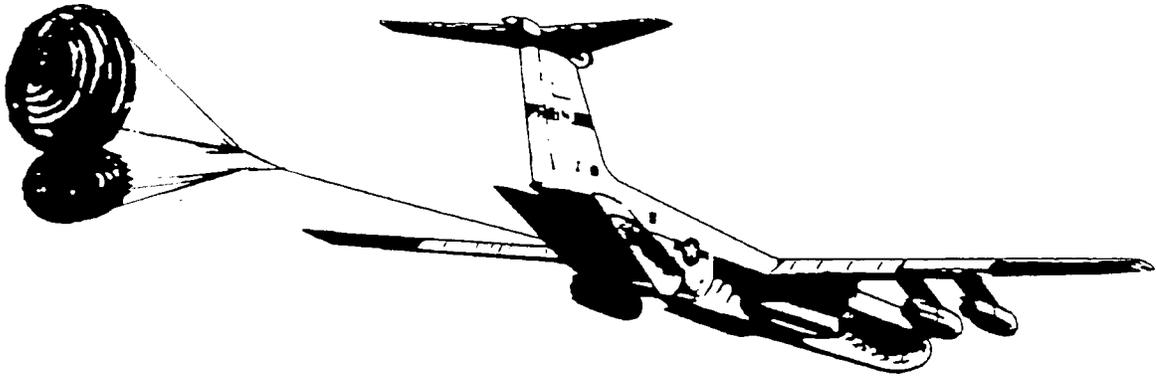


**ARMY FM 10-512  
AIR FORCE TO 13C7-1-8**



**AIRDROP OF SUPPLIES AND EQUIPMENT:  
RIGGING TYPICAL SUPPLY LOADS**



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**AIRDROP OF SUPPLIES AND EQUIPMENT:  
RIGGING TYPICAL SUPPLY LOADS**

This change modifies the procedures for rigging typical mass supply loads for low-velocity airdrop on type V platforms. This change adds procedures rigging mass supplies for low-velocity airdrop using the Palletized Load System.

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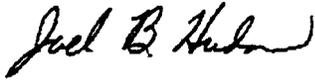
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WASHINGTON, DC, 3 OCTOBER 1995

**AIRDROP OF SUPPLIES AND EQUIPMENT**  
**RIGGING TYPICAL SUPPLY LOADS**

This change adds the procedures for rigging 155-millimeter ammunition and 2.75-inch rockets on a 12-foot platform for LAPE airdrop. This change also adds the procedures for rigging 20-millimeter, 105-millimeter, and 155-millimeter ammunition on a 16-foot platform for low-velocity and LAPE airdrops; and rigging a mass supply box on 16- and 20-foot platforms for low-velocity airdrop.

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Glossary-1  
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**AIRDROP OF SUPPLIES AND EQUIPMENT:  
RIGGING TYPICAL SUPPLY LOADS**

This change adds the procedures for rigging bulk supplies and FAST equipment for low-velocity and LAPE airdrop on the type V platform.

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**AIRDROP OF SUPPLIES AND EQUIPMENT:  
RIGGING TYPICAL SUPPLY LOADS**

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## PREFACE

### SCOPE

This manual tells and shows how to rig mass supply loads. Procedures are given for typical loads that can be contained by the methods shown. These procedures are meant as a guide, and may be adapted to specific loads. Procedures are also given for some specific ammunition loads. This manual is designed for all parachute riggers.

### USER INFORMATION

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## CHAPTER 1

## INTRODUCTION

**1-1. Description of Items**

Bulk supplies consisting of rations, fuels, lubricants, ammunition, and various unit equipment can be rigged on standard airdrop platforms using the procedures given in this manual. Items packaged in containers or units of the same size, such as rations and ammunition are rigged using lashings and endboards. These procedures can be adapted for loads that are different from the specific ammunition loads shown. Some items are more easily rigged in A-22 containers. Items of varying and irregular size can be padded, secured, and contained in mass supply boxes on 12, 16, and 20-foot platforms. Additionally, items using endboards and A-22 containers are shown rigged using the Palletized Load System.

**CAUTION**

**The load weights may vary from the loads shown. Be sure that each load is weighed, and the parachute requirements, CB, and tip-off curve computed.**

**1-2. Special Considerations**

Special considerations for this manual are listed below.

**a.** The loads covered in this manual may include hazardous materials as defined in AFJMAN 24-204/TM 38-250. If included, the hazardous material must be packaged, marked, and labeled as required by AFJMAN 24-204/TM 38-250.

**b.** Only ammunition listed in FM 10-500-53/MCRP 4-3.8/TO 13C7-18-41 may be airdropped.

**c.** A copy of this manual must be available to the joint airdrop inspectors during the before- and after- loading inspections.

## CHAPTER 11

**RIGGING SUPPLY LOADS ON AN 8-FOOT, TYPE V  
PLATFORM FOR LOW-VELOCITY AIRDROP**

---

**Section I  
RIGGING BULK SUPPLIES**

---

**11-1. Description of Load**

Bulk supplies consisting of rations, equipment, fuel, ammunition, or other items of general supply are rigged on an 8-foot type V airdrop platform with G-11 cargo parachutes. Items packaged or configured so that they can be restrained by endboards and lashings can be airdropped using these procedures. Modifications to the honeycomb, endboards, and lashings may be necessary to allow for items of different size and shape from those shown. For extraction purposes, the rigged load must weigh at least 2,520 pounds, but no more than 10,500 pounds.

**11-2. Preparing Platform**

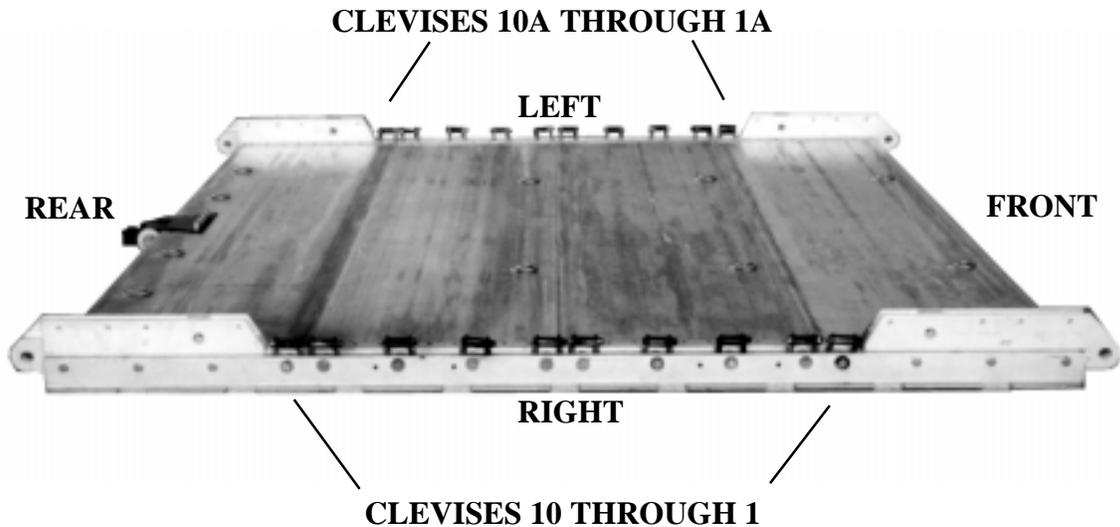
Prepare an 8-foot, type V airdrop platform as given below:

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

*b. Installing Tandem Links.* Install four tandem links as shown in Figure 11-1.

*c. Attaching and Numbering Clevises.* Attach and number 20 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 14, 15, and 16.
3. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13.
4. Starting at the front of the platform, number the clevises bolted to the right side of the platform from 1 through 10, and those bolted to the left side from 1A through 10A.
5. Label the tie-down rings according to FM 10-500-2/TO 13C7-1-5.

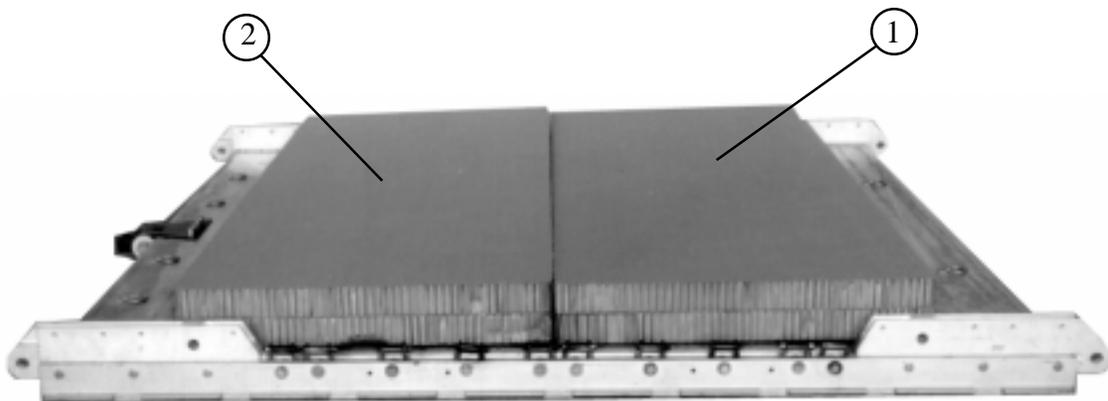
*Figure 11-1. Platform prepared*

### 11-3. Placing Honeycomb

Place the honeycomb on the platform as shown in Figure 11-2.

**Notes:**

- 1. When ammunition is dropped, two layers of honeycomb are required.**
- 2. When rigging this load for airdrop on a drop zone with ground elevation of 6,000 to 10,000 feet, add an additional layer of honeycomb.**
- 3. Adjust the dimensions of the honeycomb to fit the items being dropped.**
- 4. Do not cover the extraction bracket with honeycomb.**



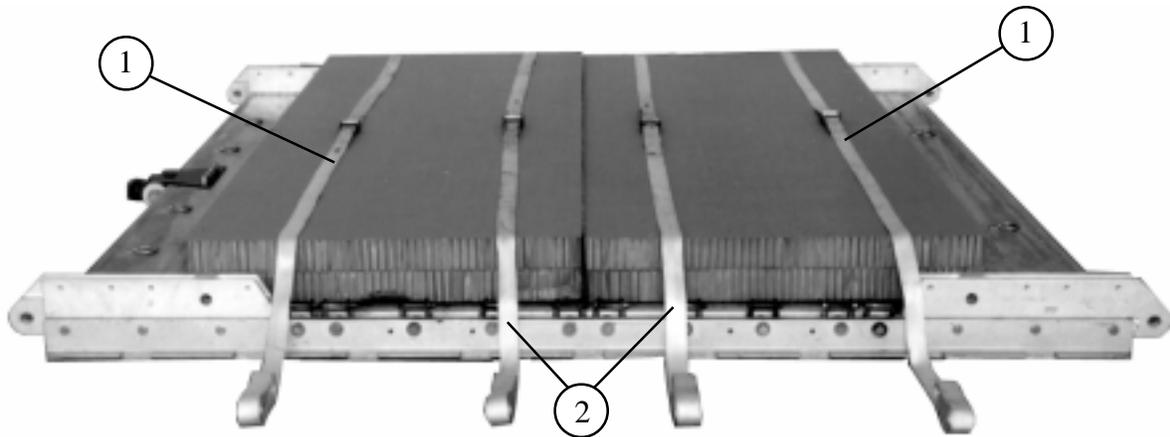
- ① Glue two full 36- by 96-inch sheets of honeycomb together. Center them 12 inches from the front edge of the platform.
- ② Make a stack as in step 1 above and place it flush against the stack placed in step 1.

*Figure 11-2. Honeycomb placed*

#### 11-4. Positioning and Securing Load

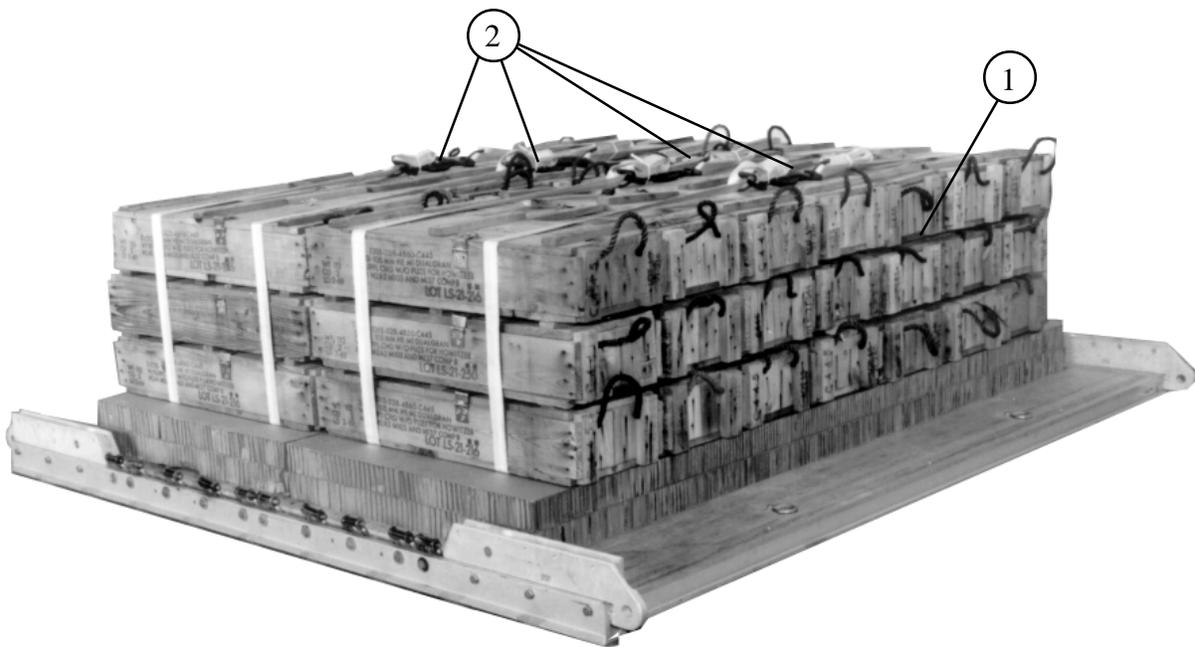
Place four 30-foot lashings on the honeycomb, place the load on the honeycomb, and secure the lashings as shown in Figure 11-3. Adapt the procedures shown for loads configured differently.

**CAUTION**  
Only ammunition listed in FM 10-500-53/  
MCRP No 4-3.8/TO 13C7-18-41 may be  
airdropped. Hazardous material must be  
packaged, marked, and labeled as required  
by AFJMAN 24-204/TM 38-250.



- ① Form four 30-foot lashings according to FM 10-500-2/TO 13C7-1-5. Center a lashing across the honeycomb 6 inches from each end.
- ② Center two lashings on the joint in the honeycomb, 12 inches apart.

*Figure 11-3. Load positioned and secured*



- ③ Position the load on the honeycomb with the weight evenly distributed.
- ④ Pass both ends of each lashing to the top of the load. Secure each lashing with two D-rings and a load binder.

**Note:** Position the load binders so that they will be accessible for retightening and inspection when the load is fully rigged.

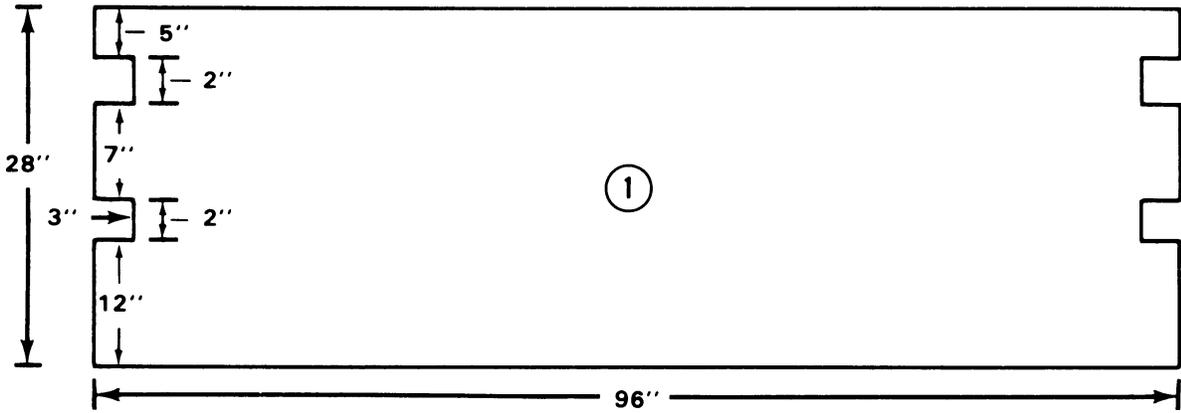
*Figure 11-3. Load positioned and secured (continued)*

### 11-5. Constructing and Installing Endboards

Construct the endboards and install them on the load as shown in Figure 11-4.

**Notes:**

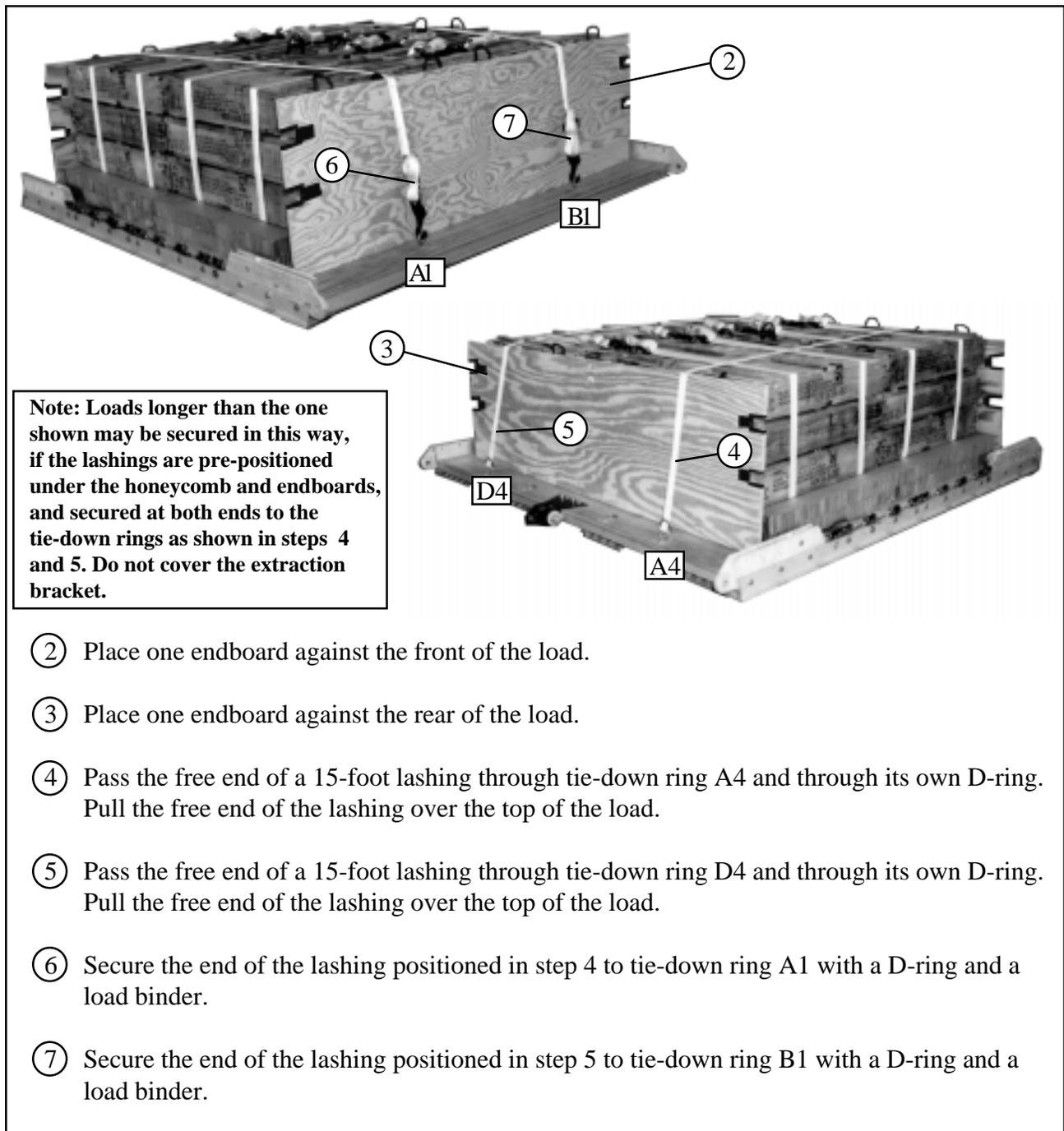
- 1. This drawing is not to scale.**
- 2. The dimensions of the endboards will vary, depending on the load being rigged. The endboards must be even with the top of the load.**



The diagram shows a rectangular endboard with a total height of 28 inches and a total width of 96 inches. On the left side, there are three cutouts. The top cutout is 5 inches high and 3 inches wide. Below it is a 2-inch high section. The middle cutout is 7 inches high and 3 inches wide. Below it is another 2-inch high section. The bottom cutout is 12 inches high and 3 inches wide. A circled number 1 is placed in the center of the board.

- 1** Construct two endboards using one 3/4- by 28- by 96-inch piece of plywood for each endboard. Make cutouts as shown.
- 2** Tape the cutouts in the endboards to protect the lashings from sharp edges.

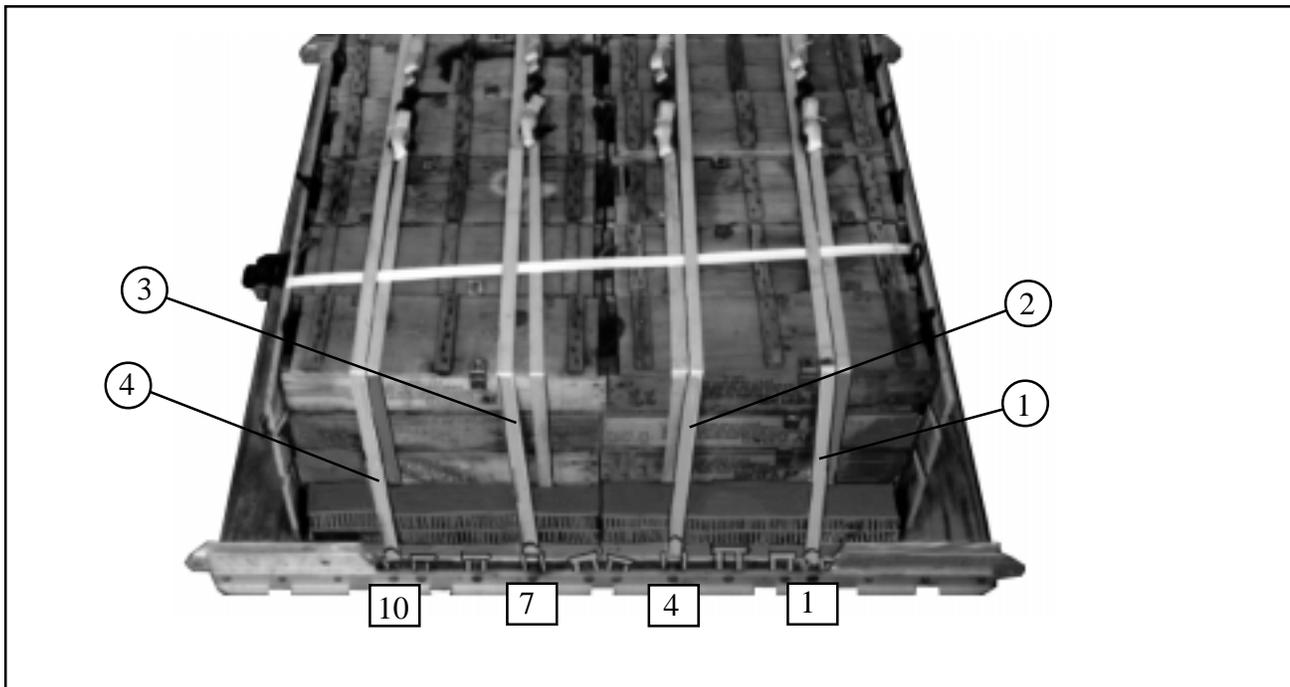
Figure 11-4. Endboards constructed and installed



*Figure 11-4. Endboards constructed and installed (continued)*

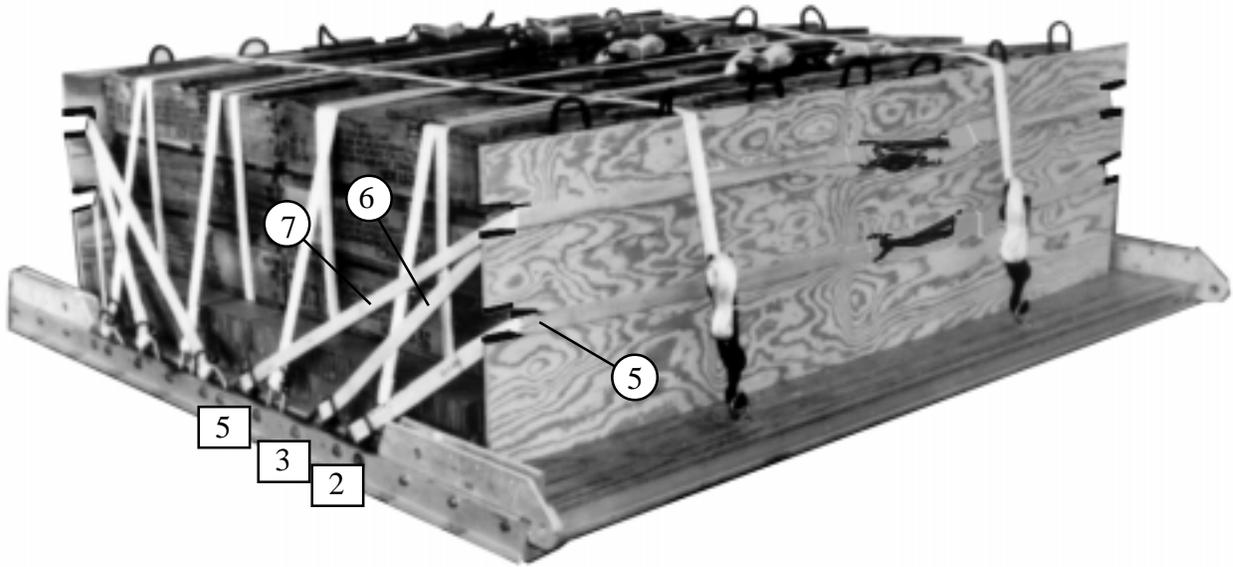
**11-6. Installing Lashings**

Lash the load to the platform using sixteen 15-foot lashings, sixteen D-rings, and ten load binders according to FM 10-500-2/TO 13C7-1-5, and as shown in Figures 11-5, 11-6, and 11-7.



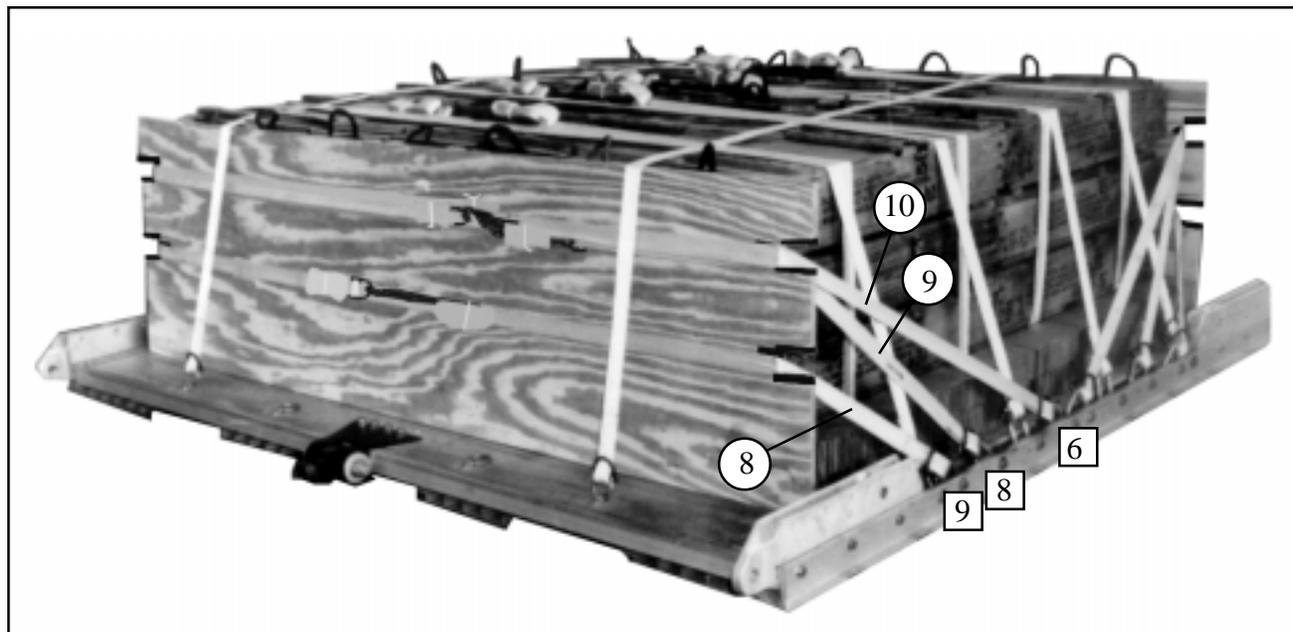
Lashing Number	Tie-down Clevis Numbers	Instructions
1	1 and 1A	Pass lashing: Through clevis 1 and through its own D-ring, over the top of the load, and to clevis 1A. Secure the lashing to clevis 1A with a D-ring and a load binder.
2	4 and 4A	Through clevis 4 and through its own D-ring, over the top of the load, and to clevis 4A. Secure the lashing to clevis 4A with a D-ring and a load binder.
3	7 and 7A	Through clevis 7 and through its own D-ring, over the top of the load, and to clevis 7A. Secure the lashing to clevis 7A with a D-ring and a load binder.
4	10 and 10A	Through clevis 10 and through its own D-ring, over the top of the load, and to clevis 10A. Secure the lashing to clevis 10A with a D-ring and a load binder.

*Figure 11-5. Lashings 1 through 4 installed*



Lashing Number	Tie-down Clevis Numbers	Instructions
5	2 and 2A	Pass lashing: Through clevis 2 and through its own D-ring, and through the lower cutout in the front endboard. Pass another lashing through clevis 2A and through its own D-ring, and through the lower cutout in the front endboard. Secure the lashings together in the middle of the front endboard with two D-rings and a load binder.
6	3 and 3A	Through clevis 3 and through its own D-ring, and through the upper cutout in the front endboard. Pass another lashing through clevis 3A and through its own D-ring, and through the upper cutout in the front endboard. Secure the lashings together in the middle of the front endboard with two D-rings and a load binder.
7	5 and 5A	Through clevis 5 and through its own D-ring, and through the upper cutout in the front endboard. Pass another lashing through clevis 5A and through its own D-ring, and through the upper cutout in the front endboard. Secure the lashings together in the middle of the front endboard with two D-rings and a load binder.

Figure 11-6. Lashings 5 through 7 installed

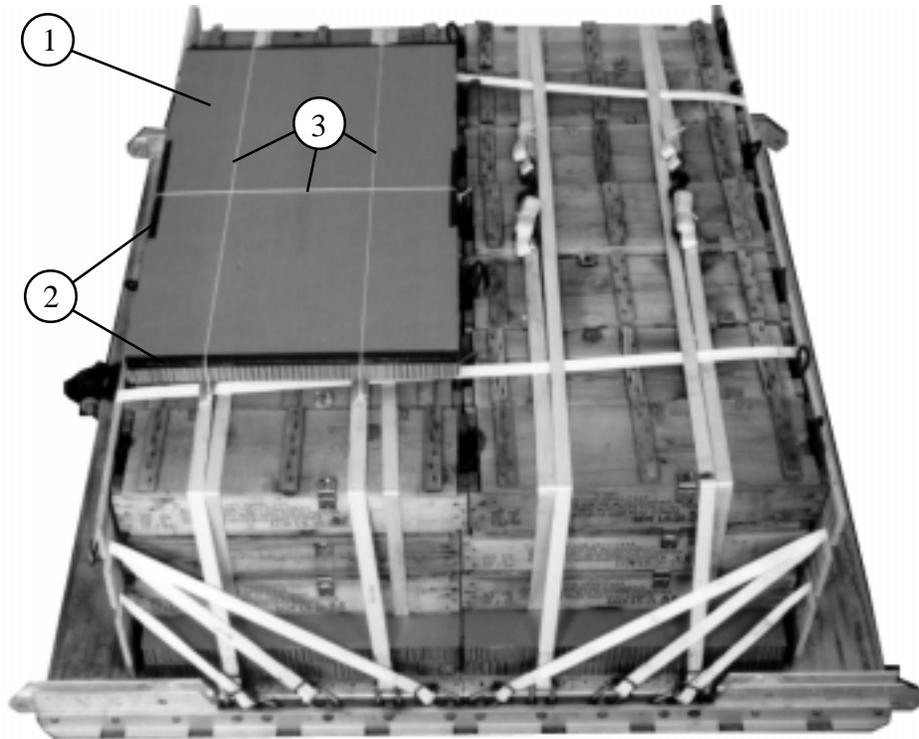


Lashing Number	Tie-down Clevis Numbers	Instructions
8	9 and 9A	Pass lashing: Through clevis 9 and through its own D-ring, and through the lower cutout in the rear endboard. Pass another lashing through clevis 9A and through its own D-ring, and through the lower cutout in the rear endboard. Secure the lashings together in the middle of the rear endboard with two D-rings and a load binder.
9	8 and 8A	Through clevis 8 and through its own D-ring, and through the upper cutout in the rear endboard. Pass another lashing through clevis 8A and through its own D-ring, and through the upper cutout in the rear endboard. Secure the lashings together in the middle of the rear endboard with two D-rings and a load binder.
10	6 and 6A	Through clevis 6 and through its own D-ring, and through the upper cutout in the rear endboard. Pass another lashing through clevis 6A and through its own D-ring, and through the upper cutout in the rear endboard. Secure the lashings together in the middle of the rear endboard with two D-rings and a load binder.

Figure 11-7. Lashings 8 through 10 installed

**11-7. Installing Parachute Stowage Platform**

Install the parachute stowage platform as shown in Figure 11-8.

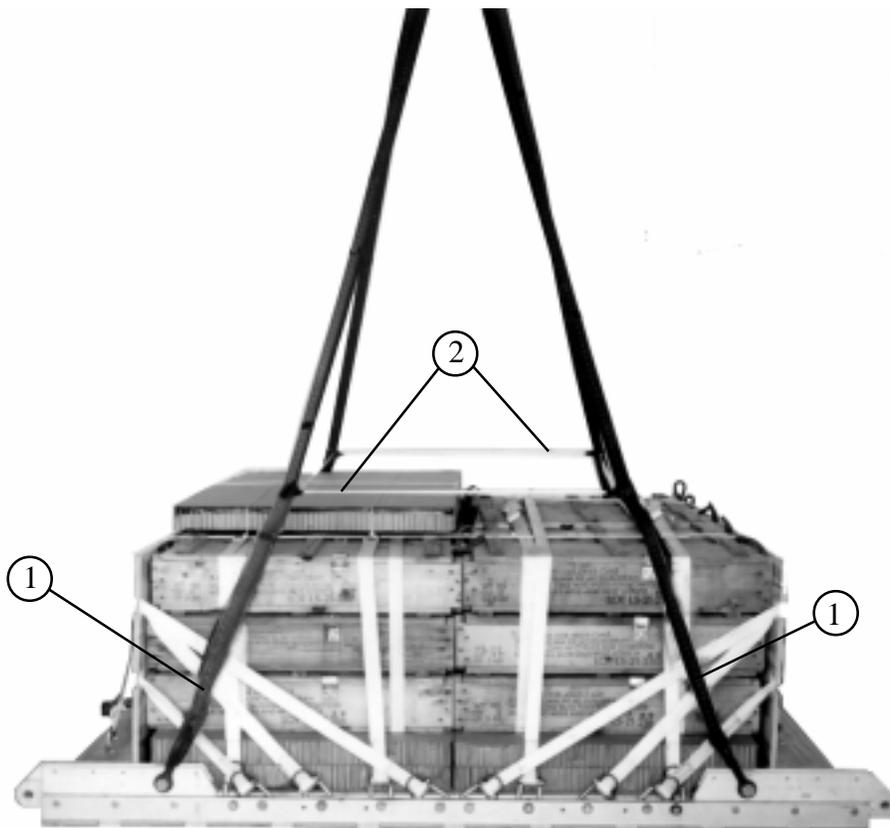


- ① Position a 60- by 36-inch piece of honeycomb along the rear endboard so that it is centered across the load and even with the rear endboard.
- ② Tape the edges of the honeycomb.
- ③ Tie the honeycomb to the nearest lashings with three lengths of type III nylon cord.

*Figure 11-8. Parachute stowage platform installed*

### 11-8. Installing Suspension Slings and Deadman's Tie

Install the suspension slings as shown in Figure 11-9 using four 11-foot (2-loop), type XXVI nylon webbing slings and four large suspension clevis assemblies. Install the deadman's tie as shown in Figure 11-9.

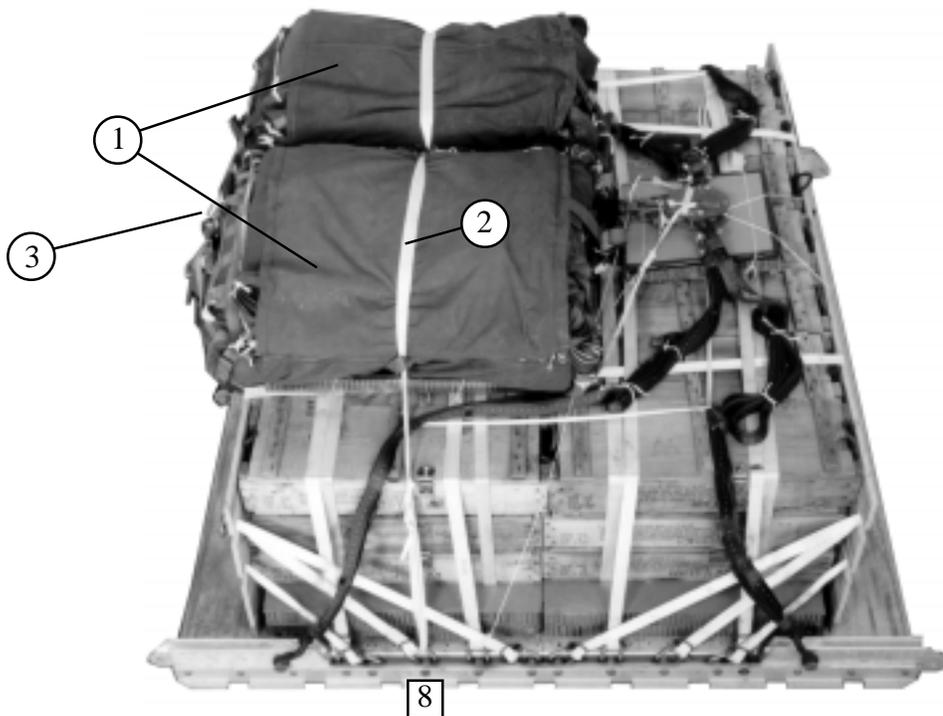


- ① Attach an 11-foot (2-loop), type XXVI nylon webbing sling to each tandem link with a large suspension clevis.
- ② Install the deadman's tie according to FM 10-500-2/TO 13C7-1-5.

*Figure 11-9. Suspension slings and deadman's tie installed*

### 11-9. Installing Parachutes

Compute the parachute requirements for the load being rigged. The load shown requires two G-11B cargo parachutes. Install the parachutes as shown in Figure 11-10.

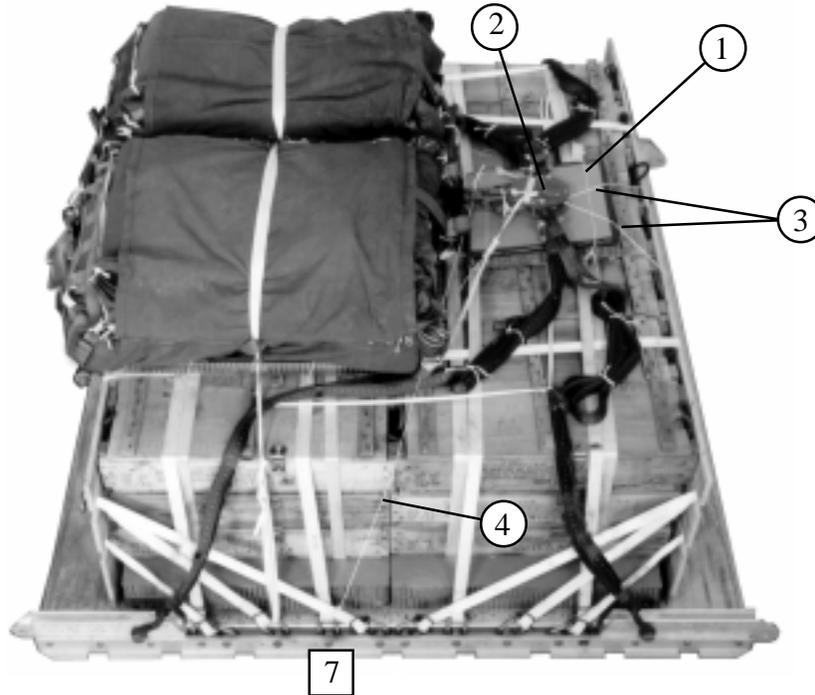


- ① Prepare two G-11B cargo parachutes according to FM 10-500-2/TO 13C7-1-5. Place the parachutes on the parachute stowage platform.
- ② Restrain the parachutes according to FM 10-500-2/TO 13C7-1-5. Tie the type VIII nylon restraint strap to clevises 8 and 8A.
- ③ Install the parachute release strap according to FM 10-500-2/TO 13C7-1-5.

*Figure 11-10. Cargo parachutes installed*

### 11-10. Installing Release System

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



- ① Center an 18-by 20-inch piece of honeycomb between the front edge of the boxes and the parachutes. Tape the edges of the honeycomb and secure it to the load with two lengths of type III nylon cord.

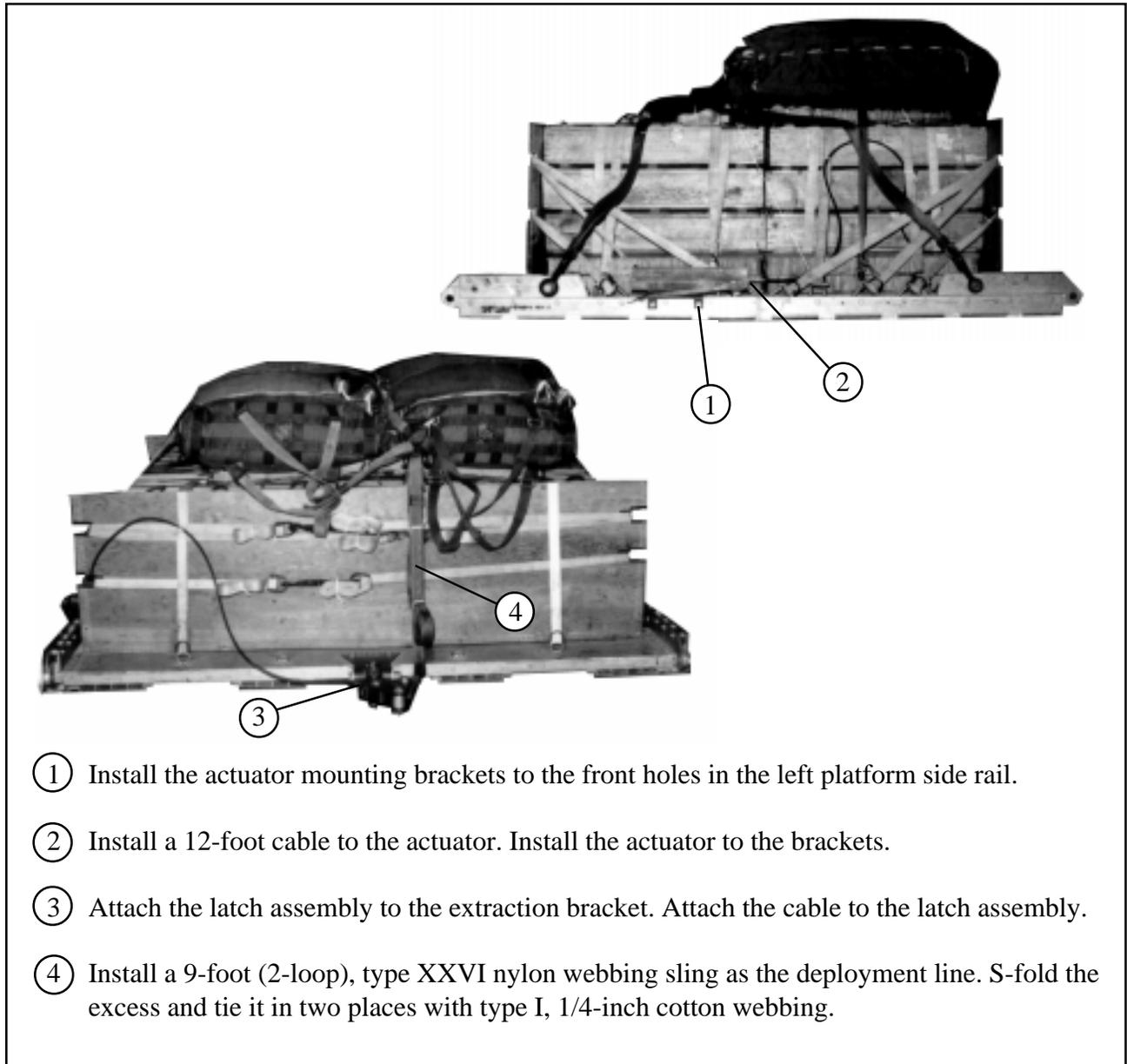
**Note: Do not cover the deadman's tie with the release platform.**

- ② Center the M-1 release on the honeycomb.
- ③ Secure the bottom of the release assembly to tie-down rings A1 and B1 with a length of type III nylon cord.
- ④ Secure the top of the release assembly to clevises 7 and 7A with a length of type III nylon cord.

*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.



- ① Install the actuator mounting brackets to the front holes in the left platform side rail.
- ② Install a 12-foot cable to the actuator. Install the actuator to the brackets.
- ③ Attach the latch assembly to the extraction bracket. Attach the cable to the latch assembly.
- ④ Install a 9-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold the excess and tie it in two places with type I, 1/4-inch cotton webbing.

*Figure 11-12. EFTC installed*

### **11-12. Installing Provisions for Emergency Restraints**

Select and install provisions for emergency restraints 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.

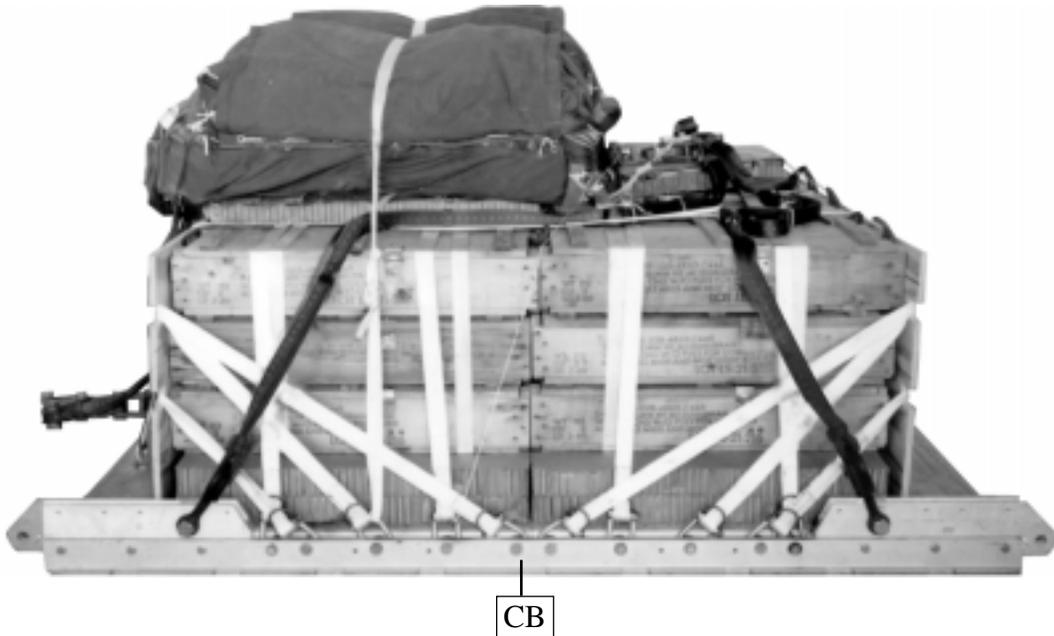
### **11-14. Marking Rigged Load**

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 11-13. Complete the Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, tip-off curve, CB, 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:	Load shown	6,344 pounds
	Maximum	10,500 pounds
Height		56 inches
Width		108 inches
Length		119 inches
Overhang:	Front	0 inches
	Rear	0 inches
	CB (from front edge of platform)	50 inches
	Extraction System (adds 18 inches to length of platform)	EFTC

*Figure 11-13. Bulk supply load rigged on an 8-foot platform for low-velocity airdrop*

Table 11-1. Equipment required for rigging bulk supply load on an 8-foot type V platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
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
1670-01-183-2678	Leaf, extraction line (line bag)	2
	Line, drogue (for C-17)	
1670-01-064-4452	60-ft (1-loop), type XXVI	1
	Line, extraction	
1670-01-064-4452	For C-130: 60-ft (1-loop), type XXVI	1
1670-01-107-7652	For C-141: 160-ft (1-loop), type XXVI	1
1670-01-107-7652	For C-5: 160-ft (1-loop), type XXVI	1
1670-01-107-7652	For C-17: 160-ft (1-loop), type XXVI	1
	Link assembly:	
1670-00-783-5988	Type IV	3
	Two-point, 3 3/4-in (for C-17)	
5306-00-435-8994	Bolt, 1-in diam, 4 in long	2
5310-00-232-5165	Nut, 1-in, hexagonal	2
1670-00-003-1953	Plate, side, 3 3/4-in	2
5365-00-007-3414	Spacer, large	2

*Table 11-1. Equipment required for rigging bulk supply load on an 8-foot type V platform for low-velocity airdrop (continued)*

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in	5 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	2
1670-01-063-3715	Cargo extraction, 28ft	1
1670-01-063-3715	Drogue, 15-ft (for C-17)	1
	Platform, airdrop, type V, 12-foot	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(20)
1670-01-353-8424	Extraction bracket assembly	(1)
1670-01-162-2381	Link, tandem, suspension link assembly	(4)
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	2 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo airdrop	
	For suspension:	
1670-01-063-7760	11-ft (2-loop), type XXVI nylon webbing	4
	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
1670-00-998-0116	Strap, parachute release, single	1
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-ft	26
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-261-8585	Type VIII	As required

---

**Section II**  
**RIGGING BULK SUPPLIES in A-22 CARGO BAGS**

---

**11-16. Description of Load**

Bulk supplies consisting of rations, equipment, fuel, ammunition, or other items of general supply are rigged on an 8-foot type V airdrop platform with G-11 cargo parachutes. Items packaged or configured so that they can be contained in A-22 cargo bags can be airdropped using these procedures. For extraction purposes, the rigged load must weigh at least 2,520 pounds, but no more than 9,500 pounds.

**11-17. Preparing Platform**

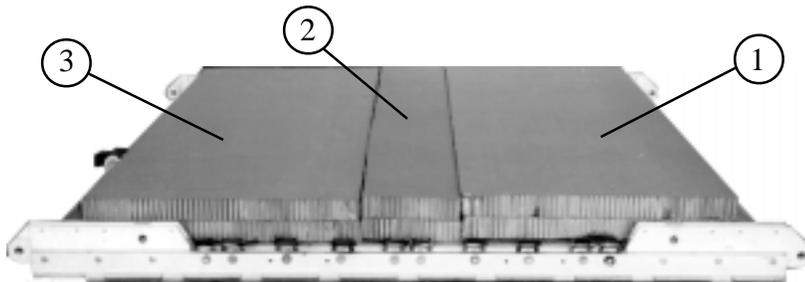
Prepare an 8-foot, type V airdrop platform as described in paragraph 11-2 and as shown in Figure 11-1.

**11-18. Placing Honeycomb**

Place the honeycomb on the platform as shown in Figure 11-14.

**Notes:**

- 1. When ammunition is dropped, two layers of honeycomb are required.**
- 2. When rigging this load for airdrop on a drop zone with ground elevation of 6,000 to 10,000 feet, add an additional layer of honeycomb.**



- ① Glue two full 36- by 96-inch sheets of honeycomb together. Center them 5 inches from the front edge of the platform.
- ② Glue two 96- by 13-inch pieces of honeycomb together. Center them to the rear of the honeycomb placed in step 1.
- ③ Make a stack as in step 1 above and place it flush against the stack placed in step 2.

*Figure 11-14. Honeycomb placed*

**11-19. Stowing Load in A-22 Cargo Bags**

Prepare, stow, and rig the load in four A-22 cargo bags according to FM 10-500-3/TO 13C7-1-11, paragraphs 9-5 through 9-7. Attach the suspension webs according to paragraph 9-8.

**11-20. Positioning Load**

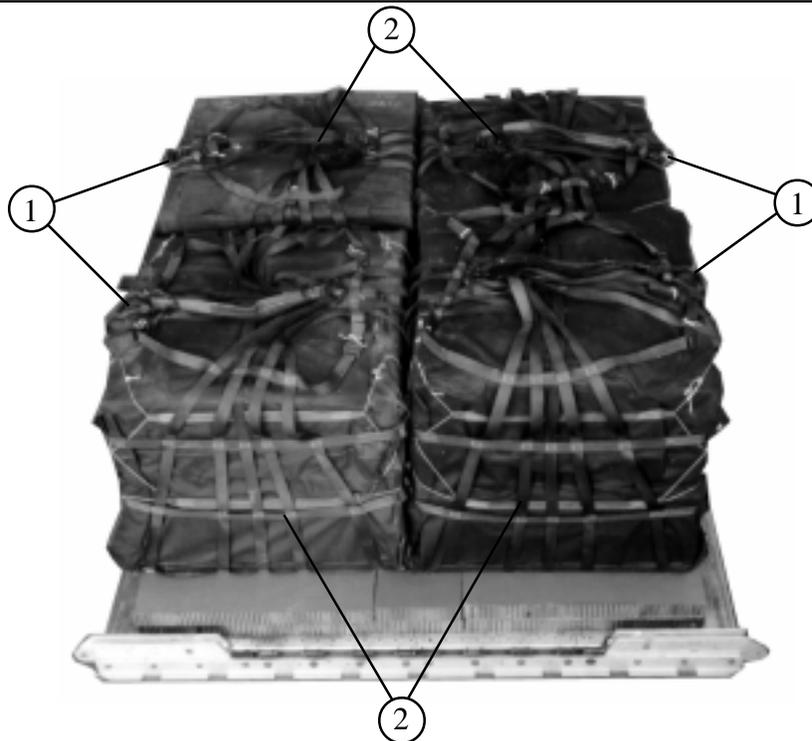
Position the four A-22 cargo bags on the honeycomb as shown in Figure 11-15.

**11-21. Installing Lashings**

Use twelve 15-foot tie-down assemblies to lash the load to the platform. Install the lashings according to FM 10-500-2/TO 13C7-1-5,

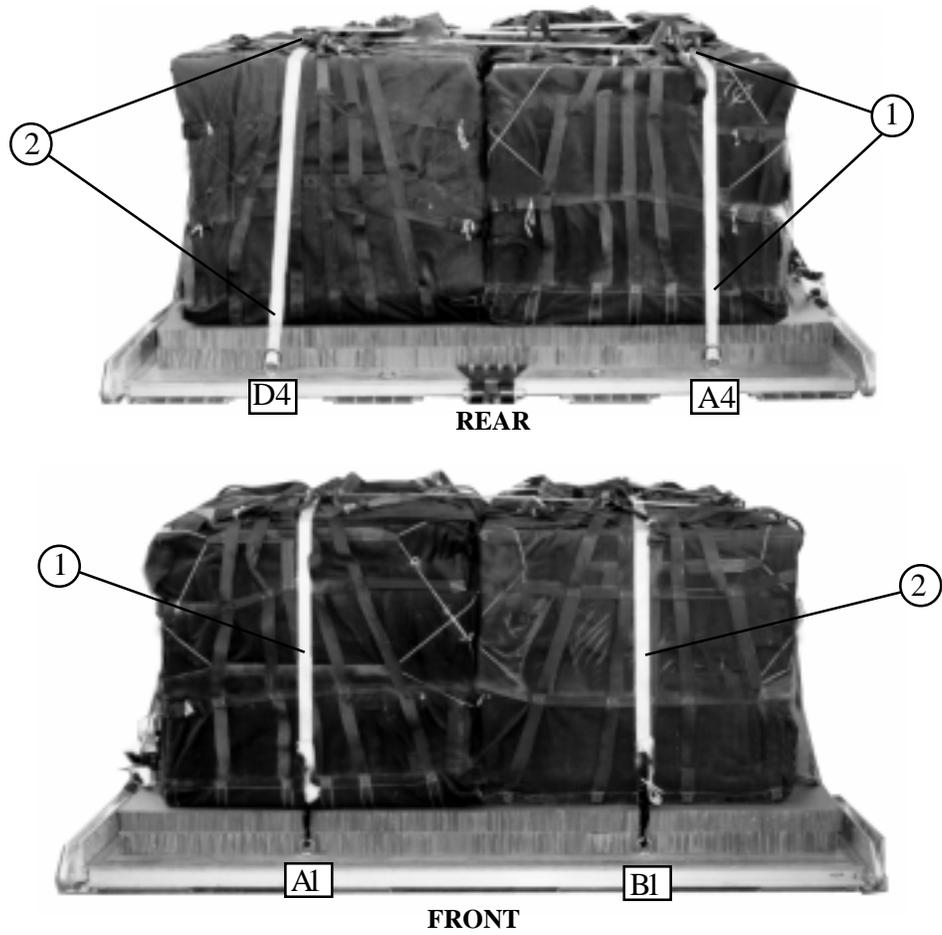
**CAUTION**

**Only ammunition listed in FM 10-500-53/MCRP No 4-3.8/TO 13C7-18-41 may be airdropped. Hazardous material must be packaged, marked, and labeled as required by AFJMAN 24-204/TM 38-250.**



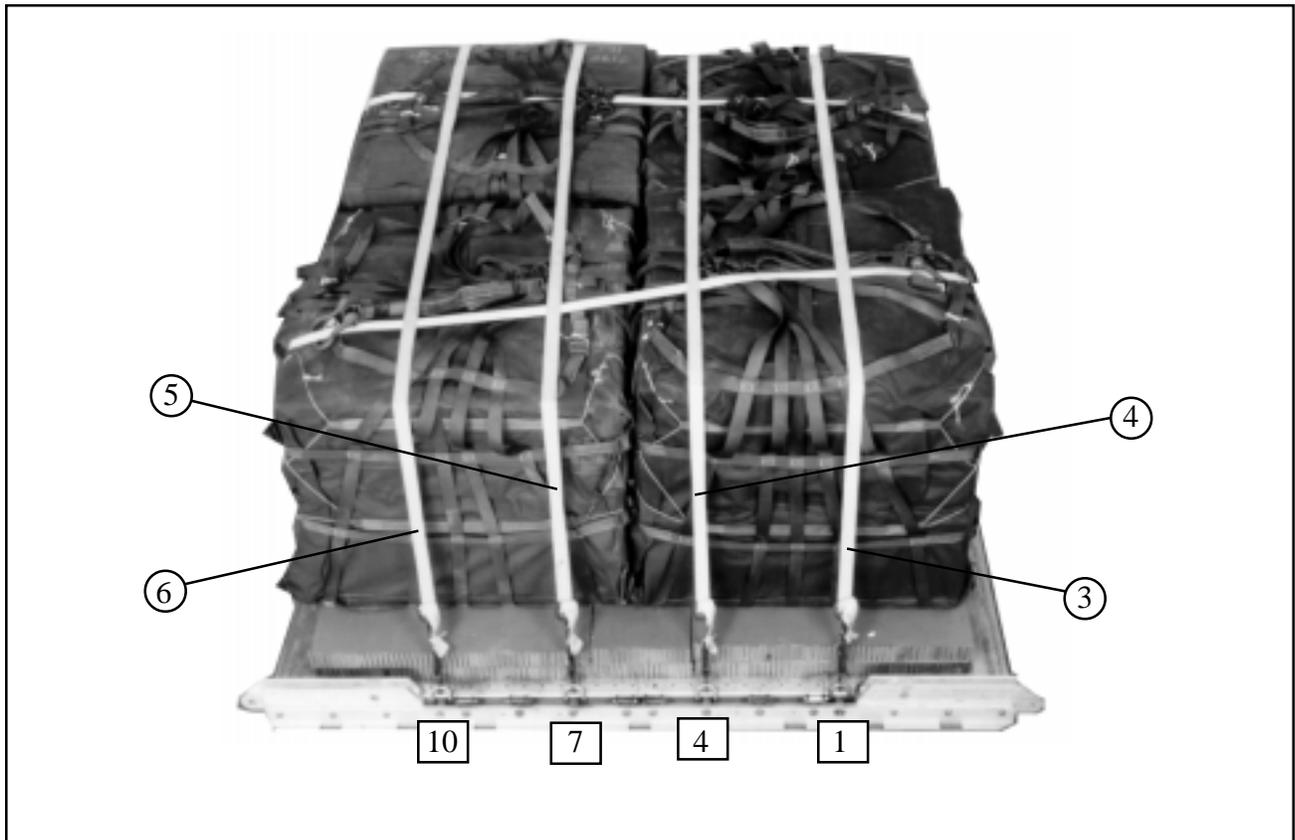
- ① Bolt a medium cargo suspension clevis to the suspension webs of each A-22 cargo bag to aid in derigging.
- ② Center four A-22 cargo bags on the honeycomb.

*Figure 11-15. Load positioned*



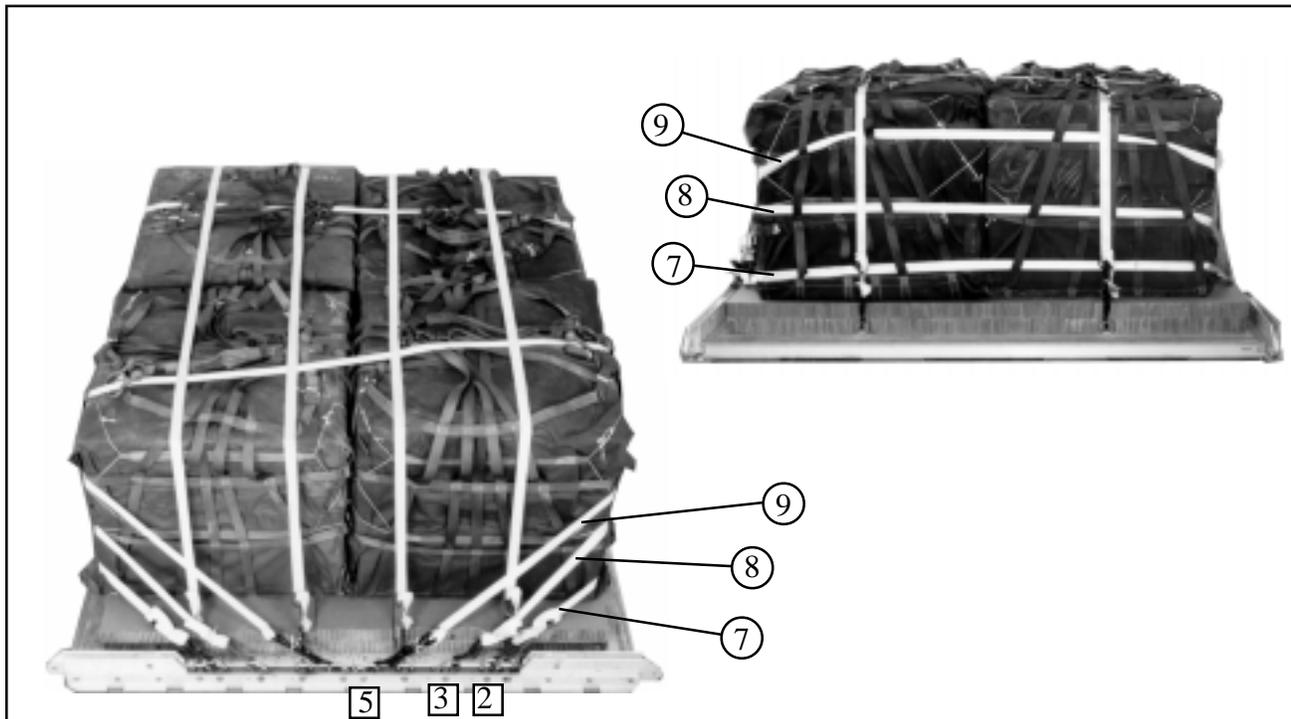
- ① Pass the free end of a 15-foot lashing through tie-down ring A4 and through its own D-ring. Pull the free end of the lashing over the top of the load, and through both of the suspension clevises on the right side. Secure the free end of the lashing to tie-down ring A1 with a D-ring and a load binder.
- ② Pass the free end of a 15-foot lashing through tie-down ring D4 and through its own D-ring. Pull the free end of the lashing over the top of the load, and through both of the suspension clevises on the left side. Secure the free end of the lashing to tie-down ring B1 with a D-ring and a load binder.

*Figure 11-16. lashings 1 and 2 installed*



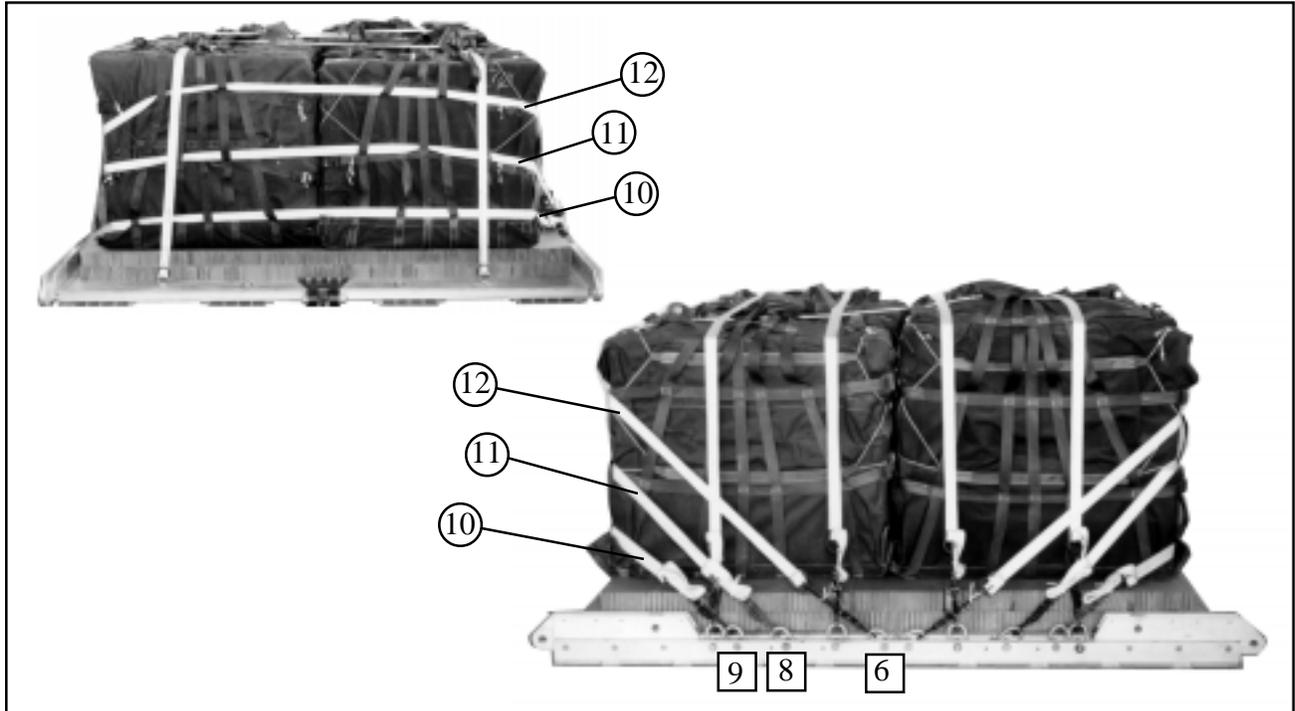
Lashing Number	Tie-down Clevis Numbers	Instructions
3	1 and 1A	Pass lashing: Through clevis 1A and through its own D-ring, over the top of the load, and to clevis 1. Secure the lashing to clevis 1 with a D-ring and a load binder.
4	4 and 4A	Through clevis 4A and through its own D-ring, over the top of the load, and to clevis 4. Secure the lashing to clevis 4 with a D-ring and a load binder.
5	7 and 7A	Through clevis 7A and through its own D-ring, over the top of the load, and to clevis 7. Secure the lashing to clevis 7 with a D-ring and a load binder.
6	10 and 10A	Through clevis 10A and through its own D-ring, over the top of the load, and to clevis 10. Secure the lashing to clevis 10 with a D-ring and a load binder.

Figure 11-17. Lashings 3 through 6 installed



Lashing Number	Tie-down Clevis Numbers	Instructions
7	2 and 2A	Pass lashing: Through clevis 2A and through its own D-ring. Pass the free end of the lashing around the front of the cargo bags and through the bag webbing just above the lowest lateral band. Secure the free end of the lashing to clevis 2 with a D-ring and a load binder.
8	3 and 3A	Through clevis 3A and through its own D-ring. Pass the free end of the lashing around the front of the cargo bags and through the bag webbing just above the next highest lateral band. Secure the free end of the lashing to clevis 3 with a D-ring and a load binder.
9	5 and 5A	Through clevis 5A and through its own D-ring. Pass the free end of the lashing around the front of the cargo bags and through the bag webbing just above the next highest lateral band. Secure the free end of the lashing to clevis 5 with a D-ring and a load binder.

Figure 11-18. Lashings 7 through 9 installed

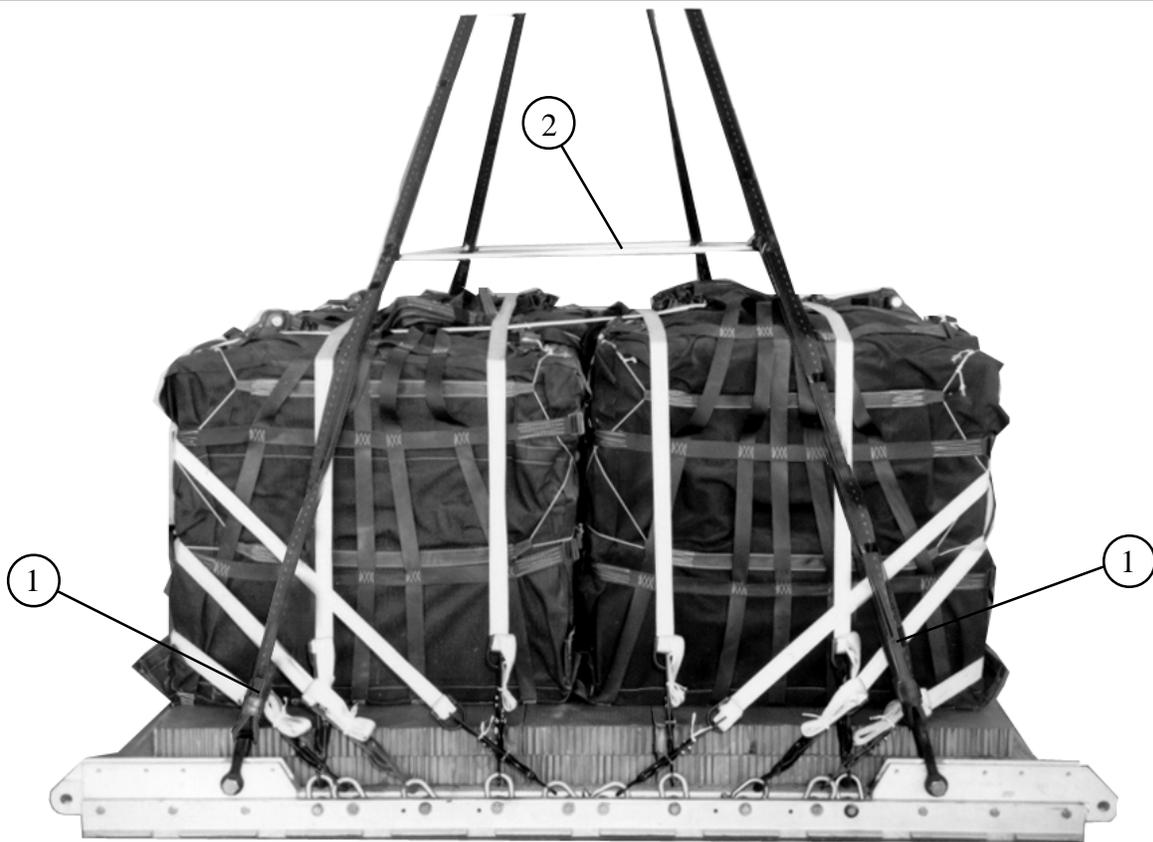


Lashing Number	Tie-down Clevis Numbers	Instructions
10	6 and 6A	Pass lashing: Through clevis 6A and through its own D-ring. Pass the free end of the lashing around the rear of the cargo bags and through the bag webbing just above the lowest lateral band. Secure the free end of the lashing to clevis 6 with a D-ring and a load binder.
11	8 and 8A	Through clevis 8A and through its own D-ring. Pass the free end of the lashing around the rear of the cargo bags and through the bag webbing just above the next highest lateral band. Secure the free end of the lashing to clevis 8 with a D-ring and a load binder.
12	9 and 9A	Through clevis 9A and through its own D-ring. Pass the free end of the lashing around the rear of the cargo bags and through the bag webbing just above the next highest lateral band. Secure the free end of the lashing to clevis 9 with a D-ring and a load binder.

Figure 11-19. Lashings 10 through 12 installed

**11-22. Installing Suspension Slings and Deadman's Tie**

Install the suspension slings as shown in Figure 11-20 using four 11-foot (2-loop), type XXVI nylon webbing slings and four large suspension clevis assemblies. Install the deadman's tie as shown in Figure 11-20.

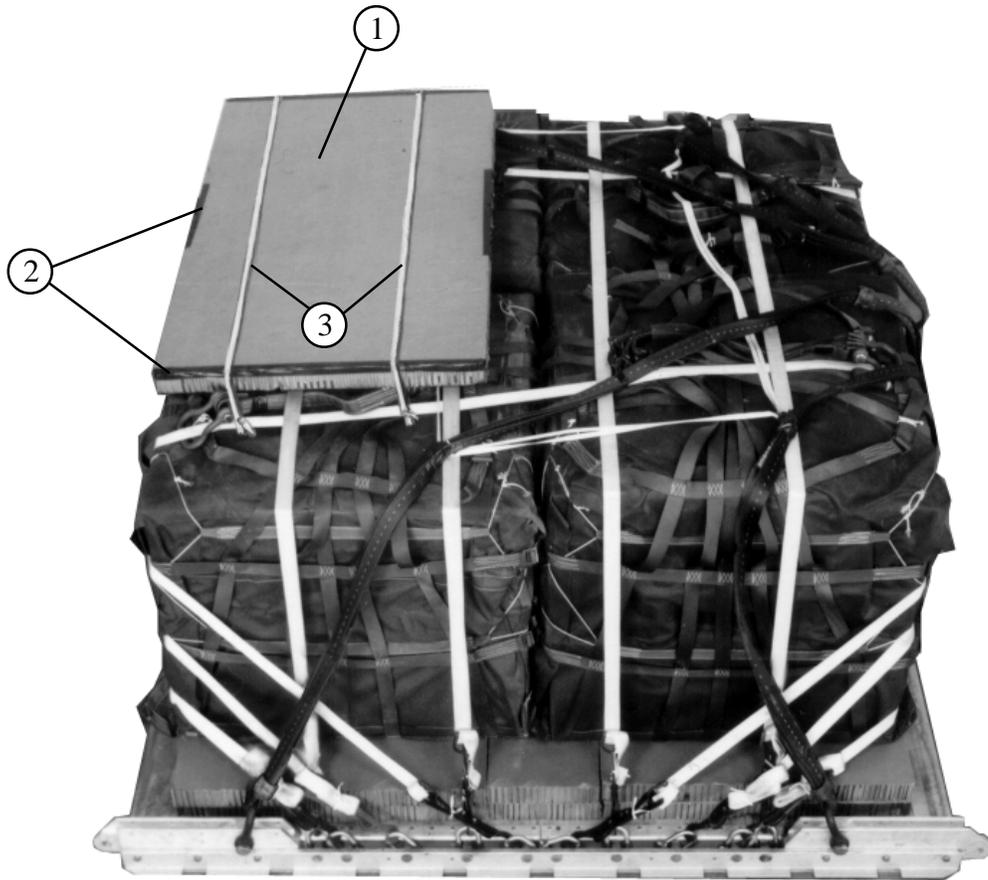


- ① Attach an 11-foot (2-loop), type XXVI nylon webbing sling to each tandem link with a large suspension clevis.
- ② Install the deadman's tie according to FM 10-500-2/TO 13C7-1-5.

*Figure 11-20. Suspension slings and deadman's tie installed*

### 11-23. Installing Parachute Stowage Platform

Install the parachute stowage platform as shown in Figure 11-21.

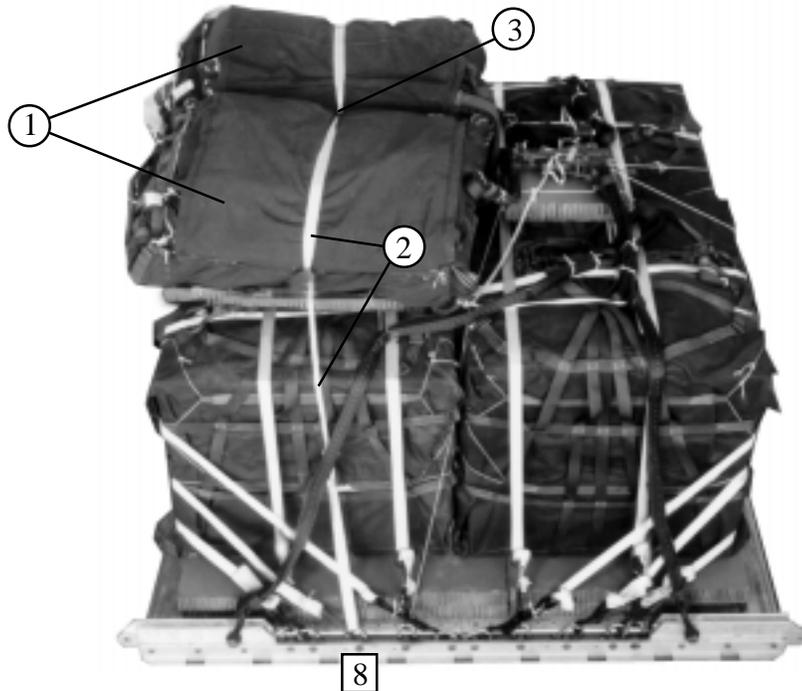


- ① Center a 60- by 36-inch piece of honeycomb along the rear edge of the cargo bags.
- ② Tape the edges of the honeycomb.
- ③ Tie the honeycomb to the nearest lashings with two lengths of type III nylon cord.

*Figure 11-21. Parachute stowage platform installed*

### 11-24. Installing Parachutes

Compute the parachute requirements for the load being rigged. The load shown requires two G-11 cargo parachutes. Prepare and install the parachutes according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 11-22.

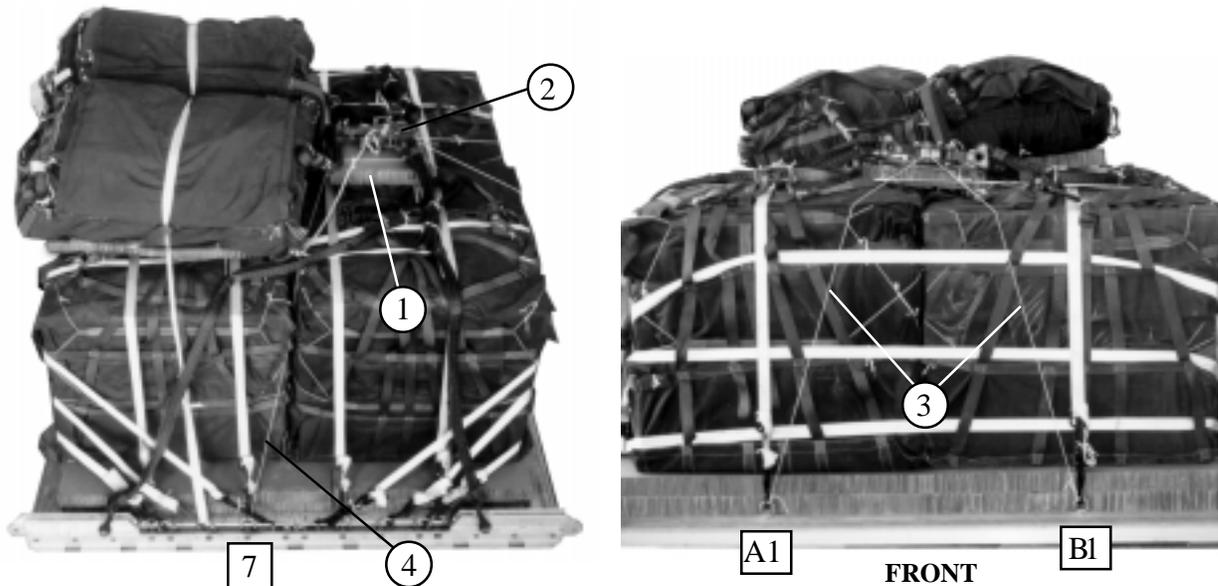


- ① Place two G-11 cargo parachutes on the parachute stowage platform.
- ② Restrain the parachutes with type VIII nylon webbing. Tie the restraint strap to clevises 8 and 8A.
- ③ Install the parachute release strap according to FM 10-500-2/TO 13C7-1-5.

*Figure 11-22. Cargo parachutes installed*

**11-25. Installing Release System**

Prepare, install, and safety an M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 11-23.



- ① Center an 18-by 20-inch piece of honeycomb in front of the parachutes. Tape the edges of the honeycomb and secure it to the load with two lengths of type III nylon cord.

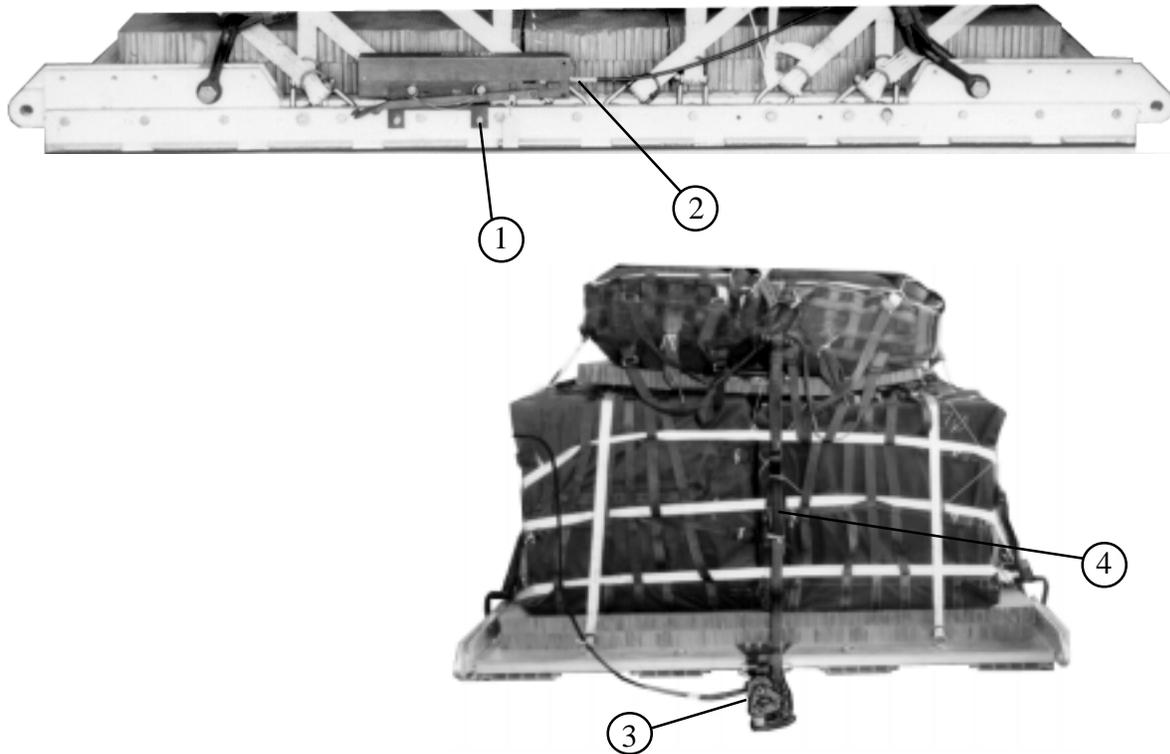
**Note: Do not cover the deadman's tie with the release platform.**

- ② Center the M-1 release on the honeycomb.
- ③ Secure the bottom of the release assembly to tie-down rings A1 and B1 with a length of type III nylon cord.
- ④ Secure the top of the release assembly to clevises 7 and 7A with a length of type III nylon cord.

*Figure 11-23. M-1 release installed*

### 11-26. Installing Extraction System

Install the EFTC extraction system according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 11-24.



- ① Install the actuator mounting brackets to the front holes in the left platform side rail.
- ② Install a 12-foot cable to the actuator. Install the actuator to the brackets.
- ③ Attach the latch assembly to the extraction bracket. Attach the cable to the latch assembly.
- ④ Install a 9-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold the excess and tie it in two places with type I, 1/4-inch cotton webbing.

*Figure 11-24. EFTC installed*

**11-27. Installing Provisions for Emergency Restraints**

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

**11-28. 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.

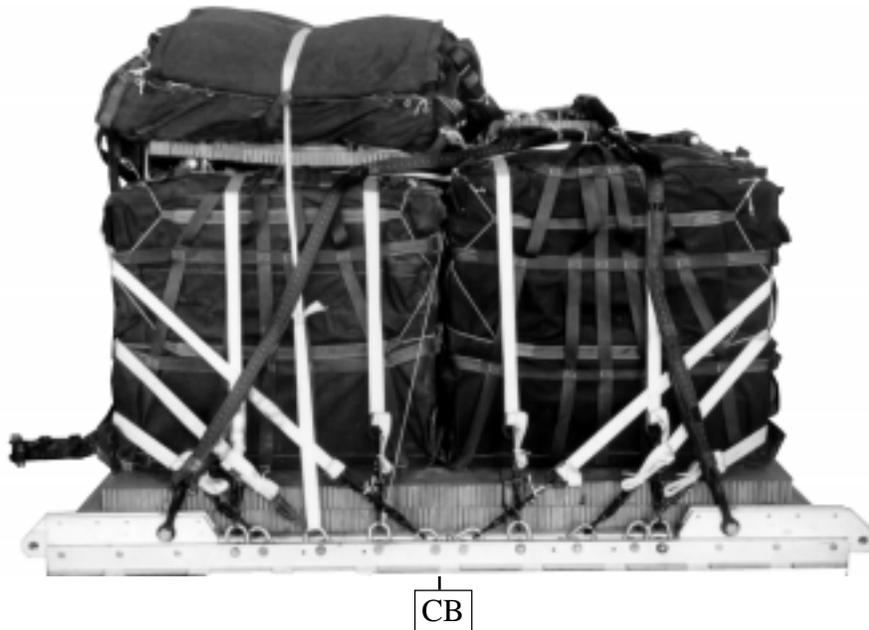
**11-29. Marking Rigged Load**

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 11-25. Complete the Shipper's Declaration for Dangerous Goods, and attach it to the load.

**11-30. Equipment Required**

Use the equipment listed in Table 11-2 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:	Load shown	6,750 pounds
	Maximum	9,500 pounds
Height		71 inches
Width		108 inches
Length		119 inches
Overhang:	Front	0 inches
	Rear	0 inches
CB (from front edge of platform)		50 inches
Extraction System (adds 18 inches to length of platform)		EFTC

*Figure 11-25. A-22 cargo bags rigged on an 8-foot platform for low-velocity airdrop*

*Table 11-2. Equipment required for rigging bulk supplies in A-22 cargo bags on an 8-foot type V platform for low-velocity airdrop*

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
4030-00-678-8562	3/4-in, medium	4
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
1670-00-360-0328	Cover: Clevis, large	1
1670-00-360-0329	Link, type IV	3
1670-01-183-2678	Leaf, extraction line (line bag)	2
1670-01-064-4452	Line, drogue (for C-17) 60-ft (1-loop), type XXVI	1
1670-01-064-4452	Line, extraction For C-130: 60-ft (1-loop), type XXVI	1
1670-01-107-7652	For C-141: 160-ft (1-loop), type XXVI	1
1670-01-107-7652	For C-5: 160-ft (1-loop), type XXVI	1
1670-01-107-7652	For C-17: 160-ft (1-loop), type XXVI	1
1670-00-783-5988	Link assembly: Type IV	3
5306-00-435-8994	Two-point, 3 3/4-in (for C-17) Bolt, 1-in diam, 4 in long	2
5310-00-232-5165	Nut, 1-in, hexagonal	2
1670-00-003-1953	Plate, side, 3 3/4-in	2
5365-00-007-3414	Spacer, large	2

Table 11-2. Equipment required for rigging bulk supplies in A-22 cargo bags on an 8-foot type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in	6 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	2
1670-01-063-3715	Cargo extraction, 15-ft	1
1670-01-063-3715	Drogue, 15-ft (for C-17)	1
	Platform, airdrop, type V, 8-ft	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(20)
1670-01-354-8424	Extraction bracket assembly	(1)
1670-01-162-2381	Link, tandem, suspension link assembly	(4)
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo airdrop	
	For suspension:	
1670-01-063-7760	11-ft (2-loop), type XXVI nylon webbing	4
	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
1670-00-998-0116	Strap, parachute release, single	1
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-ft	12
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-261-8585	Type VIII	As required

## CHAPTER 12

**RIGGING SUPPLY LOADS ON A 12-FOOT, TYPE V  
PLATFORM FOR LOW-VELOCITY AIRDROP**

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**12-1. Description of Load**

Bulk supplies consisting of rations, equipment, fuel, ammunition, or other items of general supply are rigged on a 12-foot type V airdrop platform with G-11 cargo parachutes. Items packaged or configured so that they can be restrained by endboards and lashings can be airdropped using these procedures. Modifications to the honeycomb, endboards, and lashings may be necessary to allow for items of different size and shape from those shown. For extraction purposes, the rigged load must weigh at least 3,780 pounds, but no more than 16,250 pounds.

