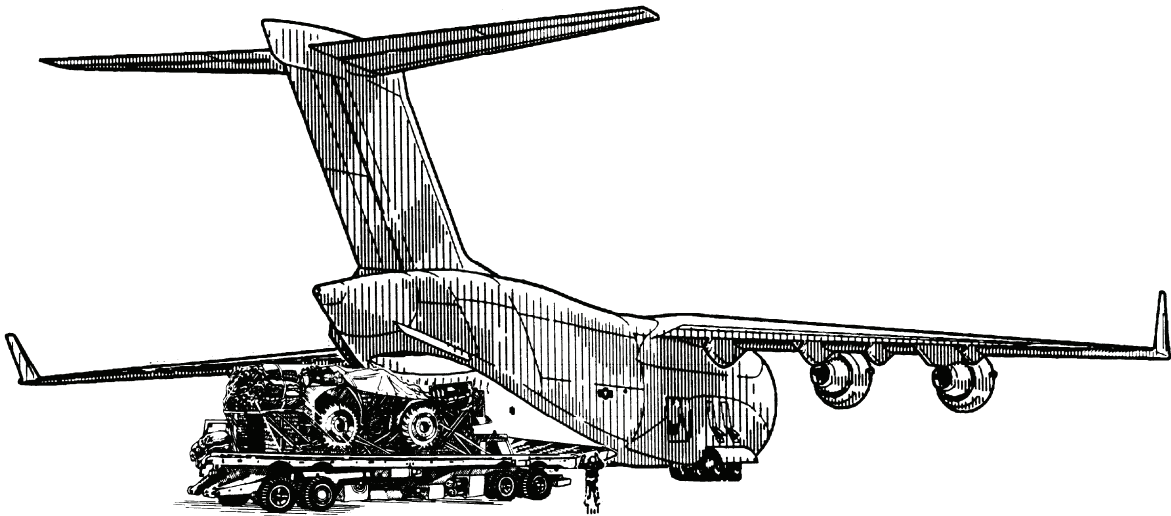


**FM 4-20.131 (FM 10-531)
TO 13C7-54-1**

**Airdrop of Supplies and Equipment:
Rigging Forklift Trucks**



MAY 2006

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**Headquarters
Department of the Army
Department of the Air Force**

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Headquarters
Department of the Army
Department of the Air Force
Washington, DC, 11 May 2006

Airdrop of Supplies and Equipment: Rigging Forklift Trucks

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Preface

SCOPE

This manual tells and shows how to prepare and rig the M4K, M-270 and M-271, 4,000-pound forklift trucks and the 6,000-pound forklift truck for low-velocity airdrop from a C-130 and C-17 aircraft. It is designed to be used by all parachute riggers.

USER INFORMATION

The proponent of this publication is the United States Army Training and Doctrine Command (TRADOC). You are encouraged to report any errors or omissions and to suggest ways of making this a better manual.

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Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to the male gender.

Introduction

DESCRIPTION OF ITEMS

This manual tells and shows how to rig the 4,000-pound and 6,000-pound capacity forklift trucks for low-velocity airdrop from C-130 and C-17 aircraft. This manual is designed for use by all parachute riggers.

SPECIAL CONSIDERATIONS

These loads have dangerous material as defined by AFMAN 24-204(I)/TM 38-250. If included, the hazardous materials must be packaged, marked, and labeled as required by AFMAN 24-204(I)/TM 38-250. A copy of this manual must be available for the joint airdrop inspectors to use during the before and after load inspection.

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Chapter 1

Rigging the M4K, 4,000-Pound Capacity Forklift Truck on a Type V Platform

DESCRIPTION OF LOAD

1-1. The 4,000-pound capacity forklift truck (Figure 1-1) is rigged on a 16-foot, type V platform for low-velocity airdrop. The forklift truck is rigged with three G-11 cargo parachutes. The unrigged vehicle weighs approximately 9,725 pounds, reducible to 9,320 pounds. Its length is 205 inches, reducible to 166 inches. Its height is 80 inches reducible to 77 inches. Its width is 79 inches.

PREPARING PLATFORM

1-2. Prepare a 16-foot, type V platform using four tandem links and 20 clevis assemblies as described below and as shown in Figure 1-2.

- **Inspecting Platform.** Inspect, or assemble and inspect, the platform according to TM 10-1670-268-20&P/TO 13C7-52-22.
- **Installing Tandem Links.** Install tandem links as shown in Figure 1-2.
- **Attaching and Numbering Clevises.** Attach and number 20 clevis assemblies as shown in Figure 1-2.

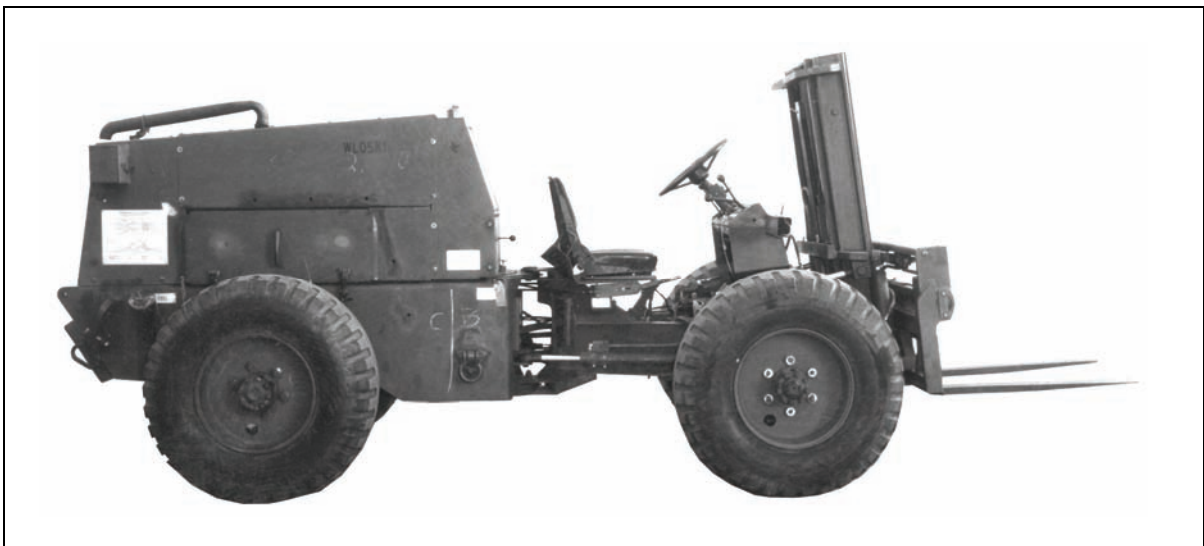
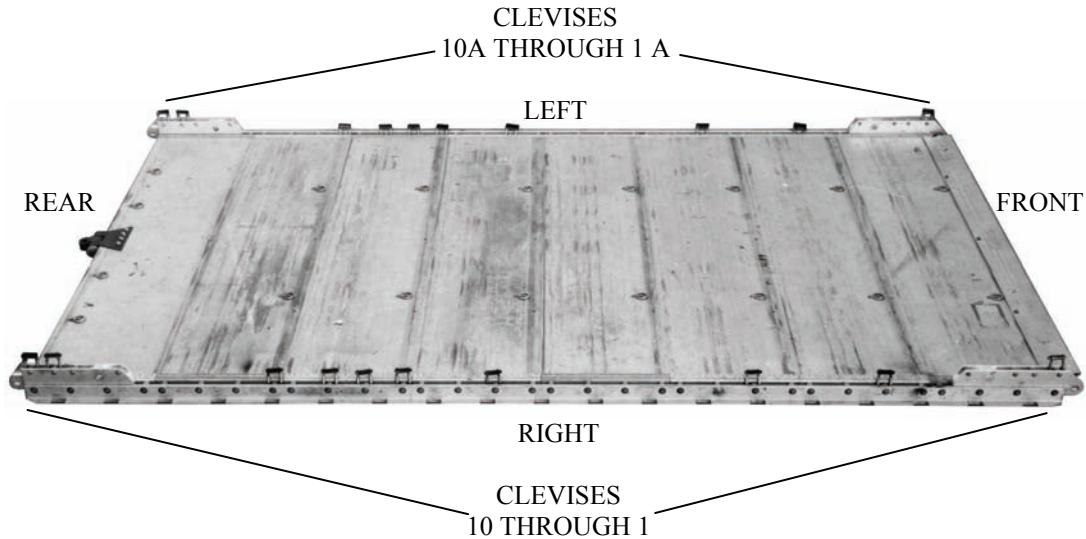


Figure 1-1. M4K, 4,000-Pound Capacity Forklift Truck

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



Step:

1. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
2. Install a tandem link on the rear of each platform side rail using holes 30, 31, and 32.
3. Install a clevis on bushing 1 on each front tandem link.
4. Install a clevis on bushings 3 and 4 on each rear tandem link.
5. Starting at the front of each platform side rail, install clevises to bushings bolted on holes 6, 10, 18, 21, 22, 23, and 25.
6. Starting at the front of the platform side rail, number the clevises bolted on the right side from 1 through 10 and those bolted on the left side from 1A to 10A.

Figure 1-2. Platform Prepared

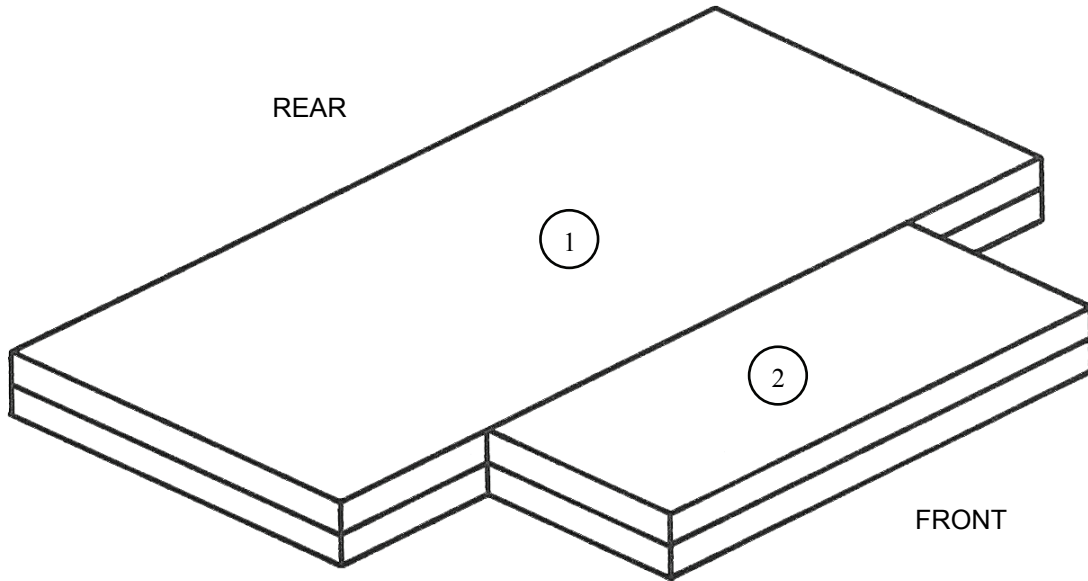
PREPARING AND POSITIONING HONEYCOMB STACKS

1-3. Use the material in Table 1-1 to prepare three honeycomb stacks as shown in Figures 1-3 through 1-5. Position the stacks on the platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 1-6.

Table 1-1. Material Required to Build Honeycomb Stacks

Stack Number	Pieces	Width (inches)	Length (inches)	Material	Instructions
1	2	80	36	Honeycomb	See Figure 1-3.
	2	48	21	Honeycomb	
	8	18	28	Honeycomb	
	2	18	28	$\frac{3}{4}$ -inch Plywood	
	4	12	14	$\frac{3}{4}$ -inch Plywood	
	4	4	12	2- by- 4-inch Lumber	
	3	42	10	Honeycomb	
	1	42	10	$\frac{3}{4}$ -inch Plywood	
	4	10	10	Honeycomb	
	2	10	10	$\frac{3}{4}$ -inch Plywood	
2	6	32	40	Honeycomb	See Figure 1-4.
	1	32	40	$\frac{3}{4}$ -inch Plywood	
	1	32	17	$\frac{3}{4}$ -inch Plywood	
	2	32	7	$\frac{3}{4}$ -inch Plywood	
	2	4	12	2- by- 4-inch Lumber	
3	2	80	36	Honeycomb	See Figure 1-5.
	2	36	18	Honeycomb	
	2	36	24	Honeycomb	
	8	9	24	Honeycomb	
	2	9	24	$\frac{3}{4}$ -inch Plywood	
	3	42	10	Honeycomb	
	1	42	10	$\frac{3}{4}$ -inch Plywood	
	4	10	10	Honeycomb	
	1	10	10	$\frac{3}{4}$ -inch Plywood	

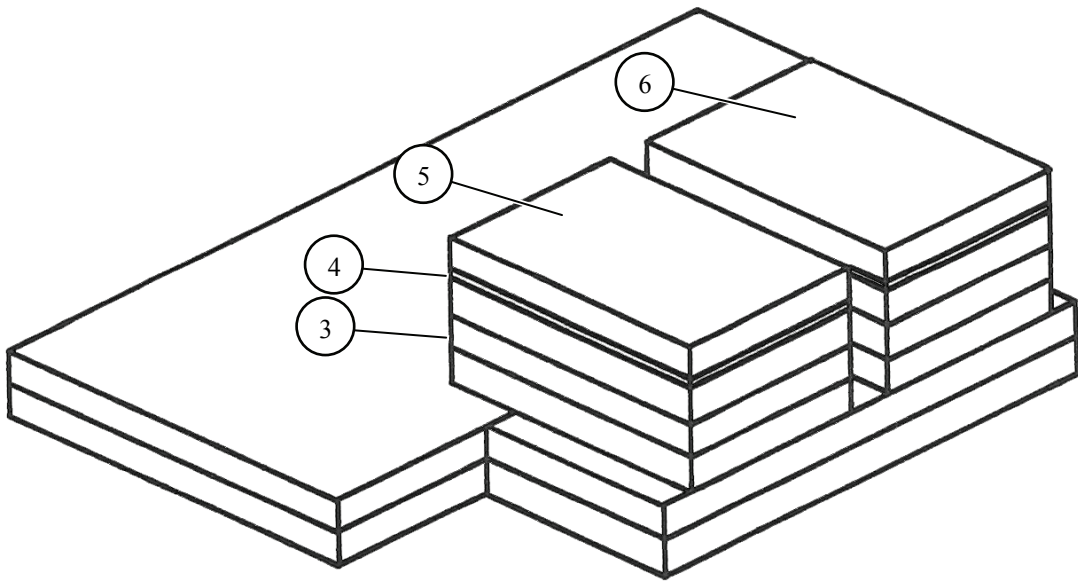
Note. This drawing is not drawn to scale.



- ① Place two 80- by 36-inch pieces of honeycomb as the rear base of the stack.
- ② Glue two 48- by 21-inch pieces of honeycomb as the front base of the stack, centered against the front of the honeycomb placed in step 1.

Figure 1-3. Honeycomb Stack 1 Prepared

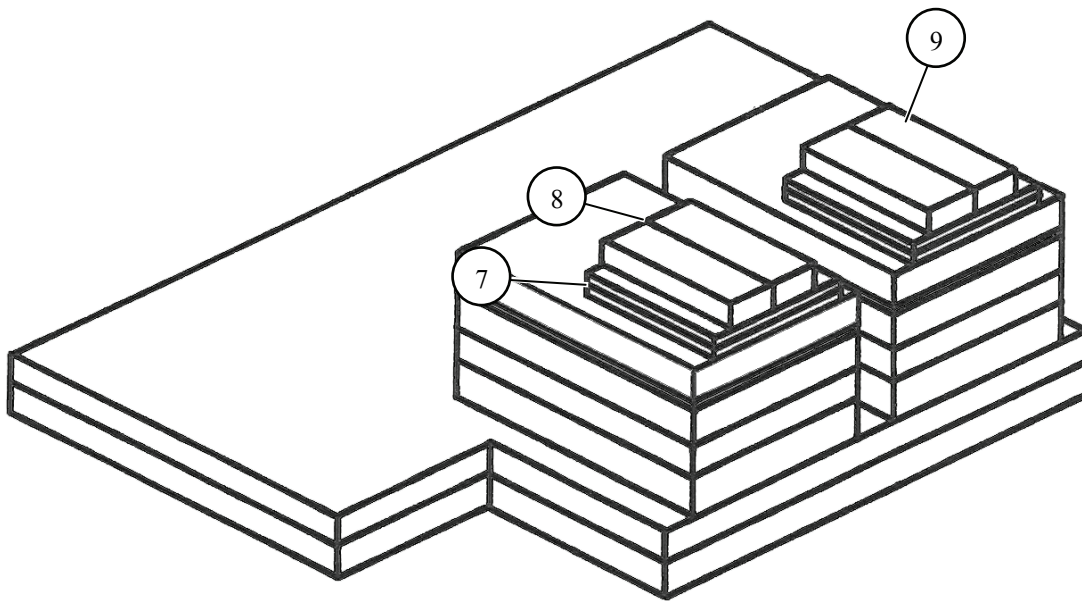
Note. This drawing is not drawn to scale.



- 3 Glue three 18- by 28-inch pieces of honeycomb 3 inches from the right side of the 48- by 21-inch honeycomb and flush with the front of the base.
- 4 Glue a $\frac{3}{4}$ - by 18- by 28-inch piece of plywood on top of the 18- by 28-inch pieces of honeycomb.
- 5 Glue an 18- by 28-inch piece of honeycomb on top of the $\frac{3}{4}$ - by 18- by 28-inch piece of plywood.
- 6 Repeat steps 3 through 5 for the left side.

Figure 1-3. Honeycomb Stack 1 Prepared (Continued)

Note. This drawing is not drawn to scale.



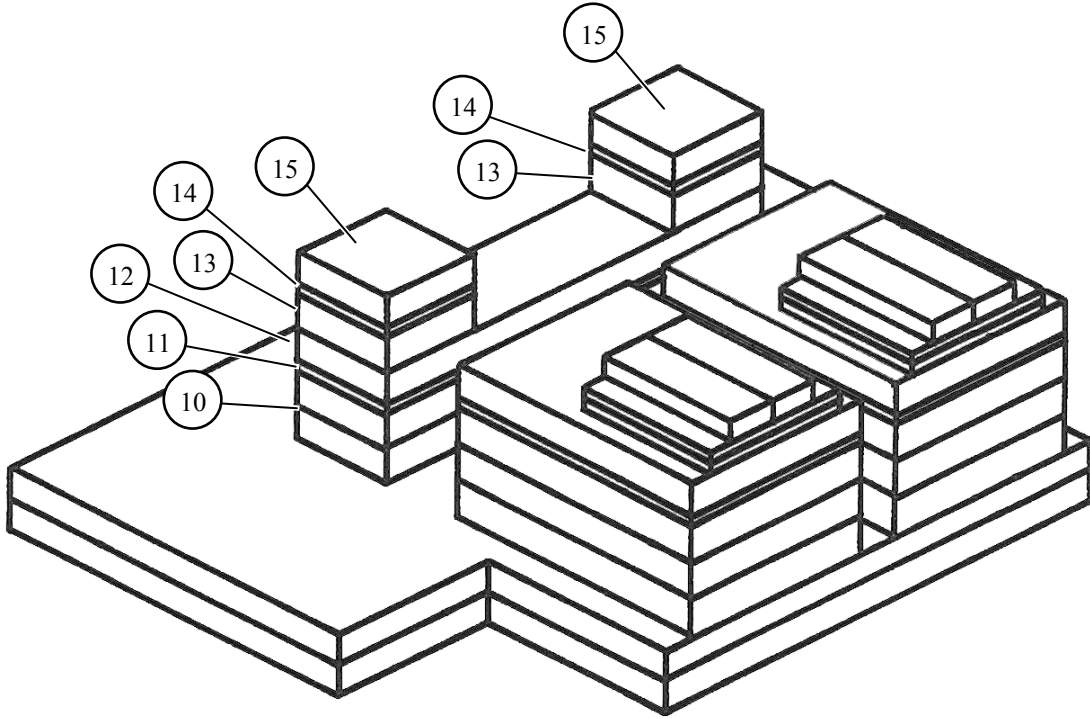
- 7 Center and glue two $\frac{3}{4}$ - by 12- by 14-inch pieces of plywood on top of the 18- by 28-inch piece of honeycomb flush with the front of the stack.
- 8 Center two 2- by 4- by 12 inch pieces of lumber side by side on top of the $\frac{3}{4}$ - by 12- by 14-inch piece of plywood.

