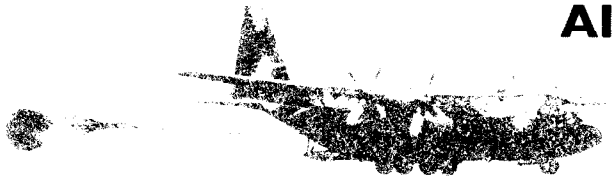
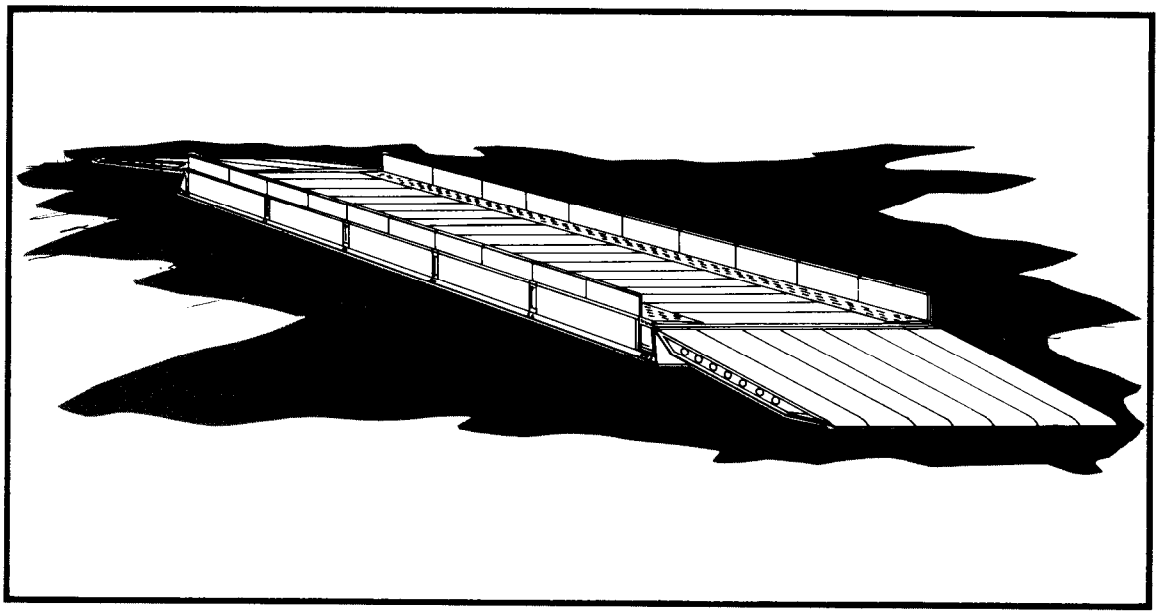
**ARMY FM 10-541**
**AIR FORCE TO 13C7-11-21**



**AIRDROP OF SUPPLIES AND EQUIPMENT:**

# RIGGING MILITARY BRIDGES



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## AIRDROP OF SUPPLIES AND EQUIPMENT

# RIGGING MILITARY BRIDGES

This change adds the procedures for rigging the five-bay and the seven-bay, single-story, medium girder (fixed) bridges on a type V platform for low-velocity and LAPE airdrops.

FM 10-541/TO 13C7-11-21, 5 March 1984, is changed as follows:

1. New or changed material is identified by a vertical bar in the margin opposite the changed material.

2. Remove old pages and insert new pages as indicated below:

| Remove old pages | Insert new pages |
|---|---|
| Cover page | Cover page |
| i through iii | i through vi |
| 1-1 | 1-1 |
| | 4-1 through 4-144 |
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| Glossary-1 | Glossary-1 |
| Reference-1 | References-1 |

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FIELD MANUAL
NO 10-541
TECHNICAL ORDER
NO 13C7-11-21

HEADQUARTERS
DEPARTMENTS OF THE ARMY
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Washington, DC, 5 March1984

# AIRDROP OF SUPPLIES AND EQUIPMENT
# RIGGING MILITARY BRIDGES

TABLE OF CONTENTS



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# PREFACE

## SCOPE

This manual tells and shows how to rig aluminum deck sections with auxiliary components for a low-velocity airdrop. Eight pontoon boats also are rigged for low-velocity airdrop. This manual tells and shows how to rig the aluminum bridge deck balk with transverse stiffeners and bridge plates and accessories for low-velocity airdrop. Only the C-130 aircraft can be used for the airdrop of these loads. This manual also shows and tells how to rig the five- and seven-bay, single-story, medium girder (fixed) bridges for low-velocity and LAPE airdrops from the C-130 aircraft. These bridges may also be rigged for low-velocity airdrop from the C-141 aircraft. This manual is designed to be used by all parachute riggers.

## USER INFORMATION

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

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# CHAPTER 1

# INTRODUCTION

## 1-1. Description of Items

The description of the items covered in this manual is as follows:

*a.* The aluminum deck sections with auxiliary components weigh 5,771 pounds.

*b.* Eight pontoon boats with cradle weigh 5,660 pounds.

*c.* The deck balk with stiffeners weighs 19,596 pounds.

*d.* The bridge plates and accessories weigh 2,528 pounds.

*e.* The five-bay bridge weighs 11,522 pounds.

*f.* The seven-bay bridge weighs 15,135 pounds.

## 1-2. Special Considerations

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

CHAPTER 4

# RIGGING FIVE-BAY, SINGLE-STORY, MEDIUM GIRDER (FIXED) BRIDGE ON A TYPE V PLATFORM

Section I

## LOW-VELOCITY AIRDROP

### 4-1. Description of Load

The five-bay, single-story, medium girder (fixed) bridge (Figure 4-1) is rigged on a 32-foot, type V platform with five G-11B parachutes. The unrigged bridge weighs 11,522 pounds. When the bridge is rigged for airdrop, it is 407 inches long, 108 inches wide, and 97 inches high.

**NOTES: 1. The curbs and guide markers are not included in this manual.**

**2. There must be at least eight bridge crew personnel to assist in the rigging of this load.**

**3. The nose bumper may or may not be installed.**

**4. Measurements given in this section are from the front edge of the platform, NOT from the front edge of the nose bumper.**

### 4-2. Preparing Platform

Prepare a 32-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.

**NOTE: If the platform must be assembled, install the suspension links when assembling the platform. See Figure 4-2 for the location of the suspension links.**

*b. Installing Suspension Links.* Install eight suspension links on the assembled platform according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-2.

*c. Installing Tandem Links.* Install two tandem links as shown in Figure 4-2.

*d. Attaching and Numbering Clevises.* Attach and number 68 clevis assemblies as shown in Figure 4-2.

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

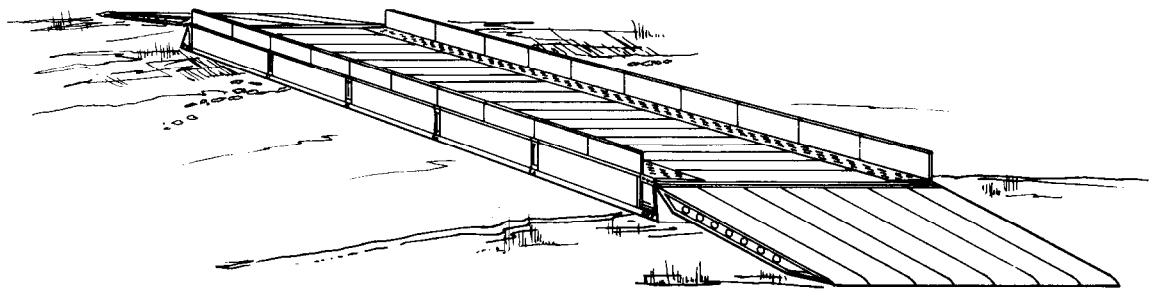
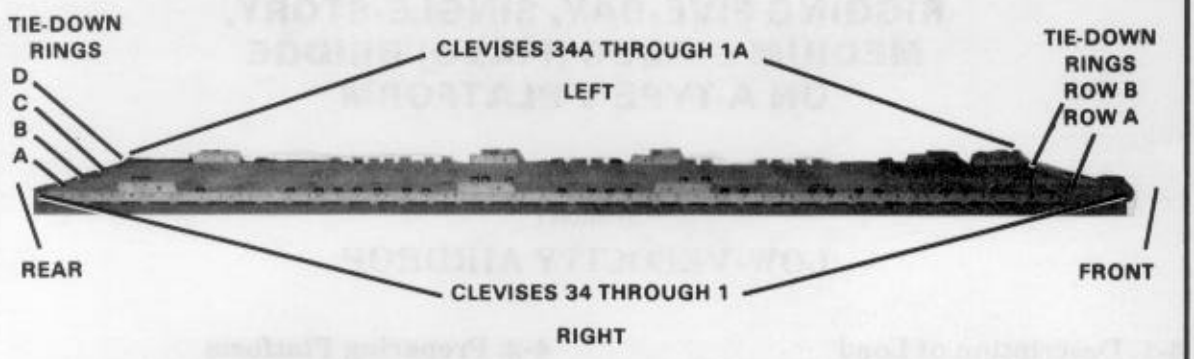


*Figure 4-1. Five-bay, single-story, medium girder (fixed) bridge assembled*



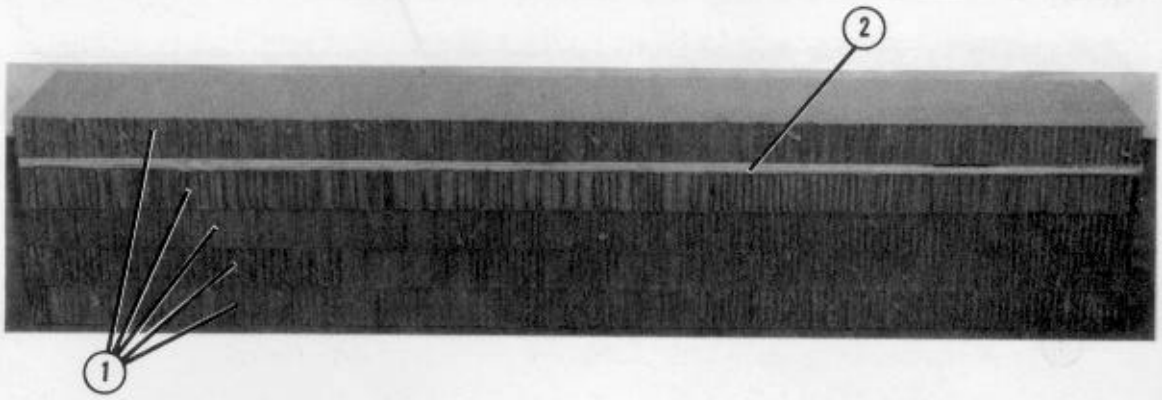

**Step:**

1. **Install a suspension link in holes 26, 27, and 28 on each platform side rail. Face the flat part of the suspension link to the front of the platform side rail.**
2. **Install a suspension link in holes 6, 7, and 8 on each platform side rail. Face the flat part of the suspension link to the front of the platform side rail.**
3. **Install a suspension link in holes 37, 38, and 39 on each platform side rail. Face the flat part of the suspension link to the rear of the platform side rail.**
4. **Install a suspension link in holes 57, 58, and 59 on each platform side rail. Face the flat part of the suspension link to the rear of the platform side rail.**
5. **Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.**
6. **Install clevises on bushings 1, 2, and 4 on each front tandem link.**
7. **Install a clevis on bushings 2 and 3 on the first suspension link on each side.**
8. **Install clevises on bushings 1 and 3 on the second suspension link on each side.**
9. **Install a clevis on bushings 1, 2, and 3 on the third suspension link on each side.**
10. **Install a clevis on bushings 2 and 3 on the fourth suspension link on each side.**
11. **Starting at the front of each platform side rail, install clevises on the bushings bolted on holes 5, 10, 11, 15, 16, 18, 19, 23, 24, 30, 31, 32, 34, 42, 43, 45, 46, 47, 48, 50, 55, and 64.**
12. **Starting at the front of the platform, number the clevises bolted to the right side from 1 through 34 and those bolted to the left side from 1A through 34A.**
13. **Starting at the front of the platform, label the two tie-down rings in the first 15 panels A and B from right to left. Label the four tie-down rings in the last panel A, B, C, and D from right to left. Starting with the first panel, number the tie-down rings 1 through 16.**

*Figure 4-2. Platform prepared*

## 4-3. Preparing and Positioning Honeycomb Stacks

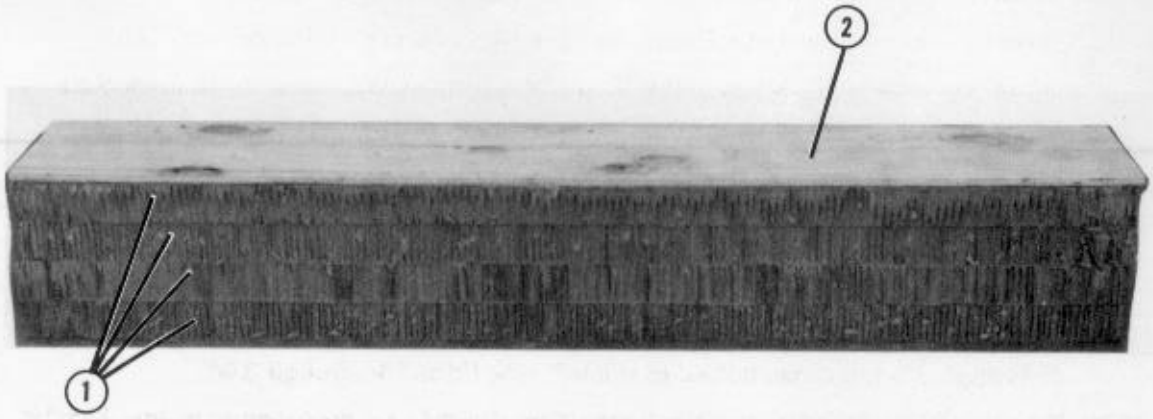
Prepare the honeycomb stacks as shown in Figures 4-3, 4-4, and 4-5. Position the honeycomb stacks on the platform as shown in Figure 4-6.




(1) Form each honeycomb stack using five 12- by 80-inch pieces of honeycomb.

(2) Place one 3/4- by 12- by 80-inch piece of plywood between layers 4 and 5 of each stack.

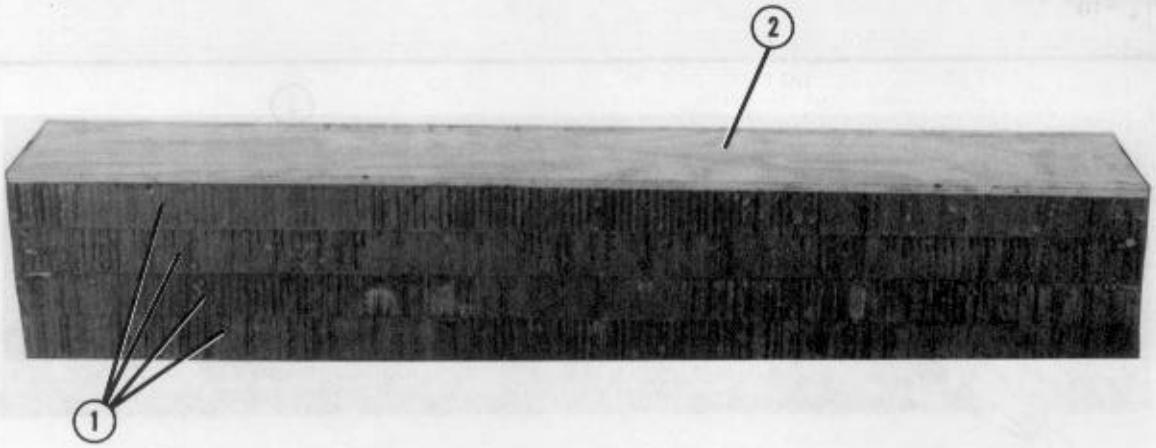
*Figure 4-3. Honeycomb stacks 1, 4, 5, 8, 9, 12, 13, and 16 prepared*




(1) Form each honeycomb stack using four 12- by 80-inch pieces of honeycomb.

(2) Place one 3/4- by 12- by 80-inch piece of plywood on top of each stack.

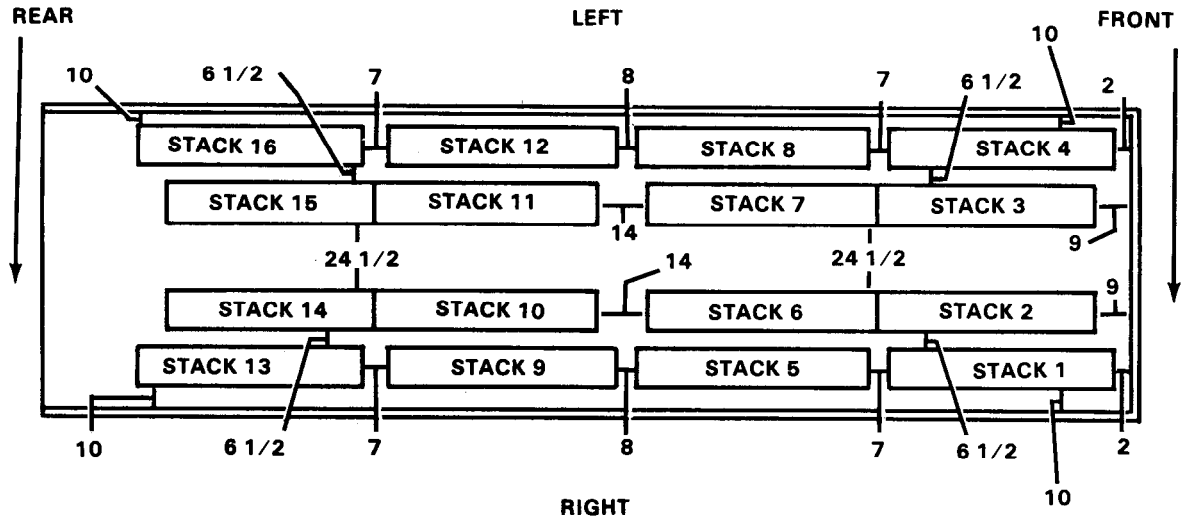
*Figure 4-4. Honeycomb stacks 2, 3, 6, 7, 10, and 11 prepared*




(1) Form each honeycomb stack using four 12- by 73-inch pieces of honeycomb.
(2) Place one 3/4- by 12- by 73-inch piece of plywood on top of each stack.

*Figure 4-5. Honeycomb stacks 14 and 15 prepared*

Notes: 1. This drawing is not drawn to scale.
2. Dimensions are given in inches.



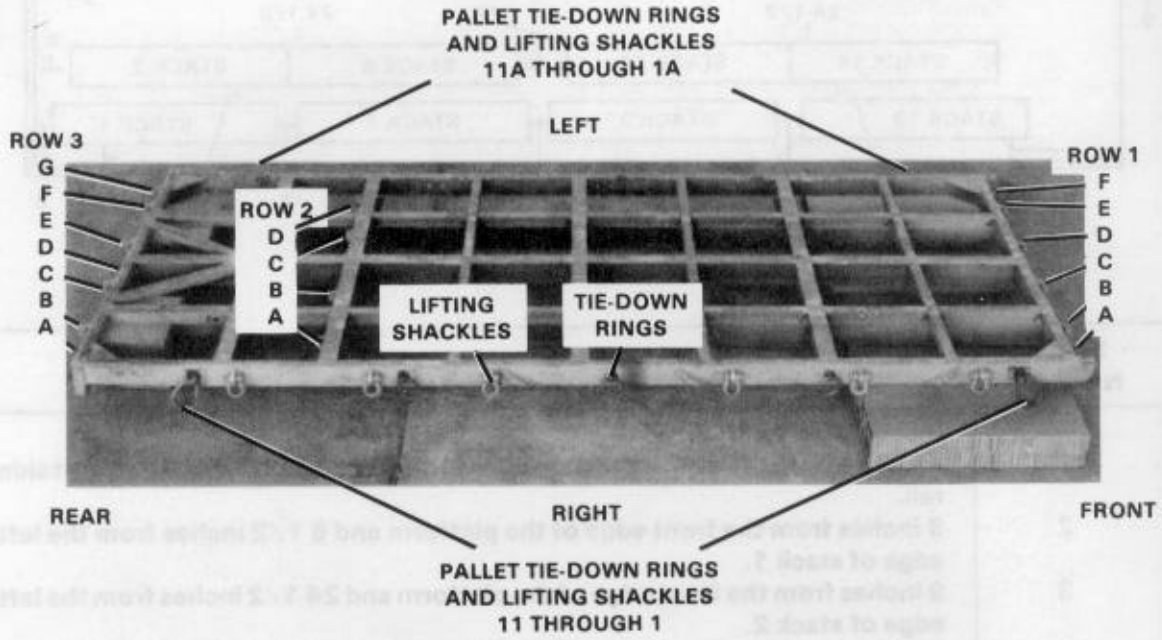

| Stack Number | Position of Stack on Platform |
|---|---|
| | Place stack: |
| 1 | 2 inches from the front edge of the platform and 10 inches from the right side rail. |
| 2 | 9 inches from the front edge of the platform and 6 1/2 inches from the left edge of stack 1. |
| 3 | 9 inches from the front edge of the platform and 24 1/2 inches from the left edge of stack 2. |
| 4 | 2 inches from the front edge of the platform and 10 inches from the left side rail. |
| 5 | 7 inches from the rear edge of stack 1 and 10 inches from the right side rail. |
| 6 | Flush against stack 2 and 6 1/2 inches from the left edge of stack 5. |
| 7 | Flush against stack 3 and 24 1/2 inches from the left edge of stack 6. |
| 8 | 7 inches from the rear edge of stack 4 and 10 inches from the left side rail. |
| 9 | 8 inches from the rear edge of stack 5 and 10 inches from the right side rail. |
| 10 | 14 inches from the rear edge of stack 6 and 6 1/2 inches from the left edge of stack 9. |
| 11 | 14 inches from the rear edge of stack 7 and 24 1/2 inches from the left edge of stack 10. |
| 12 | 8 inches from the rear edge of stack 8 and 10 inches from the left side rail. |
| 13 | 7 inches from the rear edge of stack 9 and 10 inches from the right side rail. |
| 14 | Flush against stack 10 and 6 1/2 inches from the left edge of stack 13. |
| 15 | Flush against stack 11 and 24 1/2 inches from the left edge of stack 14. |
| 16 | 7 inches from the rear edge of stack 12 and 10 inches from the left side rail. |

*Figure 4-6. Honeycomb stacks positioned on the platform*

## 4-4. Preparing Pallet 1

Prepare pallet 1 as shown in Figures 4-7 through 4-23.

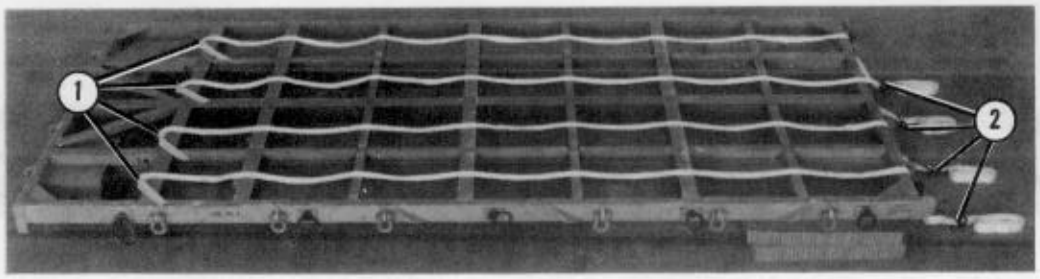
Notes: 1. Front, rear, right, and left refer to the pallet.
2. Pad all sharp edges that lashings may touch.




**Step:**

1. **Starting at the front of the pallet, number the tie-down rings and lifting shackles bolted to the right side from 1 through 11 and those bolted to the left side from 1A through 11A.**
2. **Starting at the front of the pallet, label row 1 of tie-down rings and lifting shackles from right to left A1 through F1. Label row 2 from right to left A2 through D2. Label row 3 from right to left A3 through G3.**
3. **Place two 96- by 36-inch pieces of honeycomb under the front of the pallet to keep the pallet level.**

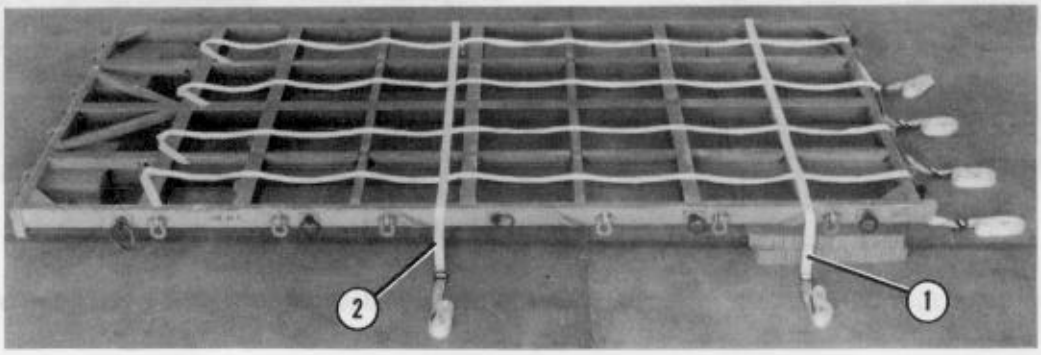
*Figure 4-7. Pallet 1 labeled*




(1) Form four 30-foot lashings according to FM 10-500-2/TO 13C7-1-5. Evenly space the lashings on top of the pallet from front to rear between the pallet rails.

(2) Make sure each lashing D-rings are 20 inches from the front edge of the pallet.

*Figure 4-8. Front-to-rear lashings pre-positioned*

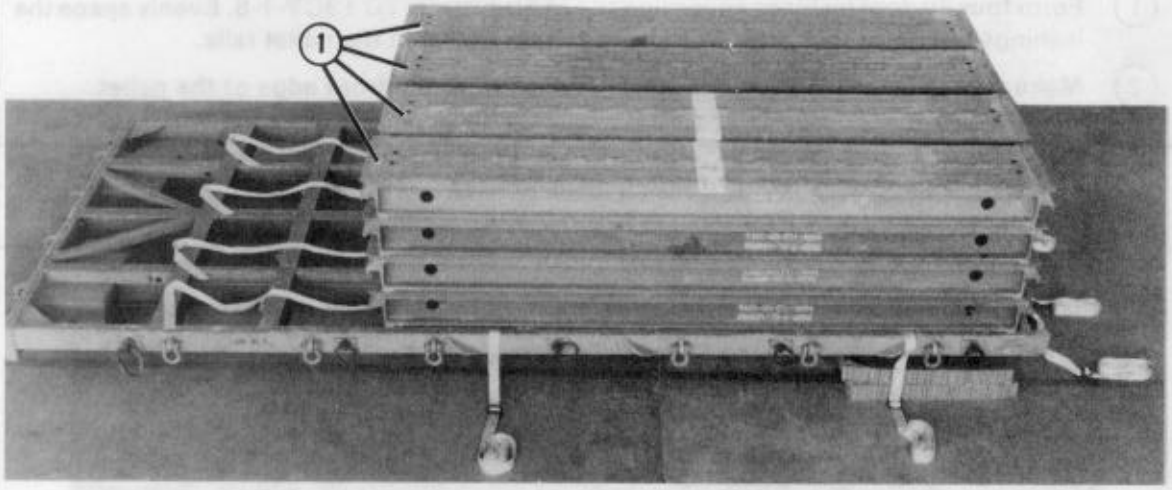



(1) Form two 30-foot lashings according to FM 10-500-2/TO 13C7-1-5. Place one 30-foot lashing on top of the pallet 21 inches from the front edge of the pallet in a side-to-side direction. Make sure the D-rings are 15 inches from the right side of the pallet.

(2) Place one 30-foot lashing on top of the pallet 90 inches from the front edge of the pallet in a side-to-side direction. Make sure the D-rings are 15 inches from the right side of the pallet.

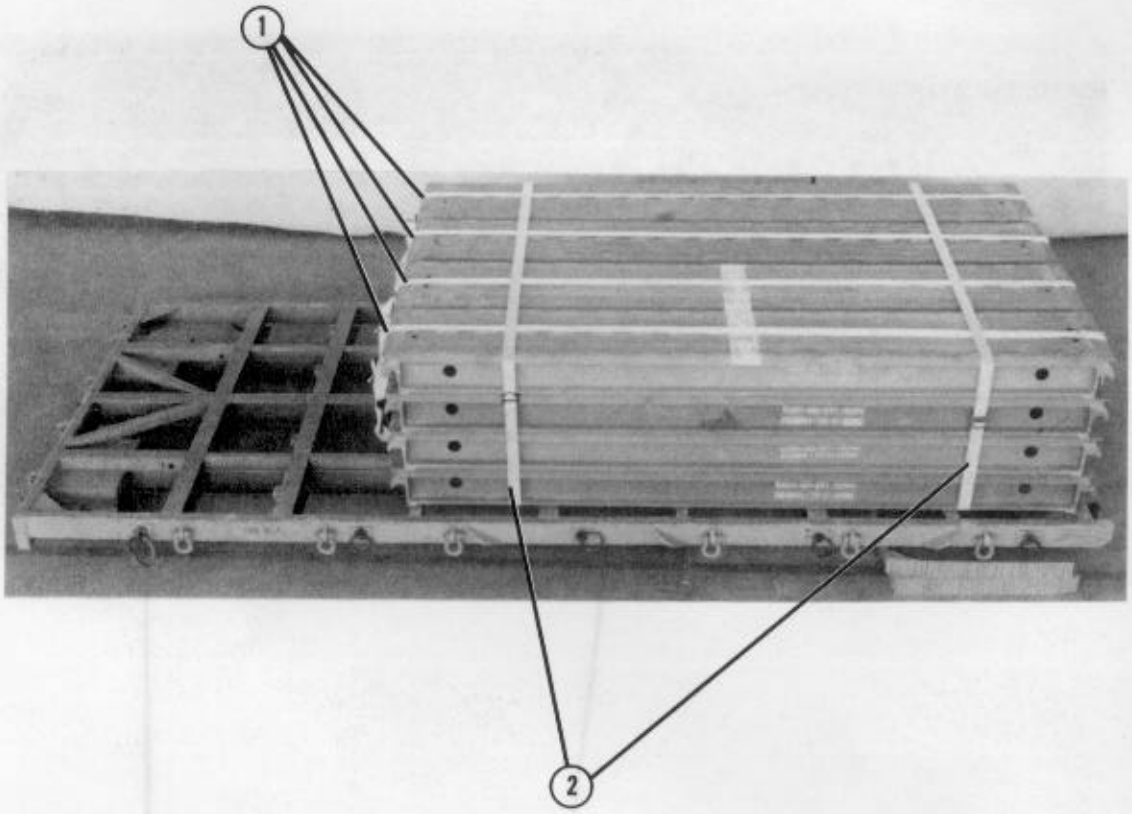
*Figure 4-9. Side-to-side lashings pre-positioned*

ONE DECK




(1) **Place four rows of four decks each on top of the pallet flush with the front edge of the pallet.**

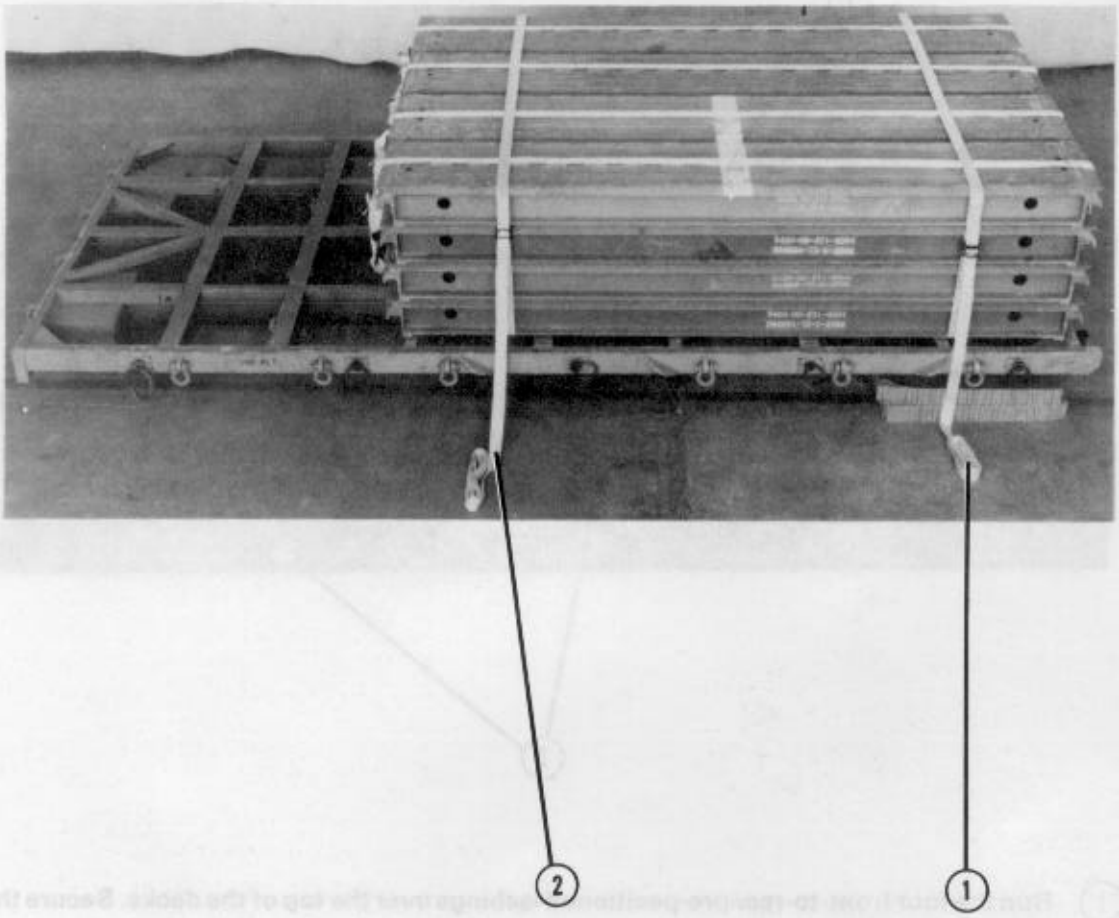
*Figure 4-10. Sixteen decks positioned on pallet*




(1) **Run the four front-to-rear pre-positioned lashings over the top of the decks. Secure the lashings according to FM 10-500-2/TO 13C7-1-5 on the rear of the decks.**

(2) **Run the two side-to-side pre-positioned lashings over the top of the decks. Secure the lashings according to FM 10-500-2/TO 13C7-1-5 on the left side of the decks.**

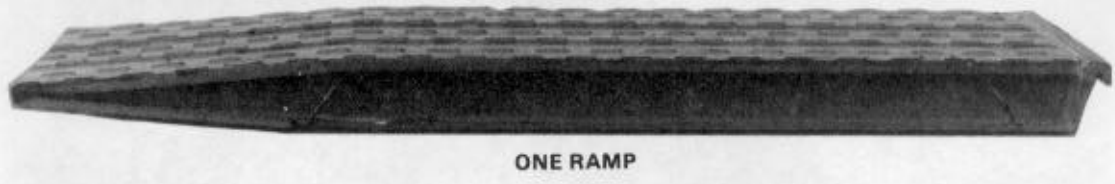
*Figure 4-11. Sixteen decks secured*



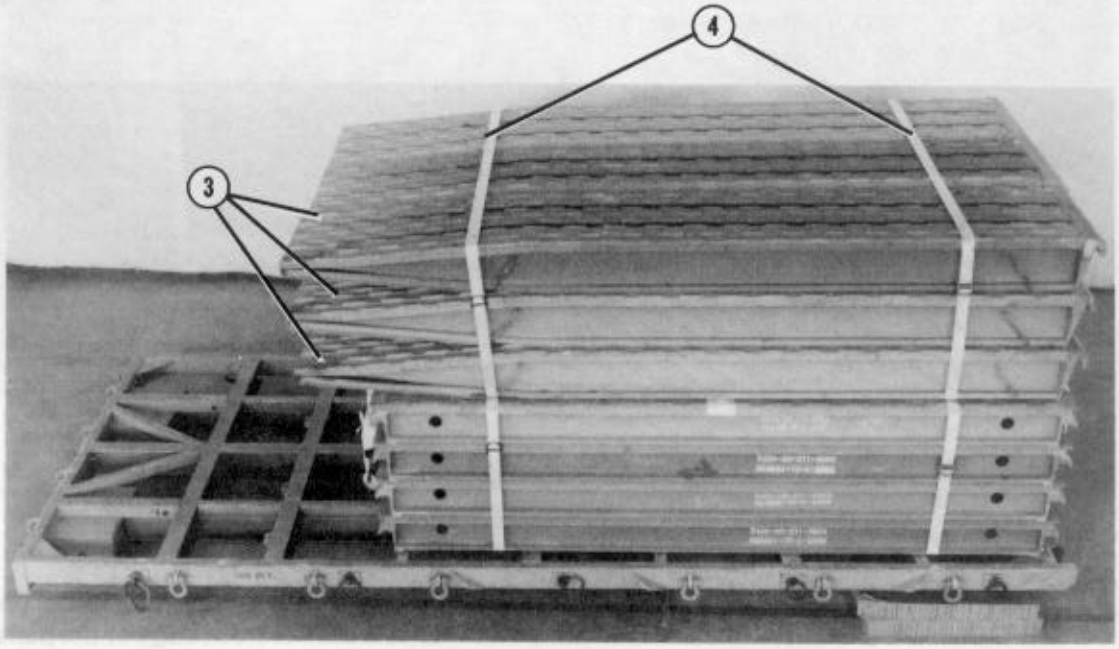

(1) **Form two 30-foot lashings according to FM 10-500-2/TO 13C7-1-5. Place one 30-foot lashing on top of the secured decks 21 inches from the front edge of the pallet in a side-to-side direction. Make sure the D-rings are placed on the right side of the decks.**

(2) **Place one 30-foot lashing on top of the secured decks 90 inches from the front edge of the pallet in a side-to-side direction. Make sure the D-rings are placed on the right side of the decks.**

*Figure 4-12. Short ramps positioned and secured*



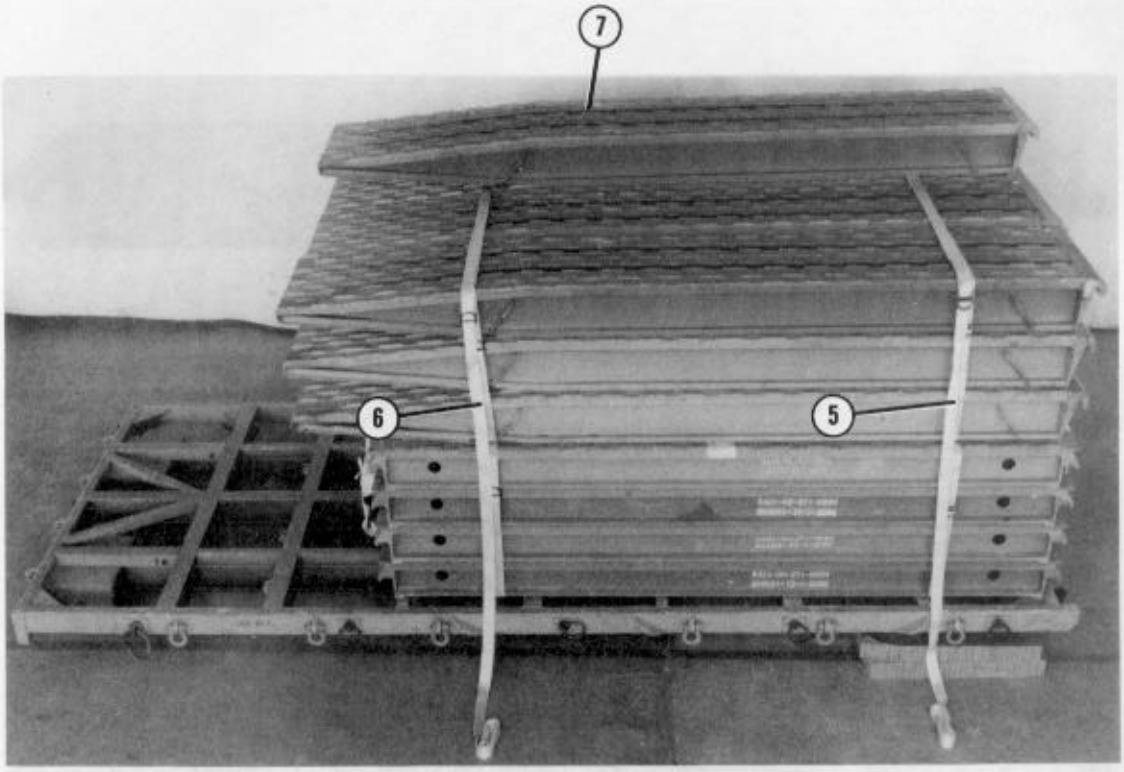
ONE RAMP




(3) **Position three rows of three short ramps on top of and flush with the front edge of the secured decks.**

(4) **Run the two pre-positioned lashings over the top of the short ramps. Secure the lashings according to FM 10-500-2/TO 13C7-1-5 on the left side of the ramps.**

*Figure 4-12. Short ramps positioned and secured (continued)*

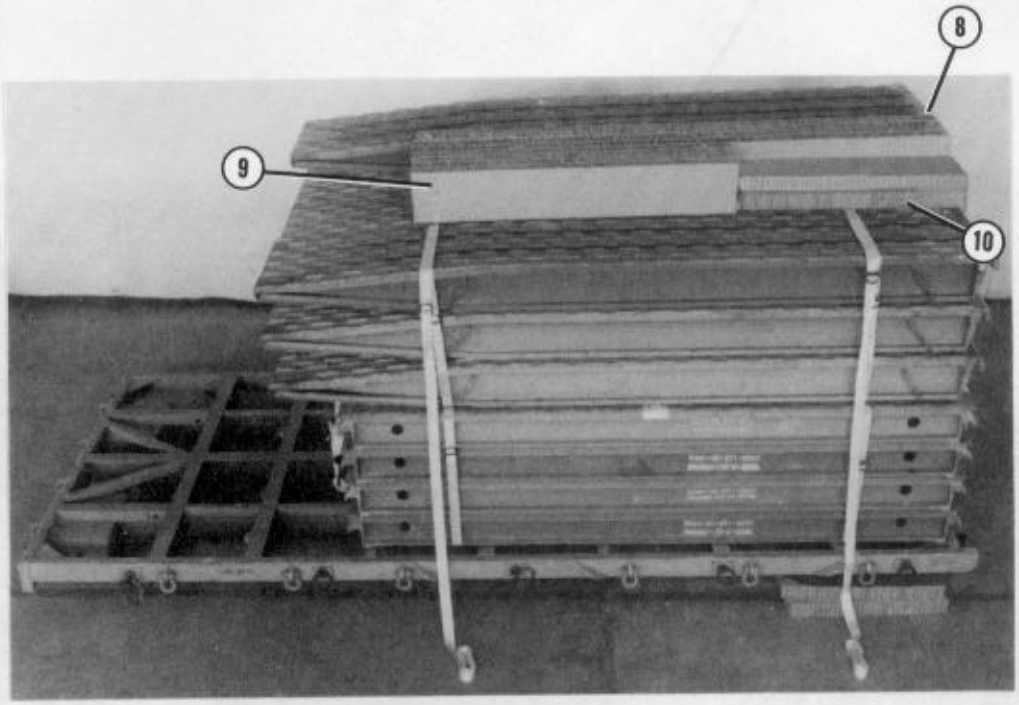



(5) Form two 30-foot lashings according to FM 10-500-2/TO 13C7-1-5. Place one 30-foot lashing on top of the secured ramps 21 inches from the front edge of the pallet in a side-to-side direction. Make sure the D-rings are placed on the right side of the short ramps.

(6) Place one 30-foot lashing on top of the secured ramps 90 inches from the front edge of the pallet in a side-to-side direction. Make sure the D-rings are placed on the right side of the short ramps.

(7) Place one short ramp on top of the left side of the secured ramps flush with the front edge of the secured ramps.