**12-2. Preparing Platform**

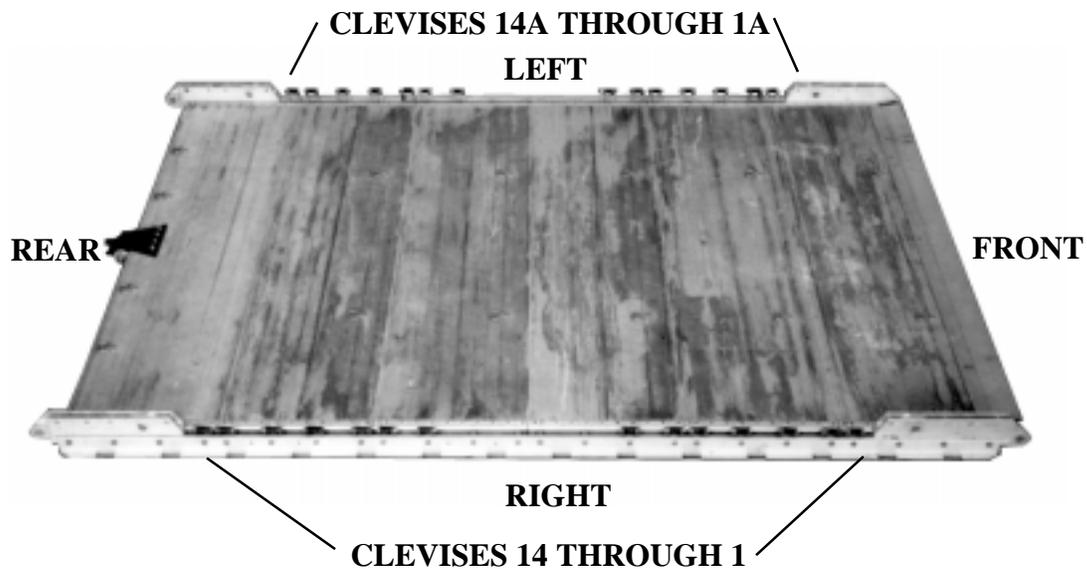
Prepare a 12-foot, type V airdrop platform as given below:

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

*b. Installing Tandem Links.* Install four tandem links as shown in Figure 12-1.

*c. Attaching and Numbering Clevises.* Attach and number 28 clevis assemblies as shown in Figure 12-1.

**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. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20 and 21.
4. Starting at the front of the platform, number the clevises bolted to the right side of the platform from 1 through 14, and those bolted to the left side from 1A through 14A.
5. Label the tie-down rings according to FM 10-500-2/TO 13C7-1-5.

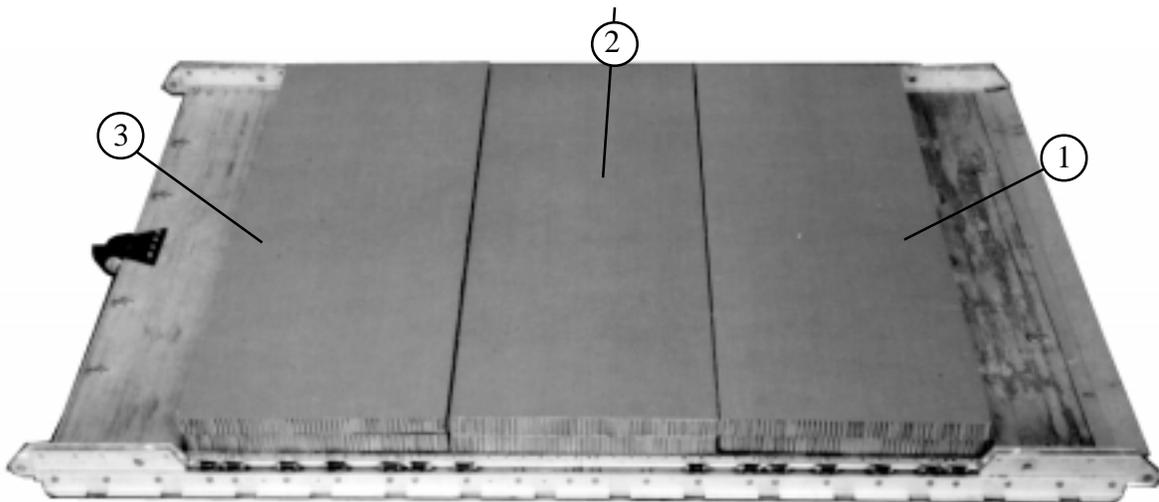
*Figure 12-1. Platform prepared*

### 12-3. Placing Honeycomb

Place the honeycomb on the platform as shown in Figure 12-2.

**Notes:**

- 1. When ammunition is dropped, two layers of honeycomb are required.**
- 2. When rigging this load for airdrop on a drop zone with ground elevation of 6,000 to 10,000 feet, add an additional layer of honeycomb.**
- 3. Adjust the dimensions of the honeycomb to fit the items being dropped.**
- 4. Do not cover the extraction bracket with honeycomb.**



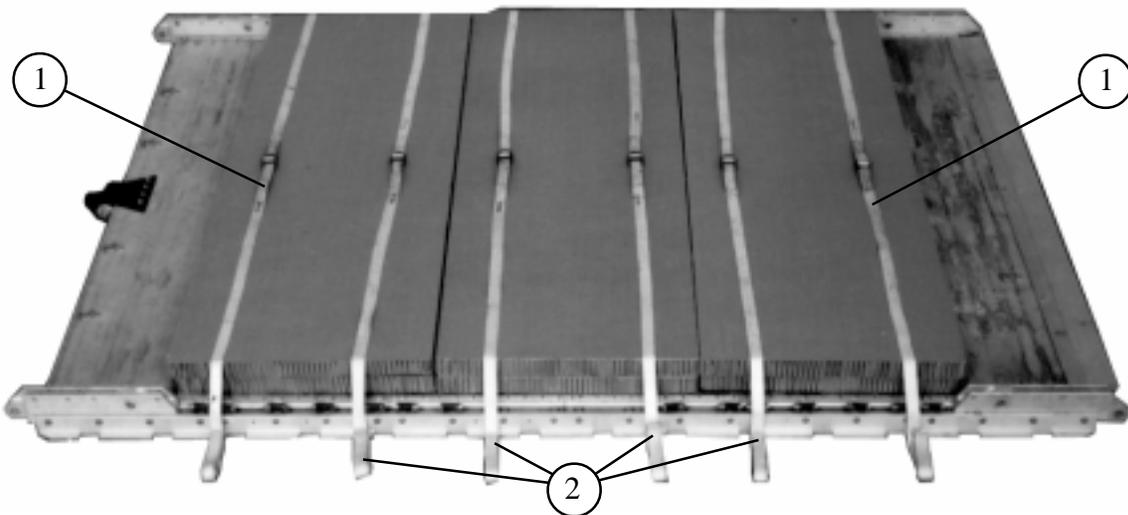
- ① Glue two full 36- by 96-inch sheets of honeycomb together. Center them 16 inches from the front edge of the platform.
- ② Make a stack as in step 1 above and place it flush against the stack placed in step 1.
- ③ Make a stack as in step 1 above and place it flush against the stack placed in step 2.

*Figure 12-2. Honeycomb placed*

#### 12-4. Positioning and Securing Load

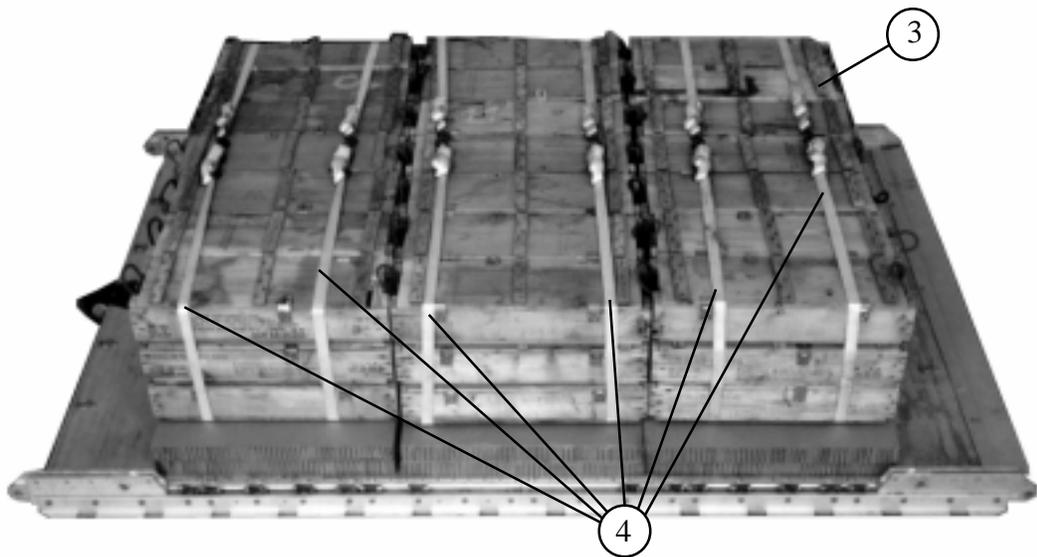
Place six 30-foot lashings on the honeycomb, place the load on the honeycomb, and secure the lashings as shown in Figure 12-3. Adapt the procedures shown for loads configured differently.

**CAUTION**  
Only ammunition listed in FM 10-500-53/  
MCRP No 4-3.8/TO 13C7-18-41 may be  
airdropped. Hazardous material must be  
packaged, marked, and labeled as required  
by AFJMAN 24-204/TM 38-250.



- ① Form six 30-foot lashings according to FM 10-500-2/TO 13C7-1-5. Center a lashing across the honeycomb 6 inches from each end.
- ② Center two lashings on each joint in the honeycomb, 12 inches apart.

*Figure 12-3. Load positioned and secured*



- ③ Position the load centered on the honeycomb.
- ④ Pass both ends of each lashing to the top of the load. Secure each lashing with two D-rings and a load binder.

**Note: Position the load binders so that they will be accessible for retightening and inspection when the load is fully rigged.**

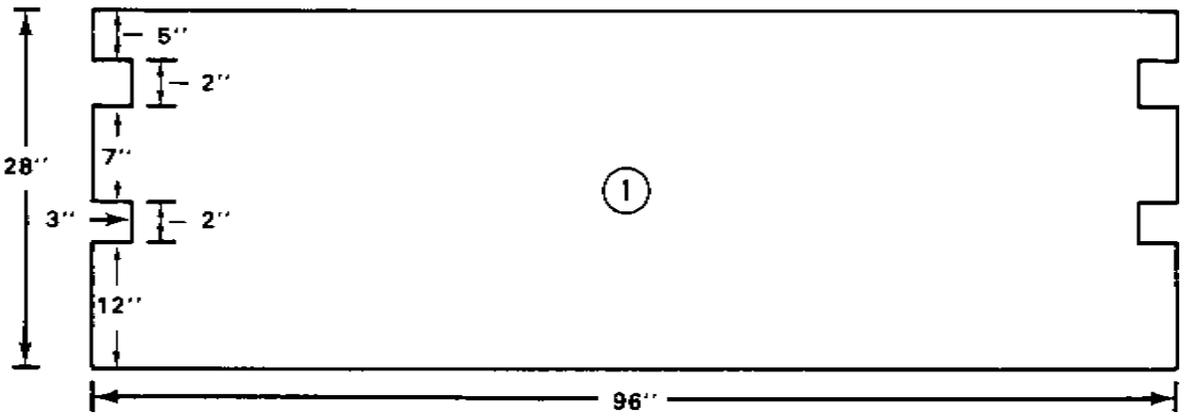
*Figure 12-3. Load positioned and secured (continued)*

### 12-5. Constructing and Installing Endboards

Construct the endboards and install them on the load as shown in Figure 12-4.

**Notes:**

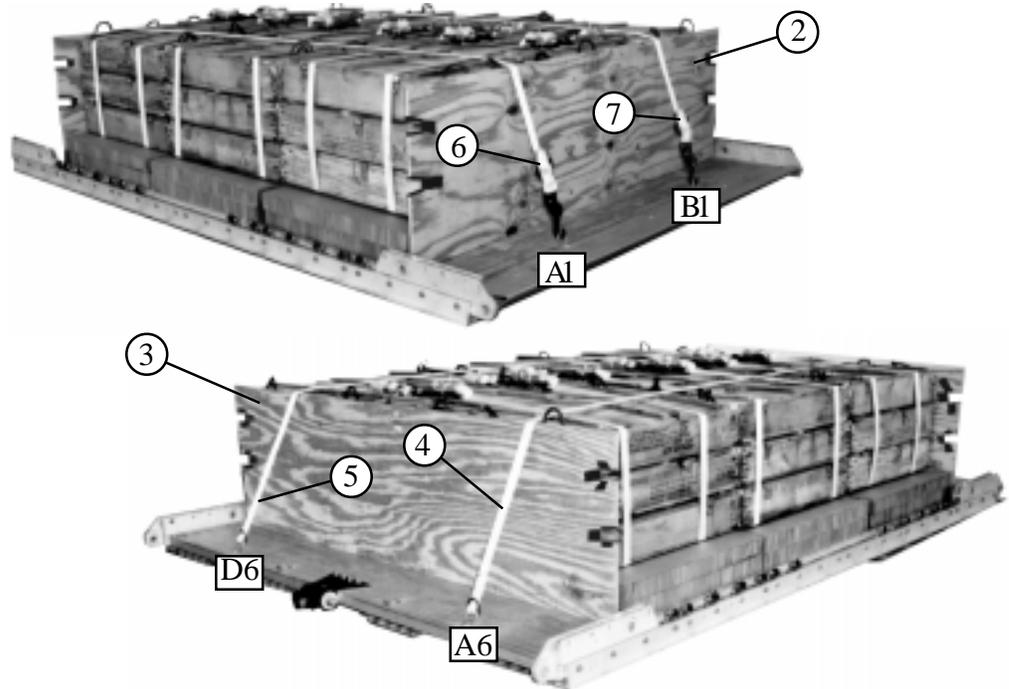
1. This drawing is not to scale.
2. The dimensions of the endboards will vary, depending on the load being rigged. The endboards must be even with the top of the load.



The diagram shows a rectangular endboard with a total height of 28 inches and a total width of 96 inches. On the left side, there are three cutouts. The top cutout is 5 inches high and 3 inches wide. Below it is a 7-inch high section. The middle cutout is 2 inches high and 3 inches wide. Below that is a 12-inch high section. The bottom cutout is 2 inches high and 3 inches wide. A circled number 1 is placed in the center of the board.

- ① Construct two endboards using one 3/4- by 28- by 96-inch piece of plywood for each endboard. Make cutouts as shown.
- ② Tape the cutouts in the endboards to protect the lashings from sharp edges.

Figure 12-4. Endboards constructed and installed



- ② Place one endboard against the front of the load.
- ③ Place one endboard against the rear of the load.
- ④ Pass the free end of a 15-foot lashing through tie-down ring A6 and through its own D-ring. Pull the free end of the lashing over the top of the load.
- ⑤ Pass the free end of a 15-foot lashing through tie-down ring D6 and through its own D-ring. Pull the free end of the lashing over the top of the load.

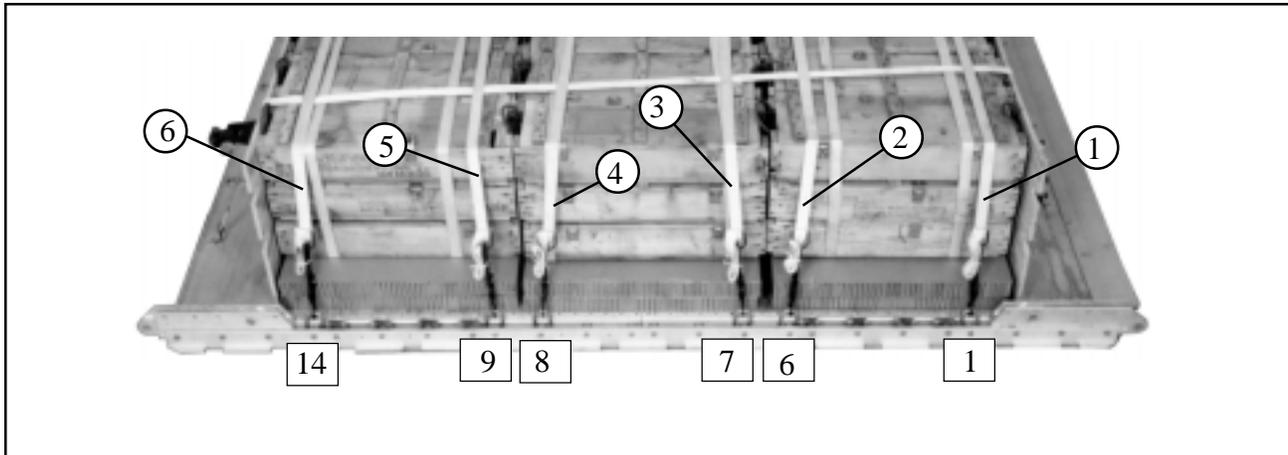
**Note: If steps 4 and 5 require 30-foot lashings, secure each end to the tie-down rings with D-rings and load binders.**

- ⑥ Secure the end of the lashing positioned in step 4 to tie-down ring A1 with a D-ring and a load binder.
- ⑦ Secure the end of the lashing positioned in step 5 to tie-down ring B1 with a D-ring and a load binder.

*Figure 12-4. Endboards constructed and installed (continued)*

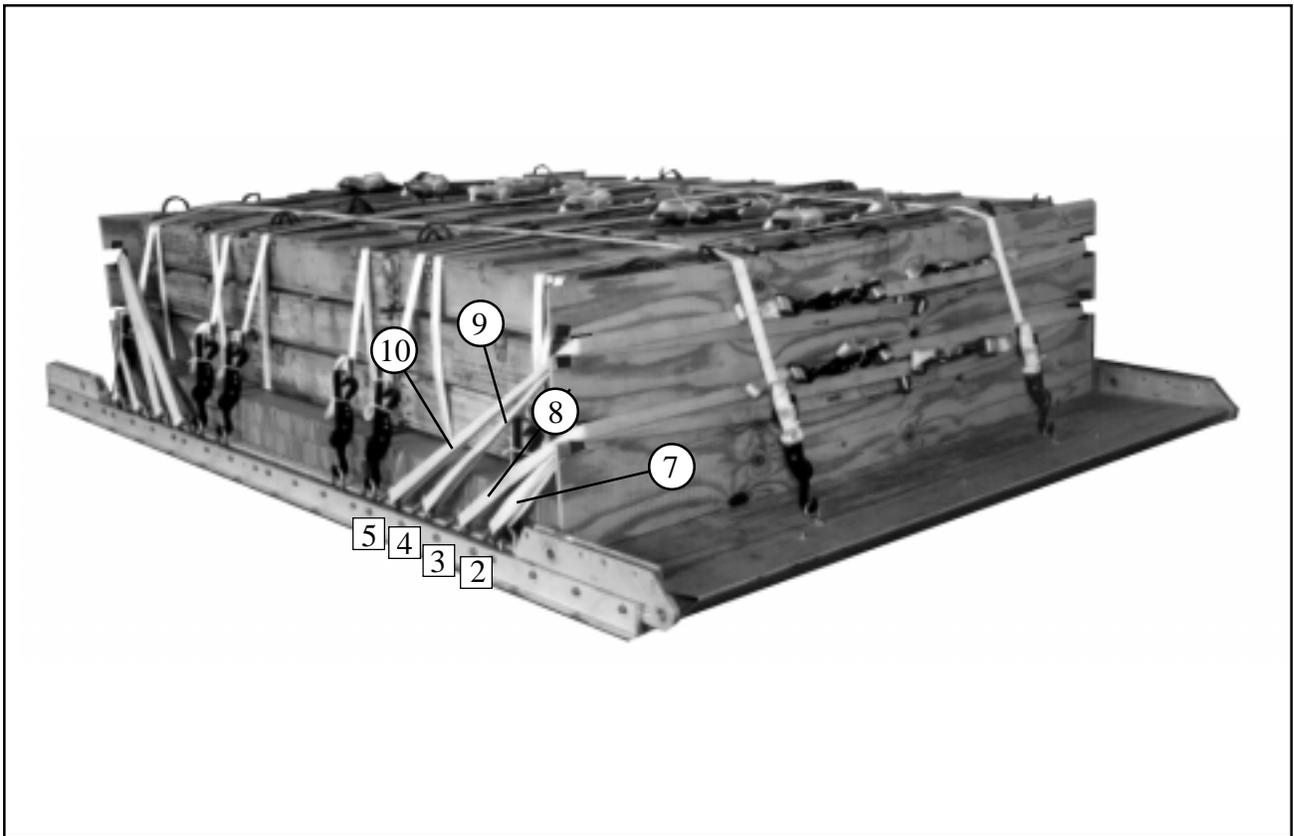
**12-6. Installing Lashings**

Lash the load to the platform using six 15-foot lashings, eight 30-foot lashings, 22 D-rings, and 14 load binders according to FM 10-500-2/TO 13C7-1-5, and as shown in Figures 12-5, 12-6, and 12-7.



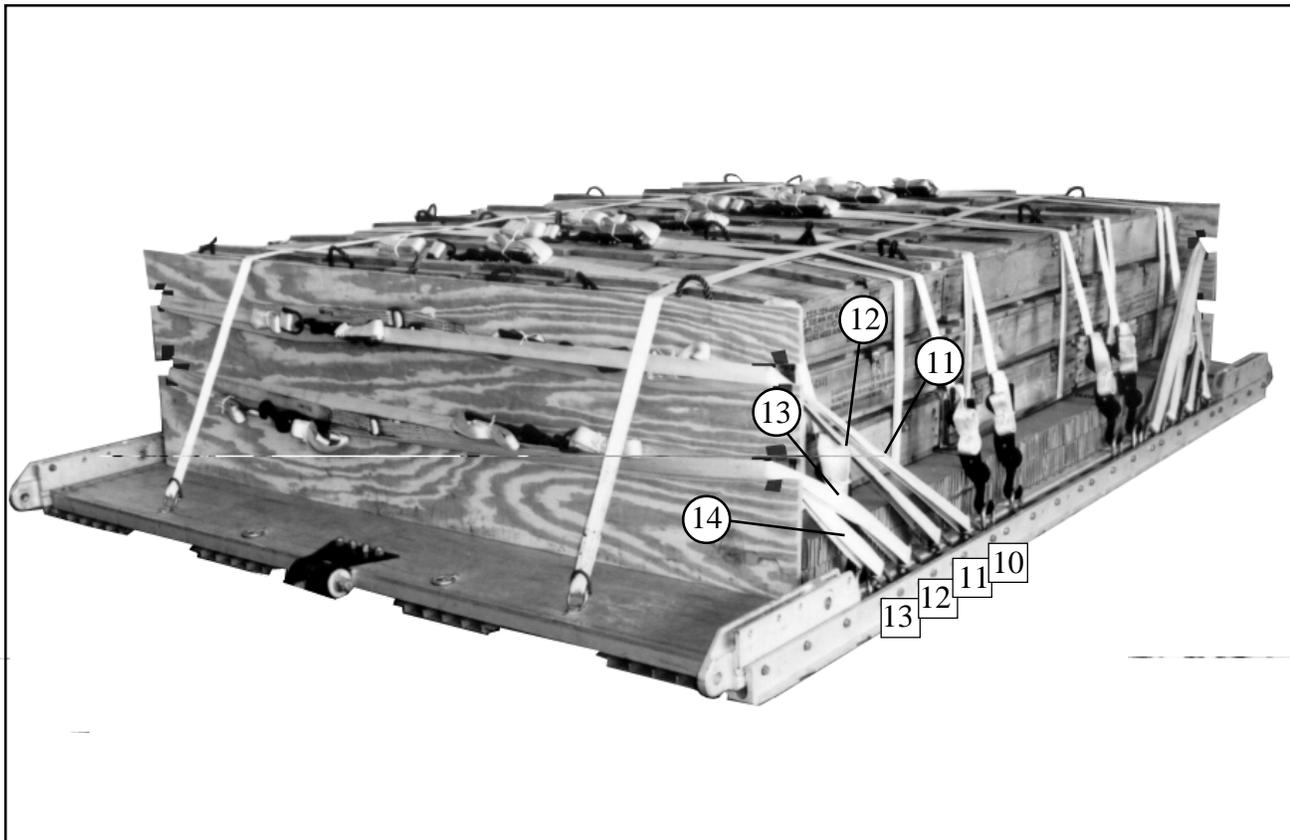
Lashing Number	Tie-down Clevis Numbers	Instructions
1	1 and 1A	Pass lashing: Through clevis 1A and through its own D-ring, over the top of the load, and to clevis 1. Secure the lashing to clevis 1 with a D-ring and a load binder.
2	6 and 6A	Through clevis 6A and through its own D-ring, over the top of the load, and to clevis 6. Secure the lashing to clevis 6 with a D-ring and a load binder.
3	7 and 7A	Through clevis 7A and through its own D-ring, over the top of the load, and to clevis 7. Secure the lashing to clevis 7 with a D-ring and a load binder.
4	8 and 8A	Through clevis 8A and through its own D-ring, over the top of the load, and to clevis 8. Secure the lashing to clevis 8 with a D-ring and a load binder.
5	9 and 9A	Through clevis 9A and through its own D-ring, over the top of the load, and to clevis 9. Secure the lashing to clevis 9 with a D-ring and a load binder.
6	14 and 14A	Through clevis 14A and through its own D-ring, over the top of the load, and to clevis 14. Secure the lashing to clevis 14 with a D-ring and a load binder.

*Figure 12-5. Lashings 1 through 6 installed*



Lashing Number	Tie-down Clevis Numbers	Instructions
7	2 and 2A	Pass a 30-foot lashing: Through clevis 2 and around the front endboard (through the lower cutouts), and through clevis 2A. Secure with two D-rings and a load binder.
8	3 and 3A	Through clevis 3 and around the front endboard (through the lower cutouts), and through clevis 3A. Secure with two D-rings and a load binder.
9	4 and 4A	Through clevis 4 and around the front endboard (through the upper cutouts), and through clevis 4A. Secure with two D-rings and a load binder.
10	5 and 5A	Through clevis 5 and around the front endboard (through the upper cutouts), and through clevis 5A. Secure with two D-rings and a load binder.

Figure 12-6. Lashings 7 through 10 installed

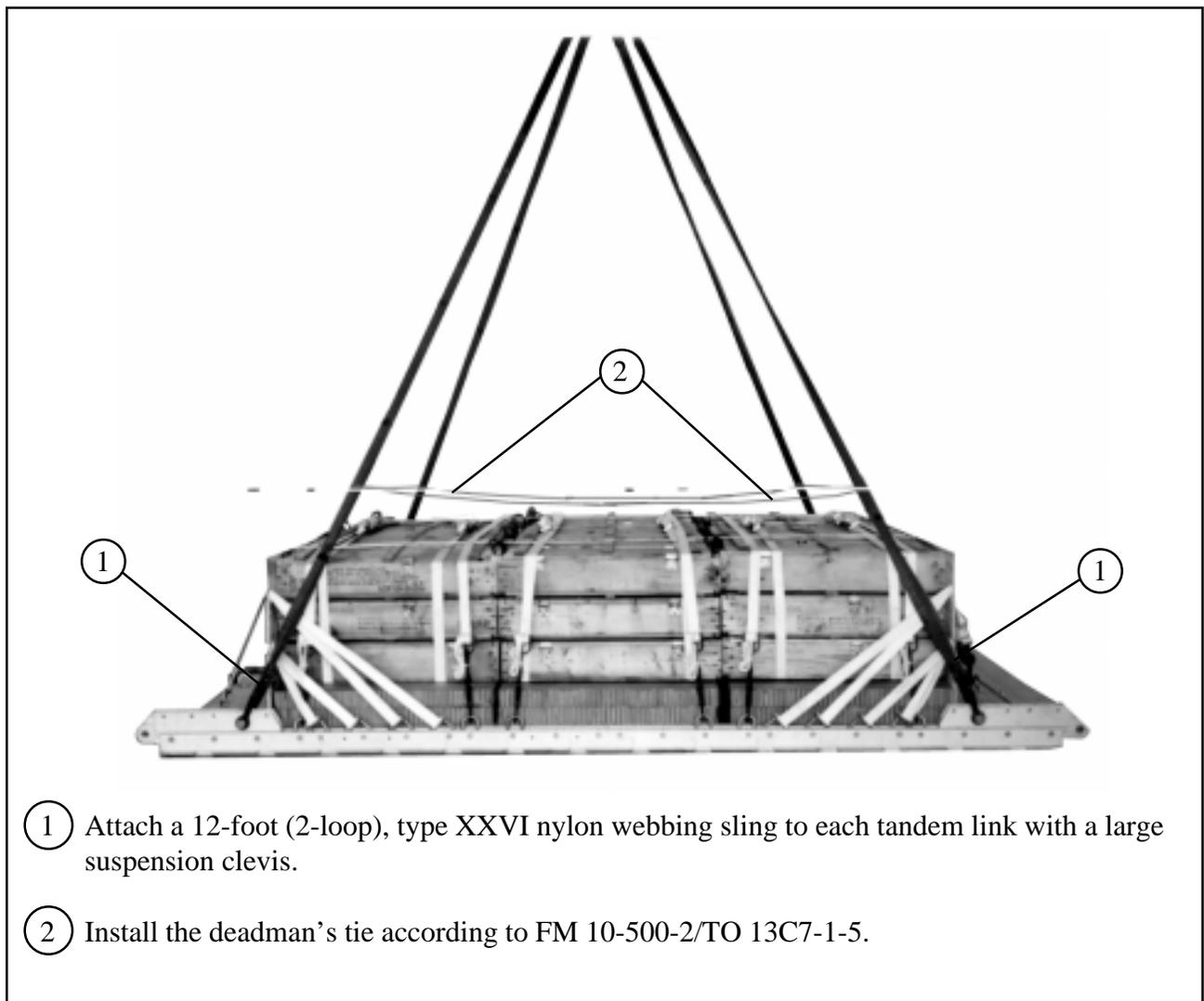


Lashing Number	Tie-down Clevis Numbers	Instructions
11	10 and 10A	Pass a 30-foot lashing: Through clevis 10, around the rear endboard (through the upper cutouts), and through clevis 10A. Secure with two D-rings and a load binder.
12	11 and 11A	Through clevis 11, around the rear endboard (through the upper cutouts), and through clevis 11A. Secure with two D-rings and a load binder.
13	12 and 12A	Through clevis 12, around the rear endboard (through the lower cutouts), and through clevis 12A. Secure with two D-rings and a load binder.
14	13 and 13A	Through clevis 13, around the rear endboard (through the lower cutouts), and through clevis 13A. Secure with two D-rings and a load binder.

Figure 12-7. Lashings 11 through 14 installed

### 12-7. Installing Suspension Slings and Deadman's Tie

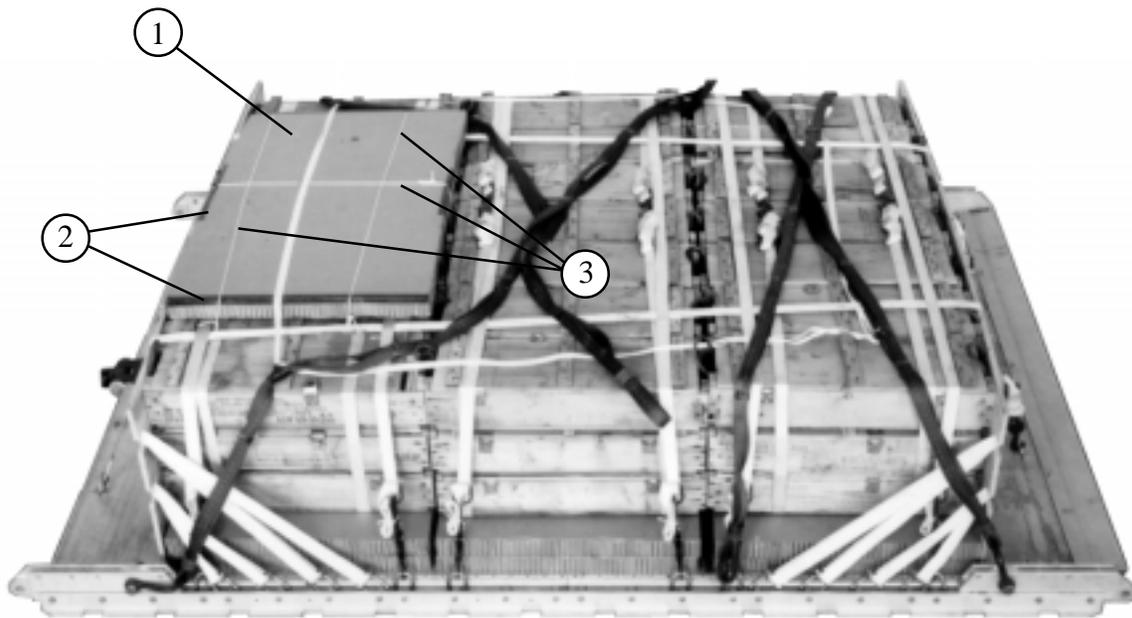
Install the suspension slings as shown in Figure 12-8 using four 12-foot (2-loop), type XXVI nylon webbing slings and four large suspension clevis assemblies. Install the deadman's tie as shown in Figure 12-8.



*Figure 12-8. Suspension slings and deadman's tie installed*

**12-8. Installing Parachute Stowage Platform**

Install the parachute stowage platform as shown in Figure 12-9.

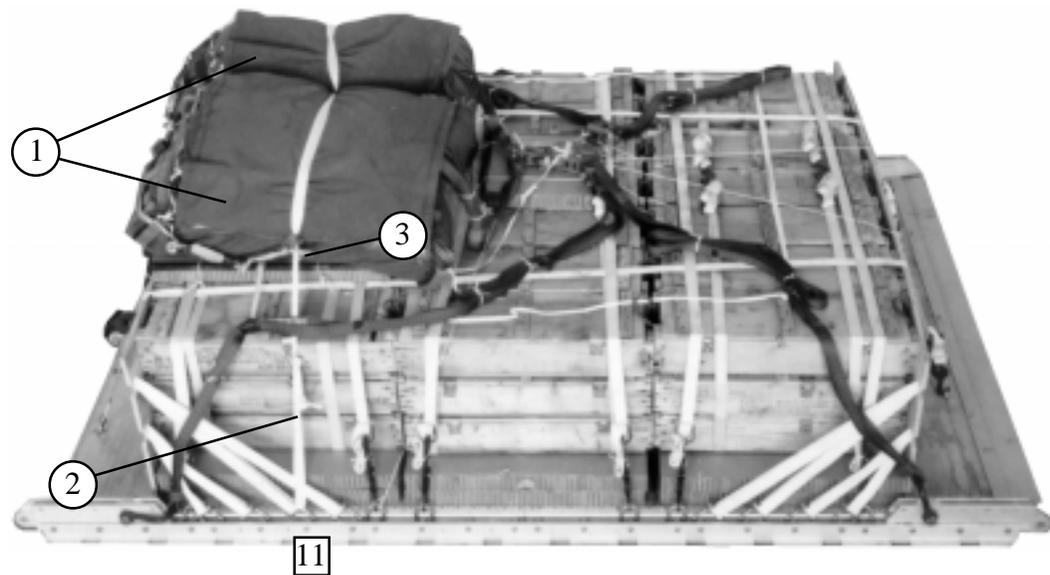


- ① Position a 60- by 36-inch piece of honeycomb so that it is centered across the load and even with the rear endboard. Place the deadman's tie over the honeycomb as shown.
- ② Tape the edges of the honeycomb.
- ③ Tie the honeycomb to the nearest lashings with three lengths of type III nylon cord.

*Figure 12-9. Parachute stowage platform installed*

### 12-9. Installing Parachutes

Compute the parachute requirements for the load being rigged. The load shown requires two G-11 cargo parachutes. Install the parachutes as shown in Figure 12-10.



- ① Prepare two G-11 cargo parachutes according to FM 10-500-2/TO 13C7-1-5. Place the parachutes on the parachute stowage platform.
- ② Restrain the parachutes according to FM 10-500-2/TO 13C7-1-5. Tie the type VIII nylon restraint strap to clevises 11 and 11A.
- ③ Install the parachute release strap according to FM 10-500-2/TO 13C7-1-5.

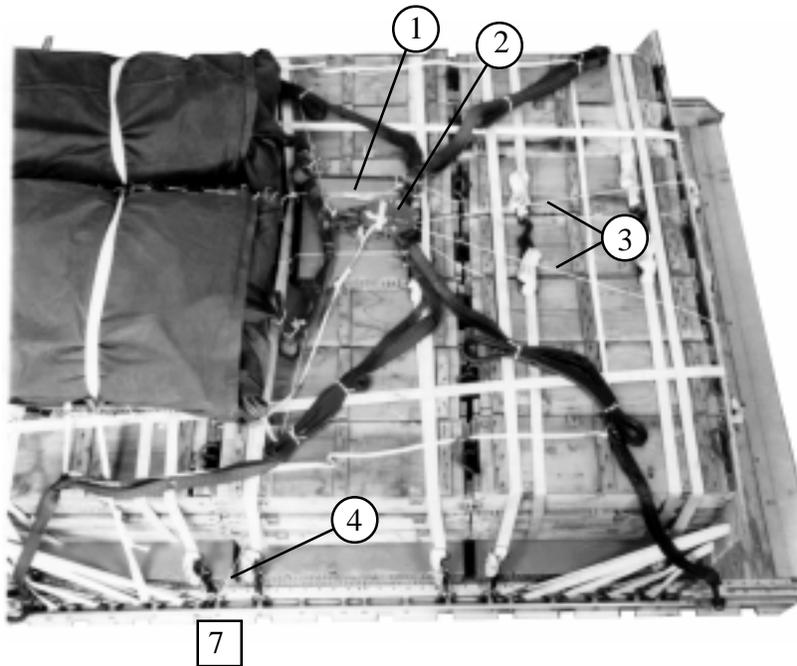
**Note: The multicut release strap shown here is authorized by FM 10-500-2/TO 13C7-1-5. However, the single V-knife release strap may also be used.**

*Figure 12-10. Cargo parachutes installed*

### 12-10. Installing Release System

Prepare, install, and safety an M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 12-11.

**Note: If the load requires four G-11B cargo parachutes, the M-2 cargo parachute release assembly is required.**

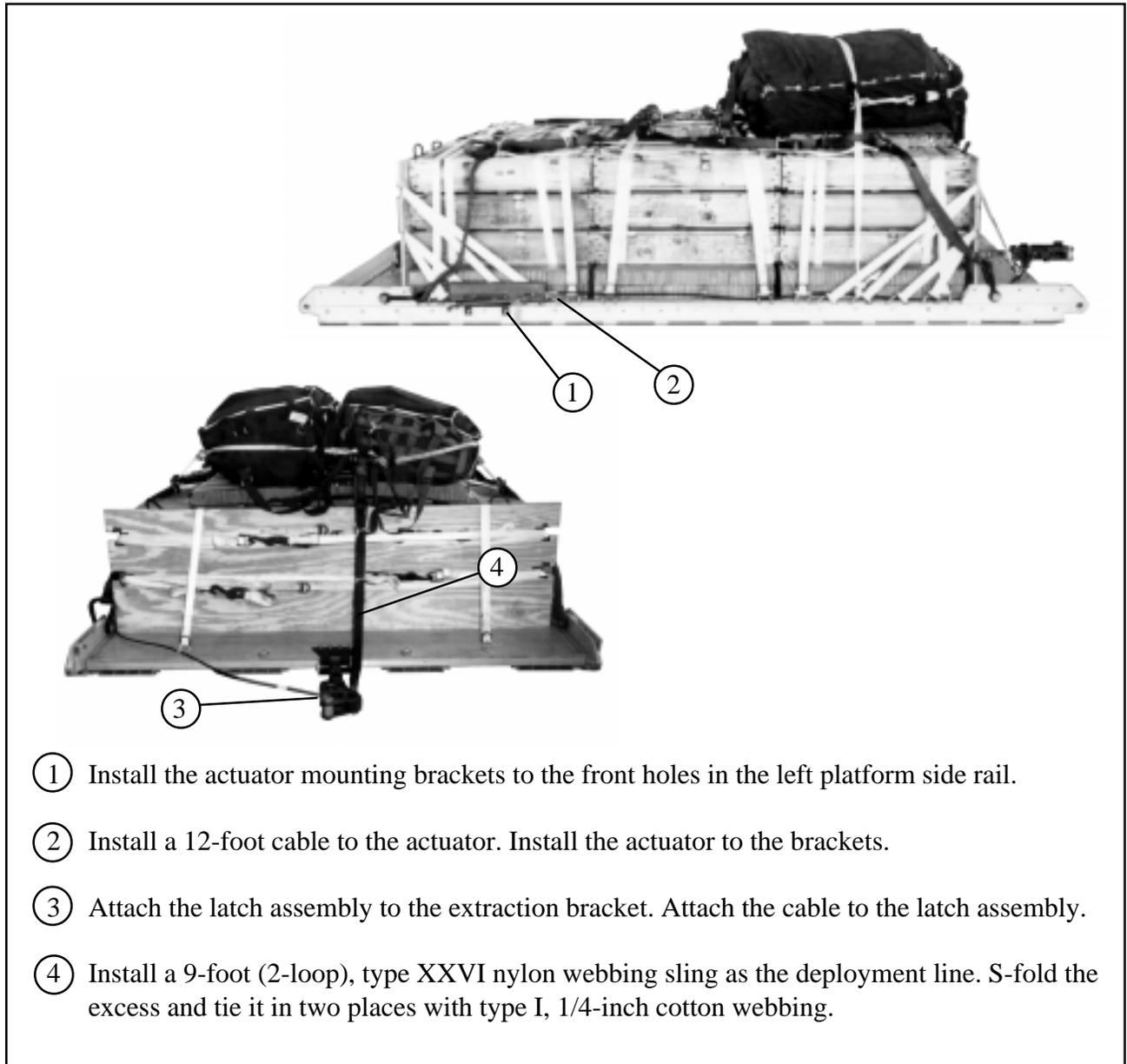


- ① Center an 18-by 20-inch piece of honeycomb in front of the parachutes. Tape the edges of the honeycomb and secure it to the load with two lengths of type III nylon cord.
- ② Center the M-1 release on the honeycomb.
- ③ Secure the bottom of the release assembly to tie-down rings A1 and B1 with a length of type III nylon cord.
- ④ Secure the top of the release assembly to clevises 7 and 7A with a length of type III nylon cord.

*Figure 12-11. Release assembly installed*

**12-11. Installing Extraction System**

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



- ① Install the actuator mounting brackets to the front holes in the left platform side rail.
- ② Install a 12-foot cable to the actuator. Install the actuator to the brackets.
- ③ Attach the latch assembly to the extraction bracket. Attach the cable to the latch assembly.
- ④ Install a 9-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold the excess and tie it in two places with type I, 1/4-inch cotton webbing.

*Figure 12-12. EFTC installed*

### **12-12. Installing Provisions for Emergency Restraints**

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

### **12-13. 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.

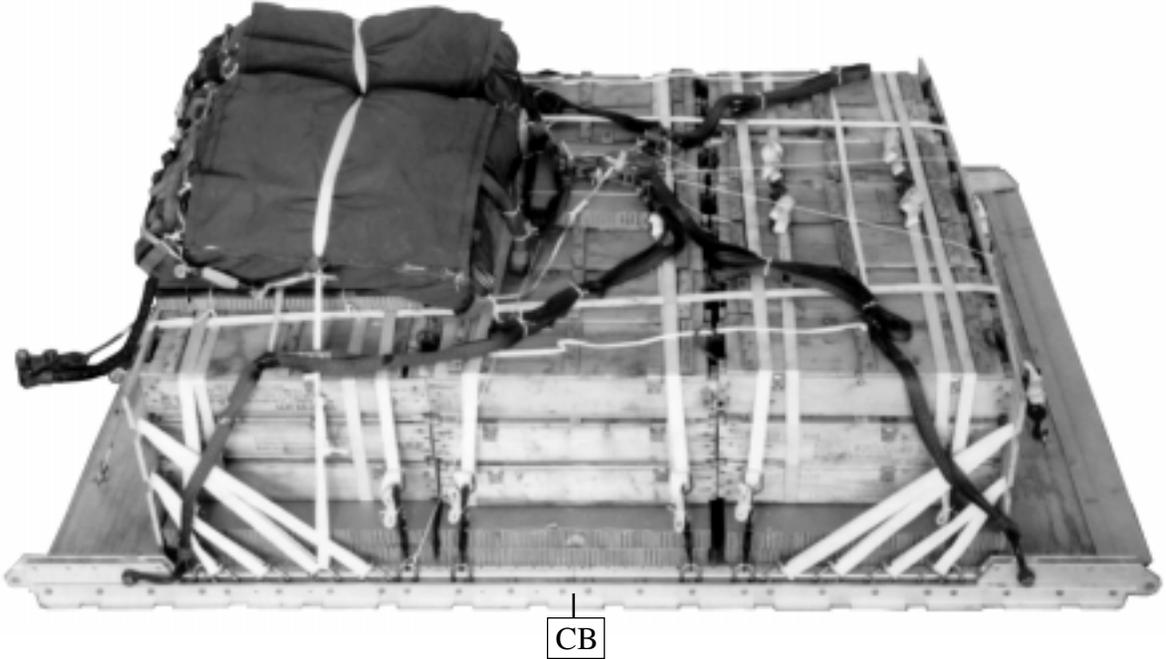
### **12-14. Marking Rigged Load**

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 12-13. Complete the Shipper's Declaration for Dangerous Goods, and attach it to the load. If the load differs from the one shown, the weight, parachute requirements, CB, and tip-off curve must be recomputed.

### **12-15. Equipment Required**

Use the equipment listed in Table 12-1 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:	Load shown	8,904 pounds
	Maximum	16,250 pounds
Height		56 inches
Width		108 inches
Length		152 inches
Overhang:	Front	0 inches
	Rear	0 inches
	CB (from front edge of platform)	74 inches
	Extraction System (adds 18 inches to length of platform)	EFTC

*Figure 12-13. Bulk supply load rigged on a 12-foot platform for low-velocity airdrop*

Table 12-1. Equipment required for rigging bulk supply load on a 12-foot type V platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
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
1670-01-183-2678	Leaf, extraction line (line bag)	2
	Line, drogue (for C-17)	
1670-01-064-4452	60-ft (1-loop), type XXVI	1
	Line, extraction	
1670-01-062-6316	For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
1670-01-107-7652	For C-5: 160-ft (1-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
	Link assembly:	
1670-00-783-5988	Type IV	3
	Two-point, 3 3/4-in	
5306-00-435-8994	Bolt, 1-in diam, 4 in long	2
5310-00-232-5165	Nut, 1-in, hexagonal	2
1670-00-003-1953	Plate, side, 3 3/4-in	2
5365-00-007-3414	Spacer, large	2

*Table 12-1. Equipment required for rigging bulk supply load on a 12-foot type V platform for low-velocity airdrop (continued)*

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in	7 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	2
1670-01-063-3716	Cargo extraction, 22-ft	1
1670-01-063-3715	Drogue, 15-ft (for C-17)	1
	Platform, airdrop, type V, 12-foot	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(28)
1670-01-353-8424	Extraction bracket assembly	(1)
1670-01-162-2381	Link, tandem, suspension link assembly	(4)
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	2 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo airdrop	
	For suspension:	
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	4
	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
1670-00-998-0116	Strap, parachute release, single	1
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-ft	36
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-261-8585	Type VIII	As required

## CHAPTER 13

**RIGGING FORWARD AREA SURGICAL TEAM EQUIPMENT ON A 12-FOOT,  
TYPE V PLATFORM FOR LOW-VELOCITY AIRDROP****13-1. Description of Load**

The FAST equipment is rigged as a bulk supply load on a 12-foot type V airdrop platform. These procedures may be used to rig other bulk supply loads consisting of rations, equipment, fuel, lubricants, ammunition or other items of general supply. As load weights can vary widely, the parachute requirements must be computed for each load. Each load must weigh at least 3,780 pounds, but not more than 12,750 pounds. These loads may not be more than 140 inches long, or 100 inches wide.

**13-2. Preparing Platform**

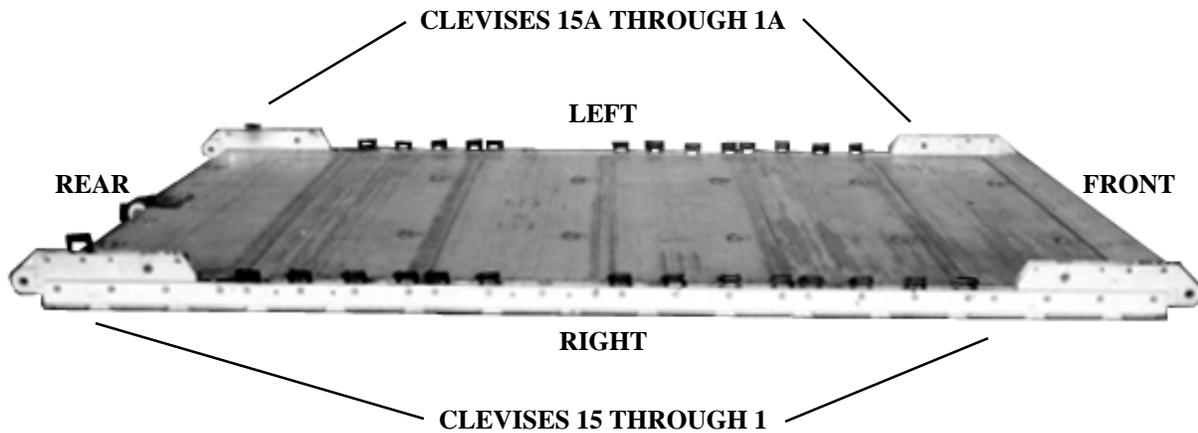
Prepare a 12-foot, type V airdrop platform as given below:

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

*b. Installing Tandem Links.* Install four tandem links as shown in Figure 13-1.

*c. Attaching and Numbering Clevises.* Attach and number 30 clevis assemblies as shown in Figure 13-1.

**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.**



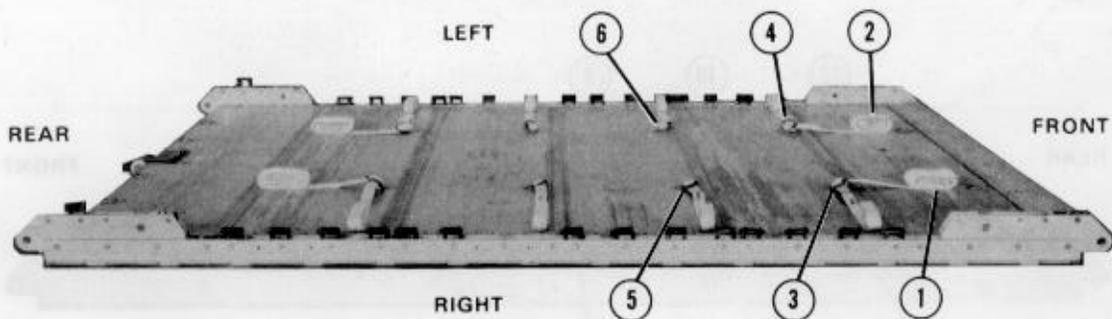
Step:

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 a clevis on the third bushing of each rear tandem link.
3. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, and 20 .
4. Starting at the front of the platform, number the clevises bolted to the right side of the platform from 1 through 15, and those bolted to the left side from 1A through 15A.
5. Label the tie-down rings according to FM 10-500-2/TO 13C7-1-5.

*Figure 13-1. Platform prepared*

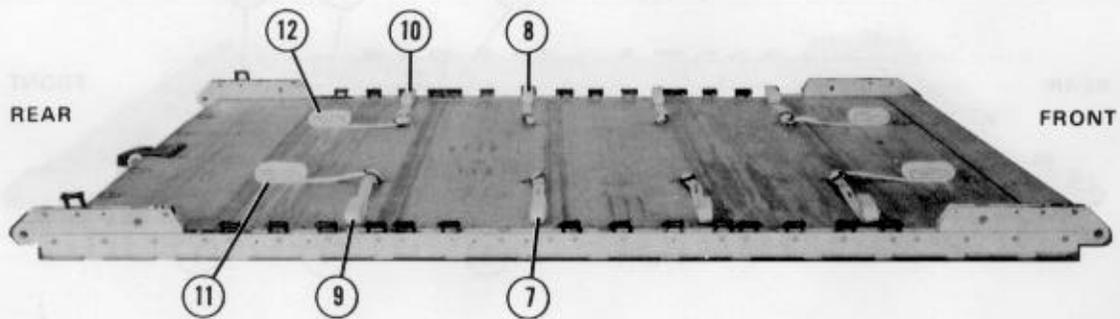
### 13-3. Positioning Lashings

Use twelve 15-foot tiedown straps, and position the straps on the platform as shown in Figure 13-2.



- ① Pass the free end of a 15-foot tiedown strap through tiedown ring A2 and through its own D-ring. Pull the free end of the strap toward the front of the platform.
- ② Pass the free end of a 15-foot tiedown strap through tiedown ring B2 and through its own D-ring. Pull the free end of the strap toward the front of the platform.
- ③ Pass the free end of a 15-foot tiedown strap through tiedown ring A2 and through its own D-ring. Pull the free end of the strap toward the right side of the platform.
- ④ Pass the free end of a 15-foot tiedown strap through tiedown ring B2 and through its own D-ring. Pull the free end of the strap toward the left side of the platform.
- ⑤ Pass the free end of a 15-foot tiedown strap through tiedown ring A3 and through its own D-ring. Pull the free end of the strap toward the right side of the platform.
- ⑥ Pass the free end of a 15-foot tiedown strap through tiedown ring B3 and through its own D-ring. Pull the free end of the strap toward the left side of the platform.

Figure 13-2. Lashings positioned



- ⑦ Pass the free end of a 15-foot tiedown strap through tiedown ring A4 and through its own D-ring. Pull the free end of the strap toward the right side of the platform.
- ⑧ Pass the free end of a 15-foot tiedown strap through tiedown ring B4 and through its own D-ring. Pull the free end of the strap toward the left side of the platform.
- ⑨ Pass the free end of a 15-foot tiedown strap through tiedown ring A5 and through its own D-ring. Pull the free end of the strap toward the right side of the platform.
- ⑩ Pass the free end of a 15-foot tiedown strap through tiedown ring B5 and through its own D-ring. Pull the free end of the strap toward the left side of the platform.
- ⑪ Pass the free end of a 15-foot tiedown strap through tiedown ring A5 and through its own D-ring. Pull the free end of the strap toward the rear of the platform.
- ⑫ Pass the free end of a 15-foot tiedown strap through tiedown ring B5 and through its own D-ring. Pull the free end of the strap toward the rear of the platform.

Figure 13-2. Lashings positioned (continued)

**13-4. Constructing and Forming Storage Box Components**

Construct the individual components of a storage box as shown in Figures 13-3 through 13-5. Assemble the individual components of the front and rear of the box and the sides of the box as shown in Figure 13-6 for later assembly on the platform.

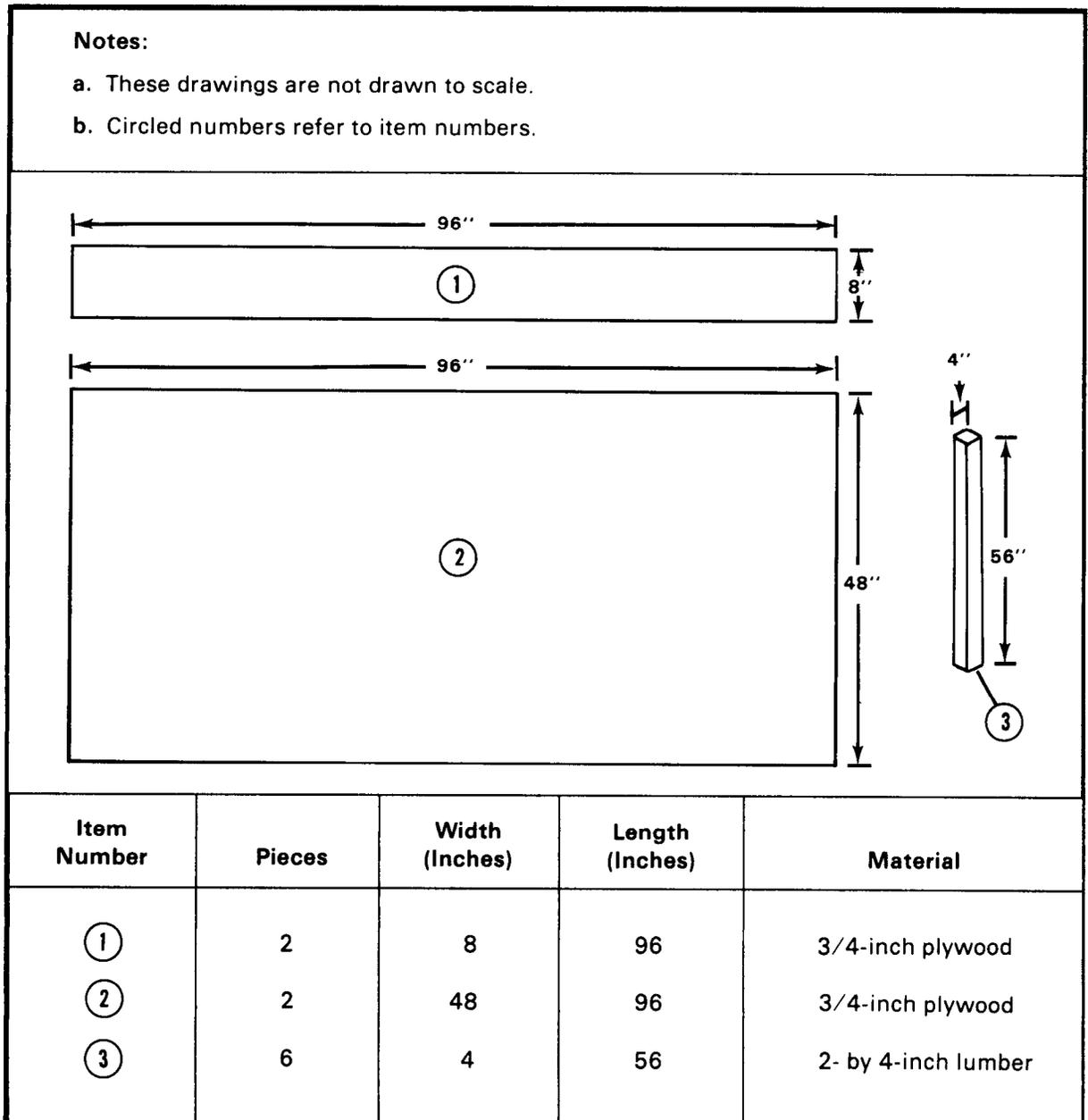
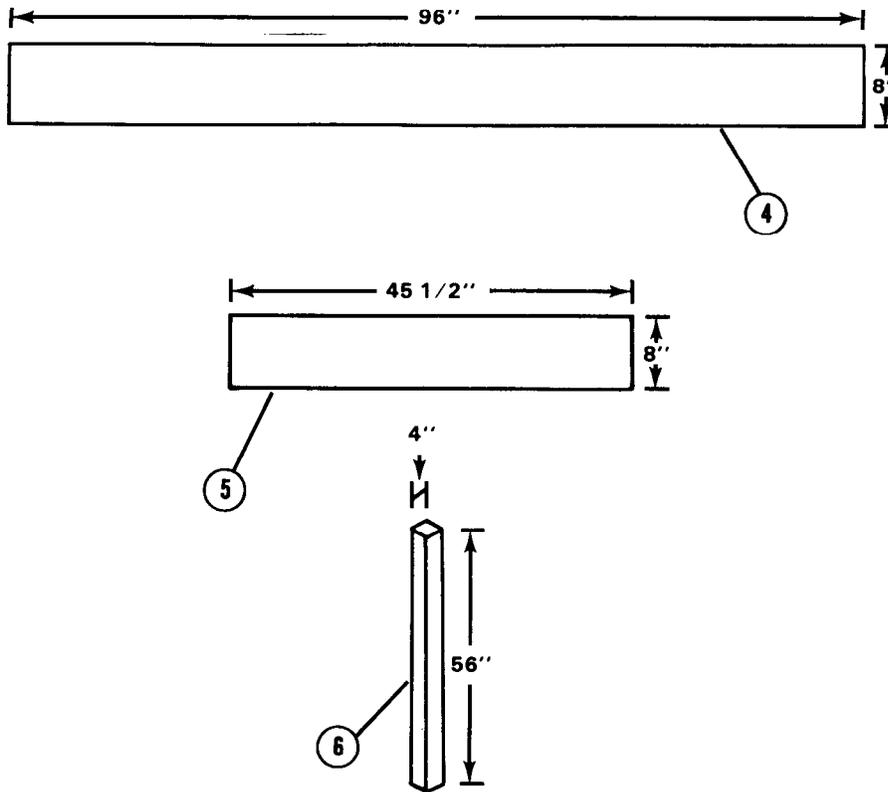


Figure 13-3. Front and rear components of storage box constructed

**Notes:**

- a. These drawings are not drawn to scale.
- b. Circled numbers refer to item numbers.

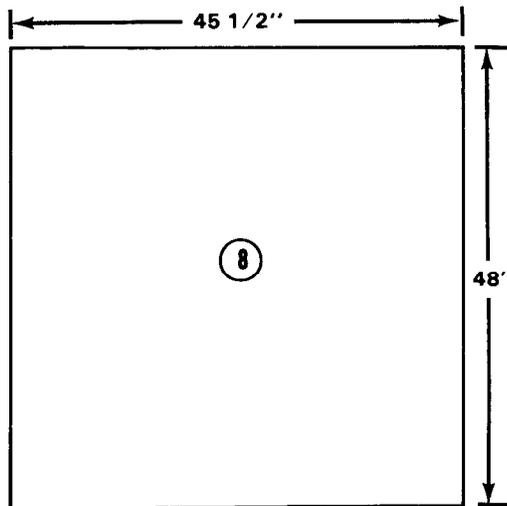
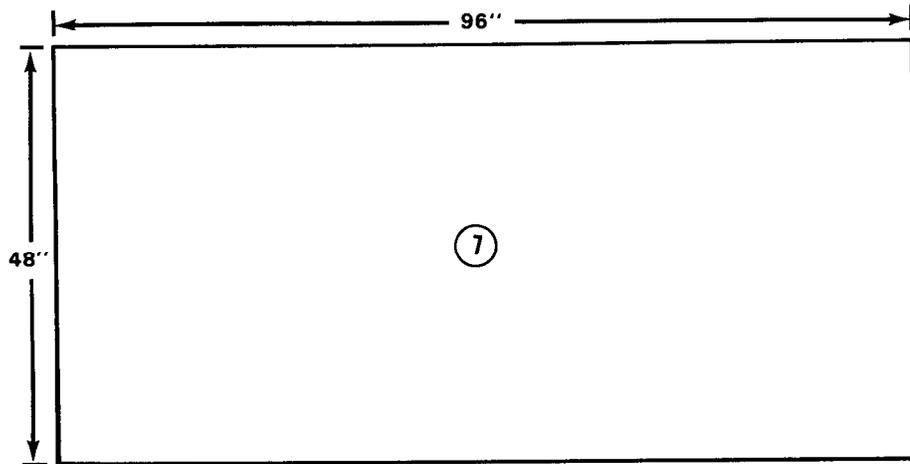


Item Number	Pieces	Width (Inches)	Length (Inches)	Material
④	2	8	96	3/4-inch plywood
⑤	2	8	45 1/2	3/4-inch plywood
⑥	8	4	56	2- by 4-inch lumber

Figure 13-4. Side components of storage box constructed

**Notes:**

- a. These drawings are not drawn to scale.
- b. Circled numbers refer to item numbers.

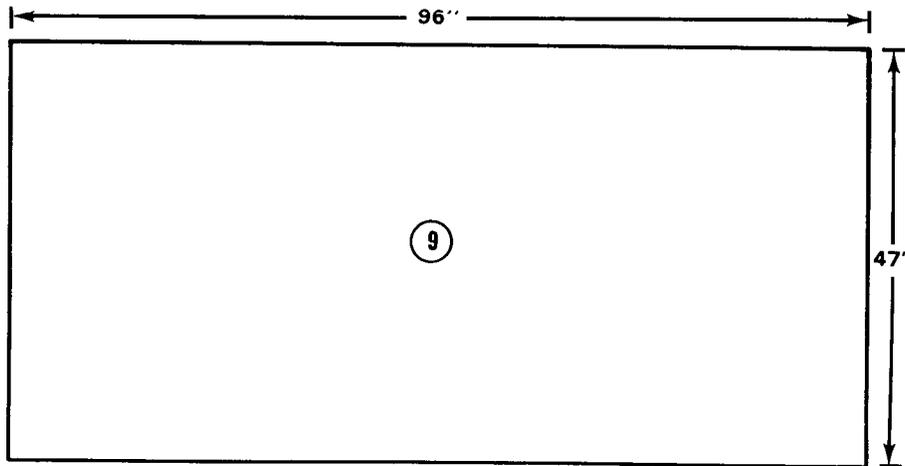


Item Number	Pieces	Width (Inches)	Length (Inches)	Material
⑦	2	48	96	3/4-inch plywood
⑧	2	48	45 1/2	3/4-inch plywood

Figure 13-4. Side components of storage box constructed (continued)

**Notes:**

- a. This drawing is not drawn to scale.
- b. Circled numbers refer to item numbers.

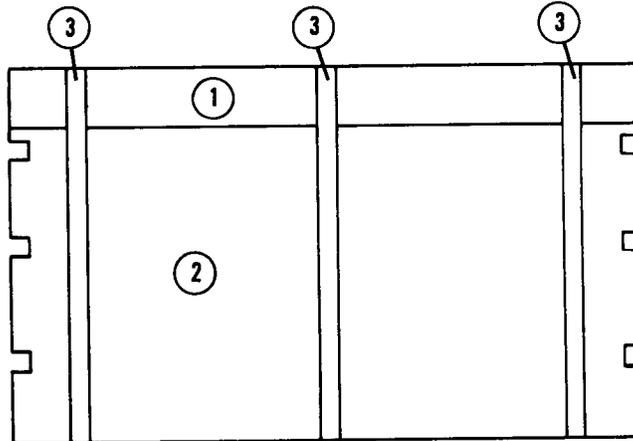


Item Number	Pieces	Width (Inches)	Length (Inches)	Material
⑨	3	47	96	3/4-inch plywood

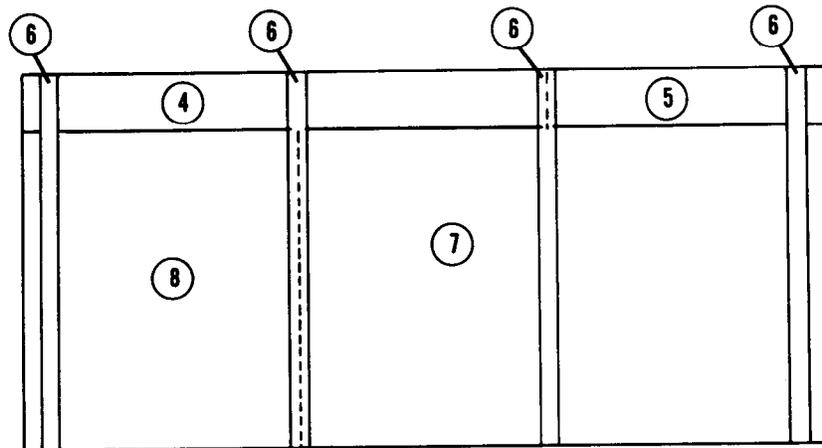
*Figure 13-5. Top components of storage box constructed*

**Notes:**

- a. These drawings are not drawn to scale.
- b. Make three evenly spaced 2-inch cutouts on each 48-inch side of the plywood used for the front and rear components before assembling the box.



FRONT AND REAR OF STORAGE BOX



SIDES OF STORAGE BOX

**Step:**

1. Nail the components of the storage box together with sixteen-penny nails to form the sides, front, and rear.
2. Bend the ends of the nails to hold the components in place securely.

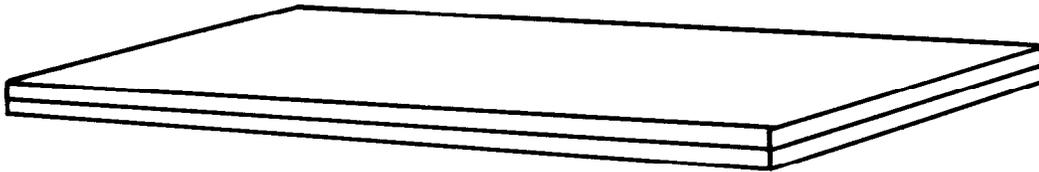
*Figure 13-6. Front, rear, and sides of storage box constructed*

**13-5. Preparing Honeycomb Stacks**

Prepare the honeycomb stacks as shown in Figure 13-7.

**Note:**

This drawing is not drawn to scale.

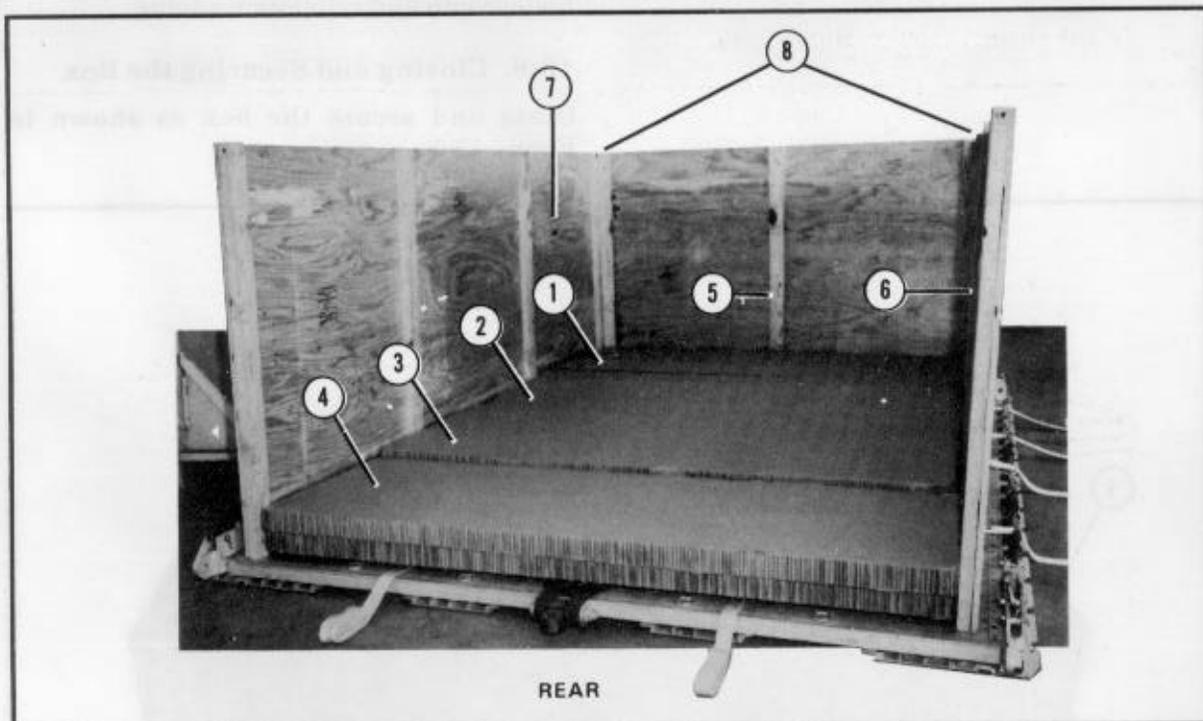


Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	2	96	36	Honeycomb	Place one piece on top of the other.
2	2	96	36	Honeycomb	Same as stack 1.
3	2	96	36	Honeycomb	Same as stack 1.
4	2	96	36	Honeycomb	Same as stack 1.

*Figure 13-7. Honeycomb stacks prepared*

### 13-6. Positioning Honeycomb Stacks and Assembling Sides of Storage Box

Position and assemble the front and sides of the storage box on the platform as shown in Figure 13-8.



- ① Center stack 1 on the platform with the 96-inch edge of the honeycomb 1 1/2 inches from the front edge of the platform.
- ② Center stack 2 on the platform with one 96-inch edge of the honeycomb against stack 1.
- ③ Center stack 3 on the platform with one 96-inch edge of the honeycomb against stack 2.
- ④ Center stack 4 on the platform with one 96-inch edge of the honeycomb against stack 3.
- ⑤ Center the front of the storage box on the platform against the front of stack 1.
- ⑥ Place the right side of the storage box on the platform even with the honeycomb stacks and the front of the storage box.
- ⑦ Place the left side of the storage box on the platform even with the honeycomb stacks and the front of the storage box.
- ⑧ Nail the sides of the storage box to the front of the storage box with sixteen-penny nails.

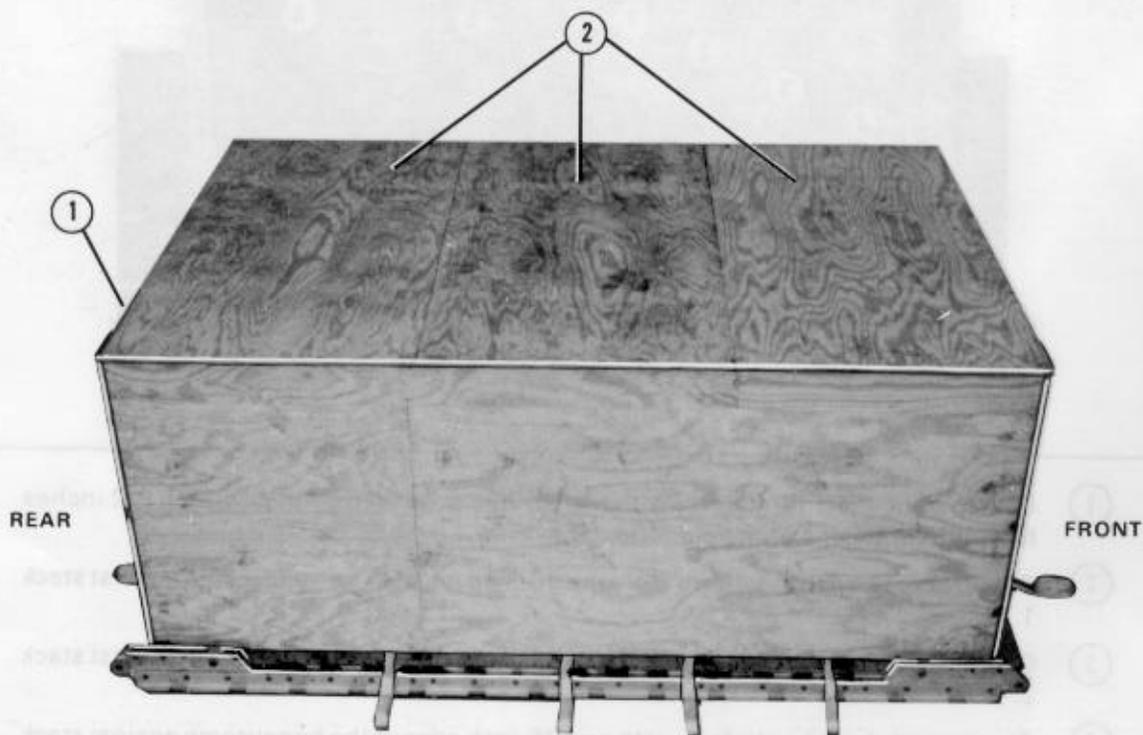
Figure 13-8. Honeycomb stacks positioned and front and sides of the storage box assembled

### 13-7. Positioning Drop Items

Position the drop items in the storage box on the honeycomb stacks. Distribute the weight of the drop items evenly on the honeycomb stacks. Pad the drop items as necessary, with honeycomb and cellulose wadding.

### 13-8. Closing and Securing the Box

Close and secure the box as shown in Figure 13-9.



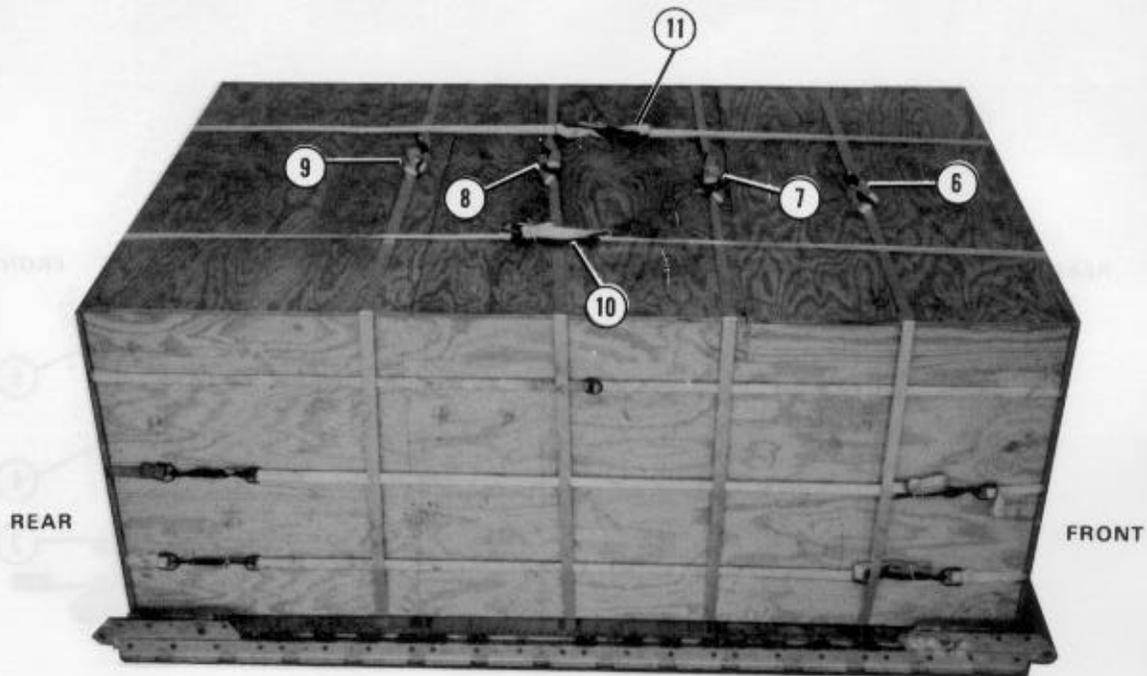
- ① Center the rear of the storage box on the platform against the rear of stack 4. Nail the sides of the box to the rear of the box with sixteen-penny nails.
- ② Place three 3/4- by 47- by 96-inch pieces of plywood side by side on top of the box. Nail each 47- by 96-inch piece of plywood to the sides of the box.

Figure 13-9. Box closed and secured



- ③ Form a 30-foot tiedown strap according to FM 10-500/TO 13C7-1-5. Fit a D-ring on each end of the strap. Pass the strap around the load and through the bottom cutouts. Fit a D-ring on the free end of a 15-foot tiedown strap. Place the 15-foot strap against the storage box between the ends of the 30-foot strap. Hook each end of the 15-foot tiedown strap to the 30-foot tiedown strap with a load binder.
- ④ Install a 30-foot tiedown strap and a 15-foot tiedown strap around the load and through the center cutouts as in step 3.
- ⑤ Install a 30-foot tiedown strap and a 15-foot tiedown strap around the load and through the top cutouts as in step 3.

Figure 13-9. Box closed and secured (continued)

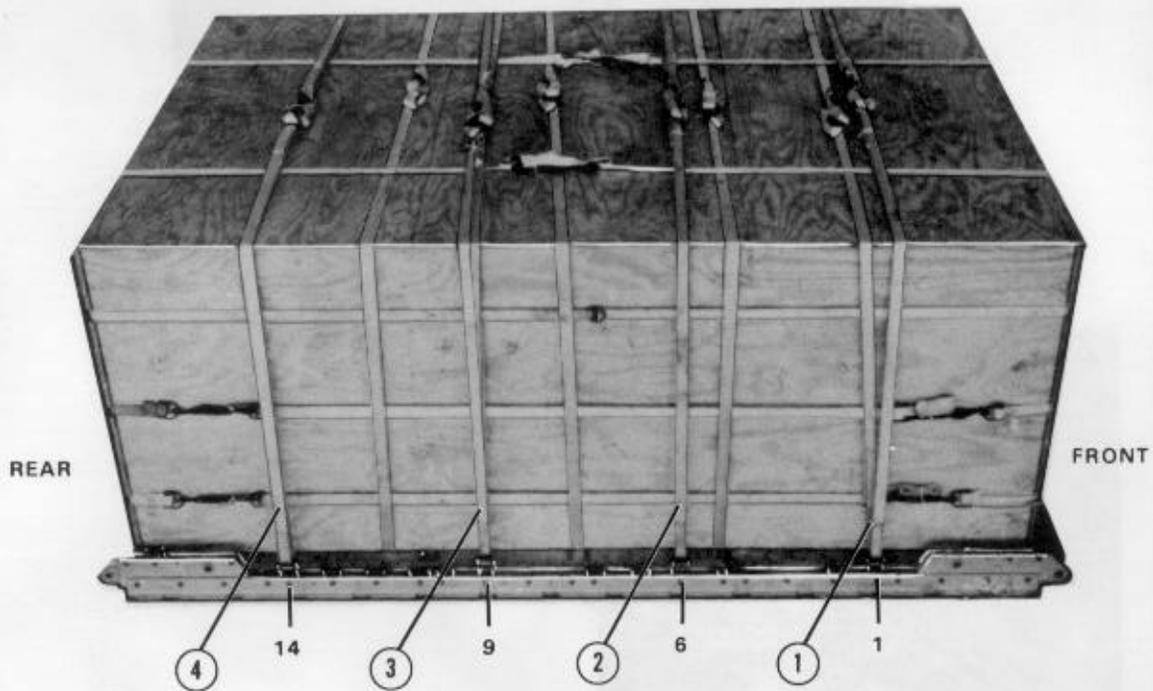


- ⑥ Pass the ends of the straps attached to tiedown rings A2 and B2 to the top of the load. Hook the ends of the straps together with two D-rings and a load binder.
- ⑦ Pass the ends of the straps attached to tiedown rings A3 and B3 to the top of the load. Hook the ends of the straps together with two D-rings and a load binder.
- ⑧ Pass the ends of the straps attached to tiedown rings A4 and B4 to the top of the load. Hook the ends of the straps together with two D-rings and a load binder.
- ⑨ Pass the ends of the straps attached to tiedown rings A5 and B5 to the top of the load. Hook the ends of the straps together with two D-rings and a load binder.
- ⑩ Pass the ends of the straps attached to tiedown rings A2 and A5 to the top of the load. Hook the ends of the straps together with two D-rings and a load binder.
- ⑪ Pass the ends of the straps attached to tiedown rings B2 and B5 to the top of the load. Hook the ends of the straps together with two D-rings and a load binder.

*Figure 13-9. Box closed and secured (continued)*

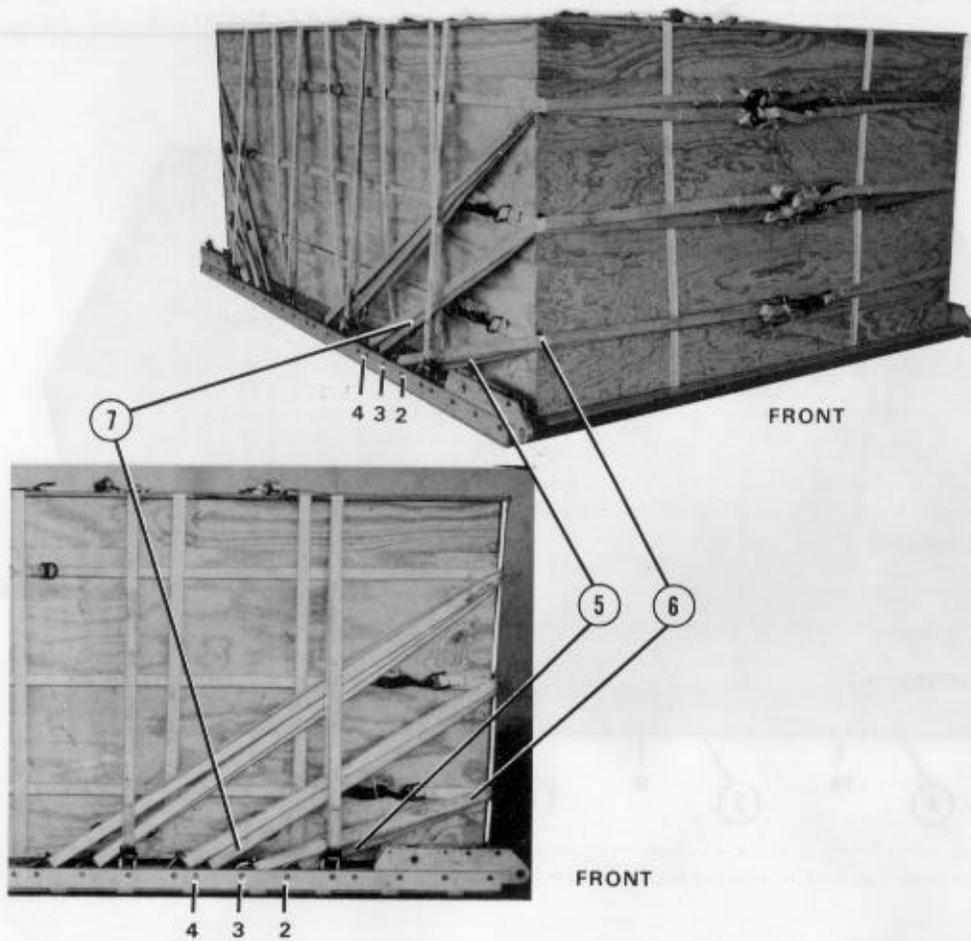
### 13-9. Installing Lashings

Install the lashings as shown in Figure 13-10.



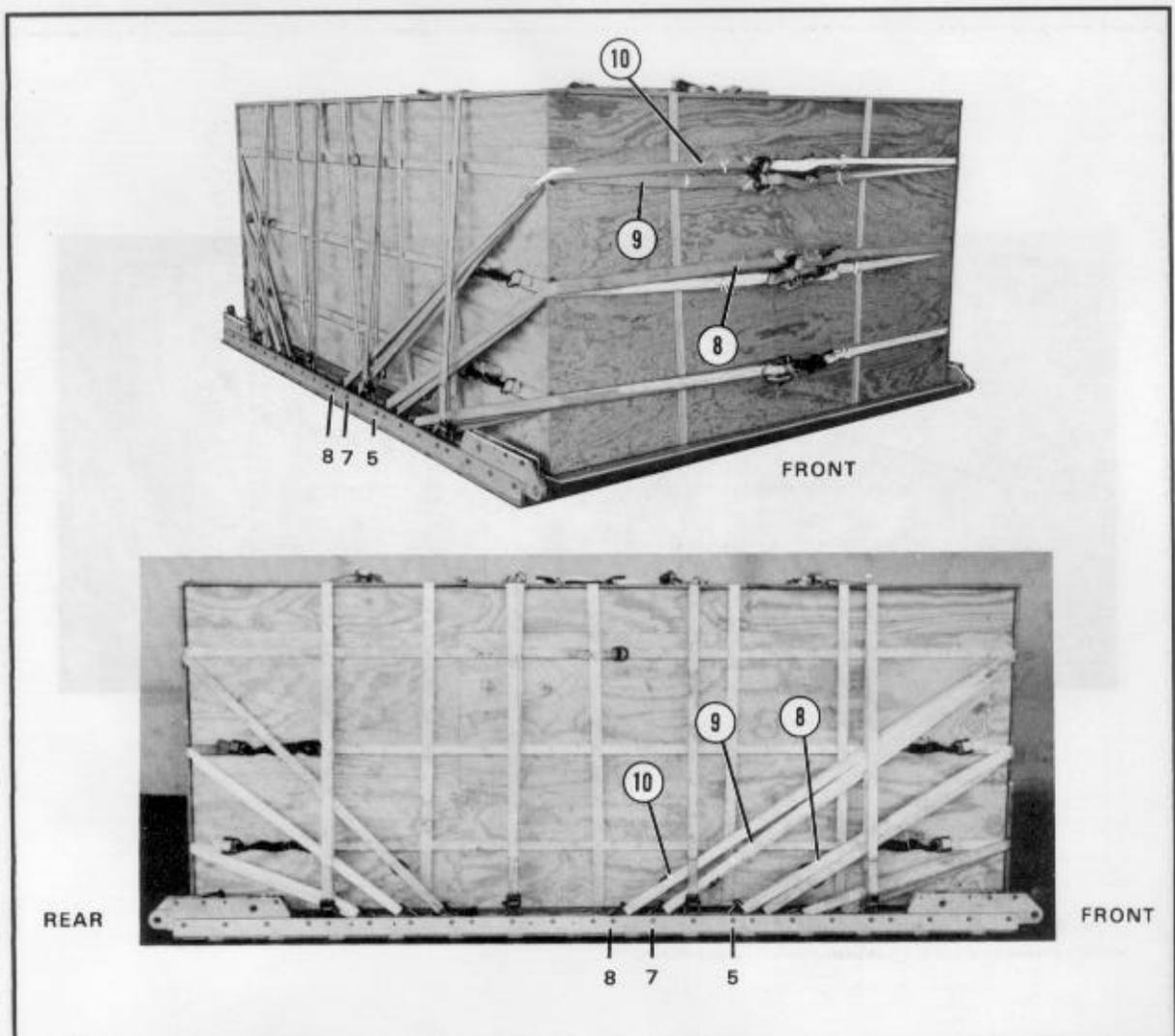
- ① Pass the free end of a 15-foot tiedown strap through clevis 1. Even the ends of the strap and place them on top of the load. Pass the free end of a 15-foot tiedown strap through clevis 1A. Even the ends of the strap and place them on top of the load. Secure the ends of the 15-foot tiedown straps with two D-rings and two load binders.
- ② Pass a 15-foot tiedown strap through clevises 6 and 6A and secure the straps as in step 1.
- ③ Pass a 15-foot tiedown strap through clevises 9 and 9A and secure the straps as in step 1.
- ④ Pass a 15-foot tiedown strap through clevises 14 and 14A and secure the straps as in step 1.