Note. Do not fasten the lumber to the plywood.

- 9 Repeat steps 7 and 8 for the left side.

Figure 1-3. Honeycomb Stack 1 Prepared (Continued)

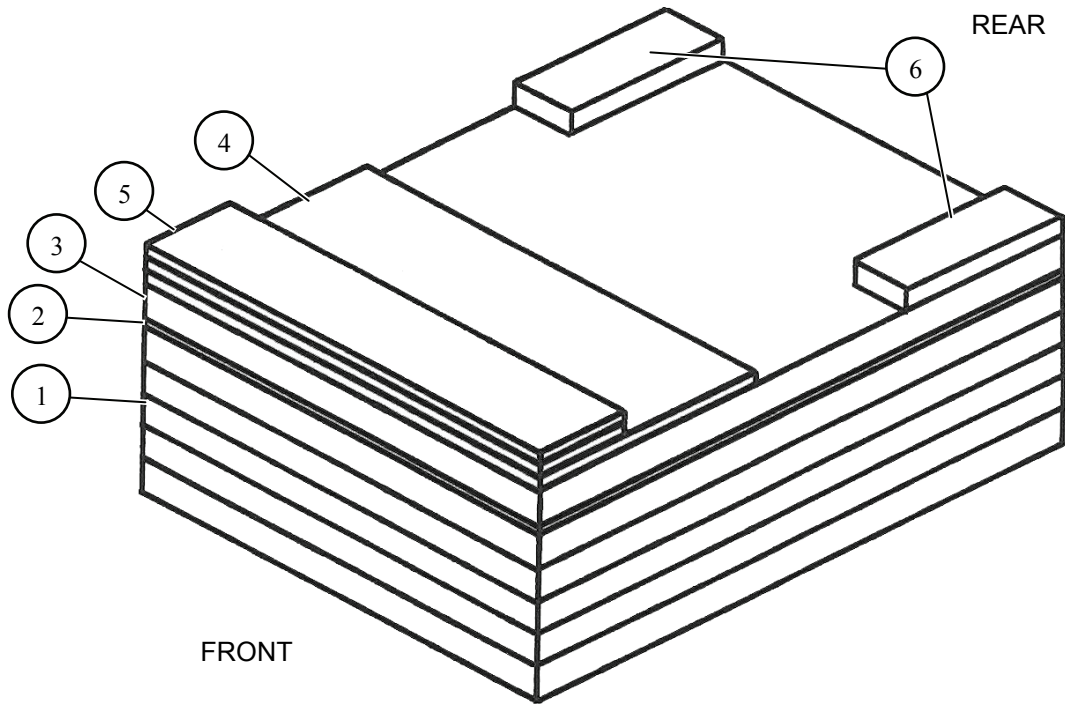
Note. This drawing is not drawn to scale.



- 10 Glue two 42- by 10-inch pieces of honeycomb 12 inches from the rear of the base and 19 inches from the right and left sides.
- 11 Glue a $\frac{3}{4}$ - by 42- by 10-inch piece of plywood on top of the 42- by 10-inch pieces of honeycomb.
- 12 Glue a 42- by 10-inch piece of honeycomb on top of the $\frac{3}{4}$ - by 42- by 10-inch piece of plywood.
- 13 Glue a 10- by 10-inch piece of honeycomb on top of each end of the 42- by 10-inch pieces of honeycomb.
- 14 Glue a $\frac{3}{4}$ - by 10- by 10-inch piece of plywood on top of each 10- by 10-inch piece of honeycomb.
- 15 Glue a 10- by 10-inch piece of honeycomb on top of each $\frac{3}{4}$ - by 10- by 10-inch piece of plywood.

Figure 1-3. Honeycomb Stack 1 Prepared (Continued)

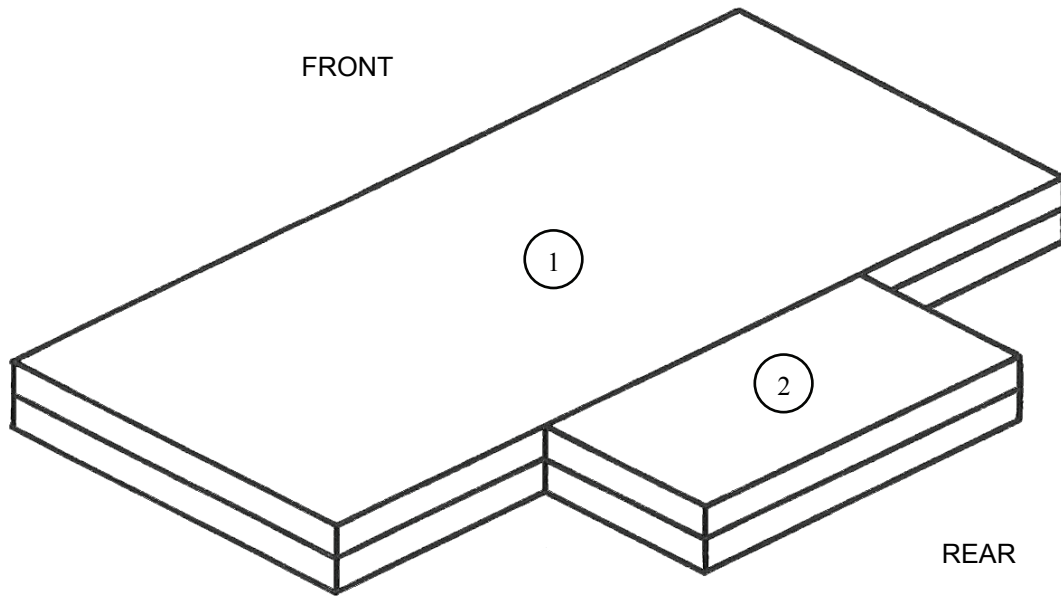
Note. This drawing is not drawn to scale.



- 1 Glue five 32- by 40-inch pieces of honeycomb as the base.
- 2 Glue a $\frac{3}{4}$ - by 32- by 40-inch piece of plywood on top of the fifth layer of honeycomb.
- 3 Glue a 32- by 40-inch piece of honeycomb on top of the $\frac{3}{4}$ - by 32- by 40-inch piece of plywood.
- 4 Glue a $\frac{3}{4}$ - by 32- by 17-inch piece of plywood on top of the sixth layer of honeycomb flush with the front of the stack.
- 5 Glue two $\frac{3}{4}$ - by 32- by 7-inch pieces of plywood on top of the $\frac{3}{4}$ - by 32- by 17-inch piece of plywood flush with the front of the stack.
- 6 Glue one 2- by 4- by 12-inch piece of lumber on each rear corner of the stack.

Figure 1-4. Honeycomb Stack 2 Prepared

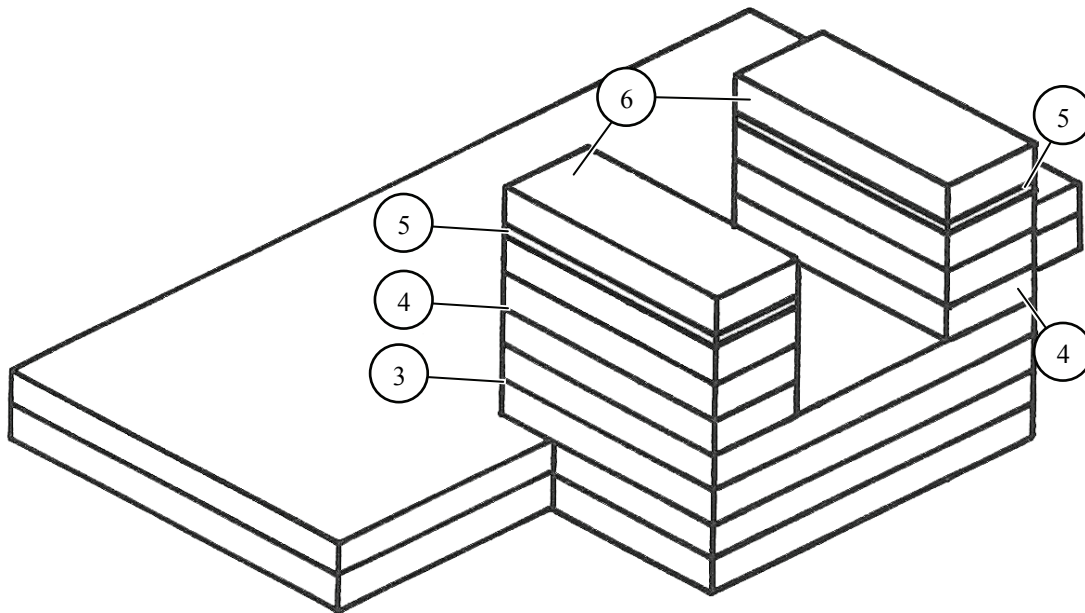
Note. This drawing is not drawn to scale.



- ① Place two 80- by 36-inch pieces of honeycomb as the rear base of the stack.
- ② Glue two 36- by 18-inch pieces of honeycomb as the rear base of the stack, centered against the rear of the honeycomb placed in step 1.

Figure 1-5. Honeycomb Stack 3 Prepared

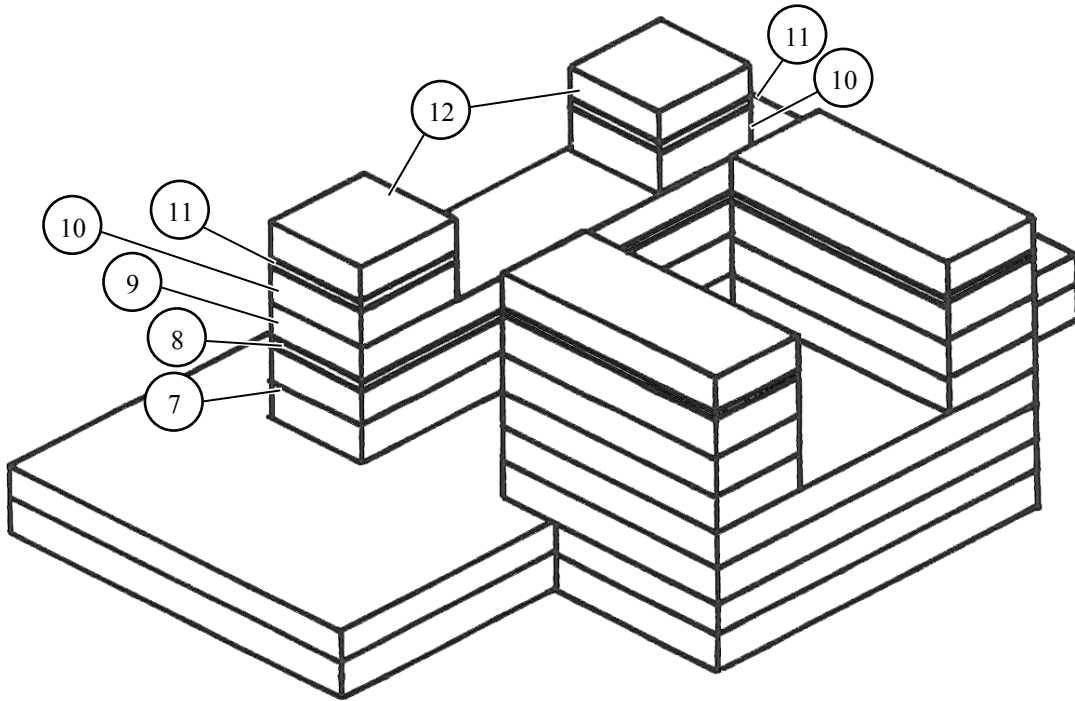
Note. This drawing is not drawn to scale.



- 3 Glue two 36- by 24-inch pieces of honeycomb flush with the rear of the base.
- 4 Glue three 9- by 24-inch pieces of honeycomb flush with the rear edge on each side of the stack.
- 5 Glue a $\frac{3}{4}$ - by 9- by 24-inch piece of plywood on top of the 9- by 24-inch pieces of honeycomb.
- 6 Glue a 9- by 24-inch piece of honeycomb on top of the $\frac{3}{4}$ - by 9- by 24-inch piece of plywood.

Figure 1-5. Honeycomb Stack 3 Prepared (Continued)

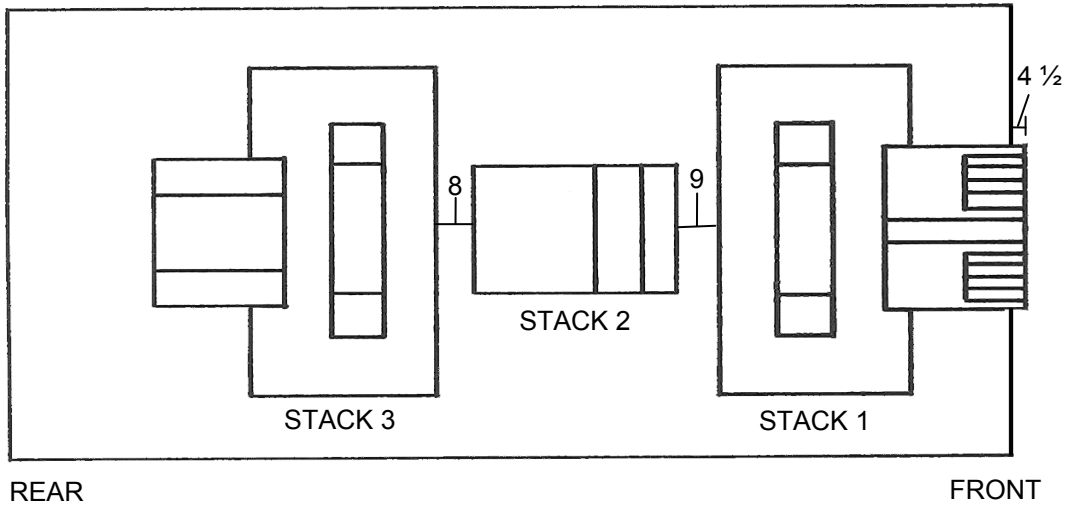
Note. This drawing is not drawn to scale.



- 7 Glue and center two 42- by 10-inch pieces of honeycomb 10 inches from the front edge of the stack.
- 8 Glue a $\frac{3}{4}$ - by 42- by 10-inch piece of plywood on top of the 42- by 10-inch pieces of honeycomb.
- 9 Glue a 42- by 10-inch piece of honeycomb on top of the $\frac{3}{4}$ - by 42- by 10-inch piece of plywood.
- 10 Glue a 10- by 10-inch piece of honeycomb on top of each end of the 42- by 10-inch piece of honeycomb.
- 11 Glue a $\frac{3}{4}$ - by 10- by 10-inch piece of plywood on top of each 10- by 10-inch piece of honeycomb.
- 12 Glue a 10- by 10-inch piece of honeycomb on top of each $\frac{3}{4}$ - by 10- by 10-inch piece of plywood.

Figure 1-5. Honeycomb Stack 3 Prepared (Continued)

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



Stack Number	Position of Stack on Platform
1	Place stack: Centered with a 4 1/2-inch overhang.
2	Note. If the nose bumper is present, the stack will be placed centered and flush with nose bumper.
3	Centered 9 inches from the rear edge of stack 1. Centered 8 inches from the rear edge of stack 2.

Figure 1-6. Honeycomb Stacks Placed on Platform

PREPARING FORKLIFT BEFORE POSITIONING

1-4. Prepare the forklift before positioning it on the platform as described below and shown in Figures 1-7 through 1-15.

- Make sure the fuel tank is no more than $\frac{3}{4}$ full.
- Remove the roll-over protection structure (ROPS) and fenders.
- Tape all lights, reflectors, mirrors, and gauges.

