of tongue frame. Note: Pad top of tongue frame with cellulose wadding.
2	9A	Under lunette shaft.

Figure 11-5. Towing tongue positioned and lashed to platform (continued)

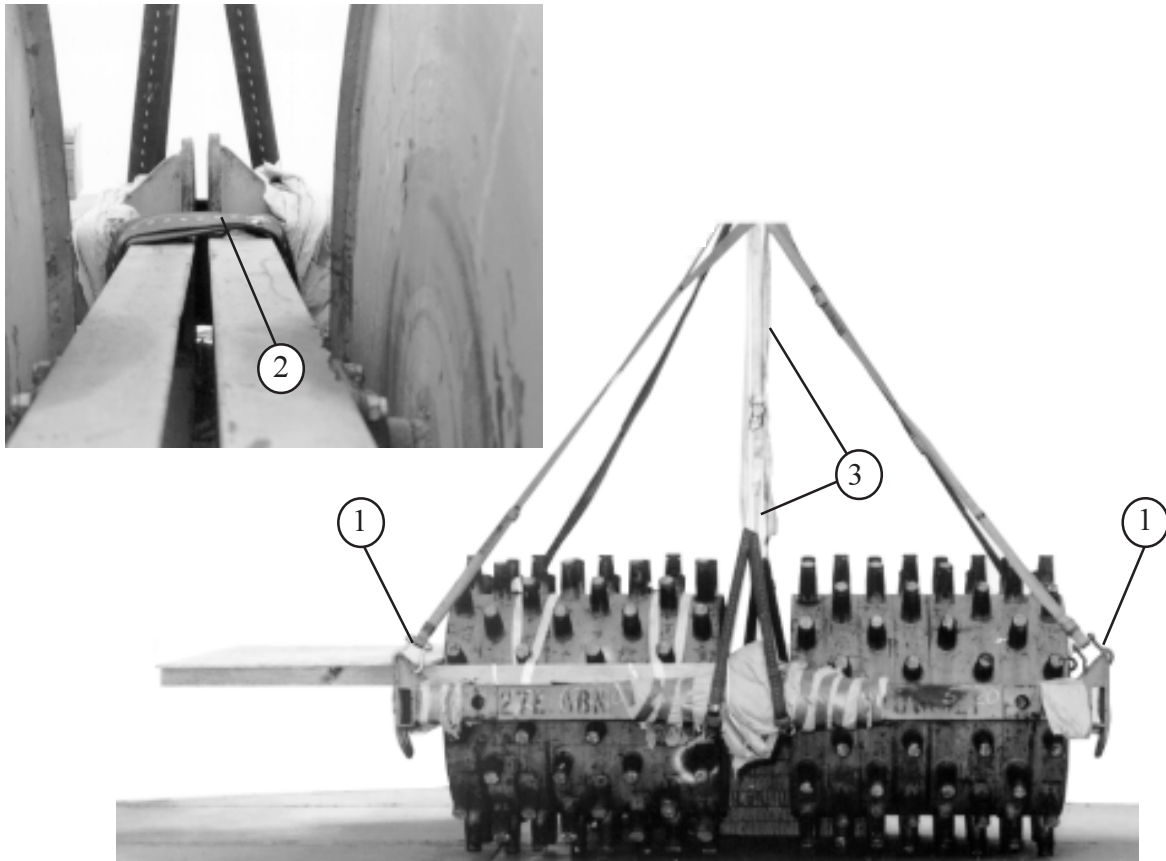


Lashing Number	Clevis Number	Instructions
3	8	Pass lashing: Through rear bolt hole.
4	8A	Around lunette shaft.
5	11	Through front bolt hole.
6	11A	Around lunette shaft.

Figure 11-5. Towing tongue positioned and lashed to platform (continued)

11-6. Lifting and Positioning Roller

Install lifting slings as shown in Figure 11-6.
Position the roller on the honeycomb stacks as shown in Figure 11-7.