*Figure 4-12. Short ramps positioned and secured (continued)*

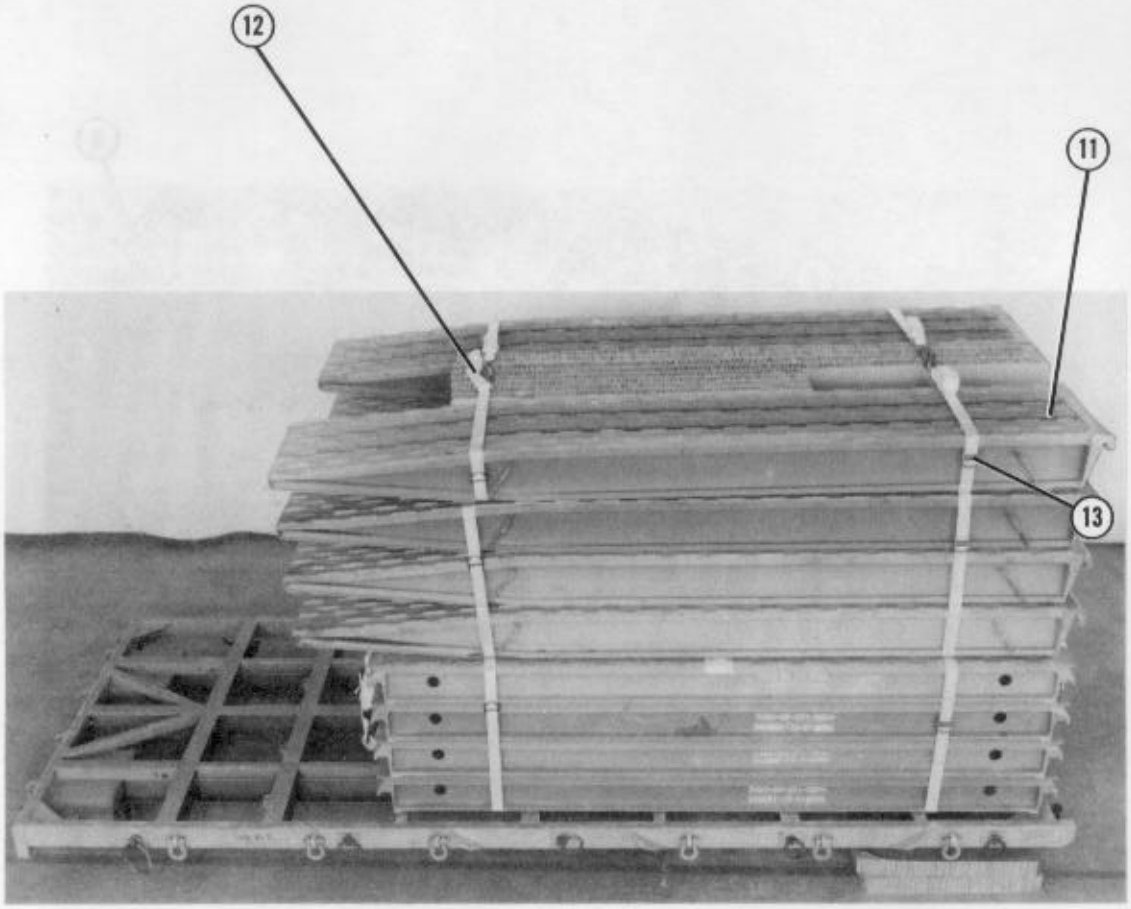



(8) **Place four 9- by 96-inch pieces of honeycomb on edge. Place them next to the short ramp flush with the front edge of the load.**

(9) **Place four 9- by 56-inch pieces of honeycomb on edge. Place them flush with the rear edge of the 9- by 96-inch pieces of honeycomb.**

(10) **Place two 11- by 40-inch pieces of honeycomb next to the 9- by 96-inch pieces of honeycomb flush with the front edge of the load.**

*Figure 4-12. Short ramps positioned and secured (continued)*



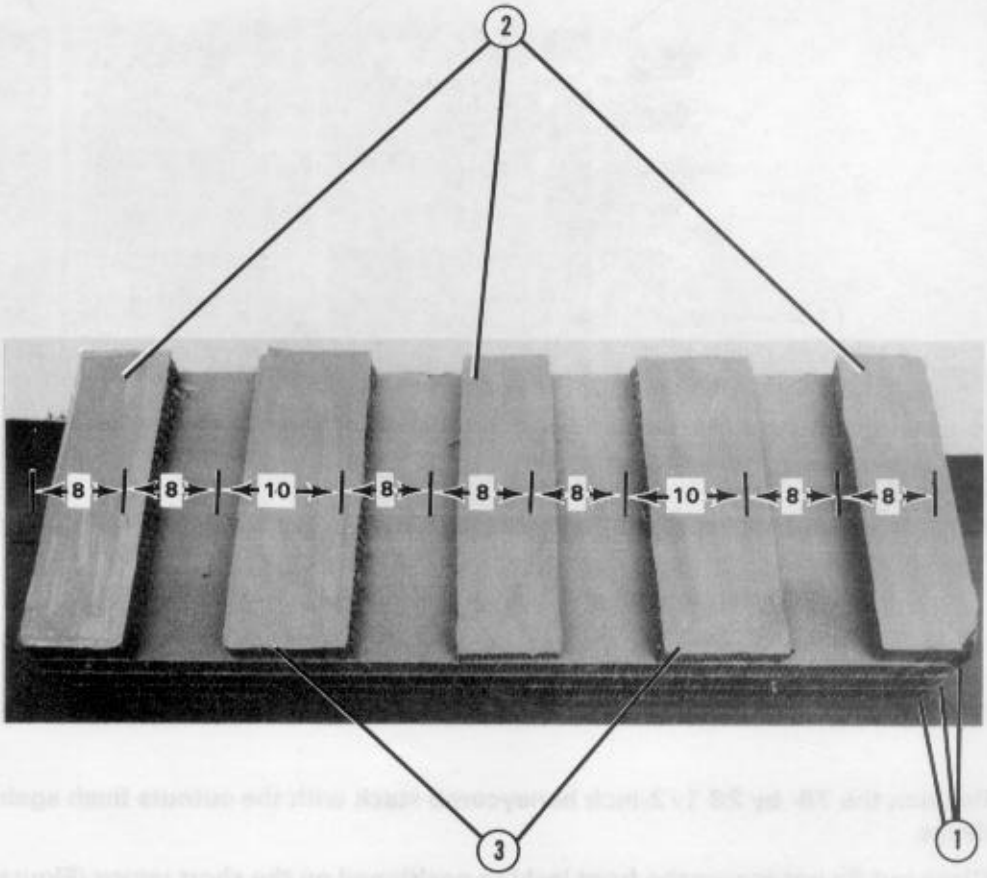

(11) **Place a short ramp next to the 9- by 56-inch pieces of honeycomb flush with the front edge of the load.**

(12) **Run the rear pre-positioned lashing on top of the load. Secure the lashing according to FM 10-500-2/TO 13C7-1-3.**

(13) **Run the front pre-positioned lashing on top of the load, and hook the lashing together using two D-rings and a load binder. Do NOT secure the lashing at this time.**

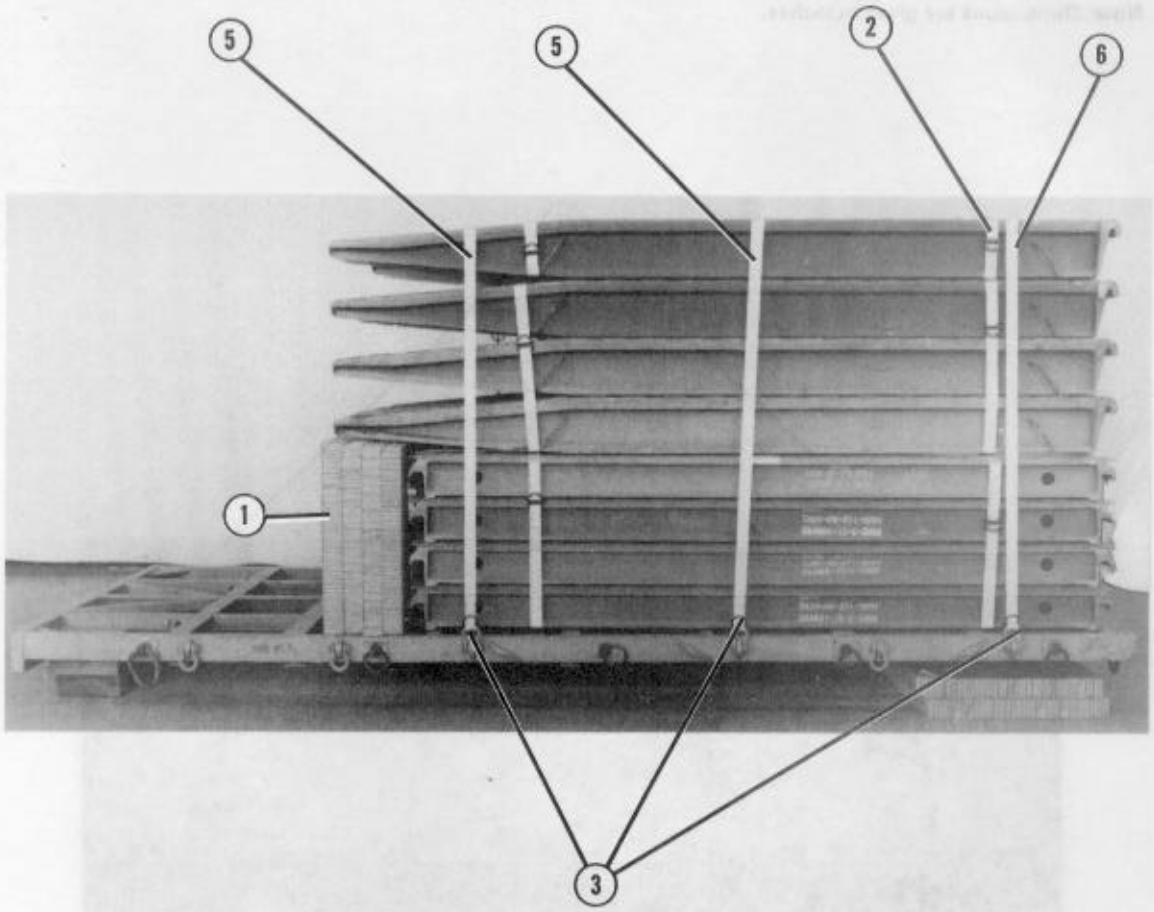
*Figure 4-12. Short ramps positioned and secured (continued)*

Note: Dimensions are given in inches.



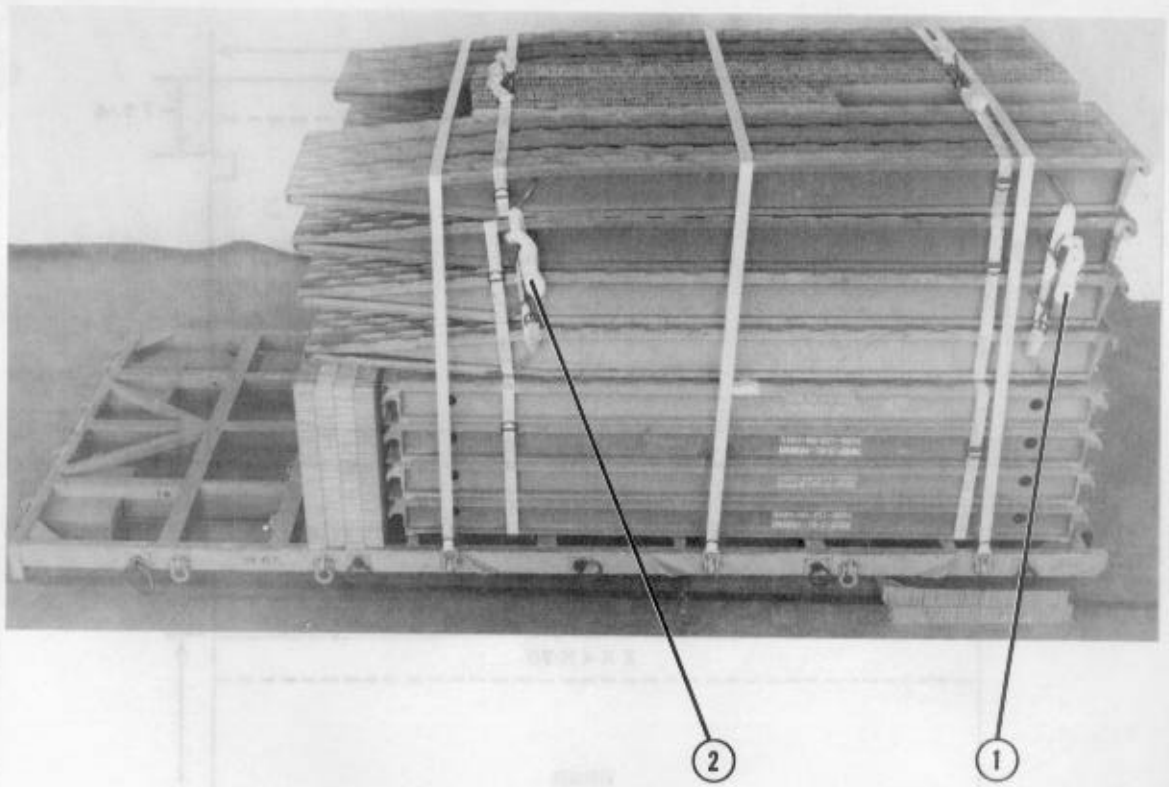

1. Glue three 76- by 28 1/2-inch pieces of honeycomb together.
2. Glue three 8- by 28 1/2-inch pieces of honeycomb as shown.
3. Glue two 10- by 28 1/2-inch pieces of honeycomb as shown.

*Figure 4-13. Honeycomb stack prepared*




1. Position the 76- by 28 1/2-inch honeycomb stack with the cutouts flush against the decks.
2. Close but do not secure the front lashing positioned on the short ramps (Figure 4-12, step 13).
3. Pass a 15-foot lashing through pallet lifting shackles 2, 5, and 7 and back through their own D-rings.
4. Repeat step 3 for the left side of the pallet (not shown) using pallet lifting shackles 2A, 5A, and 7A.
5. Run the lashings, placed in pallet lifting shackles 5 and 5A and 7 and 7A, over the top of the load from right to left. Secure the lashings according to FM 10-500-2/TO 13C7-1-5 on the left side.
6. Run the lashings, placed in pallet lifting shackles 2 and 2A, over the top of the load from right to left. Close but do not secure the lashings at this time.

*Figure 4-14. Honeycomb stack positioned and lashings secured*



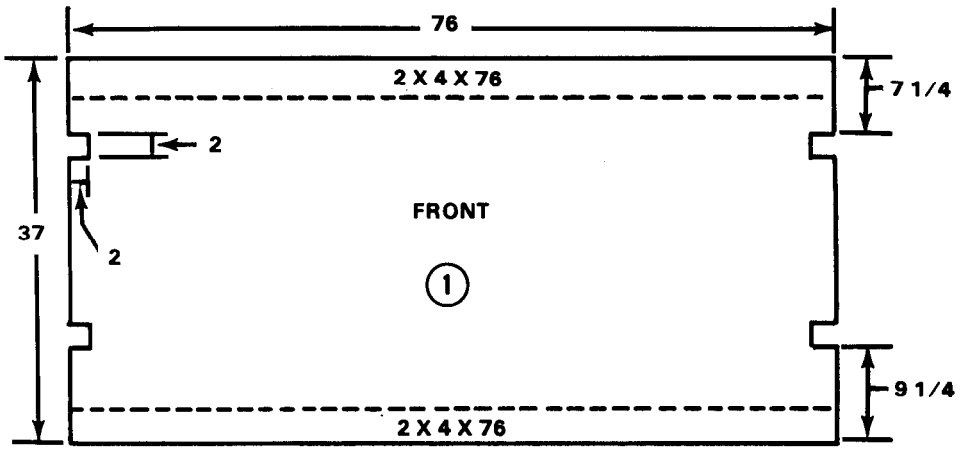

(1) **Pass a 15-foot lashing through the front outside carrying handles of the short ramps. Secure the lashing according to FM 10-500-2/TO 13C7-1-5.**

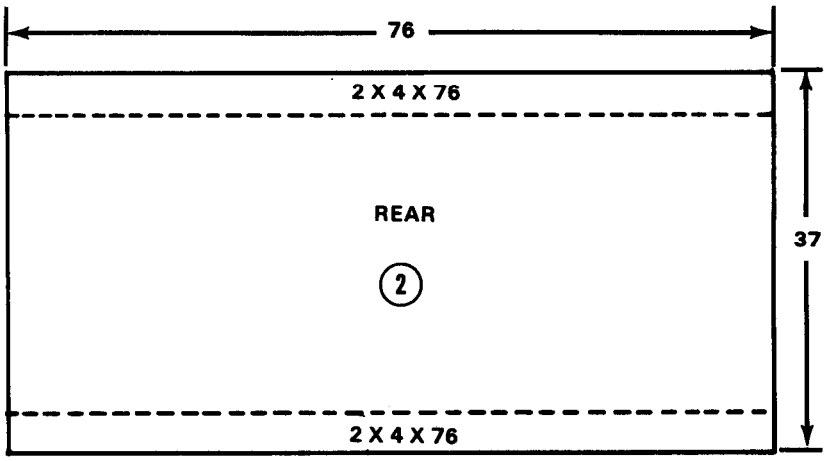
(2) **Pass a 15-foot lashing through the rear outside carrying handles of the short ramps. Secure the lashing according to FM 10-500-2/TO 13C7-1-5.**

(3) **Repeat steps 1 and 2 for the left side of the load (not shown).**

*Figure 4-15. Short ramps secured*

Notes: 1. These drawings are not drawn to scale.
2. Dimensions are given in inches.

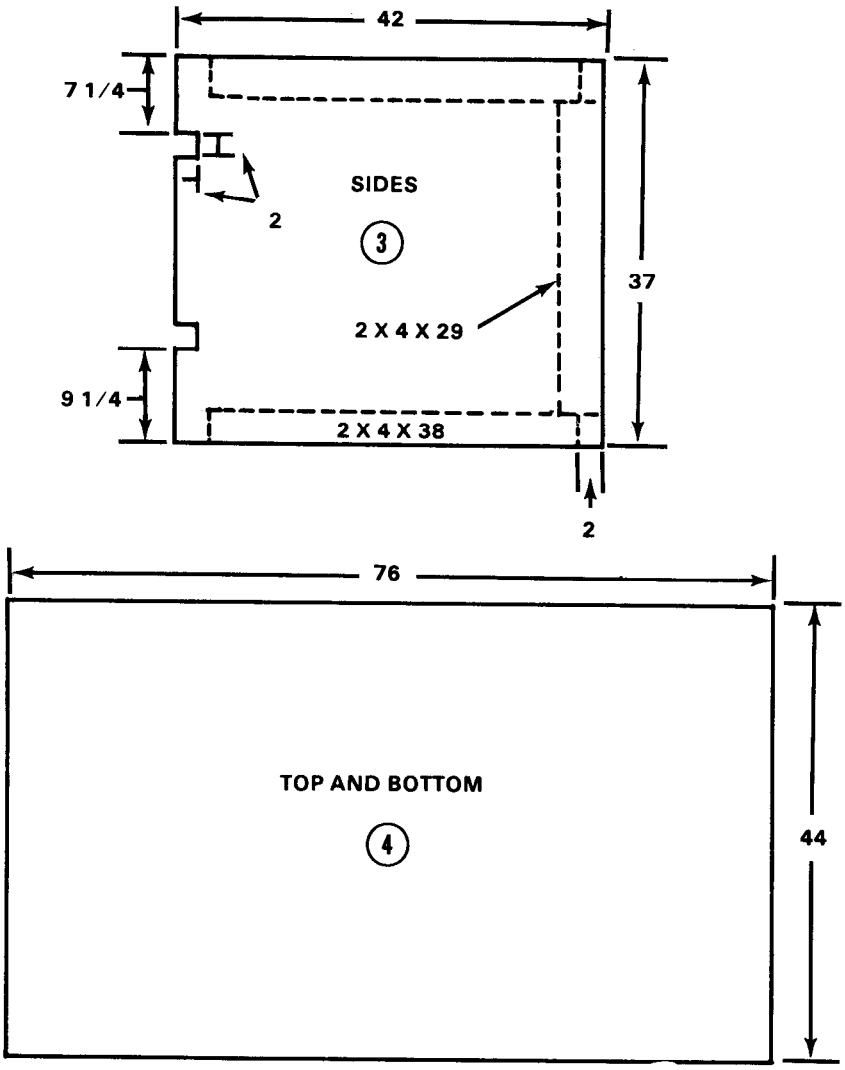



| Item Number | Pieces | Width (Inches) | Length (Inches) | Material |
|---|---|---|---|---|
| 1 | 1 | 76 | 37 | 3/4-inch plywood |
| | 2 | 76 | 4 | 2- by 4-inch lumber |
| 2 | 1 | 76 | 37 | 3/4-inch plywood |
| | 2 | 76 | 4 | 2- by 4-inch lumber |

*Figure 4-16. Materials required to build parts box*

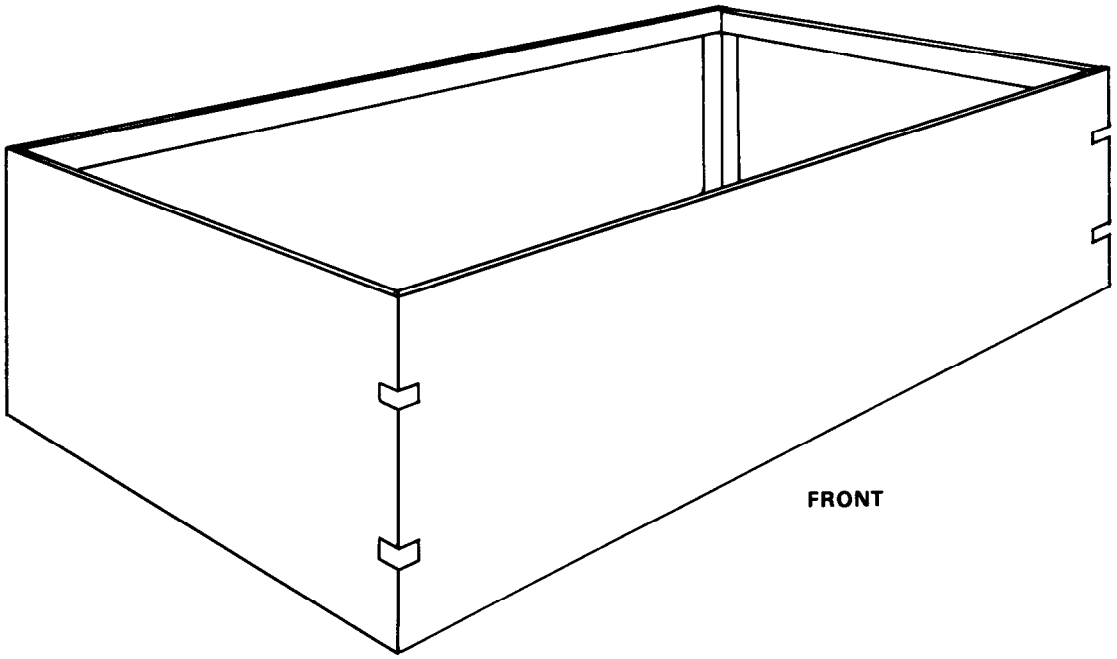
Notes: 1. These drawings are not drawn to scale.
2. Dimensions are given in inches.




| Item Number | Pieces | Width (Inches) | Length (Inches) | Material |
|---|---|---|---|---|
| 3 | 2 | 42 | 37 | 3/4-inch plywood |
| | 4 | 38 | 4 | 2- by 4-inch lumber |
| | 2 | 29 | 4 | 2- by 4-inch lumber |
| 4 | 2 | 76 | 44 | 3/4-inch plywood |

*Figure 4-16. Materials required to build parts box (continued)*

Note: This drawing is not drawn to scale.

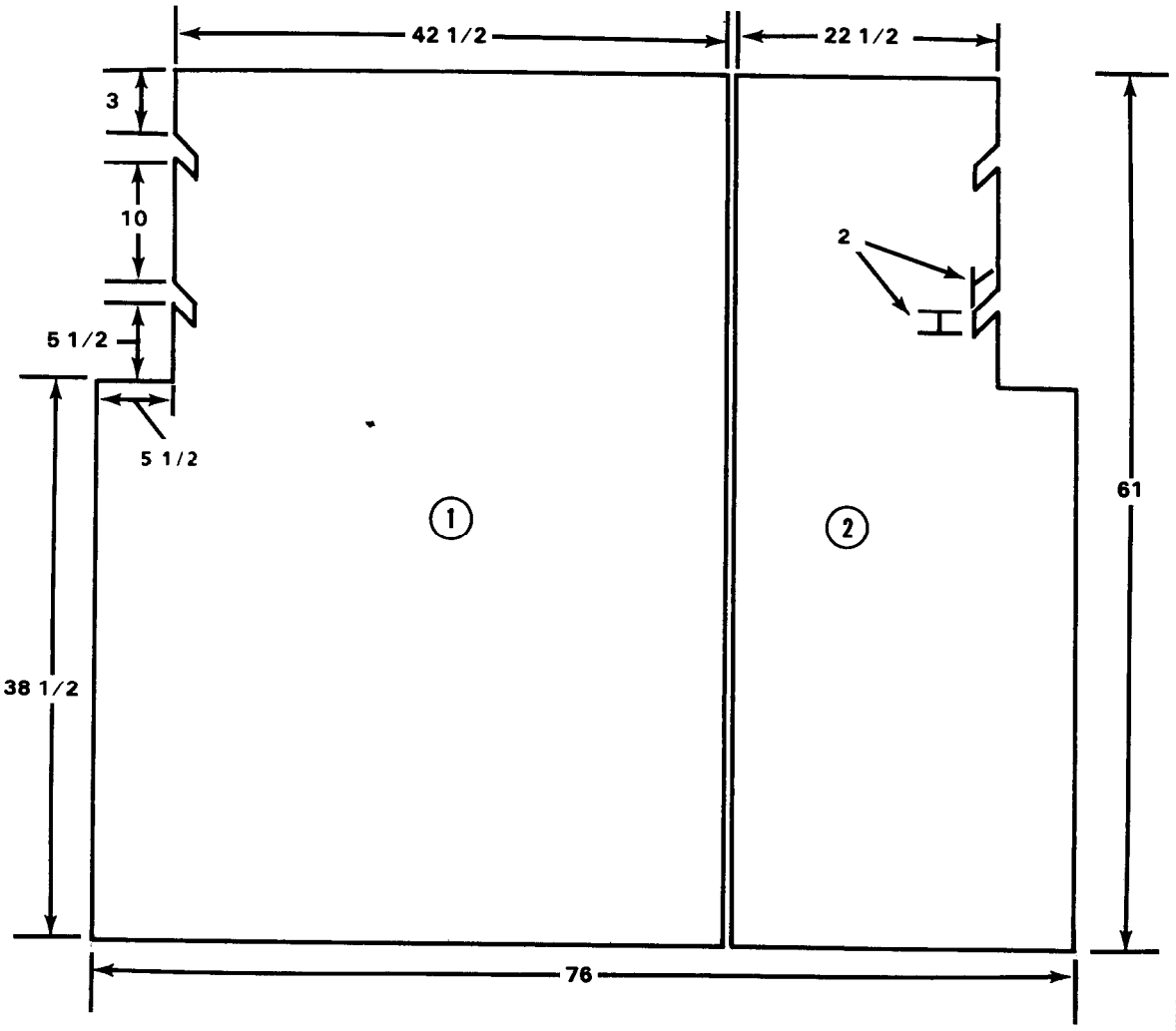



**Step:**

1. **Build the parts box using the materials given in Figure 4-16.**
2. **Use eightpenny nails to secure the parts box.**

*Figure 4-17. Parts box built*

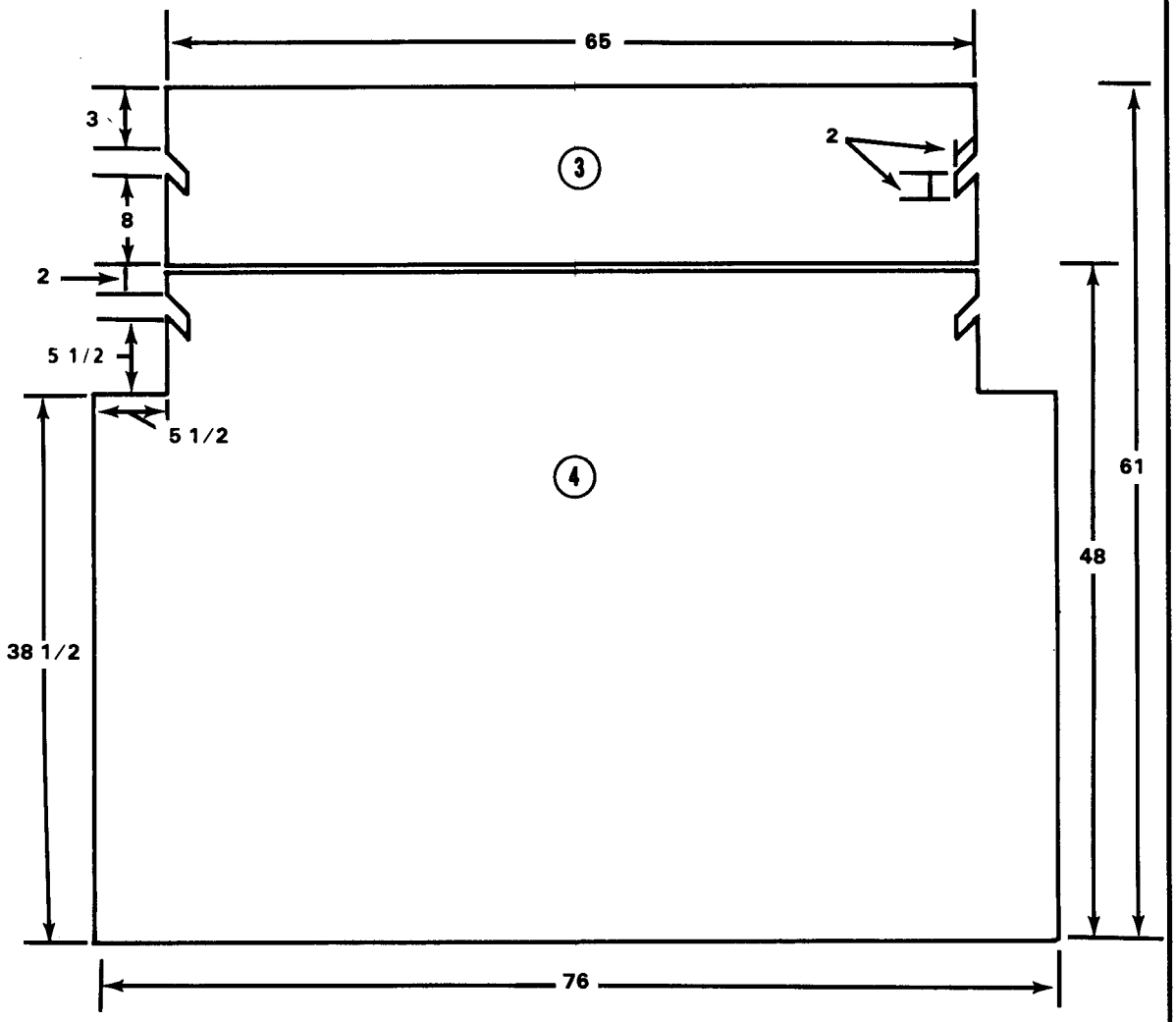
Notes: 1. This drawing is not drawn to scale.
2. Dimensions are given in inches.




| Item Number | Pieces | Width (Inches) | Length (Inches) | Material |
|---|---|---|---|---|
| 1 | 1 | 42 1/2 | 61 | 3/4-inch plywood |
| 2 | 1 | 22 1/2 | 61 | 3/4-inch plywood |

*Figure 4-18. Materials required to build restraint board 1*

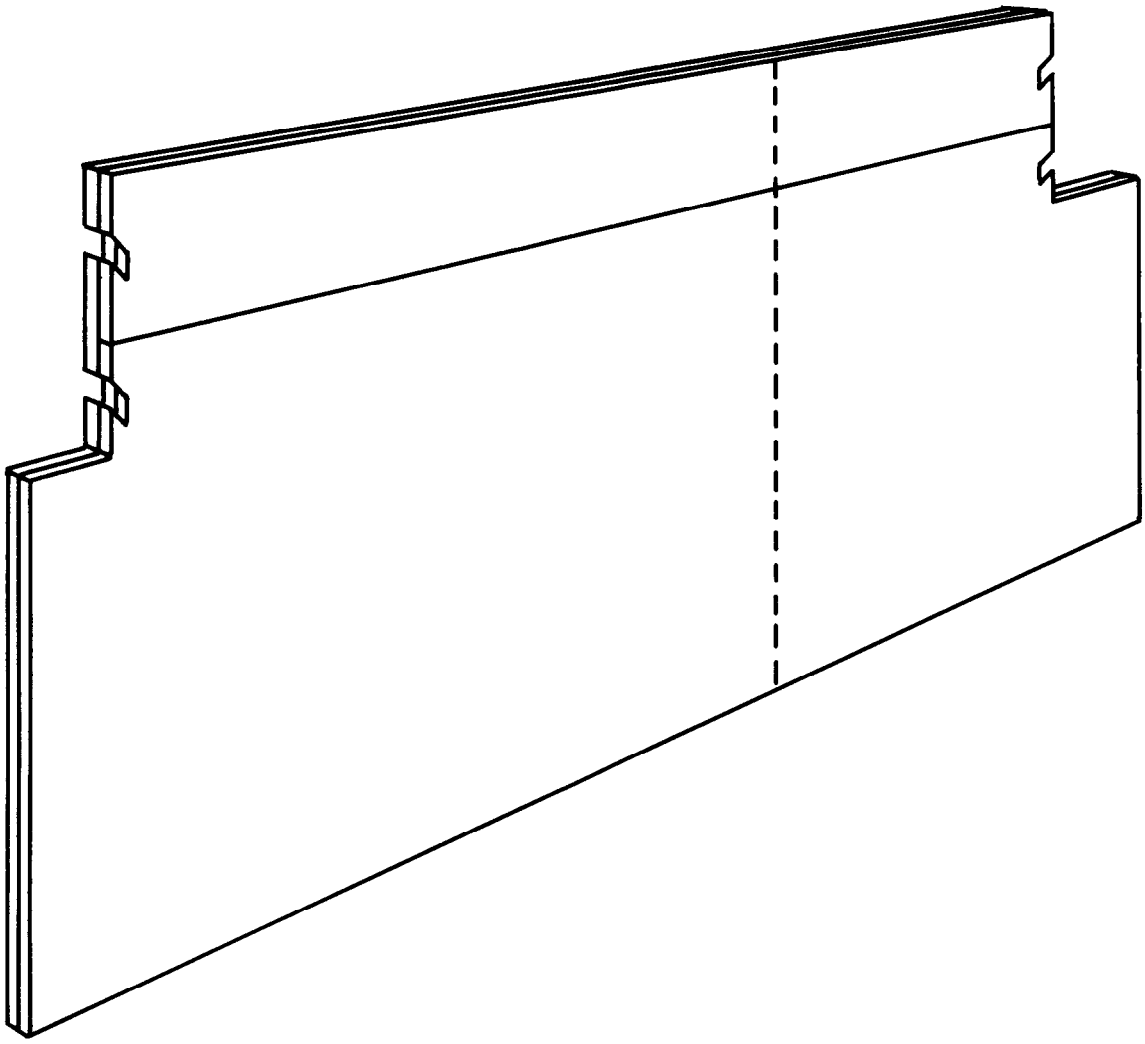
Notes: 1. This drawing is not drawn to scale.
2. Dimensions are given in inches.




| Item Number | Pieces | Width (Inches) | Length (Inches) | Material |
|---|---|---|---|---|
| 3 | 1 | 65 | 13 | 3/4-inch plywood |
| 4 | 1 | 76 | 48 | 3/4-inch plywood |

*Figure 4-18. Materials required to build restraint board 1 (continued)*

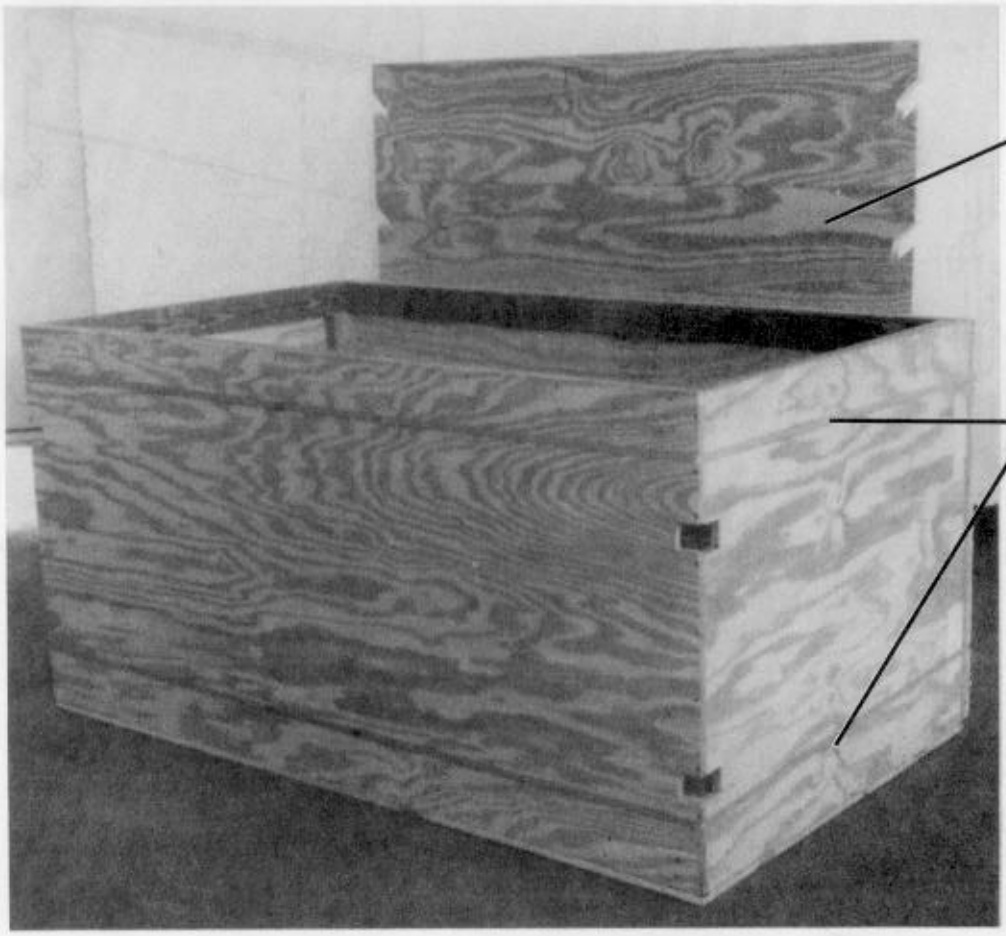
Note: This drawing is not drawn to scale.



Step:

1. Build the restraint board 1 using the materials given in Figure 4-18.
2. Use eightpenny nails to secure restraint board 1.

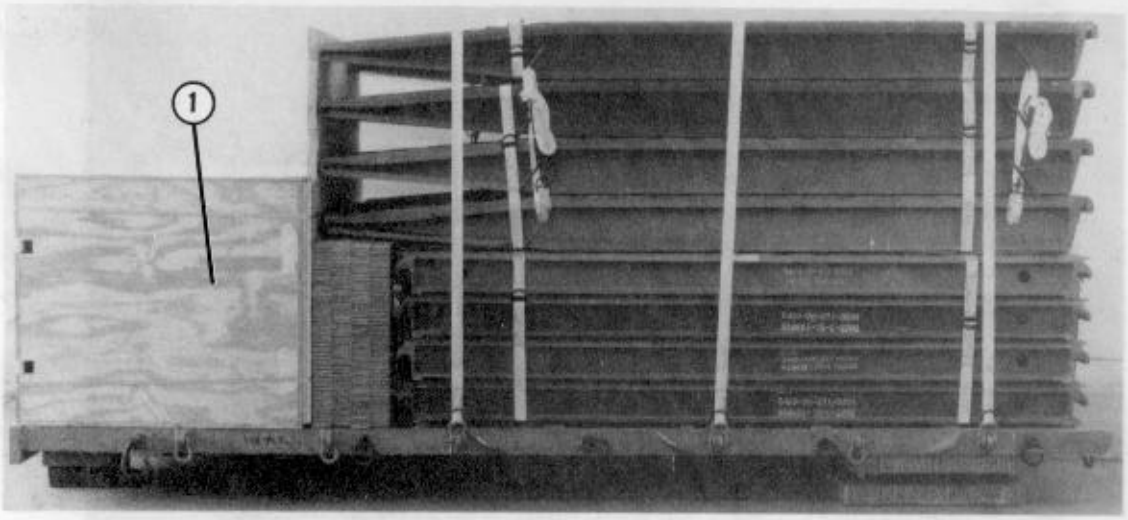
*Figure 4-19. Restraint board 1 built*




(1) Nail restraint board 1 to the rear of the parts box using eightpenny nails.

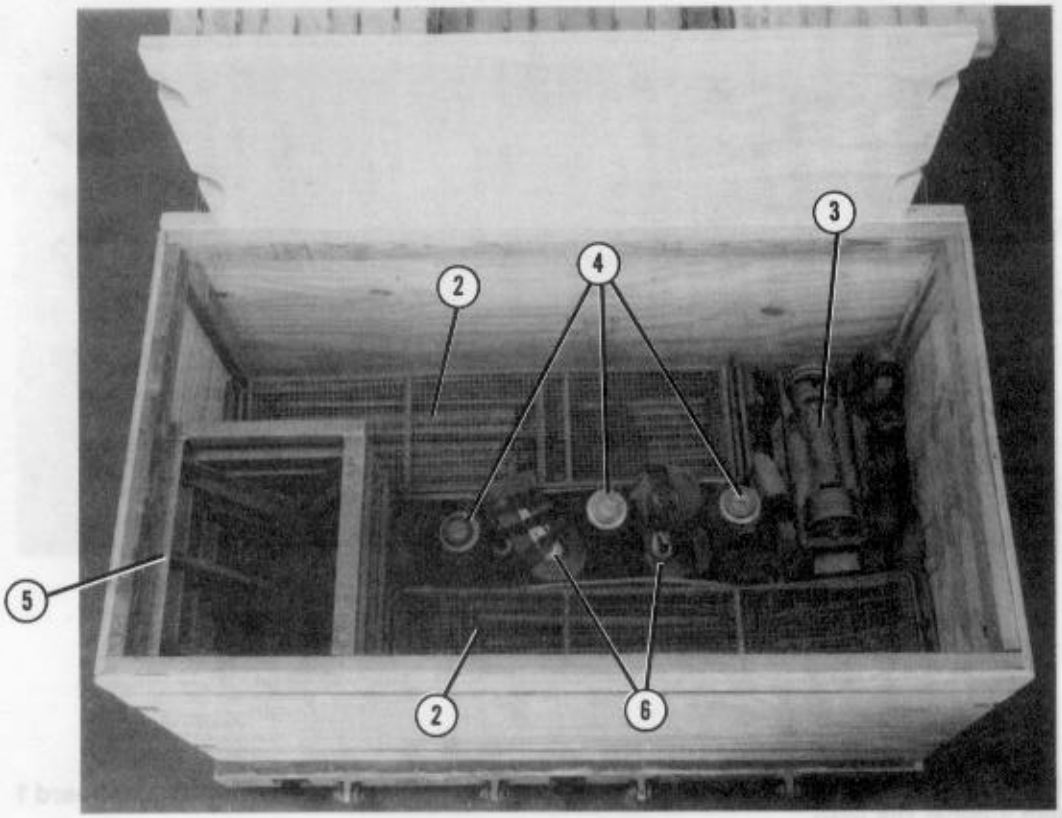
(2) Secure the parts box and restraint board 1 together using steel strapping material or two 30-foot lashings (formed according to FM 10-500-2/TO 13C7-1-5). These photographs show steel strapping being used.

*Figure 4-20. Parts box and restraint board 1 secured together*




(1) **Position the parts box and restraint board 1 on the rear of pallet 1 with restraint board 1 flush against the load.**

*Figure 4-21. Parts box and restraint board 1 positioned on pallet 1*




(1) Place a 71 1/2- by 36-inch piece of honeycomb (not shown) in the bottom of the parts box.

(2) Place the two baskets in the parts box. Make sure the basket with the pins is to the front and rear corner of the parts box.

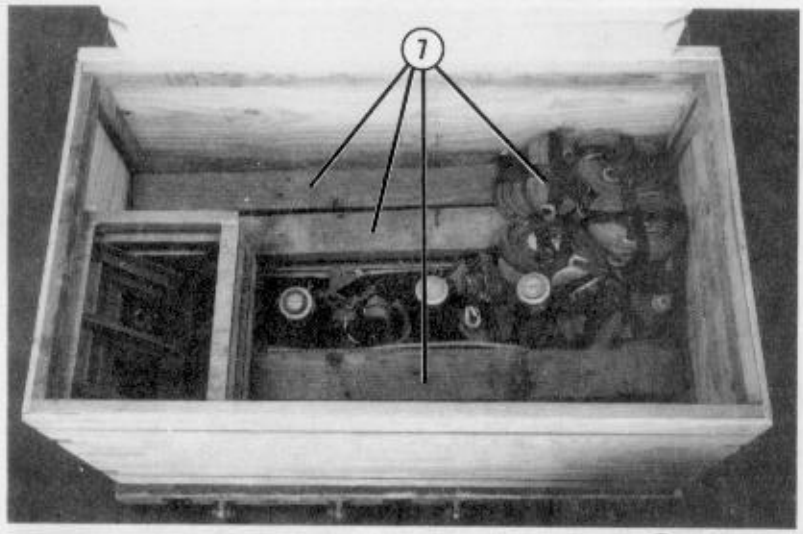
(3) Place a landing roller in the parts box (as shown). Wedge a 4- by 7 1/2-inch piece of honeycomb at either end of the landing roller to prevent tilting (not shown).

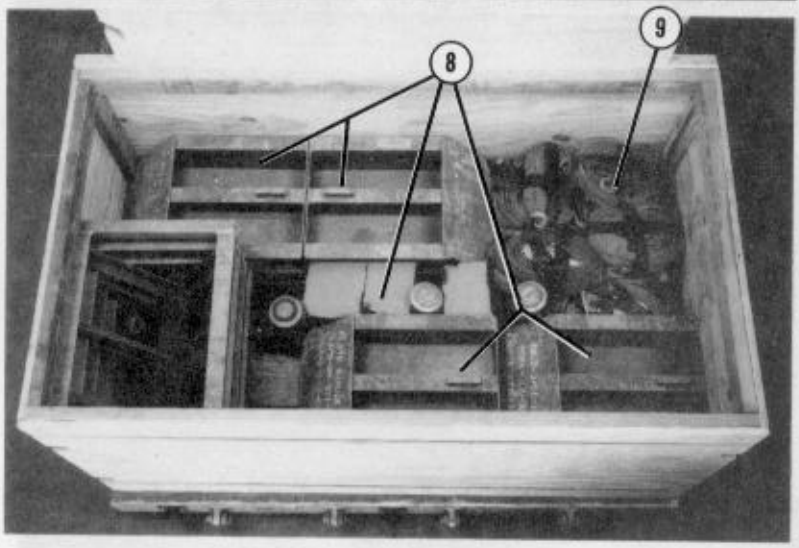
(4) Place three hydraulic jacks in the parts box.

(5) Place four building pedestals in the parts box.

(6) Fill open spaces with 10,000-pound straps.