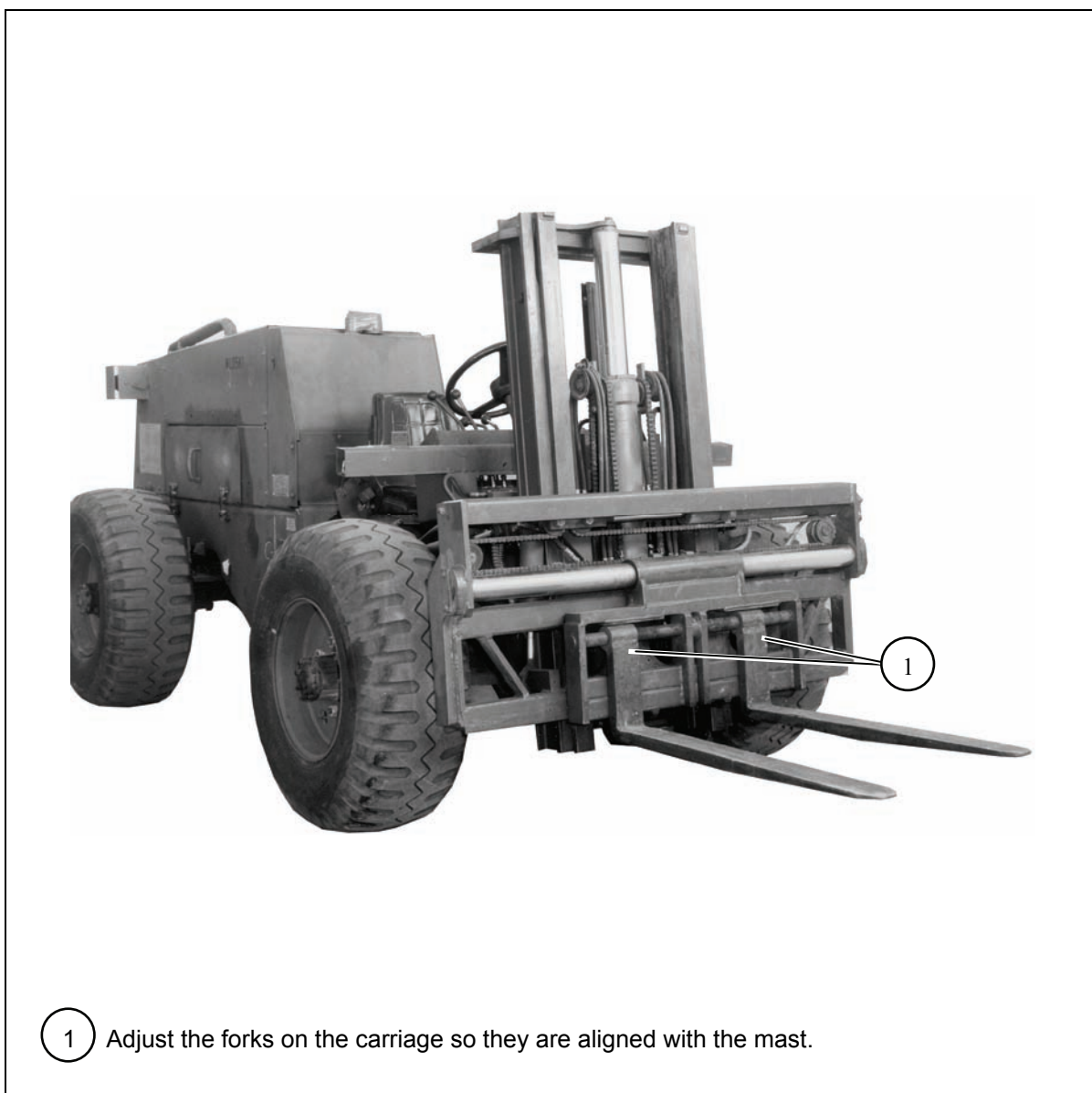
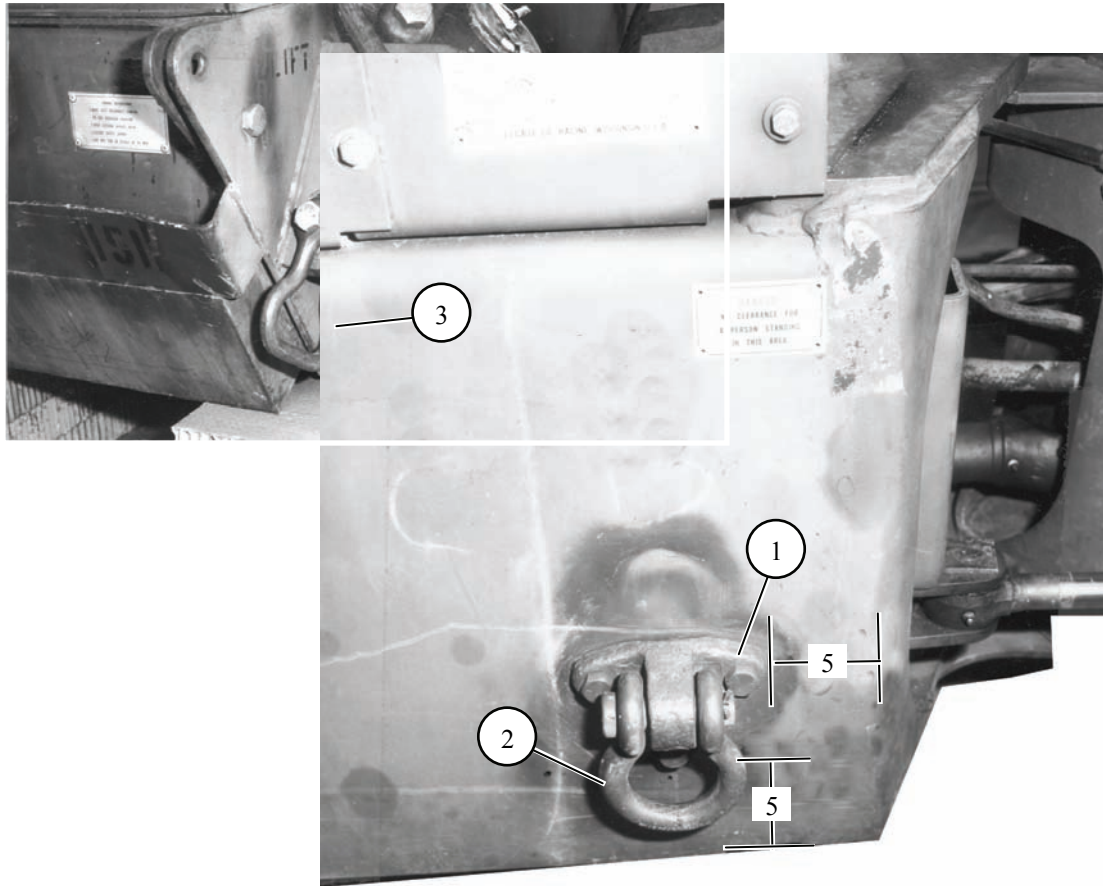


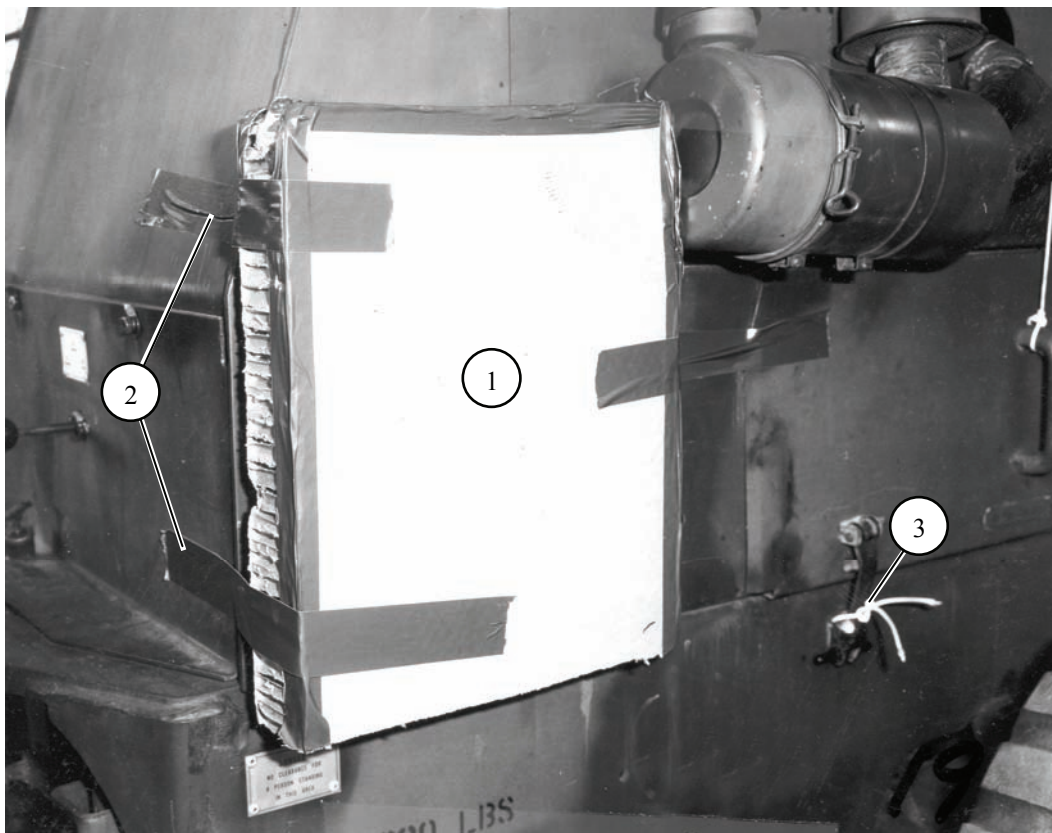
Figure 1-7. Forks Aligned with the Mast

Note. All measurements are given in inches.



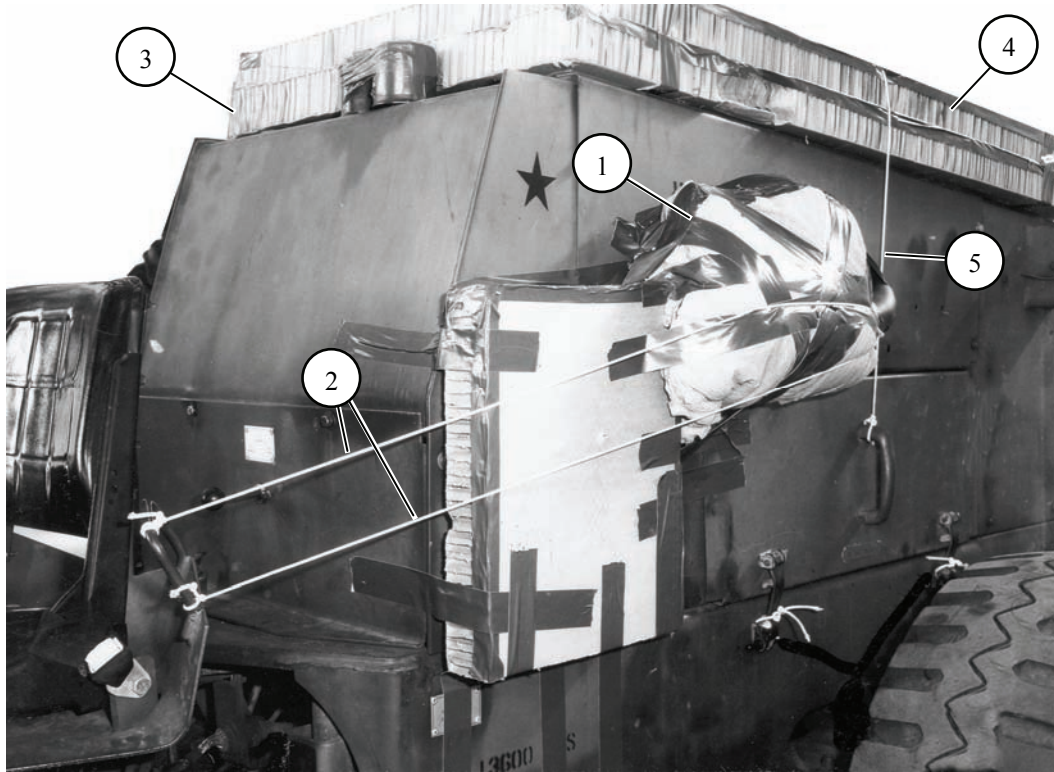
- 1 Install a 5-ton truck lifting shackle support bracket on the right and left side of the forklift. Use components from the front lifting shackle kit (correct nomenclature: Parts kit, lifting shackle). Position the support bracket 5 inches from the swivel point and 5 inches from the bottom.
- 2 Install a 5-ton truck lifting shackle to each support bracket.
- 3 Install a medium clevis on the lower right rear and lower left rear lifting points.

Figure 1-8. 5-Ton Truck Lifting Shackle Support Bracket Installed



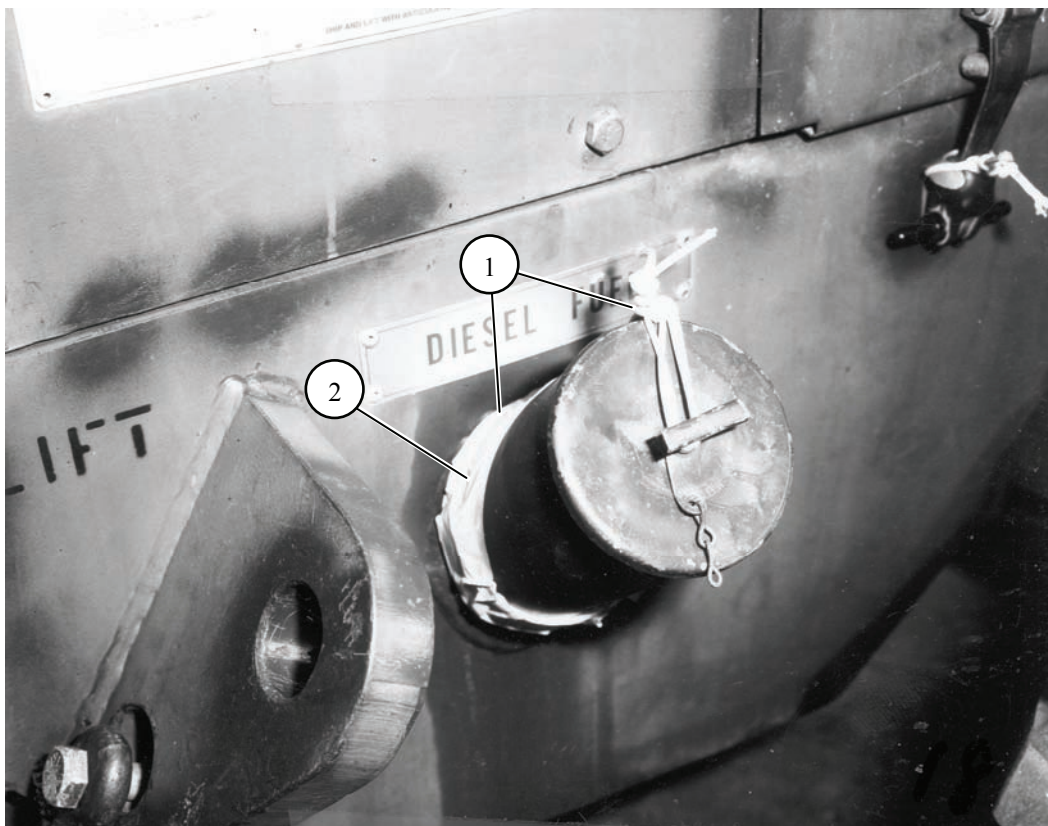
- 1 Place a 15- by 19-inch piece of honeycomb with indents to fit over the air cleaner indicator, quick start control, and slave receptacle. Make sure the honeycomb is flush with the body.
- 2 Tape around the edges of the honeycomb, and tape the honeycomb to the body.
- 3 Secure the engine's compartment cover handles with type III nylon cord.

Figure 1-9. Air Cleaner Indicator, Quick Start Control, and Slave Receptacle Prepared



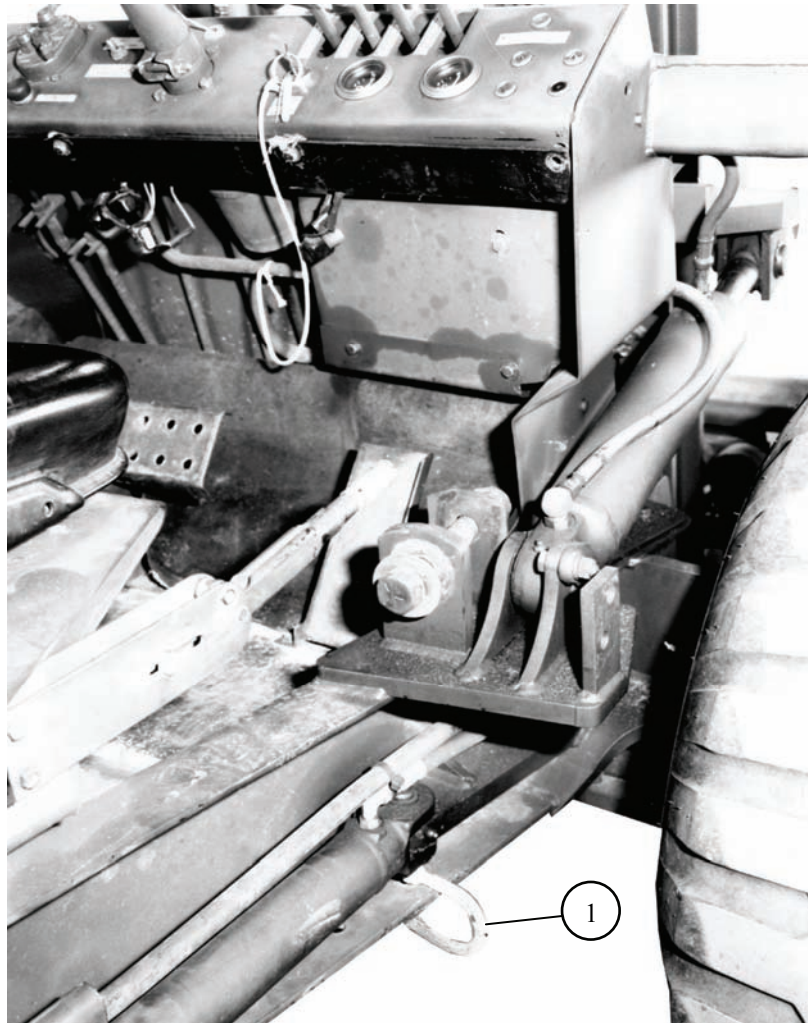
- 1 Wrap the air cleaner with cellulose wadding and tape it in place.
- 2 Secure the honeycomb (placed in Figure 1-9) and cellulose wadding in place with type III nylon cord.
- 3 Place a 36- by 53-inch piece of honeycomb with a cutout on top of the engine compartment to fit over the exhaust pipe.
- 4 Place a 36- by 54-inch piece of honeycomb on top of the honeycomb placed in step 3.
- 5 Tape the edges of the honeycomb and secure the honeycomb in place with type III nylon cord.

Figure 1-10. Air Cleaner and Exhaust Pipe Prepared



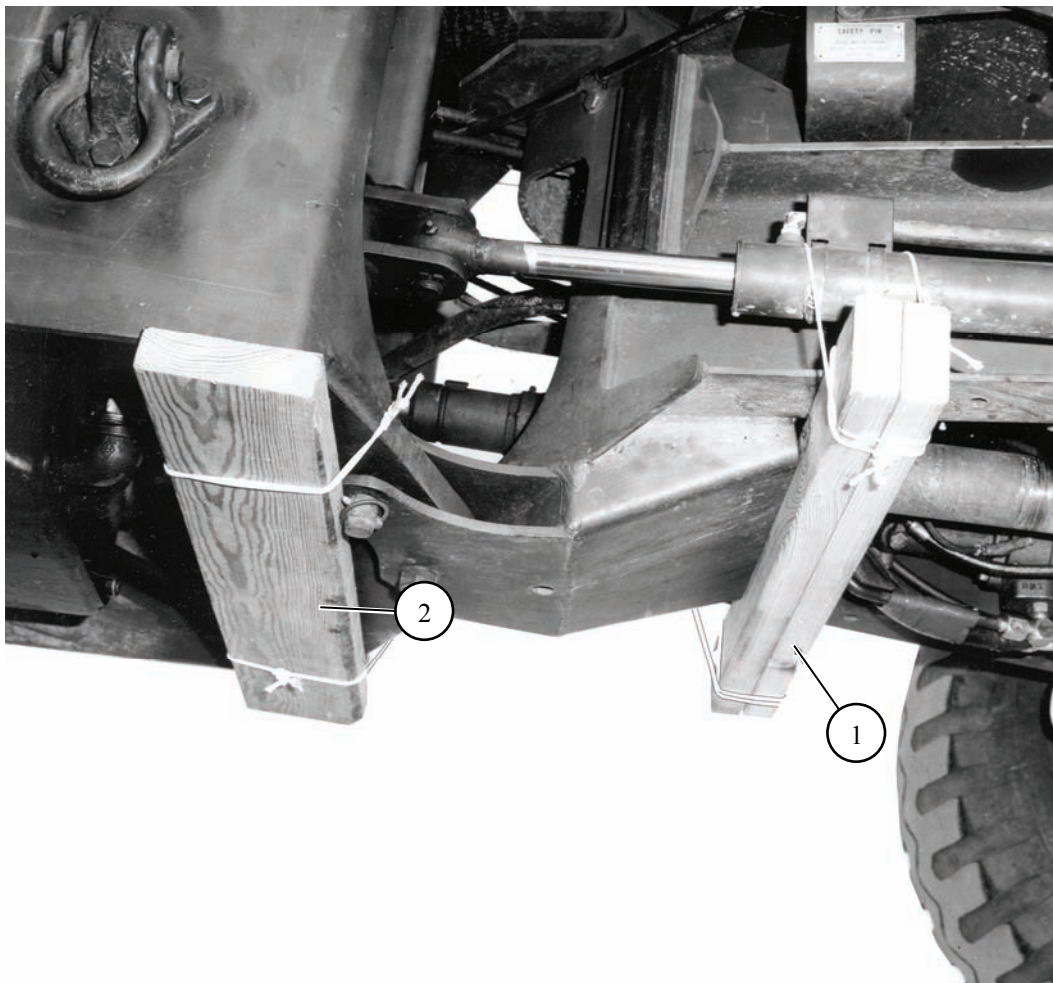
- 1 Secure the fuel pipe with a double length of type III nylon cord by tying the base of the fuel tank filler with a surgeon's knot and locking knot. Pass the free ends of the cord over the fuel cap and around the T-bar. Secure the ends with a surgeon's knot and locking knot.
- 2 Tape the type III nylon cord at the base of the fuel tank filler pipe in place.