- ① Attach a 9-foot (2-loop), type XXVI nylon webbing sling to each corner lifting point with a large clevis.
- ② Center a 9-foot (2-loop), type XXVI nylon webbing sling over the inside center frames on each side. Pass the ends of the sling under the frames and upward.
- ③ Suspend each center sling from the crane hook with a 15-foot lashing passed through the end loops of the slings and through their own D-rings.

Figure 11-6. Lifting slings installed

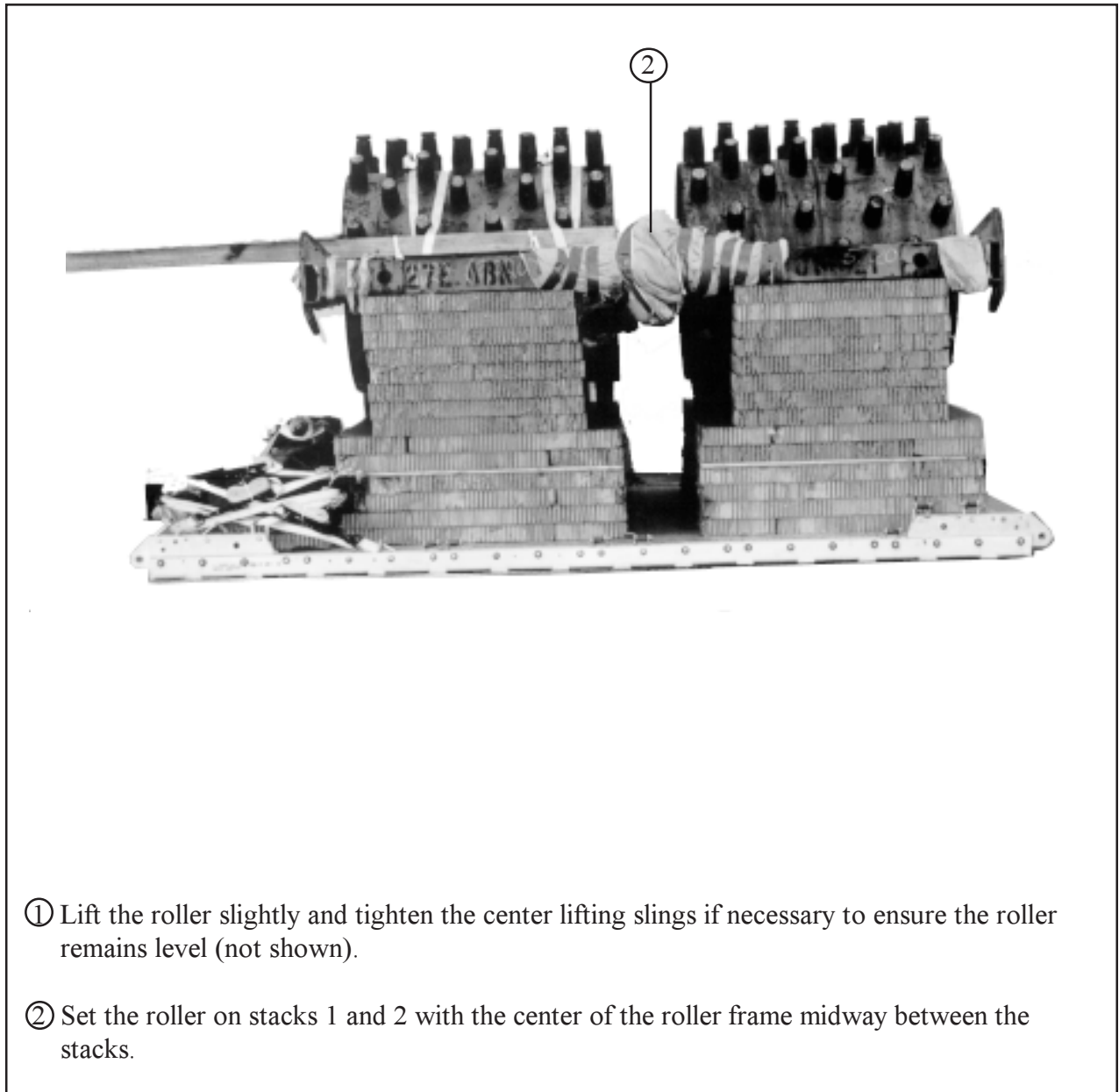
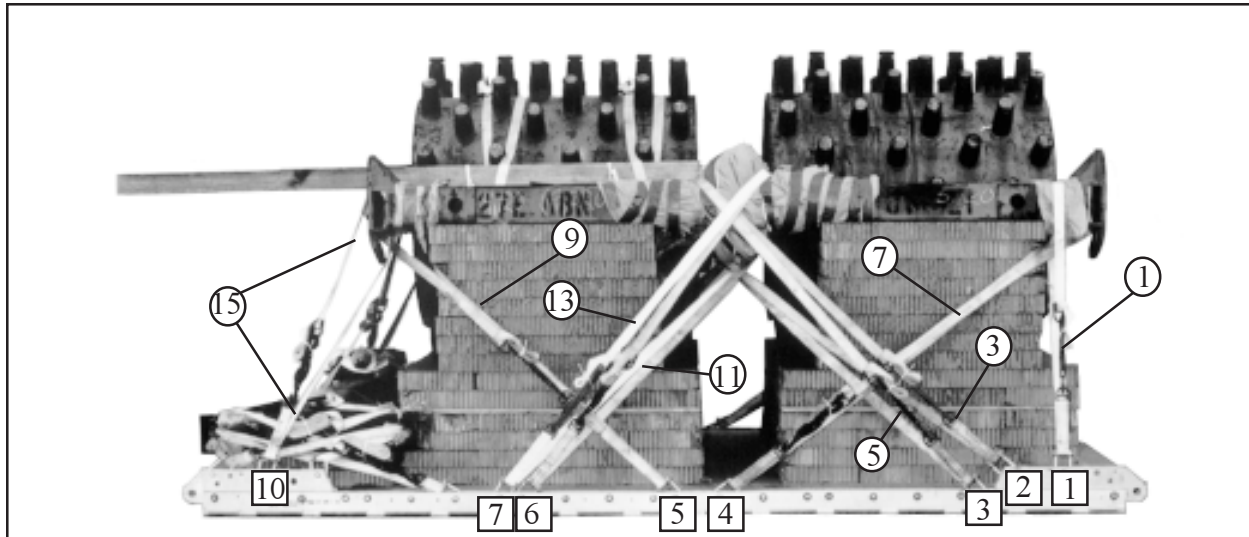


