FM 10-539
TO 13C7-1-17

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AIRDROP OF SUPPLIES AND EQUIPMENT:

RIGGING JD 410 TRACTOR

DEPARTMENTS OF THE ARMY AND THE AIR FORCE

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AIRDROP OF SUPPLIES AND EQUIPMENT:

RIGGING JD 410 TRACTOR AND SMALL EMPLACEMENT EXCAVATOR

This change adds the procedures for rigging the SEE on a type V platform for low-velocity and LAPE airdrop. With this addition of new equipment, the title of the basic manual has been changed accordingly as shown above. Please correct the cover of the basic manual to reflect this change in title.

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RIGGING JD 410 TRACTOR AND SMALL EMPLACEMENT EXCAVATOR

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AIRDROP OF SUPPLIES AND EQUIPMENT:
RIGGING JD 410 TRACTOR
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This change adds the procedures for rigging the SEE on a type V platform with accompanying loads for low-velocity airdrop. Also with this change, the distribution restriction and destruction notice statements have been changed. Please use the revisions shown at the bottom of this page and make changes, as appropriate, on the cover of the basic manual.

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i through iv	i through iv
3-1 through 3-22	3-1 through 3-22.8
3-39 through 3-40	3-39 through 3-40.6
3-41 through 3-42	3-41 through 3-42.4
3-45 through 3-46	3-45 through 3-46
3-51 through 3-54	3-51 through 3-54.2
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AIRDROP OF SUPPLIES AND EQUIPMENT: RIGGING JD 410 TRACTOR AND SMALL EMPLACEMENT EXCAVATOR

TABLE OF CONTENTS

		Paragraph	Page
PREFACE			iv
CHAPTER 1	INTRODUCTION		
	Description of Items	1-1	1-1
	Special Considerations	1-2	1-1
CHAPTER 2	RIGGING TRACTOR		
Section I	RIGGING TRACTOR FOR LOW-VELOCITY AIRDROP		
	[redacted]	2-1	2-1
		2-2	2-1
		2-3	2-1
		2-4	2-7
		2-5	2-21
		2-6	2-22
		2-7	2-22
		2-8	2-26
		2-9	2-31
		2-10	2-34
		2-11	2-34
		2-12	2-35
		2-13	2-36
Section II	RIGGING TRACTOR FOR LAPE AIRDROP		
	[redacted]	2-14	2-38
		2-15	2-38
		2-16	2-38
		2-17	2-38
		2-18	2-41

TYPE II PROCEDURES REMOVED

REMOVED: 95 MESSAGE TERMINATION OF LAPES

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	Paragraph	Page
REMOVED: 95 MESSAGE TERMINATION OF LAPES	2-19	2-42
	2-20	2-45
	2-21	2-46
	2-22	2-49
	2-23	2-50
	2-24	2-50
CHAPTER 3 RIGGING SEE		
Section I LOW-VELOCITY AIRDROP		
Description of Load	3-1	3-1
Preparing Platform	3-2	3-2
Building and Placing Honeycomb Stacks, Load Spreaders, and Bell Housing Support	3-3	3-5
Rigging Tamper as an Accompanying Load	3-3.1	3-22.4
Preparing SEE	3-4	3-22.8
Positioning and Lashing FOPS	3-5	3-40.6
Attaching Lifting Slings	3-6	3-41
Positioning SEE on Platform	3-7	3-42
Positioning and Lashing Tamper as an Attachment and Backhoe Bucket as an Accompanying Load	3-7.1	3-42.1
Preparing SEE After Positioning	3-8	3-43
Securing SEE to Honeycomb Stacks	3-9	3-46
Installing Lashings	3-10	3-47
Building and Securing Parachute Stowage Platform	3-11	3-51
Installing Boom Cover	3-11.1	3-54.1
Building, Positioning, and Securing Release Tray	3-12	3-55
Installing ACB	3-13	3-60
Installing and Safetying Suspension Slings	3-14	3-63
Installing Deadman's Tie and Load Covers	3-15	3-67
Stowing Cargo Parachutes	3-16	3-70
Installing Release System	3-17	3-71
Installing Extraction System	3-18	3-73
Installing Provisions for Emergency Restraints	3-19	3-74
Positioning Extraction Parachute	3-20	3-74
Marking Rigged Load	3-21	3-74
Equipment Required	3-22	3-74
Section II LAPE AIRDROP		
REMOVED: 95 MESSAGE TERMINATION OF LAPES	3-23	3-80
	3-24	3-80
	3-25	3-82
	3-26	3-94
	3-27	3-94
	3-28	3-97
	3-29	3-97
	3-30	3-98
	3-31	3-98
	3-32	3-98
	3-33	3-99

		Paragraph	Page
	REMOVED: 95 MESSAGE TERMINATION OF LAPES	3-34	3-103
		3-35	3-105
		3-36	3-108
		3-37	3-108
		3-38	3-108
CHAPTER 4	**RIGGING TRACTOR ON A TYPE V PLATFORM**		
Section I	**LOW-VELOCITY AIRDROP**		
	Description of Load	4-1	4-1
	Preparing Platform	4-2	4-2
	Building and Placing Honeycomb Stacks	4-3	4-4
	Preparing Tractor	4-4	4-15
	Positioning Tractor on Platform	4-5	4-29
	Installing Lashings	4-6	4-30
	Installing Suspension Slings	4-7	4-33
	Installing Deadman's Tie	4-8	4-35
	Building, Positioning, and Securing Parachute Stowage Platform	4-9	4-37
	Stowing Cargo Parachutes	4-10	4-40
	Installing Release System	4-11	4-33
	Installing Extraction System	4-12	4-44
	Installing Provisions for Emergency Restraints	4-13	4-44
	Placing Extraction Parachute	4-14	4-45
	Marking Rigged Load	4-15	4-45
	Equipment Required	4-16	4-45
Section II	**LAPE AIRDROP**		
	REMOVED: 95 MESSAGE TERMINATION OF LAPES	4-17	4-49
		4-18	4-49
		4-19	4-50
		4-20	4-61
		4-21	4-61
		4-22	4-61
		4-23	4-66
		4-24	4-68
		4-25	4-71
		4-26	4-71
		4-27	4-71

GLOSSARY Glossary-1

REFERENCES References-1

PREFACE

SCOPE

This manual tells and shows how to rig the JD 410 tractor and SEE for low-velocity airdrop from a C-130, C-141, and C-5 aircraft or for LAPE airdrop from a C-130 aircraft. This manual is designed for use by all parachute riggers.

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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 JD 410 tractor (figure 1-1) weighs 15,670 pounds. It is 437 inches long when fully extended, 293 inches long in its travel position, and 336 inches long when prepared for airdrop. The tractor is 126 inches wide (reducible to 95 inches) and 104 inches high (reducible to 75 inches).

b. The accompanying equipment consists of one extraction yoke assembly. The 12 components of the extraction yoke assembly are identified in figure 2-7.

1-2. Special Considerations

a. The loads covered in this manual may include hazardous materials as defined in AFR 71-4/TM 38-250. If included, the hazardous material must be packaged, marked, and labeled as required by AFR 71-4/TM 38-250.

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

CAUTION: Only ammunition listed in FM 10-553/TO 13C7-18-41 may be airdropped.

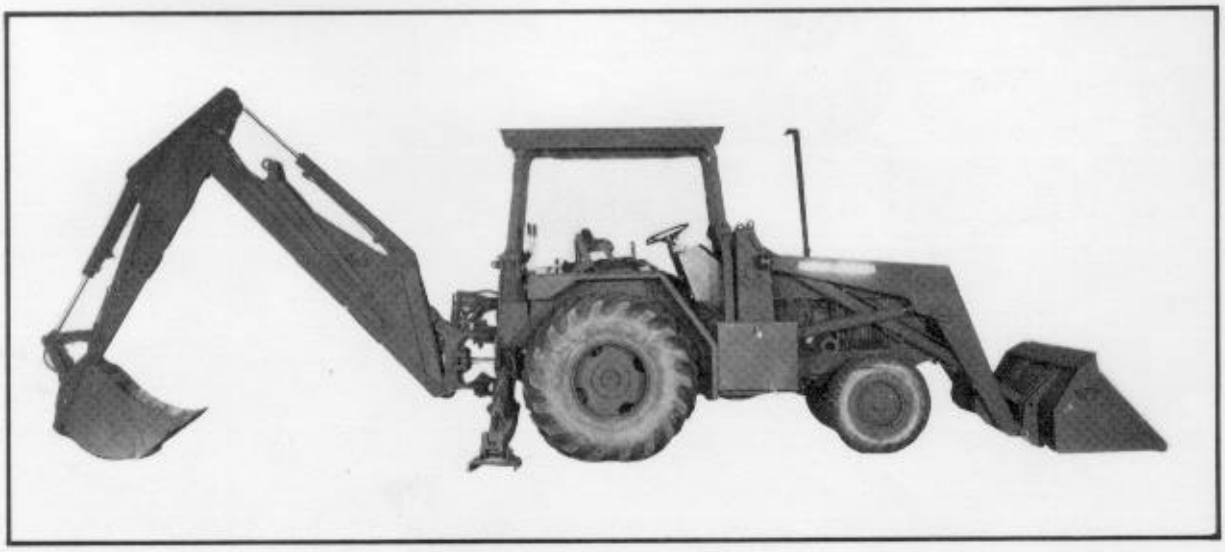


Figure 1-1. JD 410 tractor.

CHAPTER 3
RIGGING SEE

Section I
LOW-VELOCITY AIRDROP

3-1. Description of Load

The SEE (Figure 3-1) is rigged on a 28-foot, type V platform with five G-11C cargo parachutes and other items of airdrop equipment. The SEE weighs 16,110 pounds, reducible to 15,944 pounds with 3/4 tank of fuel. Its height is 102 inches, reducible to 91 inches, and the width is 95 inches. The SEE is 261 inches in length, but the rigging length is 374 inches. The change of length occurs when the bucket is extended.

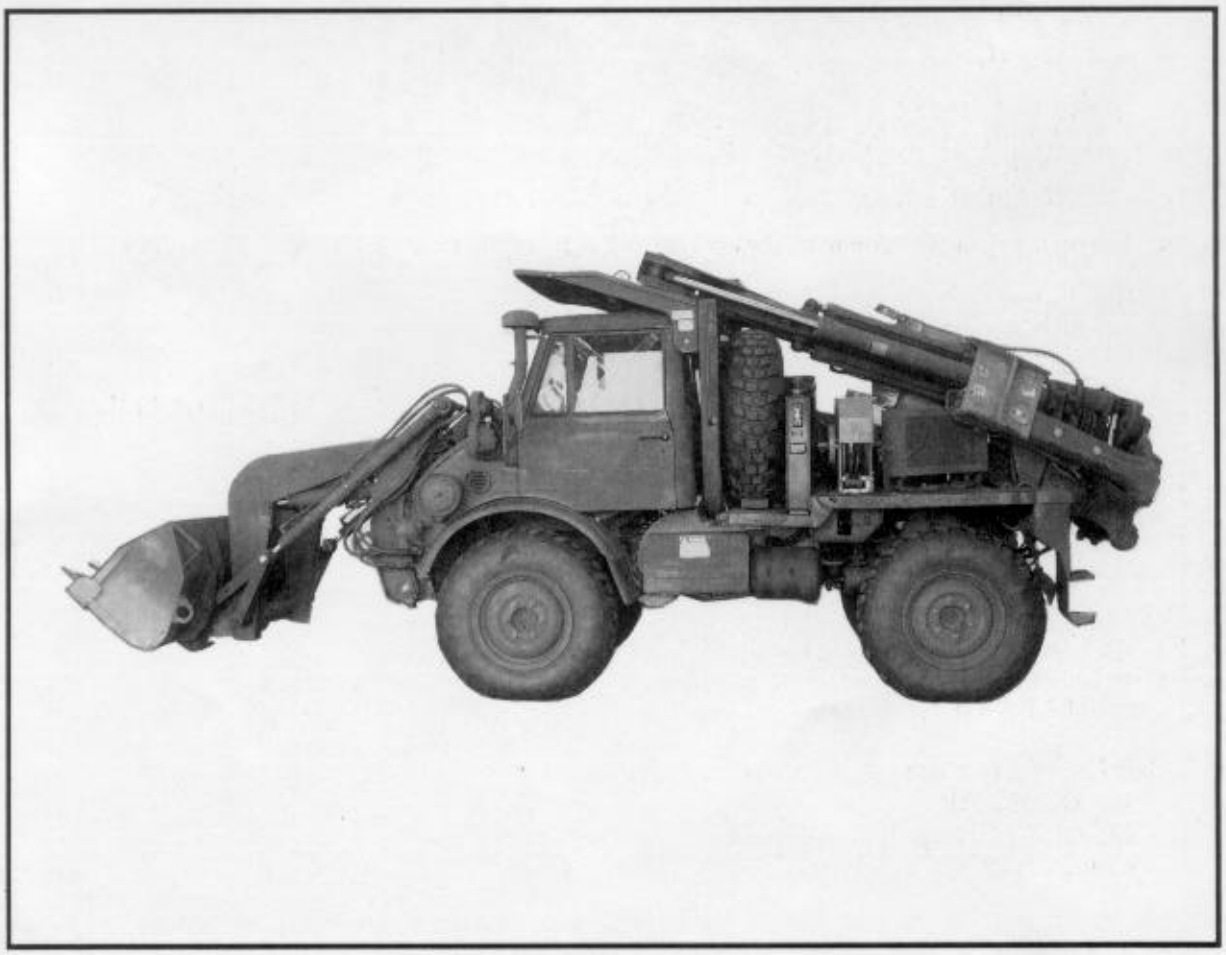


Figure 3-1. Left side of unrigged SEE

3-2. Preparing Platform

Prepare a 28-foot, type V airdrop platform as described 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 3-2 for the location of the suspension links.*

---

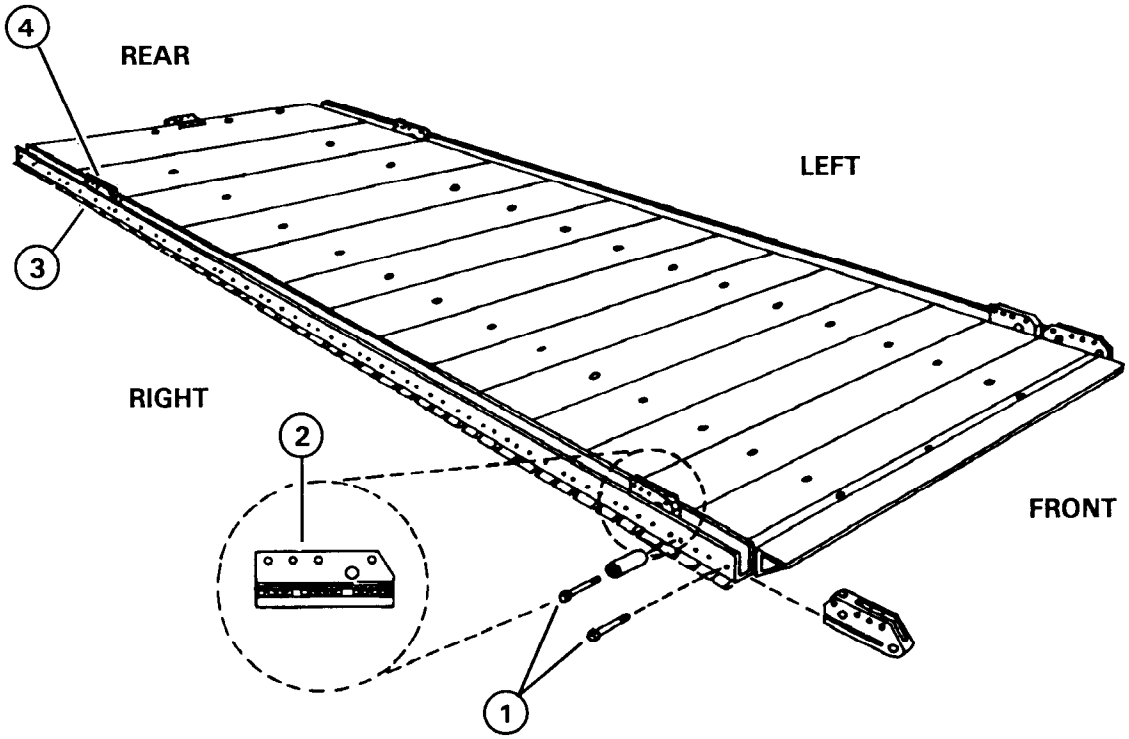
b. Installing Suspension Links. Install the suspension links on assembled platforms as described in Figure 3-2.

c. Installing Tandem Links. Install a tandem link on the front of each platform side rail as shown in Figure 3-3.

d. Attaching and Numbering Clevises. Attach and number 36 load tiedown clevises as shown in Figure 3-3.

e. Labeling and Numbering Tiedown Rings. Label and number the tiedown rings as shown in Figure 3-3.

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



1. Remove bushings, bolts, and any tandem links that may have been installed in holes 1 through 7 on each platform side rail.
2. Place a suspension link in the front of each platform side rail with the cut portion to the front of the rail. Slide the link along each side rail until the holes in the link align with holes 5, 6, and 7. Bolt each link in place with the bushing bolts.
3. Remove bushings, bolts, and any tandem links that may have been installed in holes 49 through 56 on each platform side rail.
4. Place a suspension link in the rear of each platform side rail with the cut portion to the front of the rail. Slide the link along each side rail until the holes in the link align with holes 49, 50, and 51. Bolt each link in place with the bushing bolts.

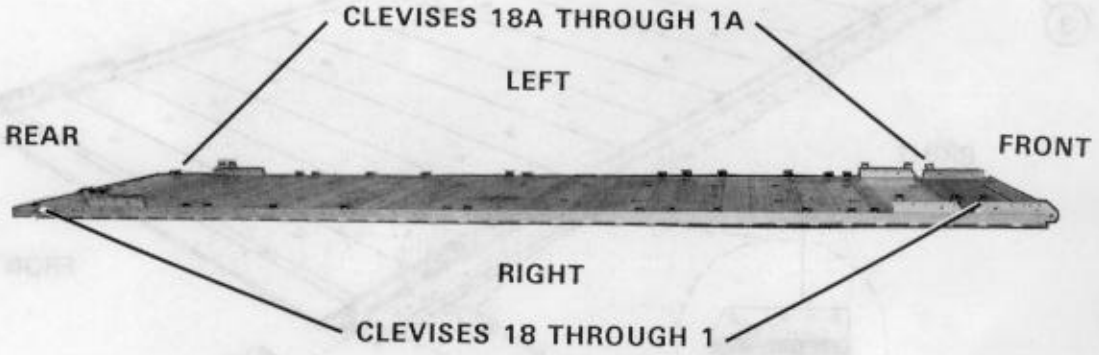
Figure 3-2. Suspension links installed

NOTES: *1. The nose bumper may or may not be installed.*

2. Measurements from the front of the platform are taken from the front edge of the first panel or the crease of the nose bumper, NOT from the front edge of the nose bumper.

3. Measurements from the rear of the platform are taken from the rear edge of the last panel.

4. Make sure the extraction bracket assembly is installed and is in operating condition.



Step:

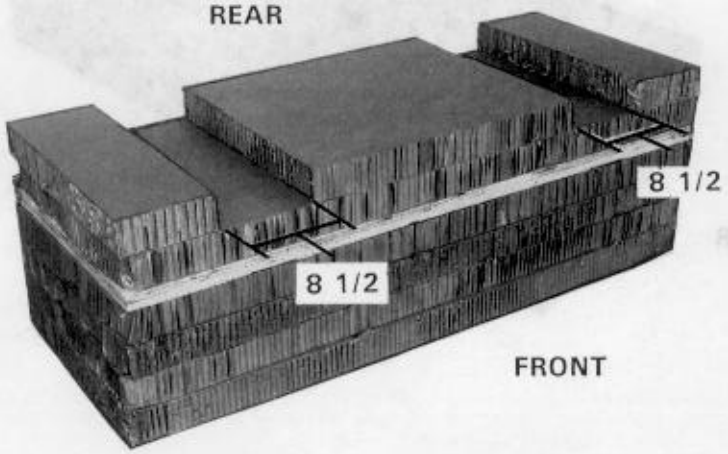
1. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
2. Install a clevis on bushing 4 on each front tandem link.
3. Install a clevis on bushings 1 and 4 on each front suspension link.
4. Install a clevis on bushings 3 and 4 on each rear suspension link.
5. Starting at the front of the platform, install clevises on each platform side rail using bushings bolted on holes 9, 10, 12, 17, 19, 21, 30, 31, 37, 41, 45, 46, and 55.
6. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 18 and those bolted to the left side from 1A through 18A.
7. Label the two tiedown rings in the first 13 panels A and B from right to left. Label the four tiedown rings in the last panel A, B, C, and D from right to left. Starting at the front of the platform, number the rows of tiedown rings 1 through 14.

Figure 3-3. Platform prepared

3-3. Building and Placing Honeycomb Stacks, Load Spreaders, and Bell Housing Support

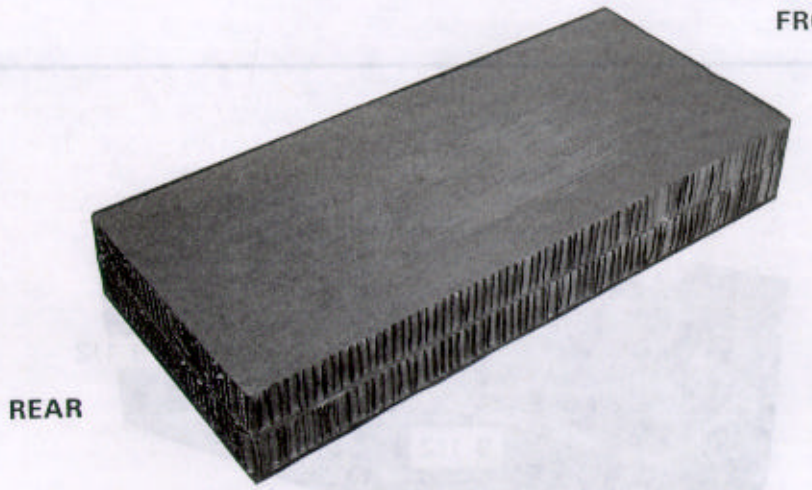
Build and place honeycomb stacks, load spreaders, and bell housing support as described below.

a. Building Honeycomb Stacks. Build the honeycomb stacks as shown in Figures 3-4 through 3-12.



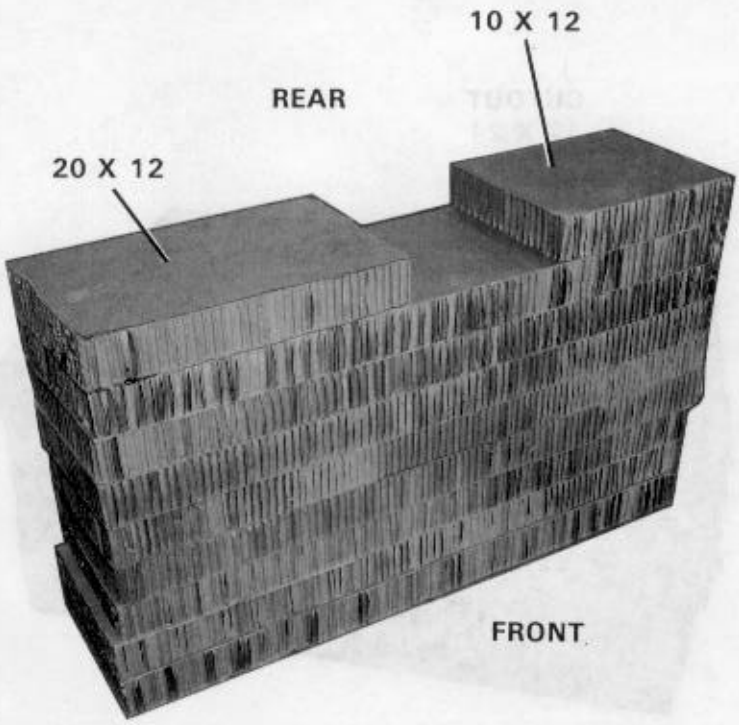
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	4	60	24	Honeycomb	Place honeycomb as base.
	2	60	24	3/4-inch plywood	Place plywood on top of honeycomb base.
	1	60	24	Honeycomb	Place honeycomb on top of plywood.
	2	8	24	Honeycomb	Place one piece of honeycomb on each side of the stack flush with the outside edge.
	1	27	24	Honeycomb	Center honeycomb between the 8- by 24-inch pieces of honeycomb.

Figure 3-4. Honeycomb stack 1 prepared



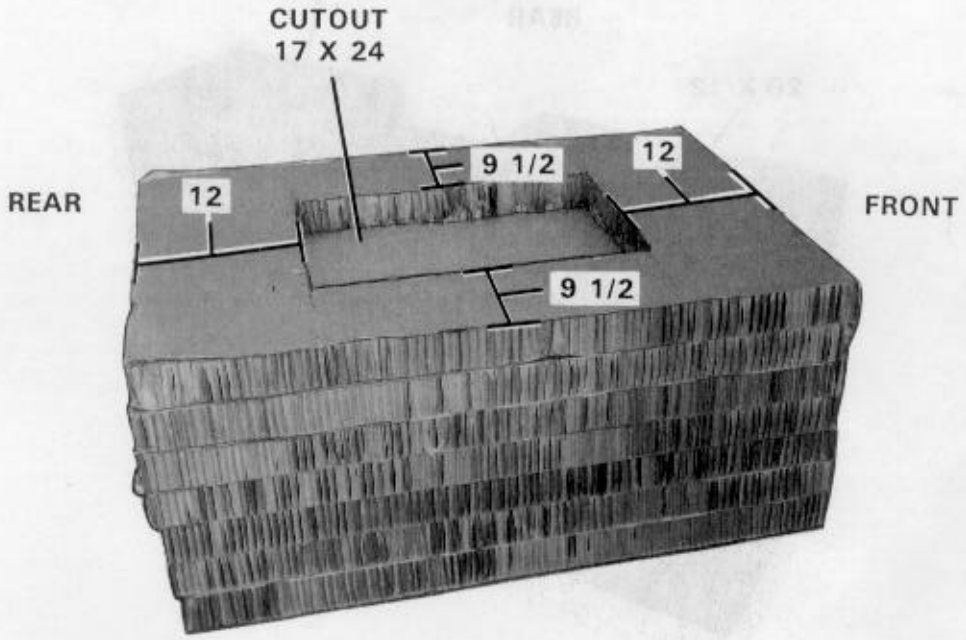
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
2	2	18	40	Honeycomb	Place honeycomb to form a stack.
4	2	18	40	Honeycomb	Place honeycomb to form a stack.
6	2	18	40	Honeycomb	Place honeycomb to form a stack.
8	2	18	40	Honeycomb	Place honeycomb to form a stack.

Figure 3-5. Honeycomb stacks 2, 4, 6, and 8 prepared



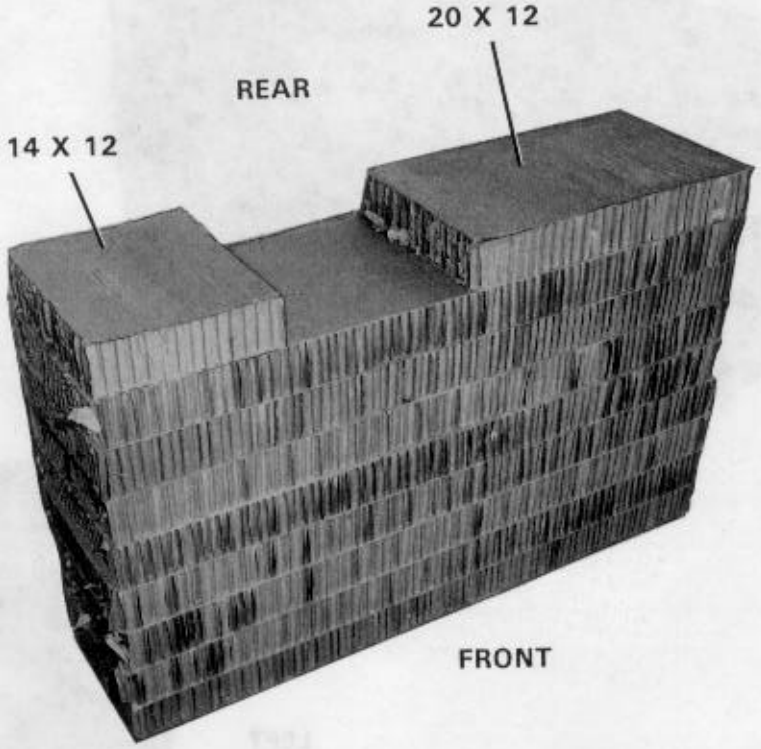
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3	8	42	12	Honeycomb	Place honeycomb as base.
	1	10	12	Honeycomb	Place honeycomb flush with left side of base.
	1	20	12	Honeycomb	Place honeycomb flush with right side of base.

Figure 3-6. Honeycomb stack 3 prepared



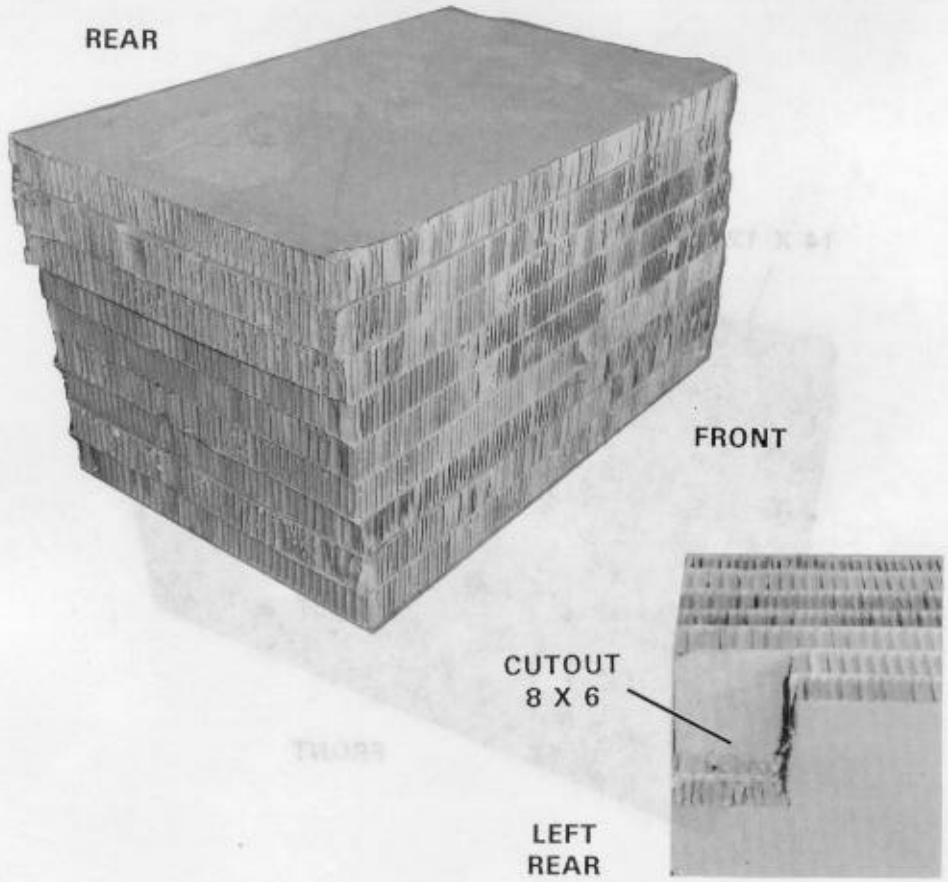
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
5	6	36	48	Honeycomb	Place honeycomb as base.
	1	36	48	Honeycomb	Center a 17- by 24-inch cutout in honeycomb, and place on top of base.

Figure 3-7. Honeycomb stack 5 prepared



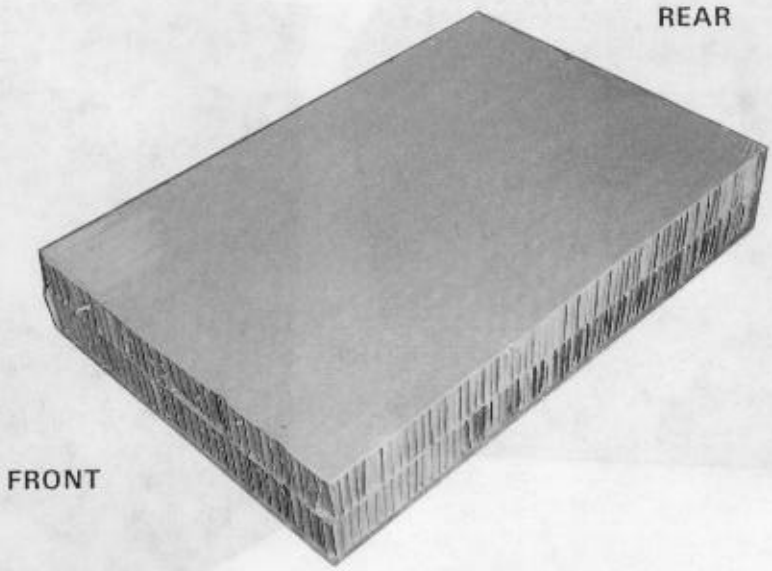
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
7	8	45	12	Honeycomb	Place honeycomb as base.
	1	14	12	Honeycomb	Place honeycomb flush with right side of base.
	1	20	12	Honeycomb	Place honeycomb flush with left side of base.

Figure 3-8. Honeycomb stack 7 prepared



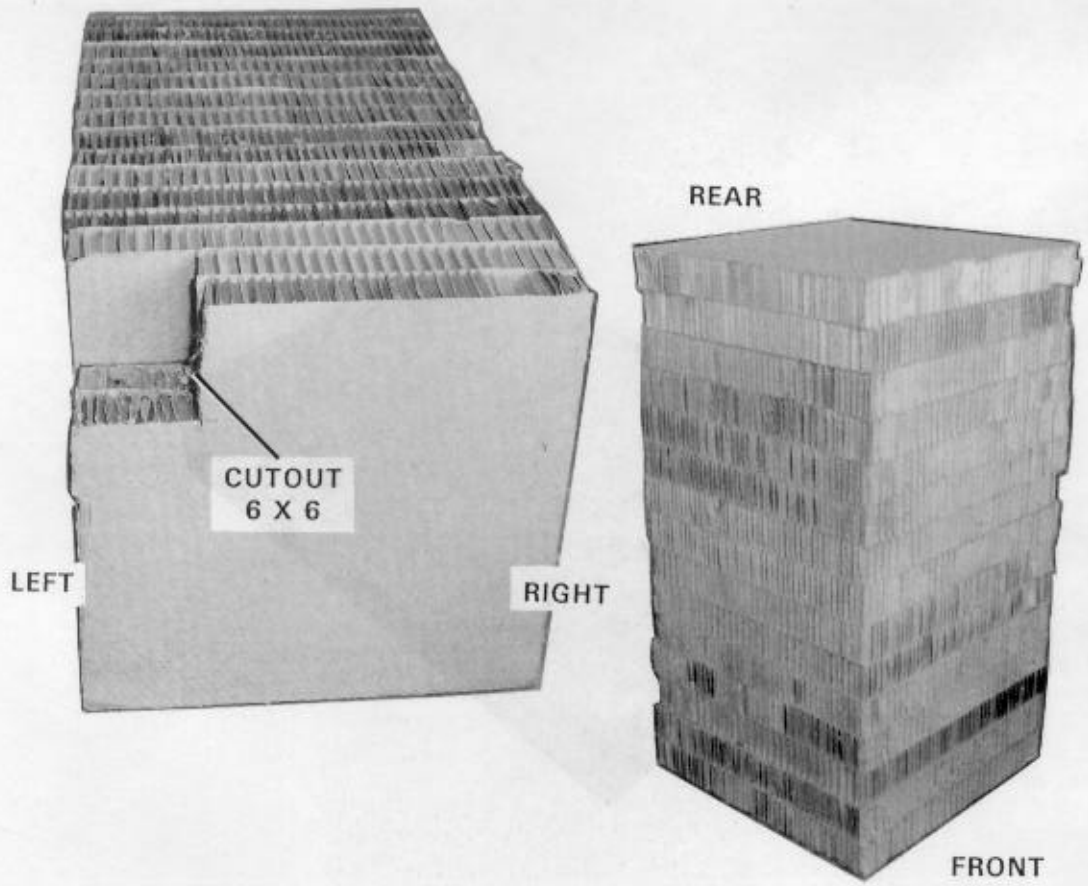
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
9	2	48	30	Honeycomb	Make an 8-inch wide by 6-inch long cutout on the left rear bottom corner. Glue pieces together to form base.
	7	48	30	Honeycomb	Glue to base of honeycomb.

Figure 3-9. Honeycomb stack 9 prepared



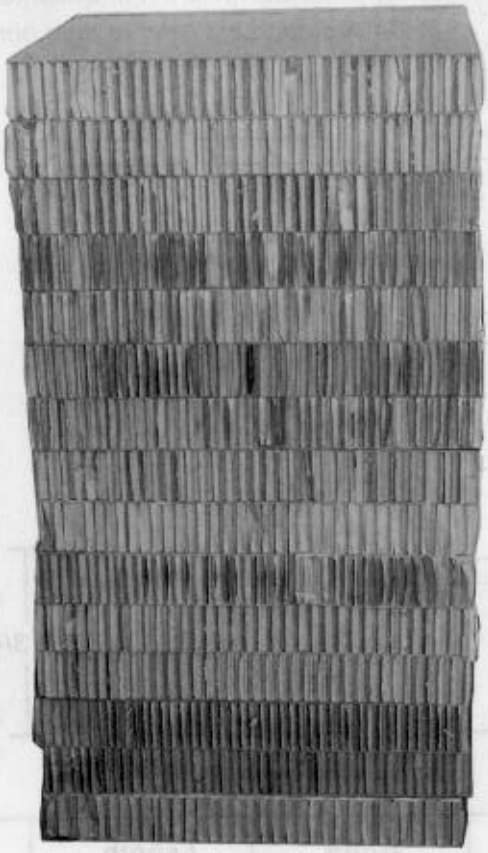
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
10	2	24	36	Honeycomb	Place honeycomb to form a stack.

Figure 3-10. Honeycomb stack 10 prepared



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
11	2	24	24	Honeycomb	Place honeycomb as base. Make a 6- by 6-inch cutout on the left rear corner of the base.
	13	24	24	Honeycomb	Place all pieces of honeycomb on top of the base to form stack.

Figure 3-11. Honeycomb stack 11 prepared

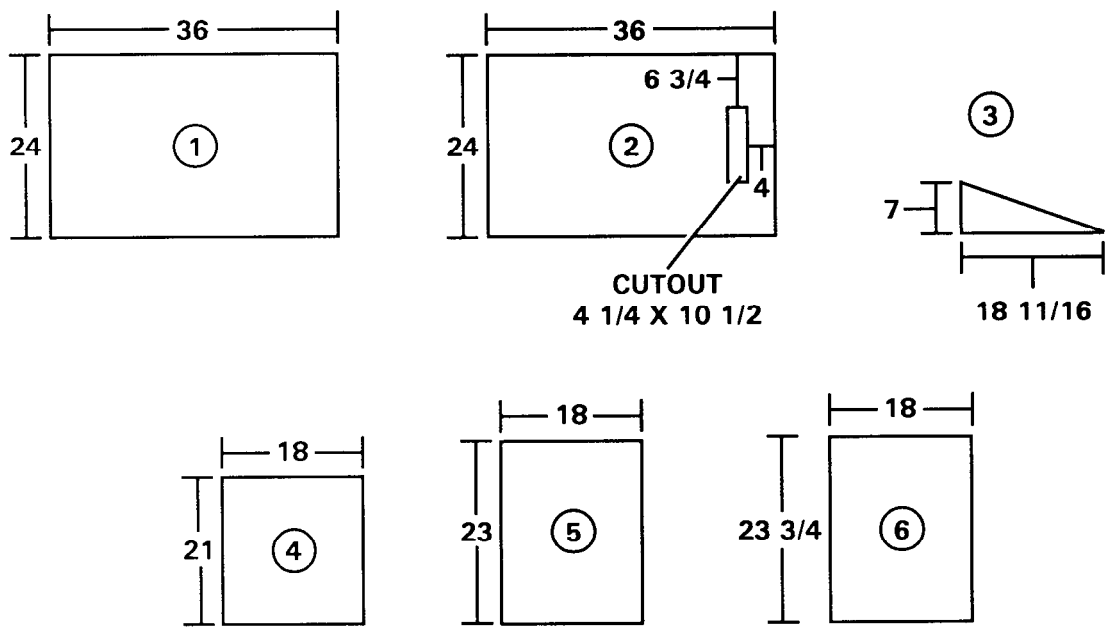


Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
12	15	24	24	Honeycomb	Place honeycomb to form a stack.

Figure 3-12. Honeycomb stack 12 prepared

b. Building Load Spreader. The SEE can be rigged with either the bucket or the tamper installed. If the bucket is installed, build a load spreader for honeycomb stack 10 as shown in Figures 3-13 and 3-14. If the tamper is installed, build a load spreader for honeycomb stack 10 as shown in Figures 3-15 and 3-16.

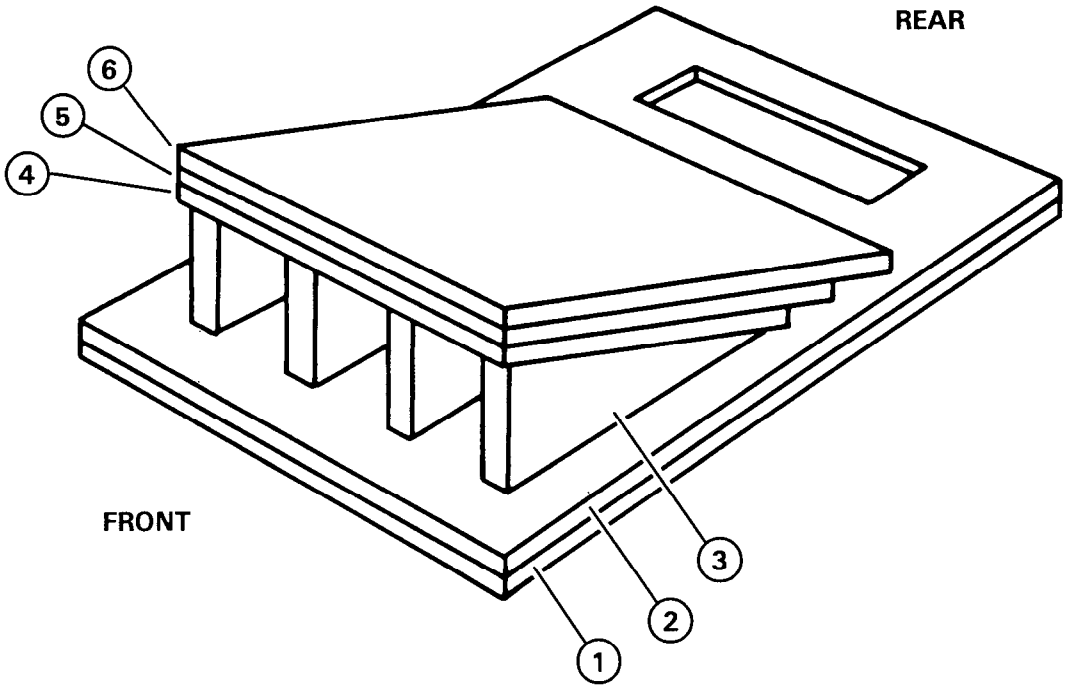
NOTES: 1. All measurements are given in inches.
2. These drawings are not drawn to scale.
3. Circled numbers refer to item numbers.



Item Number	Pieces	Width (Inches)	Length (Inches)	Material
1	1	24	36	3/4-inch plywood
2	1	24	36	3/4-inch plywood with a 4 1/4- by 10-inch cutout centered 4 inches from the rear edge
3	4	7	18 11/16	2- by 8-inch lumber
4	1	18	21	3/4-inch plywood
5	1	18	23	3/4-inch plywood
6	1	18	24 3/4	3/4-inch plywood

Figure 3-13. Materials required to build the load spreader for bucket installation

NOTES: *1. This drawing is not drawn to scale.*
2. Circled numbers refer to item numbers on the previous page.

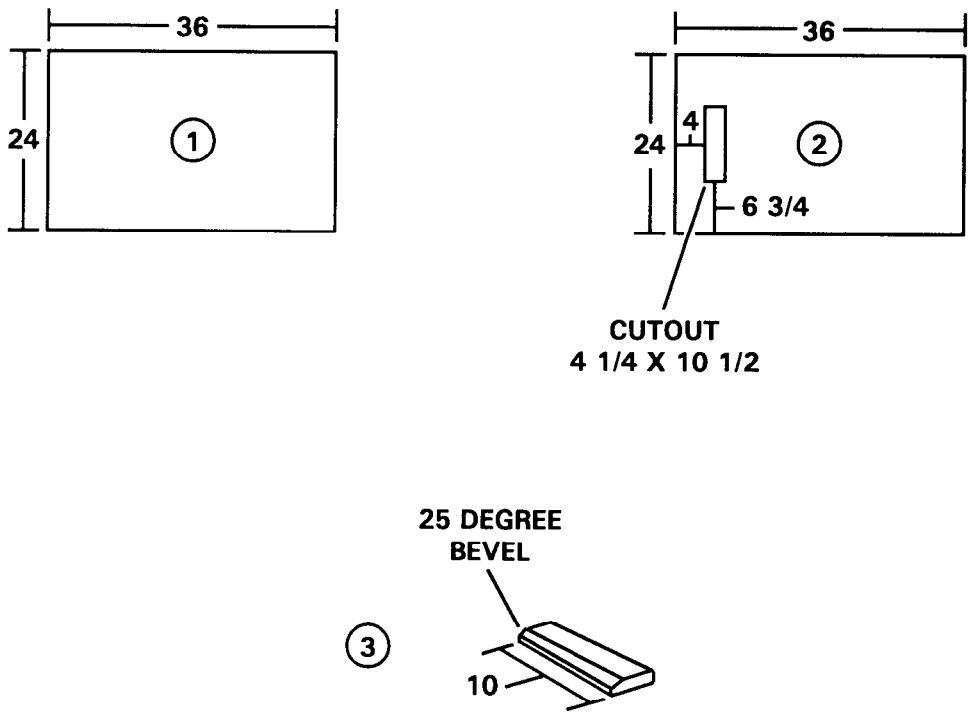


Step:

1. Build the load spreader as shown using the materials given in Figure 3-13.
2. Secure the lumber and plywood in place as shown with fourpenny nails.

Figure 3-14. Load spreader built for bucket installation

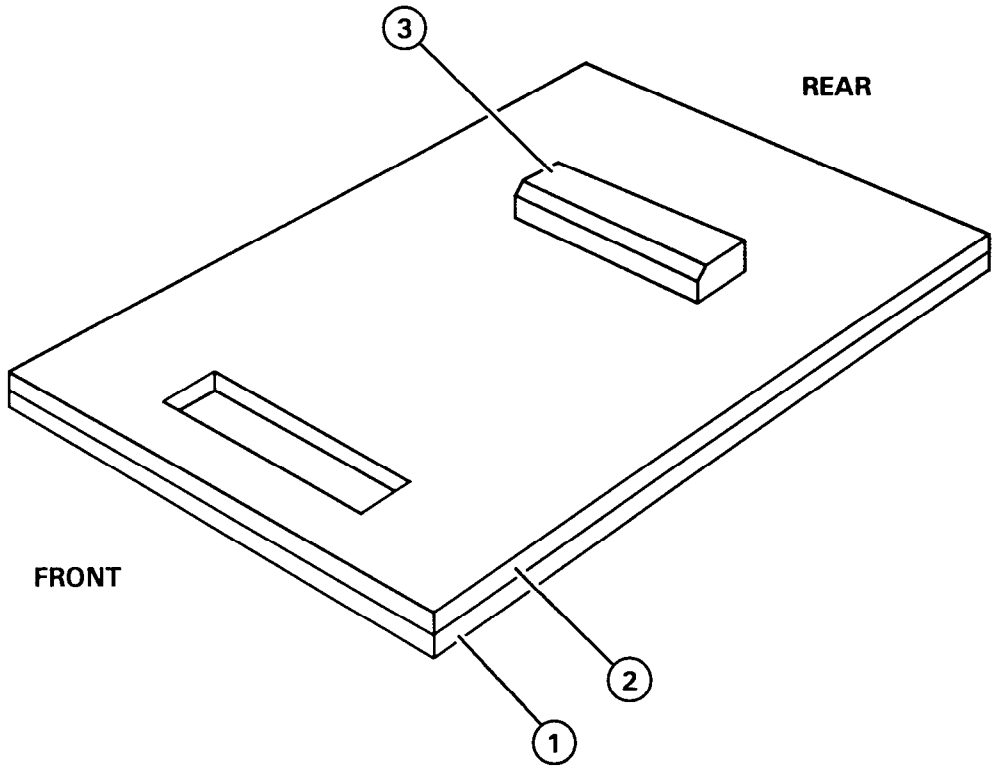
NOTES: *1. All measurements are given in inches.*
2. These drawings are not drawn to scale.
3. Circled numbers refer to item numbers.



Item Number	Pieces	Width (Inches)	Length (Inches)	Material
1	1	24	36	3/4-inch plywood
2	1	24	36	3/4-inch plywood with a 4 1/4- by 10-inch cutout centered 4 inches from the rear edge
3	1	4	10	2- by 4-inch lumber with a 25 degree bevel on rear edge.

Figure 3-15. Materials required to build load spreader for tamper installation

NOTES: *1. This drawing is not drawn to scale.*
2. Circled numbers refer to item numbers on the previous page.