Figure 1-11. Fuel Cap Secured



- 1 Install a type V tie-down clevis without a spacer in the forward holes of the driver's support chassis on the right and left side of the forklift.

Figure 1-12. Type V Tie-Down Clevis Installed



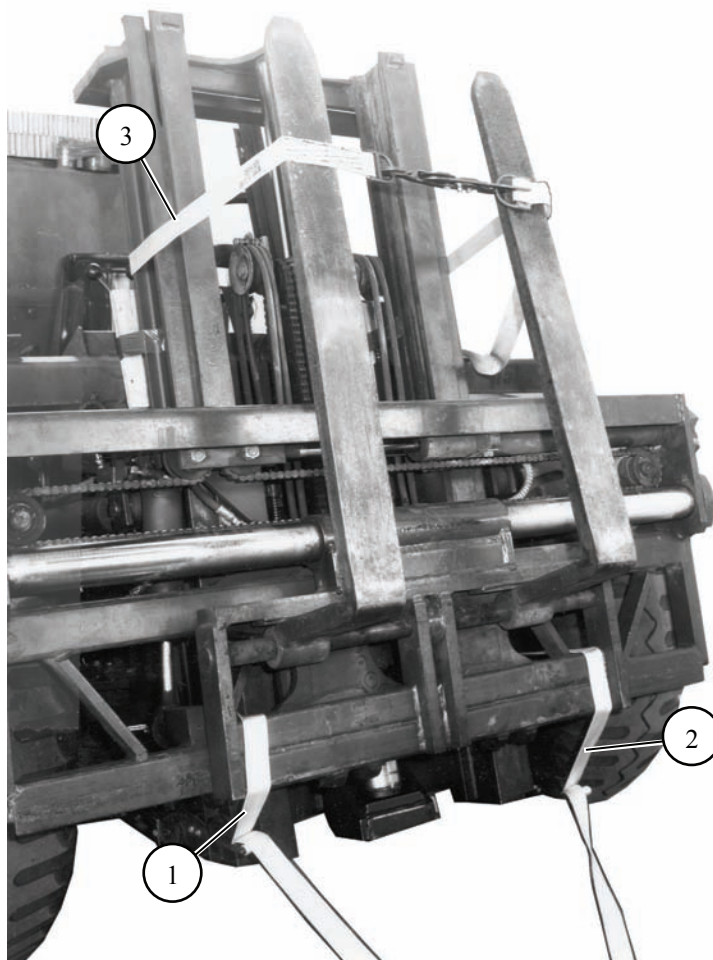
- ① Place two 2- by 4- by 32-inch pieces of lumber under the frame, flush with the articulating link lip. Secure the lumber in place with type III nylon cord.
- ② Place a 2- by 6- by 32-inch piece of lumber under the frame, flush with the edge of the engine compartment. Secure the lumber in place with type III nylon cord.

Figure 1-13. Lumber Positioned Under Forklift



- ① Temporarily secure a $\frac{3}{4}$ - by 7- by 10-inch piece of plywood on both sides at the rear of the mast where it comes in contact with the front of the operator's compartment when tilted back with a length of 2-inch cloth backed tape.
- ② Raise the carriage 21 inches from the ground (not shown).
- ③ Raise the forks in the upright position (not shown).

Figure 1-14. Plywood Placed on Mast



① Pass a 15-foot lashing around the right front axle, and through the lower fork carrier side shift frame. Attach the ends with a D-ring and a load binder.

② Repeat step 1 for the left side of the forklift.

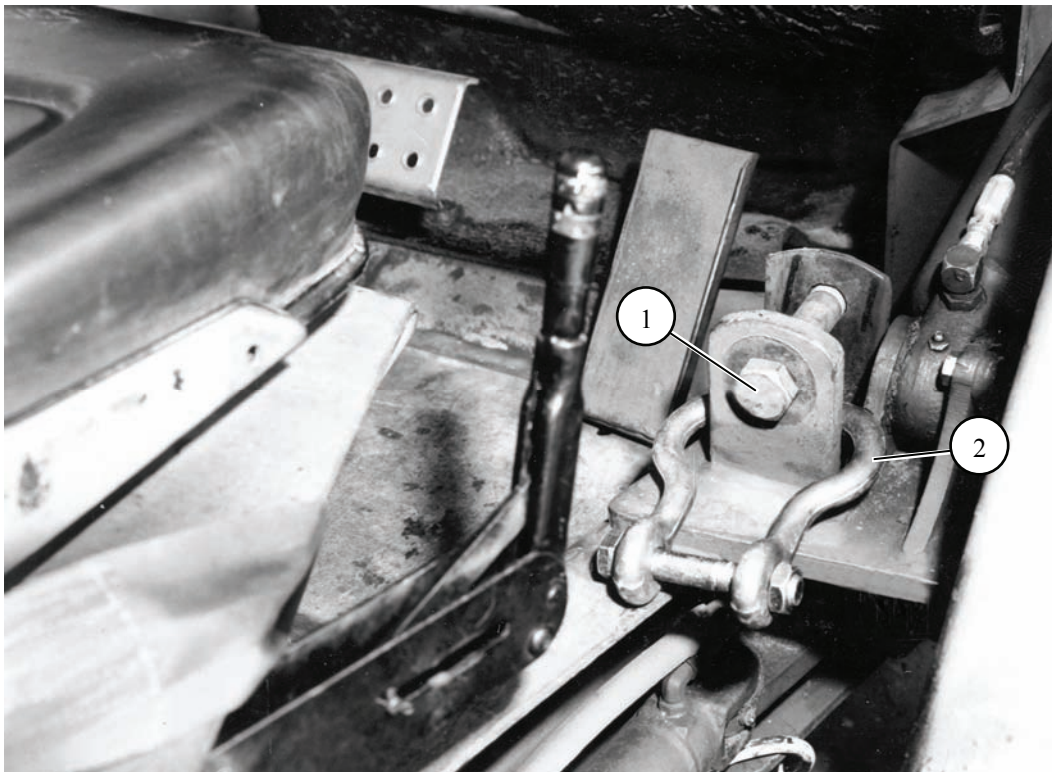
Note. Do not close load binders at this time. The lashing will be tightened after the forklift is positioned on the platform.

③ Pass a 15-foot lashing around the mast and forks. Attach the ends with a D-ring and load binder. Tighten the lashing but do not close the load binder at this time.

Figure 1-15. Carriage and Forks Secured

INSTALLING LIFTING SLINGS

1-5. Install the lifting slings as shown and described in Figure 1-16.



- 1 Install a large clevis bolt to the right and left lower ROPS support brackets.
- 2 Attach a medium clevis to the brackets.

Figure 1-16. Lifting Slings Installed

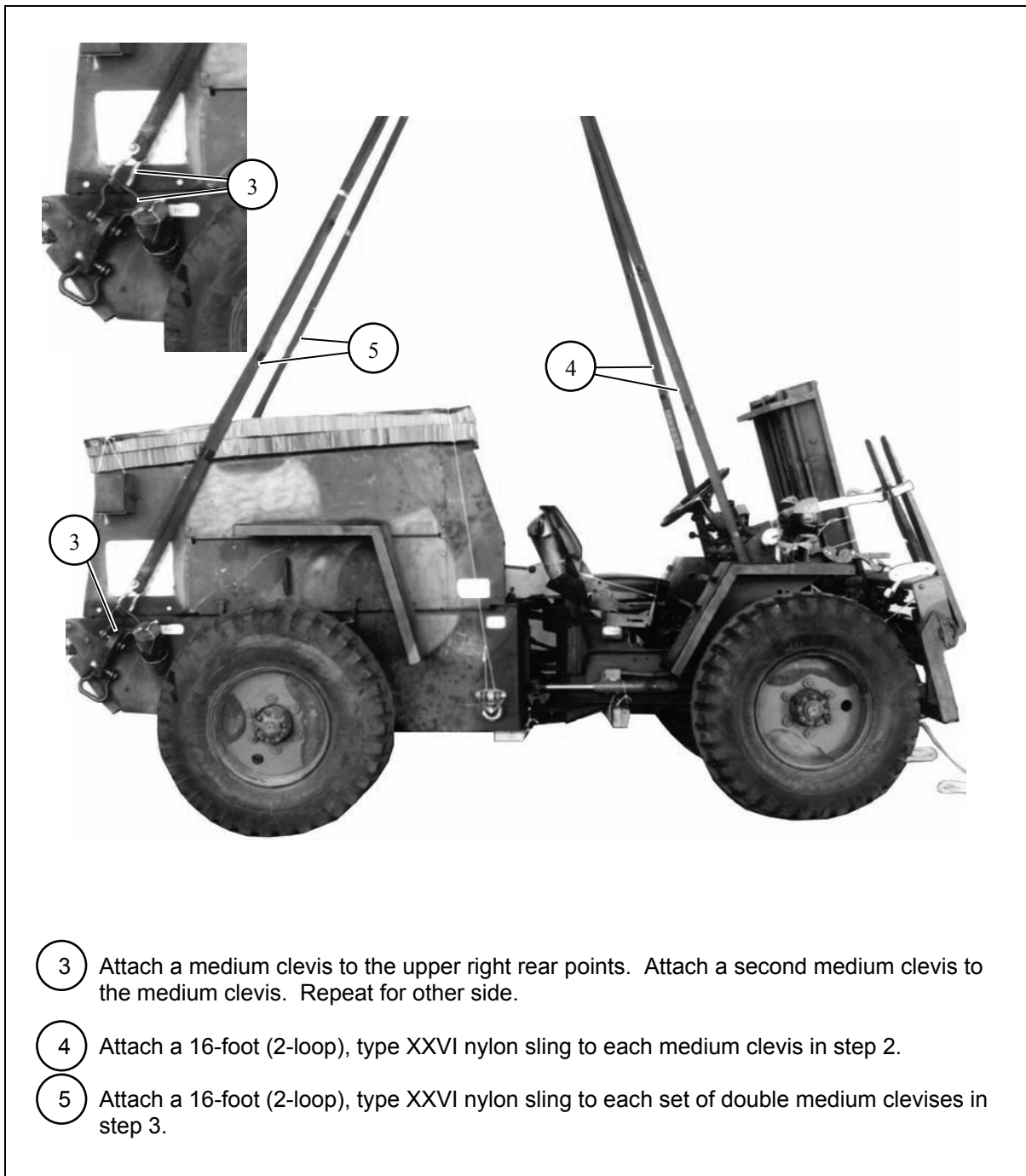


Figure 1-16. Lifting Slings Installed (Continued)

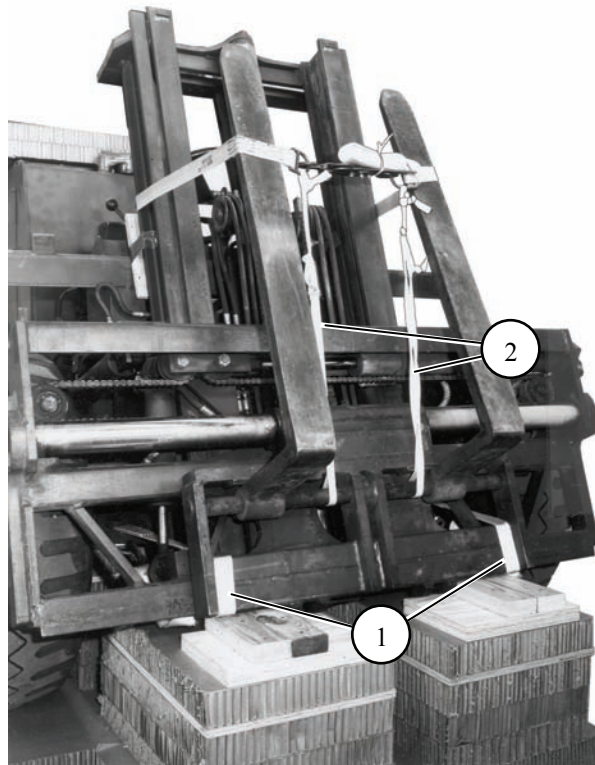
POSITIONING FORKLIFT

- 1-6. Position the forklift on the platform as follows.
- Position and center the forklift on the platform to make sure that the front and rear axles are centered on top of honeycomb stacks 1 and 3.
 - Lower the carriage until it rests on the 2- by 4- by 12-inch lumber on stack 1.

Note. Adjust the 2- by 4- by 12-inch lumber to fit between the sides and the first notch of the fork carriage assembly, then nail the lumber in place.

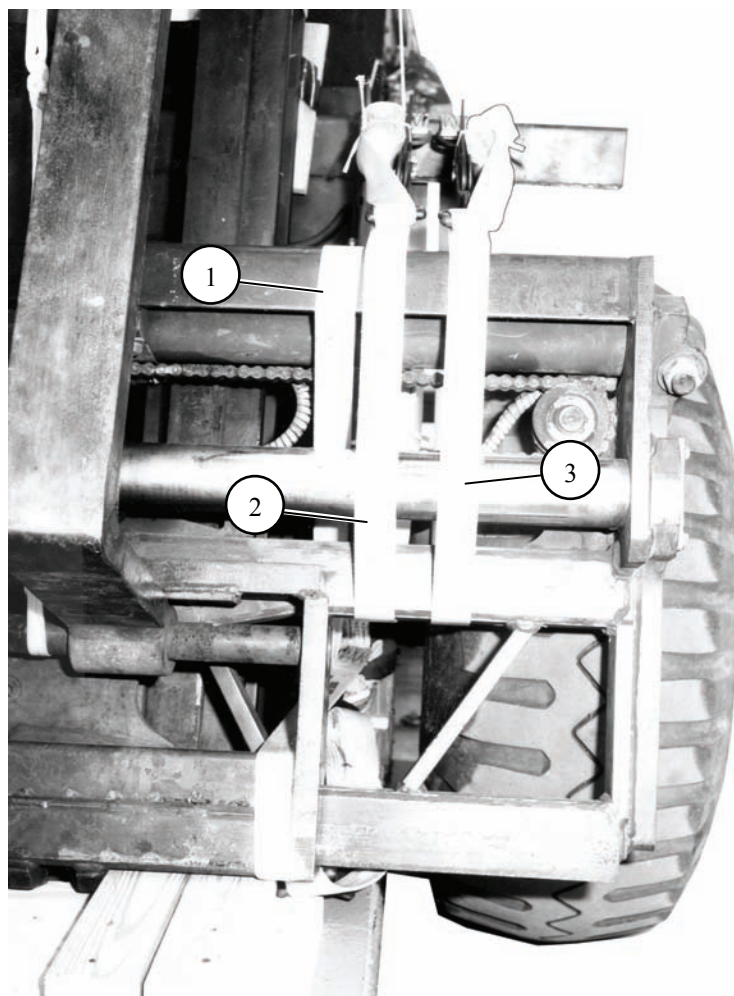
PREPARING FORKLIFT AFTER POSITIONING

- 1-7. Finish preparing the forklift as shown in Figures 1-17 through 1-19.



- ① Tighten and secure the lashings installed in Figure 1-15.
- ② Safety the lashing, installed on the carriage assembly in Figure 1-15, with two 5-foot lengths of $\frac{1}{2}$ -inch tubular nylon webbing.

Figure 1-17. Lashings Secured



- 1 Pass a 15-foot lashing through the left front lifting bracket and up around the carriage frame. Secure the ends of the lashing with a D-ring and a load binder.
- 2 Pass a 15-foot lashing around the light support bracket and around the carriage frame. Secure the ends of the lashing with a D-ring and a load binder.
- 3 Repeat step 2.
- 4 Repeat steps 1 through 3 for the right side of the forklift (not shown)

Figure 1-18. Carriage Secured



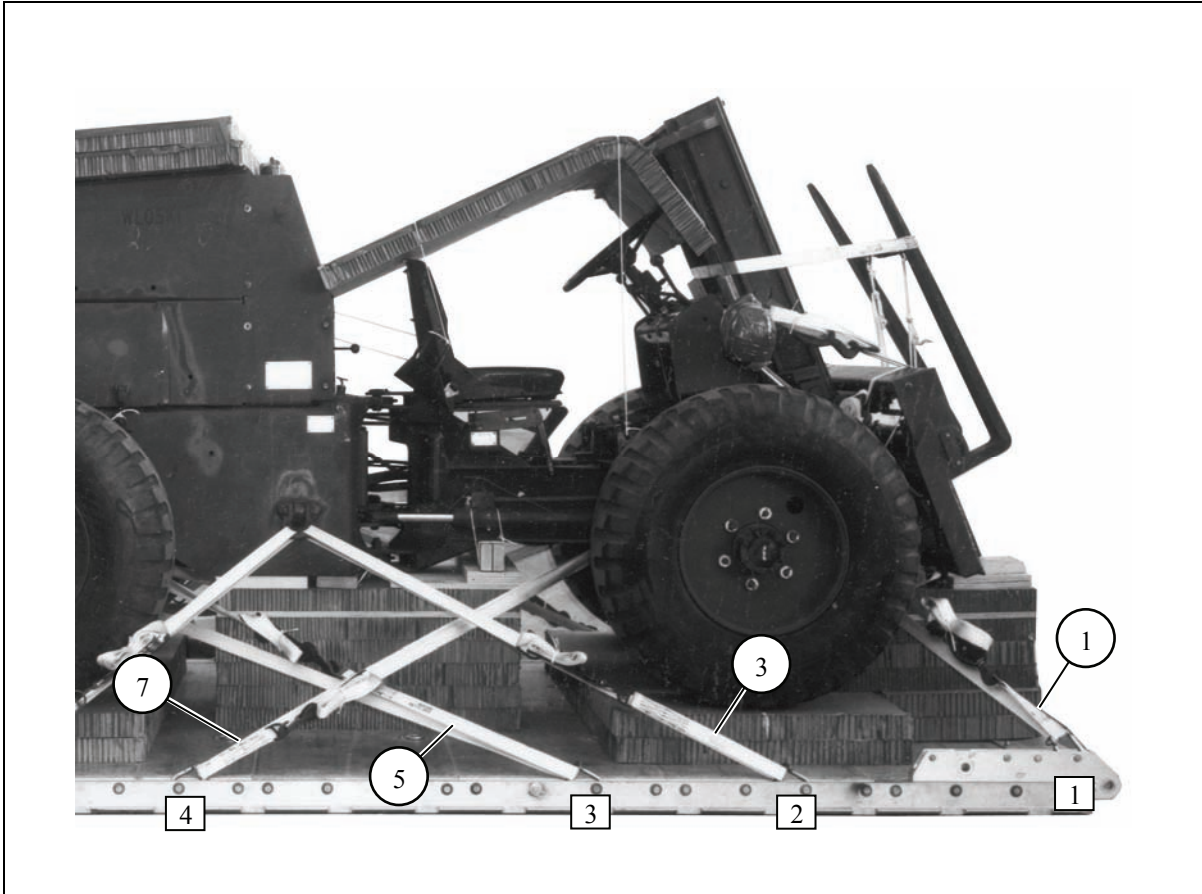
- 1 Place a 36- by 60-inch piece of honeycomb over the driver's compartment and secure it with type III nylon cord.