Figure 13-10. Lashings installed



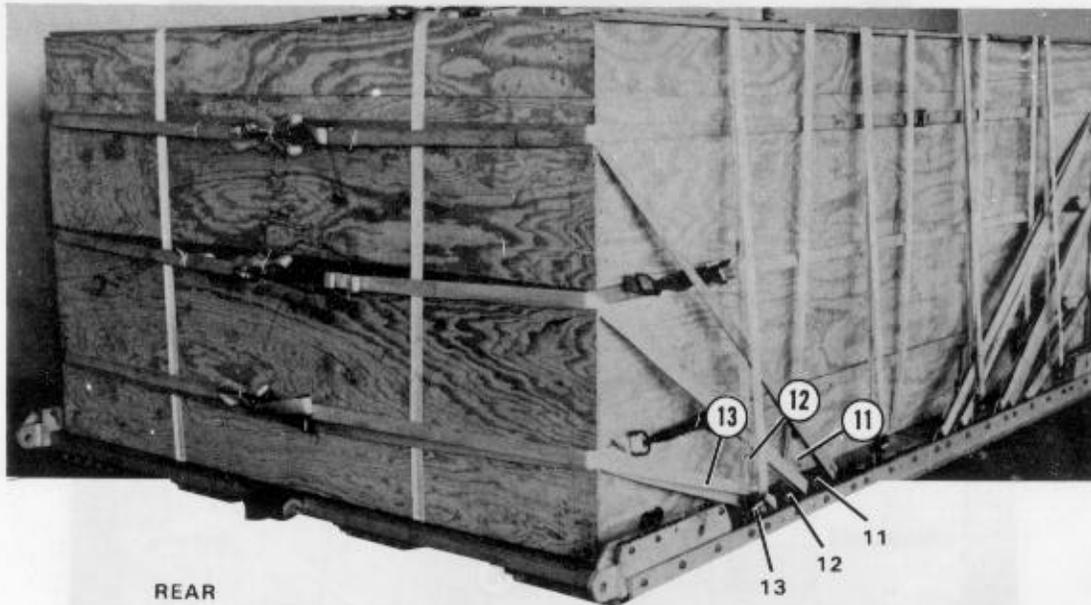
- ⑤ Form a 30-foot tiedown strap. Pass the free ends of the strap through the lower cutouts in the front of the storage box, through clevises 2 and 2A, and back through the lower cutouts to the front of the storage box. Secure the free ends of the strap with two D-rings and a load binder.
- ⑥ Form a 30-foot tiedown strap. Pass the free ends of the strap through the lower cutouts in the front of the storage box, through clevises 3 and 3A, and back through the lower cutouts to the front of the storage box. Secure the free ends of the strap with two D-rings and a load binder.
- ⑦ Form a 30-foot tiedown strap. Pass the free ends of the strap through the center cutouts in the front of the storage box, through clevises 4 and 4A, and back through the center cutouts to the front of the storage box. Secure the free ends of the strap with two D-rings and a load binder.

Figure 13-10. Lashings installed (continued)



- ⑧ Form a 30-foot tiedown strap. Pass the free ends of the strap through the center cutouts in the front of the storage box, through clevises 5 and 5A, and back through the center cutouts to the front of the storage box. Secure the free ends of the strap with two D-rings and a load binder.
- ⑨ Form a 30-foot tiedown strap. Pass the free ends of the strap through the top cutouts in the front of the storage box, through clevises 7 and 7A, and back through the top cutouts to the front of the storage box. Secure the free ends of the strap with two D-rings and a load binder.
- ⑩ Form a 30-foot tiedown strap. Pass the free ends of the strap through the top cutouts in the front of the storage box, through clevises 8 and 8A, and back through the top cutouts to the front of the storage box. Secure the free ends of the strap with two D-rings and a load binder.

Figure 13-10. Lashings installed (continued)

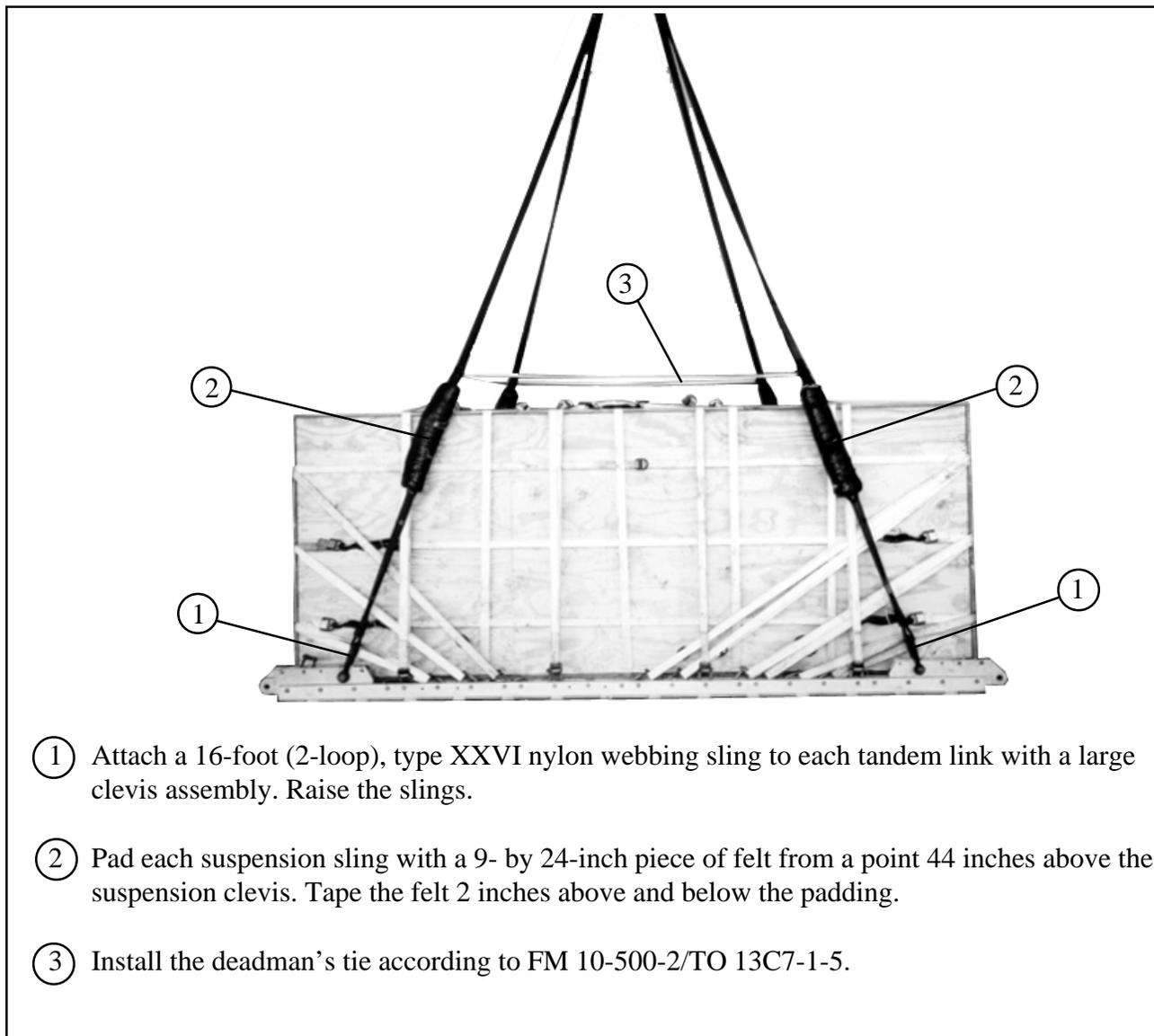


- ⑪ Form a 30-foot tiedown strap. Pass the free ends of the strap through the top cutouts in the rear of the storage box, through clevises 11 and 11A, and back through the top cutouts to the rear of the storage box. Secure the free ends of the strap with two D-rings and a load binder.
- ⑫ Form a 30-foot tiedown strap. Pass the free ends of the strap through the center cutouts in the rear of the storage box, through clevises 12 and 12A, and back through the center cutouts to the rear of the storage box. Secure the free ends of the strap with two D-rings and a load binder.
- ⑬ Form a 30-foot tiedown strap. Pass the free ends of the strap through the lower cutouts in the rear of the storage box, through clevises 13 and 13A, and back through the lower cutouts to the rear of the storage box. Secure the free ends of the strap with two D-rings and a load binder.

Figure 13-10. Lashings installed (continued)

### 13-10. Installing Suspension Slings and Deadman's Tie

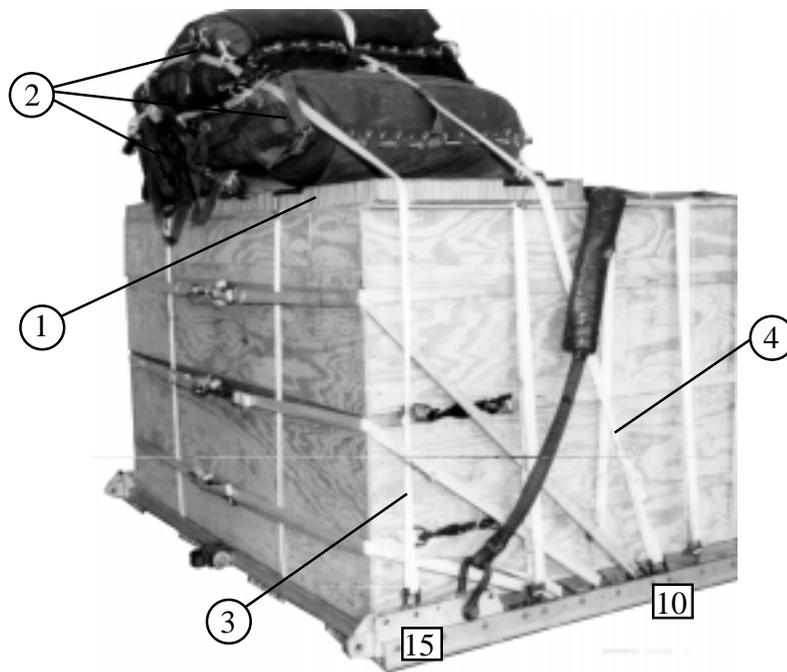
Install the suspension slings and deadman's tie according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 13-11.



*Figure 13-11. Suspension slings installed and safetied*

### 13-11. Installing Parachutes

Compute the parachute requirements for the load being rigged. Select the correct number of G-11 cargo parachutes. The load in Figure 13-12 shows three G-11B cargo parachutes. Install the parachutes according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 13-12.

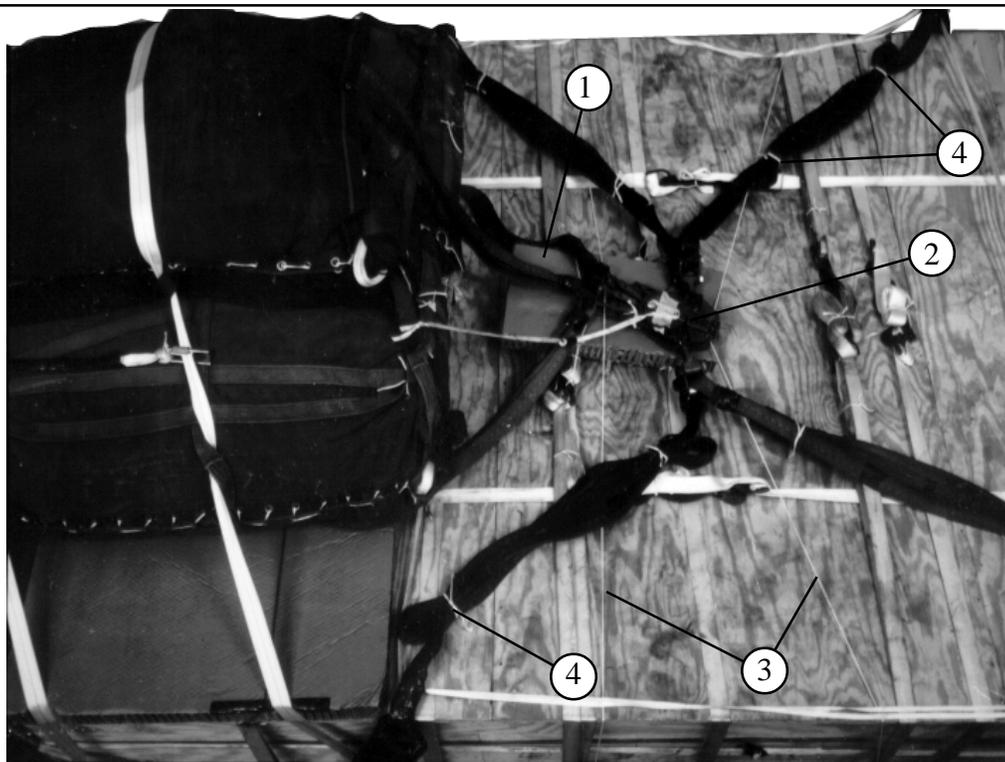


- ① Place a 96- by 36-inch piece of honeycomb at the rear of the load. Tie the honeycomb in place with type III nylon cord. Tape the honeycomb where the cord passes.
- ② Install three G-11B cargo parachutes on the honeycomb.
- ③ Tie the rear parachute restraint strap to clevises 15 and 15A.
- ④ Tie the front parachute restraint strap to clevises 10 and 10A.

*Figure 13-12. Parachutes installed*

### 13-12. Installing Release System

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

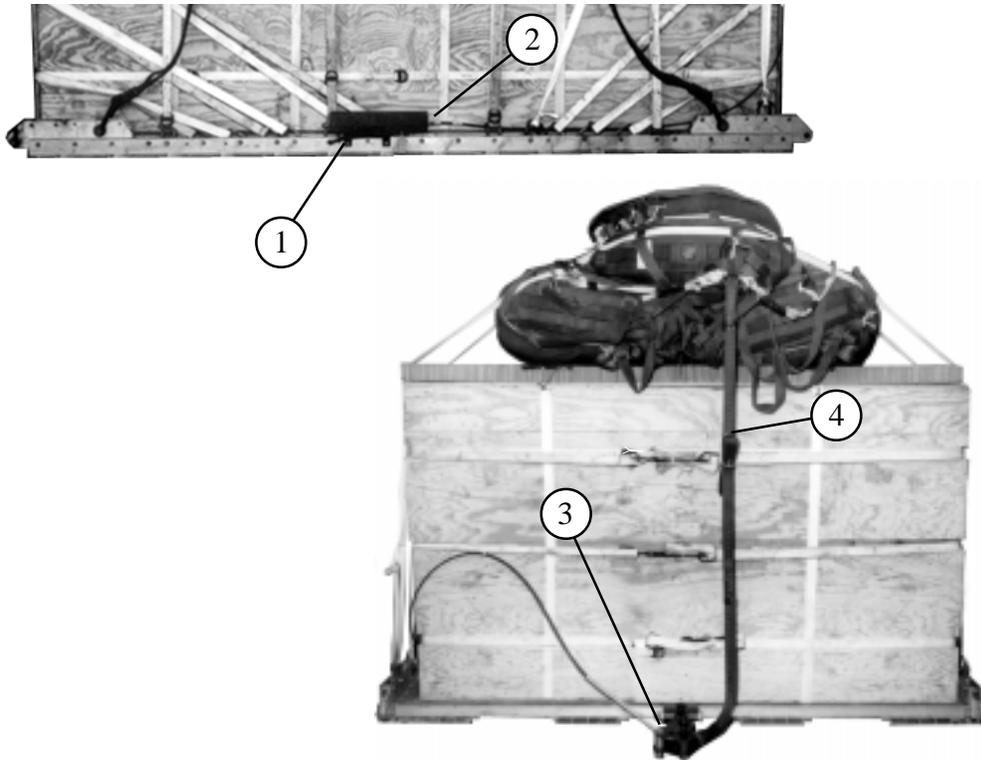


- ① Center a 12- by 24-inch piece of honeycomb 12 inches in front of the parachutes. Tie the honeycomb in place with a length of type III nylon cord.
- ② Place the M-1 release assembly on the honeycomb and attach the suspension slings and riser extensions.
- ③ Safety the top and bottom of the release to convenient points on the load with type III nylon cord.
- ④ S-fold the suspension slings and tie the folds with type I, 1/4-inch cotton webbing.

*Figure 13-13. Release system installed*

### 13-13. Installing Extraction System

Install the EFTC extraction system according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 13-14.



- ① Install the actuator brackets to the rear mounting holes on the left platform side rail.
- ② Attach a 12-foot release cable to the actuator. Install the actuator to the brackets and run the cable to the rear.
- ③ Install the latch assembly to the extraction bracket. Attach the release cable to the extraction bracket.
- ④ Install a 9-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold the slack and tie the folds with Type I, 1/4-inch cotton webbing.

*Figure 13-14. Extraction system installed*

**13-14. Installing Provisions for Emergency Restraints**

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

**13-15. Positioning 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.

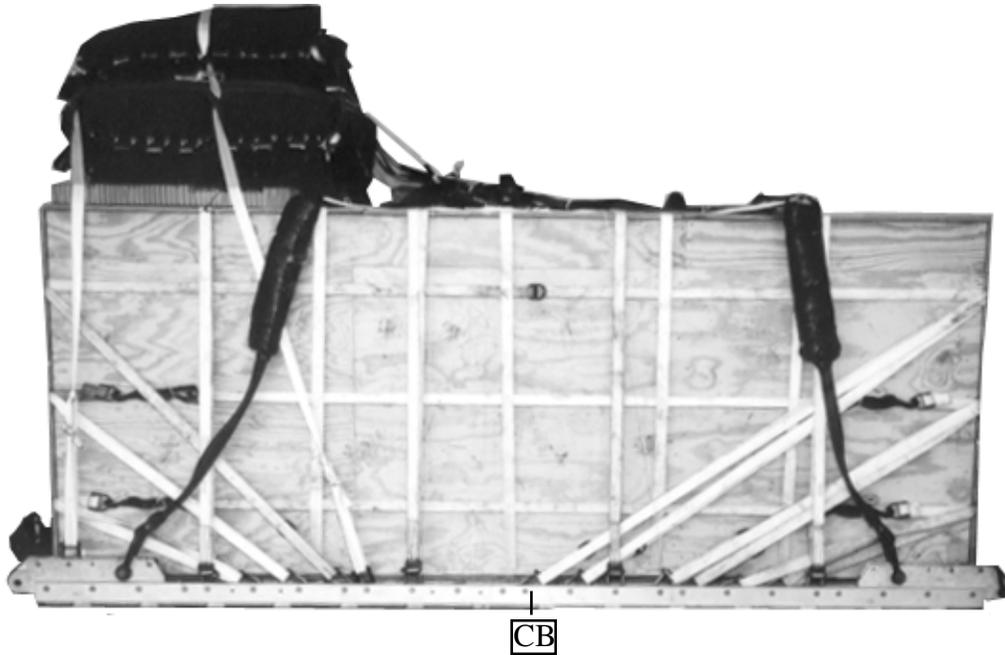
**13-16. Marking Rigged Load**

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 13-15.

**13-17. Equipment Required**

Use the equipment listed in Table 13-1 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:	Load shown	12,000 pounds
	Maximum allowable	12,750 pounds
Height		92 inches
Width		108 inches
Length		168 inches
Overhang:	Front	0 inches
	Rear	0 inches
CB (from front edge of platform)		84 inches
Extraction System (adds 18 inches to length of platform)		EFTC

*Figure 13-15. FAST equipment rigged on a 12-foot platform for low-velocity airdrop*

Table 13-1. Equipment required for rigging FAST equipment on a 16-foot type V platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
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	7
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-01-183-2678	Leaf, extraction line (line bag)	2
	Line, drogue (for C-17)	
1670-01-064-4452	60-ft (1-loop), type XXVI	1
	Line, extraction	
1670-01-062-6313	For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
1670-01-107-7652	For C-5: 160-ft (1-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
	Link assembly:	
1670-00-783-5988	Type IV	7
	Two-point, 3 3/4-in	
5306-00-435-8994	Bolt, 1-in diam, 4 in long	2
5310-00-232-5165	Nut, 1-in, hexagonal	2
1670-00-003-1953	Plate, side, 3 3/4-in	2
5365-00-007-3414	Spacer, large	2
5510-00-220-6146	Lumber, 2- by 4- by 60-in	14
5315-00-010-4659	Nail, steel wire, common, 8d	As required

Table 13-1. Equipment required for rigging FAST equipment on a 16-foot type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in	10 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	3
1670-01-063-3716	Cargo extraction, 22-ft	1
1670-01-063-3715	Drogue, 15-ft (for C-17)	1
	Platform, airdrop, type V, 12-foot	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(30)
1670-01-353-8424	Extraction bracket assembly	(1)
1670-01-162-2381	Link, tandem, suspension link assembly	(4)
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	8 sheets
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 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	6
5340-00-040-8219	Strap, parachute release, multicut	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-ft	69
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-261-8585	Type VIII	As required

## CHAPTER 15

**RIGGING SUPPLY LOADS ON A 16-FOOT, TYPE V  
PLATFORM FOR LOW-VELOCITY AIRDROP**

## Section I

**RIGGING 105-MILLIMETER AMMUNITION****15-1. Description of Load**

Bulk supplies consisting of rations, equipment, gasoline, ammunition, or other items of general supply are rigged on a 16-foot, type V platform with G-11B cargo parachutes. One hundred and forty boxes of 105-millimeter ammunition are shown. All 105-millimeter ammunition packaged as shown and listed in FM 10-500-53/TO 13C7-18-41, as certified for low-velocity airdrop, may be rigged using these procedures. All loads will be platform suspended. Each load must weigh at least 5,040 pounds, including parachutes, but must not weigh more than 27,000 pounds, including parachutes. The rigged load may not be more than 100 inches high. Refer to FM 10-500-2/TO 13C7-1-5 for the weight limitations for the number of parachutes to be used.

**15-2. Preparing Platform**

Prepare a 16-foot, type V airdrop platform as described below.

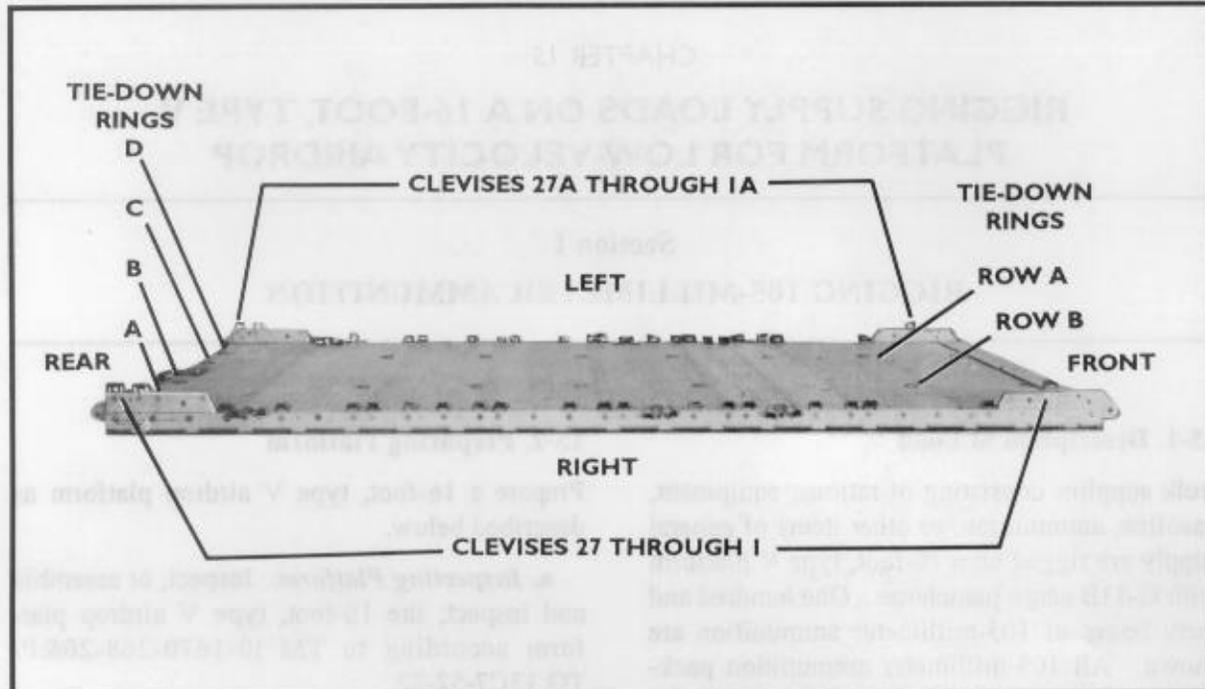
**a. *Inspecting Platform.*** Inspect, or assemble and inspect, the 16-foot, type V airdrop platform according to TM 10-1670-268-20&P/TO 13C7-52-22.

**b. *Installing Tandem Links.*** Install tandem links on the front and rear of each rail as shown in Figure 15-1.

**c. *Installing and Numbering Clevises.*** Bolt and number 60 clevis assemblies as shown in Figure 15-1.

**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 30, 31, and 32.
3. Install a clevis on bushing 3 of each front tandem link.
4. Install clevises on bushings 3 and 4 of each rear tandem link.
5. Starting at the front of each platform side rail, install clevises on each platform side rail using the bushings bolted on holes 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 27, 28 and 29. Reverse the clevises on holes 11, 15, and 28. Install two clevises on each of the reversed clevises.
6. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 27, and those bolted to the left side from 1A through 27A.
7. Label the tie-down rings according to FM 10-500-2/TO 13C7-1-5.

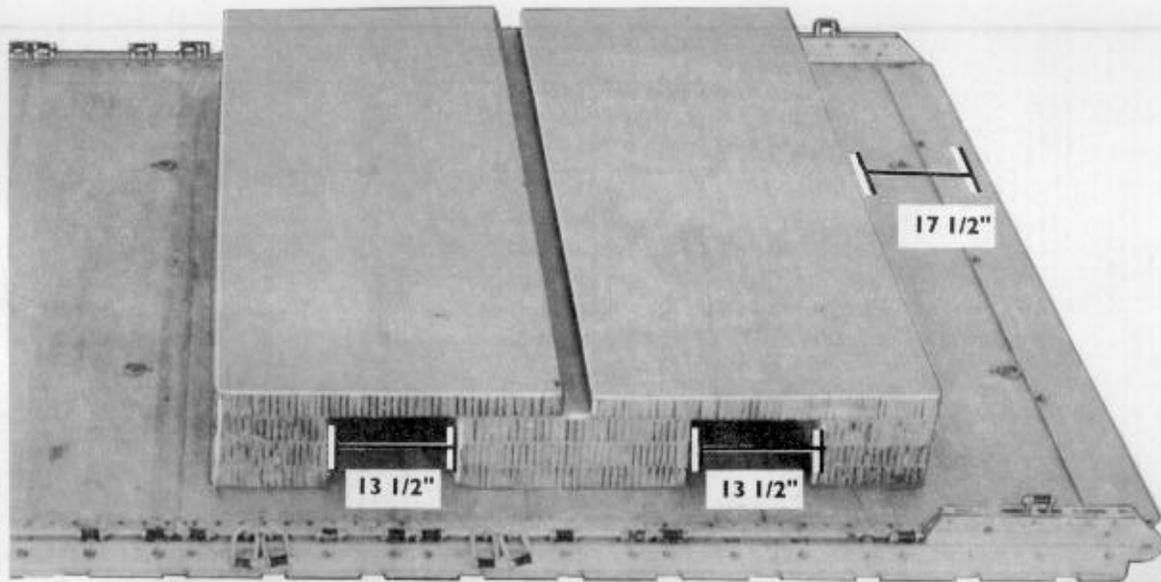
*Figure 15-1. Platform prepared*

**15-3. Building Honeycomb Stacks and Placing First Stack**

Build the honeycomb stack for the first stack of ammunition and place it on the platform as shown in Figure 15-2. Build the stack for the second stack of ammunition as shown in Figure 15-2. Set the second honeycomb stack aside.

**Note:**

When rigging this load for airdrop on a drop zone with a ground elevation of 6,000 to 10,000 feet, add another layer of honeycomb to each stack. However, the height of the load cannot exceed 100 inches.

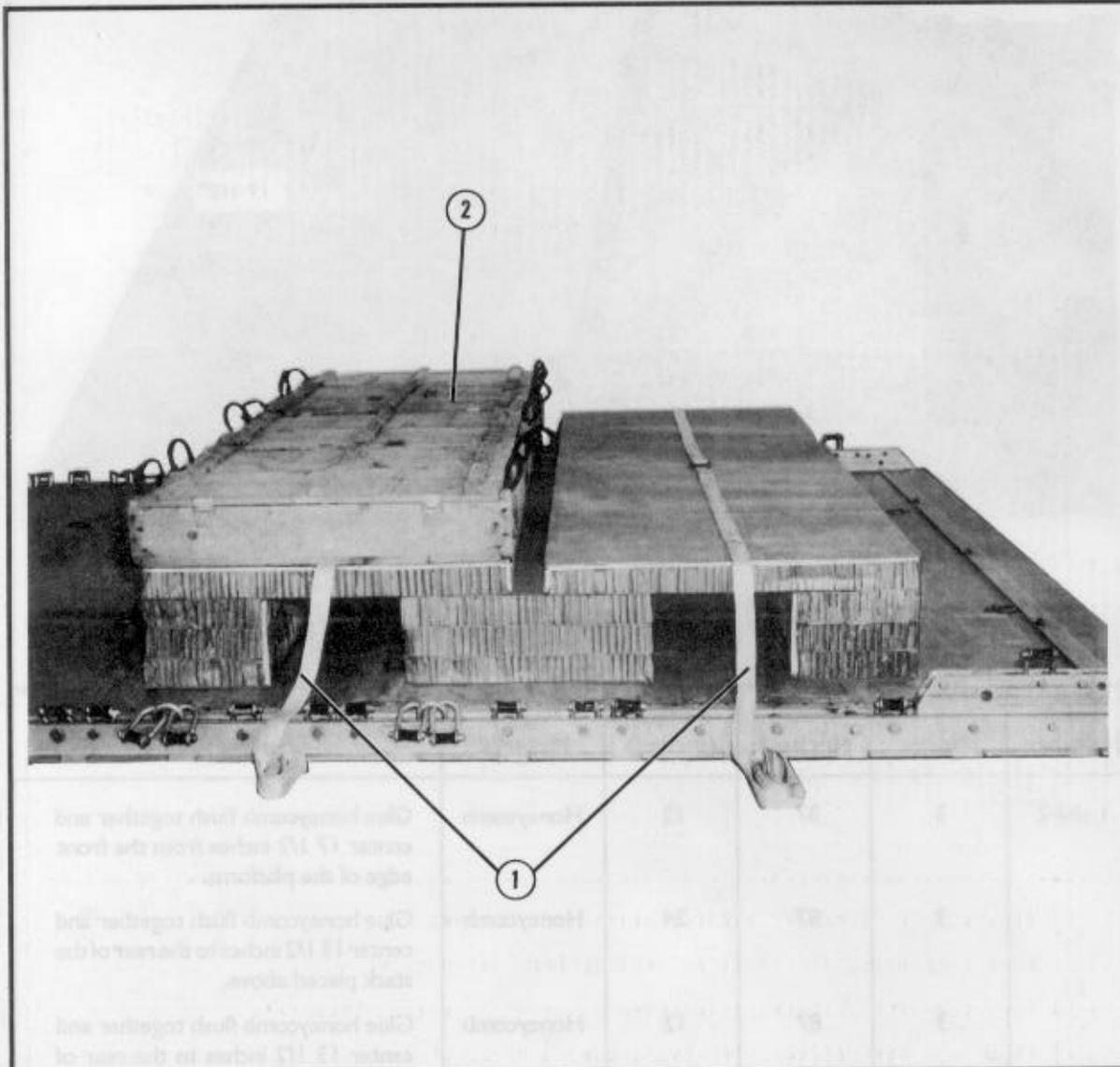


Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1 and 2	3	87	12	Honeycomb	Glue honeycomb flush together and center 17 1/2 inches from the front edge of the platform.
	3	87	24	Honeycomb	Glue honeycomb flush together and center 13 1/2 inches to the rear of the stack placed above.
	3	87	12	Honeycomb	Glue honeycomb flush together and center 13 1/2 inches to the rear of the stack placed above.
	2	87	36	Honeycomb	Glue one piece flush over the front edge, and glue one piece flush over the rear edge, leaving a 3-inch gap in the center.

Figure 15-2. Honeycomb for first ammunition stack prepared and placed

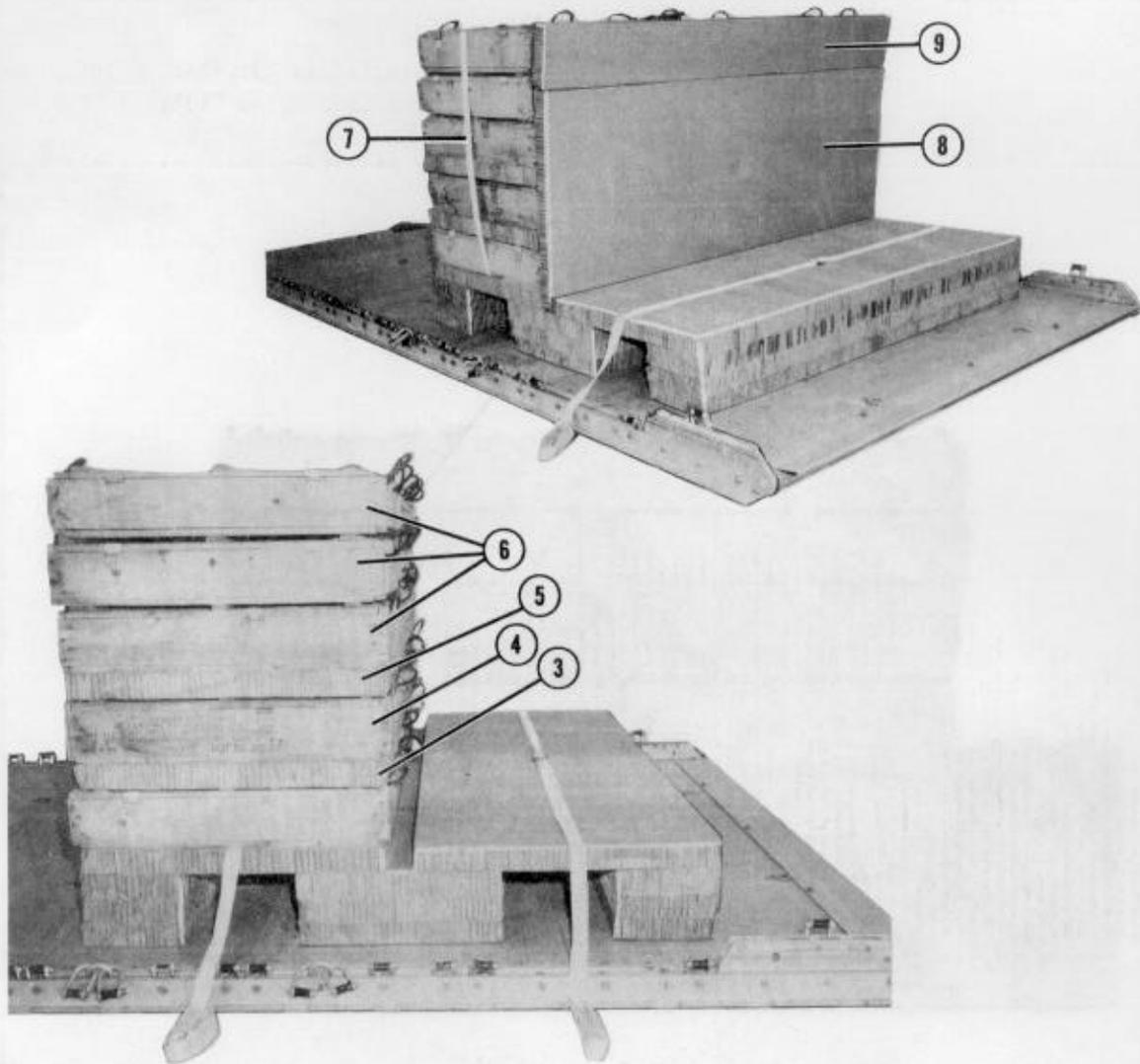
#### 15-4. Positioning and Securing First Ammunition Stack

Position and secure the first stack of 105-millimeter ammunition as shown in Figure 15-3.



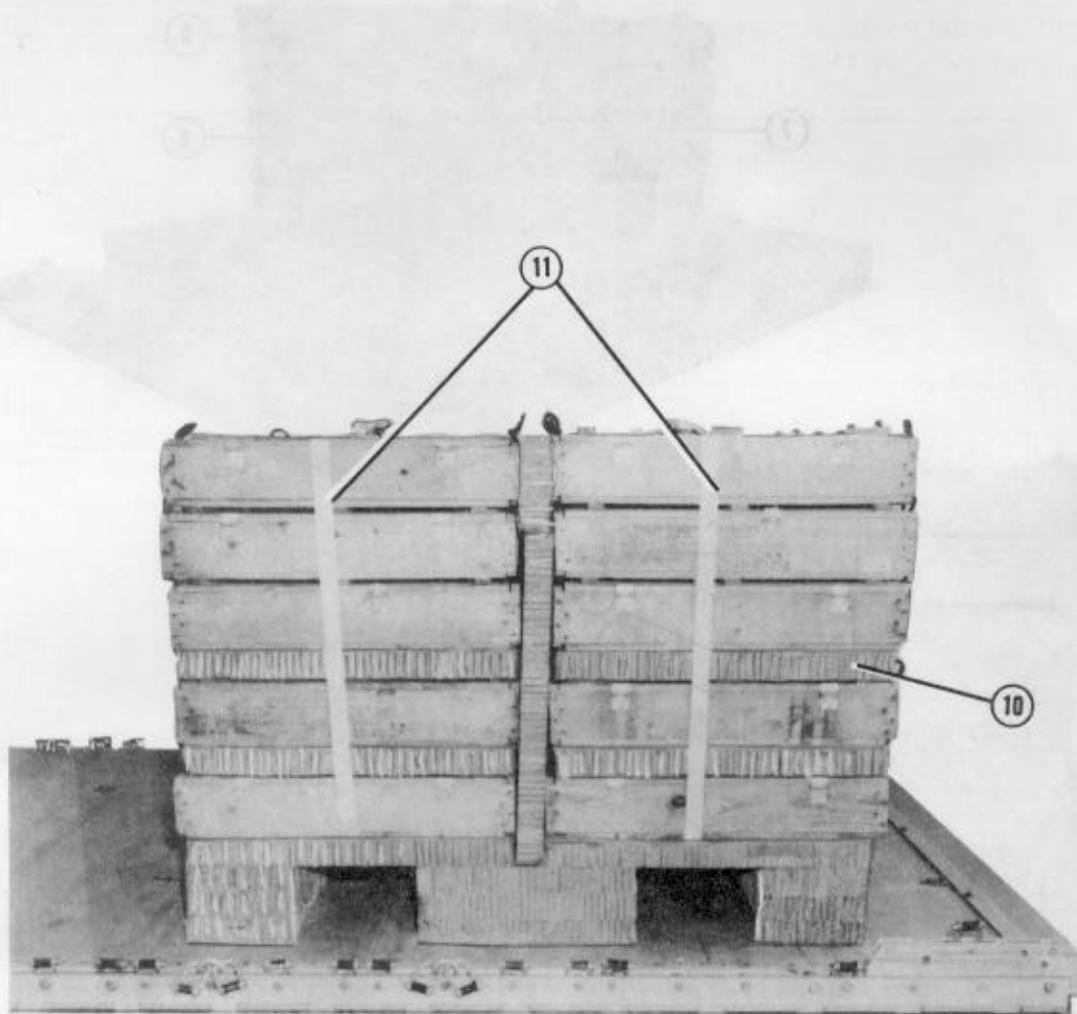
- ① Form two 30-foot lashings according to FM 10-500-2/TO 13C7-1-5. Center them over the honeycomb as shown.
- ② Place seven ammunition boxes on the rear side of stack 1. Let the boxes overhang the rear edge by 1 inch.

Figure 15-3. Ammunition positioned and secured



- ③ Place a 36- by 87-inch piece of honeycomb over the boxes.
- ④ Place seven ammunition boxes flush with the first layer of boxes.
- ⑤ Place a 36- by 87-inch piece of honeycomb over the boxes placed in step 4.
- ⑥ Place three layers of boxes flush over the layers already placed.
- ⑦ Secure the pre-positioned lashing over the boxes.
- ⑧ Place a 36- by 87-inch piece of honeycomb on edge against the boxes. Fit the honeycomb into the 3-inch slot in the center of the honeycomb stack.
- ⑨ Place a 10- by 87-inch piece of honeycomb on edge over the piece placed in step 8.

Figure 15-3. Ammunition positioned and secured (continued)



- ⑩ Place 35 boxes of ammunition and two 36-by-87-inch pieces of honeycomb as described in steps 2 through 6 to complete stack 1.
- ⑪ Secure the pre-positioned lashing over the boxes.

Figure 15-3. Ammunition positioned and secured (continued)

### 15-5. Constructing and Placing Endboards

Construct four endboards and place them on the load as shown in Figure 15-4.

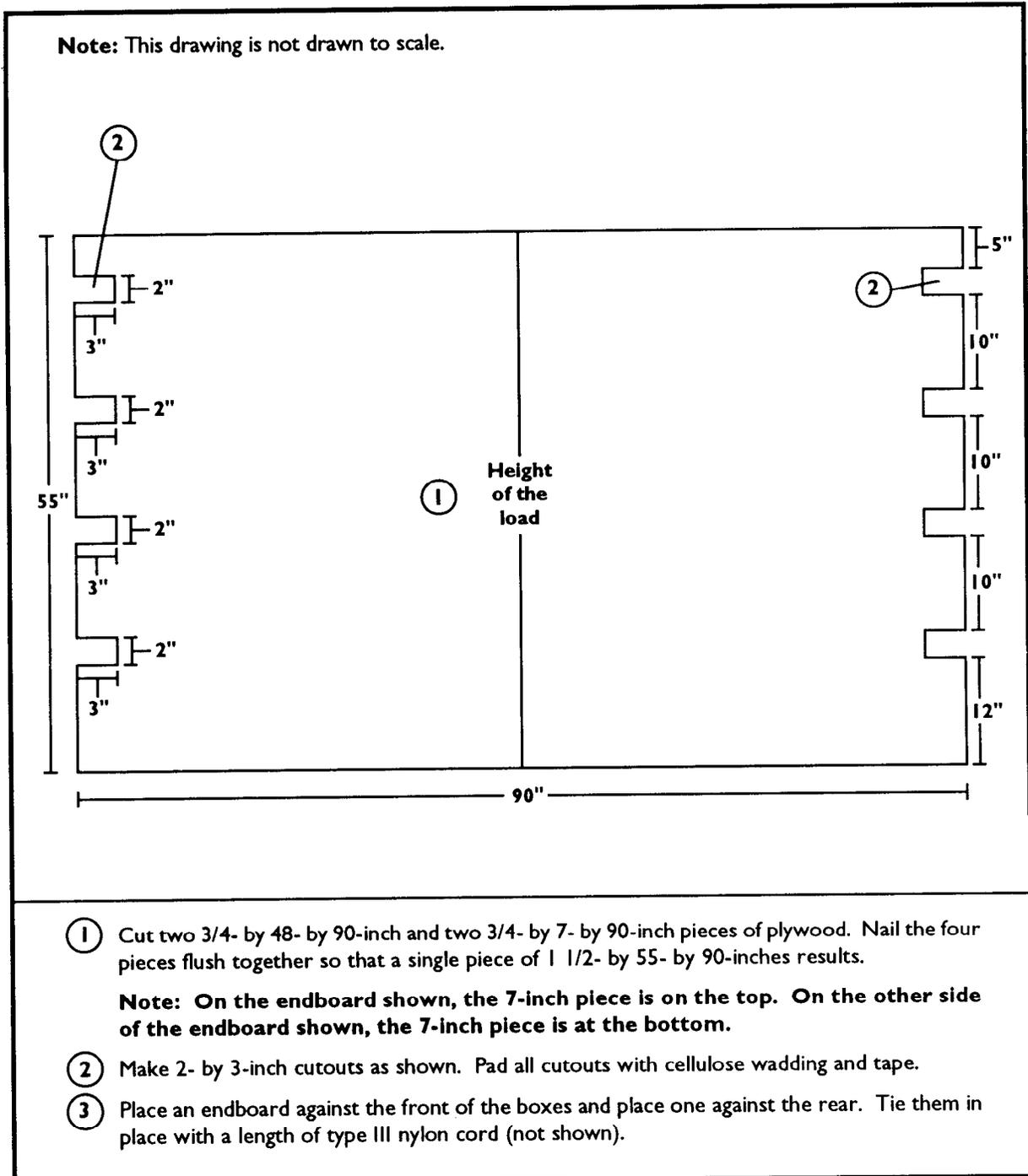


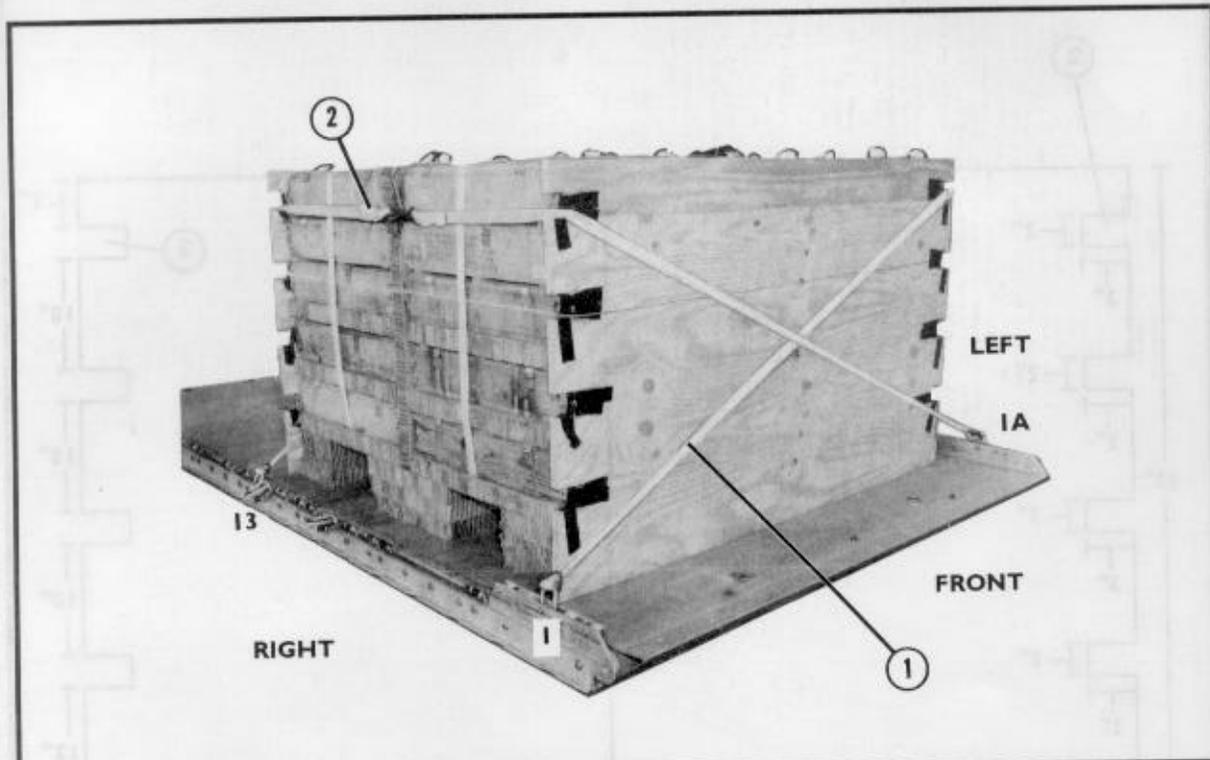
Figure 15-4. Endboards for 105-millimeter ammunition constructed

**15-6. Installing Lashings on First Ammunition Stack**

Lash the load to the platform according to FM 10-500-2/TO 13C7-1-5 and as shown in Figures 15-5 through 15-8. Lash the first stack to the platform as shown in Figure 15-5.

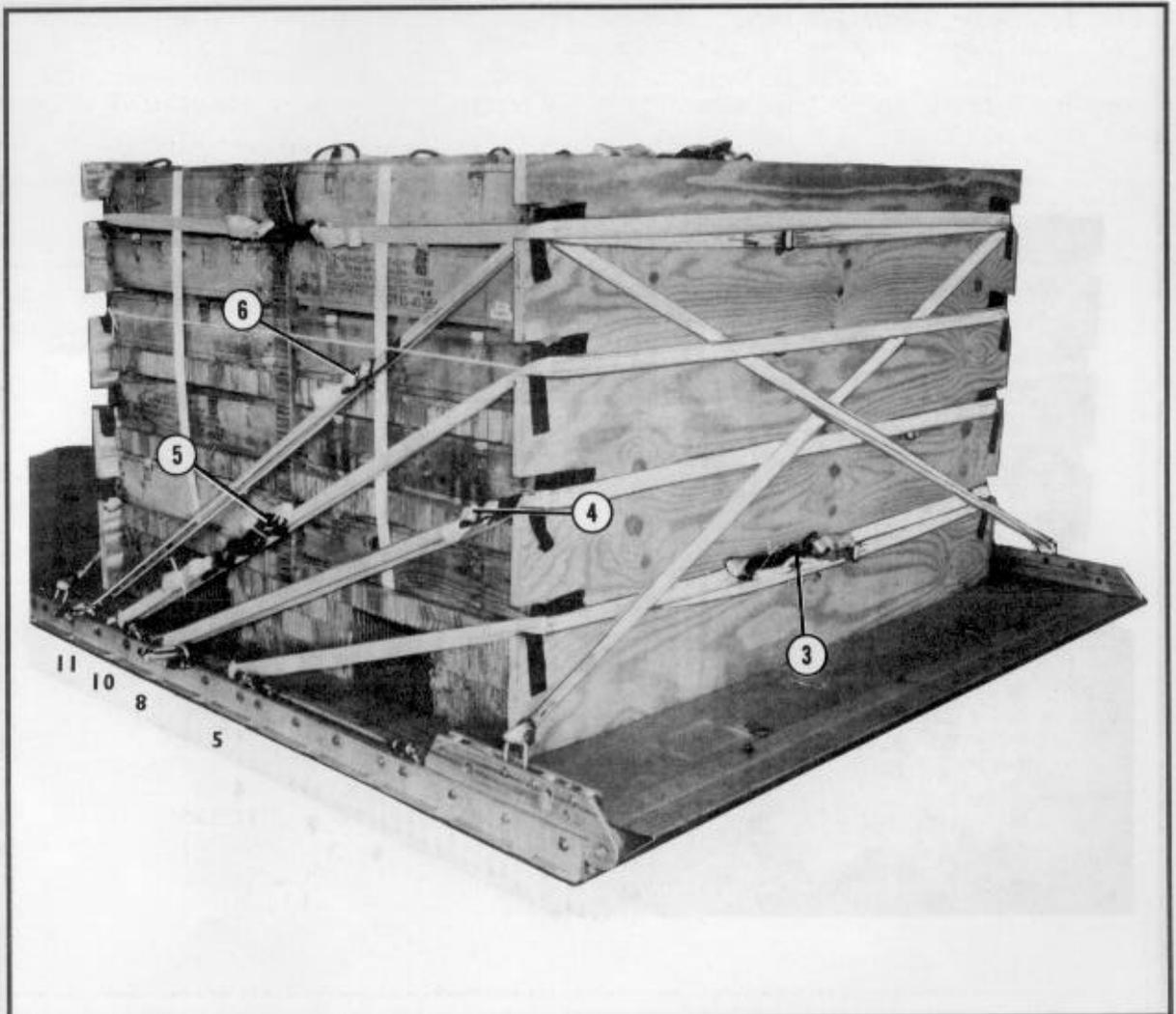
**Note:**

This load requires lashings of over 30 feet in length. Lashings must be positioned through clevises before sections are joined together.



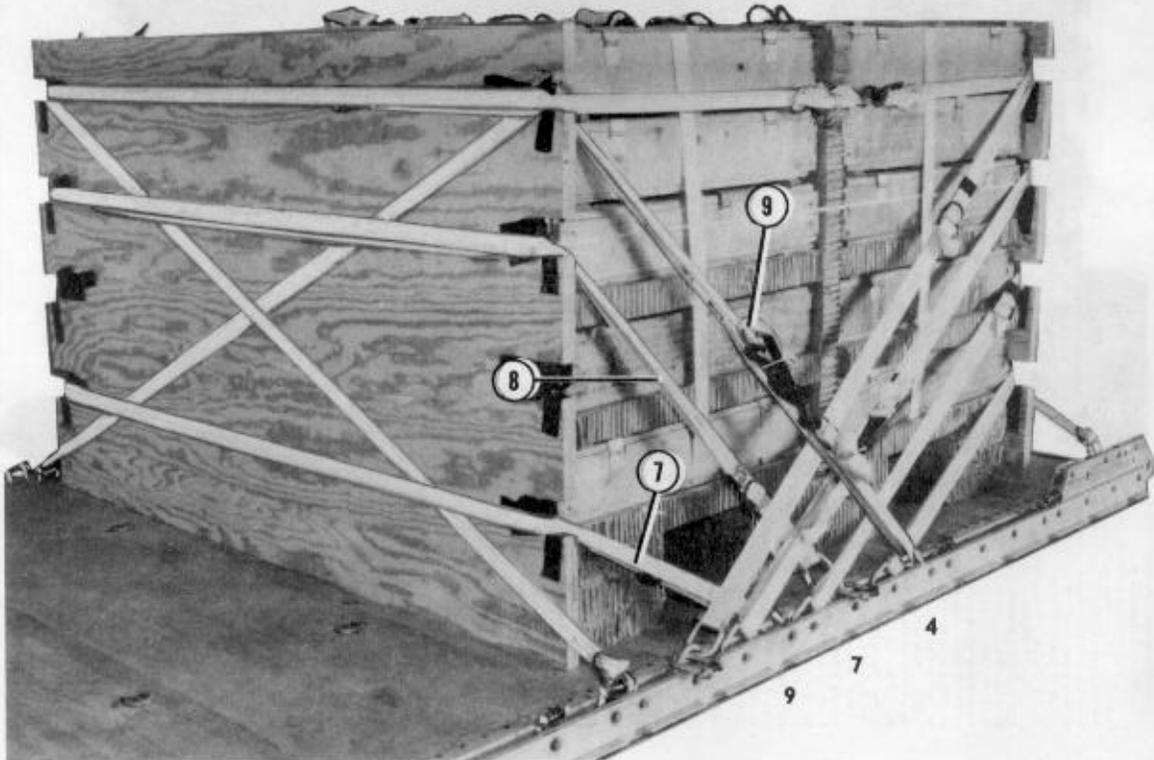
Lashing Number	Tie-Down Clevis Number	Instructions
1	1 and 13	Pass a 15-foot lashing through clevis 1 and through its own D-ring. Pass the lashing through the top left cutout in the front endboard. Pass a 15-foot lashing through clevis 13 and through its own D-ring. Pass the lashing through the top left cutout in the rear endboard. Secure the lashings on the left side.
2	1A and 13A	Pass a 15-foot lashing through clevis 1A and through its own D-ring. Pass the lashing through the top right cutout in the front endboard. Pass a 15-foot lashing through clevis 13A and through its own D-ring. Pass the lashing through the top right cutout in the rear endboard. Secure the lashings on the right side.

Figure 15-5. Lashings installed for first stack



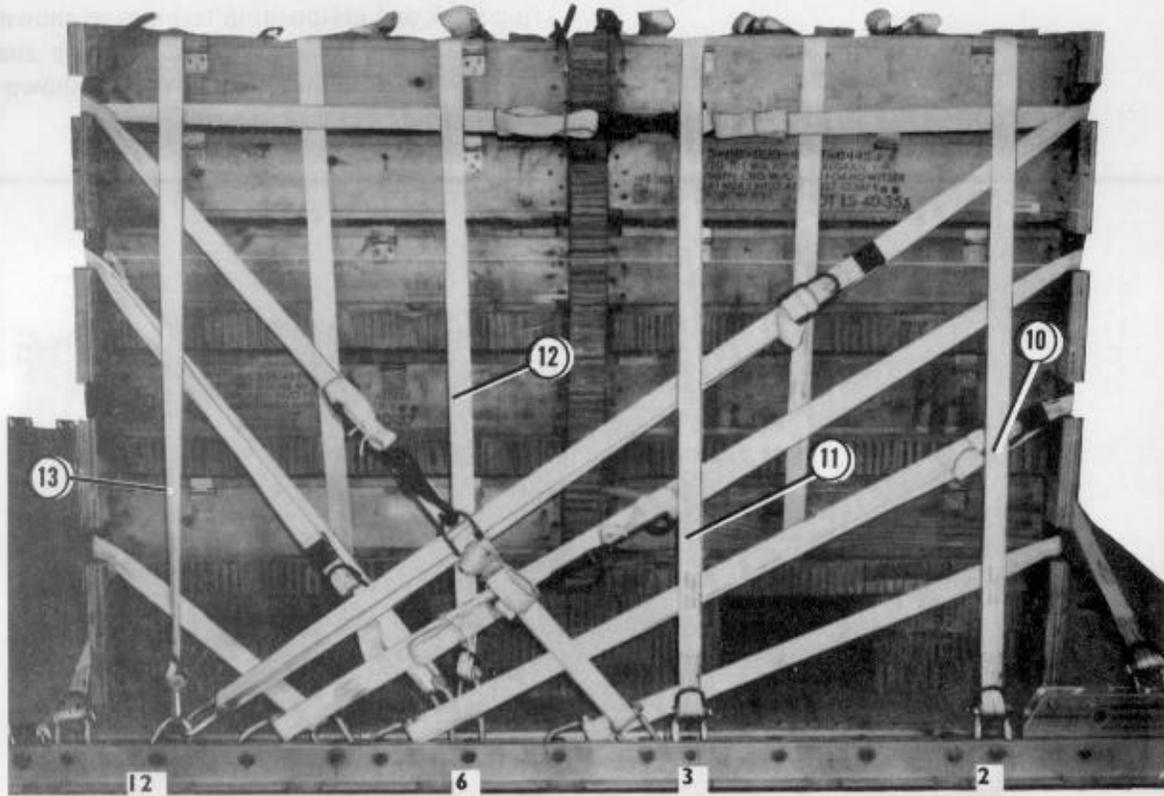
Lashing Number	Tie-Down Clevis Number	Instructions
3	5 and 5A	Pass a 30-foot lashing through both clevises and through the bottom cutouts in the front endboard. Secure the lashing in the front.
4	8 and 8A	Pass a 45-foot lashing through both clevises and through the second cutouts in the front endboard. Secure the lashing on the side.
5	10 and 10A	Pass a 45-foot lashing through both clevises and through the third cutouts in the front endboard. Secure the lashing on the side.
6	11 and 11A	Pass a 45-foot lashing through both clevises and through the top cutouts in the front endboard. Secure the lashing on the side.

Figure 15-5. Lashings installed for first stack (continued)



Lashing Number	Tie-Down Clevis Number	Instructions
7	9 and 9A	Pass a 30-foot lashing through both clevises and through the bottom cutouts in the rear endboard. Secure the lashing on the side.
8	7 and 7A	Pass a 45-foot lashing through both clevises and through the third cutouts from the bottom in the rear endboard. Secure the lashing on the side.
9	4 and 4A	Pass a 45-foot lashing through both clevises and through the upper cutouts in the rear endboard. Secure the lashing on the side.

Figure 15-5. Lashings installed for first stack (continued)

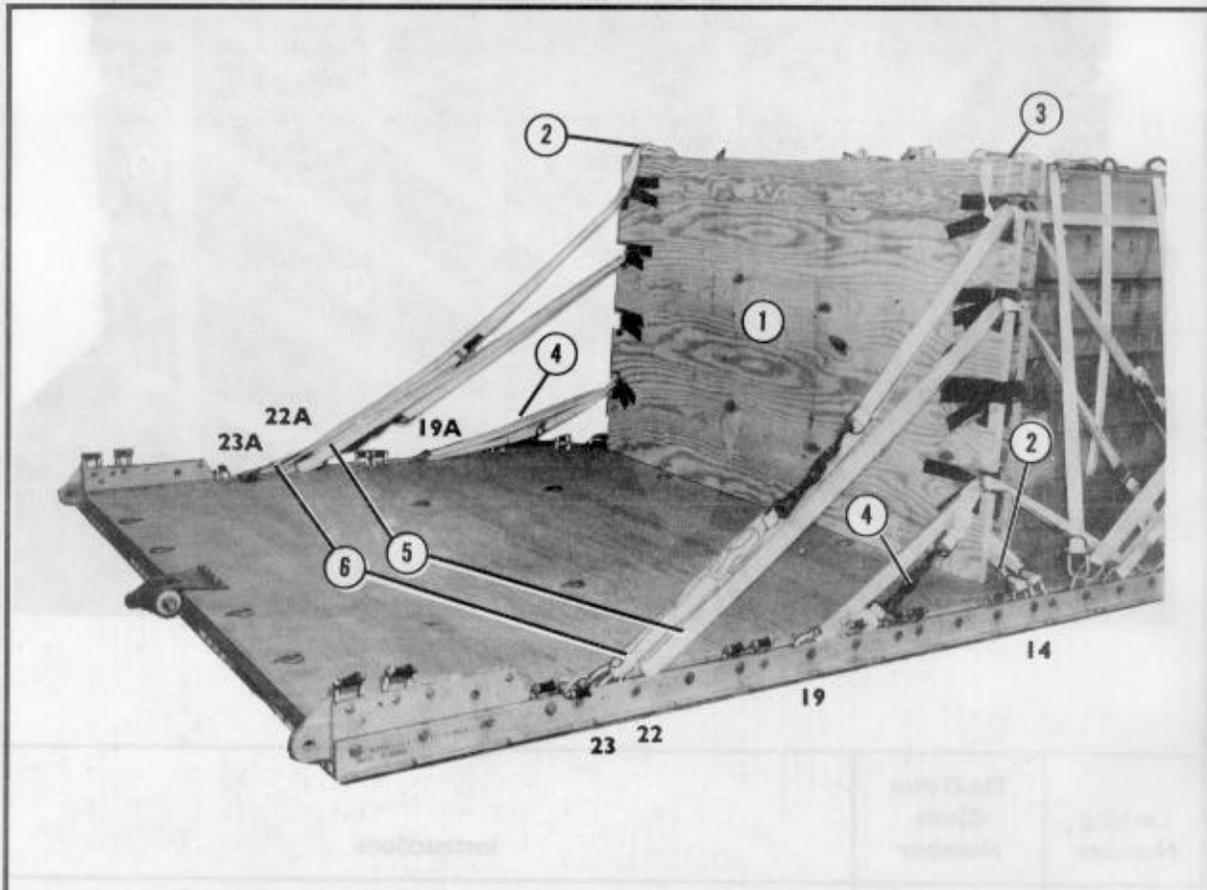


Lashing Number	Tie-Down Clevis Number	Instructions
10	2 and 2A	Pass a 15-foot lashing through each clevis and through its own D-ring. Pass both lashings over the load and secure them on top.
11	3 and 3A	Pass a 15-foot lashing through each clevis and through its own D-ring. Pass both lashings over the load and secure them on top.
12	6 and 6A	Pass a 15-foot lashing through each clevis and through its own D-ring. Pass both lashings over the load and secure them on top.
13	12 and 12A	Pass a 15-foot lashing through each clevis and through its own D-ring. Pass both lashings over the load and secure them on top.

Figure 15-5. Lashings installed for first stack (continued)

### 15-7. Positioning and Securing Second Ammunition Stack

Place the first endboard for the second ammunition stack and pre-position lashings as shown in Figure 15-6. Position the honeycomb stack, lashings, and ammunition boxes as shown in Figure 15-7.

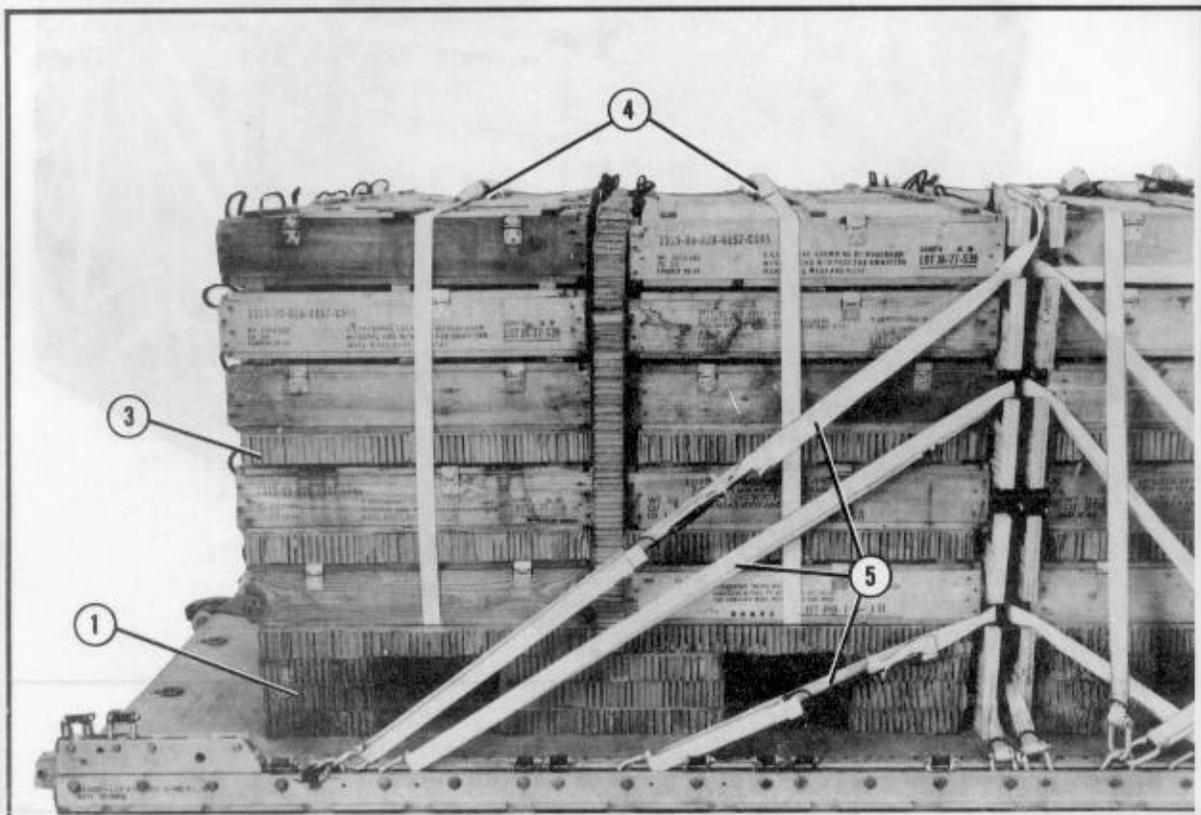


- ① Stand an endboard against the rear endboard of the first stack. Temporarily secure it to the rear endboard with type III nylon cord.
- ② Pass a 15-foot lashing through clevis 14 and through its own D-ring. Pass the lashing through the top cutout on the left side of the endboard placed in step 1. Fold the free end and place it on top of the endboards.
- ③ Pass a 15-foot lashing through clevis 14A and through its own D-ring. Pass the lashing through the top cutout on the right side of the endboard placed in step 1. Fold the free end and place it on top of the endboards.

Figure 15-6. Endboard for second stack placed and lashings pre-positioned

- ④ Pass a 30-foot lashing through clevises 19 and 19A and through the bottom slots of the endboard. Position the load binder on one side. Leave the load binder open.
- ⑤ Pass a 45-foot lashing through clevis 22 and 22A and through the second slots from the top of the endboard. Position the load binder on one side. Leave the load binder open.
- ⑥ Pass a 45-foot lashing through clevises 23 and 23A and through the top slots of the endboard. Position the load binder on one side. Leave the load binder open.

Figure 15-6. Endboard for second stack placed and lashings pre-positioned (continued)



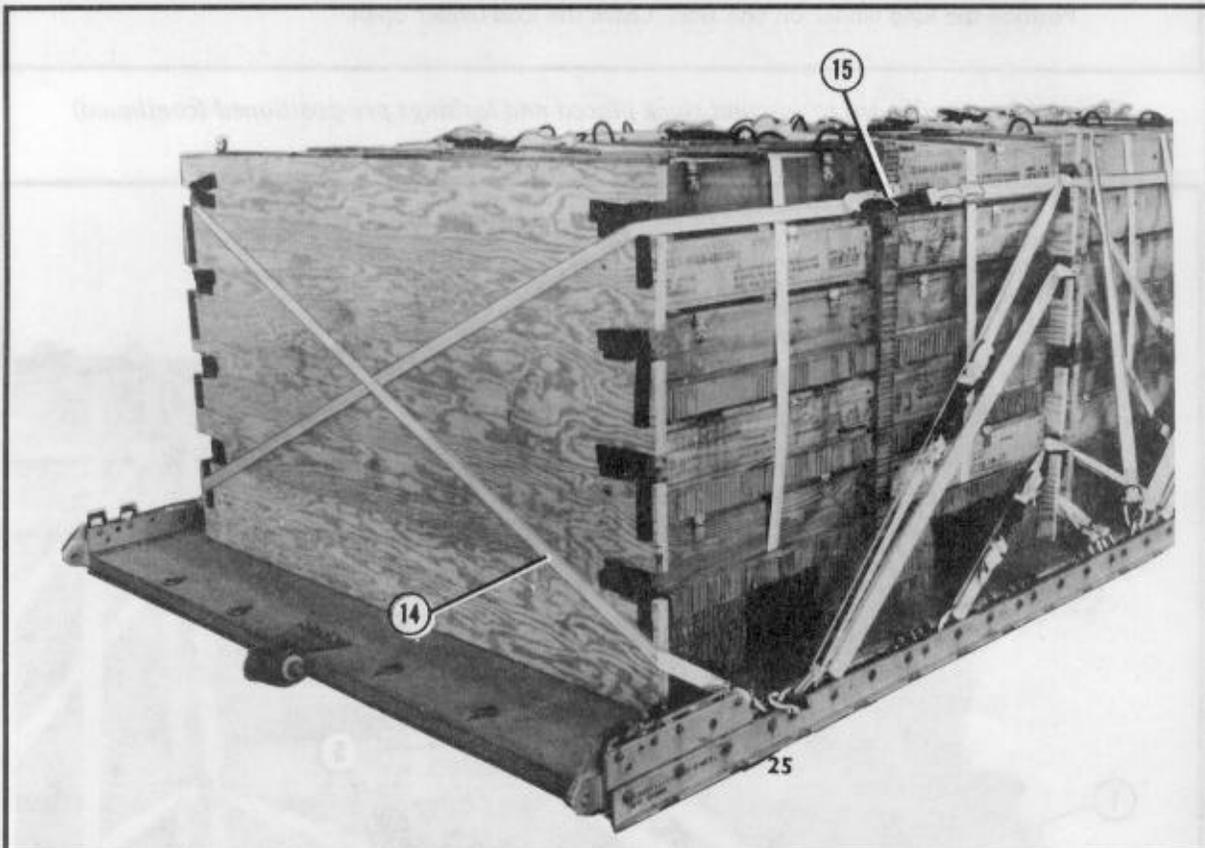
- ① Center the second honeycomb stack 17 1/2-inches from the rear edge of the platform.
- ② Position two 30-foot lashings over the honeycomb as shown in Figure 15-3, step 1.
- ③ Stack honeycomb and 70 ammunition boxes as shown for the first stack.
- ④ Secure the lashings placed in step 2 over the boxes.
- ⑤ Secure the load binders on the lashings placed in Figure 15-6, steps 4, 5, and 6.

Figure 15-7. Honeycomb, lashings, and ammunition placed for second stack

**15-8. Installing Lashings on Second Ammunition Stack**

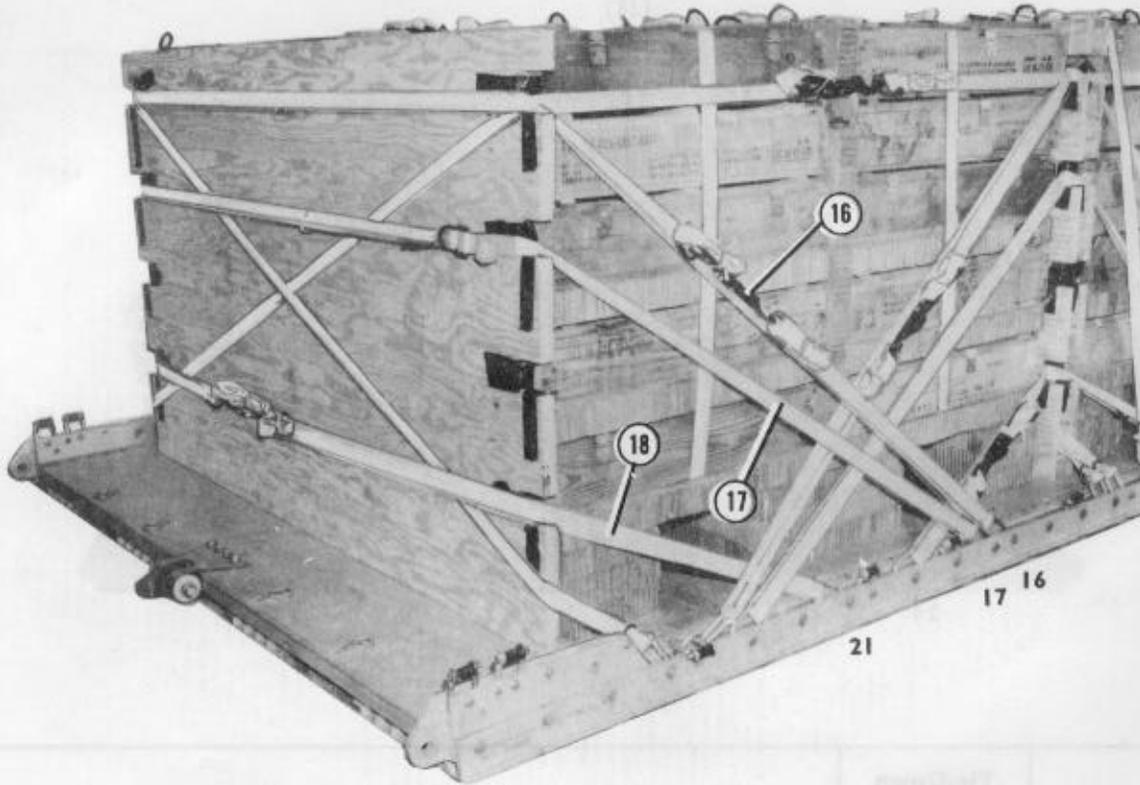
Place the fourth endboard and lash the second ammunition stack to the platform as shown in Figure 15-8. Be sure that the pre-positioned

lashings are taut and install additional lashings according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 15-8.



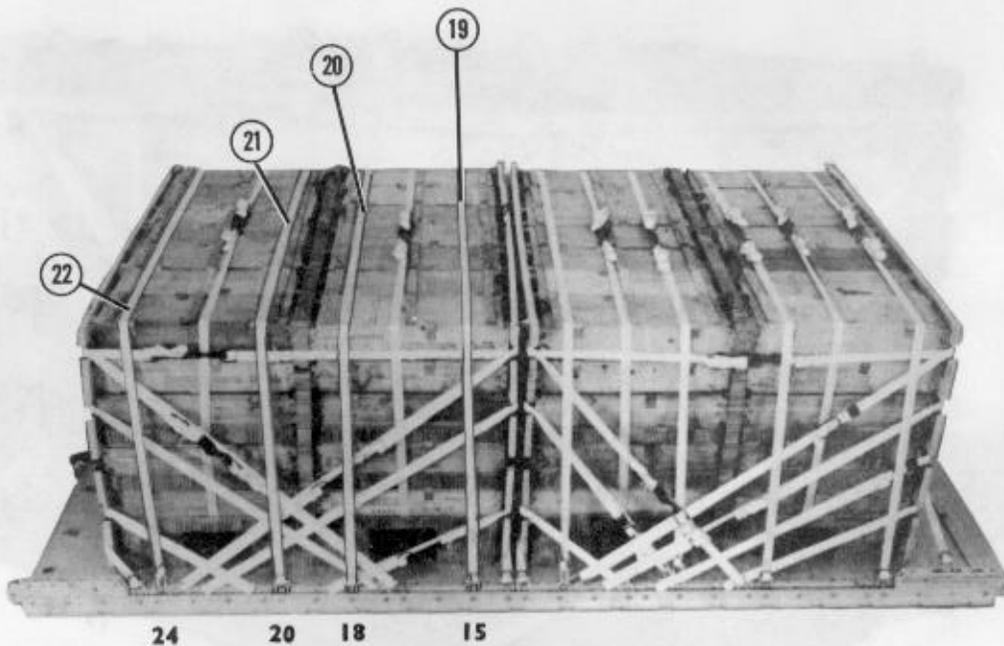
Lashing Number	Tie-Down Clevis Number	Instructions
14	14 and 25	Pass the pre-positioned lashing in Figure 15-6, step 2, around the left side of the stack. Pass a 15-foot lashing through clevis 25 and through its own D-ring. Pass the lashing through the top left cutout in the rear endboard. Secure the two lashings on the left side.
15	14A and 25A	Pass the pre-positioned lashing in Figure 15-6, step 3, around the right side of the stack. Pass a 15-foot lashing through clevis 25A and through its own D-ring. Pass the lashing through the top right cutout in the rear endboard. Secure the two lashings on the right side.

Figure 15-8. Lashings installed for second stack



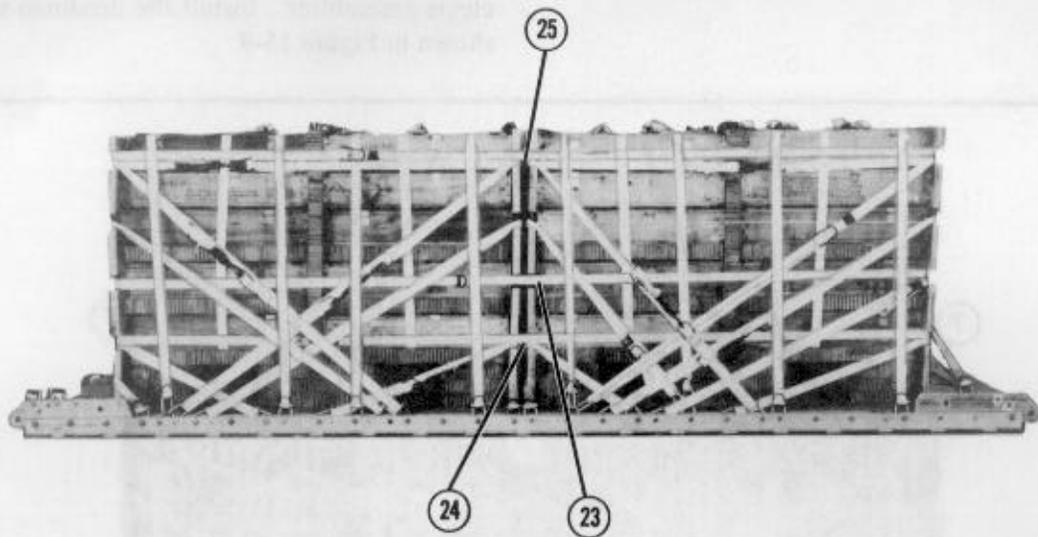
Lashing Number	Tie-Down Clevis Number	Instructions
16	16 and 16A	Pass a 45-foot lashing through both clevises and through the top cutouts in the rear endboard. Secure the lashing on the side.
17	17 and 17A	Pass a 45-foot lashing through both clevises and through the third cutouts from the bottom in the rear endboard. Secure the lashing on the side.
18	21 and 21A	Pass a 30-foot lashing through both clevises and through the bottom cutouts in the rear endboard. Secure the lashing at the rear.

Figure 15-8. Lashings installed for second stack (continued)



Lashing Number	Tie-Down Clevis Number	Instructions
19	15 and 15A	Pass a 15-foot lashing through each clevis and through its own D-ring. Pass the lashing on the right over the load, and secure it to the left lashing on the side.
20	18 and 18A	Pass a 15-foot lashing through each clevis and through its own D-ring. Pass the lashing on the right over the load, and secure it to the left lashing on the side.
21	20 and 20A	Pass a 15-foot lashing through each clevis and through its own D-ring. Pass the lashing on the right over the load, and secure it to the left lashing on the side.
22	24 and 24A	Pass a 15-foot lashing through each clevis and through its own D-ring. Pass the lashing on the right over the load, and secure it to the left lashing on the side.

Figure 15-8. Lashings installed for second stack (continued)



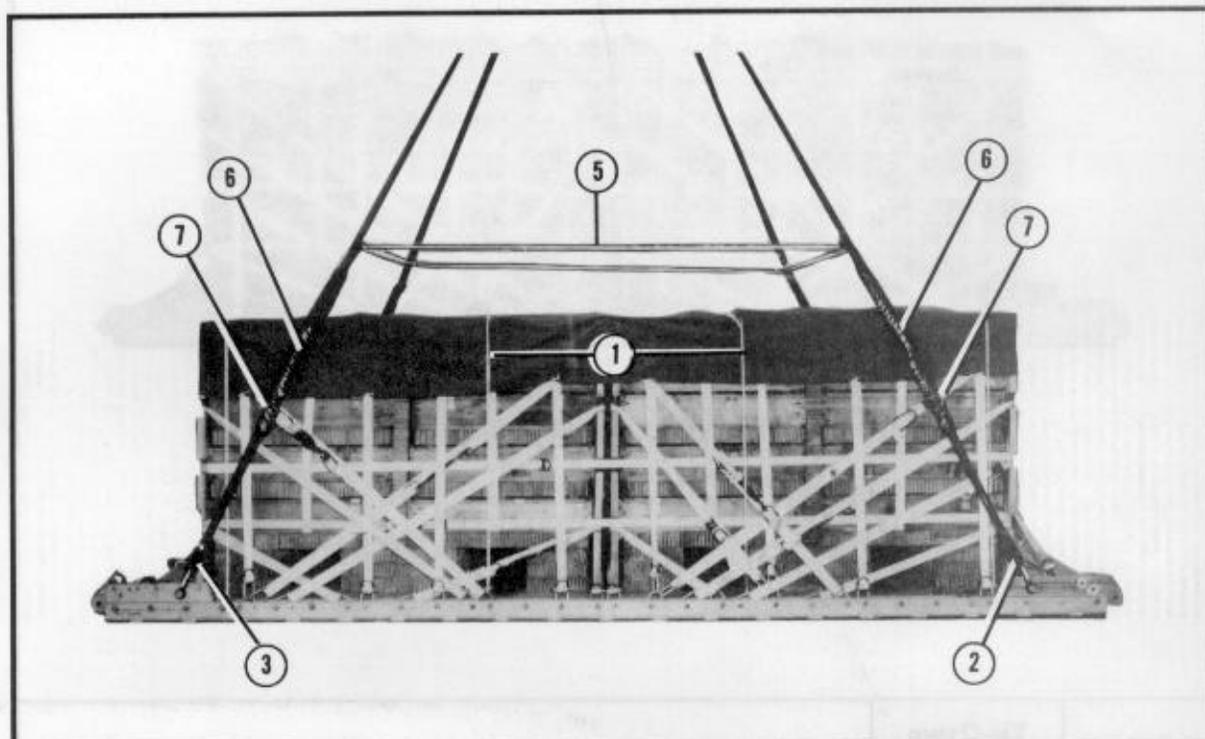
Lashing Number	Tie-Down Clevis Number	Instructions
23		Pass a 45-foot lashing around the load, through the second slots from the bottom of all four endboards.
24		Pass a 45-foot lashing around the load, through the bottom slots of all four endboards.
25		Pass a 45-foot lashing around the load, through the top slots of all four endboards.

**Note: Secure the free ends of the lashings with two D-rings and a load binder.**

Figure 15-8. Lashings installed for second stack (continued)

### 15-9. Installing Load Cover and Suspension Slings

Install the load cover as shown in Figure 15-9. Install the suspension slings as shown in Figure 15-9 using four 16-foot (4-loop), type XXVI nylon webbing slings and four large suspension clevis assemblies. Install the deadman's tie as shown in Figure 15-9.



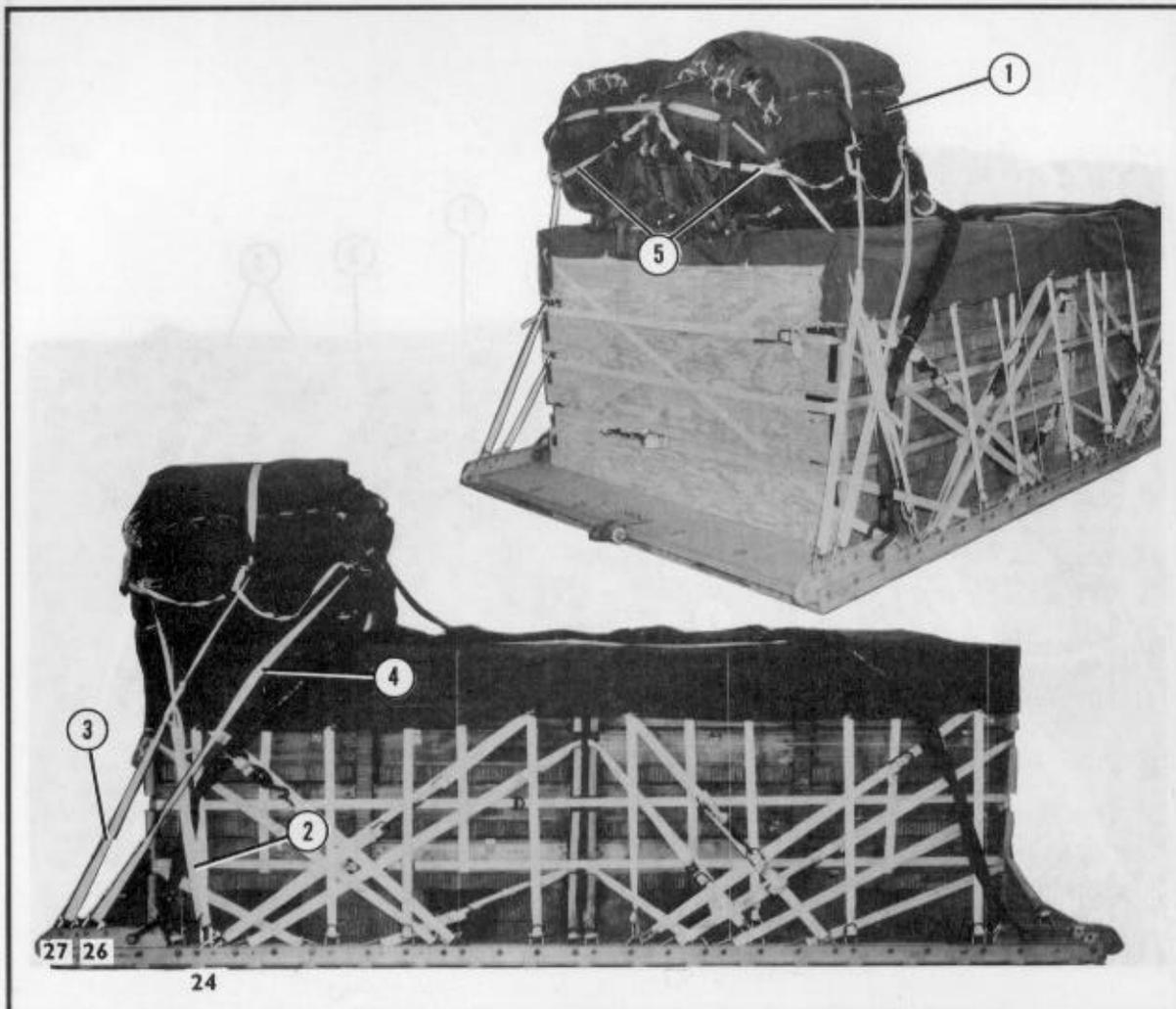
- ① Cover the load with an 8- by 15-foot piece of cotton duck cloth. Secure the cover to the load with type III nylon cord.
- ② Pass one end of a 16-foot suspension sling through the bell portion of a large suspension clevis. Bolt the clevis to the suspension hole of the right front tandem link.
- ③ Attach a suspension sling to the right rear tandem link as described in step 2.
- ④ Attach a suspension sling to each tandem link on the left rail as described above.
- ⑤ Make the deadman's tie according to FM 10-500-2/TO 13C7-1-5.
- ⑥ Pad the suspension slings with felt tied and taped in place 24 inches above the suspension clevises. Extend the tape 6 inches beyond the top and bottom of the felt.
- ⑦ Safety each suspension sling to an adjacent lashing with a length of type III nylon cord.

Figure 15-9. Load cover, suspension slings, and deadman's tie installed

### 15-10. Installing Parachutes

Compute parachute requirements for the load being rigged. Select the correct number of G-11B cargo parachutes. The load in Figure 15-10

shows four G-11B cargo parachutes. Install the parachutes as shown in Figure 15-10.

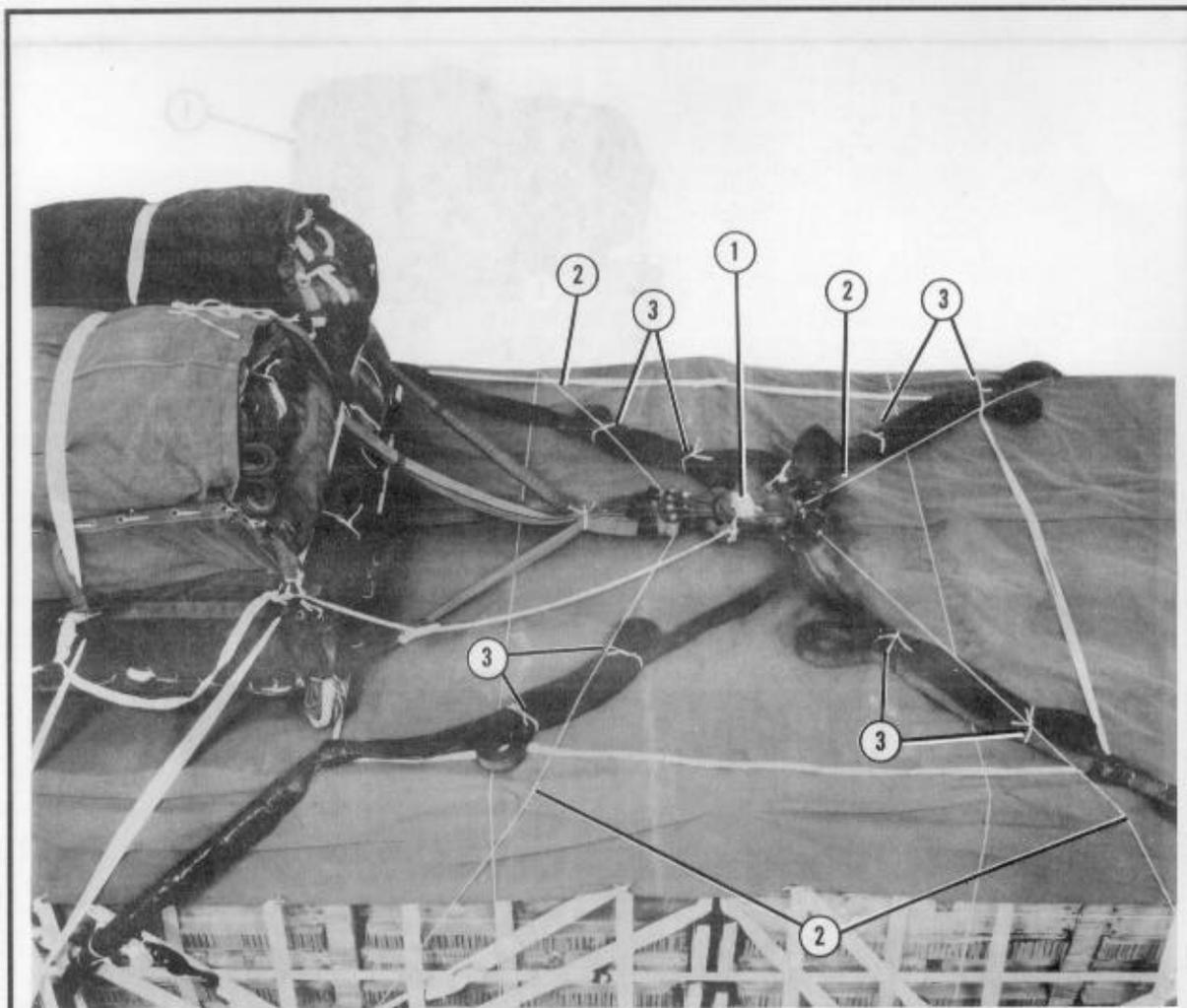


- ① Install four G-11B cargo parachutes on the rear of the load according to FM 10-500-2/TO 13C7-1-5.
- ② Install the rear parachute restraint to clevises 24 and 24A.
- ③ Install the center parachute restraint to clevises 27 and 27A.
- ④ Install the front parachute restraint to clevises 26 and 26A.
- ⑤ Install two parachute release straps according to FM 10-500-2/TO 13C7-1-5.