*Figure 4-22. Parts placed in parts box*



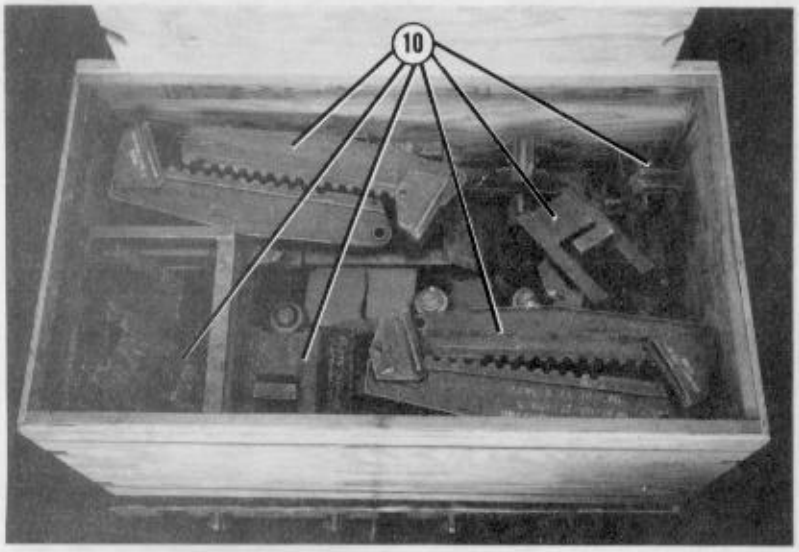



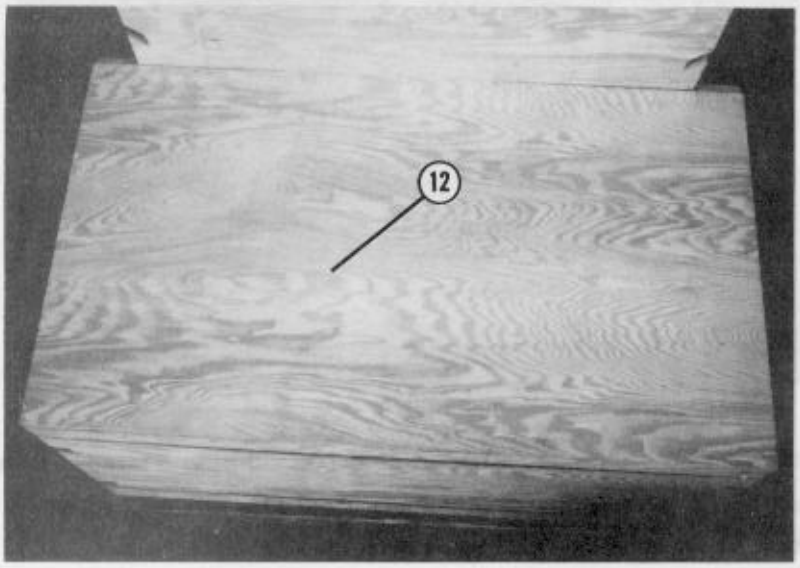

(7) **Place three pieces of dunnage and additional 10,000-pound straps in the parts box.**

(8) **Place four single store baseplates in the parts box with honeycomb fillers between the baseplates.**

(9) **Place additional 10,000-pound straps in the parts box.**

*Figure 4-22. Parts placed in parts box (continued)*



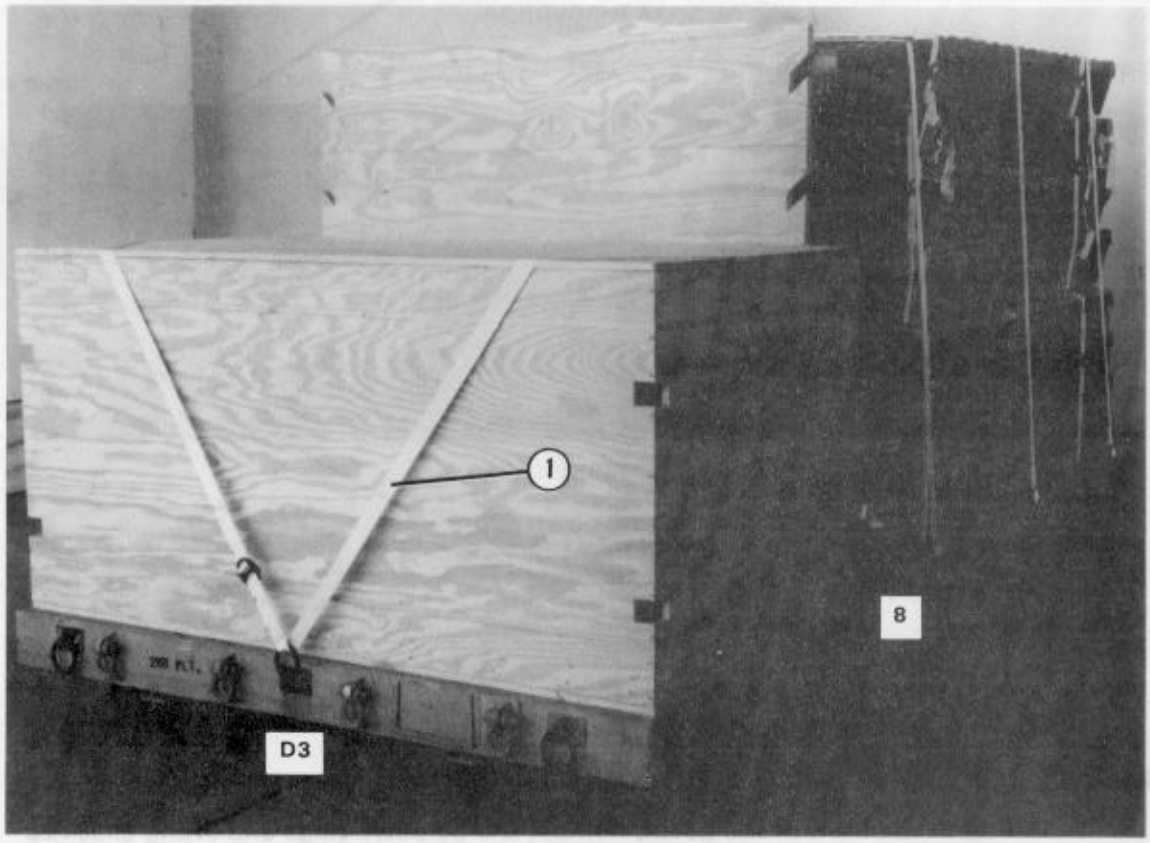




(10) **Place four jack posts, four jack supports, and two fixed supports in the parts box.**

(11) **Fill the remainder of the parts box with pieces of honeycomb (not shown).**

(12) **Place the top on the box, and secure it using eightpenny nails.**

*Figure 4-22. Parts placed in parts box (continued).*



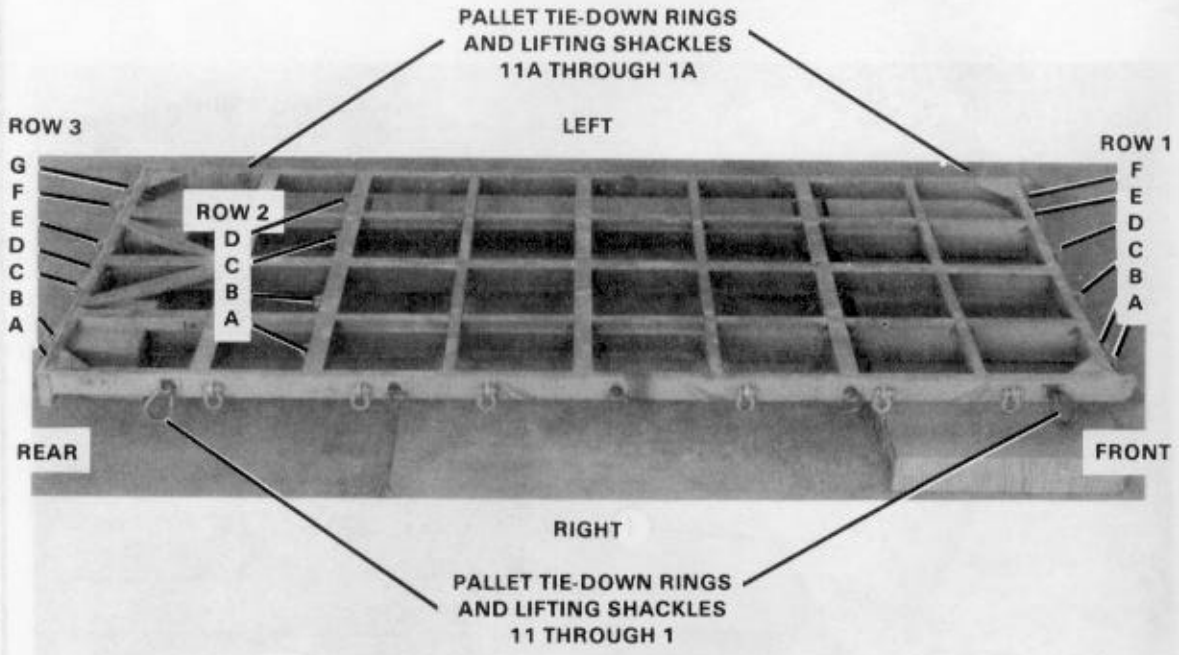

(1) **Form a 30-foot lashing according to FM 10-500-2/TO 13C7-1-5. Pass the lashing through tie-down ring D3. Bring the free ends over the top rear corners of the parts box. Secure the lashing to tie-down rings 8 and 8A with a load binder and D-ring on each side.**

*Figure 4-23. Parts box secured to pallet 1*

## 4-5. Preparing Pallet 2

Prepare pallet 2 as shown in Figures 4-24 through 4-35.

Notes: 1. Front, rear, right, and left refer to the pallet.
2. Pad all sharp edges that lashings may touch.

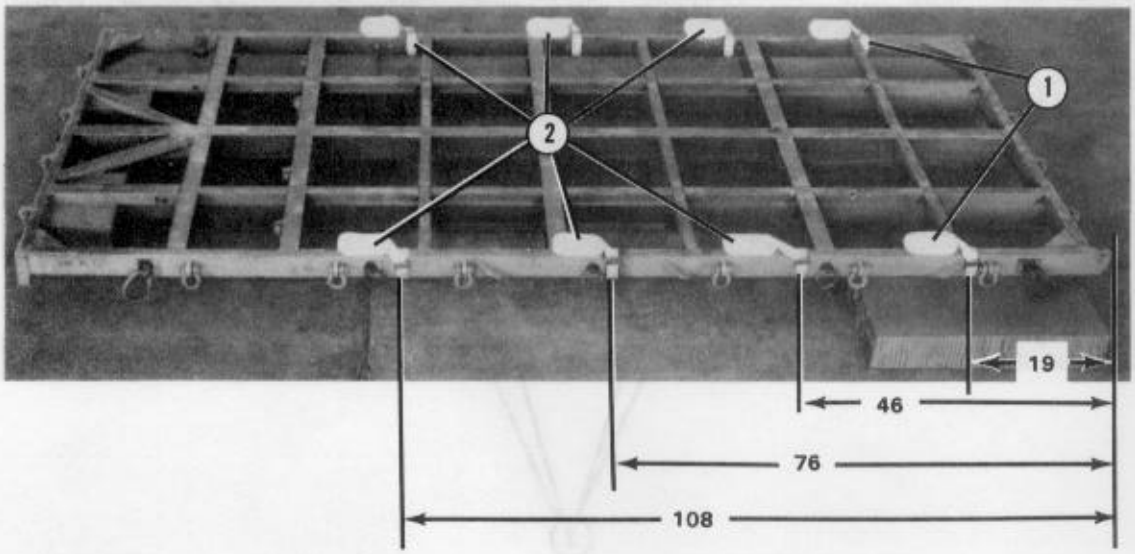



**Step:**

1. **Starting at the front of the pallet, number the tie-down rings and lifting shackles bolted to the right side from 1 through 11 and those bolted to the left side from 1A through 11A.**
2. **Starting at the front of the pallet, label row 1 of tie-down rings and lifting shackles from right to left A1 through F1. Label row 2 from right to left A2 through D2. Label row 3 from right to left A3 through G3.**
3. **Place two 96- by 36-inch pieces of honeycomb under the front of the pallet to keep the pallet level.**

*Figure 4-24. Pallet 2 labeled*

Note: Dimensions are given in inches.

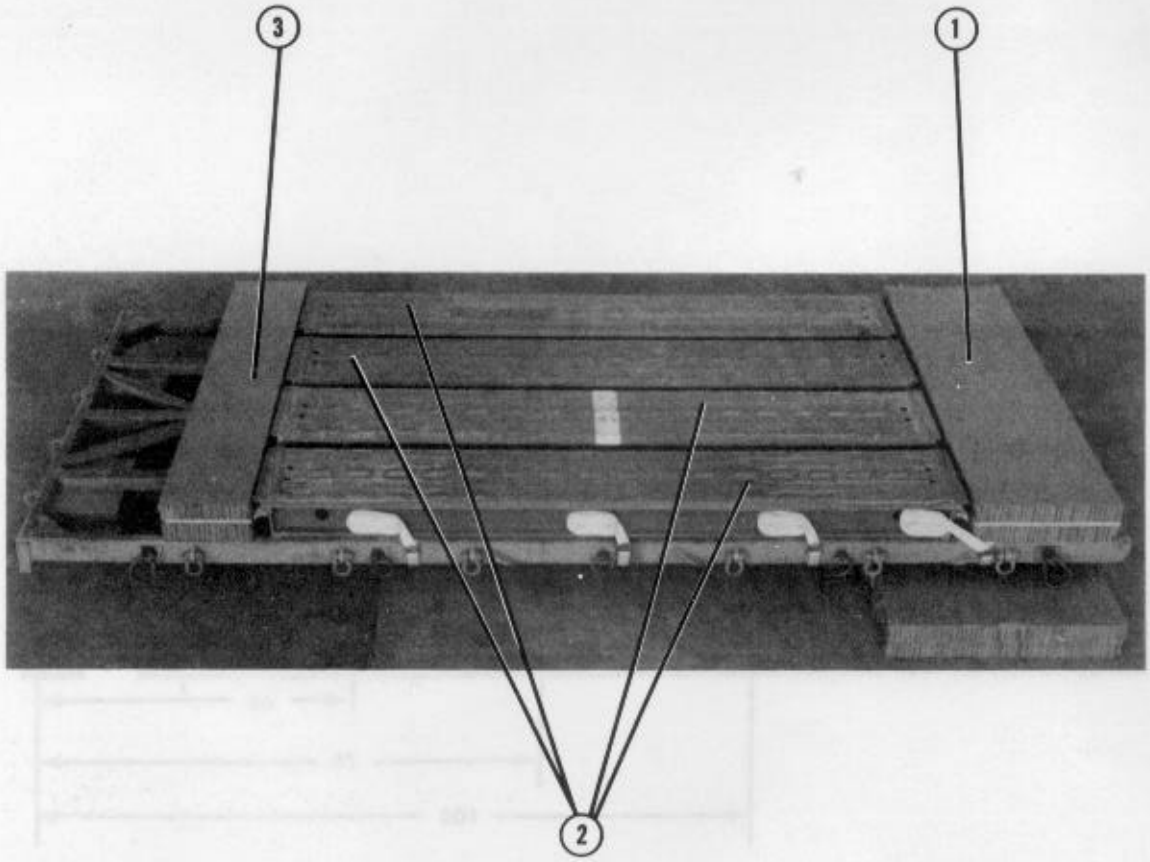



(1) Pass a 15-foot lashing around the right front side rail and through its own D-ring 19 inches from the front edge of the pallet. Repeat this step for the left side rail.

(2) Repeat step 1 at intervals of 46, 76, and 108 inches.

Note: Make sure the D-rings are facing to the outside of the side rails.

*Figure 4-25. Eight lashings pre-positioned*

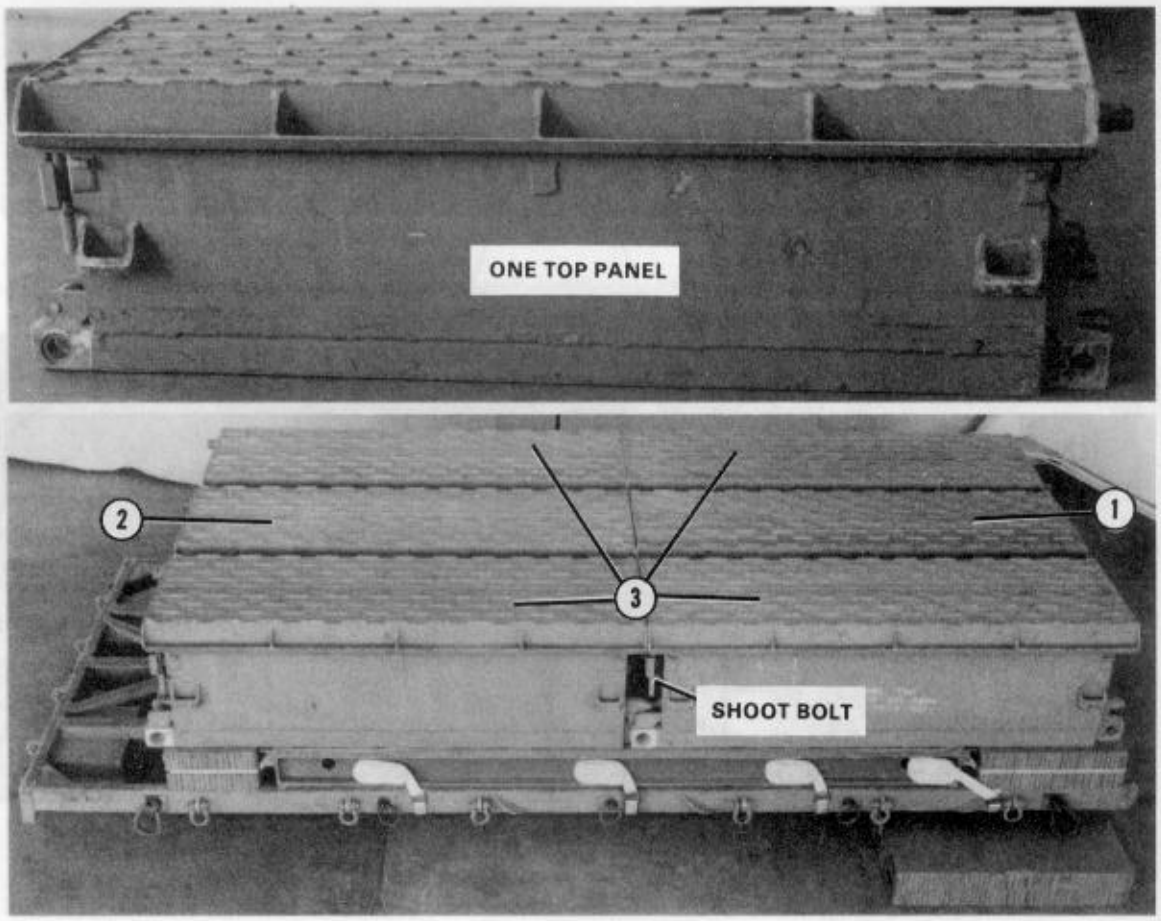



(1) **Place one 3/4- by 76- by 22-inch piece of plywood between two 76- by 22-inch pieces of honeycomb to form a stack. Place the stack flush with the front edge of the pallet.**

(2) **Place four decks side by side on top of the pallet flush against the 76- by 22-inch stack.**

(3) **Place one 3/4- by 76- by 13 1/2-inch piece of plywood between two 76- by 13 1/2-inch pieces of honeycomb to form a stack. Place the stack flush against the rear of the decks.**

*Figure 4-26. Honeycomb, plywood, and decks positioned*



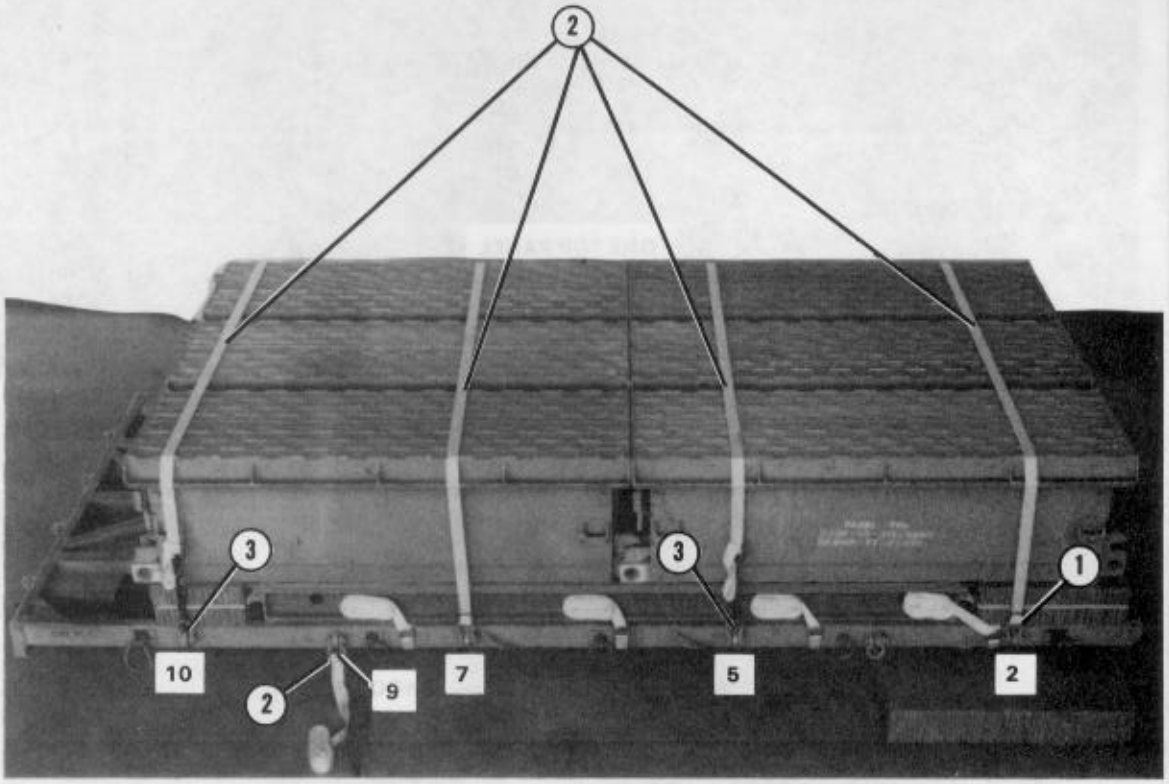

(1) Center a top panel with the end of the panel flush with the front edge of the pallet.

Note: Make sure the shoot bolt is in the unlocked position.

(2) Center another top panel against the rear edge of the top panel positioned in step 1. Interlock the two panels with the shoot bolt.

(3) Position two top panels to each side of the panels positioned in steps 1 and 2. Interlock all the top panels with the shoot bolts.

*Figure 4-27. Top panels positioned*

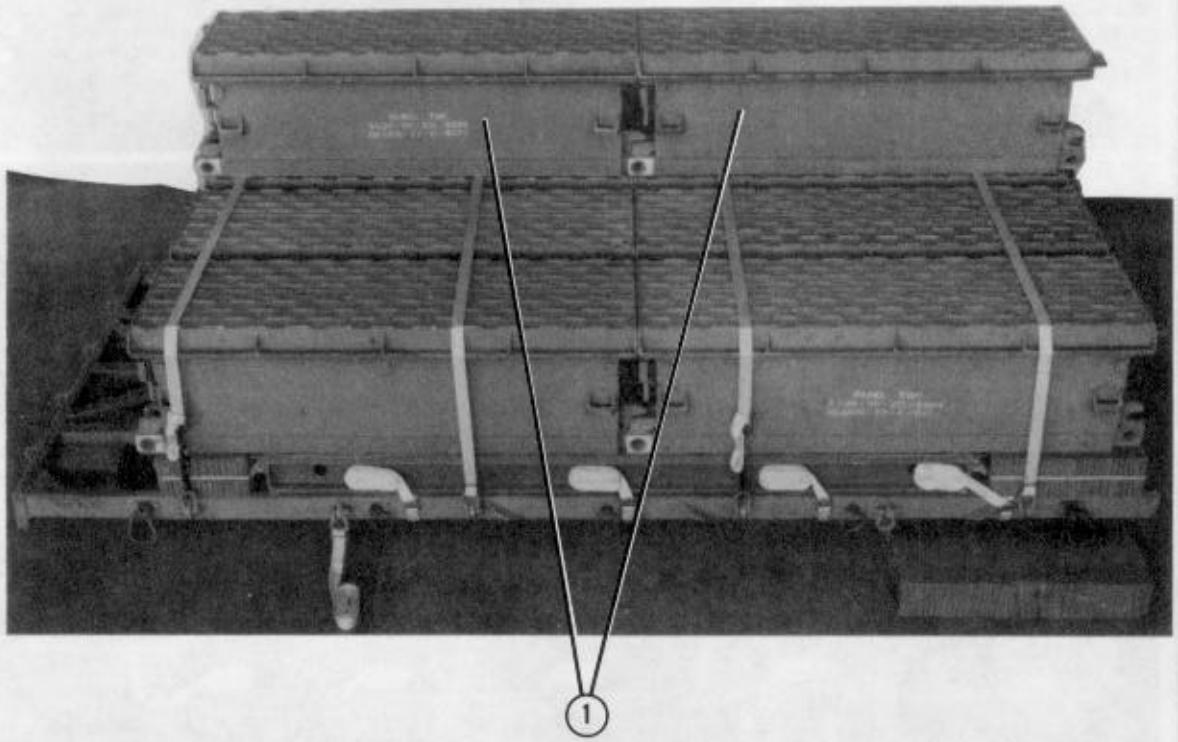



(1) Pass a 15-foot lashing through lifting shackles 2, 5A, 7, 9, and 10A, and back through its own D-rings.

(2) Run the lashings attached to lifting shackles 2, 5A, 7, and 10A over the top panels.
Note: The lashing attached to lifting shackle 9 is NOT secured at this time.

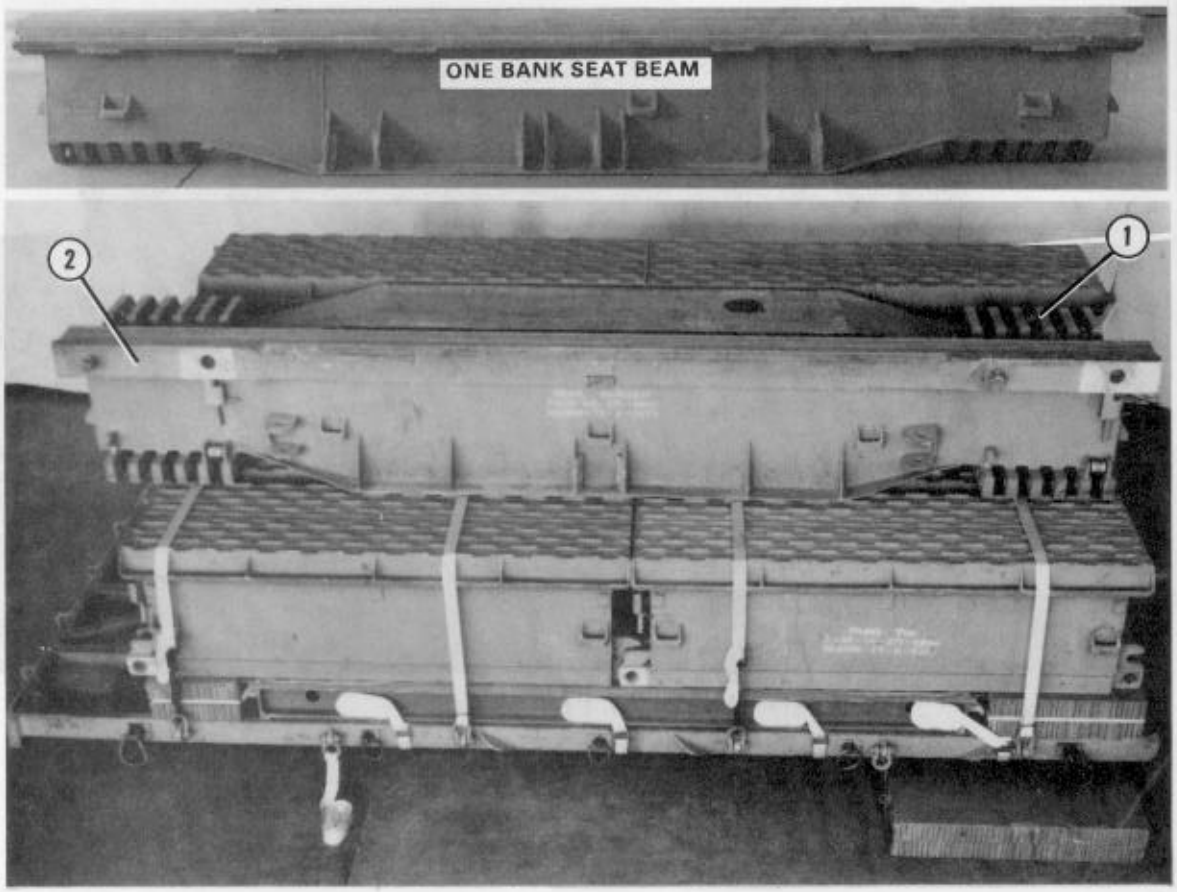
(3) Secure the lashings to tie-down rings 2A, 5, 7A, and 10 according to FM 10-500-2/TO 13C7-11-21.

*Figure 4-28. Six top panels secured*




(1) **Position two top panels even with the left side of the load. Interlock the top panels with the shoot bolt.**

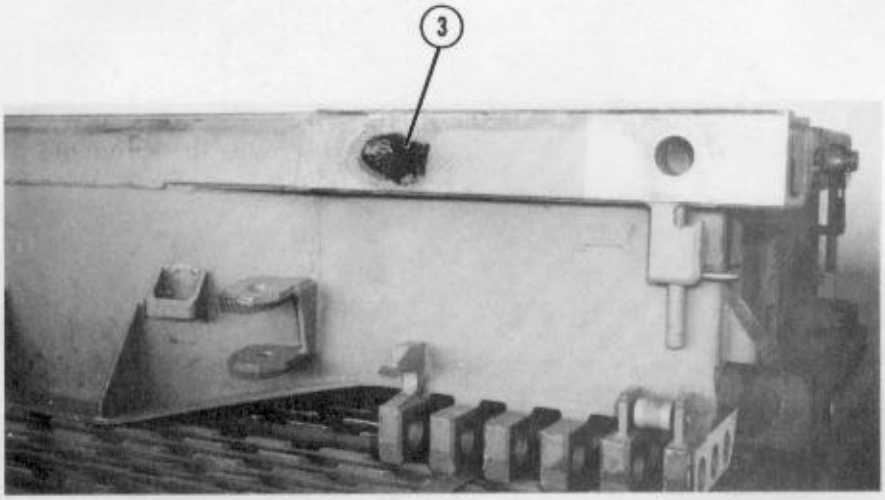
*Figure 4-29. Two top panels positioned*

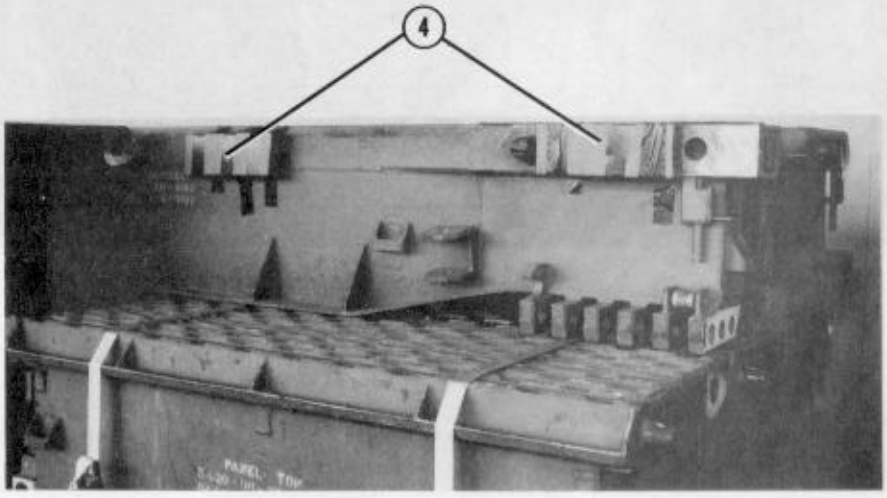



(1) Position a BSB facing down against the two top panels. Make sure the front edge of the BSB is flush with the front edge of the pallet.

(2) Position another BSB facing up against the first BSB. Make sure the front edge of the BSB is flush with the front edge of the pallet.

*Figure 4-30. BSBs positioned and prepared*

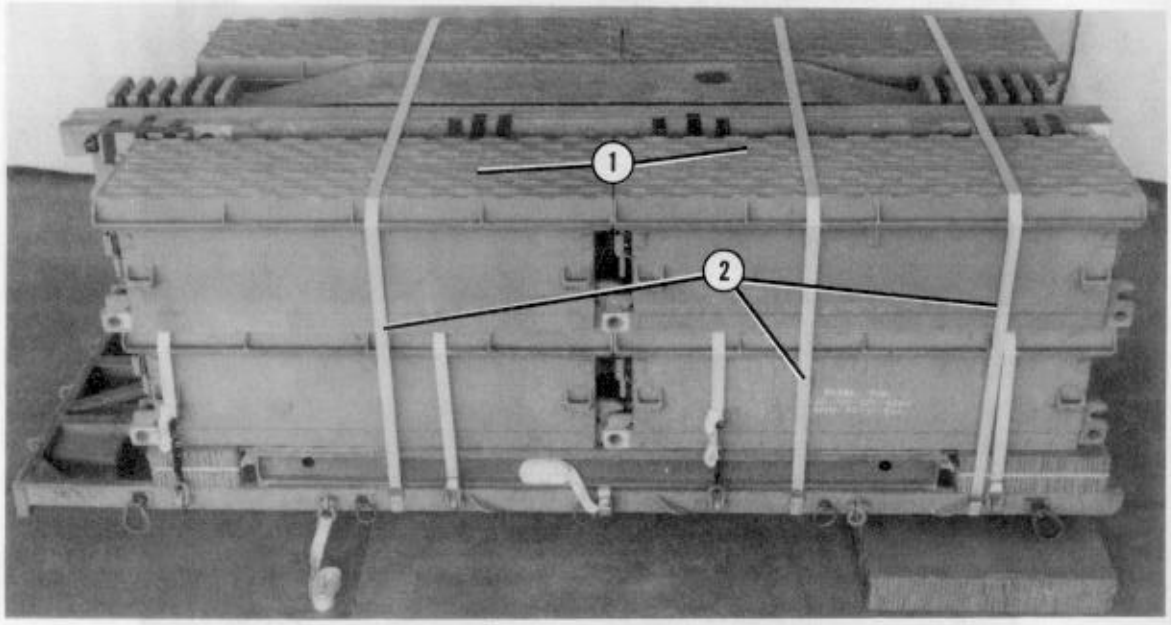



(3) **Cover the BSB tits with cellulose wadding. Tape the wadding in place.**

(4) **Evenly space four 5- by 7-inch pieces of honeycomb across the right side of the BSB. Tape the honeycomb in place.**

*Figure 4-30. BSBs positioned and prepared (continued)*

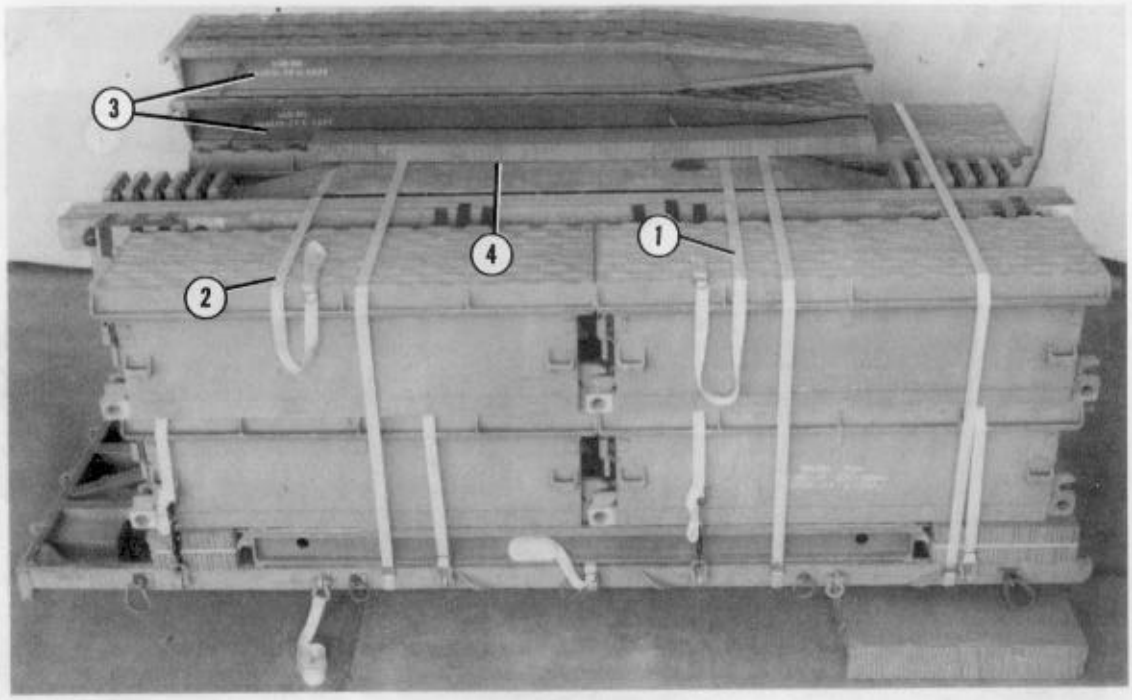



(1) **Position two top panels on the right side of the BSBs flush with the front edge of the pallet. Make sure the tops panels are interlocked.**

(2) **Secure the top panels and BSBs in place using the pre-positioned lashings at the 19-, 46-, and 108-inch intervals.**

**Note: Make sure the lashings are secured to the left side of the load.**

*Figure 4-31. Top panels and BSBs secured*



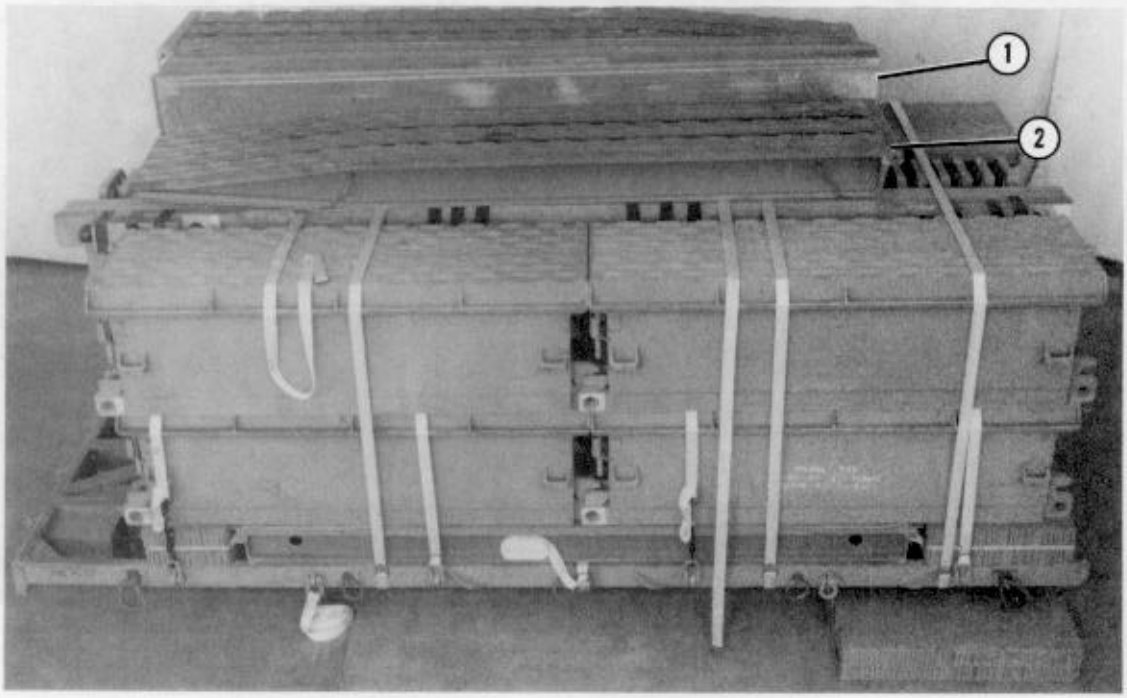

(1) Place a 15-foot lashing over the top panels and BSBs in a side-to-side direction 51 1/2 inches from the front edge of the pallet.

(2) Place a 15-foot lashing over the top panels and BSBs in a side-to-side direction 117 inches from the front edge of the pallet.

(3) Position two ramps on top of the left side of the load flush with the rear edge of the top panels.

(4) Place a 7- by 96-inch piece of honeycomb against the bottom ramp. Align the honeycomb with the front edge of the bottom ramp.

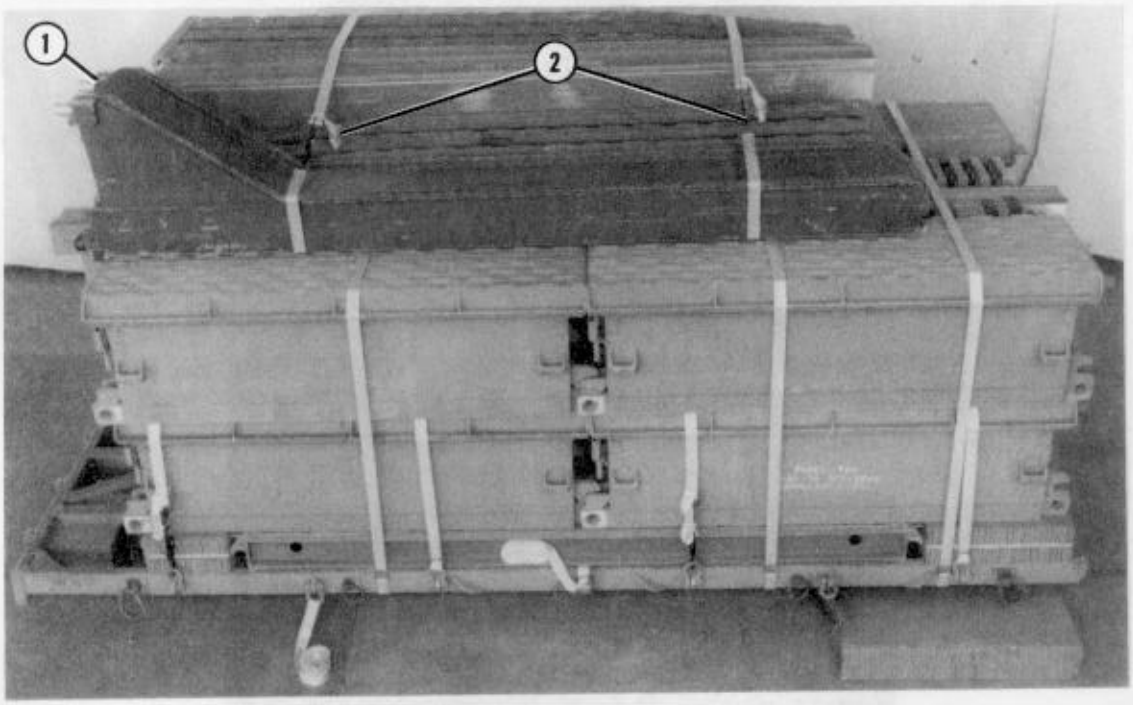
*Figure 4-32. Two ramps positioned on pallet*




(1) **Place the front light launching nose to the right of the ramp on the 7- by 96-inch piece of honeycomb. Turn the launching nose on its side with the larger end flush with the rear edge of the top panel.**

(2) **Place a ramp to the right of the front light launching nose. Make sure the declining end of the ramp is flush with the rear edge of the top panel.**

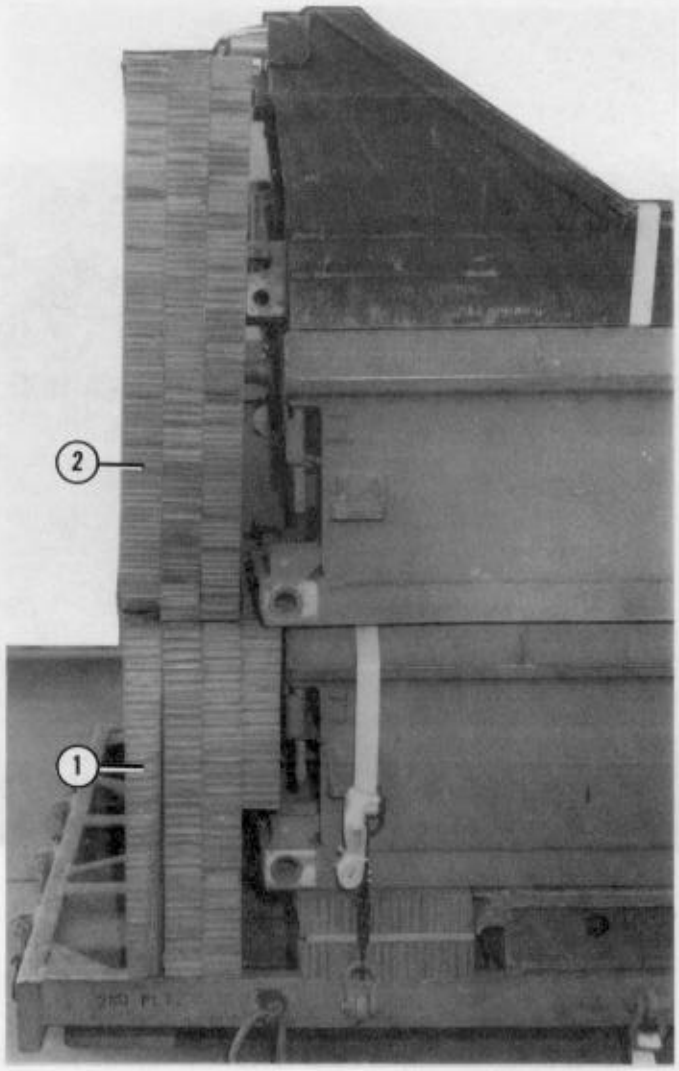
*Figure 4-33. Front light launching nose and ramp positioned*




(1) Position the rear light launching nose against the right side of the ramp. Make sure the taller end of the rear light launching nose is facing toward the rear of the pallet and flush with the rear edge of the top panel.

(2) Pass the pre-positioned lashings (Figure 4-32, steps 1 and 2) around the launching noses and ramps. Hook the ends of the lashings using D-rings and load binders. Do NOT tighten the lashings at this time.