Figure 11-7. Roller positioned on honeycomb stacks

11-7. Lashing Roller

Lash the roller to the platform as shown in Figure 11-8 and according to FM 10-500-2/TO 13C7-1-5.

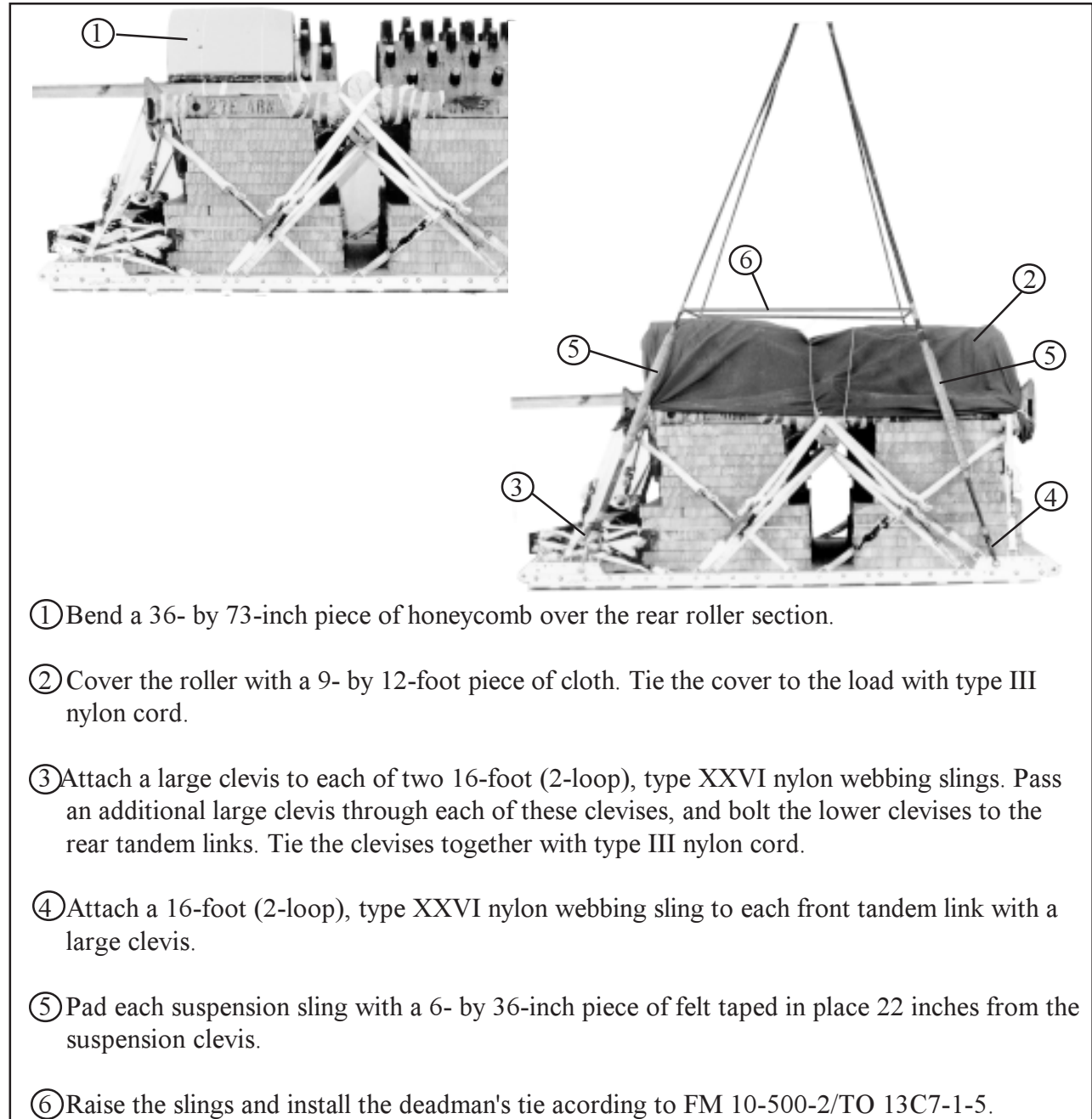


Lashing Number	Clevis Number	Instructions
1	1	Pass lashing: Around frame, right side.
2	1A	Around frame, left side.
3	2	Around rear side of center frame.
4	2A	Around rear side of center frame.
5	3	Around rear side of center frame.
6	3A	Around rear side of center frame.
7	4	Around end bar of frame, front.
8	4A	Around end bar of frame, front.
9	5	Around end bar of frame, rear.
10	5A	Around end bar of frame, rear.
11	6	Around front side of center frame.
12	6A	Around front side of center frame.
13	7	Around front side of center frame.
14	7A	Around front side of center frame.
15	10	Around end bar of frame, rear.
16	10A	Around end bar of frame, rear.

Figure 11-8. Roller lashed

11-8. Covering Roller and Installing Suspension Slings

Cover the roller and install the suspension slings as shown in Figure 11-9.



- ① Bend a 36- by 73-inch piece of honeycomb over the rear roller section.
- ② Cover the roller with a 9- by 12-foot piece of cloth. Tie the cover to the load with type III nylon cord.
- ③ Attach a large clevis to each of two 16-foot (2-loop), type XXVI nylon webbing slings. Pass an additional large clevis through each of these clevises, and bolt the lower clevises to the rear tandem links. Tie the clevises together with type III nylon cord.
- ④ Attach a 16-foot (2-loop), type XXVI nylon webbing sling to each front tandem link with a large clevis.
- ⑤ Pad each suspension sling with a 6- by 36-inch piece of felt taped in place 22 inches from the suspension clevis.
- ⑥ Raise the slings and install the deadman's tie according to FM 10-500-2/TO 13C7-1-5.