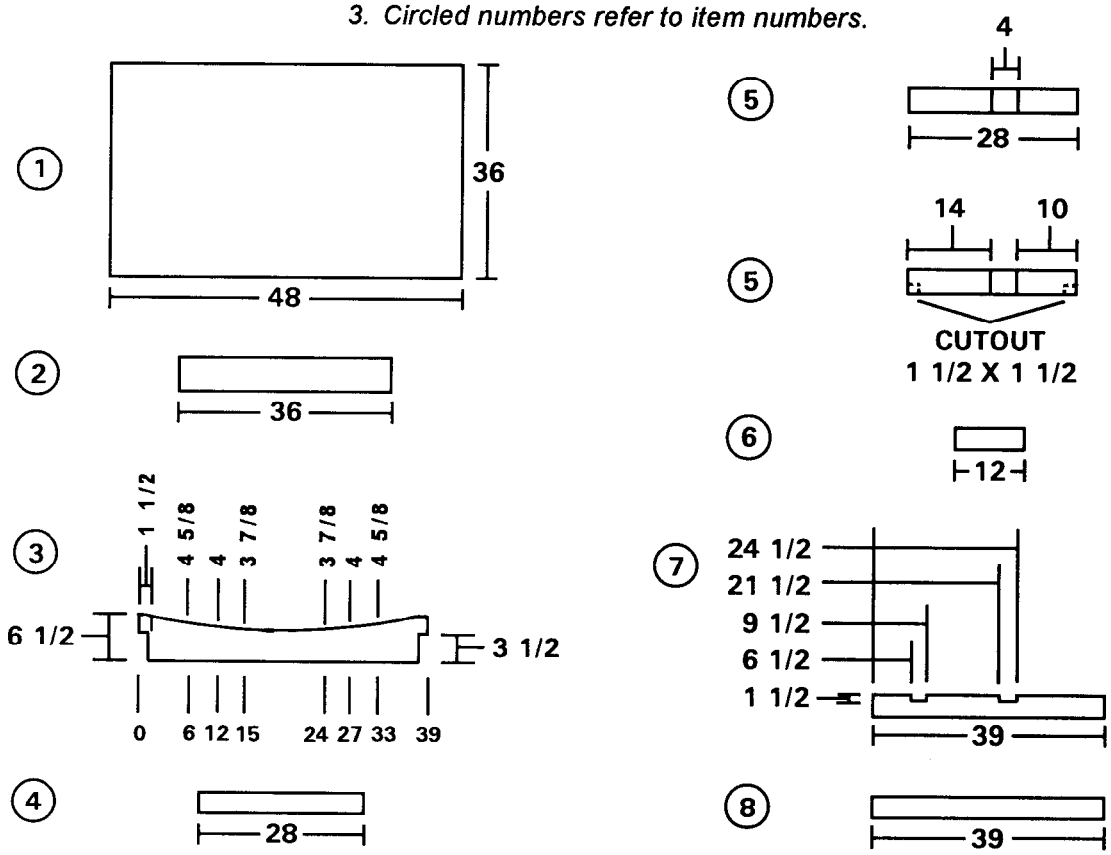
Step:

1. Build the load spreader as shown using the materials given in Figure 3-15.
2. Secure the lumber and plywood in place as shown with fourpenny nails.

Figure 3-16. Load spreader built for tamper installation

c. Building Center Frame Load Spreader. Build the center frame load spreader as shown in Figures 3-17 and 3-18.

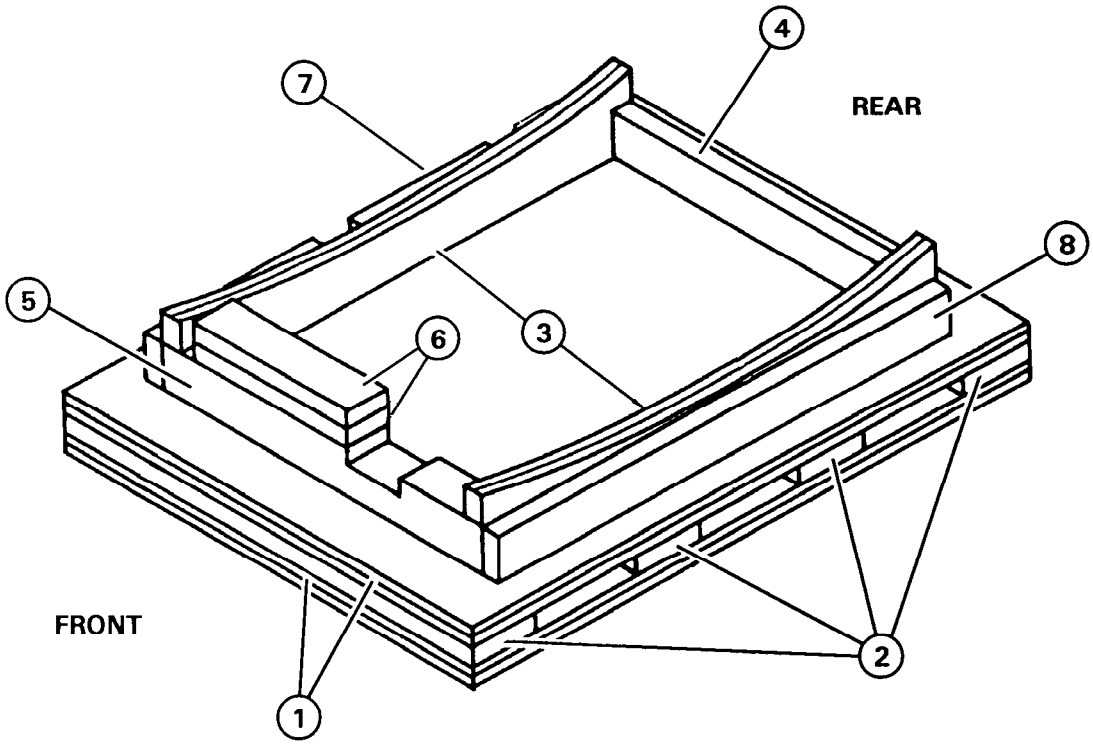
NOTES: 1. *All measurements are given in inches.*
2. *These drawings are not drawn to scale.*
3. *Circled numbers refer to item numbers.*



Item Number	Pieces	Width (Inches)	Length (Inches)	Material
1	4	36	48	3/4-inch plywood
2	4	6	36	2- by 6-inch lumber
3	2	6	39	2- by 8-inch lumber
4	1	4	28	2- by 4-inch lumber
5	1	4	28	4- by 4-inch lumber
6	2	4	12	2- by 4-inch lumber
7	1	4	39	2- by 4-inch lumber
8	1	4	39	2- by 4-inch lumber

Figure 3-17. Materials required for building the center frame load spreader

NOTES: *1. This drawing is not drawn to scale.*
2. Circled numbers refer to item numbers on the previous page.

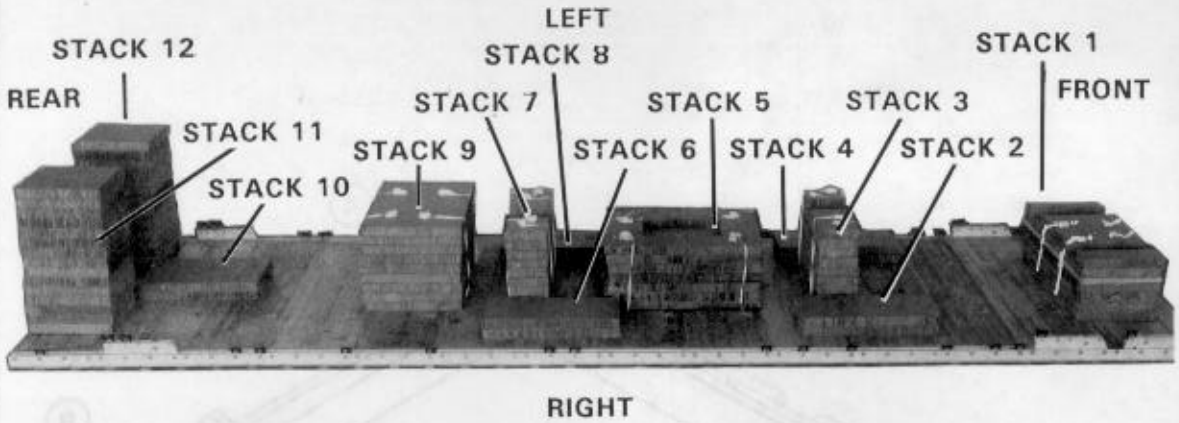


Step:

1. Build the center frame load spreader as shown using the materials given in Figure 3-17.
2. Secure the lumber and plywood in place as shown with fourpenny nails.

Figure 3-18. Center frame load spreader built

d. Placing Honeycomb Stacks. Place the honeycomb stacks on the platform as shown in Figures 3-19, 3-20, and 3-21.



Stack Number	Position on Platform
	Place stack:
1	Centered 3 inches from the front edge of the platform. Place two 18-foot lengths of 1/2-inch tubular nylon webbing under stack 1 in a front to rear direction.
2	48 inches from stack 1, 11 1/2 inches from the right rail.
3	63 inches from stack 1, 2 inches from stack 2. Place two 18-foot lengths of 1/2-inch tubular nylon webbing under stack 3 in a front to rear direction.
4	48 inches from stack 1, 11 1/2 inches from the left rail.
5	Centered 16 inches from stack 3. Place two 18-foot lengths of 1/2-inch tubular nylon webbing under stack 5 in a side to side direction.
6	51 inches from stack 2, 11 1/2 inches from the right rail.
7	18 inches from stack 5, 2 inches from stack 6. Place two 18-foot lengths of 1/2-inch tubular nylon webbing under stack 7 in a front to rear direction.
8	51 inches from stack 4, 11 1/2 inches from the left rail.
9	21 inches from stack 7, 34 1/2 inches from the right rail. Place two 18-foot lengths of 1/2-inch tubular nylon webbing under stack 9 in a front to rear direction.
10	28 1/2 inches from stack 9, 46 1/2 inches from the right rail.
11	Flush with rear edge of platform 17 inches from the right rail.
12	Flush with rear edge of platform 14 inches from the left rail.

Figure 3-19. Honeycomb stacks placed on platform

NOTES: 1. *All measurements are given in inches.*
2. *This drawing is not drawn to scale.*

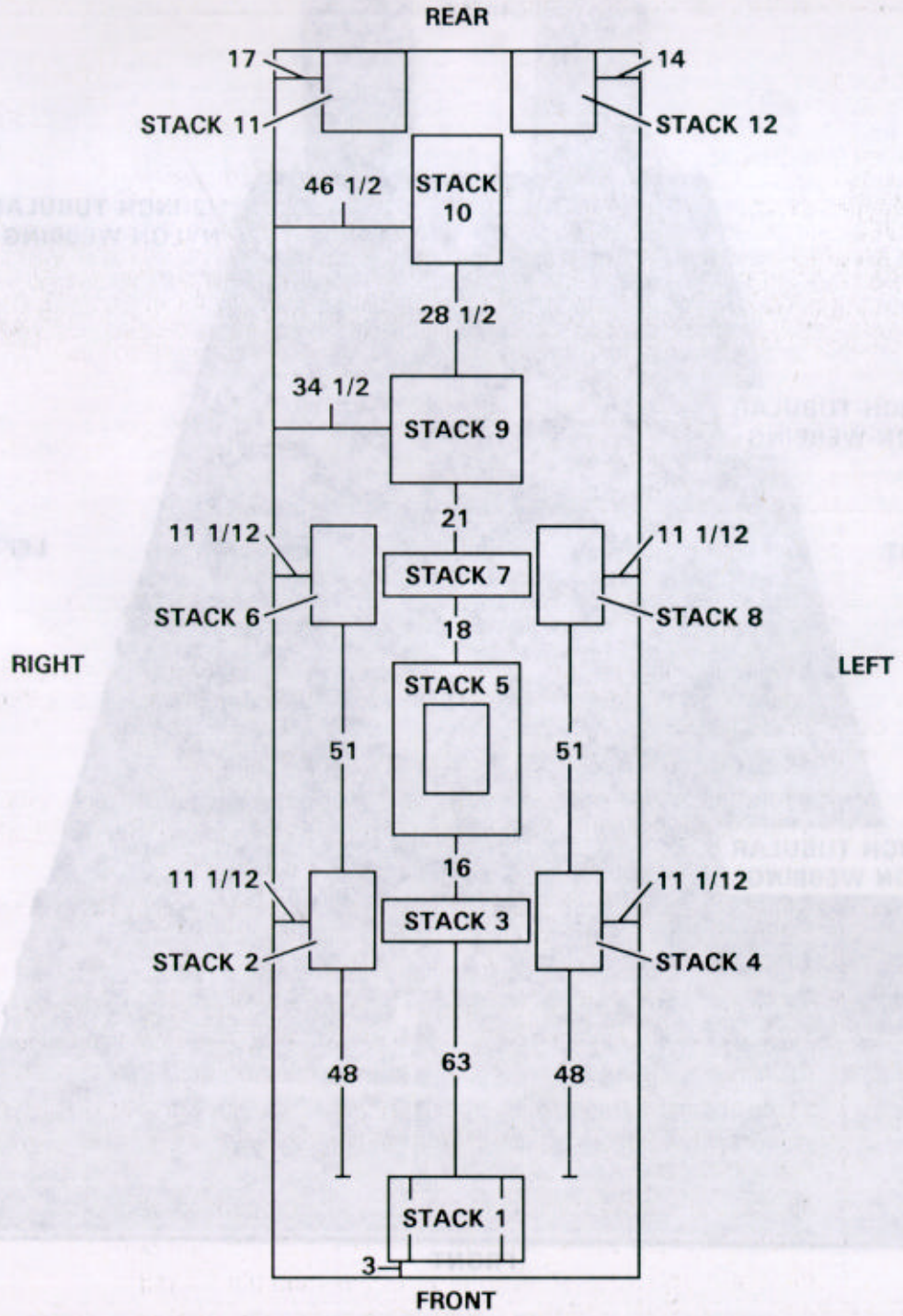


Figure 3-20. Top view of honeycomb stacks placed on platform

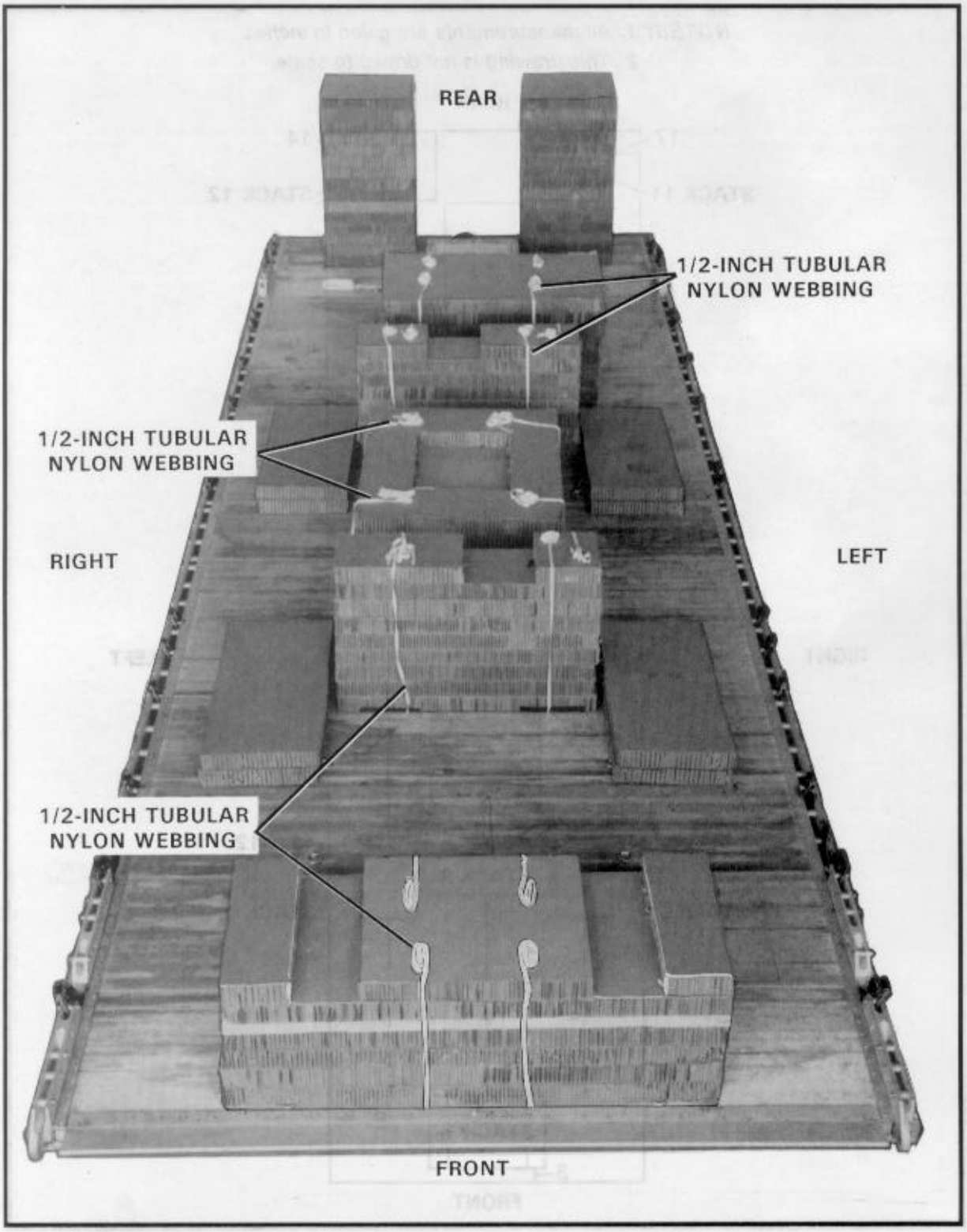
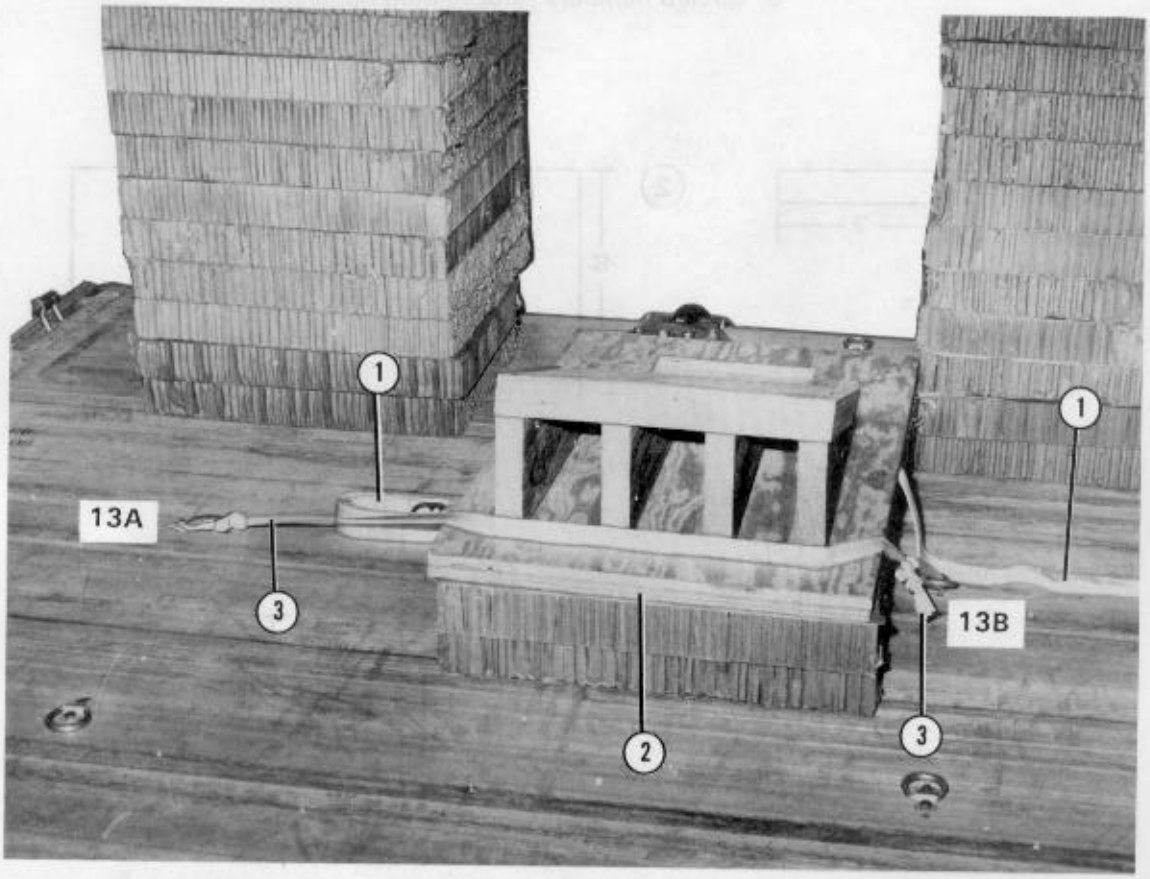


Figure 3-21. Front view of honeycomb stacks placed on platform

e. Placing Lashing and Load Spreader for Bucket Installed Configuration. Place the lashing and load spreader on the platform as shown in Figure 3-21.1.



(1) Place a 15-foot lashing across honeycomb stack 10 in a side to side direction.

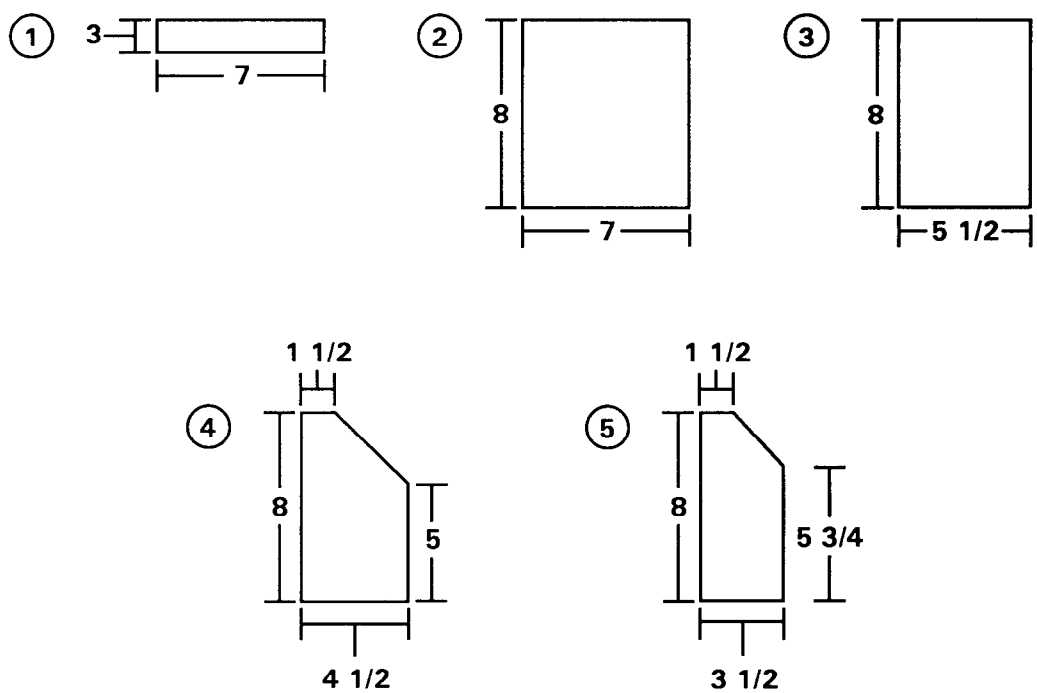
(2) Place the load spreader on top of honeycomb stack 10.

(3) Tie a piece of 1-inch tubular nylon webbing to deck ring 13A. Run the webbing over the top of the plywood in front of the lumber to deck ring 13B. Secure the webbing.

Figure 3-21.1. Lashing and load spreader placed

f. Building Bell Housing Support Block. Build the bell housing support block as shown in Figures 3-21.2 and 3-21.3.

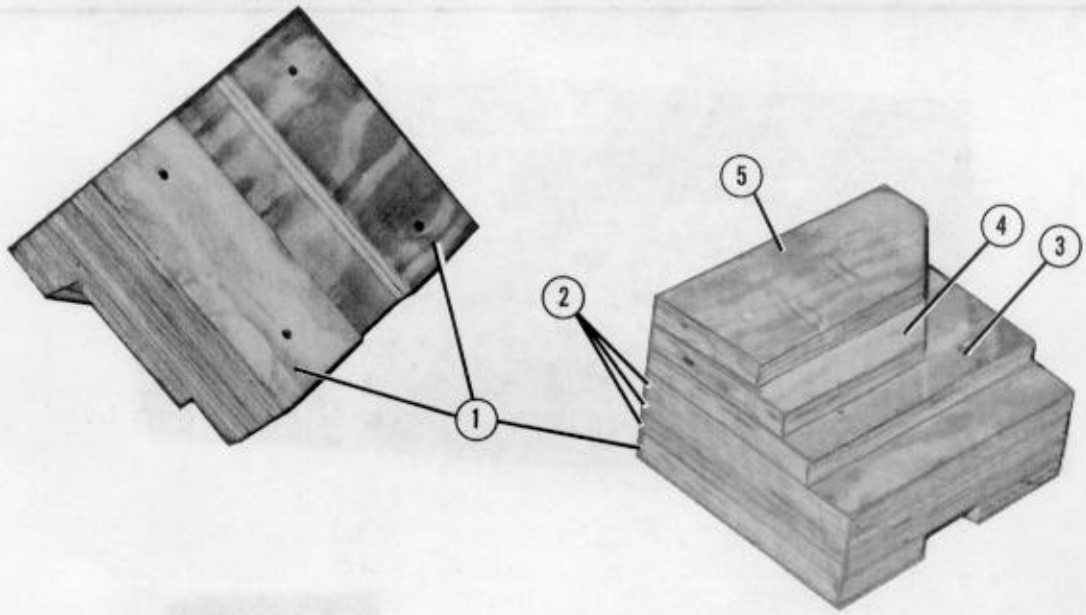
NOTES: *1. All measurements are given in inches.*
2. These drawings are not drawn to scale.
3. Circled numbers refer to item numbers.

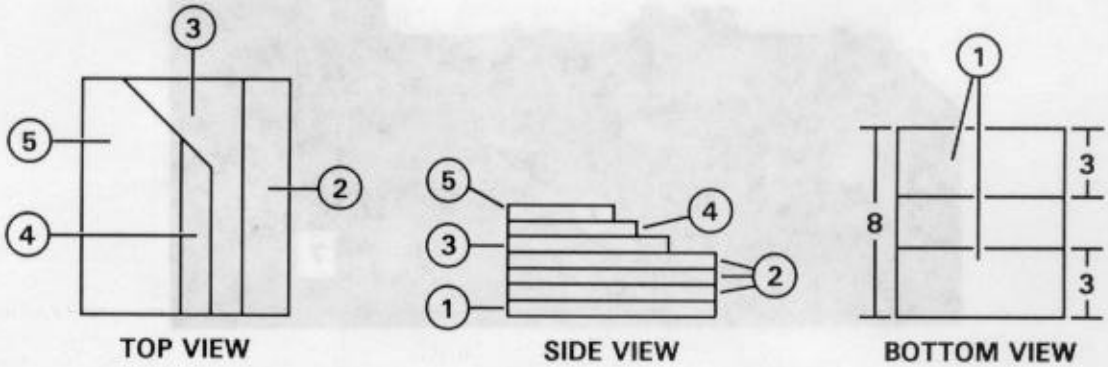


Item Number	Pieces	Width (Inches)	Length (Inches)	Material
1	2	7	3	3/4-inch plywood
2	3	7	8	3/4-inch plywood
3	1	5 1/2	8	3/4-inch plywood
4	1	4 1/2	8	3/4-inch plywood
5	1	3 1/2	8	3/4-inch plywood

Figure 3-21.2. Materials required for building the bell housing support block

NOTES: *1. This drawing is not drawn to scale.*
2. Circled numbers refer to item numbers on the previous page.
3. Positioning of the bell housing support block is shown in Figure 3-38.4.





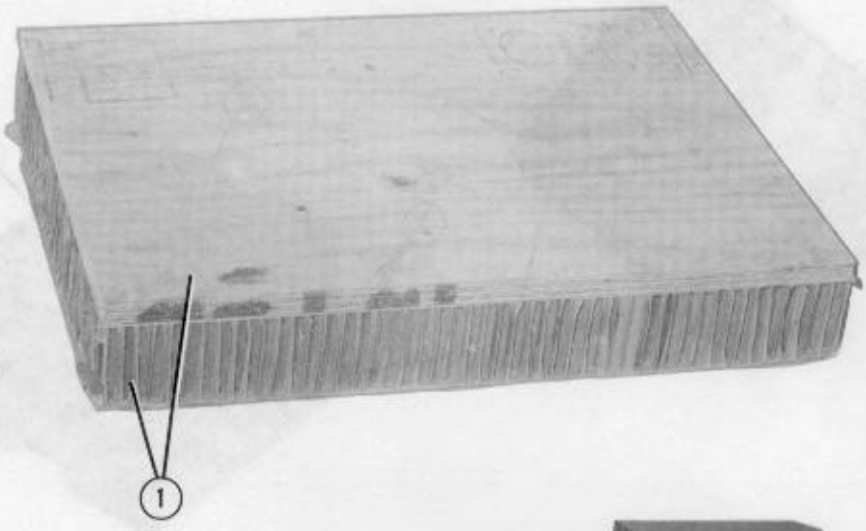
Step:

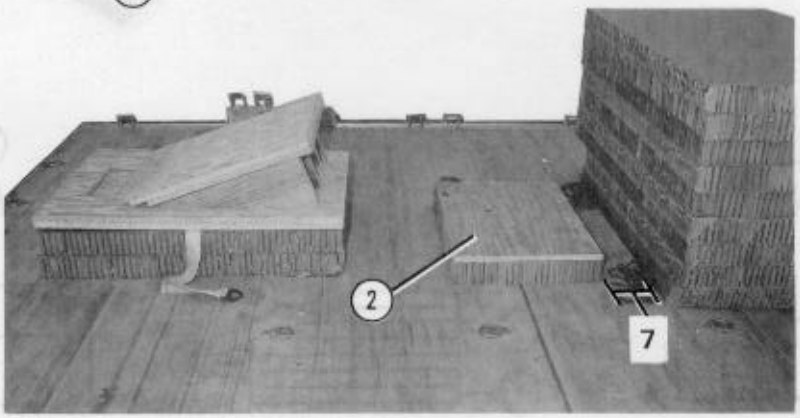
1. Build the bell housing support block as shown using the materials given in Figure 3-21.2.
2. Secure the plywood in place as shown with fourpenny nails.

Figure 3-21.3. Bell housing support block built

3-3.1. Rigging Tamper as an Accompanying Load

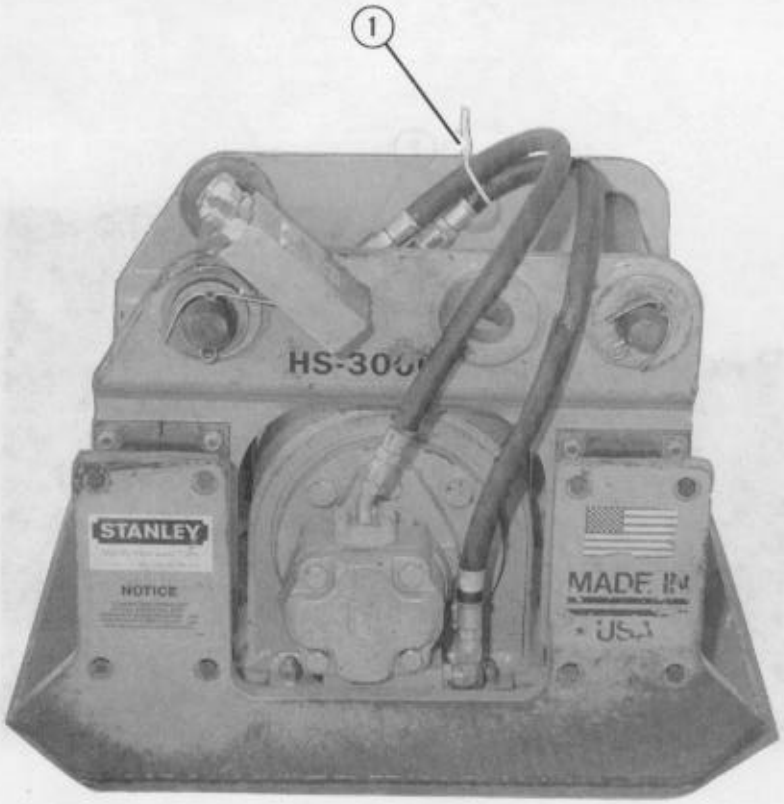
The procedures shown in Figures 3-21.4 through 3-21.6. deal with rigging the tamper as an accompanying load with the SEE on a 28-foot, type V, airdrop platform.





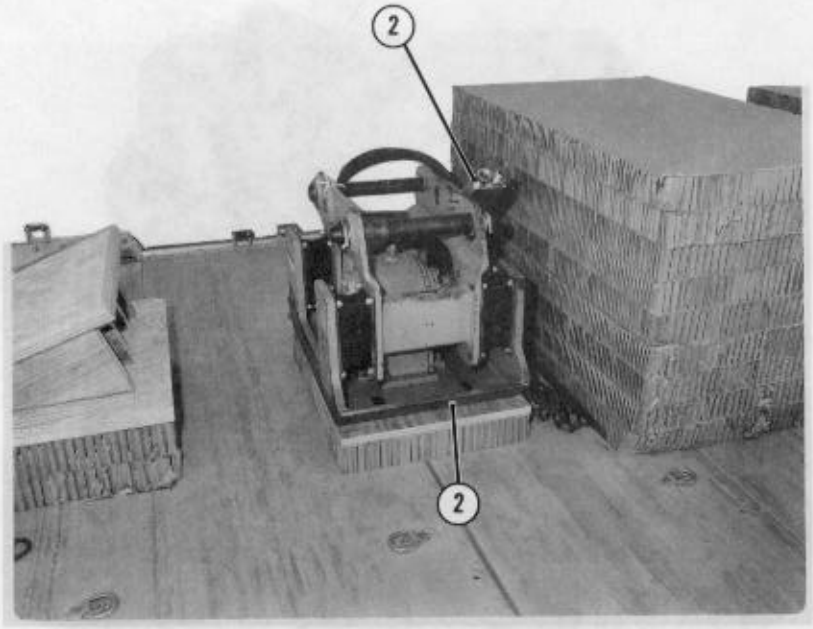
1. Cut a 24- by 18-inch piece of 3/4-inch plywood and a 24- by 18-inch piece of honeycomb. Glue the plywood to the honeycomb.
2. Position the plywood and honeycomb 7 inches from stack 9 and center between deck rings 12A and 12B.

Figure 3-21.4. Honeycomb stack prepared and positioned on platform



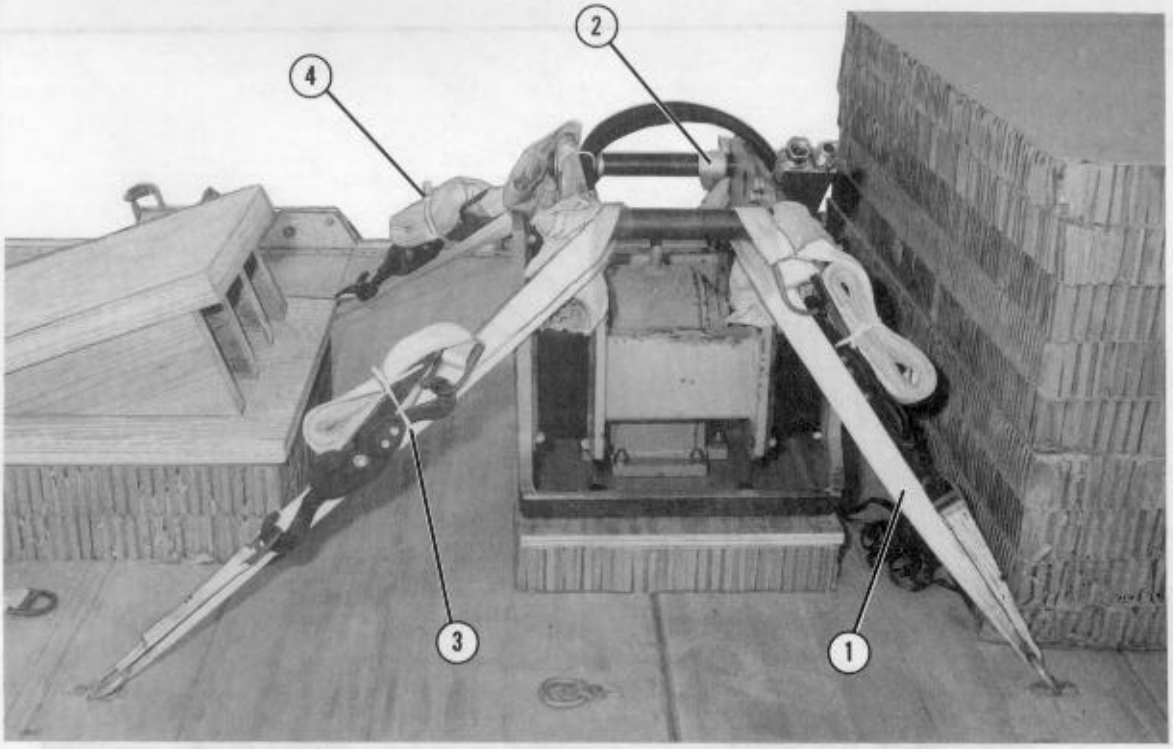
(1) Prepare the tamper by securing the hydraulic hoses to the pinhole with type III nylon cord.

Figure 3-21.5. Hydraulic hoses secured and tamper positioned



(2) Center the tamper on the plywood with the hoses to the front of the load.

Figure 3-21.5. Hydraulic hoses secured and tamper positioned (continued)



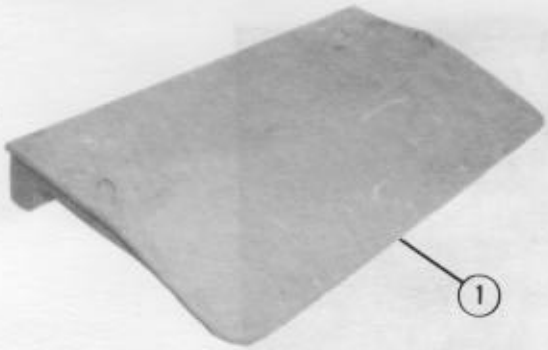
Lashing Number	Tiedown Ring Number	Instructions
		Pass lashing:
1	11A	Through tiedown ring, around front end of mounting pin on the right side, and secure.
2	11B	Through tiedown ring, around front end of mounting pin on the left side, and secure.
3	13A	Through tiedown ring, around rear end of mounting pin on the right side, and secure.
4	13B	Through tiedown ring, around rear end of mounting pin on the left side, and secure.

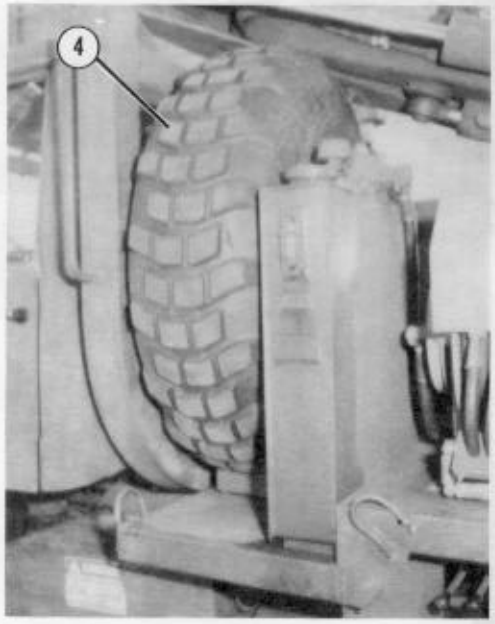
Figure 3-21.6. Tamper secured

3-4. Preparing SEE

Prepare the SEE without accompanying loads and attachments as shown in Figures 3-2 through 3-38. Prepare the SEE with accompanying loads and attachments as shown in Figures 3.38-1 through 3-38.4. Make sure the fuel tank is no more than 3/4 full.

Figure 3-21.8. Backhoe assembly in travel position





(1) Remove the FOPS.

NOTE: Figure 3-39 shows the FOPS stowed on the platform.

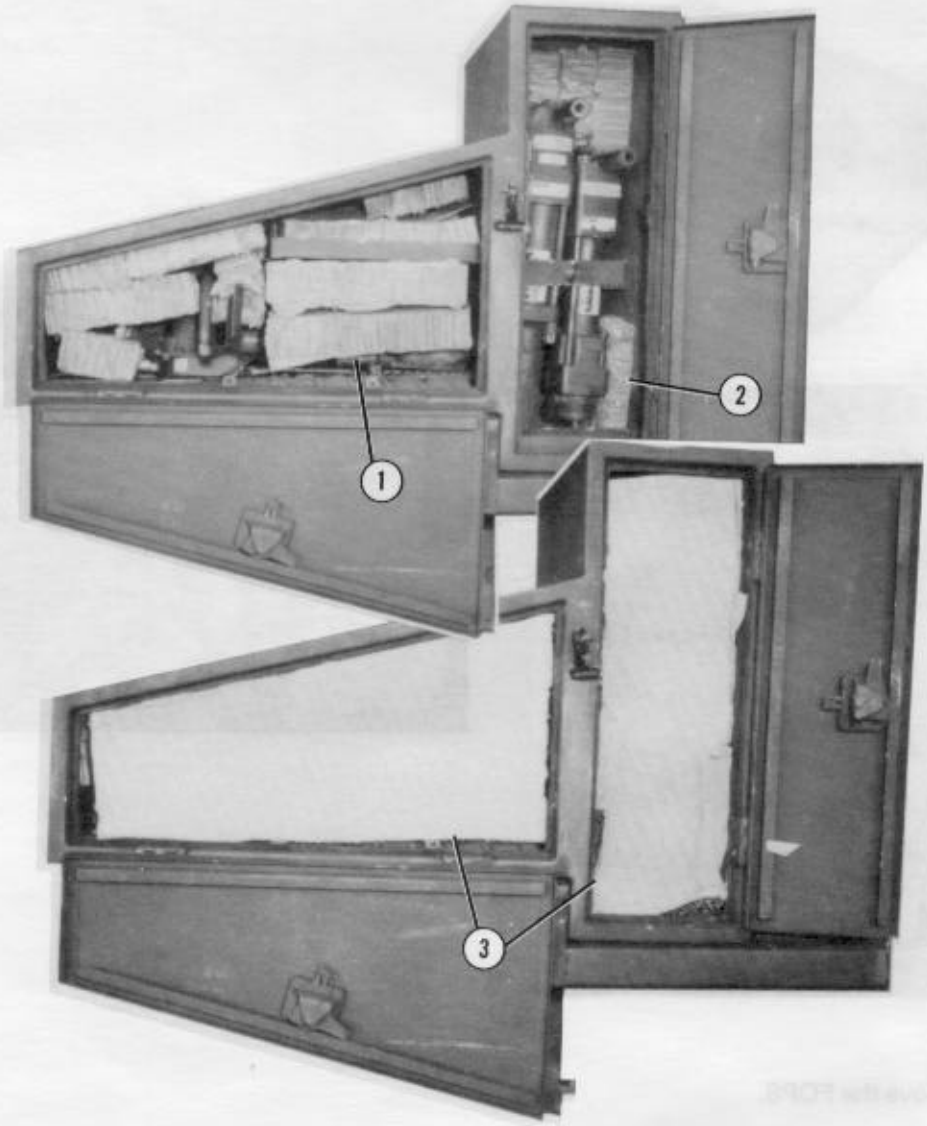
(2) Remove the towing pintle from the backhoe assembly, and stow it in the right rear fender toolbox.

(3) Place the bolts from the FOPS in the right rear fender toolbox (not shown).

(4) Remove the spare tire, and place the bolts in the right rear fender toolbox.

NOTE: Figure 3-36 shows the spare tire in the front bucket.

Figure 3-22. FOPS, spare tire, and towing pintle removed



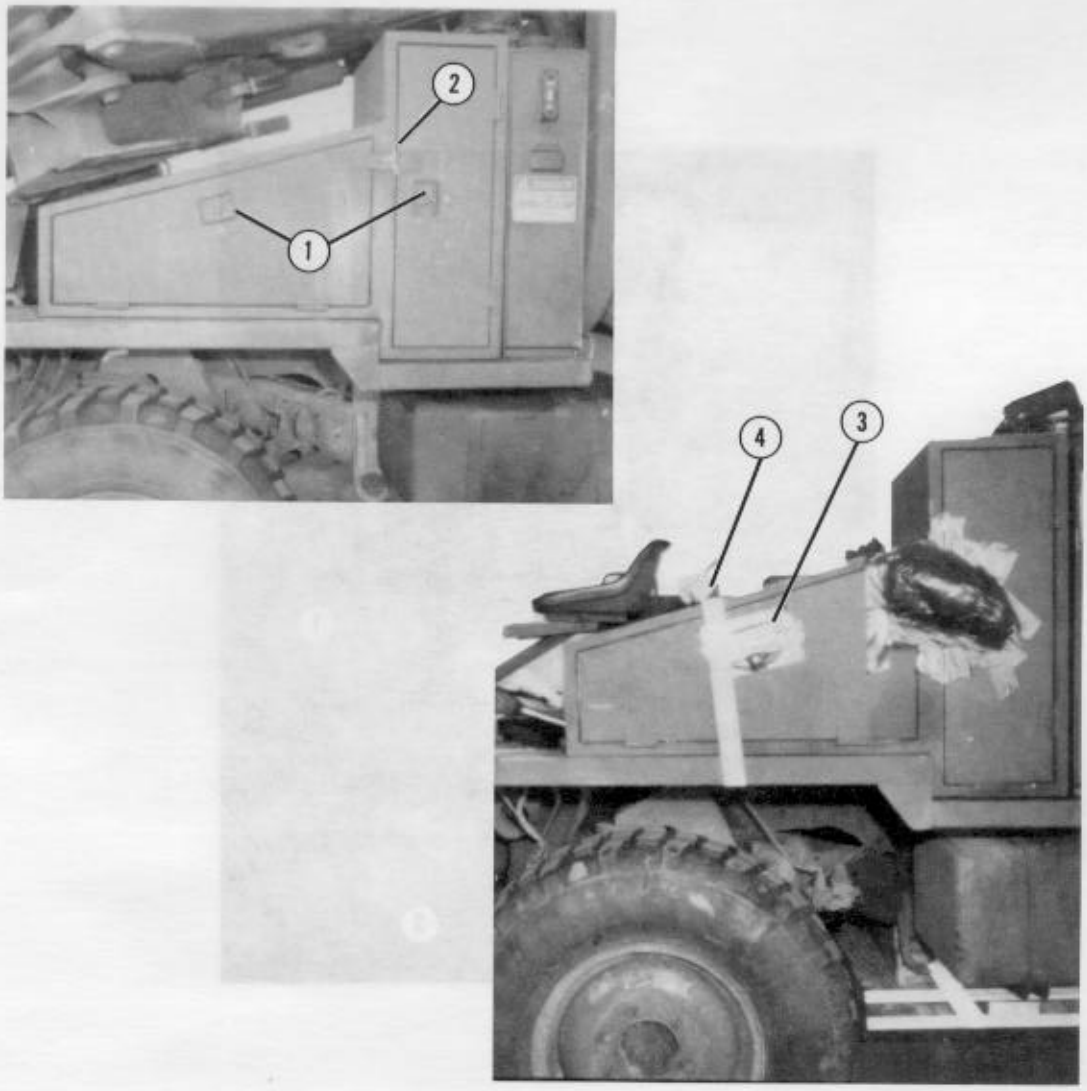
(1) Fill the space in the right rear fender toolbox with scrap honeycomb.

(2) Fill the spaces around the hydraulic jacks with scrap honeycomb.

NOTE: The size of the honeycomb will depend on the amount of equipment stored in the toolboxes.

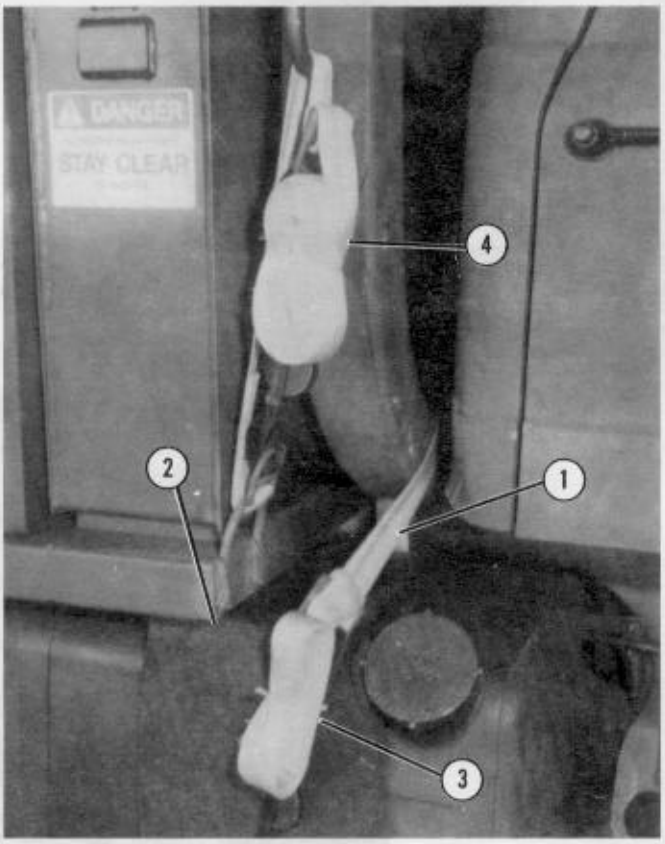
(3) Cut a piece of honeycomb to fit the door of each toolbox.