Figure 15-10. Four G-11B cargo parachutes installed

### 15-11. Installing Release System

Install and safety an M-2 cargo parachute release assembly as shown in Figure 15-11.

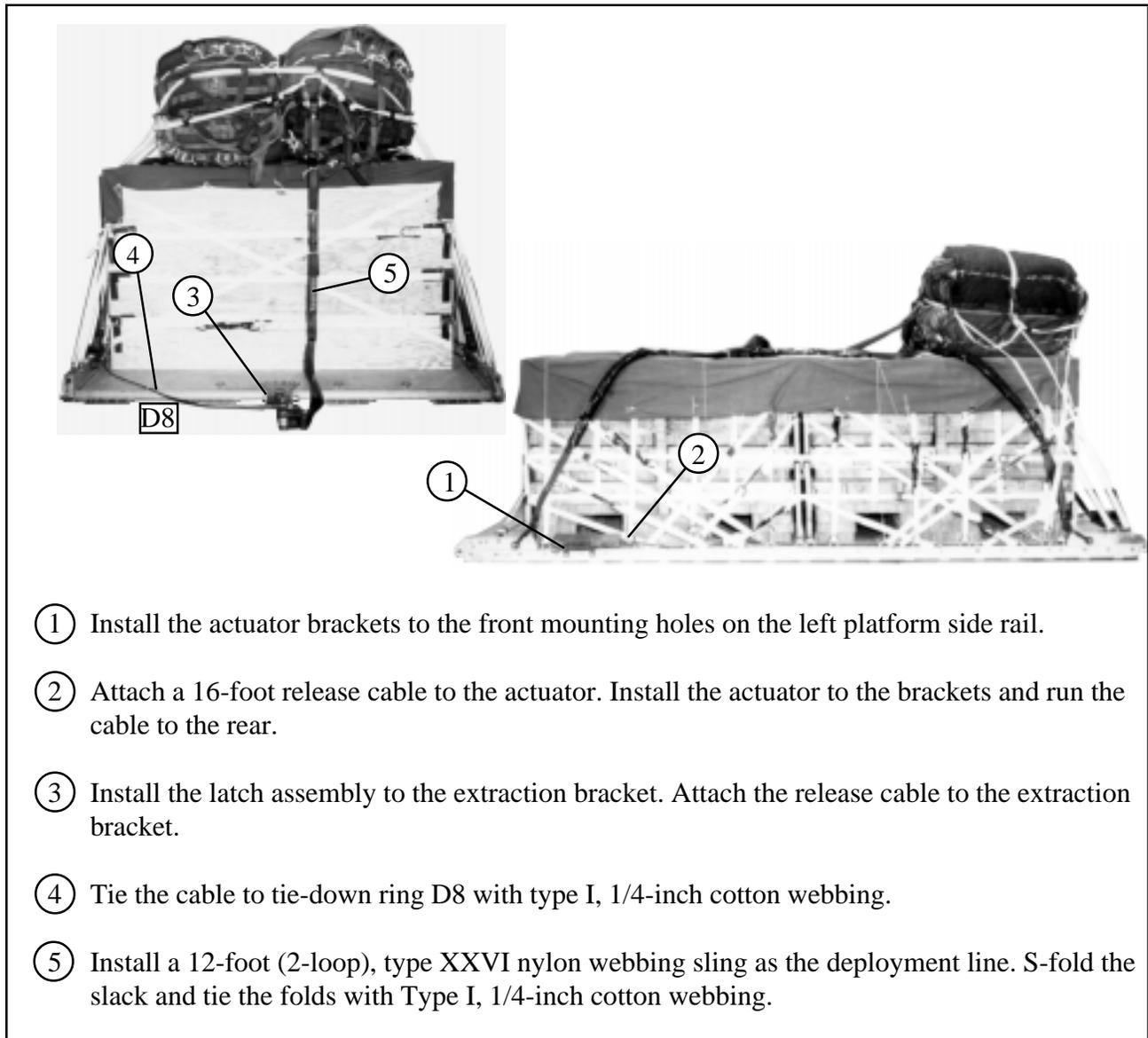


- ① Prepare and install an M-2 cargo parachute release assembly according to FM 10-500-2/ TO 13C7-1-5. Place the release assembly in front of the parachutes as shown.
- ② Safety the release to convenient points on the load with type III nylon cord.
- ③ S-fold and tie the slack in the suspension slings with type I, 1/4-inch cotton webbing.

Figure 15-11. Release assembly installed

## 15-12. Installing Extraction System

Install the EFTC extraction system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 15-12.



- ① Install the actuator brackets to the front mounting holes on the left platform side rail.
- ② Attach a 16-foot release cable to the actuator. Install the actuator to the brackets and run the cable to the rear.
- ③ Install the latch assembly to the extraction bracket. Attach the release cable to the extraction bracket.
- ④ Tie the cable to tie-down ring D8 with type I, 1/4-inch cotton webbing.
- ⑤ Install a 12-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold the slack and tie the folds with Type I, 1/4-inch cotton webbing.

*Figure 15-12. Extraction system installed*

**15-13. Installing Provisions for Emergency Restraints**

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

**15-14. 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.

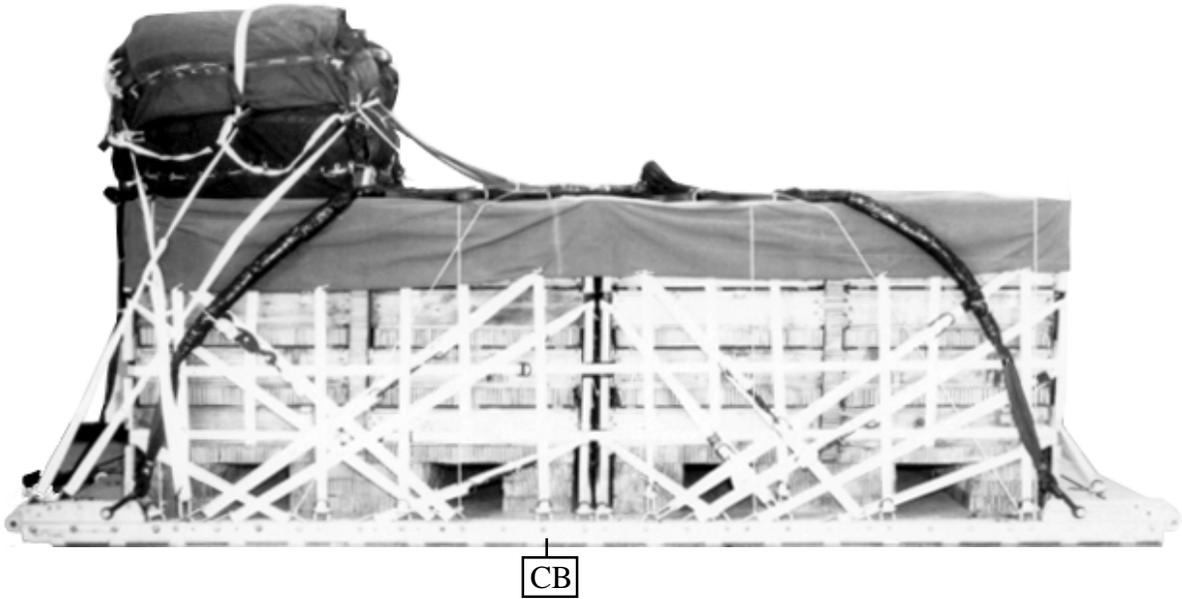
**15-15. Marking Rigged Load**

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 15-13. Complete Shipper's Declaration for Dangerous Goods and attach it to the load.

**15-16. Equipment Required**

Use the equipment listed in Table 15-1 to rig the load shown.

**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:	18,560 pounds
Height	97 1/2 inches
Width	108 inches
Length	192 inches
Overhang: Front	0 inches
Rear	0 inches
CB (from front edge of platform)	106 inches
Extraction System (adds 18 inches to length of platform)	EFTC

*Figure 15-13. Supply load rigged on a 16-foot platform for low-velocity airdrop*

Table 15-1. Equipment required for rigging typical supply loads on a 16-foot, type V platform

National Stock Number	Item	Quantity
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
1670-00-434-5785	Coupling, airdrop, extraction force transfer with cable, 16-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	12
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-in thick	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	For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
	For C-5:	
1670-01-107-7651	140-ft (3-loop), type XXVI and	1
1670-01-062-6313	60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
	Link assembly:	
1670-00-006-2752	Four-point	1
1670-00-783-5988	Type IV	12
	Two-point, 5 1/2-in	
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
5315-00-010-4657	Nail, steel wire, common, 6d	As required

Table 15-1. Equipment required for rigging typical supply loads on a 16-foot, type V platform  
(continued)

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in	21 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	4
1670-00-040-8135	Cargo extraction, 28-ft	1
1670-01-063-3715	Drogue, 15-ft (for C-17)	1
	Platform, airdrop, type V, 16-foot	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(60)
1670-01-353-8424	Extraction bracket assembly	(1)
1670-01-162-2381	Link, tandem, suspension link assembly	(4)
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	10 sheets
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo airdrop	
	For suspension:	
1670-01-062-6308	16-ft( 4-loop), type XXVI nylon webbing	4
	For deployment:	
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	12
5340-00-040-8219	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-ft	76
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

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Section II

RIGGING 155-MILLIMETER AMMUNITION

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**15-17. Description of Load**

Ninety-six 155-millimeter projectiles and 72 powder canisters are rigged for low-velocity airdrop on a 16-foot, type V airdrop platform. All 155-millimeter ammunition packaged as shown and listed in FM 10-500-53/MCRP 4-3.8/TO 13C7-18-41, as certified for airdrop, may be rigged using these procedures. This load uses three G-11B cargo parachutes.

**15-18. Preparing Platform**

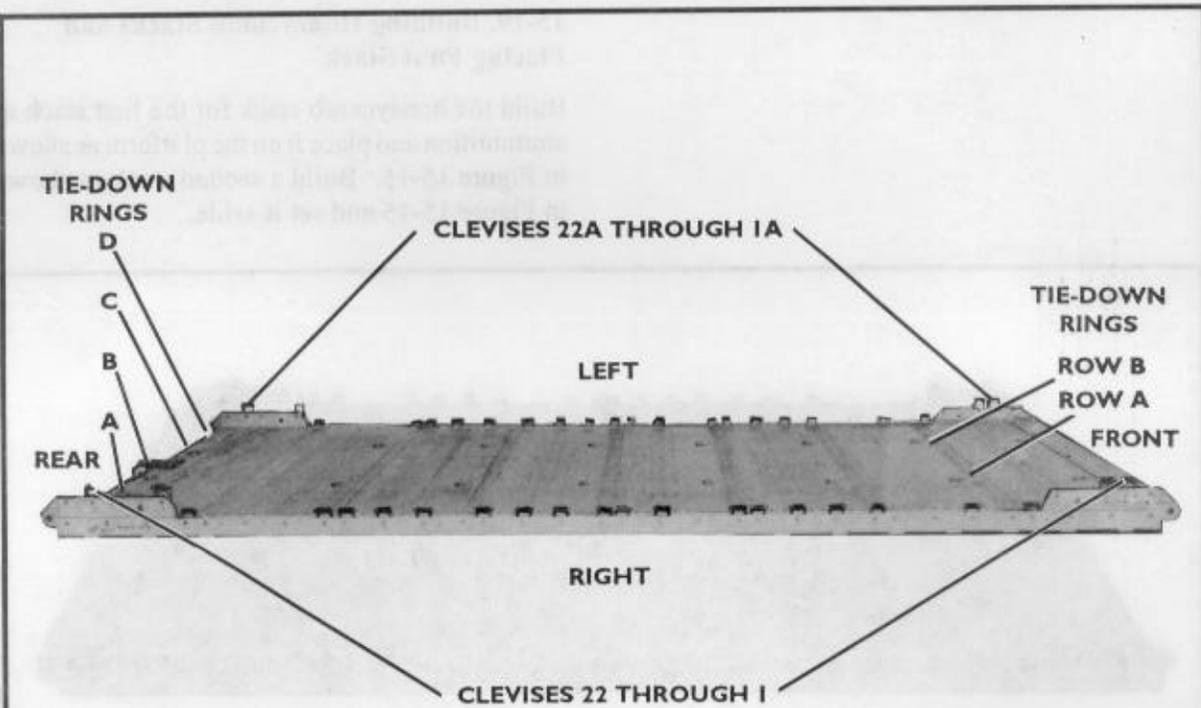
Prepare a 16-foot, type V airdrop platform as given below:

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

*b. Installing Tandem Links.* Install four tandem links as shown in Figure 15-14.

*c. Attaching and Numbering Clevises.* Attach and number 44 clevis assemblies as shown in Figure 15-14.

**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.**



Item	Material	Length (Inches)	Width (Inches)	Quantity	Notes
1	Hardware	36	36	2	Use 3/4" diameter bolts
2	Hardware	36	36	2	Use 3/4" diameter bolts

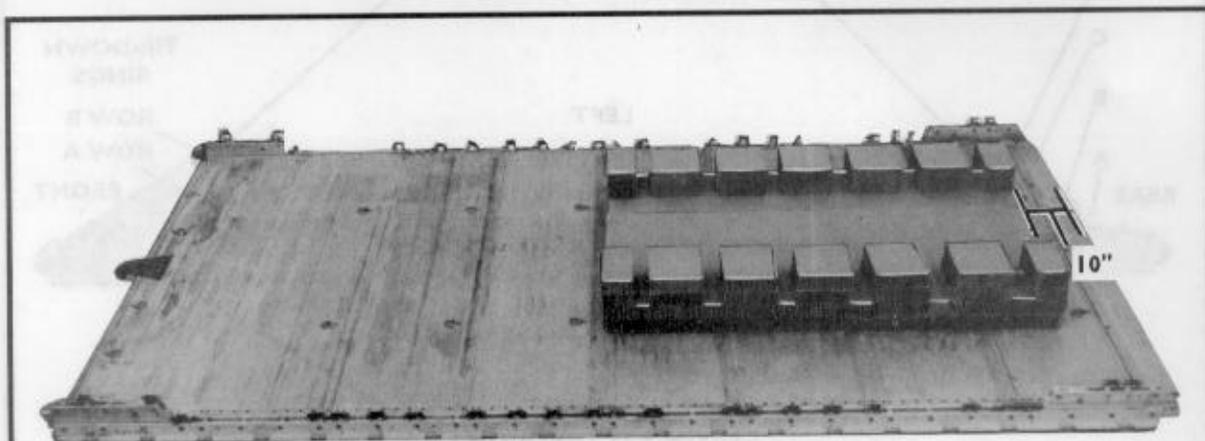
**Step:**

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 30, 31, and 32.
3. Install clevises on bushings 2 and 3 of each front tandem link.
4. Install clevises on bushings 1 and 3 of each rear tandem link.
5. Starting at the front of each platform side rail, install clevises on each platform side rail using the bushings bolted on holes 4, 6, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, and 29.
6. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 22, and those bolted to the left side from 1A through 22A.
7. Label the tie-down rings according to FM 10-500-2/TO 13C7-1-5.

Figure 15-14. Platform prepared

**15-19. Building Honeycomb Stacks and Placing First Stack**

Build the honeycomb stack for the first stack of ammunition and place it on the platform as shown in Figure 15-15. Build a second stack as shown in Figure 15-15 and set it aside.

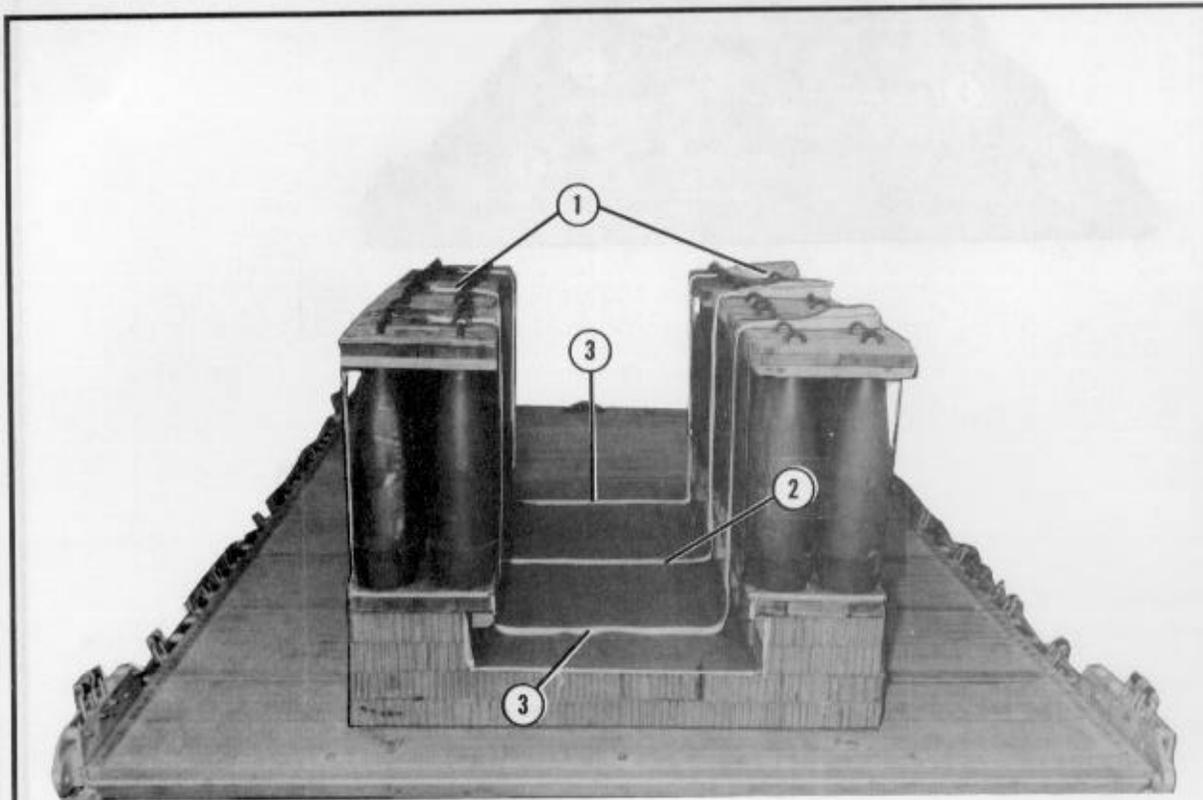


Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions	
1 and 2	2	36	84	Honeycomb	Form a two-layer base 84 inches long and 54 inches wide, alternating the layers of honeycomb. Center the stack 10 inches from the front edge of the platform.	
	2	18	84	Honeycomb		
	8	12	5	Honeycomb		Place two pieces of honeycomb on each corner of the base with the 5-inch sides facing the left and right sides of the platform.
	4	12	10	Honeycomb		Center two pieces of honeycomb along each side of the base with the 10-inch sides facing the left and right sides of the platform.
	16	12	10	Honeycomb	Evenly space two-layer pieces of honeycomb between the center and corner pieces. The spaces between the pieces are 4 inches.	

Figure 15-15. Honeycomb for first ammunition stack prepared and placed

### 15-20. Positioning and Securing First Ammunition Stack

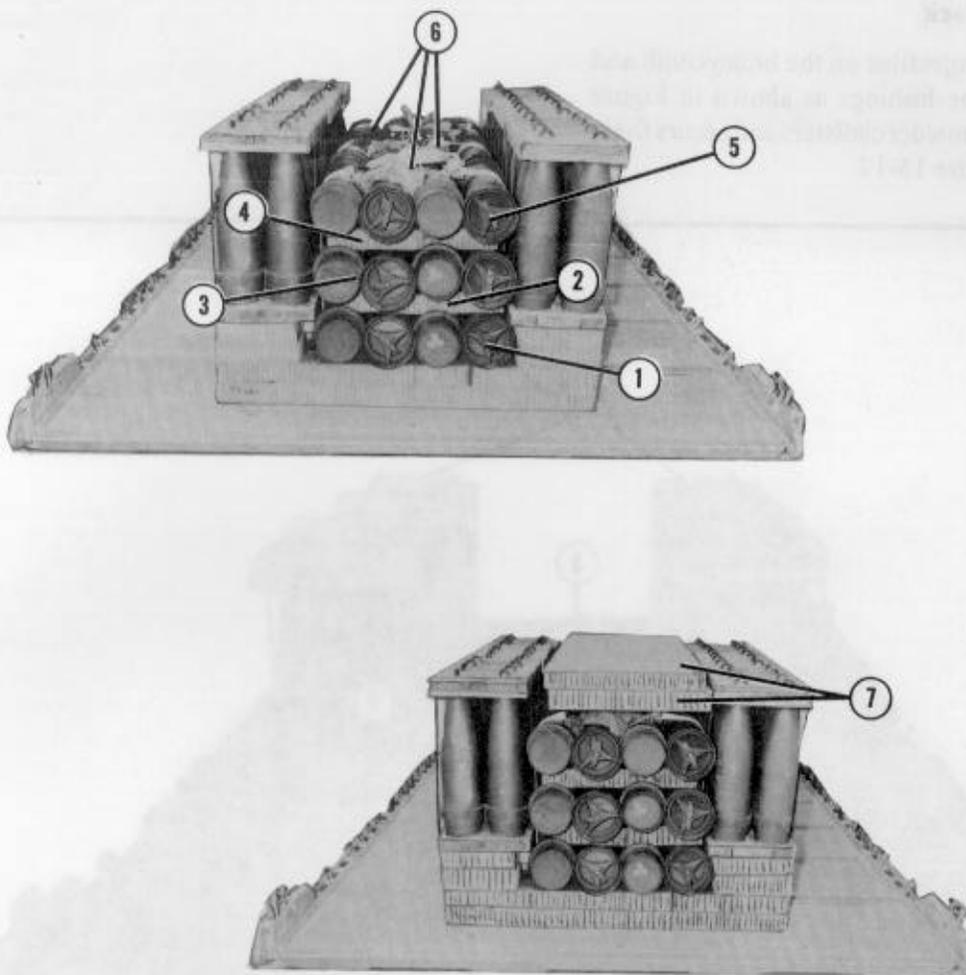
Set six sets of projectiles on the honeycomb and pre-position three lashings as shown in Figure 15-16. Stow 36 powder canisters and secure them as shown in Figure 15-17.



- ① Center four powder canisters on each of the pre-positioned lashings in Figure 15-18, steps 3 and 4. Adjust the ends of the canisters as shown.
- ② Place a 24-by-24-inch piece of honeycomb over each group of four canisters.
- ③ Place a second layer of 12 canisters over the honeycomb placed in step 2.
- ④ Place a second layer of three 24-by-24-inch pieces of honeycomb over the second layer of

- ① Set three bundles of projectiles flush on the honeycomb on each side. Fit the skids at the bottom of the bundles into the slots in the honeycomb stack.
- ② Center a 15-foot lashing on the base layer of honeycomb from left to right.
- ③ Place a 15-foot lashing 14 inches from each end of the stack in a left-to-right direction.

Figure 15-16. Projectiles placed on honeycomb and lashings pre-positioned



- ① Center four powder canisters on each of the pre-positioned lashings in Figure 15-16, steps 2 and 3. Alternate the ends of the canisters as shown.
- ② Place a 24- by 24-inch piece of honeycomb over each group of four canisters.
- ③ Place a second layer of 12 canisters over the honeycomb placed in step 2.
- ④ Place a second layer of three 24- by 24-inch pieces of honeycomb over the second layer of canisters.
- ⑤ Place a third layer of 12 canisters over the honeycomb placed in step 4.
- ⑥ Secure the three pre-positioned lashings over the canisters. Pad between the load binders and canisters with cellulose wadding.
- ⑦ Center two 28- by 84-inch pieces of honeycomb over the canisters.

Figure 15-17. Canisters stowed and secured

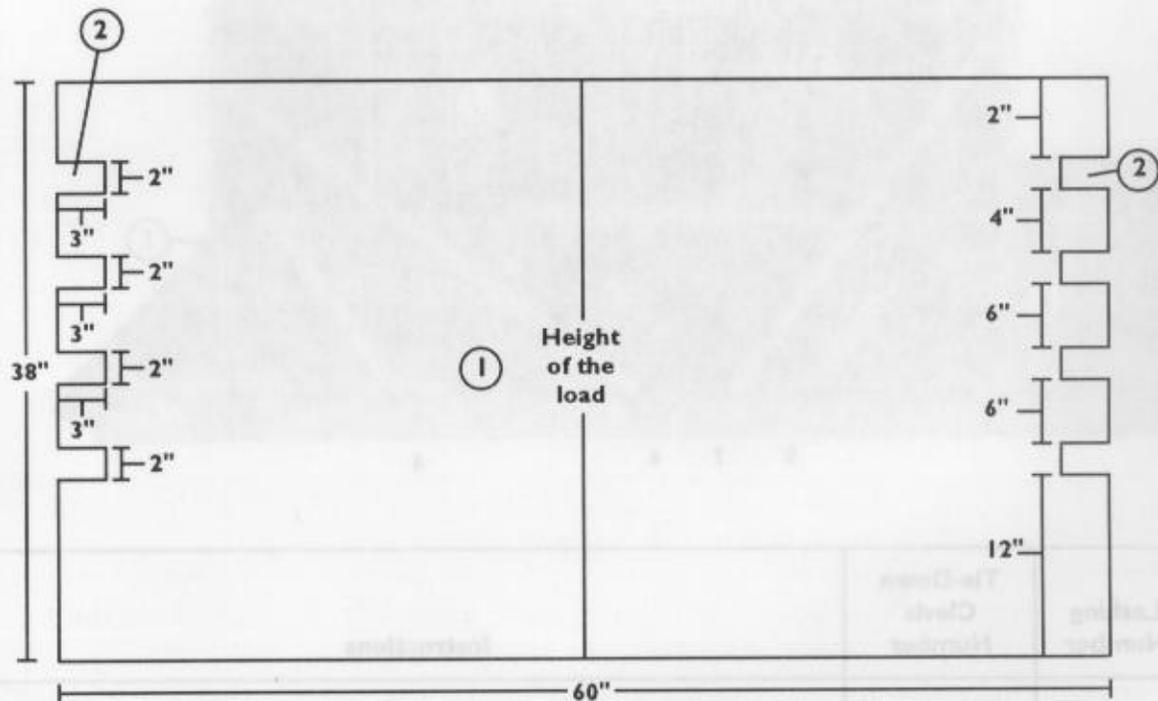
### 15-21. Constructing Endboards

Construct four endboards as shown in Figure 15-18.

#### CAUTION

The endboards must be the same height as the ends of the load.

**Note:** This drawing is not drawn to scale.

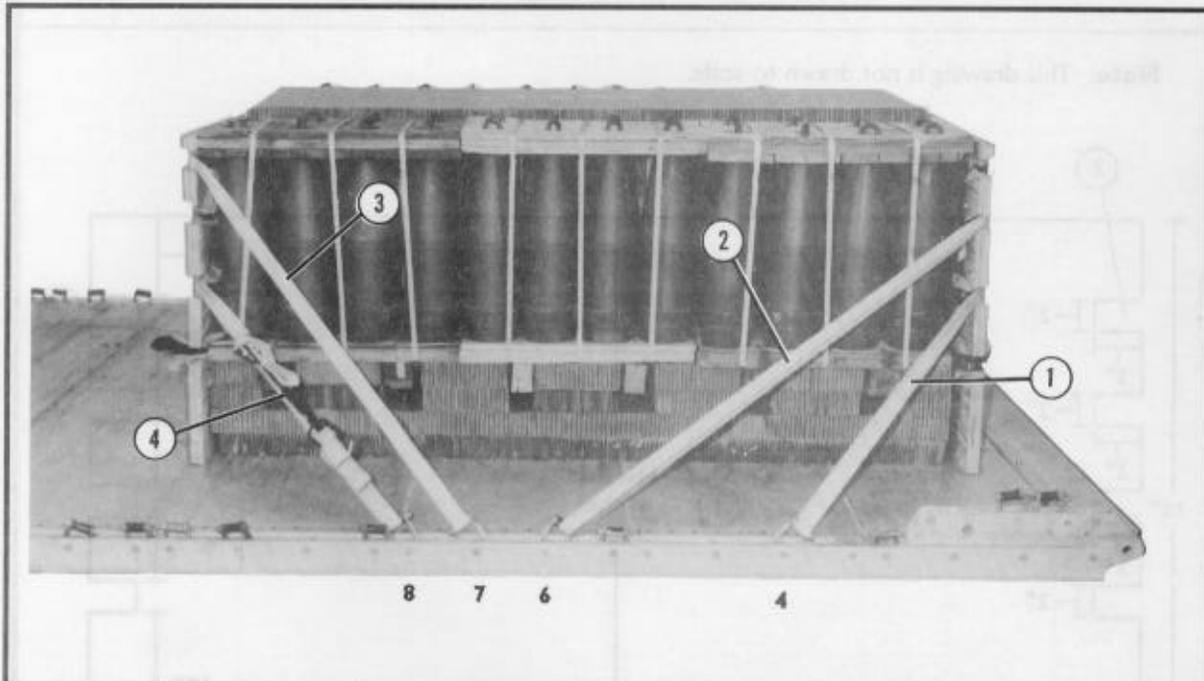


- ① Cut eight 3/4- by 60- by 38-inch pieces of plywood.
- ② Make 2- by 3-inch cutouts as shown.
- ③ Nail two pieces of plywood flush together with 6d nails to make four endboards. Pad the cutouts with cellulose wadding and tape (not shown).

Figure 15-18. Endboards for 155-millimeter ammunition constructed

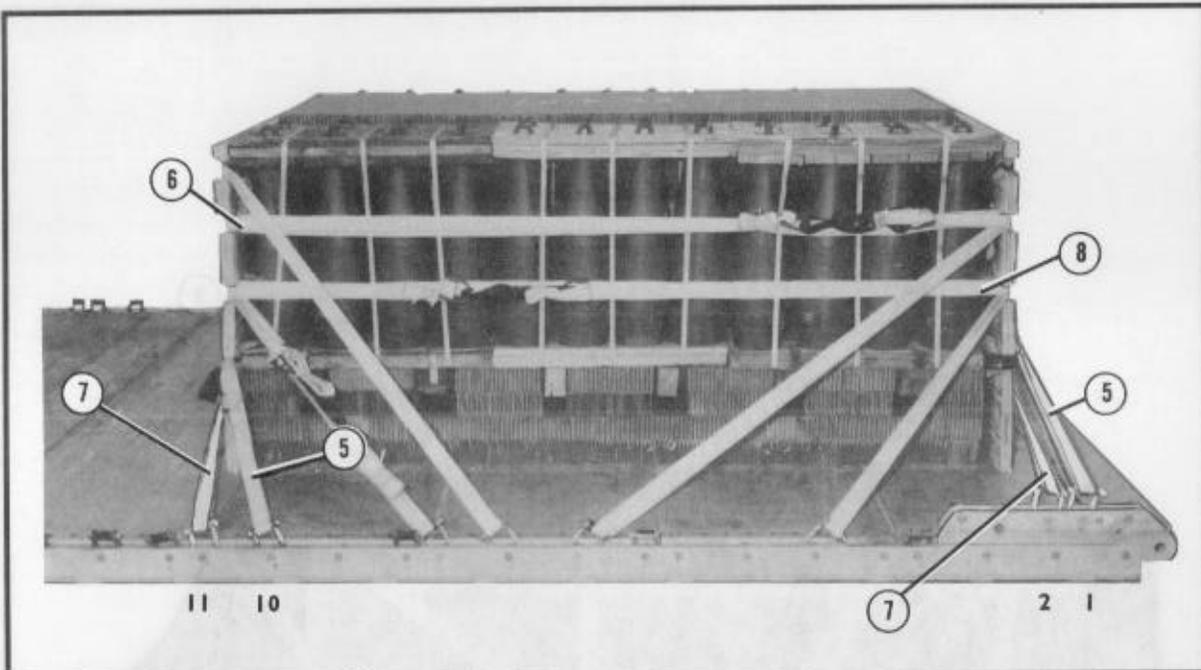
**15-22. Lashing First Ammunition Stack and First and Second Endboards**

Lash the load to the platform according to FM 10-500-2/TO 13C7-1-5 and as shown in Figures 15-19 and 15-20. Set an endboard against each end of the first ammunition stack. Lash the first and second endboards and the first ammunition stack to the platform as shown in Figure 15-19.



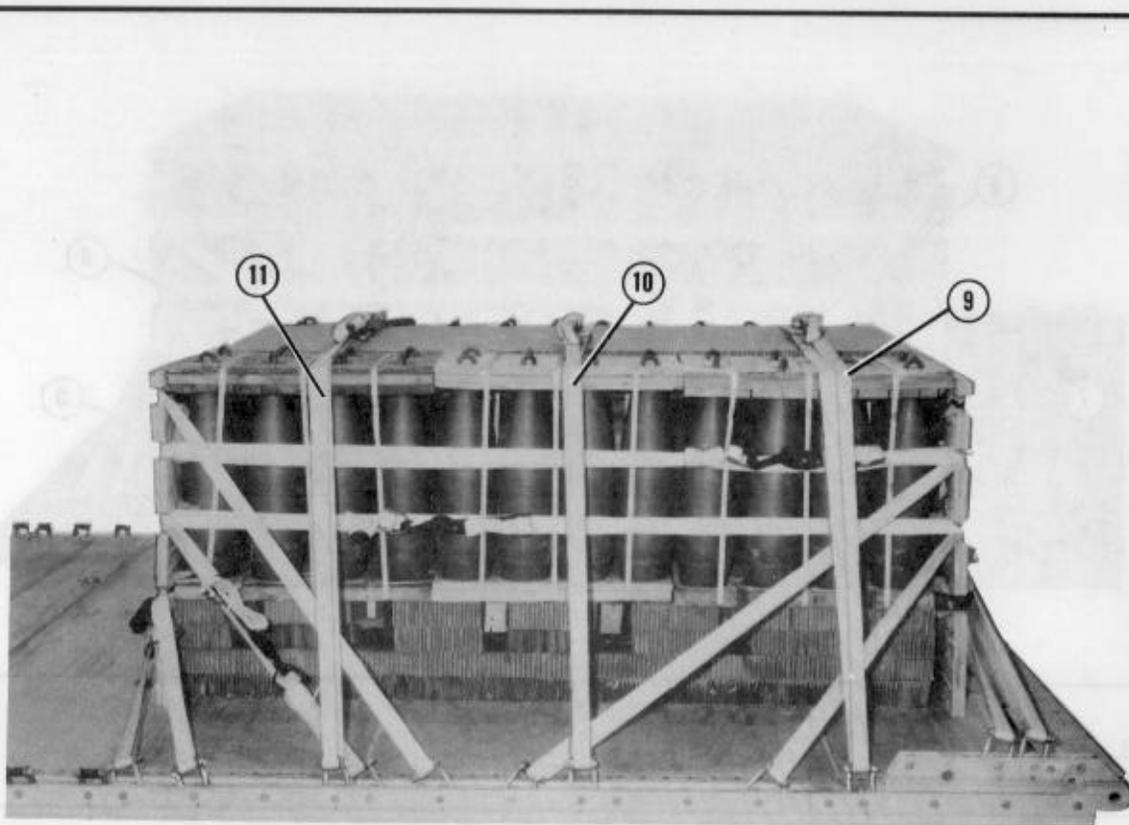
Lashing Number	Tie-Down Clevis Number	Instructions
1	4 and 4A	Pass a 30-foot lashing through both clevises and through the third cutouts from the top in the first endboard. Secure the lashing in front.
2	6 and 6A	Pass a 30-foot lashing through both clevises and through the second cutouts from the top in the first endboard. Secure the lashing in front.
3	7 and 7A	Pass a 30-foot lashing through both clevises and through the top cutouts in the second endboard. Secure the lashing on the left side.
4	8 and 8A	Pass a 30-foot lashing through both clevises and through the third cutouts from the top in the second endboard. Secure the lashing on the right side.

Figure 15-19. Lashings installed for first stack



Lashing Number	Tie-Down Clevis Number	Instructions
5	1 and 10	Pass a 30-foot lashing through clevis 1, through the second cutout from the top in the left side of the first endboard, and around the left side of the ammunition stack. Pass the lashing through the second cutout from the top in the left side of the second endboard and through clevis 10. Secure the lashing on the left side.
6	1A and 10A	Pass a 30-foot lashing through clevis 1A, through the second cutout from the top in the right side of the first endboard, and around the right side of the ammunition stack. Pass the lashing through the second cutout from the top in the right side of the second endboard and through clevis 10A. Secure the lashing on the right side.
7	2 and 11	Pass a 30-foot lashing through clevis 2, through the third cutout from the top in the left side of the first endboard, and around the left side of the ammunition stack. Pass the lashing through the third cutout from the top in the left side of the second endboard, and through clevis 11. Secure the lashing on the left side.
8	2A and 11A	Pass a 30-foot lashing through clevis 2A, through the third cutout from the top in the right side of the first endboard, and around the right side of the ammunition stack. Pass the lashing through the third cutout from the top in the right side of the second endboard, and through clevis 11A. Secure the lashing on the right side.

Figure 15-19. Lashings installed for first stack (continued)



Lashing Number	Tie-Down Clevis Number	Instructions
9	3 and 3A	Pass a 30-foot lashing through both clevises and over the top of the load. Secure the lashing on top.
10	5 and 5A	Pass a 30-foot lashing through both clevises and over the top of the load. Secure the lashing on top.
11	9 and 9A	Pass a 30-foot lashing through both clevises and over the top of the load. Secure the lashing on top.

Figure 15-19. Lashings installed for first stack (continued)

**15-23. Positioning Second Ammunition Stack and Third and Fourth Endboards**

Position and secure the second ammunition stack and its endboards as described below.

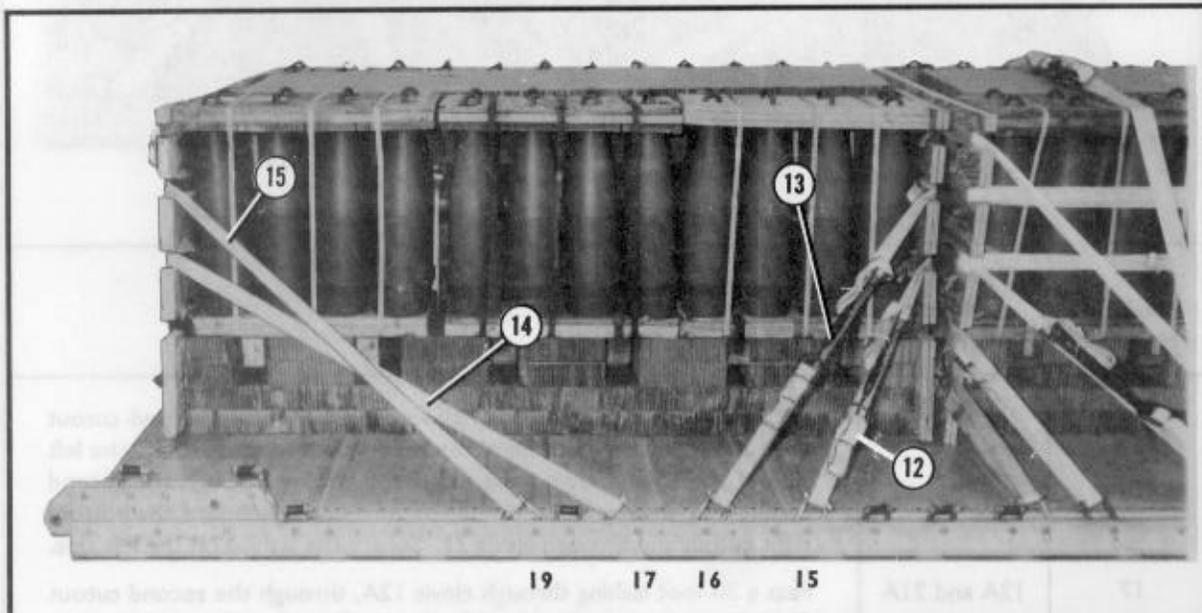
a. Center the honeycomb for the second ammunition stack 6 inches from the rear edge of the platform.

b. Stow and secure six sets of projectiles and 36 powder canisters on the honeycomb as shown in Figures 15-16 and 15-17.

c. Set an endboard against each end of the second ammunition stack.

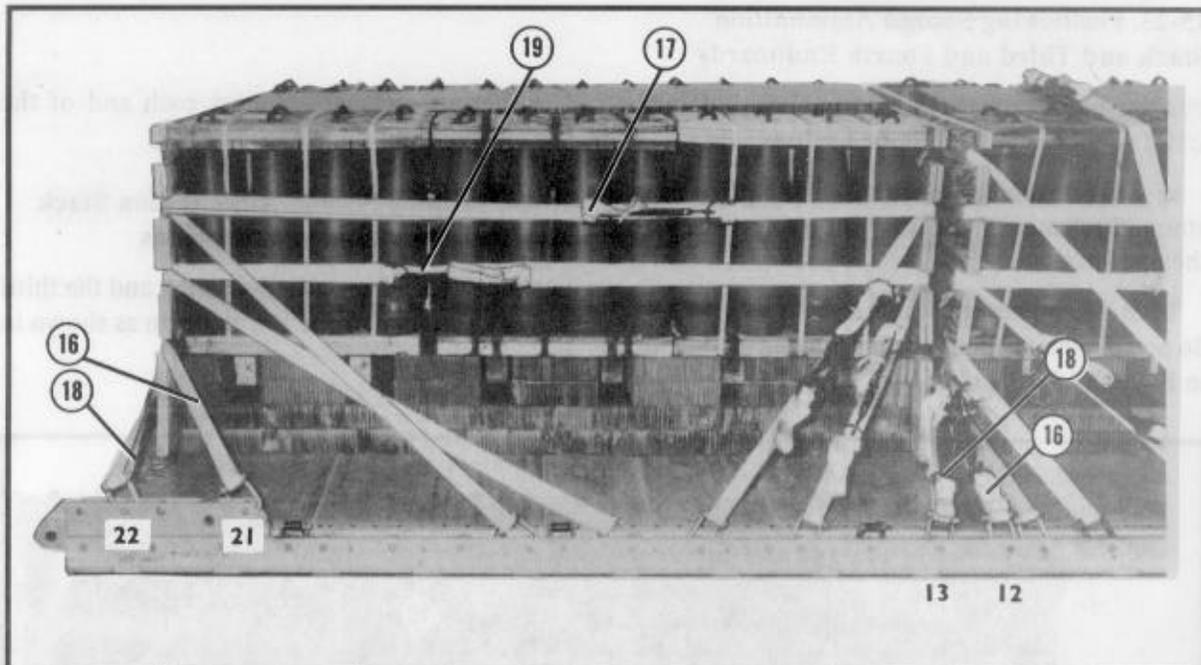
**15-24. Lashing Second Ammunition Stack and Third and Fourth Endboards**

Lash the second ammunition stack and the third and fourth endboards to the platform as shown in Figure 15-20.



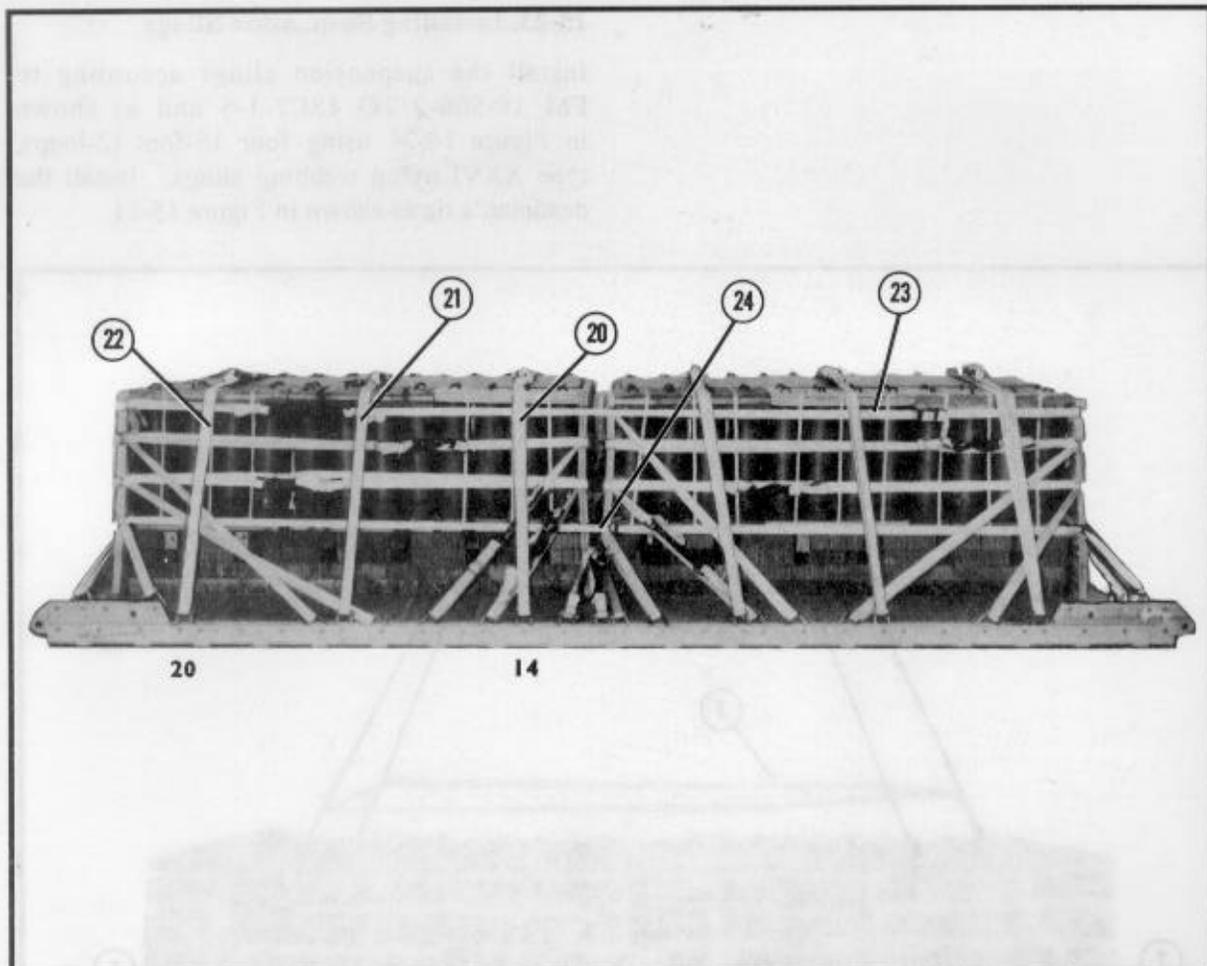
Lashing Number	Tie-Down Clevis Number	Instructions
12	15 and 15A	Pass a 30-foot lashing through both clevises and through the third cutouts from the top in the third endboard. Secure the lashing on the side.
13	16 and 16A	Pass a 30-foot lashing through both clevises and through the second cutouts from the top in the third endboard. Secure the lashing on the side.
14	17 and 17A	Pass a 30-foot lashing through both clevises and through the third cutouts from the top in the fourth endboard. Secure the lashing at the rear.
15	19 and 19A	Pass a 30-foot lashing through both clevises and through the second cutouts from the top in the fourth endboard. Secure the lashing at the rear.

Figure 15-20. Lashings installed for second stack



Lashing Number	Tie-Down Clevis Number	Instructions
16	12 and 21	Pass a 30-foot lashing through clevis 12, through the second cutout from the top in the left side of the first endboard, and around the left side of the ammunition stack. Pass the lashing through the second cutout from the top in the left side of the second endboard, the bottom right cutout and through clevis 21. Secure the lashing on the left side.
17	12A and 21A	Pass a 30-foot lashing through clevis 12A, through the second cutout from the top in the right side of the first endboard, and around the right side of the ammunition stack. Pass the lashing through the second cutout from the top in the right side of the second endboard, and through clevis 21A. Secure the lashing on the right side.
18	13 and 22	Pass a 30-foot lashing through clevis 13, through the third cutout from the top in the left side of the first endboard, and around the left side of the ammunition stack. Pass the lashing through the third cutout from the top in the left side of the second endboard and through clevis 22. Secure the lashing on the left side.
19	13A and 22A	Pass a 30-foot lashing through clevis 13A, through the third cutout from the top in the right side of the first endboard, and around the right side of the ammunition stack. Pass the lashing through the third cutout from the top in the right side of the second endboard and through clevis 22A. Secure the lashing on the right side.

Figure 15-20. Lashings installed for second stack (continued)

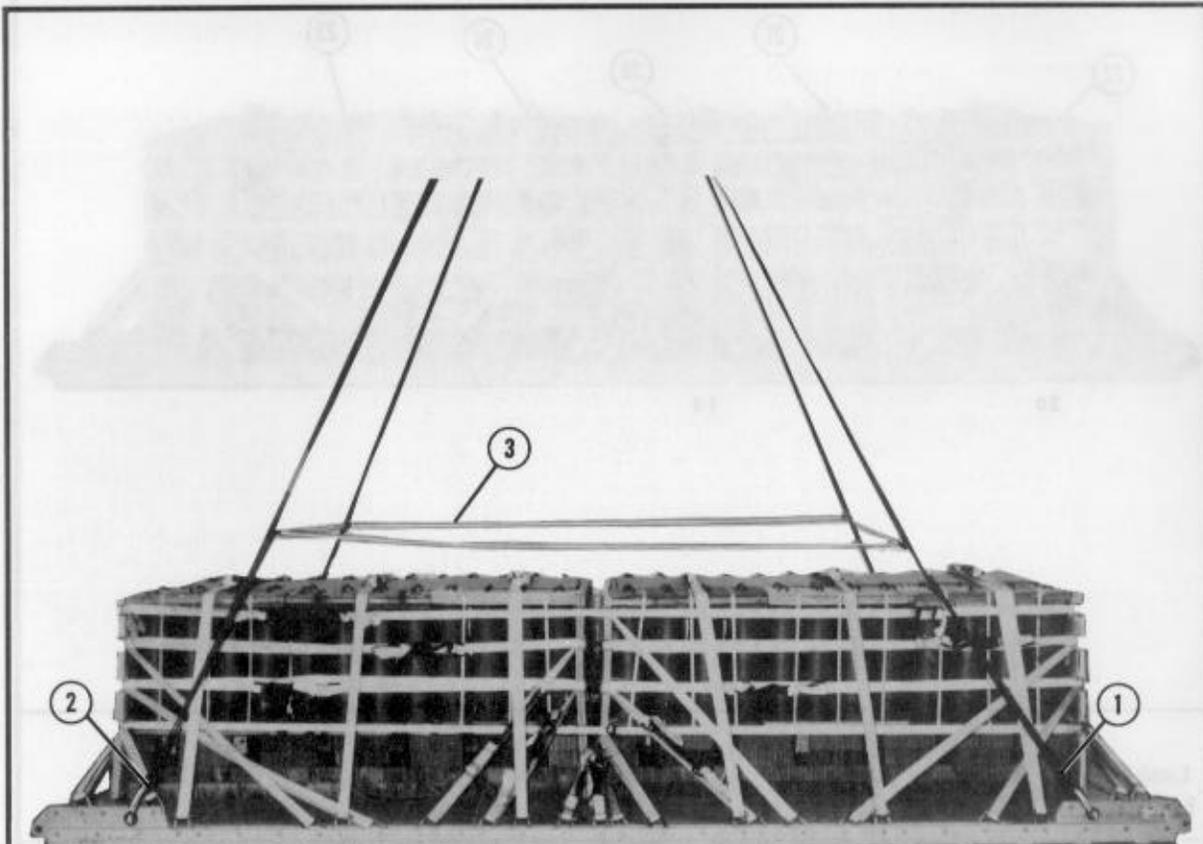


Lashing Number	Tie-Down Clevis Number	Instructions
20	14 and 14A	Pass a 30-foot lashing through both clevises and over the top of the load. Secure the lashing on top.
21	18 and 18A	Pass a 30-foot lashing through both clevises and over the top of the load. Secure the lashing on top.
22	20 and 20A	Pass a 30-foot lashing through both clevises and over the top of the load. Secure the lashing on top.
23		Pass a 45-foot lashing around the entire load through the top cutouts in all four endboards. Secure the lashing on the side.
24		Pass a 45-foot lashing around the entire load through the bottom cutouts in all four endboards. Secure the lashing on the side.

Figure 15-20. Lashings installed for second stack (continued)

### 15-25. Installing Suspension Slings

Install the suspension slings according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 15-21 using four 16-foot (2-loop), type XXVI nylon webbing slings. Install the deadman's tie as shown in Figure 15-21.

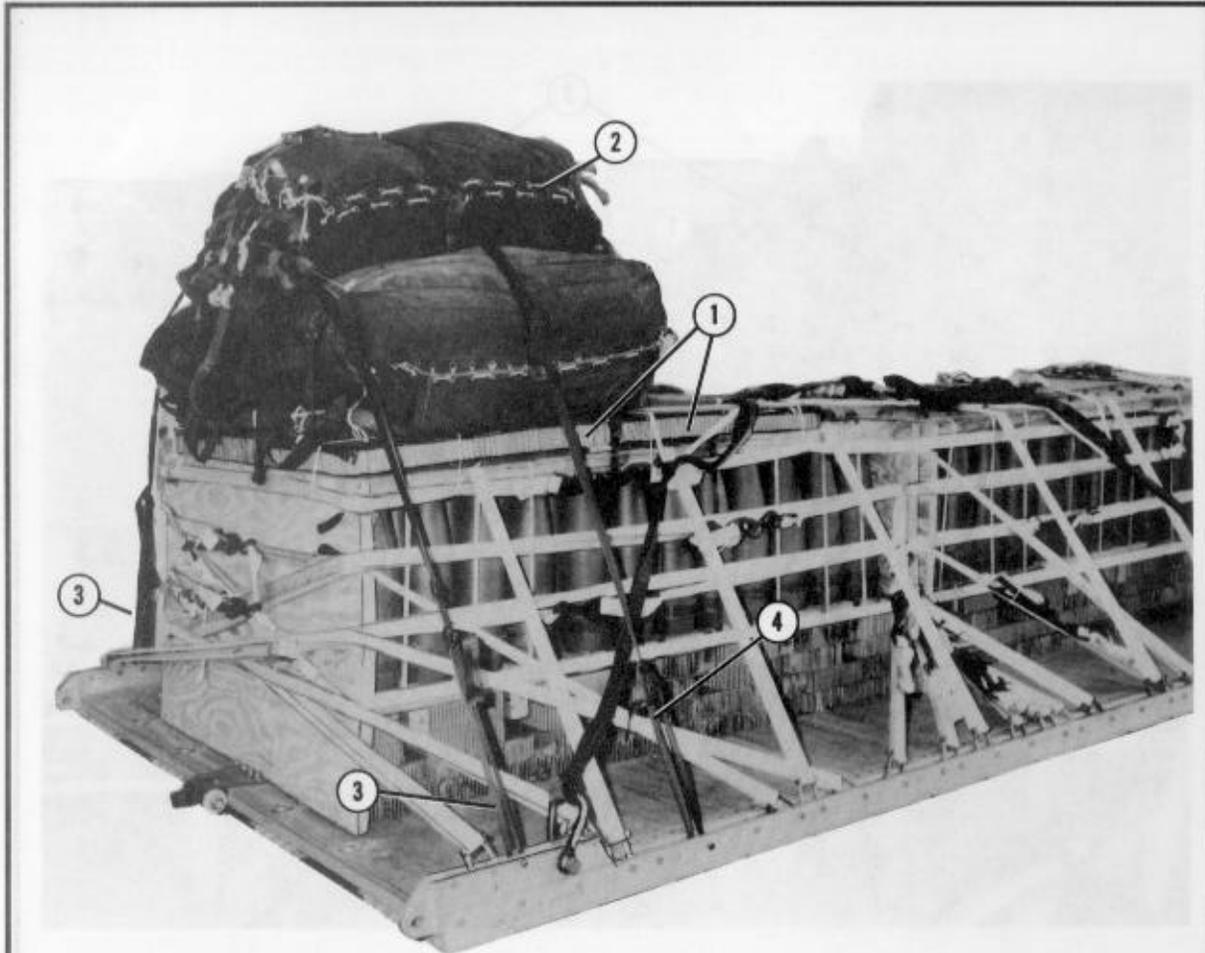


- ① Pass one end of a 16-foot suspension sling through the bell portion of a large suspension clevis. Bolt the clevis to the suspension hole of the right front tandem link.
- ② Install a 16-foot sling onto each tandem link in the same way.
- ③ Raise all four suspension slings. Make the deadman's tie according to FM 10-500-2/TO 13C7-1-5.

Figure 15-21. Suspension slings and deadman's tie installed

**15-26. Installing Parachutes**

Install and restrain three G-11B cargo parachutes as shown in Figure 15-22 and according to FM 10-500-2/TO 13C7-1-5.

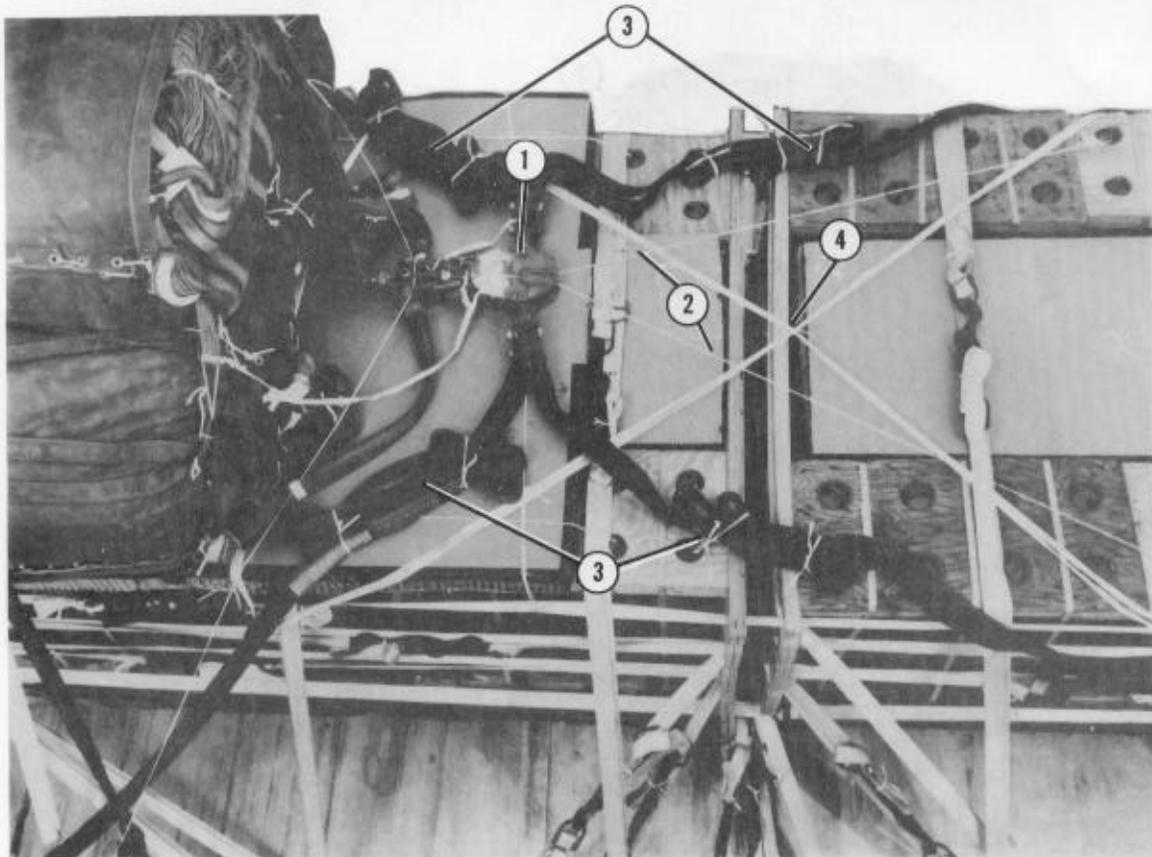


- ① Lay two 27- by 75-inch pieces of honeycomb side-by-side and flush with the rear edge of the ammunition stack. Tape the edges of the honeycomb and tie it to the load with type III nylon cord.
- ② Install three G-11B cargo parachutes on the honeycomb placed in step 1.
- ③ Install the rear parachute restraint to the second bushings on the rear tandem links.
- ④ Install the front parachute restraint to bushings 27 and 27A.

*Figure 15-22. G-11B cargo parachutes installed*

### 15-27. Installing Release System

Install and safety an M-1 cargo parachute release assembly as shown in Figure 15-23.

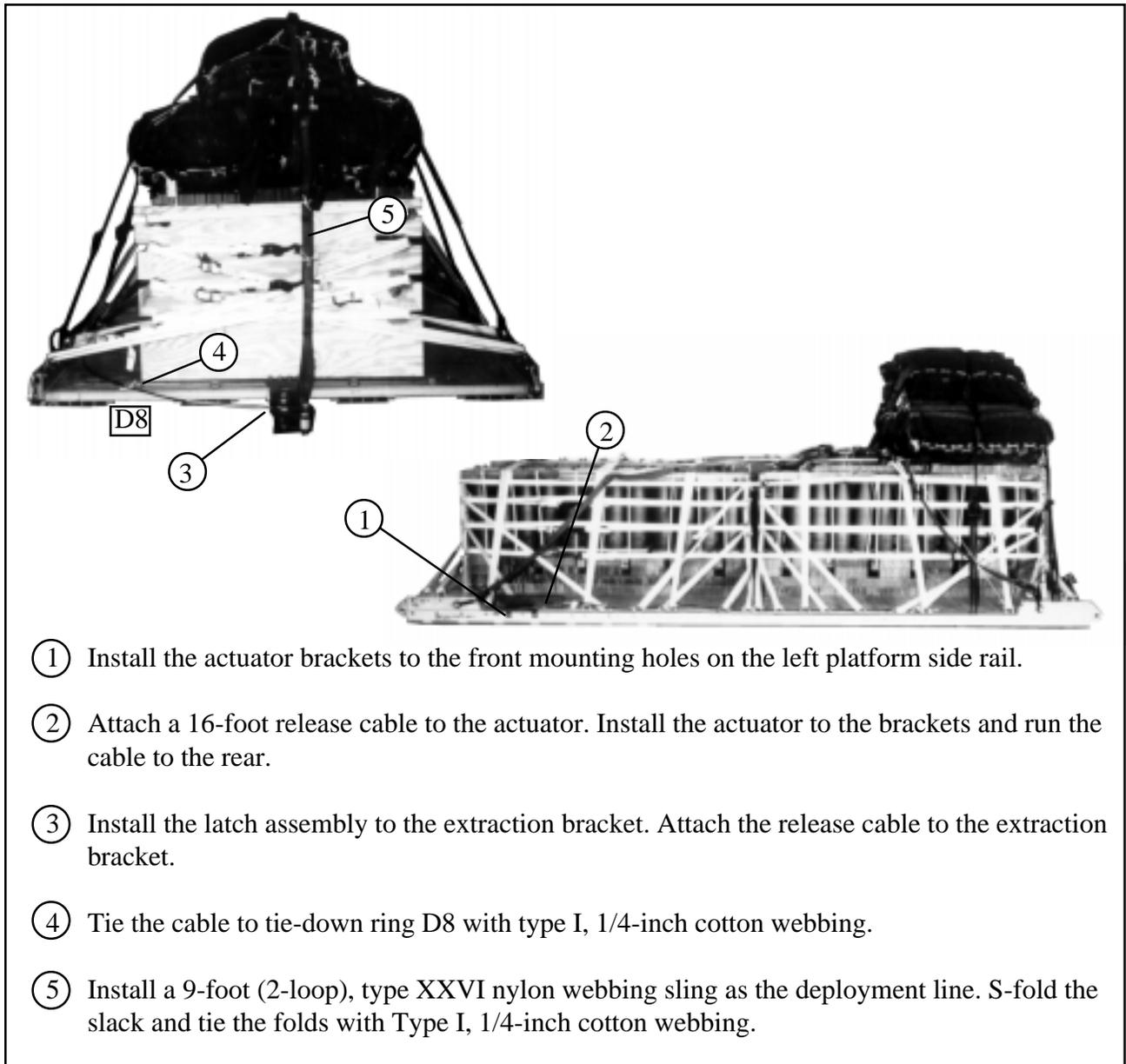


- ① Prepare and install an M-1 cargo parachute release assembly according to FM 10-500-2/TO 13C7-1-5. Place the release assembly on the honeycomb in front of the parachutes as shown.
- ② Safety the release to convenient points on the load with type III nylon cord.
- ③ S-fold and tie the slack in the suspension slings with type I, 1/4-inch cotton webbing.
- ④ Tie the two side sections of the deadman's tie together in the center with a length of type I, 1/4-inch cotton webbing.

Figure 15-23. Release assembly installed

### 15-28. Installing Extraction System

Install the EFTC extraction system according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 15-24.



*Figure 15-12. Extraction system installed*

**15-29. Installing Provisions for Emergency Restraints**

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

**15-30. 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.

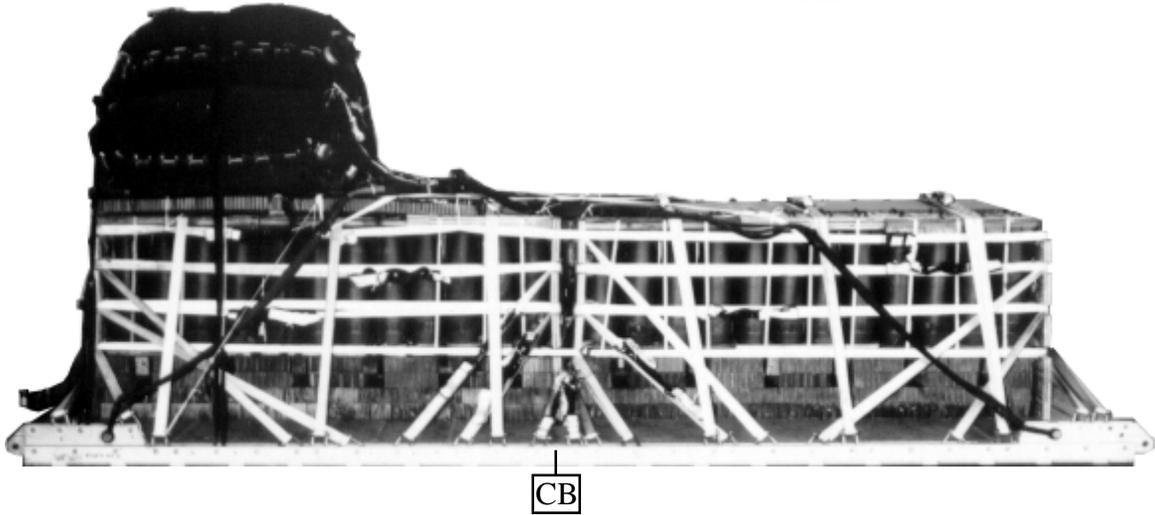
**15-31. Marking Rigged Load**

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 15-25. Complete Shipper's Declaration for Dangerous Goods and attach it to the load.

**15-32. Equipment Required**

Use the equipment listed in Table 15-2 to rig the load shown.

**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:	Load shown	13,300 pounds
Height		86 inches
Width		108 inches
Length		192 inches
Overhang:	Front	0 inches
	Rear	0 inches
CB (from front edge of platform)		101 inches
Extraction System (adds 18 inches to length of platform)		EFTC

Figure 15-25. 155-millimeter ammunition rigged on a 16-foot platform for low-velocity airdrop

Table 15-2. Equipment required for rigging 155-millimeter ammunition on a 16-foot platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	7
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5785	Coupling, airdrop, extraction force transfer with cable, 16-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	9
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-in thick	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	For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
	For C-5:	
1670-01-107-7651	140-ft (3-loop), type XXVI and	1
1670-01-062-6313	60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
	Link assembly:	
1670-00-783-5988	Type IV	12
	Two-point, 3 3/4-in	
5306-00-435-8994	Bolt, 1-in diam, 4 in long	2
5310-00-232-5165	Nut, 1-in, hexagonal	2
1670-00-003-1953	Plate, side, 3 3/4-in	2
5365-00-007-3414	Spacer, large	2
5315-00-010-4657	Nail, steel wire, common, 6d	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in	13 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	3
1670-00-063-3716	Cargo extraction, 22-ft	1
1670-01-063-3715	Drogue, 15-ft (for C-17)	1

Table 15-2. Equipment required for rigging 155-millimeter ammunition on a 16-foot platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
	Platform, airdrop, type V, 16-foot	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(44)
1670-01-353-8424	Extraction bracket assembly	(1)
1670-01-162-2381	Link, tandem, suspension link assembly	(4)
5530-00-128-4981	Plywood, 3/4- by 60- by 38-in	8 sheets
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo airdrop	
	For suspension:	
1670-01-063-7761	16-ft ( 2-loop), type XXVI nylon webbing	4
	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	9
5340-00-040-8219	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-ft	56
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

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Section III

RIGGING 20-MILLIMETER AMMUNITION

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**15-33. Description of Load**

Two hundred forty boxes of 20-millimeter ammunition are rigged for low-velocity airdrop on a 16-foot, type V platform. All 20-millimeter ammunition packaged as shown and listed in FM 10-500-53/MCRP No 4-3.8/TO 13C7-18-41, as certified for low-velocity airdrop, may be rigged using these procedures. This load uses five G-11C cargo parachutes.

**15-34. Preparing Platform**

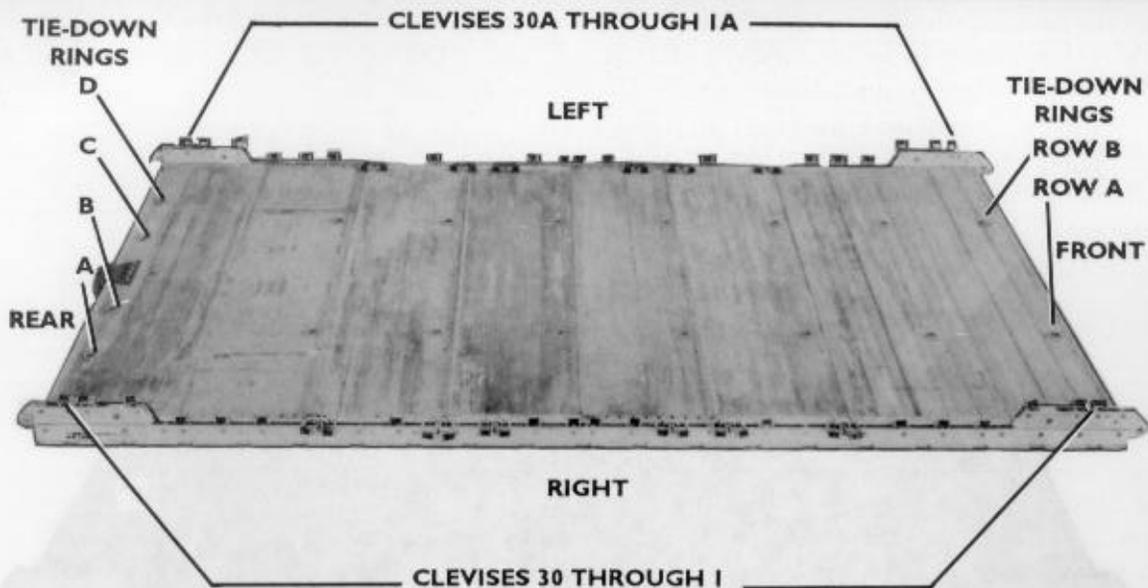
Prepare a 16-foot, type V airdrop platform as given below:

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

*b. Installing Tandem Links.* Install four tandem links as shown in Figure 15-26.

*c. Attaching and Numbering Clevises.* Attach and number 72 clevis assemblies as shown in Figure 15-26.

**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.**

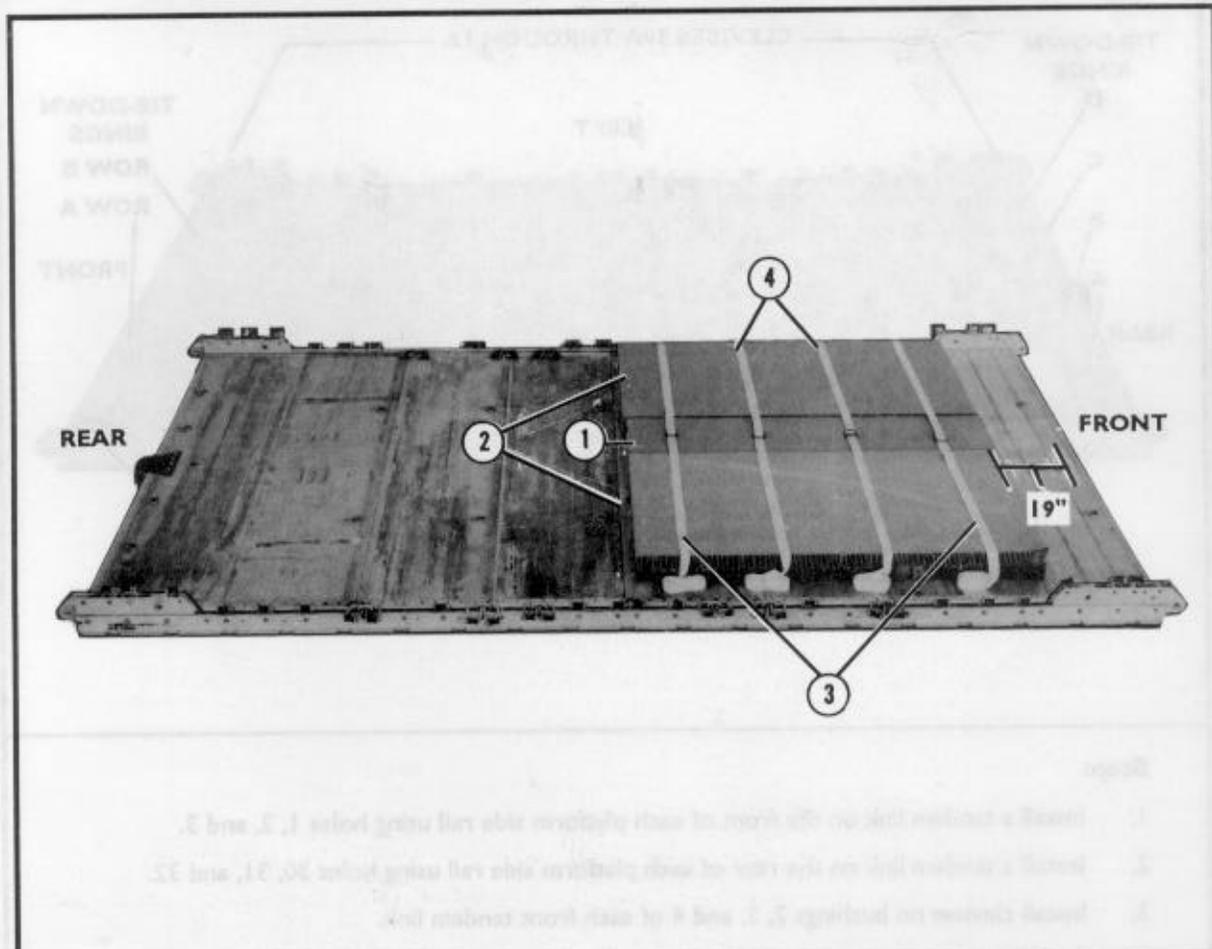
**Step:**

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 30, 31, and 32.
3. Install clevises on bushings 2, 3, and 4 of each front tandem link.
4. Install clevises on bushings 1, 2, and 3 of each rear tandem link.
5. Starting at the front of each platform side rail, install clevises on each platform side rail using the bushings bolted on holes 5, 6, 7, 9, 11, 12, 14, 15, 16, 17, 18, 19, 21, 22, 24, 26, 27, and 28. Reverse the clevises on holes 9, 12, 14, 19, 21 and 24. Install two clevises on each of the reversed clevises.
6. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 30, and those bolted to the left side from 1A through 30A.
7. Label the tie-down rings according to FM 10-500-2/TO 13C7-1-5.

Figure 15-26. Platform prepared

### 15-35. Building Honeycomb Stacks and Placing First Stack

Build the honeycomb stack for the first stack of ammunition and place it on the platform as shown in Figure 15-27. Build a second stack as shown in Figure 15-27 and set it aside.

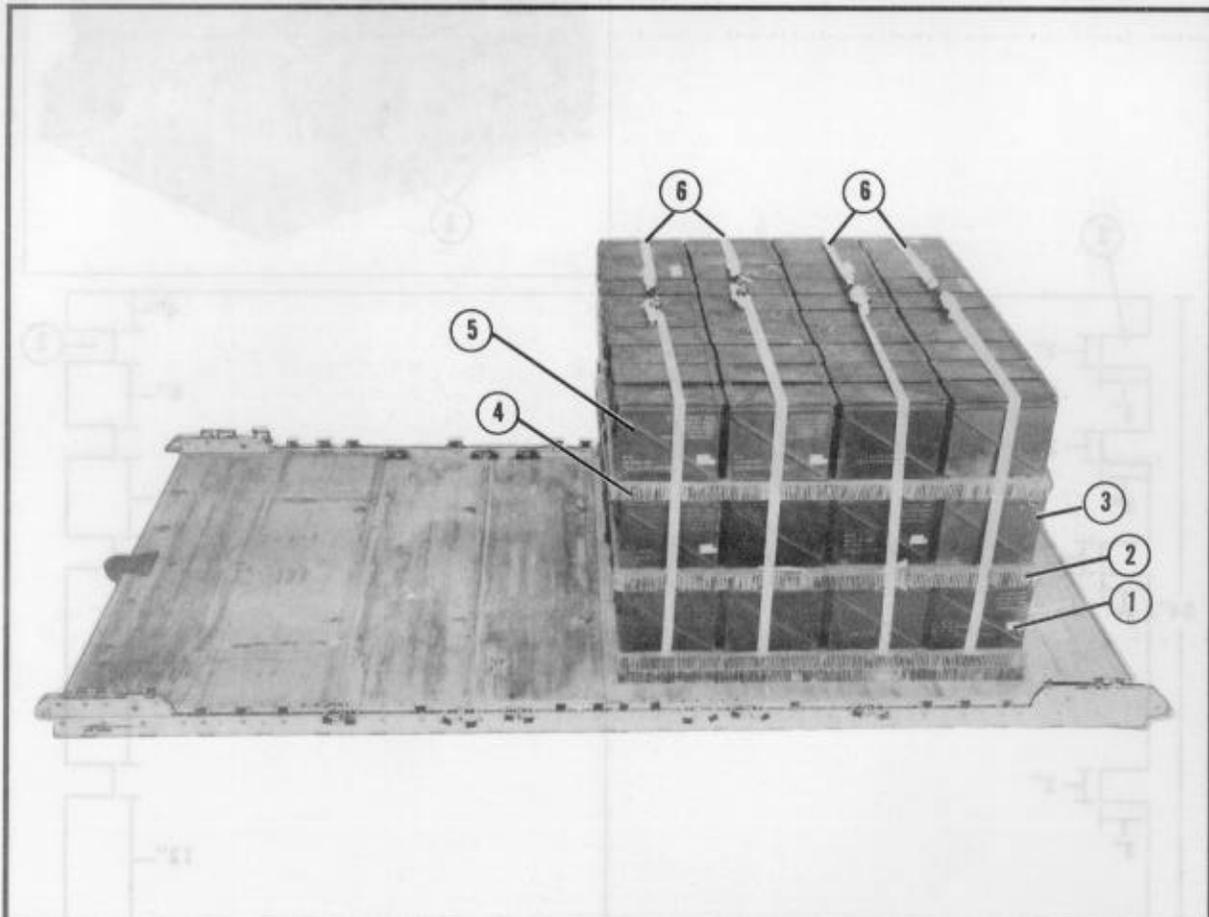


- ① Center two 15- by 75-inch pieces of honeycomb lengthwise on the platform, 19 inches from the front edge.
- ② Place two 36- by 75-inch pieces of honeycomb flush on each side of the pieces placed in step 1.
- ③ Center a 30-foot lashing 10 inches from each end of the honeycomb.
- ④ Center a 30-foot lashing 26 inches from the front edge of the honeycomb, and another 30-foot lashing 26 inches from the rear.

Figure 15-27. Honeycomb for first ammunition stack prepared and placed

### 15-36. Positioning and Securing First Ammunition Stack

Set 120 boxes of 20-millimeter ammunition on the honeycomb and pre-position lashings. Secure the lashings as shown in Figure 15-28.



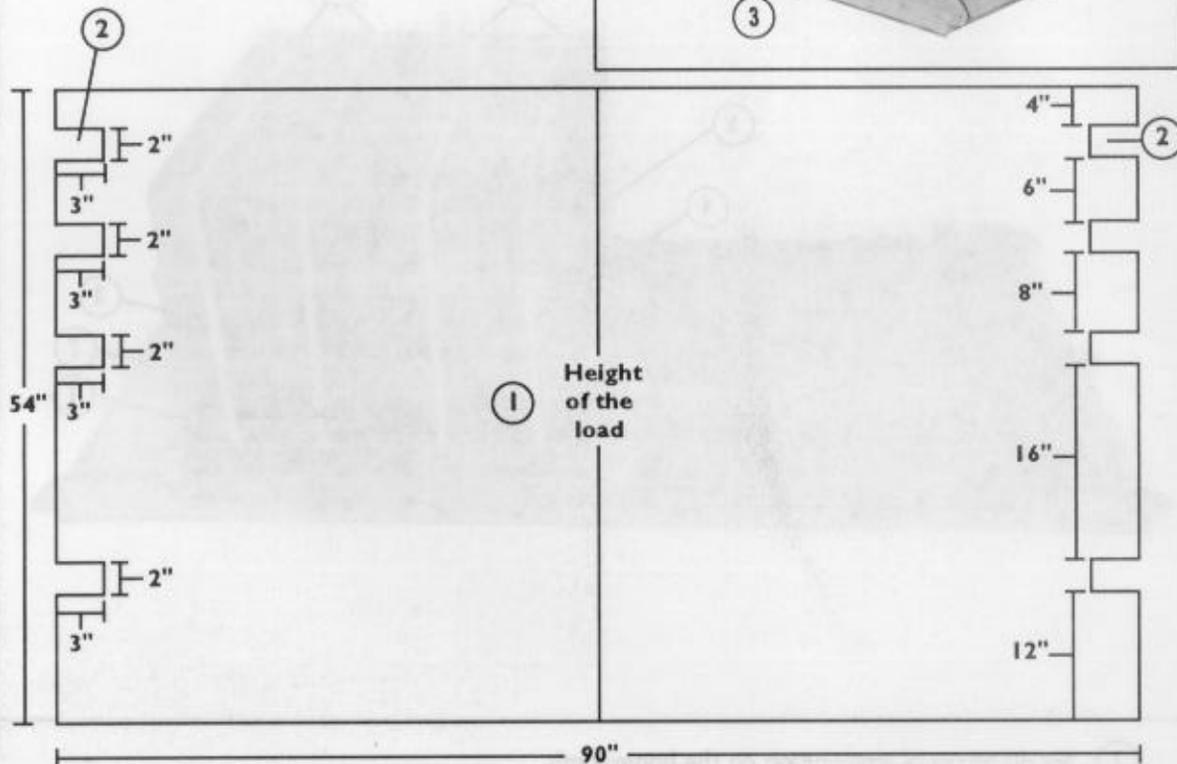
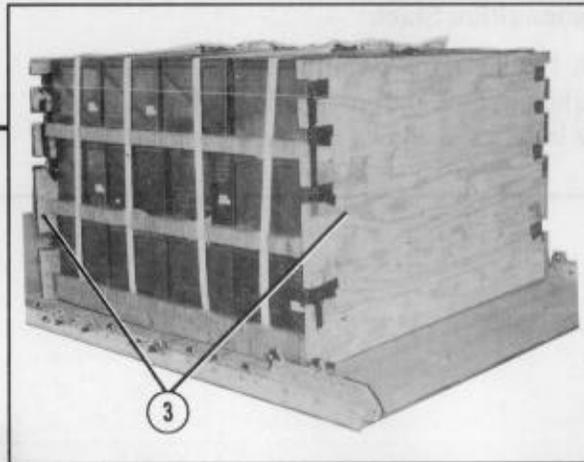
- ① Set 40 boxes of ammunition on the honeycomb.
- ② Place one layer of honeycomb cut to the dimensions in Figure 15-27, steps 1 and 2, over the boxes.
- ③ Place 40 boxes of ammunition over the honeycomb placed in step 2.
- ④ Place a layer of honeycomb over the second layer of boxes.
- ⑤ Place the third layer of boxes over the honeycomb placed in step 4.
- ⑥ Secure each of the pre-positioned lashings in Figure 15-27, steps 3 and 4, on top of the boxes with two D-rings and a load binder.

Figure 15-28. First ammunition stack placed and secured

### 15-37. Constructing Endboards

Construct four endboards as shown in Figure 15-29.

**Note:** This drawing is not drawn to scale.



- ① Cut two 3/4- by 48- by 90-inch and two 3/4- by 6- by 90-inch pieces of plywood. Nail the four pieces flush together so that a single piece of 1 1/2- by 56- by 90 inches results.

**Note:** On the endboard shown, the 6-inch piece is at the bottom. On the other side of the endboard shown, the 6-inch piece is at the top.

- ② Make 2- by 3-inch cutouts as shown. Pad all cutouts with cellulose wadding and tape.
- ③ Place an endboard against the front of the boxes and place one against the rear. Tie them in place with a length of type III nylon cord.

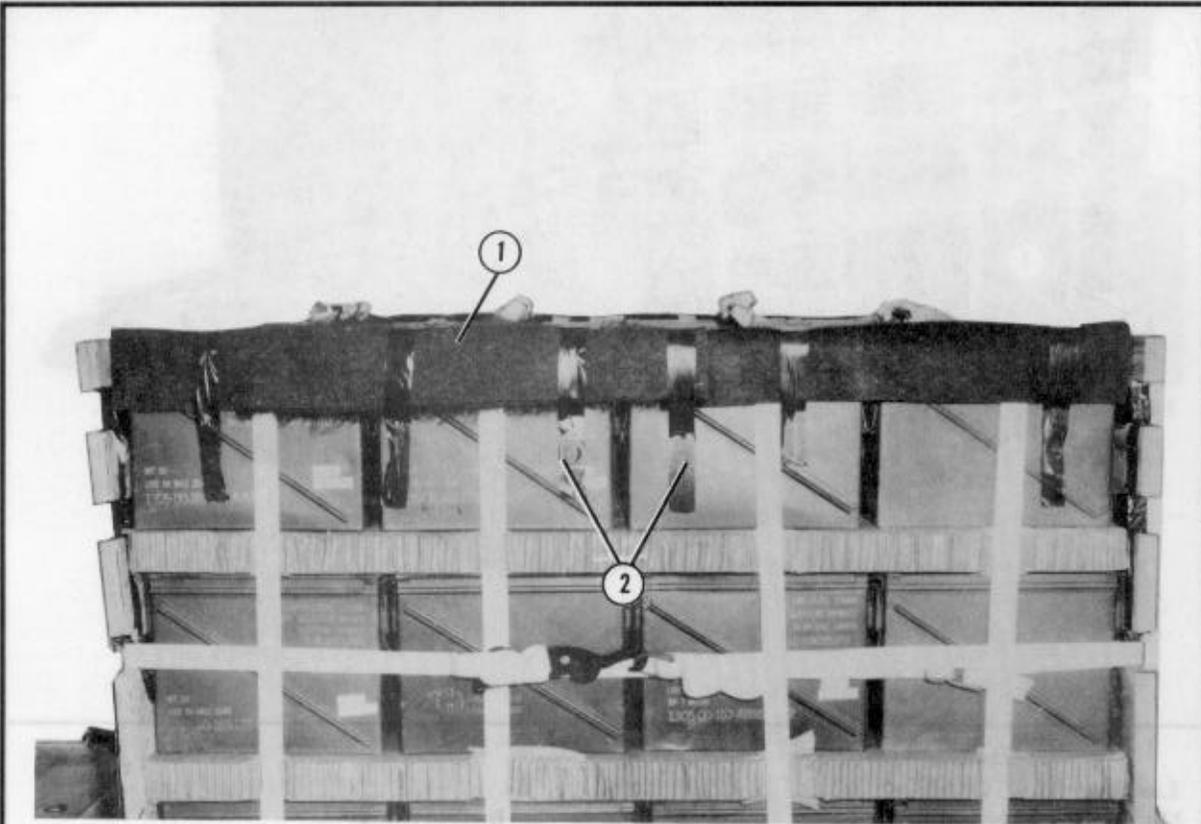
Figure 15-29. Endboards for 20-millimeter ammunition constructed and placed

### 15-38. Lashing First Ammunition Stack and First and Second Endboards

Cover the left and right upper edges of the stack of boxes with felt as shown in Figure 15-30. Lash the first and second endboards and the first ammunition stack to the platform as shown in Figure 15-31.