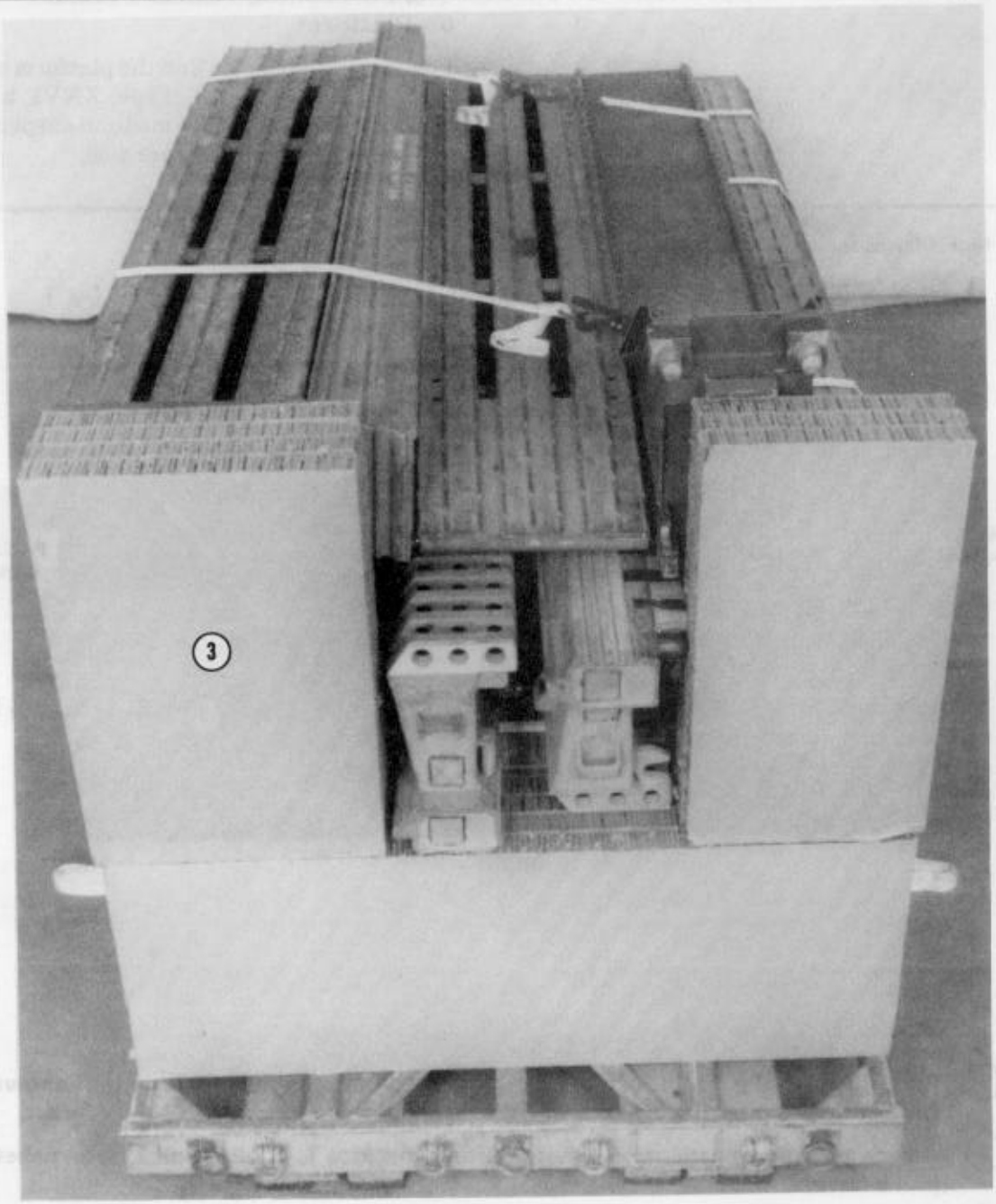
*Figure 4-34. Rear light launching nose positioned and pre-positioned lashings secured*




(1) **Place one 76- by 14-inch piece of honeycomb and three 76- by 28-inch pieces of honeycomb on top of the pallet against the right rear of the load.**

(2) **Place three 22- by 41-inch pieces of honeycomb on top of the honeycomb positioned in step 1 and against the right rear of the load.**

*Figure 4-35. Honeycomb positioned against load*



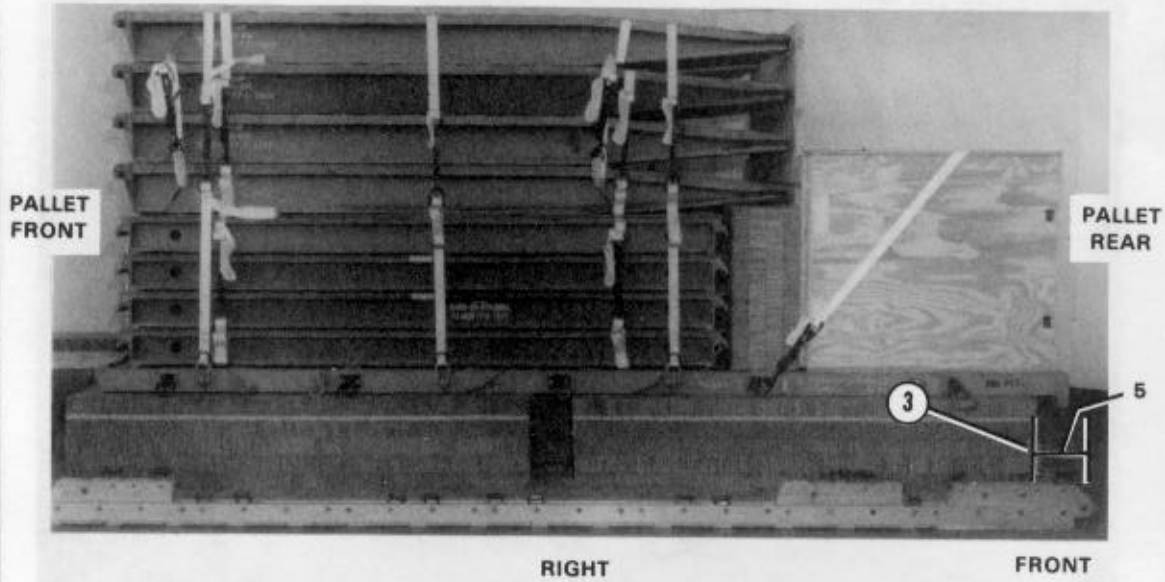

(3) **Place four 27- by 41-inch pieces of honeycomb on the top left of and flush with the honeycomb positioned in step 1.**

*Figure 4-35. Honeycomb positioned against load (continued)*

### 4-6. Positioning Pallets 1 and 2 on Platform

Position pallets 1 and 2 on the platform using four 16-foot (2-loop), type XXVI nylon webbing slings and four medium suspension clevises as shown in Figure 4-36.

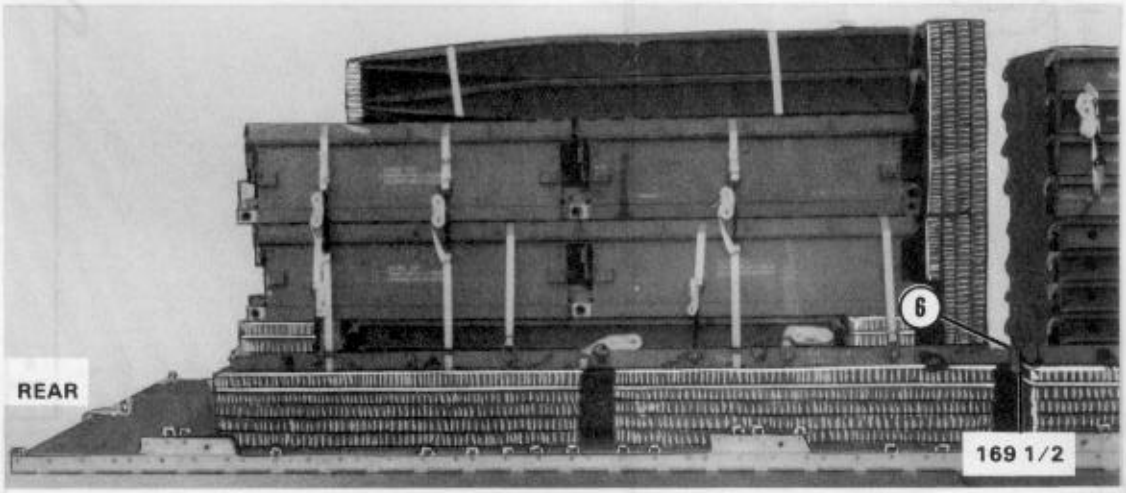
Note: Dimensions are given in inches.




1. Pass the end of a 16-foot sling through a medium suspension clevis (not shown). Repeat this step for the other three 16-foot slings.
2. Attach a medium suspension clevis to lifting shackles 1, 1A, 11, and 11A on pallet 1 (not shown).
3. Position pallet 1 on the platform so that the rear of the pallet overhangs the front of the platform 5 inches.
4. Remove the lifting slings and the medium suspension clevises from the pallet (not shown).

*Figure 4-36. Pallets 1 and 2 positioned on platform*

Note: Dimensions are given in inches.




(5) Repeat steps 1 and 2 for pallet 2 (not shown).

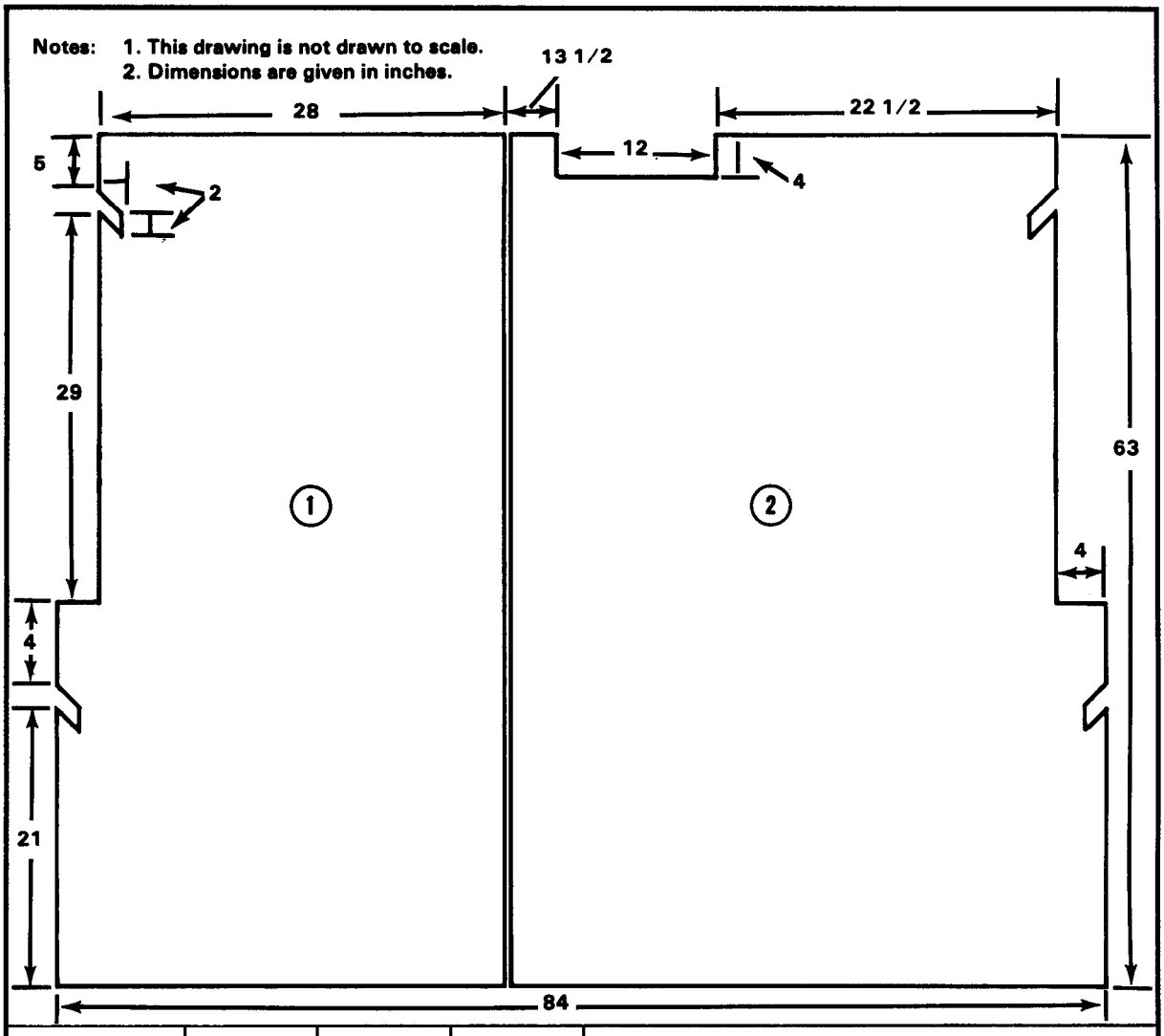
(6) Position pallet 2 on the platform so that the rear edge of the pallet is 169 1/2 inches from the front edge of the platform.

(7) Remove the suspension slings and the medium suspension clevises from the pallet (not shown).

*Figure 4-36. Pallets 1 and 2 positioned on platform (continued)*

## 4-7. Building and Positioning Restraint Boards 2, 3, 4, and 5

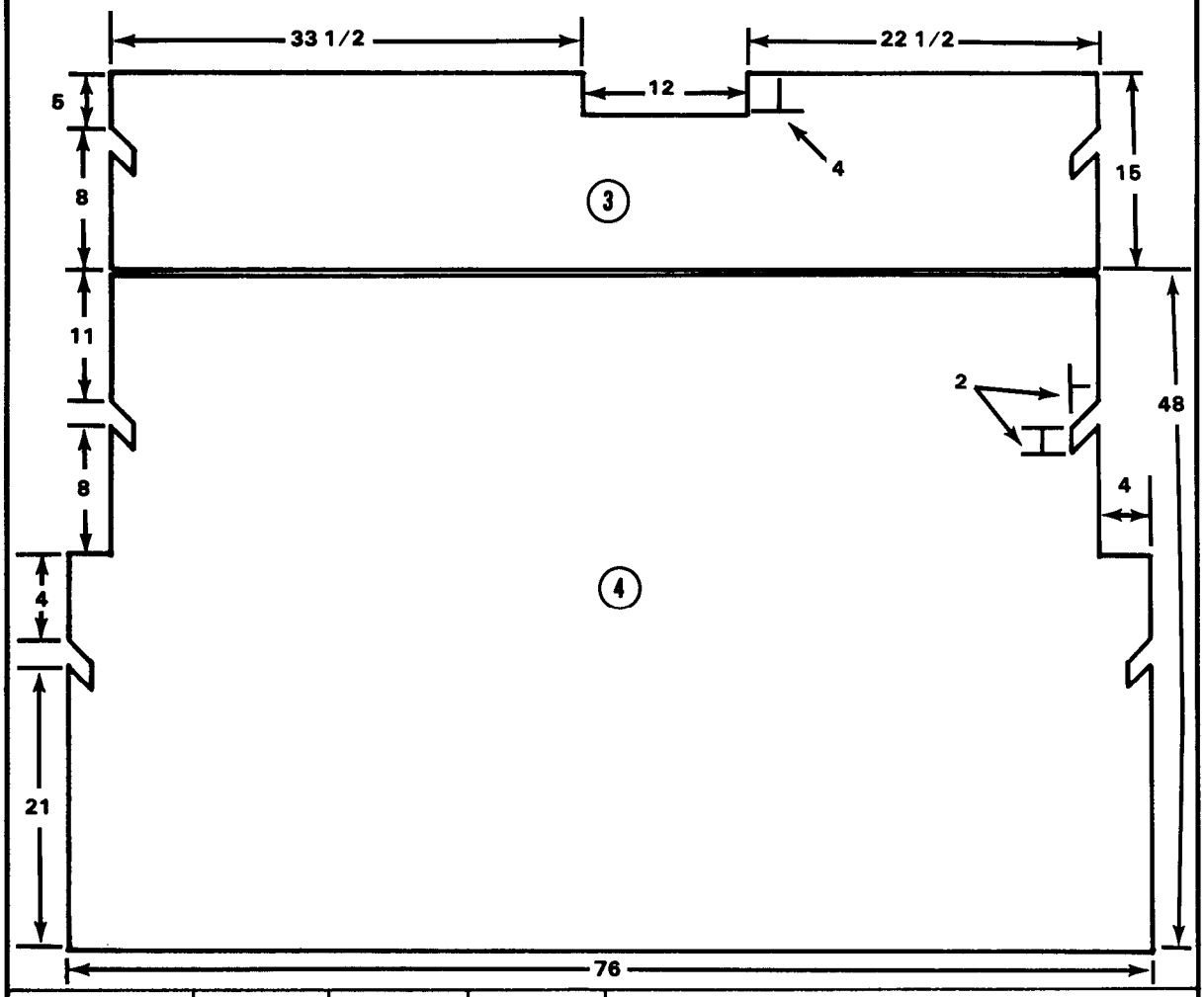
Build restraint boards 2, 3, 4, and 5 as shown in Figures 4-37 through 4-44. Position restraint boards 2, 3, 4, and 5 as shown in Figure 4-45.




| Item Number | Pieces | Width (Inches) | Length (Inches) | Material |
|---|---|---|---|---|
| 1 | 1 | 32 | 63 | 3/4-inch plywood |
| 2 | 1 | 52 | 63 | 3/4-inch plywood |

*Figure 4-37. Materials required to build restraint board 2*

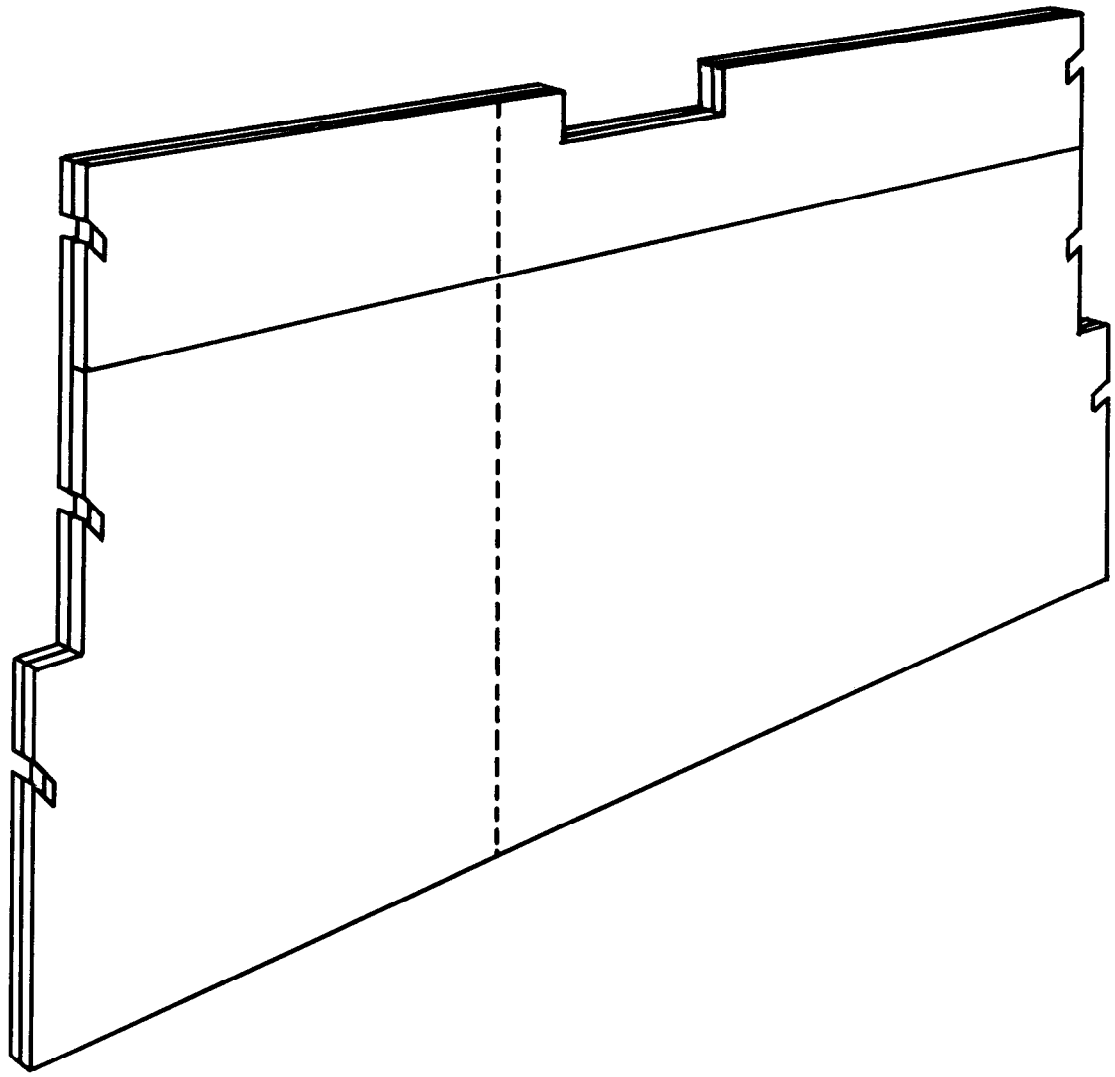
Notes: 1. This drawing is not drawn to scale.
2. Dimensions are given in inches.




| Item Number | Pieces | Width (Inches) | Length (Inches) | Material |
|---|---|---|---|---|
| 3 | 1 | 68 | 15 | 3/4-inch plywood |
| 4 | 1 | 76 | 48 | 3/4-inch plywood |

*Figure 4-37. Materials required to build restraint board 2 (continued)*

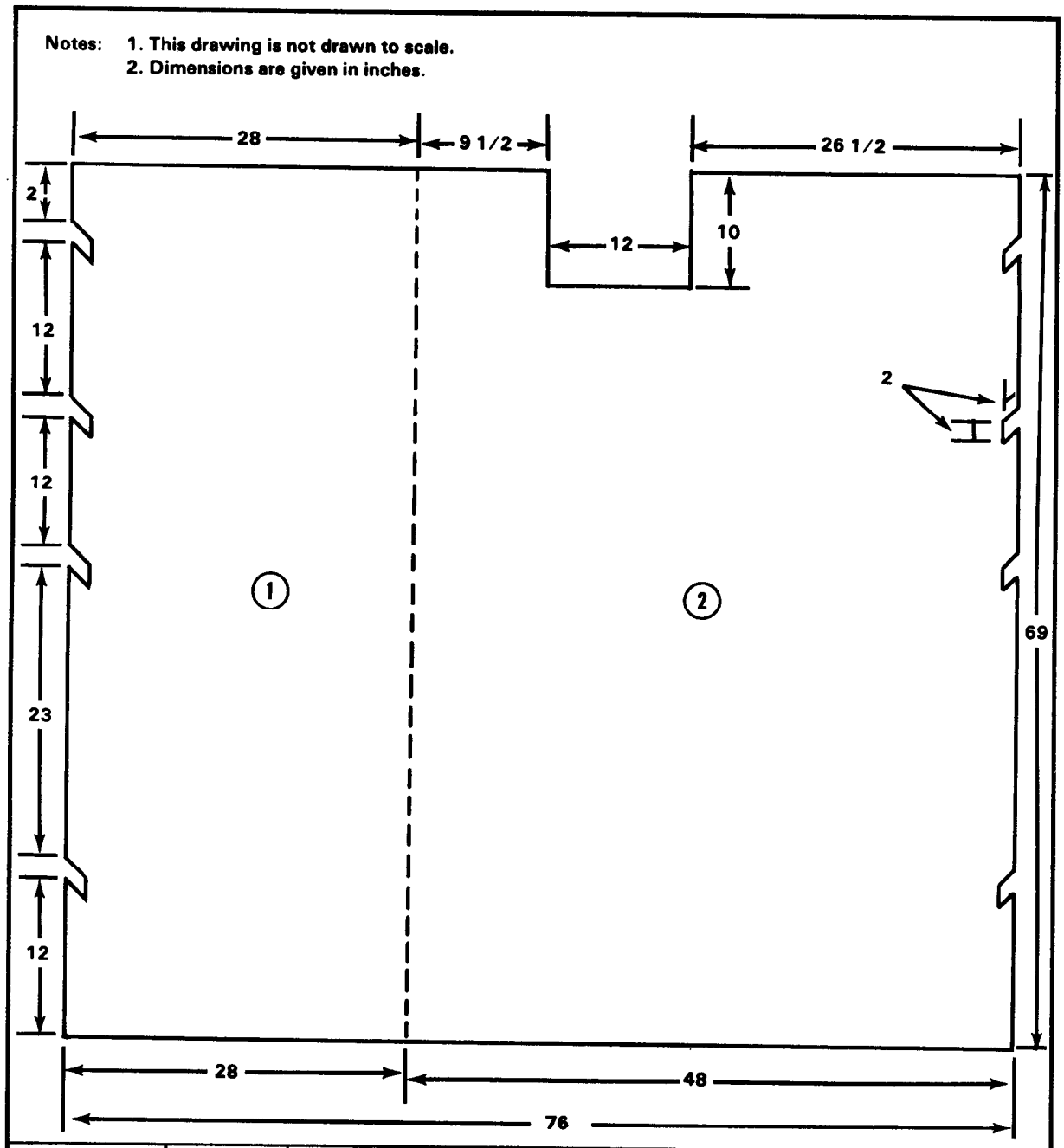
Note: This drawing is not drawn to scale.



**Step:**

1. **Build restraint board 2 using the materials given in Figure 4-37.**
2. **Use eightpenny nails to secure restraint board 2.**

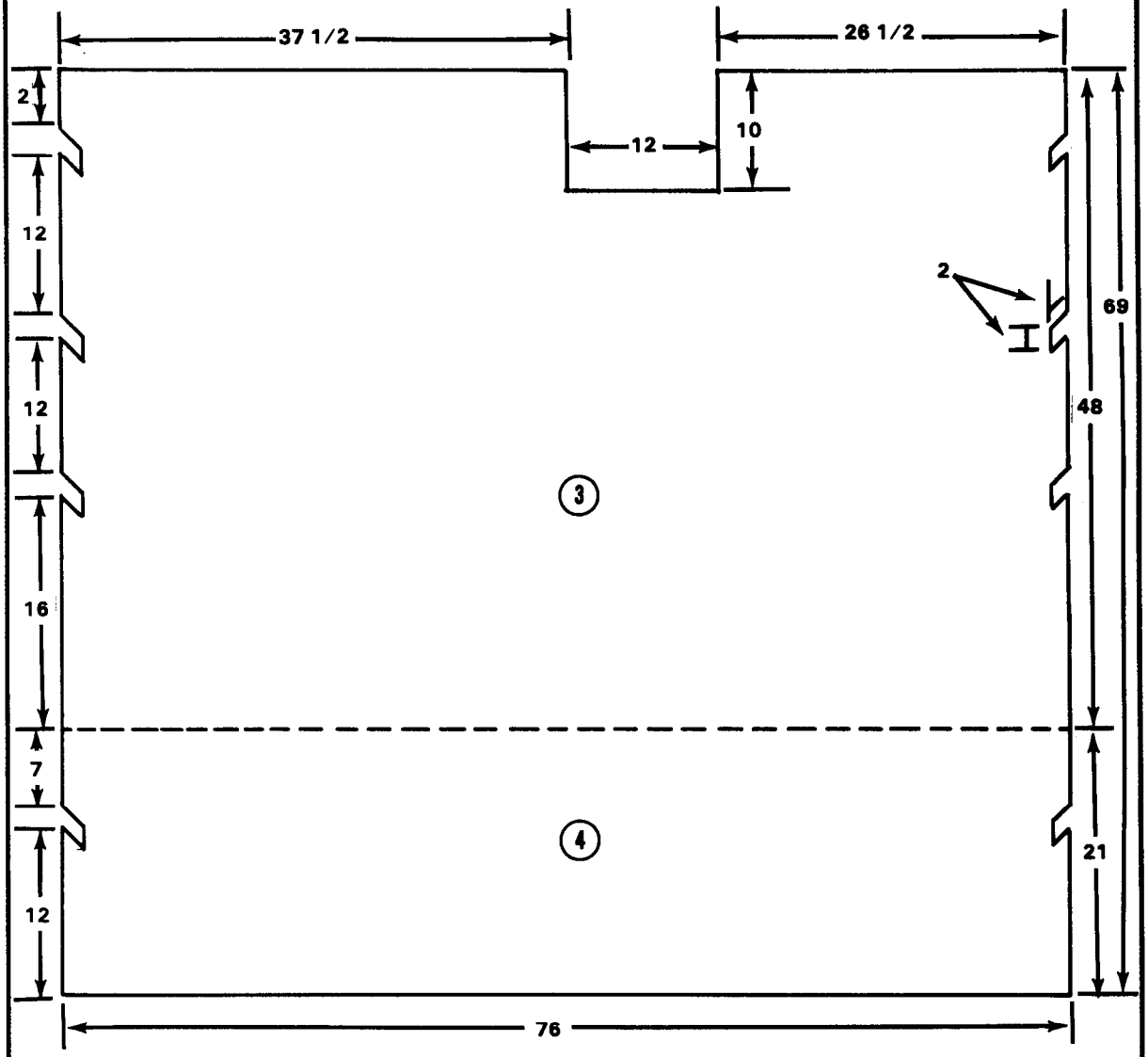
*Figure 4-38. Restraint board 2 built*




| Item Number | Pieces | Width (Inches) | Length (Inches) | Material |
|---|---|---|---|---|
| 1 | 1 | 28 | 69 | 3/4-inch plywood |
| 2 | 1 | 48 | 69 | 3/4-inch plywood |

*Figure 4-39. Materials required to build restraint board 3*

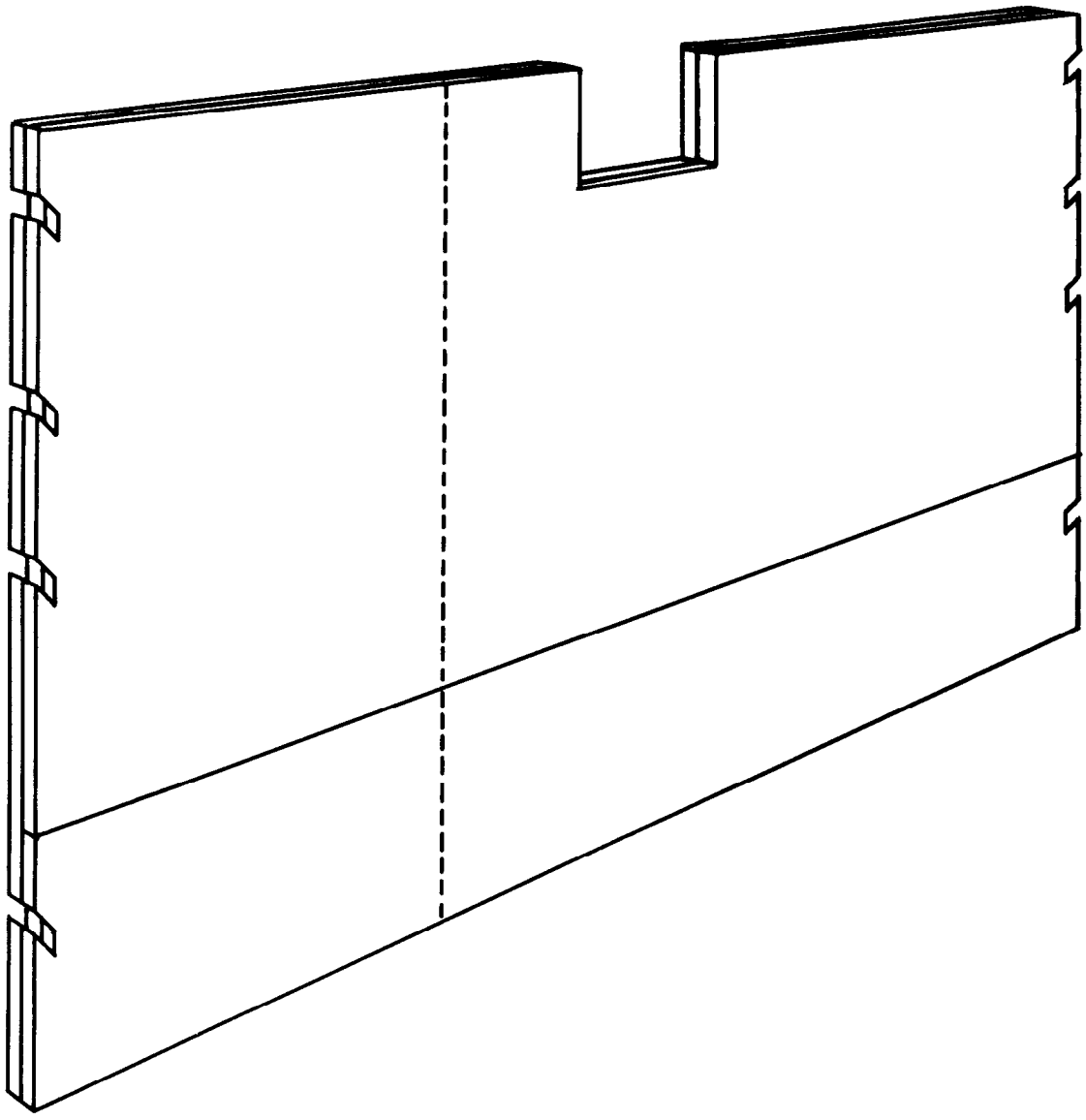
Notes: 1. This drawing is not drawn to scale.
2. Dimensions are given in inches.




| Item Number | Pieces | Width (Inches) | Length (Inches) | Material |
|---|---|---|---|---|
| 3 | 1 | 76 | 48 | 3/4-inch plywood |
| 4 | 1 | 76 | 21 | 3/4-inch plywood |

*Figure 4-39. Materials required to build restraint board 3 (continued)*

Note: This drawing is not drawn to scale.

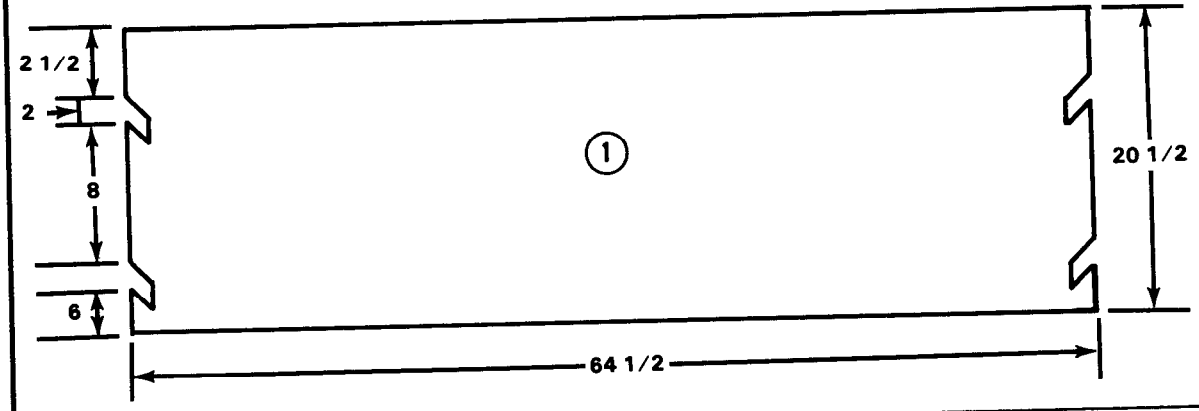


Step:

1. Build restraint board 3 using the materials given in Figure 4-39.
2. Use eightpenny nails to secure restraint board 3.

*Figure 4-40. Restraint board 3 built*

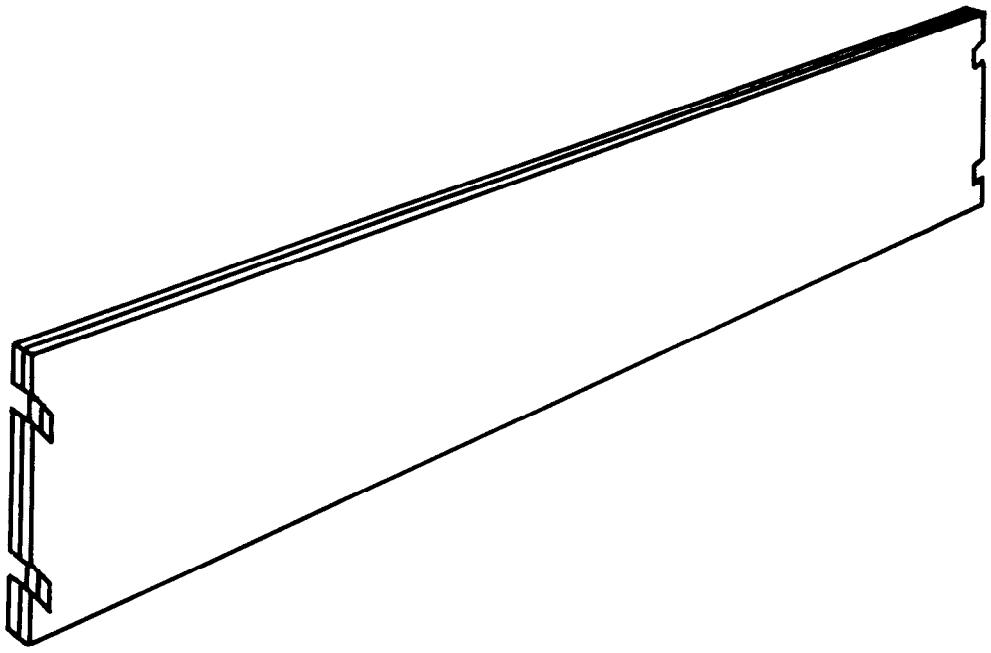
Notes: 1. This drawing is not drawn to scale.
2. Dimensions are given in inches.




| Item Number | Pieces | Width (Inches) | Length (Inches) | Material |
|---|---|---|---|---|
| 1 | 2 | 64 1/2 | 20 1/2 | 3/4-inch plywood |

*Figure 4-41. Materials required to build restraint board 4*

Note: This drawing is not drawn to scale.

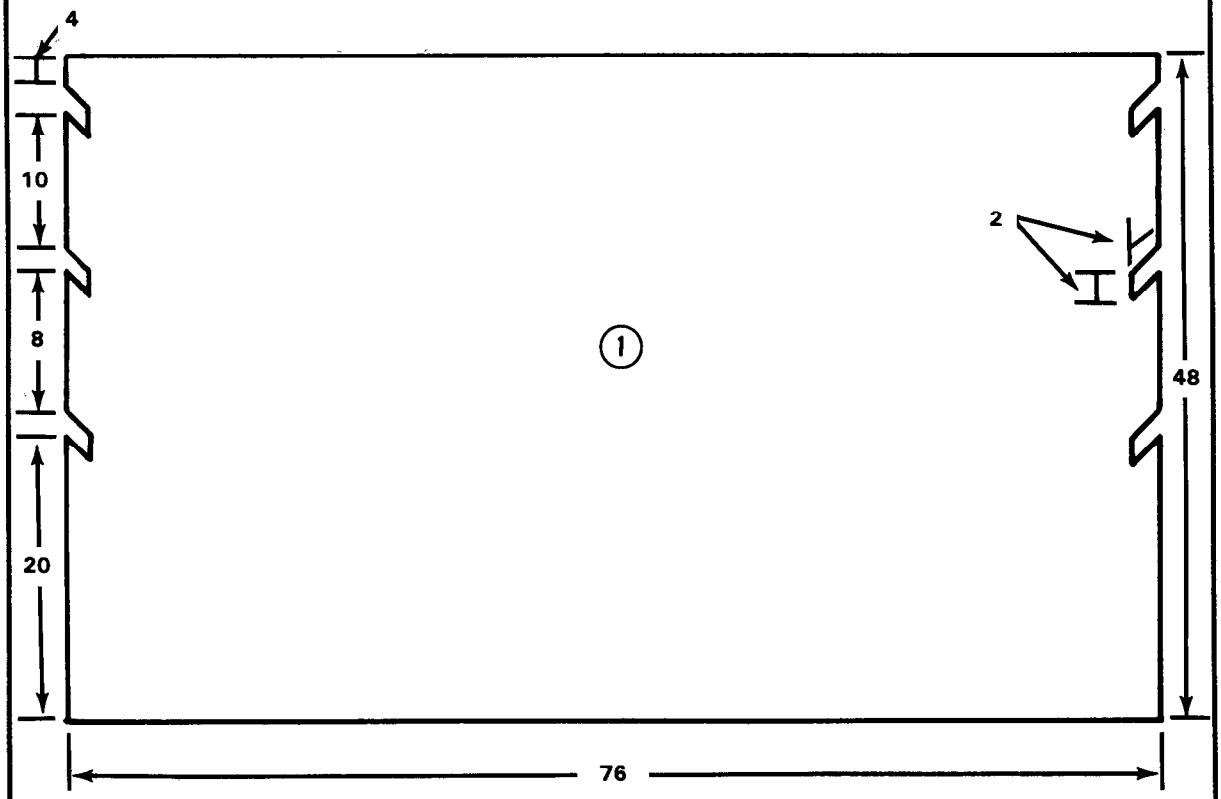


**Step:**

1. **Build restraint board 4 using the materials given in Figure 4-41.**
2. **Use eightpenny nails to secure restraint board 4.**

*Figure 4-42. Restraint board 4 built*

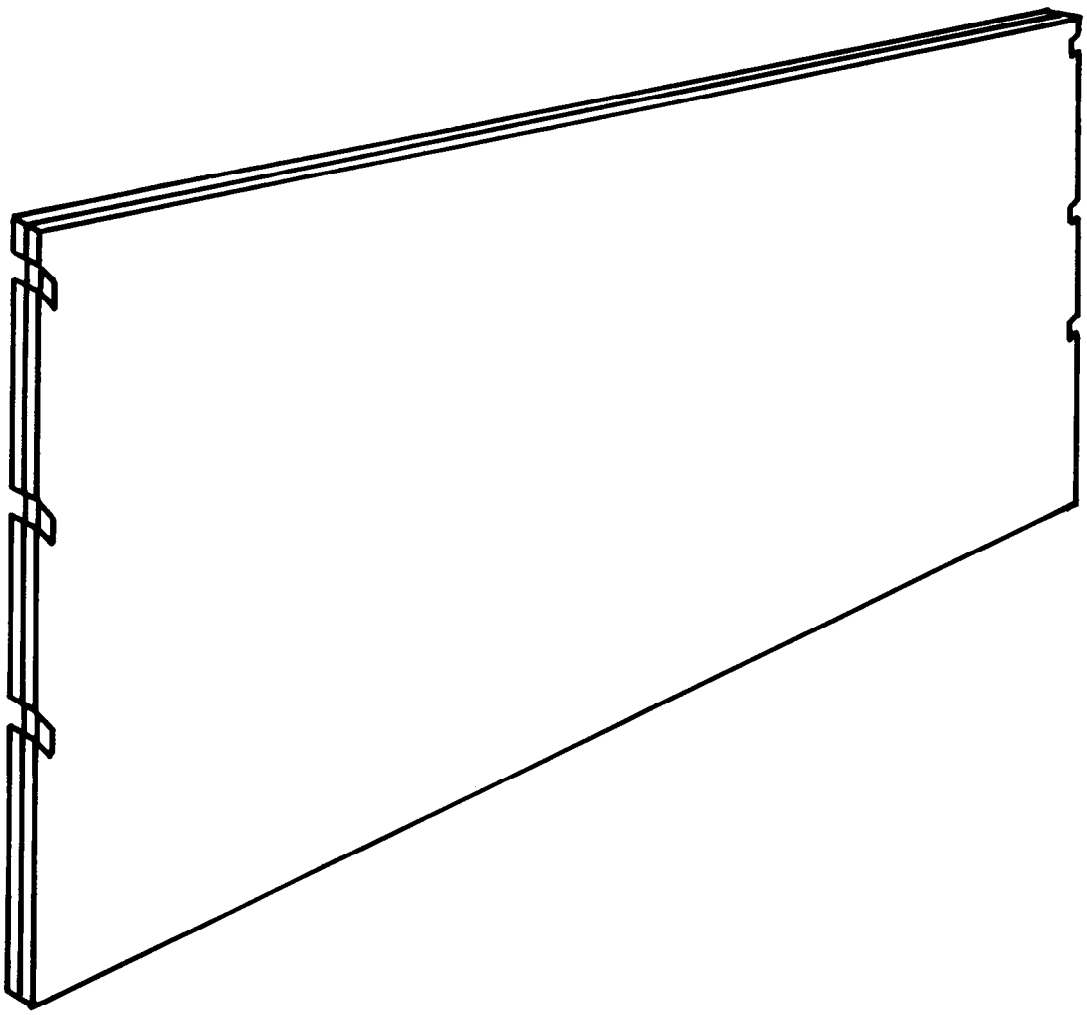
Notes: 1. This drawing is not drawn to scale.
2. Dimensions are given in inches.




| Item Number | Pieces | Width (Inches) | Length (Inches) | Material |
|---|---|---|---|---|
| 1 | 2 | 76 | 48 | 3/4-inch plywood |

*Figure 4-43. Materials required to build restraint board 5*

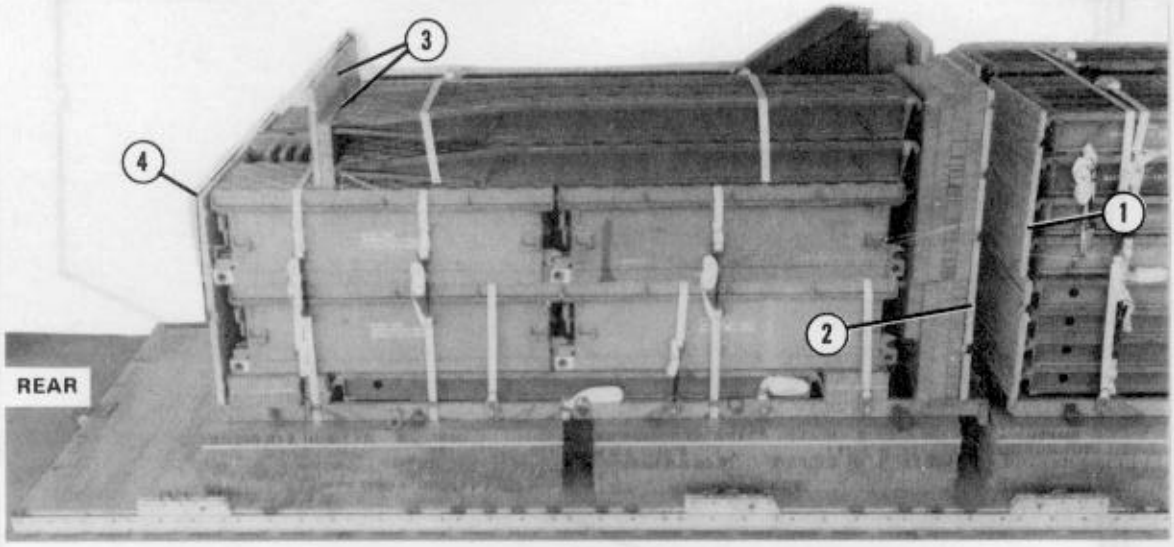
Note: This drawing is not drawn to scale.