Figure 11-9. Load cover and suspension slings installed

11-9. Installing Cargo Parachutes

Install two G-11 cargo parachutes according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-10.

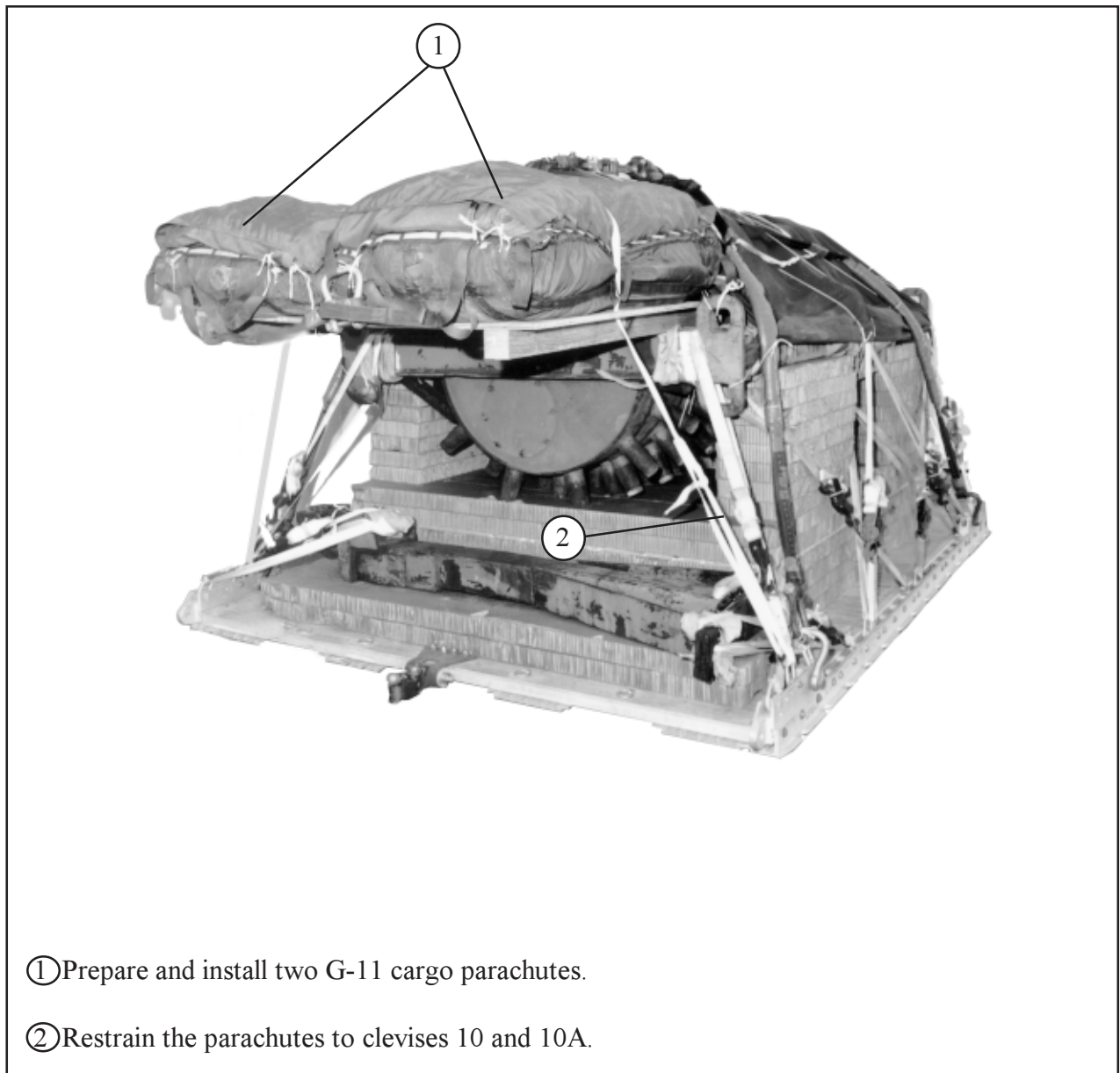
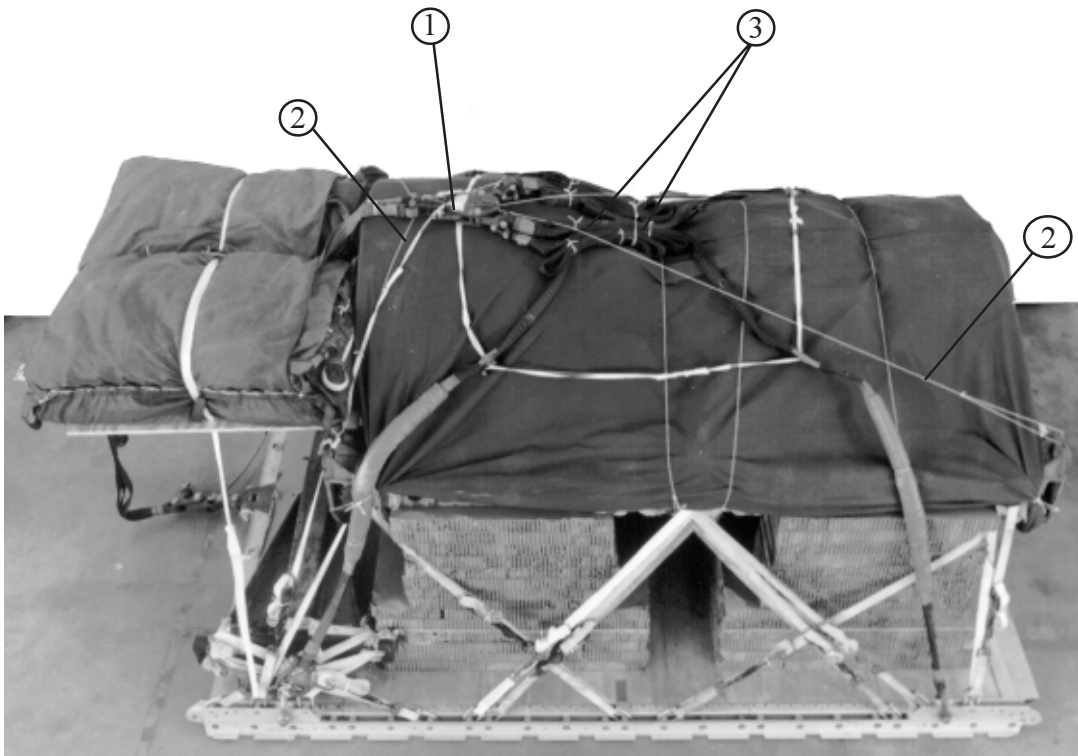