Note. Tape the edges of the honeycomb wherever the type III nylon cord crosses.

Figure 1-19. Honeycomb Secured Over Driver's Compartment

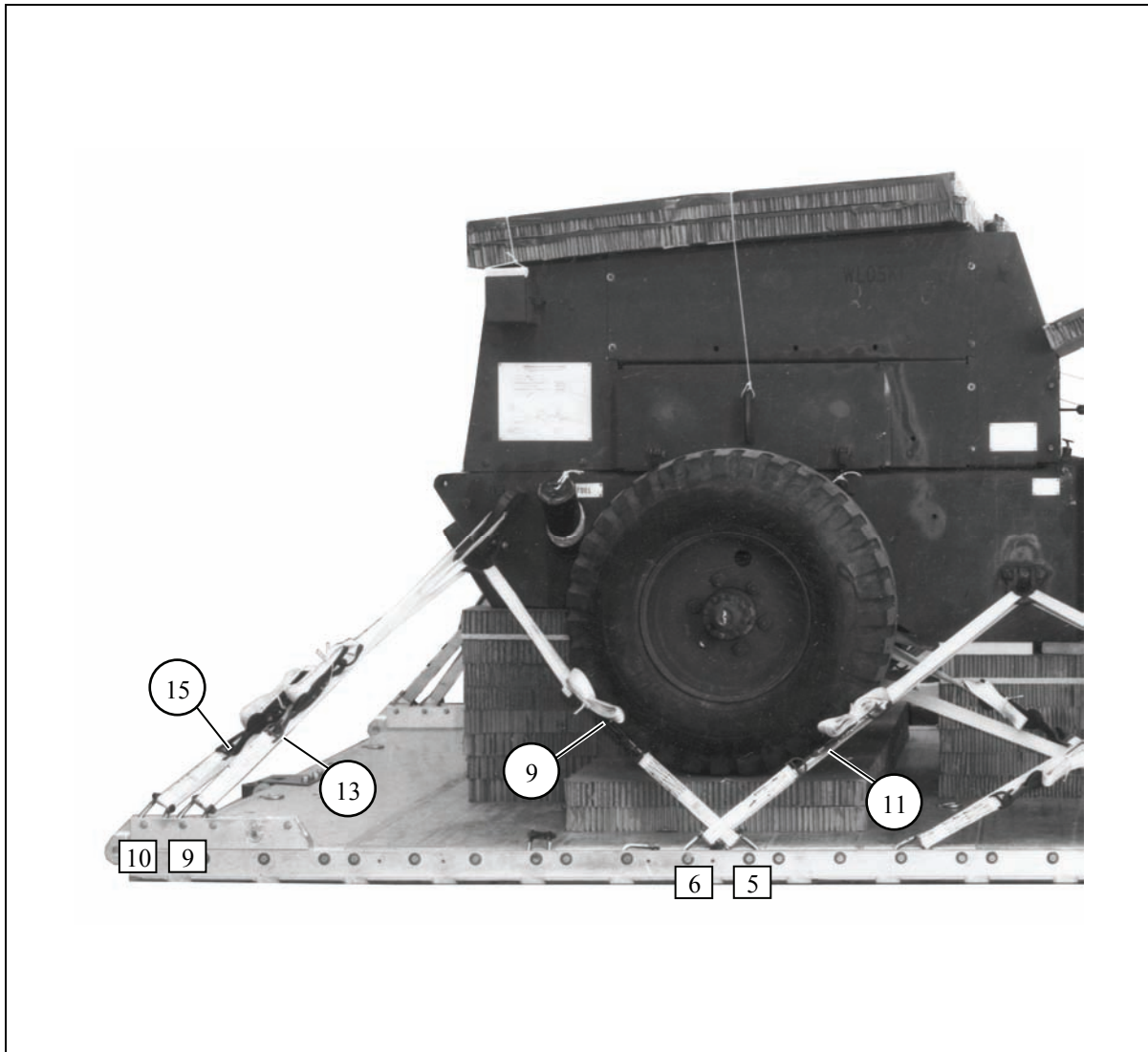
LASHING FORKLIFT

1-8. Lash the forklift to the platform using sixteen 15-foot tie-down assemblies. Install the lashings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figures 1-20 and 1-21.



<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
		Pass lashing:
1	1	Through the tie-down point, right side.
2	1A	Through the tie-down point, left side.
3	2	Through the 5-ton lifting shackle, right side.
4	2A	Through the 5-ton lifting shackle, left side.
5	3	Around the rear axle, right side.
6	3A	Around the rear axle, left side.
7	4	Through the tie-down clevis, right side.
8	4A	Through the tie-down clevis, left side.

Figure 1-20. Lashings 1 Through 8 Installed



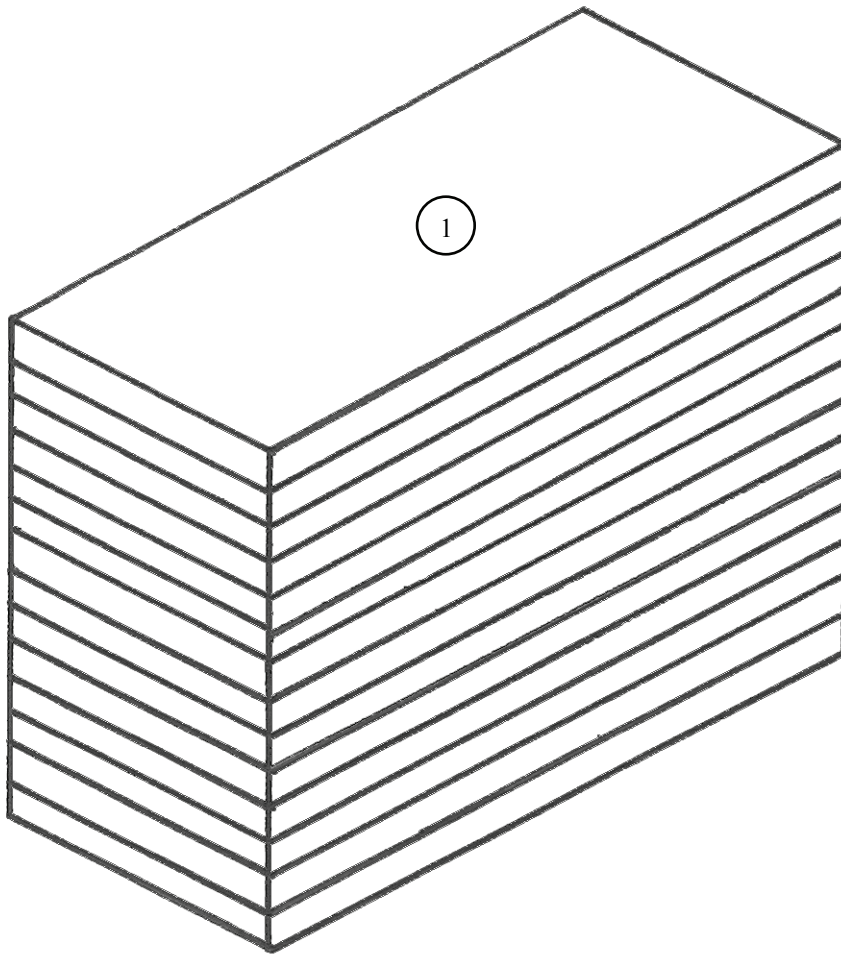
<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
		Pass lashing:
9	5	Through medium clevis at the rear lifting point, right side.
10	5A	Through medium clevis at the rear lifting point, left side.
11	6	Through the 5-ton lifting shackle, right side.
12	6A	Through the 5-ton lifting shackle, left side.
13	9	Through the rear lifting point, right side.
14	9A	Through the rear lifting point, left side.
15	10	Through the medium clevis at the rear lifting point, right side.
16	10A	Through the medium clevis at the rear lifting point, left side.

Figure 1-21. Lashings 9 Through 16 Installed

BUILDING AND POSITIONING PARACHUTE STOWAGE PLATFORM

- 1-9. Build parachute stowage platform as described below.
 - Build a honeycomb support as shown in Figure 1-22.
 - Build a parachute stowage platform as shown in Figure 1-23.
 - Position the honeycomb support and parachute stowage platform and lash the parachute stowage platform as shown in Figure 1-24.

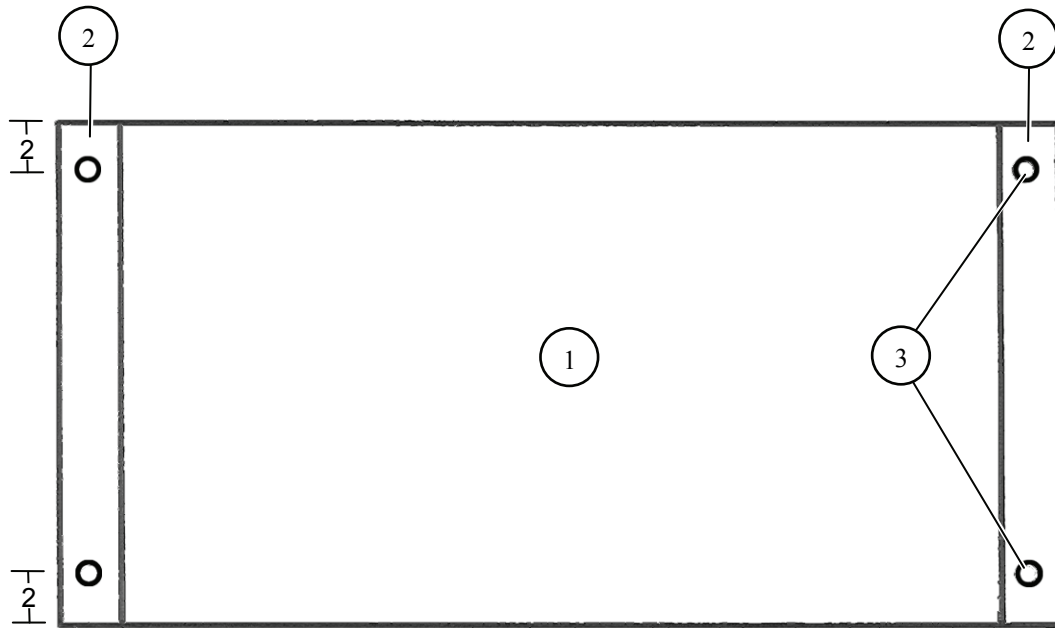
Note. This drawing is not drawn to scale.



- ① Glue fourteen 60- by 24-inch pieces of honeycomb as the parachute platform support base.

Figure 1-22. Parachute Support Base Built

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



- 1 Cut a $\frac{3}{4}$ - by 60- by 48-inch piece of plywood.
- 2 Cut two 2- by 6- by 48-inch pieces of lumber. Place each piece flush at each end of the plywood and secure with 10d nails.
- 3 Drill 2-inch holes as shown.

Figure 1-23. Parachute Stowage Platform Built

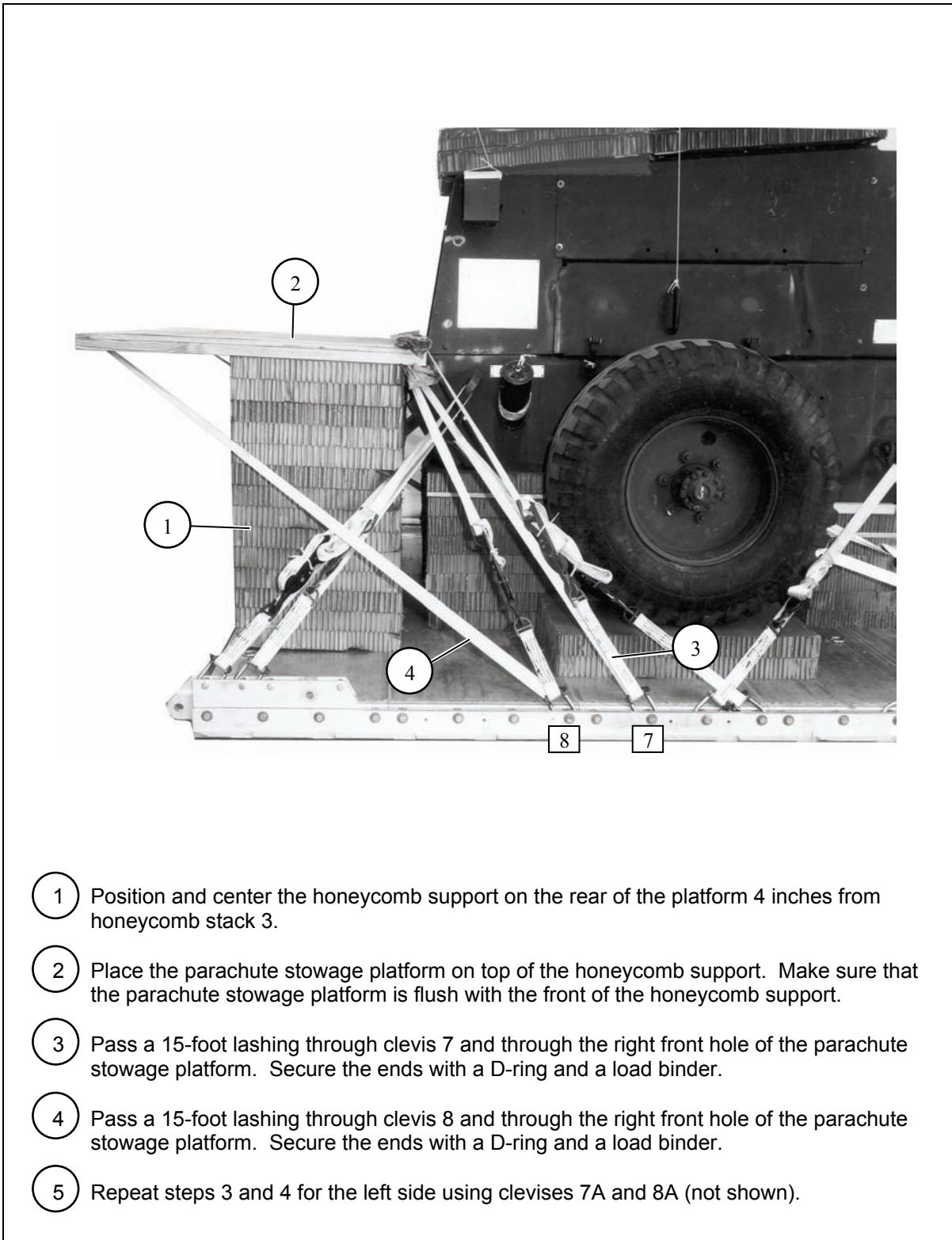


Figure 1-24. Parachute Stowage Platform Secured

INSTALLING SUSPENSION SLINGS AND DEADMAN'S TIE

1-10. Install the suspension slings and deadman's tie as shown in Figures 1-25 and 1-26.

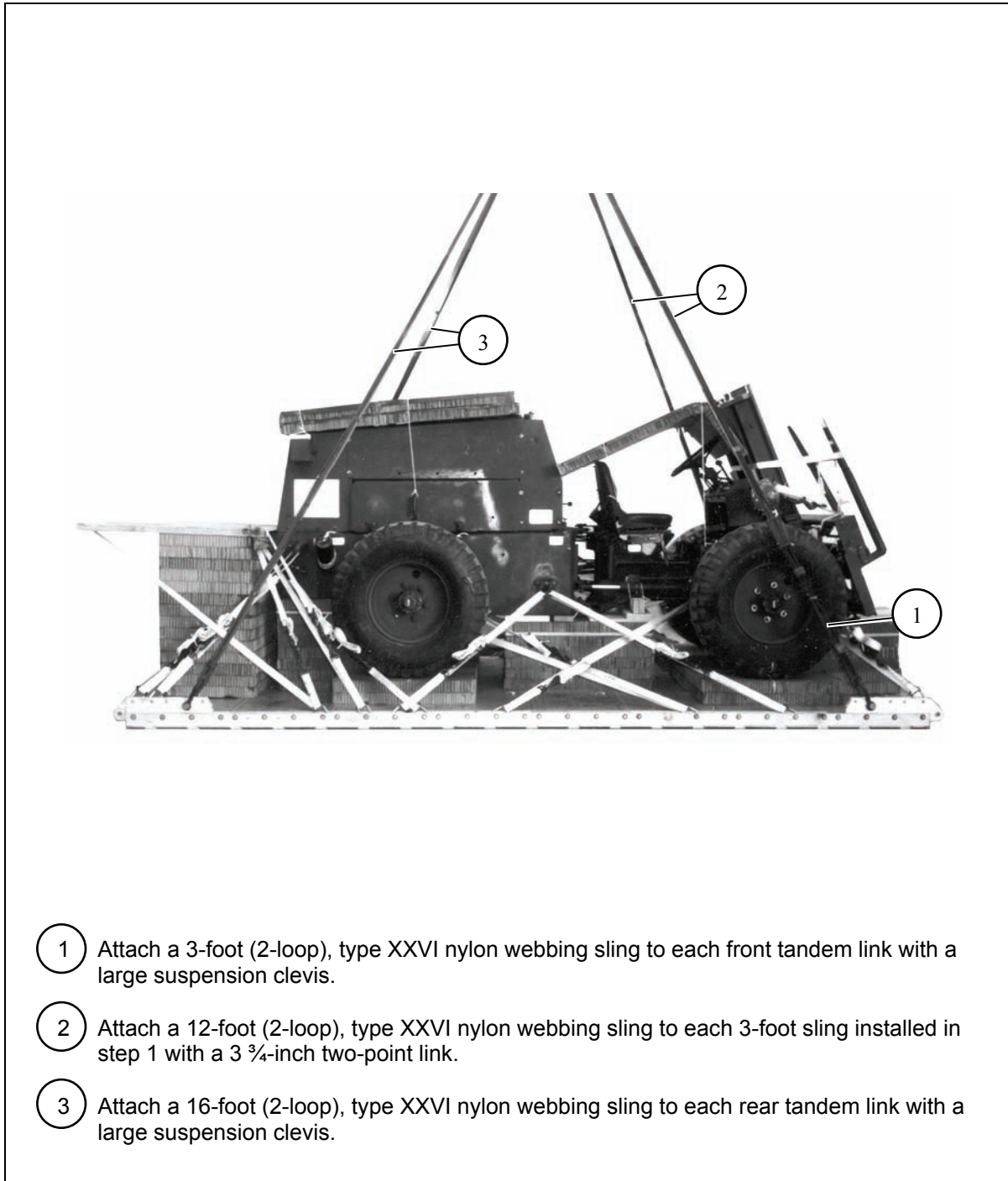
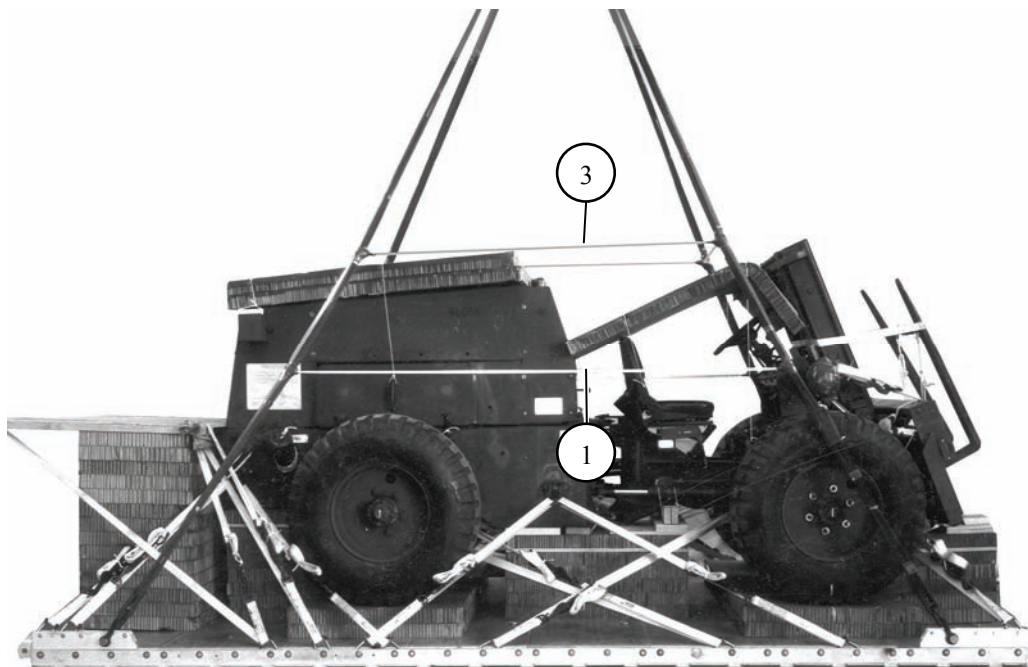


Figure 1-25. Suspension Slings Installed



- 1 Safety the right front and right rear suspension slings 12 inches above the 3 $\frac{3}{4}$ -inch, two-point link on the front suspension sling with a double length of $\frac{1}{2}$ -inch tubular nylon webbing.
- 2 Repeat step 1 for the left front and rear suspension slings (not shown).
- 3 Safety the suspension slings with a deadman's tie according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Note. Tape the $\frac{1}{2}$ -inch tubular nylon webbing to the suspension slings.