**Step:**

1. **Build restraint board 5 using the materials given in Figure 4-43.**
2. **Use eightpenny nails to secure restraint board 5.**

*Figure 4-44. Restraint board 5 built*

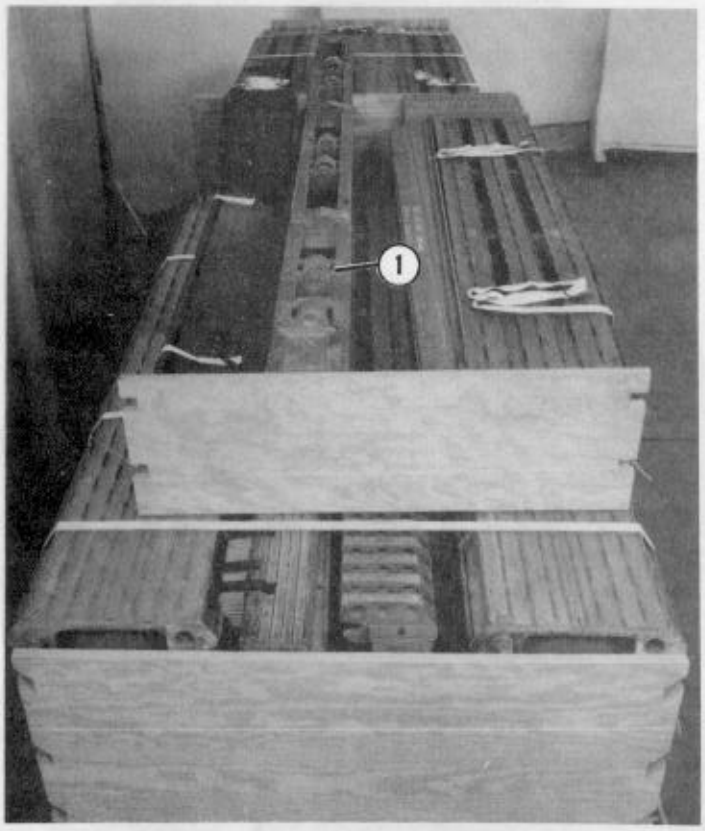



1. Position restraint board 2 against the front of pallet 1. Make sure the 22 1/2-inch top edge of the restraint board is on the left side of the platform. Secure restraint board 2 in place with type III nylon cord.
2. Position restraint board 3 against the rear of pallet 2. Make sure the 26 1/2-inch top edge of the restraint board is on the left side of the platform. Secure restraint board 3 in place with type III nylon cord.
3. Place a 53- by 15-inch piece of honeycomb against the declining end of the ramps on pallet 2. Position restraint board 4 against the piece of honeycomb. Secure restraint board 4 in place with type III nylon cord.
4. Position restraint board 5 against the front of pallet 2. Secure restraint board 5 in place with type III nylon cord.

*Figure 4-45. Restraint boards 2, 3, 4, and 5 positioned and secured*

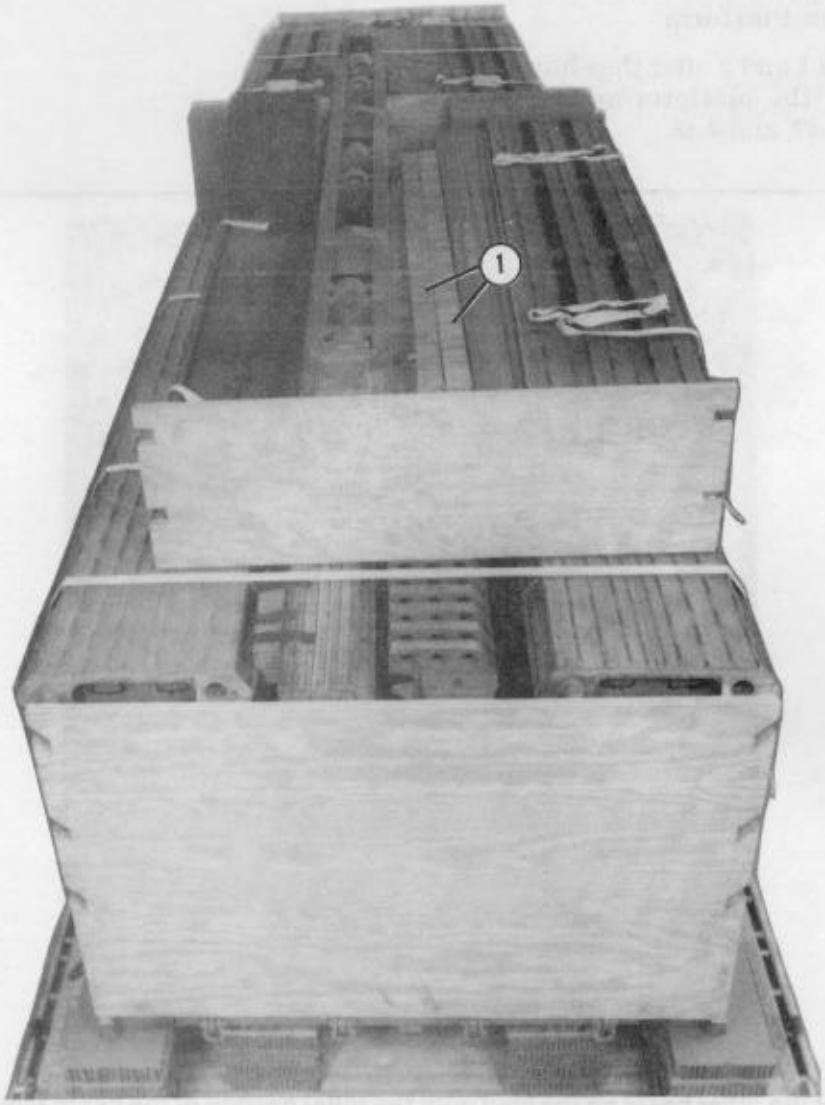
## 4-8. Preparing Pallets 1 and 2 After Positioning on Platform

Prepare pallets 1 and 2 after they have been positioned on the platform as shown in Figures 4-46, 4-47, and 4-48.



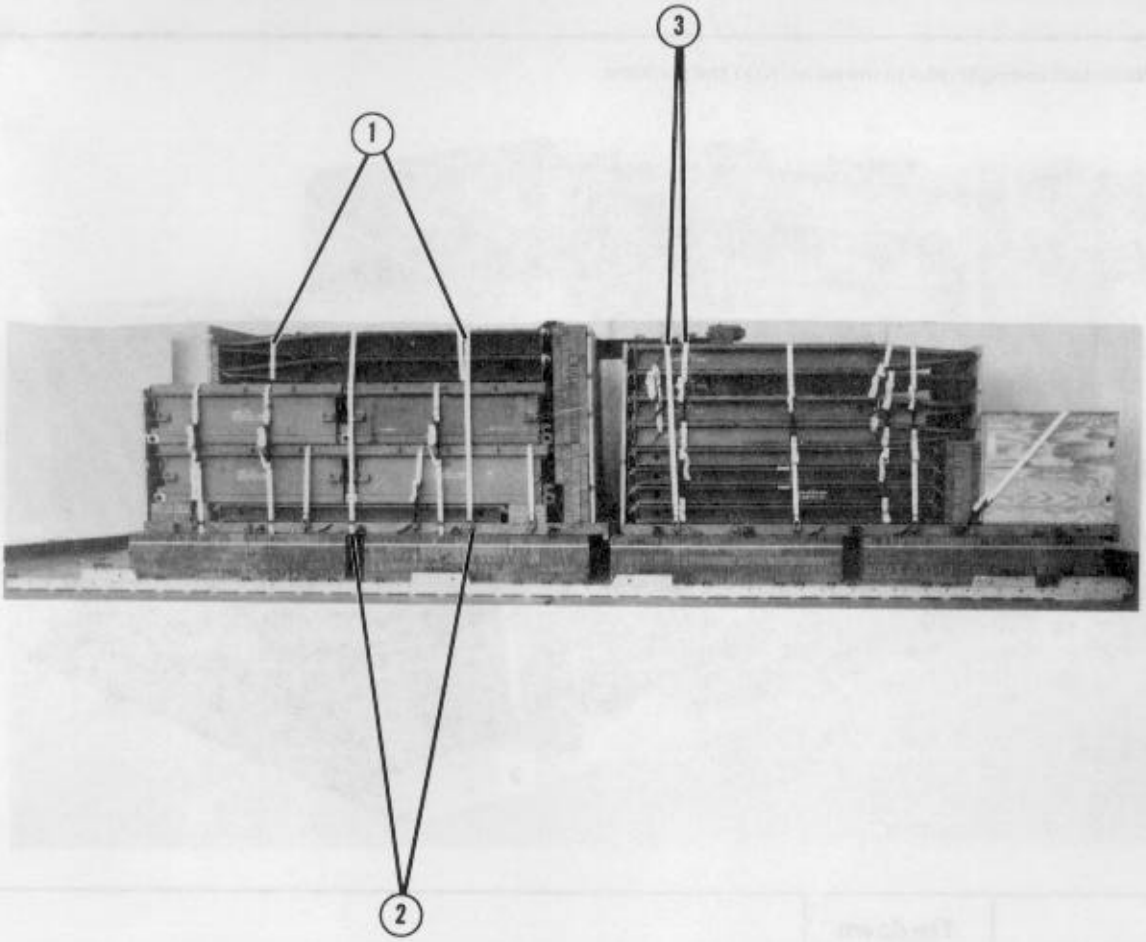

(1) **Position the roller beam on the load with the roller portion of the beam facing up. Make sure the roller beam is flush against restraint board 4 and is through the cutout of restraint boards 2 and 3.**

*Figure 4-46. Roller beam positioned*




(1) **Wedge two 9- by 96-inch pieces of honeycomb and one 6-by 96-inch piece of honeycomb between the roller beam and the front light launching nose.**

*Figure 4-47. Honeycomb wedged on pallet 2*




(1) Pass the pre-positioned lashings (Figure 4-32, steps 1 and 2) on top of the top panels of pallet 2 around the ramps and roller beam. Secure the lashings on top of the load according to FM 10-500-2/TO 13C7-1-5.

(2) Pass the lashings attached to tie-down rings 9 and 9A and the pre-positioned lashing 76 inches from the front of pallet 2 around the load. Secure the lashings on top of the load according to FM 10-500-2/TO 13C7-1-5.

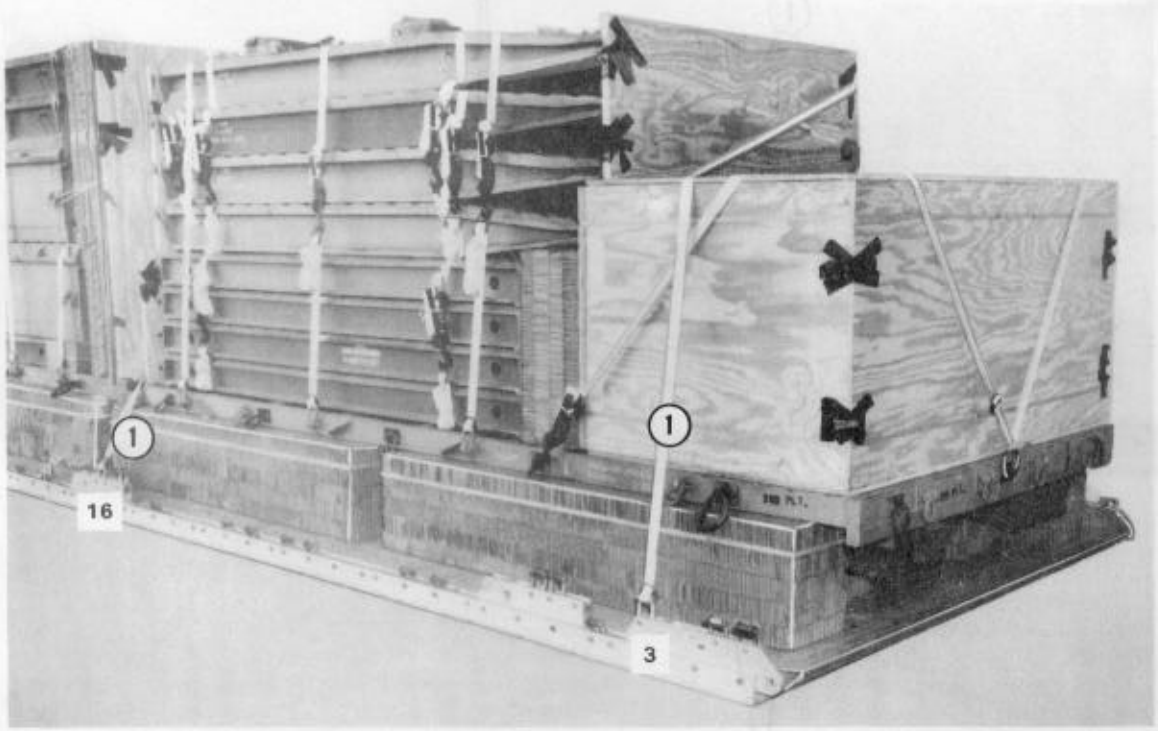
(3) Secure the load, to include the roller beam on pallet 1, using the lashings attached to tie-down rings 2 and 2A and the pre-positioned lashing 21 inches from the front of pallet 1. Secure the lashings according to FM 10-500-2/TO 13C7-1-5.

*Figure 4-48. Pallets 1 and 2 secured*

## 4-9. Lashing Pallets 1 and 2

Lash pallets 1 and 2 to the platform with seventy-one 15-foot tie-down assemblies as shown in Figures 4-49 through 4-61. If the 15-foot lashings DO NOT reach, additional lashings may be added. Use the procedures in FM 10-500-2/TO 13C7-1-5 to form the additional lengths. Secure the lashings according to FM 10-500-2/TO 13C7-1-5.

**Note: Left and right refer to the pallet, NOT the platform.**

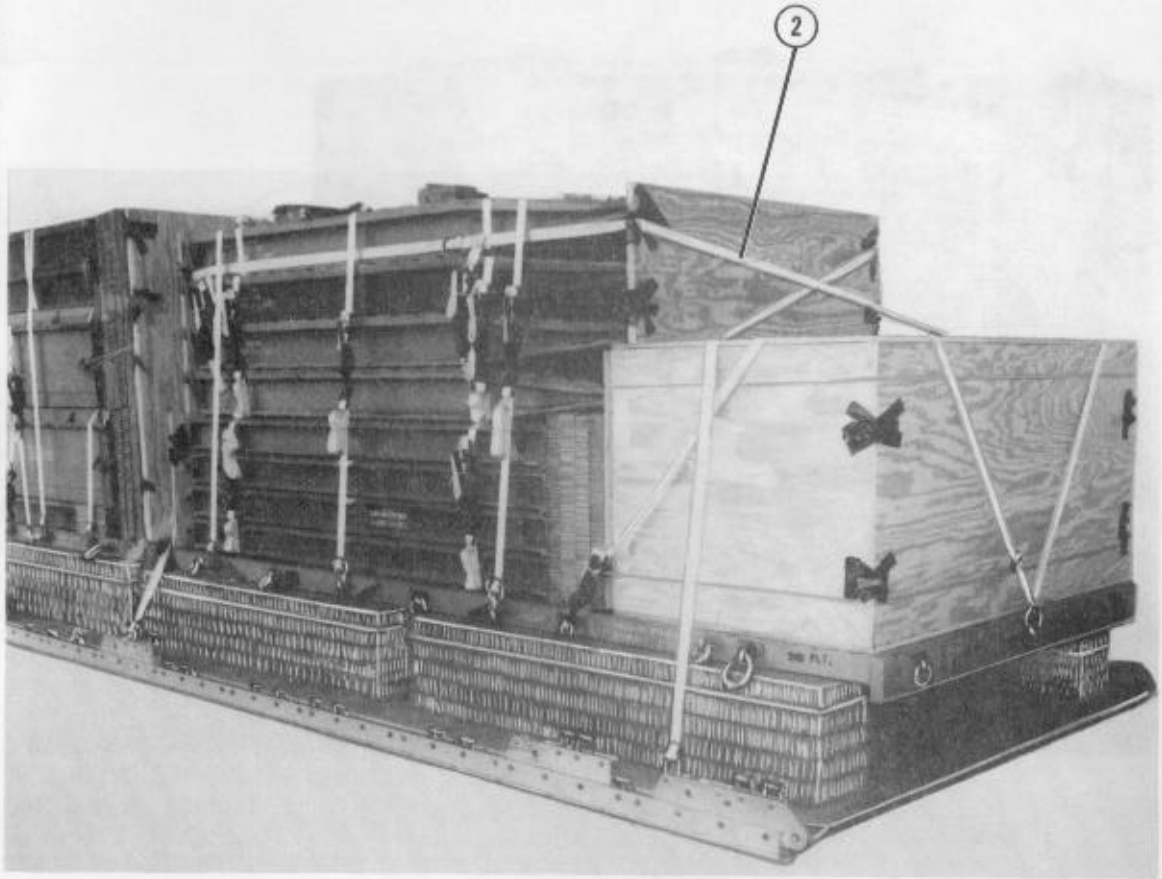



| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| *1 | 3<br>16 | Pass lashing:<br>Through its own D-ring, over top of parts box, through right top cutout of restraint board 1, around right side of pallet 1. Through its own D-ring, through right top cutout of restraint board 2, around the right side of pallet 1. Connect and secure these two lashings with a third 15-foot lashing. |

***Use three 15-foot lashings. Use the procedures in FM 10-500-2/TO 13C7-1-5 to form the additional lengths.**

*Figure 4-49. Lashing 1 installed*

Note: Left and right refer to the pallet, NOT the platform.

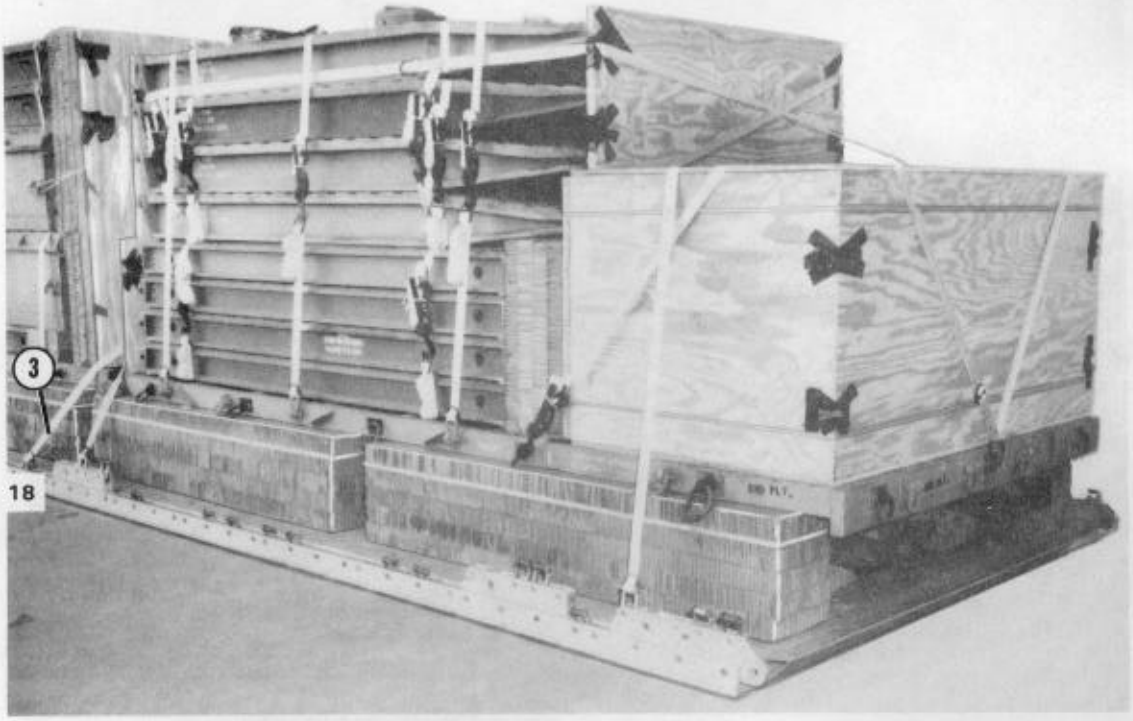



| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| *2 | 3A<br>16A | Pass lashing:<br>Through its own D-ring, over top of parts box, through left top cutout of restraint board 1, around left side of pallet 1. Through its own D-ring, through left top cutout of restraint board 2, around the left side of pallet 1. Connect and secure these two lashings with a third 15-foot lashing. |

*Use three 15-foot lashings. Use the procedures in FM 10-500-2/TO 13C7-1-5 to form the additional lengths.

*Figure 4-50. Lashing 2 installed*

Note: Left and right refer to the pallet, NOT the platform.

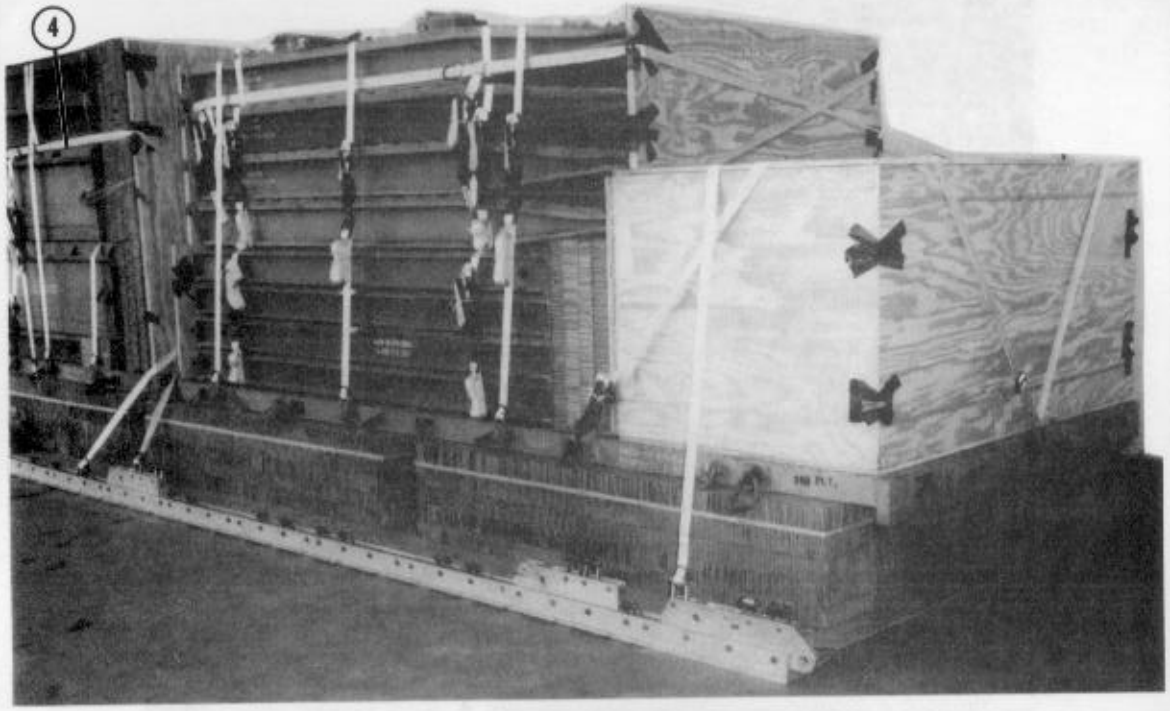



| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| *3 | 18<br>32 | Pass lashing:<br>Through its own D-ring, around the second cutout from top on right side of restraint board 3, around right side of pallet 2. Through its own D-ring, through top cutout on right side of restraint board 5, around right side of pallet 2. Connect and secure these two lashings with a third 15-foot lashing. |

*Use three 15-foot lashings. Use the procedures in FM 10-500-2/TO 13C7-1-5 to form the additional lengths.

*Figure 4-51. Lashing 3 installed*

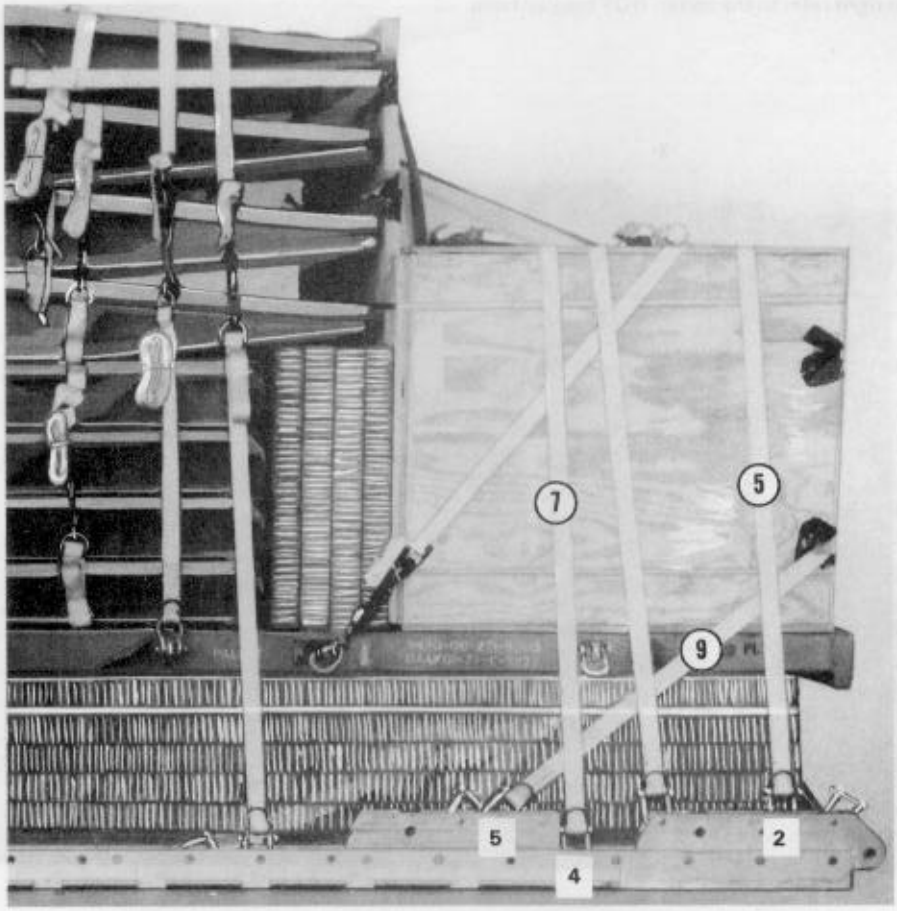
Note: Left and right refer to the pallet, NOT the platform.




| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| *4 | 18A<br>32A | Pass lashing:<br>Through its own D-ring, around the second cutout from top on left side of restraint board 3, around left side of pallet 2. Through its own D-ring, through top cutout on left side of restraint board 5, around left side of pallet 2. Connect and secure these two lashings with a third 15-foot lashing. |

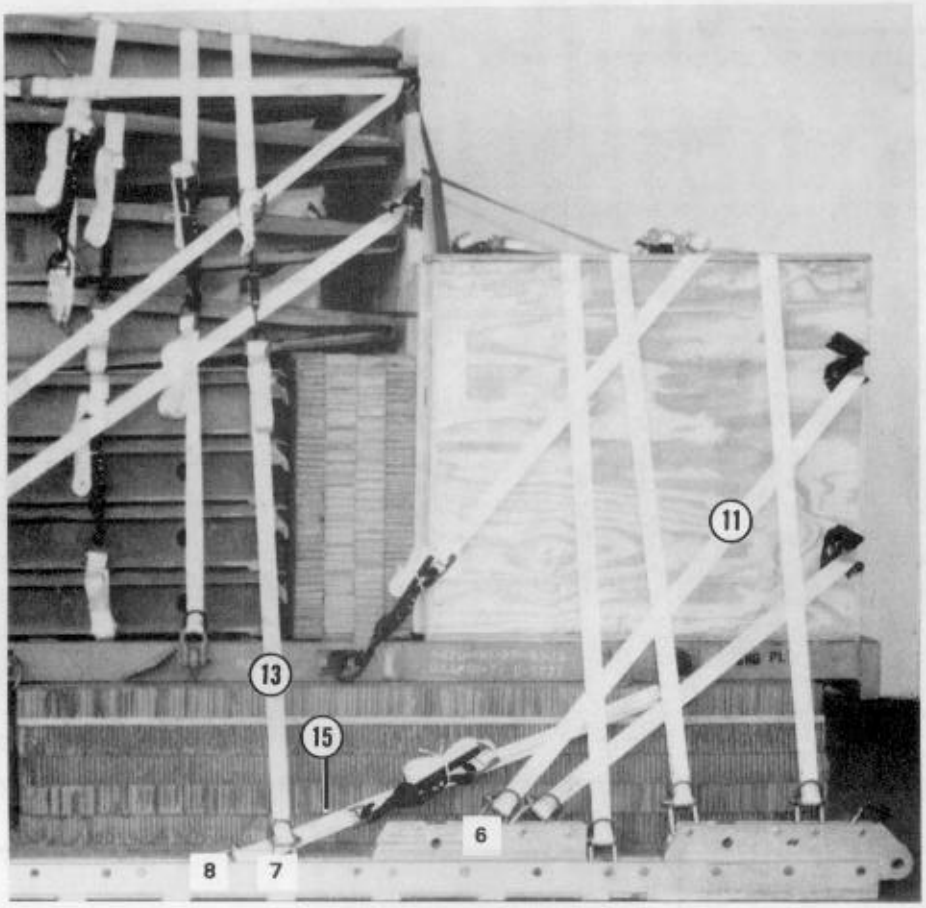
*Use three 15-foot lashings. Use the procedures in FM 10-500-2/TO 13C7-1-5 to form the additional lengths.

*Figure 4-52. Lashing 4 installed*



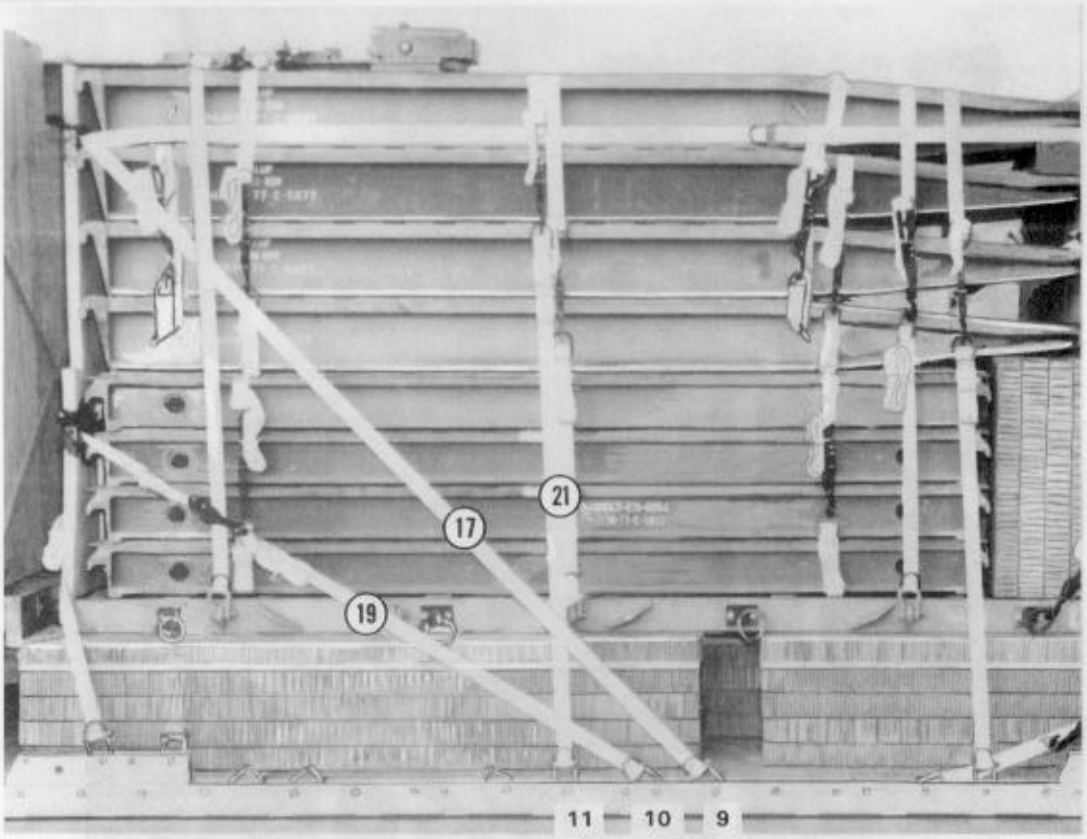

| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| | | Pass lashing: |
| 5 | 2 | Through its own D-ring and to top of parts box. |
| 6 | 2A | Through its own D-ring and to top of parts box. Secure it to lashing 5. |
| 7 | 4 | Through its own D-ring and to top of parts box. |
| 8 | 4A | Through its own D-ring and to top of parts box. Secure it to lashing 7. |
| 9 | 5 | Through its own D-ring and through bottom cutout of parts box. |
| 10 | 5A | Through its own D-ring and through bottom cutout of parts box. Secure it to lashing 9. |

*Figure 4-53. Lashings 5 through 10 installed*



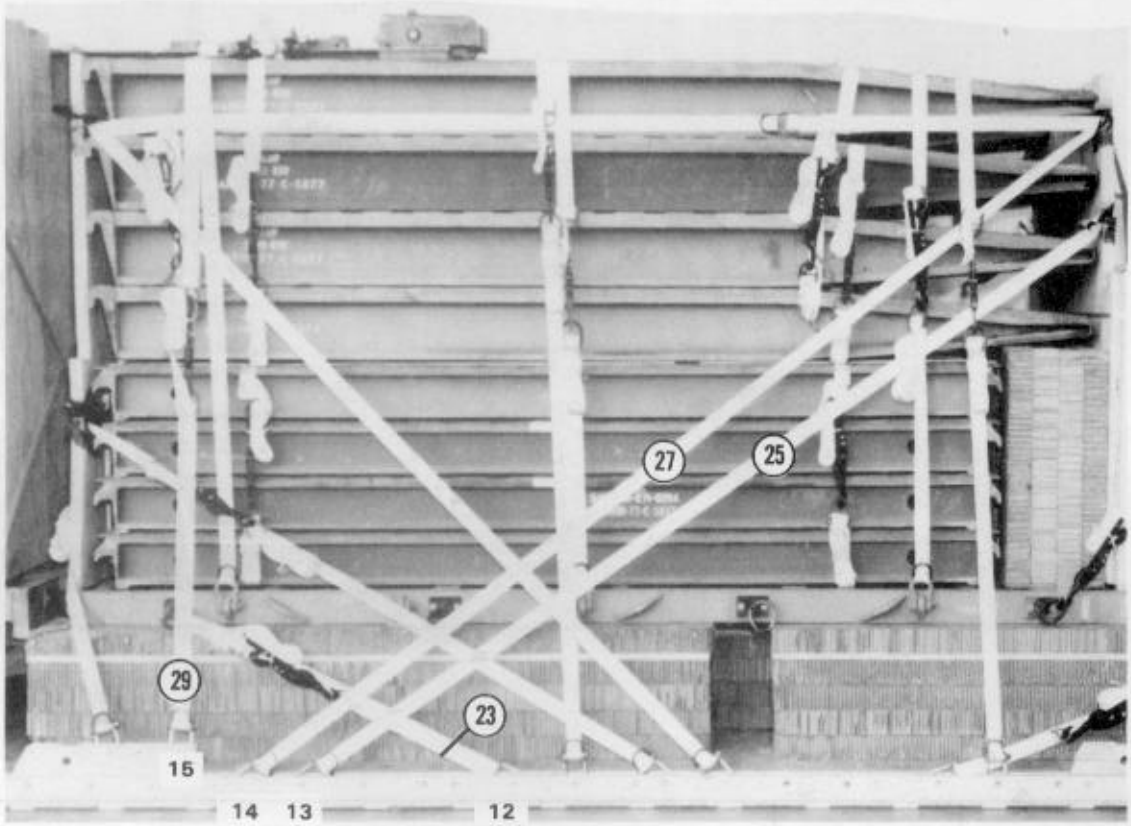

| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| | | Pass lashing: |
| 11 | 6 | Through its own D-ring and through top cutout of parts box. |
| 12 | 6A | Through its own D-ring and through top cutout of parts box. Secure it to lashing 11. |
| 13 | 7 | Through its own D-ring and to top of pallet 1. |
| 14 | 7A | Through its own D-ring and to top of pallet 1. Secure it to lashing 13. |
| 15 | 8 | Through lifting shackle 11A of pallet 1. |
| 16 | 8A | Through lifting shackle 11 of pallet 1. |

*Figure 4-54. Lashings 11 through 16 installed*



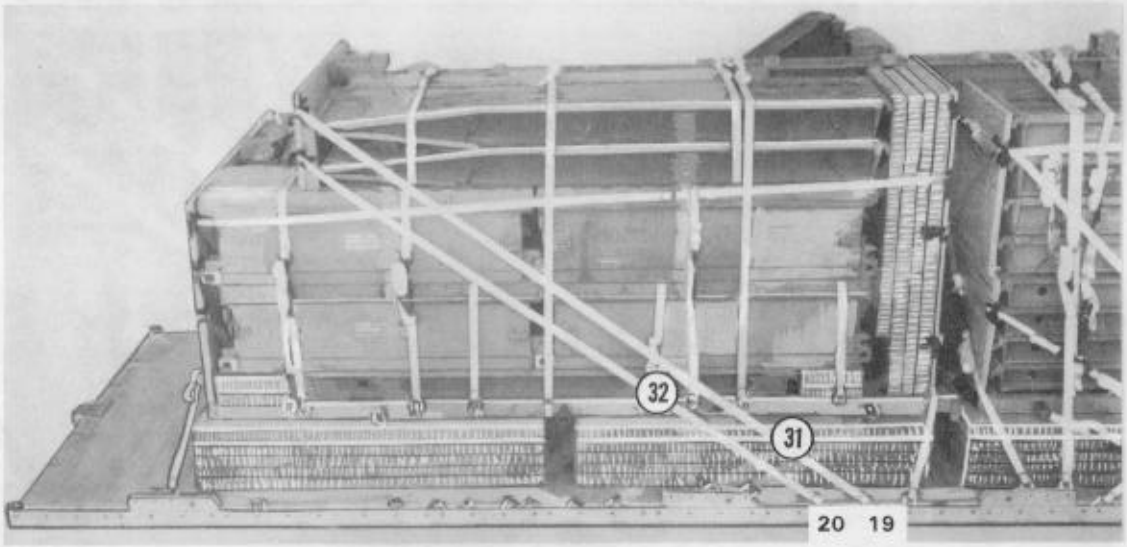

| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| | | Pass lashing: |
| 17 | 9 | Through its own D-ring and through top cutout of restraint board 2. |
| 18 | 9A | Through its own D-ring and through top cutout of restraint board 2. Secure it to lashing 17. |
| 19 | 10 | Through its own D-ring and through bottom cutout of restraint board 2. |
| 20 | 10A | Through its own D-ring and thrpugh bottom cutout of restraint board 2. Secure it to lashing 19. |
| 21 | 11 | Through its own D-ring and over top of pallet 1. |
| 22 | 11A | Through its own D-ring and over top of pallet 1. Secure it to lashing 21. |

*Figure 4-55. Lashings 17 through 22 installed*




| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| | | Pass lashing: |
| 23 | 12 | Through lifting shackle 1A of pallet 1. |
| 24 | 12A | Through lifting shackle 1 of pallet 1. |
| 25 | 13 | Through its own D-ring and through bottom cutout of restraint board 1. |
| 26 | 13A | Through its own D-ring and through bottom cutout of restraint board 1. Secure it to lashing 25. |
| 27 | 14 | Through its own D-ring and through top cutout of restraint board 1. |
| 28 | 14A | Through its own D-ring and through top cutout of restraint board 1. Secure it to lashing 27. |
| 29 | 15 | Through its own D-ring and over top of pallet 1. |
| 30 | 15A | Through its own D-ring and over top of pallet 1. Secure it to lashing 29. |

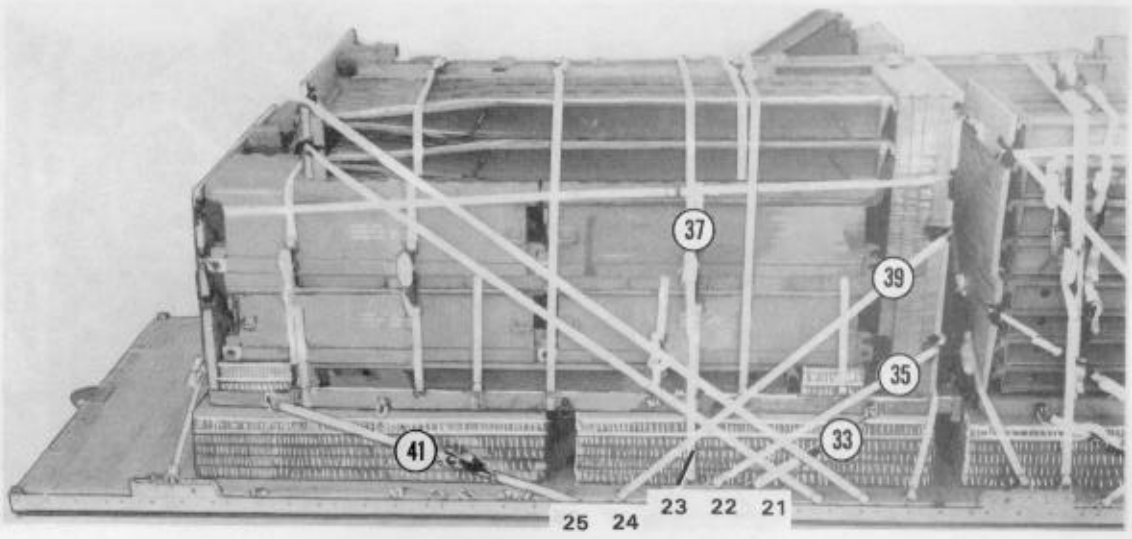
*Figure 4-56. Lashings 23 through 30 installed*




| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| | | Pass lashing: |
| *31 | 19 | Through its own D-ring and through top cutout of restraint board 4. |
| | 19A | Through its own D-ring and through top cutout of restraint board 4. Connect and secure these two lashings with a third 15-foot lashing. |
| *32 | 20 | Through its own D-ring and through bottom cutout of restraint board 4. |
| | 20A | Through its own D-ring and through bottom cutout of restraint board 4. Connect and secure these two lashings with a third 15-foot lashing. |

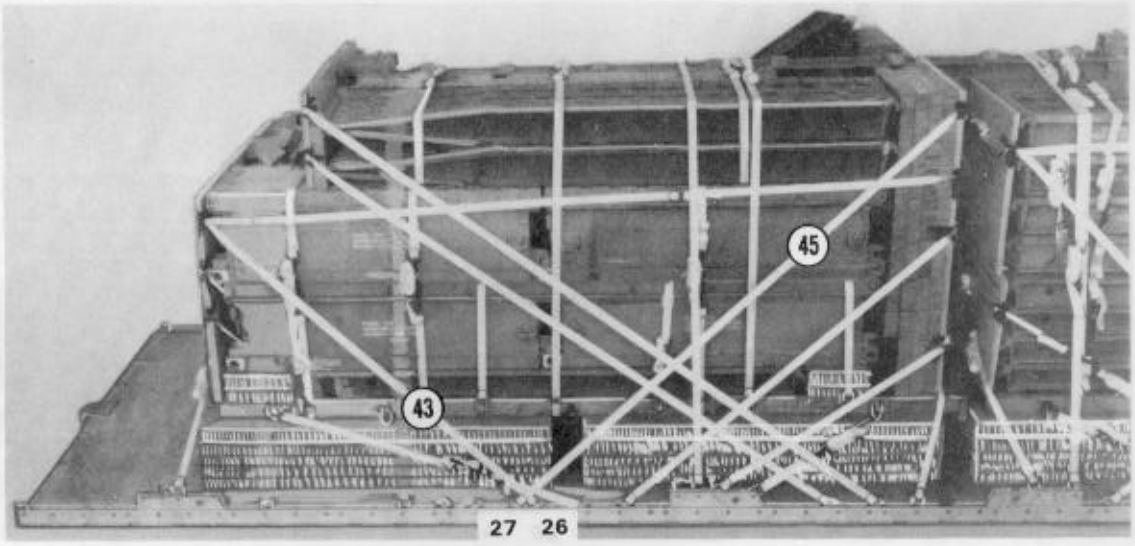
*Use three 15-foot lashings. Use the procedures in FM 10-500-2/TO 13C7-1-5 to form the additional lengths.