Figure 3-23. Toolboxes filled with honeycomb



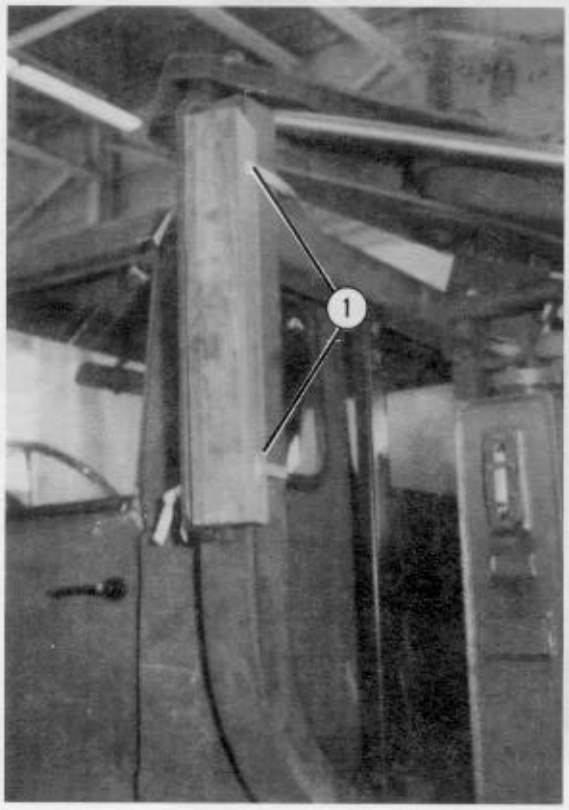
1. Close the doors and latches on the toolboxes.
2. Secure the latches with a length of 1/2-inch tubular nylon webbing.
3. Pad the door and latches on the toolboxes with cellulose wadding, and tape the cellulose wadding in place.
4. Run a 15-foot lashing around the right rear fender toolbox. Secure the lashing with a D-ring and a load binder.

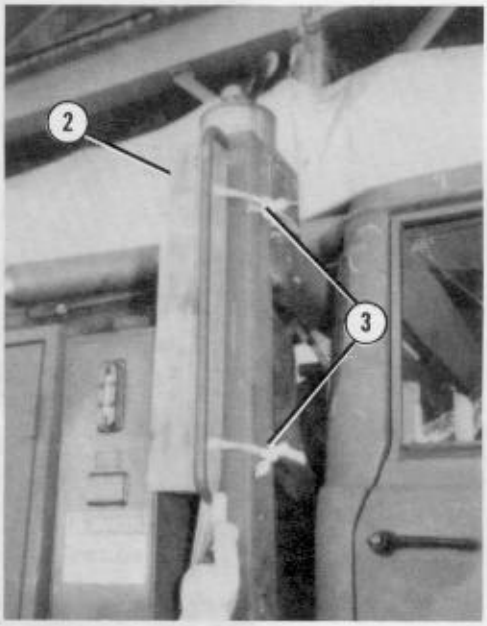
Figure 3-24. Toolbox doors and latches secured



1. Run a 15-foot lashing around the fuel tank and around the ROPS.
2. Place a 10- by 14-inch piece of felt against the fuel tank.
3. Secure the lashing with a D-ring and a load binder.
4. Run a 15-foot lashing through the front tiedown ring on the right front of the vehicle platform and through the ROPS handle. Secure the lashing with a D-ring and a load binder.

Figure 3-25. Fuel tank secured



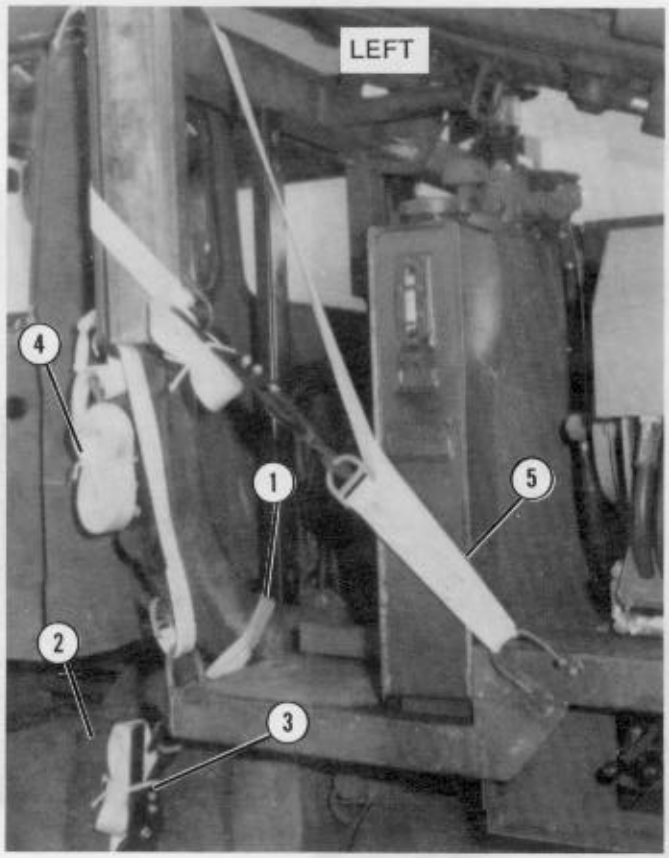


(1) Drill a hole approximately 4 inches from each end of two 4- by 4- by 24-inch pieces of lumber.

(2) Place one piece of lumber against the ROPS behind the handles on each side of the SEE.

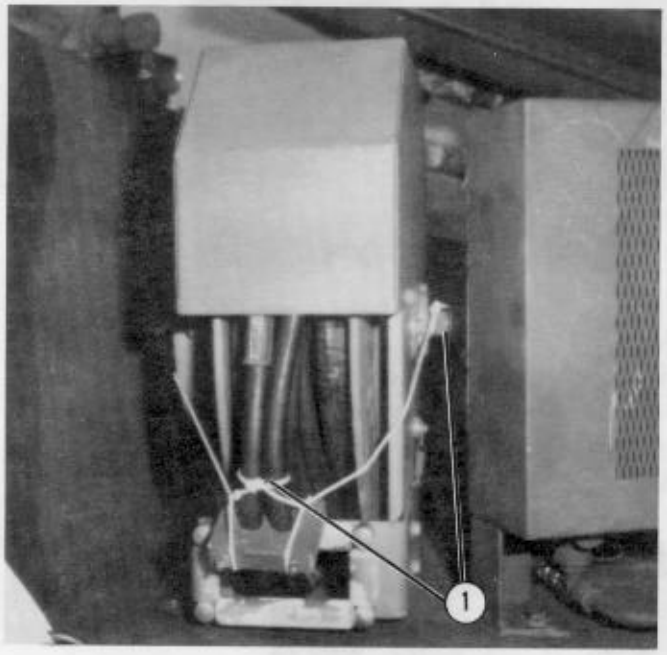
(3) Secure the lumber by passing four lengths of 1-inch tubular nylon webbing through the holes and around the ROPS.

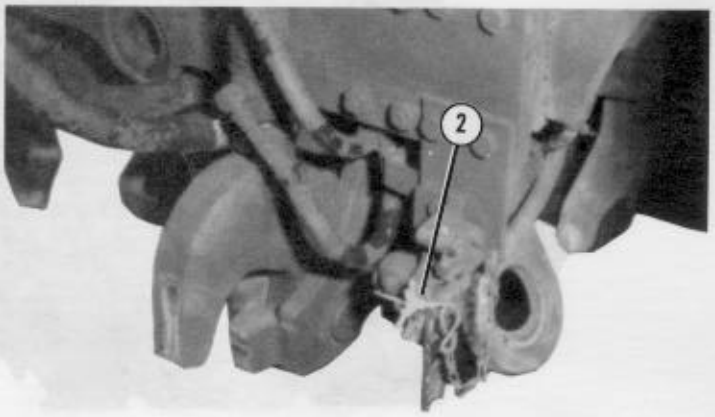
Figure 3-26. Lumber placed against the ROPS



1. Run a 15-foot lashing around the battery box and around the ROPS.
2. Place a 10- by 14-inch piece of felt against the battery box.
3. Secure the lashing with a D-ring and a load binder.
4. Run a 15-foot lashing through the front tiedown ring on the left front of the vehicle platform and around the ROPS handle. Secure the lashing with a D-ring and a load binder.
5. Run a 15-foot lashing through the tiedown ring on the center of the vehicle platform and around the ROPS. Secure the lashing with a D-ring and a load binder.

Figure 3-27. Battery box and ROPS secured





(1) Secure the hydraulic hoses to the hydraulic roller housing in two places using type III nylon cord.

(2) Attach and secure the rear air hose coupler handle to the rear brake bracket using type III nylon cord.

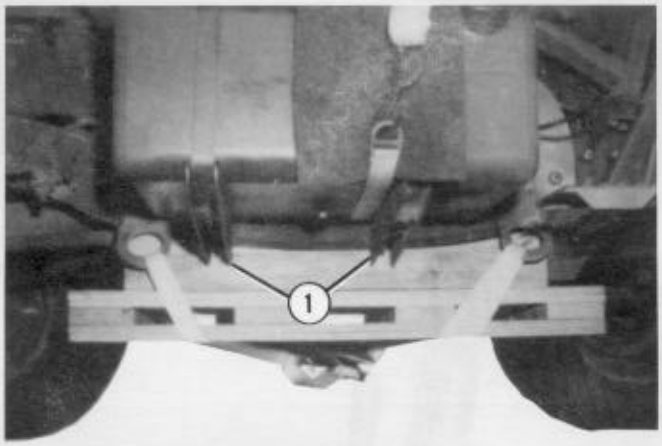
Figure 3-28. Hydraulic hoses secured

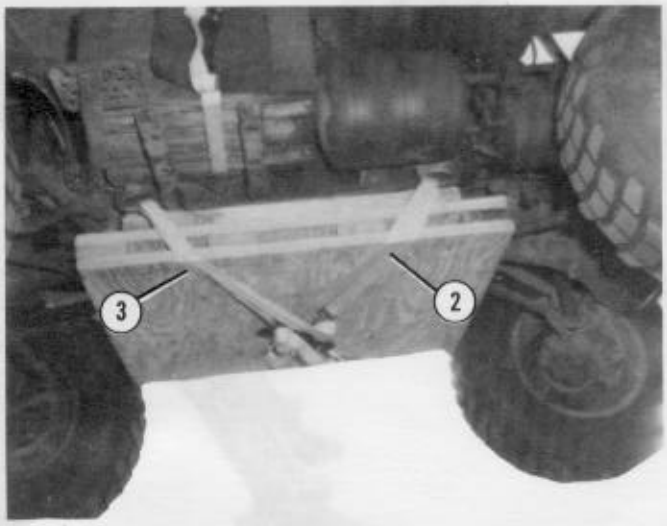
(1) Attach and secure the front air hose coupler handles to the front air brake brackets using type III nylon cord.

(2) Run a 10-foot length of type III nylon cord from the left blackout light bracket, over the hood, and through the top running light bracket.

(3) Run a second 10-foot length of type III nylon cord from the right headlight bracket, over the top of the hood, and through the left running light bracket.

Figure 3-29. Hood of SEE secured





(1) Place the center frame load spreader under the frame of the SEE, ensuring the two notches match the brackets on the frame.

(2) Run one 15-foot lashing from the right front tiedown ring on the frame to the left rear tiedown ring on the frame. Secure the lashing with a D-ring and a load binder.

(3) Run a second 15-foot lashing from the left front tiedown ring on the frame to the right rear tiedown ring on the frame. Secure the lashing with a D-ring and a load binder.

NOTE: When closing the load binders, ensure they are centered on the load spreader.

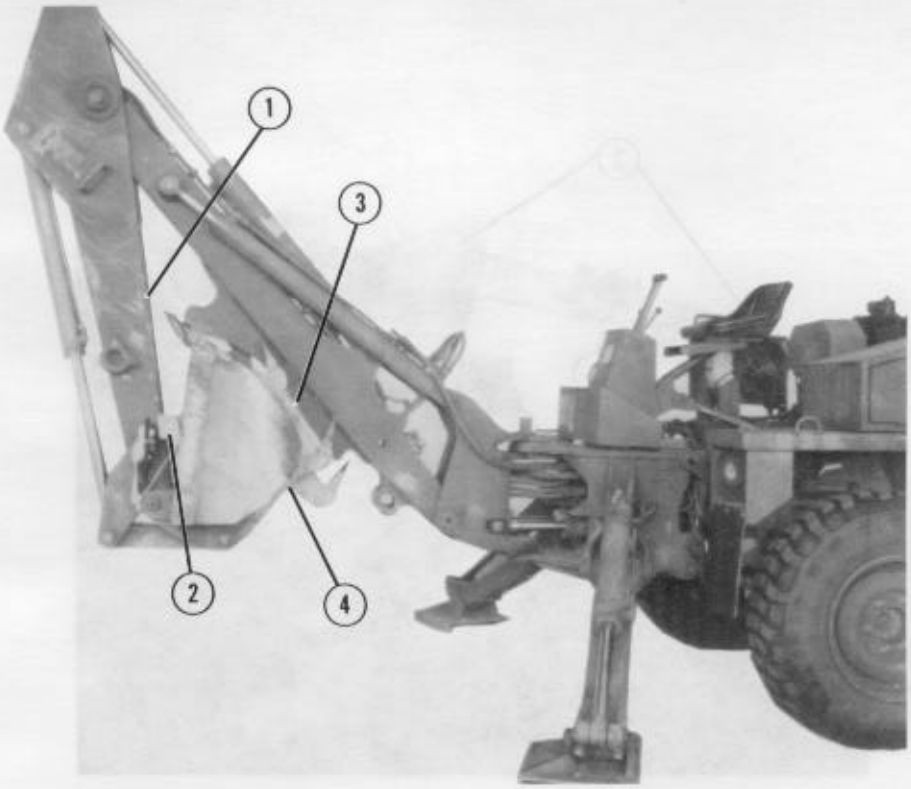
Figure 3-30. Center frame load spreader positioned

(1) Lower the backhoe assembly.

(2) Lower the stabilizers, relieving the weight on the rear tires.

(3) Extend the backhoe assembly in a longitudinal direction.

Figure 3-31. Backhoe assembly extended.



(1) Rotate the bucket against the dipper stick.

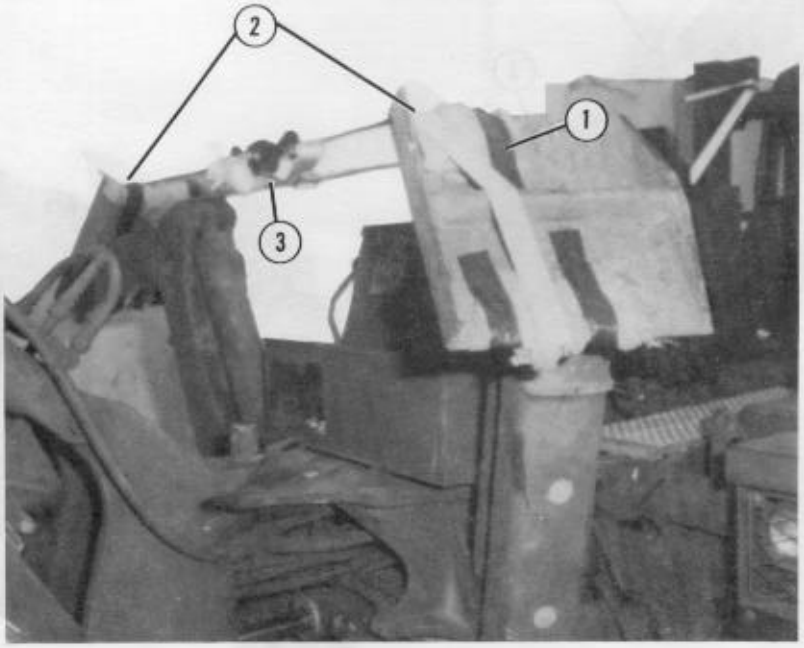
(2) Wedge a 4- by 4- by 26-inch piece of lumber between the edges of the bucket opening and the dipper stick. Secure the lumber with a 15-foot lashing, a D-ring, and a load binder.

(3) Position a 2- by 4- by 18-inch piece of lumber between the bucket and the boom.

(4) Rotate the dipper stick and bucket against the boom.

NOTE: Force the hydraulics when performing steps 1 and 4 above.

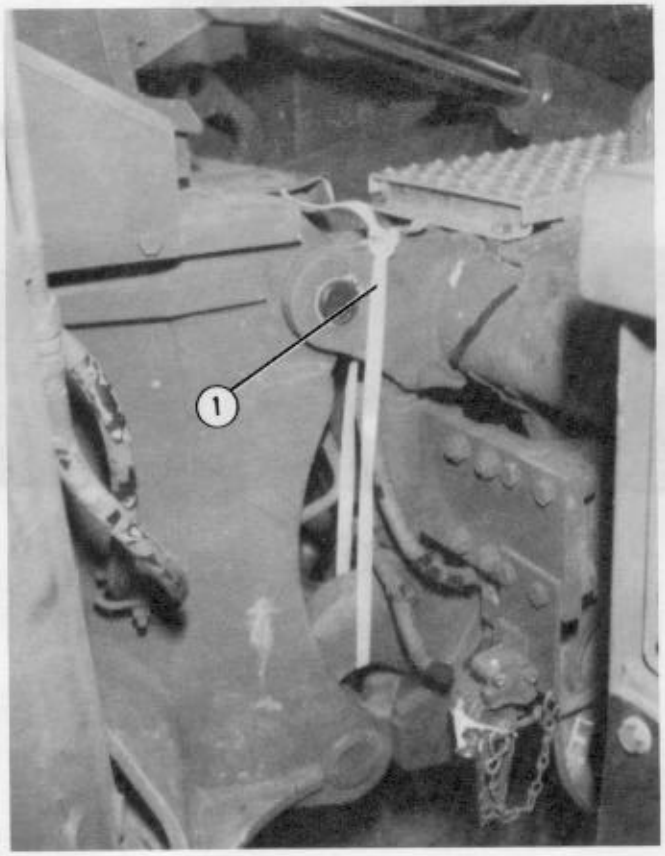
Figure 3-32. Backhoe assembly prepared



1. Fully retract the stabilizers, and pad each foot using cellulose wadding and tape.
2. Form a 30-foot lashing as outlined in FM 10-500/TO 13C7-1-5. Run the lashing around the foot of both stabilizers.
3. Center the ends of the lashing between the stabilizers, and secure the lashing with two D-rings and a load binder.

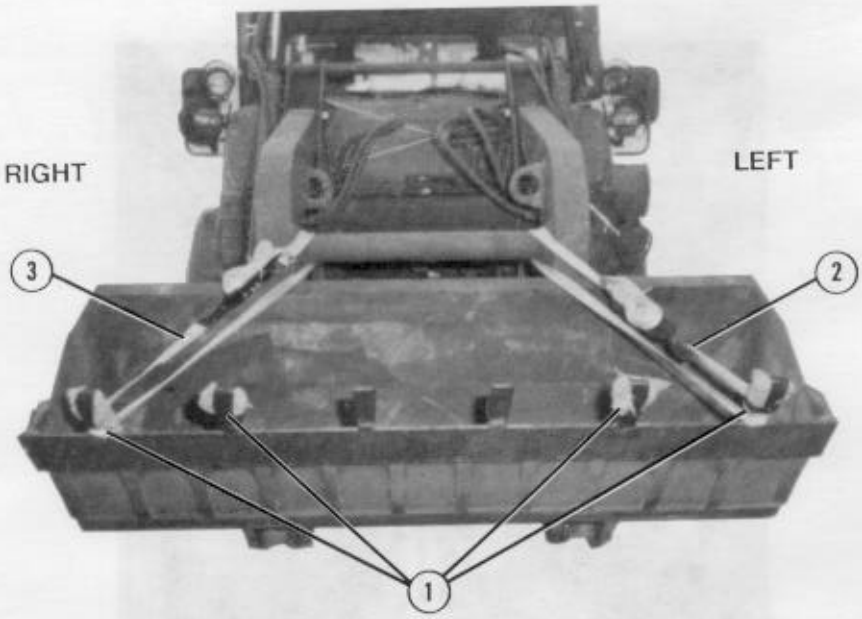
Figure 3-33. Stabilizers secured

CAUTION
Make sure the hydraulic operation locks are in the open position using the backhoe lock lever. This is an operator function.



(1) Secure the operation locks with 1/2-inch tubular nylon webbing.

Figure 3-34. Operation locks opened and secured

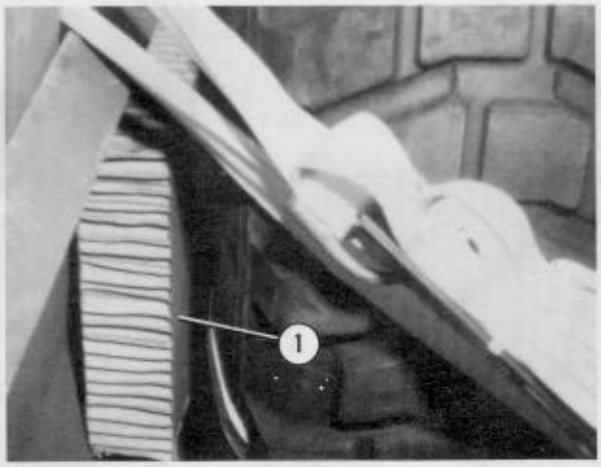


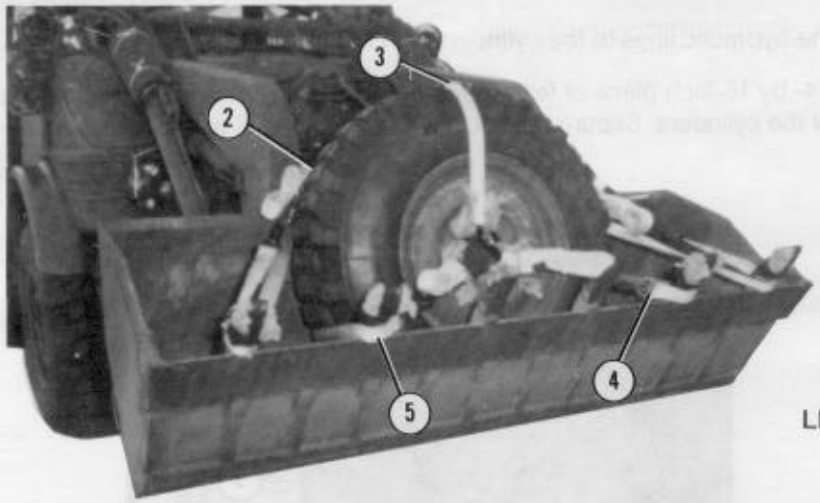
(1) Pad the two outside teeth on each side of the front bucket using cellulose wadding and tape.

(2) Run a 15-foot lashing around the outside left tooth and around the frame support of the bucket. Secure the lashing with a D-ring and a load binder.

(3) Run a 15-foot lashing around the outside right tooth and around the frame support of the bucket. Secure the lashing with a D-ring and a load binder.

Figure 3-35. Front bucket secured





(1) Place a 12- by 36-inch piece of honeycomb in the front end loader bucket.

(2) Place the spare tire in the front end loader bucket against the honeycomb.

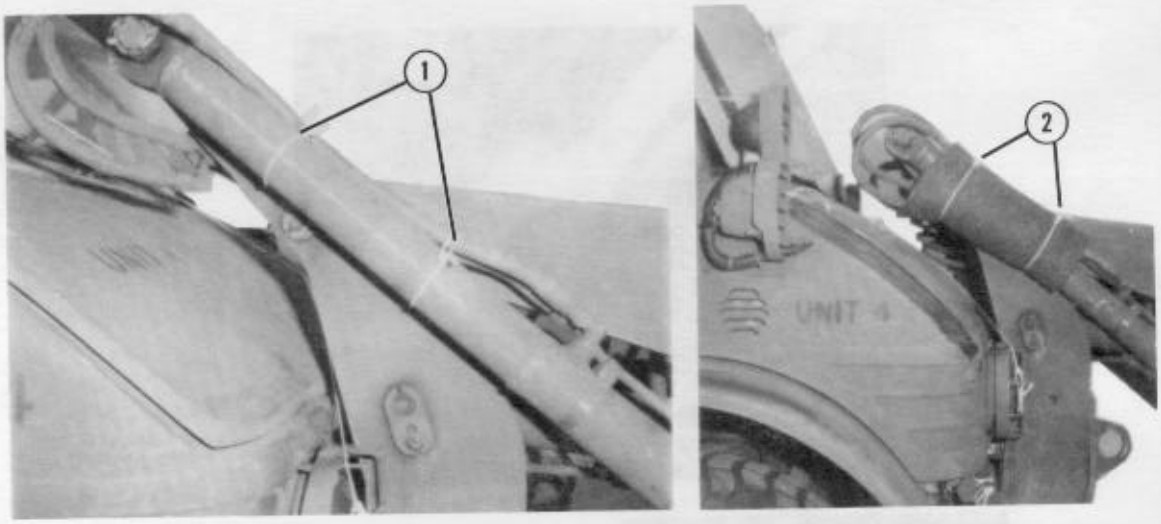
NOTE: Pad all sharp edges that touch the lashings.

(3) Run one 15-foot lashing through the spare tire and around the lower bucket arm support. Secure the lashing with a D-ring and a load binder.

(4) Run one 15-foot lashing through the spare tire and around the second bucket tooth on the left side. Secure the lashing with a D-ring and a load binder.

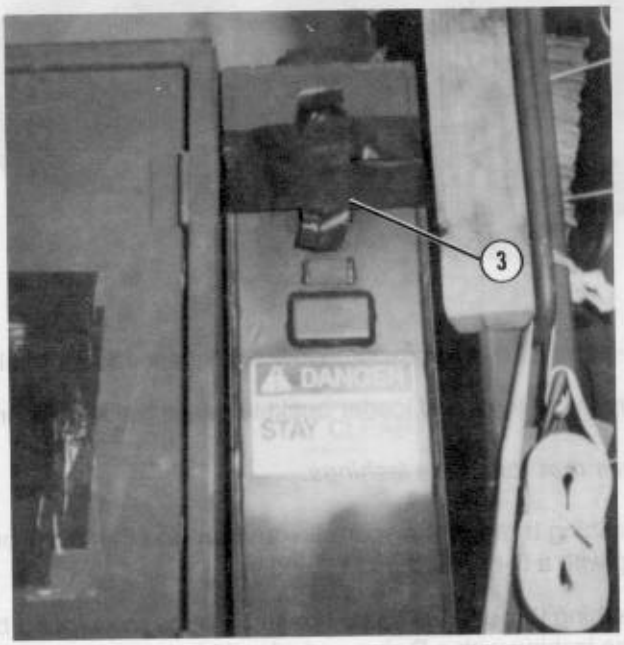
(5) Run one 15-foot lashing through the spare tire and around the second bucket tooth on the right side. Secure the lashing with a D-ring and a load binder.

Figure 3-36. Spare tire placed and secured



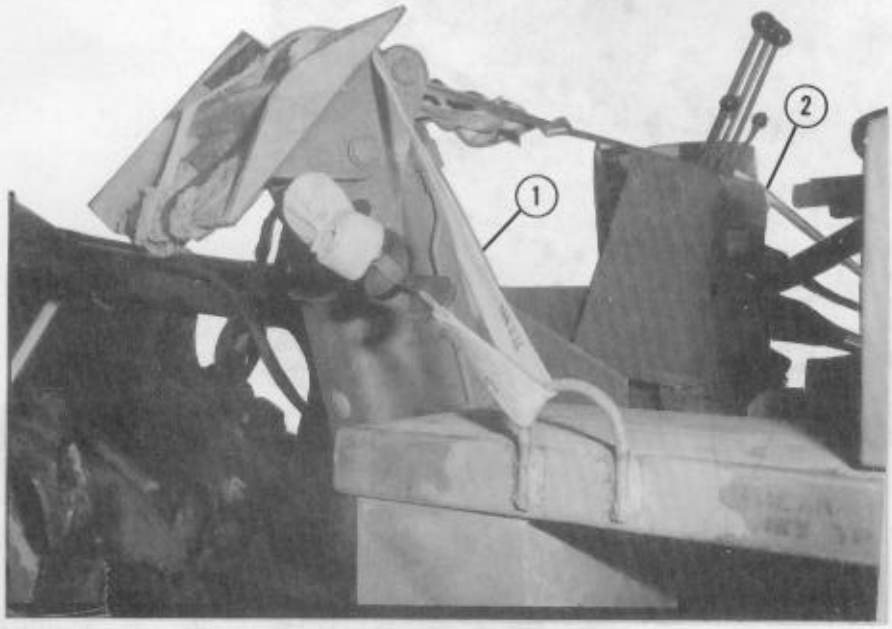
(1) Secure the hydraulic lines to the cylinders with type III nylon cord in two places.

(2) Wrap a 14- by 15-inch piece of felt around the hydraulic lines and cylinders 5 inches from the top of the cylinders. Secure the felt in place with type III nylon cord or tape.



(3) Tape the hydraulic tank gages on each side of the vehicle.

Figure 3-37. Hydraulic lines and tank secured

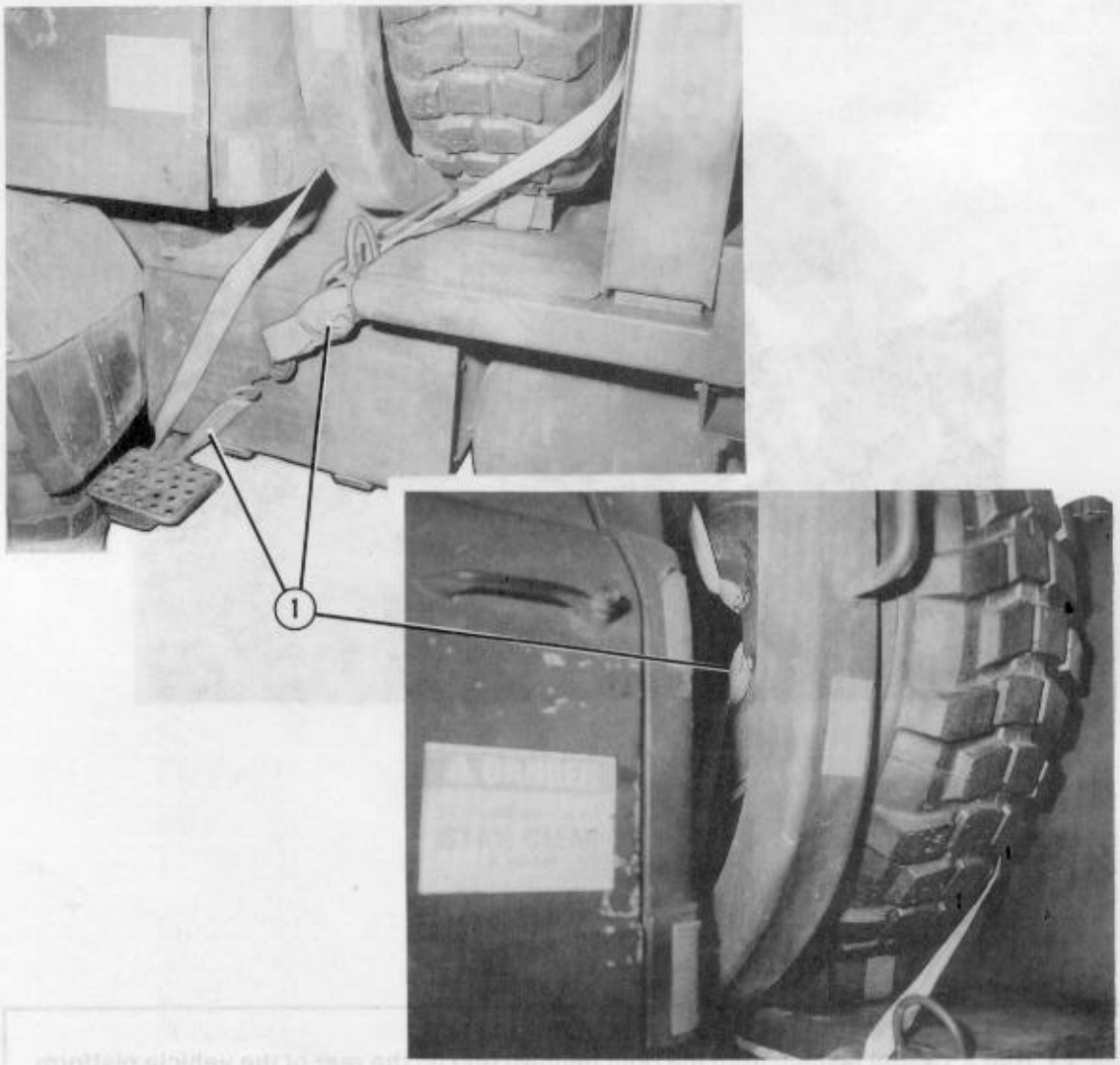


(1) Run a 15-foot lashing from the right tiedown ring on the rear of the vehicle platform around the stabilizer on the right side of the vehicle. Secure the lashing with a D-ring and a load binder.

(2) Run a 15-foot lashing from the left tiedown ring on the rear of the vehicle platform around the stabilizer on the left side of the vehicle. Secure the lashing with a D-ring and a load binder.

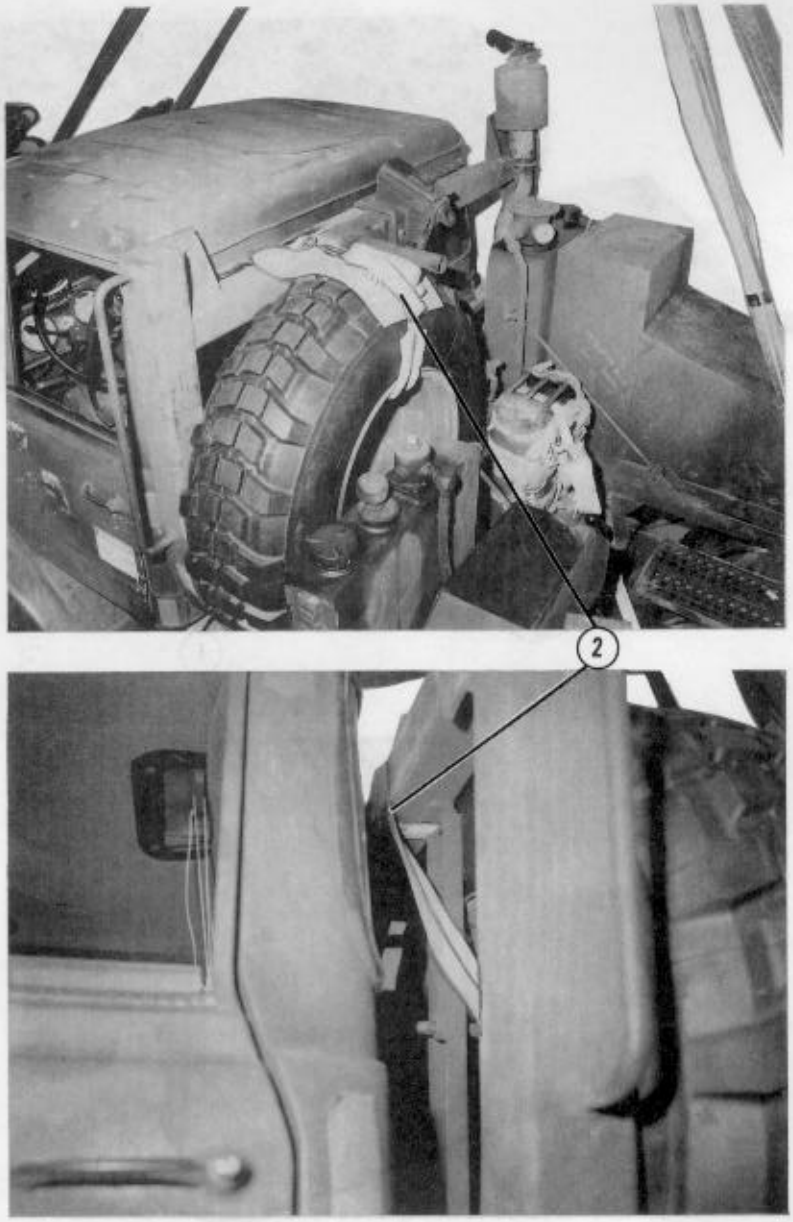
Figure 3-38. Stabilizers secured to vehicle platform

NOTE: *The following procedures deal with rigging the SEE's spare tire in place and using the front bucket to carry the following attachments as an accompanying load: Sump pump and hose, picket puller and pounder, circular saw and blades, and impact wrench.*



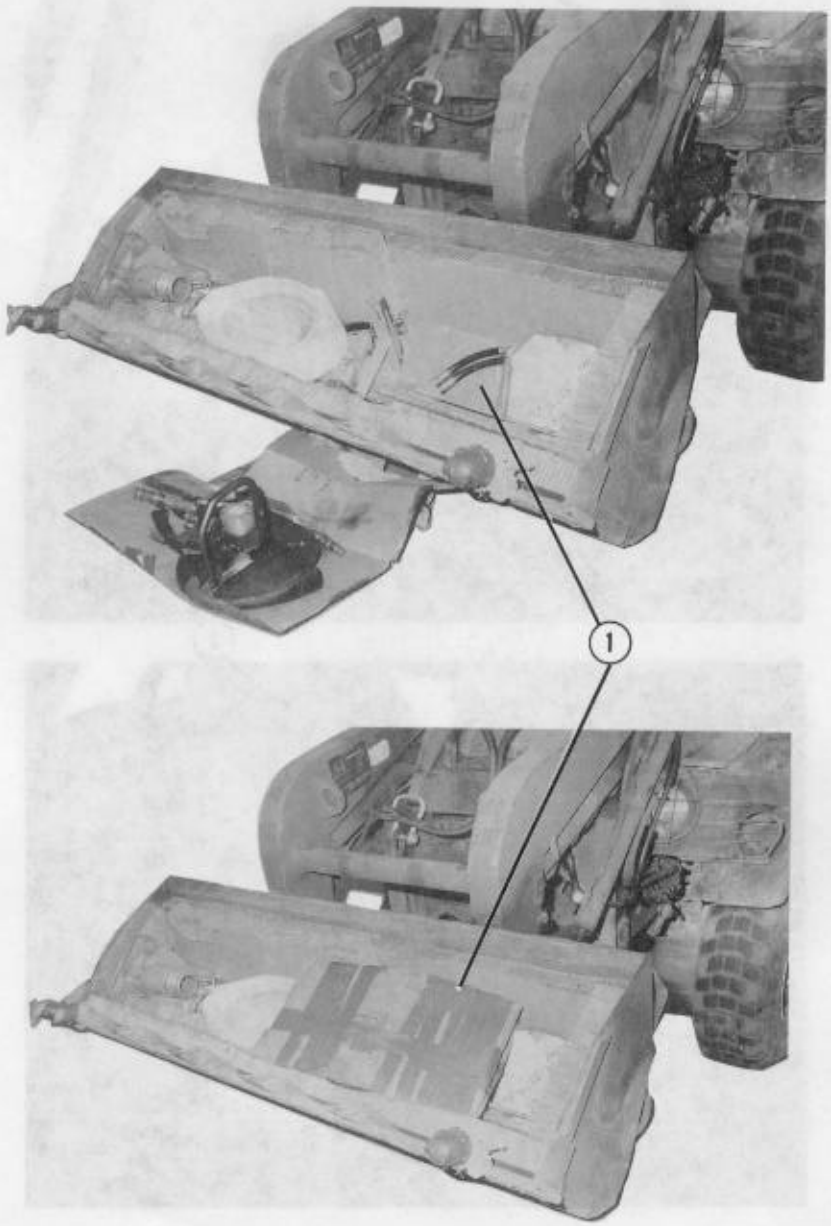
(1) Leave the spare tire in place. Run a 15-foot lashing around the driver's step and in front of the ROPS and through the spare tire's rim. Place padding between the metal of the rim and lashing. Secure the lashing with a load binder and D-ring.

Figure 3-38.1. Spare tire secured



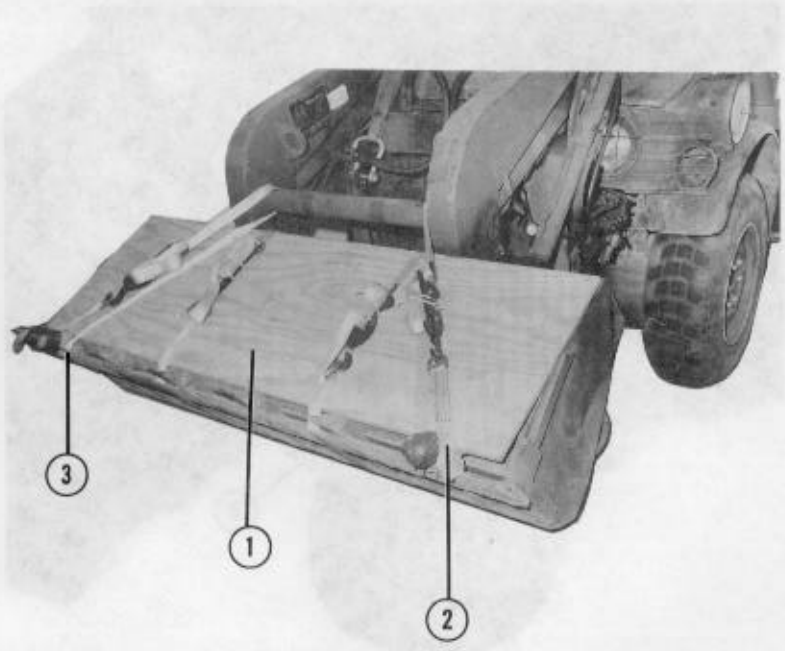
(2) Run a 15-foot lashing around the top bar of the ROPS one time and down through the spare tire's rim. Place padding between the metal of the rim and the lashing. Place a piece of felt on top of the tire and secure the lashing with a load binder and a D-ring.

Figure 3-38.1. Spare tire secured (continued)



(1) Line the front bucket with honeycomb and evenly place the listed attachments in the bucket. Make sure the circular saw and blades are covered with cardboard and secure with tape. Fill in any empty space between the attachments with honeycomb.

Figure 3-38.2. Attachments placed in front end loader bucket

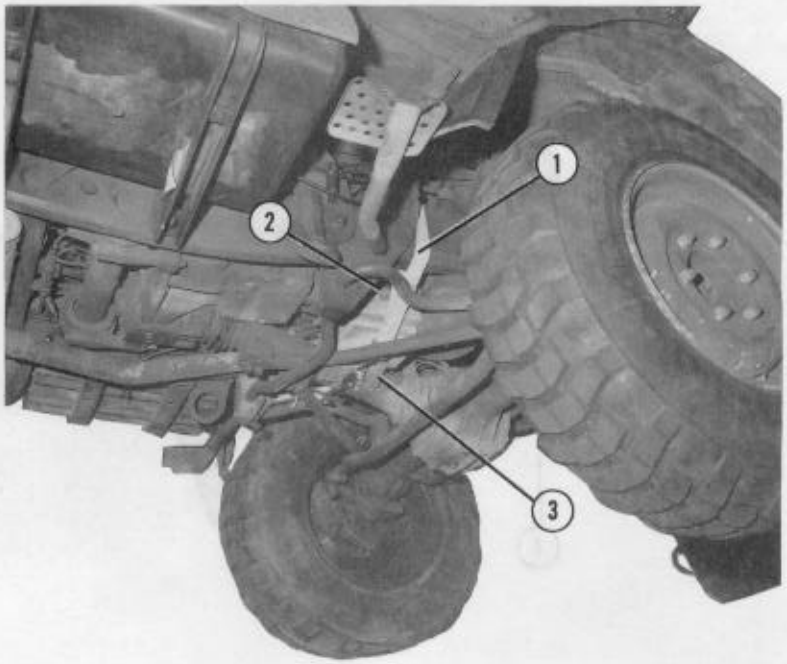


(1) Cut a piece of 3/4-inch plywood 26 by 78 inches and place it on top of the attachments in the bucket. Secure plywood in place with four 15-foot lashings. Run two lashings completely around the bucket between the bucket frame supports.

(2) Run a 15-foot lashing around the outside left tooth and around the frame support of the bucket. Secure the lashing with a D-ring and a load binder.

(3) Run a 15-foot lashing around the outside right tooth and around the frame support of the bucket. Secure the lashing with a D-ring and a load binder.

Figure 3-38.3. Front bucket and attachments secured



1. Take the running end of a 15-foot lashing over the right side of the frame of the SEE at the point where the bell housing is located. Take the running end under the bell housing to the left side of SEE. Leave the lashing slack so the support block fits between the lashing and the bell housing.
2. Cut a 9- by 10-inch piece of felt and position it on the bottom of the support block. Place the support block and felt against the bell housing of the SEE. The beveled side of the block will face to the rear of the SEE.
3. Cut a 5- by 6-inch piece of honeycomb and place it between the drive shaft and the support block.

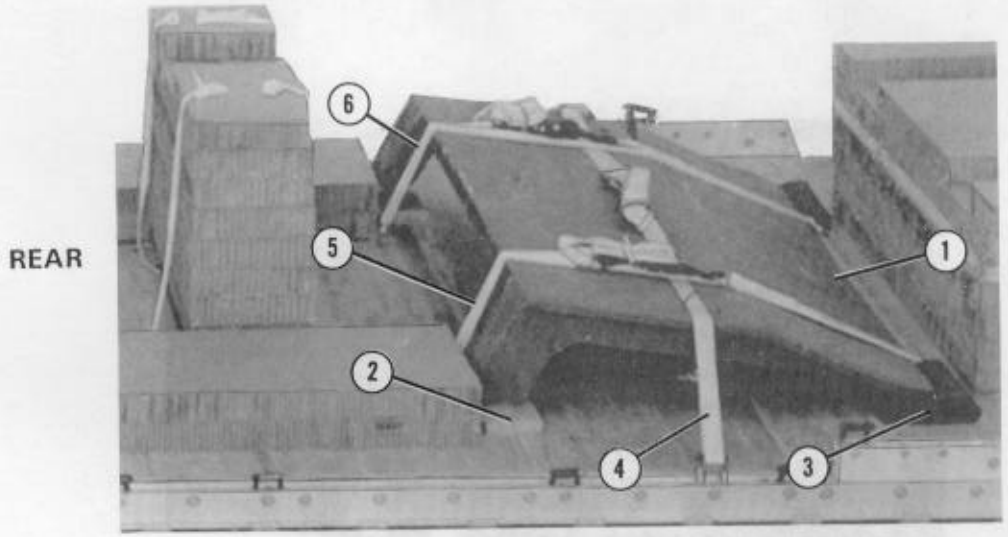
Figure 3-38.4. Bell housing support block positioned

(4) Take the slack out of the lashing and secure the lashing on the support block.

Figure 3-38.4. Bell housing support block positioned (continued)

3-5. Positioning and Lashing FOPS

Position and lash the FOPS as shown in Figure 3-39.

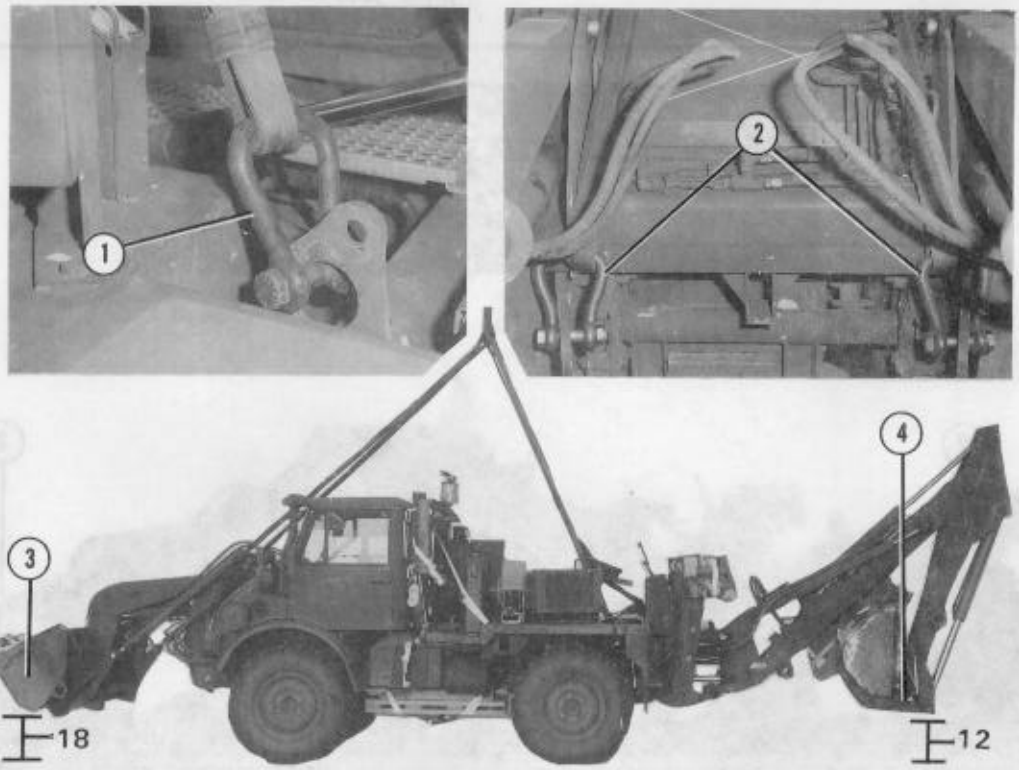


1. Position the front of the FOPS 31 inches from the front edge of the platform between tiedown rings A2 and A4 and between B2 and B4.
2. Place two 2- by 8- by 12-inch pieces of lumber under the rear mounting brackets of the FOPS.
3. Use two 12- by 18-inch pieces of felt. Fold the pieces of felt in half, and place them under the front edge of the FOPS.
4. Run a 15-foot lashing from tiedown clevis 5, through the rings on top of the FOPS, and through tiedown clevis 5A. Secure the lashing on top of the FOPS with a D-ring and a load binder.
5. Run a second 15-foot lashing from tiedown ring A2, over the top of the FOPS, to tiedown ring A4. Secure the lashing on top of the FOPS with a D-ring and a load binder.
6. Run a third 15-foot lashing from tiedown ring B2, over the top of the FOPS, to tiedown ring B4. Secure the lashing on top of the FOPS with a D-ring and a load binder.

Figure 3-39. FOPS positioned and secured

3-6. Attaching Lifting Slings

Attach the lifting slings as shown in Figure 3-40.



(1) Attach a 9-foot (4-loop), type XXVI nylon webbing sling to a large clevis, and attach the clevis to the right rear lifting provision. Repeat this step for the left rear lifting provision.

(2) Attach a 12-foot (4-loop), type XXVI nylon webbing sling to a large clevis, and attach the clevis to the right front lifting provision. Repeat this step for the left front lifting provision.

NOTES: *1. Twist the left front and rear slings as necessary to ensure the SEE is level.*

2. Set brakes raise the front end loader and backhoe assemblies is an operator function.

(3) Raise the front end loader assembly 18 inches to avoid crushing the honeycomb stacks.

(4) Raise the backhoe assembly 12 inches to avoid crushing the honeycomb stacks.