Figure 1-26. Suspension Slings Safety Tied

STOWING CARGO PARACHUTES

1-11. Prepare and stow three G-11 cargo parachutes on the parachute stowage platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as described below.

- Install the parachute restraint straps according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 using clevises 8 and 8A, and 9 and 9A.
- Install the multicut parachute release straps according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

INSTALLING EXTRACTION SYSTEM

1-12. Install the extraction force transfer coupling (EFTC) according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as described below.

- Install the actuator brackets to the front mounting holes on the left platform side rail.
- Attach a 16-foot cable to the actuator.
- Install a 9-foot (2-loop or 4-loop), type XXVI nylon webbing sling as the deployment line according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
- If applicable, install the extraction parachute jettison system (EPJS) according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

INSTALLING RELEASE SYSTEM

1-13. Install the M-1 cargo parachute release according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 1-27.

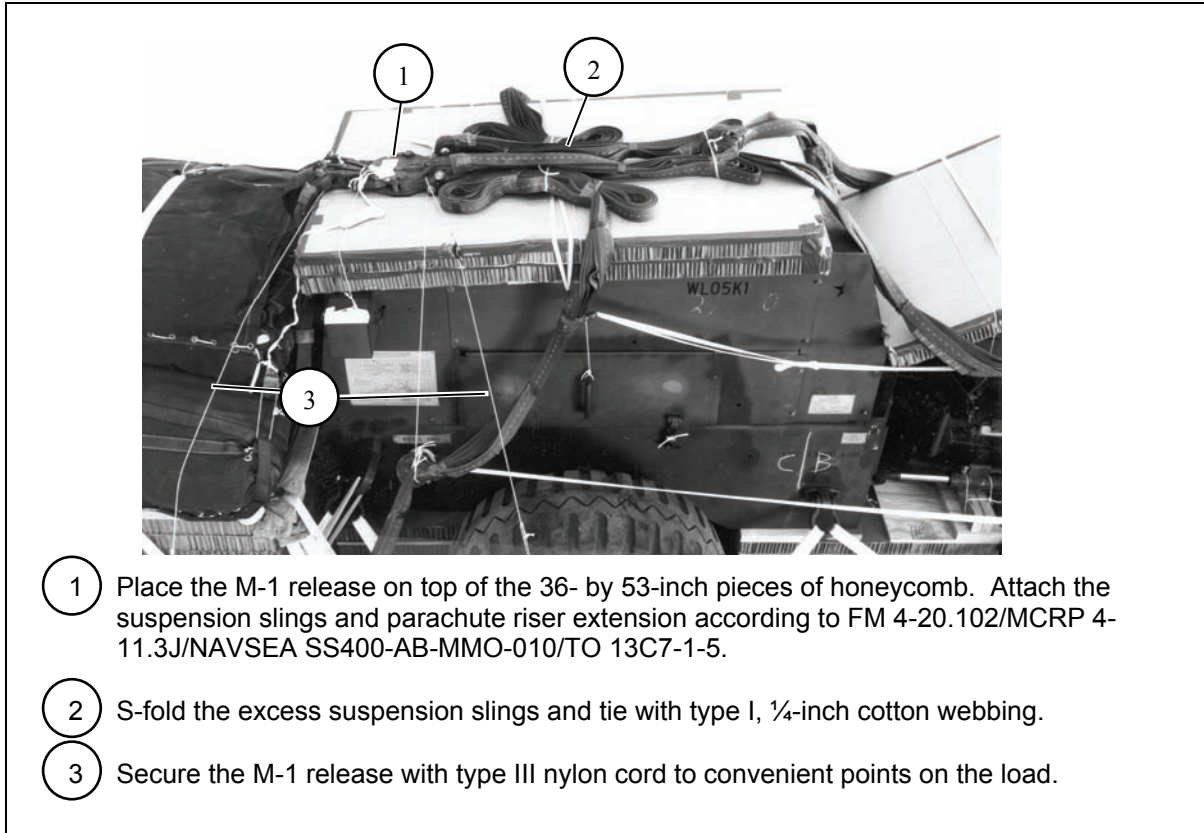


Figure 1-27. M-1 Release Installed

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

1-14. Install the provisions for the emergency restraints on the load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

PLACING EXTRACTION PARACHUTE

1-15. Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Rig the extraction line in an extraction line bag according to TM 10-1670-286-20/TO 13C5-2-41. Place the extraction parachute and extraction line on the load for installation in the aircraft. If a drogue parachute and drogue line are required, place them on the platform for installation in the aircraft as well.

MARKING RIGGED LOAD

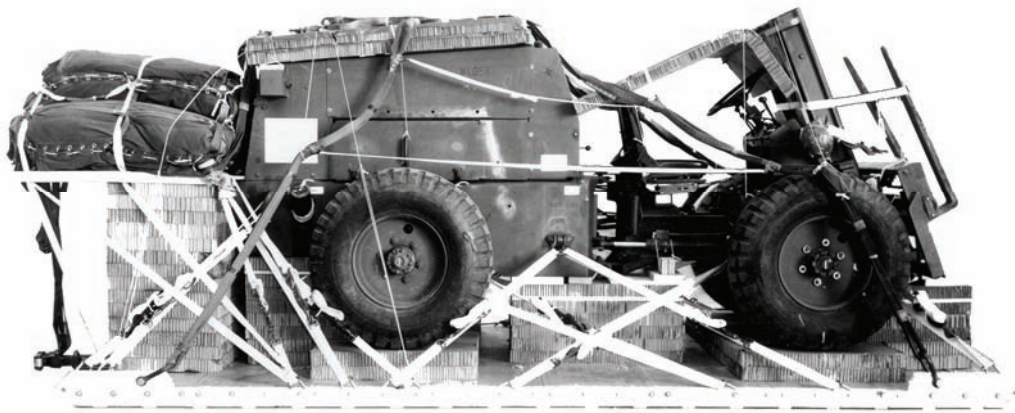
1-16. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 1-28. Complete the Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

1-17. Use the equipment listed in Table 1-2 to rig this load.

CAUTION

Make the final rigger inspection required by FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 before the load leaves the rigging site.



RIGGED LOAD DATA

Weight: Load shown	12,370 pounds
Maximum load allowed	13,000 pounds
Height	86 inches
Width.....	108 inches
Overall Length	220 inches
Overhang: Front	4 ½ inches
Rear (parachute stowage platform).....	24 inches
Rear (EPJS).....	30 inches
Center of Balance (from front edge of platform).....	82 inches

Figure 1-28. M4K, 4,000-Pound Capacity Forklift Truck Rigged on a Type V Platform

Table 1-2. Equipment Required for Rigging the M4K, 4,000-Pound Capacity Forklift Truck on a Type V Platform

<i>National Stock Number</i>	<i>Item</i>	<i>Quantity</i>
8040-00-273-8713	Adhesive, paste, 1-gallon	As required
5305-00-177-5617	Bolt, 1-inch (large clevis)	2
	Clevis, suspension:	
4030-00-678-8562	¾-inch (medium)	8
4030-00-090-5354	1-inch (large)	8
4020-00-240-2146	Cord, nylon, type III, 550-pound	As required
1670-00-434-5785	Coupling, airdrop, extraction force transfer with cable, 16-foot	1
1670-00-360-0328	Cover, clevis, large	4
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
1670-01-183-2678	Leaf, extraction line (line bag)	2
1670-01-064-4452	Line, drogue, 60-foot (1-loop), type XXVI (for C-17)	1
	Line, extraction	
1670-01-062-6313	60-foot (3-loop), type XXVI (for C-130)	1
1670-01-107-7651	140-foot (3-loop), type XXVI (for C-17)	1
1670-00-003-1953	Link assembly, two-point, 3 ¾-inch	4
	Lumber:	
5510-00-220-6274	2- by 4-inch	As required
5510-00-220-6148	2- by 6-inch	As required
	Nail, steel wire:	
5315-00-010-4659	8d	As required
	10d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	20
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11	3
	Cargo extraction:	
1670-01-063-3716	22-foot	1
1670-01-063-3715	15-foot (drogue for C-17)	1
9030-01-222-6087	Parts kit, lifting shackle (5-ton truck)	2
	Platform, airdrop, type V, 16-foot	
1670-01-353-8425	Bracket assembly, coupling	1
1670-01-162-2372	Clevis assembly, type V	22
1670-01-353-8424	Extraction bracket assembly	1
1670-01-162-2381	Tandem link assembly (multipurpose link)	4
5530-00-128-4981	Plywood, ¾-inch	As required
1670-01-097-8816	Release, cargo parachute, M-1	1

Table 1-2. Equipment Required for Rigging the M4K, 4,000-Pound Capacity Forklift Truck on a Type V Platform (Continued)

<i>National Stock Number</i>	<i>Item</i>	<i>Quantity</i>
	Sling, cargo, airdrop:	
	For suspension:	
1670-01-062-6301	3-foot (2-loop), type XXVI nylon webbing	2
1670-01-062-6303	12-foot (2-loop), type XXVI nylon webbing	2
1670-01-063-7761	16-foot (2-loop), type XXVI nylon webbing	2
	For lifting:	
1670-01-063-7761	16-foot (2-loop), type XXVI nylon webbing	4
	For deployment:	
1670-01-062-6304	9-foot (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6313	60-foot (3-loop), type XXVI nylon webbing	3
5340-00-040-8219	Strap, parachute release multi-cut, with 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-inch	As required
1670-00-937-0271	Tie-down assembly, 15-foot	30
1670-01-483-8259	Tow release mechanism (H-block for C-17)	1
	Webbing:	
8305-00-268-2411	Cotton, ¼-inch, type I	As required
8305-00-082-5752	Nylon, tubular, ½-inch	As required
8305-00-263-3591	Type VIII	As required

Chapter 2

Rigging the M-270, 4,000-Pound Capacity Forklift Truck on a Type V Platform

DESCRIPTION OF LOAD

2-1. The M-270, 4,000-pound capacity forklift truck (Figure 2-1) has an unrigged weight of 12,000 pounds which is not reducible. The length is 205 inches (reducible to 165 inches), width is 80 inches which is not reducible, and the height is 80 inches reducible to 78 inches. The forklift is rigged with three G-11 cargo parachutes on a 16-foot type V platform with a total rigged weight of 15,400 pounds, height of 98 ½ inches, width of 108 inches, and a length of 266 inches with a 15-inch front overhang, a 16-inch rear overhang and a center of balance of 83 inches.

PREPARING PLATFORM

2-2. Prepare a 16-foot, type V platform using two tandem links, four suspension links and 24 clevis assemblies as described below and as shown in Figure 2-2.

- **Inspecting Platform.** Inspect, or assemble and inspect, the platform according to TM 10-1670-268-20&P/TO 13C7-52-22.
- **Installing Tandem Links.** Install tandem links as shown in Figure 2-2.
- **Installing Suspension Links.** Install suspension links as shown in Figure 2-2.
- **Attaching and Numbering Clevises.** Attach and number 24 clevis assemblies as shown in Figure 2-2.

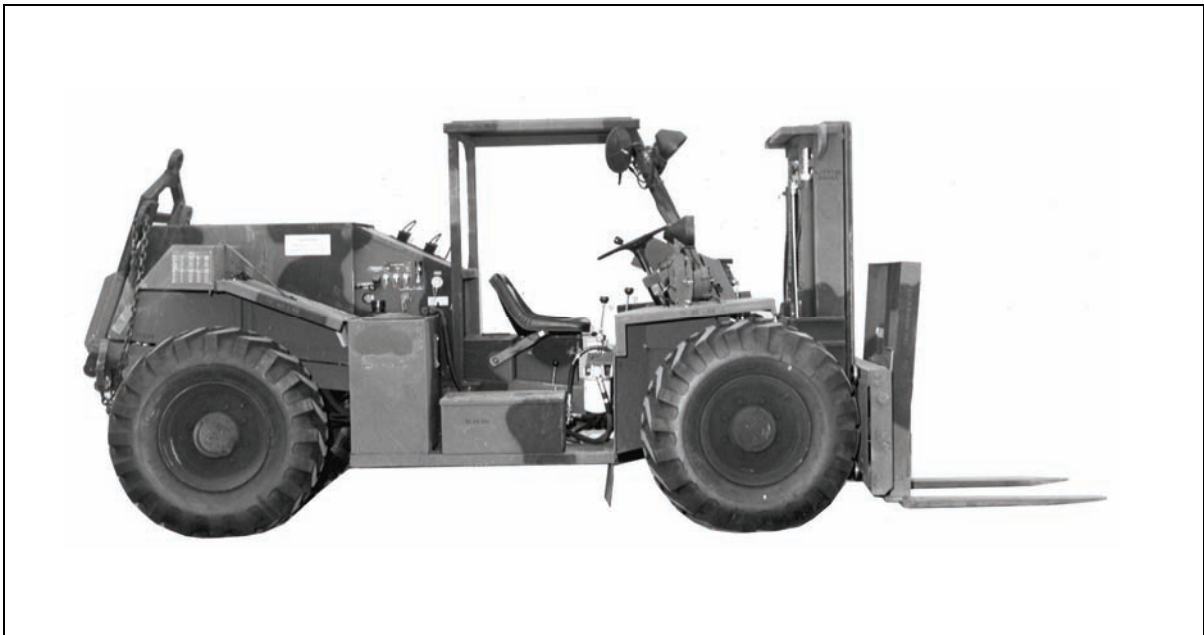
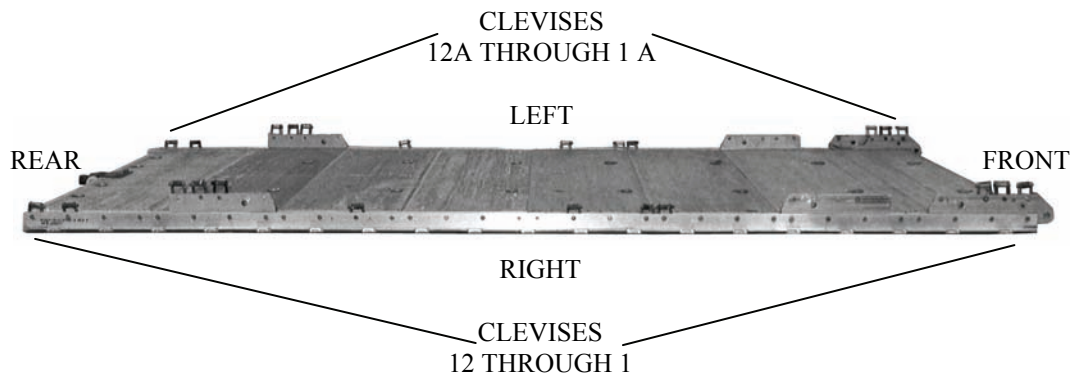


Figure 2-1. M-270, 4,000-Pound Capacity Forklift Truck

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



Step:

1. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
2. Install two suspension links on each platform side rail using holes 6, 7, and 8, and 25, 26, and 27.
3. Install a clevis on bushings 1, 2, and 3 on each front tandem link.
4. Install a clevis on each rear suspension link on bushings 2, 3, and 4.
5. Starting at the front of each platform side rail, install clevises to bushings bolted on holes 12, 13, 15, 22, 31, and 32.
6. Starting at the front of the platform side rail, number the clevises bolted on the right side from 1 through 12 and those bolted on the left side from 1A to 12A.

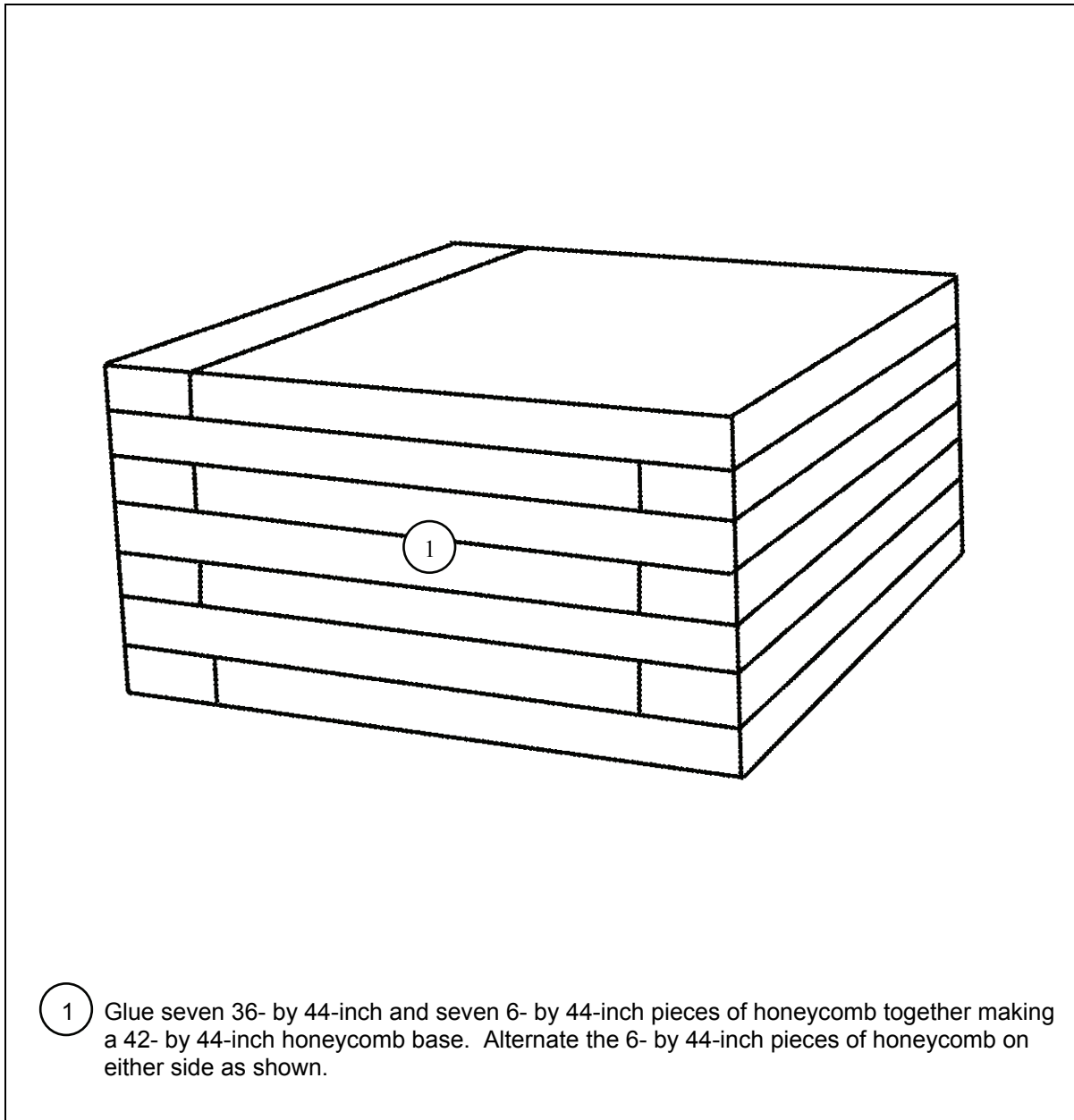
Figure 2-2. Platform Prepared

PREPARING AND POSITIONING HONEYCOMB STACKS

2-3. Use the materials in Table 2-1 to prepare seven honeycomb stacks as shown in Figures 2-3 through 2-12. Position the stacks on the platform as shown in Figures 2-13 and 2-14.