Figure 11-10. Parachutes installed

11-10. Installing Parachute Release

Install an M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 11-11.



- ① Prepare an M-1 cargo parachute release assembly. Center the release on the rear roller section.
- ② Secure the release to the roller frame with type III nylon cord.
- ③ Fold the suspension slings. Tie the folds with type I, 1/4-inch cotton webbing.

Figure 11-11. M-1 release installed

11-11. Installing Extraction System

Install the EFTC extraction system according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 11-12.

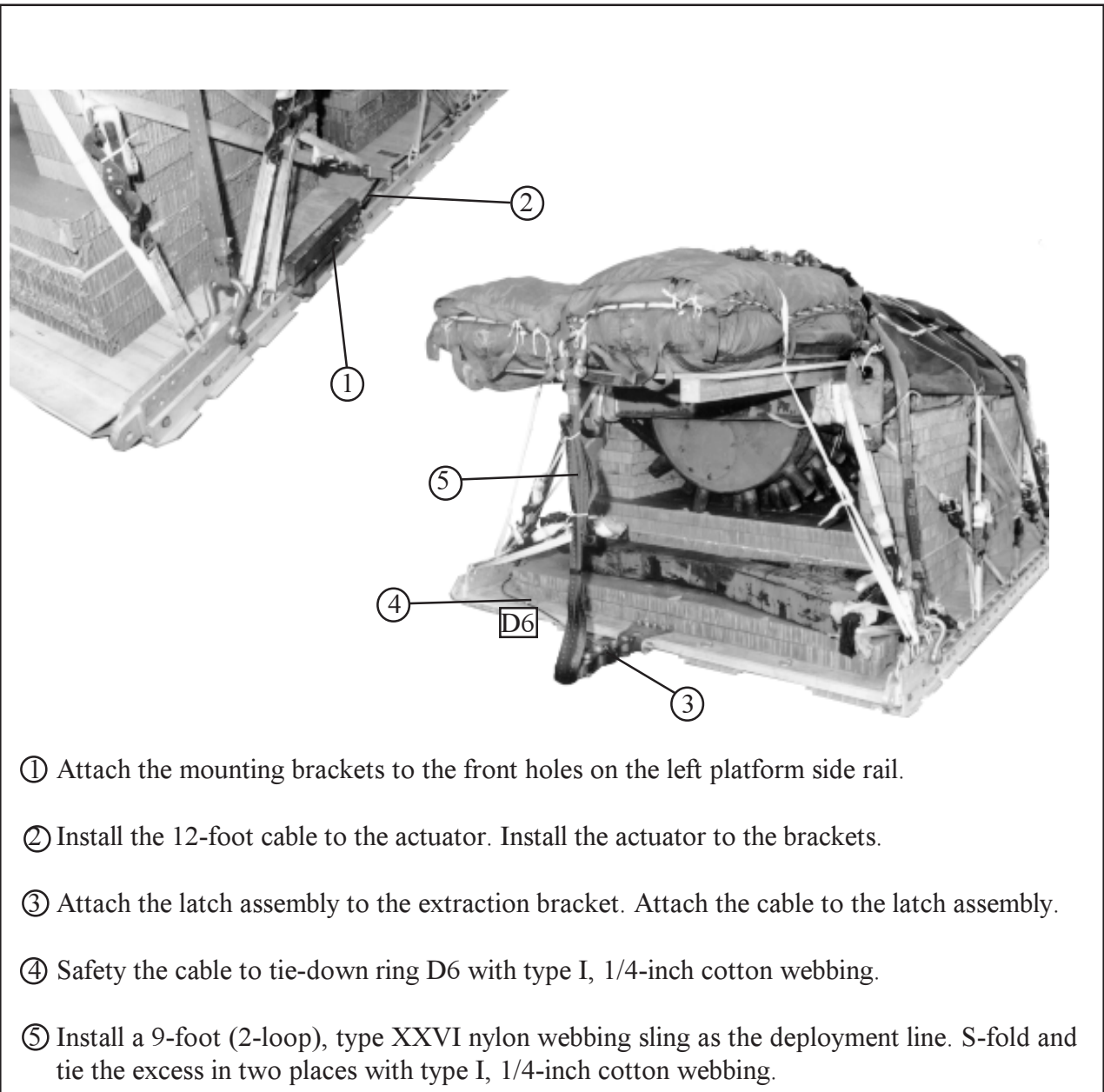


Figure 11-12. EFTC installed

11-12. Installing Provisions for Emergency Restraints

Select and install provisions for emergency restraint according to the emergency aft restraint requirements table in FM 10-500-2/TO 13C7-1-5.

11-13. Placing Extraction Parachute

Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 10-500-2/TO 13C7-1-5.

Place the extraction parachute and extraction line on the load for installation in the aircraft.