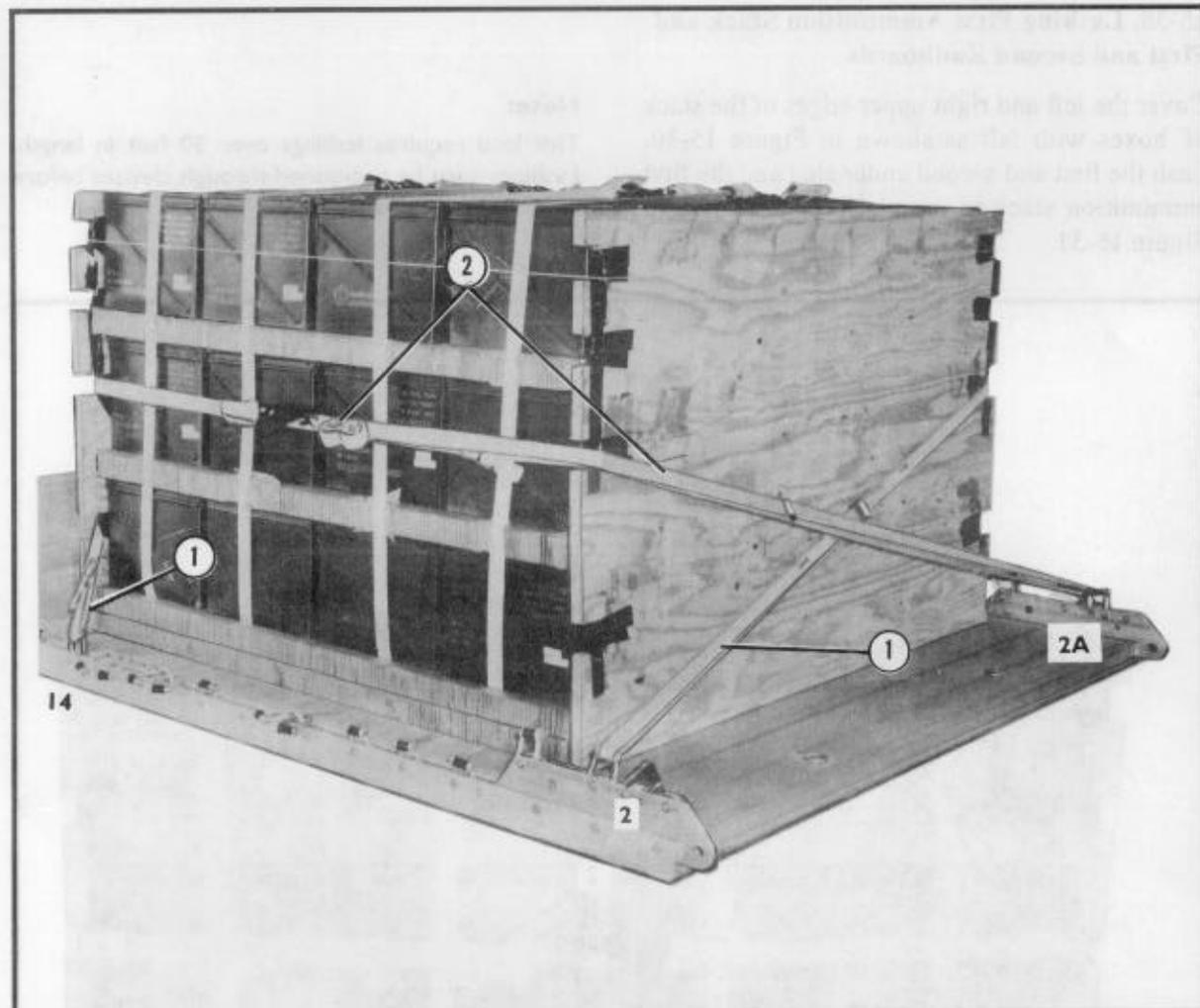
#### Note:

This load requires lashings over 30 feet in length. Lashings must be positioned through clevises before sections are joined together.



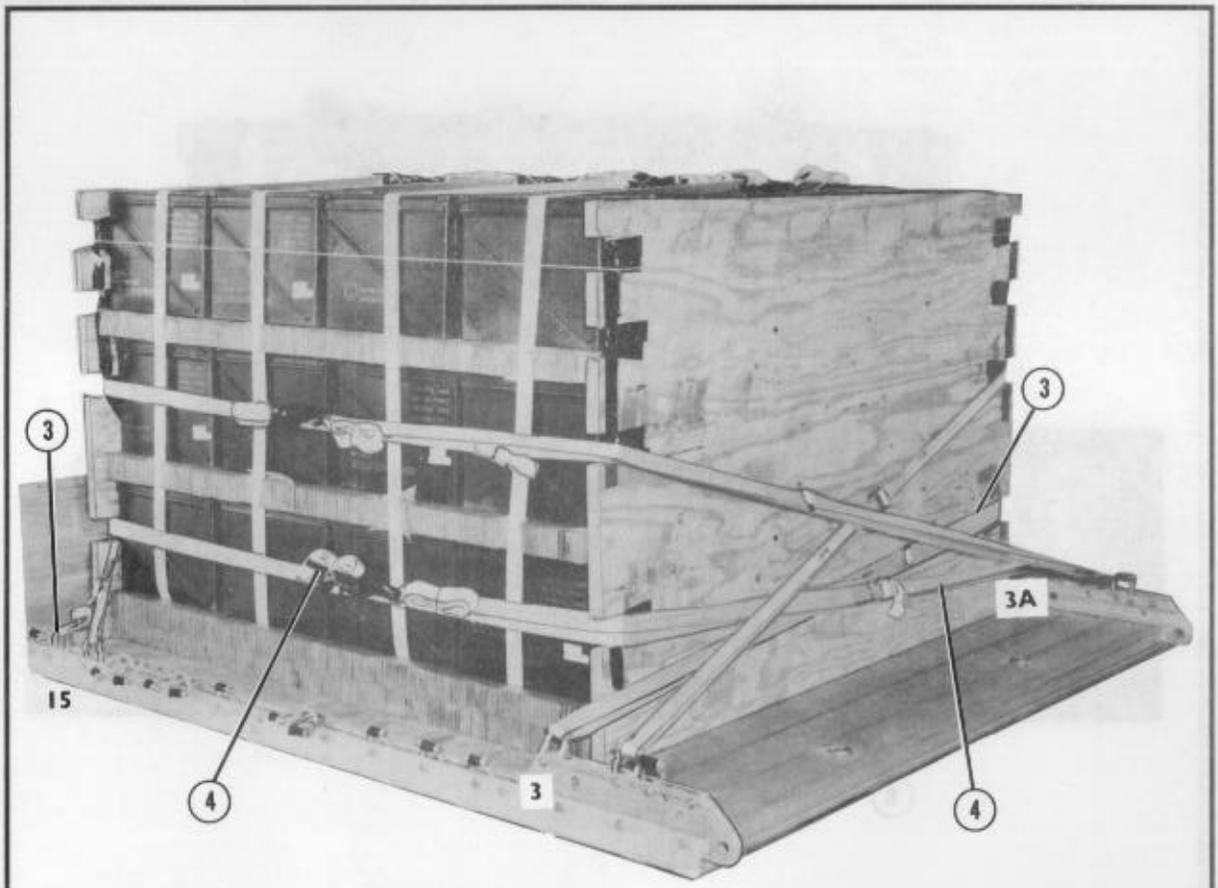
- ① Center a piece of felt, 75 inches long, over the left and right upper corners of the stack of boxes.
- ② Tape the felt in place.

Figure 15-30. Boxes padded with felt



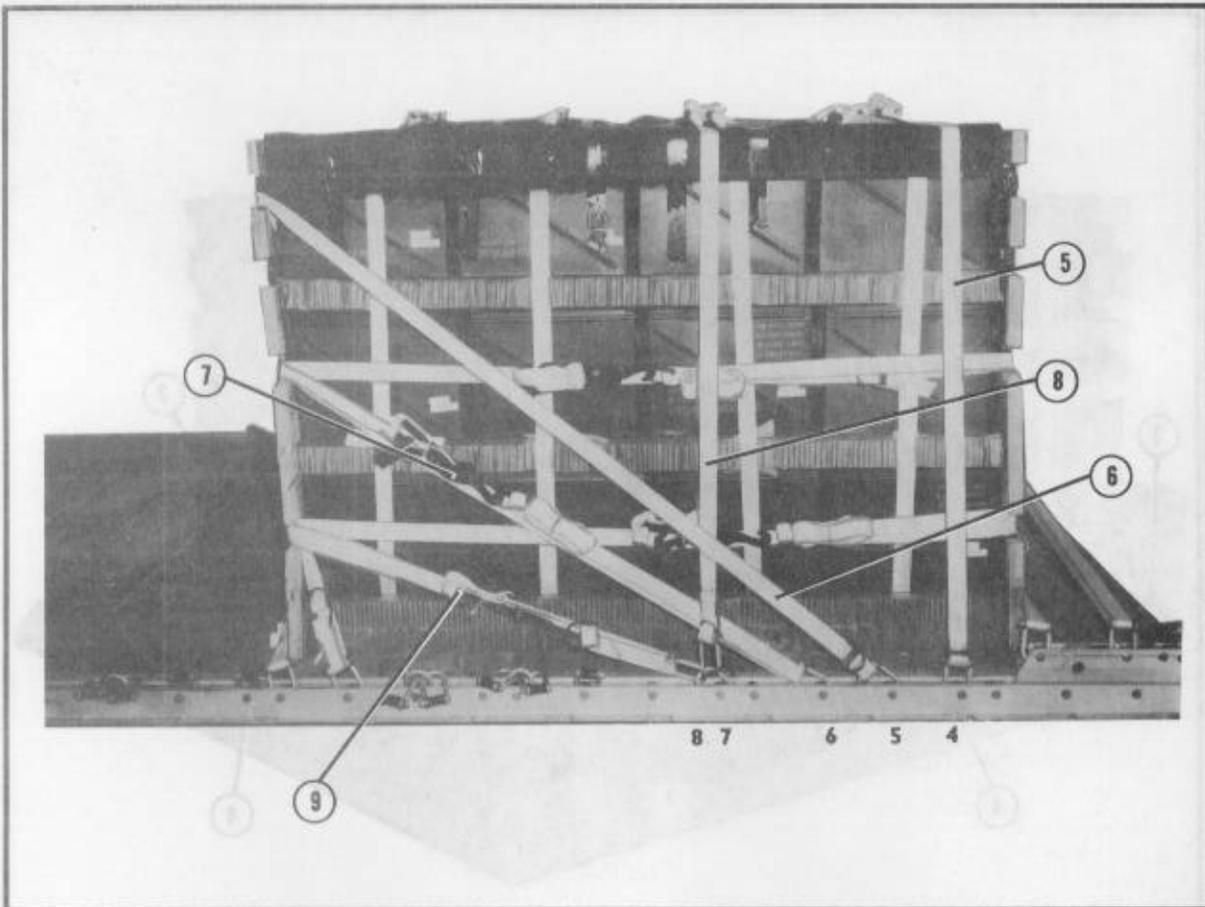
Lashing Number	Tie-Down Clevis Number	Instructions
1	2 and 14	Pass a 60-foot lashing through clevis 2, through the third cutout from the top in the left side of the first endboard, and around the left side of the ammunition stack. Pass the lashing through the third cutout from the top in the left side of the second endboard and through clevis 14. Secure the lashing on the left side.
2	2A and 14A	Pass a 60-foot lashing through clevis 2A, through the third cutout from the top in the right side of the first endboard, and around the right side of the ammunition stack. Pass the lashing through the third cutout from the top in the right side of the second endboard and through clevis 14A. Secure the lashing on the right side.

Figure 15-31. First ammunition stack and endboards lashed to platform



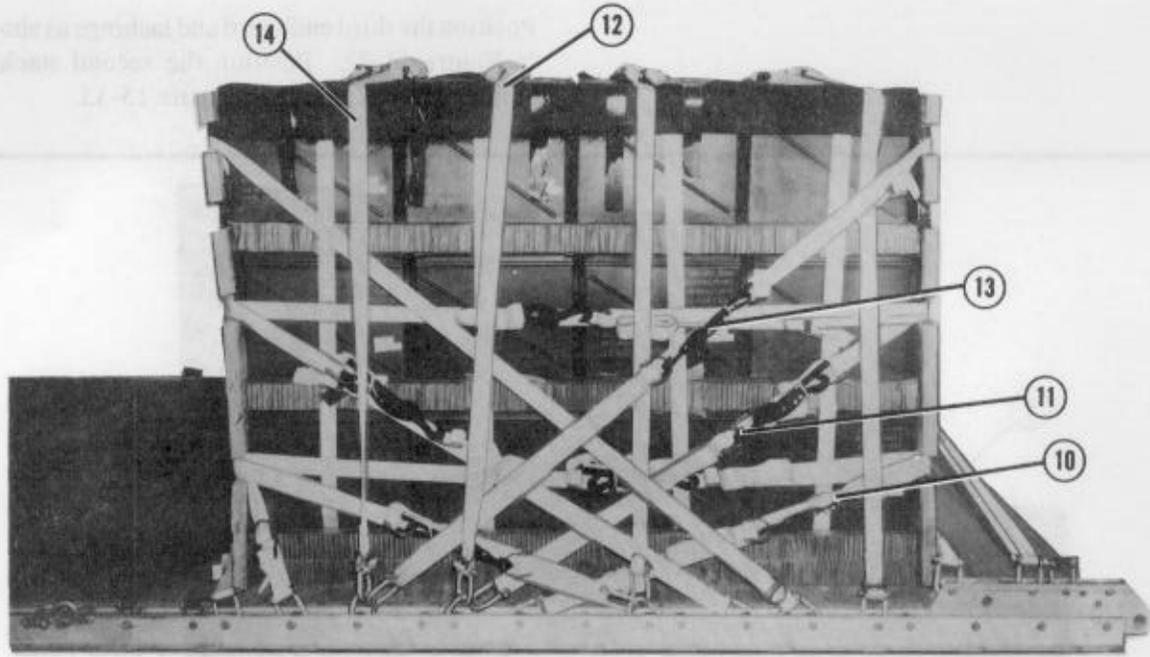
Lashing Number	Tie-Down Clevis Number	Instructions
3	3 and 15	Pass a 60-foot lashing through clevis 3, through the bottom cutout in the left side of the first endboard, and around the left side of the ammunition stack. Pass the lashing through the bottom cutout in the left side of the second endboard, and through clevis 15. Secure the lashing on the left side.
4	3A and 15A	Pass a 60-foot lashing through clevis 3A and through the bottom cutout in the right side of the first endboard, and around the right side of the ammunition stack. Pass the lashing through the bottom cutout in the right side of the second endboard, and through clevis 15A. Secure the lashing on the right side.

Figure 15-31. First ammunition stack and endboards lashed to platform (continued)



Lashing Number	Tie-Down Clevis Number	Instructions
5	4 and 4A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top of the boxes.
6	5 and 5A	Pass a 45-foot lashing through both clevises and through the top cutouts in the second endboard. Secure the lashing on the side of the load.
7	6 and 6A	Pass a 45-foot lashing through both clevises and through the third cutouts from the top in the second endboard. Secure the lashing on the side of the load.
8	7 and 7A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top of the boxes.
9	8 and 8A	Pass a 30-foot lashing through both clevises and through the bottom cutouts in the second endboard. Secure the lashing on the side of the load.

Figure 15-31. First ammunition stack and endboards lashed to platform (continued)



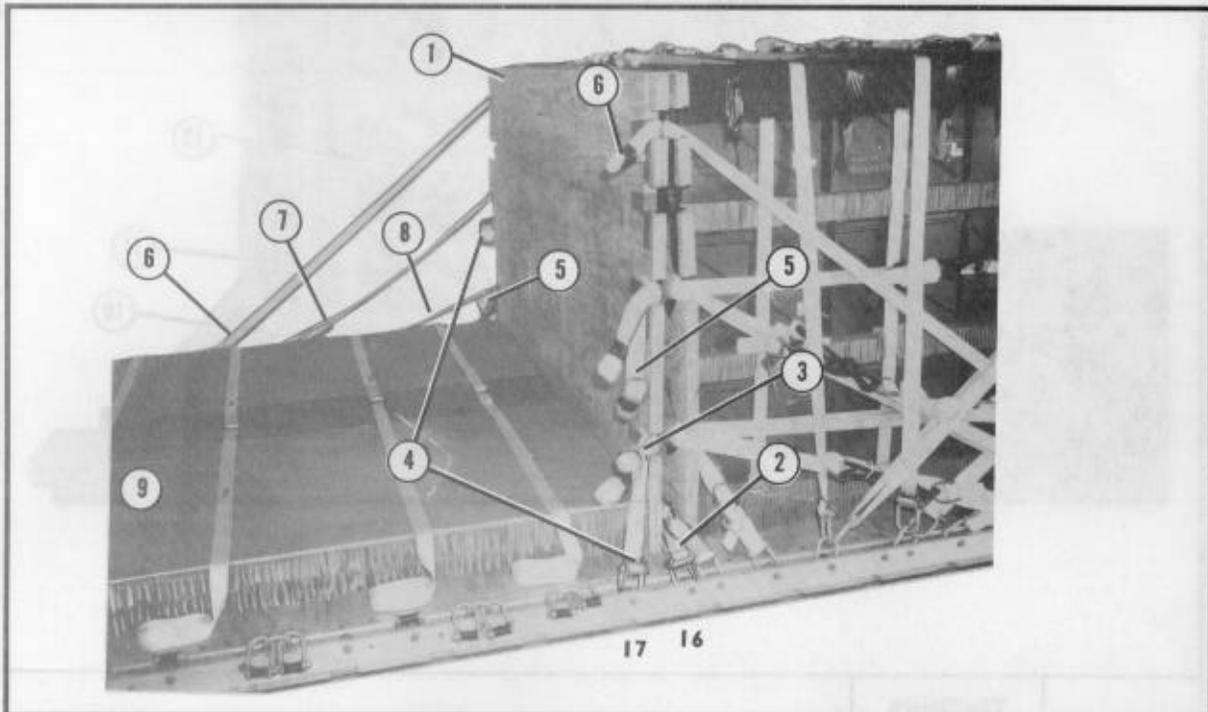
13 12 11 10 9

Lashing Number	Tie-Down Clevis Number	Instructions
10	9 and 9A	Pass a 30-foot lashing through both clevises and through the bottom cutouts in the first endboard. Secure the lashing on the side of the load.
11	10 and 10A	Pass a 45-foot lashing through both clevises and through the third cutout from the top in the first endboard. Secure the lashing on the side of the load.
12	11 and 11A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top of the boxes.
13	12 and 12A	Pass a 45-foot lashing through both clevises and through the top cutout in the first endboard. Secure the lashing on the side of the load.
14	13 and 13A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top of the boxes.

Figure 15-31. First ammunition stack and endboards lashed to platform (continued)

**15-39. Positioning Endboard, Placing Second Ammunition Stack, and Pre-positioning Lashings**

Position the third endboard and lashings as shown in Figure 15-32. Position the second stack of ammunition as shown in Figure 15-33.

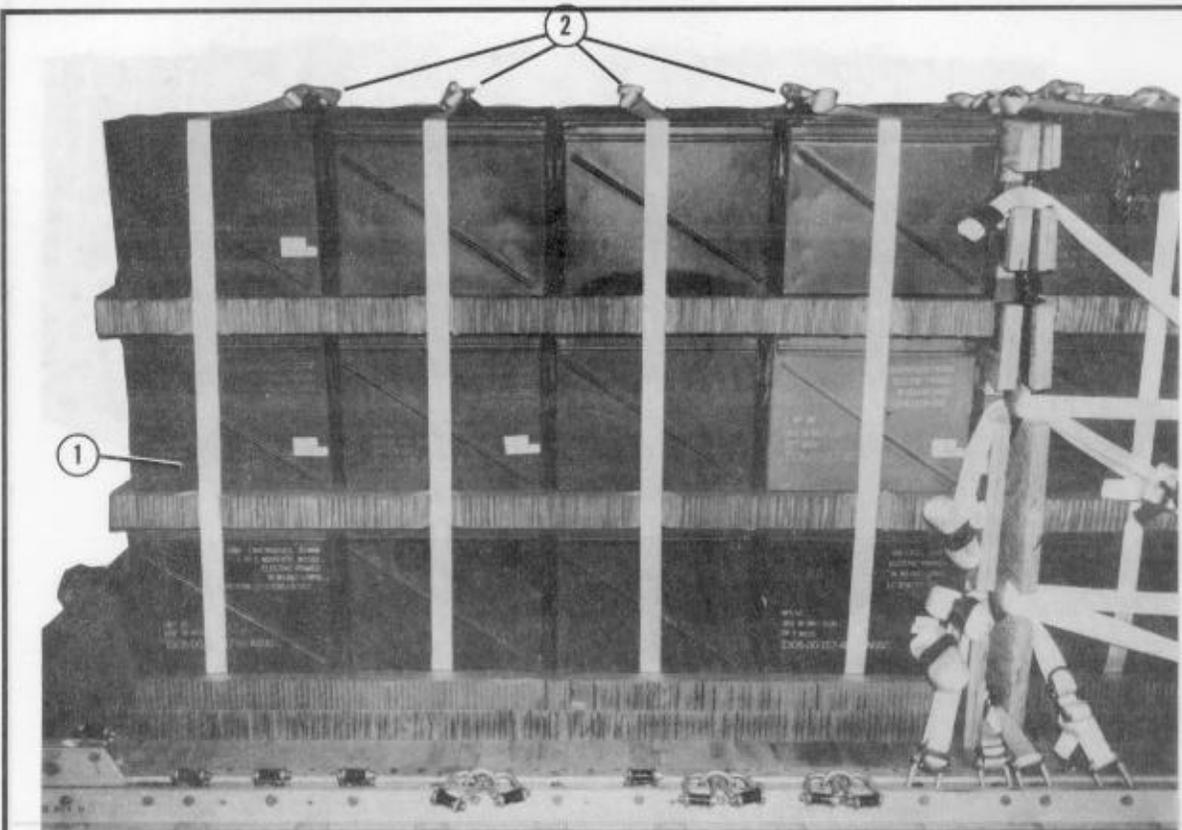


- ① Set the third endboard against the rear of the load.
- ② Pass a 60-foot lashing through clevis 16 and through the bottom left cutout in the third endboard. Roll and tape the ends.
- ③ Pass a 60-foot lashing through clevis 16A and through the bottom right cutout in the third endboard. Roll and tape the ends.
- ④ Pass a 60-foot lashing through clevis 17, through the bottom right cutout, and the third cutout from the top in the left side of the third endboard. Roll and tape the ends.
- ⑤ Pass a 60-foot lashing through clevis 17A, through the bottom left cutout, and the third cutout from the top in the right side of the third endboard. Roll and tape the ends.
- ⑥ Pass a 45-foot lashing through clevis 26A and through both top cutouts in the third endboard. Roll and tape the ends.
- ⑦ Pass a 45-foot lashing through clevis 25A and through the third cutout from the top on both sides of the third endboard. Roll and tape the ends.

Figure 15-32. Pre-positioning lashings on third endboard

- ⑧ Pass a 30-foot lashing through clevis 23A and through both bottom cutouts in the third endboard. Roll and tape the ends.
- ⑨ Position the second honeycomb stack 17 inches from the rear edge of the platform. Pre-position four 30-foot lashings on the honeycomb as shown in Figure 15-27, steps 3 and 4.

Figure 15-32. Pre-positioning lashings on third endboard (continued)

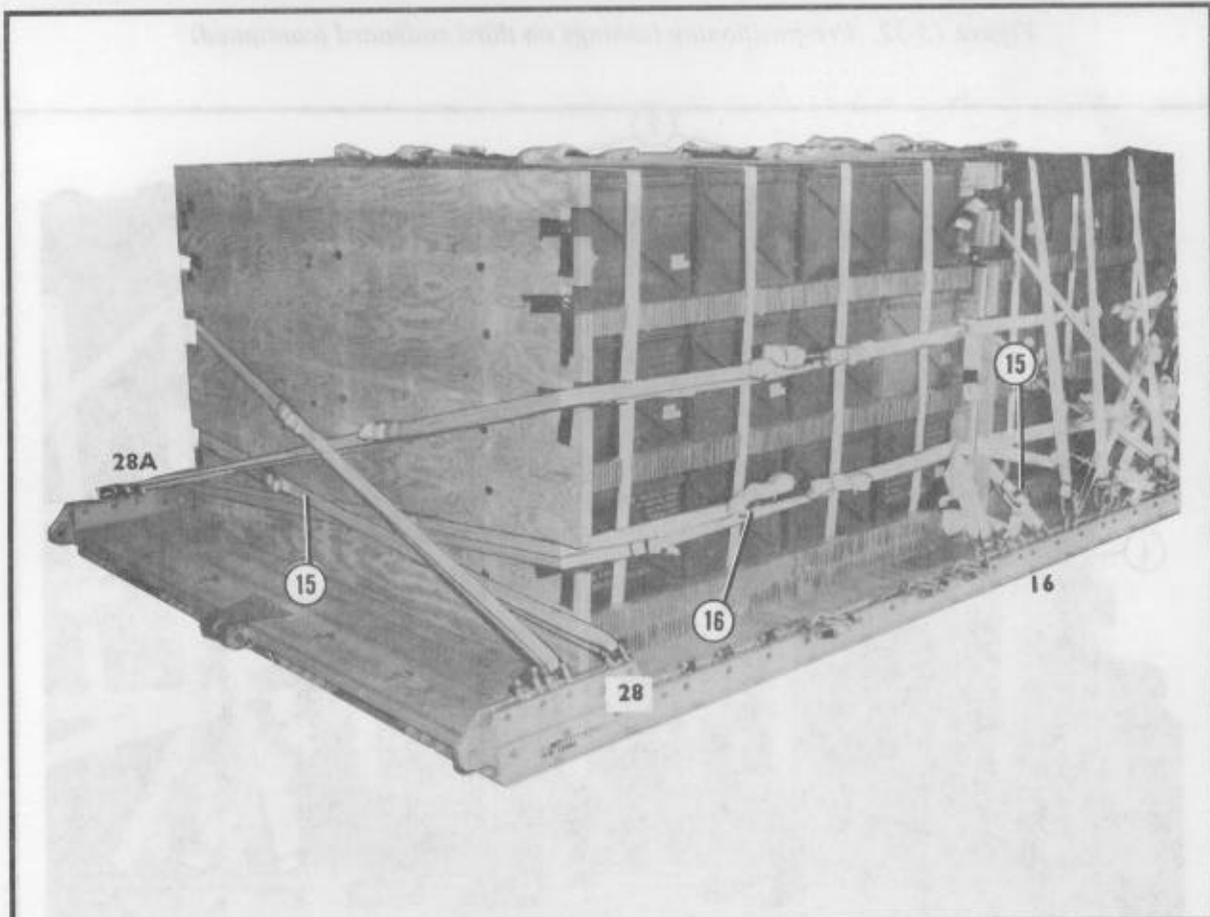


- ① Stow 120 boxes of ammunition on the honeycomb as shown in Figure 15-28.
- ② Secure each of the pre-positioned lashings on top of the boxes with two D-rings and a load binder.
- ③ Pad the left and right upper edges of the boxes with felt as shown in Figure 15-30 (not shown).
- ④ Place the fourth endboard against the rear of the load. Safety tie it to convenient points for temporary support (not shown).

Figure 15-33. Second stack of ammunition positioned

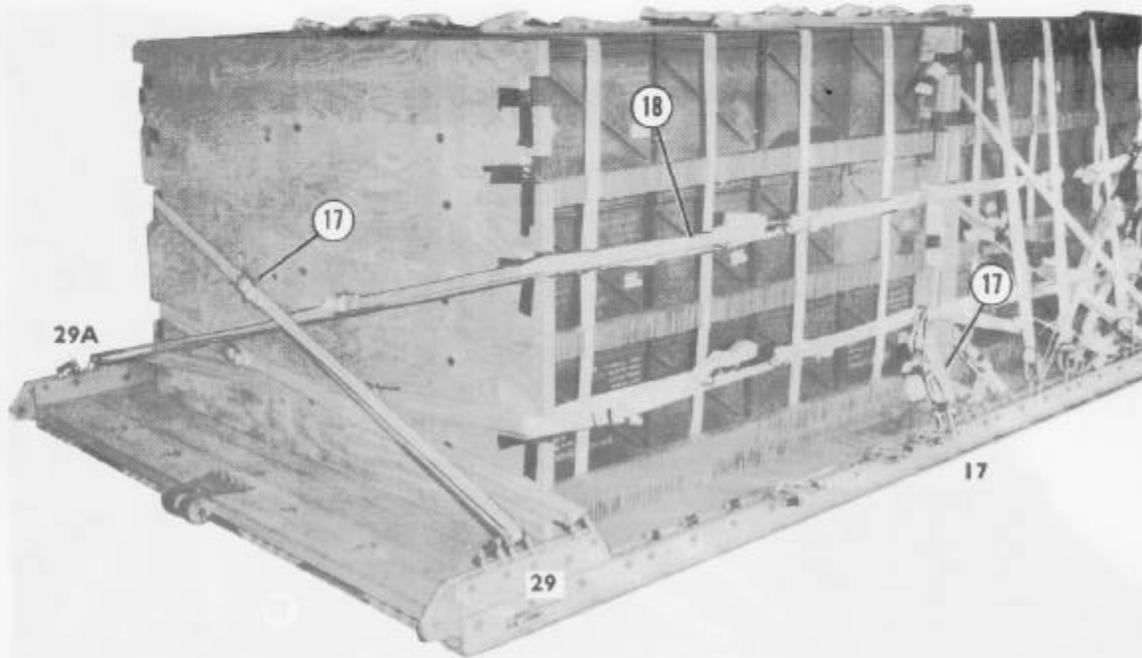
**15-40. Lashing Second Ammunition Stack and Third and Fourth Endboards**

Lash the third and fourth endboards and the second ammunition stack to the platform as shown in Figure 15-34.



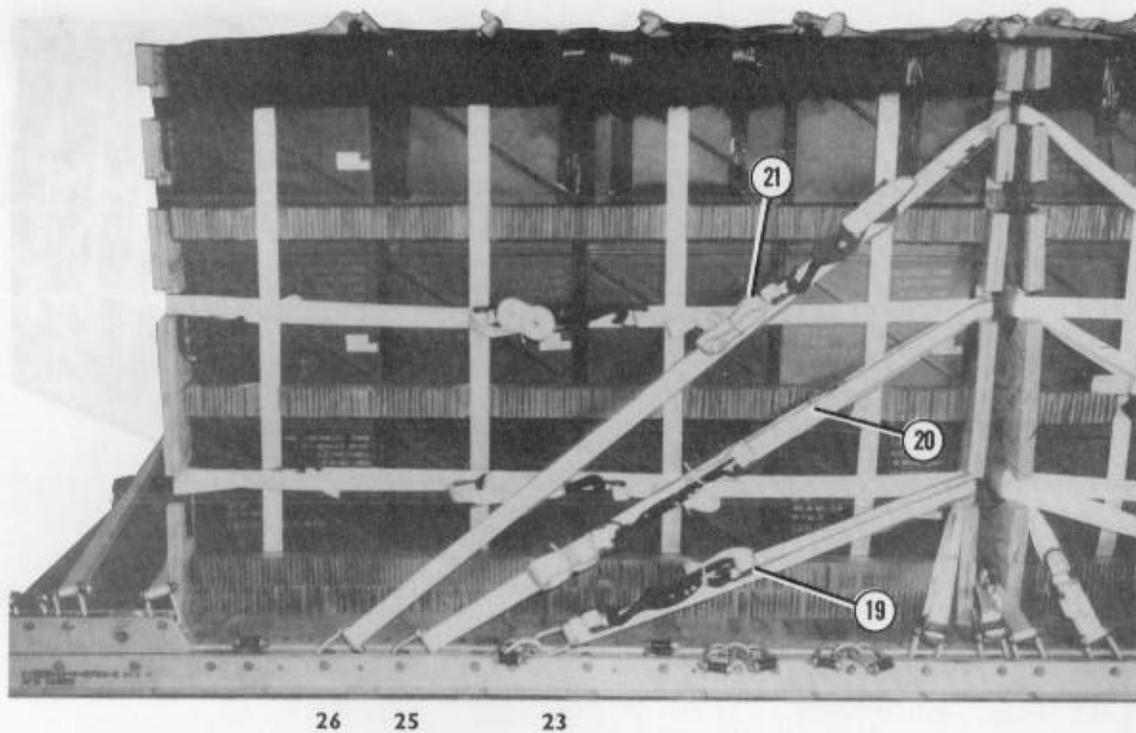
Lashing Number	Tie-Down Clevis Number	Instructions
15	16 and 28	Pass the pre-positioned lashing in Figure 15-32, step 2, around the left side of the boxes, through the bottom left cutout in the fourth endboard and through clevis 28. Secure the lashing on the left side.
16	16A and 28A	Pass the pre-positioned lashing in Figure 15-32, step 3, around the right side of the boxes, through the bottom right cutout in the fourth endboard and through clevis 28A. Secure the lashing on the right side.

Figure 15-34. Second ammunition stack and endboards lashed to platform



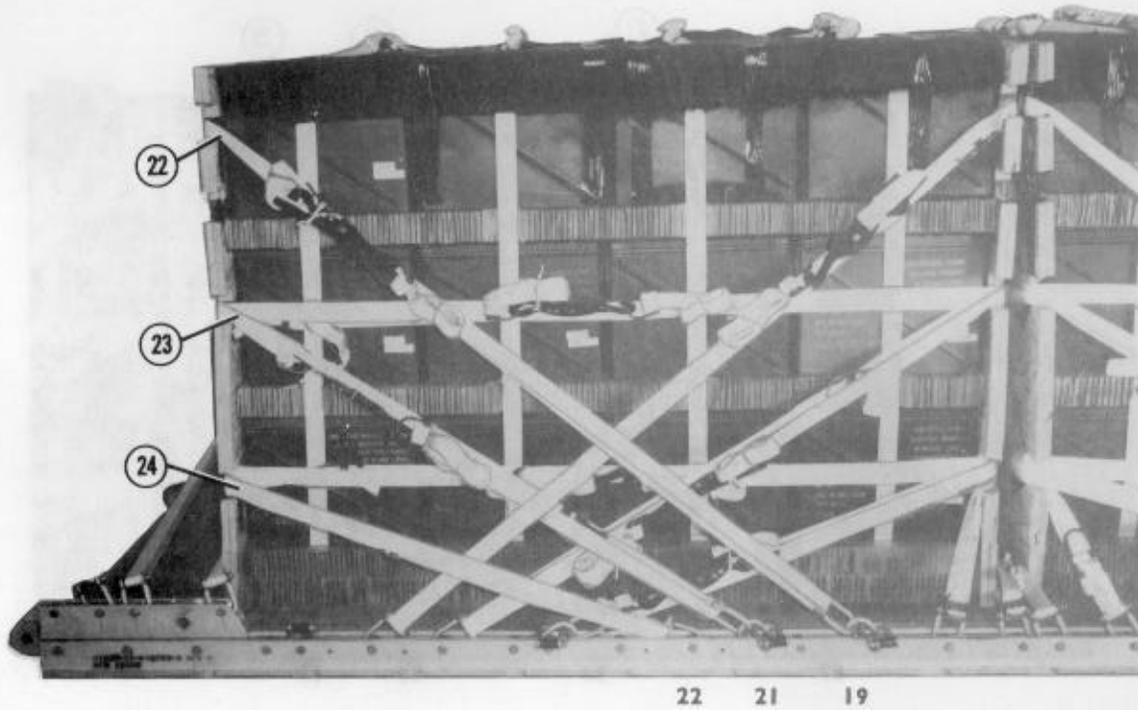
Lashing Number	Tie-Down Clevis Number	Instructions
17	17 and 29	Pass the pre-positioned lashing in Figure 15-32, step 4, around the left side of the boxes, through the third cutout from the top in the left side of the fourth endboard and through clevis 29. Secure the lashing on the left side.
18	17A and 29A	Pass the pre-positioned lashing in Figure 15-32, step 5, around the right side of the boxes, through the third cutout from the top in the right side of the fourth endboard and through clevis 29A. Secure the lashing on the right side.

Figure 15-34. Second ammunition stack and endboards lashed to platform (continued)



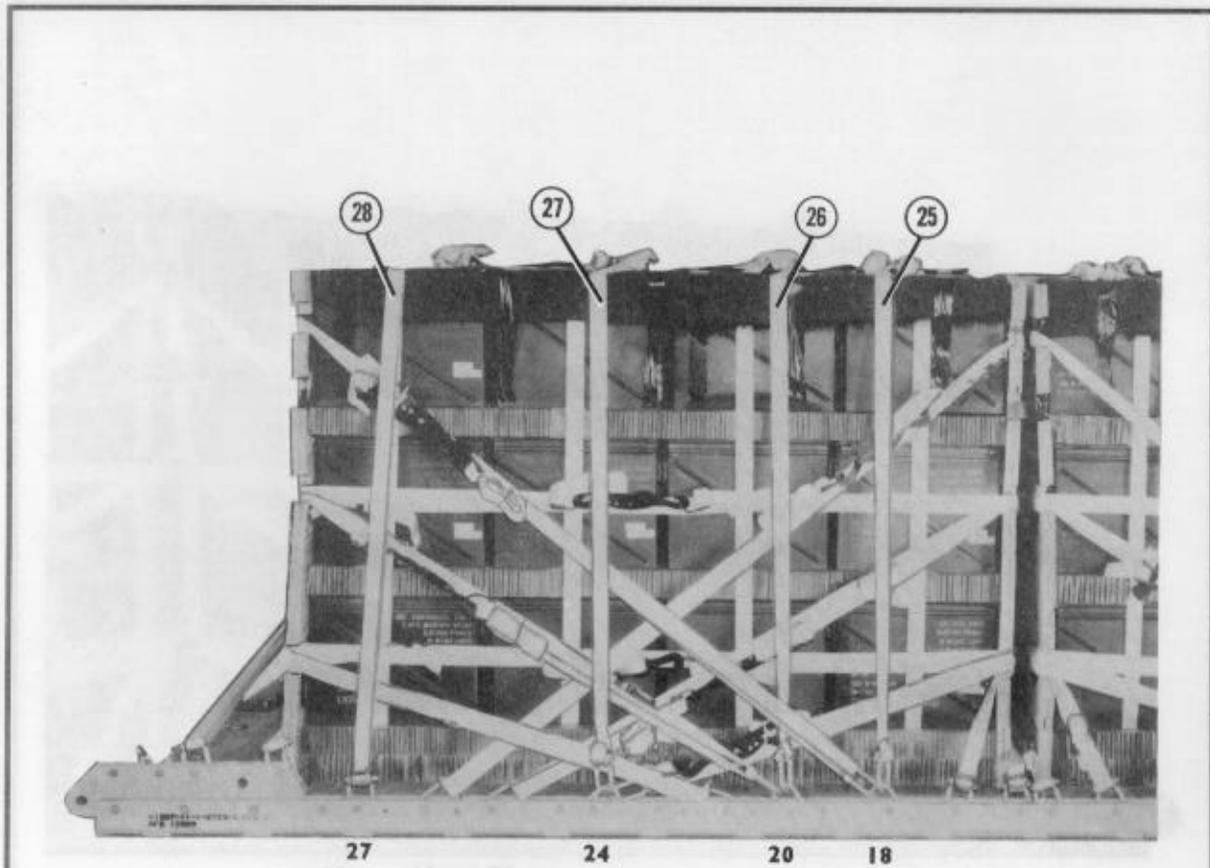
Lashing Number	Tie-Down Clevis Number	Instructions
19	23 and 23A	Pass the pre-positioned lashing in Figure 15-32, step 8 through clevis 23. Secure the lashing on the right side.
20	25 and 25A	Pass the pre-positioned lashing in Figure 15-32, step 7 through clevis 25. Secure the lashing on the right side.
21	26 and 26A	Pass the pre-positioned lashing in Figure 15-32, step 6 through clevis 26. Secure the lashing on the right side.

Figure 15-34. Second ammunition stack and endboards lashed to platform (continued)



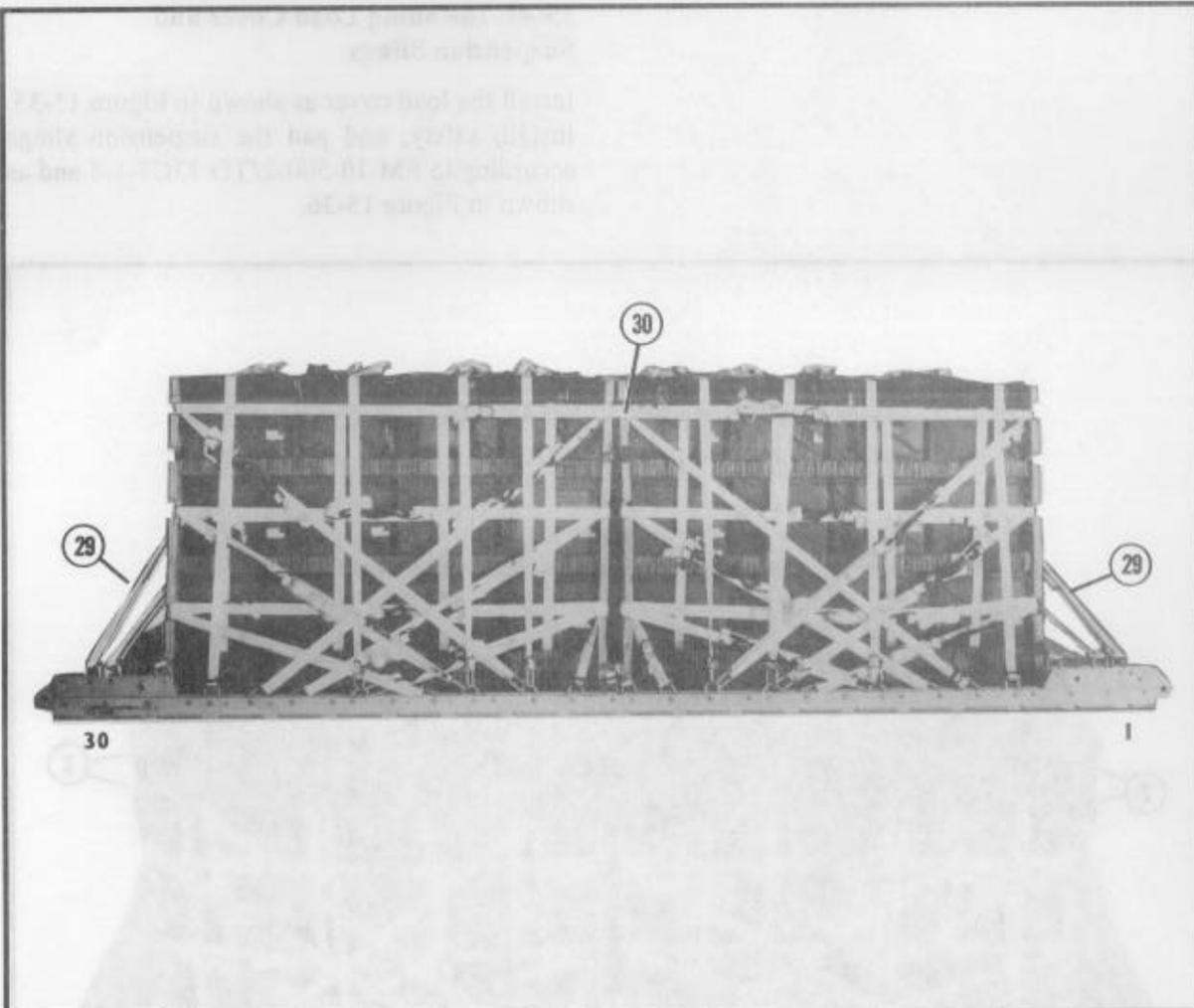
Lashing Number	Tie-Down Clevis Number	Instructions
22	19 and 19A	Pass a 45-foot lashing through both clevises and through the top cutouts in the fourth endboard. Secure the lashing on the side.
23	21 and 21A	Pass a 45-foot lashing through both clevises and through the third cutouts from the top in the fourth endboard. Secure the lashing on the side.
24	22 and 22A	Pass a 30-foot lashing through both clevises and through the bottom cutouts in the fourth endboard. Secure the lashing on the side.

Figure 15-34. Second ammunition stack and endboards lashed to platform (continued)



Lashing Number	Tie-Down Clevis Number	Instructions
25	18 and 18A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top.
26	20 and 20A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top.
27	24 and 24A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top.
28	27 and 27A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top.

Figure 15-34. Second ammunition stack and endboards lashed to platform (continued)

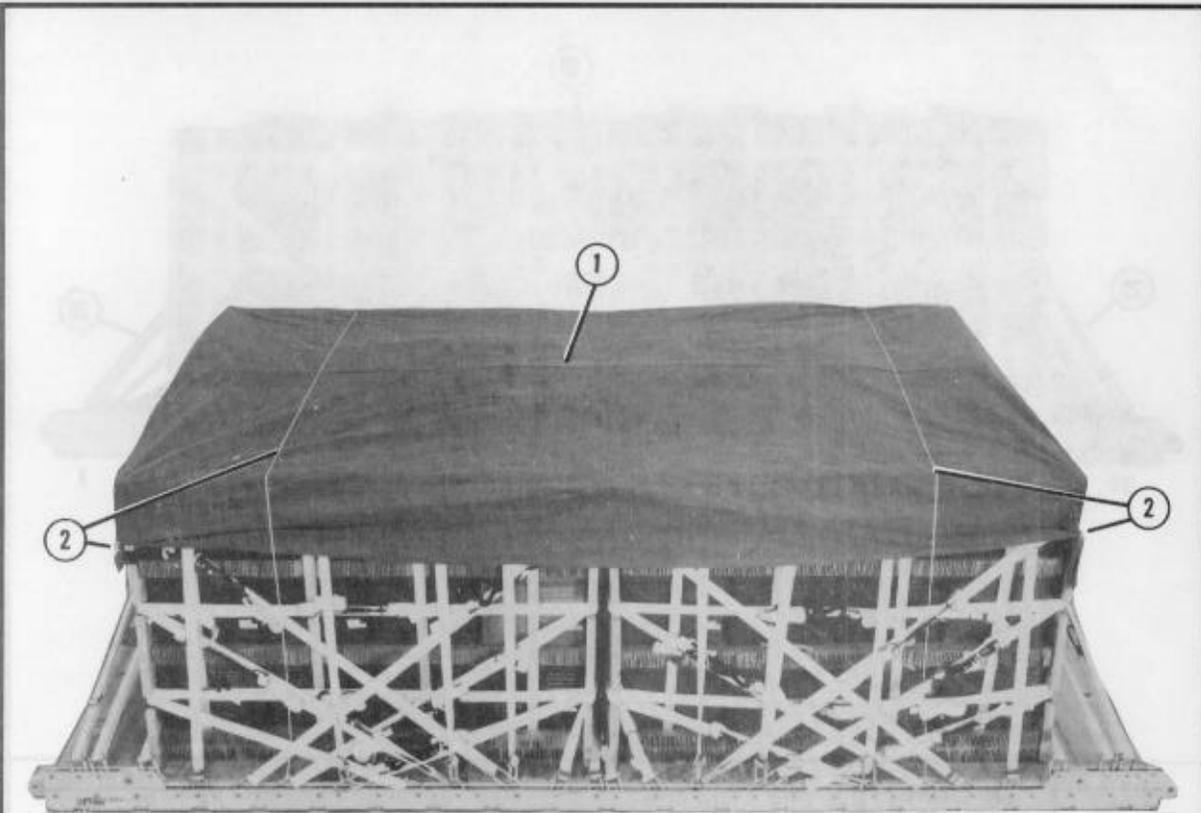


Lashing Number	Tie-Down Clevis Number	Instructions
29	1 and 30	Pass a 75-foot lashing through clevis 1, through the top cutout in the left side of the first endboard, and around the left side of both ammunition stacks. Pass the lashing through the top cutout in the left side of the fourth endboard and through clevis 30. Secure the lashing on the left side.
30	1A and 30A	Pass a 75-foot lashing through clevis 1A, through the top cutout in the right side of the first endboard, and around the right side of both ammunition stacks. Pass the lashing through the top cutout in the right side of the fourth endboard and through clevis 30A. Secure the lashing on the right side.

Figure 15-34. Second ammunition stack and endboards lashed to platform (continued)

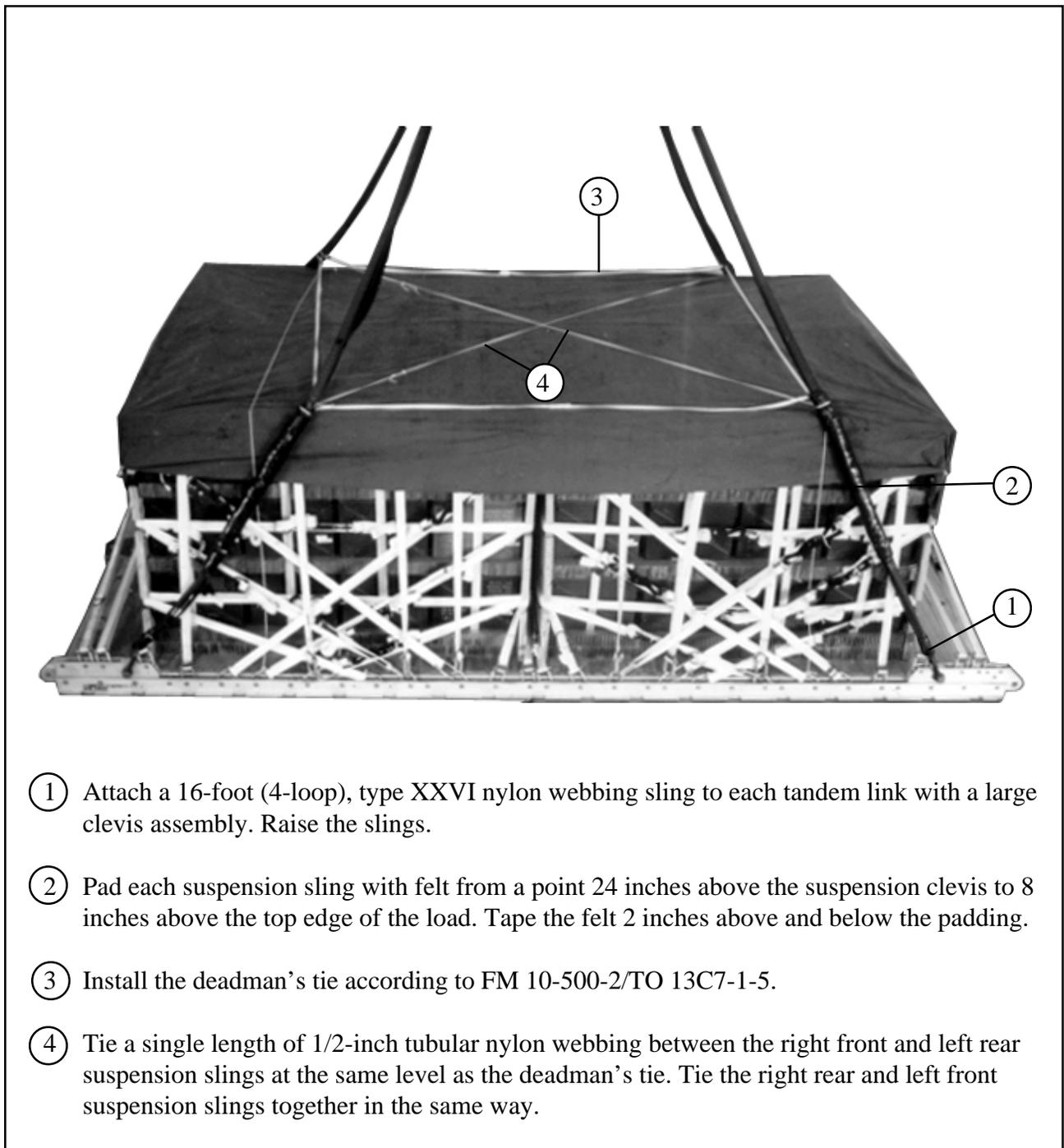
### 15-41. Installing Load Cover and Suspension Slings

Install the load cover as shown in Figure 15-35. Install, safety, and pad the suspension slings according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 15-36.



- ① Sew two pieces of 5- by 15-foot cotton duck cloth together to make a load cover 10 feet wide and 15 feet long.
- ② Tie the corners of the cover to convenient points on the load. Secure the cover to the load with two lengths of type III nylon cord tied to tie-down clevises.

Figure 15-35. Load cover installed

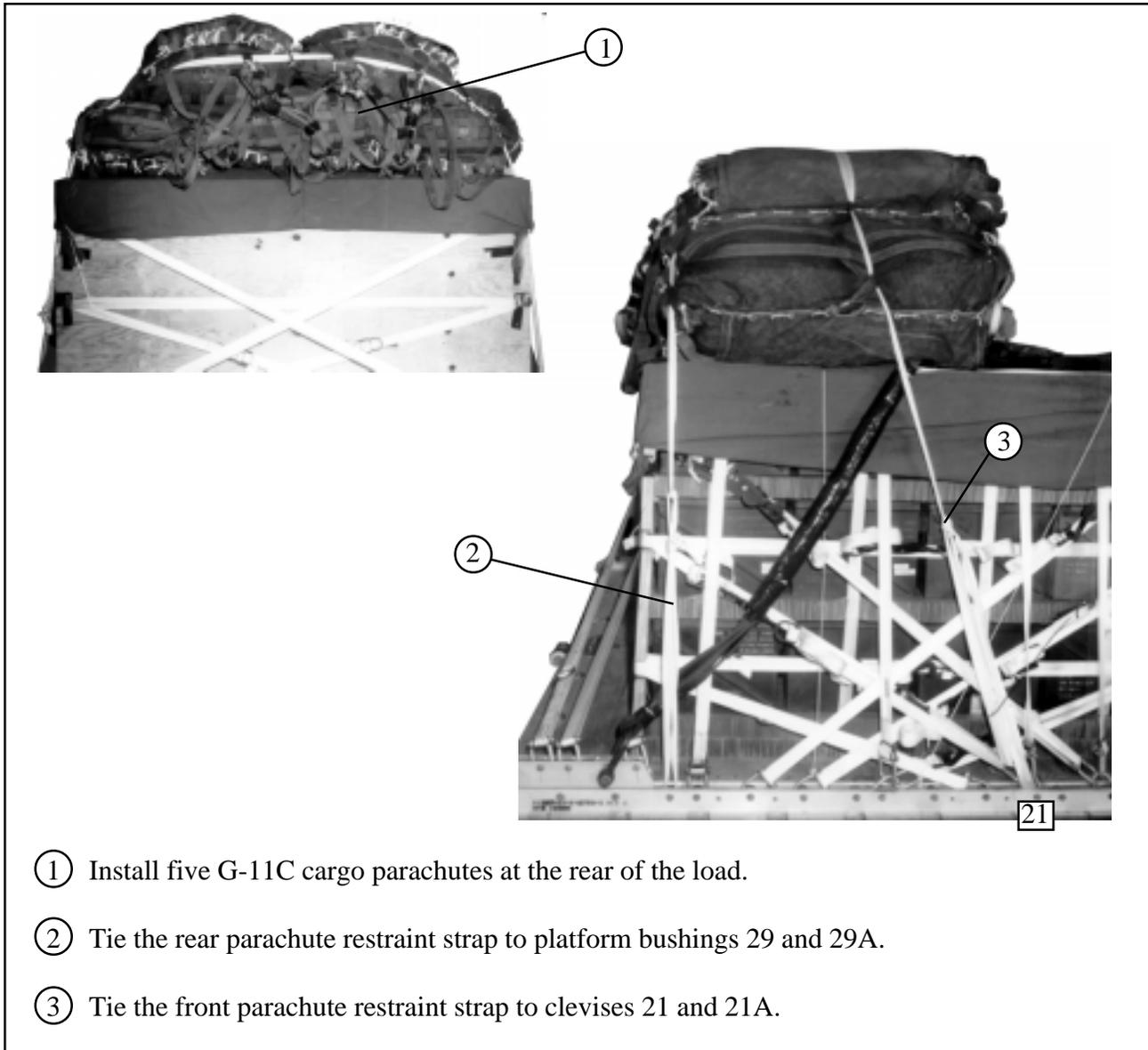


- ① Attach a 16-foot (4-loop), type XXVI nylon webbing sling to each tandem link with a large clevis assembly. Raise the slings.
- ② Pad each suspension sling with felt from a point 24 inches above the suspension clevis to 8 inches above the top edge of the load. Tape the felt 2 inches above and below the padding.
- ③ Install the deadman's tie according to FM 10-500-2/TO 13C7-1-5.
- ④ Tie a single length of 1/2-inch tubular nylon webbing between the right front and left rear suspension slings at the same level as the deadman's tie. Tie the right rear and left front suspension slings together in the same way.

*Figure 15-36. Suspension slings installed and safetied*

### 15-42. Installing Parachutes

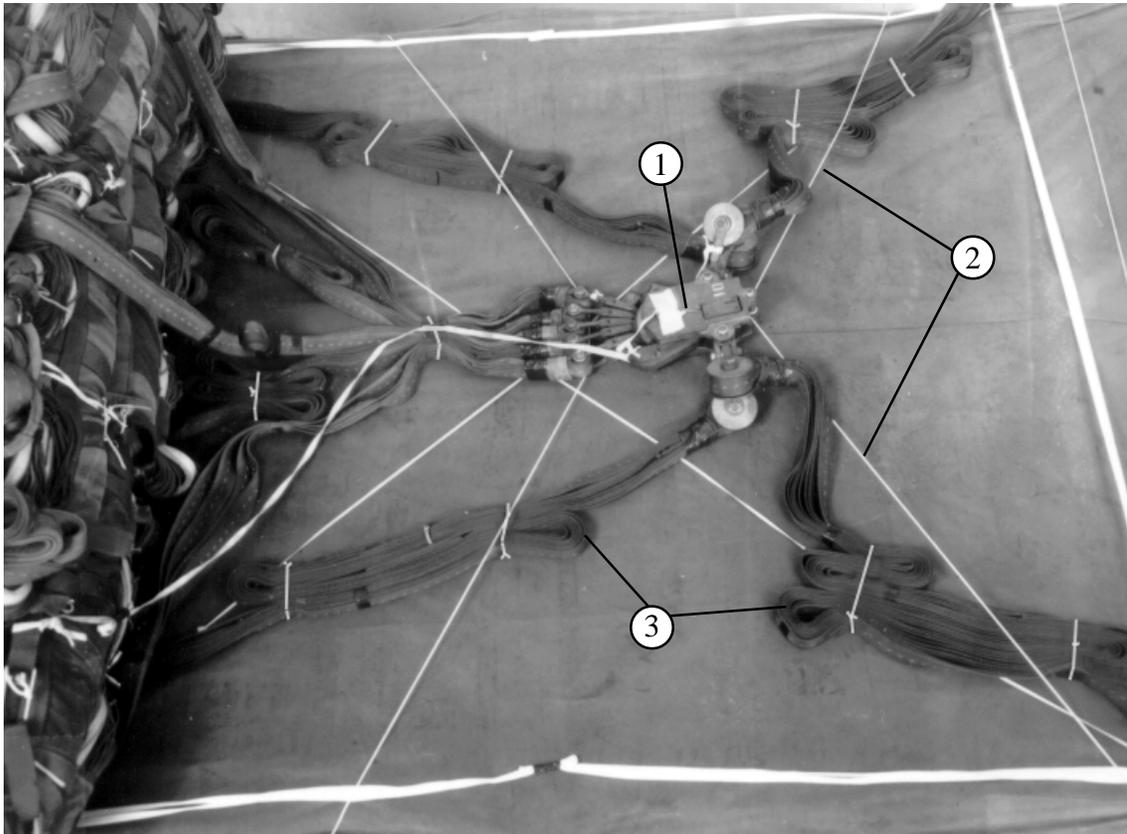
Install and restrain five G-11C cargo parachutes according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 15-37.



*Figure 15-37. G-11 C cargo parachutes installed*

### 15-43. Installing Release System

Install and safety an M-2 cargo parachute release assembly as shown in Figure 15-38.



- ① Prepare and install an M-2 cargo parachute release assembly according to FM 10-500-2/TO 13C7-1-5. Place the release assembly in front of the parachutes as shown.
- ② Safety the release to convenient points on the load with type III nylon cord.
- ③ S-fold and tie the slack in the suspension slings with type I, 1/4-inch cotton webbing.

*Figure 15-38. Release assembly installed*

### 15-44. Installing Extraction System

Install the EFTC extraction system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 15-39.

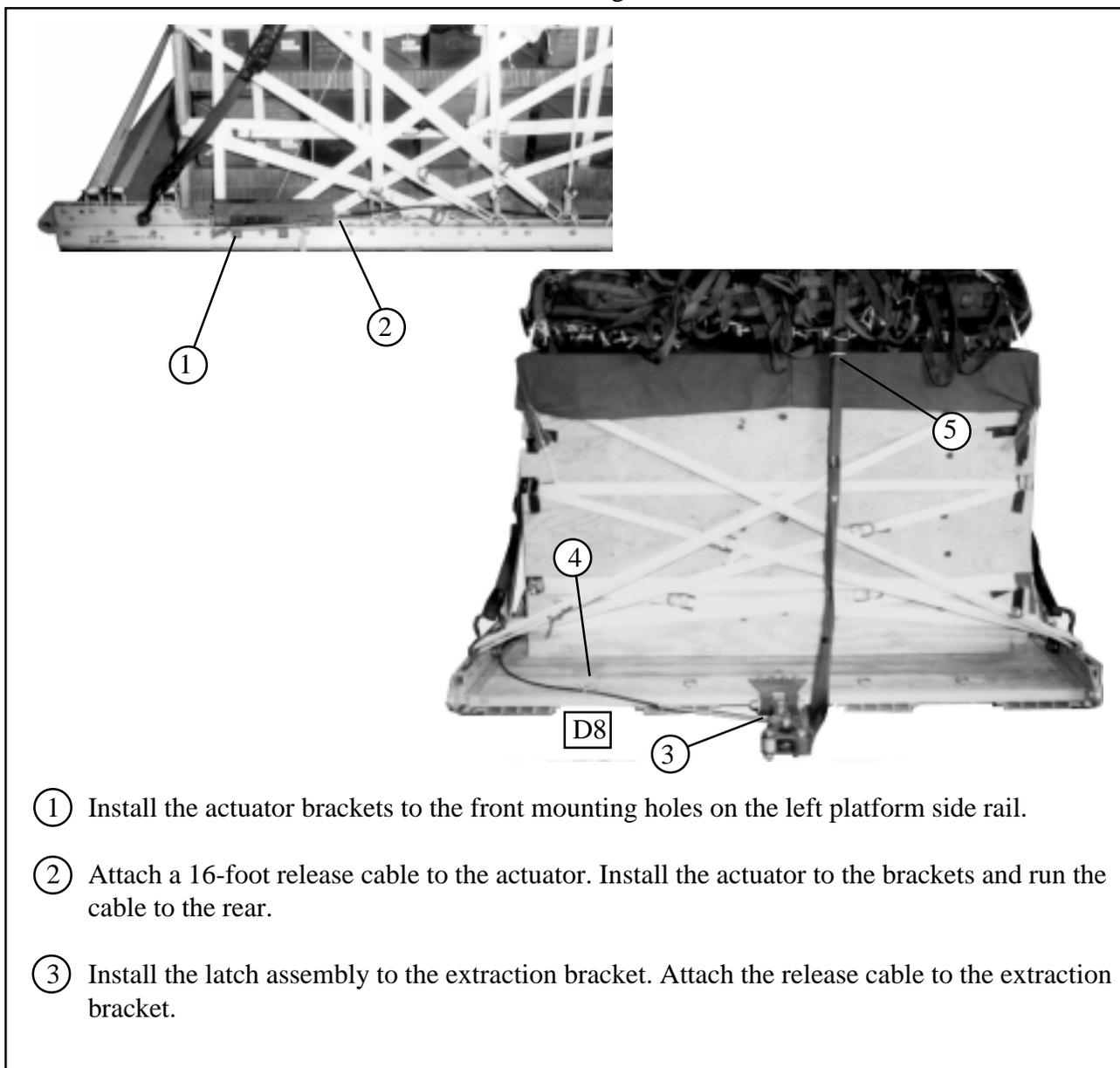


Figure 15-39. Extraction system installed

- ④ Tie the cable to tie-down ring D8 with type I, 1/4-inch cotton webbing.
- ⑤ Install a 12-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold the slack and tie the folds with type I, 1/4-inch cotton webbing.

*Figure 15-39. Extraction system installed (continued)*

#### **15-45. Installing Provisions for Emergency Restraints**

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

#### **15-46. Placing Extraction Parachute**

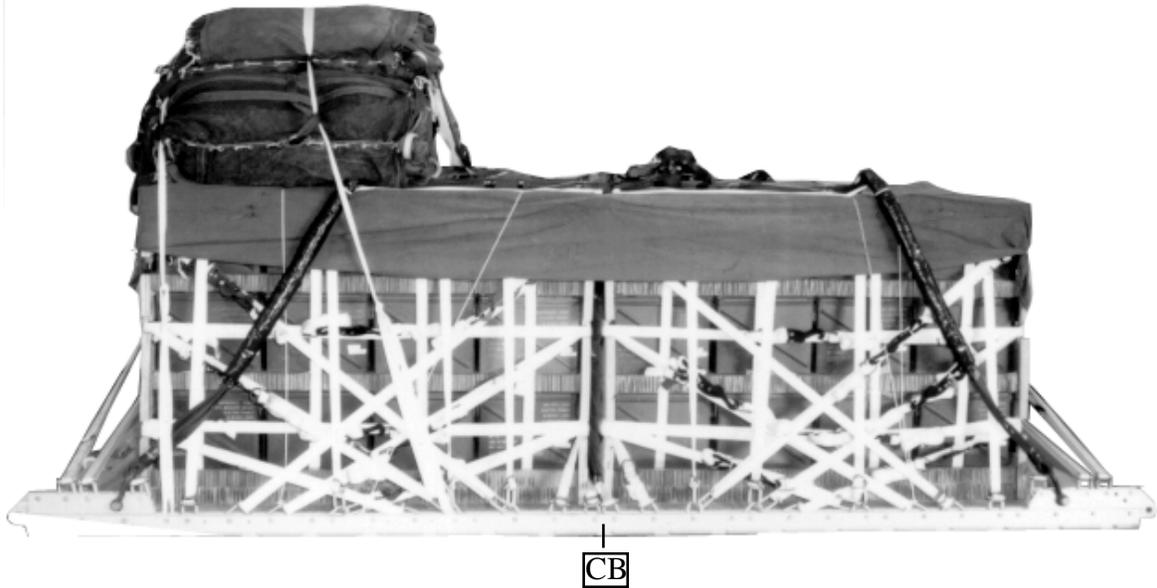
Select the extraction parachute and extraction

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.

#### **15-47. Marking Rigged Load**

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 15-40. Complete Shipper's Declaration for Dangerous Goods and attach it to the 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:		26,060 pounds
Height		92 inches
Width		108 inches
Length		192 inches
Overhang:	Front	0 inches
	Rear	0 inches
CB (from front edge of platform)		91 inches
Extraction System (adds 18 inches to length of platform)		EFTC

*Figure 15-40. 20-millimeter ammunition rigged on a 16-foot platform for low-velocity airdrop*

**15-48. Equipment Required**

Use the equipment listed in Table 15-3 to rig the load shown.

*Table 15-3. Equipment required for rigging 20-millimeter ammunition on a 16-foot type V platform for low-velocity airdrop*

National Stock Number	Item	Quantity
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
1670-00-434-5785	Coupling, airdrop, extraction force transfer with cable, 16-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	21
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-in thick	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	For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
	For C-5:	
1670-01-107-7651	140-ft (3-loop), type XXVI and	1
1670-01-062-6313	60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
	Link assembly:	
1670-00-006-2752	Four-point	1
1670-00-783-5988	Type IV	21
	Two-point, 5 1/2-in	
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
5315-00-010-4657	Nail, steel wire, common, 6d	As required

Table 15-3. Equipment required for rigging 20-millimeter ammunition on a 16-foot type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating, honeycomb 3- by 36- by 96-in	20 sheets
1670-01-016-7841	Parachute: Cargo, G-11C	5
1670-00-040-8135	Cargo extraction, 28-ft	1
1670-01-063-3715	Droque, 15-ft (for C-17)	1
	Platform, airdrop, type V, 16-foot	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(72)
1670-01-353-8424	Extraction bracket assembly	(1)
1670-01-162-2381	Link, tandem, suspension link assembly	(4)
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	10 sheets
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo airdrop	
	For suspension:	
1670-01-062-6308	16-ft (4-loop), type XXVI nylon webbing	4
	For deployment:	
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	5
No NSN	60-ft (2-loop), type XXVI nylon webbing	5
5340-00-040-8219	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-ft	106
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

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## Section IV

### RIGGING MASS SUPPLY BOX

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#### 15-49. Description of Load

Two mass supply boxes are rigged for low-velocity airdrop on a 16-foot, type V airdrop platform. Loads may include any bulk items of general supply that can be packed into the box without shifting of the load. FM 10-500-2/TO 13C7-1-5 shows weight limitations and parachute requirements.

#### 15-50. Preparing Platform

Prepare a 16-foot, type V airdrop platform as described below.

**a. *Inspecting Platform.*** Inspect, or assemble and inspect, the 16-foot, type V airdrop platform

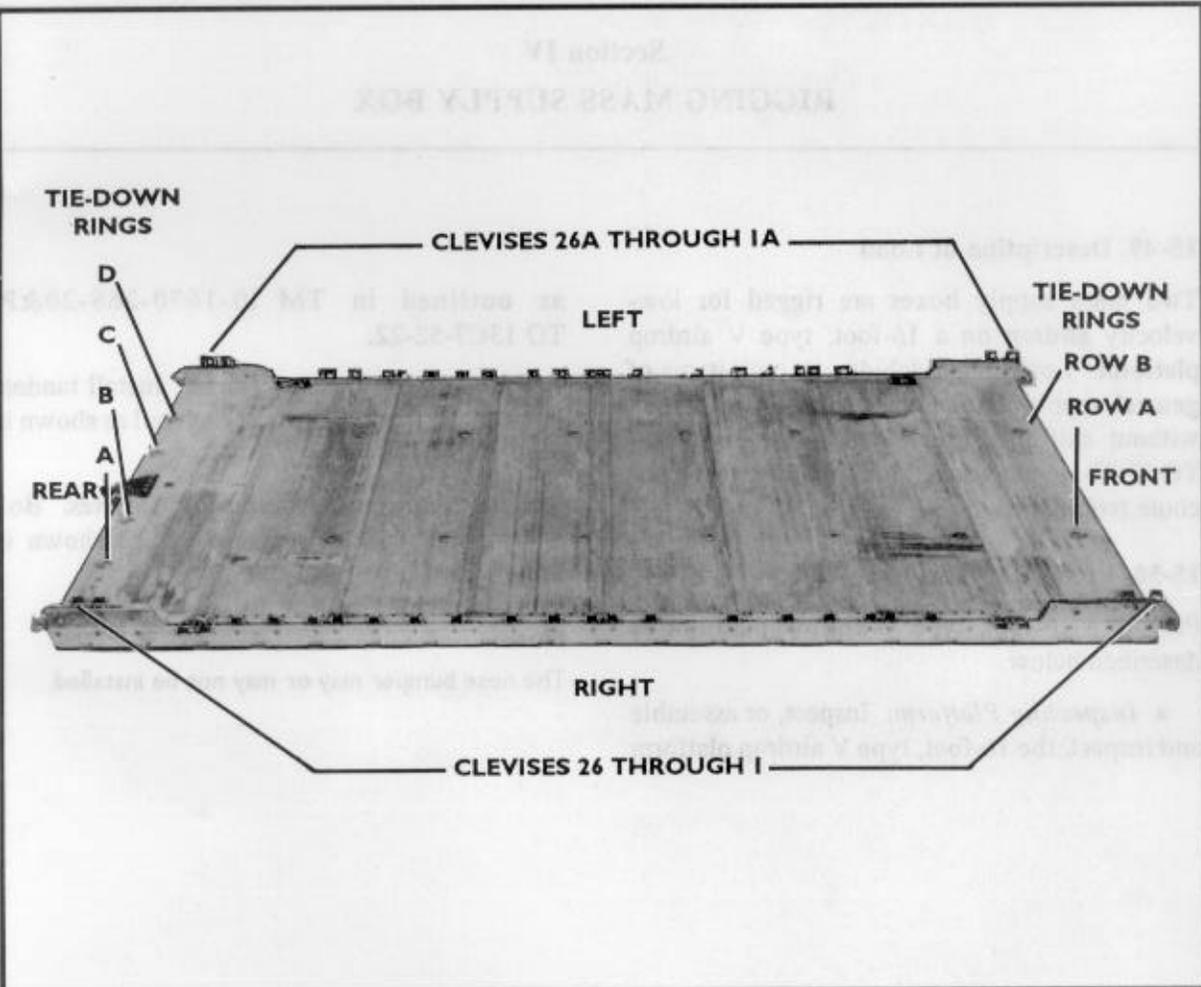
as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.

**b. *Installing Tandem Links.*** Install tandem links on the front and rear of each rail as shown in Figure 15-41.

**c. *Installing and Numbering Clevises.*** Bolt and number 56 clevis assemblies as shown in Figure 15-41.

**Note:**

The nose bumper may or may not be installed.



**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 30, 31, and 32.
3. Install clevises on bushings 1 and 2 of each front tandem link.
4. Install clevises on bushings 2 and 3 of each rear tandem link.
5. Starting at the front of each platform side rail, install clevises on each platform side rail using the bushings bolted on holes 5, 7, 8, 9, 10, 11, 13, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, and 28. Reverse the clevises on holes 5 and 28. Install two clevises on each of the reversed clevises.
6. Starting at the front of the platform, number the clevises bolted to the right side from I through 26, and those bolted to the left side from 1A through 26A.
7. Label the tie-down rings according to FM 10-500-2/TO 13C7-1-5.

Figure 15-41. Platform prepared

### 15-51. Placing Lashings on Platform

Pre-position twelve 15-foot lashings through the tie-down rings on the platform as shown in Figure 15-42.

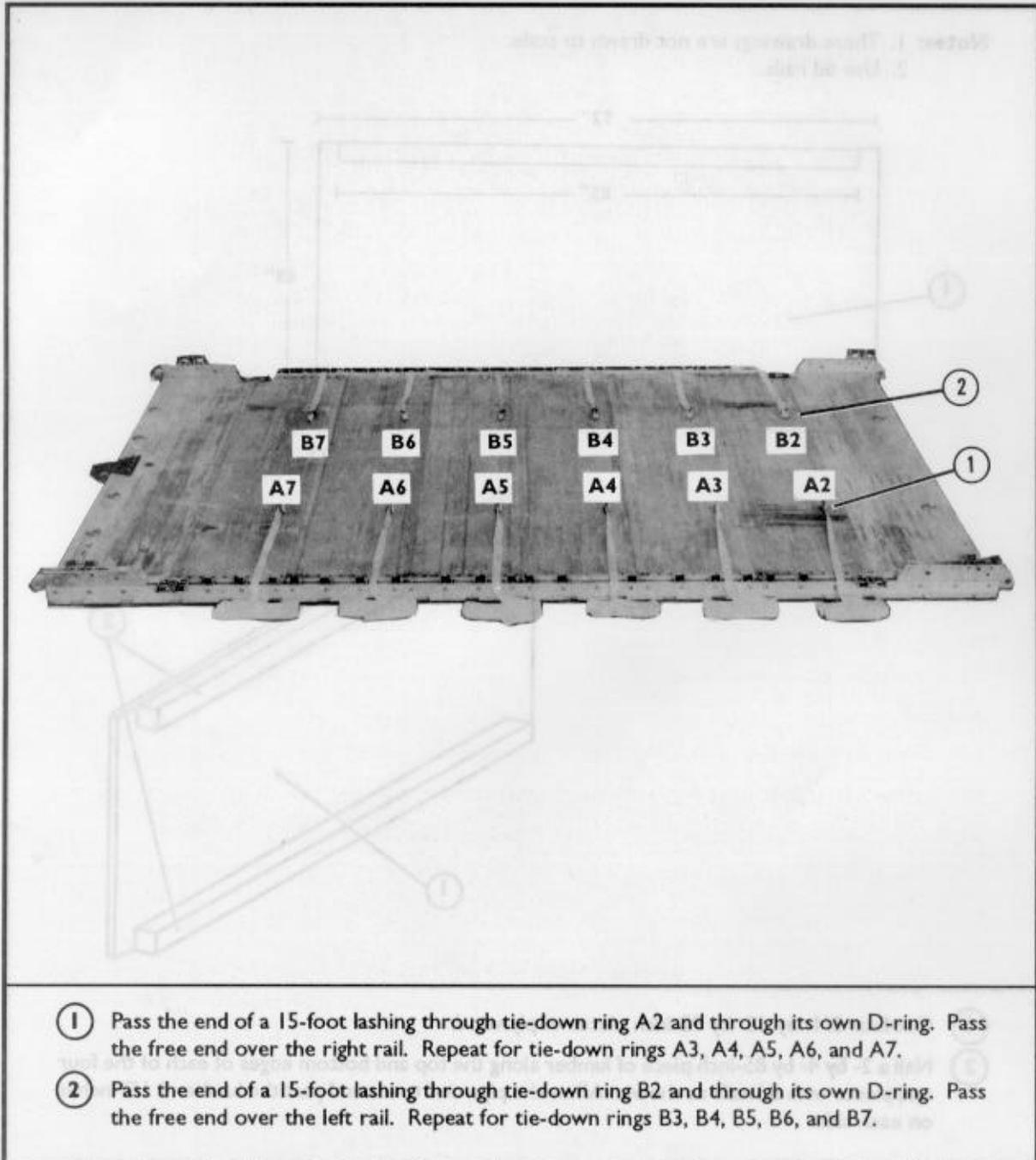


Figure 15-42. Lashings pre-positioned on platform

### 15-52. Constructing and Forming Storage Box Components

Construct the components of the storage boxes as shown in Figures 15-43, 15-44, and 15-45.

Partially assemble the first box for loading as shown in Figure 15-46.

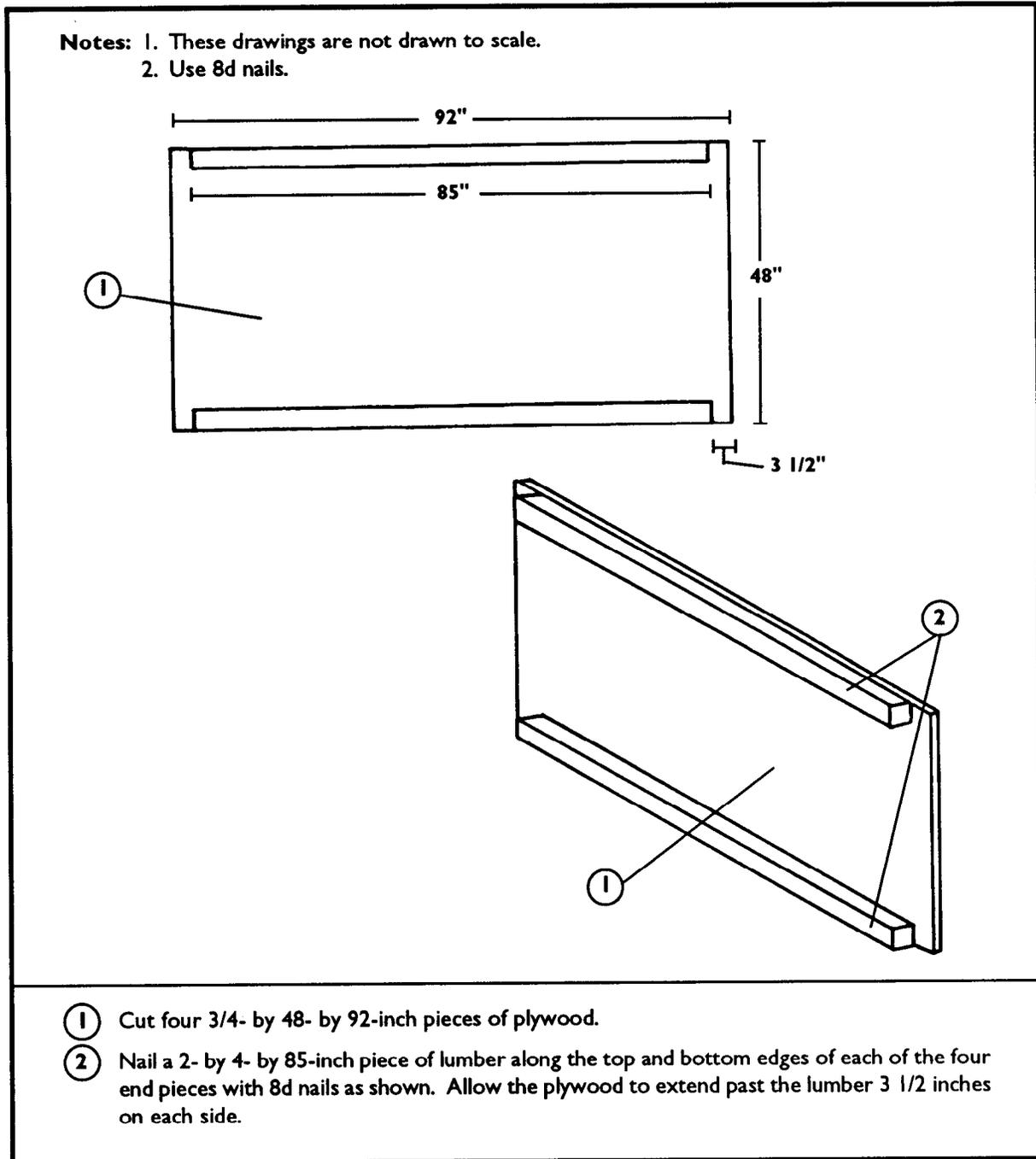
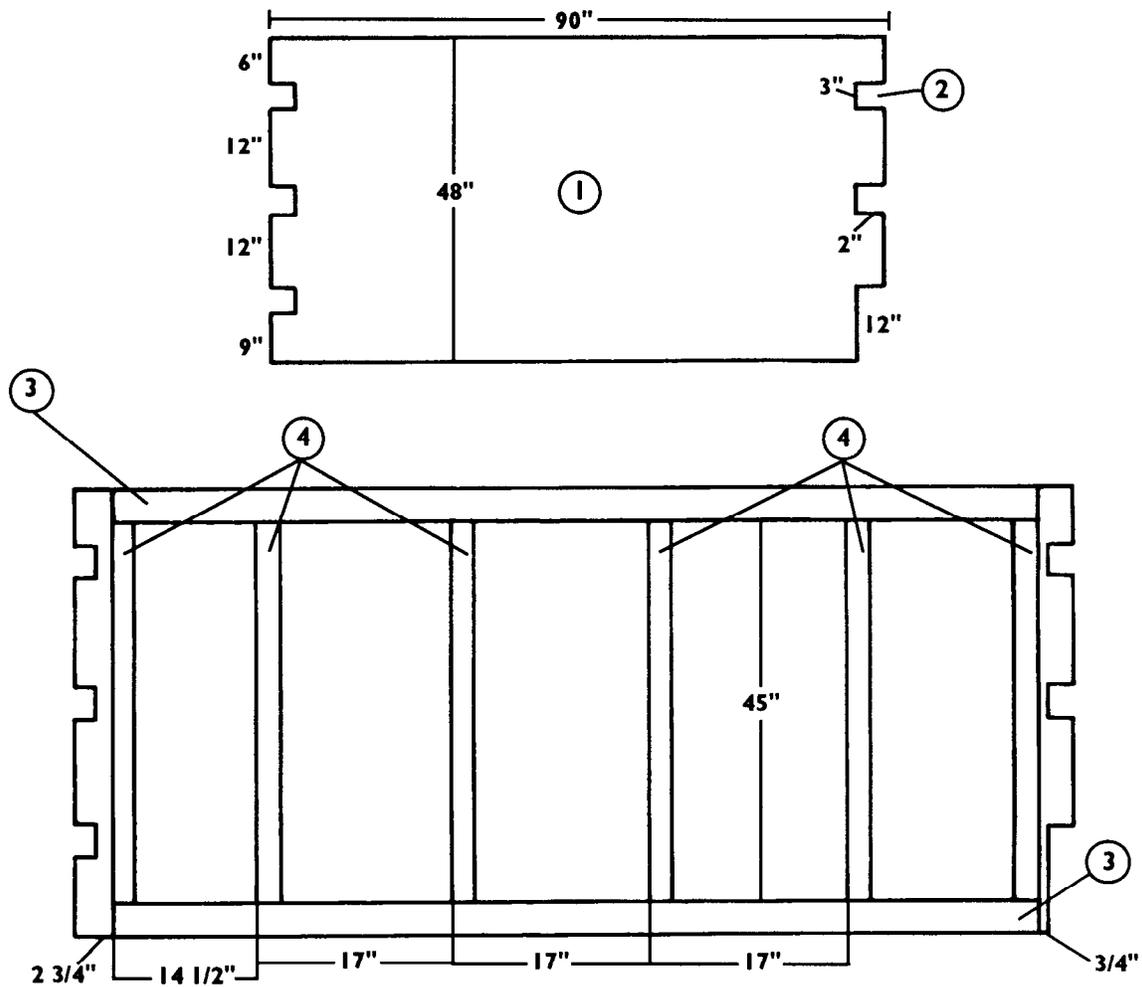


Figure 15-43. Box ends constructed

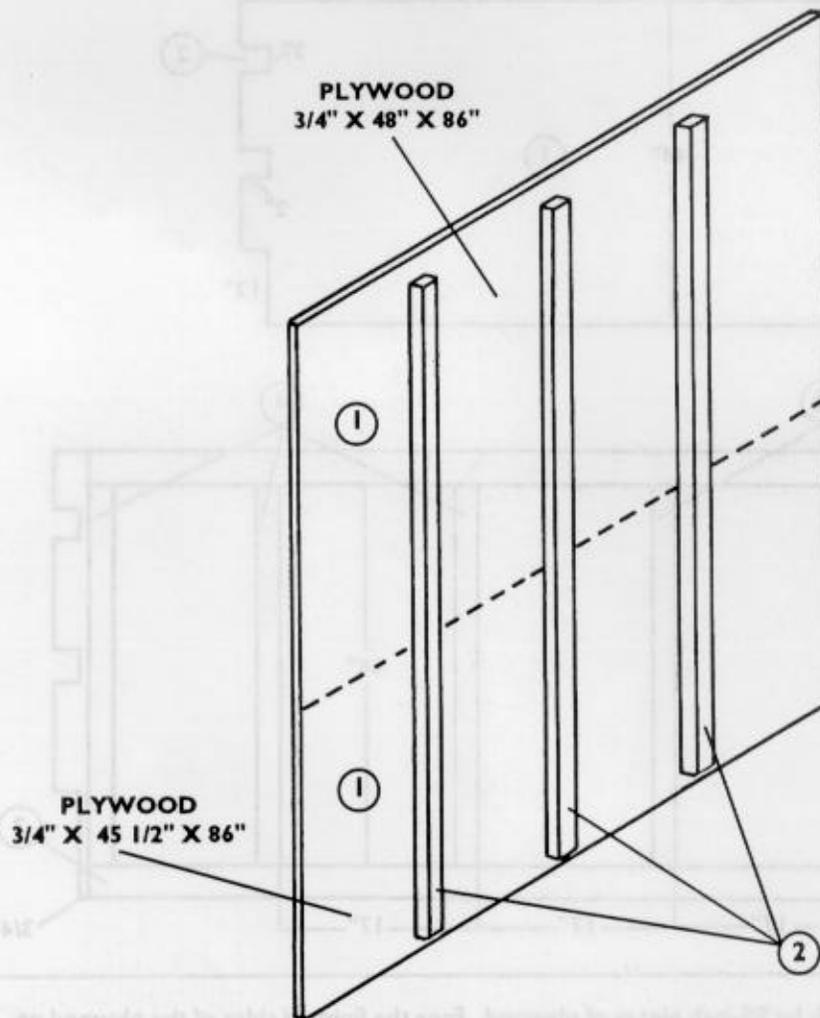
- Notes:** 1. These drawings are not drawn to scale.  
2. Use 8d nails.



- ① Cut four 3/4- by 48- by 90-inch pieces of plywood. Face the finished sides of the plywood up.
- ② Make 2- by 3-inch cutouts as shown in each of the four sides. Face the 12-inch cutout to the right on two pieces, and to the left on the other two.
- ③ Nail a 2- by 4- by 84 1/2-inch piece of lumber on edge along the top and bottom interior edges of each of the four sides with 8d nails. Allow the plywood to extend past the lumber 2 3/4 inches on each end at the top. Overhang at the bottom is 2 3/4 inches at the small-notched end and 3/4 inches at the larger notched end.
- ④ Cut six pieces of 2- by 4- by 45-inch lumber for each of the four sides. Nail a piece of this lumber between each of the pieces of lumber placed in step 3 flush with the ends. Space the four remaining pieces as shown and nail them in place.

Figure 15-44. Box sides constructed

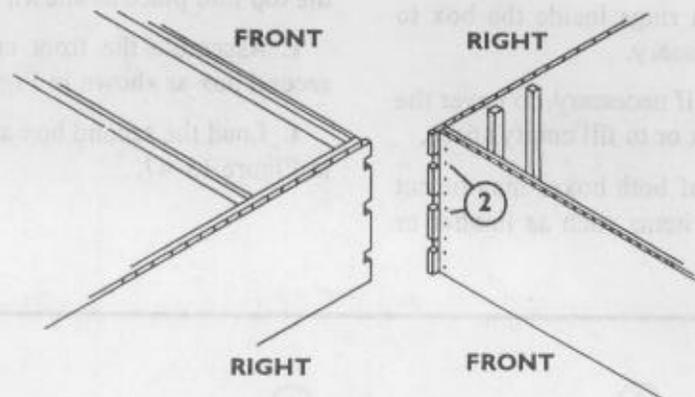
- Notes:** 1. This drawing is not drawn to scale.  
2. Use 8d nails.



- ① Cut a full sheet of 3/4-inch plywood to 48 by 86 inches. Cut a second sheet to 45 1/2 by 86 inches. Lay them side-by-side to make a piece 86 by 93 1/2 inches.
- ② Space three 2- by 4- by 85-inch pieces of lumber evenly across the two pieces of plywood. Allow 4 1/4 inches of plywood to overhang on each end of the lumber. Nail the lumber and the plywood together.
- ③ Repeat steps 1 and 2 above to make the top for the second box (not shown).

Figure 15-45. Tops of boxes constructed

- Notes:** 1. These drawings are not drawn to scale.  
2. Use 8d nails.



- ① Assemble the box on the platform. Fit each end of the box between the sides with the left and right of each end flush against the inside vertical lumber uprights on the sides.
- ② Nail the pieces together with 8d nails through the front side of the box end.
- ③ Be sure that the front box is centered on the platform and that the front edges of the sides of the box are even with the front edge of the platform (not shown).