Table 2-1. Material Required to Build Honeycomb Stacks

Stack Number	Pieces	Width (inches)	Length (inches)	Material	Instructions
1	7	36	44	Honeycomb	See Figures 2-3 through 2-5.
	7	6	44	Honeycomb	
	2	42	44	¾-inch Plywood	
	1	42	37 ½	¾-inch Plywood	
	2	2 by 4	22 ½	Lumber	
	3	2 by 4	37 ½	Lumber	
	1	42	37 ½	¾-inch Plywood	
	2	4 by 4	10	Lumber	
	2	2 by 6	38	Lumber	
	1	38	4	¾-inch Plywood	
2	2	36	4	½-inch Plywood	See Figures 2-6 through 2-8.
	7	36	24	Honeycomb	
	1	34	24	¾-inch Plywood	
	4	2 by 6	24	Lumber	
	1	34	24	¾-inch Plywood	
3	1	16	24	¾-inch Plywood	See Figures 2-9 through 2-11.
	7	42	32	Honeycomb	
	1	42	32	¾-inch Plywood	
	4	2 by 4	32	Lumber	
	1	42	32	¾-inch Plywood	
	1	42	18	¾-inch Plywood	
	2	2 by 6	18	Lumber	
	1	4	6	¾-inch Plywood	
	1	42	6	¾-inch Plywood	
4, 5, 6, and 7	3	27	68	Honeycomb	See Figure 2-12.



- 1 Glue seven 36- by 44-inch and seven 6- by 44-inch pieces of honeycomb together making a 42- by 44-inch honeycomb base. Alternate the 6- by 44-inch pieces of honeycomb on either side as shown.

Figure 2-3. Honeycomb Stack 1 Base Prepared

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

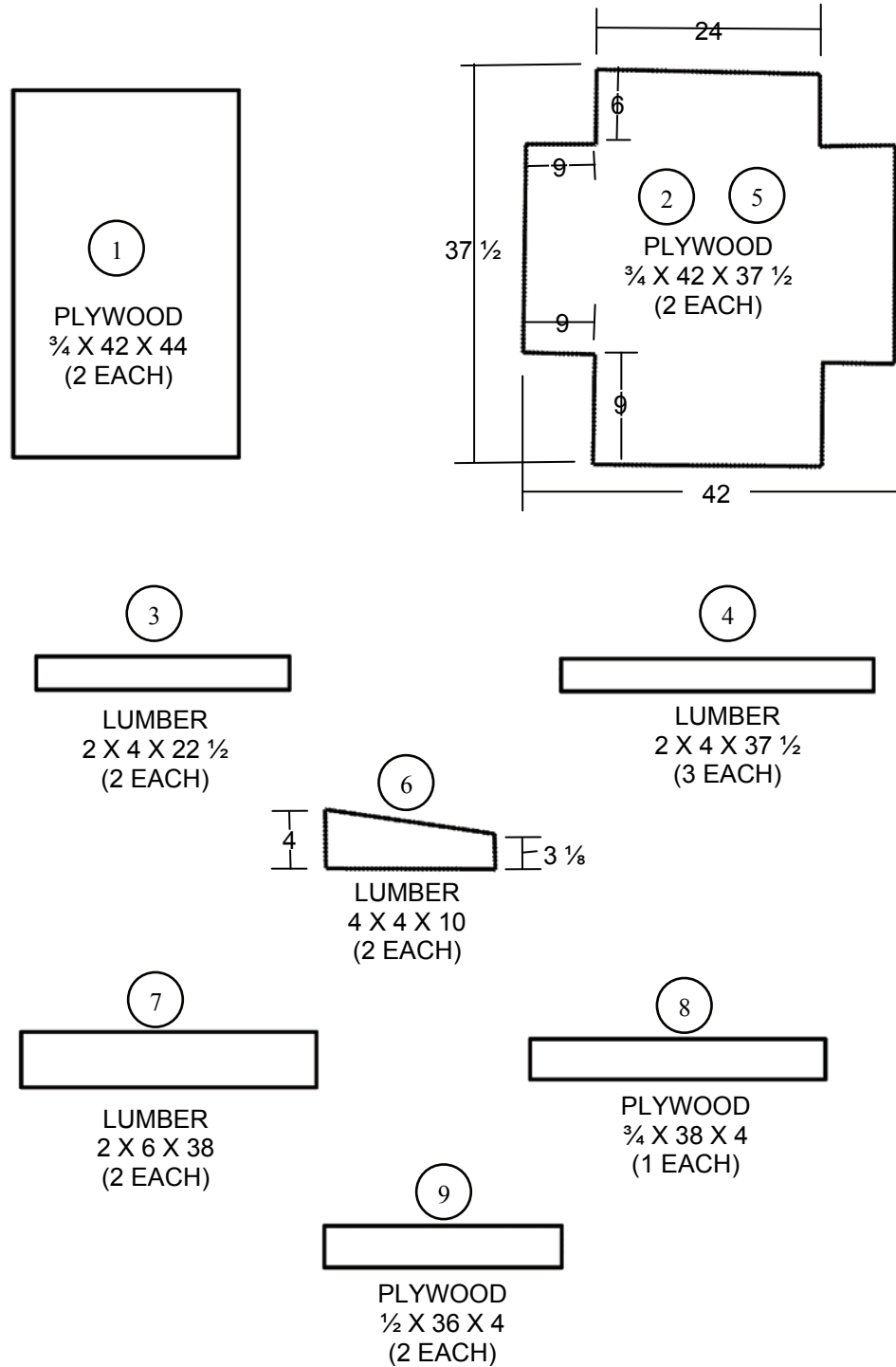
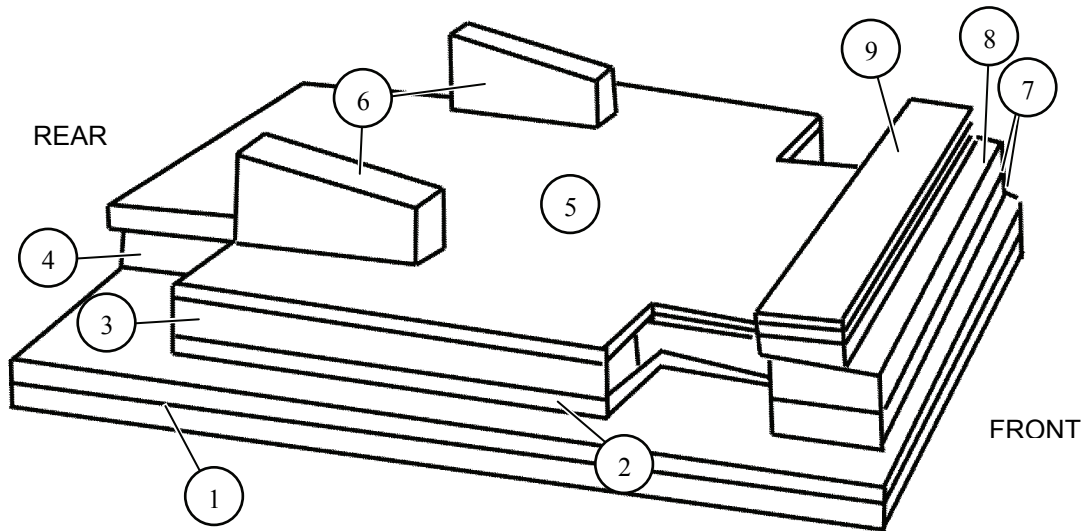


Figure 2-4. Pieces for Stack 1 Frame Support

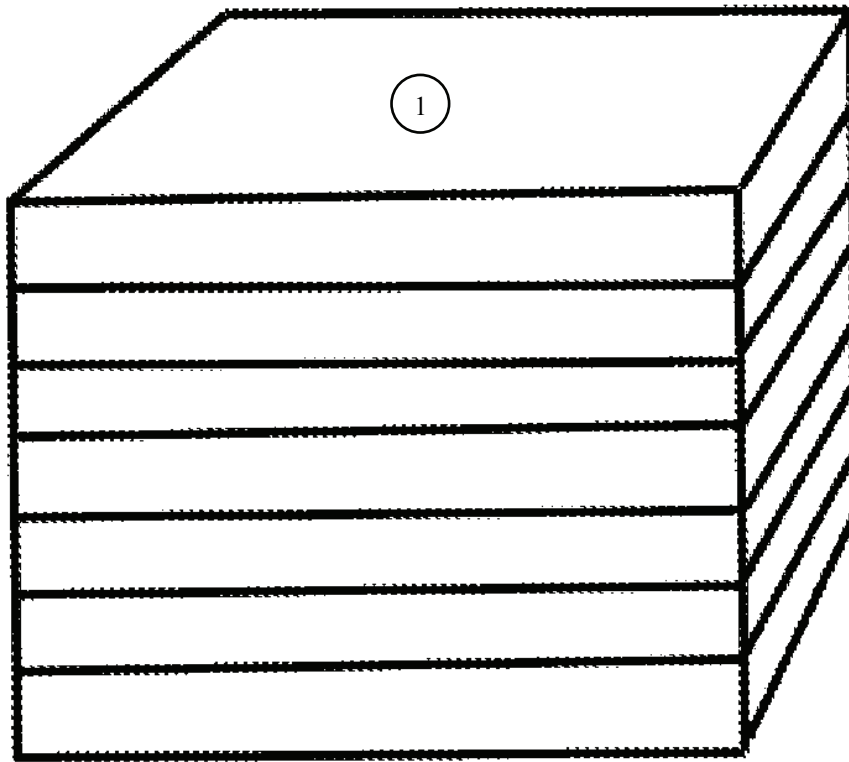
Note. This drawing is not drawn to scale.



- 1 Glue and nail two $\frac{3}{4}$ - by 42- by 44-inch pieces of plywood together. Do not glue to base.
- 2 Cut one $\frac{3}{4}$ - by 42- by 37 $\frac{1}{2}$ -inch piece of plywood. Glue and nail to a $\frac{3}{4}$ - by 42- by 44-inch piece of plywood with 24-inch side flush with rear edge.
- 3 Glue and nail the 2- by 4- by 22 $\frac{1}{2}$ -inch pieces of lumber flush with right and left sides of plywood.
- 4 Glue and nail three 2- by 4- by 37 $\frac{1}{2}$ -inch pieces of lumber.
- 5 Cut one $\frac{3}{4}$ - by 42- by 37 $\frac{1}{2}$ -inch piece of plywood. Glue and nail to the 2- by 4-inch pieces of lumber.
- 6 Cut two 4- by 4- by 10-inch pieces of lumber measuring 4 inches high on one end and 3 $\frac{1}{8}$ inches high on the other. Glue and nail flush with rear edge of plywood 6 inches from right and left sides as shown above.
- 7 Glue and nail two 2- by 6- by 38-inch pieces of lumber together flush against the plywood and a 2- by 6-inch piece of lumber centered from right to left.
- 8 Glue and nail one $\frac{3}{4}$ - by 38- by 4-inch piece of plywood flush with the rear edge of a 2- by 6- by 38-inch piece of lumber and centered.
- 9 Glue and nail two $\frac{1}{2}$ - by 36- by 4-inch pieces of plywood on top of the $\frac{3}{4}$ - by 38- by 4-inch piece of plywood.

Figure 2-5. Stack 1 Frame Support Built

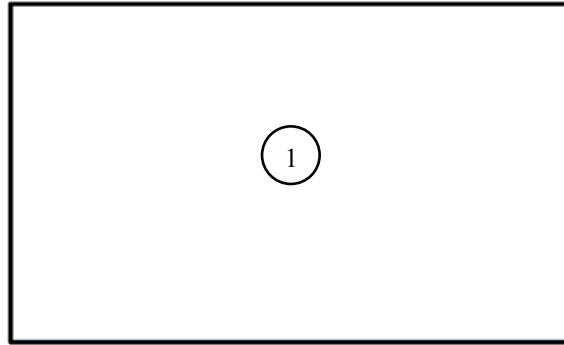
Note. This drawing is not drawn to scale.



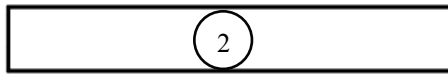
① Glue seven 36- by 24-inch pieces of honeycomb to form base.

Figure 2-6. Stack 2 Base Prepared

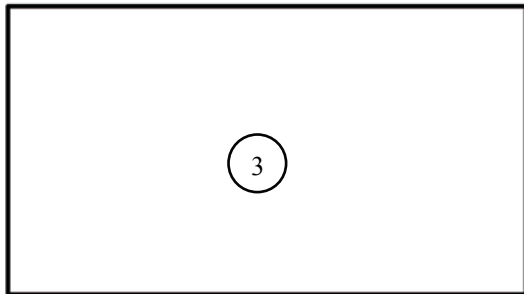
- Notes.** 1. All measurements are given in inches.
2. This drawing is not drawn to scale.



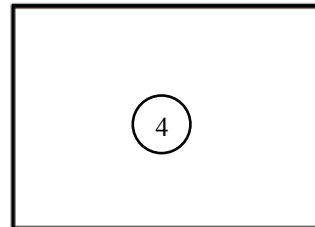
PLYWOOD
 $\frac{3}{4}$ X 34 X 24
(1 EACH)



LUMBER
2 X 6 X 24
(4 EACH)



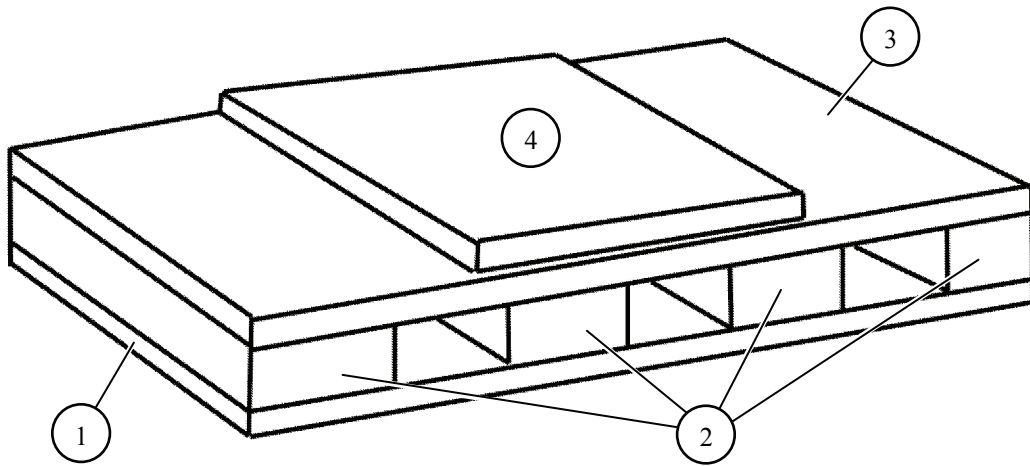
PLYWOOD
 $\frac{3}{4}$ X 34 X 24
(1 EACH)



PLYWOOD
 $\frac{3}{4}$ X 16 X 24
(1 EACH)

Figure 2-7. Pieces for Stack 2 Frame Support

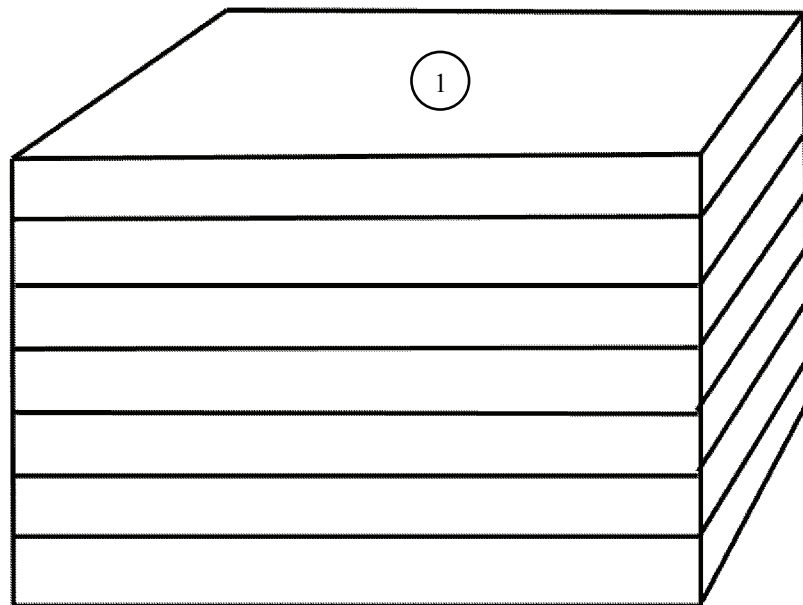
Note. This drawing is not drawn to scale.



- ① Place a $\frac{3}{4}$ - by 34- by 24-inch piece of plywood on the base. Do not glue to base.
- ② Glue and nail four 2- by 6- by 24-inch pieces of lumber to plywood, one piece flush with right and left edge. Center the other two pieces and space them 4 inches apart.
- ③ Glue and nail one $\frac{3}{4}$ - by 34- by 24-inch piece of plywood on top of lumber.
- ④ Glue and nail one $\frac{3}{4}$ - by 16- by 24-inch piece of plywood centered on plywood.

Figure 2-8. Stack 2 Frame Support Built

Note. This drawing is not drawn to scale.