*Figure 4-57. Lashings 31 and 32 installed*




| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| | | Pass lashing: |
| 33 | 21 | To lifting shackle 11A of pallet 2. |
| 34 | 21A | To lifting shackle 11 of pallet 2. |
| 35 | 22 | Through its own D-ring and through bottom cutout of restraint board 3. |
| 36 | 22A | Through its own D-ring and through bottom cutout of restraint board 3. Secure it to lashing 35. |
| 37 | 23 | Through its own D-ring and over top of pallet 2. |
| 38 | 23A | Through its own D-ring and over top of pallet 2. Secure it to lashing 37. |
| 39 | 24 | Through its own D-ring and through third cutout from the top of restraint board 3. |
| 40 | 24A | Through its own D-ring and through third cutout from the top of restraint board 3. Secure it to lashing 39. |
| 41 | 25 | Through lifting shackle 1A of pallet 2. |
| 42 | 25A | Through lifting shackle 1 of pallet 2. |

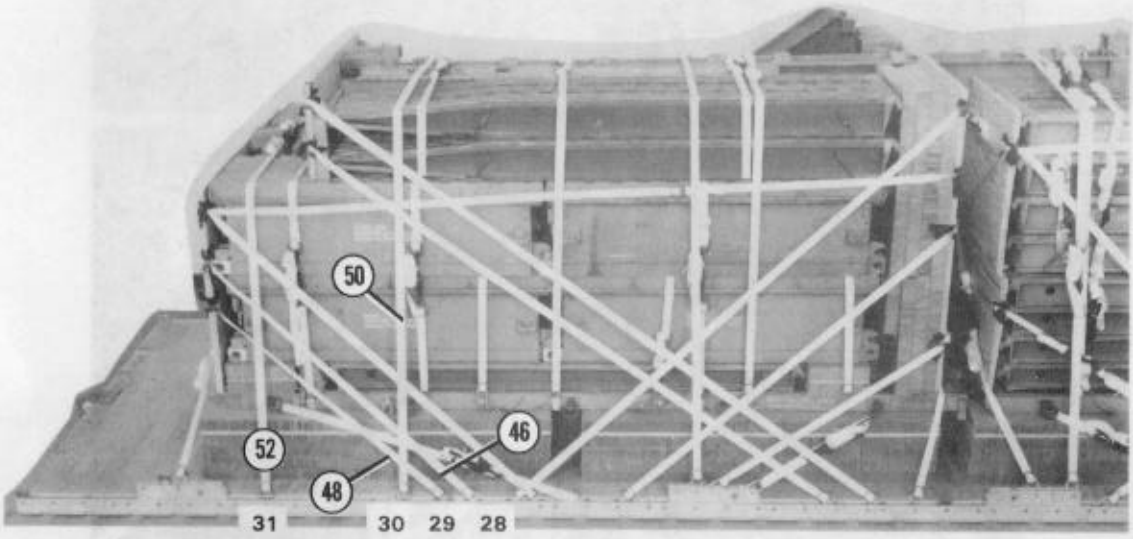
*Figure 4-58. Lashings 33 through 42 installed*




| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| | | Pass lashing: |
| 43 | 26 | Through its own D-ring and through top cutout of restraint board 5. |
| 44 | 26A | Through its own D-ring and through top cutout of restraint board 5. Secure it to lashing 43. |
| *45 | 27 | Through its own D-ring and through top cutout of restraint board 3. |
| | 27A | Through its own D-ring and through top cutout of restraint board 3. Connect and secure these two lashings with a third 15-foot lashing. |

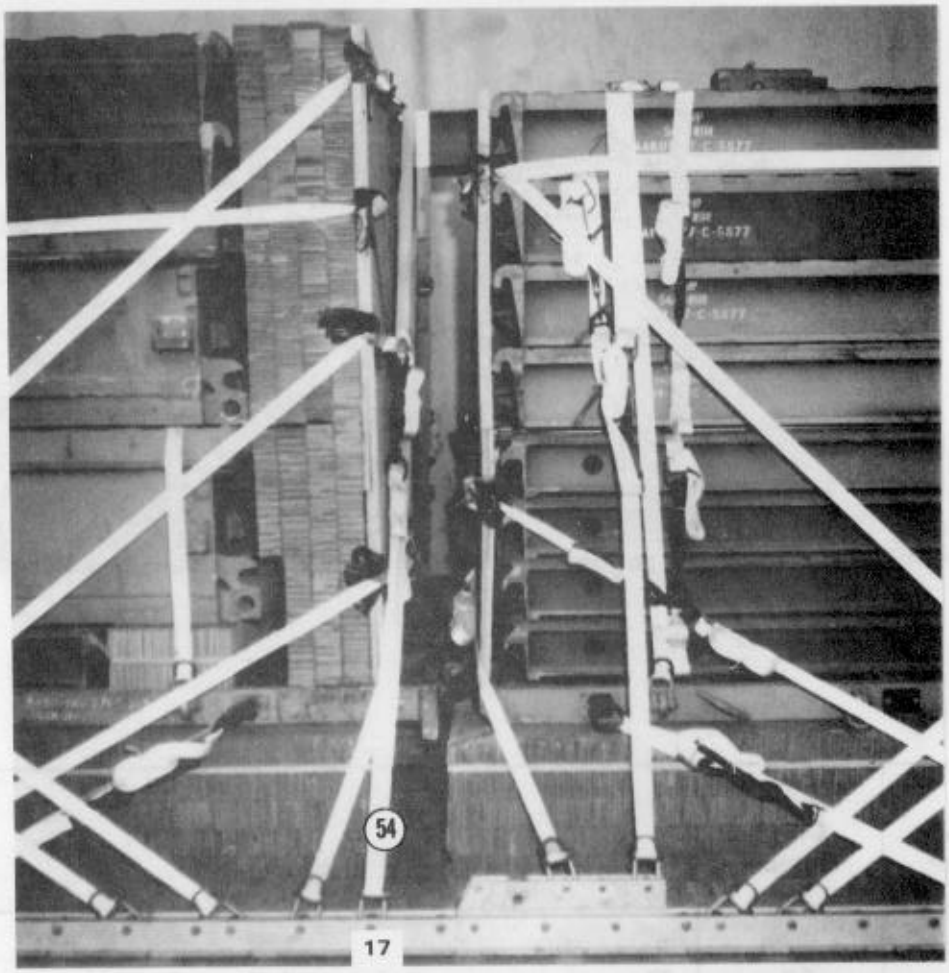
*Use three 15-foot lashings. Use the procedures in FM 10-500-2/TO 13C7-1-5 to form the additional lengths.

*Figure 4-59. Lashings 43, 44, and 45 installed*




| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| | | Pass lashing: |
| 46 | 28 | Through its own D-ring and through middle cutout of restraint board 5. |
| 47 | 28A | Through its own D-ring and through middle cutout of restraint board 5. Secure it to lashing 46. |
| 48 | 29 | Through its own D-ring and through bottom cutout of restraint board 5. |
| 49 | 29A | Through its own D-ring and through bottom cutout of restraint board 5. Secure it to lashing 48. |
| 50 | 30 | Through its own D-ring and over top of pallet 2. |
| 51 | 30A | Through its own D-ring and over top of pallet 2. Secure it to lashing 50. |
| 52 | 31 | Through its own D-ring and over top of pallet 2. |
| 53 | 31A | Through its own D-ring and over top of pallet 2. Secure it to lashing 52. |

*Figure 4-60. Lashings 46 through 53 installed*

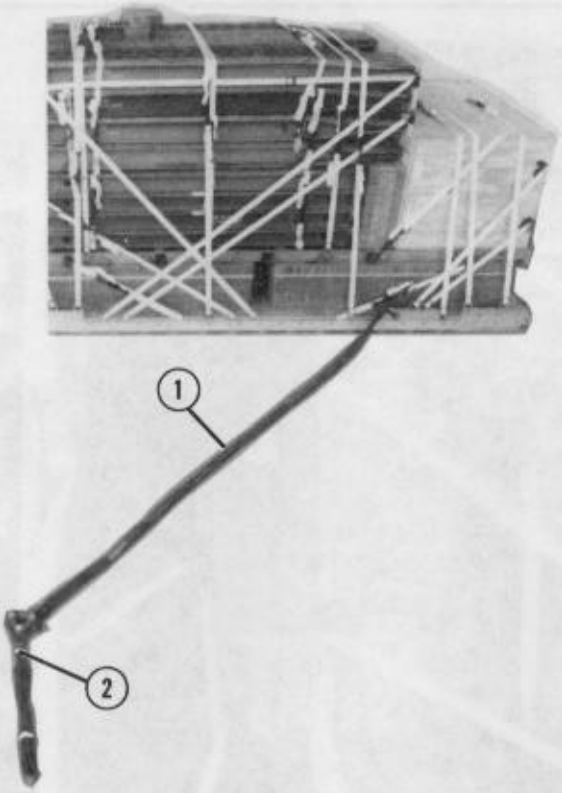



| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| | | Pass lashing: |
| *54 | 17 | Around roller beam. |
| *55 | 17A | Around roller beam. |
| *30-foot lashing | | |

*Figure 4-61. Lashings 54 and 55 installed*

### 4-11. Installing Suspension Slings

Install the suspension slings as shown in Figure 4-63.

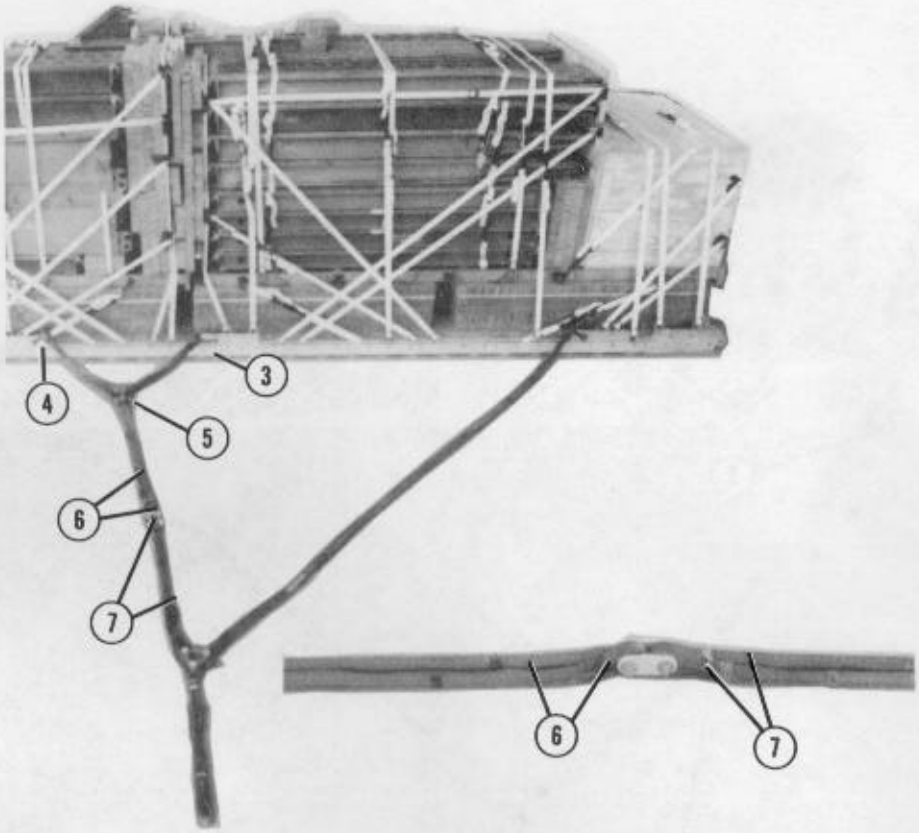



(1) **Attach a 16-foot (4-loop), type XXVI nylon webbing sling to the bell portion of a large suspension clevis. Bolt the large suspension clevis to the first suspension link on the right side of the platform. Attach the free end of the sling to a three-point link.**

(2) **Attach a 3-foot (4-loop), type XXVI nylon webbing sling to the top spacer of the three-point link.**

*Figure 4-63. Suspension slings installed*

Note: Tape the folded slings at three connections.




(3) Attach a 3-foot (4-loop), type XXVI nylon webbing sling to the bell portion of a large suspension clevis. Bolt the large suspension clevis to the second suspension link on the right side of the platform.

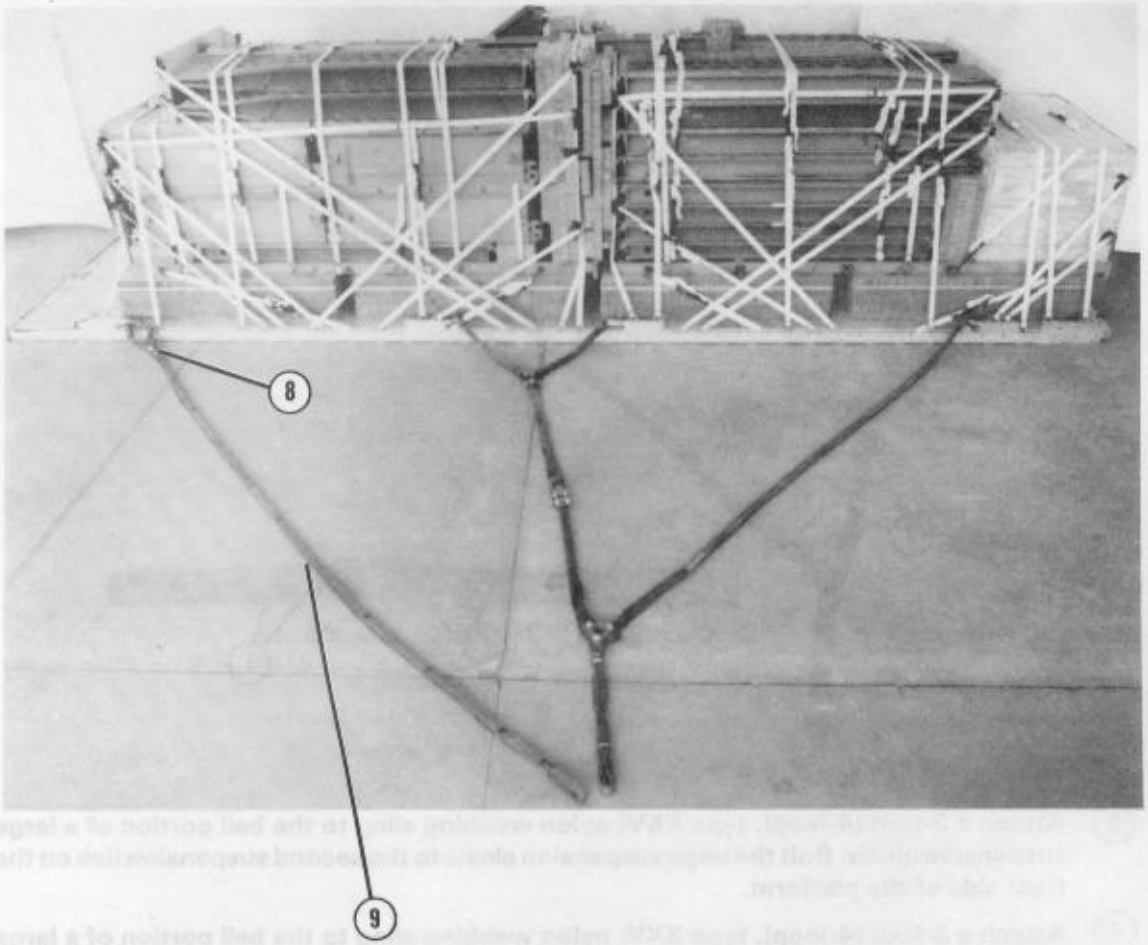
(4) Attach a 3-foot (4-loop), type XXVI nylon webbing sling to the bell portion of a large suspension clevis. Bolt the large suspension clevis to the third suspension link on the right side of the platform.

(5) Attach the free ends of both 3-foot slings to the bell portion of a large suspension clevis on the right side of the platform.

(6) Pass a 11-foot (2-loop), type XXVI nylon webbing sling around the bolt portion of the large suspension clevis used in step 5 by folding the sling in half. Attach the free ends of the sling to a 3 3/4-inch two-point link.

(7) Pass a 9-foot (2-loop), type XXVI nylon webbing sling through the three-point link used in steps 1 and 2 by folding the sling in half. Attach the free ends of the sling to the 3 3/4-inch two-point link used in step 6.

*Figure 4-63. Suspension slings installed (continued)*




(8) **Route a 3-foot (4-loop), type XXVI nylon webbing sling through a 5 1/2-inch two-point link. Attach the free ends of the sling to the bell portion of a large suspension clevis. Bolt the suspension clevis to the fourth suspension link on the right side of the platform.**

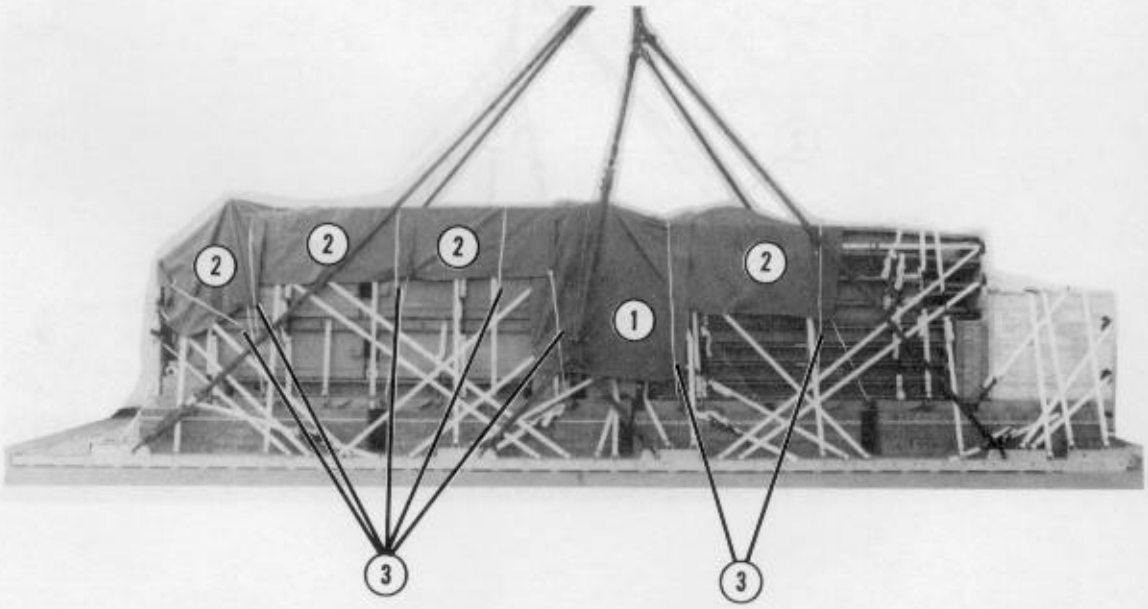
(9) **Attach a 20-foot (4-loop), type XXVI nylon webbing sling to the other end of the two-point link used in step 8.**

(10) **Repeat steps 1 through 9 for the left side of the platform (not shown).**

*Figure 4-63. Suspension slings installed (continued)*

## 4-12. Preparing and Positioning Load Covers

Prepare and position the load covers as shown in Figure 4-64.




(1) **Prepare one 16 1/2- by 5-foot cotton duck load cover. Center the load cover over the load between pallets 1 and 2.**

(2) **Prepare four 10 1/2- by 5-foot cotton duck load covers. Place one load cover in front of the 16 1/2- by 5-foot cover. Place the other three load covers to the rear of the 16 1/2- by 5-foot load cover.**

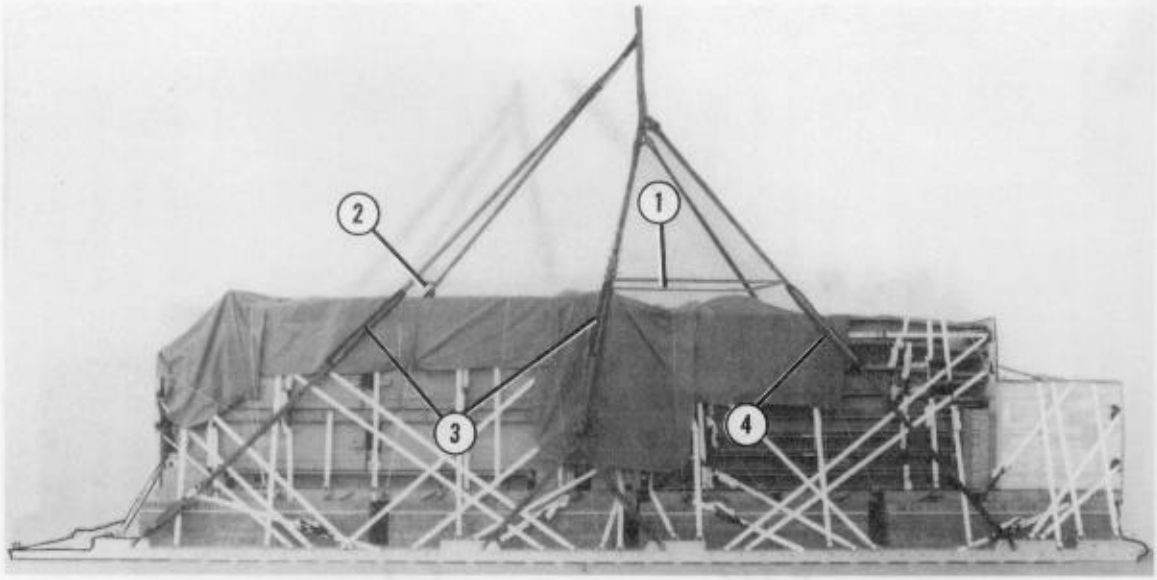
(3) **Secure the load covers to the load at convenient points with lengths of type III nylon cord.**

*Figure 4-64. Load covered*

### 4-13. Safetying Suspension Slings

Safety the suspension slings according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-65.

**Note: Raise the suspension slings until they are tight.**




**(1) Install a deadman's tie to the front four suspension slings 6 to 8 inches above the load according to FM 10-500-2/TO 13C7-1-5.**

**(2) Safety the two rear suspension slings with a double length of 1/2-inch tubular nylon webbing.**

**(3) Wrap the suspension slings where the slings come in contact with the load using pieces of 1/2-inch felt.**

**(4) Secure the felt to the suspension slings with lengths of type III nylon cord. Tape the felt in place.**

**(5) Lower the suspension slings on the load (not shown).**

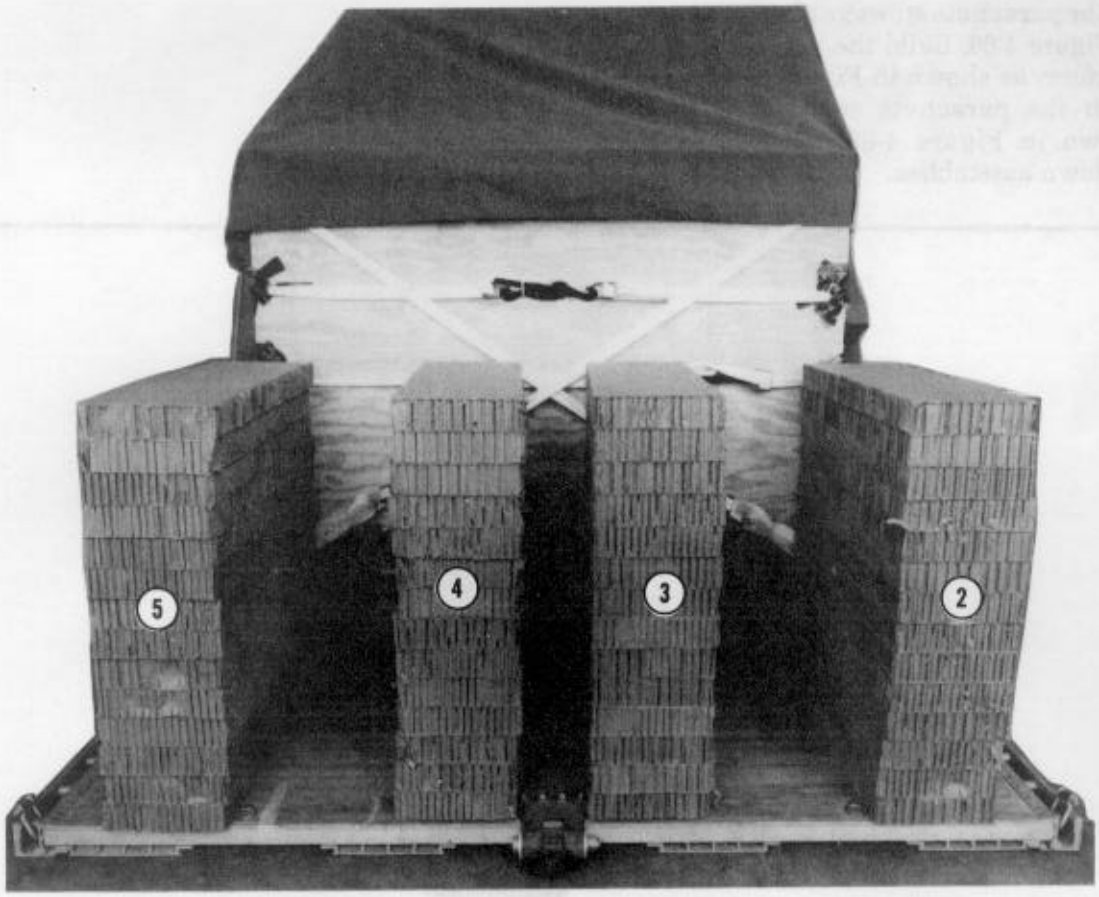
*Figure 4-65. Suspension slings safetied*

## 4-14. Building, Positioning, and Securing Parachute Stowage Platform

Build and position four honeycomb supports for the parachute stowage platform as shown in Figure 4-66. Build the parachute stowage platform as shown in Figures 4-67 and 4-68. Lash the parachute stowage platform as shown in Figure 4-69 using four 15-foot tie-down assemblies.


(1) **Form four honeycomb supports using fifty-six 12- by 40-inch pieces of honeycomb, 14 pieces in each honeycomb support.**

*Figure 4-66. Honeycomb supports built and positioned*



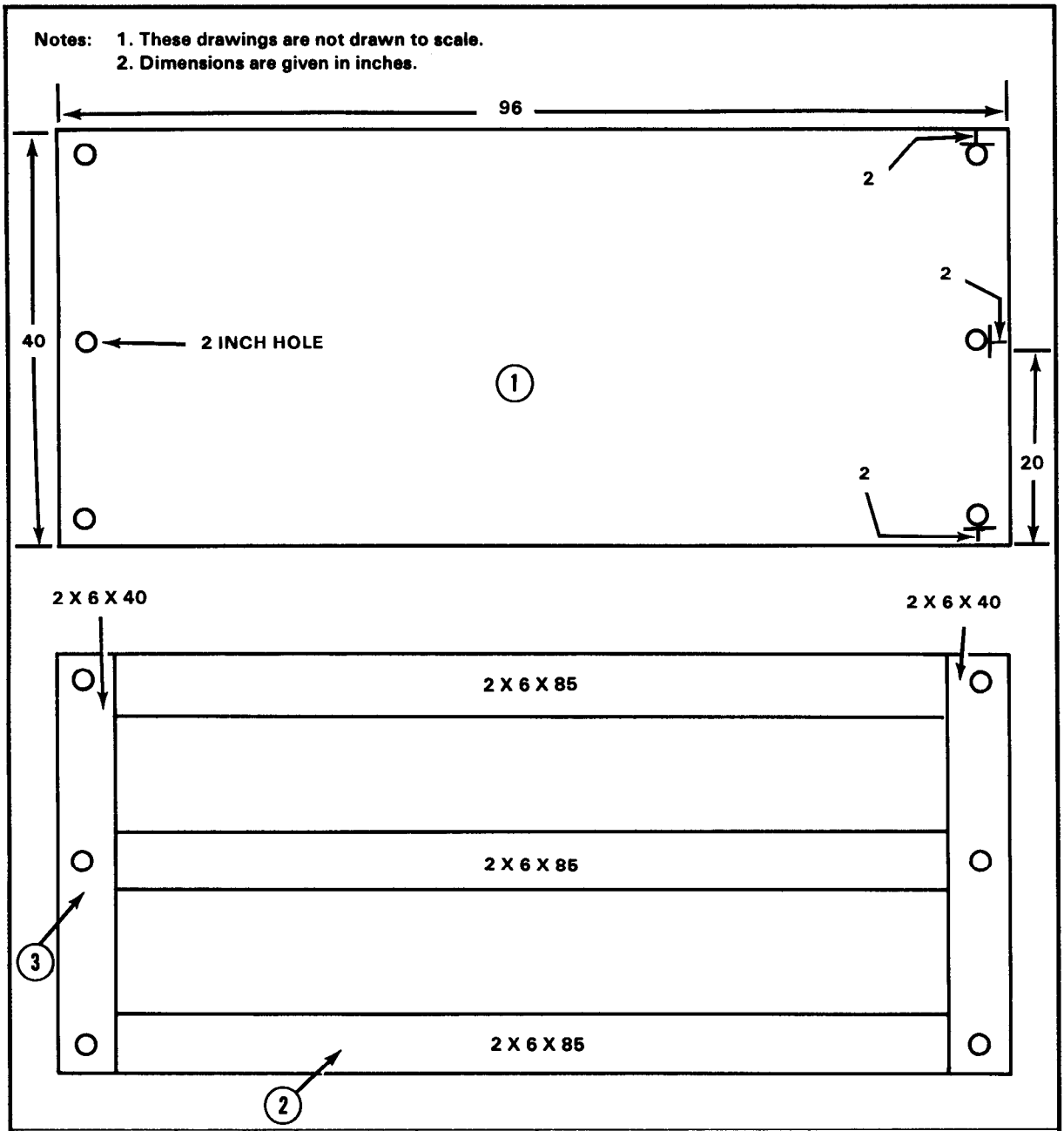

(2) **Position honeycomb support 1 flush with the rear edge of the platform and 9 1/4 inches from the right rail of the platform.**

(3) **Position honeycomb support 2 flush with the rear edge of the platform and 16 inches from the left edge of honeycomb support 1.**

(4) **Position honeycomb support 3 flush with the rear edge of the platform and 7 inches from the left edge of honeycomb support 2.**

(5) **Position honeycomb support 4 flush with the rear edge of the platform and 9 1/4 inches from the left rail of the platform.**

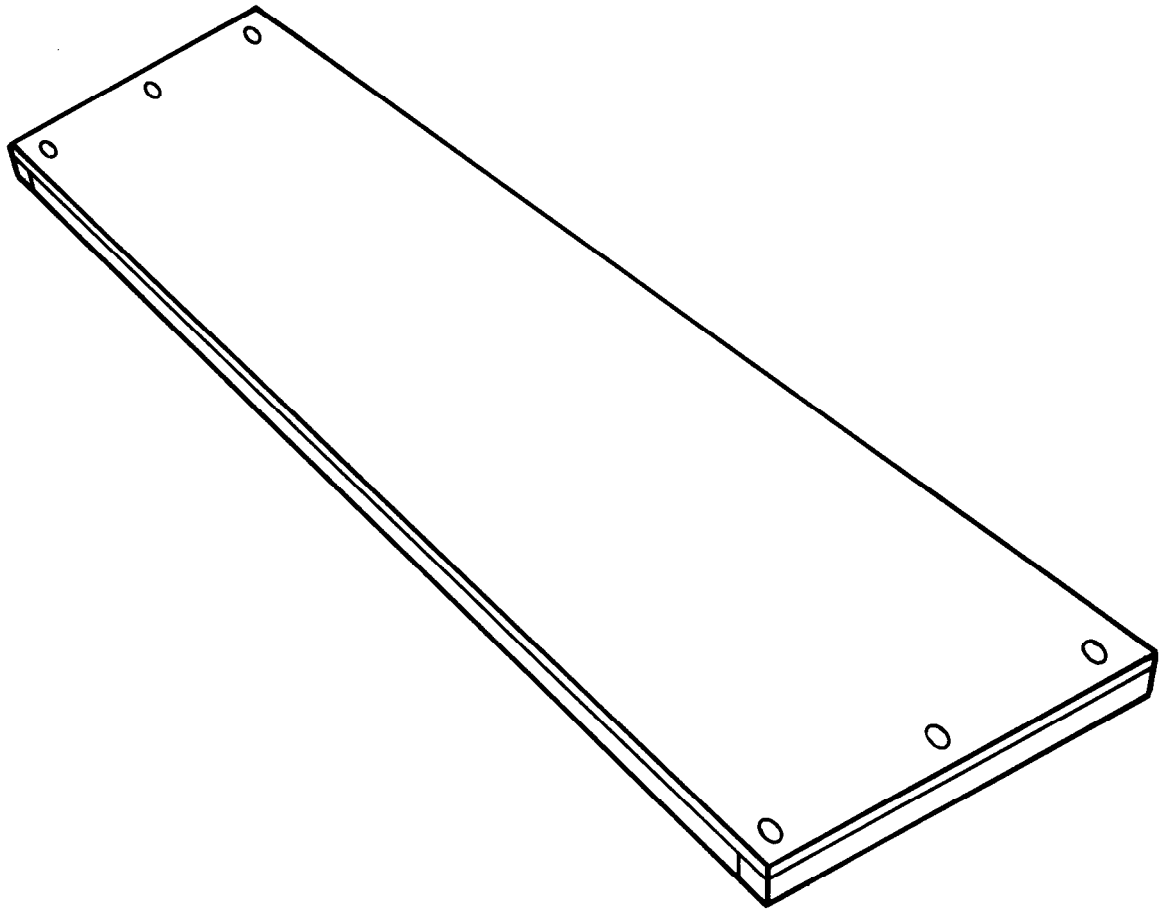
*Figure 4-66. Honeycomb supports built and positioned (continued)*




| Item Number | Pieces | Width (Inches) | Length (Inches) | Material |
|---|---|---|---|---|
| 1 | 1 | 96 | 40 | 3/4-inch plywood |
| 2 | 3 | 85 | 6 | 2- by 6-inch lumber |
| 3 | 2 | 6 | 40 | 2- by 6-inch lumber |

*Figure 4-67. Materials required to build parachute stowage platform*

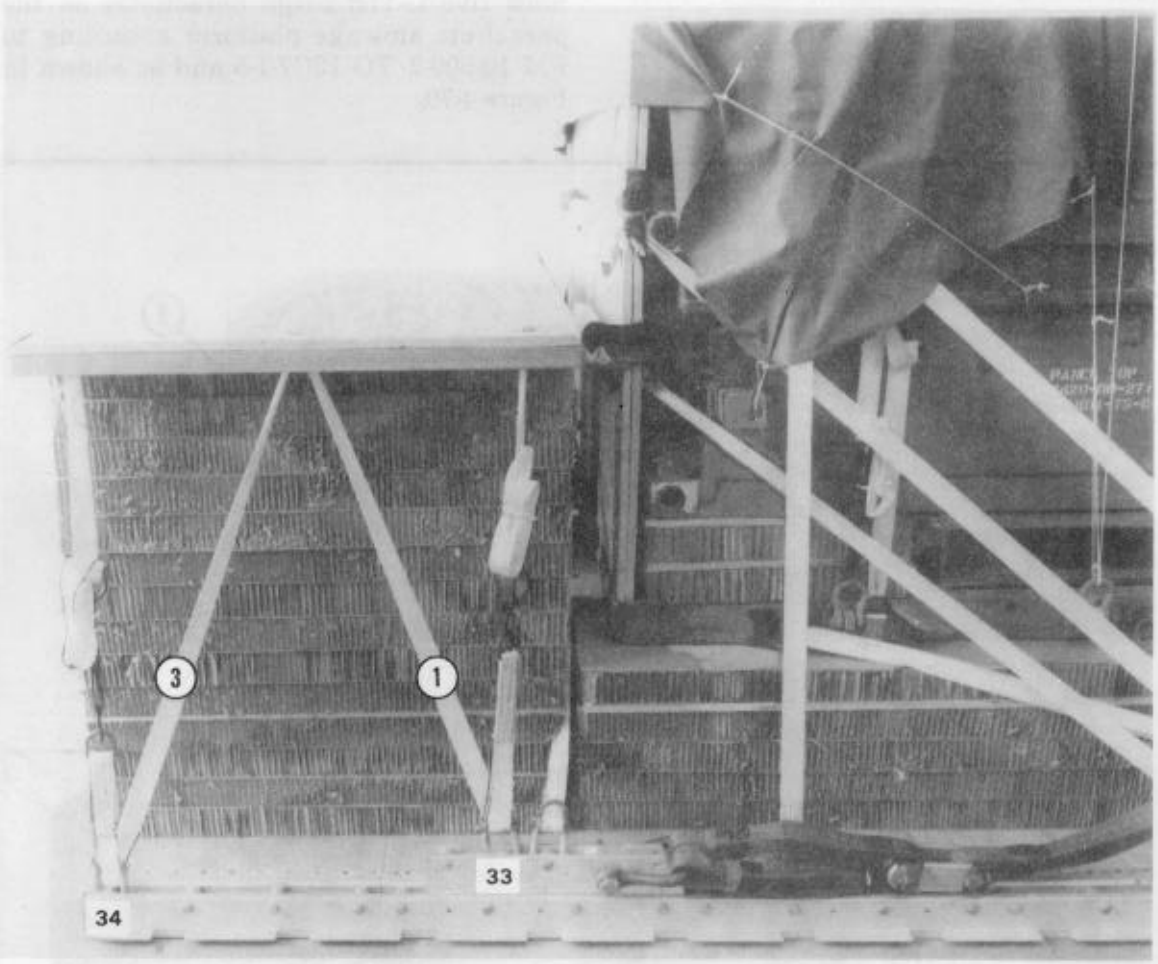
Note: This drawing is not drawn to scale.



Step:

1. Build the parachute stowage platform using the materials given in Figure 4-67.
2. Use eightpenny nails to secure the parachute stowage platform.

*Figure 4-68. Parachute stowage platform built*

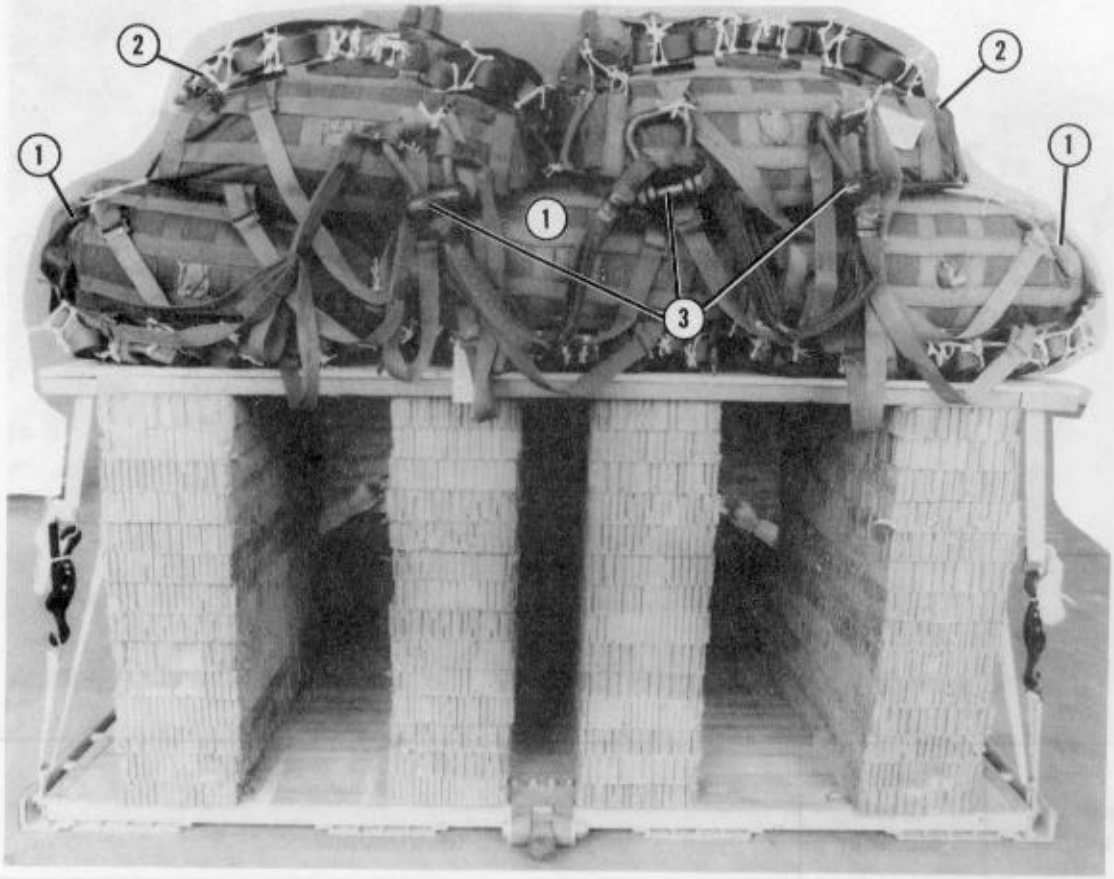



| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| | | Pass lashing: |
| 1 | 33 | Through center hole and then through front hole of parachute stowage platform, right side. |
| 2 | 33A | Through center hole and then through front hole of parachute stowage platform, left side. |
| 3 | 34 | Through center hole and then through rear hole of parachute stowage platform, right side. |
| 4 | 34A | Through center hole and then through rear hole of parachute stowage platform, left side. |

*Figure 4-69. Parachute stowage platform secured*

### 4-15. Stowing Cargo Parachutes

Stow five G-11B cargo parachutes on the parachute stowage platform according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-70.

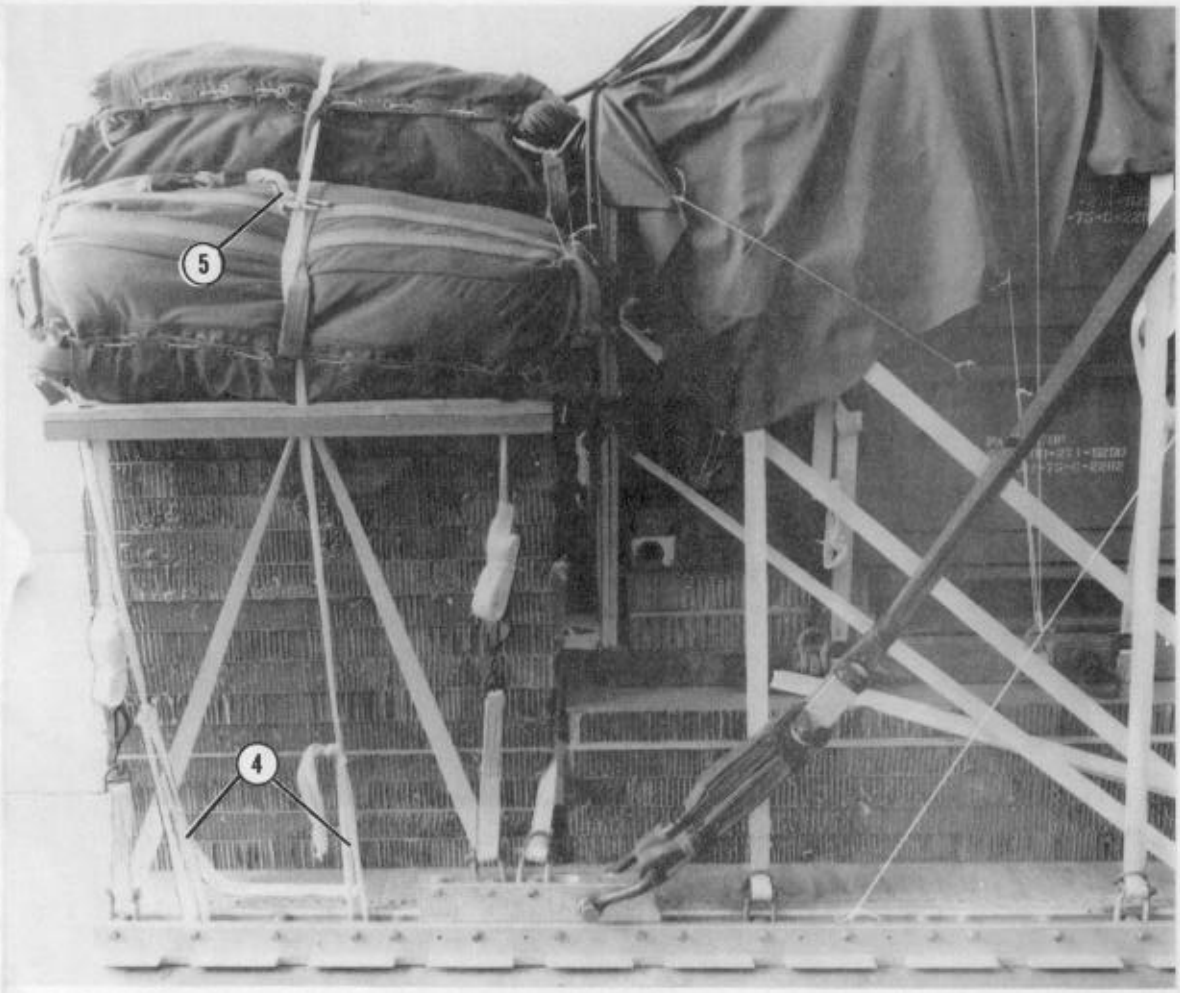



(1) **Set three G-11B cargo parachutes with the riser extension compartments facing down on the parachute stowage platform.**

(2) **Set two G-11B cargo parachutes with the riser extension compartments facing up on top of the parachutes placed in step 1.**

(3) **Group the bridle assemblies as shown in FM 10-500-2/TO 13C7-1-5.**

*Figure 4-70. Parachutes stowed*



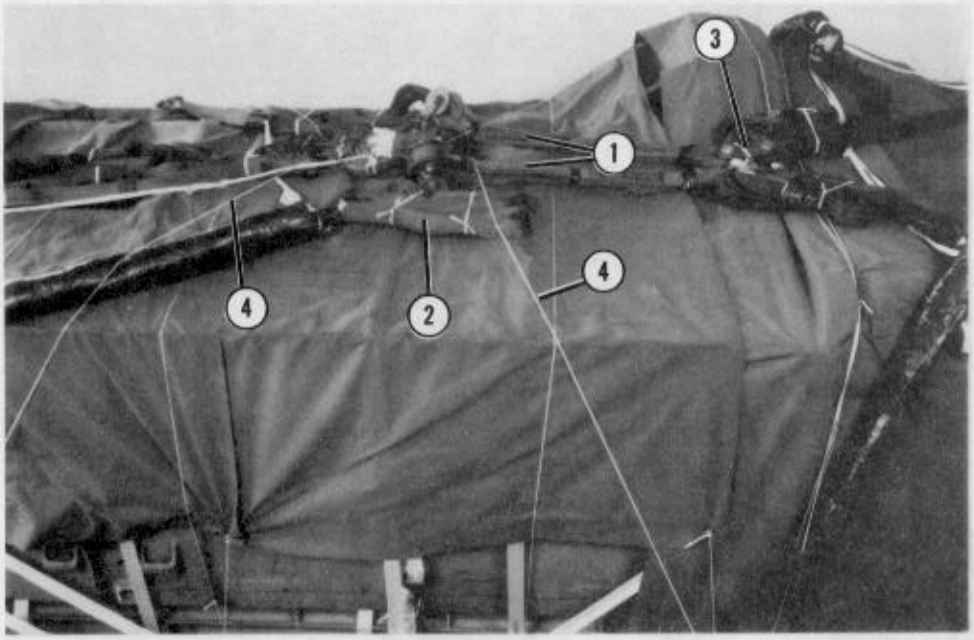

(4) **Restrain the cargo parachutes to the platform using two lengths of type VIII nylon webbing according to FM 10-500-2/TO 13C7-1-5. Tie the ends of the webbing to the platform bushings between clevises 33 and 34.**

(5) **Install two multicut parachute release straps according to FM 10-500-2/TO 13C7-1-5.**

*Figure 4-70. Parachutes stowed (continued)*

### 4-16. Installing Release System

Prepare and install the M-2 release system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-71.