11-14. Marking Rigged Load

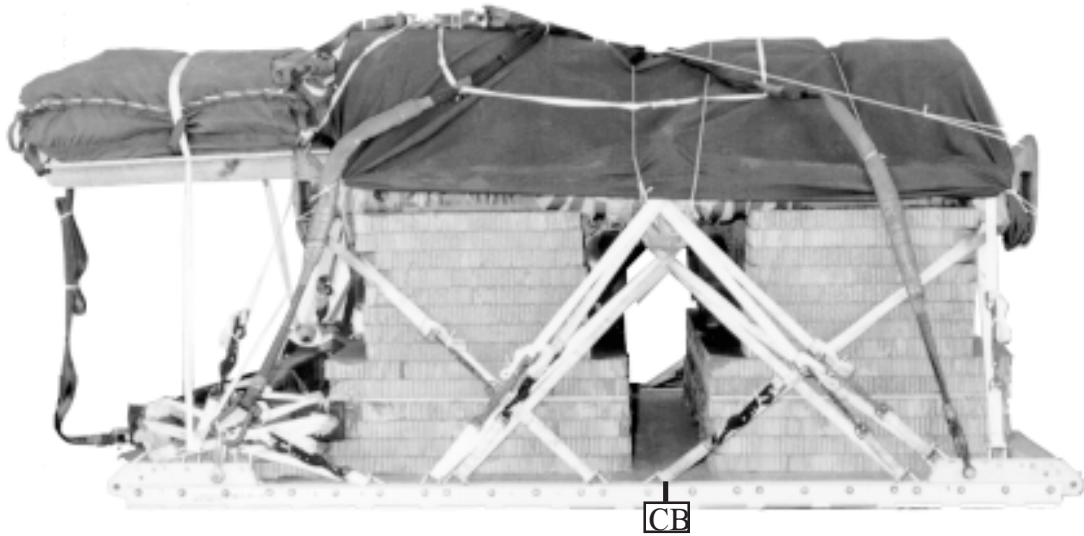
Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-13.

If the load varies from the one shown, the weight, height, CB, tip-off curve, and parachute requirements must be recomputed.

11-15. Equipment Required

Use the equipment listed in Table 11-1 to rig this load.

CAUTION
**Make the final rigger inspection required by FM 10-500-2/
 TO 13C7-1-5 before the load leaves the rigging site.**



Rigged Load Data

Weight	9,760 pounds
Maximum Weight	9,900 pounds
Height	82 inches
Width	108 inches
Length	173 inches
Overhang Front	5 inches
Rear	24 inches
CB (from front edge of platform)	71 inches
Extraction System (adds 18 inches to length of platform)	EFTC

Figure 11-13. MDG 96 sheepsfoot roller rigged for low-velocity airdrop on a type V platform

Table 11-1. Equipment required for rigging MDG 96 sheepsfoot roller for low-velocity airdrop on a type V platform

National Stock Number	Item	Quantity
1670-00-162-4981	Adapter, coupling, EFTC	1
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	7
8305-00-242-3593	Cloth, cotton duck, 60-in	As required
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer with cable, 12-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	3
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
1670-01-183-2678	Leaf, extraction line (line bag)	2
	Line, drogue (for C-17)	
1670-01-062-6313	60-ft (3-loop), type XXVI	1
	Line, extraction:	
1670-01-062-6313	60-ft (3-loop), type XXVI (for C-130)(Use w/ 140-ft for C-5)	1
1670-01-107-7651	140-ft (3-loop), type XXVI (for C-141B,C-5, or C-17)	1
	Link assembly:	
1670-00-783-5988	Type IV	3
	Two-point:	
5306-00-435-8994	Bolt, 1-in diam, 4-in long	2
5310-00-232-5165	Nut, 1-in, hexagonal	2
1670-00-003-1954	Plate, side, 5 1/2-in	2
5365-00-007-3414	Spacer, large	2
	Lumber:	
5510-00-220-6448	2- by 6- by 36-in	1
5510-00-220-6274	4- by 4- by 96-in	2
5315-00-010-4659	Nail, steel wire, 8d	As required

Table 11-1. Equipment required for rigging MDG 96 sheepsfoot roller for low-velocity airdrop on a type V platform (continued)

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating (honeycomb) 3- by 36- by 96-in	20 sheets
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11B	2
	Cargo extraction:	
1670-01-063-3716	22-ft	1
	Drogue (for C-17)	
1670-01-063-3715	15-ft	1
	Platform, airdrop, type V, 12-ft	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(22)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(4)
5530-00-128-4981	Plywood, 3/4-in:	3 sheets
	48- by 60-in	(1)
	48- by 83-in	(2)
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop	
	For suspension:	
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	4
	For lifting:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	6
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	2
1670-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	26
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required