Figure 3-40. Lifting slings attached

3-7. Positioning SEE on Platform

Position the SEE on the platform as shown in Figure 3-41.

CAUTION

The honeycomb stacks may require slight adjustments when the truck is positioned on the stacks.

NOTE: *After slings are attached to the truck and the lifting device, place the transmission lever in neutral and release the brakes.*

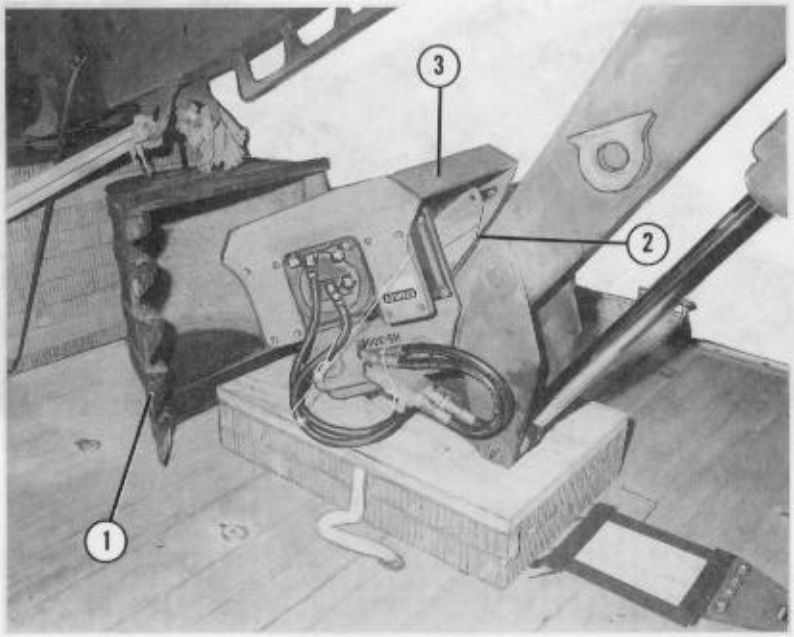
1. Position the SEE on the platform with the front of the vehicle overhanging the front edge of the platform 6 inches and the rear of the vehicle overhanging the platform 22 inches.
2. Lower the front bucket onto honeycomb stack 1 and the backhoe assembly onto honeycomb stack 10.
3. Remove the lifting slings from the vehicle (not shown).

NOTE: *If the tamper is installed instead of the bucket, follow instructions shown in Figures 3-20.3 through 3-20.5.*

Figure 3-41. Vehicle positioned on platform

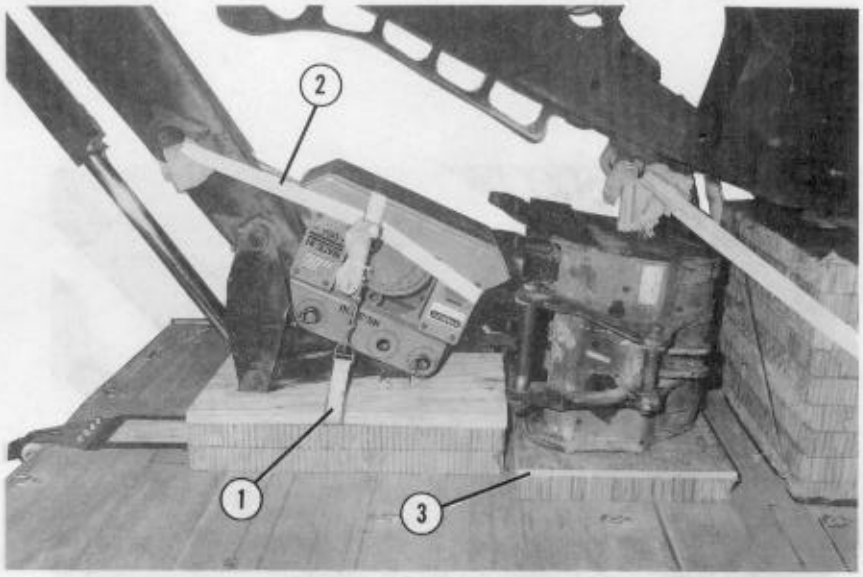
3-7.1. Positioning and Lashing Tamper as an Attachment and Backhoe Bucket as an Accompanying Load

When rigging the tamper as an attachment to the SEE and the backhoe bucket as an accompanying load, position and lash the tamper and backhoe bucket as shown in Figures 3-41.1 through 3-41.3.



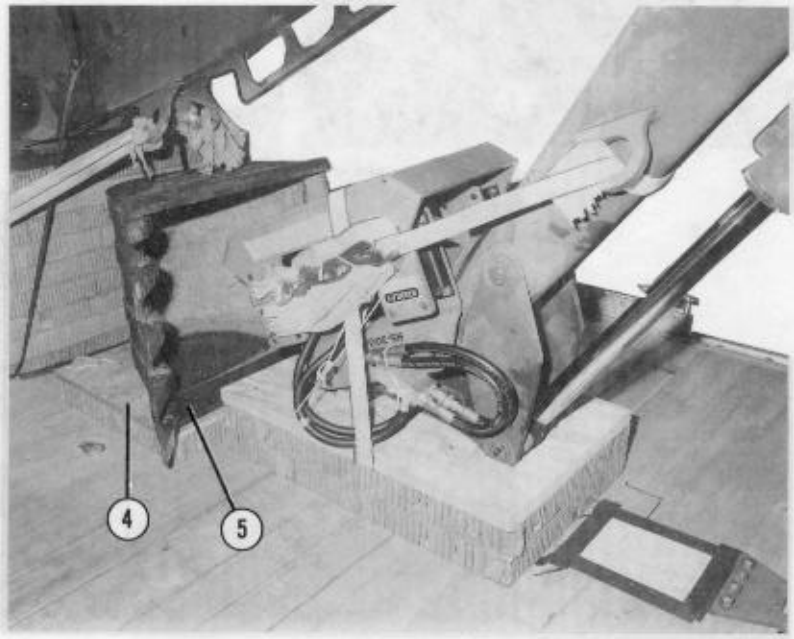
1. Remove the backhoe bucket and attach the tamper to the SEE.
2. Place a 6- by 10-inch piece of felt between the tamper and the dipper stick.
3. Rotate the tamper against the dipper stick.

Figure 3-41.1. Tamper assembly prepared



1. Secure the 15-foot lashing on honeycomb stack 10 over the tamper.
2. Install a 15-foot lashing through tiedown provision 8 and around the front of the tamper.
3. Cut a piece of 3/4-inch plywood 36 inches wide by 24 inches long. Cut a piece of honeycomb 36 inches wide by 24 inches long and glue the plywood on top of the honeycomb.

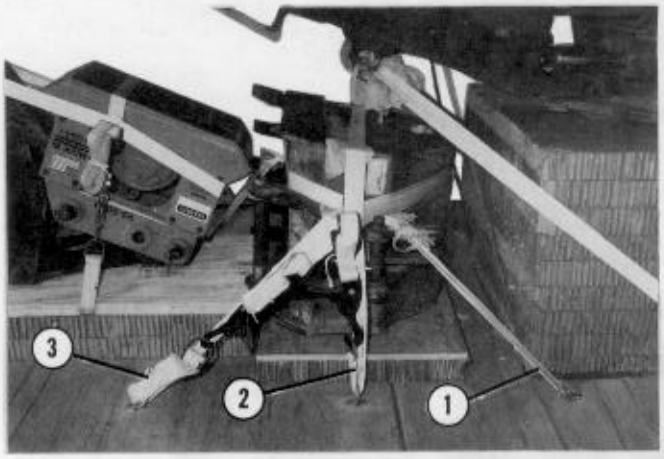
Figure 3-41.2. Backhoe secured and bucket positioned

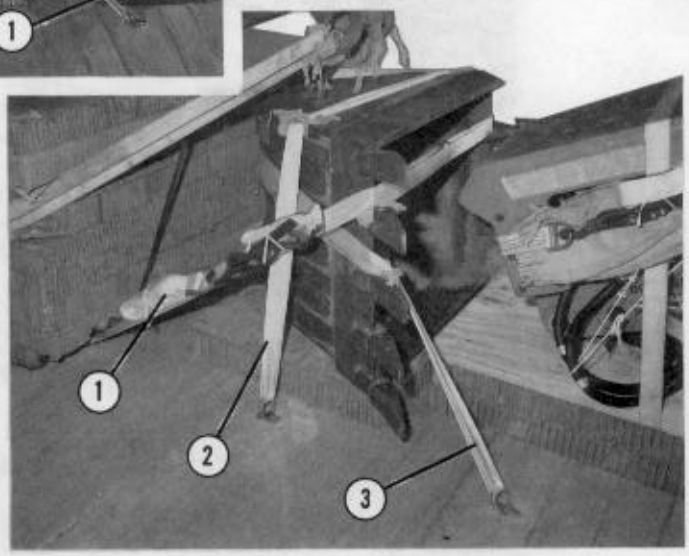


(4) Position the plywood and honeycomb 7 inches from stack 9 and center between deck rings 12A and 12B.

(5) Position bucket on the plywood with the bottom of the bucket facing the front of the load and the teeth facing to the left of the load.

Figure 3-41.2. Backhoe secured and bucket positioned (continued)





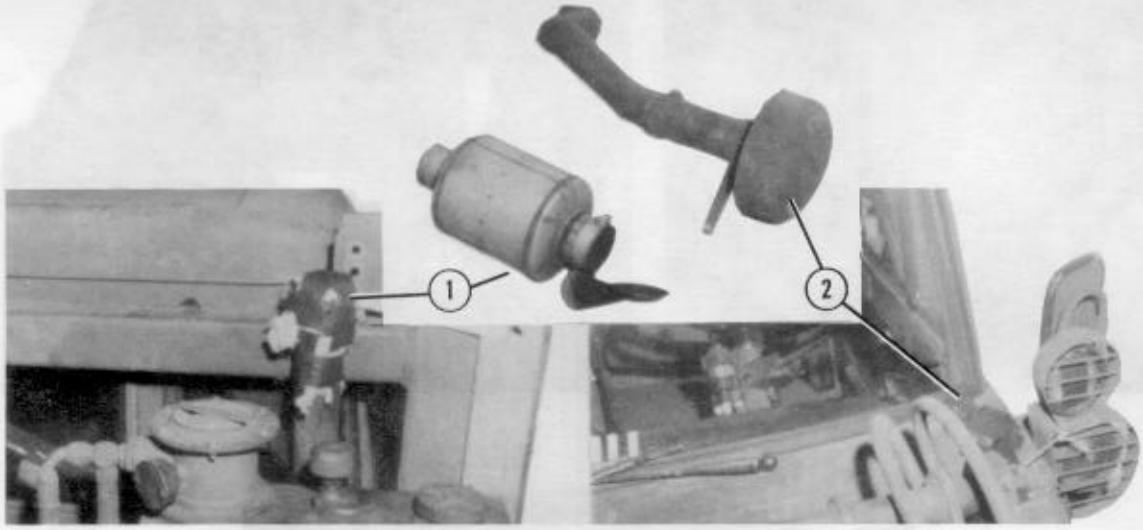
Lashing Number	Tiedown Ring Number	Instructions
*1	11A to 11B	Center joined D-rings on the rear of the bucket. Run the left side lashing between the first and second bucket teeth and through 11B. Run the right side lashing on top of pin bracket and through 11A and back to the left side and secure.
2	12A to 12B	Run lashing through 12A, up over top of bucket, through 12B back to 12A, and secure on right side.
*3	13A to 13B	Center joined D-rings on front of bucket. Run the left side lashing between second and third tooth of the bucket, through 13B, and back to the right side. Run the right side lashing over the pin bracket, through 13A, and secure.

* 30-foot lashings

Figure 3-41.3. Bucket positioned and secured

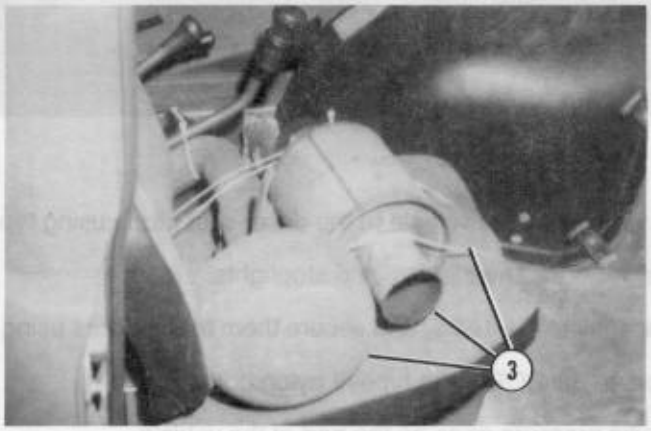
3-8. Preparing SEE After Positioning

Prepare the SEE after positioning as shown in Figures 3-42, 3-43, and 3-44.



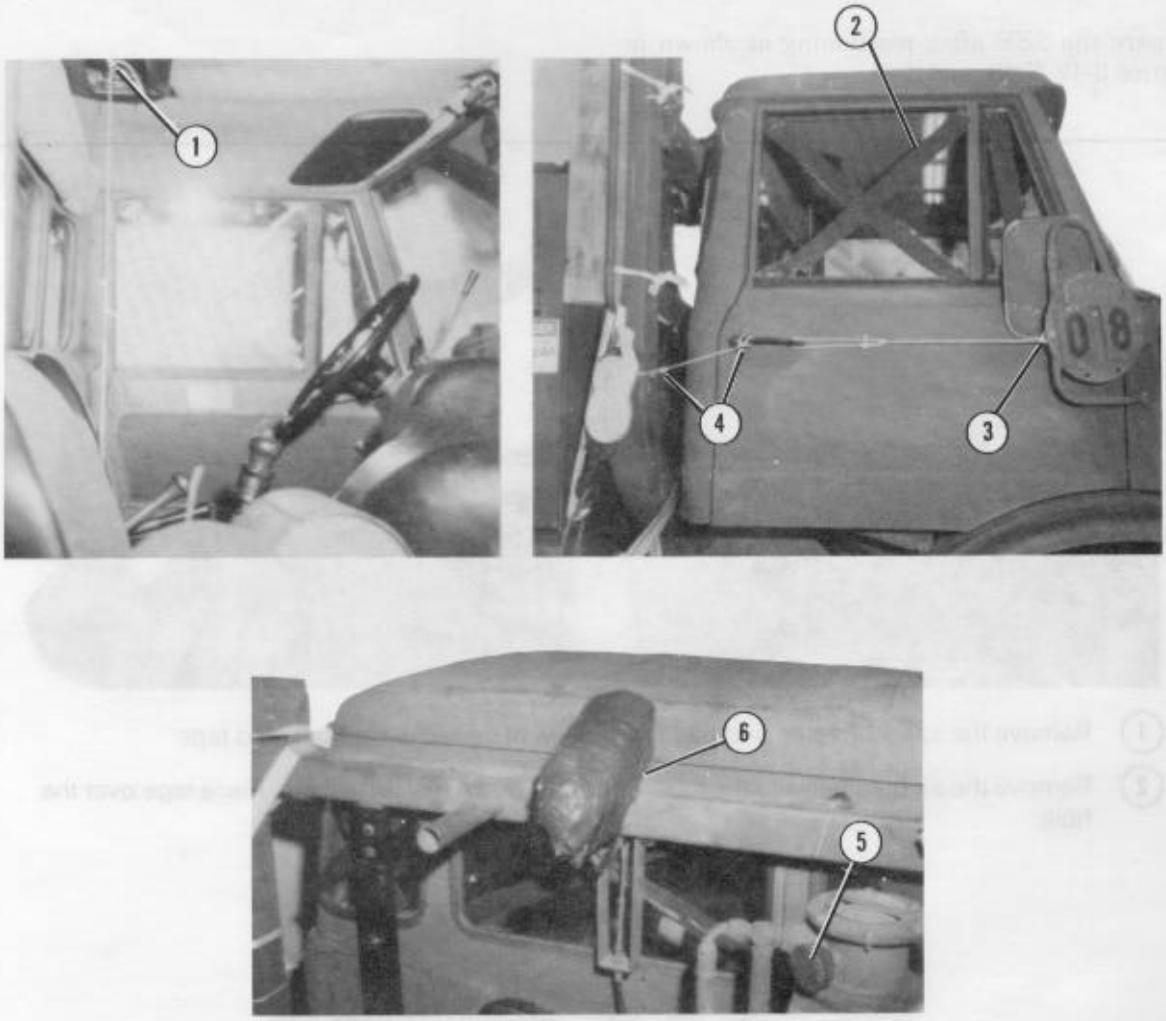
(1) Remove the spark arrester, and pad the stack with cellulose wadding and tape.

(2) Remove the air breather with the tube assembly, and reinstall the bolt. Place tape over the hole.



(3) Place the spark arrester and air breather on the passenger seat of the vehicle, and secure with type III nylon cord.

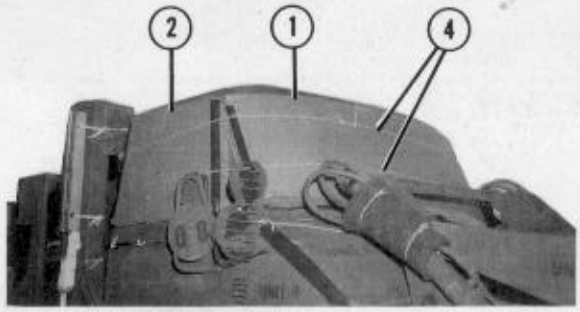
Figure 3-42. Spark arrester and air breather removed and secured

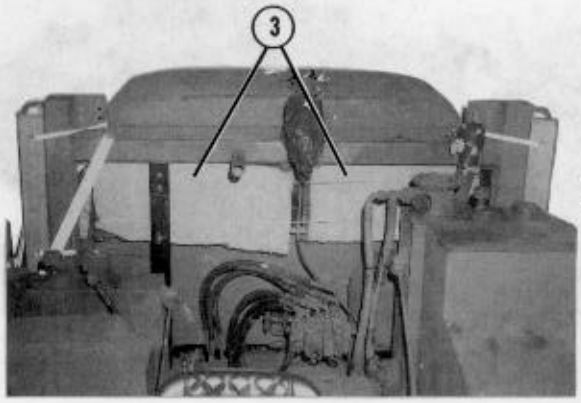


1. Secure the top vent inside the vehicle to the driver seat frame using type III nylon cord.
2. Tape all mirrors, windows, headlights, and stoplights.
3. Fold the mirrors against the doors, and secure them to the doors using type III nylon cord.
4. Secure the doors to the ROPS with type III nylon cord.
5. Tape the hydraulic pressure gage on the bed of the vehicle.
6. Pad the travel lock using a 12- by 14-inch piece of felt. Tape the felt in place.

NOTE: The padding on the travel lock must be flush with the roof of the cab due to height restrictions.

Figure 3-43. Components of SEE secured



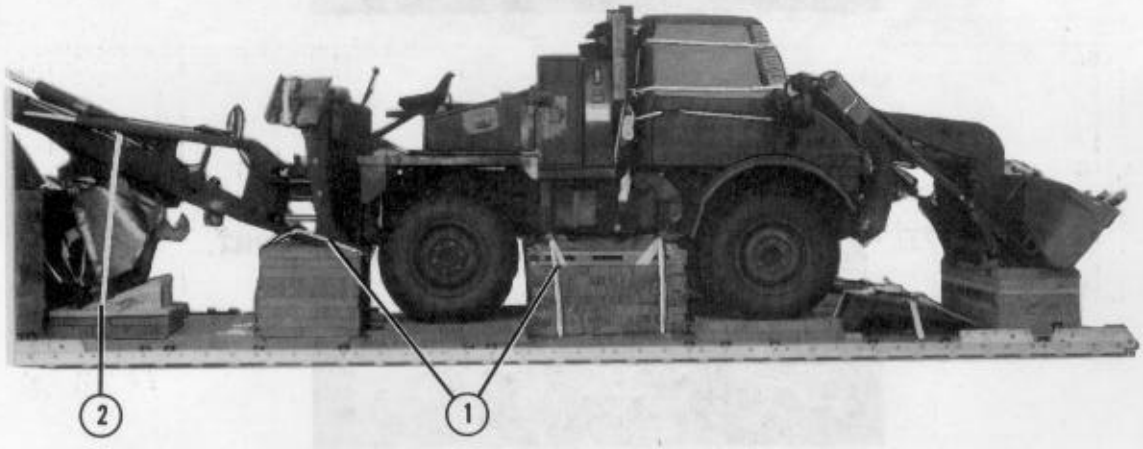


1. Place a 22- by 64-inch piece of honeycomb on the front window. Make sure that the honeycomb goes under the lip of the cab due to height restrictions.
2. Cut an adequate piece of honeycomb for each side window, and place it to fit each window.
3. Place a 29- by 14-inch piece of honeycomb on the right side of the rear window and a 32- by 14-inch piece on the left side of the rear window.
4. Secure all pieces of honeycomb placed on the windows with two ties of type III nylon cord.

Figure 3-44. Honeycomb placed and secured on windows of SEE

3-9. Securing SEE to Honeycomb Stacks

Secure the SEE to the honeycomb stacks as shown in Figure 3-45.



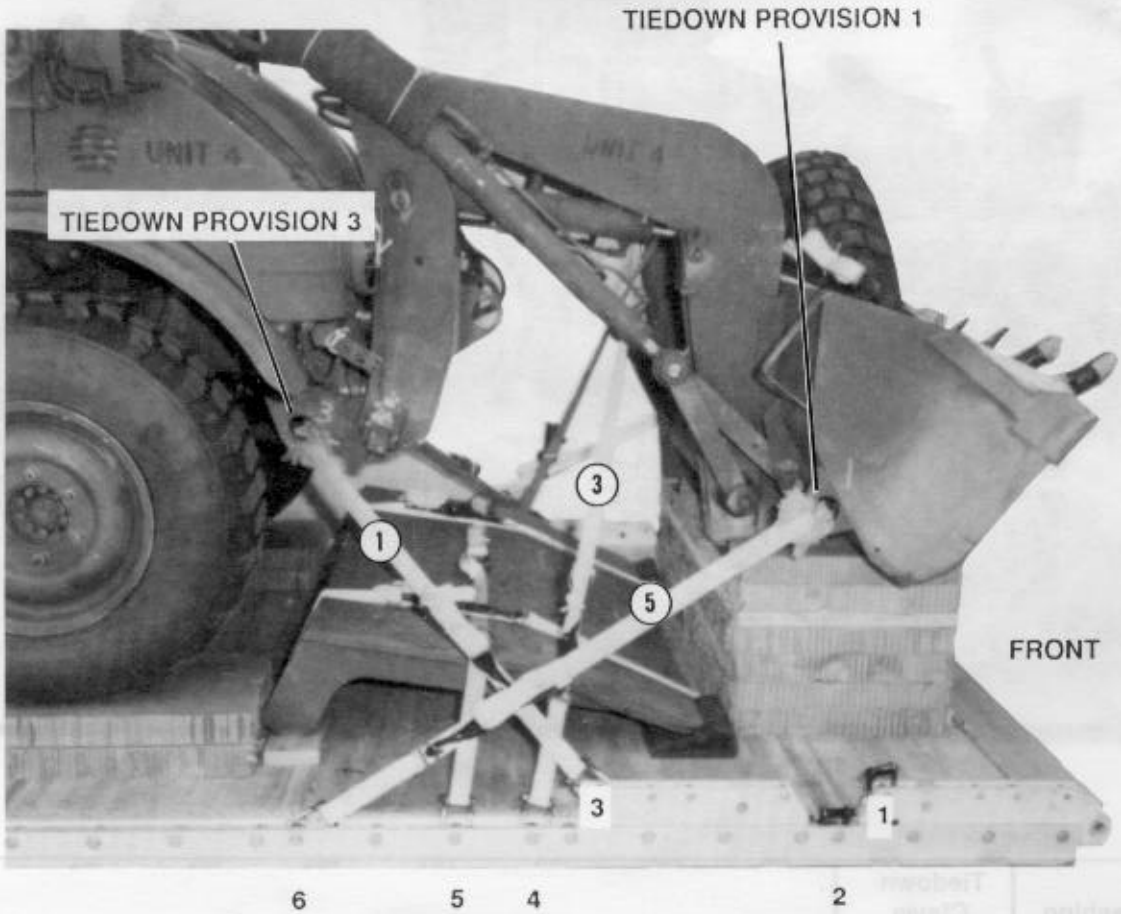
(1) Secure the 1/2-inch tubular nylon webbing ties on honeycomb stacks 1, 3, 5, 7, and 9 to the vehicle.

(2) Secure the 15-foot lashing on honeycomb stack 10 to the boom, running the lashing between the boom and hydraulic lines. Close with a D-ring and a load binder.

Figure 3-45. Vehicle secured to honeycomb stacks

3-10. Installing Lashings

Install twenty-six 15-foot tiedown assemblies, and lash the vehicle to the platform as shown in Figures 3-46 through 3-49.

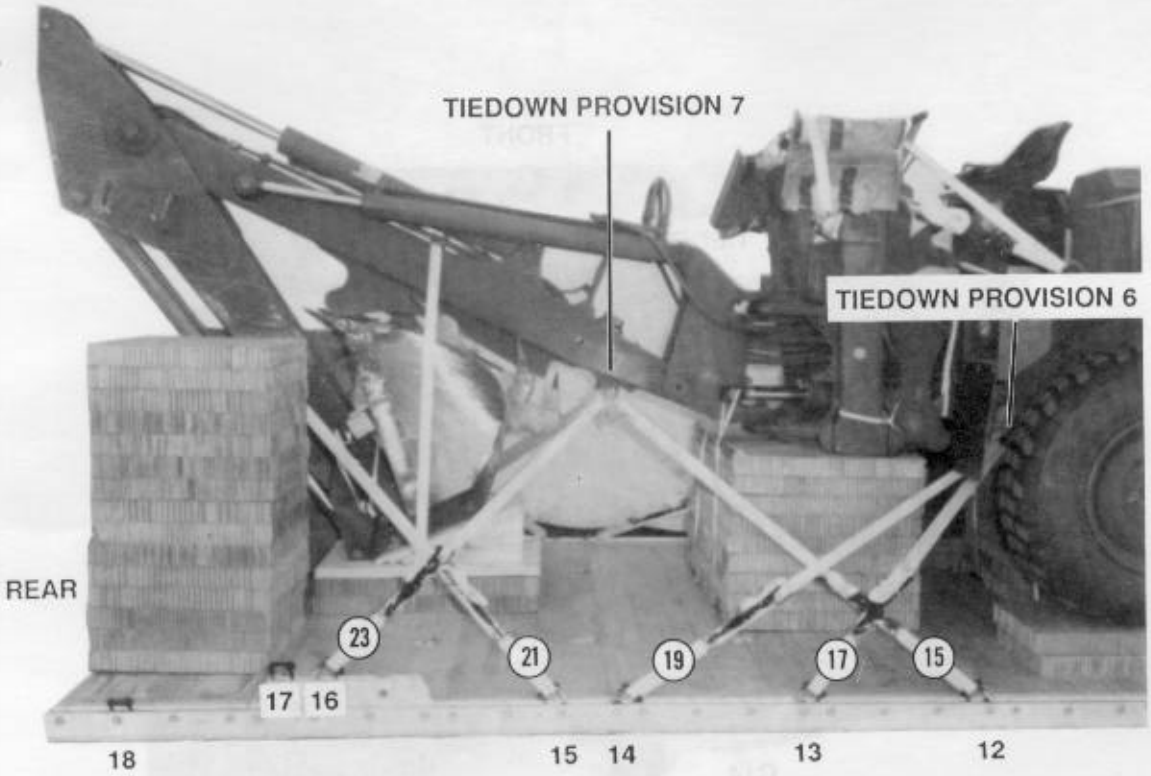


Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing:
1	3	Through tiedown provision 3, right side.
2	3A	Through tiedown provision 3, left side.
3	4	Through tiedown provision 2, left side.
4	4A	Through tiedown provision 2, right side.
5	6	Through tiedown provision 1, right side.
6	6A	Through tiedown provision 1, left side.

Figure 3-46. Lashings 1 through 6 installed

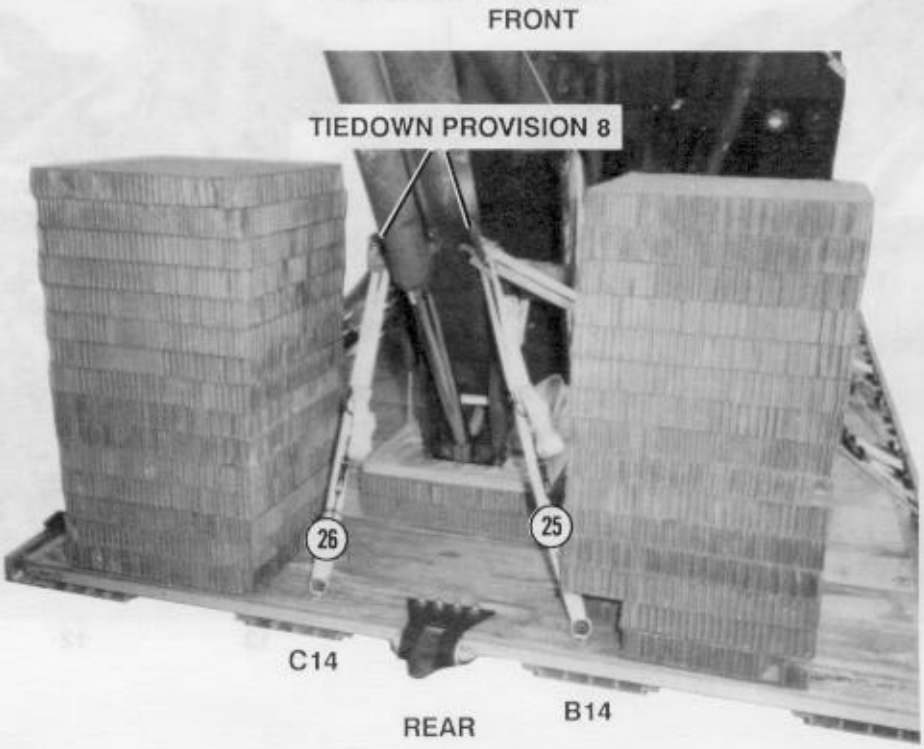
Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing:
7	8	Through tiedown provision 5, right side.
8	8A	Through tiedown provision 5, left side.
9	9	Through tiedown provision 5, right side.
10	9A	Through tiedown provision 5, left side.
11	10	Through tiedown provision 4, right side.
12	10A	Through tiedown provision 4, left side.
13	11	Through tiedown provision 4, right side.
14	11A	Through tiedown provision 4, left side.

Figure 3-47. Lashings 7 through 14 installed



Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing:
15	12	Through tiedown provision 7, right side.
16	12A	Through tiedown provision 7, left side.
17	13	Through tiedown provision 6, right side.
18	13A	Through tiedown provision 6, left side.
19	14	Through tiedown provision 6, right side.
20	14A	Through tiedown provision 6, left side.
21	15	Through tiedown provision 8, right side.
22	15A	Through tiedown provision 8, left side.
23	16	Through tiedown provision 7, right side.
24	16A	Through tiedown provision 7, left side.

Figure 3-48. Lashings 15 through 24 installed



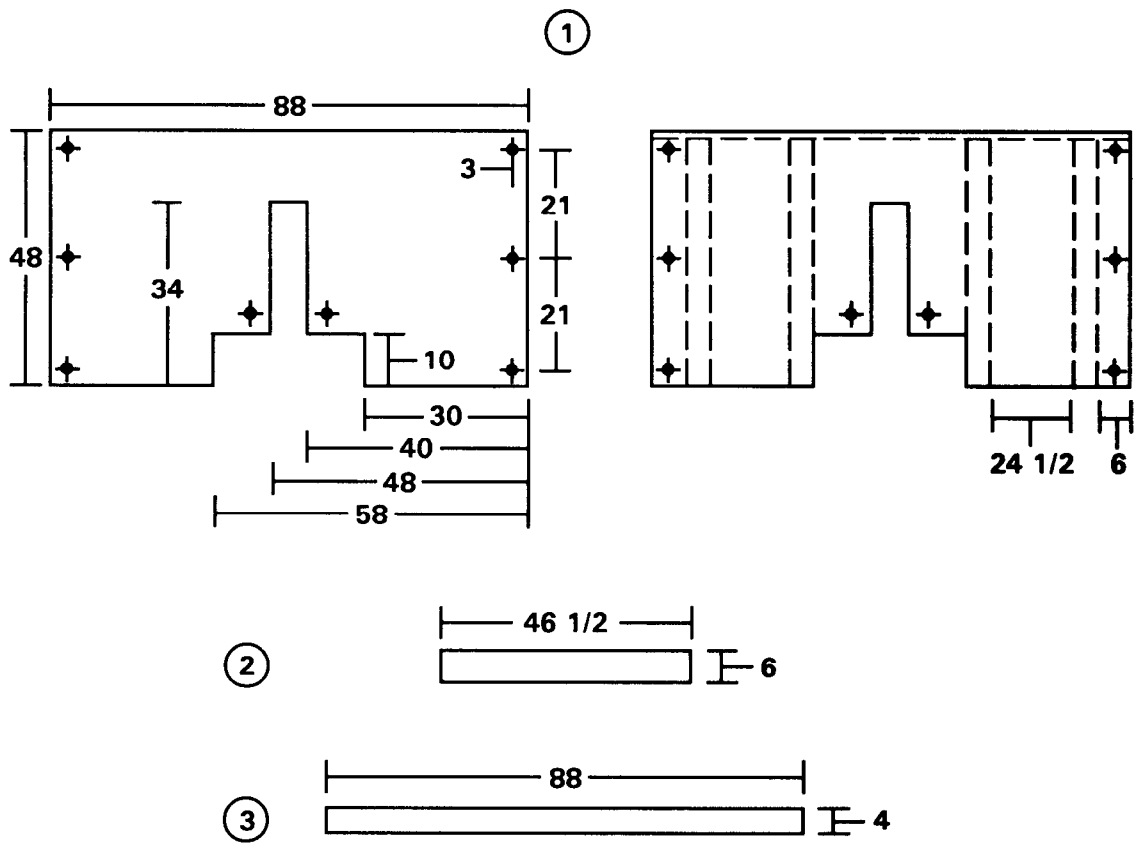
Lashing Number	Tiedown Ring Number	Instructions
		Pass lashing:
25	B14	Through tiedown provision 8, right side.
26	C14	Through tiedown provision 8, left side.

Figure 3-49. Lashings 25 and 26 installed

3-11. Building and Securing Parachute Stowage Platform

Build and secure the parachute stowage platform as shown in Figures 3-50, 3-51, and 3-52.

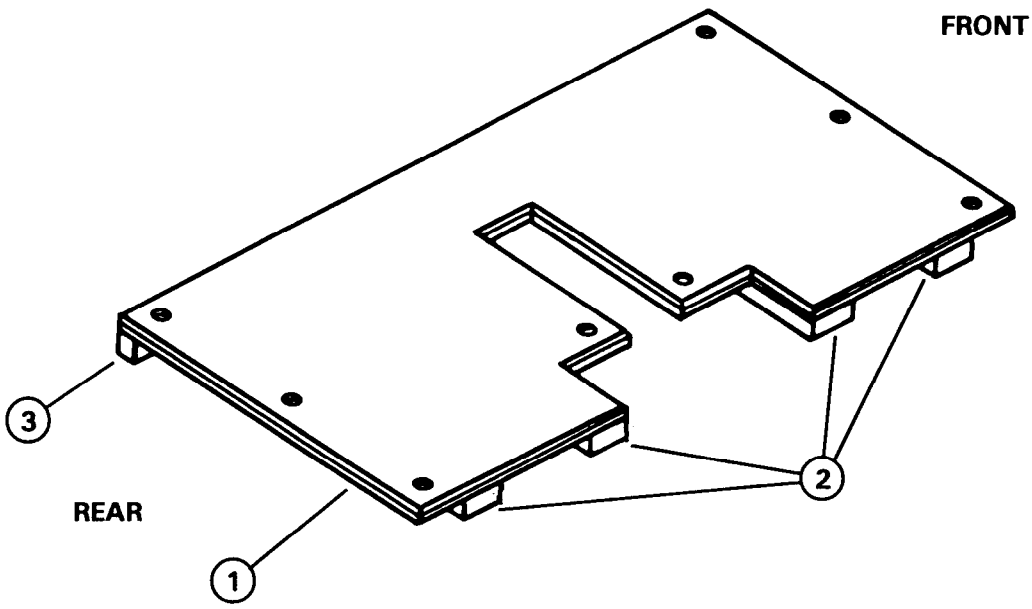
NOTES: *1. All measurements are given in inches.*
2. These drawings are not drawn to scale.
3. Circled numbers refer to item numbers.
4. All 8 holes are 2 inches in diameter.



Item Number	Pieces	Width (Inches)	Length (Inches)	Material
1	2	48	88	3/4-inch plywood
2	4	6	46 1/2	2- by 6-inch lumber
3	1	4	88	2- by 4-inch lumber

Figure 3-50. Materials required to build the parachute stowage platform

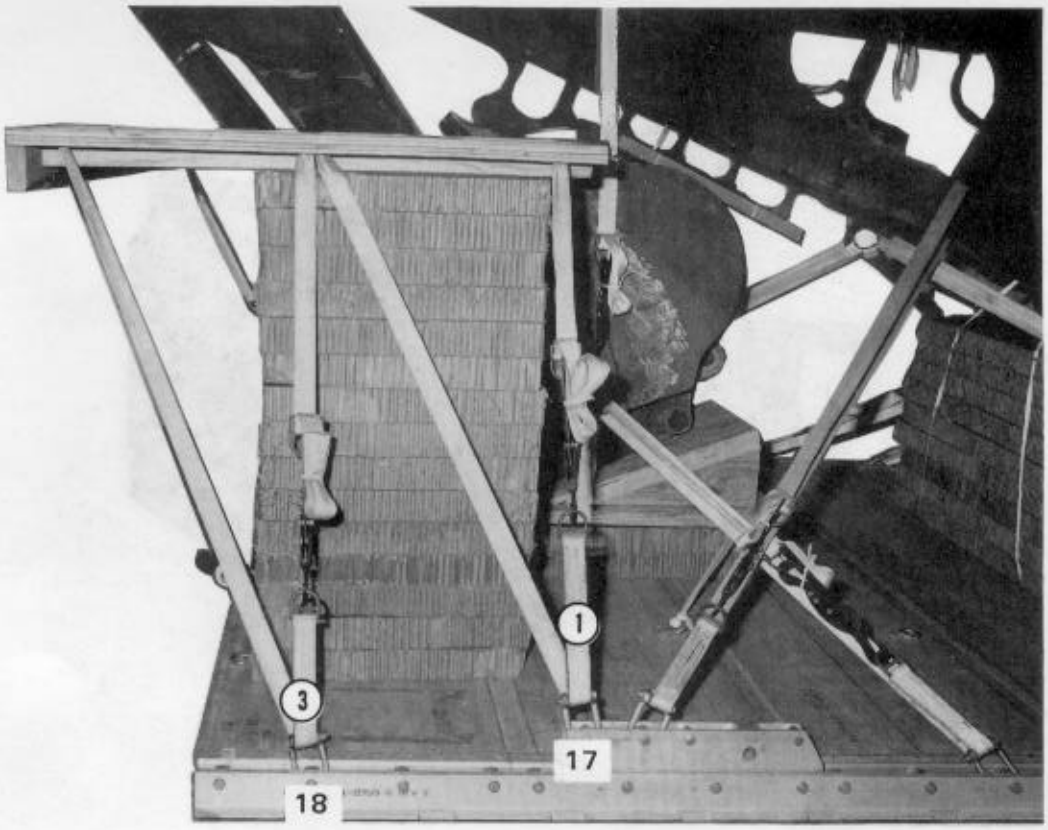
NOTES: *1. This drawing is not drawn to scale.*
2. Circled numbers refer to item numbers on the previous page.



Step:

1. Build the parachute stowage platform as shown using the materials given in Figure 3-50.
2. Secure the lumber and plywood in place as shown with fourpenny nails.

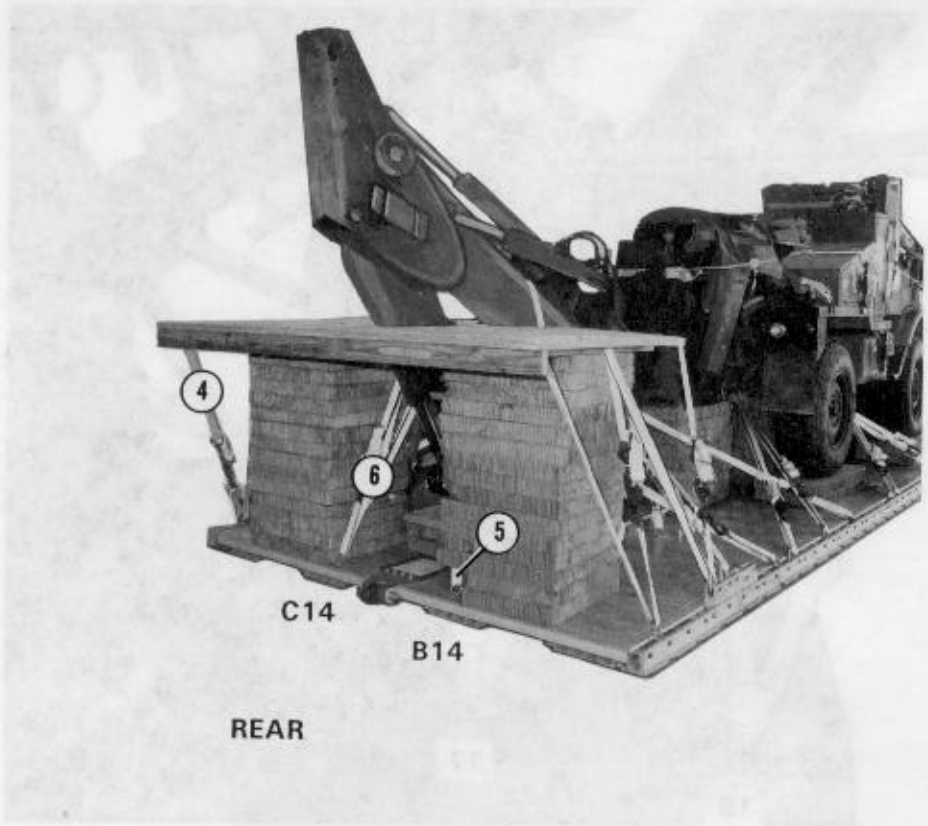
Figure 3-51. Parachute stowage platform built



RIGHT

Lashing Number	Tiedown Clevis/Ring Number	Instructions
		Pass lashing:
1	17	Through the front and center holes in the stowage platform on the right side.
2	17A	Through the front and center holes in the stowage platform on the left side.
3	18	Through the rear and center holes on the right side.

Figure 3-52. Parachute stowage platform secured

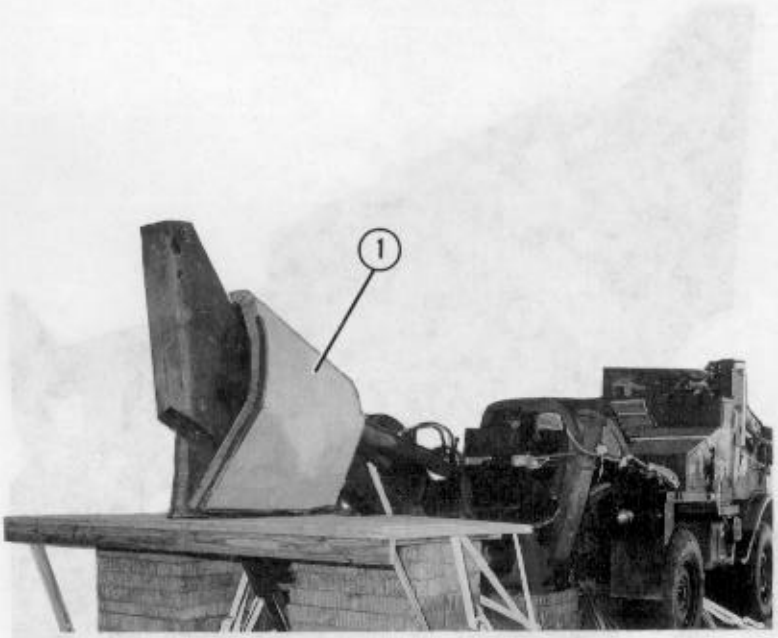


Lashing Number	Tiedown Clevis/Ring Number	Instructions
		Pass lashing:
4	18A	Through the rear and center holes on the left side.
5	B14	Through the center front hole on the inner right side of the stowage platform.
6	C14	Through the center front hole on the inner left side of the stowage platform.
7	13A	Through the center front hole on the inner right side of the stowage platform (not shown).
8	13B	Through the center front hole on the inner left side of the stowage platform (not shown).

Figure 3-52. Parachute stowage platform secured (continued)

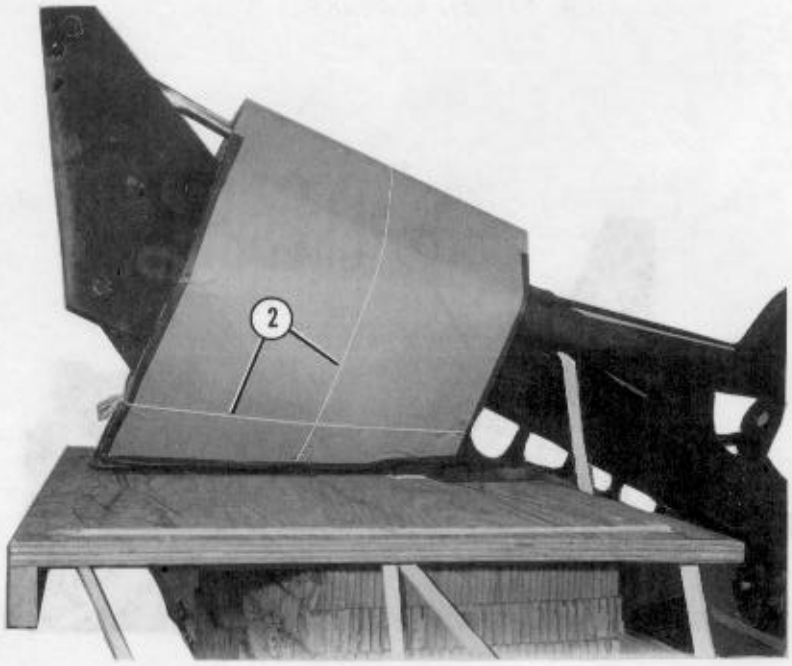
3-11.1. Installing Boom Cover

Install the boom cover as shown in Figure 3-52.1.



(1) Center a 36- by 95-inch piece of honeycomb over the backhoe and bend it in half.

Figure 3-52.1. Installing boom cover



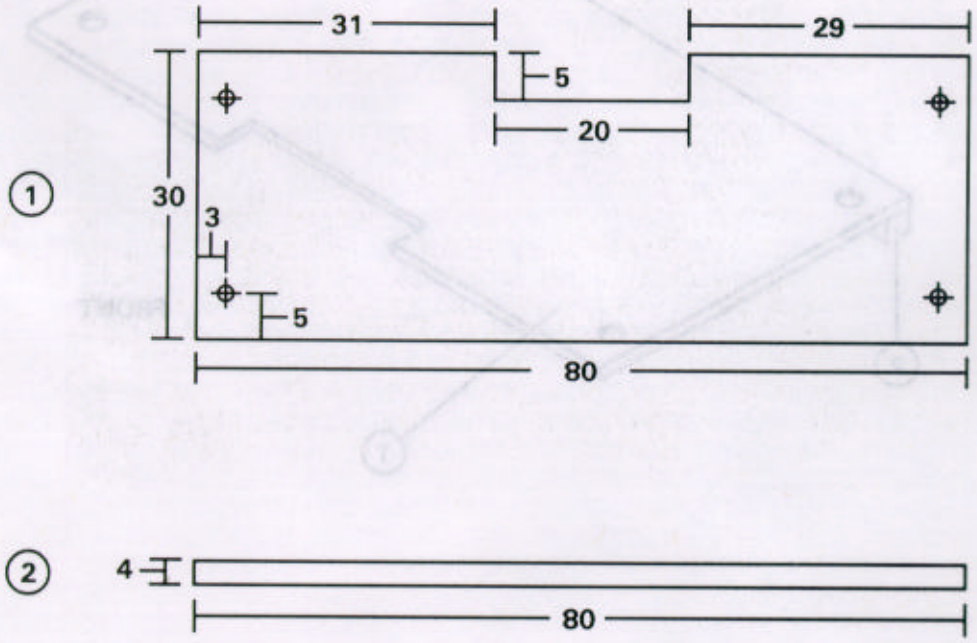
(2) Trim the right and left sides of the honeycomb so it will be even with the parachute storage platform and secure in place with two lengths of type III nylon cord.

Figure 3-52.1. Installing boom cover (continued)

3-12. Building, Positioning, and Securing Release Tray

Build the release tray as shown in Figures 3-53 and 3-54. Position and secure the release tray as shown in Figure 3-55.

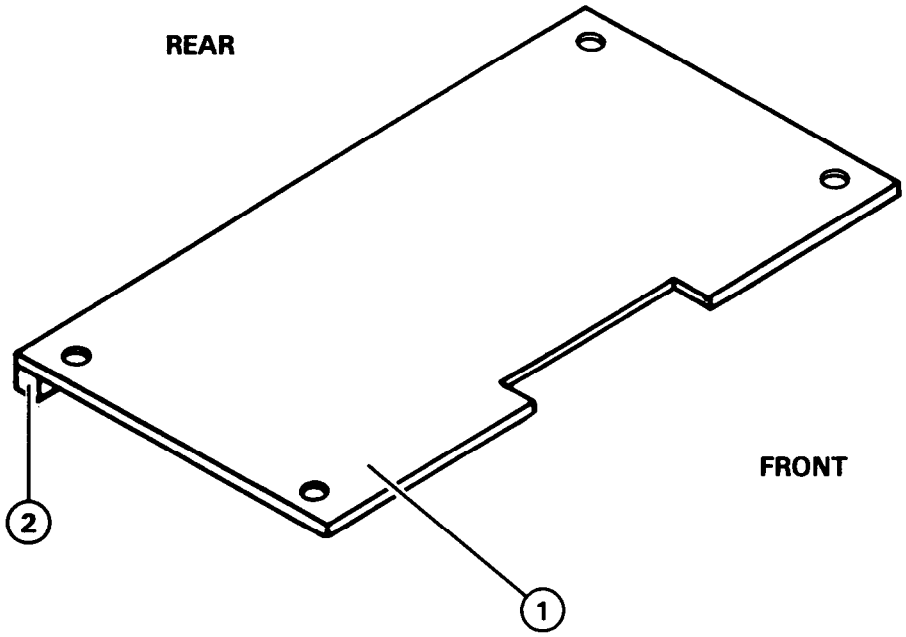
NOTES: *1. All measurements are given in inches.*
2. These drawings are not drawn to scale.
3. Circled numbers refer item numbers.
4. All holes are 2 inches in diameter.