(1) **Prepare an M-2 cargo release assembly according to FM 10-500-2/TO 13C7-1-5. Attach the M-2 cargo release assembly to the suspension slings and the cargo parachutes according to FM 10-500-2/TO 13C7-1-5.**

(2) **Fold the suspension slings. Secure the folds with lengths of type I, 1/4-inch cotton webbing.**

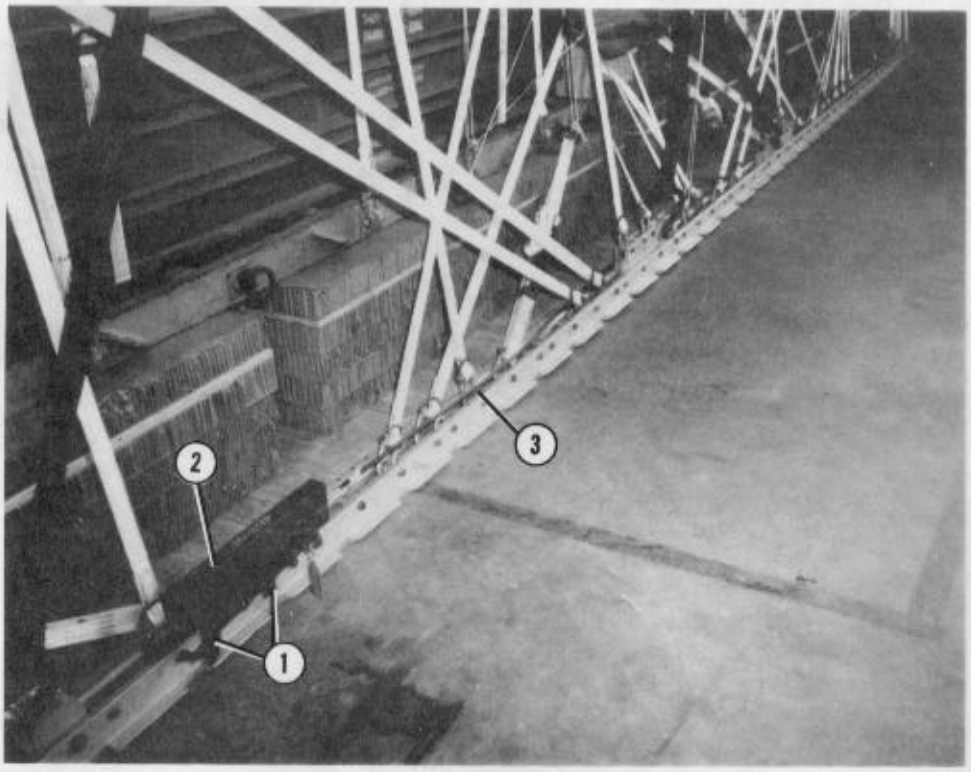
(3) **Safety the three-point links together with a length of type I, 1/4-inch cotton webbing.**

(4) **Secure the top and bottom of the M-2 cargo parachute release according to FM 10-500-2/TO 13C7-1-5.**

*Figure 4-71. Release system installed*

## 4-17. Installing Extraction System

Install the EFTC extraction system as shown in Figures 4-72 and 4-73.

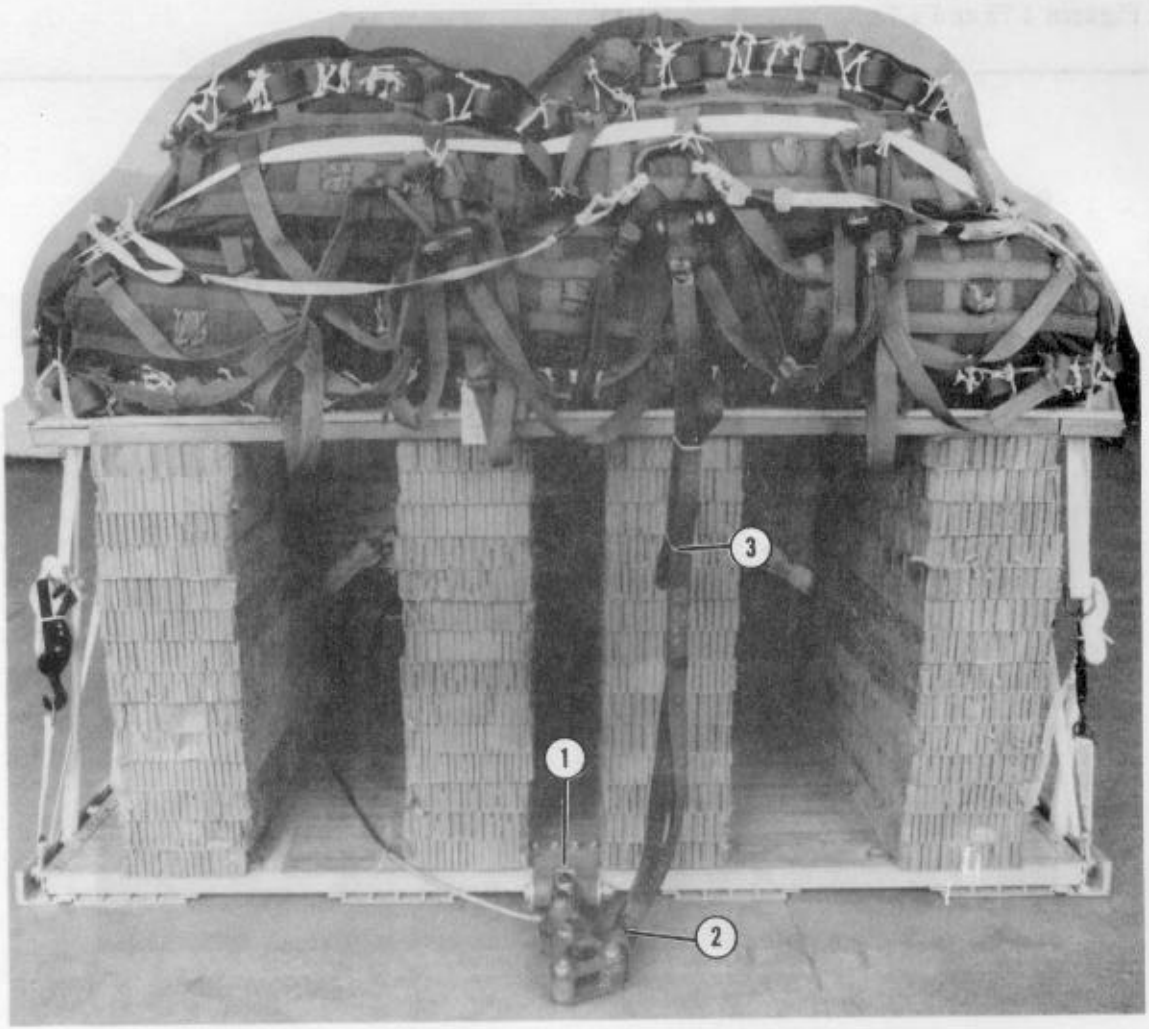



(1) **Attach the EFTA mounting brackets to the rear mounting holes on the left platform side rail.**

(2) **Install the actuator to the EFTA mounting brackets with a 28-foot cable according to FM 10-500-2/TO 13C7-1-5.**

(3) **Safety the 28-foot cable to the lashings along the left platform side rail using lengths of type I, 1/4-inch cotton webbing.**

*Figure 4-72. Actuator and cable installed*




(1) Attach the latch assembly to the extraction bracket with the locking nut hole facing toward the left side of the platform according to FM 10-500-2/TO 13C7-1-5.

(2) Connect one end of a 9-foot (2-loop), type XXVI nylon webbing sling as a deployment line to the right spacer of the link assembly. Connect the free end of the deployment line to the center large clevis on the 3-foot clustering slings.

(3) Fold the excess deployment line. Secure the folds with type I, 1/4-inch cotton webbing.

*Figure 4-73. Extraction system installed*

### 4-18. Installing Provisions for Emergency Restraints

Install provisions for emergency restraints according to FM 10-500-2/TO 13C7-1-5.

### 4-19. Placing Extraction Parachute

Place the extraction parachute as described below.

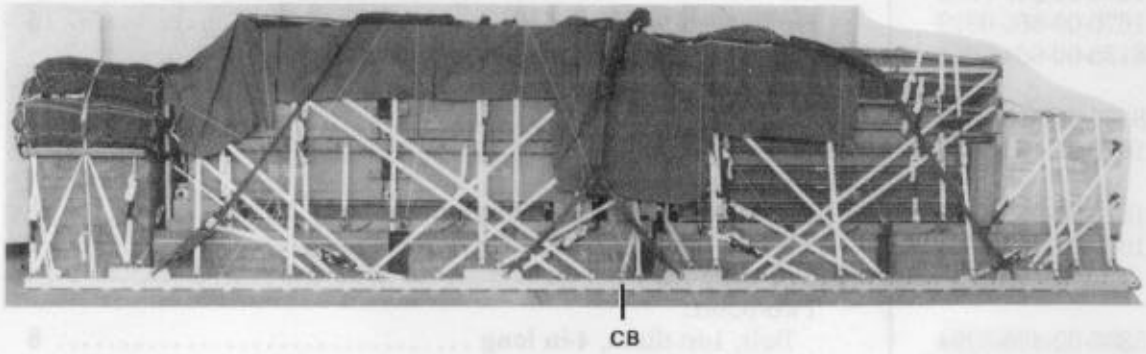
*a. C-130 Aircraft.* Place one 28-foot cargo extraction parachute; a 60-foot (3-loop), type XXVI nylon webbing extraction line; and a 5 1/2-inch, two-point link assembly on the load for installation in the aircraft.

*b. C-141 Aircraft.* Place one 28-foot heavy-duty cargo extraction parachute and a continuous 140-foot (3-loop), type XXVI nylon webbing extraction line on the load for installation in the aircraft.

### 4-20. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-74. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

**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 | 22,480 pounds |
| | Maximum load allowed | 23,500 pounds |
| Height | | 97 inches |
| Width | | 108 inches |
| Length | | 407 inches |
| Overhang: | Front | 5 inches |
| | Rear | 18 inches |
| CB (from front edge of platform) | | 186 inches |
| Extraction system | | EFTC |

*Figure 4-74. Five-bay, single-story, medium girder (fixed) bridge rigged for low-velocity airdrop on a type V platform*

## 4-21. Equipment Required

Use the equipment listed in Table 4-1 to rig this load.

*Table 4-1. Equipment required for rigging the five-bay, single-story, medium girder (fixed) bridge for low-velocity airdrop on a type V platform*

| National Stock Number | Item | Quantity |
|---|---|---|
| 8040-00-273-8713 | Adhesive, paste, 1-gal | As required |
| | Clevis, suspension: | |
| 4030-00-678-8562 | 3/4-in (medium) | 4 |
| 4030-00-090-5354 | 1-in (large) | 10 |
| 8305-00-242-3593 | Cloth, cotton duck, 60-in | As required |
| 4020-00-240-2146 | Cord, nylon, type III, 550-lb | As required |
| 1670-00-157-6527 | Coupling, airdrop, extraction force transfer w 28-ft cable | 1 |
| | Cover: | |
| 1670-00-360-0328 | Clevis, large | 5 |
| 1670-00-360-0329 | Link assembly (type IV) | 15 |
| 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 | 2 |
| | Line, extraction: | |
| 1670-01-062-6313 | 60-ft (3-loop), type XXVI nylon webbing | 1 |
| 1670-01-107-7615 | 140-ft (3-loop), type XXVI nylon webbing | 1 |
| | Link assembly: | |
| | Two-point: | |
| 5306-00-435-8994 | Bolt, 1-in diam, 4-in long | 8 |
| 5310-00-232-5165 | Nut, 1-in, hexagonal | 8 |
| 1670-00-003-1953 | Plate, side, 3 3/4-in | 4 |
| 1670-00-003-1954 | Plate, side, 5 1/2-in | 4 |
| 5365-00-007-3414 | Spacer, large | 8 |
| 1670-01-307-0155 | Three-point | 2 |
| 1670-00-783-5988 | Type IV | 15 |
| | Lumber: | |
| 5510-00-220-6146 | 2- by 4-in: | |
| | 29 | 2 |
| | 38 | 4 |
| | 76 | 4 |
| 5510-00-220-6148 | 2- by 6-in: | |
| | 40 | 2 |
| | 85 | 3 |
| 5315-00-010-4659 | Nail, steel wire, common, 8d | As required |
| 1670-00-753-3928 | Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in | 48 sheets |

### 4-21. Equipment Required

Use the equipment listed in Table 4-1 to rig this load.

*Table 4-1. Equipment required for rigging the five-bay, single-story, medium girder (fixed) bridge for low-velocity airdrop on a type V platform*

| National Stock Number | Item | Quantity |
|---|---|---|
| 8040-00-273-8713 | Adhesive, paste, 1-gal | As required |
| | Clevis, suspension: | |
| 4030-00-678-8562 | 3/4-in (medium) | 4 |
| 4030-00-090-5354 | 1-in (large) | 10 |
| 8305-00-242-3593 | Cloth, cotton duck, 60-in | As required |
| 4020-00-240-2146 | Cord, nylon, type III, 550-lb | As required |
| 1670-00-157-6527 | Coupling, airdrop, extraction force transfer w 28-ft cable | 1 |
| | Cover: | |
| 1670-00-360-0328 | Clevis, large | 5 |
| 1670-00-360-0329 | Link assembly (type IV) | 15 |
| 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 | 2 |
| | Line, extraction: | |
| 1670-01-062-6313 | 60-ft (3-loop), type XXVI nylon webbing | 1 |
| 1670-01-107-7615 | 140-ft (3-loop), type XXVI nylon webbing | 1 |
| | Link assembly: | |
| | Two-point: | |
| 5306-00-435-8994 | Bolt, 1-in diam, 4-in long | 8 |
| 5310-00-232-5165 | Nut, 1-in, hexagonal | 8 |
| 1670-00-003-1953 | Plate, side, 3 3/4-in | 4 |
| 1670-00-003-1954 | Plate, side, 5 1/2-in | 4 |
| 5365-00-007-3414 | Spacer, large | 8 |
| 1670-01-307-0155 | Three-point | 2 |
| 1670-00-783-5988 | Type IV | 15 |
| | Lumber: | |
| 5510-00-220-6146 | 2- by 4-in: | |
| | 29 | 2 |
| | 38 | 4 |
| | 76 | 4 |
| 5510-00-220-6148 | 2- by 6-in: | |
| | 40 | 2 |
| | 85 | 3 |
| 5315-00-010-4659 | Nail, steel wire, common, 8d | As required |
| 1670-00-753-3928 | Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in | 48 sheets |

*Table 4-1. Equipment required for rigging the five-bay, single-story, medium girder (fixed) bridge for low-velocity airdrop on a type V platform (continued)*

| National Stock Number | Item | Quantity |
|---|---|---|
| | 4- by 7 1/2-in | (1) |
| | 5- by 7-in | (4) |
| | 6- by 96-in | (1) |
| | 7- by 96-in | (1) |
| | 8- by 28 1/2-in | (3) |
| | 9- by 56-in | (4) |
| | 9- by 96-in | (6) |
| | 10- by 28 1/2-in | (2) |
| | 11- by 40-in | (2) |
| | 12- by 40-in | (56) |
| | 12- by 73-in | (8) |
| | 12- by 80-in | (64) |
| | 22- by 41-in | (3) |
| | 27- by 41-in | (4) |
| | 53- by 15-in | (1) |
| | 71 1/2- by 36-in | (1) |
| | 76- by 13 1/2-in | (2) |
| | 76- by 14-in | (1) |
| | 76- by 22-in | (2) |
| | 76- by 28-in | (3) |
| | 76- by 28 1/2-in | (3) |
| | 96- by 36-in | (4) |
| | Parachute: | |
| 1670-01-016-7841 | Cargo, G-11B | 5 |
| | Cargo extraction: | |
| 1670-00-262-1797 | 28-ft or | 1 |
| 1670-00-040-8135 | 28-ft, heavy-duty | 1 |
| | Platform, AD, type V, 32-ft: | 1 |
| | Bracket: | |
| 1670-01-162-2375 | Inside EFTA | (1) |
| 1670-01-162-2374 | Outside EFTA | (1) |
| 1670-01-162-2372 | Clevis assembly | (70) |
| 1670-01-162-2376 | Extraction bracket assembly | (1) |
| 1670-01-247-2389 | Suspension link | (8) |
| 1670-01-162-2381 | Tandem link | (2) |
| 5530-00-128-4981 | Plywood, 3/4-in: | 25 sheets |
| | 12- by 73-in | (2) |
| | 12- by 80-in | (14) |
| | 22 1/2- by 61-in | (1) |
| | 24- by 63-in | (1) |
| | 28- by 69-in | (1) |
| | 32- by 63-in | (1) |
| | 42- by 37-in | (2) |

*Table 4-1. Equipment required for rigging the five-bay, single-story, medium girder (fixed) bridge for low-velocity airdrop on a type V platform (continued)*

| National Stock Number | Item | Quantity |
|---|---|---|
| | 42 1/2- by 61-in | (1) |
| | 44- by 63-in | (1) |
| | 48- by 69-in | (1) |
| | 52- by 63-in | (1) |
| | 64 1/2- by 20 1/2-in | (2) |
| | 65- by 13-in | (1) |
| | 68- by 15-in | (1) |
| | 76- by 13 1/2-in | (1) |
| | 76- by 21-in | (1) |
| | 76- by 22-in | (1) |
| | 76- by 37-in | (2) |
| | 76- by 44-in | (2) |
| | 76- by 48-in | (5) |
| | 96- by 40-in | (1) |
| 1670-01-097-8817 | Release, cargo parachute, M-2 | 1 |
| 8135-00-290-1086 | Seal, steel strapping, 5/8-in | As required |
| | Sling, cargo airdrop: | |
| | For deployment line: | |
| 1670-01-062-6304 | 9-ft (2-loop), type XXVI nylon webbing | 1 |
| | For lifting: | |
| 1670-01-063-7761 | 16-ft (2-loop), type XXVI nylon webbing | 4 |
| | For riser extensions: | |
| 1670-01-062-6302 | 20-ft (2-loop), type XXVI nylon webbing | 20 |
| | For suspension slings: | |
| 1670-01-062-6306 | 3-ft (4-loop), type XXVI nylon webbing | 10 |
| 1670-01-062-6304 | 9-ft (2-loop), type XXVI nylon webbing | 2 |
| 1670-01-063-7760 | 11-ft (2-loop), type XXVI nylon webbing | 2 |
| 1670-01-062-6308 | 16-ft (4-loop), type XXVI nylon webbing | 2 |
| 1670-00-432-2511 | 20-ft (4-loop), type XXVI nylon webbing or | 2 |
| 1670-01-064-4453 | 20-ft (4-loop), type XXVI nylon webbing | 2 |
| 1670-00-040-8219 | Strap, parachute release, multicut comes w 3 knives | 2 |
| 8135-00-283-0667 | Strapping, steel, 5/8-in | As required |
| 8305-00-074-5124 | Tape, adhesive, 2-in | As required |
| 1670-00-937-0271 | Tie-down assembly, 15-ft | 144 |
| | Webbing: | |
| 8305-00-268-2411 | Cotton, 1/4-in, type I | As required |
| | Nylon: | |
| | Tubular: | |
| 8305-00-082-5752 | 1/2-in or | As required |
| 8305-00-268-2453 | 1/2-in | As required |
| 8305-00-263-3591 | Type VIII | As required |

CHAPTER 5

# RIGGING SEVEN-BAY, SINGLE-STORY, MEDIUM GIRDER (FIXED) BRIDGE ON A TYPE V PLATFORM

Section I

## LOW-VELOCITY AIRDROP

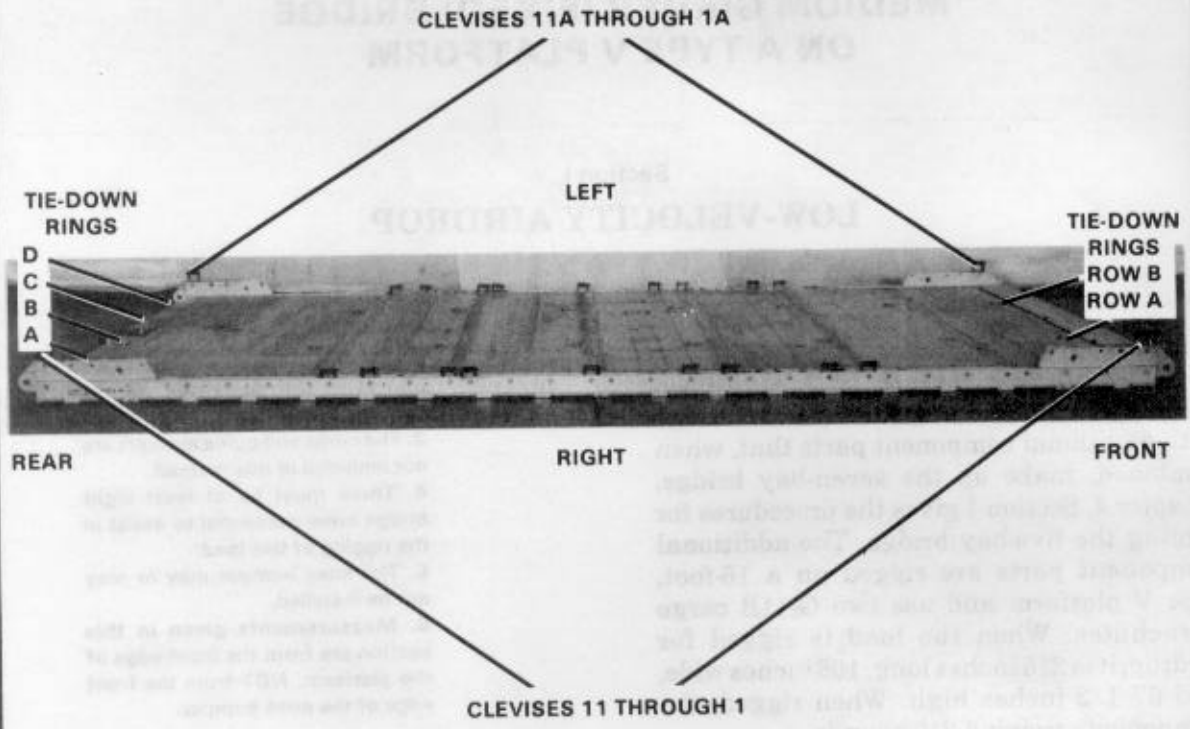
### 5-1. Description of Load

The seven-bay, single-story, medium girder (fixed) bridge consists of a five-bay, single-story, medium girder (fixed) bridge with additional component parts that, when combined, make up the seven-bay bridge. Chapter 4, Section I gives the procedures for rigging the five-bay bridge. The additional component parts are rigged on a 16-foot, type V platform and use two G-11B cargo parachutes. When the load is rigged for airdrop, it is 215 inches long, 108 inches wide, and 67 1/2 inches high. When rigged, the components weigh 6,310 pounds.

NOTES: 1. The additional components platform must be dropped with the five-bay, single-story, medium girder (fixed) bridge. See Chapter 4 for the rigging procedures for the five-bay bridge.
2. All small components will be placed in the parts box on the five-bay bridge.
3. The curbs and guide markers are not included in this manual.
4. There must be at least eight bridge crew personnel to assist in the rigging of this load.
5. The nose bumper may or may not be installed.
6. Measurements given in this section are from the front edge of the platform, NOT from the front edge of the nose bumper.

### 5-2. Preparing Platform

Prepare a 16-foot, type V airdrop platform using four tandem links and 22 clevis assemblies as shown in Figure 5-1.



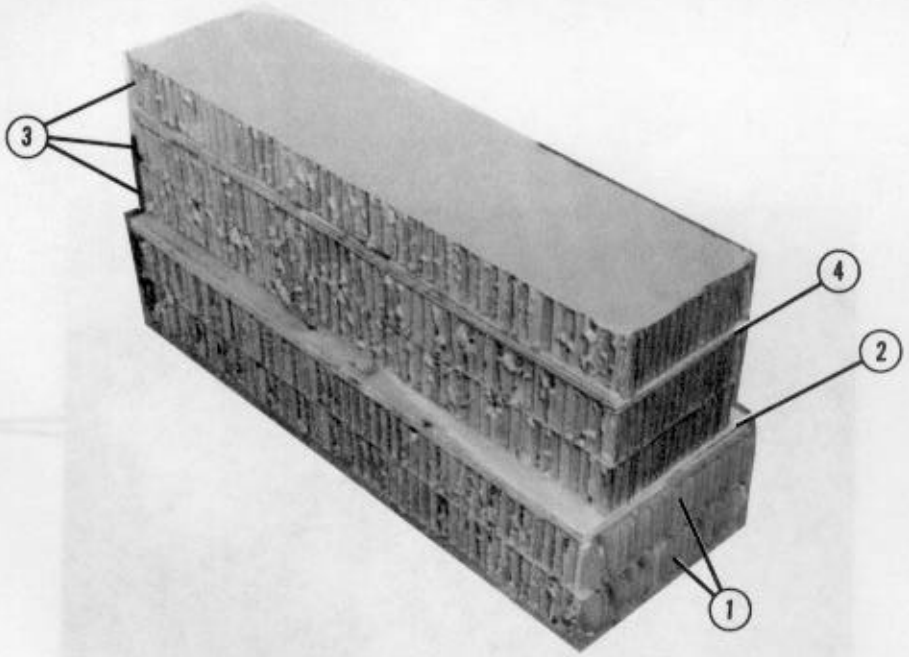

**Step:**

1. **Inspect, or assemble and inspect, the platform according to TM 10-1670-268-20&P/TO 13C7-52-22.**
2. **Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.**
3. **Install a tandem link on the rear of each platform side rail using holes 30, 31, and 32.**
4. **Install a clevis on bushing 1 on each front tandem link.**
5. **Install a clevis on bushing 4 on each rear tandem link.**
6. **Starting at the front of each platform side rail, install clevises on each platform side rail using the bushings bolted on holes 9, 10, 13, 14, 17, 20, 21, 23, and 24.**
7. **Starting at the front of the platform, number the clevises bolted to the right side from 1 through 11 and those bolted to the left side from 1A through 11A.**
8. **Starting at the front of the platform, label the two tie-down rings in the first seven panels A and B from right to left. Label the four tie-down rings in the last panel A, B, C, and D from right to left. Starting with the first panel, number the tie-down rings 1 through 8.**

*Figure 5-1. Platform prepared*

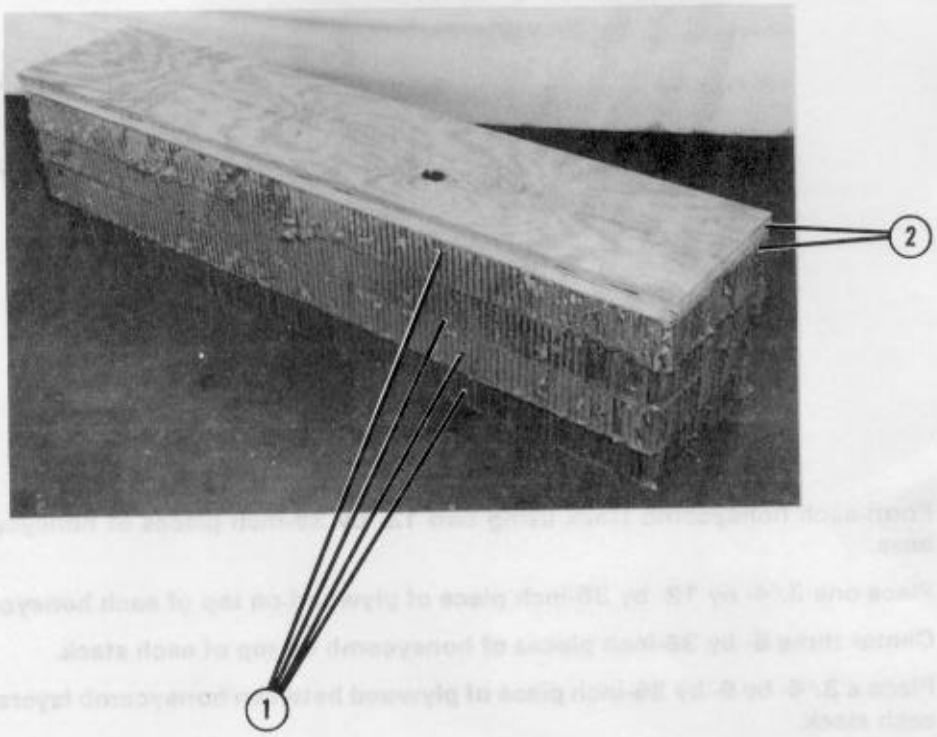
## 5-3. Preparing and Positioning Honeycomb Stacks

Prepare the honeycomb stacks as shown in Figures 5-2 and 5-3. Position the honeycomb stacks on the platform as shown in Figure 5-4.




1. Form each honeycomb stack using two 12- by 36-inch pieces of honeycomb as the base.
2. Place one 3/4- by 12- by 36-inch piece of plywood on top of each honeycomb base.
3. Center three 9- by 36-inch pieces of honeycomb on top of each stack.
4. Place a 3/4- by 9- by 36-inch piece of plywood between honeycomb layers 4 and 5 of each stack.

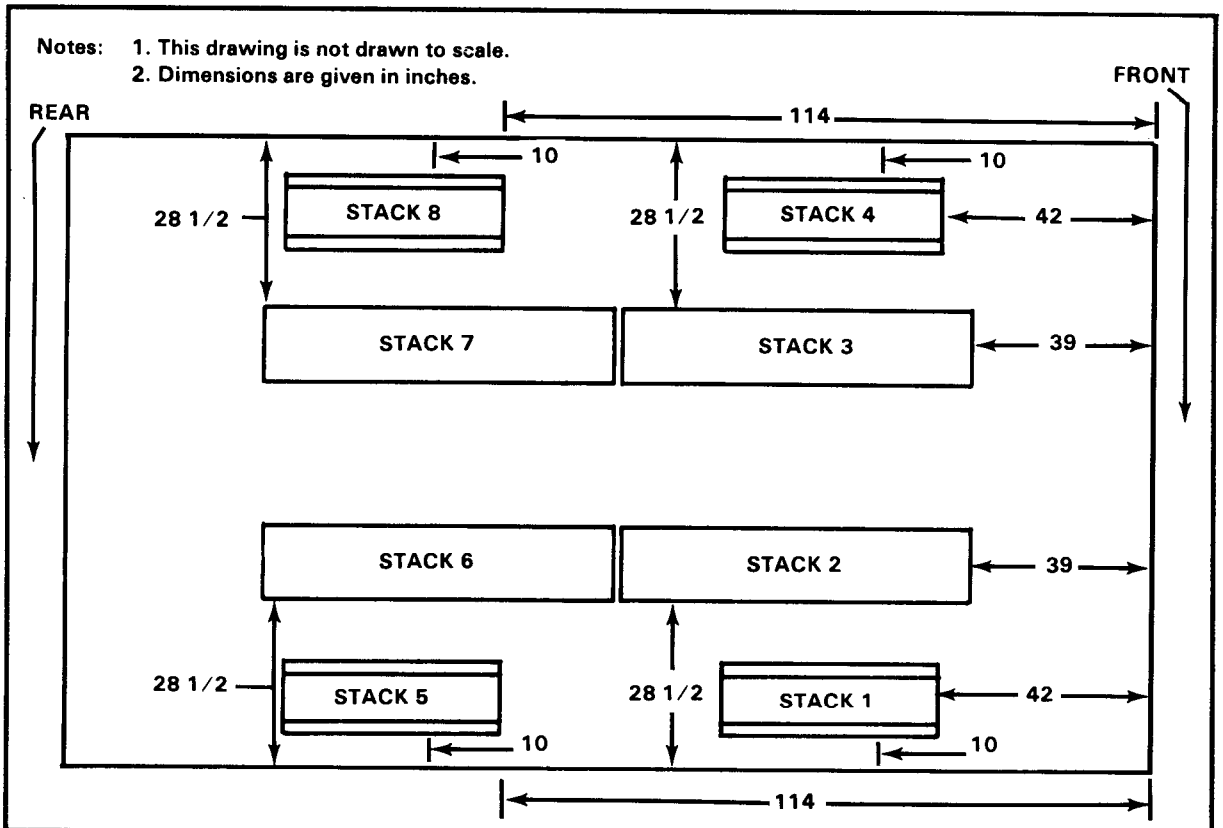
*Figure 5-2. Honeycomb stacks 1, 4, 5, and 8 prepared*




(1) Form each honeycomb stack using four 12- by 57-inch pieces of honeycomb.

(2) Place two 3/4- by 12- by 57-inch pieces of plywood on top of each stack.

*Figure 5-3. Honeycomb stacks 2, 3, 6, and 7 prepared*



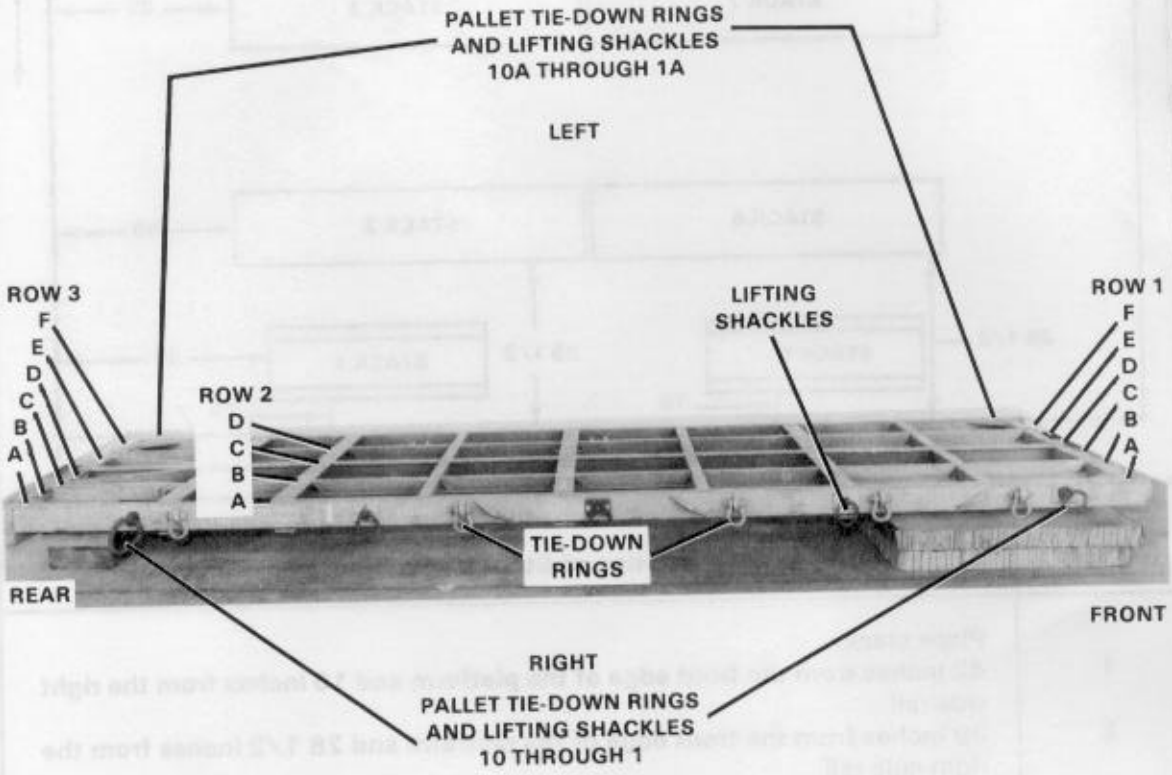

| Stack Number | Position of Stack on Platform |
|---|---|
| | Place stack: |
| 1 | 42 inches from the front edge of the platform and 10 inches from the right side rail. |
| 2 | 39 inches from the front edge of the platform and 28 1/2 inches from the right side rail. |
| 3 | 39 inches from the front edge of the platform and 28 1/2 inches from the left side rail. |
| 4 | 42 inches from the front edge of the platform and 10 inches from the left side rail. |
| 5 | 114 inches from the front edge of the platform and 10 inches from the right side rail. |
| 6 | Flush against the rear edge of stack 2 and 28 1/2 inches from the right side rail. |
| 7 | Flush against the rear edge of stack 3 and 28 1/2 inches from the left side rail. |
| 8 | 114 inches from the front edge of the platform and 10 inches from the left side rail. |

*Figure 5-4. Honeycomb stacks positioned on the platform*

## 5-4. Preparing Pallet

Prepare the pallet as shown in Figures 5-5 through 5-12.

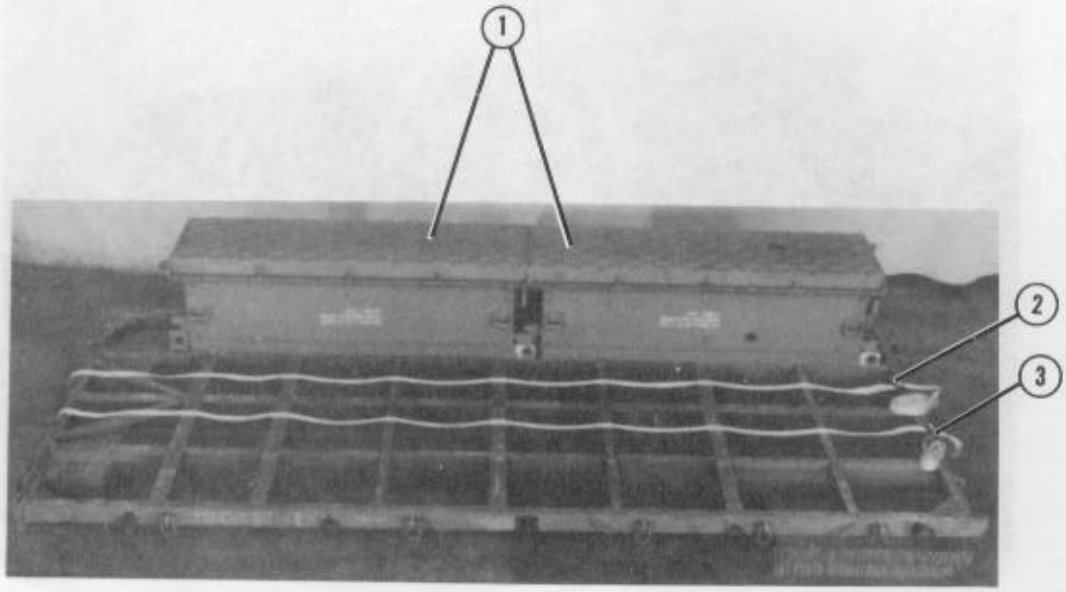
Note: All pallet tie-down rings and lifting shackles must be present.




**Step:**

1. **Starting at the front of the pallet, number the tie-down rings and lifting shackles bolted to the right side from 1 through 10 and those bolted to the left side from 1A through 10A.**
2. **Starting at the front of the pallet, label row 1 of tie-down rings and lifting shackles from right to left A1 through F1. Label row 2 from right to left A2 through D2. Label row 3 from right to left A3 through F3.**
3. **Place two 96- by 36-inch pieces of honeycomb under the front of the pallet to keep the pallet level.**

*Figure 5-5. Pallet labeled*

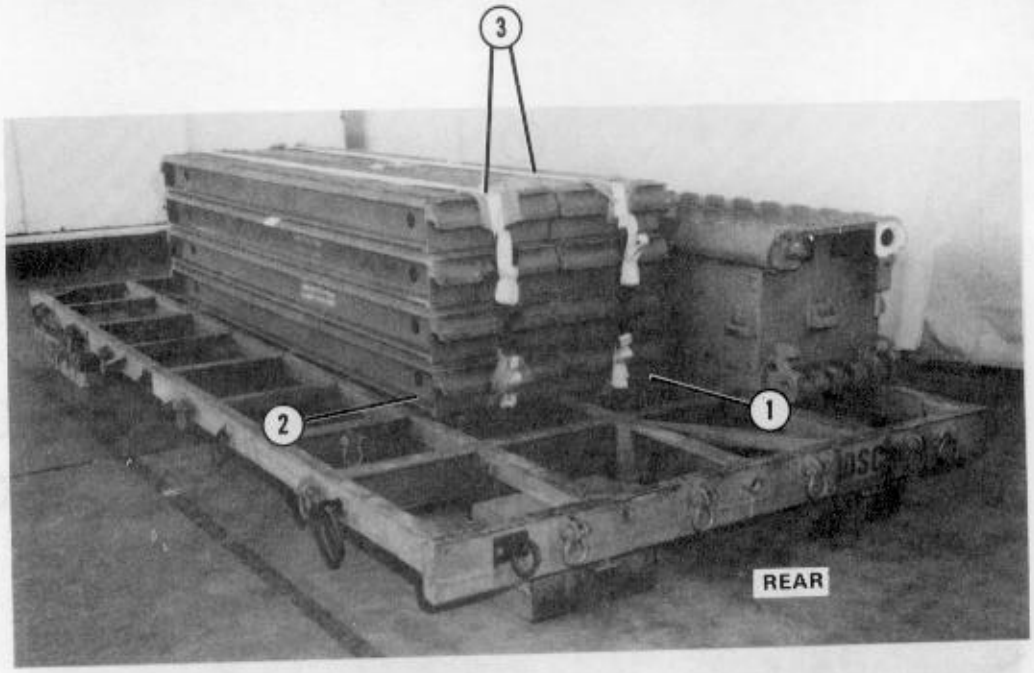



(1) Position two top panels on the pallet 4 1/2 inches from the front edge of the pallet and 2 1/2 inches overhanging the left side of the pallet. Make sure the shoot bolt is in the locked position.

(2) Form two 30-foot lashings according to FM 10-500-2/TO 13C7-1-5. Place one 30-foot lashing on top of the pallet 8 3/4 inches from the right edge of the top panels in a front-to-rear direction.

(3) Place one 30-foot lashing on top of the pallet 26 1/4 inches from the right edge of the top panels in a front-to-rear direction.

*Figure 5-6. Two top panels positioned on left side of pallet*




(1) Center four decks on the pallet against the top panels.

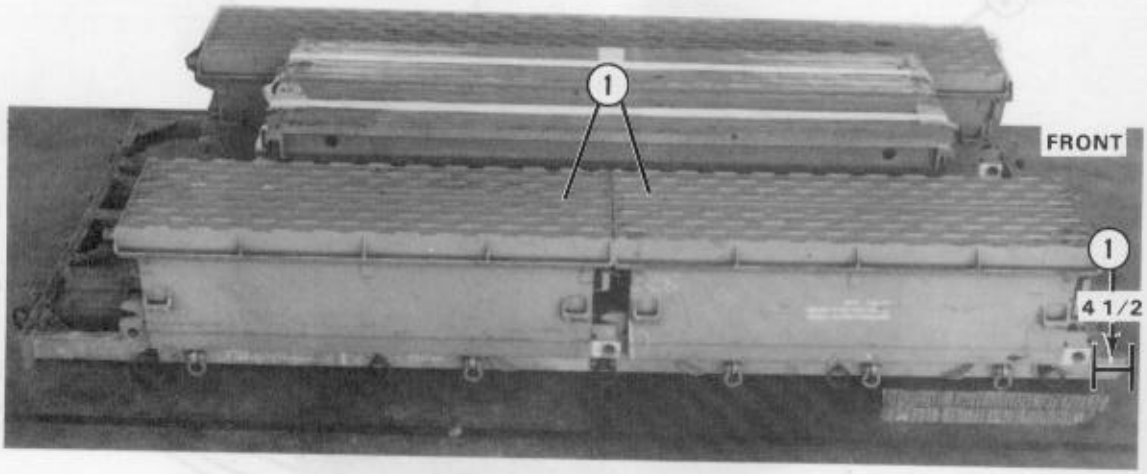
(2) Center four decks on the pallet against the first four decks.

(3) Secure each stack of decks using the pre-positioned lashings. Secure the lashings according to FM 10-500-2/TO 13C7-1-5 on the rear of the decks.

Note: Pad the lashings where they touch the ends of the decks.

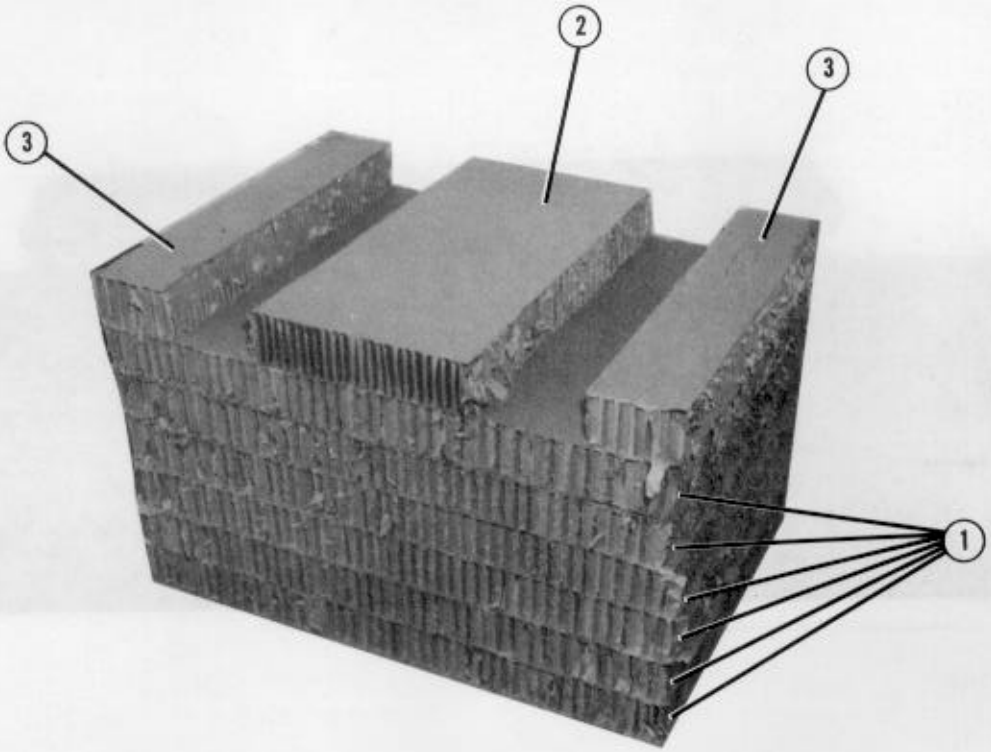
*Figure 5-7. Eight decks positioned and secured*

Note: Dimensions are given in inches.