Figure 15-46. Box partially assembled for loading

### 15-53. Loading and Closing the Boxes

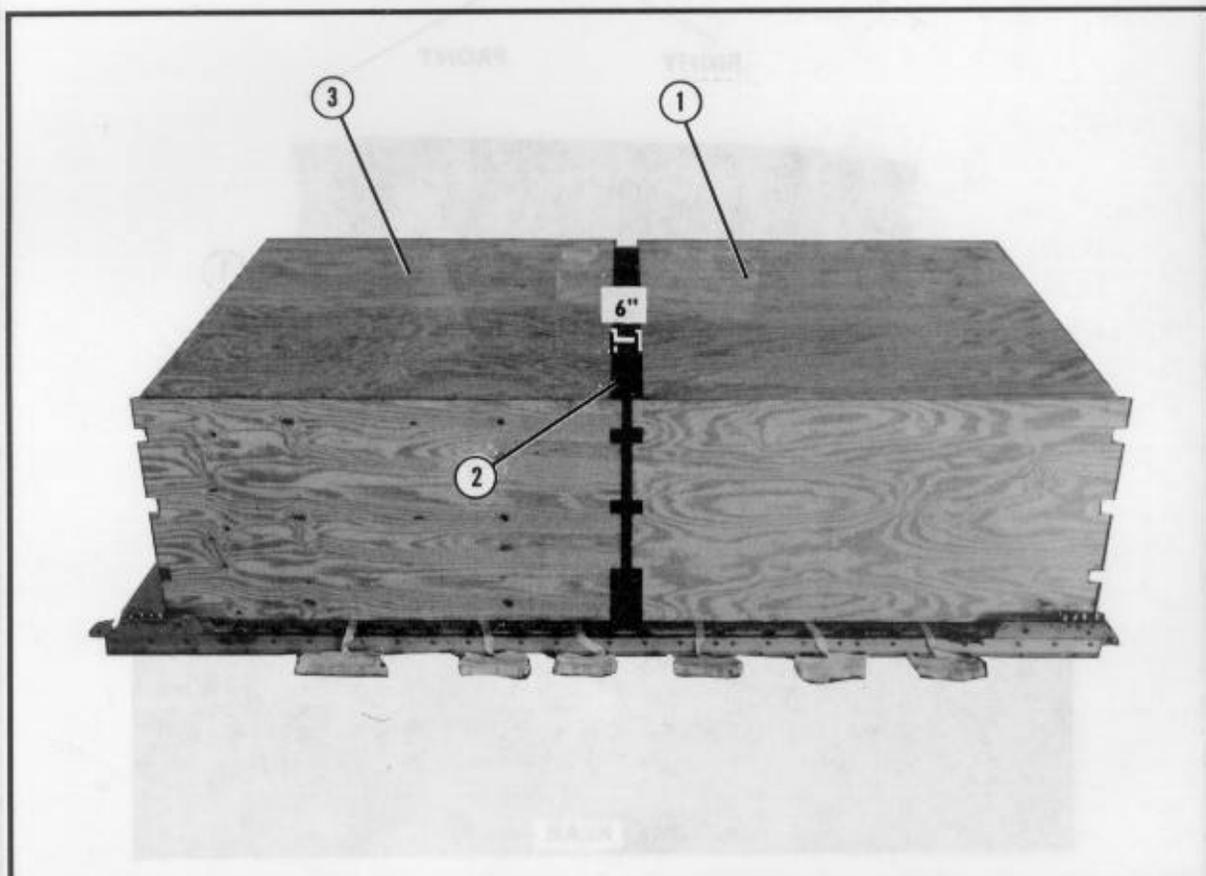
Load and close the boxes as described below.

- a. Use the tie-down rings inside the box to secure the load, if necessary.
- b. Use honeycomb, if necessary, to cover the platform inside the box or to fill empty space.
- c. The inside ends of both boxes may be cut out to allow for long items such as lumber or tent poles.

d. Load the front box. Nail the inside end and the top into place as shown in Figure 15-47.

e. Assemble the front end and sides of the second box as shown in Figure 15-46.

f. Load the second box and close it as shown in Figure 15-47.



- ① After loading the front box, nail the rear end of the box in place. Align the top with the lumber facing down. Nail the top in place along the edges.
- ② Partially assemble the rear box for loading. Place the front end of the box 6 inches from the rear end of the front box.
- ③ Close the rear box as in step 1.

Figure 15-47. Boxes closed

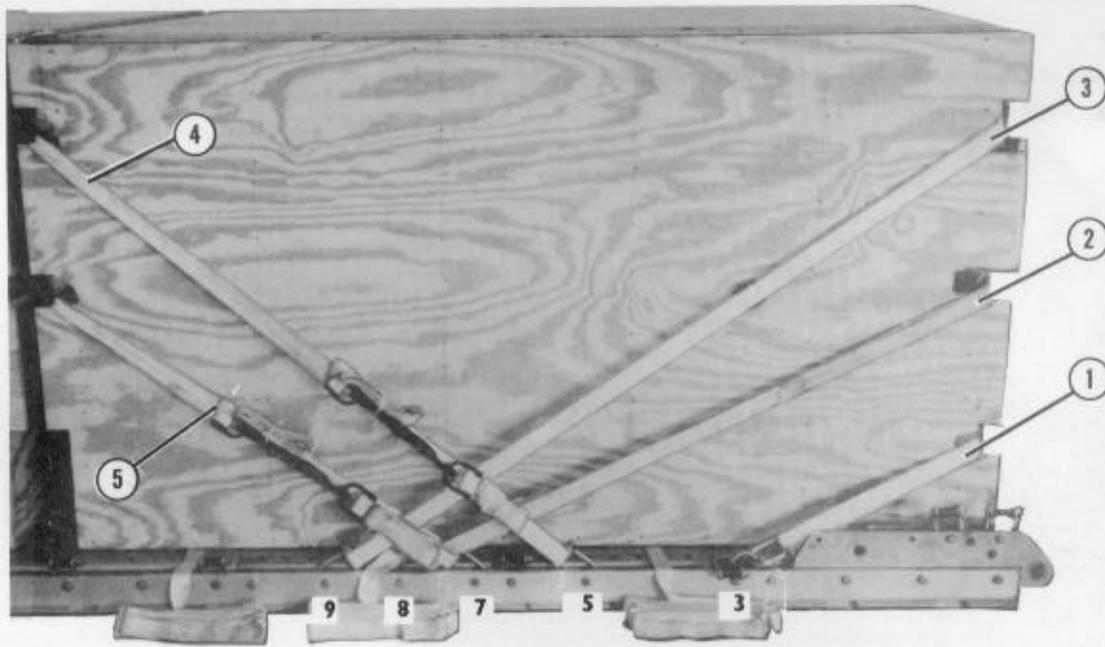
### **15-54. Installing Lashings**

Install the lashings and secure pre-positioned lashings for the boxes as shown in Figures 15-48 through 15-57.

#### **Notes:**

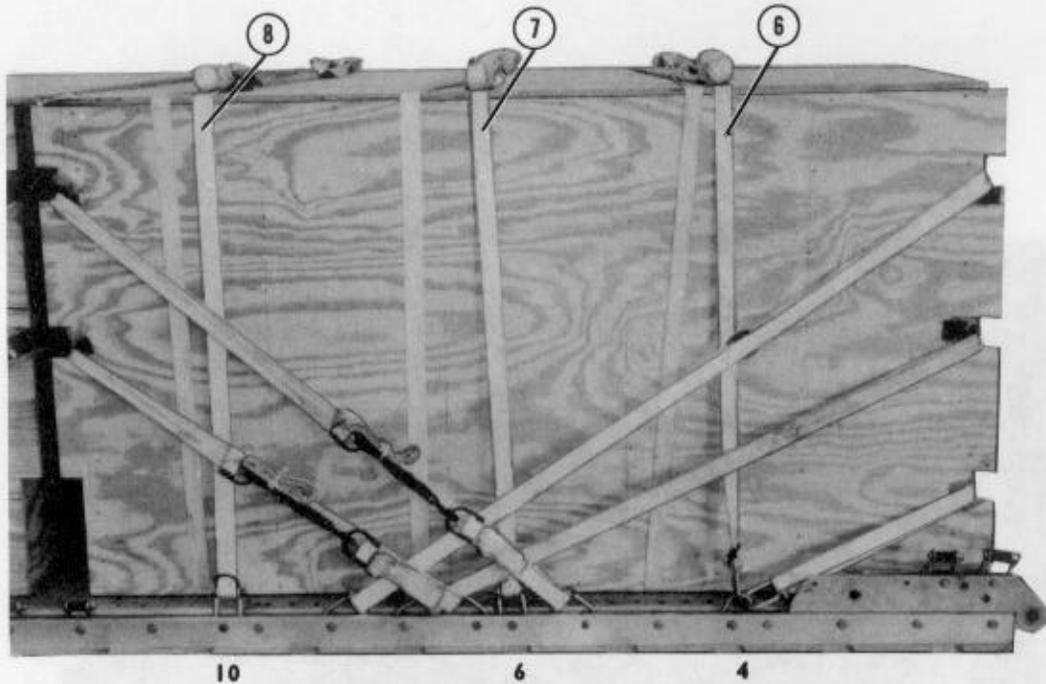
1. Pad the cutouts in the box sides with cellulose wadding. Tape the wadding in place.

2. This load requires lashings over 30 feet in length. Lashings must be positioned through clevises before sections are joined together.



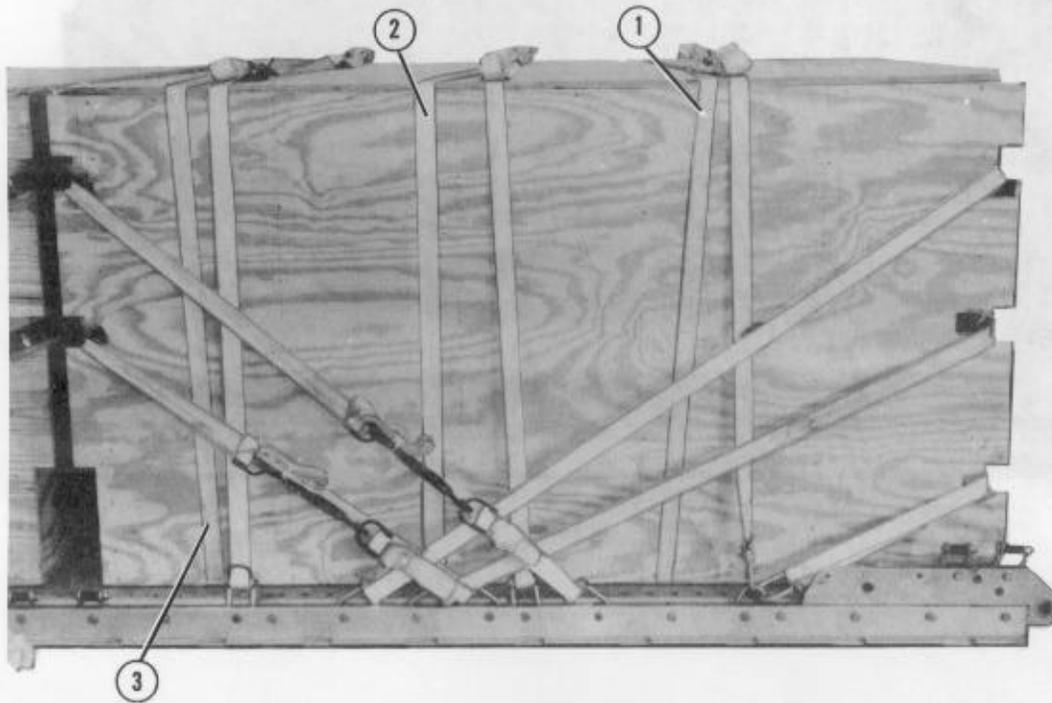
Lashing Number	Tie-Down Clevis Number	Instructions
1	3 and 3A	Pass a 30-foot lashing through both clevises and through the bottom front cutouts. Secure the lashing in the front.
2	8 and 8A	Pass a 45-foot lashing through both clevises and through the middle front cutouts. Secure the lashing in the front.
3	9 and 9A	Pass a 45-foot lashing through both clevises and through the upper front cutouts. Secure the lashing in the front.
4	5 and 5A	Pass a 45-foot lashing through both clevises and through the top rear cutouts. Secure the lashing on the side.
5	7 and 7A	Pass a 45-foot lashing through both clevises and through the bottom rear cutouts. Secure the lashing on the side.

Figure 15-48. Lashings 1 through 5 installed



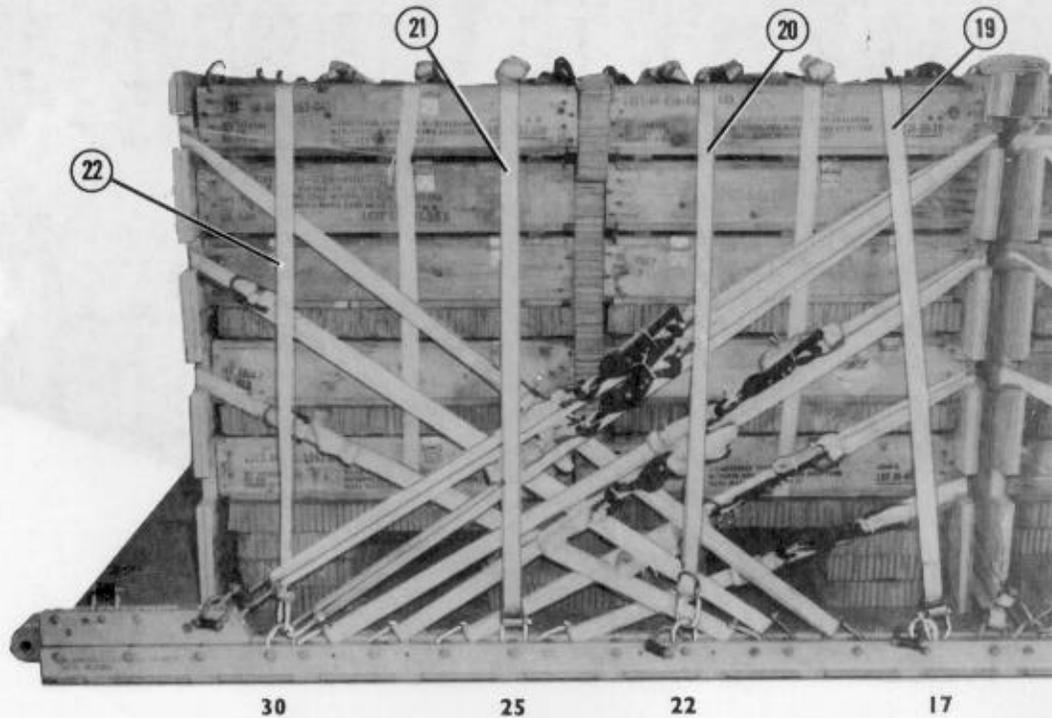
Lashing Number	Tie-Down Clevis Number	Instructions
6	4 and 4A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top of the box.
7	6 and 6A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top of the box.
8	10 and 10A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top of the box.

Figure 15-49. Lashings 6 through 8 installed



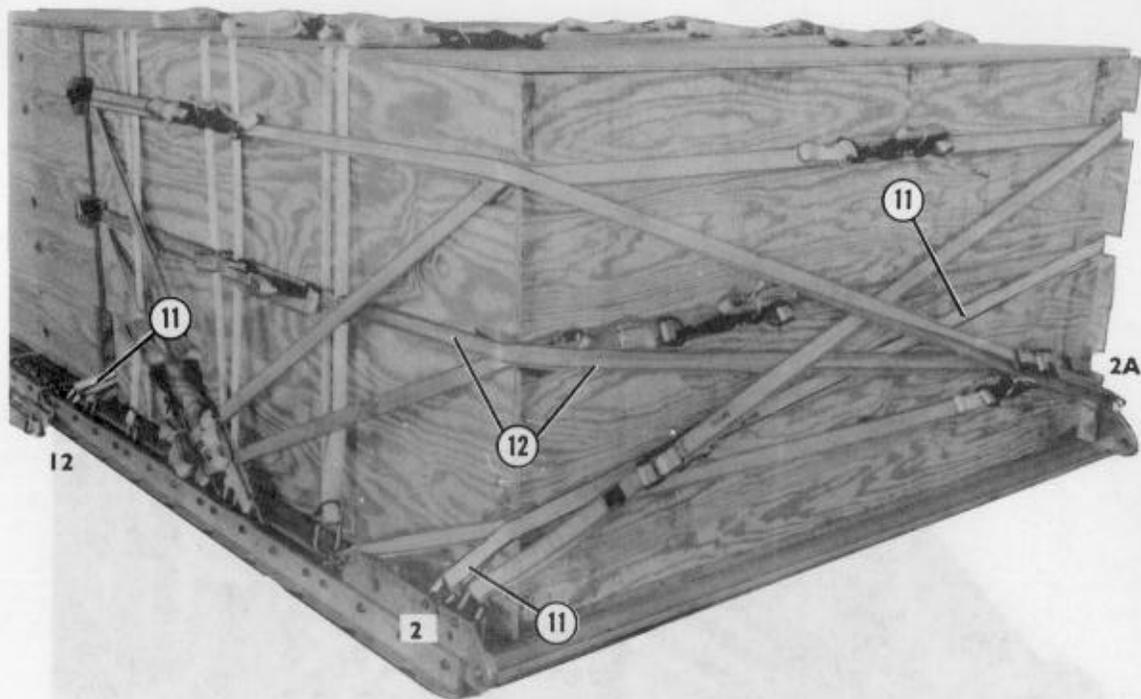
- ① Pass the ends of the pre-positioned lashings in tie-down rings A2 and B2 to the top of the load. Secure the lashings on top of the load.
- ② Secure the pre-positioned lashings in tie-down rings A3 and B3 in the same way.
- ③ Secure the pre-positioned lashings in tie-down rings A4 and B4 in the same way.

Figure 15-50. Pre-positioned lashings secured



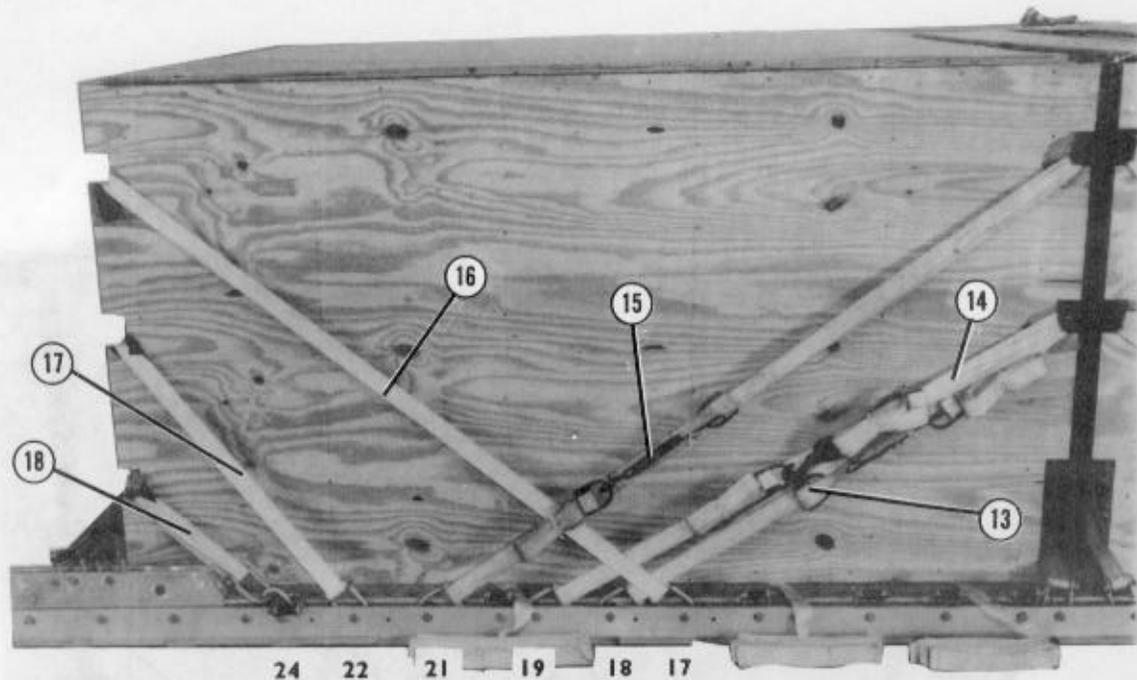
Lashing Number	Tie-Down Clevis Number	Instructions
9	I and II	Pass a 60-foot lashing through clevis I, through the top cutout in the left side of the first box, and around the left side of the box. Pass the lashing through the top left cutout on the rear end of the first box and through clevis II. Secure the lashing on the left side.
10	IA and IIA	Pass a 60-foot lashing through clevis IA, through the top cutout in the right side of the first box, and around the right side of the box. Pass the lashing through the top right cutout on the rear end of the first box and through clevis IIA. Secure the lashing on the right side.

Figure 15-51. Lashings 9 and 10 installed



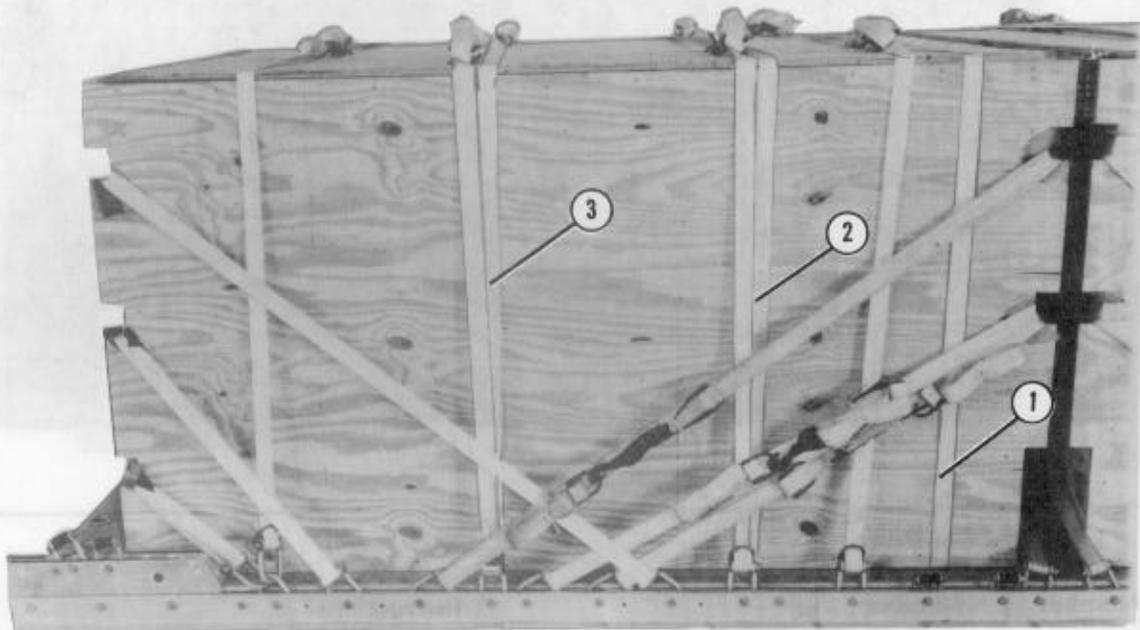
Lashing Number	Tie-Down Clevis Number	Instructions
11	2 and 12	Pass a 60-foot lashing through clevis 2, through the bottom right and middle left cutouts in the front of the first box, and around the left side of the box. Pass the lashing through the middle left cutout on the rear end of the first box and through clevis 12. Secure the lashing on the left side.
12	2A and 12A	Pass a 60-foot lashing through clevis 2A, through the bottom left and middle right cutouts in the front of the first box, and around the right side of the box. Pass the lashing through the middle right cutout on the rear end of the first box and through clevis 12A. Secure the lashing on the right side.

Figure 15-52. Lashings 11 and 12 installed



Lashing Number	Tie-Down Clevis Number	Instructions
13	18 and 18A	Pass a 30-foot lashing through both clevises and through the middle cutouts on the front of the second box. Secure the lashing on the side.
14	19 and 19A	Pass a 30-foot lashing through both clevises. Route it and secure it as in lashing 13.
15	21 and 21A	Pass a 45-foot lashing through both clevises and through the top cutouts on the front of the second box. Secure the lashing on the side.
16	17 and 17A	Pass a 45-foot lashing through both clevises and through the top rear cutouts. Secure the lashing in the rear.
17	22 and 22A	Pass a 30-foot lashing through both clevises and through the middle rear cutouts. Secure the lashing in the rear.
18	24 and 24A	Pass a 30-foot lashing through both clevises and through the bottom rear cutouts. Secure the lashing in the rear.

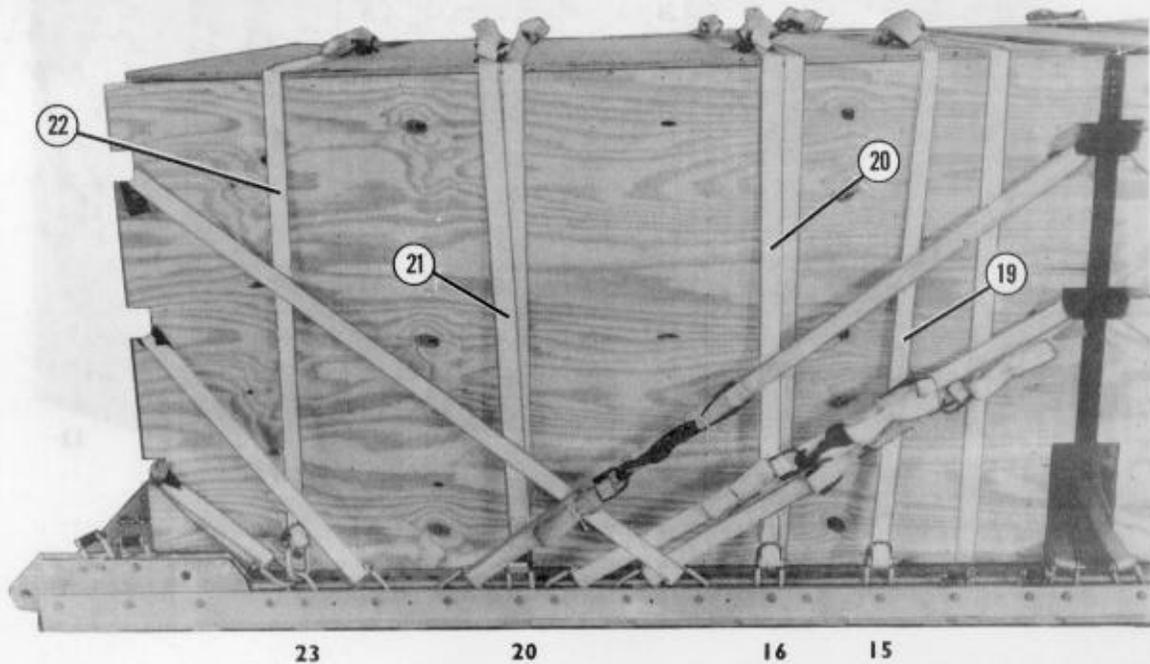
Figure 15-53. Lashings 13 through 18 installed



Pass a 30-foot lashing through both cleaves and through the middle cleave on the front of the second box. Secure the lashing on the side as in figure 13.	18 in (18)	13
Pass a 30-foot lashing through both cleaves. Route it and secure it as in figure 13.	18 in (18)	14
Pass a 45-foot lashing through both cleaves and through the top cleave on the front of the second box. Secure the lashing on the side as in figure 13.	18 in (18)	15
Pass a 45-foot lashing through both cleaves and through the top cleave on the front of the second box. Secure the lashing on the side as in figure 13.	18 in (18)	16

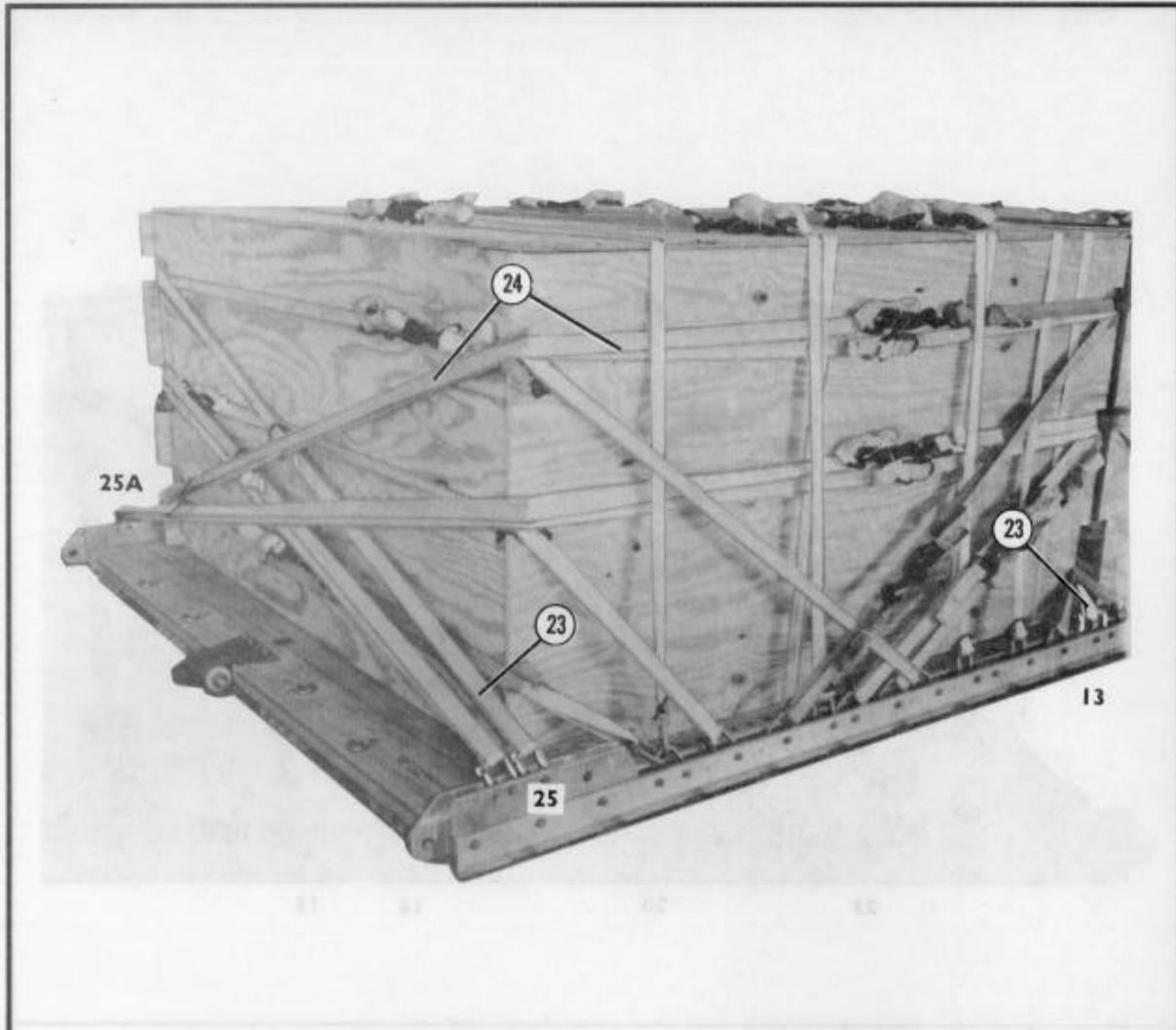
- ① Pass the ends of the pre-positioned lashings in tie-down rings A5 and B5 to the top of the load. Secure the lashings on top of the load.
- ② Secure the pre-positioned lashings in tie-down rings A6 and B6 in the same way.
- ③ Secure the pre-positioned lashings in tie-down rings A7 and B7 in the same way.

Figure 15-54. Pre-positioned lashings secured



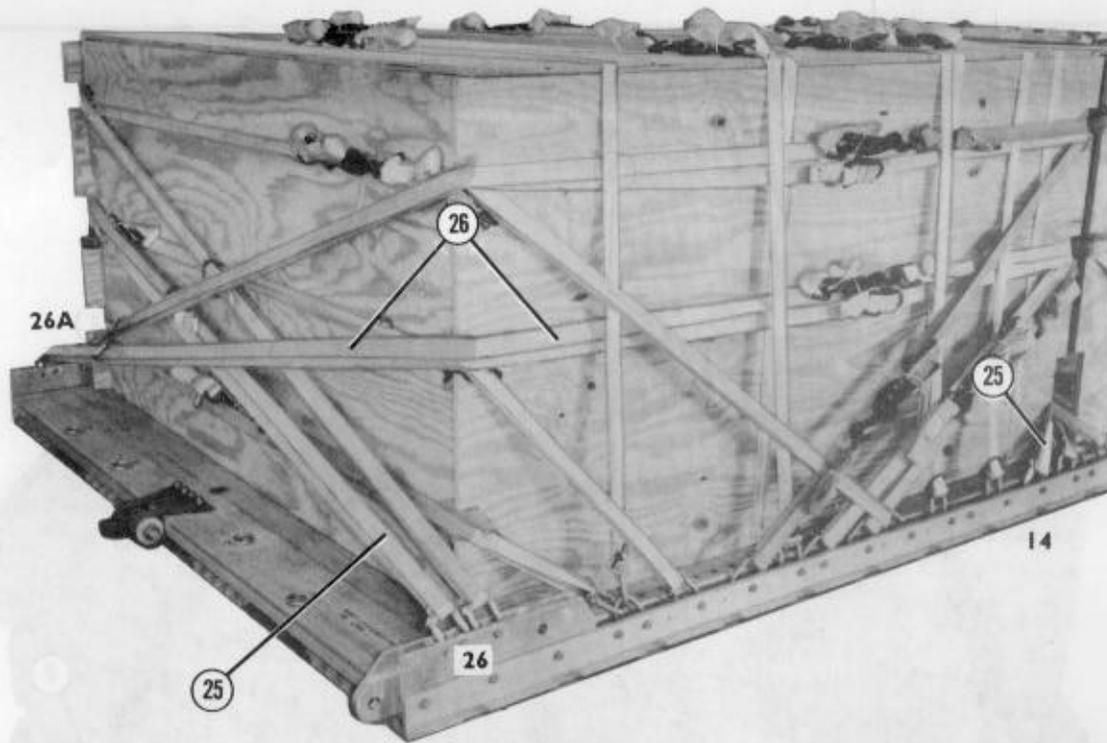
Lashing Number	Tie-Down Clevis Number	Instructions
19	15 and 15A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top of the box.
20	16 and 16A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top of the box.
21	20 and 20A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashings on top of the box.
22	23 and 23A	Pass a 15-foot lashing through each clevis and through its own D-ring. Secure the lashing on top of the box.

Figure 15-55. Lashings 19 through 22 installed



Lashing Number	Tie-Down Clevis Number	Instructions
23	13 and 25	Pass a 60-foot lashing through clevis 13, through the top cutout in the left side of the second box, and around the left side of the box. Pass the lashing through the top left cutout on the rear side of the second box and through clevis 25. Secure the lashing on the left side.
24	13A and 25A	Pass a 60-foot lashing through clevis 13A, through the top cutout in the right side of the second box, and around the right side of the box. Pass the lashing through the top right cutout on the rear side of the second box and through clevis 25A. Secure the lashing on the right side.

Figure 15-56. Lashings 23 and 24 installed

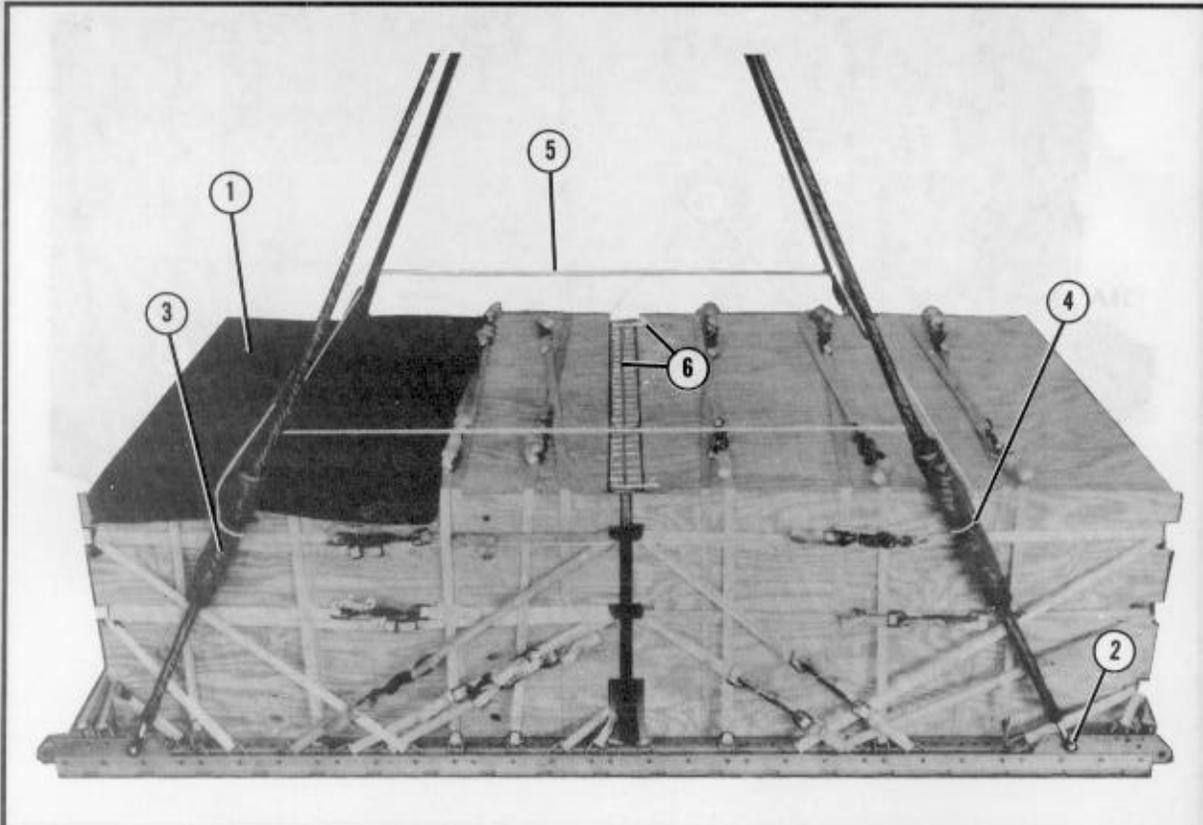


Lashing Number	Tie-Down Clevis Number	Instructions
25	14 and 26	Pass a 60-foot lashing through clevis 14, through the middle cutout in the left side of the second box, and around the left side of the box. Pass the lashing through the left middle cutout on the rear side of the second box and through clevis 26. Secure the lashing on the left side.
26	14A and 26A	Pass a 60-foot lashing through clevis 14A, through the middle cutout in the right side of the second box, and around the right side of the box. Pass the lashing through the right middle cutout on the rear side of the second box and through clevis 26A. Secure the lashing on the right side.

Figure 15-57. Lashings 25 and 26 installed

### 15-55. Installing Load Cover, Suspension Slings, and Deadman's Tie

Install the load cover, suspension slings, and deadman's tie as shown in Figure 15-58.



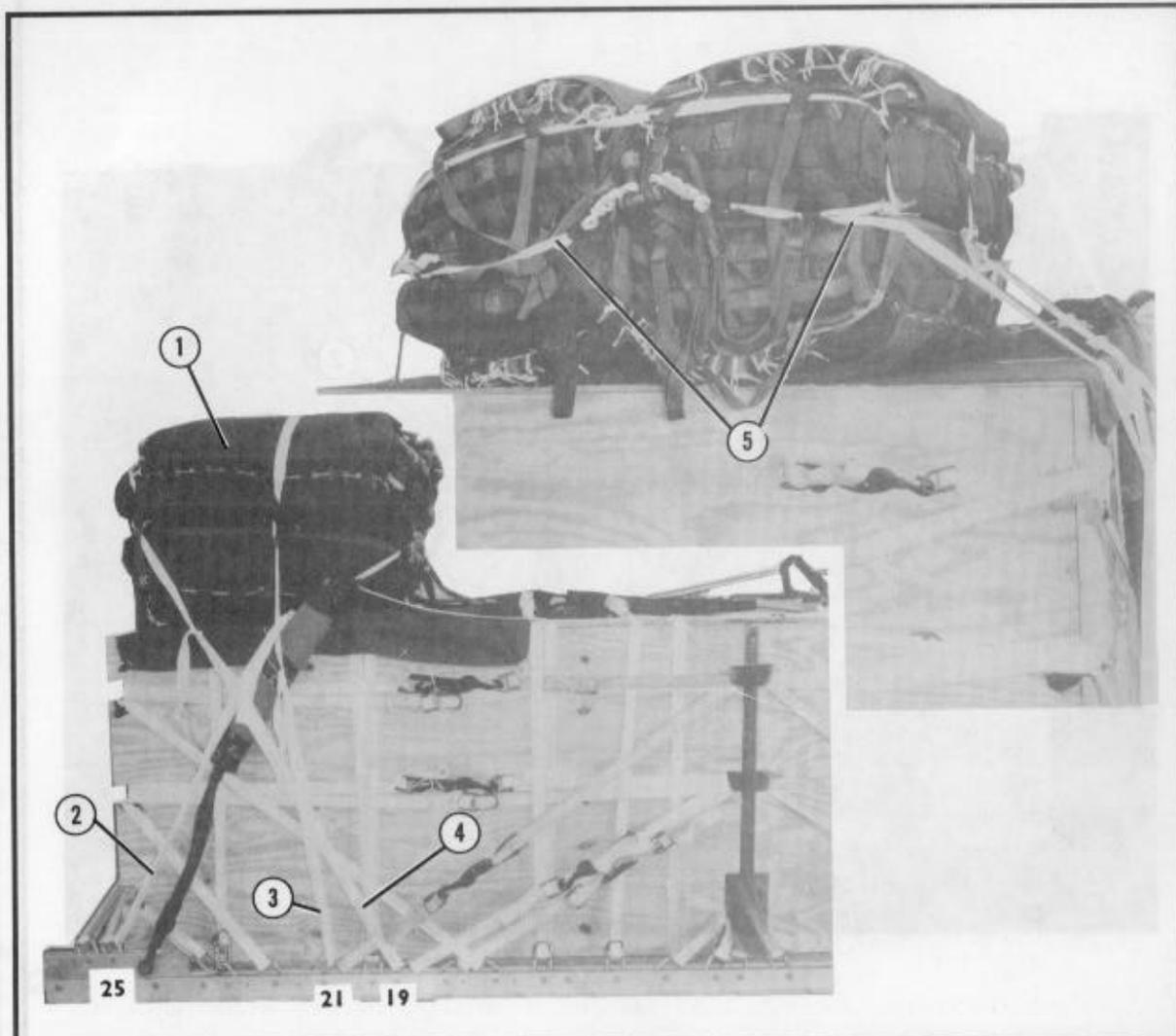
- ① Cover the rear third of the load with a 60- by 96-inch piece of cotton duck cloth. Secure the cloth to adjacent lashings with type III nylon cord.
- ② Attach a 16-foot (4-loop), type XXVI nylon webbing sling to each tandem link with a large suspension clevis.
- ③ Pull the suspension slings tight above the load. Pad each suspension sling 36 inches above the clevis with a 9- by 24-inch piece of felt. Tape the felt in place 2 inches past each end of the felt, and in the center.
- ④ Tie the front suspension slings together over the top of the load with a length of type III nylon cord. Tie the rear suspension slings in the same way.
- ⑤ Install the deadman's tie according to FM 10-500-2/TO 13C7-1-5.
- ⑥ Place two 92- by 5 1/2- inch pieces of honeycomb between the two boxes above the top cutouts. Tie the honeycomb in place using type III nylon cord and holes drilled in the plywood.

Figure 15-58. Load cover, suspension slings, and deadman's tie installed

**15-56. Installing Parachutes**

Consult FM 10-500-2/TO 13C7-1-5 for the number of cargo parachutes required for the weight of the load. Four G-11B cargo parachutes are shown

here. Install the cargo parachutes according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 15-59.

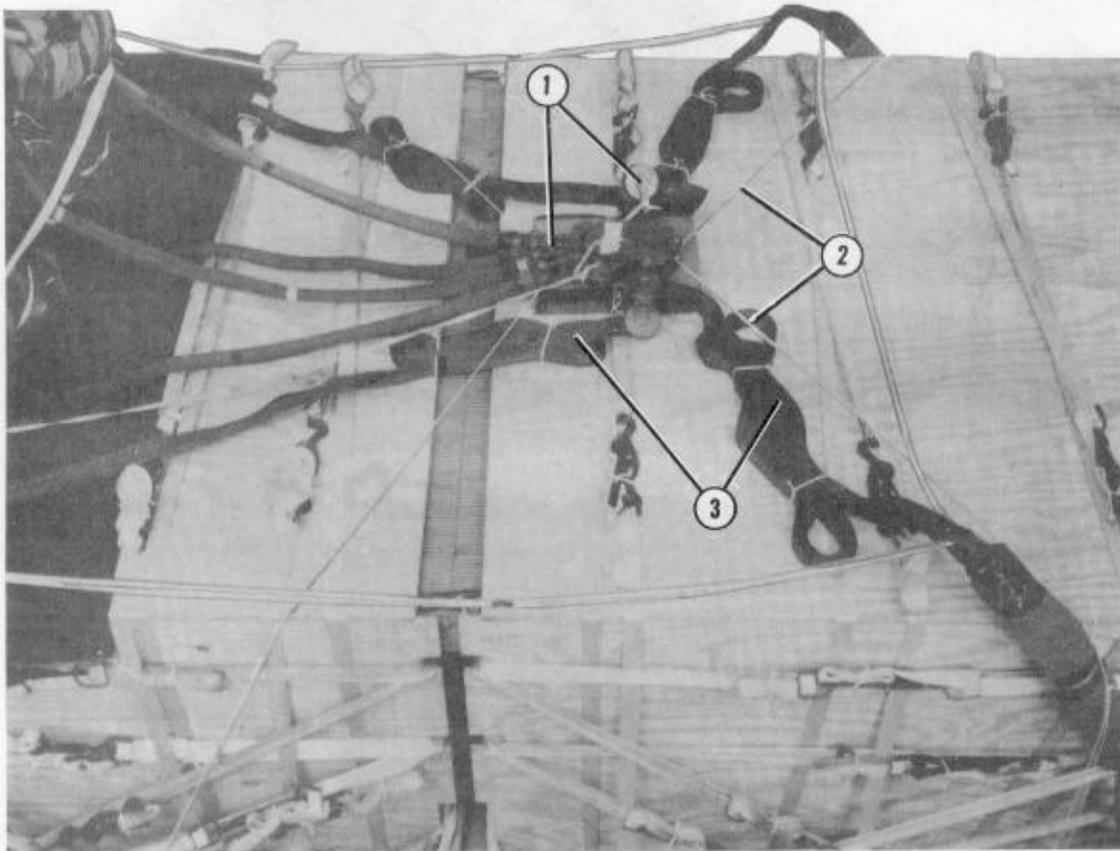


- ① Install the cargo parachutes at the rear of the load.
- ② Tie the front parachute restraint strap to clevises 25 and 25A.
- ③ Tie the center parachute restraint strap to clevises 21 and 21A.
- ④ Tie the rear parachute restraint strap to clevises 19 and 19A.
- ⑤ Install two multicut parachute release straps.

Figure 15-59. Four G-11B cargo parachutes installed

### 15-57. Installing Release System

Install and safety an M-2 cargo parachute release assembly as shown in Figure 15-60.

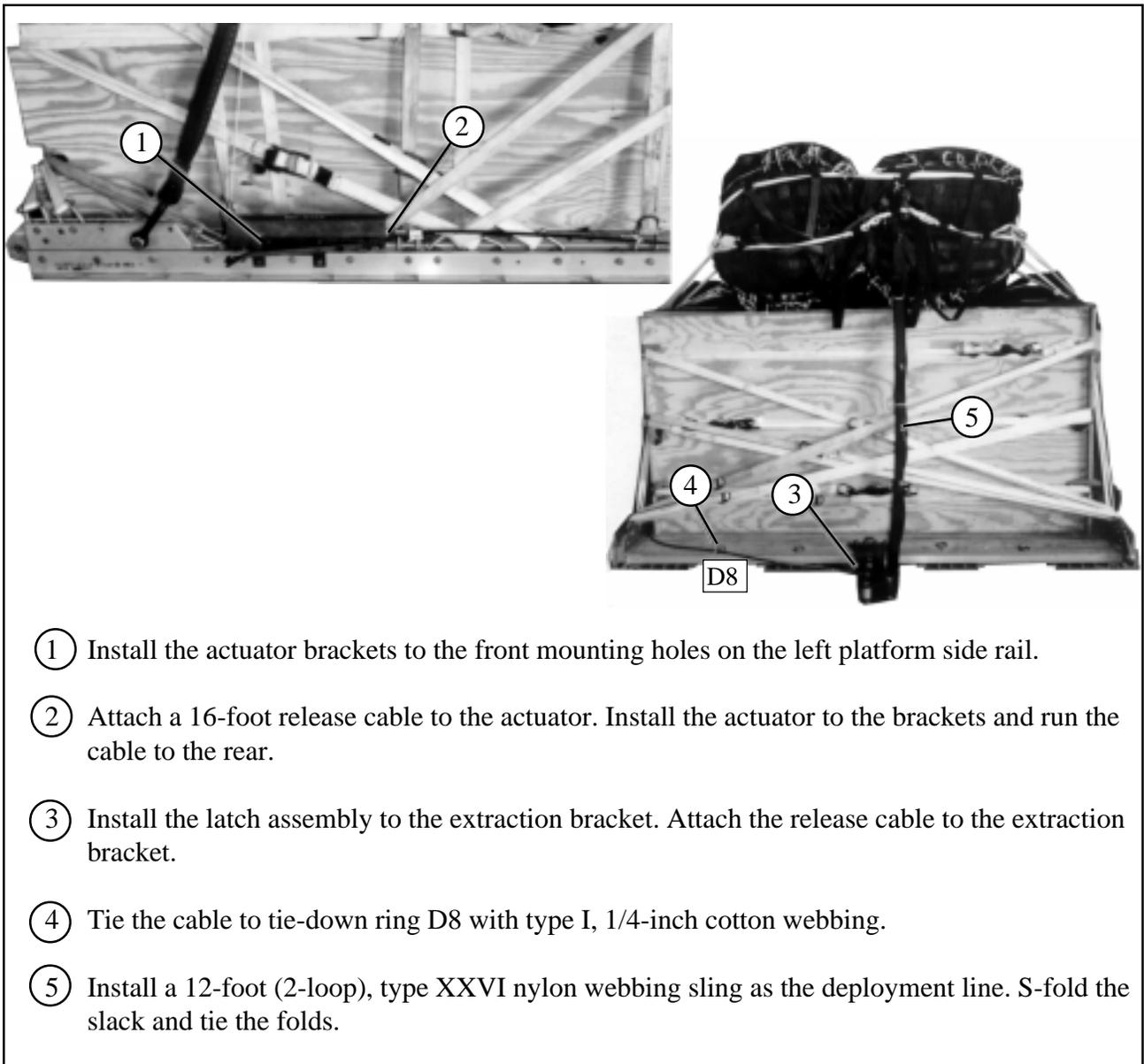


- ① Prepare and install an M-2 cargo parachute release assembly according to FM 10-500-2/TO 13C7-1-5. Place the release assembly on a 10- by 12-inch piece of honeycomb in front of the parachutes as shown.
- ② Safety the release to convenient points on the load with type III nylon cord.
- ③ S-fold and tie the slack in the suspension slings with type I, 1/4-inch cotton webbing.

Figure 15-60. Release assembly installed

### 15-58. Installing Extraction System

Install the EFTC extraction system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 15-61.



- ① Install the actuator brackets to the front mounting holes on the left platform side rail.
- ② Attach a 16-foot release cable to the actuator. Install the actuator to the brackets and run the cable to the rear.
- ③ Install the latch assembly to the extraction bracket. Attach the release cable to the extraction bracket.
- ④ Tie the cable to tie-down ring D8 with type I, 1/4-inch cotton webbing.
- ⑤ Install a 12-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold the slack and tie the folds.

*Figure 15-61. Extraction system installed*

### **15-59. Installing Provisions for Emergency Restraints**

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

### **15-60. 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.

### **15-61. Marking Rigged Load**

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 15-62.

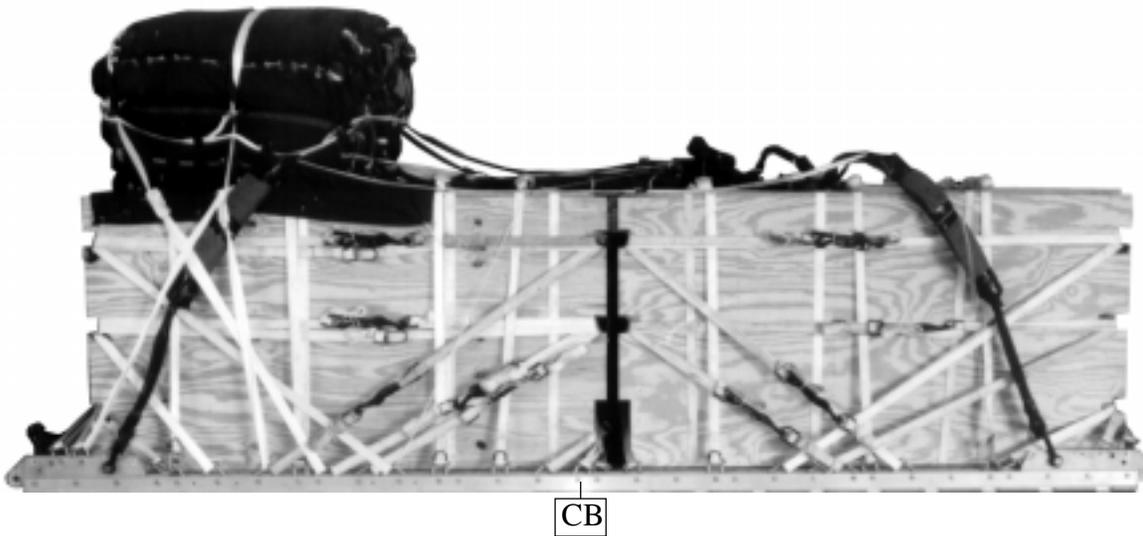
**Note: If the load weight differs from the load shown, the parachute requirements, CB, and tip-off curve must be recomputed.**

### **15-62. Equipment Required**

Use the equipment listed in Table 15-4 to rig the load shown.

**Note: Table does not include materials which may be needed to pad and restrain supplies inside the boxes.**

**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:	Minimum load allowed	5,040 pounds
	Maximum load allowed	21,000 pounds
Height		88 inches
Width		108 inches
Length		192 inches
Overhang:	Front	0 inches
	Rear	0 inches
CB (from front edge of platform)		97 inches
Extraction System (adds 18 inches to length of platform)		EFTC

*Figure 15-62. Mass supply boxes rigged on a 16-foot platform for low-velocity airdrop*

Table 15-4. Equipment required for rigging mass supply boxes on a 16-foot type V platform for low-velocity airdrop

National Stock Number	Item	Quantity
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
1670-00-434-5785	Coupling, airdrop, extraction force transfer with cable, 16-ft	1
	Cover:	
1670-00-360-0328		1
1670-00-360-0329	Link, type IV	12
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-in thick	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	For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
	For C-5:	
1670-01-107-7651	140-ft (3-loop), type XXVI and	1
1670-01-062-6313	60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
	Link assembly:	
1670-00-006-2752	Four-point	1
1670-00-783-5988	Type IV	12
	Two-point, 5 1/2-in	
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
5510-00-220-6146	Lumber, 2- by 4- by:	
	45-in	
	84 1/2-in	
	85-in	14
5315-00-010-4657	Nail, steel wire, common, 6d	As required

Table 15-4. Equipment required for rigging mass supply boxes on a 16-foot type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in	1 sheet
	Parachute:	
1670-01-016-7841	Cargo, G-11B	4
1670-00-040-8135	Cargo extraction, 28-ft	1
1670-01-063-3715	Drogue, 15-ft (for C-17)	1
	Platform, airdrop, type V, 16-foot	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(54)
1670-01-353-8424	Extraction bracket assembly	(1)
1670-01-162-2381	Link, tandem, suspension link assembly	(4)
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	12 sheets
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo airdrop	
	For suspension:	
1670-01-062-6308	16-ft( 4-loop), type XXVI nylon webbing	4
	For deployment:	
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	12
5340-00-040-8219	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-ft	86
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

## CHAPTER 17

**RIGGING MASS SUPPLY BOX ON A 20-FOOT, TYPE V  
PLATFORM FOR LOW-VELOCITY AIRDROP**

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**17-1. Description of Load**

Two mass supply boxes are rigged for low-velocity airdrop on a 20-foot, type V airdrop platform. Loads may include any bulk items of general supply that can be packed into the box without shifting of the load. FM 10-500-2/TO 13C7-1-5 shows weight limitations and parachute requirements.

**17-2. Preparing Platform**

Prepare a 20-foot, type V airdrop platform as described below.

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

**Note:**

If the platform must be assembled, install the suspension links when assembling the platform. See Figure 17-1 for the location of the suspension links.

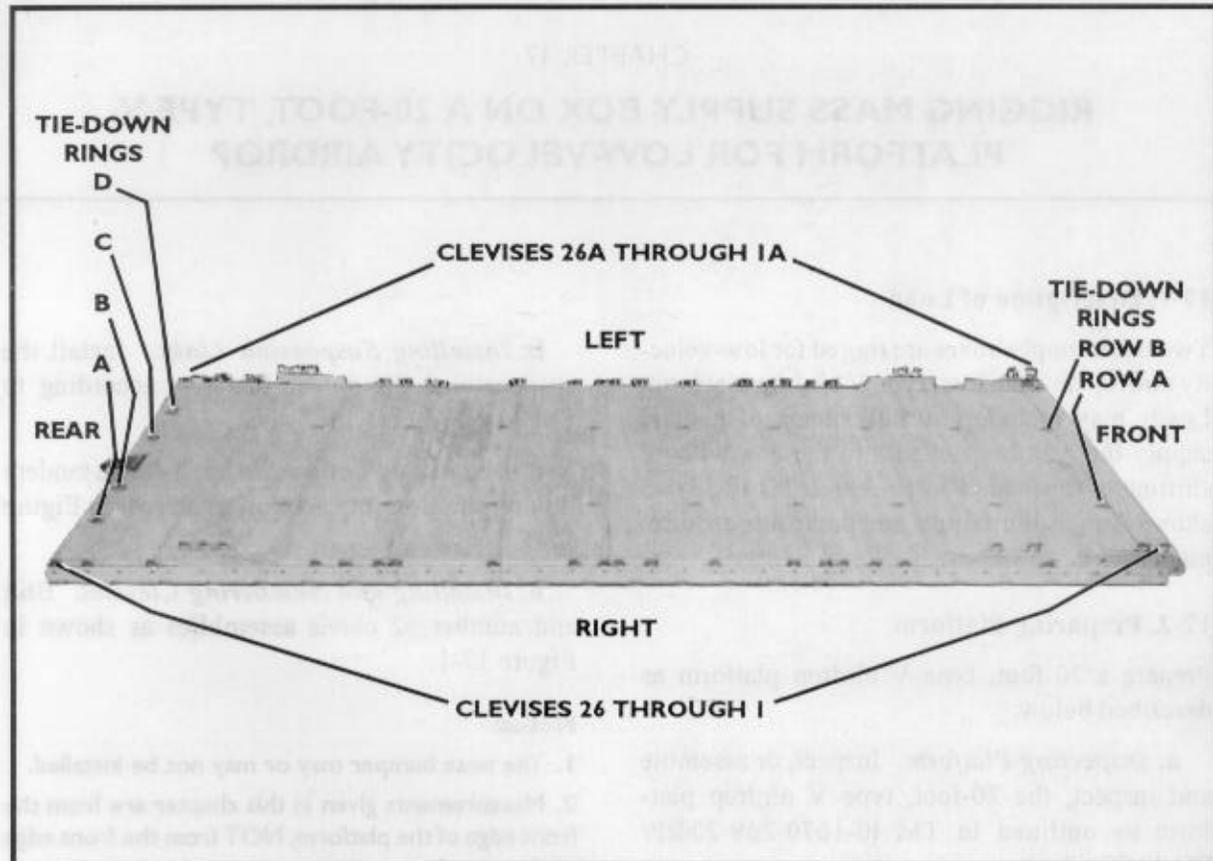
**b. Installing Suspension Links.** Install the suspension links on the platform according to FM 10-500-2/TO 13C7-1-5.

**c. Installing Tandem Links.** Install a tandem link on the front of each rail as shown in Figure 17-1.

**d. Installing and Numbering Clevises.** Bolt and number 52 clevis assemblies as shown in Figure 17-1.

**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 suspension link in holes 6, 7, and 8 on each platform side rail. Face the flat end of the link to the front of the rail.
2. Install a suspension link in holes 33, 34, and 35 on each platform side rail. Face the flat end of the link to the rear of the rail.
3. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
4. Install clevises on bushings 1 and 2 on each front tandem link.
5. Install clevises on bushings 1 and 3 on the first suspension link on each side.
6. Install clevises on bushings 2, 3, and 4 on the second suspension link on each side.
7. Starting at the front of each platform side rail, install clevises on each platform side rail using the bushings bolted on holes 5, 10, 11, 12, 13, 14, 17, 19, 20, 21, 22, 25, 28, 29, 30, 31, 37, 39, and 40.
8. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 26 and those bolted to the left side from 1A through 26A.
9. Label the tie-down rings according to FM 10-500-2/O 13C7-1-5.

*Figure 17-1. Platform prepared*

### 17-3. Placing Lashings on Platform

Pre-position fourteen 15-foot lashings through the tie-down rings on the platform as shown in Figure 17-2.

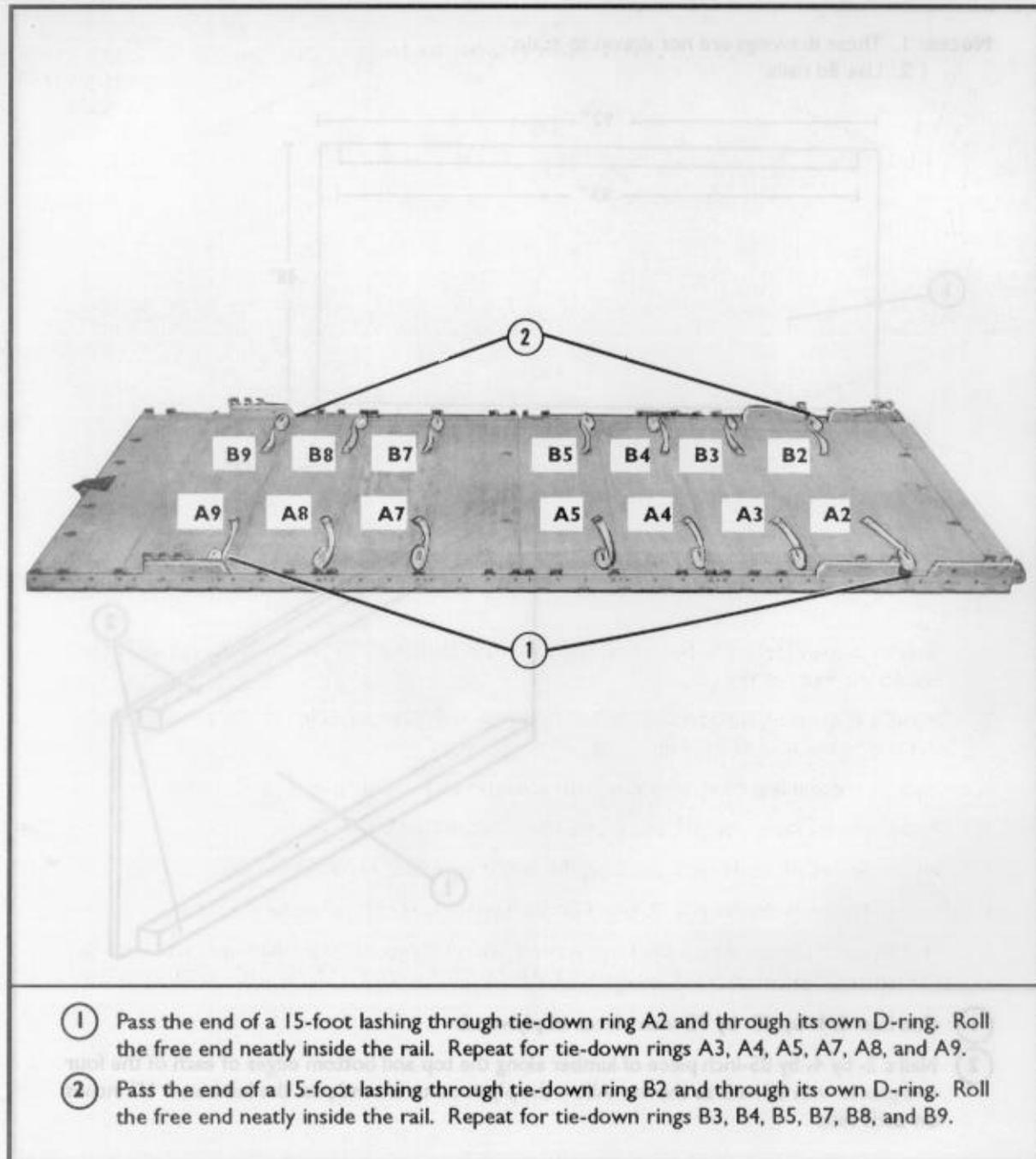


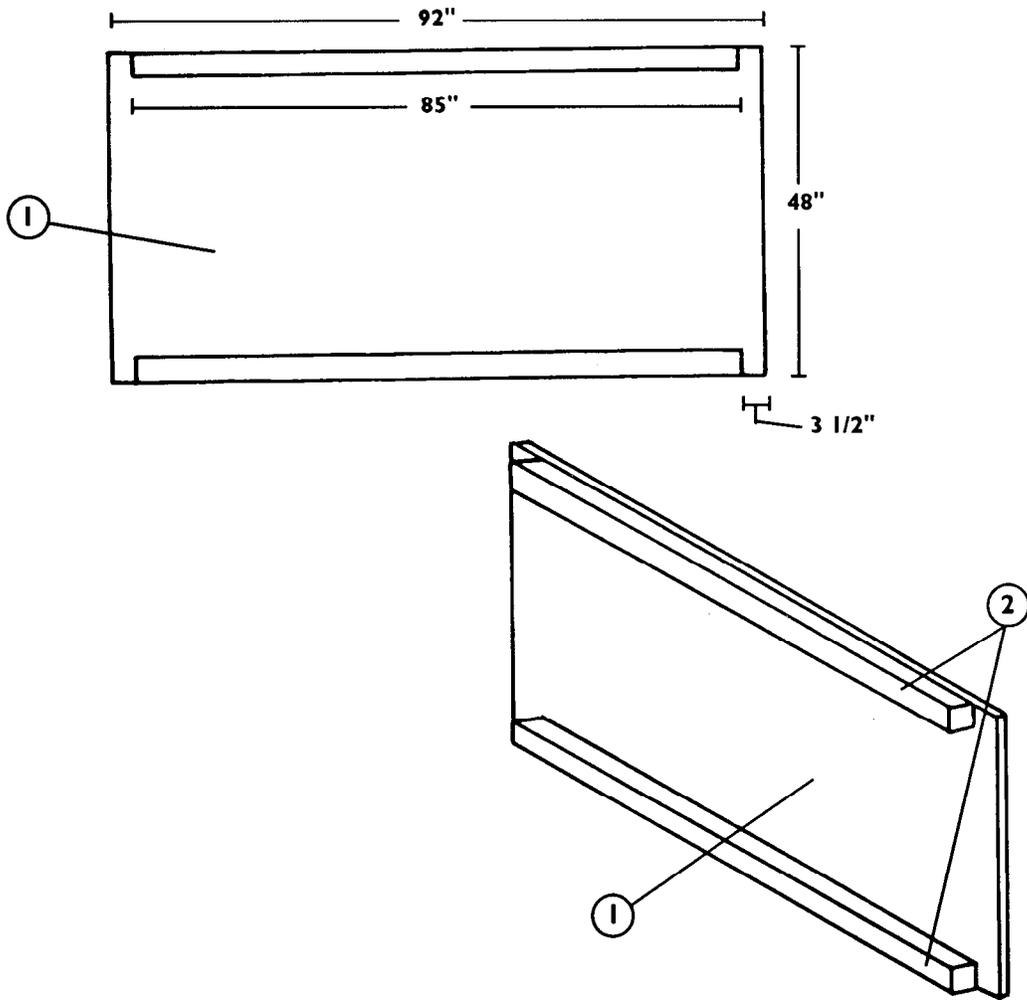
Figure 17-2. Lashings pre-positioned on platform

### 17-4. Constructing and Forming Storage Box Components

Construct the components of the storage boxes as shown in Figures 17-3, 17-4, and 17-5.

Partially assemble the first box for loading as shown in Figure 17-6.

- Notes:** 1. These drawings are not drawn to scale.  
2. Use 8d nails.

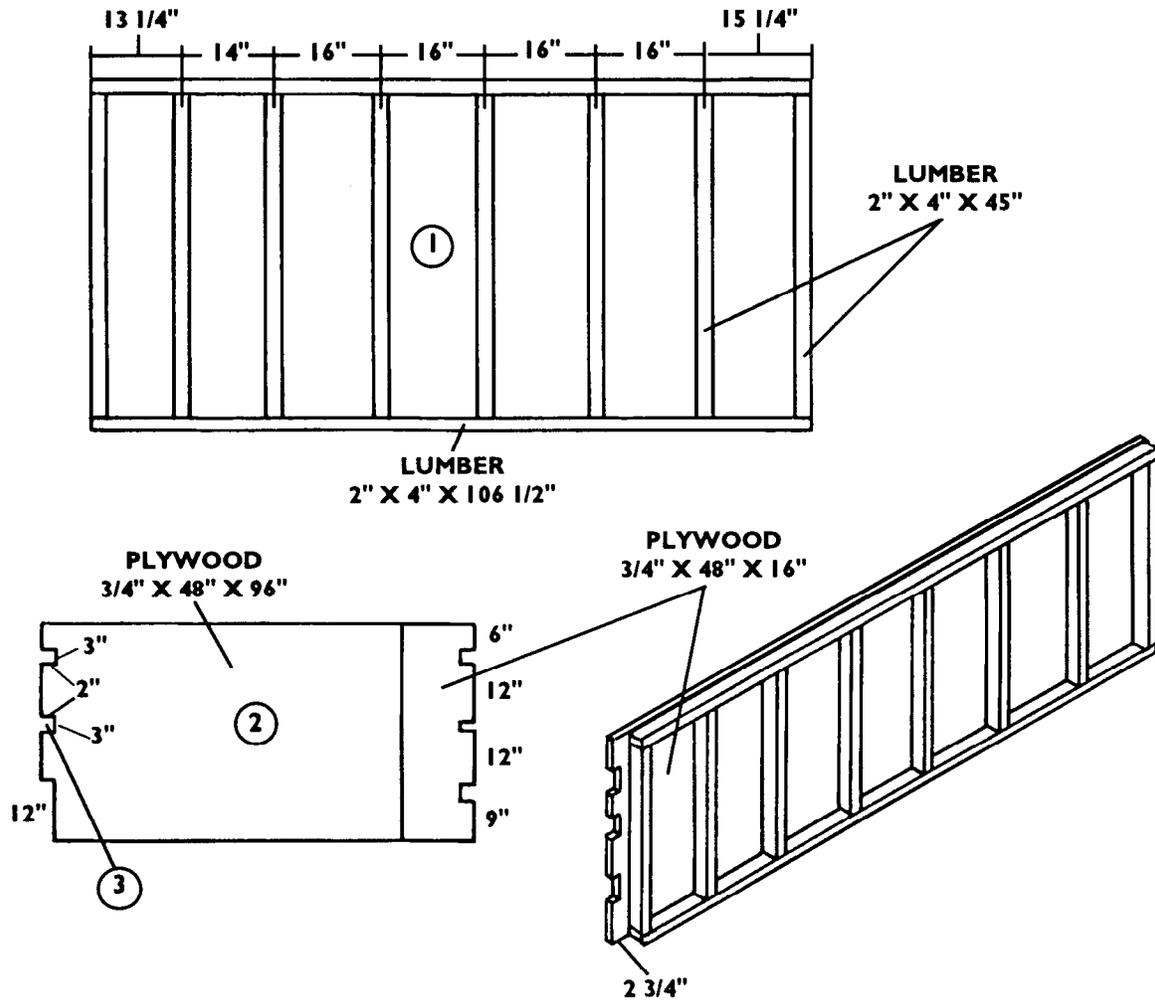


- ① Cut four 3/4- by 48- by 92-inch pieces of plywood.  
② Nail a 2- by 4- by 85-inch piece of lumber along the top and bottom edges of each of the four end pieces with 8d nails as shown. Allow the plywood to extend past the lumber, 3 1/2 inches on each side.

Figure 17-3. Box ends constructed

**Notes:** 1. These drawings are not drawn to scale.

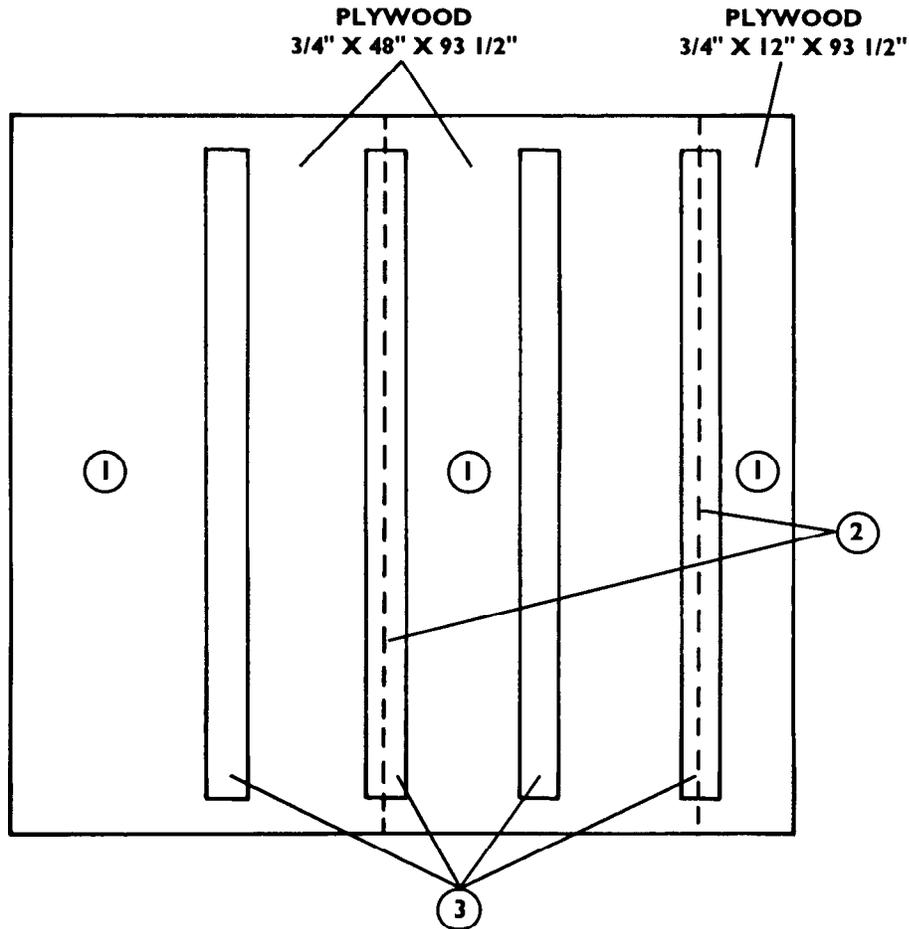
2. Use 8d nails.



- ① Build a frame of 2- by 4-inch lumber as shown for each of the four box sides required. Space the upright pieces exactly as shown. Spacing is measured on center, except from the ends.
- ② Lay a full 3/4- by 48- by 96-inch sheet of plywood and a 3/4- by 16- by 48-inch piece of plywood, unfinished side down, over the frame made in step 1 so that the joint between the pieces is centered over the second upright from the left. Nail the plywood to the frame so that the edges are flush with the top and bottom of the frame, and the plywood extends past the frame 2 3/4 inches on each end.
- ③ Make 2- by 3-inch cutouts as shown in each of the four sides. Face the 12-inch cutout to the right on two of the sides, and to the left on the other two.

Figure 17-4. Box sides constructed

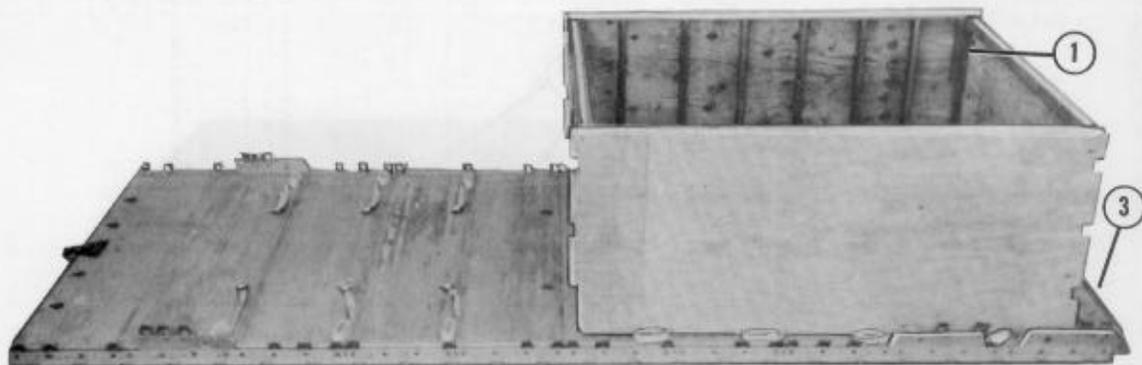
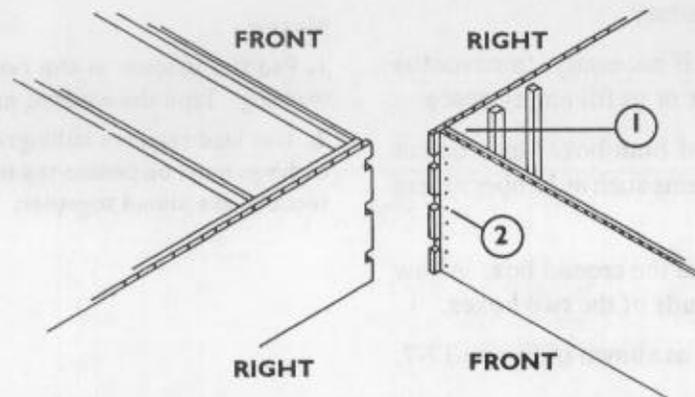
- Notes: 1. This drawing is not drawn to scale.  
2. Use 8d nails.



- ① Cut two 3/4- by 48- by 93 1/2-inch pieces of plywood. In addition, cut a 3/4- by 12- by 93 1/2-inch piece of plywood.
- ② Lay the pieces of plywood cut in step 1 together, finished side up, as shown.
- ③ Space four 2- by 4- by 85-inch pieces of lumber flat side down under the plywood as shown. Nail the plywood to the lumber.
- ④ Repeat steps 1 through 3 to make the top for the second box (not shown).

Figure 17-5. Tops of boxes constructed

**Note:** This drawing is not drawn to scale.



- ① Assemble the box on the platform. Fit each end of the first box between the sides with the left and right of each end flush against the inside vertical lumber uprights on the sides.
- ② Nail the pieces of the box together with 8d nails through the ends of the box into the vertical lumber pieces in the sides.
- ③ Be sure that the front end of the box is centered and 9 inches from the front edge of the platform.

*Figure 17-6. Box partially assembled for loading*

### 17-5. Loading and Closing the Boxes

Load and close the boxes as described below.

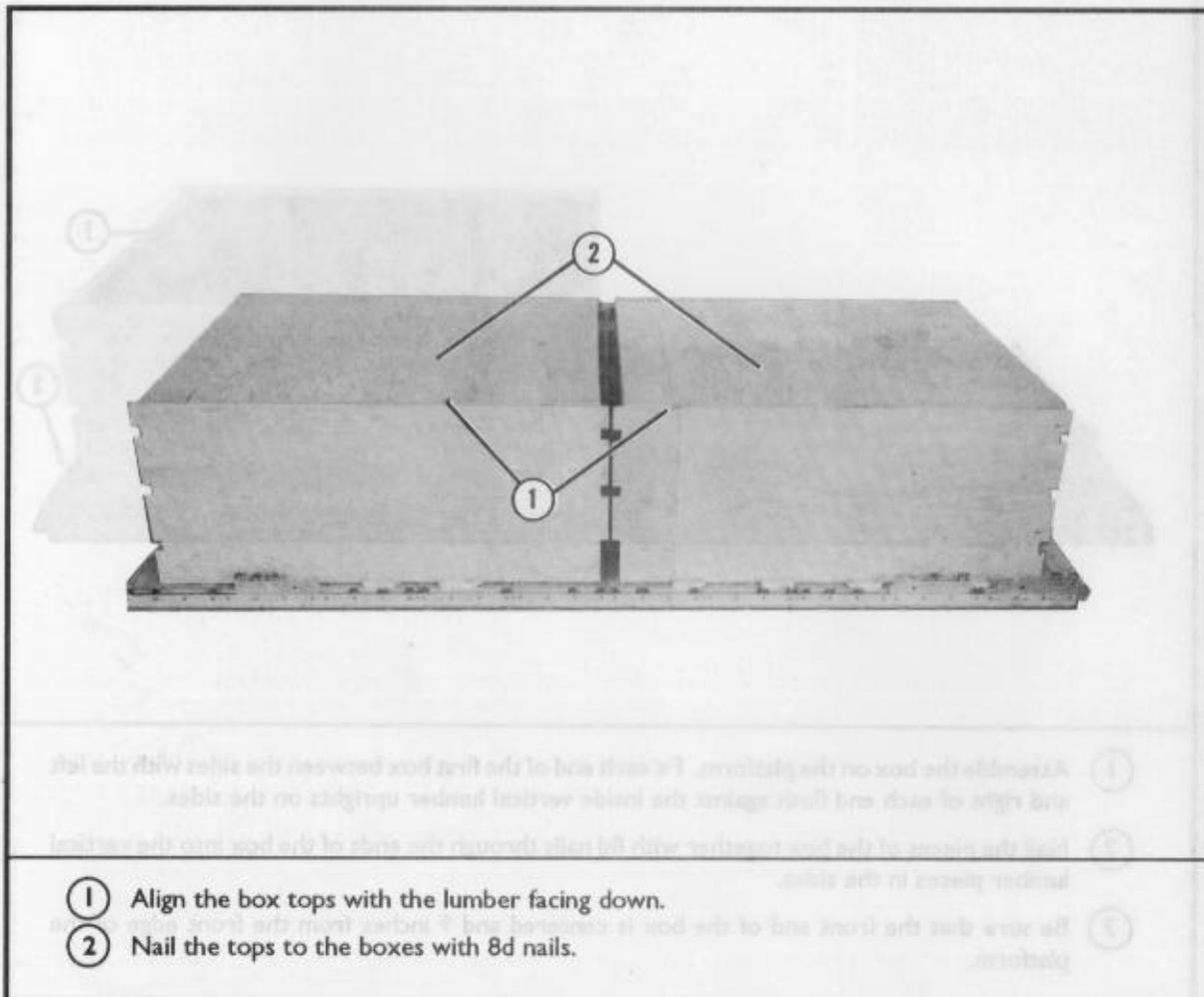
- a. Use the tie-down rings inside the box to secure the load, if necessary.
- b. Use honeycomb, if necessary, to cover the platform inside the box or to fill empty space.
- c. The inside ends of both boxes may be cut out to allow for long items such as lumber or tent poles.
- d. Assemble and load the second box. Allow 6 inches between the ends of the two boxes.
- e. Close both boxes as shown in Figure 17-7.

### 17-6. Installing Lashings

Install the lashings and secure pre-positioned lashings as shown in Figures 17-8 through 17-15.

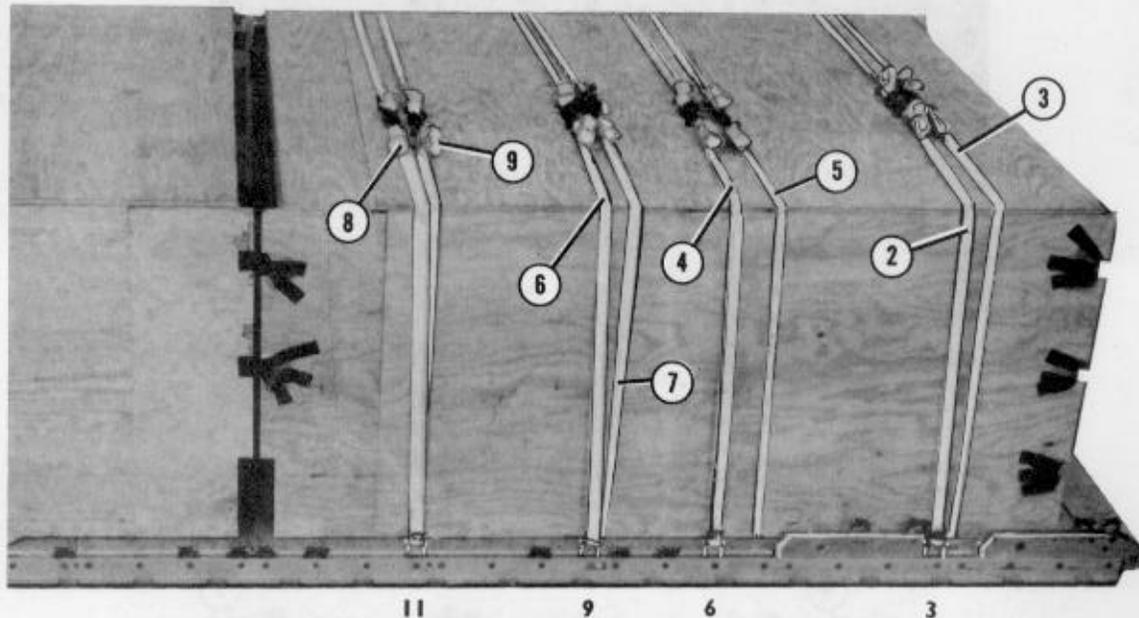
#### Notes:

1. Pad the cutouts in the box sides with cellulose wadding. Tape the wadding in place.
2. This load requires lashings over 30 feet in length. Lashings must be positioned through clevises before sections are joined together.



- ① Align the box tops with the lumber facing down.
- ② Nail the tops to the boxes with 8d nails.

Figure 17-7. Boxes closed



- ① Pass a 15-foot lashing through clevis 3 and through its own D-ring. Do the same for clevises 3A, 6, 6A, 9, 9A, 11, and 11A.
- ② Secure the pre-positioned lashing in tie-down ring B2 to the lashing in clevis 3 on top of the box with two D-rings and a load binder.
- ③ Secure the pre-positioned lashing in tie-down ring A2 to the lashing in clevis 3A on top of the box with two D-rings and a load binder.
- ④ Secure the pre-positioned lashing in tie-down ring B3 to the lashing in clevis 6 on top of the box with two D-rings and a load binder.
- ⑤ Secure the pre-positioned lashing in tie-down ring A3 to the lashing in clevis 6A on top of the box with two D-rings and a load binder.
- ⑥ Secure the pre-positioned lashing in tie-down ring B4 to the lashing in clevis 9 on top of the box with two D-rings and a load binder.
- ⑦ Secure the pre-positioned lashing in tie-down ring A4 to the lashing in clevis 9A on top of the box with two D-rings and a load binder.
- ⑧ Secure the pre-positioned lashing in tie-down ring B5 to the lashing in clevis 11 on top of the box with two D-rings and a load binder.
- ⑨ Secure the pre-positioned lashing in tie-down ring A5 to the lashing in clevis 11A on top of the box with two D-rings and a load binder.

Figure 17-8. Pre-positioned lashings secured to lashings on platform rails

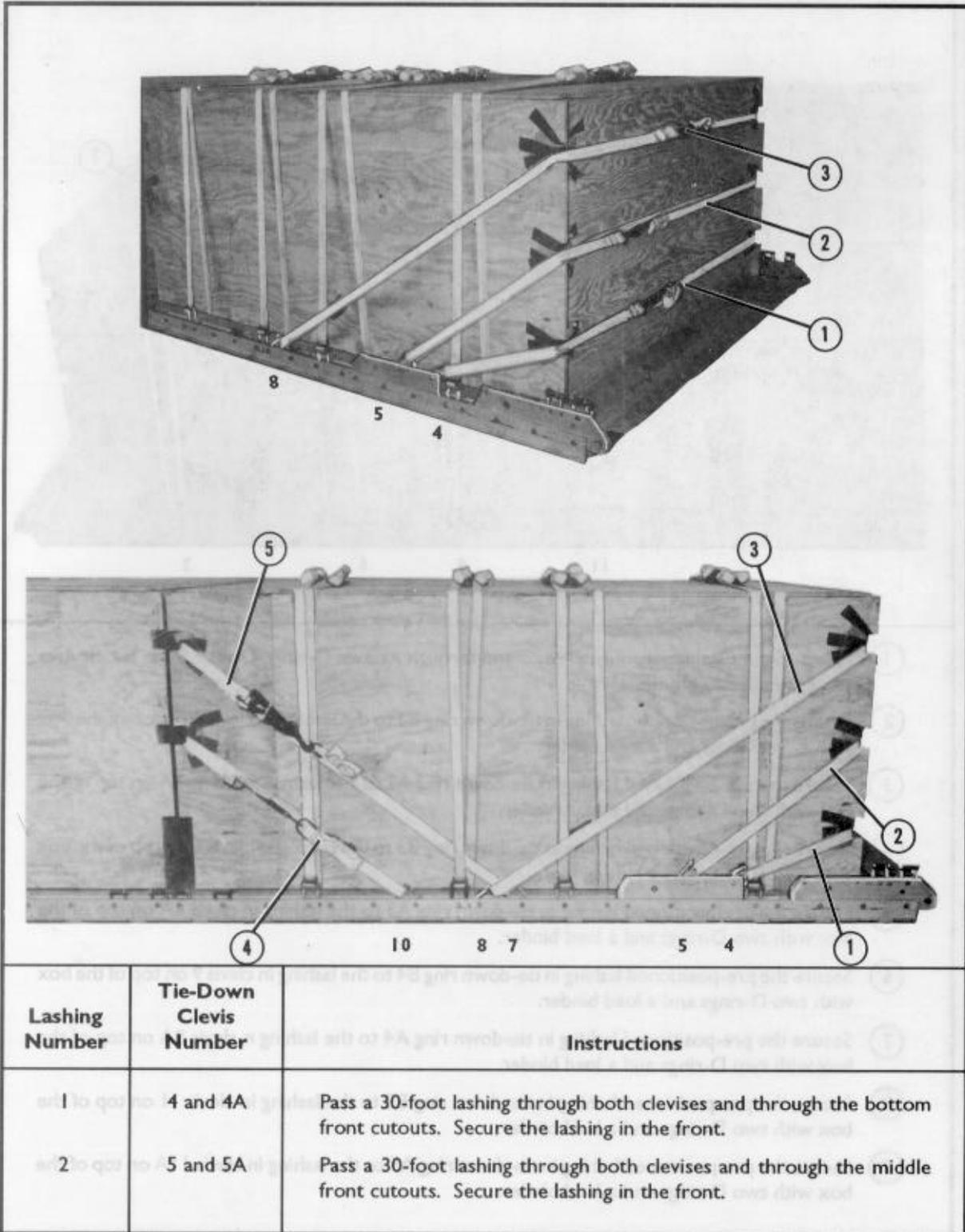
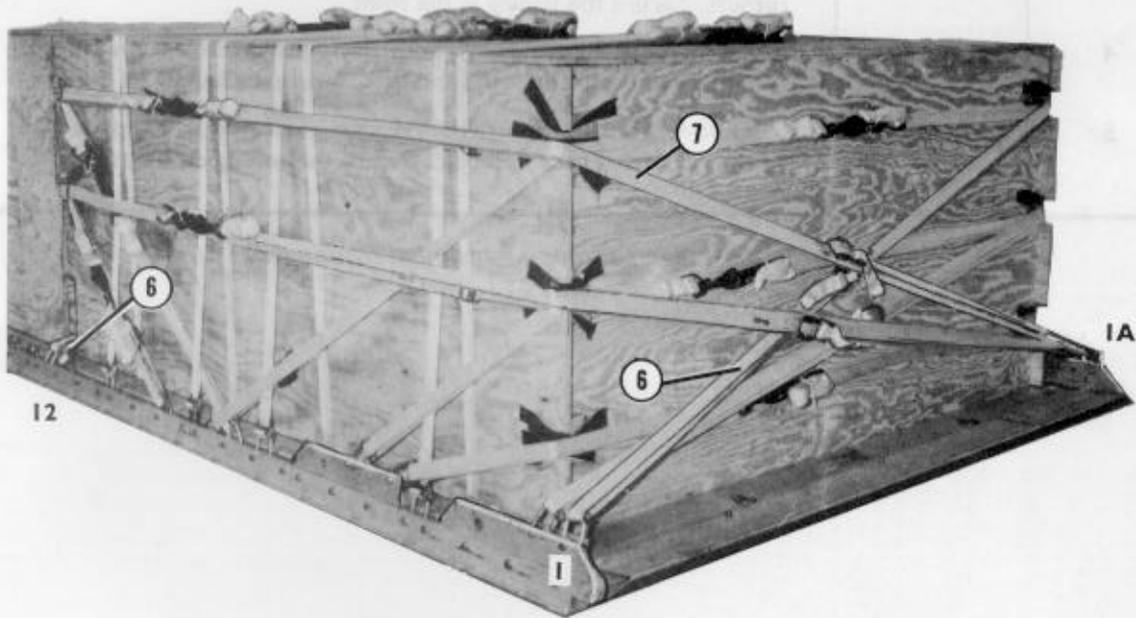


Figure 17-9. Lashings 1 through 5 installed

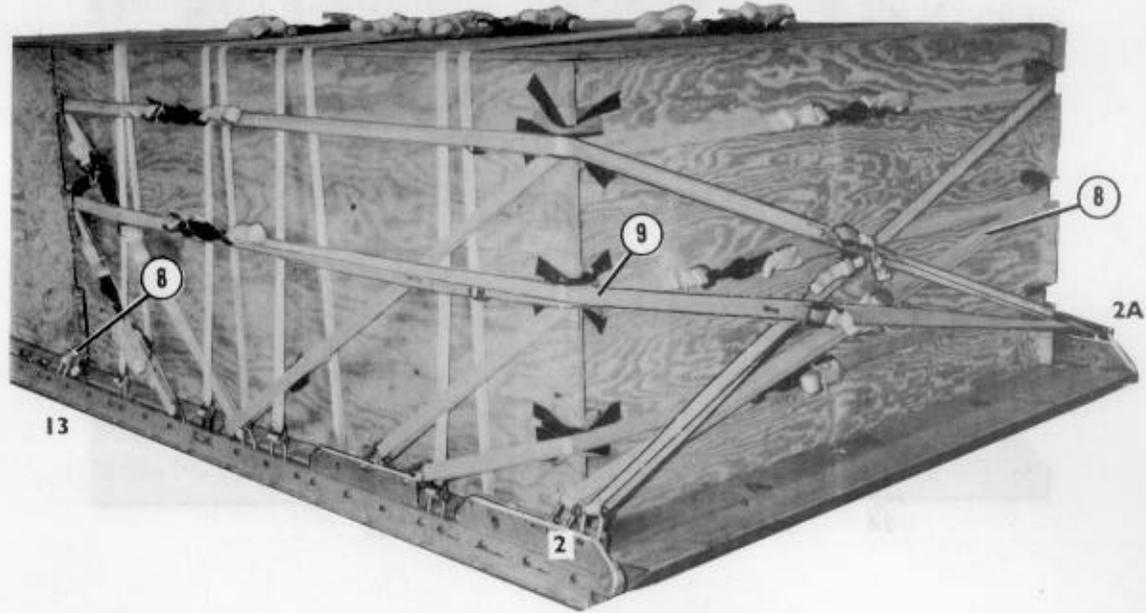
<b>Lashing Number</b>	<b>Tie-Down Clevis Number</b>	<b>Instructions</b>
3	8 and 8A	Pass a 45-foot lashing through both clevises and through the top front cutouts. Secure the lashing in the front.
4	10 and 10A	Pass a 45-foot lashing through both clevises and through the middle cutouts on the rear side of the first box. Secure the lashing on the side.
5	7 and 7A	Pass a 45-foot lashing through both clevises and through the top cutouts on the rear side of the first box. Secure the lashing on the side.