Item Number	Pieces	Width (Inches)	Length (Inches)	Material
1	1	30	80	3/4-inch plywood
2	1	4	80	2- by 4-inch lumber

Figure 3-53. Materials required for building the release tray

NOTES: *1. This drawing is not drawn to scale.*
2. Circled numbers refer to item numbers on the previous page.



Step:

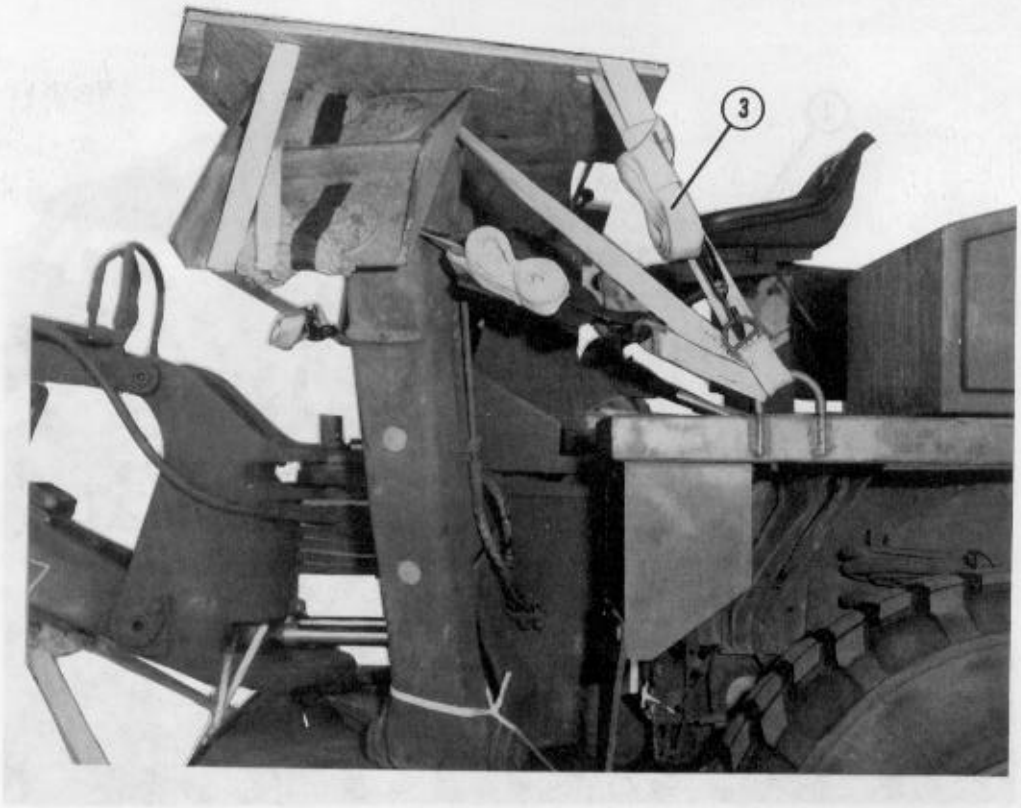
1. Build the release tray as shown using the materials given in Figure 3-53.
2. Secure the lumber and plywood in place as shown with fourpenny nails.

Figure 3-54. Release tray built

1. Position the release tray on the stabilizers with the cutout facing the front of the vehicle and flush against the backhoe controls.
2. Form a 30-foot lashing according to FM 10-500-2/TO 13C7-1-5. Run the 30-foot lashing through the rear holes of the release tray and under the stabilizers. Secure the lashing with two D-rings and a load binder.

Figure 3-55. Release tray positioned and secured

LEFT

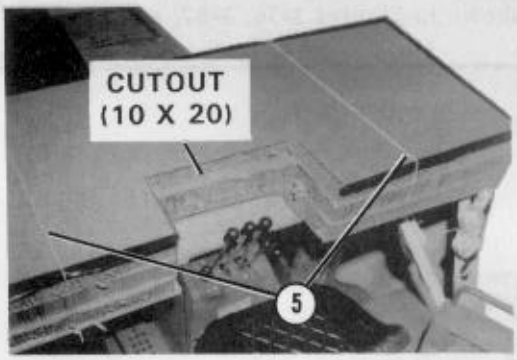


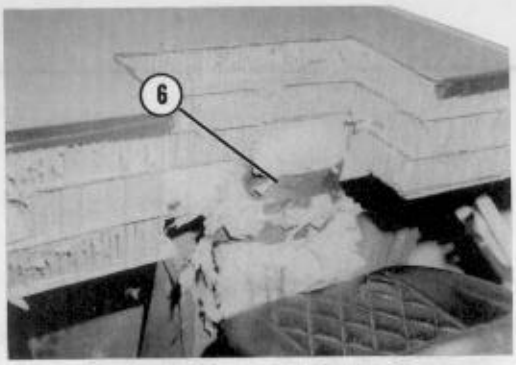
RIGHT

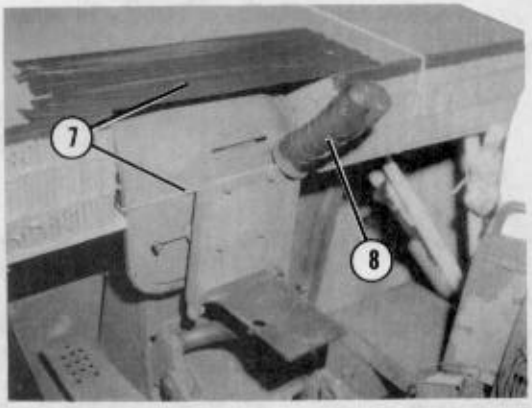
(3) Run a 15-foot lashing from the right rear fender tiedown ring through the front hole on the right side of the release tray. Secure the lashing with a D-ring and a load binder.

(4) Run a 15-foot lashing from the left rear fender tiedown ring through the front hole on the left side of the release tray (not shown). Secure the lashing with a D-ring and a load binder.

Figure 3-55. Release tray positioned and secured (continued)







(5) On one 80-inch side of three 30- by 80-inch pieces of honeycomb, make a 10- by 20-inch cutout, 29 inches from the right side and 31 inches from the left side. Stack the honeycomb on top of the release tray. Tape the front and rear top edges. Secure the honeycomb on the release tray with type III nylon cord in two places.

(6) Wrap the controls with cellulose wadding and tape.

(7) Push the operator seat forward, and secure it with type III nylon cord to a convenient point on the vehicle. Tape the top portion of the operator seat in place.

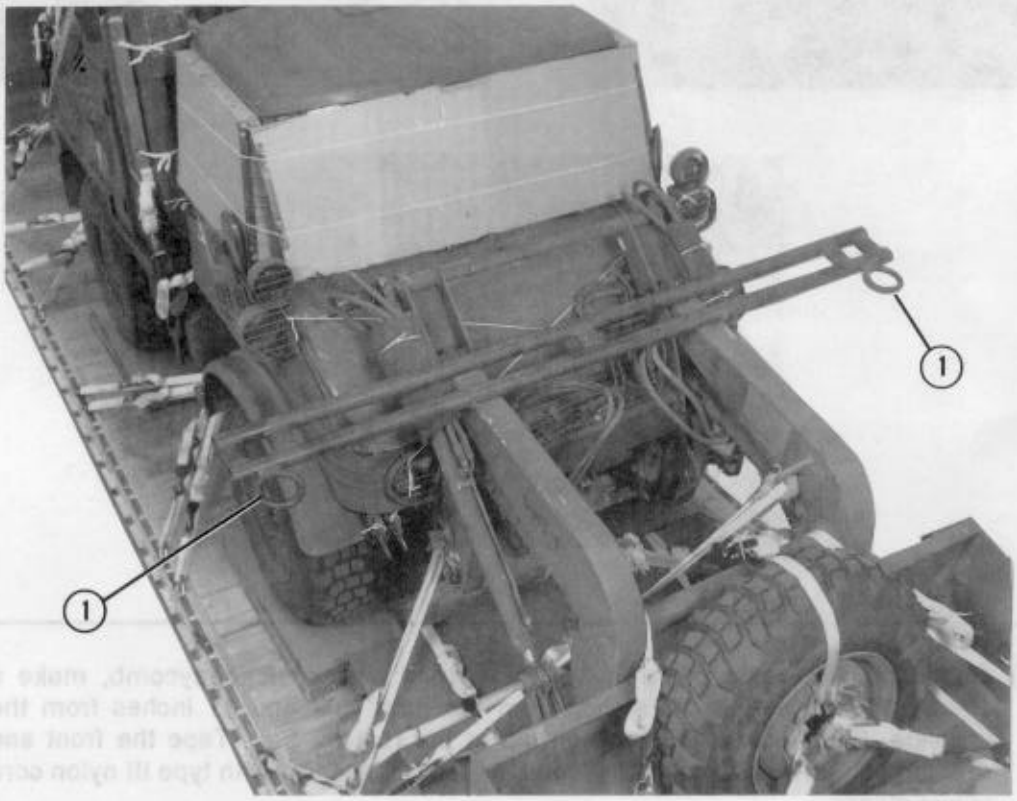
NOTE: *Make sure the operator seat is lower than the top of the honeycomb on the release tray.*

(8) Pad the bar on the bottom of the operator seat with a 12- by 12-inch piece of felt and tape.

Figure 3-55. Release tray positioned and secured (continued)

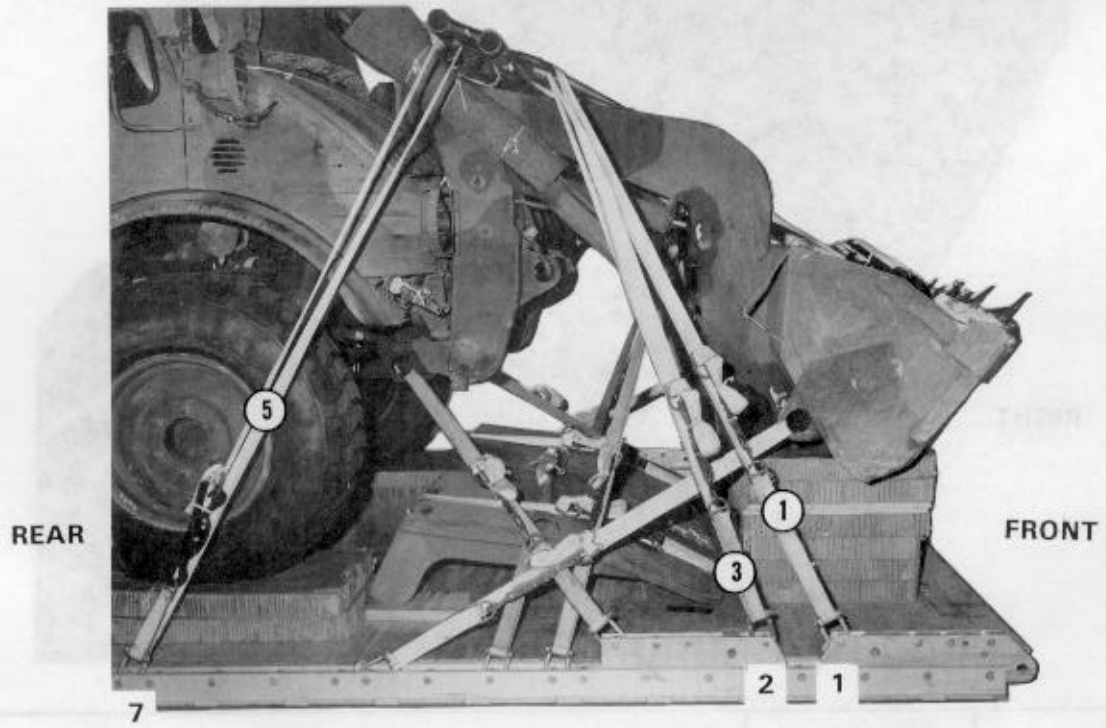
3-13. Installing ACB

Install the ACB, and lash it to the platform as shown in Figures 3-56, 3-57, and 3-58.



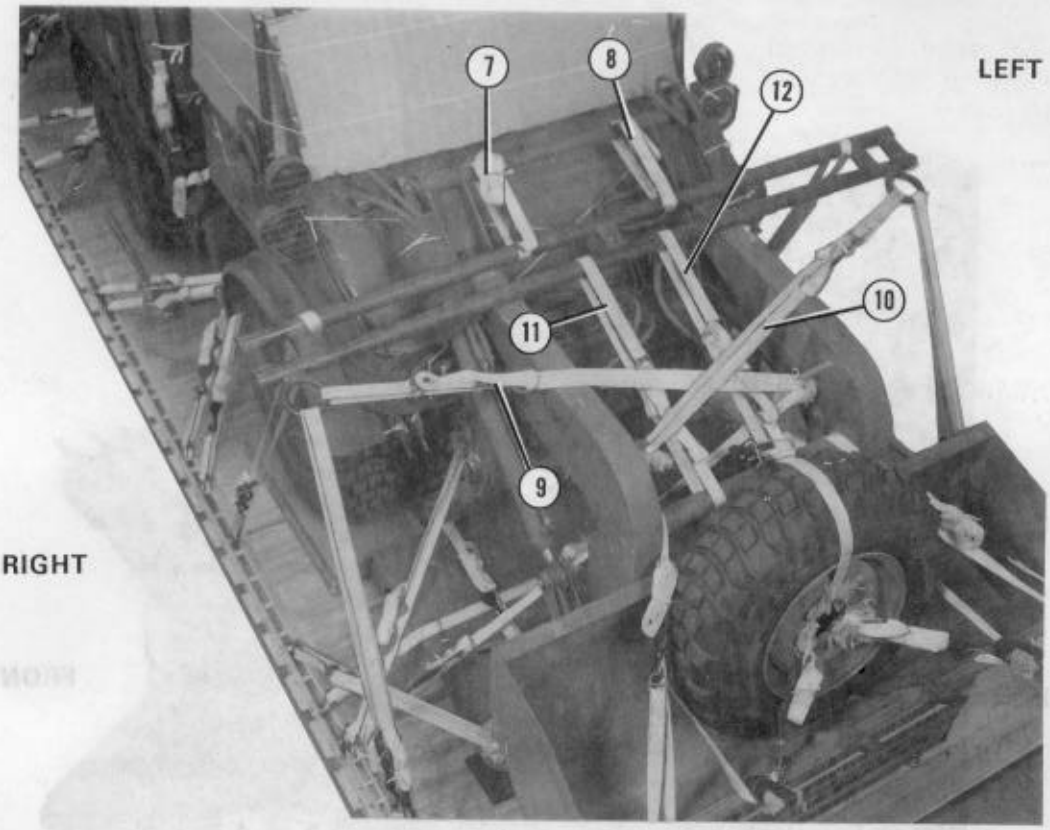
(1) Install the ACB on the front loader arms, flush against the felt on the cylinder arms, with the ACB rings pointing toward the front of the platform.

Figure 3-56. ACB positioned



Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing:
1	1	Through right ring of the ACB.
2	1A	Through left ring of the ACB.
3	2	Through right ring of the ACB.
4	2A	Through left ring of the ACB.
5	7	Around top bar on right side of the ACB.
6	7A	Around top bar on left side of the ACB.

Figure 3-57. Lashings 1 through 6 installed on ACB

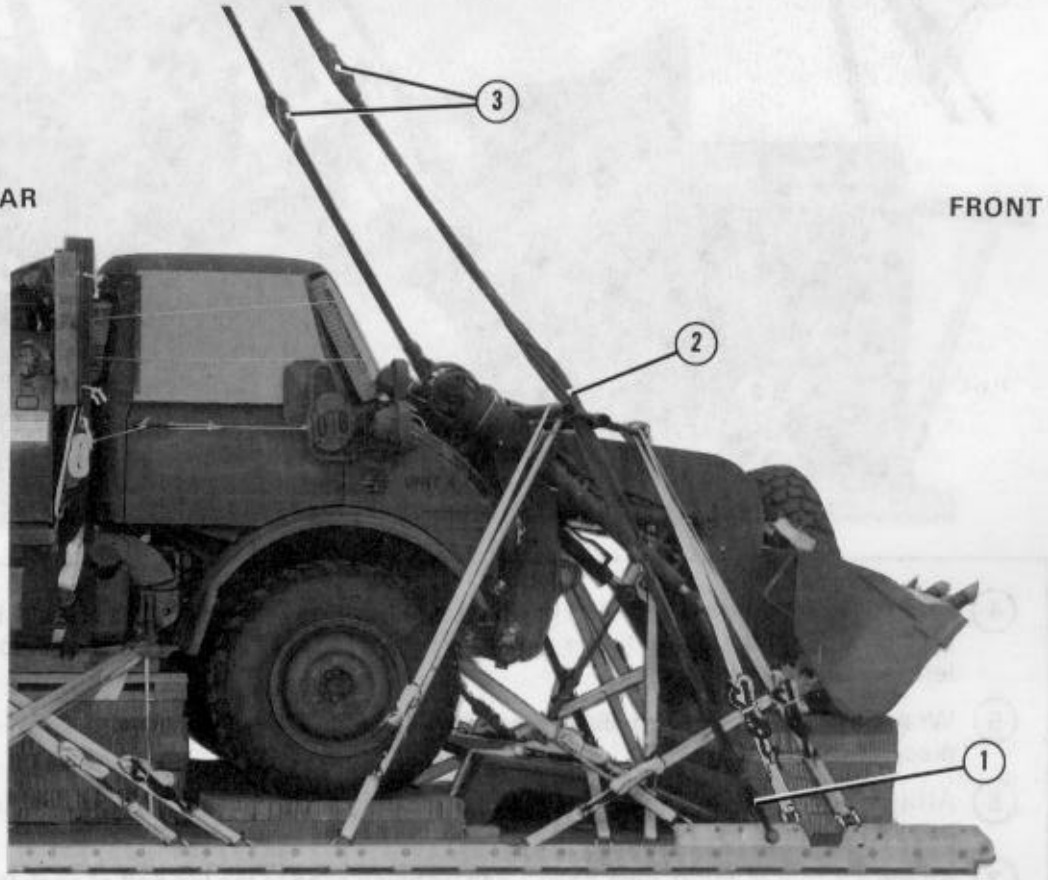


Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing:
7		Around top hydraulic arm support and around top bar of the ACB, right side.
8		Around top hydraulic arm support and around top bar of the ACB, left side.
9		Through tiedown provision 2 on the left side and through right ring of the ACB.
10		Through tiedown provision 2 on the right side and through left ring of the ACB.
11		From the lower frame support arm of the bucket around the lower bar of the ACB, right side.
12		From the lower frame support arm of the bucket around the lower bar of the ACB, left side.

Figure 3-58. Lashings 7 through 12 installed on ACB

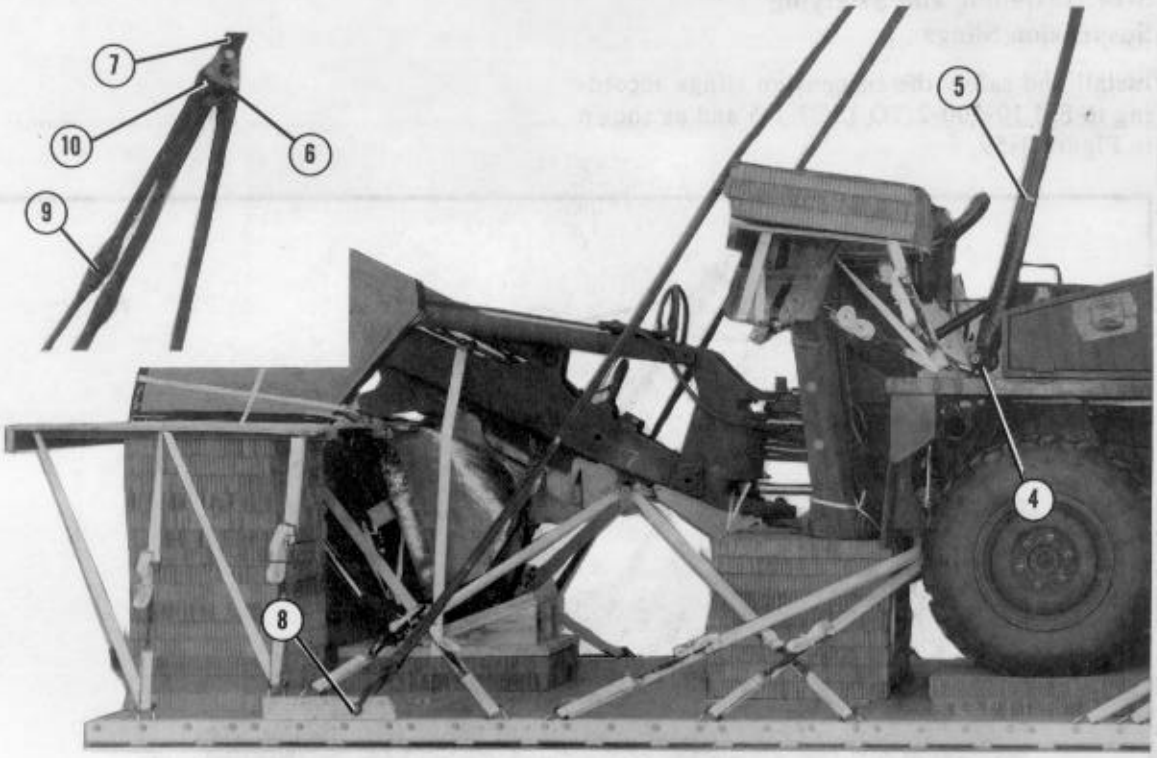
3-14. Installing and Safetying Suspension Slings

Install and safety the suspension slings according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 3-59.



1. Fit an 11-foot (4-loop), type XXVI nylon webbing sling to the bell portion of a large clevis, and bolt the clevis to the right front suspension bracket. Repeat this step for the left front suspension bracket.
2. Run the front suspension slings up through the ACB. Pad and tape the slings where they touch the ACB.
3. Use a 3 3/4, two-point link assembly to attach an 11-foot (4-loop), type XXVI nylon webbing sling to each 11-foot sling installed in step 1 above. Pad the link with felt and tape.

Figure 3-59. Suspension slings installed and safetied



(4) Fit a 12-foot (4-loop), type XXVI nylon webbing sling to the bell portion of a large clevis, and bolt the clevis to the right rear lifting provision. Repeat this step for the left rear lifting provision.

(5) Wrap the load suspension slings from the clevis up 37 inches with a 9- by 37-inch piece of felt.

(6) Attach the end of each load suspension sling to a three-point force transfer link.

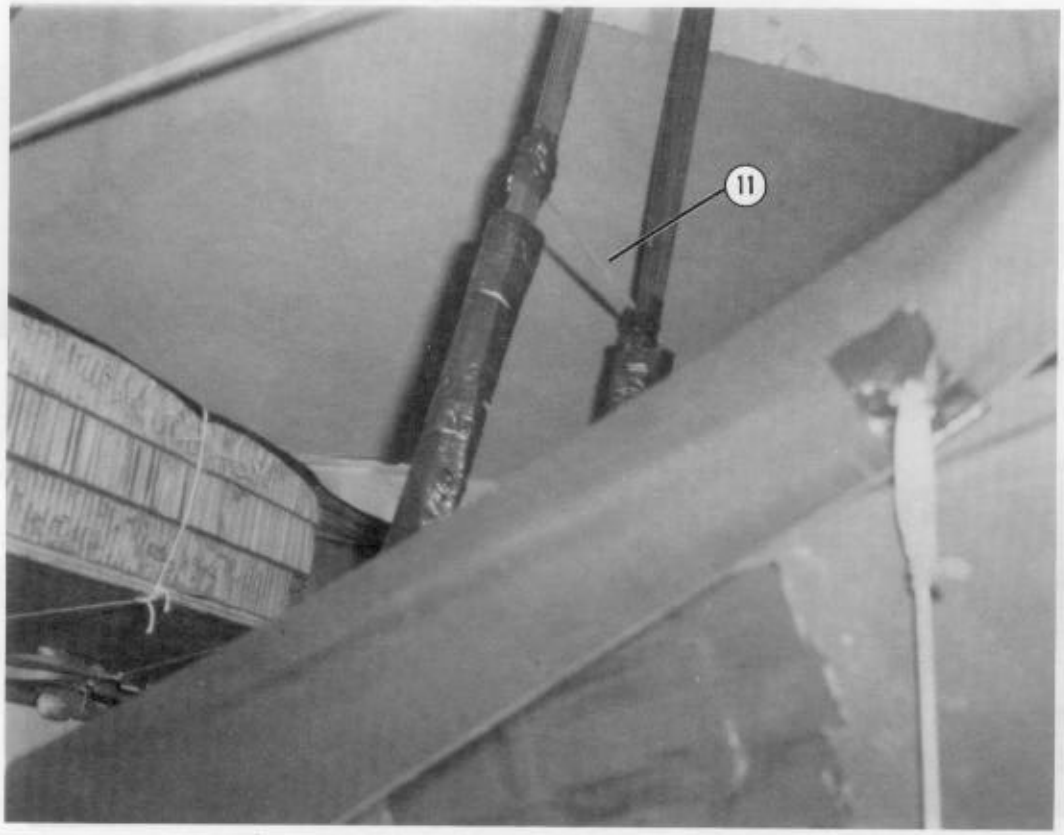
(7) Attach a 3-foot (4-loop), type XXVI nylon webbing sling to the top bolt of each three-point force transfer link.

(8) Fit a 16-foot (4-loop), type XXVI nylon webbing sling to the bell portion of a large clevis, and bolt the clevis to the right rear suspension bracket. Repeat this step for the left rear suspension bracket.

(9) Use a 3 3/4-inch, two-point link assembly to attach a 3-foot (4-loop), type XXVI nylon webbing sling to each 16-foot rear sling installed in step 8 above. Pad the link with felt and tape.

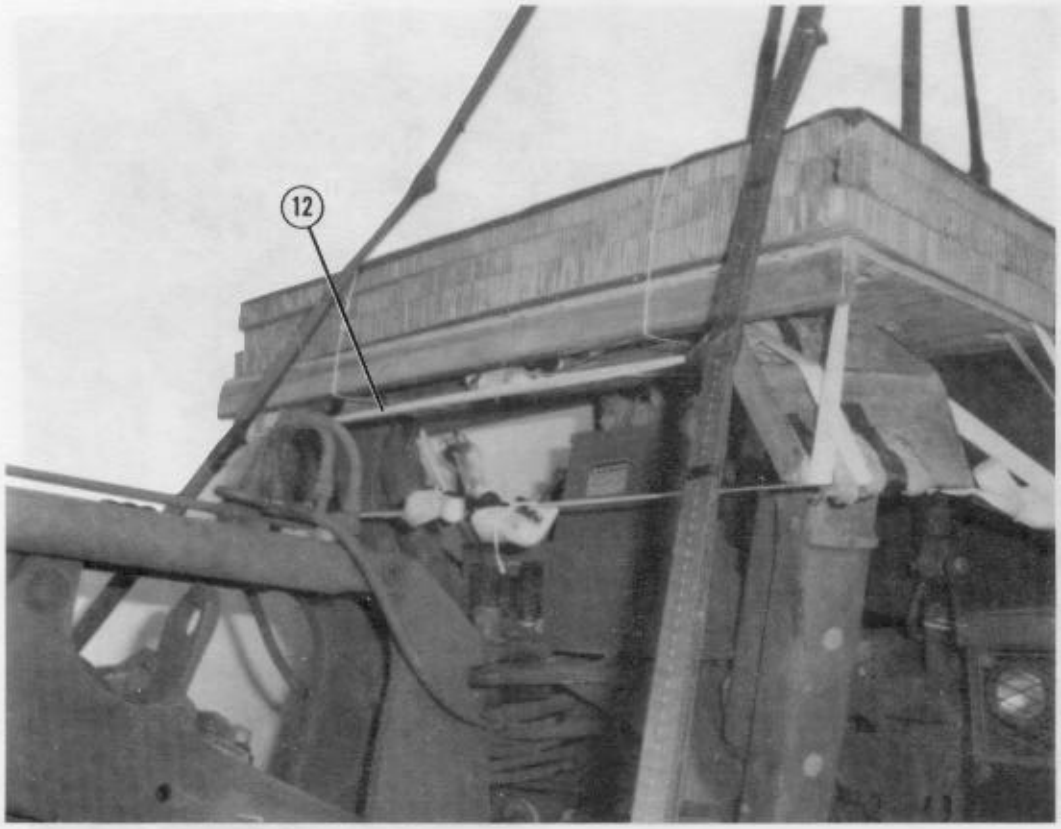
(10) Attach the end of each 3-foot sling installed in step 9, above, to the three-point force transfer link on the same side. Pad the link with felt and tape.

Figure 3-59. Suspension slings installed and safetied (continued)



(11) Safety the load suspension slings 3 inches above the padding using a length of 1/2-inch tubular nylon webbing. Secure and tape the webbing to the slings.

Figure 3-59. Suspension slings installed and safetied (continued)

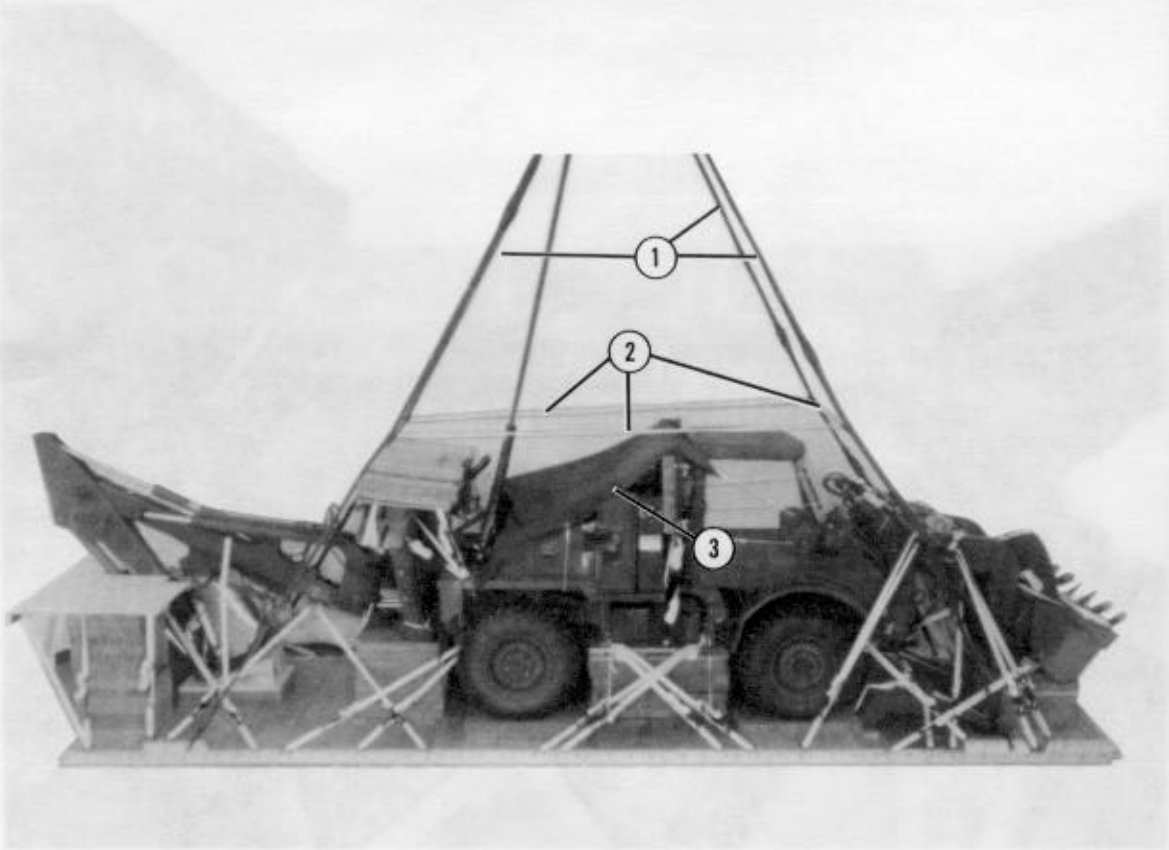


(12) Safety the rear suspension slings 80 inches above the clevises using a length of 1/2-inch tubular nylon webbing. Secure and tape the webbing to the slings.

Figure 3-59. Suspension slings installed and safetied (continued)

3-15. Installing Deadman's Tie and Load Covers

Install a deadman's tie and load covers as shown in Figure 3-60.

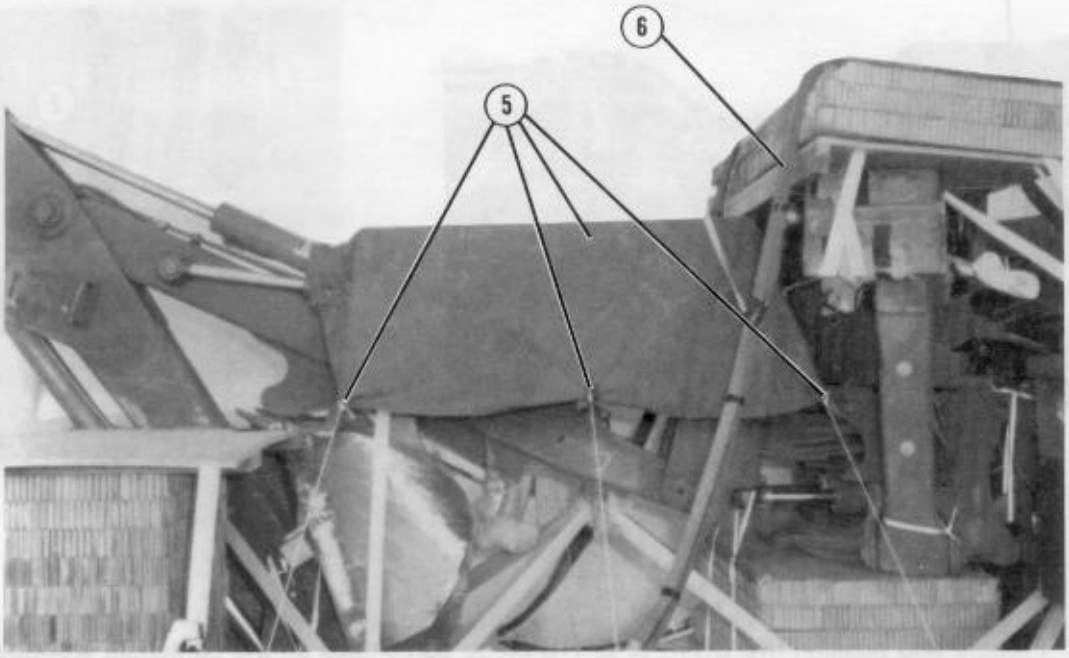


1. Raise the suspension slings until they are tight.
2. Install a deadman's tie to the four suspension slings attached to the platform 4 inches above the cab according to FM 10-500/TO 13C7-1-5.
3. Construct an 85- by 95-inch canvas cover. Sew loops at all four corners and two in the center on the long edges. Place the cover on the back portion of the vehicle over the backhoe operator area. Secure the cover to convenient points on the load using type III nylon cord.

Figure 3-60. Deadman's tie and load covers installed

(4) Place a piece of 36- by 56-inch honeycomb over the boom with 2 inches under the end of the release tray. Tape the edges of the honeycomb, and secure it with type III nylon cord and tape.

Figure 3-60. Deadman's tie and load covers installed (continued)



NOTE: Make sure the honeycomb and canvas cover are placed under the suspension sling safety tie.

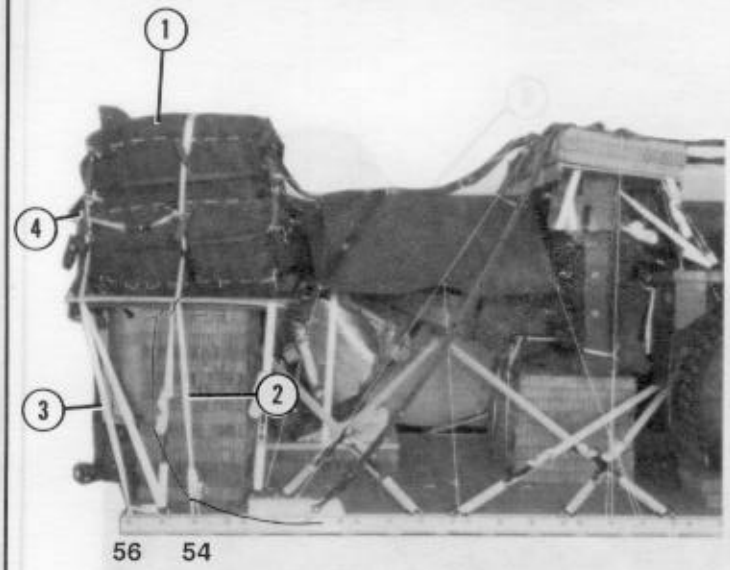
(5) Place an 80- by 84-inch canvas cover over the honeycomb on the boom. Secure the cover with type III nylon cord to convenient points on the platform.

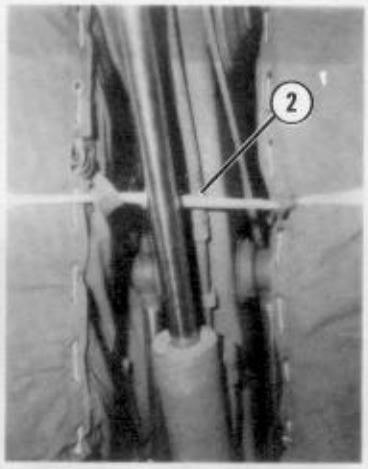
(6) Lower the suspension slings on the load.

Figure 3-60. Deadman's tie and load covers installed (continued)

3-16. Stowing Cargo Parachutes

Stow five G-11A or G-11B cargo parachutes on the SEE as shown in Figure 3-61.





(1) Prepare and position five G-11A or G-11B cargo parachutes on the parachute stowage platform as shown. Each parachute requires an 80-foot riser extension. The riser extension must meet the requirements and restrictions in FM 10-500/TO 13C7-1-5.

NOTE: Do not mix type XXVI nylon webbing slings with type X nylon webbing slings when stowing the riser extensions.

(2) Install a type VIII nylon webbing center parachute restraint strap on top and over the cargo parachutes according to FM 10-500/TO 13C7-1-5. Secure the ends of the strap to bushings 54 and 54A.

NOTE: Be sure to run the center parachute restraint strap between the boom and hydraulic cylinder.

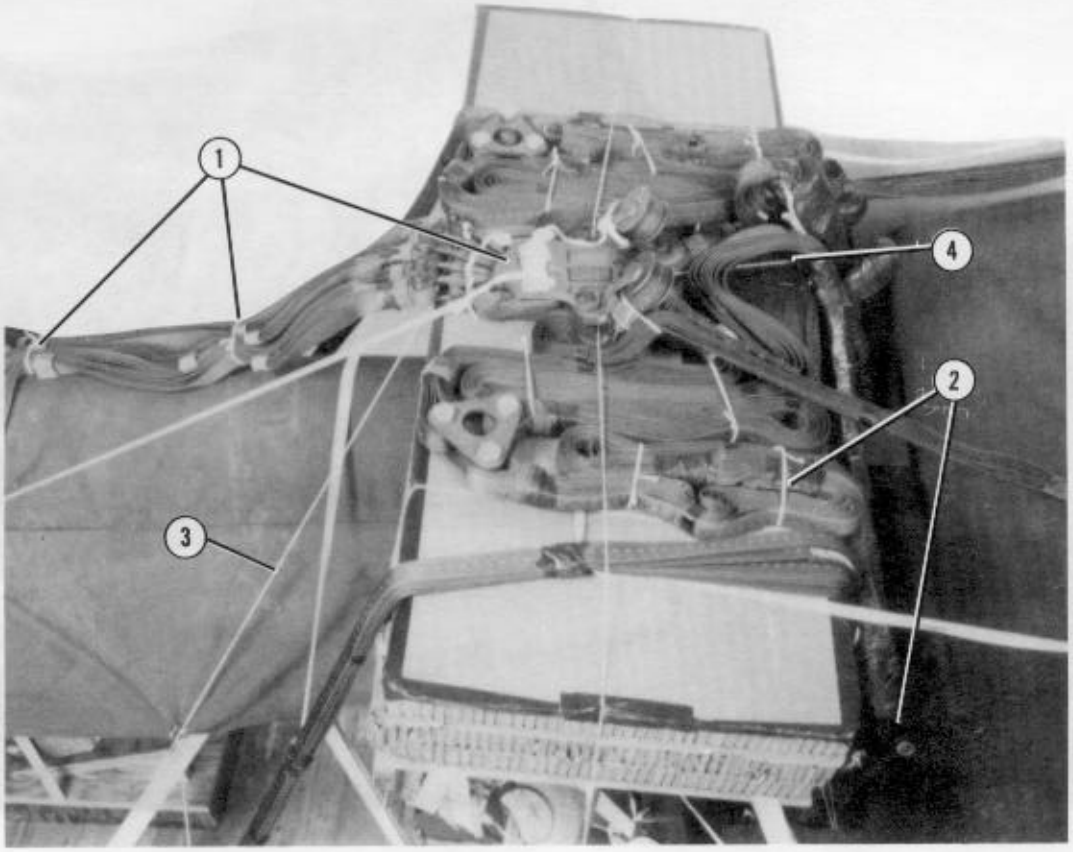
(3) Install a type VIII nylon webbing parachute restraint strap on the rear of the load to the parachutes according to FM 10-500/TO 13C7-1-5. Secure the ends of the strap to bushings 56 and 56A.

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

Figure 3-61. Cargo parachutes stowed

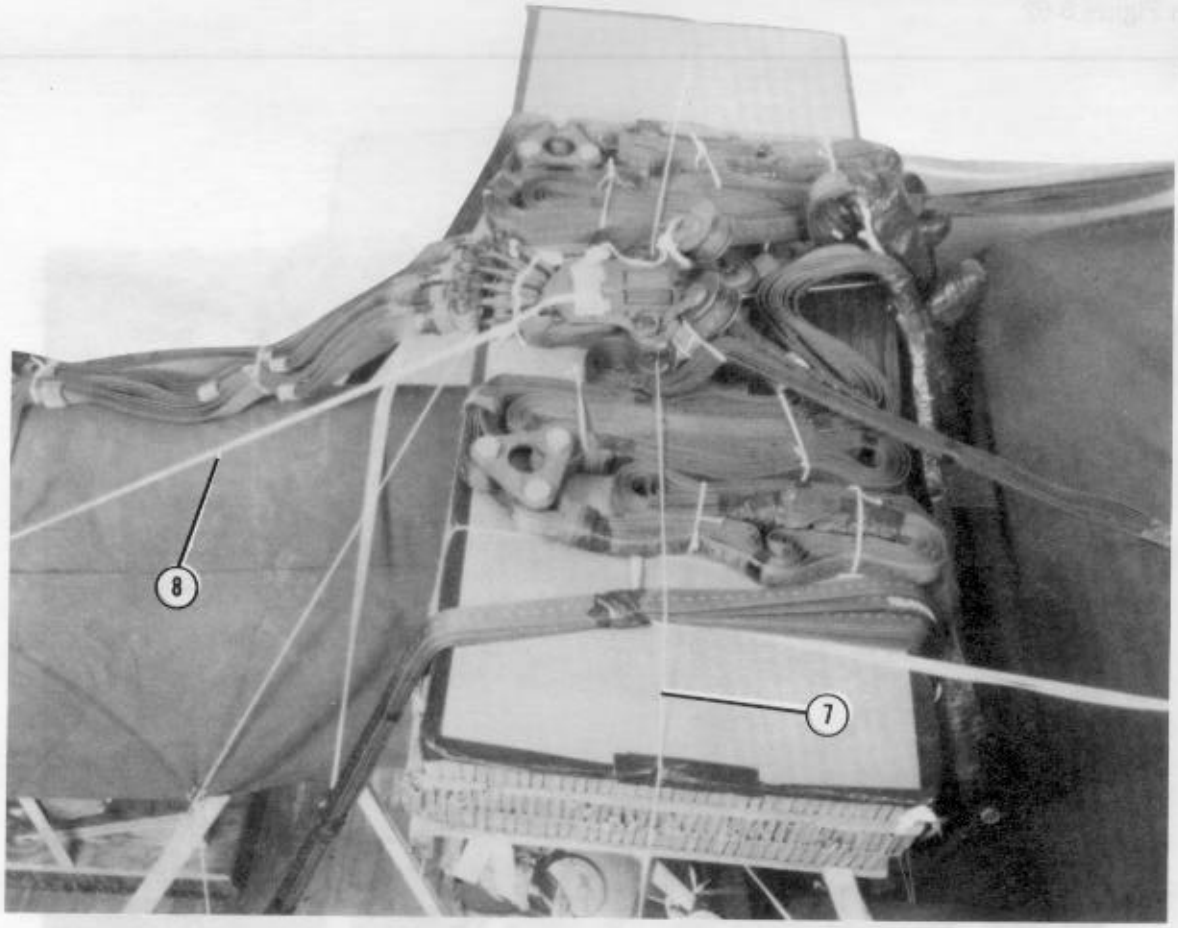
3-17. Installing Release System

Prepare and install the release system as shown in Figure 3-62.



1. Prepare an M-2 cargo parachute release assembly according to FM 10-500/ TO 13C7-1-5. Attach the release assembly to the suspension slings and the cargo parachutes according to FM 10-500/TO 13C7-1-5. Center the release assembly on the release tray. Safety tie the risers in two places using type I, 1/4-inch cotton webbing.
2. Fold the suspension slings, and secure the folds with lengths of type I, 1/4-inch cotton webbing. Bring the large clevises from the rear lifting provision up tight against the load, and secure them with 1/2-inch tubular nylon webbing.
3. Secure the top of the release assembly to bushing 2 of the rear suspension links according to FM 10-500/TO 13C7-1-5.
4. Secure the bottom of the release assembly to the rear lifting provisions according to FM 10-500/TO 13C7-1-5.

Figure 3-62. Release system installed



(5) Safety the front suspension slings to the ROPS handle with type III nylon cord. Take all the slack out of the slings, and secure them to the ROPS handle with type I, 1/4-inch cotton webbing (not shown).

(6) Pull the rear slings up and over the release tray. Safety tie the slings with type III nylon cord (not shown).

(7) Make a safety tie using type III nylon cord. Run the tie from bushing 39, over the top of the suspension slings, and under the release assembly. Secure the tie to bushing 39A.

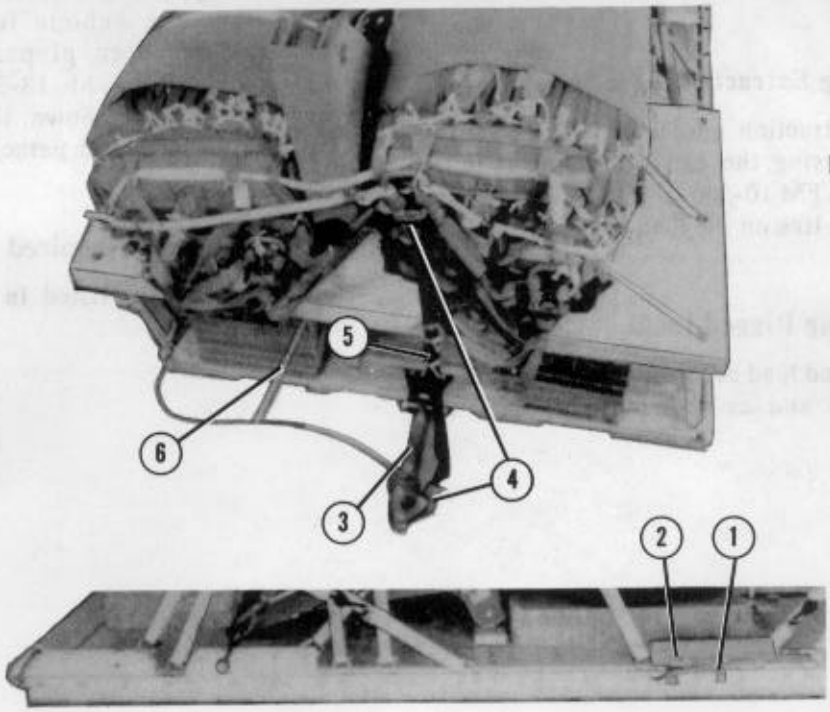
(8) Install the arming lanyard according to FM 10-500/TO 13C7-1-5.

NOTE: Tape the suspension slings where the type III nylon cord safety ties touch the slings.

Figure 3-62. Release system installed (continued)

3-18. Installing Extraction System

Install the EFTC extraction system as shown in Figure 3-63.



1. Attach the type V 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. Use a 5 1/2-inch link assembly adapter. Attach the link 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 (deployment line) to the top spacer of the link assembly. Connect the free end to the center large clevis on the 3-foot clustering slings used in stowing the cargo parachutes.
5. Fold the excess deployment line, and secure the folds with tape or type I, 1/4-inch cotton webbing.
6. Safety tie the 28-foot cable to tiedown provision 8 using type III nylon cord.

Figure 3-63. Extraction system installed

3-19. Installing Provisions for Emergency Restraints

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

3-20. Placing Extraction Parachute

Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 10-500-2/TO 13C7-1-5. Place the extraction line on the load for installation in the aircraft.