(1) **Position two top panels on the pallet 4 1/2 inches from the front edge of the pallet and 2 1/2 inches overhanging the right side of the pallet. Make sure the shoot bolt is in the locked position.**

*Figure 5-8. Two top panels positioned on right side of pallet*




(1) Form the base of the honeycomb support using six 35-by 26-inch pieces of honeycomb.

(2) Center a 13- by 26-inch piece of honeycomb on the base.

(3) Place a 5- by 26-inch piece of honeycomb on each side flush with the edges of the base.

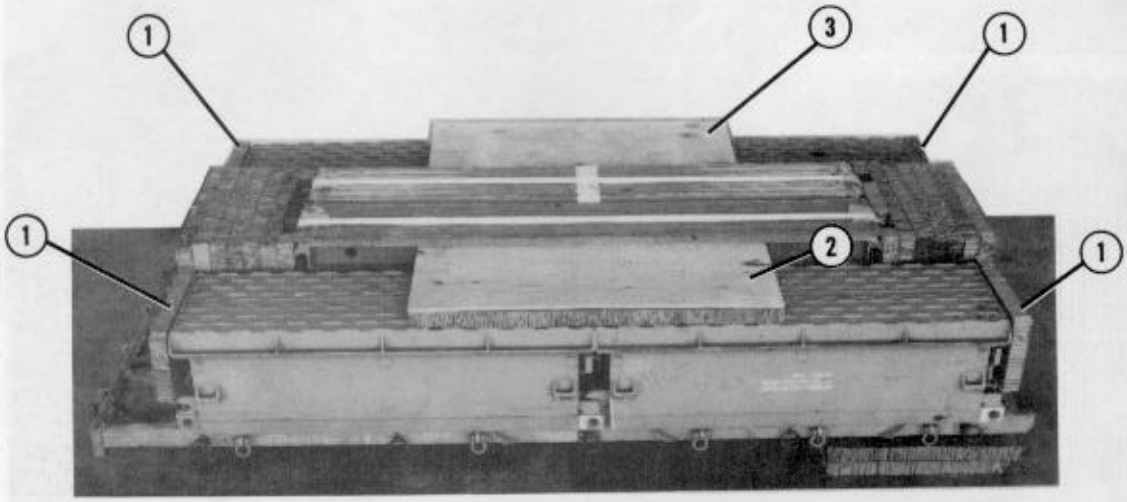
(4) Repeat steps 1 through 3 to build another honeycomb support.

*Figure 5-9. Honeycomb supports built*


(1) **Place a honeycomb support on edge. Position the honeycomb support so that the small pieces of honeycomb are against the front end of the secured decks.**

(2) **Place the other honeycomb support on edge. Position the honeycomb support so that the small pieces of honeycomb are against the rear end of the secured decks (not shown).**

*Figure 5-10. Honeycomb supports positioned*

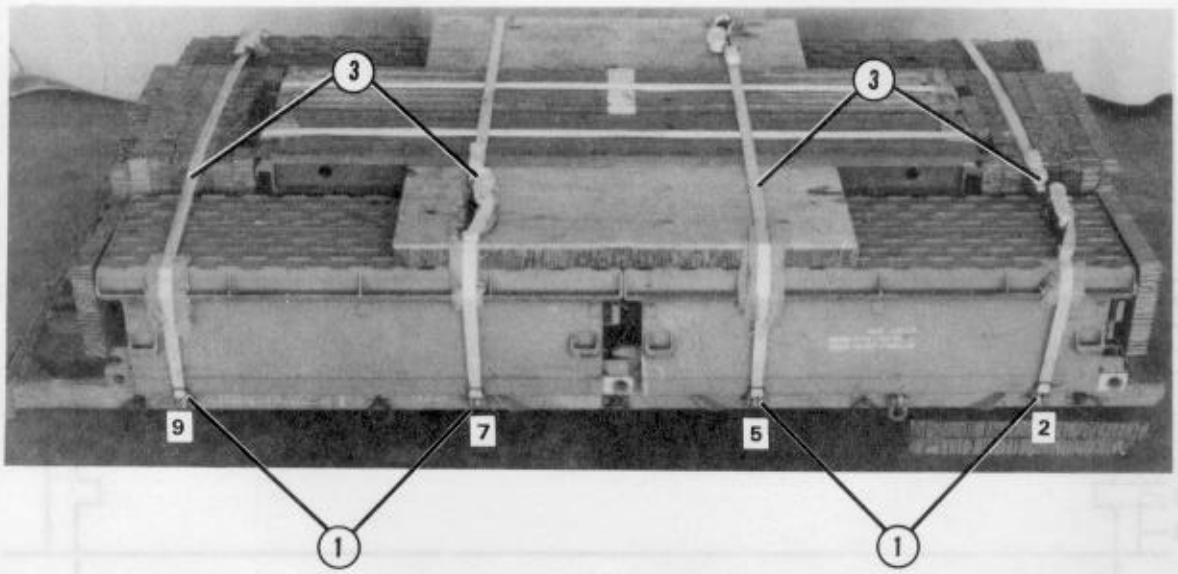



(1) Place a 24- by 14-inch piece of honeycomb on each end of the positioned top panels. Make sure the honeycomb pieces are flush with the top edge of the panels.

(2) Center a 25- by 64-inch piece of honeycomb on top of the right two top panels. Place a 3/4- by 25- by 64-inch piece of plywood on top of the honeycomb.

(3) Center a 25- by 64-inch piece of honeycomb on top of the left two top panels. Place a 3/4- by 25- by 64-inch piece of plywood on top of the honeycomb.

*Figure 5-11. Honeycomb and plywood placed on top panels*




(1) Pass a 15-foot lashing through pallet tie-down rings 2, 5, 7, and 9 and back through their own D-rings.

(2) Repeat step 1 for the left side of the pallet (not shown) using pallet tie-down rings 2A, 5A, 7A, and 9A.

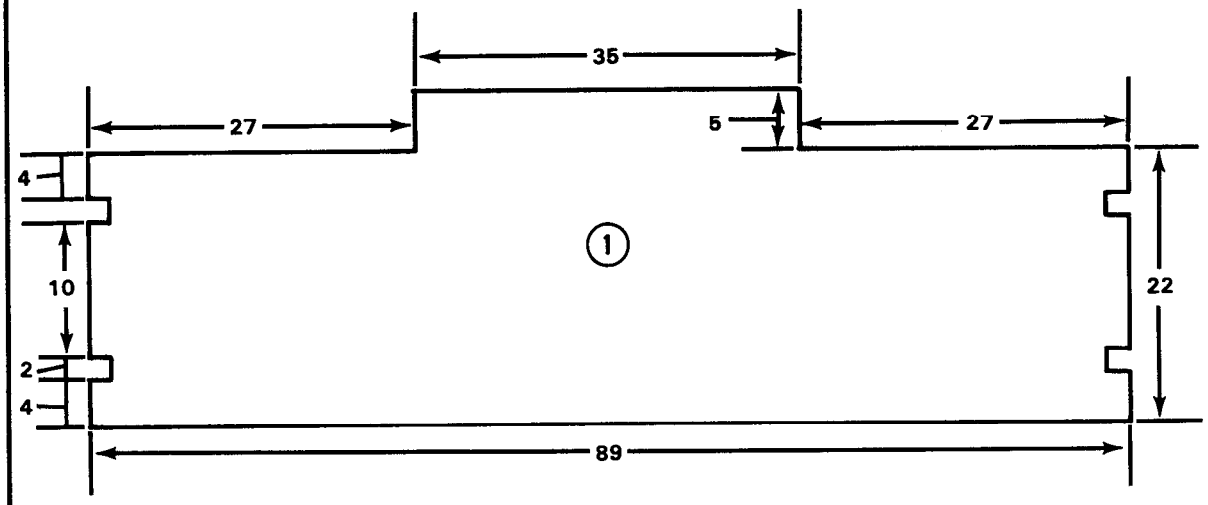
(3) Run the lashings over the top of the load. Secure the lashings according to FM 10-500-2/TO 13C7-1-5. Pad the lashings where they come in contact with the top panels and honeycomb.

*Figure 5-12. Pallet lashings installed and secured*

## 5-5. Building and Positioning Restraint Boards

Build the restraint boards as shown in Figures 5-13 and 5-14. Position the restraint boards as shown in Figure 5-15.

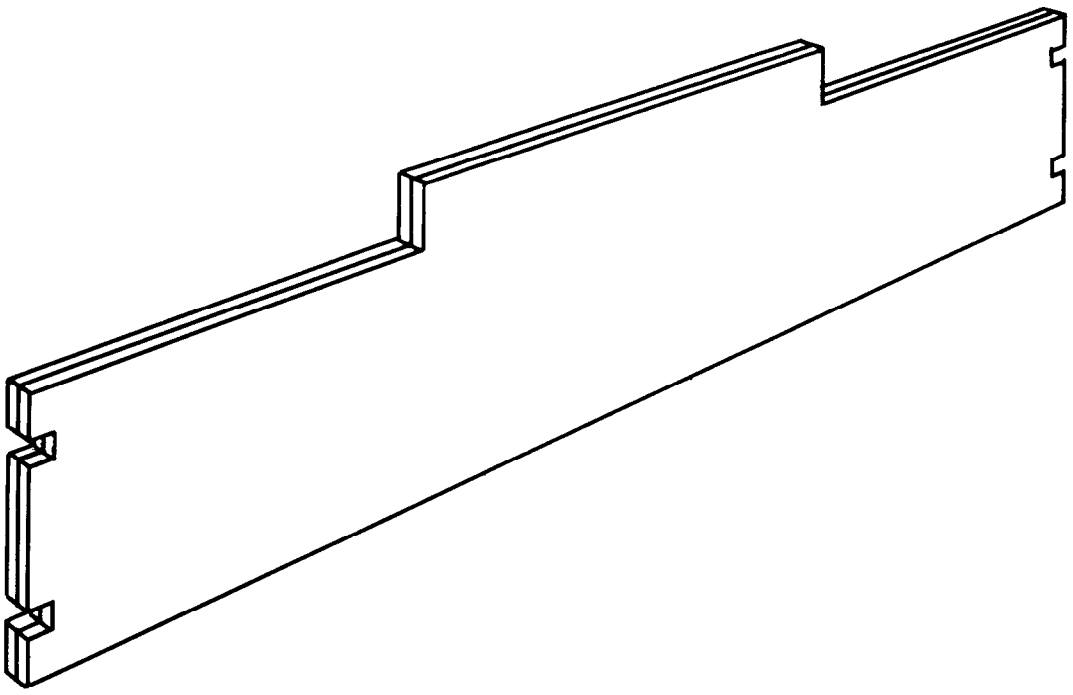
Notes: 1. This drawing is not drawn to scale.
2. Dimensions are given in inches.




| Item Number | Pieces | Width (Inches) | Length (Inches) | Material |
|---|---|---|---|---|
| 1 | 4 | 89 | 27 | 3/4-inch plywood |

*Figure 5-13. Materials required to build restraint boards*

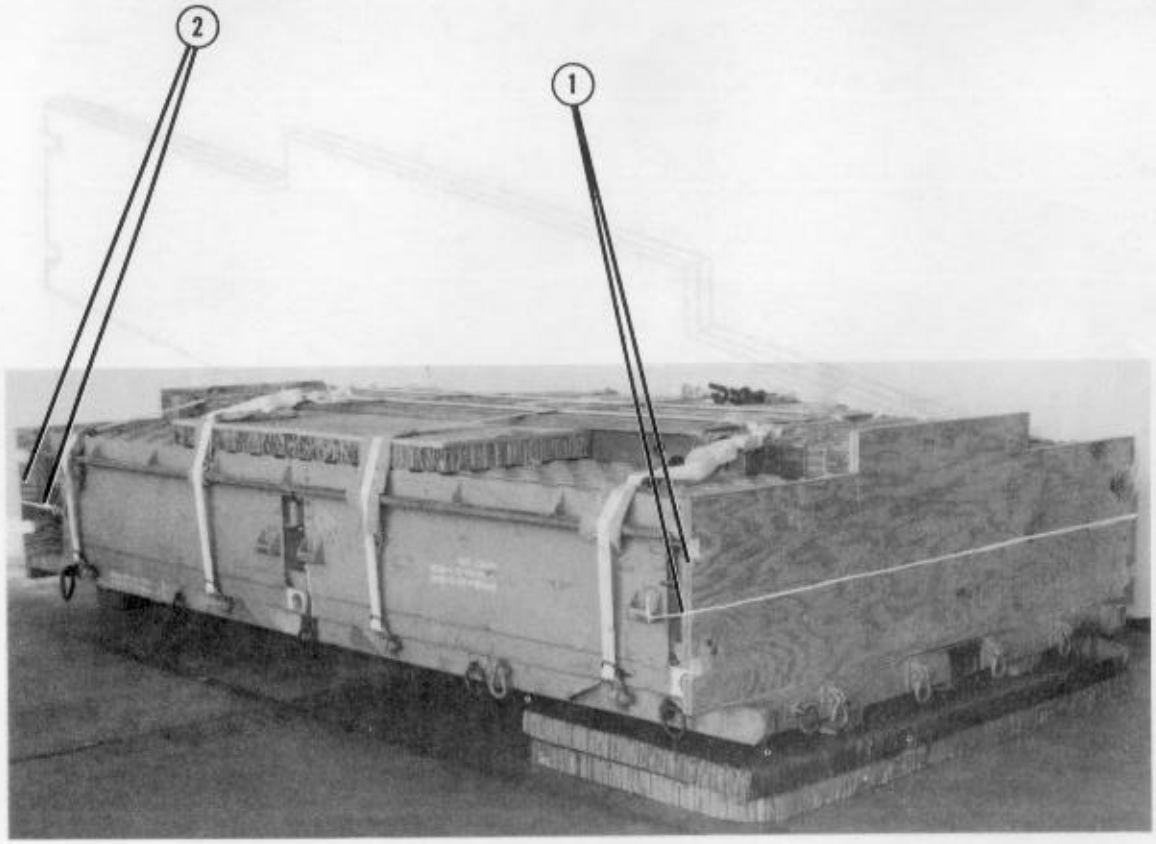
Note: This drawing is not drawn to scale.



**Step:**

1. Build each restraint board using two pieces of plywood as given in Figure 5-13.
2. Use eightpenny nails to secure each restraint board.

*Figure 5-14. Restraint boards built*




(1) **Position one restraint board against the front of the load. Secure the board in place using a length of type III nylon cord.**

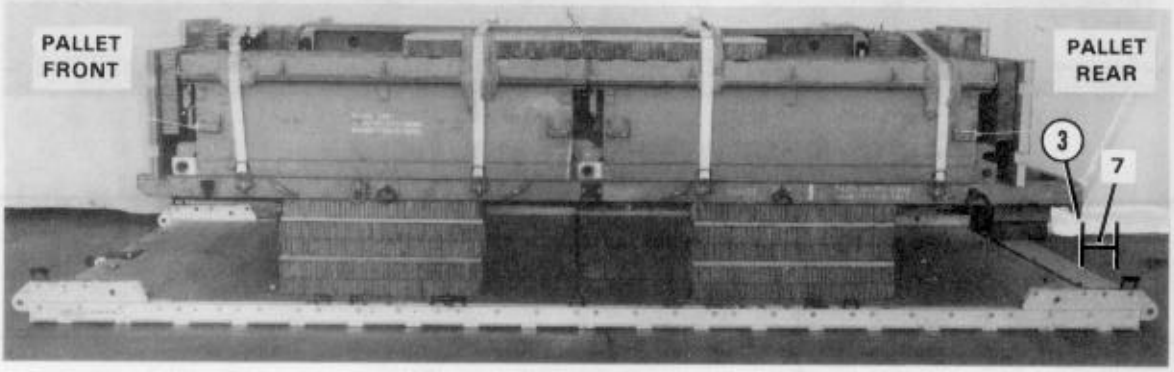
(2) **Position one restraint board against the rear of the load. Secure the board in place using a length of type III nylon cord.**

*Figure 5-15. Restraint boards positioned*

## 5-6. Positioning Pallet on Platform

Position the pallet on the platform using four 12-foot (2-loop), type XXVI nylon webbing slings and four medium suspension clevises as shown in Figure 5-16.

Notes: 1. Dimensions are given in inches.
2. Tape the unused pallet tie-down rings and lifting shackles in the UP position while positioning the pallet (not shown).




(1) **Pass the end of a 12-foot sling through a medium suspension clevis (not shown). Repeat this step for the other three lifting slings.**

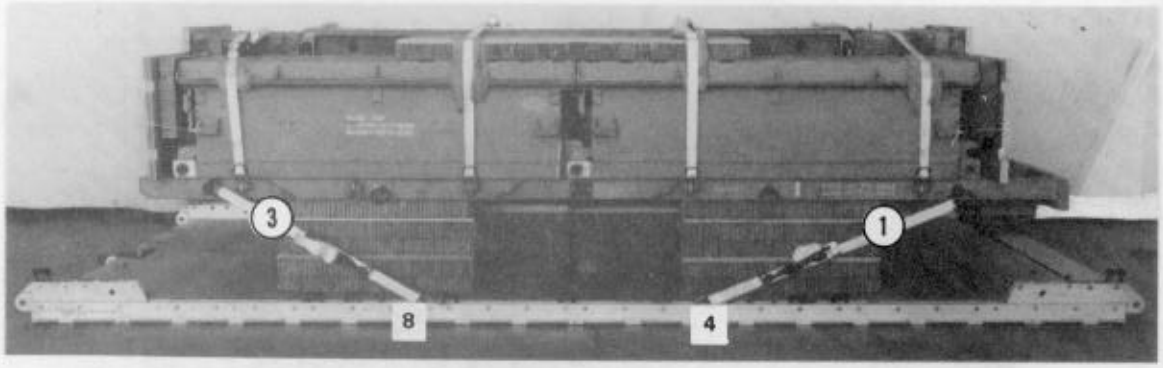
(2) **Attach the medium suspension clevises to lifting shackles 1, 1A, 10, and 10A (not shown).**

(3) **Position the pallet on the platform so that the rear of the pallet is 7 inches from the front edge of the platform.**

*Figure 5-16. Pallet positioned on platform*

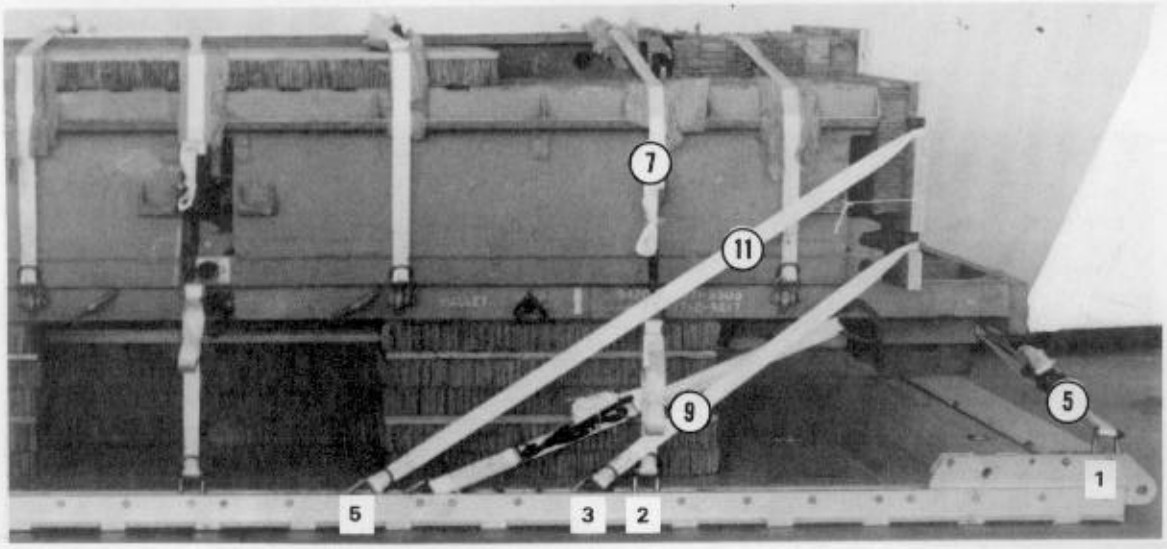
### 5-7. Lashing Pallet

Lash the pallet to the platform with twenty-two 15-foot tie-down assemblies as shown in Figures 5-17, 5-18, and 5-19. Secure the lashings according to FM 10-500-2/ TO 13C7-1-5.



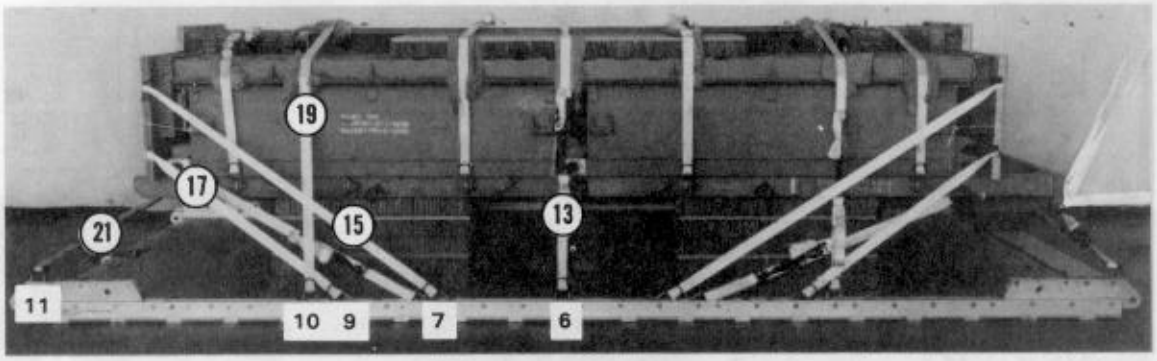

| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| | | **Pass lashing:** |
| 1 | 4 | To lifting shackle 10A. |
| 2 | 4A | To lifting shackle 10. |
| 3 | 8 | To lifting shackle 1A. |
| 4 | 8A | To lifting shackle 1. |

*Figure 5-17. Lashings 1 through 4 installed*




| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| | | Pass lashing: |
| 5 | 1 | To lifting shackle A3. |
| 6 | 1A | To lifting shackle F3. |
| 7 | 2 | Through own D-ring and over top of load. |
| 8 | 2A | Through own D-ring and over top of load. Secure it to lashing 7. |
| 9 | 3 | Through own D-ring and through bottom cutout of restraint board. |
| 10 | 3A | Through own D-ring and through bottom cutout of restraint board. Secure it to lashing 9. |
| 11 | 5 | Through own D-ring and through top cutout of restraint board. |
| 12 | 5A | Through own D-ring and through top cutout of restraint board. Secure it to lashing 11. |

*Figure 5-18. Lashings 5 through 12 installed*

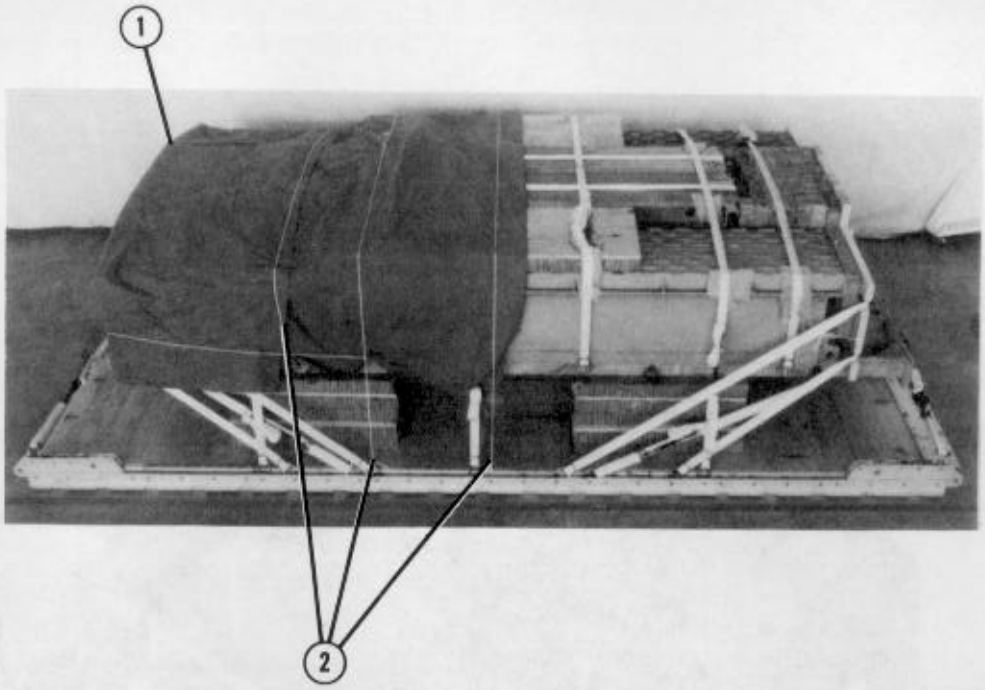



| Lashing Number | Tie-down Clevis Number | Instructions |
|---|---|---|
| | | Pass lashing: |
| 13 | 6 | Through own D-ring and over top of load. |
| 14 | 6A | Through own D-ring and over top of load. Secure it to lashing 13. |
| 15 | 7 | Through own D-ring and through top cutout of restraint board. |
| 16 | 7A | Through own D-ring and through top cutout of restraint board. Secure it to lashing 15. |
| 17 | 9 | Through own D-ring and through bottom cutout of restraint board. |
| 18 | 9A | Through own D-ring and through bottom cutout of restraint board. Secure it to lashing 17. |
| 19 | 10 | Through own D-ring and over top of load. |
| 20 | 10A | Through own D-ring and over top of load. Secure it to lashing 19. |
| 21 | 11 | To lifting shackle A1. |
| 22 | 11A | To lifting shackle F1. |

*Figure 5-19. Lashings 13 through 22 installed*

## 5-8. Preparing and Positioning Load Cover

Prepare and position the load cover as shown in Figure 5-20.




(1) **Prepare a 8- by 12-foot cotton duck load cover. Place the load cover on the front end of the pallet toward the rear of the platform.**

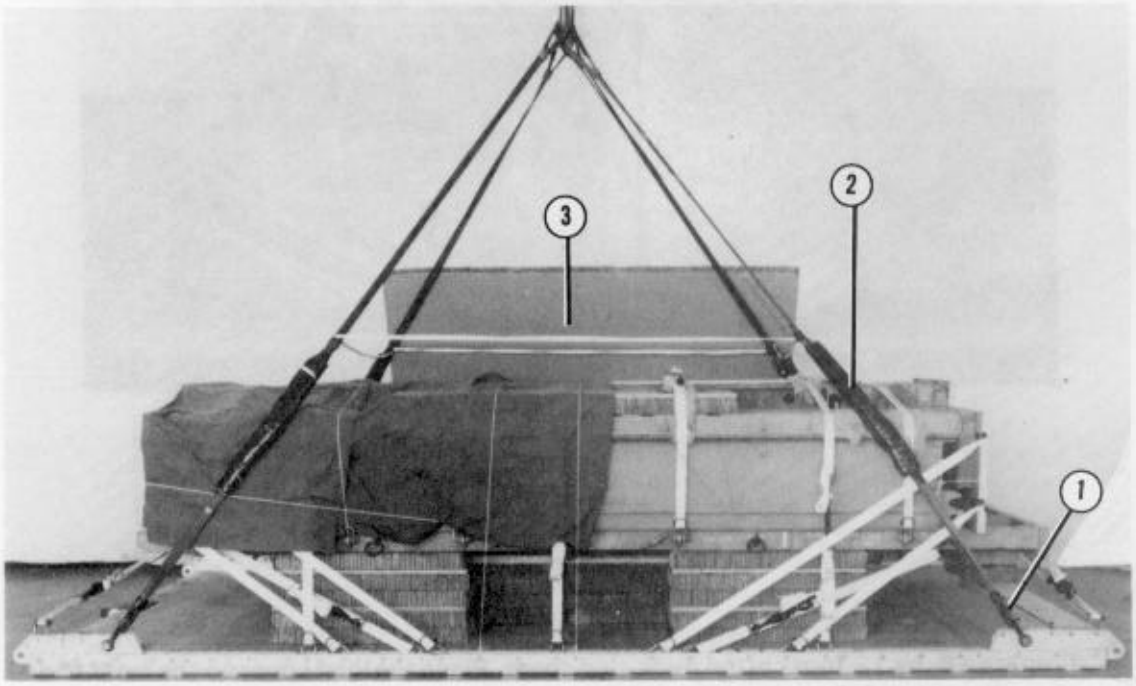
(2) **Secure the load cover in place to convenient points on the load and platform with lengths of type III nylon cord.**

*Figure 5-20. Load covered*

### 5-9. Installing Suspension Slings

Install the suspension slings as shown in Figure 5-21.

**Note: Raise the suspension slings until they are tight.**

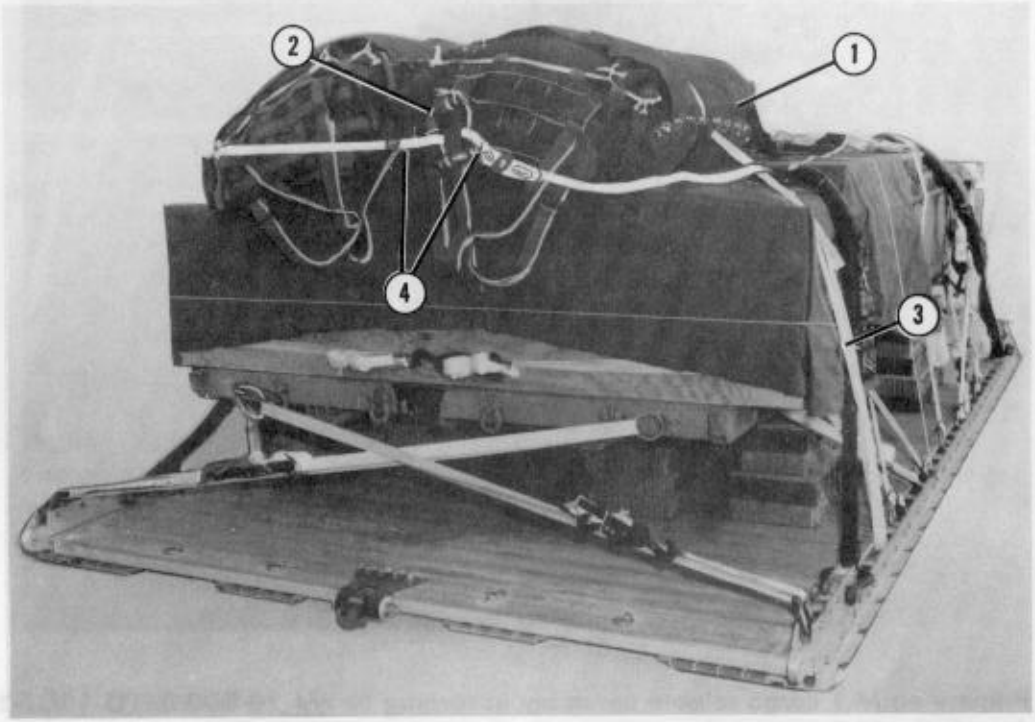



1. **Fit a 12-foot (2-loop), type XXVI nylon webbing sling to the bell portion of a large suspension clevis. Bolt the large suspension clevis to the right front tandem link. Adapt this step for the other three suspension slings.**
2. **Pad the suspension slings by wrapping an 8- by 36-inch piece of felt 30 inches from the top of the large suspension clevis of each sling. Secure the padding with three lengths of type III nylon cord and pressure-sensitive tape.**
3. **Safety the suspension slings by installing a deadman's tie according to FM 10-500-2/TO 13C7-1-5.**
4. **Lower the suspension slings on the load (not shown).**

*Figure 5-21. Suspension slings installed and safetied*

## 5-10. Stowing Cargo Parachutes

Stow two G-11B cargo parachutes on the front of the pallet according to FM 10-500-2/ TO 13C7-1-5 and as shown in Figure 5-22.

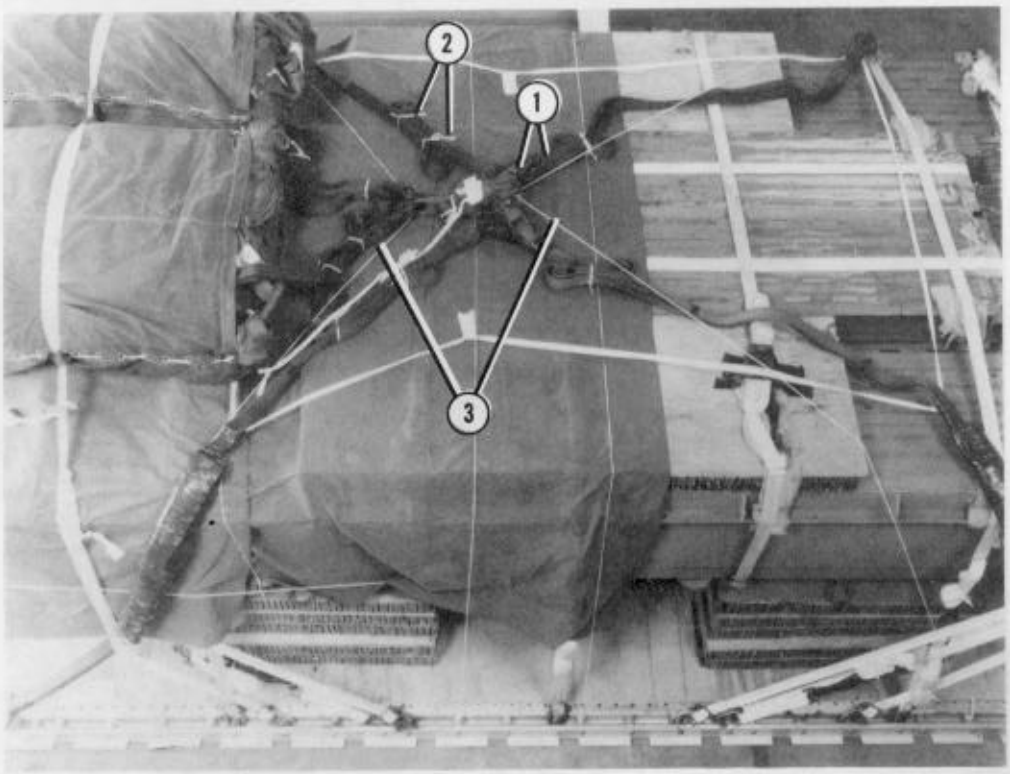



1. **Set two G-11B cargo parachutes side by side on the front of the pallet to the rear of the platform.**
2. **Group the two bridle assemblies on the right side with a large suspension clevis.**
3. **Restrain the cargo parachutes to convenient points on the platform with lengths of type VIII nylon webbing according to FM 10-500-2/TO 13C7-1-5.**
4. **Install two multicut parachute release straps according to FM 10-500-2/TO 13C7-1-5.**

*Figure 5-22. Cargo parachutes stowed*

### 5-11. Installing Release System

Prepare and install the M-1 release system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 5-23.




(1) **Prepare an M-1 cargo release assembly according to FM 10-500-2/TO 13C7-1-5. Attach the M-1 cargo release assembly to the suspension slings and G-11B cargo parachutes according to FM 10-500-2/TO 13C7-1-5.**

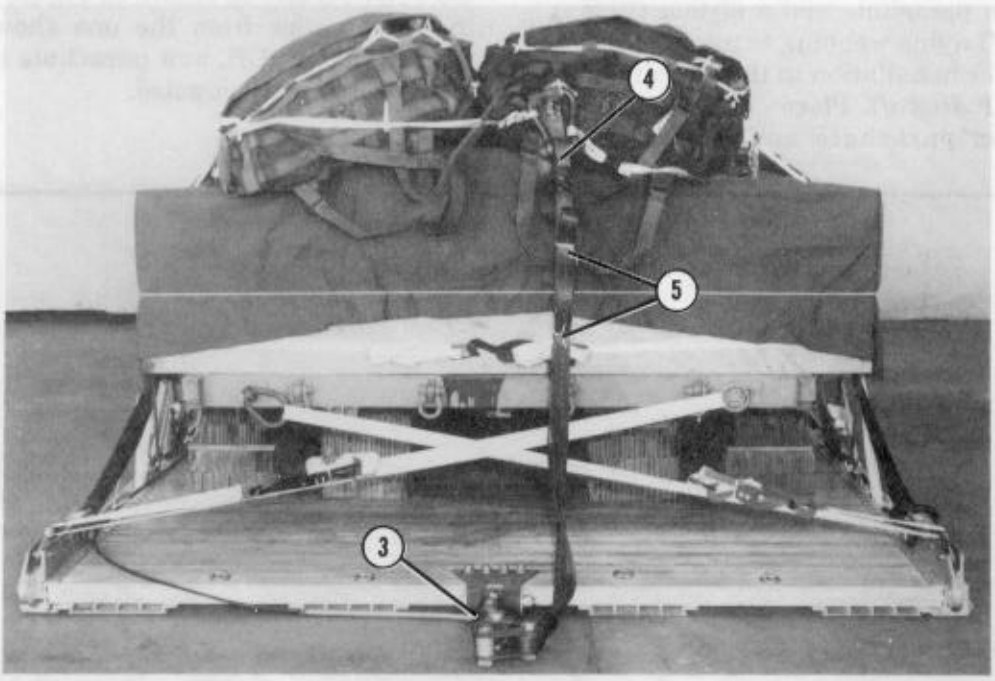
(2) **Fold the suspension slings. Secure the folds with lengths of type I, 1/4-inch cotton webbing.**

(3) **Secure the top and bottom of the M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5.**

*Figure 5-23. Release system installed*

## 5-12. Installing Extraction System

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




(1) Bolt the type V EFTA mounting brackets to the front mounting holes on the left platform side rail (not shown).

(2) Install the actuator to the EFTA mounting brackets with a 16-foot cable according to FM 10-500-2/TO 13C7-1-5 (not shown).

(3) Attach the latch assembly to the extraction bracket with the locking nut hole facing toward the left side of the platform according to FM 10-500-2/TO 13C7-1-5.

(4) Connect one end of a 9-foot (2-loop), type XXVI nylon webbing sling as a deployment line to the right spacer of the link assembly. Connect the free end of the deployment line to the large clevis clustering the bridle assemblies.

(5) Fold the excess deployment line. Secure the folds with type I, 1/4-inch cotton webbing.

(6) Safety the 16-foot cable to the lashings along the left platform side rail using lengths of type I, 1/4-inch cotton webbing (not shown).

*Figure 5-24. Extraction system installed*

### 5-13. Installing Provisions for Emergency Restraints

Install provisions for emergency restraints according to FM 10-500-2/TO 13C7-1-5.

### 5-14. Placing Extraction Parachute

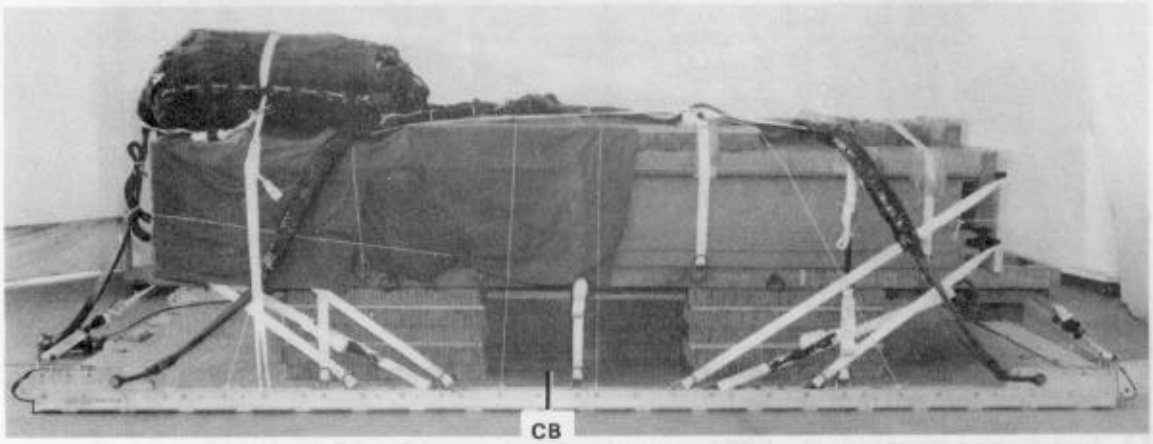
Place the extraction parachute as described below.

*a. C-130 Aircraft.* Place one 15-foot cargo extraction parachute and a 60-foot (1-loop), type XXVI nylon webbing extraction line on the load for installation in the aircraft.

*b. C-141 Aircraft.* Place one 15-foot cargo extraction parachute and a continuous 160-foot (1-loop), type XXVI nylon webbing extraction line on the load for installation in the aircraft.

### 5-15. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 5-25. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.




**RIGGED LOAD DATA**

| | | |
|---|---|---|
| Weight: | Load shown | 6,310 pounds |
| | Maximum load allowed | 6,800 pounds |
| Height | | 67 1/2 inches |
| Width | | 108 inches |
| Length | | 215 inches |
| Overhang: | Front | 5 inches |
| | Rear | 18 inches |
| CB (from front edge of platform) | | 101 inches |
| Extraction system | | EFTC |

*Figure 5-25. Two-bay components for the seven-bay, single-story, medium girder (fixed) bridge rigged for low-velocity airdrop on a type V platform*

## 5-16. Equipment Required

Use the equipment listed in Table 5-1 to rig this load.

*Table 5-1. Equipment required for rigging two-bay components for the seven-bay, single-story, medium girder (fixed) bridge for low-velocity airdrop on a type V platform*

| National Stock Number | Item | Quantity |
|---|---|---|
| 8040-00-273-8713 | Adhesive, paste, 1-gal | As required |
| | Clevis, suspension: | |
| 4030-00-678-8562 | 3/4-in (medium) | 4 |
| 4030-00-090-5354 | 1-in (large) | 5 |
| 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 w 16-ft cable | 1 |
| 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 | 2 |
| | Line, extraction: | |
| 1670-01-064-4452 | 60-ft (1-loop), type XXVI nylon webbing | 1 |
| 1670-01-107-7652 | 160-ft (1-loop), type XXVI nylon webbing | 1 |
| 5315-00-010-4659 | Nail, steel wire, common, 8d | As required |
| 1670-00-753-3928 | Pad, energy-dissipating, honeycomb, | |
| | 3- by 36- by 96-in | 14 sheets |
| | 5- by 26-in | (4) |
| | 9- by 36-in | (12) |
| | 12- by 36-in | (8) |
| | 12- by 57-in | (16) |
| | 13- by 26-in | (2) |
| | 24- by 14-in | (4) |
| | 25- by 64-in | (2) |
| | 35- by 26-in | (12) |
| | 96- by 36-in | (2) |
| | Parachute: | |
| 1670-01-016-7841 | Cargo, G-11B | 2 |
| | Cargo extraction: | |
| 1670-00-052-1548 | 15-ft or | 1 |
| 1670-01-063-3715 | 15-ft | 1 |
| | Platform, AD, type V, 16-ft: | 1 |
| | Bracket: | |
| 1670-01-162-2375 | Inside EFTA | (1) |
| 1670-01-162-2374 | Outside EFTA | (1) |
| 1670-01-162-2372 | Clevis assembly | (22) |

*Table 5-1. Equipment required for rigging two-bay components for the seven-bay, single-story, medium girder (fixed) bridge for low-velocity airdrop on a type V platform (continued)*

| National Stock Number | Item | Quantity |
|---|---|---|
| 1670-01-162-2376 | Extraction bracket assembly | (1) |
| 1670-01-162-2381 | Tandem link | (4) |
| 5530-00-128-4981 | Plywood, 3/4-in: | 6 sheets |
| | 9- by 36-in | (4) |
| | 12- by 36-in | (4) |
| | 12- by 57-in | (8) |
| | 25- by 64-in | (2) |
| | 89- by 27-in | (4) |
| 1670-01-097-8816 | Release, cargo parachute, M-1 | 1 |
| | Sling, cargo airdrop: | |
| | For deployment line: | |
| 1670-01-062-6304 | 9-ft (2-loop), type XXVI nylon webbing | 1 |
| | For lifting: | |
| 1670-01-062-6303 | 12-ft (2-loop), type XXVI nylon webbing or | 4 |
| | For riser extensions: | |
| 1670-01-062-6302 | 20-ft (2-loop), type XXVI nylon webbing | 2 |
| | For suspension slings: | |
| 1670-01-062-6303 | 12-ft (2-loop), type XXVI nylon webbing | 4 |
| 1670-00-040-8219 | Strap, parachute release, multicut comes w 3 knives | 2 |
| 8305-00-074-5124 | Tape, adhesive, 2-in | As required |
| 1670-00-937-0271 | Tie-down assembly, 15-ft | 34 |
| | Webbing: | |
| 8305-00-268-2411 | Cotton, 1/4-in, type I | As required |
| | Nylon: | |
| | Tubular: | |
| 8305-00-082-5752 | 1/2-in or | As required |
| 8305-00-268-2453 | 1/2-in | As required |
| 8305-00-263-3591 | Type VIII | As required |

Section II

## LAPE AIRDROP

### 5-17. Description of Load

The seven-bay, single-story, medium girder (fixed) bridge consists of a five-bay, single-story, medium girder (fixed) bridge with additional components that, when

# GLOSSARY

**ACB** attitude control bar

**AD** airdrop

**AFB** Air Force base

**AFTO** Air Force technical order

**ALC** Air Logistics Center

**ARNG** Army National Guard

**attn** attention

**BSB** bank seat beam

**C** change

**CB** center of balance

**d** penny

**DA** Department of the Army

**DC** District of Columbia

**DD** Department of Defense

**diam** diameter

**EFTA** extraction force transfer actuator

**EFTC** extraction force transfer coupling

**FM** field manual

**ft** foot/feet

**gal** gallon

**HQ** headquarters

**in** inch

**LAPE** low-altitude parachute-extraction

**LAPES** low-altitude parachute-extraction system

**lb** pound

**MAC** Military Airlift Command

**MGB** medium girder bridge

**no** number

**qty** quantity

**rel** release

**rqr** requirement

**sec** second

**SL/CS** static line/connector strap

**TM** technical manual

**TO** technical order

**TRADOC** United States Army Training and Doctrine Command

**US** United States

**USAR** United States Army Reserve

**VA** Virginia

**w** with

**yd** yard

# REFERENCES

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☆ U.S. GOVERNMENT PRINTING OFFICE:1992-627-027/40211