*Figure 17-9. Lashings 1 through 5 installed (continued)*



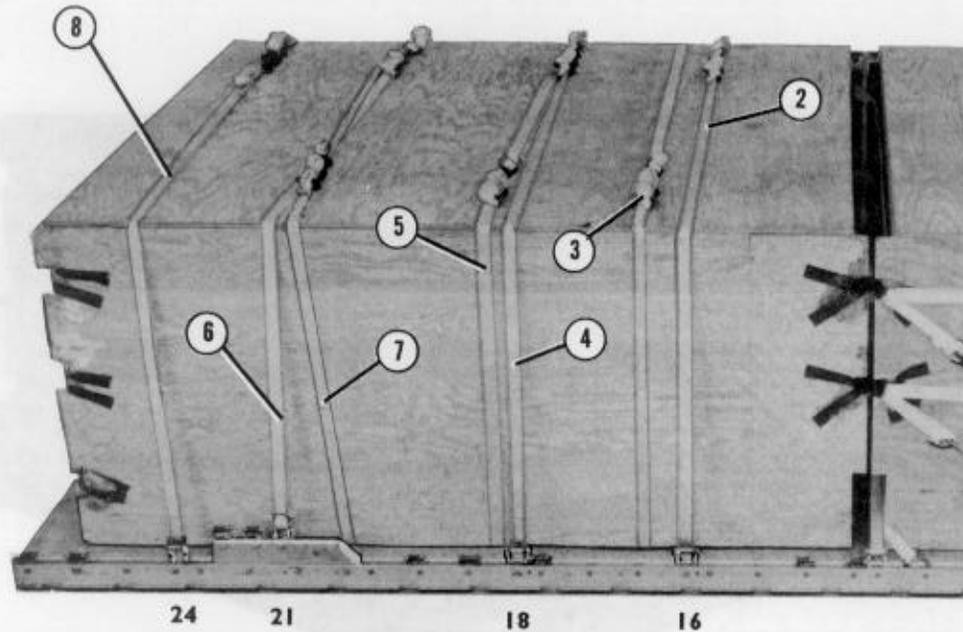
Lashing Number	Tie-Down Clevis Number	Instructions
6	1 and 12	Pass a 60-foot lashing through clevis 1, through the top cutout in the left side of the first box, and around the left side of the box. Pass the lashing through the top left cutout on the rear end of the first box and through clevis 12. Secure the lashing on the left side.
7	1A and 12A	Pass a 60-foot lashing through clevis 1A, through the top cutout in the right side of the first box, and around the right side of the box. Pass the lashing through the top right cutout on the rear end of the first box, and through clevis 12A. Secure the lashing on the right side.

Figure 17-10. Lashings 6 and 7 installed



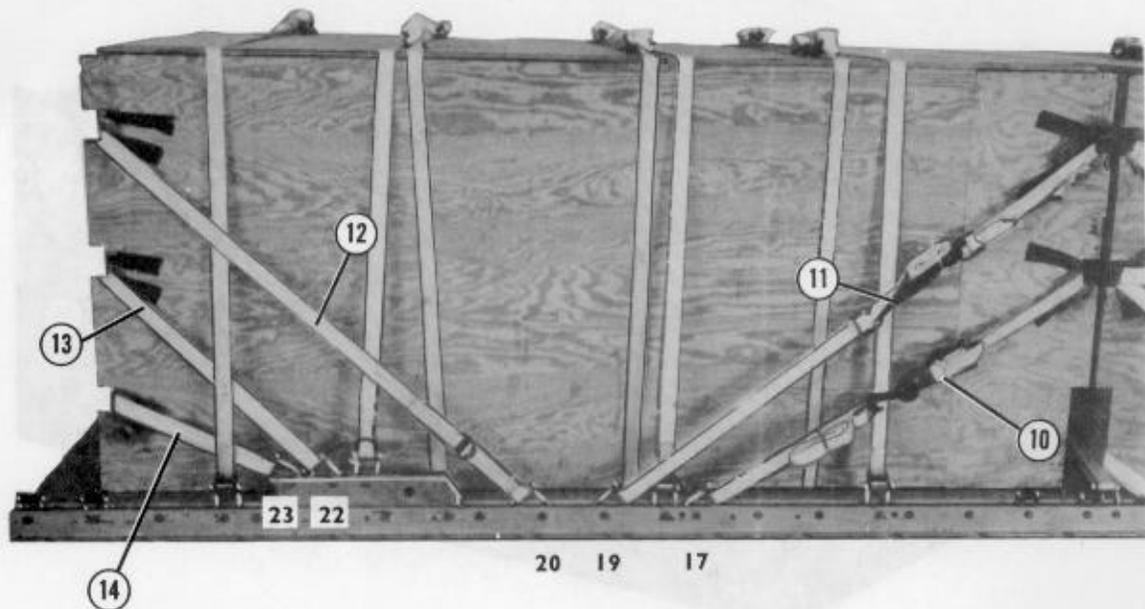
Lashing Number	Tie-Down Clevis Number	Instructions
8	2 and 13	Pass a 60-foot lashing through clevis 2, through the middle left cutout in the left side of the first box, and around the left side of the box. Pass the lashing through the middle left cutout on the rear end of the first box and through clevis 13. Secure the lashing on the left side.
9	2A and 13A	Pass a 60-foot lashing through clevis 2A, through the middle right cutout in the right side of the first box, and around the right side of the box. Pass the lashing through the middle right cutout on the rear end of the first box and through clevis 13A. Secure the lashing on the right side.

Figure 17-11 Lashings 8 and 9 installed



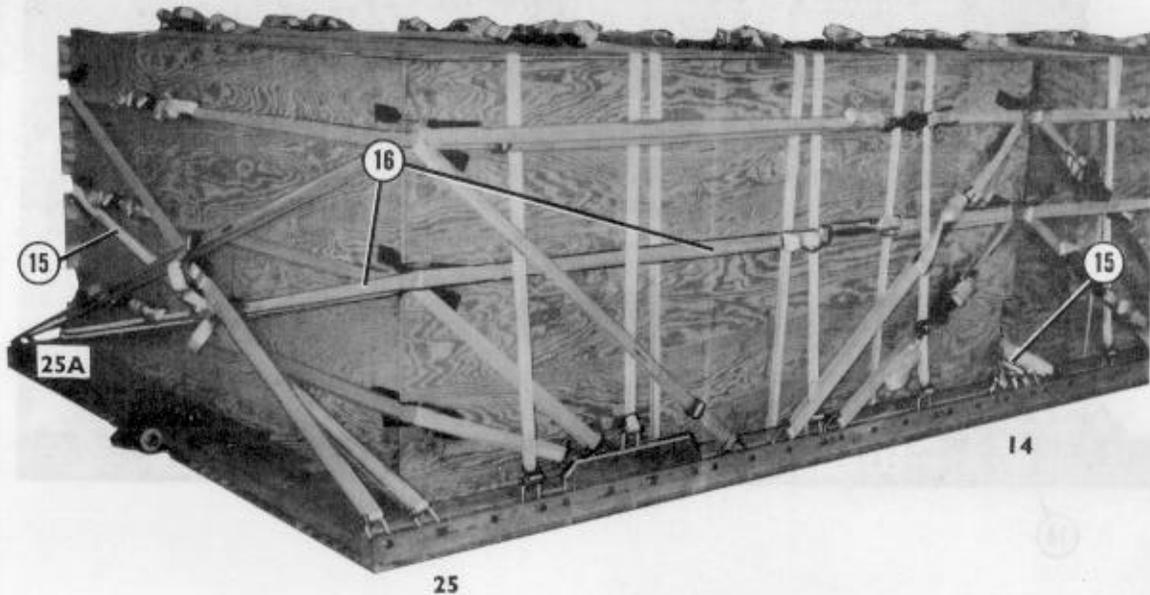
- ① Pass a 15-foot lashing through clevis 16 and through its own D-ring. Do the same for clevis 16A, 18, 18A, 21, 21A, 24, and 24A.
- ② Secure the pre-positioned lashing in tie-down ring B7 to the lashing in clevis 16 on top of the box with two D-rings and a load binder.
- ③ Secure the pre-positioned lashing in tie-down ring A7 to the lashing in clevis 16A on top of the box with two D-rings and a load binder.
- ④ Secure the pre-positioned lashing in tie-down ring B8 to the lashing in clevis 18 on top of the box with two D-rings and a load binder.
- ⑤ Secure the pre-positioned lashing in tie-down ring A8 to the lashing in clevis 18A on top of the box with two D-rings and a load binder.
- ⑥ Secure the pre-positioned lashing in tie-down ring B9 to the lashing in clevis 21 on top of the box with two D-rings and a load binder.
- ⑦ Secure the pre-positioned lashing in tie-down ring A9 to the lashing in clevis 21A on top of the box with two D-rings and a load binder.
- ⑧ Secure the lashings in clevises 24 and 24A together on top of the box with two D-rings and a load binder.

Figure 17-12. Pre-positioned lashings secured to lashings on platform rails



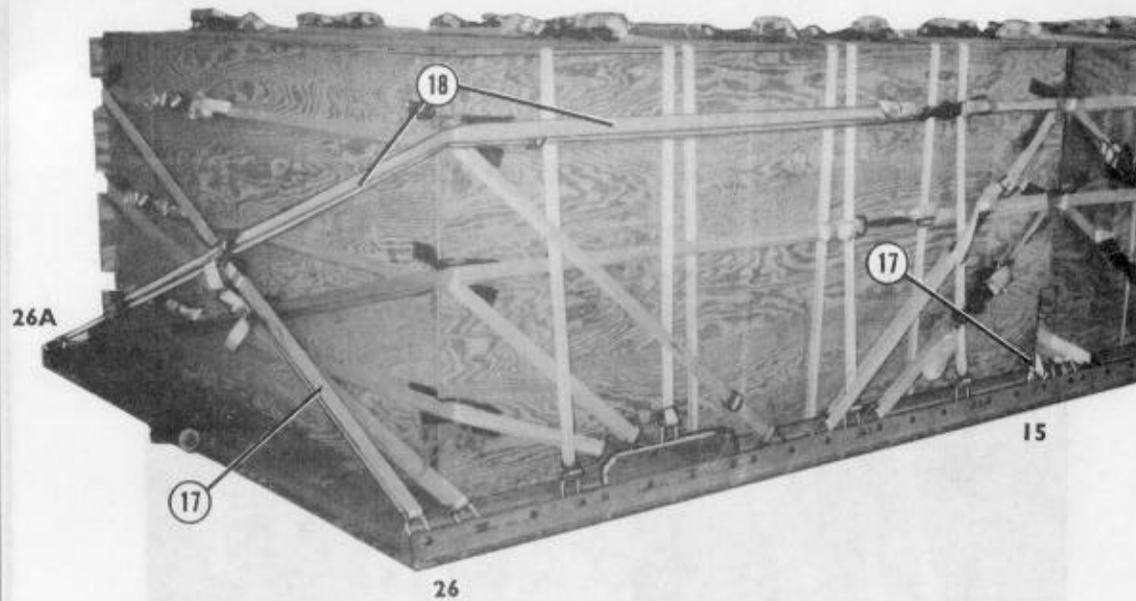
Lashing Number	Tie-Down Clevis Number	Instructions
10	17 and 17A	Pass a 30-foot lashing through both clevises and through the middle cutouts in the front end of the second box. Secure the lashing on the side.
11	19 and 19A	Pass a 45-foot lashing through both clevises and through the top cutouts in the front end of the second box. Secure the lashing on the side.
12	20 and 20A	Pass a 45-foot lashing through both clevises and through the top rear cutouts. Secure the lashing in the rear.
13	22 and 22A	Pass a 30-foot lashing through both clevises and through the middle rear cutouts. Secure the lashing in the rear.
14	23 and 23A	Pass a 30-foot lashing through both clevises and through the bottom rear cutouts. Secure the lashing in the rear.

Figure 17-13. Lashings 10 through 14 installed



Lashing Number	Tie-Down Clevis Number	Instructions
15	14 and 25	Pass a 60-foot lashing through clevis 14, through the middle cutout in the left side of the second box and around the left side of the box. Pass the lashing through the left middle cutout at the rear and through clevis 25. Secure the lashing in the rear.
16	14A and 25A	Pass a 60-foot lashing through clevis 14A, through the middle cutout in the right side of the second box, and around the right side of the box. Pass the lashing through the right middle cutout at the rear and through clevis 25A. Secure the lashing on the right side.

Figure 17-14. Lashings 15 and 16 installed

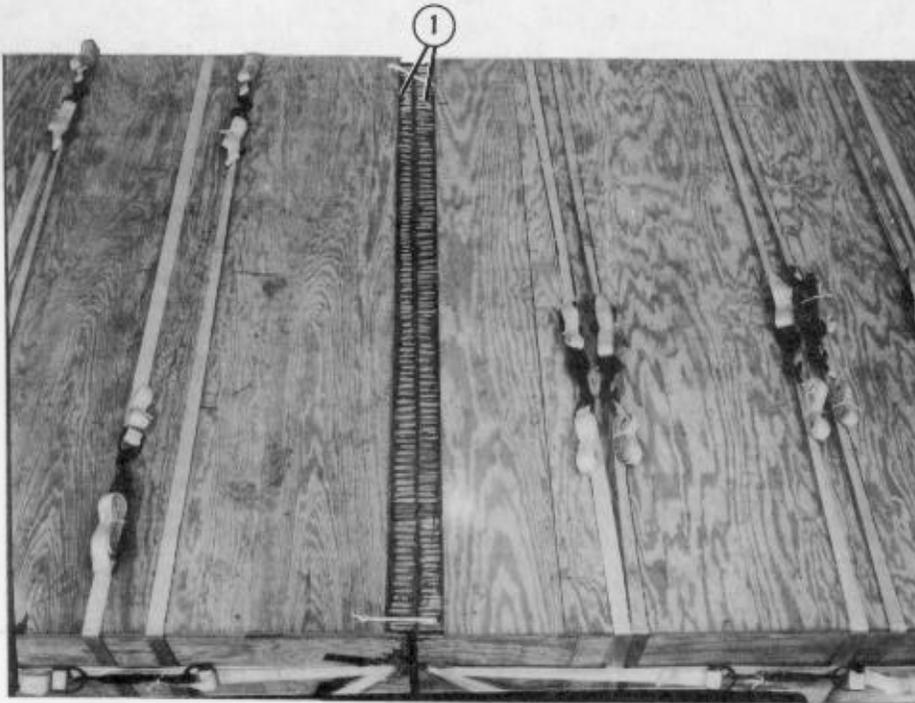


Lashing Number	Tie-Down Clevis Number	Instructions
17	15 and 26	Pass a 60-foot lashing through clevis 15, through the top cutout in the left side of the second box, and around the left side of the box. Pass the lashing through the top left rear cutout and through clevis 26. Secure the lashing in the rear.
18	15A and 26A	Pass a 60-foot lashing through clevis 15A, through the top cutout in the right side of the second box, and around the right side of the box. Pass the lashing through the top right rear cutout and through clevis 26A. Secure the lashing on the right side.

Figure 17-15. Lashings 17 and 18 installed

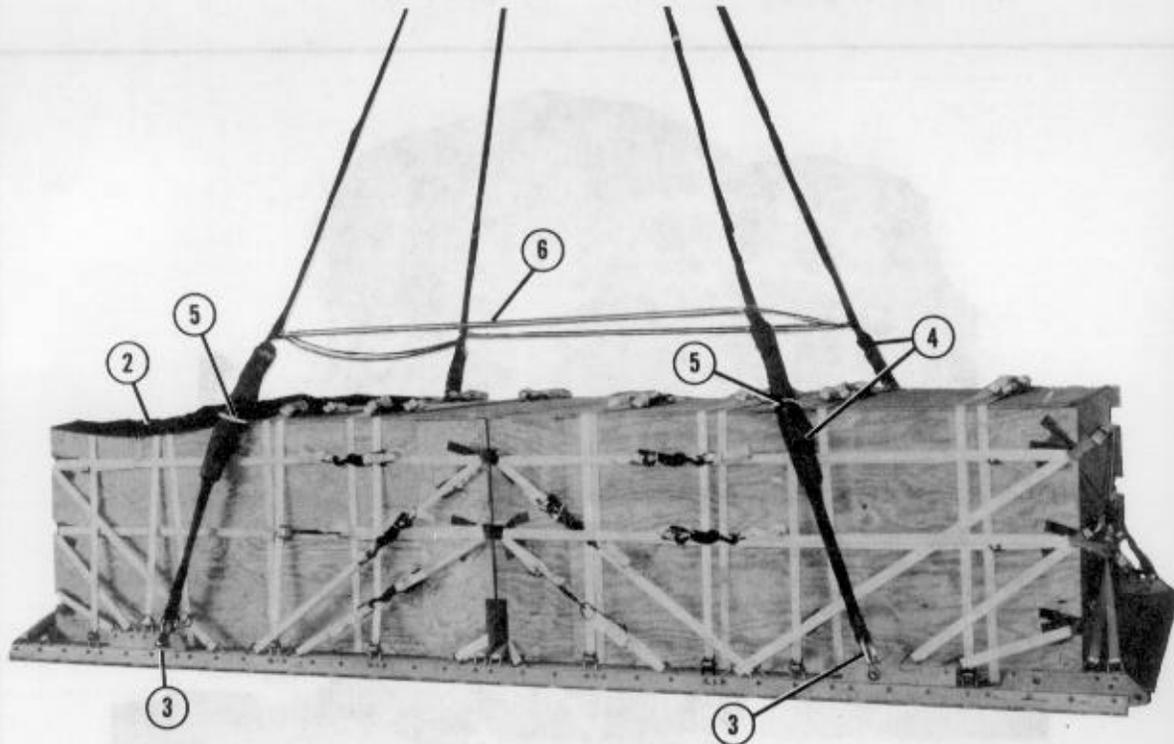
### 17-7. Installing Load Cover, Suspension Slings, and Deadman's Tie

Install the load cover, honeycomb buffers, suspension slings, and deadman's tie as shown in Figure 17-16.



- 1 Slide two 6- by 92-inch pieces of honeycomb between the two boxes at the top. The honeycomb may be held in place by lengths of type III nylon cord tied around the honeycomb and through holes drilled in convenient locations on the boxes.

Figure 17-16. Load cover, suspension slings, and deadman's tie installed



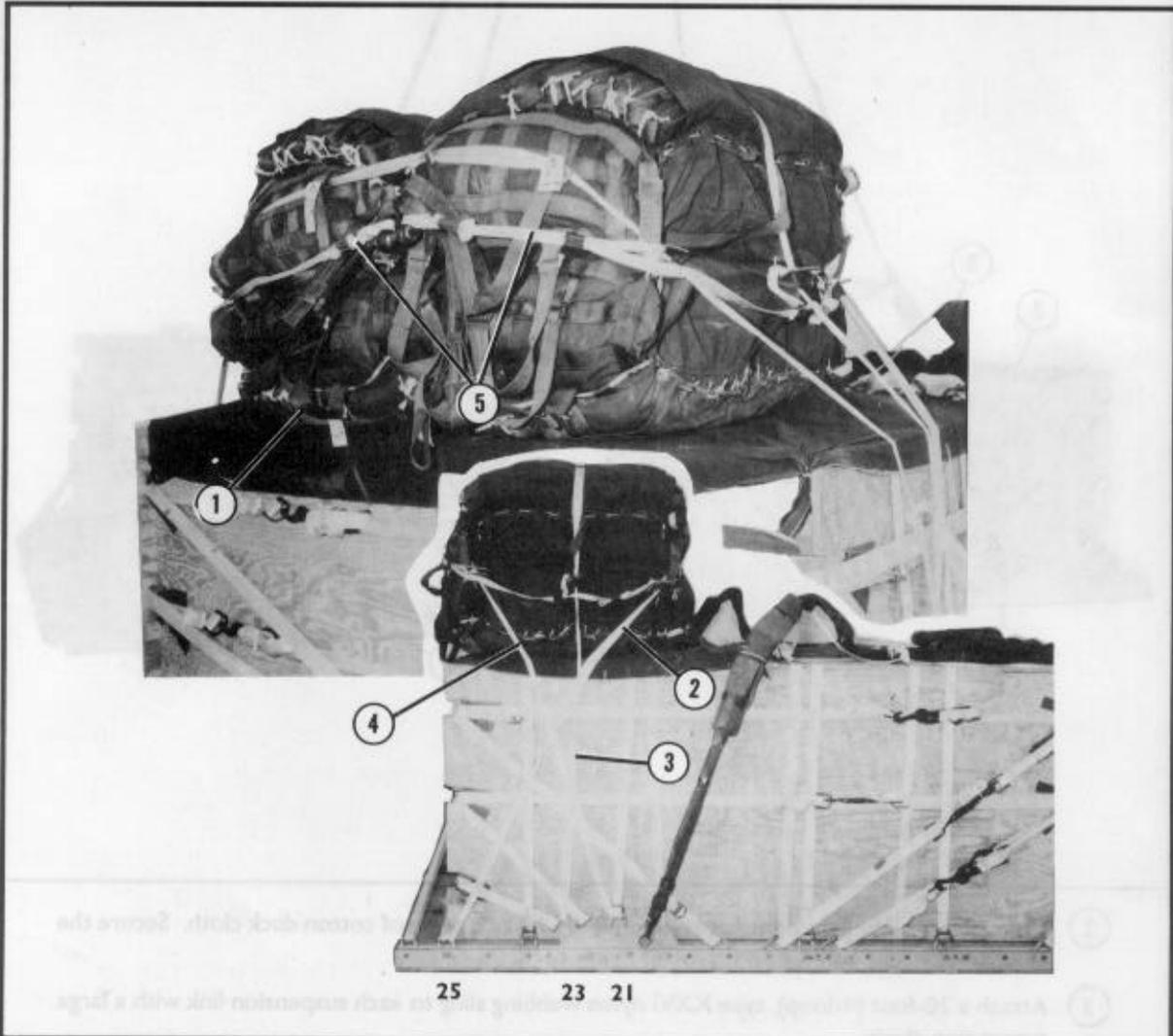
- ② Cover the rear fourth of the load with a 60- by 96-inch piece of cotton duck cloth. Secure the cloth to adjacent lashings with type III nylon cord.
- ③ Attach a 20-foot (4-loop), type XXVI nylon webbing sling to each suspension link with a large suspension clevis.
- ④ Pull the suspension slings tight above the load. Pad each suspension sling 36 inches above the clevis with a 9- by 24-inch piece of felt. Tape the felt in place 2 inches past each end of the felt and in the center.
- ⑤ Tie the front suspension slings together over the top of the load with a length of type III nylon cord. Tie the rear suspension slings together in the same way.
- ⑥ Install the deadman's tie according to FM 10-500-2/TO 13C7-1-5.

Figure 17-16. Load cover, suspension slings, and deadman's tie installed (continued)

### 17-8. Installing Parachutes

Consult FM 10-500-2/TO 13C7-1-5 for the number of cargo parachutes required for the weight of this load. Four G-11B cargo parachutes are

shown here. Install the cargo parachutes according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 17-17.

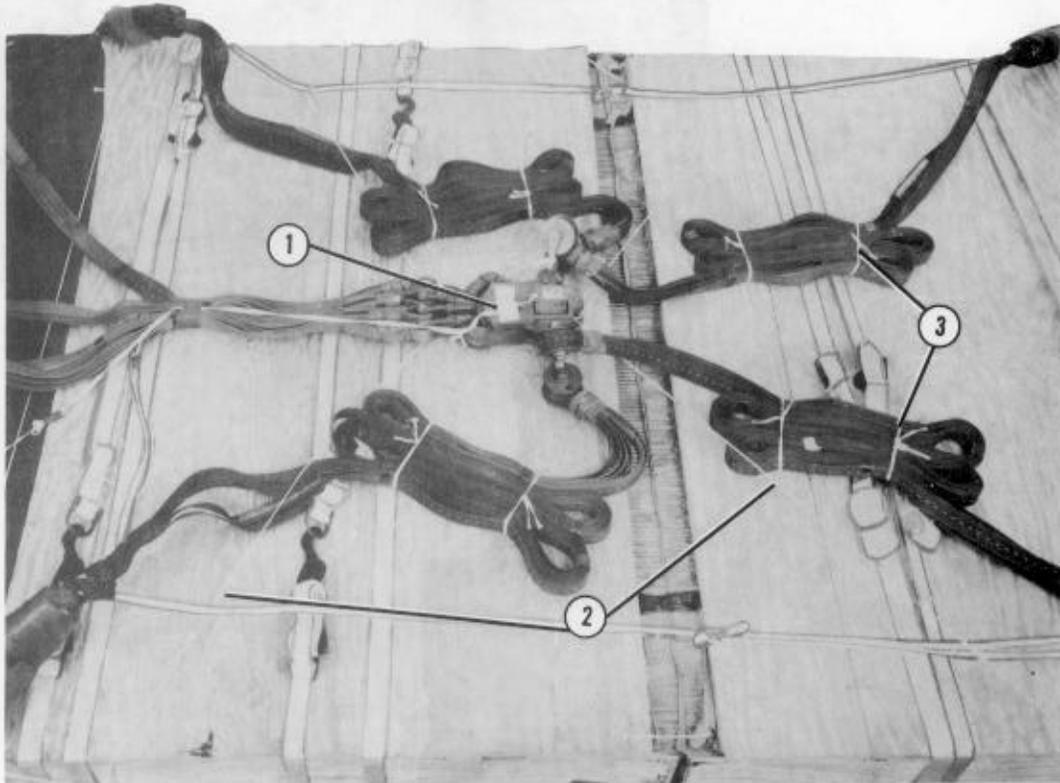


- ① Install the cargo parachutes at the rear of the load.
- ② Tie the front parachute restraint strap to clevises 25 and 25A.
- ③ Tie the center parachute restraint strap to clevises 23 and 23A.
- ④ Tie the rear parachute restraint strap to clevises 21 and 21A.
- ⑤ Install two multicut parachute release straps.

Figure 17-17. Four G-11B cargo parachutes installed

**17-9. Installing Release System**

Install and safety an M-2 cargo parachute release assembly as shown in Figure 17-18.

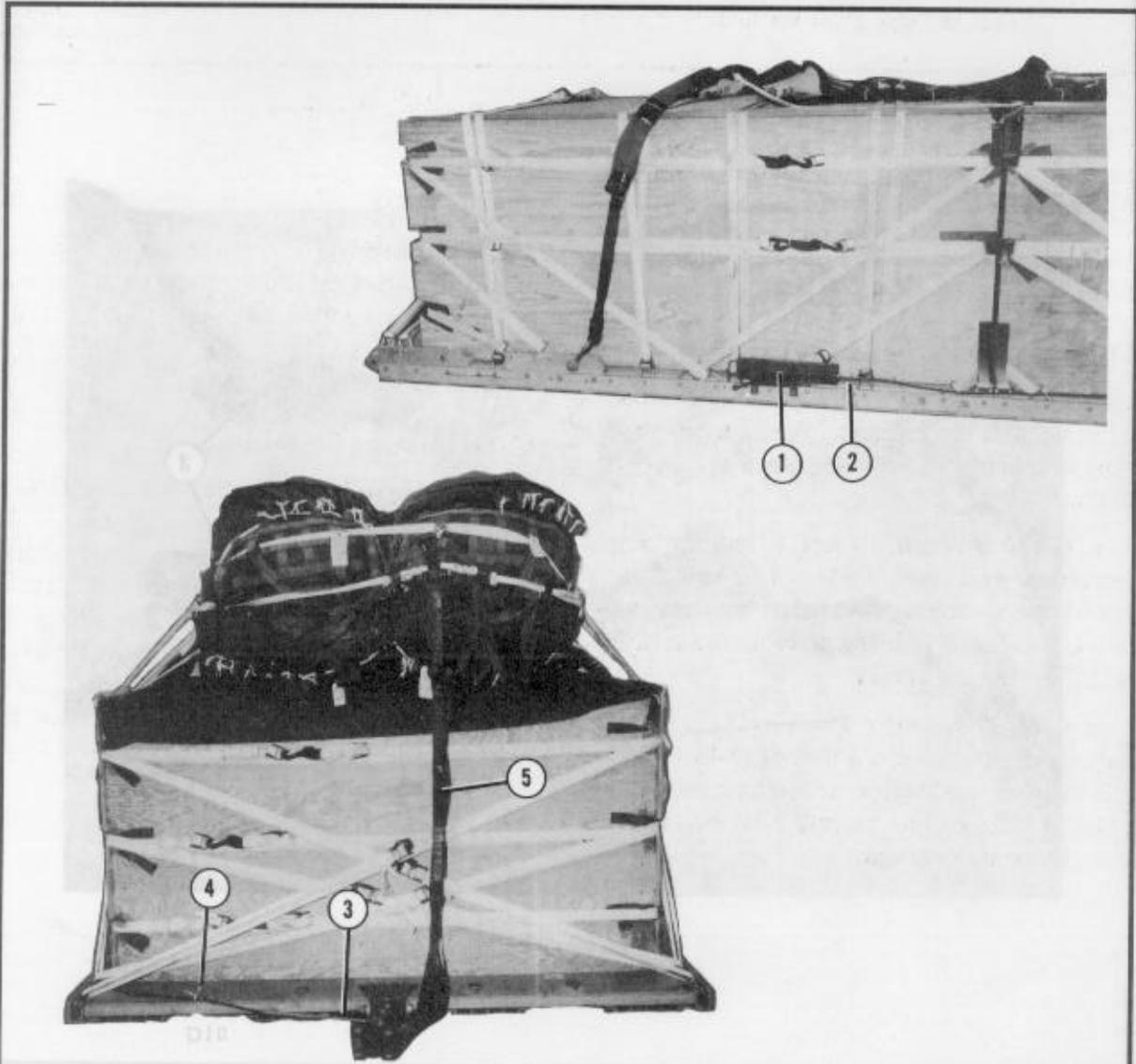


- ① Prepare and install an M-2 cargo parachute release assembly according to FM 10-500-2/TO 13C7-1-5. Place the release assembly in front of the parachutes as shown.
- ② Safety the release to convenient points on the load with type III nylon cord.
- ③ S-fold and tie the slack in the suspension slings with type I, 1/4-inch cotton webbing.

*Figure 17-18. Release assembly installed*

### 17-10. Installing Extraction System

Install the EFTC extraction system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 17-19.



- ① Install the EFTA actuator brackets to the rear mounting holes on the left platform side rail.
- ② Attach a 20-foot release cable to the actuator. Install the actuator to the brackets and run the cable to the rear.

Figure 17-19. Extraction system installed

- ③ Install the latch assembly to the extraction bracket. Attach the release cable to the latch assembly.
- ④ Tie the cable to tie-down ring D10 with type I, 1/4-inch cotton webbing.
- ⑤ Install a 12-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold the slack and tie the folds with type I, 1/4-inch cotton webbing.

*Figure 17-19. Extraction system installed (continued)*

### **17-11. Installing Provisions for Emergency Restraints**

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

### **17-12. 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.

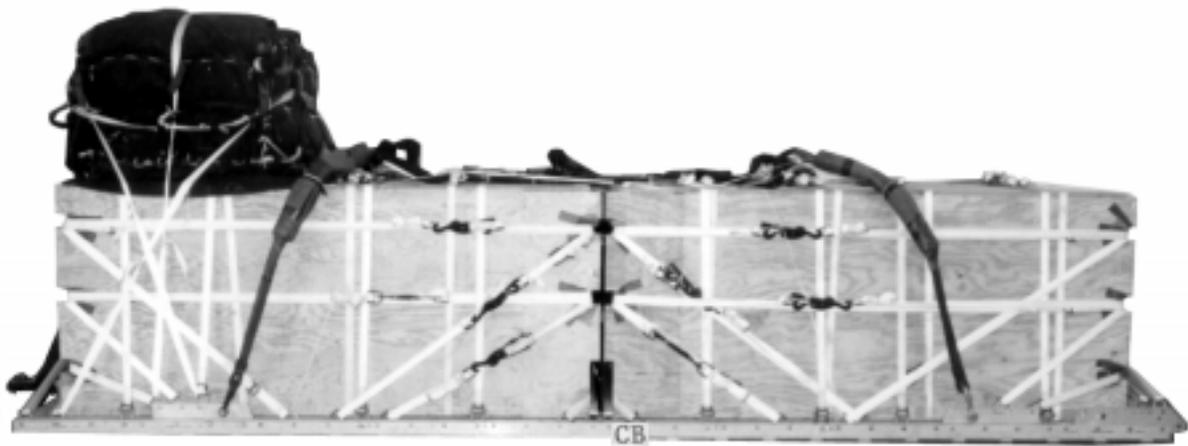
### **17-13. Marking Rigged Load**

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 17-20.

### **17-14. Equipment Required**

Use the equipment listed in Table 17-1 to rig the load shown.

**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:	Minimum load allowed	6,300 pounds
	Maximum load allowed	21,500 pounds
Height		88 inches
Width		108 inches
Length		240 inches
Overhang:	Front	0 inches
	Rear	0 inches
CB (from front edge of platform)		126 inches
Extraction System (adds 18 inches to length of platform)		EFTC

*Figure 17-20. Mass supply boxes rigged on a 20-foot platform for low-velocity airdrop*

Table 17-1. Equipment required for rigging mass supply boxes on a 20-foot type V platform for low-velocity airdrop

National Stock Number	Item	Quantity
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
1670-00-434-5787	Coupling, airdrop, extraction force transfer with cable, 20-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	12
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-in thick	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	For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
	For C-5:	
1670-01-107-7651	140-ft (3-loop), type XXVI and	1
1670-01-062-6313	60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
	Link assembly:	
1670-00-006-2752	Four-point	1
1670-00-783-5988	Type IV	12
	Two-point, 5 1/2-in	
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
5510-00-220-6146	Lumber, 2- by 4- by:	
	45-in	
	85-in	
	106 1/2-in	8
5315-00-010-4657	Nail, steel wire, common, 6d	As required

Table 17-1. Equipment required for rigging mass supply boxes on a 20-foot type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in	1 sheet
1670-01-016-7841	Parachute: Cargo, G-11B	4
1670-00-040-8135	Cargo extraction, 28-ft	1
1670-01-063-3715	Drogue, 15-ft (for C-17)	1
1670-01-353-8425	Platform, airdrop, type V, 20-foot Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(52)
1670-01-353-8424	Extraction bracket assembly	(1)
1670-01-162-2381	Link, tandem, suspension link assembly	(4)
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	12 sheets
1670-01-097-8817	Release, cargo parachute, M-2	1
1670-01-064-4453	Sling, cargo airdrop For suspension: 20-ft( 4-loop), type XXVI nylon webbing	4
1670-01-062-6303	For deployment: 12-ft (2-loop), type XXVI nylon webbing	1
1670-01-06-6302	For riser extension: 20-ft (2-loop), type XXVI nylon webbing	12
5340-00-040-8219	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-ft	93
8305-00-268-2411	Webbing: Cotton, 1/4-in, type	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

## CHAPTER 18

**RIGGING PALLETIZED LOAD SYSTEM ON A 24-FOOT,  
TYPE V PLATFORM FOR LOW-VELOCITY AIRDROP**

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**Section I  
RIGGING 105-MILLIMETER AMMUNITION**

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**18-1. Description of Load**

The Palletized Load System can be moved from the drop zone and transported on a specially designed truck. Bulk supplies are lashed to the pallet, giving the load integrity for transport. The pallet has swivel rings along the sides for lashing the load. The pallet and load are lashed to the airdrop platform for low-velocity airdrop. The load shown consists of 245 boxes of 105-millimeter ammunition. Adapt these procedures to rig other items of bulk supplies. Ammunition listed in FM 10-500-53/MCRP No 4-3.8/TO 13C7-18-41 and certified for low-velocity airdrop may be rigged using these procedures. The rigged load may not be more than 100 inches high. Refer to FM 10-500-2/TO 13C7-1-5 for parachute requirements.

**18-2. Preparing Platform**

Prepare a 24-foot, type V airdrop platform as given below:

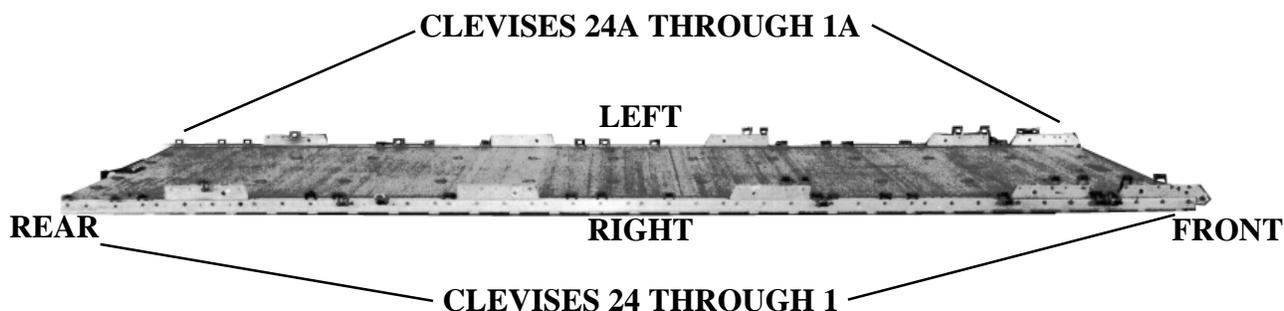
*a. Inspecting Platform.* Inspect, or assemble and inspect, the platform according to TM 10-1670-268-20&P/TO 13C7-52-22.

*b. Installing Suspension Links.* Install the suspension links to the platform according to FM 10-500-2/TO 13C7-1-5.

*c. Installing Tandem Links.* Install two tandem links as shown in Figure 18-1.

*d. Attaching and Numbering Clevises.* Attach and number 62 clevis assemblies as shown in Figure 18-1.

<p><b>NOTES:</b> 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.</p>
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**Step:**

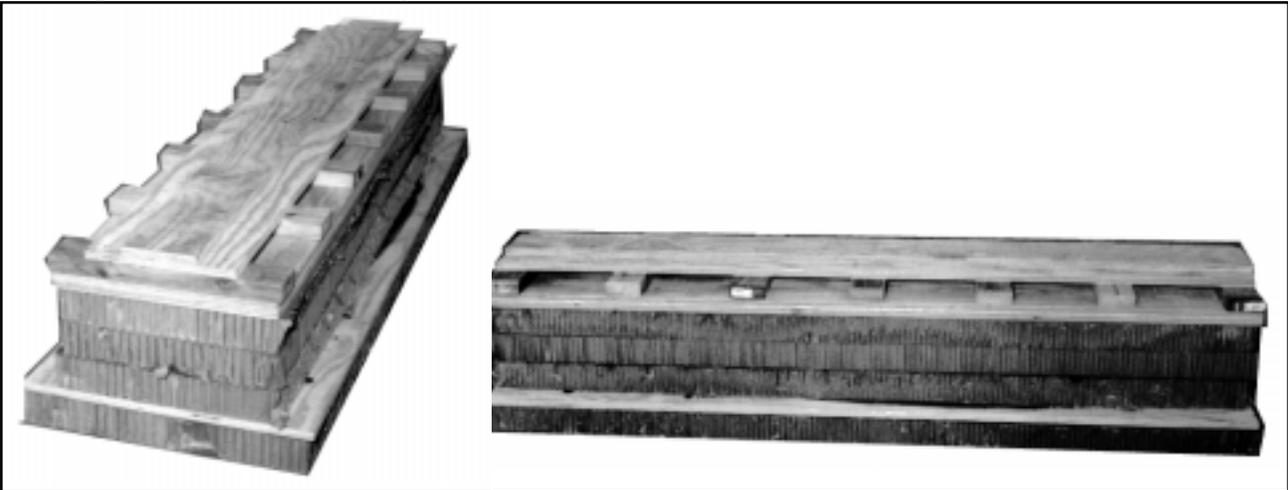
1. Install a suspension link in holes 18, 19, and 20 on each platform side rail.
2. Install a suspension link in holes 6, 7, and 8 on each platform side rail.
3. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
4. Install a suspension link in holes 29, 30, and 31 on each platform side rail.
5. Install a suspension link in holes 41, 42, and 43 on each platform side rail.
6. Install a clevis on bushings 3 and 4 of each front tandem link.
7. Install a clevis and one additional clevis on bushing 1 of each first suspension link.
8. Install a clevis on bushing 3 of each first suspension link.
9. Install clevises on bushings 1 and 2 of each second suspension link.
10. Install a clevis and one additional clevis on bushing 2 of each fourth suspension link.
11. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 4, 5, 9, 13, 14, 16, 17, 23, 26, 27, 32, 35, 37, 38, 45, 46, and 48.
12. Install one additional clevis on bushings 4, 5, 9, 17, 35, and 37 on each side of the platform.
13. Starting at the front of the platform, number the clevises bolted to the right side of the platform from 1 through 24, and those bolted to the left side from 1A through 24A.

**Note: The eight additional clevises on each side of the platform function as bridge clevises. Do not number them apart from the clevises bolted on the platform rail bushings.**

*Figure 18-1. Platform prepared*

**18-3. Preparing and Positioning Honeycomb Stacks**

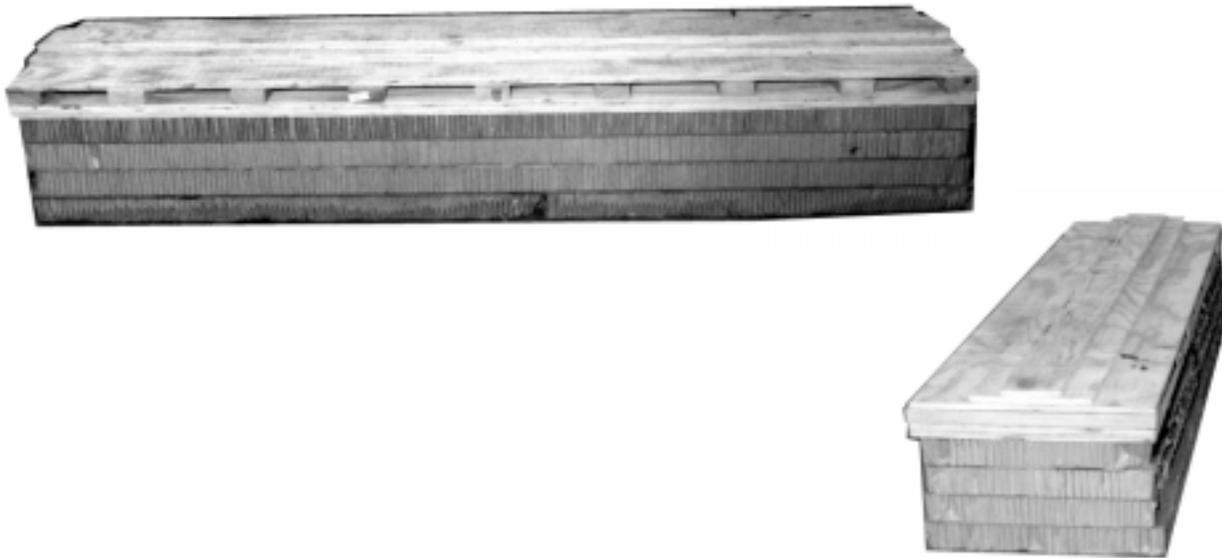
Prepare ten honeycomb stacks as shown in Figures 18-2 through 18-4. Position the stacks on the platform as shown in Figure 18-5.



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1, 2, 5, and 6	1	24	76	Honeycomb	Glue plywood flush over honeycomb to form base.
	1	24	76	3/4-inch plywood	
	3	18	76	Honeycomb	Center and glue on base.
	2	18	76	3/4-inch plywood	Glue flush over honeycomb.
	7	18	*3 1/2	2- by 4-inch lumber	Nail one piece flush over each end of the plywood. Center a third piece between the ends. Space two pieces evenly between each end piece and the center piece.
	1	12	76	3/4-inch plywood	Center and nail over lumber.
	1	6	76	3/4-inch plywood	Center and nail over plywood.

\* Two- by four-inch lumber is actually 3 1/2 inches wide.

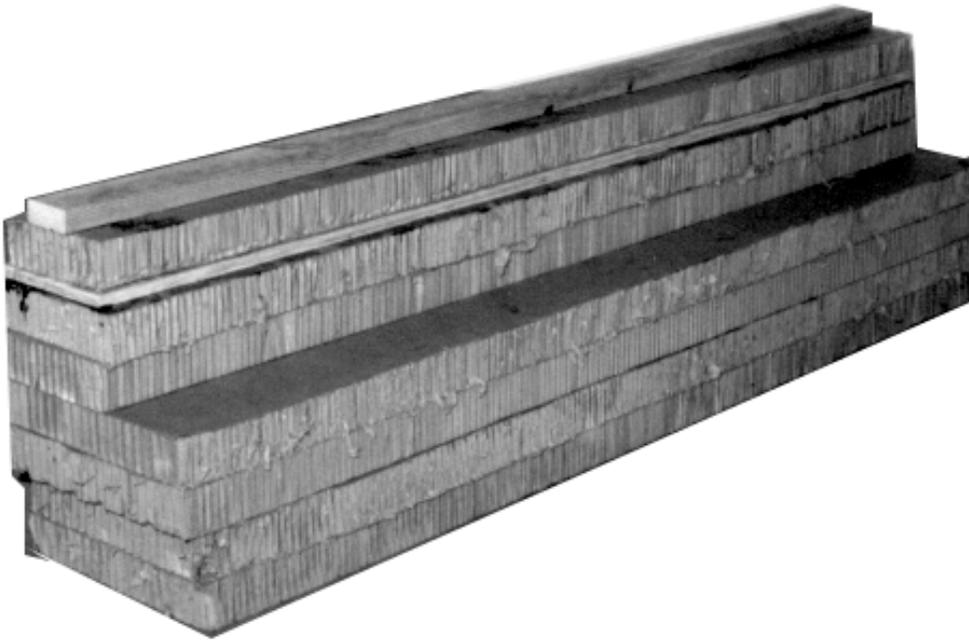
*Figure 18-2. Stacks 1, 2, 5, and 6 prepared*



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3 and 4	4	24	96	Honeycomb	Glue flush to form base.
	2	24	96	3/4-inch plywood	Glue flush over honeycomb.
	9	24	*3 1/2	2- by 4-inch lumber	Nail one piece flush over each end of the plywood. Center a third piece between the ends. Space three pieces evenly between each end piece and the center piece.
	1	24	96	3/4-inch plywood	Center and nail over lumber.
	1	12	96	3/4-inch plywood	Center and nail over plywood.
	1	6	96	3/4-inch plywood	Center and nail over plywood.

\* Two- by four-inch lumber is actually 3 1/2 inches wide.

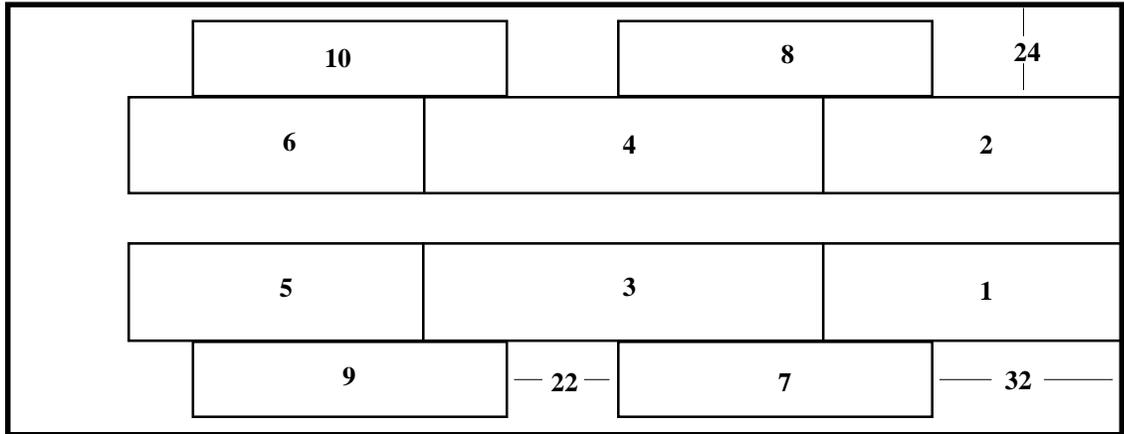
Figure 18-3. Stacks 3 and 4 prepared



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
7, 8, 9, and 10	4	16	84	Honeycomb	Glue flush to form base.
	2	9	84	Honeycomb	Glue flush on one side of base.
	1	9	84	3/4-inch plywood	Glue flush over honeycomb.
	1	9	84	Honeycomb	Glue flush over plywood.
	1	*3 1/2	84	2- by 4-inch lumber	Center and glue on honeycomb.

Figure 18-4. Stacks 7, 8, 9, and 10 prepared

Notes: 1. This drawing is not to scale.  
 2. All dimensions are in inches.

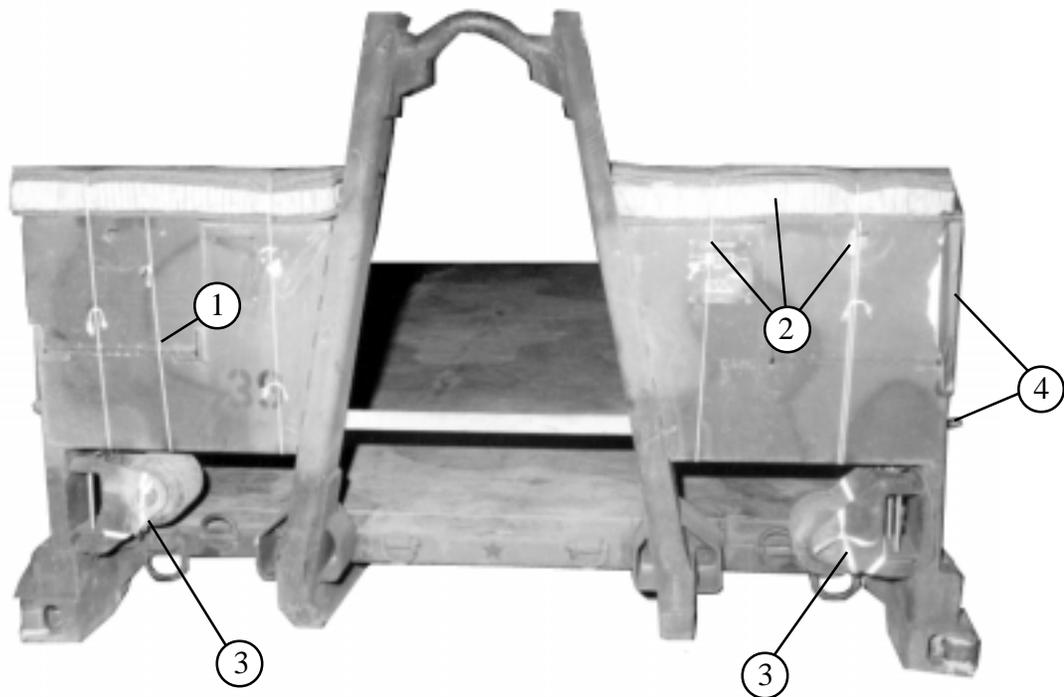


Stack Number	Position of Stack on Platform
1	Place stack: Flush with the front edge of the platform and 24 inches from the right inside platform edge.
2	Flush with the front edge of the platform and 24 inches from the left inside platform edge.
3	Against and aligned behind stack 1.
4	Against and aligned behind stack 2.
5	Against and aligned behind stack 3.
6	Against and aligned behind stack 4.
7	32 inches from the front edge of the platform and flush with the right sides of stacks 1 and 3.
8	32 inches from the front edge of the platform and flush with the left side of stacks 2 and 4.
9	22 inches to the rear of stack 7 and flush with the right side of stacks 3 and 5.
10	22 inches to the rear of stack 8 and flush the the left side of stacks 4 and 6.

Figure 18-5. Honeycomb stacks positioned on platform

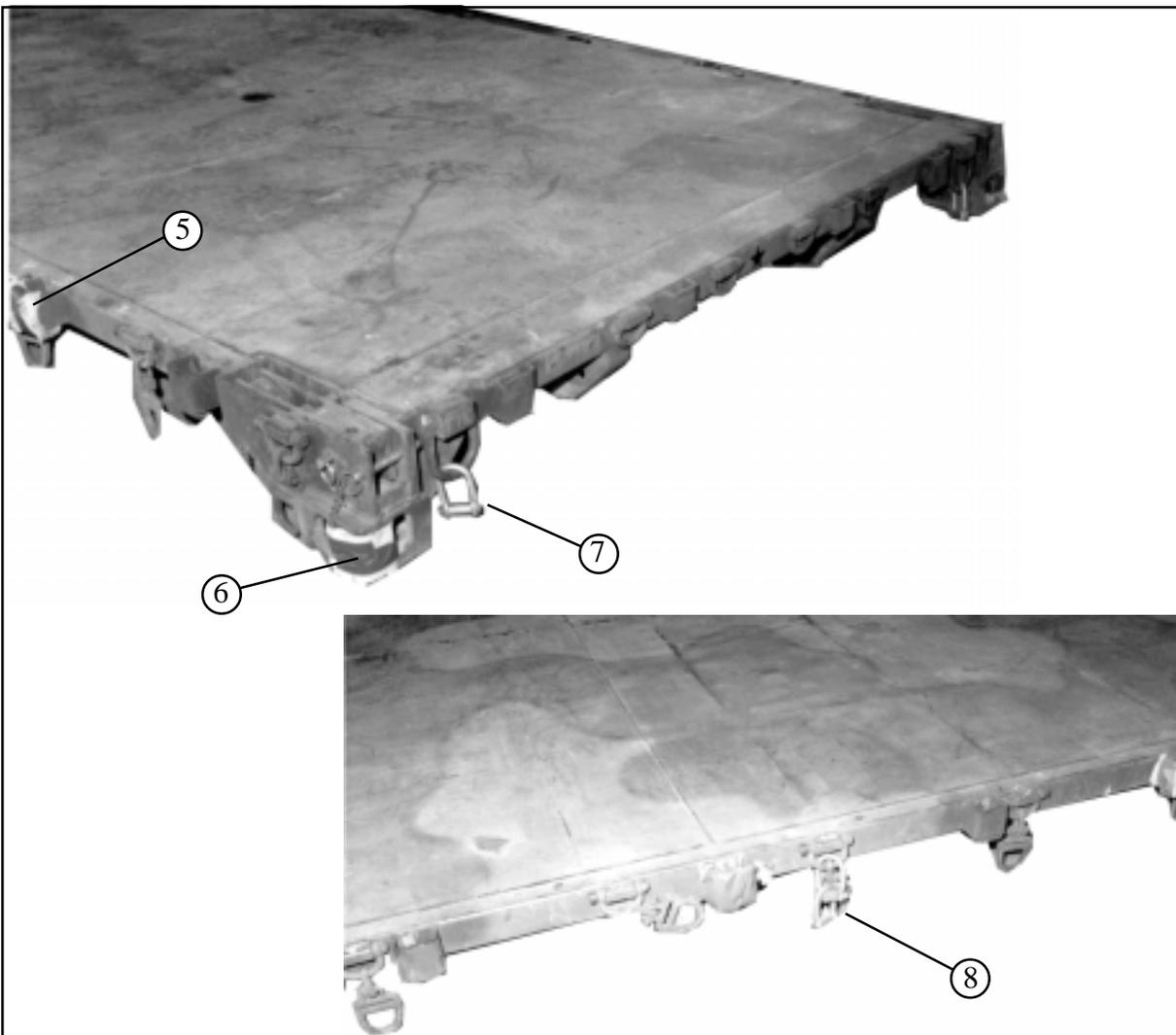
#### 18-4. Preparing PLS Pallet

Prepare the pallet as shown in Figure 18-6.



- ① Tie the storage compartments on each side shut with type III nylon cord.
- ② Pad the top of each box area with a 7- by 30-inch piece of felt, a 7- by 30-inch piece of honeycomb, and two 7- by 30-inch pieces of felt. Tie the padding in place with two lengths of type III nylon cord.
- ③ Remove the wheels and secure them in place with the pins provided. Tie the wheels to their brackets with a length of 1/2-inch tubular nylon webbing.
- ④ Pad the fixtures on the outsides of the boxes with cellulose wadding and tape.

*Figure 18-6. Pallet prepared*



- ⑤ Pad the second stake bracket on each side with cellulose wadding and tape.
- ⑥ Pad all four corners of the pallet around the bottom holes with cellulose wadding and tape as shown.
- ⑦ Add a platform clevis to each of the large tie-down brackets at the rear of the PLS pallet.
- ⑧ Add two platform clevises to the sixth swivel ring bracket on each side of the PLS pallet.

*Figure 18-6. Pallet prepared (continued)*

### 18-5. Positioning PLS Pallet on Platform

Position the pallet on the platform and install the restraint lashings around the honeycomb stacks as shown in Figure 18-7.

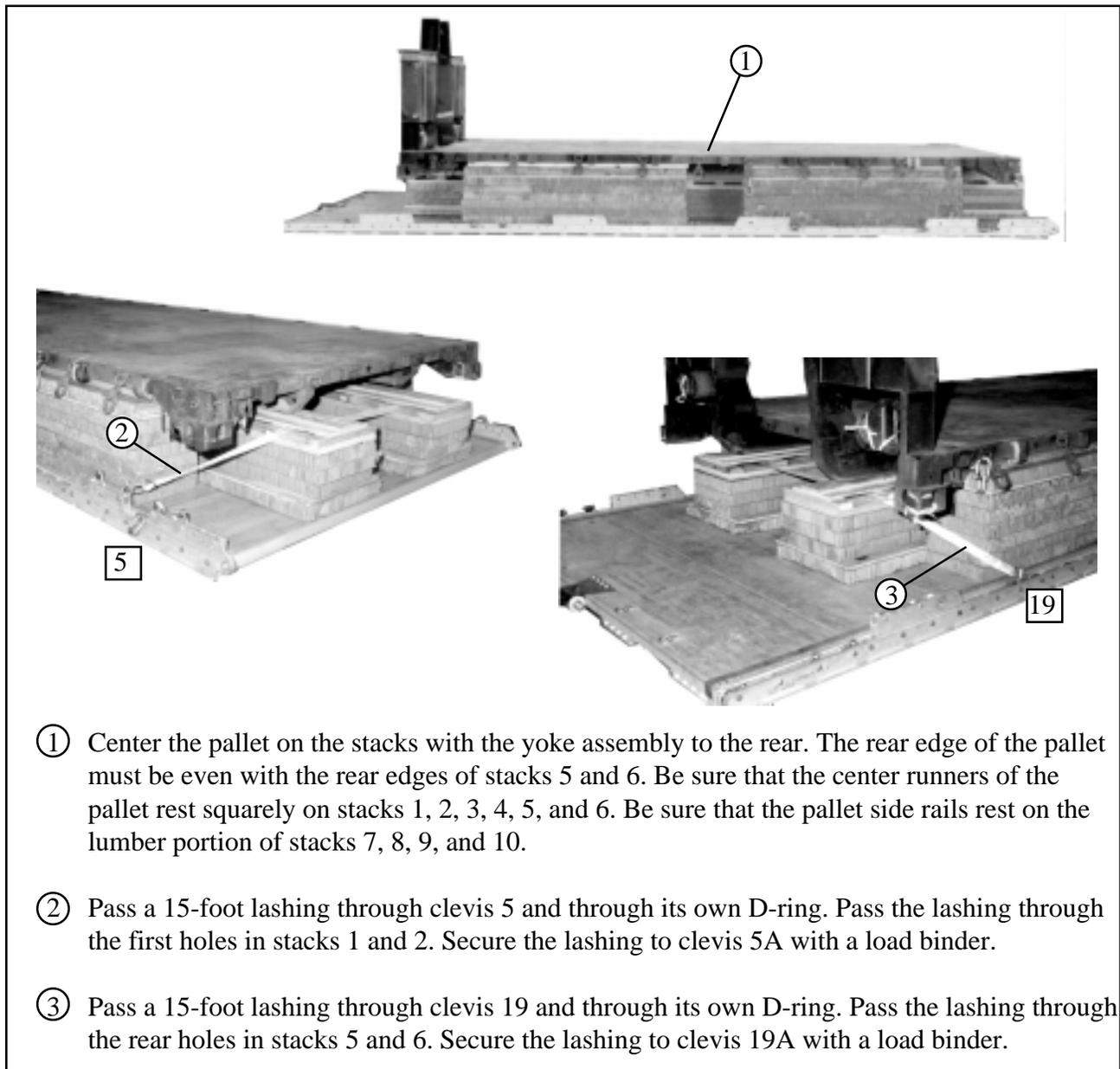
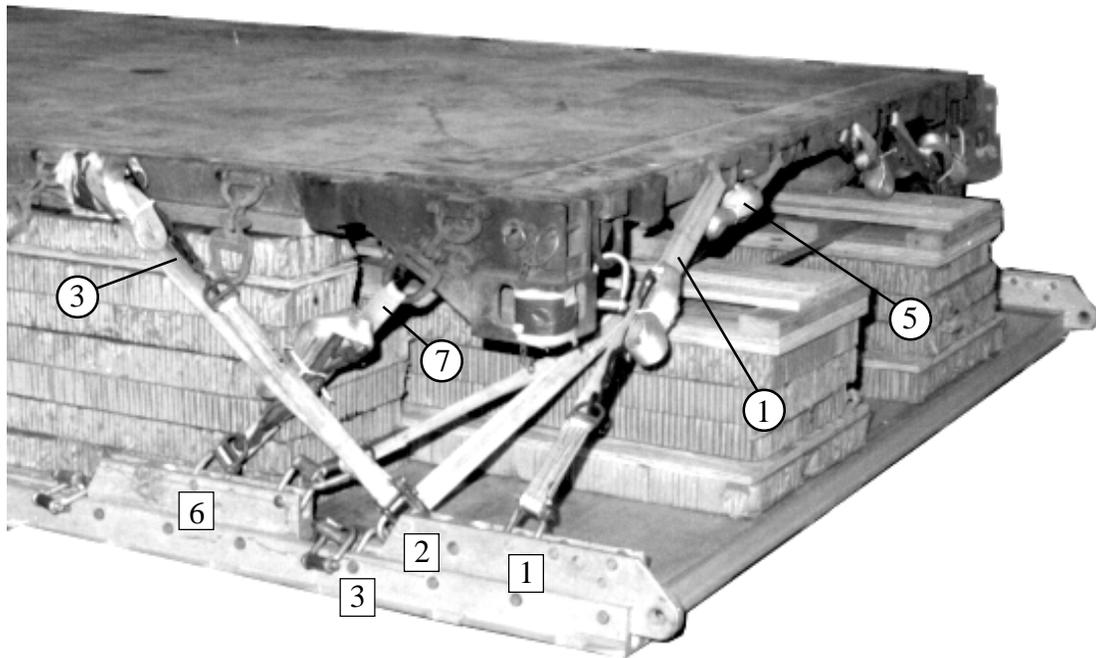


Figure 8-7. Pallet positioned and restraint lashing installed

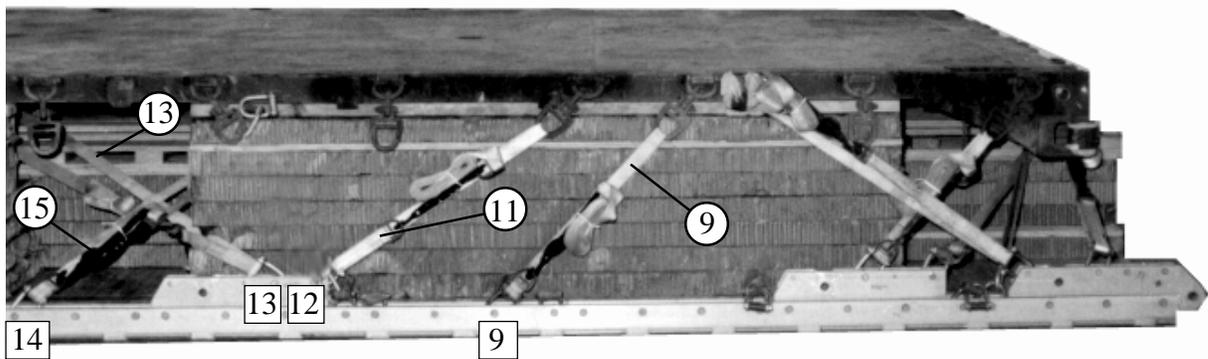
### 18.6 Lashing PLS Pallet to Platform

Lash the PLS pallet to the platform as shown in Figure 18-8.



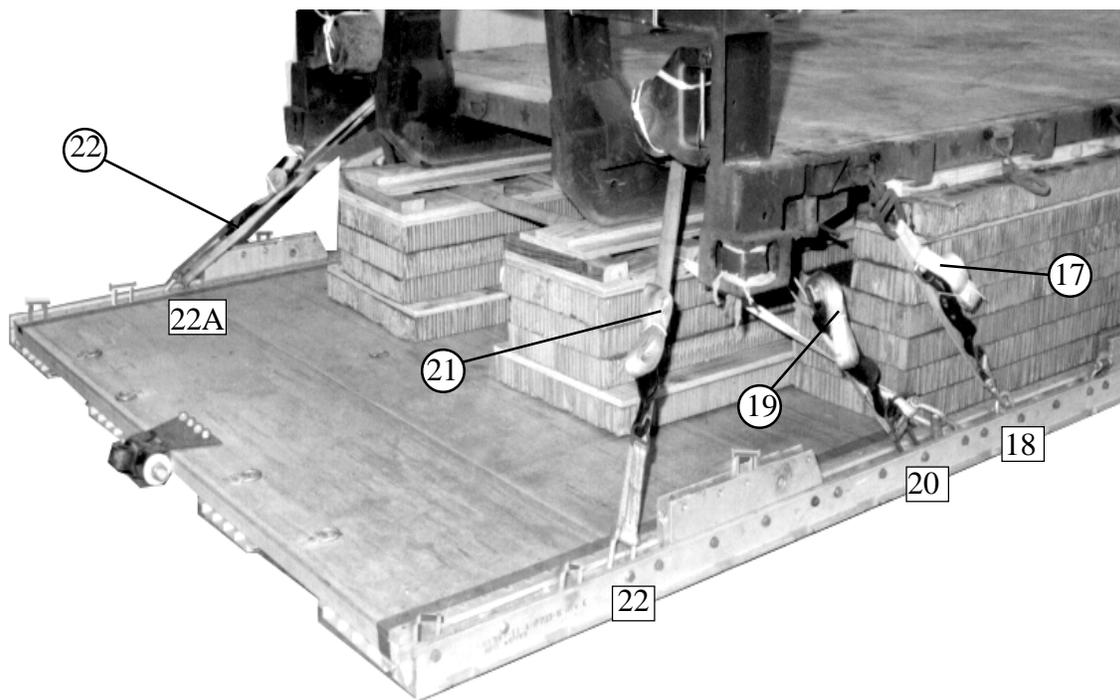
Lashing Number	Tie-down Clevis Number	Instructions
1	1	Pass lashing: Through the right front outside tie-down point.
2	1A	Through the left front outside tie-down point.
3	2	Through the second stake bracket.
4	2A	Through the second stake bracket.
5	3	Through the right front inside tie-down point.
6	3A	Through the left front inside tie-down point.
7	6	Through the first swivel ring.
8	6A	Through the first swivel ring.

Figure 18-8. Pallet lashed to platform



Lashing Number	Tie-down Clevis Number	Instructions
9	9	Pass lashing: Through the third swivel ring.
10	9A	Through the third swivel ring.
11	12	Through the fourth swivel ring.
12	12A	Through the fourth swivel ring.
13	13	Through the rear holes in the skid.
14	13A	Through the rear holes in the skid.
15	14	Through the front holes in the skid
16	14A	Through the front holes in the skid.

Figure 18-8. Pallet lashed to platform (continued)



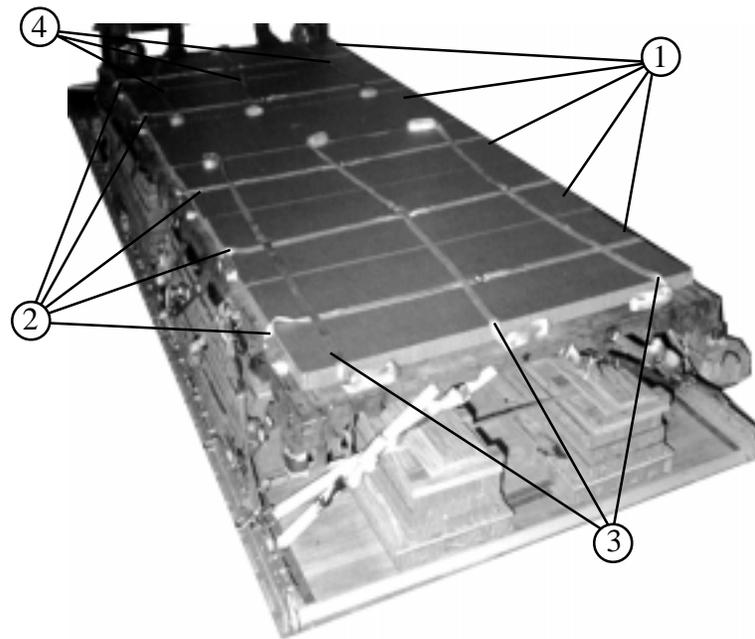
Lashing Number	Tie-down Clevis Number	Instructions
17	18	Pass lashing: Through the eleventh swivel ring.
18	18A	Through the eleventh swivel ring.
19	20	Through the right corner tie-down ring.
20	20A	Through the left corner tie-down ring.
21	22	Through the right outside tie-down point.
22	22A	Through the left outside tie-down point.

Figure 18-8. Pallet lashed to platform (continued)

### 18-7. Placing and Lashing the Load

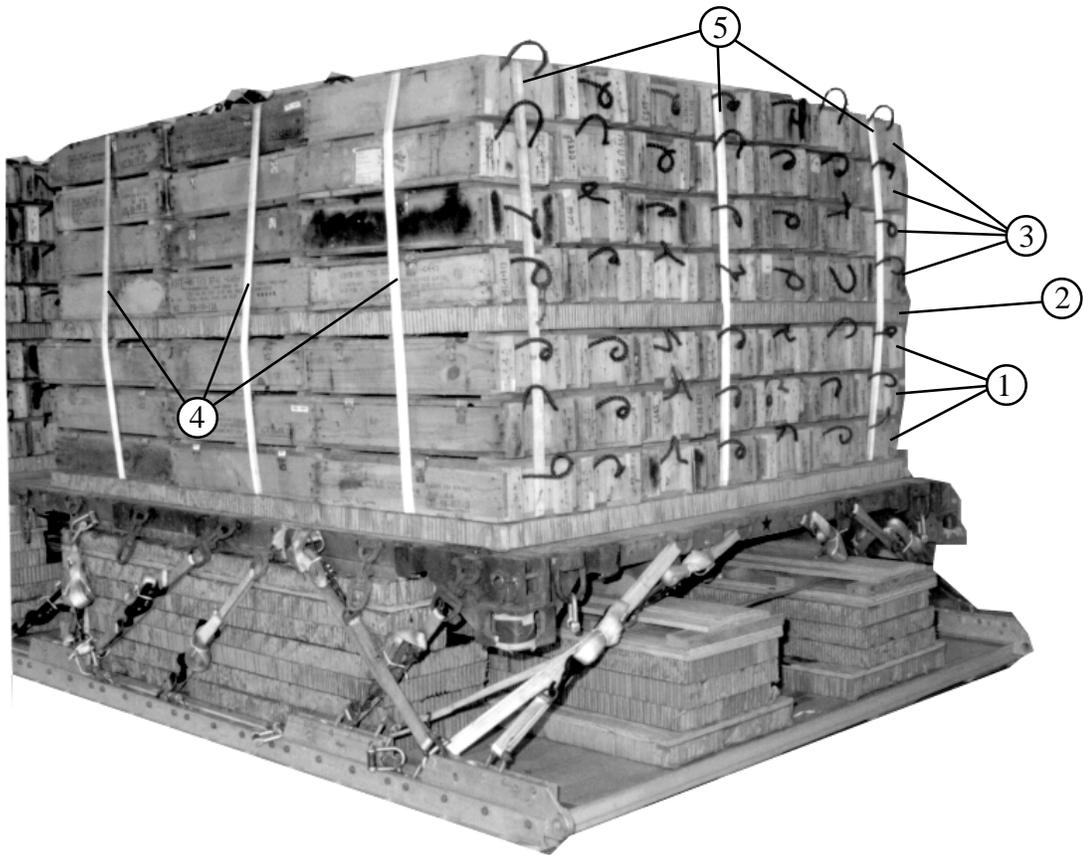
Place a layer of honeycomb and eleven 30-foot lashings on the pallet as shown in Figure 18-9. Place 245 boxes of 105-millimeter ammunition on the pallet and bind the boxes together with the lashings as shown in Figure 18-10. Construct four endboards as shown in Figure 18-11.

Secure the boxes and endboards to the front section of the pallet as shown in Figure 18-12. Secure the boxes and endboards to the rear section of the pallet as shown in Figure 8-13. Lash the load to the platform as shown in Figure 8-14.



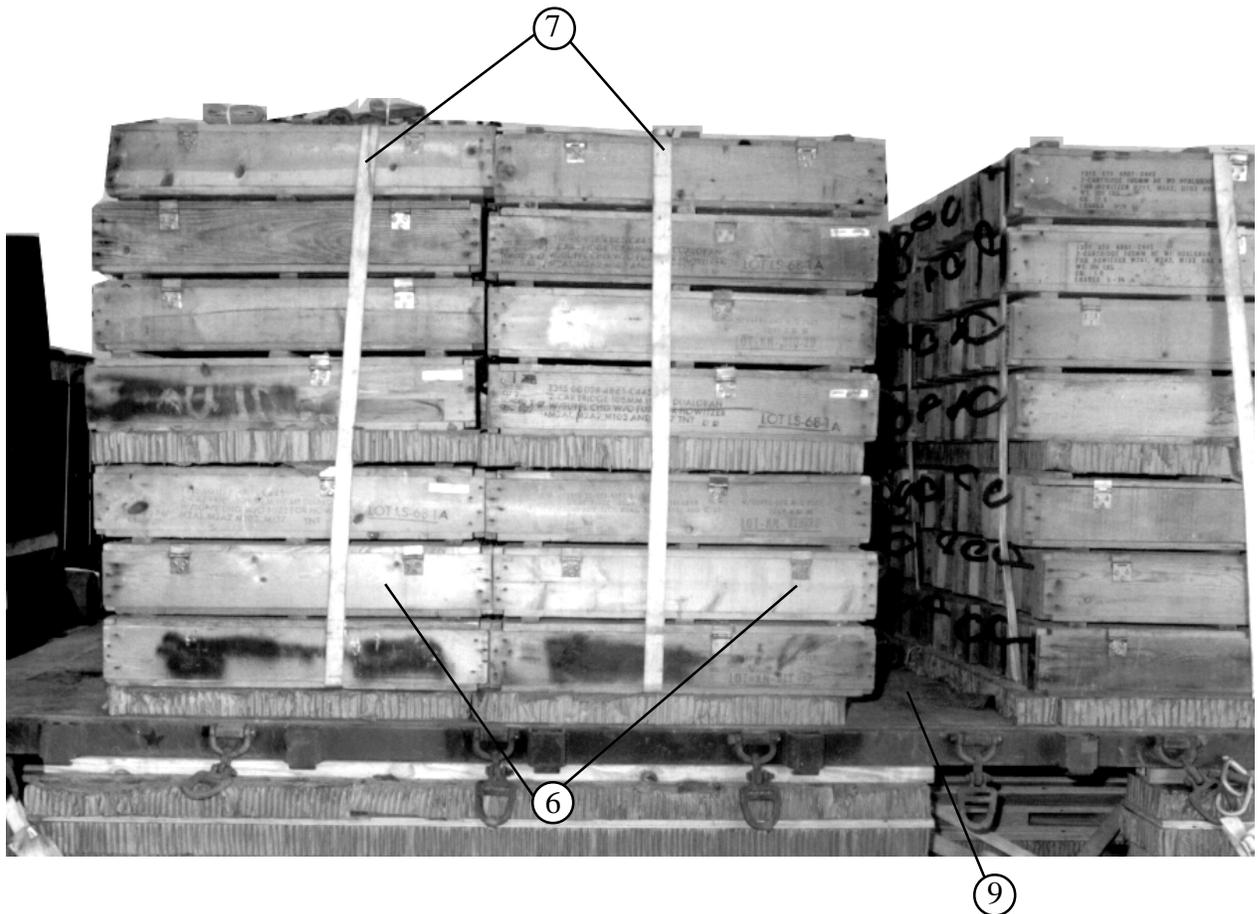
- ① Cover the pallet with five 96- by 36-inch pieces of honeycomb, beginning 4 1/2 inches from the front edge.
- ② Place and center five 30-foot lashings across the honeycomb at 18 inches, 54 inches, 90 inches, 124 inches, and 160 inches.
- ③ Center the D-rings of three 30-foot lashings on the second of the lashings placed in step 2. Center one of the lashings, and place the other two 7 inches from each side.
- ④ Center the D-rings of three 30-foot lashings between the fourth and fifth of the lashings placed in step 2. Center one of the lashings, and place the other two 7 inches from each side.

*Figure 18-9. Honeycomb and lashings placed on the pallet*



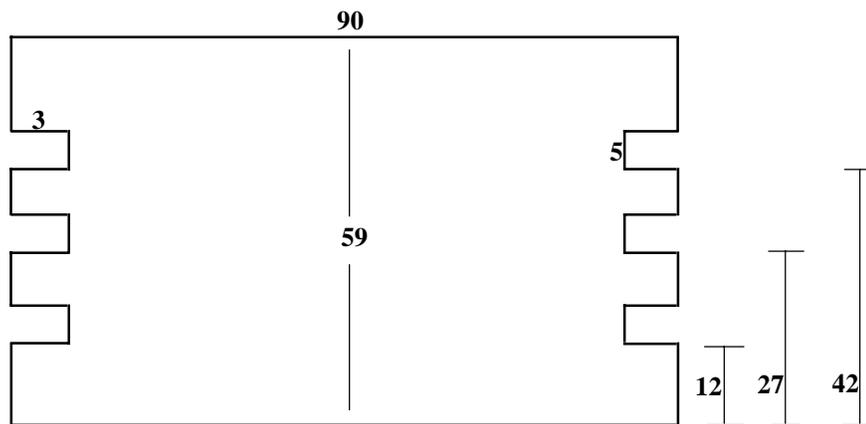
- ① Place 21 boxes (three rows of seven each) flush with the edges of the honeycomb. Place two more stacks of 21 each flush behind these.
- ② Cover the three layers of boxes with a layer of honeycomb.
- ③ Place four layers of boxes over the boxes and honeycomb placed in steps 1 and 2 above.
- ④ Fasten the three side-to-side lashings on top of the boxes.
- ⑤ Bring the center lashing up through the carrying handles of the middle boxes, and secure it on top of the load. Bring the side lashings up through the carrying handles of the end boxes, and secure them on top of the load.

*Figure 18-10. Ammunition boxes placed on pallet*



- ⑥ Beginning 16 inches from the front stack of boxes, place 98 boxes on the honeycomb in the same configuration as in steps 1 through 3.
- ⑦ Secure the two side-to-side lashings on top of the boxes.
- ⑧ Route and secure the three front-to-rear lashings in the same way as in step 5 (not shown).
- ⑨ Cut out the honeycomb between the two stacks of boxes to allow the endboards to rest on the pallet.

*Figure 18-10. Ammunition boxes placed on pallet (continued)*

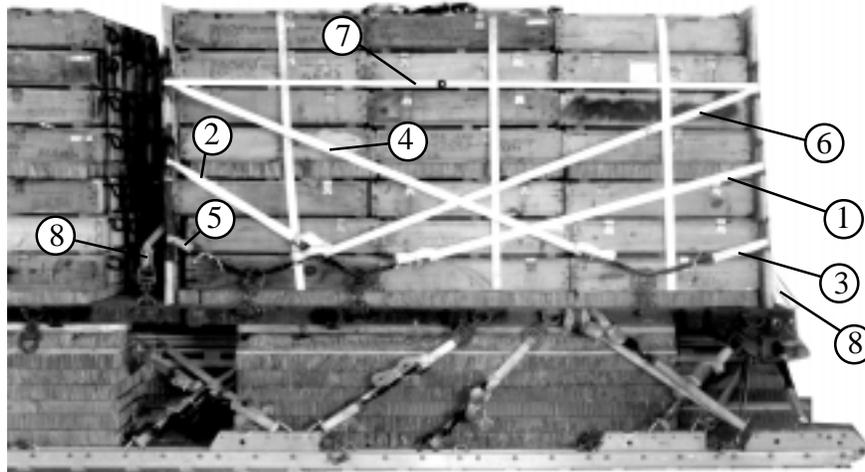


- Notes:**
1. This drawing is not to scale.
  2. For loads different from that shown in this section, make the endboards the same height as the load configuration.
  3. The instructions given are for one endboard. Four are required for this load.
  4. All dimensions are given in inches.

Step:

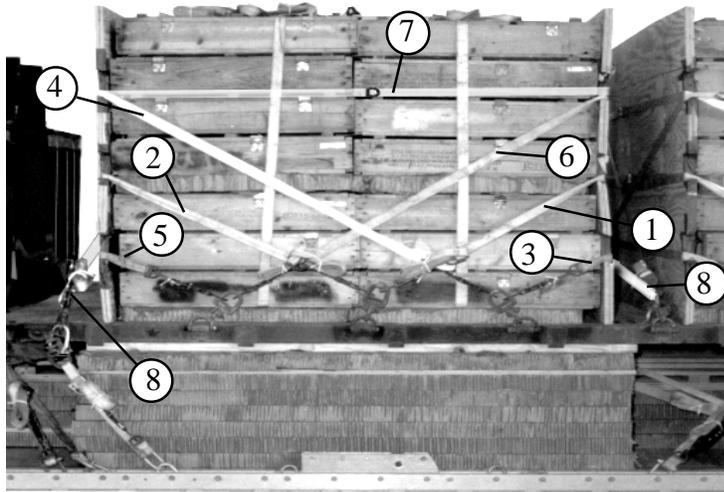
1. Cut two 3/4- by 48- by 90-inch and two 3/4- by 11- by 90-inch pieces of plywood. Nail the four pieces flush together so that a single 1 1/2- by 59- by 90-inch piece of plywood results. (The 11-inch piece will be at the top on one side, and at the bottom on the other side).
2. Make cutouts 5 inches wide and 3 inches deep. Tape the sharp edges of the cutouts.

*Figure 18-11. Four endboards constructed*



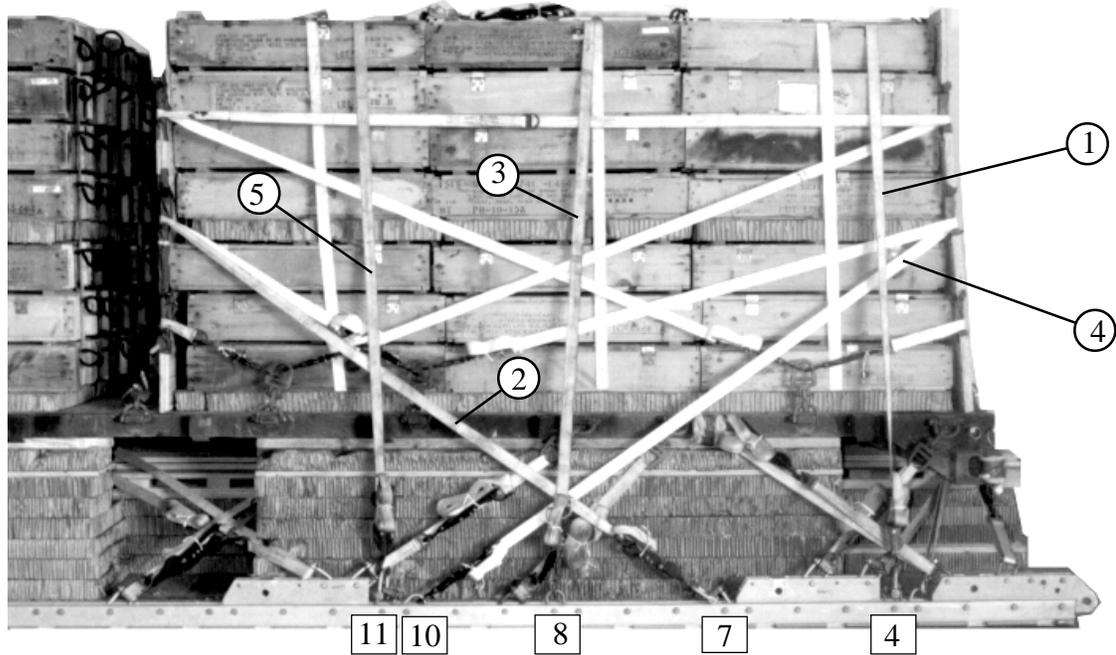
- ① Set an endboard against each end of the front stack of boxes. Center a 30-foot lashing on the front endboard and pass the free ends through the middle cutouts. Secure the ends to the fifth swivel rings with D-rings and load binders.
- ② Center a 30-foot lashing on the second endboard and pass the free ends through the middle cutouts. Secure the ends to the fifth swivel rings with D-rings and load binders.
- ③ Place a 15-foot lashing in the lower cutouts of the first endboard. Secure each end of the lashing to the second swivel rings with a load binder.
- ④ Center a 30-foot lashing on the second endboard and pass the free ends through the upper cutouts. Secure the ends to the second swivel rings with D-rings and load binders.
- ⑤ Place a 15-foot lashing in the lower cutouts of the second endboard. Secure each end of the lashing to the sixth swivel rings with a load binder.
- ⑥ Center a 30-foot lashing on the first endboard and pass the free ends through the upper cutouts. Secure the ends to the sixth swivel rings with D-rings and load binders.
- ⑦ Center a 30-foot lashing against the right side and pass the free ends through the upper cutouts in the right side of both endboards. Secure the ends to the left front clevis in the front tie-down point and to the seventh swivel ring on the left side with D-rings and load binders. Fasten the load binder to the platform clevis installed earlier.
- ⑧ Center a 30-foot lashing against the left side and pass the free ends through the upper cutouts in the left side of both endboards. Secure the ends to the right front clevis in the front tie-down point and to the seventh swivel ring on the right side with D-rings and load binders. Fasten the load binder to the platform clevis installed earlier.