3-21. Marking Rigged Load

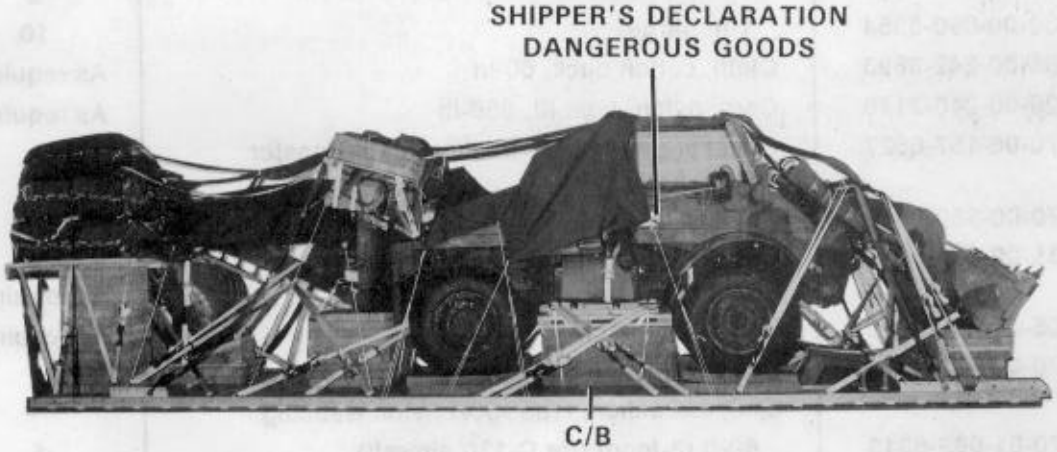
Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 3-64. Complete Shipper's Declaration for Dangerous Goods and securely attach it to the load. Indicate on Shipper's Declaration for Dangerous Goods that the vehicle fuel tank and the batteries have been prepared according to AFJMAN 24-204/TM 38-250. If the load varies from the one shown, the weight, height, CB, tip off curve, and parachute requirements must be recomputed.

3-22. Equipment Required

Use the equipment listed in Table 3-1 to rig this load.

CAUTION

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



RIGGED LOAD DATA

Weight:	Load shown	21,624 pounds
	Maximum load allowed	21,944 pounds
Height		99 3/4 inches
Width		108 inches
Length		374 inches
Overhang:	Front	6 inches
	Rear	22 inches
CB (from front edge of platform)		165 inches
Extraction System (adds 18 inches to length of platform)		EFTC

Figure 3-64. SEE rigged on a type V platform for low-velocity airdrop

Table 3-1. Equipment required for rigging the SEE on a type V platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
1670-00-003-4389	Bar, attitude control	1
1670-01-035-6054	Bridle, extraction line bag (Use w extraction line leaf)	1
	Clevis, suspension:	
4030-00-678-8562	3/4-in (medium)	2
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
1670-00-360-0329	Cover, link (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 (line bag)	1
	Line, extraction, type XXVI nylon webbing:	
1670-01-062-6313	60-ft (3-loop) (for C-130 aircraft)	1
1670-01-107-7651	140-ft (3-loop) (for C-141 aircraft)	1
	Link assembly:	
	Two-point:	4
5306-00-435-8994	Bolt, 1-in diam, 4-in long	(8)
5310-00-232-5165	Nut, 1-in	(8)
1670-00-003-1953	Plate, side, 3 3/4-in	(8)
5365-00-007-3414	Spacer, large	(8)
1670-00-783-5988	Type IV	15
	Lumber:	
5510-00-220-6146	2- by 4-in:	
	10-in	1
	12-in	2
	18-in	1
	28-in	1
	39-in	2
	80-in	1
	88-in	1

Table 3-1. Equipment required for rigging the SEE on a type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
5510-00-220-6448	2- by 6-in:	
	36-in	4
	46 1/2-in	4
5510-00-220-6246	2- by 8-in:	
	12-in	2
	20-in	4
	39-in	2
5510-00-220-6274	4- by 4-in:	
	24-in	2
	26-in	1
	28-in	1
5315-00-162-3151	Nail, steel wire, common, 4d	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in:	26 sheets
	5- by 6-in	1
	8- by 24-in	2
	10- by 12-in	1
	12- by 14-in	1
	12- by 20-in	2
	12- by 36-in	1
	12- by 42-in	8
	12- by 45-in	8
	14- by 29-in	1
	14- by 32-in	1
	18- by 40-in	8
	22- by 64-in	1
	24- by 18-in	1
	24- by 24-in	32
	24- by 27-in	1
	24- by 36-in	2
	24- by 60-in	5
	30- by 48-in	9
	30- by 80-in	3

Table 3-1. Equipment required for rigging the SEE on a type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
	36- by 48-in	7
	36- by 56-in	1
	Parachute:	
1670-01-016-7841	Cargo, G-11C	5
1670-00-040-8135	Cargo extraction, 28-ft, heavy-duty	1
	Platform, AD, type V, 28-ft:	1
	Bracket:	
1670-01-162-2375	Inside EFTA	(1)
1670-01-162-2374	Outside EFTA	(1)
1670-01-162-2372	Clevis, load tiedown	(38)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-247-2389	Suspension link	(4)
1670-01-162-2381	Tandem link	(2)
5530-00-128-4981	Plywood, 3/4-in:	
	3 1/2- and 1 1/2- by 8- and 5 3/4-in	1
	4 1/2- and 1 1/2- by 8- and 5-in	1
	5 1/2- by 8-in	1
	7- by 3-in	2
	7- by 8-in	3
	18- by 21-in	1
	18- by 23-in	1
	18- by 25-in	1
	24- by 18-in	1
	24- by 36-in	2
	24- by 60-in	2
	26- by 78-in	1
	30- by 80-in	1
	36- by 24-in	2
	36- by 48-in	4
	48- by 88-in	2
1670-01-097-8817	Release, cargo parachute, M-2	1

Table 3-1. Equipment required for rigging the SEE on a type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
	Sling, cargo, airdrop:	
	For deployment line:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extensions:	
1670-00-823-5043	20-ft (3-loop), type X nylon webbing or	20
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	20
	For suspension:	
1670-00-432-2499	3-ft (4-loop), type XXVI nylon webbing or	4
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	4
1670-00-432-2505	11-ft (4-loop), type XXVI nylon webbing or	4
1670-01-062-6310	11-ft (4-loop), type XXVI nylon webbing	4
1670-00-432-2506	12-ft (4-loop), type XXVI nylon webbing or	2
1670-01-062-6307	12-ft (4-loop), type XXVI nylon webbing	2
1670-00-432-2507	16-ft (4-loop), type XXVI nylon webbing or	2
1670-00-003-7237	16-ft (4-loop), type XXVI nylon webbing	2
	For lifting:	
1670-01-432-2501	9-ft (4-loop), type XXVI nylon webbing or	2
1670-01-062-6305	9-ft (4-loop), type XXVI nylon webbing	2
1670-00-432-2506	12-ft (4-loop), type XXVI nylon webbing or	2
1670-01-062-6307	12-ft (4-loop), type XXVI nylon webbing	2
1670-00-998-0116	Strap, parachute release, multicut comes w 3 knives	2
	Tape, adhesive:	
7510-00-266-5016	2-in	As required
8125-00-074-5124	Cloth-backed, type IV, 2-in	As required
1670-00-937-0271	Tiedown assembly, 15-ft	70
	Webbing:	
8305-00-268-2411	Cotton, 80-lb	As required
	Nylon, tubular:	
8305-00-082-5752	1/2-in, 1,000-lb, natural	As required
8305-00-268-2453	1/2-in, 1,000-lb, olive drab	As required
8305-00-268-2455	1-in, 4,000-lb, olive drab	As required
8305-00-263-3591	Nylon, type VIII, 3,600-lb	As required

CHAPTER 4

RIGGING TRACTOR ON A TYPE V PLATFORM

Section I

LOW-VELOCITY AIRDROP

4-1. Description of Load

The JD 410 tractor (Figure 4-1) is rigged on a 24-foot, type V platform with five G-11A or four G-11B cargo parachutes and other items of airdrop equipment. The tractor weighs 15,670 pounds with 1/2 tank of fuel. Its height is 104 inches, reducible to 75 inches. Its width is 126 inches, reducible to 95 inches. The length of the tractor is 437 inches when fully extended, but the rigging length is 336 inches.

NOTE: The tractor must be equipped with an extraction yoke assembly to be airdropped.

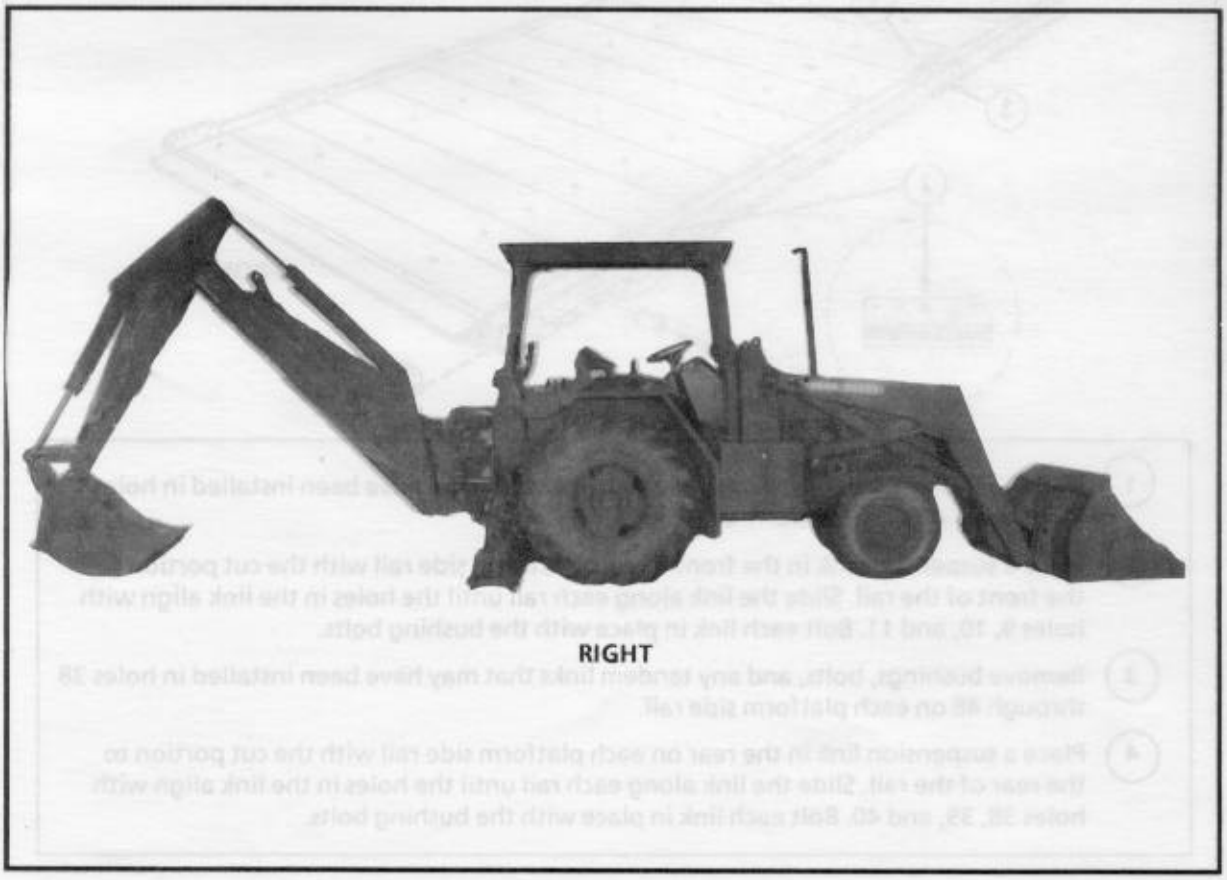


Figure 4-1. Right side of the unrigged JD 410 tractor

4-2. Preparing Platform

Prepare a 24-foot, type V platform as described 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 the suspension links on an assembled platform as described in Figure 4-2.

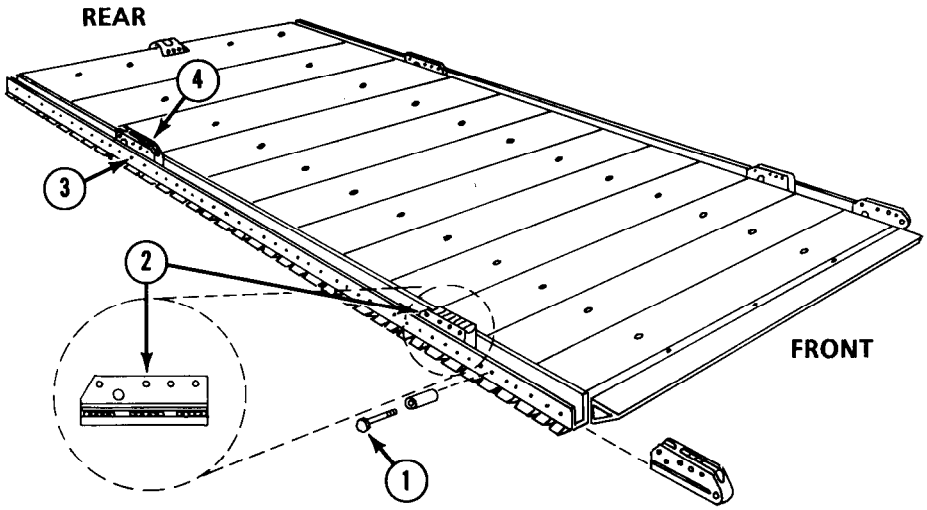
c. Installing Tandem Links. Install a tandem link on the front of each rail as shown in Figure 4-3.

d. Attaching and Numbering Clevises. Attach and number 32 tie-down clevises as shown in Figure 4-3.

e. Labeling and Numbering Tie-down Rings. Label and number the tie-down rings as shown in Figure 4-3.

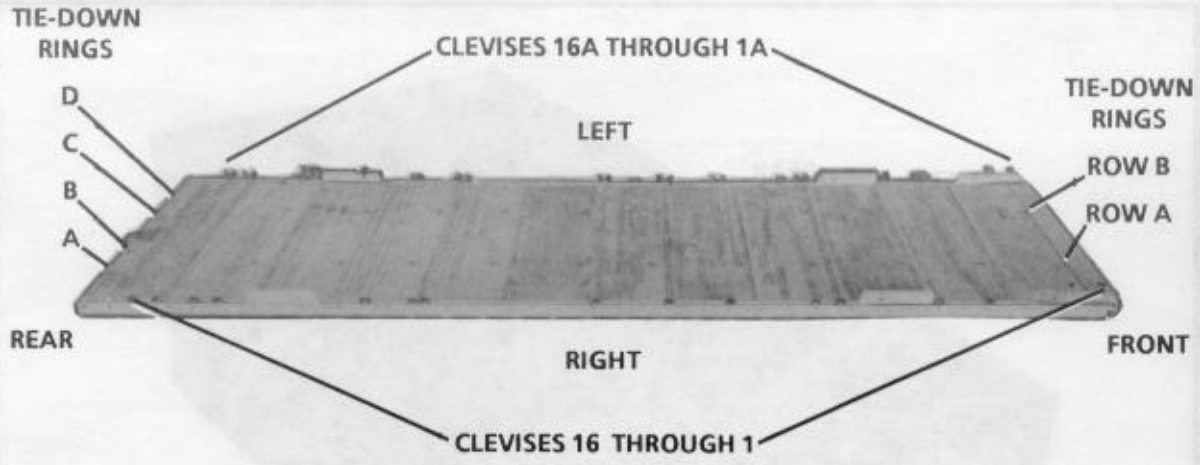
NOTES:
1. The nose bumper may or may not be installed.
2. Measurements given in this section are from the front edge of the platform, NOT from the front edge of the nose bumper.

NOTE: This drawing is not drawn to scale.



1. Remove bushings, bolts, and any tandem links that may have been installed in holes 1 through 11 on each platform side rail.
2. Place a suspension link in the front of each platform side rail with the cut portion to the front of the rail. Slide the link along each rail until the holes in the link align with holes 9, 10, and 11. Bolt each link in place with the bushing bolts.
3. Remove bushings, bolts, and any tandem links that may have been installed in holes 38 through 48 on each platform side rail.
4. Place a suspension link in the rear on each platform side rail with the cut portion to the rear of the rail. Slide the link along each rail until the holes in the link align with holes 38, 39, and 40. Bolt each link in place with the bushing bolts.

Figure 4-2. Suspension links installed



Step:

1. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
2. Install a clevis on bushings 1 and 3 of each front tandem link.
3. Starting at the front of the platform, install clevises on each platform side rail using bushings bolted on holes 6, 8, 13, 14, 18, 21, 24, 32, 33, 35, 42, 43, 45, and 46.
4. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 16 and those bolted to the left side from 1A through 16A.
5. Label the two tie-down rings in the first 11 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 at the front of the platform, number the rows of tie-down rings 1 through 12.

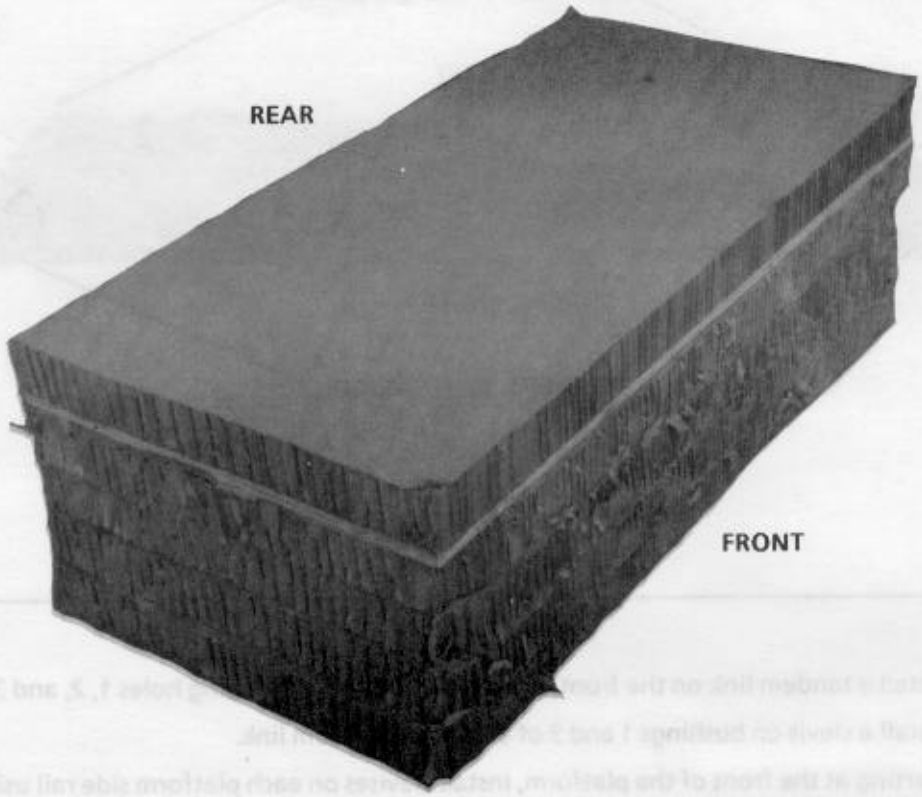
NOTE: Make sure the extraction bracket assembly is installed and is in operating condition.

Figure 4-3. Platform prepared

4-3. Building and Placing Honeycomb Stacks

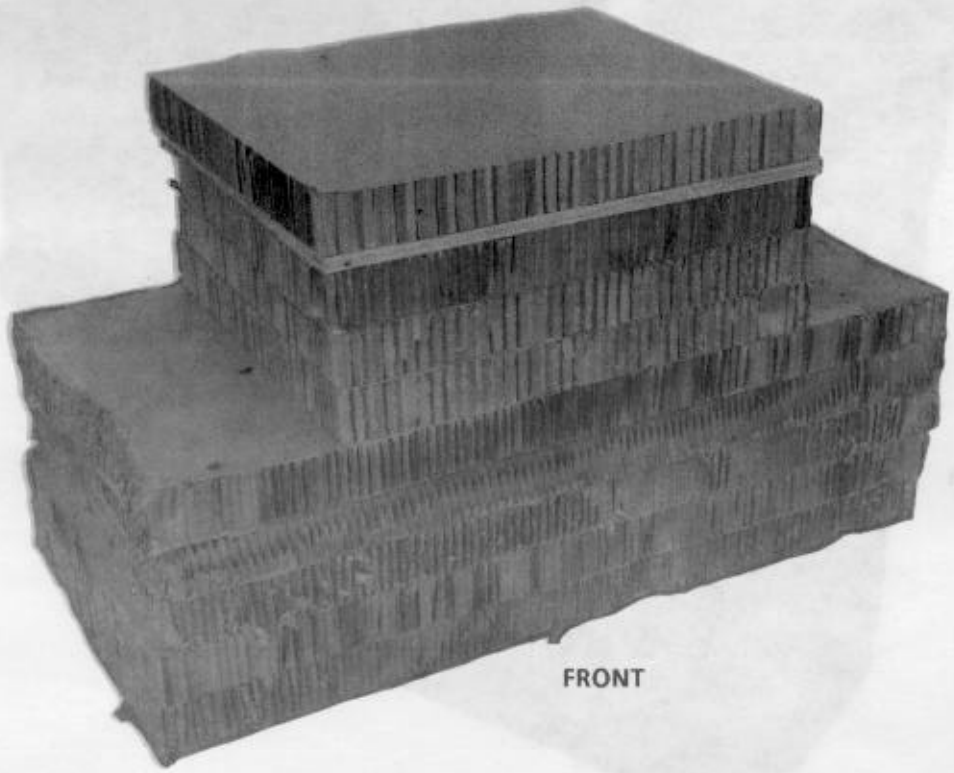
Build and place honeycomb stacks as described below.

a. Building Honeycomb Stacks. Build the honeycomb stacks as shown in Figures 4-4 through 4-11.



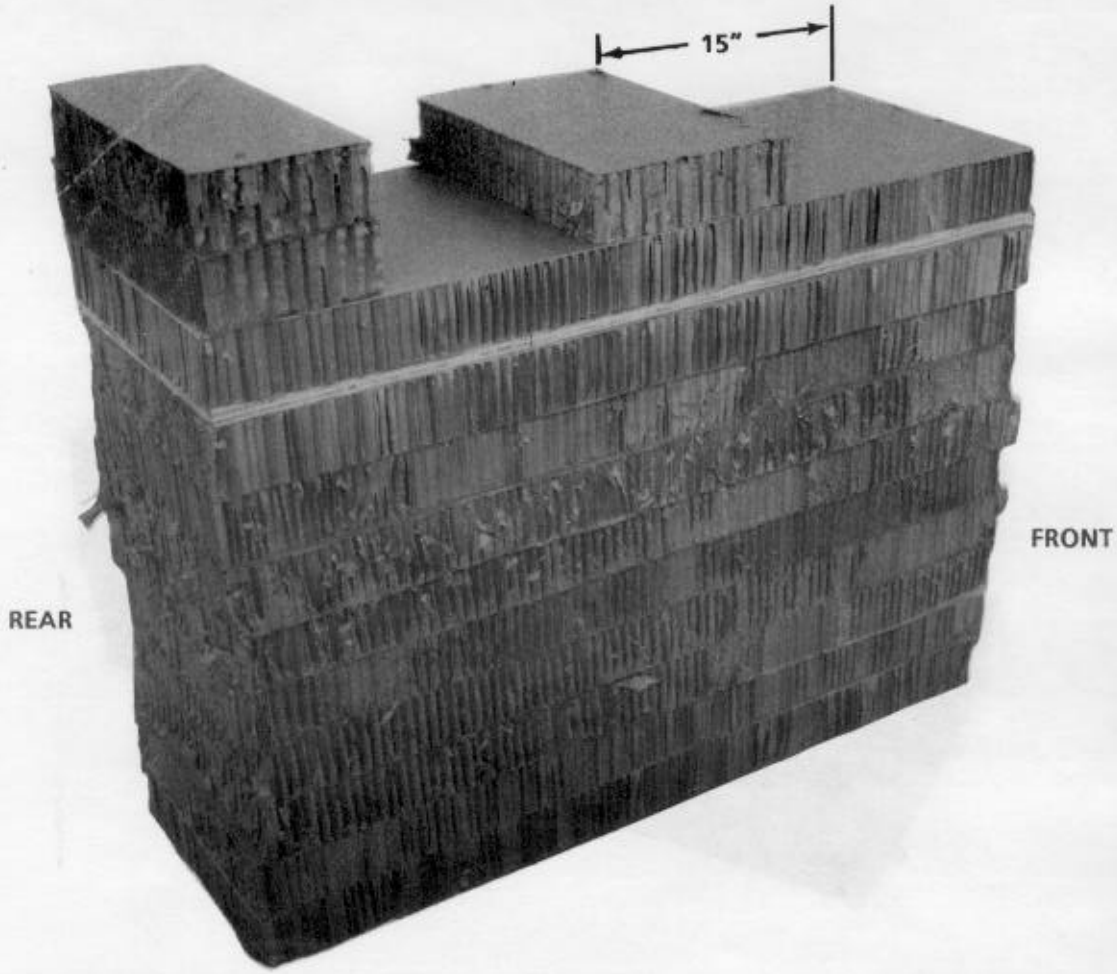
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	4	48	24	Honeycomb	Place honeycomb as base.
	1	48	24	3/4-inch plywood	Place plywood on top of base.
	1	48	24	Honeycomb	Place honeycomb on top of plywood.

Figure 4-4. Honeycomb stack 1 prepared



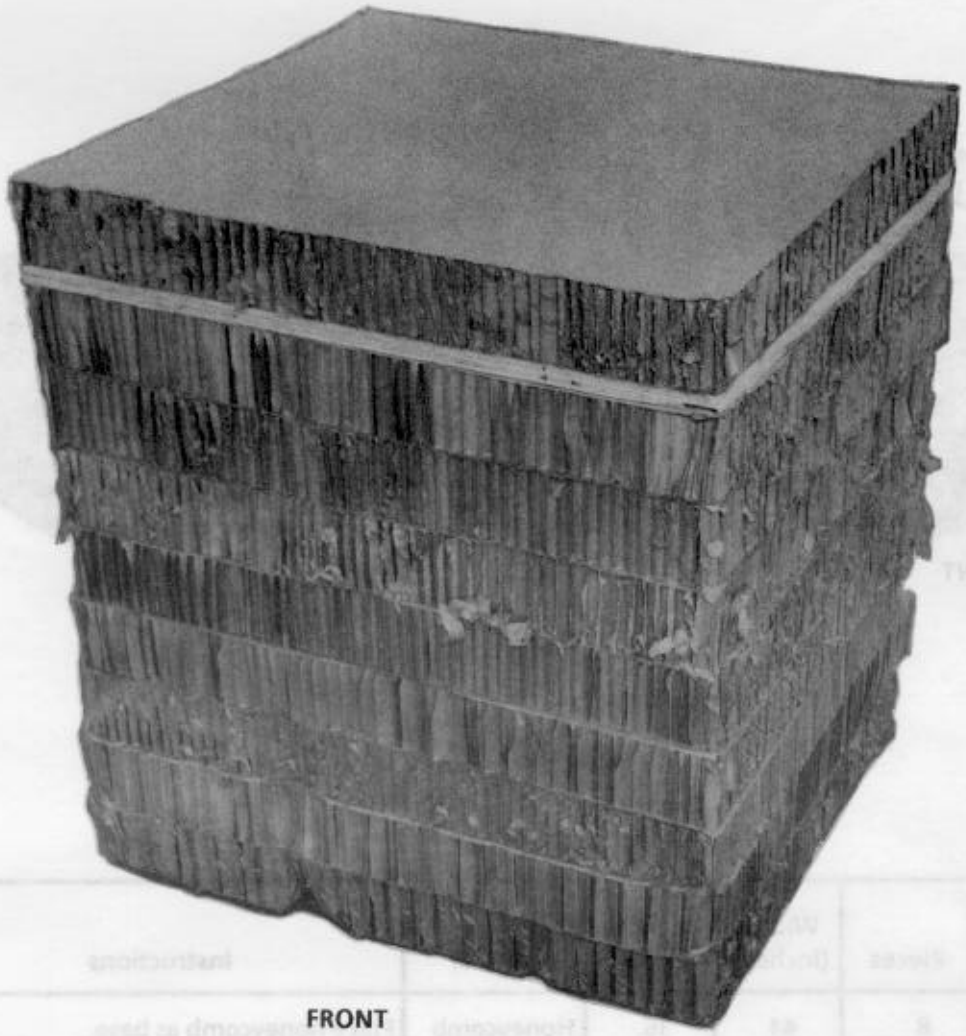
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
2	5	48	24	Honeycomb	Place honeycomb as base.
	3	28	24	Honeycomb	Center honeycomb on top of base.
	1	28	24	3/4-inch plywood	Place plywood on top of honeycomb.
	1	28	24	Honeycomb	Place honeycomb on top of plywood.

Figure 4-5. Honeycomb stack 2 prepared



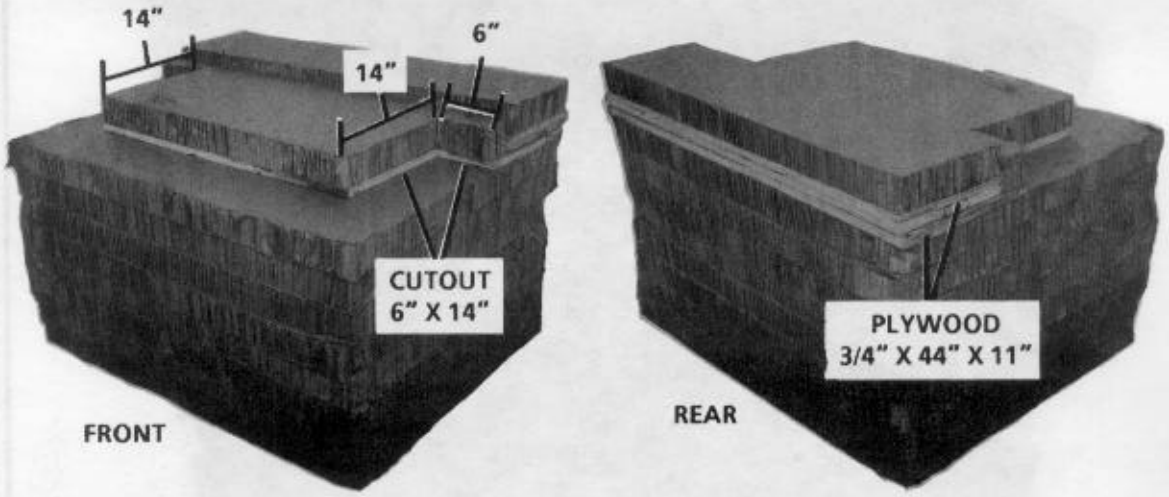
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3	9	15	42	Honeycomb	Place honeycomb as base.
	1	15	42	3/4-inch plywood	Place plywood on top of honeycomb.
	1	15	42	Honeycomb	Place honeycomb on top of plywood.
	1	15	10	Honeycomb	Place honeycomb on top of the base, 15 inches from the front edge.
	2	15	7	Honeycomb	Place honeycomb on top of the base, flush with the rear edge.

Figure 4-6. Honeycomb stack 3 prepared



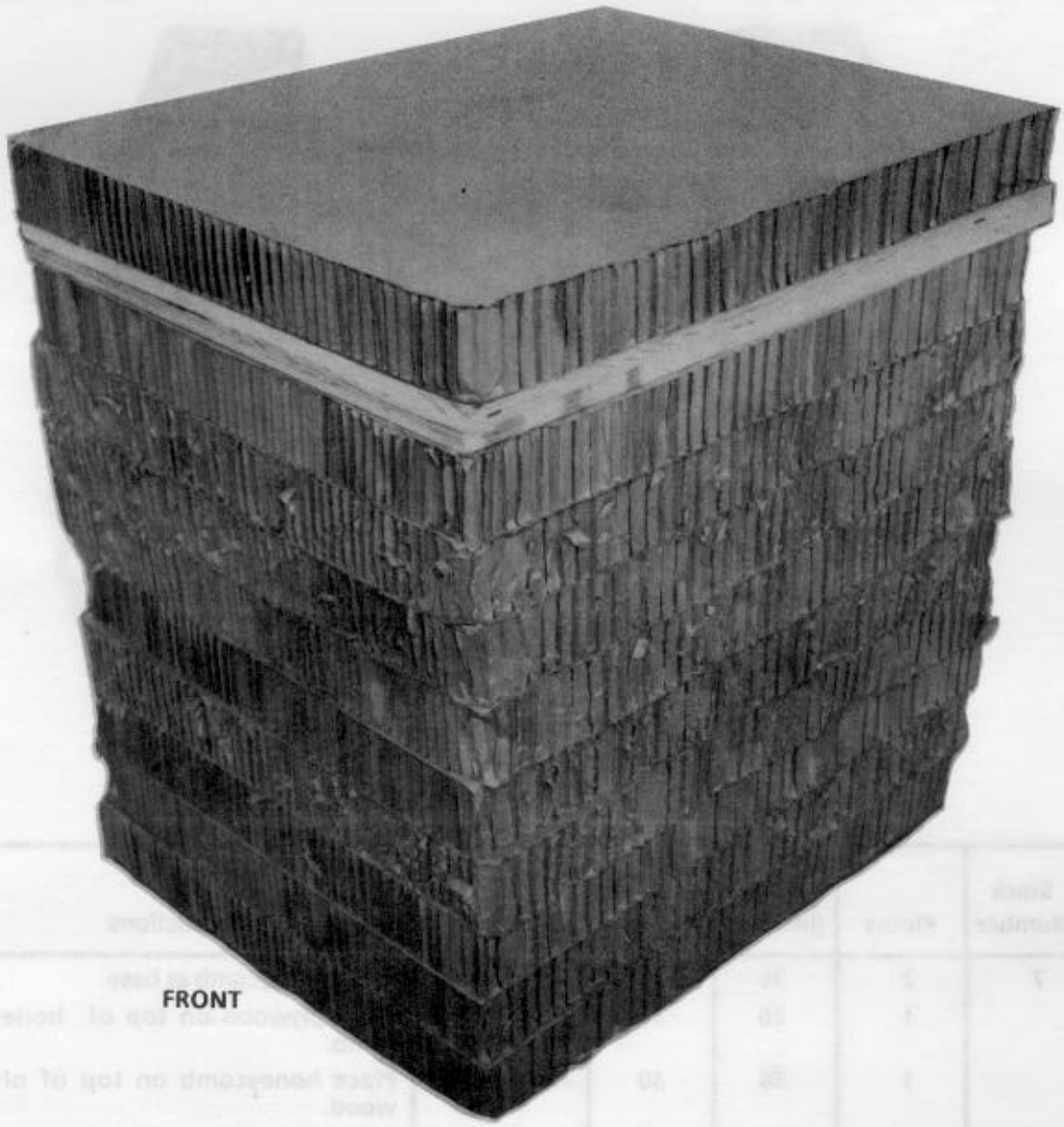
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
4	8	26	24	Honeycomb	Place honeycomb as base.
	1	26	24	3/4-inch plywood	Place plywood on top of honeycomb.
	1	26	24	Honeycomb	Place honeycomb on top of plywood.

Figure 4-7. Honeycomb stack 4 prepared



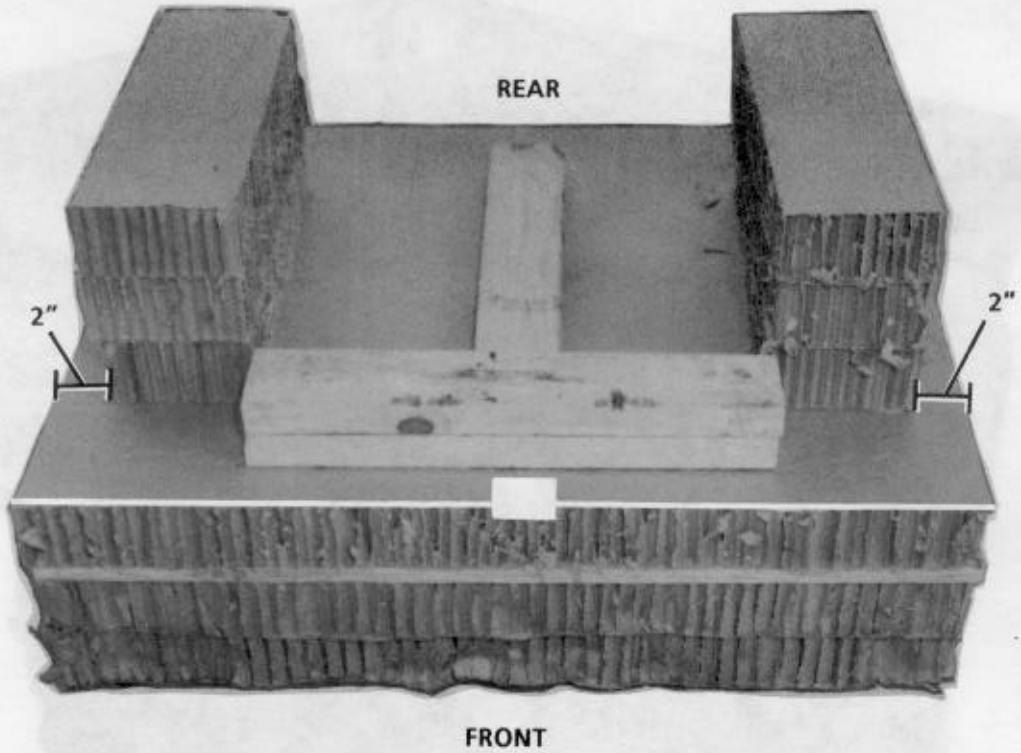
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
5	8	44	36	Honeycomb	Place honeycomb as base.
	1	44	28	3/4-inch plywood	Make a 6- by 14-inch cutout in each front corner of the plywood. Place plywood on top of the base, flush with the rear edge.
	2	44	11	3/4-inch plywood	Place the 44- by 11- inch plywood on top of the 44- by 28-inch plywood, flush with the rear edge.
	1	44	11	Honeycomb	Place honeycomb on top of the 44- by 11-inch plywood.
	1	44	17	Honeycomb	Make a 6- by 14-inch cutout in each front corner of the honeycomb. Place honeycomb on top of the 44- by 28-inch plywood.

Figure 4-8. Honeycomb stack 5 prepared



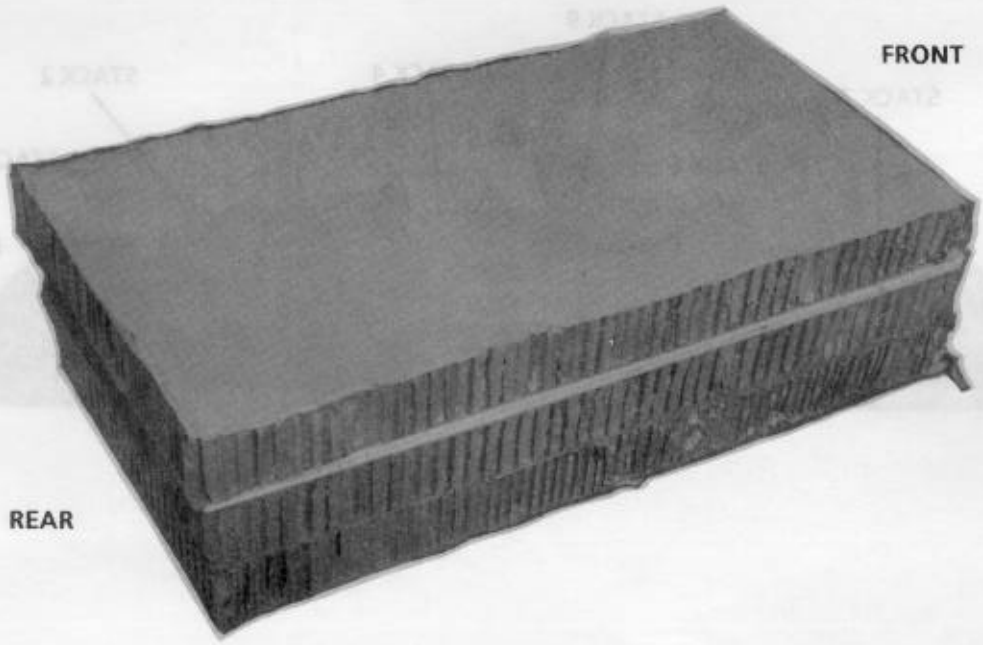
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
6	9	24	30	Honeycomb	Place honeycomb as base.
	2	24	30	3/4-inch plywood	Place plywood on top of honeycomb.
	1	24	30	Honeycomb	Place honeycomb on top of plywood.

Figure 4-9. Honeycomb stack 6 prepared



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
7	2	36	30	Honeycomb	Place honeycomb as base.
	1	36	30	3/4-inch plywood	Place plywood on top of honeycomb.
	1	36	30	Honeycomb	Place honeycomb on top of plywood.
	3	6	18	Honeycomb	Center honeycomb 2 inches from the left side.
	3	6	18	Honeycomb	Center honeycomb 2 inches from the right side.
	2	20	4	2-inch lumber	Center lumber 2 inches from the front edge.
	1	4	20	2-inch lumber	Center lumber between the 6- by 18-inch pieces of honeycomb and flush against the 20- by 4-inch piece of lumber.

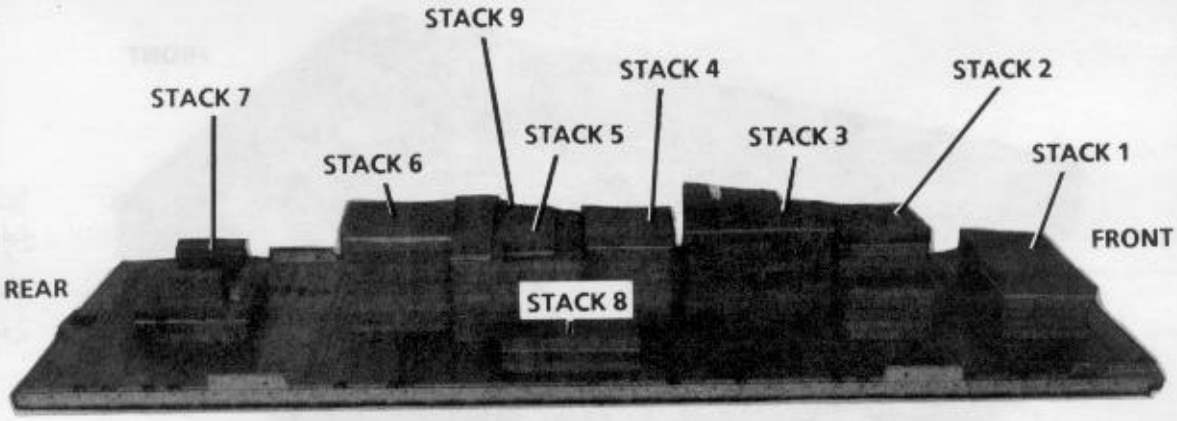
Figure 4-10. Honeycomb stack 7 prepared



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
8	2	18	36	Honeycomb	Place honeycomb as base.
	1	18	36	3/4-inch plywood	Place plywood on top of honeycomb.
	1	18	36	Honeycomb	Place honeycomb on top of plywood.
9	2	18	36	Honeycomb	Place honeycomb as base.
	1	18	36	3/4-inch plywood	Place plywood on top of honeycomb.
	1	18	36	Honeycomb	Place honeycomb on top of plywood.

Figure 4-11. Honeycomb stacks 8 and 9 prepared

b. Placing Honeycomb Stacks. Place the honeycomb stacks on the platform as shown in Figures 4-12, 4-13, and 4-14.



Stack Number	Position of Stack on Platform
	Place stack:
1	Centered 6 inches from the front edge of the platform.
2	Centered 20 inches from stack 1.
3	Centered flush against stack 2.
4	Centered 4 inches from stack 3.
5	Centered flush against stack 4.
6	Centered flush against stack 5.
7	Centered 26 inches from stack 6.
8	130 inches from the front edge of the platform and 9 inches from the right rail.
9	130 inches from the front edge of the platform and 9 inches from the left rail.

Figure 4-12. Honeycomb stacks placed on platform

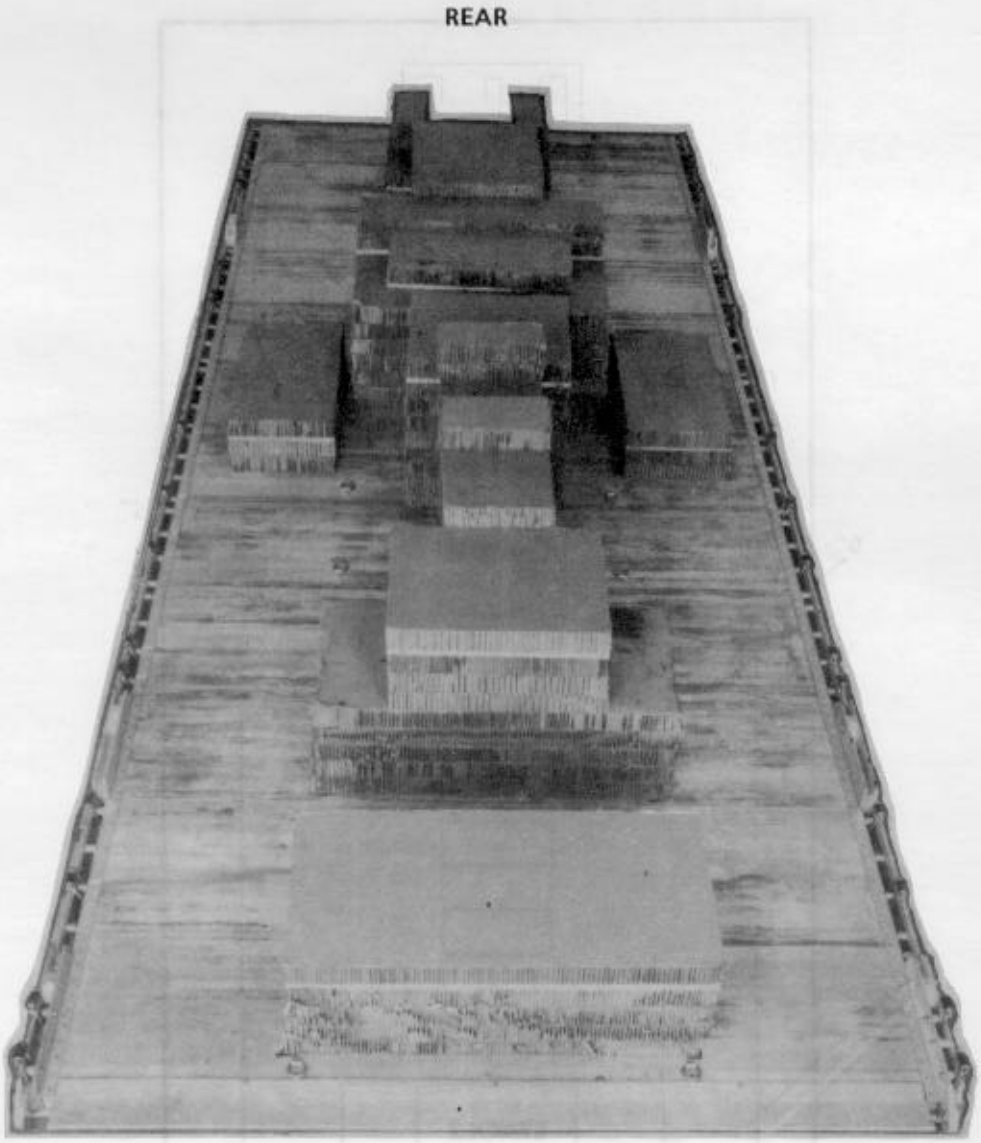


Figure 4-13. Front view of honeycomb stacks placed on platform

NOTE: This drawing is not drawn to scale.