*Figure 18-12. Front boxes and endboards secured to pallet*



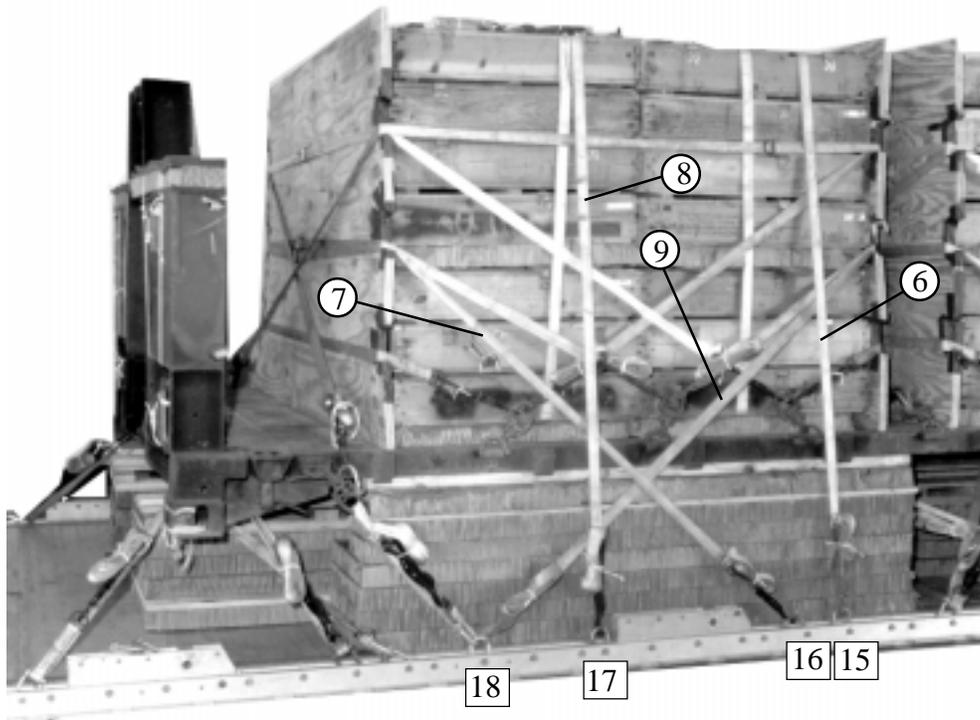
- ① Set an endboard against each end of the rear stack of boxes. Center a 30-foot lashing on the third endboard and pass the free ends through the middle cutouts. Secure the ends to the ninth swivel rings with D-rings and load binders.
- ② Center a 30-foot lashing on the fourth endboard and pass the free ends through the middle cutouts. Secure the ends to the ninth swivel rings with D-rings and load binders.
- ③ Place a 15-foot lashing in the lower cutouts of the third endboard. Secure the ends of the lashing to the eighth swivel rings with a load binder.
- ④ Center a 30-foot lashing on the fourth endboard and pass the free ends through the upper cutouts. Secure the ends to the eighth swivel rings with D-rings and load binders.
- ⑤ Place a 15-foot lashing in the lower cutouts of the fourth endboard. Secure the ends of the lashing to the tenth swivel rings with a load binder.
- ⑥ Center a 30-foot lashing on the third endboard and pass the free ends through the upper cutouts. Secure the ends to the tenth swivel rings with D-rings and load binders.
- ⑦ Center a 30-foot lashing against the right side and pass the free ends through the upper cutouts in the right side of both endboards. Secure the ends to the clevis on the eleventh swivel ring and to the seventh swivel ring on the left side with D-rings and load binders. Fasten the load binder to the remaining platform clevis installed earlier.
- ⑧ Center a 30-foot lashing against the left side and pass the free ends through the upper cutouts in the left side of both endboards. Secure the ends to the clevis on the eleventh swivel ring and to the seventh swivel ring on the right side with D-rings and load binders. Fasten the load binder to the remaining platform clevis installed earlier.

*Figure 18-13. Rear boxes and endboards secured to pallet*



Lashing Number	Tie-down Clevis Numbers	Instructions
1	4 and 4A	Pass 30-foot lashing: Over the load. Fit a D-ring to each free end, and secure to the clevises with load binders.
2	7 and 7A	Through the center cutouts in the second endboard. Fit a D-ring to each free end, and secure to the clevises with load binders.
3	8 and 8A	Over the load. Fit a D-ring to each free end, and secure to the clevises with load binders.
4	10 and 10A	Through the center cutouts in the first endboard. Fit a D-ring to each free end, and secure to the clevises with load binders.
5	11 and 11A	Over the load. Fit a D-ring to each free end, and secure to the clevises with load binders.

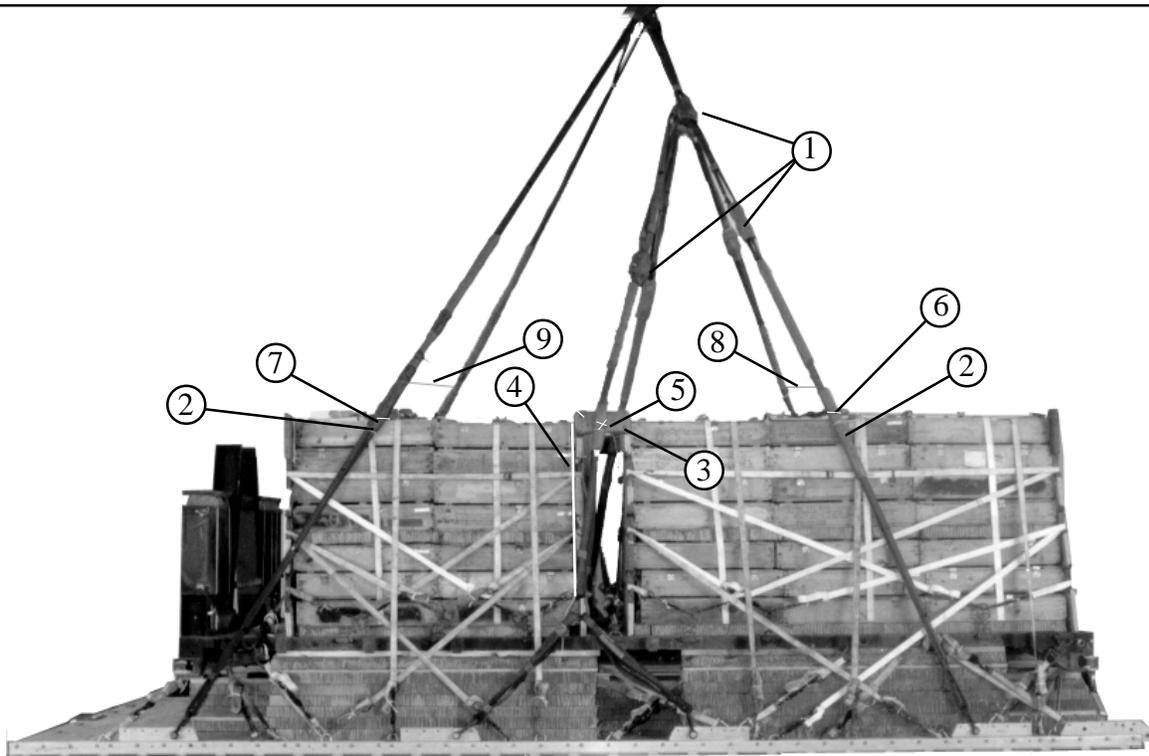
Figure 8-14. Load lashed to platform



Lashing Number	Tie-down Clevis Numbers	Instructions
6	15 and 15A	Pass 30-foot lashing: Over the load. Fit a D-ring to each free end, and secure to the clevises with load binders.
7	16 and 16A	Through the center cutouts in the fourth endboard. Fit a D-ring to each free end, and secure to the clevises with load binders.
8	17 and 17A	Over the load. Fit a D-ring to each free end, and secure to the clevises with load binders.
9	18 and 18A	Through the center cutouts in the third endboard. Fit a D-ring to each free end, and secure to the lower clevises with load binders.

Figure 8-14. Load lashed to platform (continued)



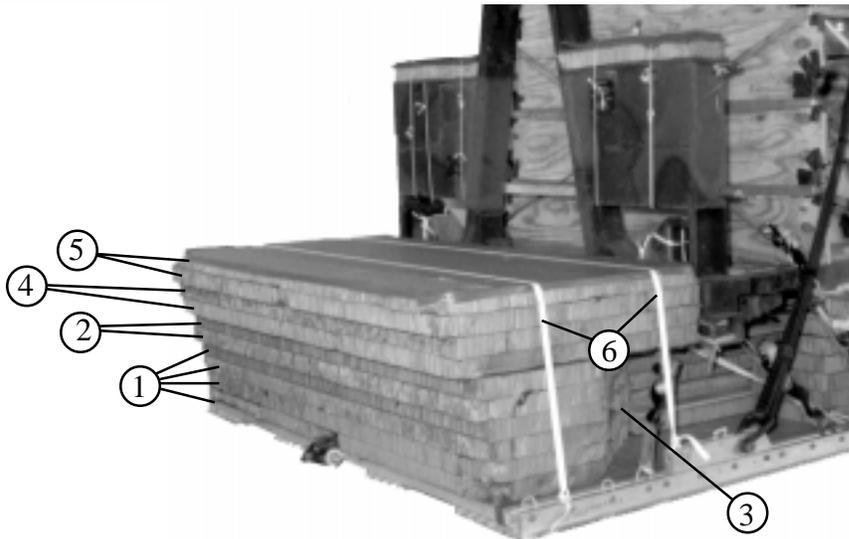


- ① Pad the two-point and three-point links with felt and tape. Raise the suspension slings.
- ② Pad the suspension slings where they pass over the corners of the load with felt and tape.
- ③ Measure and cut two pieces of 2- by 12-inch lumber long enough to bridge the gap between the endboards. Nail the lumber securely to the endboards flush with the top edges. Pad the lumber with cellulose wadding and tape.
- ④ Tie a length of type III nylon cord to the center clevis on one side. Pass the cord over the load, and tie it to the center clevis on the other side so that both clevises are supported.
- ⑤ Tie the center suspension slings to the padded lumber placed in step 3 above with type III nylon cord.
- ⑥ Tie the front suspension slings to each other over the load with a length of type III nylon cord.
- ⑦ Tie the rear suspension slings to each other over the load with a length of type III nylon cord.
- ⑧ Tie the front suspension slings to each other 12 inches above the load with 1/2-inch tubular nylon webbing.
- ⑨ Tie the rear suspension slings to each other 12 inches above the load with 1/2-inch tubular nylon webbing.

*Figure 18-16. Suspension slings safetied*

### 18-9. Building Parachute Stowage Platform

Build the parachute stowage platform as shown in Figure 18-17.

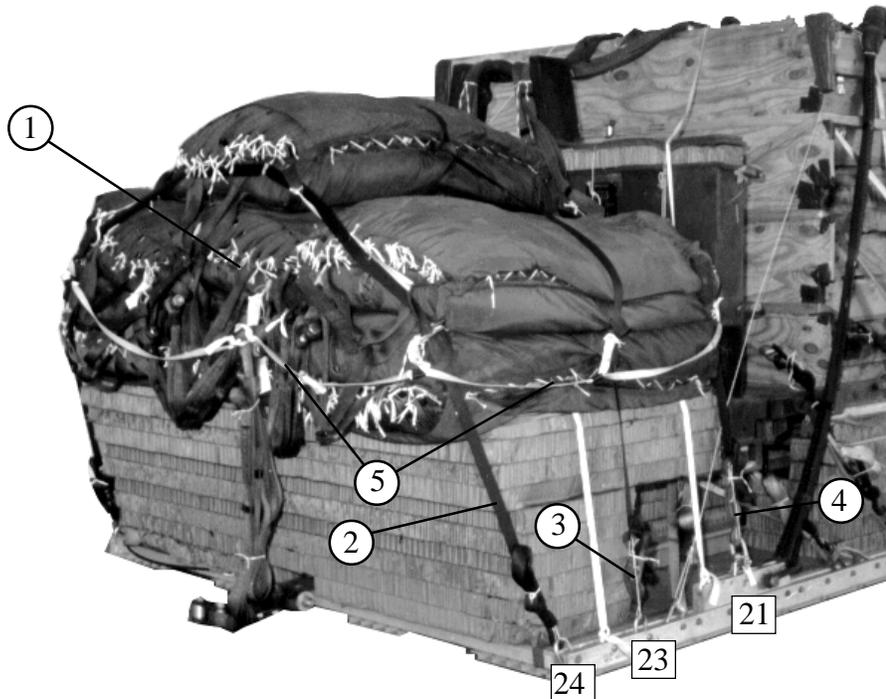


- ① Alternate and glue four 96- by 36-inch and four 96- by 6-inch pieces of honeycomb to form a four-layer base 96- by 42 inches.
- ② Alternate and glue two 96- by 36-inch and two 96- by 8-inch pieces of honeycomb to form two 96- by 44-inch pieces. Place these layers over the base and flush with the front edge.
- ③ Cut the front corners of the honeycomb placed in steps 1 and 2 above to allow for the lashings.
- ④ Alternate and glue two 96- by 36-inch and two 96- by 10-inch pieces of honeycomb to form two 96- by 46-inch pieces. Place these layers over the base and flush with the front edge.
- ⑤ Alternate and glue two 96- by 36-inch and two 96- by 12-inch pieces of honeycomb to form two 96- by 48-inch pieces. Place these layers over the base and flush with the front edge.
- ⑥ Secure the parachute stowage platform to the rails with a length of 1/2-inch tubular nylon webbing tied to the fourth bushing on each rear suspension link, and to bushing 47 on each side.

*Figure 18-17. Parachute stowage platform built and placed*

### 18-10. Installing Cargo Parachutes

Install seven G-11C cargo parachutes according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 18-18.

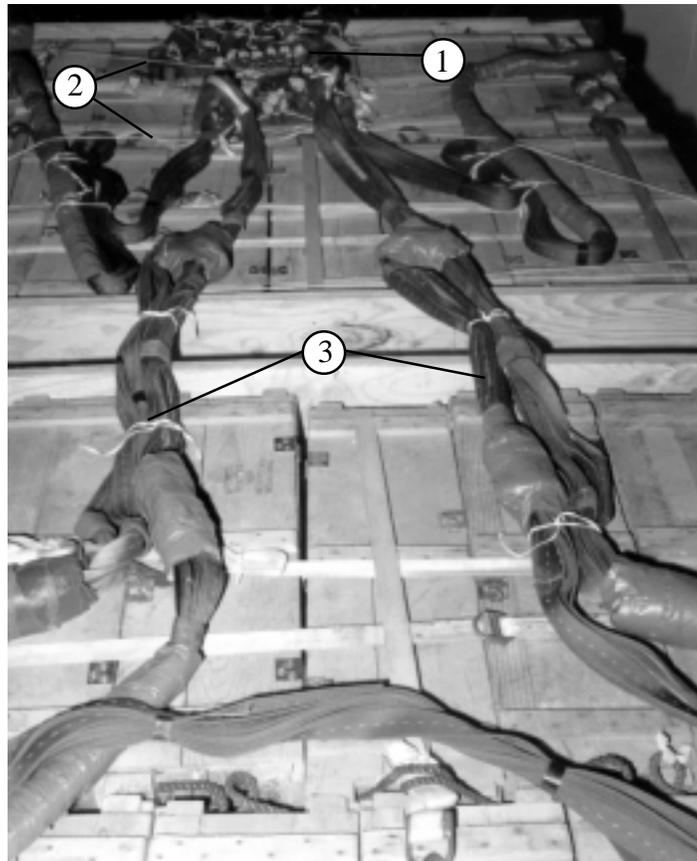


- ① Cluster seven G-11C cargo parachutes on the parachute stowage platform.
- ② Secure the rear restraint strap to clevises 24 and 24A with D-rings and load binders. Secure the load binders to the clevises with type III nylon cord.
- ③ Secure the center restraint strap to clevises 23 and 23A with D-rings and load binders. Secure the load binders to the clevises with type III nylon cord.
- ④ Secure the front restraint strap to clevises 21 and 21A with D-rings and load binders. Secure the load binders to the clevises with type III nylon cord.
- ⑤ Install the parachute release knives.

*Figure 18-18. Cargo parachutes installed*

### 18-11. Installing Parachute Release

Prepare and install an M-2 cargo parachute release as shown in Figure 18-19, and according to FM 10-500-2/TO 13C7-1-5.

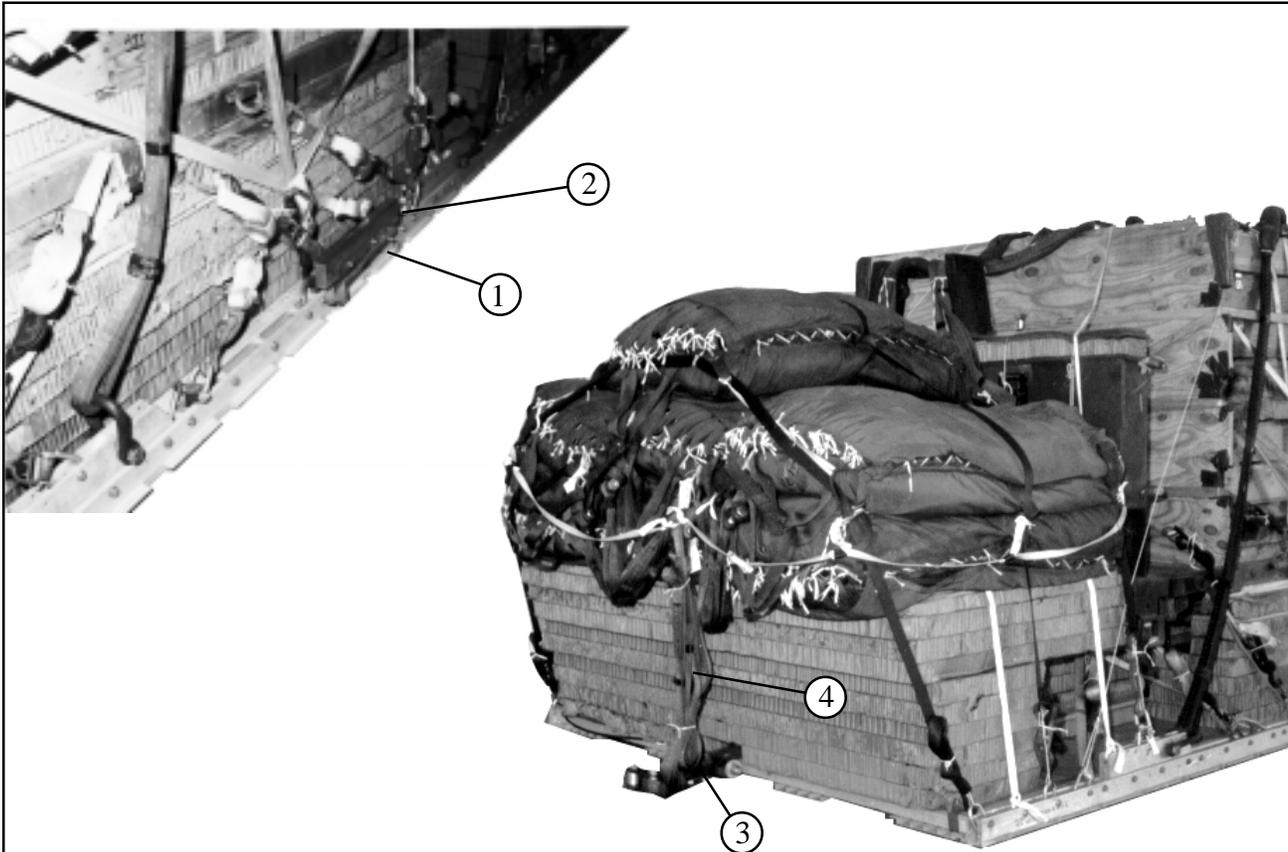


- ① Center a 24- by 36-inch piece of felt on top of the load with a 24-inch side against the fourth endboard. Place the M-2 release on the felt.
- ② Attach the suspension slings and riser extensions to the M-2 release. Secure the release to the load with type III nylon cord.
- ③ S-fold and tie any slack in the suspension slings with type I, 1/4-inch cotton webbing.

*Figure 18-19. M-2 release installed*

### 18-12. Installing Extraction System

Prepare and install the EFTC extraction system as shown in Figure 18-20, and according to FM 10-500-2/TO 13C7-1-5.



- ① Install the actuator mounting brackets to the rear holes in the left platform side rail.
- ② Install a 24-foot cable to the actuator. Install the actuator to the brackets.
- ③ Attach the latch assembly to the extraction bracket. Attach the cable to the latch assembly.
- ④ Install a 9-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold and tie the excess in two places with type I, 1/4-inch cotton webbing.

*Figure 18-20. EFTC installed*

### **18-13. Installing Provisions for Emergency Restraints**

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

### **18-14. 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.

### **18-15. Marking Rigged Load**

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 18-21. Complete Shipper's Declaration for Dangerous Goods and attach it to the load.

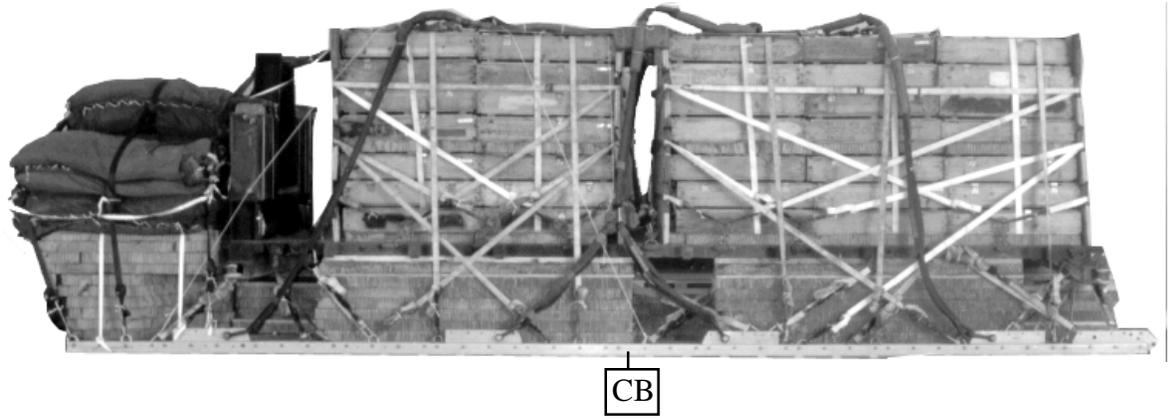
#### **CAUTION**

**The load weight may vary from the one shown, depending upon the mass supplies being rigged. Be sure that the load is weighed, and the parachute requirements, CB, and tip-off curve recomputed.**

### **18-16. Equipment Required**

Use the equipment listed in Table 18-1 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:	Load shown	33,343 pounds
Height		97 inches
Width		108 inches
Length		310 inches
Overhang:	Front	0 inches
	Rear	22 inches
CB (from front edge of platform)		132 inches
Extraction System (adds 18 inches to length of platform)		EFTC

*Figure 18-21. PLS pallet with 105-millimeter ammunition rigged on a 24-foot platform for low-velocity airdrop*

*Table 18-1. Equipment required for rigging PLS with 105-millimeter ammunition on a 24-foot, type V platform for low-velocity airdrop*

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	14
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5782	Coupling, airdrop, extraction force transfer with cable, 24-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	8
8305-00-958-3685	Felt, 1/2-in thick	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	
1670-01-064-4454	For C-130: 60-ft (6-loop), type XXVI	1
1670-01-062-6312	For C-141: 120-ft (6-loop), type XXVI	1
	For C-5:	
1670-01-062-6312	120-ft (6-loop), type XXVI and	1
1670-01-064-4454	60-ft (6-loop), type XXVI	1
No NSN	For C-17: 140-ft (6-loop), type XXVI	1
	Link assembly:	
1670-00-006-2752	Four-point	1
1670-01-307-0155	Three-point	2
1670-00-783-5988	Type IV	8
	Two-point, 5 1/2-in	
5306-00-435-8994	Bolt, 1-in diam, 4 in long	8
5310-00-232-5165	Nut, 1-in, hexagonal	8
1670-00-003-1954	Plate, side, 5 1/2-in	8
5365-00-007-3414	Spacer, large	8
	Lumber:	
5510-00-220-6146	2- by 4-in	As required
5510-00-220-6520	2- by 12-in	As required
5315-00-010-4659	Nail, steel wire, 8d	As required

Table 18-1. Equipment required for rigging PLS with 105-millimeter ammunition on a 24-foot, type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating, honeycomb 3- by 36- by 96-in	46 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11C	7
1670-00-040-8135	Cargo extraction, 28-ft	2
1670-01-063-3715	Drogue, 15-ft (for C-17)	1
	Platform, airdrop, type V, 24-foot	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(68)
1670-01-353-8424	Extraction bracket assembly	(1)
1670-01-162-2381	Link, tandem, suspension link assembly	(2)
1670-01-247-2389	Link, suspension bracket, type V	(8)
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	11 sheets
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo airdrop	
	For suspension:	
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	8
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6307	12-ft (4-loop), type XXVI nylon webbing	2
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	2
1670-01-064-4453	20-ft (4-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6311	120-ft (2-loop), type XXVI nylon webbing	7
5340-00-040-8219	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-ft	65
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-261-8584	Type X	As required

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## Section II

### RIGGING A-22 CARGO BAGS

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#### 18-17. Description of Load

The Palletized Load System can be moved from the drop zone and transported on a specially designed truck. Bulk supplies are lashed to the pallet, giving the load integrity for transport. The pallet has swivel rings along the sides for lashing the load. The pallet is lashed to the airdrop platform for low-velocity airdrop. The load shown consists of eight A-22 cargo bags. Adapt these procedures to rig other items of bulk supplies. Ammunition listed in FM 10-500-53/MCRP No 4-3.8/TO 13C7-18-41 and certified for low-velocity airdrop may be rigged using these procedures. The rigged load may not be more than 100 inches high. Refer to FM 10-500-2/TO 13C7-1-5 for parachute requirements.

#### 18-18. Preparing Platform

Prepare a 24-foot, type V airdrop platform as given below:

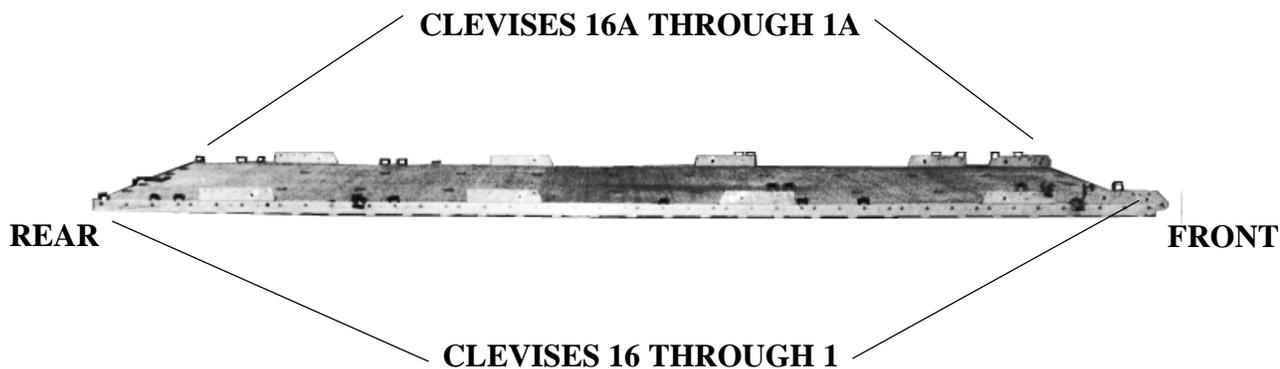
*a. Inspecting Platform.* Inspect, or assemble and inspect, the platform according to TM 10-1670-268-20&P/TO 13C7-52-22.

*b. Installing Suspension Links.* Install the suspension links to the platform according to FM 10-500-2/TO 13C7-1-5.

*c. Installing Tandem Links.* Install two tandem links as shown in Figure 18-22.

*d. Attaching and Numbering Clevises.* Attach and number 36 clevis assemblies as shown in Figure 18-22.

**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 suspension link in holes 18, 19, and 20 on each platform side rail.
2. Install a suspension link in holes 6, 7, and 8 on each platform side rail.
3. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
4. Install a suspension link in holes 29, 30, and 31 on each platform side rail.
5. Install a suspension link in holes 41, 42, and 43 on each platform side rail.
6. Install clevises on bushings 3 and 4 of each front tandem link.
7. Install clevises on bushings 1 and 3 of each first suspension link.
8. Install clevises on bushings 1 and 2 of each second suspension link.
9. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 4, 14, 17, 23, 35, 37, 38, 45, 46, and 48.
10. Install one additional clevis on bushings 4 and 37 on each side of the platform.
11. Starting at the front of the platform, number the clevises bolted to the right side of the platform from 1 through 16, and those bolted to the left side from 1A through 16A.

**Note: The two additional clevises on each side of the platform function as bridge clevises. Do not number them apart from the clevises bolted on the platform rail bushings.**

*Figure 18-22. Platform prepared*

**18-19. Preparing and Positioning Honeycomb Stacks**

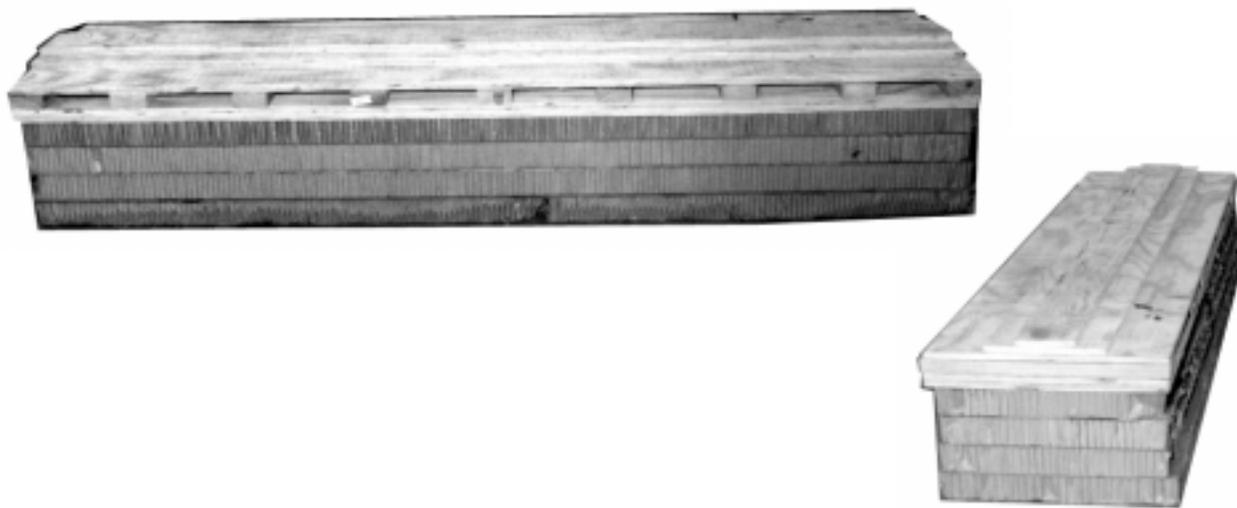
Prepare ten honeycomb stacks as shown in Figures 18-23 through 18-25. Position the stacks on the platform as shown in Figure 18-26.



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1, 2, 5, and 6	1	24	76	Honeycomb	Glue plywood flush over honeycomb to form base.
	1	24	76	3/4-inch plywood	
	3	18	76	Honeycomb	Center and glue on base.
	2	18	76	3/4-inch plywood	Glue flush over honeycomb.
	7	18	*3 1/2	2- by 4-inch lumber	Nail one piece flush over each end of the plywood. Center a third piece between the ends. Space two pieces evenly between each end piece and the center piece.
	1	12	76	3/4-inch plywood	Center and nail over lumber.
	1	6	76	3/4-inch plywood	Center and nail over plywood.

\* Two- by four-inch lumber is actually 3 1/2 inches wide.

*Figure 18-23. Stacks 1,2, 5, and 6 prepared*



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3 and 4	4	24	96	Honeycomb	Glue flush to form base.
	2	24	96	3/4-inch plywood	Glue flush over honeycomb.
	9	24	*3 1/2	2- by 4-inch lumber	Nail one piece flush over each end of the plywood. Center a third piece between the ends. Space three pieces evenly between each end piece and the center piece.
	1	24	96	3/4-inch plywood	Center and nail over lumber.
	1	12	96	3/4-inch plywood	Center and nail over plywood.
	1	6	96	3/4-inch plywood	Center and nail over plywood.

\* Two- by four-inch lumber is actually 3 1/2 inches wide.

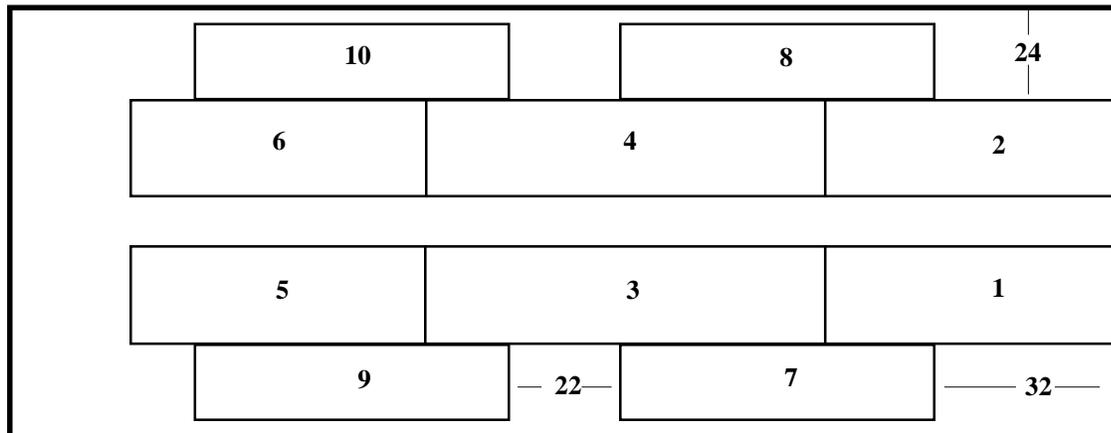
Figure 18-24. Stacks 3 and 4 prepared



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
7, 8, 9, and 10	4	16	84	Honeycomb	Glue flush to form base.
	2	9	84	Honeycomb	Glue flush on one side of base.
	1	9	84	3/4-inch plywood	Glue flush over honeycomb.
	1	9	84	Honeycomb	Glue flush over plywood.
	1	*3 1/2	84	2- by 4-inch lumber	Center and glue on honeycomb.

Figure 18-25. Stacks 7, 8, 9, and 10 prepared

Notes: 1. This drawing is not to scale.  
 2. All dimensions are in inches.

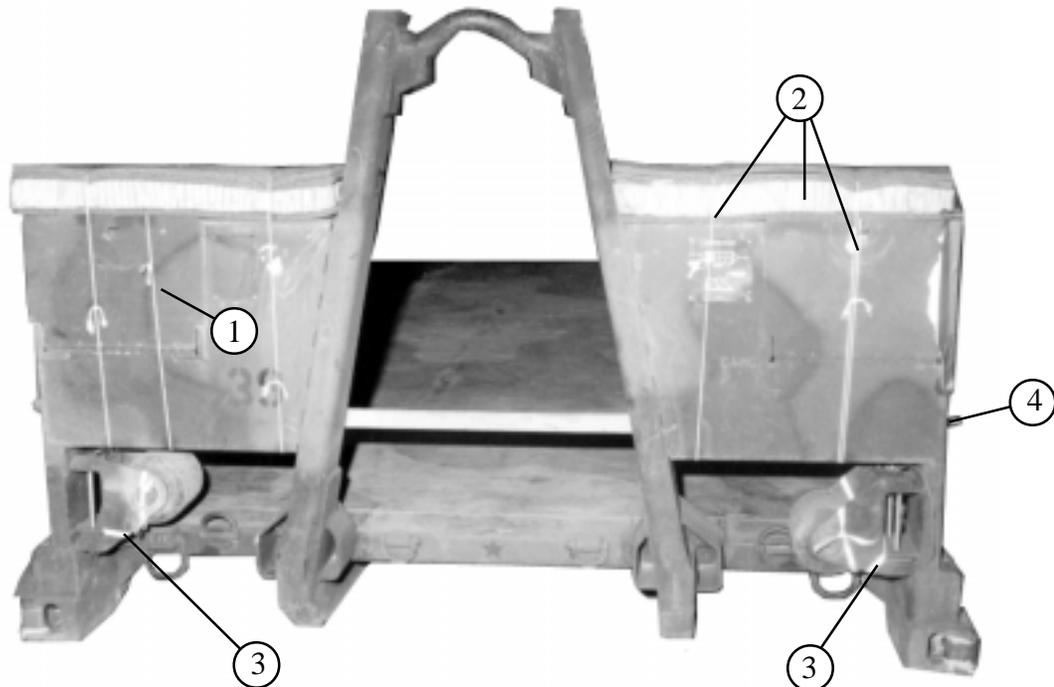


Stack Number	Position of Stack on Platform
1	Place stack: Flush with the front edge of the platform and 24 inches from the right inside platform edge.
2	Flush with the front edge of the platform and 24 inches from the left inside platform edge.
3	Against and aligned behind stack 1.
4	Against and aligned behind stack 2.
5	Against and aligned behind stack 3.
6	Against and aligned behind stack 4.
7	32 inches from the front edge of the platform and flush with the right sides of stacks 1 and 3.
8	32 inches from the front edge of the platform and flush with the left side of stacks 2 and 4.
9	22 inches to the rear of stack 7 and flush with the right side of stacks 3 and 5.
10	22 inches to the rear of stack 8 and flush with the left side of stacks 4 and 6.

Figure 18-26. Honeycomb stacks positioned on platform

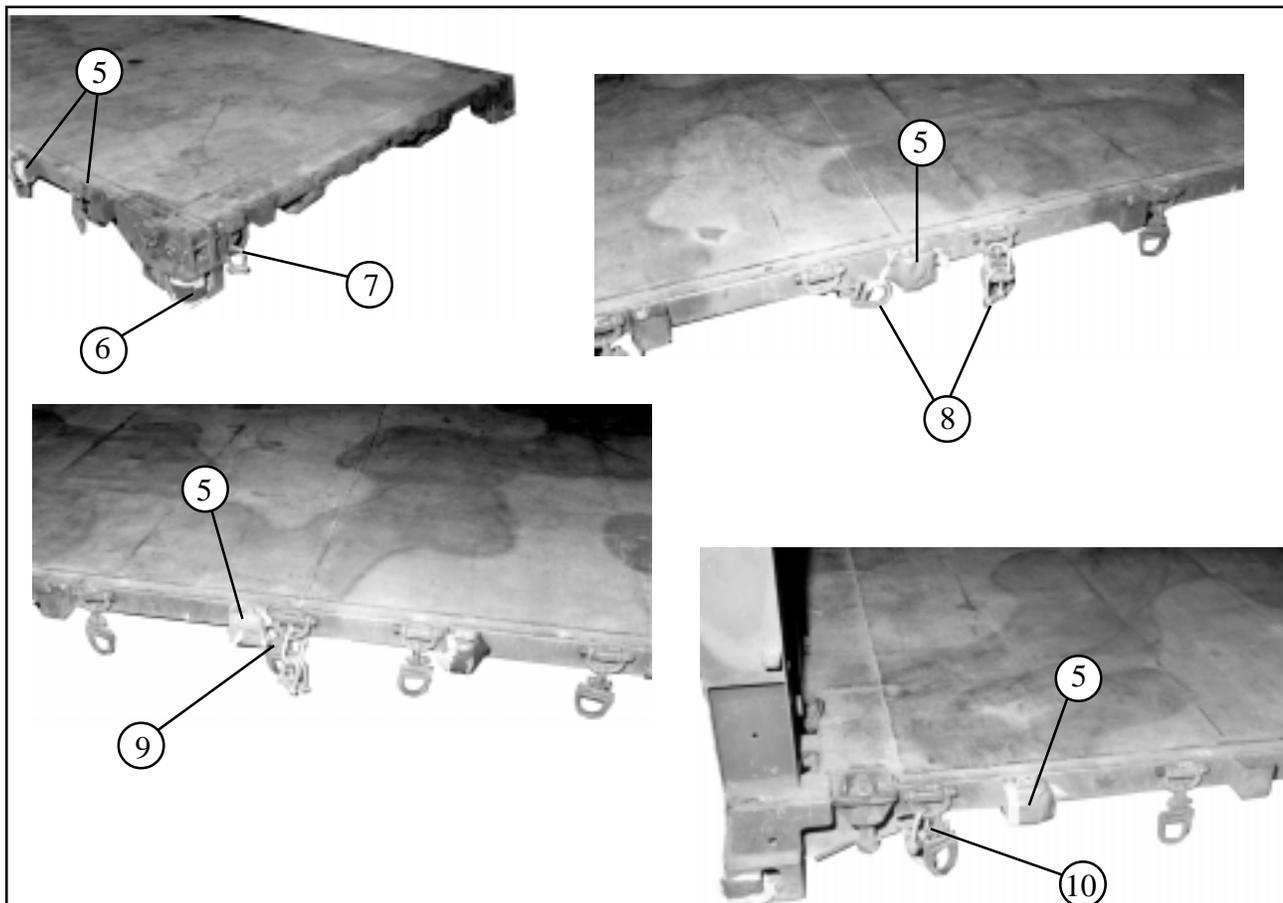
**18-20. Preparing PLS Pallet**

Prepare the pallet as shown in Figure 18-27.



- ① Tie the storage compartments on each side shut with type III nylon cord.
- ② Pad the top of each box area with a 7- by 30-inch piece of felt, a 7- by 30-inch piece of honeycomb, and two 7- by 30-inch pieces of felt. Tie the padding in place with two lengths of type III nylon cord.
- ③ Remove the wheels and secure them in place with the pins provided. Tie the wheels to their brackets with a length of 1/2-inch tubular nylon webbing.
- ④ Pad the fixtures on the outsides of the boxes with cellulose wadding and tape.

*Figure 18-27. Pallet prepared*



- ⑤ Pad the first, second, third, fifth, and ninth stake brackets on each side with cellulose wadding and tape.
- ⑥ Pad all four corners of the PLS pallet around the bottom holes with cellulose wadding and tape as shown.
- ⑦ Add a platform clevis to each of the large tie-down brackets at the rear of the PLS pallet.
- ⑧ Place two clevises on the bracket for the sixth swivel ring on each side. Tie the seventh swivel ring to the stake bracket with type I, 1/4-inch cotton webbing.
- ⑨ Add three platform clevises to the fourth swivel ring bracket on each side of the PLS pallet.
- ⑩ Add two clevises to the eleventh swivel ring bracket on each side of the PLS pallet.

Figure 18-27. Pallet prepared (continued)

### 18-21. Positioning Pallet on Platform

Position the pallet on the platform and install the restraint lashings around the honeycomb stacks as shown in Figure 18-28.

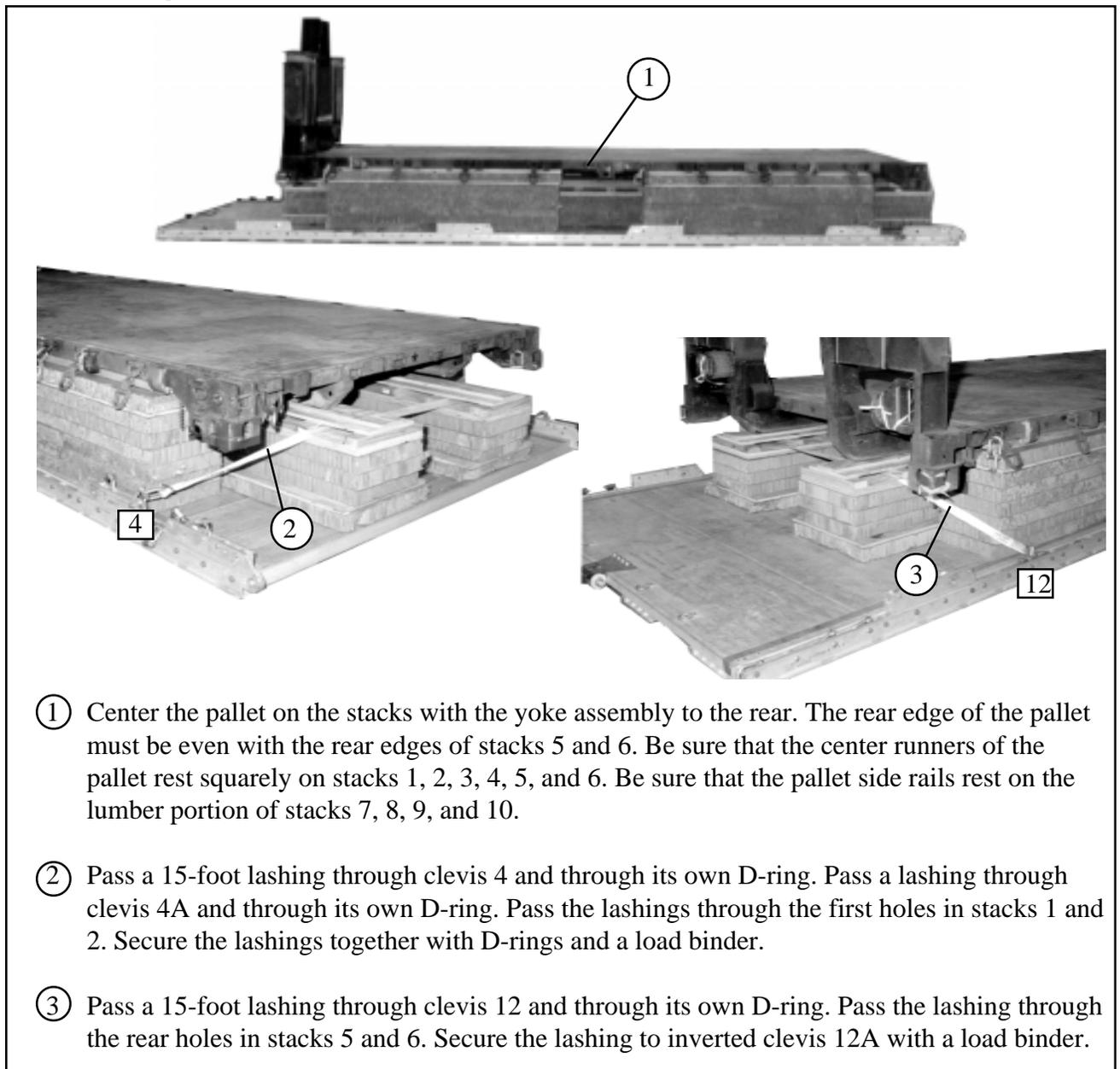
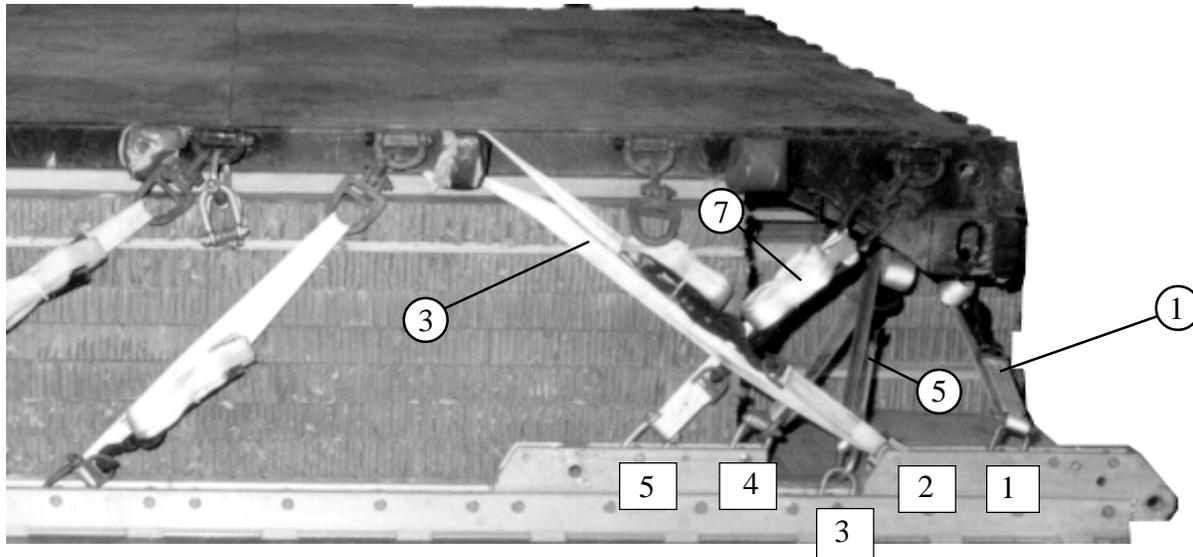


Figure 8-28. Pallet positioned and restraint lashing installed

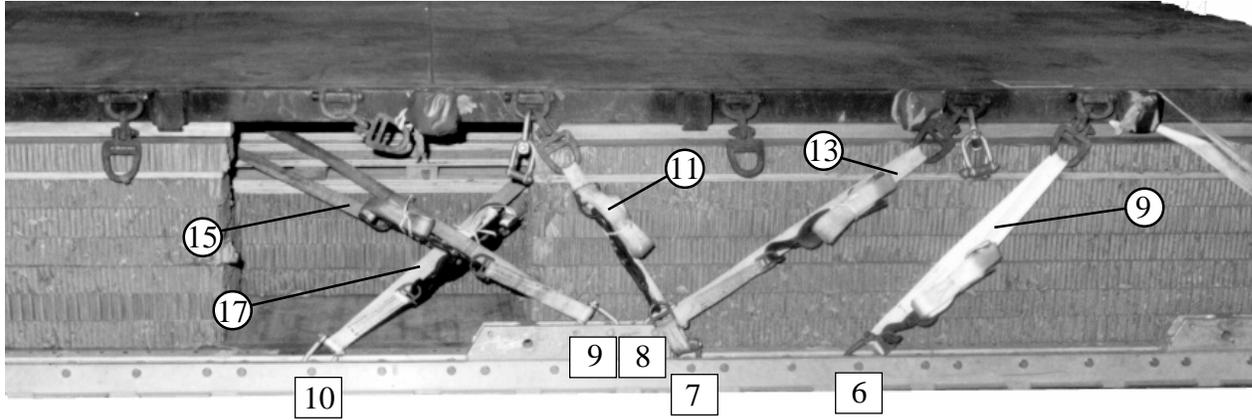
**18-22. Lashing PLS Pallet to Platform**

Lash the PLS pallet to the platform as shown in Figure 18-29.



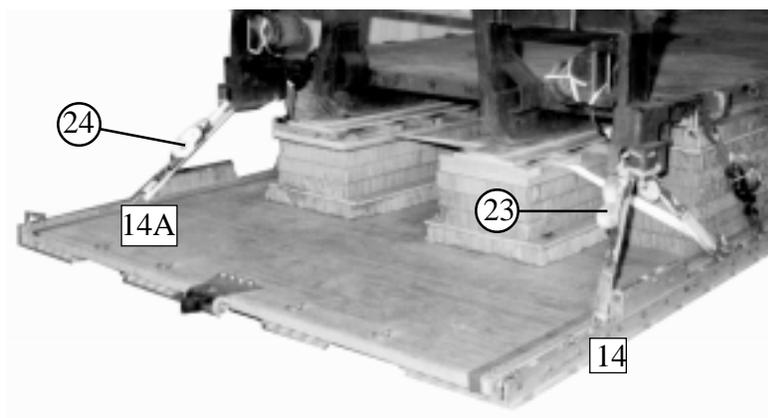
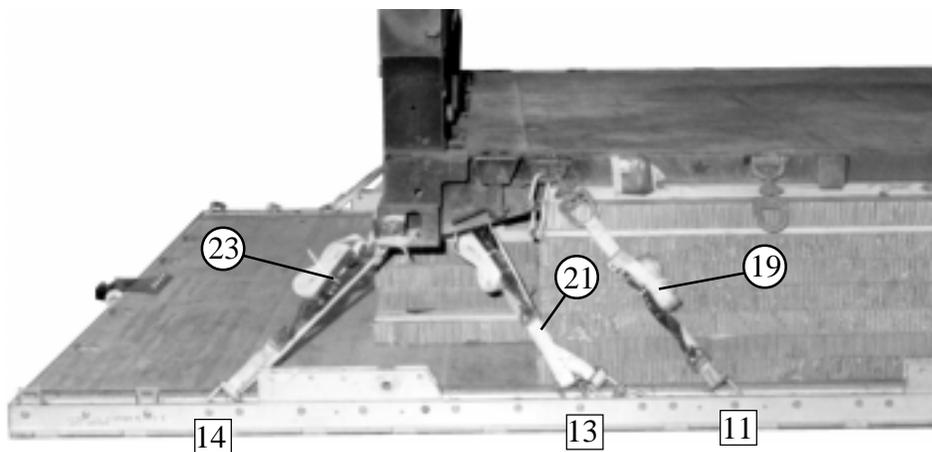
Lashing Number	Tie-down Clevis Number	Instructions
1	1	Pass lashing: Through the right front inside tie-down point.
2	1A	Through the left front inside tie-down point.
3	2	Through the second stake bracket.
4	2A	Through the second stake bracket.
5	3	Through the right front outside tie-down point.
6	3A	Through the left front outside tie-down point.
7	5	Through the first swivel ring.
8	5A	Through the first swivel ring.

*Figure 18-29. Pallet lashed to platform*



Lashing Number	Tie-down Clevis Number	Instructions
9	6	Pass lashing:
10	6A	Through the third swivel ring.
11	7	Through the third swivel ring.
12	7A	Through the sixth swivel ring.
13	8	Through the sixth swivel ring.
14	8A	Through the fourth swivel ring.
15	9	Through the fourth swivel ring.
16	9A	Through the rear holes in the skid.
17	10	Through the rear holes in the skid.
18	10A	Through the front holes in the skid.

Figure 18-29. Pallet lashed to platform (continued)



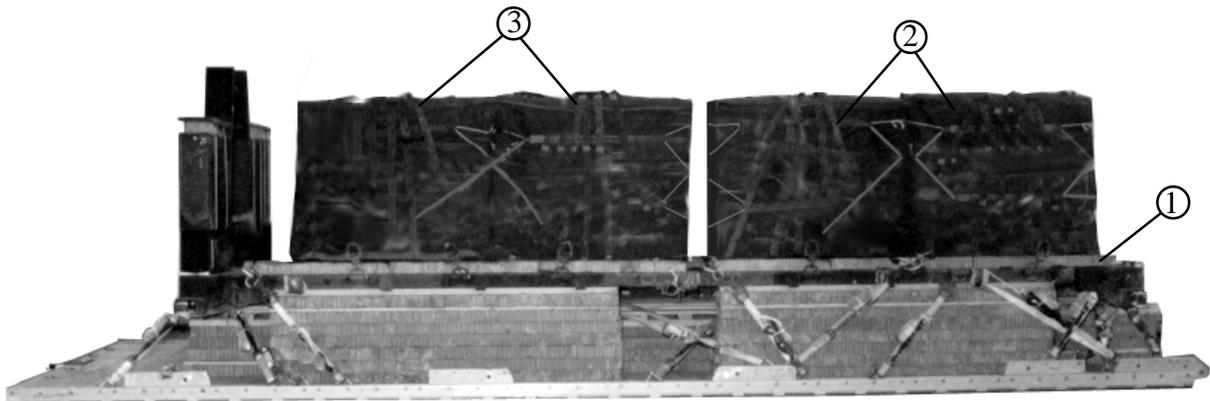
Lashing Number	Tie-down Clevis Number	Instructions
19	11	Pass lashing: Through the eleventh swivel ring.
20	11A	Through the eleventh swivel ring.
21	13	Through the right corner tie-down ring.
22	13A	Through the left corner tie-down ring.
23	14	Through the right corner hole.
24	14A	Through the left corner hole.

Figure 18-29. Pallet lashed to platform (continued)

### 18-23. Placing and Lashing the Load

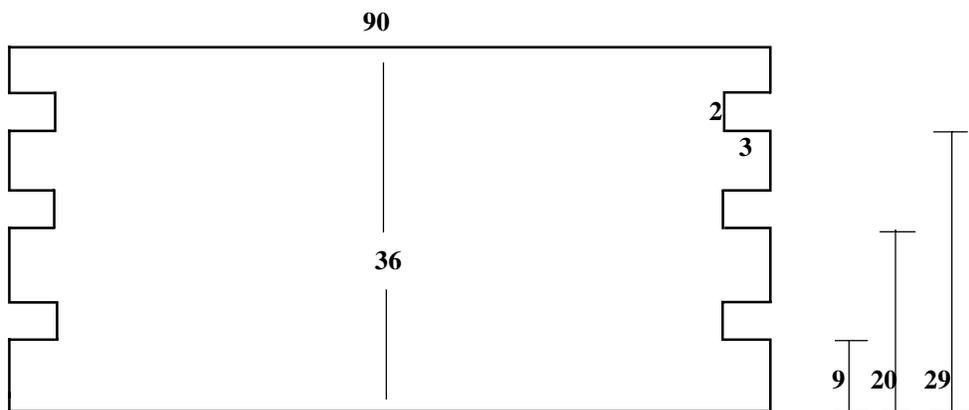
Cover the pallet with a layer of honeycomb and place eight A-22 containers on the pallet as shown in Figure 18-30. Construct four endboards as shown in Figure 18-31. Lash the

containers and endboards to the front section of the pallet as shown in Figure 18-32. Lash the containers and endboards to the rear section of the pallet as shown in Figure 8-33.



- ① Cover the pallet with 96- by 36-inch pieces of honeycomb, beginning 4 1/2 inches from the front edge. Space the third and fourth pieces 8 inches apart.
- ② Place four A-22 containers on the honeycomb, 8 inches from the front edge of the pallet. Allow space for the endboards to rest on the honeycomb.
- ③ Place four A-22 containers on the second section of honeycomb, at least 8 inches from the containers placed in step 2 above. Allow space for the endboards to rest on the honeycomb.

*Figure 18-30. Honeycomb and A-22 containers placed on the pallet*

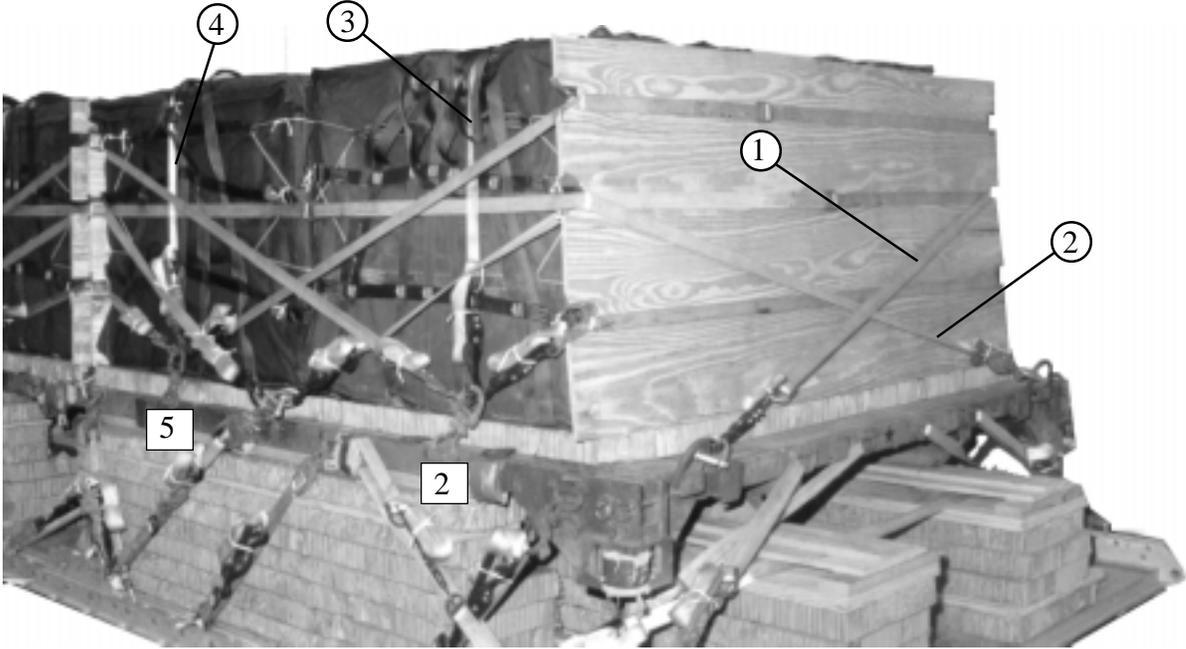


- Notes:**
1. For loads different from that shown in this section, make the endboards the same height as the load configuration.
  2. The instructions given are for one endboard. Four are required for this load.
  3. All dimensions are given in inches.
  4. This drawing is not to scale.

Step:

1. Cut four 90- by 36-inch pieces of 3/4-inch plywood.
2. Make 2- by 3-inch cutouts as shown. Tape the sharp edges of the cutouts.
3. Place an endboard against the front and rear of each of the two groups of containers (not shown).

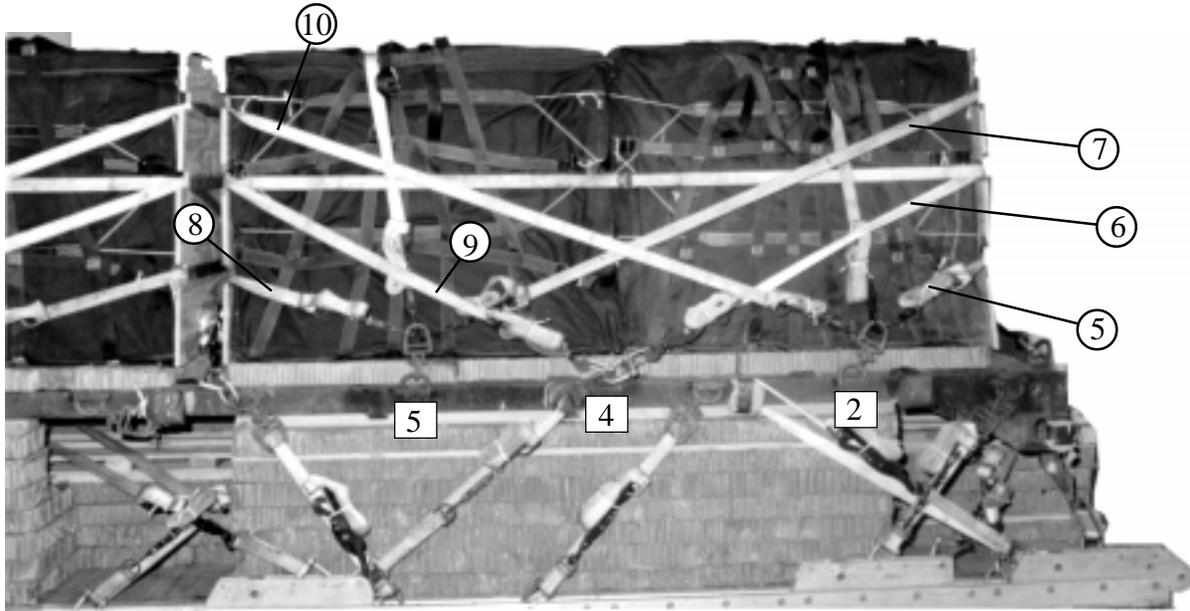
*Figure 18-31. Four endboards constructed*



**Notes:** 1. \* denotes 30-foot lashing.  
 2. Secure all lashings to the pallet with load binders.

Lashing Number	Pallet Ring Number	Instructions
*1		Run the lashing from the right front tie-down to the left middle cutout in the front endboard, and around the left side. Pass the lashing through the left middle cutout in the second endboard. Secure the lashing to the end clevis on the sixth pallet ring on the right side.
*2		Run the lashing from the left front tie-down to the right middle cutout in the front endboard, and around the right side. Pass the lashing through the right middle cutout in the second endboard. Secure the lashing to the end clevis on the sixth pallet ring on the left side.
3	2 and 2A	Run the lashing over the tops of the first two containers.
4	5 and 5A	Run the lashing over the tops of the second two containers.

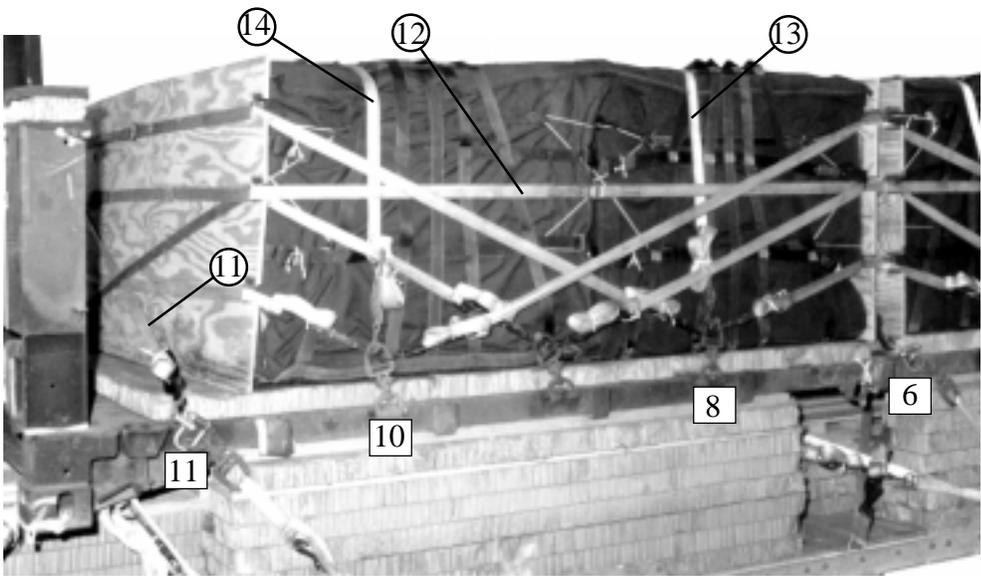
Figure 8-32 . First four containers lashed to pallet



**Notes: 1. \* denotes 30-foot lashing.  
 2. Secure all lashings to the pallet with load binders.**

Lashing Number	Pallet Ring Number	Instructions
5	2 and 2A	Run a lashing from the second pallet ring on each side through the lower cutouts in the first endboard.
*6	4 and 4A	Run a lashing from one of the end clevises on the fourth pallet ring on each side through the middle cutouts in the first endboard.
*7	5 and 5A	Run a lashing from the fifth pallet ring on both sides through the upper cutouts in the first endboard.
8	5 and 5A	Run a lashing from the fifth pallet ring on each side through the lower cutouts in the second endboard.
*9	4 and 4A	Run a lashing from the remaining end clevis on the fourth pallet ring on each side through the middle cutouts on the second endboard.
*10	2 and 2A	Run a lashing from the second pallet ring on each side through the upper cutouts in the second endboard.

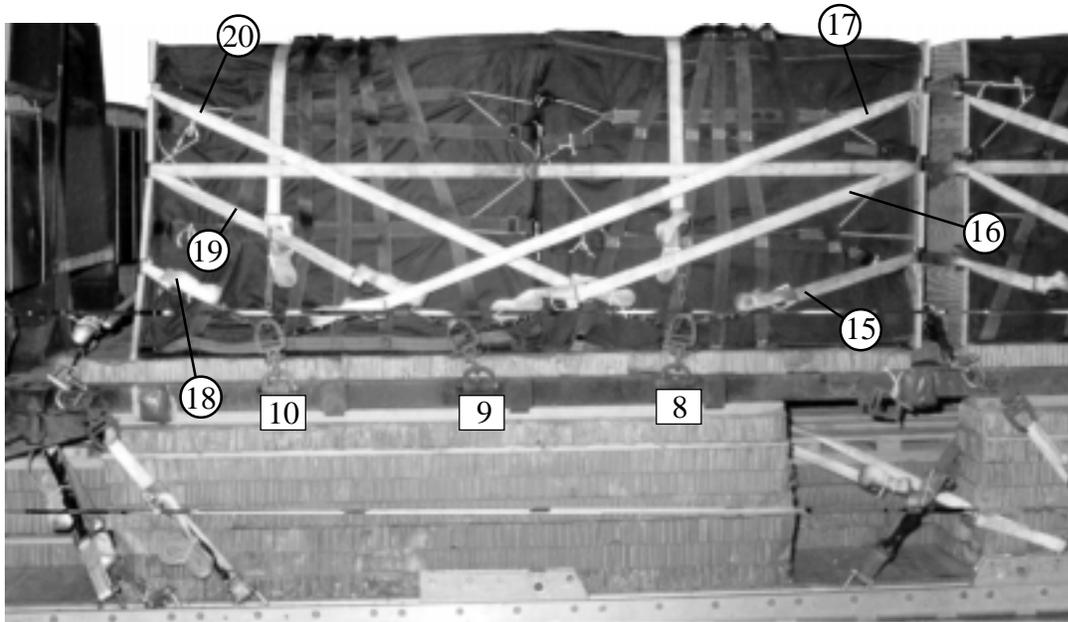
*Figure 8-32 . First four containers lashed to pallet (continued)*



- Notes:** 1. \* denotes 30-foot lashing.  
 2. Secure all lashings to the pallet with load binders.

Lashing Number	Pallet Ring Number	Instructions
*11	6 and 11	Run the lashing from the end clevis on the sixth pallet ring to the left middle cutout in the third endboard, and around the left side. Pass the lashing through the left middle cutout in the rear endboard. Secure the lashing to the end clevis on the eleventh pallet ring on the right side.
*12	6A and 11A	Run the lashing from the end clevis on the sixth pallet ring to the right middle cutout in the third endboard, and around the right side. Pass the lashing through the right middle cutout in the rear endboard. Secure the lashing to the end clevis on the eleventh pallet ring on the left side.
13	8 and 8A	Run the lashing over the tops of the first two containers.
14	10 and 10A	Run the lashing over the tops of the second two containers.

Figure 8-33. Second four containers lashed to pallet

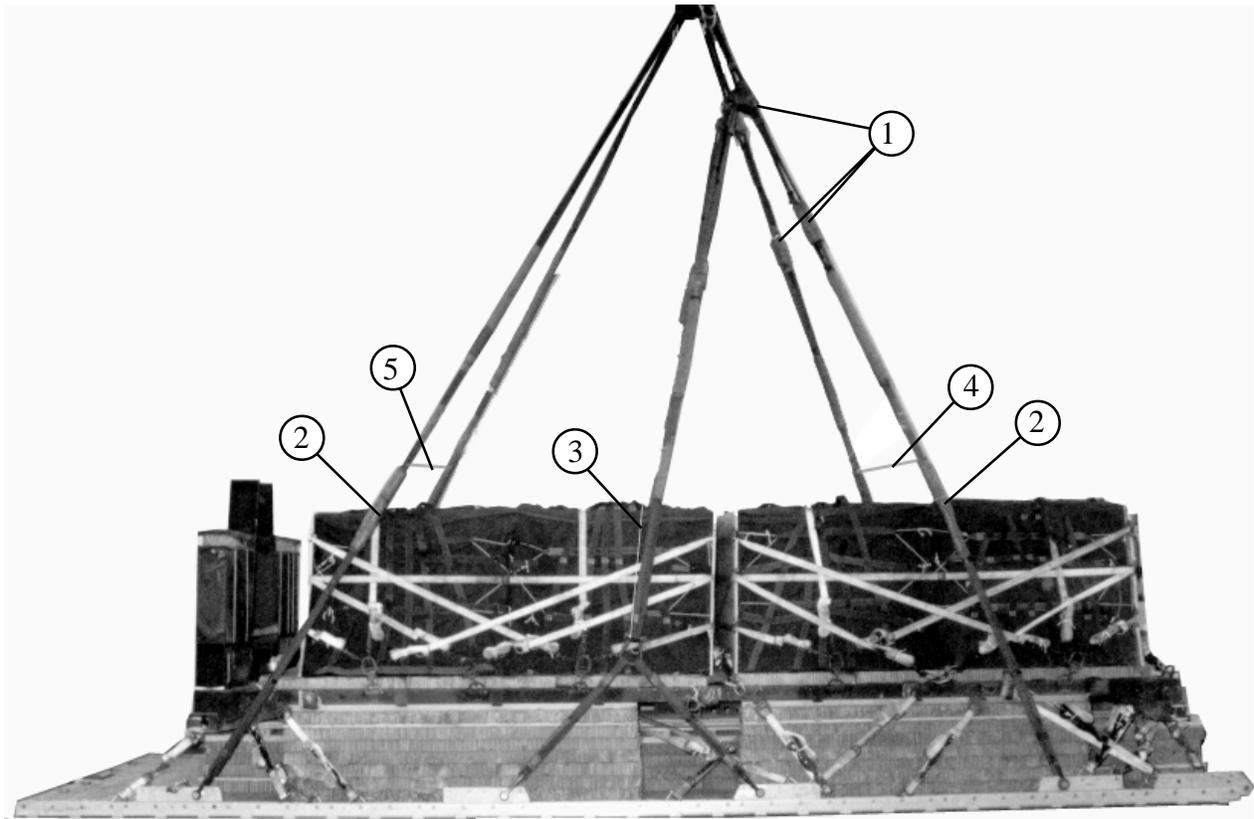


**Notes:** 1. \* denotes 30-foot lashing.  
 2. Secure all lashings to the pallet with load binders.

Lashing Number	Pallet Ring Number	Instructions
15	8 and 8A	Run a lashing from the eighth pallet ring on each side through the lower cutouts in the third endboard.
*16	9 and 9A	Run a lashing from the ninth pallet ring on each side through the middle cutouts in the third endboard.
*17	10 and 10A	Run a lashing from the tenth pallet ring on both sides through the upper cutouts in the third endboard.
18	10 and 10A	Run a lashing from the tenth pallet ring on each side through the lower cutouts in the rear endboard.
*19	9 and 9A	Run a lashing from the ninth pallet ring on each side through the middle cutouts in the rear endboard.
*20	8 and 8A	Run a lashing from the eighth pallet ring on each side through the upper cutouts in the rear endboard.

*Figure 8-33. Second four containers lashed to pallet (continued)*





- ① Pad the two-point and three-point links with felt and tape. Raise the suspension slings.
- ② Pad the suspension slings where they pass over the corners of the load with felt and tape.
- ③ Tie a length of type III nylon cord to the center clevis on one side. Pass the cord over the load, and tie it to the center clevis on the other side so that both clevises are supported.
- ④ Tie the front suspension slings to each other 12 inches above the load with 1/2-inch tubular nylon webbing.
- ⑤ Tie the rear suspension slings to each other 12 inches above the load with 1/2-inch tubular nylon webbing.

*Figure 18-35. Suspension slings safetied*

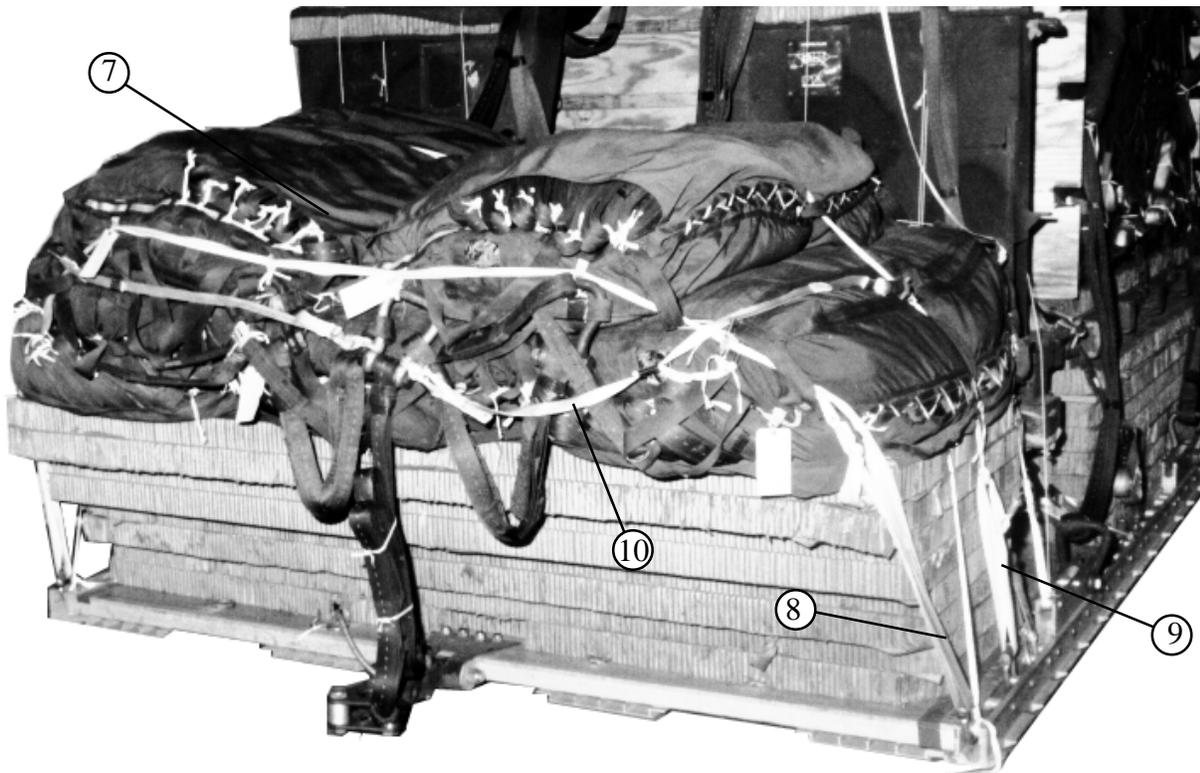
### 18-25. Building Parachute Stowage Platform and Installing Cargo Parachutes

Build the parachute stowage platform and install five G-11C cargo parachutes as shown in Figure 18-36.



- ① Alternate and glue two 96- by 36-inch and four 96- by 6-inch pieces of honeycomb to form a two-layer base 96- by 42 inches. Cut a channel in the bottom layer of honeycomb to accommodate the EFTC cable.
- ② Alternate and glue two 96- by 36-inch and two 96- by 8-inch pieces of honeycomb to form two 96- by 44-inch pieces. Place these layers over the base and flush with the front edge.
- ③ Alternate and glue two 96- by 36-inch and two 96- by 10-inch pieces of honeycomb to form two 96- by 46-inch pieces. Place these layers over the base and flush with the front edge.
- ④ Cut the front corners of the honeycomb placed in steps 1, 2 and 3 above to allow for the lashings.
- ⑤ Alternate and glue two 96- by 36-inch and two 96- by 12-inch pieces of honeycomb to form two 96- by 48-inch pieces. Place these layers over the base and flush with the front edge.
- ⑥ Secure the parachute stowage platform to the rails with a length of 1/2-inch tubular nylon webbing tied to the fourth bushing on each rear suspension link, and to bushing 48 on each side.

*Figure 18-36. Parachute stowage platform built and cargo parachutes installed*

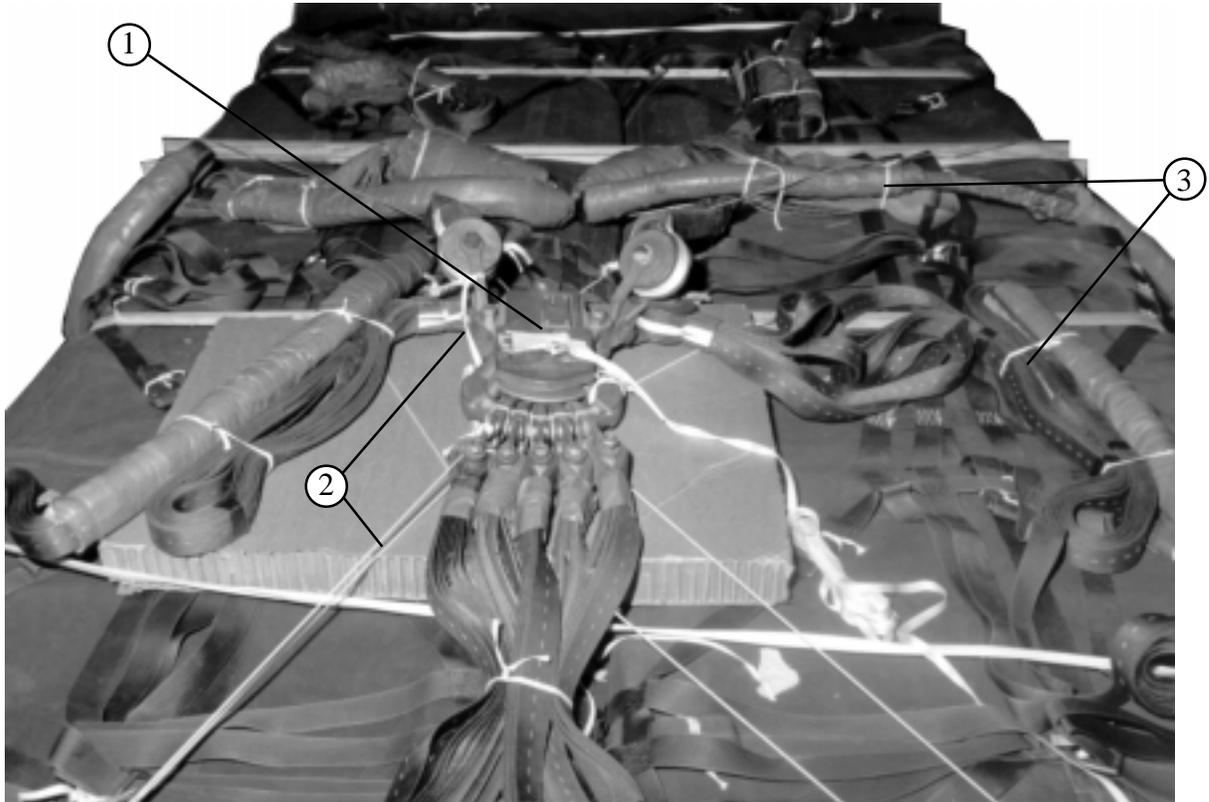


- ⑦ Cluster five G-11C cargo parachutes on the parachute stowage platform.
- ⑧ Tie the rear restraint strap to clevises 16 and 16A.
- ⑨ Tie the front restraint strap to clevises 15 and 15A.
- ⑩ Install the parachute release knives.

*Figure 18-36. Parachute stowage platform built and cargo parachutes installed (continued)*

### 18-26. Installing Parachute Release

Prepare and install an M-2 cargo parachute release as shown in Figure 18-37, and according to FM 10-500-2/TO 13C7-1-5.

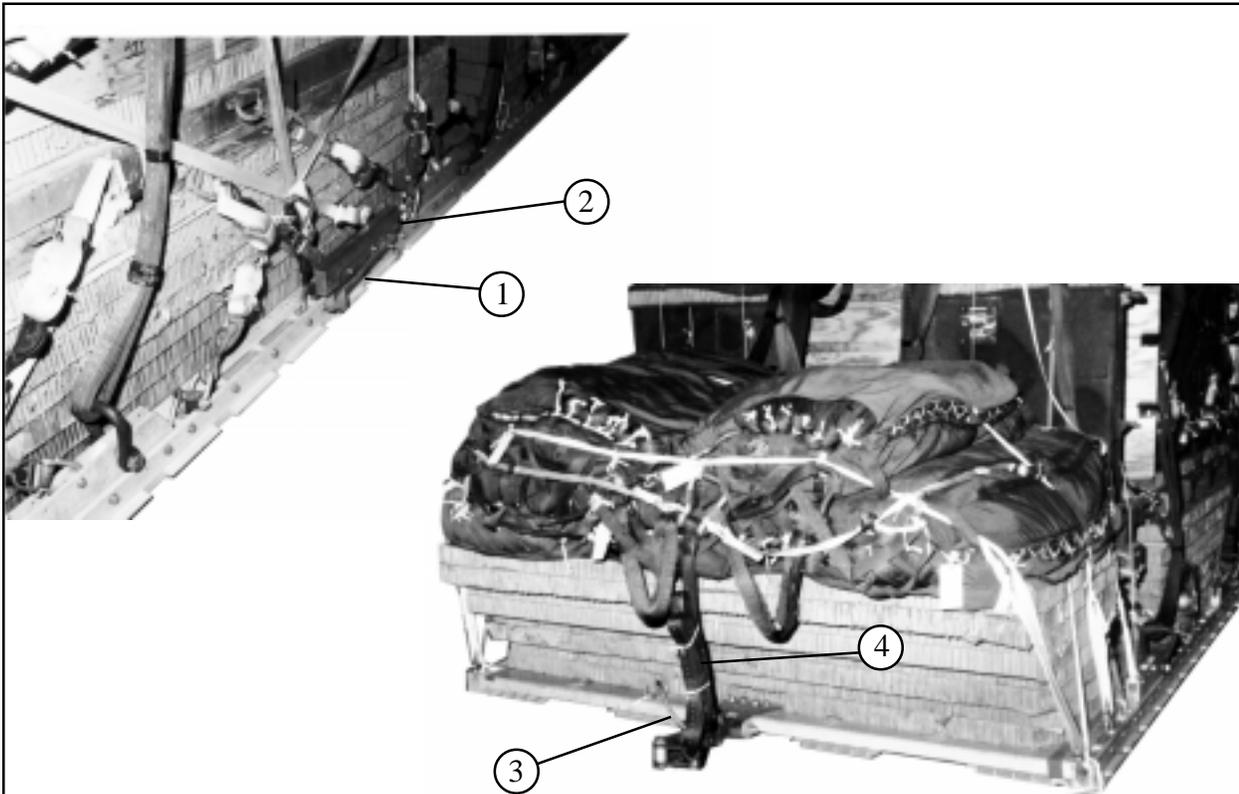


- ① Center a 36- by 24-inch piece of honeycomb on top of the load between the third and fourth endboards. Place the M-2 release on the honeycomb.
- ② Attach the suspension slings and riser extensions to the M-2 release. Secure the release to the load with type III nylon cord.
- ③ S-fold and tie any slack in the suspension slings with type I, 1/4-inch cotton webbing.

*Figure 18-37. M-2 release installed*

### 18-27. Installing Extraction System

Prepare and install the EFTC extraction system as shown in Figure 18-38, and according to FM 10-500-2/TO 13C7-1-5.



- ① Install the actuator mounting brackets to the rear holes in the left platform side rail.
- ② Install a 24-foot cable to the actuator. Install the actuator to the brackets.
- ③ Attach the latch assembly to the extraction bracket. Attach the cable to the latch assembly.
- ④ Install a 9-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold and tie the excess in two places with type I, 1/4-inch cotton webbing.

*Figure 18-38. EFTC installed*

### **18-28. Installing Provisions for Emergency Restraints**

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

### **18-29. 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.

### **18-30. Marking Rigged Load**

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 18-39.

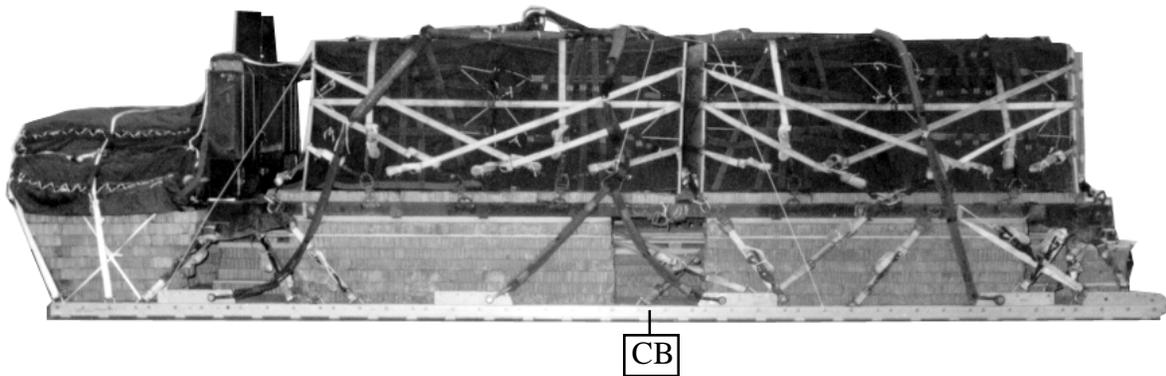
#### **CAUTION**

**The load weight may vary from the one shown, depending upon the mass supplies being rigged. Be sure that the load is weighed, and the parachute requirements, CB, and tip-off curve recomputed.**

### **18-31. Equipment Required**

Use the equipment listed in Table 18-2 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:	Load shown	24,278 pounds
Height		84 inches
Width		108 inches
Length		288 inches
Overhang:	Front	0 inches
	Rear	0 inches
CB (from front edge of platform)		137 inches
Extraction System (adds 18 inches to length of platform)		EFTC

*Figure 18-39. PLS pallet with A-22 containers rigged on a 24-foot platform for low-velocity airdrop*

*Table 18-2. Equipment required for rigging PLS with A-22 containers on a 24-foot, type V platform for low-velocity airdrop*

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	14
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5782	Coupling, airdrop, extraction force transfer with cable, 24-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	6
8305-00-958-3685	Felt, 1/2-in thick	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	For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
	For C-5:	
1670-01-107-7651	140-ft (3-loop), type XXVI and	1
1670-01-062-6313	60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
	Link assembly:	
1670-00-006-2752	Four-point	1
1670-01-307-0155	Three-point	2
1670-00-783-5988	Type IV	6
	Two-point, 5 1/2-in	
5306-00-435-8994	Bolt, 1-in diam, 4 in long	10
5310-00-232-5165	Nut, 1-in, hexagonal	10
1670-00-003-1954	Plate, side, 5 1/2-in	10
5365-00-007-3414	Spacer, large	10
	Lumber:	
5510-00-220-6146	2- by 4-in	As required
5315-00-010-4659	Nail, steel wire, 8d	As required

Table 18-2. Equipment required for rigging PLS with A-22 containers on a 24-foot, type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating, honeycomb 3- by 36- by 96-in	44 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11C	5
1670-00-040-8135	Cargo extraction, 28-ft	1
1670-01-063-3715	Drogue, 15-ft (for C-17)	1
	Platform, airdrop, type V, 24-foot	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(48)
1670-01-353-8424	Extraction bracket assembly	(1)
1670-01-162-2381	Link, tandem, suspension link assembly	(2)
1670-01-247-2389	Link, suspension bracket, type V	(8)
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	7 sheets
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo airdrop	
	For suspension:	
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	8
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6307	12-ft (4-loop), type XXVI nylon webbing	2
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	2
1670-01-064-4453	20-ft (4-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-06-6302	20-ft (2-loop), type XXVI nylon webbing	5
1670-01-062-6313	60-ft (3-loop), type XXVI nylon webbing	5
5340-00-040-8219	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-ft	52
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

<b>GLOSSARY</b>
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ACB	attitude control bar	JAI	joint airdrop inspector
AD	airdrop	JP	jet propulsion
AFB	Air Force base	LAPE	low-altitude parachute extraction
AFJMAN	Air Force Joint Manual	LAPES	low-altitude parachute extraction system
AFR	Air Force regulation	lb	pound
AFTO	Air Force technical order	LV	low-velocity
ALC	Airlift Logistics Center	MCRP	Marine Corps Reference Publication
attn	attention	mm	millimeter
C	change	no	number
cap	capacity	NSN	national stock number
CB	center of balance	PEFTC	platform extraction force transfer coupling
chap	chapter	PLS	palletized load system
d	penny	psi	pounds per square inch
DA	Department of the Army	sec	second
DC	District of Columbia	SL/CS	static line/connector strap
DD	Department of Defense	TM	technical manual
diam	diameter	TO	technical order
EFTA	extraction force transfer actuator	TOW	tube-launched, optically tracked, wire-guided
EFTC	extraction force transfer coupling	TRADOC	US Army Training and Doctrine Command
FAST	Forward Area Surgical Team	US	United States
fig	figure	w	with
FM	field manual	yd	yard
ft	foot/feet		
gal	gallon		
HQ	headquarters		
in	inch		

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**\*AFJMAN24-204/TM 38-250 has superseded AFR 71-4/TM 38-250 (15 January 1988). Change 5 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.**

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**\* Shipper's Declaration  
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Locally procured form

**\* 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.**