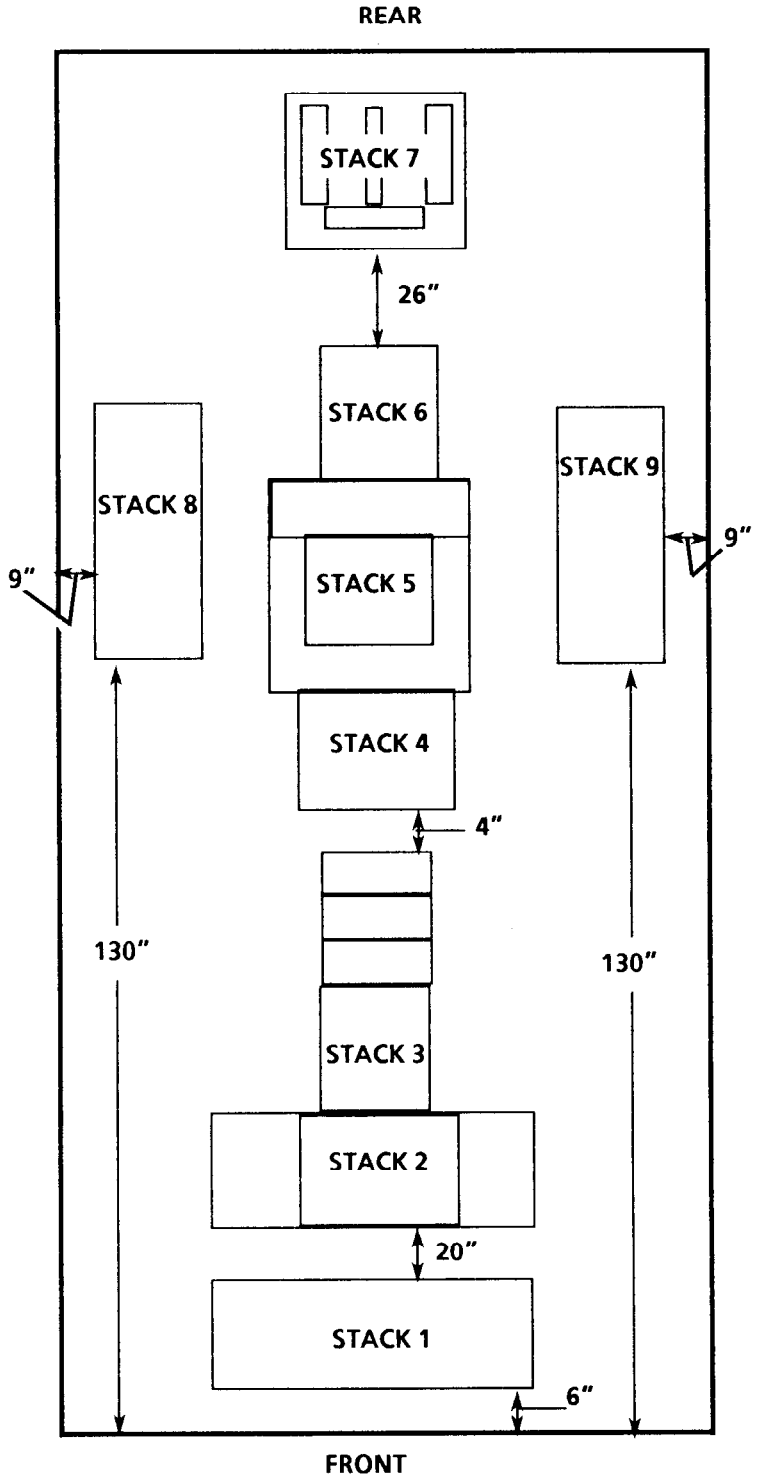
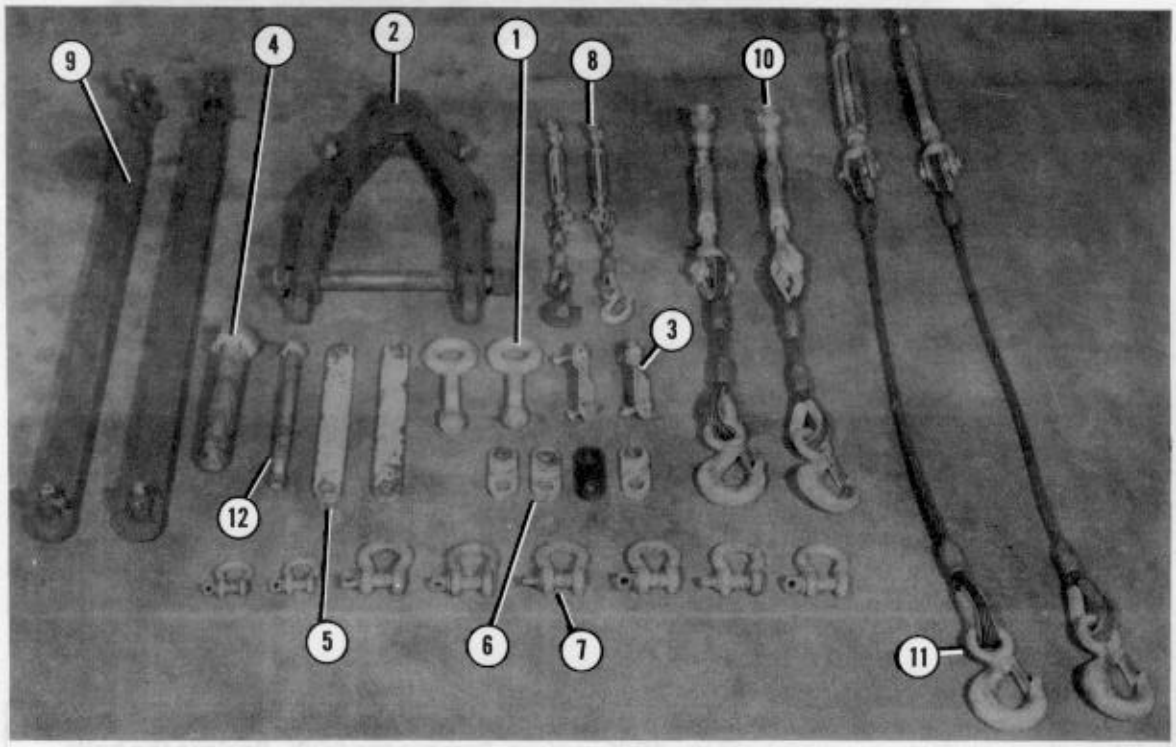


Figure 4-14. Top view of honeycomb stacks placed on platform

4-4. Preparing Tractor

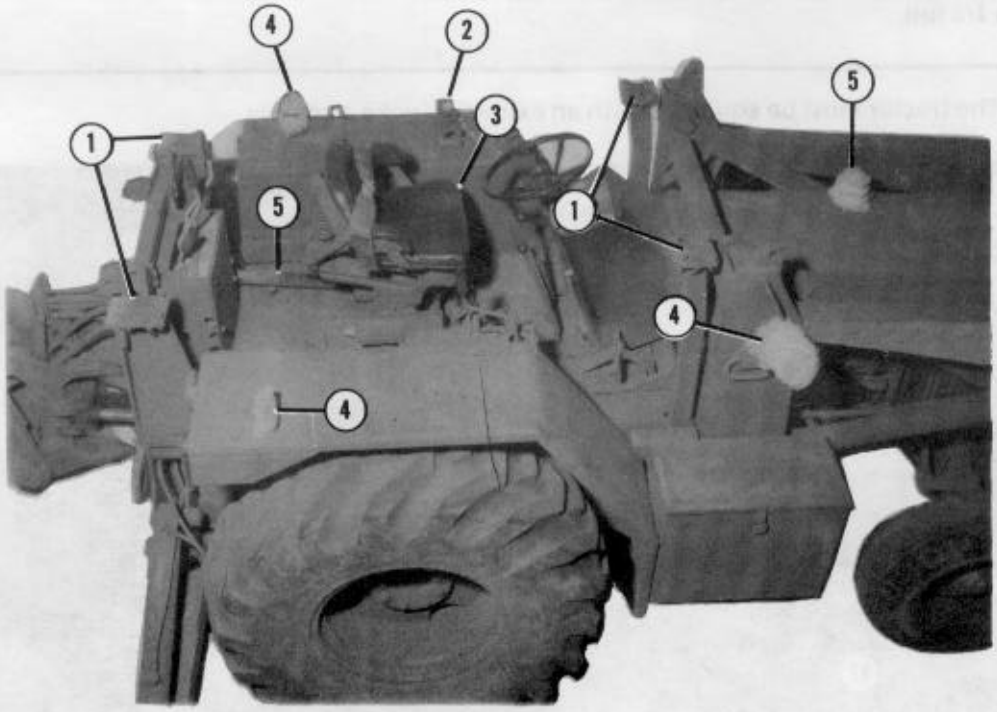
Prepare the tractor as shown in Figures 4-15 through 4-28. Make sure the fuel tank is no more than 1/2 full.

NOTE: The tractor must be equipped with an extraction yoke assembly.



1	Eye bolts (2)	7	Screw-pin clevises (2 small, 6 medium)
2	Extraction yoke (1)	8	Bracket cables (2)
3	Jaw braces (2)	9	Upper cable braces (2)
4	Large bolt (1)	10	Upper cable assemblies (2)
5	Extraction yoke braces (2)	11	Lower cable assemblies (2)
6	Small extraction yoke braces (4)	12	Small bolt (1)

Figure 4-15. Extraction yoke assembly



(1) Remove the bolts which hold the ROPS in place. Remove the ROPS. Replace the bolts.

NOTE: The ROPS is not airdropped.

(2) Remove the extraction yoke from the fender box.

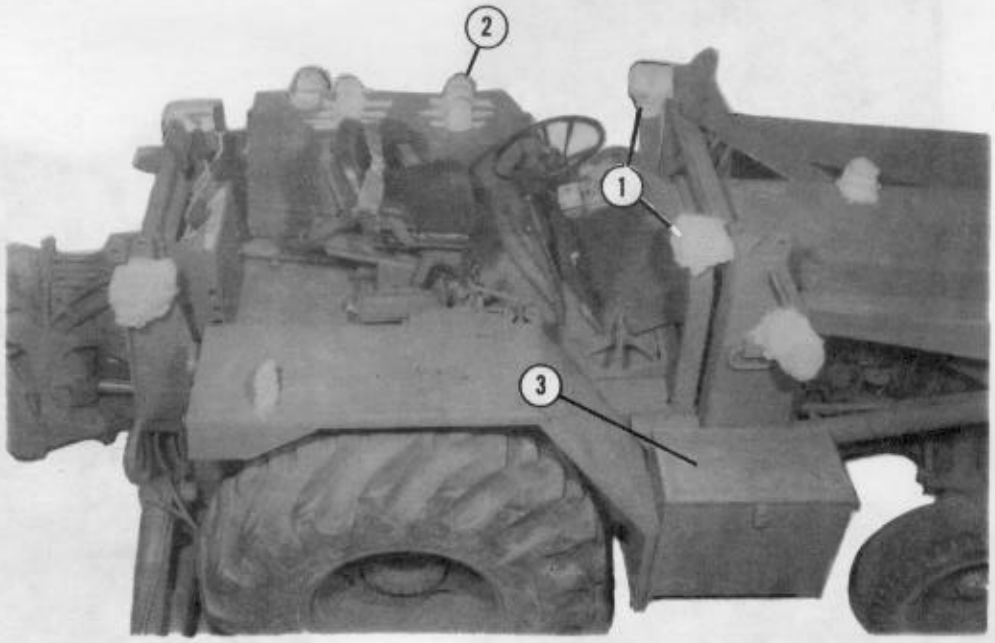
(3) Lower the seat, and lock it in the forward position. Attach the seat belt above the seat.

(4) Fold the lights down. Cover the lights with cellulose wadding, and tape the cellulose wadding in place.

(5) Remove the exhaust pipe. Lay the pipe behind the driver seat. Tie the exhaust pipe in place with type III nylon cord (not shown).

NOTE: Cover the exhaust port with cellulose wadding, and tape the wadding in place. Remove the cellulose wadding and tape from the exhaust port before operating the tractor.

Figure 4-16. ROPS and extraction yoke removed, and seat, exhaust pipe, and lights prepared



1. Pad the ROPS brackets with cellulose wadding, and tape the cellulose wadding in place.
2. Pad the fender brackets with cellulose wadding, and tape the cellulose wadding in place.
3. Remove the extraction yoke assembly components which are stowed in the toolbox.

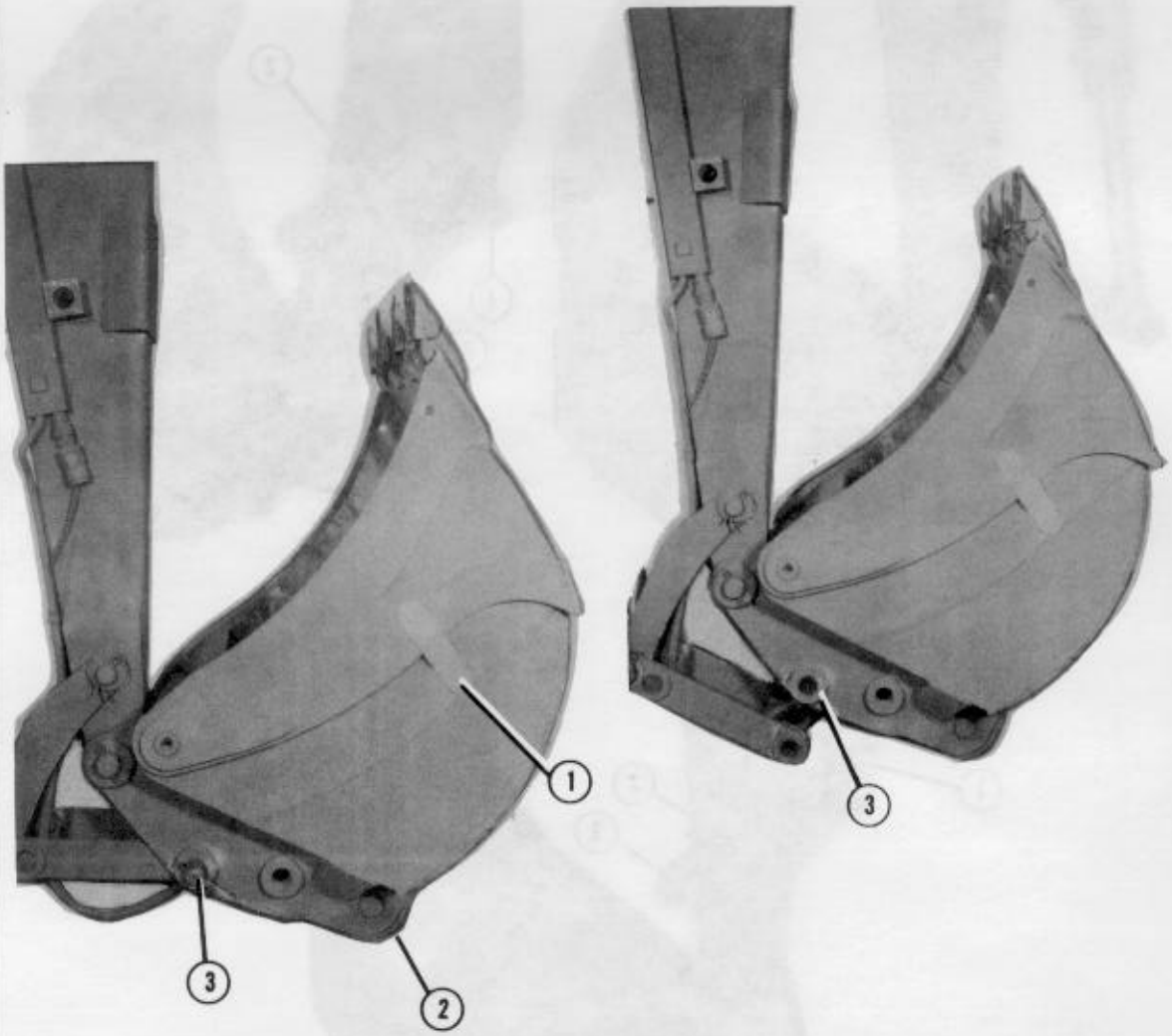
Figure 4-17. ROPS and fender brackets prepared and extraction yoke assembly components removed

(1) Remove the locking pin located at the base of the boom.

NOTE: The locking pin is used to hold the boom in the travel position. Stow the locking pin in the tractor toolbox.

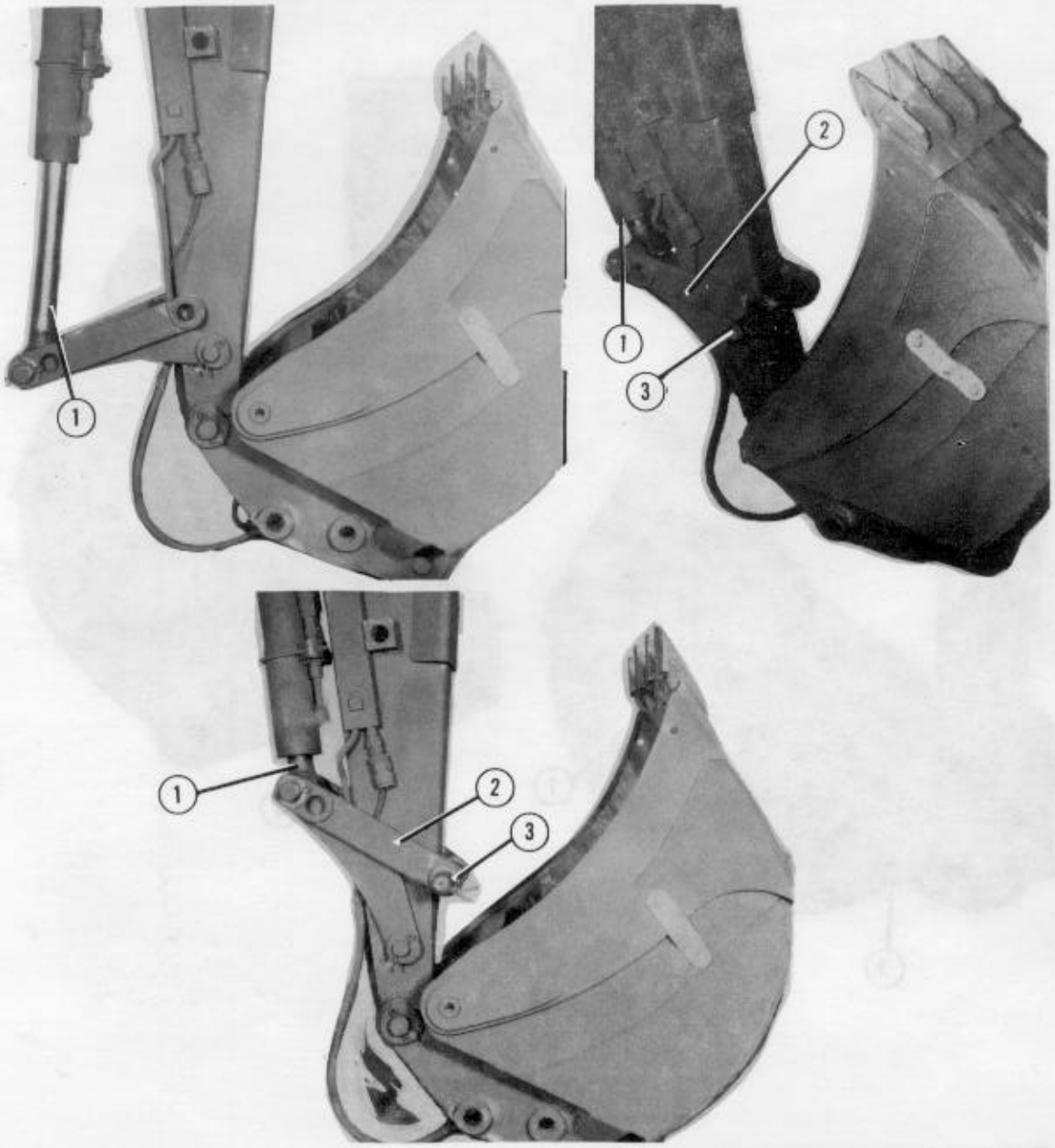
(2) Lower the outriggers, and bolt the eyebolts to the rear suspension plates.

Figure 4-18. Locking pin removed, outriggers lowered, and eyebolts installed



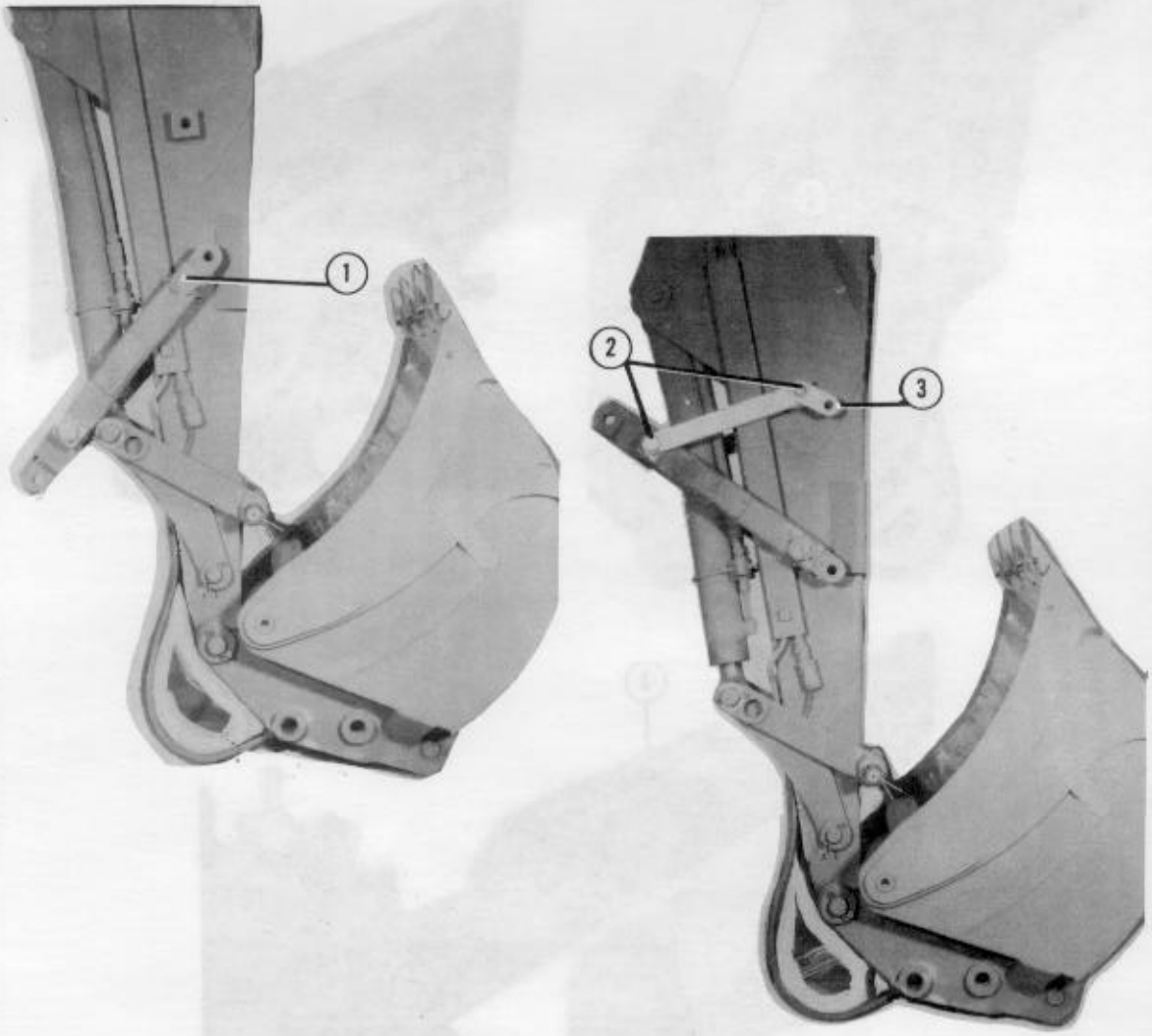
1. Bolt a jaw brace on each side of the bucket.
2. Lower the bucket and the dipper stick into the full-tucked position.
3. Remove the bucket pin from the base of the bucket.

Figure 4-19. Jaw brace installed and bucket pin removed



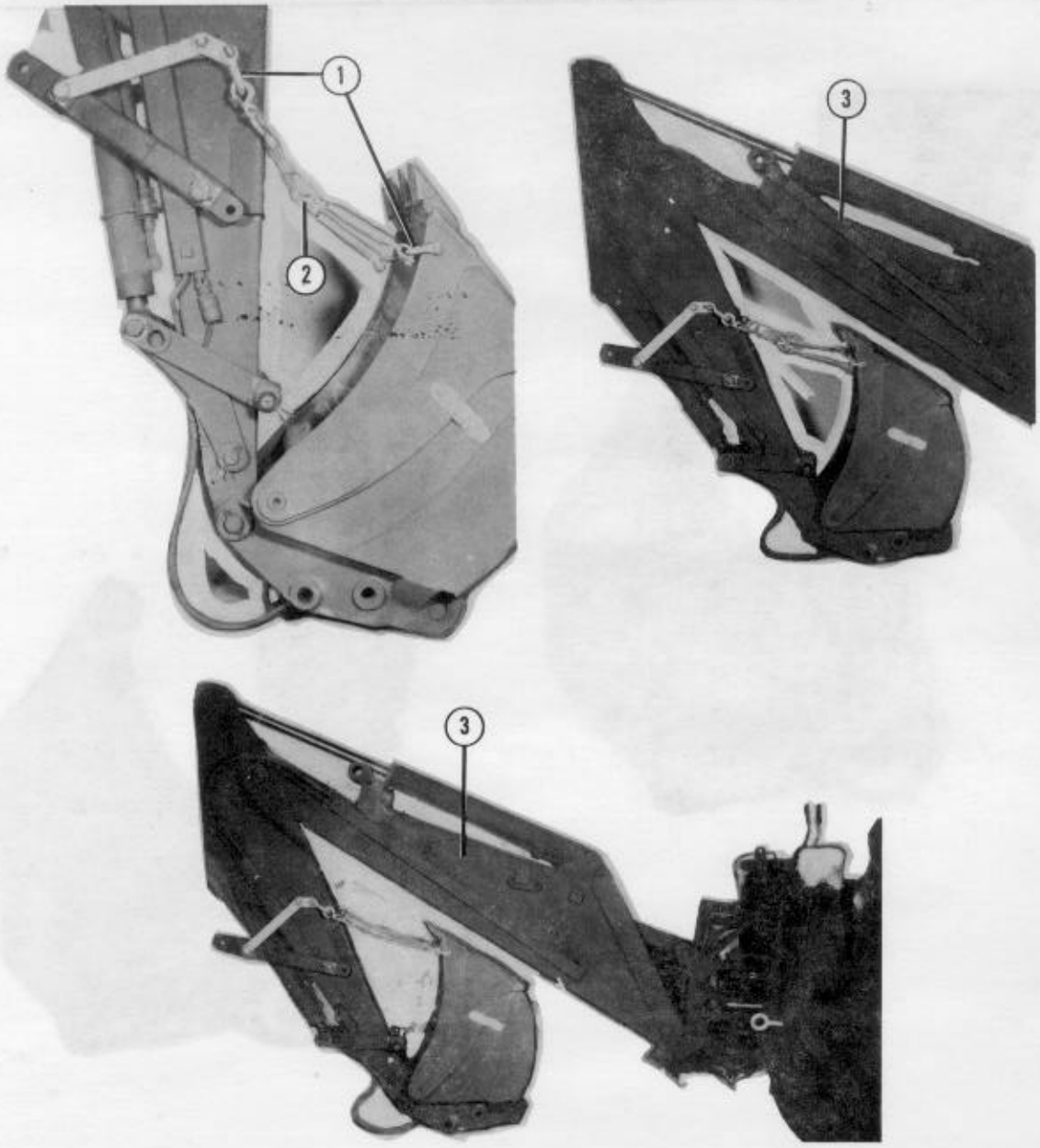
1. Raise the bucket cylinder.
2. Rotate the bucket links into the stowed position.
3. Install the bucket pin in the dipper stick.

Figure 4-20. Bucket pin installed



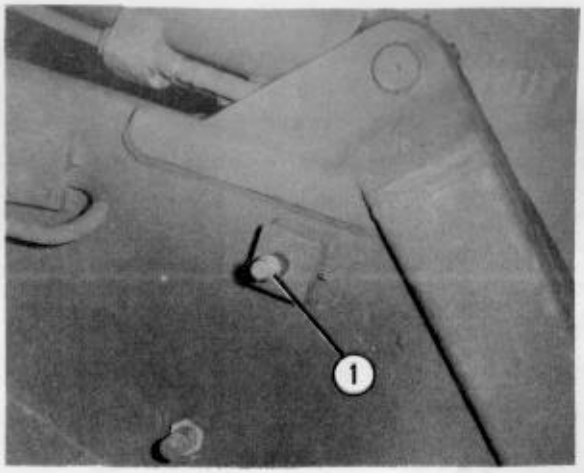
1. Bolt the extraction yoke to the dipper stick with the large bolt.
2. Bolt the two extraction yoke braces to the extraction yoke and the upper dipper stick.
3. Position the smaller yoke braces on the outside of the larger yoke braces.

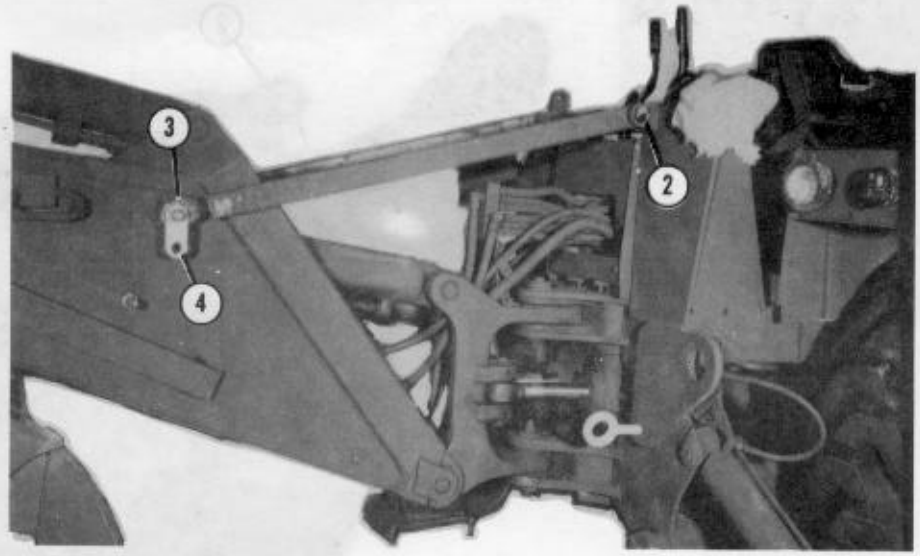
Figure 4-21. Extraction yoke installed



1. Fit a medium screw-pin clevis to each small yoke brace and on both sides of the bucket.
2. Hook the bucket cables between the clevises. Tighten the cables with the turnbuckle located between the clevises.
3. Remove the upper cable braces from their stowed position on the main boom.

Figure 4-22. Bucket cables installed and upper cable braces removed

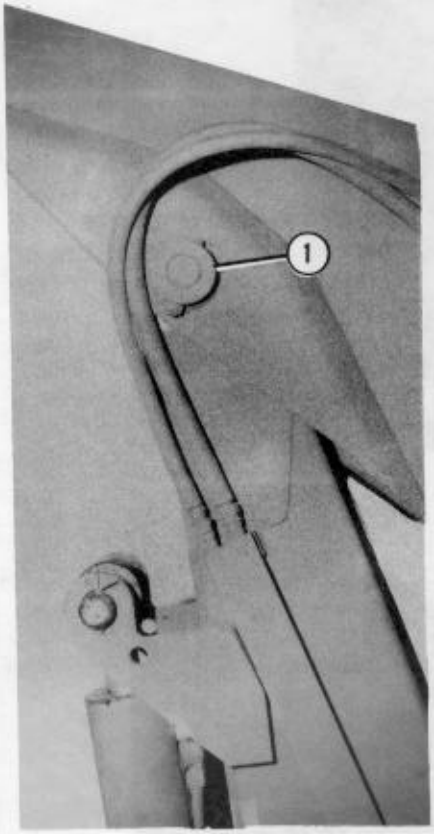


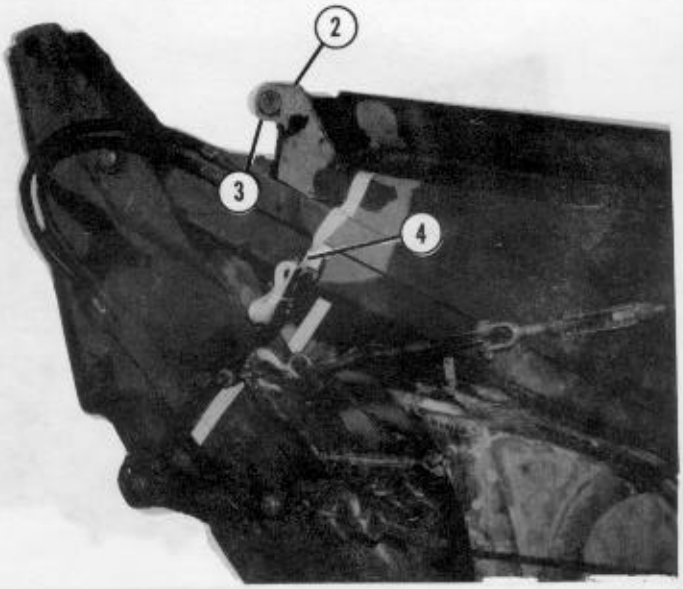


1. Install the upper cable brace bolt in the block on both sides of the main boom with a safety pin and a cotter pin.
2. Bolt one end of the brace to the extraction provision on the rear of the tractor.
3. Fit the other end of the upper cable brace on the bolt on the side of the main boom.
4. Fit the small brace (with the raised edge) on the bolt, and replace the nut on the bolt.

NOTE: The tractor may have to be raised on the outriggers to install the upper cable brace.

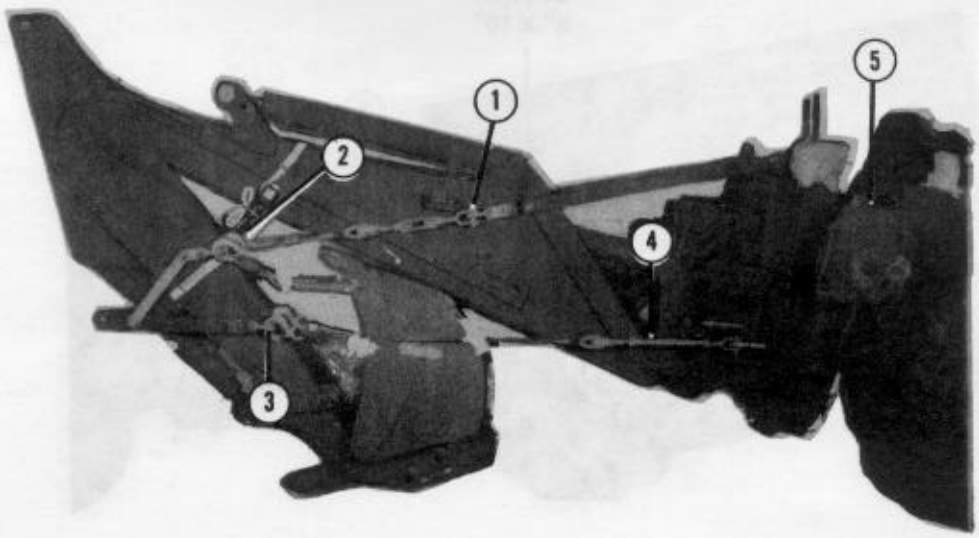
Figure 4-23. Upper cable brace installed





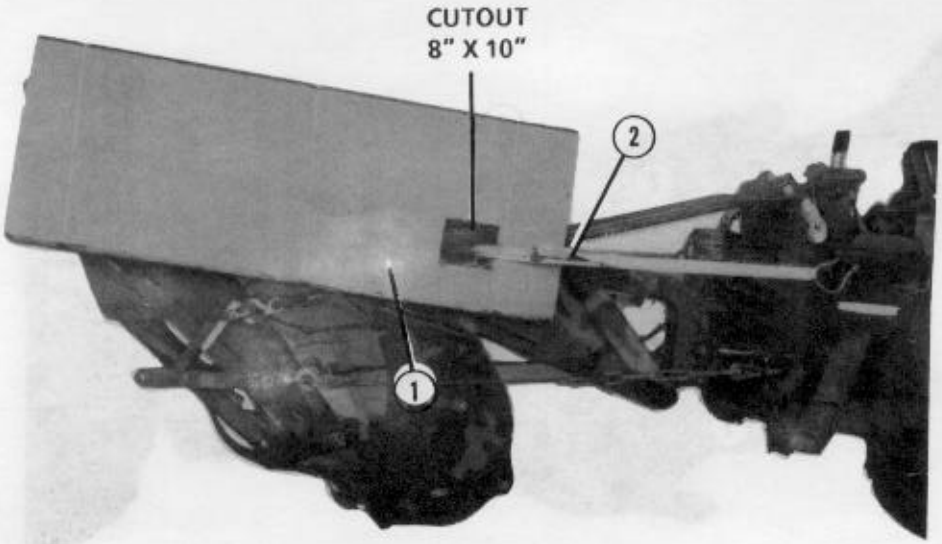
1. Remove the crowd cylinder pin from the top of the dipper stick.
2. Lower the cylinder, and bolt it in the stowage mount.
3. Replace the crowd cylinder pin in the top of the dipper stick.
4. Run a 15-foot lashing between the crowd cylinder and the boom and around the dipper stick (inside of the extraction yoke assembly). Secure the lashing with a D-ring and a load binder.

Figure 4-24. Crowd cylinder stowed



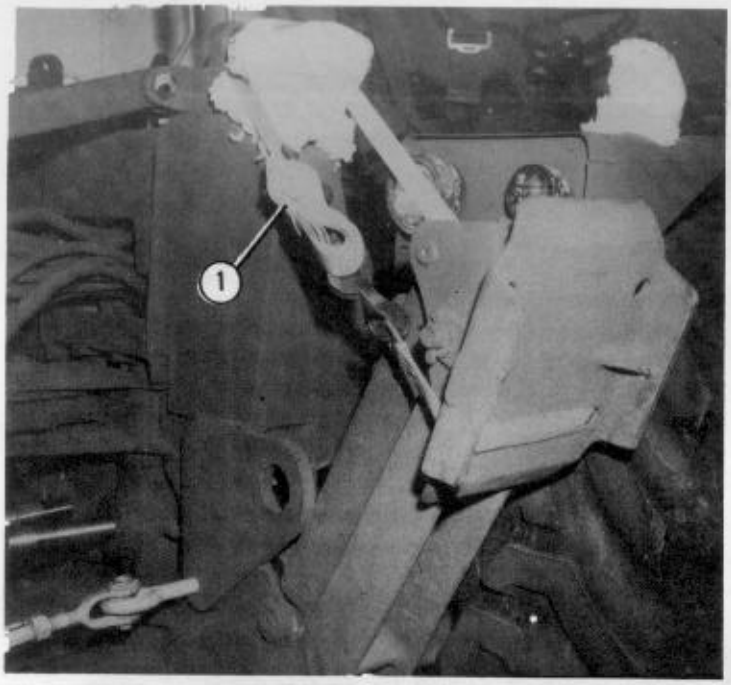
1. Fit a small screw-pin clevis to the small brace on both sides of the boom.
2. Hook the upper cable assembly from the clevis on the small brace to the clevis on the upper yoke assembly brace. Tighten the cable with the turnbuckle located between the hooks.
3. Fit a medium screw-pin clevis on both sides of the extraction yoke and on each eyebolt in the rear suspension plates.
4. Hook the lower cable assembly from the clevis on the extraction yoke to the clevis on the eyebolt on the rear suspension plate. Tighten the cable with the turnbuckle located between the hooks.
5. Raise the outriggers to their highest position, and bolt a cargo suspension clevis to each outrigger.

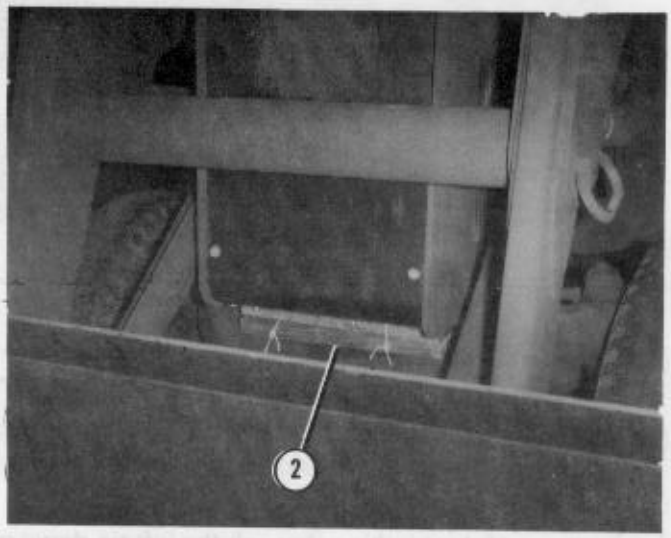
Figure 4-25. Upper and lower cable assemblies installed



1. Use two pieces of 36- by 96-inch honeycomb, and make an 8- by 10-inch cutout in each piece of honeycomb for the tie-down provision on the boom. Tie the honeycomb to the boom using type III nylon cord.
2. Run a 15-foot lashing through the clevis attached to the outrigger and through the tie-down provision located on the right side of the boom. Secure the lashing with a D-ring and a load binder.
3. Run a 15-foot lashing through the clevis attached to the outrigger and through the tie-down provision on the left side of the boom. Secure the lashing with a D-ring and a load binder (not shown).

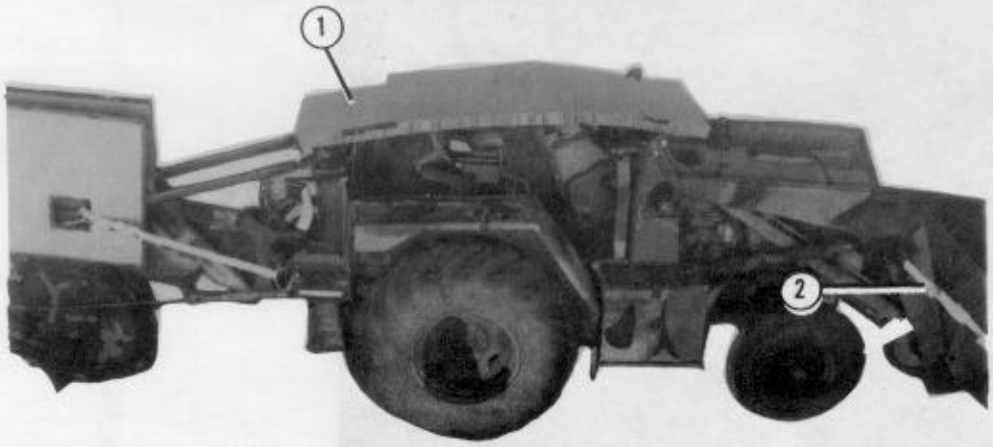
Figure 4-26. Honeycomb placed on boom

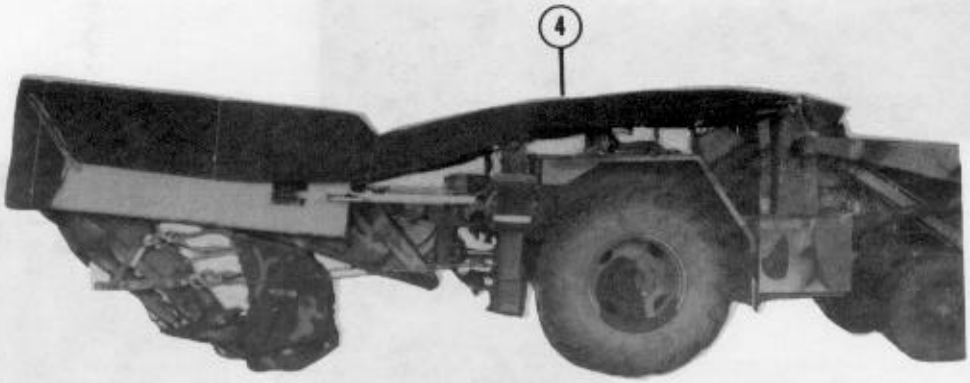




1. Run a 15-foot lashing around the ROPS bracket and through the foot of the outrigger. Secure the lashing with a D-ring and a load binder. Stow the other outrigger in the same manner.
2. Tie two 2- by 4- by 20-inch pieces of lumber between the front axle and the frame using type III nylon cord.

Figure 4-27. Outrigger stowed and frame support installed





1. Lay a 36- by 96-inch piece of honeycomb over the cab between the front lifting points. Tie the honeycomb in place using type III nylon cord.
2. Run a 15-foot lashing through the right tie-down provision on the loader lifting arm and the tie-down provision on the loader. Secure the lashing with a D-ring and a load binder.
3. Run a 15-foot lashing through the left tie-down provision on the loader lifting arm and the tie-down provision on the loader. Secure the lashing with a D-ring and a load binder (not shown).
4. Cover the tractor with a 6- by 24-foot piece of canvas. Cover the tractor from the front lifting points to the end of the dipper stick. Tie the cover in place with type III nylon cord.

NOTE: Make sure that the end of the dipper stick is completely covered to prevent damage to the parachutes during deployment.

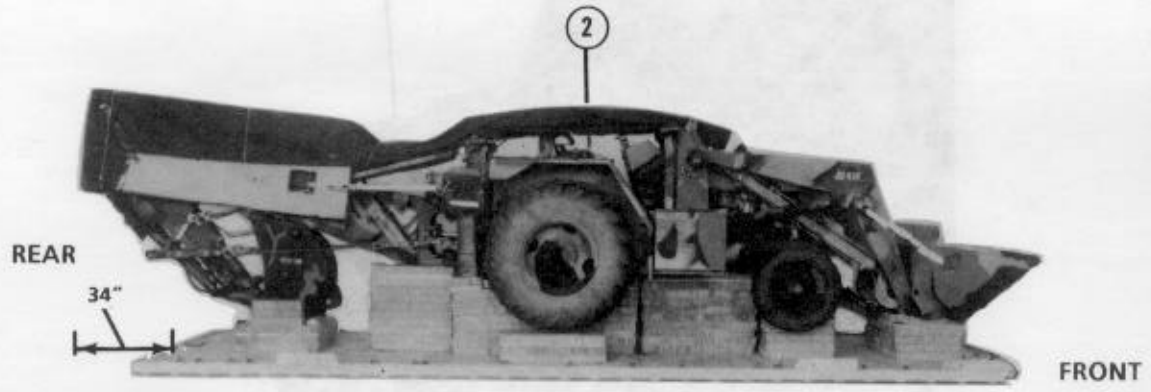
Figure 4-28. Top of tractor prepared

4-5. Positioning Tractor on Platform

Position the tractor on the platform as shown in Figure 4-29.

CAUTION

Make sure the hoses under the backhoe assembly are not pinched.



CAUTION

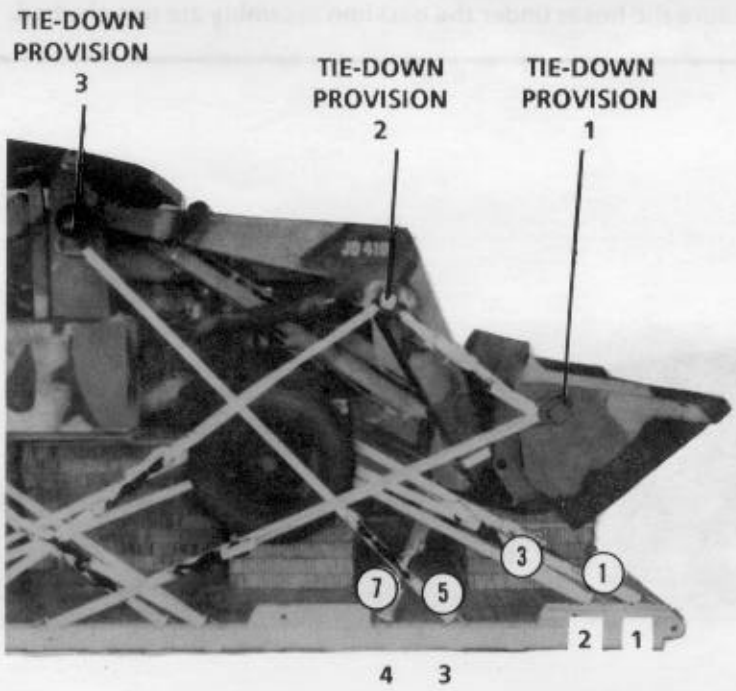
Make sure the overhang on the rear of the platform is no less than 34 inches and no more than 35 inches.

1. Lift the tractor using four 9-foot (2-loop), type XXVI nylon webbing slings and four large suspension clevises attached to each suspension point (not shown).
2. Position the tractor on the platform with the rear of the tractor overhanging the rear of the platform 34 inches.
3. Remove the lifting slings and clevises from the tractor (not shown).

Figure 4-29. Tractor positioned on platform

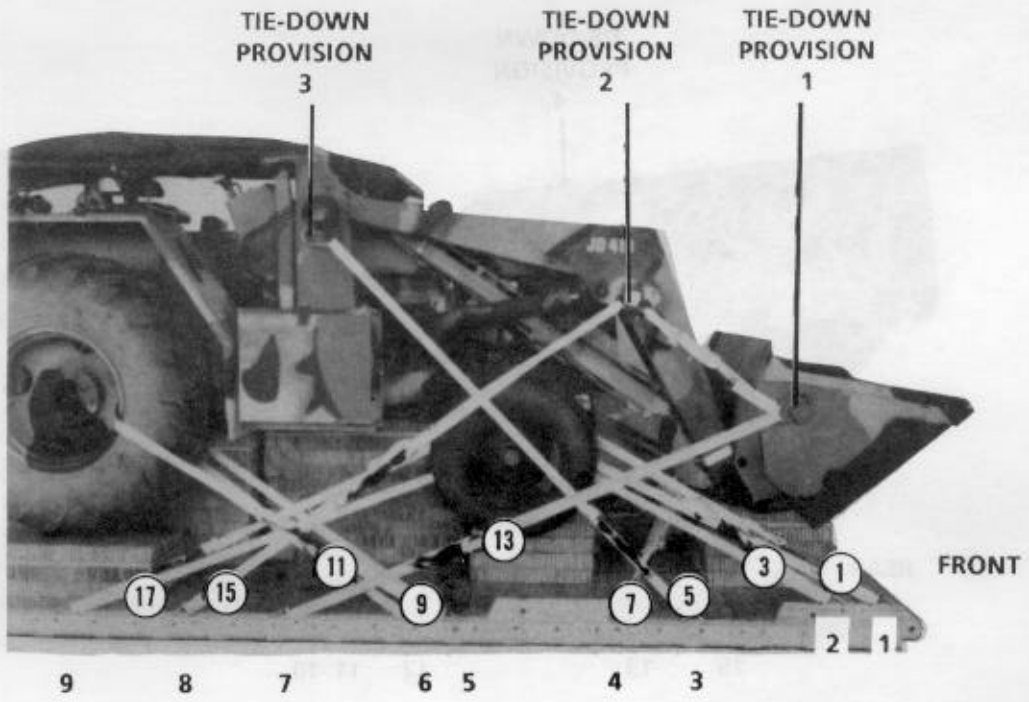
4-6. Installing Lashings

Install thirty-four 15-foot tie-down assemblies, and lash the tractor to the platform as shown in Figures 4-30, 4-31, and 4-32.



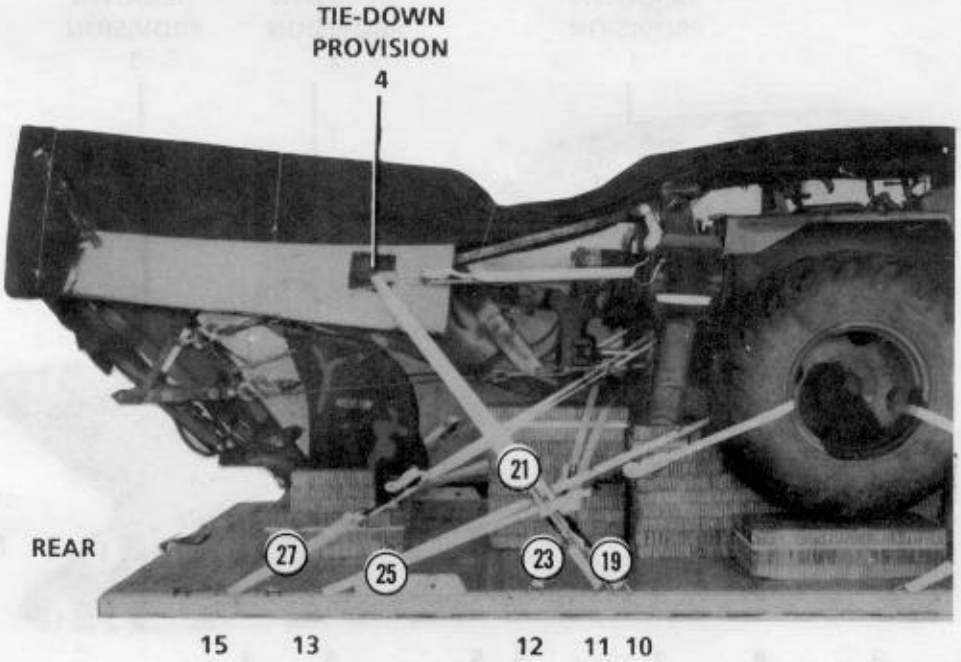
Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
1	1	Around the front axle, right side.
2	1A	Around the front axle, left side.
3	2	Around the front axle, right side.
4	2A	Around the front axle, left side.
5	3	Through tie-down provision 3, right side.
6	3A	Through tie-down provision 3, left side.
7	4	Around the left loader arm.
8	4A	Around the right loader arm.

Figure 4-30. Lashings 1 through 8 installed



Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
9	5	Through the rear wheel, right side.
10	5A	Through the rear wheel, left side.
11	6	Around the rear axle, right side.
12	6A	Around the rear axle, left side.
13	7	Through tie-down provision 1, right side.
14	7A	Through tie-down provision 1, left side.
*15	8	Through tie-down provision 2, right side.
*16	8A	Through tie-down provision 2, left side.
17	9	Around the front axle, right side.
18	9A	Around the front axle, left side.
*30-foot lashing		

Figure 4-31. Lashings 9 through 18 installed

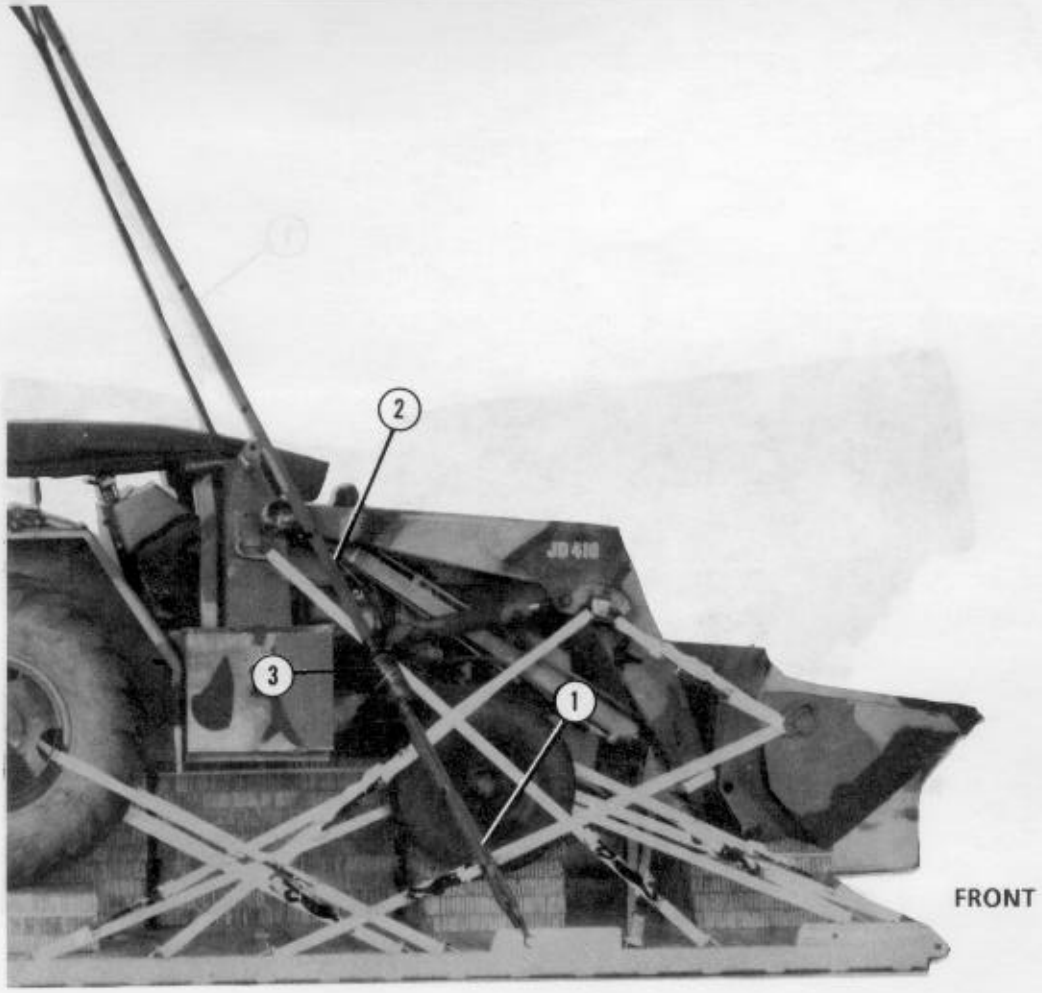


Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
19	10	Through tie-down provision 4, right side.
20	10A	Through tie-down provision 4, left side.
21	11	Through tie-down provision 4, right side.
22	11A	Through tie-down provision 4, left side.
23	12	Around the lower swivel joint.
24	12A	Around the lower swivel joint.
*25	13	Through the rear wheel, right side.
*26	13A	Through the rear wheel, left side.
*27	15	Through the rear suspension plate, right side.
*28	15A	Through the rear suspension plate, left side.
* 30-foot lashing		

Figure 4-32. Lashings 19 through 28 installed

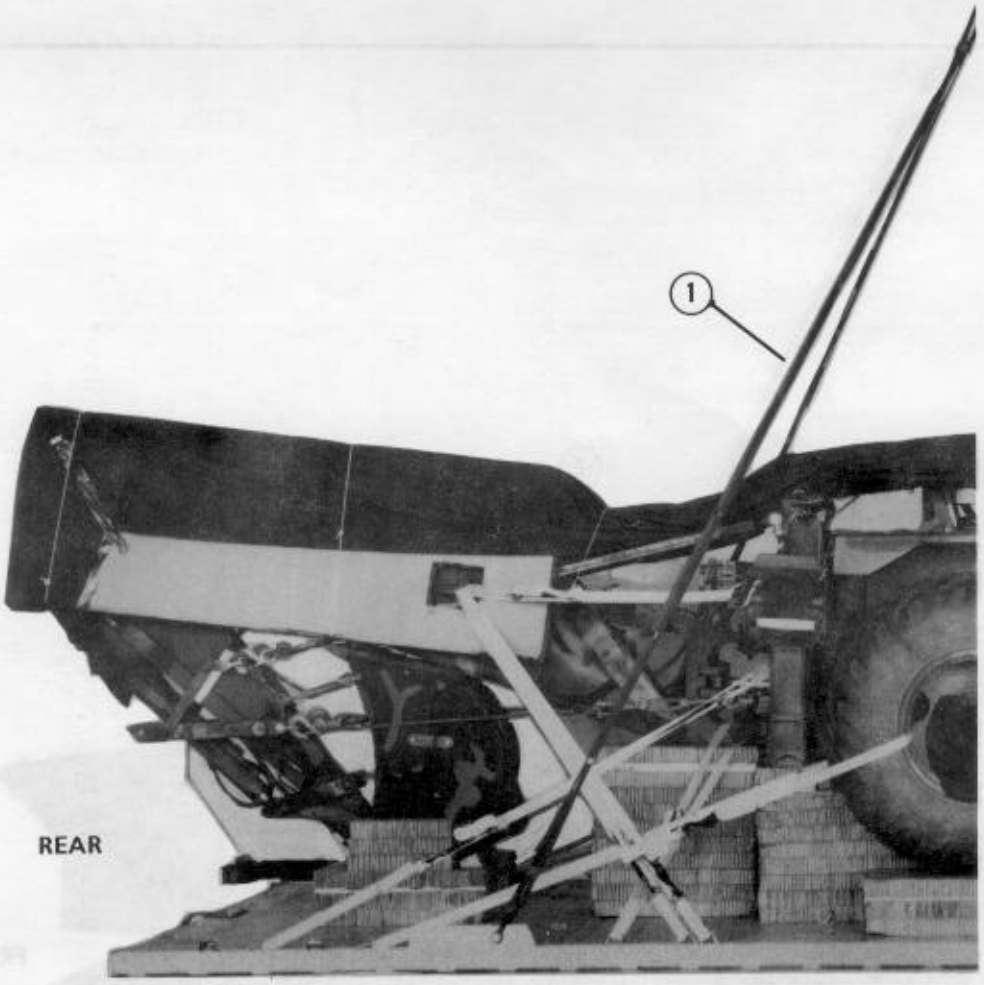
4-7. Installing Suspension Slings

Install the suspension slings according to FM 10-500-2/TO 13C7-1-5 and as shown in Figures 4-33 and 4-34.



1. Fit a 3-foot (4-loop), type XXVI nylon webbing sling to the bell portion of a large suspension clevis. Bolt the clevis to the right front suspension link. Repeat this step for the left front suspension link.
2. Use a 3 3/4-inch, two-point link to attach a 12-foot (4-loop), type XXVI nylon webbing sling to each 3-foot sling installed in 1 above.
3. Cover the 3 3/4-inch, two-point links using two pieces of 8- by 14-inch felt. Tape the felt in place.

Figure 4-33. Front suspension slings installed

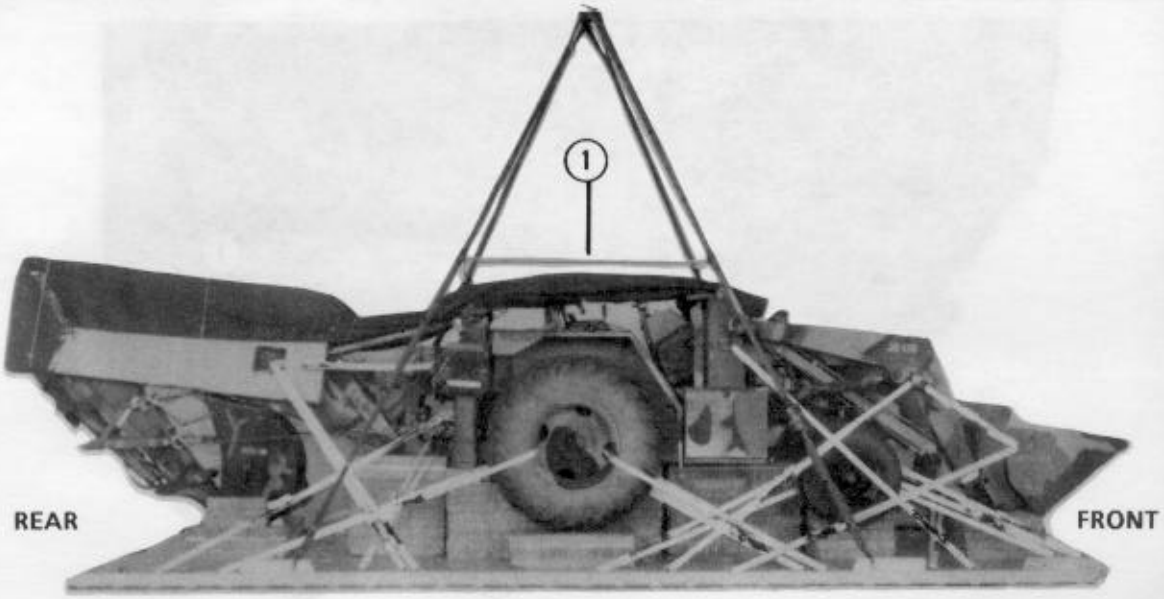


(1) Fit a 16-foot (4-loop), type XXVI nylon webbing sling to the bell portion of a large suspension clevis. Bolt the clevis to the right rear suspension link. Repeat this step for the left rear suspension link.

Figure 4-34. Rear suspension slings installed

4-8. Installing Deadman's Tie

Install a deadman's tie as shown in Figure 4-35.



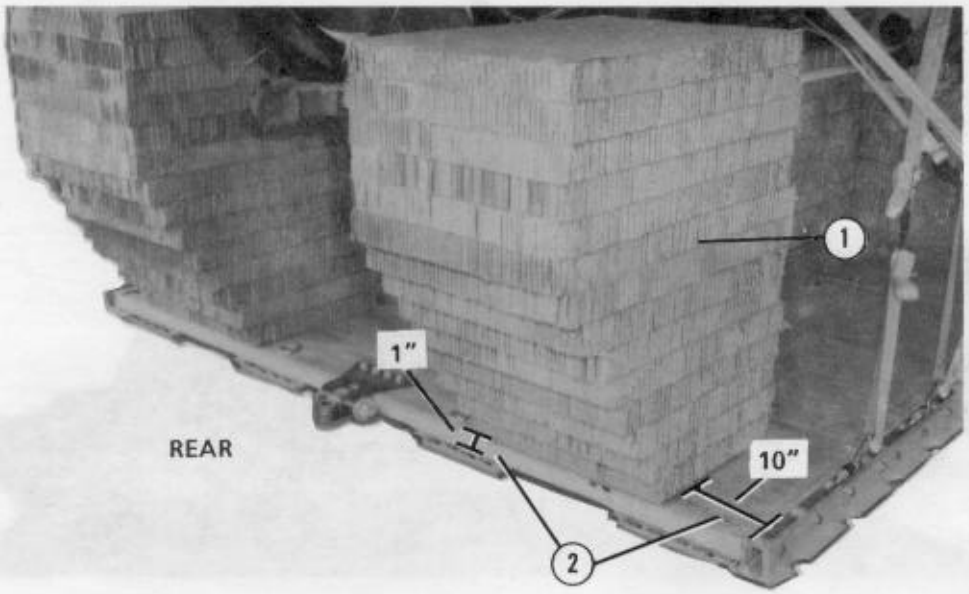
NOTE: Raise the suspension slings until they are tight.

1. Install a deadman's tie to the four suspension slings 4 inches above the tractor cover according to FM 10-500-2/TO 13C7-1-5.
2. Lower the suspension slings on the load (not shown).

Figure 4-35. Deadman's tie installed

4-9. Building, Positioning, and Securing Parachute Stowage Platform

Build and position two honeycomb stacks as supports for the parachute stowage platform as shown in Figure 4-36. Construct the parachute stowage platform as shown in Figures 4-37 and 4-38. Lash the parachute stowage platform as shown in Figure 4-39 using four 15-foot tie-down assemblies.



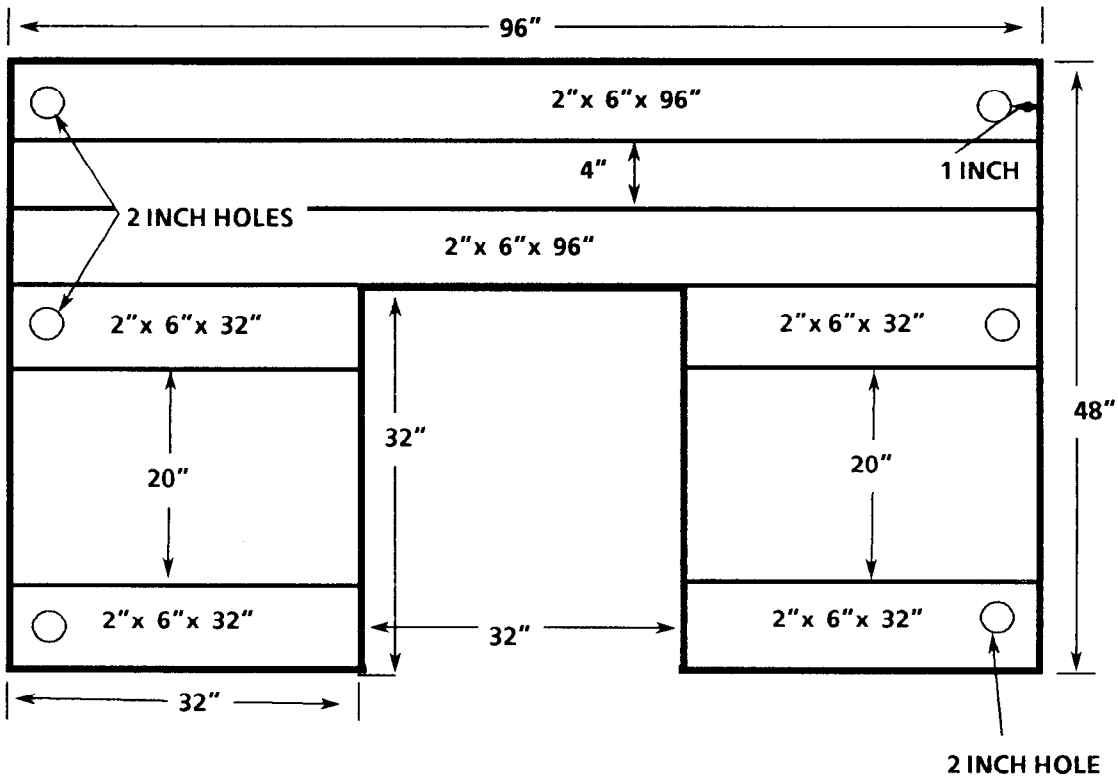
(1) Build two honeycomb stacks using the dimensions given below. Use 14 pieces of honeycomb in each stack.

(2) Set each honeycomb stack 1 inch from the rear edge of the platform and 10 inches from each side rail.

Honeycomb Layer	Width (Inches)	Length (Inches)	Honeycomb Layer	Width (Inches)	Length (Inches)
1	24	20	8	24	34
2	24	22	9	24	36
3	24	24	10	24	36
4	24	26	11	24	36
5	24	28	12	24	36
6	24	30	13	24	36
7	24	32	14	24	36

Figure 4-36. Honeycomb positioned for parachute stowage platform

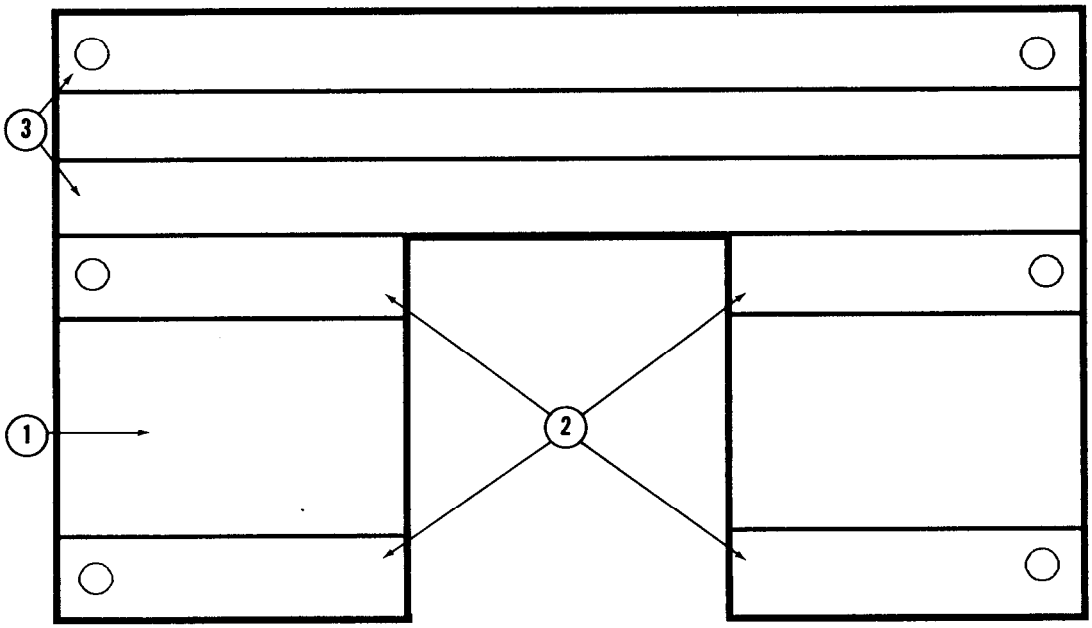
NOTE: This drawing is not drawn to scale.



Item Number	Pieces	Width (Inches)	Length (Inches)	Material
1	1	96	48	3/4-inch plywood
2	4	32	6	2- by 6-inch lumber
3	2	96	6	2- by 6-inch lumber

Figure 4-37. Materials required to build the parachute stowage platform

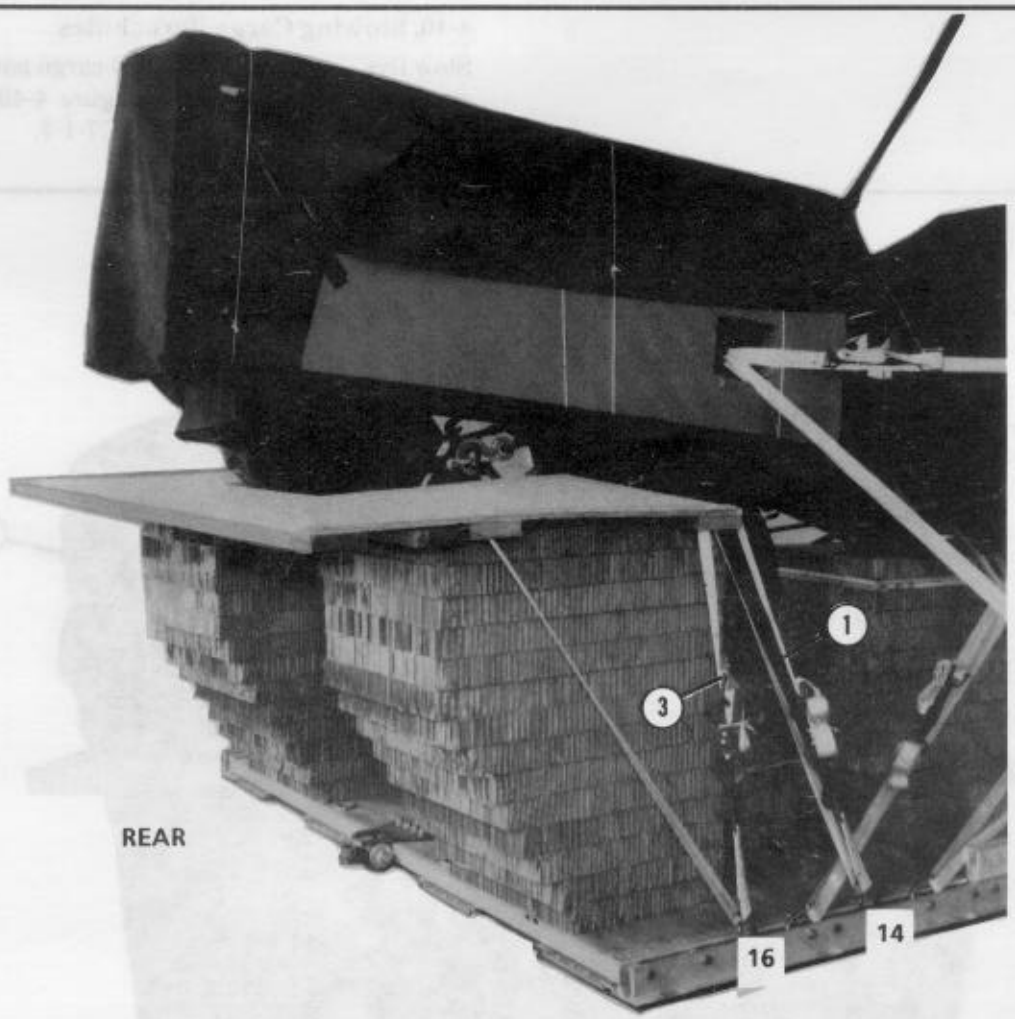
NOTES: 1. This drawing is not drawn to scale.
2. Circled numbers refer to item numbers.



Step:

1. Build the parachute stowage platform using the materials shown in Figure 4-37 and using eightpenny nails to secure the parachute stowage platform together.

Figure 4-38. Parachute stowage platform built

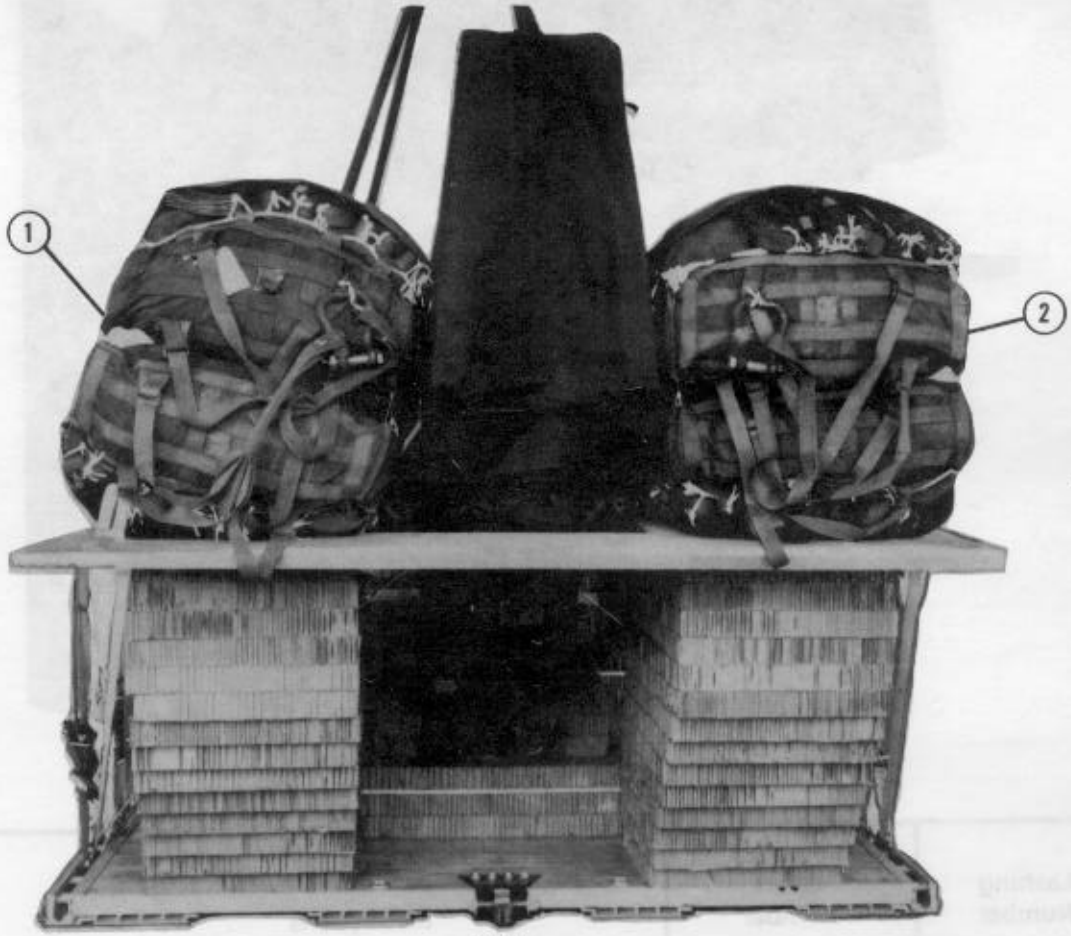


Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
1	14	Through the front hole of the stowage platform, right side.
2	14A	Through the front hole of the stowage platform, left side.
3	16	Through the center hole of the stowage platform and down through the front hole of the stowage platform, right side.
4	16A	Through the center hole of the stowage platform and down through the front hole of the stowage platform, left side.

Figure 4-39. Parachute stowage platform secured

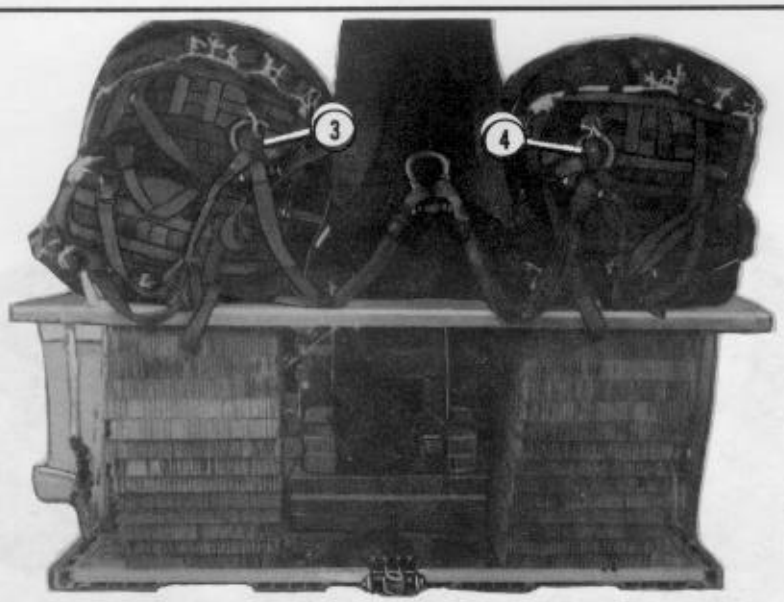
4-10. Stowing Cargo Parachutes

Stow five G-11A or four G-11B cargo parachutes on the tractor as shown in Figure 4-40 and according to FM 10-500-2/TO 13C7-1-5.



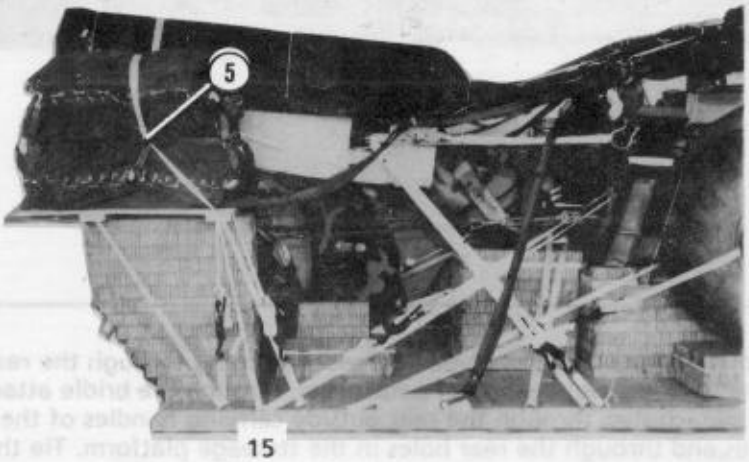
1. Set two G-11B cargo parachutes on the left side of the stowage platform with the bottom parachute riser compartment down and the top parachute riser compartment up.
2. Set two G-11B cargo parachutes on the right side of the stowage platform with the second parachute riser up. If G-11A parachutes are used, set the third parachute on the right side of the stowage tray with the riser compartment up.

Figure 4-40. Cargo parachutes stowed



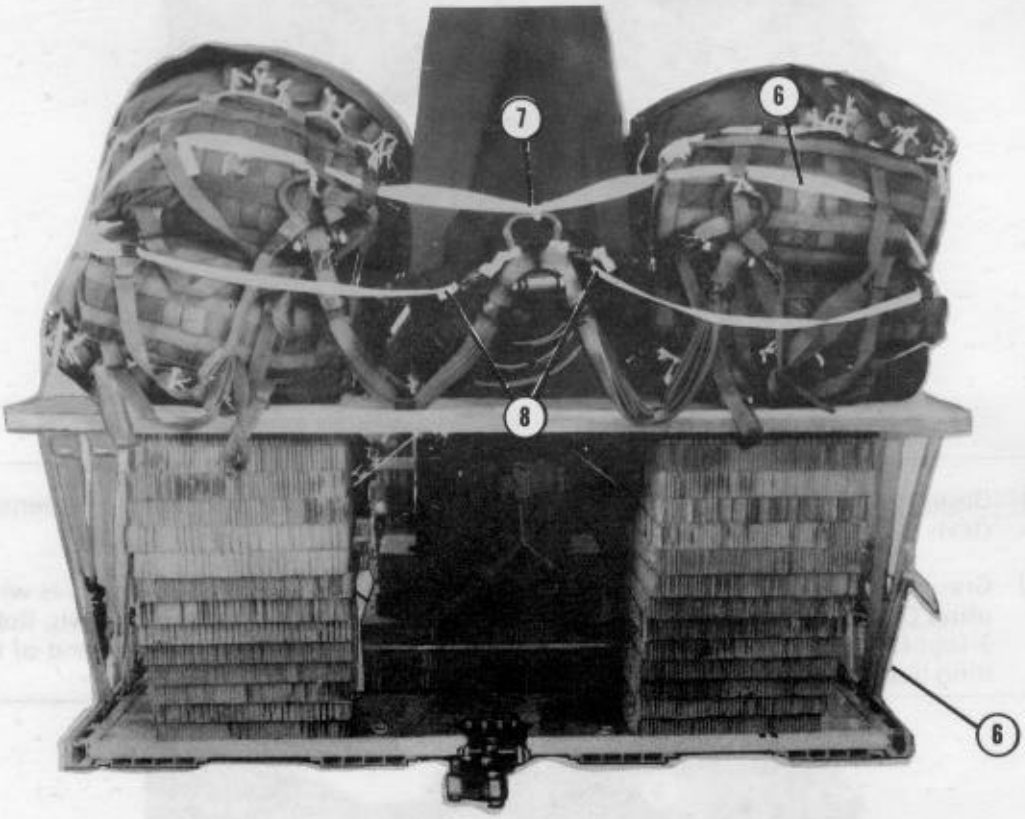
(3) Group the two parachute bridle assemblies on the left side with a large suspension clevis. Bolt a 3-foot (2-loop), type XXVI nylon webbing sling to the clevis.

(4) Group the two parachute bridle assemblies (three parachute bridle assemblies when using G-11A cargo parachutes) on the right side with a large suspension clevis. Bolt a 3-foot (2-loop), type XXVI nylon webbing sling on the clevis. Join the free end of the sling to the sling mentioned in 3 above with a large suspension clevis.



(5) Run a 10-yard length of type VIII nylon webbing through the center outside carrying handles of the right group of parachutes, through the center inside carrying handles of both top parachutes, through the center outside carrying handles of the left group of parachutes, and through the front holes in the stowage platform. Tie the ends of the webbing to clevises 15 and 15A according to FM 10-500-2/TO 13C7-1-5.

Figure 4-40. Cargo parachutes stowed (continued)



REAR

6 Run another 10-yard length of type VIII nylon webbing through the rear outside carrying handles of the right group of parachutes, through the bridle attaching loops of both top parachutes, through the rear outside carrying handles of the left group of parachutes,and through the rear holes in the stowage platform. Tie the webbing to clevises 16 and 16A according to FM 10-500-2/TO 13C7-1-5.

7 Tie the large suspension clevis to the second restraint strap with two lengths of type I, 1/4-inch cotton webbing.

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

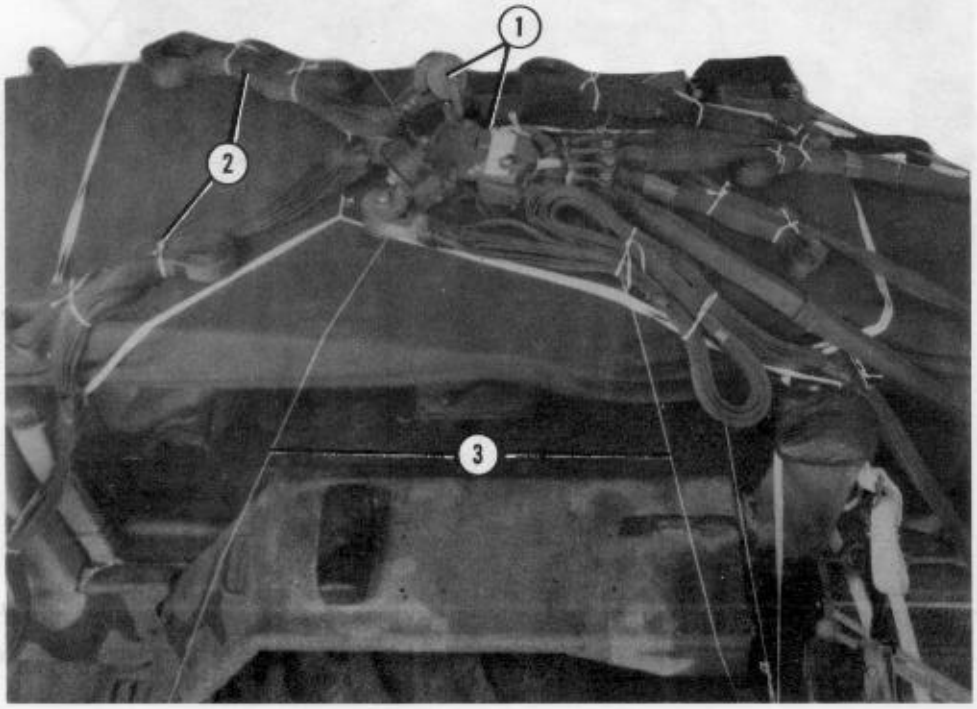
Figure 4-40. Cargo parachutes stowed (continued)

4-11. Installing Release System

Prepare and install the release system as shown in Figure 4-41.

CAUTION

An additional 10-foot length of arming lanyard may be required in order to reach the carrying handle of the cargo parachute.



1. Prepare an M-2 cargo release assembly according to FM 10-500-2/TO 13C7-1-5. Attach the release assembly to the suspension slings and cargo parachutes according to FM 10-500-2/TO 13C7-1-5.
2. Fold the suspension slings, and secure the folds with lengths of type I, 1/4-inch cotton webbing.
3. Secure the top and bottom of the M-2 release with type III nylon cord and according to FM 10-500-2/TO 13C7-1-5.

NOTE: Riser extension stow ties may have to be cut to allow the extensions to reach the release assembly.

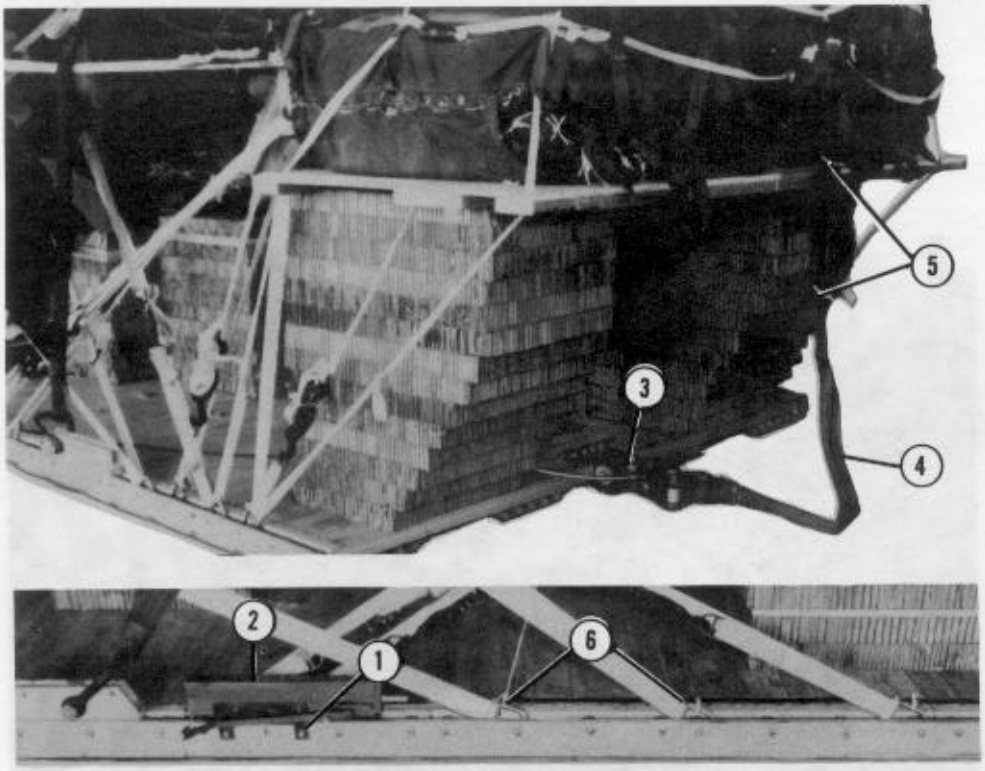
Figure 4-41. Release system installed

4-12. Installing Extraction System

Install the EFTC extraction system as shown in Figure 4-42.

4-13. Installing Provisions for Emergency Restraints

Install provisions for emergency restraints according to FM 10-500-2/TO 13C7-1-5. These provisions apply to the C-130 and C-141 aircraft.



1. Attach the type V EFTA mounting brackets to the rear mounting holes on the left platform rail.
2. Install the actuator to the EFTA mounting brackets with a 24-foot cable according to FM 10-500-2/TO 13C7-1-5.
3. Using a 5 1/4-inch latch adapter assembly, 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 (deployment line) to the right spacer of the link assembly.Connect the free end to the center large clevis on the 3-foot clustering slings.
5. Fold the excess deployment line, and secure the folds with tape or type I, 1/4-inch cotton webbing.
6. Safety tie the 24-foot cable to the platform clevises along the left rail using lengths of type I, 1/4-inch cotton webbing.

Figure 4-42. Extraction system installed

4-14. Placing Extraction Parachute

Place the extraction parachute as described below.

a. C-130 Aircraft. Place one heavy-duty, 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 heavy-duty, 28-foot cargo extraction parachute and a continuous 140-foot (3-loop), type XXVI nylon webbing extraction line on the load for installation in the aircraft.

4-15. Marking Rigged Load

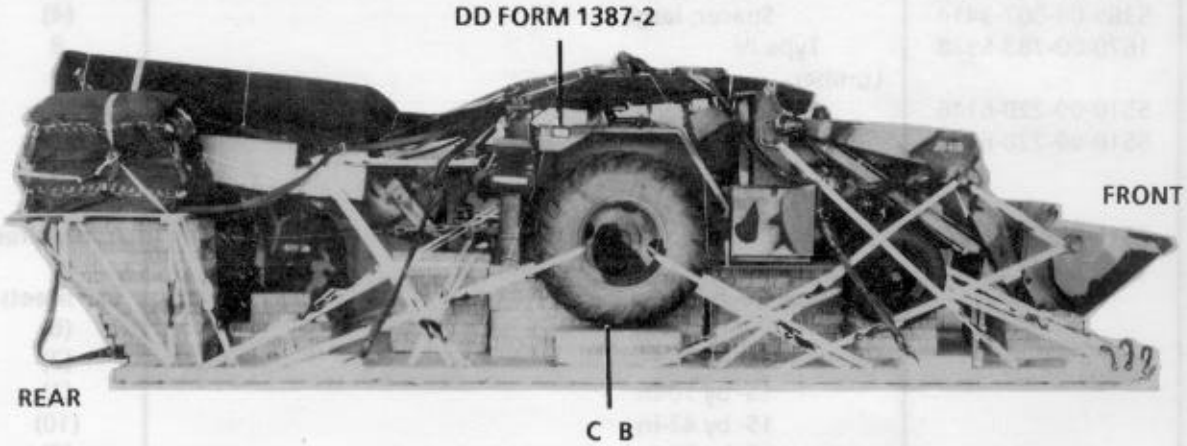
Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-43. Complete DD Form 1387-2, and securely attach it to the load. Indicate on DD Form 1387-2 that the load has been prepared according to AFR 71-4/TM 38-250. If the load varies from that shown, the weight, height, CB, and parachute requirements must be recomputed.

4-16. Equipment Required

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

CAUTION

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



RIGGED LOAD DATA

Weight: Load shown	19,690 pounds
Maximum load allowed	21,000 pounds
Height	95 inches
Width	108 inches
Length	336 inches
Overhang: Front	14 inshes
Rear	34 inches
CB (from front edge of platform)	149 inches
Extraction System	EFTC

Figure 4-43. JD 410 tractor rigged on a type V platform for low-velocity airdrop

Table 4-1. Equipment required for rigging the JD 410 tractor on a type V platform for low-velocity airdrop

NSN	Item	Quantity
670-00-162-4979	Adapter, link assembly	2
8040-00-273-8713	Adhesive, paste, 1-gal	As required
	Clevis, suspension:	
4030-00-678-8562	3/4-in (medium)	2
4030-00-090-5354	1-in (large)	6
8305-00-242-3593	Cloth, cotton duck, 60-in	As required
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5782	Coupling, airdrop, extraction force transfer w 24-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:	
1670-01-062-6313	60-ft (3-loop), type XXVI nylon webbing or	1
1670-01-107-7651	140-ft (3-loop), type XXVI nylon webbing	1
	Link assembly:	
	Two-point:	2
5306-00-435-8994	Bolt, 1-in diam, 4-in long	(4)
5310-00-232-5165	Nut, 1-in, hexagonal	(4)
1670-00-003-1953	Plate, side, 3 3/4-in	(4)
5365-00-007-3414	Spacer, large	(4)
1670-00-783-5988	Type IV	8
	Lumber:	
5510-00-220-6146	2- by 4- by 20-in	5
5510-00-220-6448	2- by 6-in:	
	32-in	4
	96-in	2
5315-00-010-4657	Nail, steel wire, common, 6d	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in:	27 sheets
	6- by 18-in	(6)
	15- by 7-in	(2)
	15- by 10-in	(1)
	15- by 42-in	(10)
	18- by 36-in	(6)
	24- by 20-in	(2)
	24- by 22-in	(2)
	24- by 24-in	(2)
	24- by 30-in	(12)
	24- by 32-in	(2)
	24- by 34-in	(2)
	24- by 36-in	(12)
	26- by 24-in	(11)
	28- by 24-in	(6)
	36- by 30-in	(3)
	44- by 11-in	(1)

Table 4-1. Equipment required for rigging the JD 410 tractor on a type V platform for low-velocity airdrop (continued)

NSN	Item	Quantity
	44- by 17-in	(1)
	44- by 36-in	(8)
	48- by 24-in	(10)
	Parachute:	
	Cargo:	
1670-00-269-1107	G-11A or	5
1670-01-016-7841	G-11B	4
1670-00-040-8135	Cargo extraction, 28-ft, heavy-duty	1
	Platform, AD, type V, 24-ft:	1
	Bracket:	
1670-01-162-2375	Inside EFTA	(1)
1670-01-162-2374	Outside EFTA	(1)
1670-01-162-2372	Clevis assembly	(32)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-247-2389	Suspension link	(4)
1670-01-162-2381	Tandem link	(2)
5530-00-128-4981	Plywood, 3/4-in:	
	15- by 42-in	1
	18- by 36-in	2
	24- by 30-in	2
	26- by 24-in	1
	28- by 24-in	1
	36- by 30-in	1
	44- by 11-in	2
	44- by 28-in	1
	48- by 24-in	1
	96- by 48-in	1
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo airdrop, type XXVI nylon webbing:	
	For deployment:	
1670-01-062-6301	3-ft (2-loop)	2
1670-01-062-6304	9-ft (2-loop)	1
	For lifting:	
1670-01-062-6304	9-ft (2-loop)	4
	For riser extensions:	
1670-01-062-6302	20-ft (2-loop)	12
	For suspension:	
1670-00-432-2499	3-ft (4-loop) or	4
1670-01-062-6306	3-ft (4-loop)	4
1670-00-432-2506	12-ft (4-loop) or	2
1670-01-062-6307	12-ft (4-loop)	2
1670-00-432-2507	16-ft (4-loop) or	2
1670-00-003-7237	16-ft (4-loop) or	2
1670-01-062-6308	16-ft (4-loop)	2
1670-00-040-8219	Strap, parachute release, multicut comes w 3 knives	1

Table 4-1. Equipment required for rigging the JD 410 tractor on a type V platform for low-velocity airdrop (continued)

NSN	Item	Quantity
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-ft	44
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, 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
8305-0 0-263-3591	Type VIII	As required

GLOSSARY

ACB attitude control bar
AD airdrop
AFB Air Force base
AFJMAN Air Force joint manual
AFR Air Force regulation
AFTO Air Force technical order
attn attention
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
FL Florida
FM field manual
FOPS falling overhead protective structure
ft feet/foot
gal gallon
HQ headquarters
IL Illinois
in inch
LAPE low-altitude parachute-extraction
LAPES low-altitude parachute-extraction system
lb pound
LV low-velocity
NAVAIR Naval Air Systems Command
no number
NSN national stock number
rel release
ROPS roll-over protection structure
SEE small emplacement excavator
SL/CS static line/connector strap
TM technical manual
TO technical order
TRADOC United States Army Training and Doctrine Command
TX Texas
US United States
VA Virginia
w with
y yard

REFERENCES

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

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TM 10-1670-208-20&P/TO 13C3-4-12. *Organizational Maintenance Manual Including Repair Parts and Special Tools List for Platforms, Types II Modular and LAPES/Airdrop Modular.* **10 August 1978.**

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TM 10-1670-277-23&P/TO 13C5-28-2/NAVAIR 13-1-30. *Unit and Intermediate DS Maintenance Manual Including Repair Parts and Special Tools List For Parachute, 28-Ft Diameter, Extraction.* **9 October 1990.**

*** **TM 10-1670-280-23&P/TO13C5-31-2/NAVAIR 13-1-31.** *Unit and Intermediate DS Maintenance Manual Including Repair Parts and Special Tool List For Parachute, Cargo Type, G-11A, G-11B and G-11C.* **5 August 1991.**

TM 10-1670-286-20/TO 13C5-2-41. *Unit Maintenance Manual for Sling/Extraction Line Panel (Including Stowing Procedures).* **1 April 1986.**

AFTO Form 22. *Technical Order Publication Improvement Report.* **April 1973.**

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

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

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* AFJMAN 24-204/TM 38-250 has superseded AFR 71-4/TM 38-250 (15 January 1988). Change 3 reflects this change. The basic manual and changes 1 and 2 still reference the superseded publication. You may wish to make pen and ink changes to update the old reference citations accordingly.

** Shipper's Declaration for Dangerous Goods has superseded DD Form 1387-2 (February 1982). Change 3 reflects this change. The basic manual and changes 1 and 2 still reference the superseded publication. You may wish to make pin and ink changes to update the old reference citations accordingly.

*** TM 10-1670-280-23&P/TO 13C5-31-2/NAVAIR 13-1-31 has superseded TM10-1670-215-23/TO 13C5-1-102. (5 August 1991). Change 3 reflects this change. The basic manual and changes 1 and 2 still reference the superseded publication. You may wish to make pen and ink changes to update the old reference citations accordingly.

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By Order of the Secretaries of the Army and the Air Force:

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