1 Glue seven 42- by 32-inch pieces of honeycomb to form base.

Figure 2-9. Stack 3 Base Prepared

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

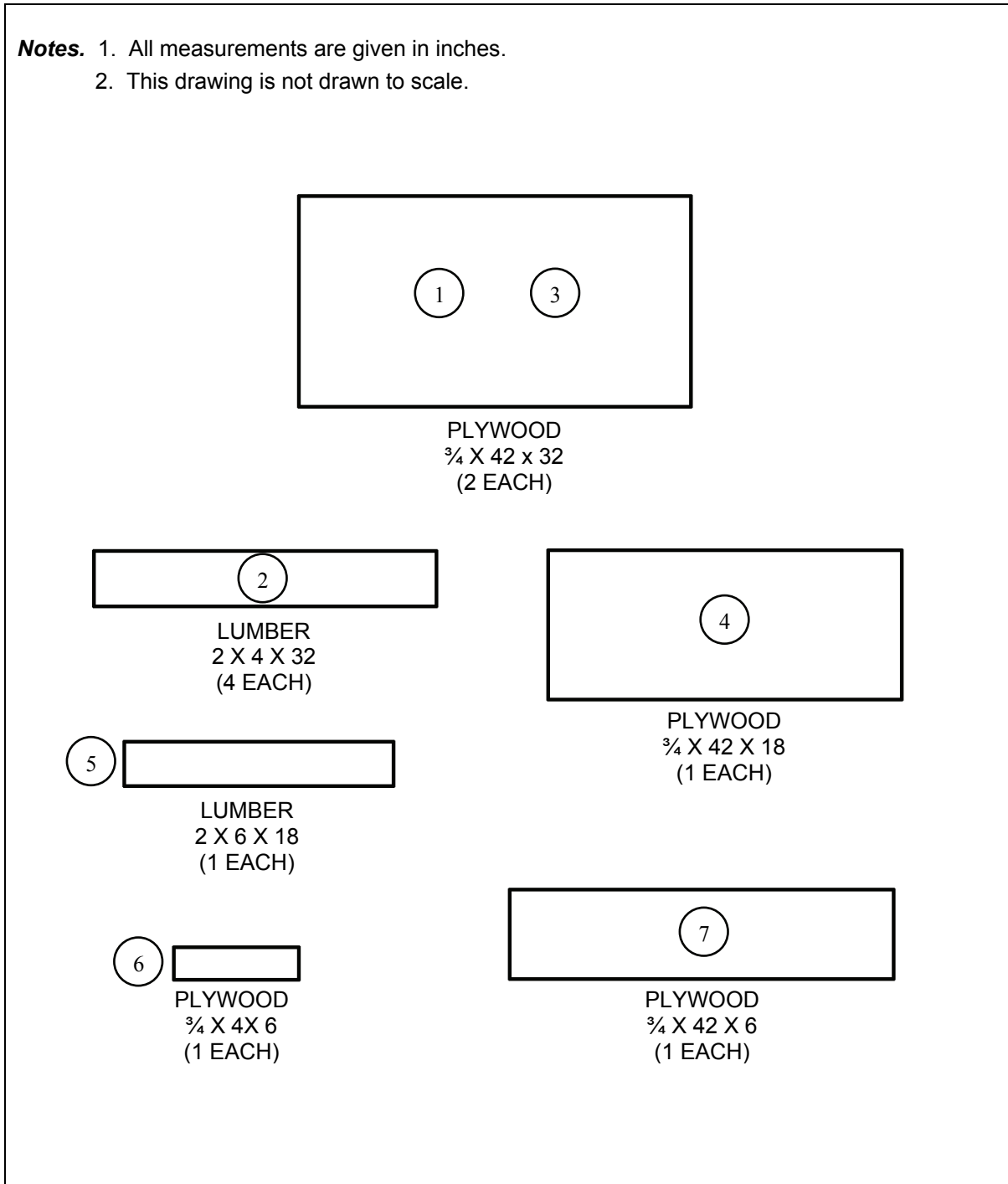
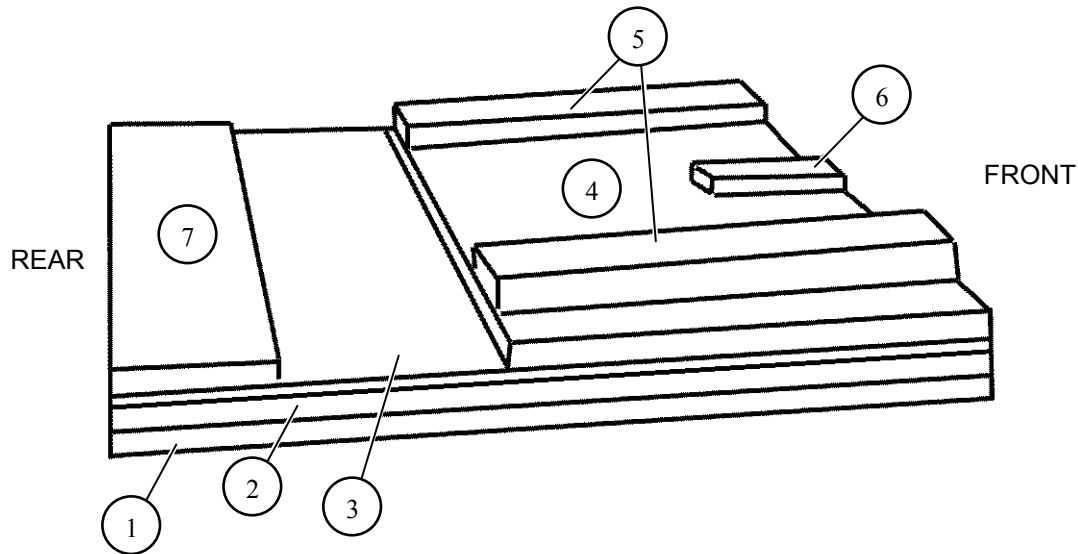


Figure 2-10. Pieces for Stack 3 Frame Support

Note. This drawing is not drawn to scale.



- 1 Place one $\frac{3}{4}$ - by 42- by 32-inch piece of plywood on the base. Do not glue to base.
- 2 Glue and nail four 2- by 4- by 32-inch pieces of lumber to the $\frac{3}{4}$ - by 42- by 32-inch piece of plywood, one piece flush with right edge and one piece flush with left edge. Place one piece 8 $\frac{1}{2}$ inches from the right piece and one piece 8 $\frac{1}{2}$ inches from the left piece.
- 3 Glue and nail one $\frac{3}{4}$ - by 42- by 32-inch piece of plywood on top of the 2- by 4- by 32-inch piece of lumber.
- 4 Glue and nail one $\frac{3}{4}$ - by 42- by 18-inch piece of plywood on a $\frac{3}{4}$ - by 42- by 32-inch piece of plywood flush with the front edge.
- 5 Glue and nail two 2- by 6- by 18-inch pieces of lumber, one piece 3 inches from right edge of $\frac{3}{4}$ - by 42- by 18-inch piece of plywood and one piece 3 inches from left side.
- 6 Glue and nail one $\frac{3}{4}$ - by 4- by 6-inch piece of plywood with the 4-inch side centered on the front edge of stack.
- 7 Glue and nail one $\frac{3}{4}$ - by 42- by 6-inch piece of plywood flush with rear edge of stack.

Figure 2-11. Stack 3 Frame Support Built

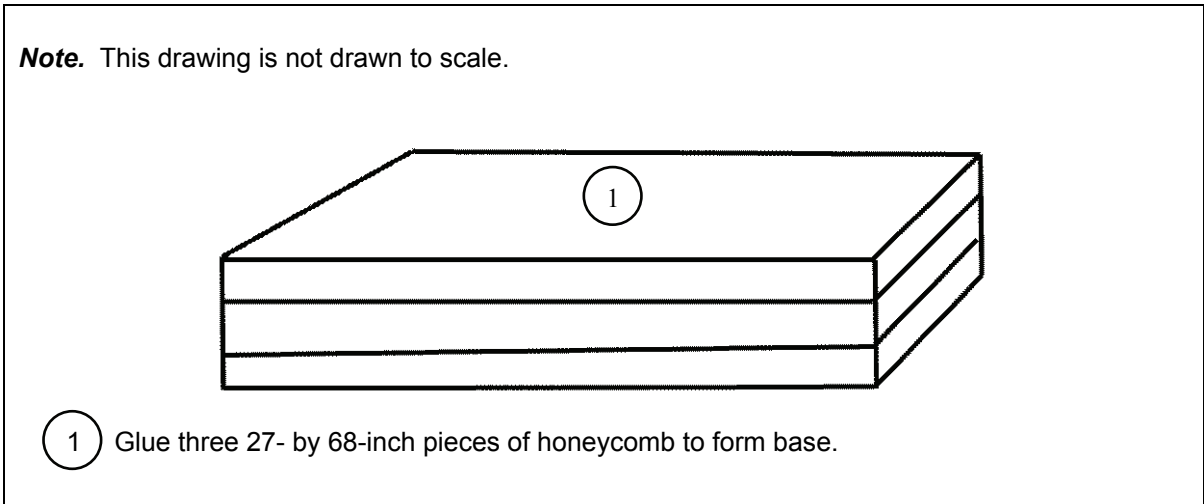


Figure 2-12. Stacks 4, 5, 6, and 7 Prepared

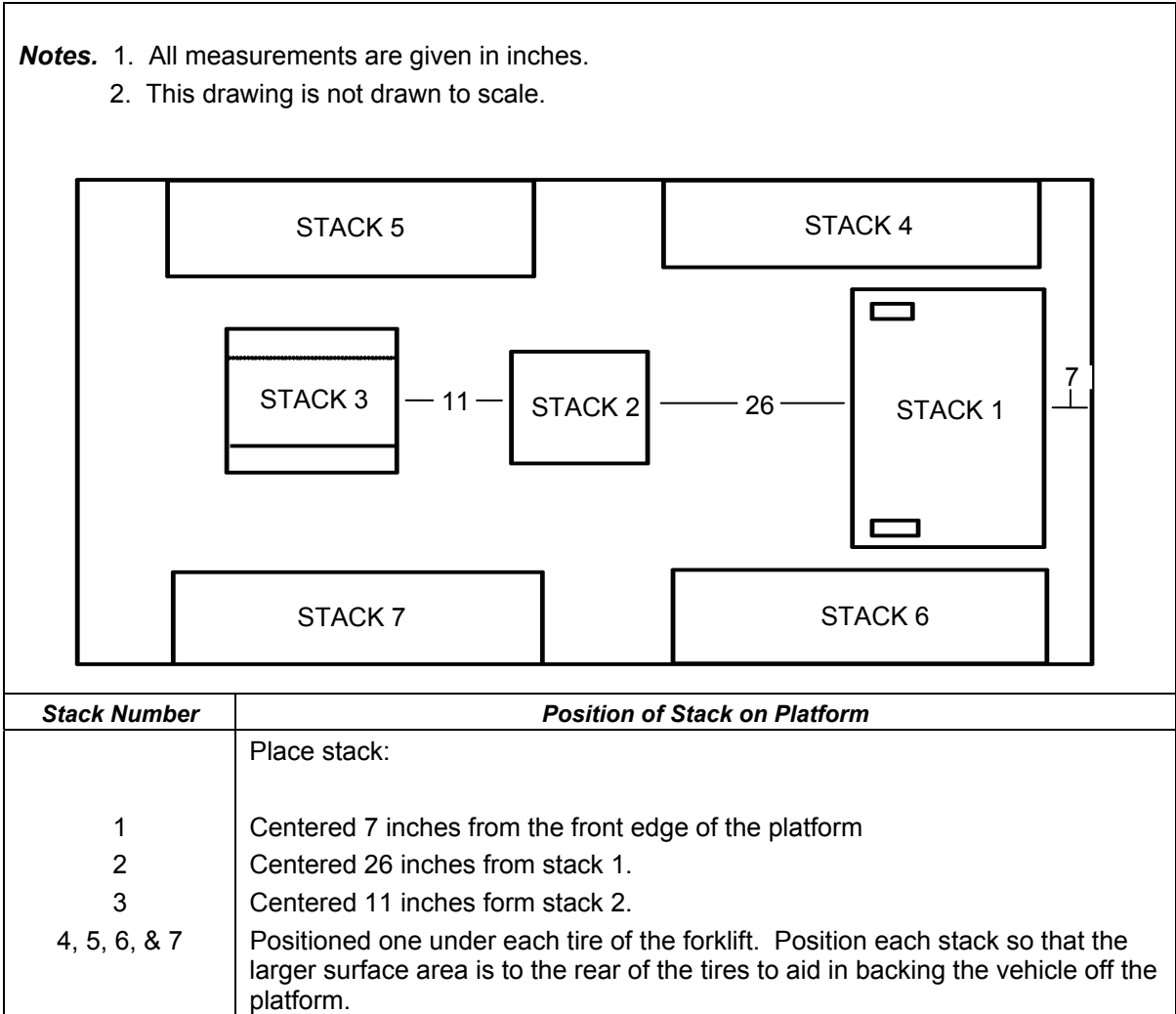


Figure 2-13. Honeycomb Stacks Placed on Platform

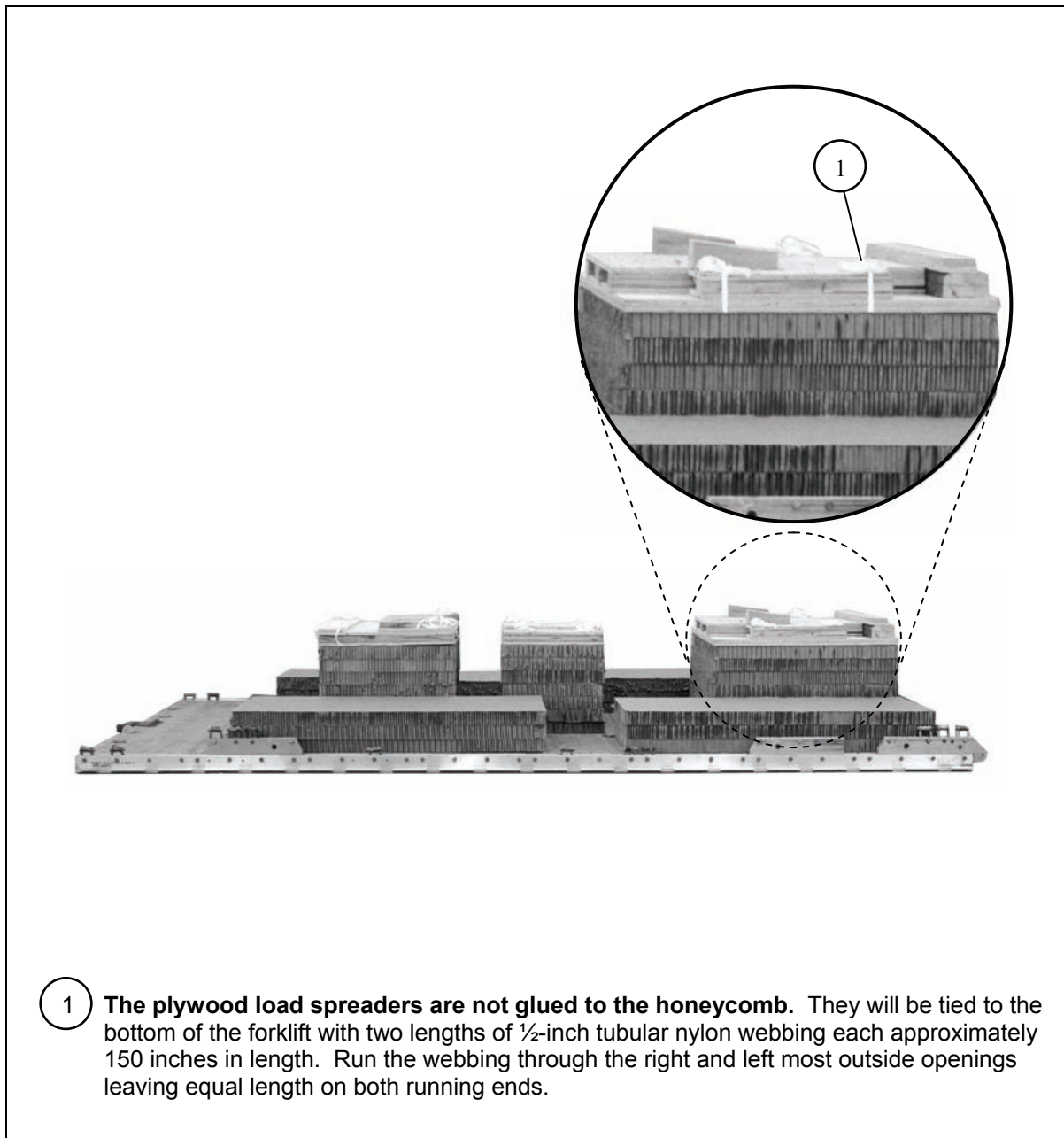


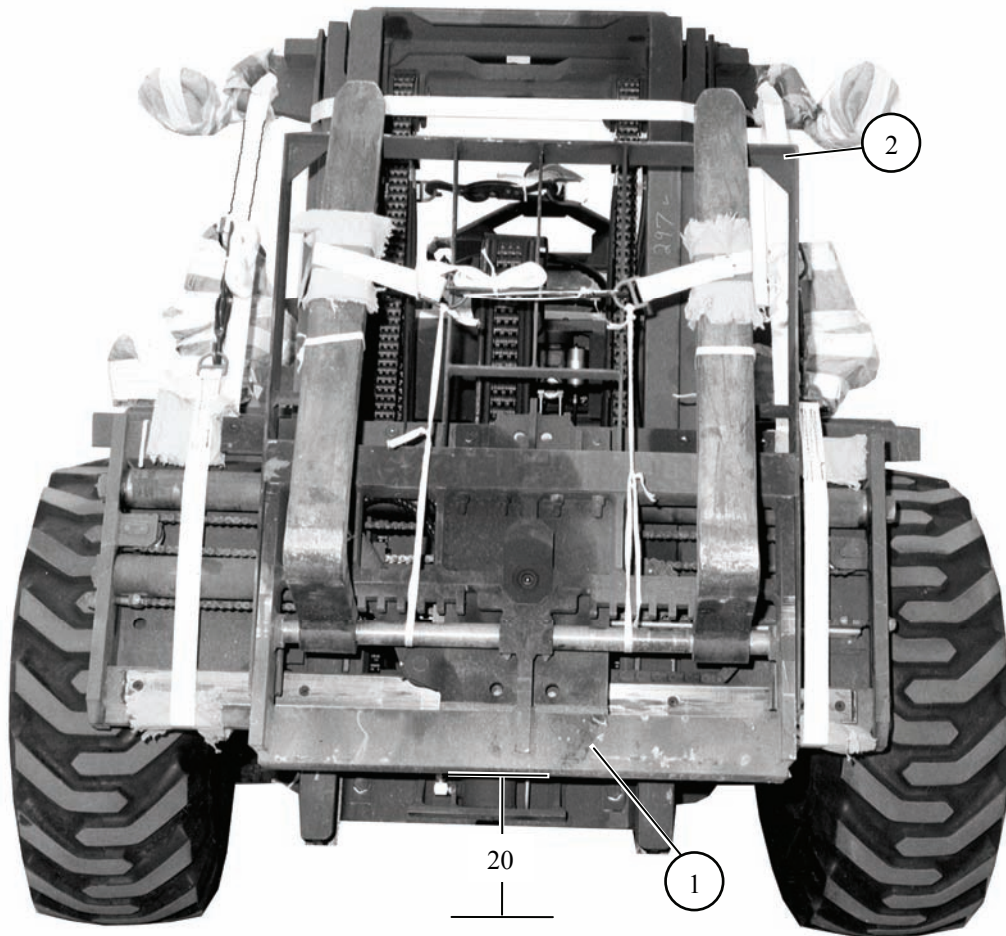
Figure 2-14. Load Spreaders Positioned on Platform

PREPARING FORKLIFT

2-4. Prepare the forklift before positioning it on the platform as described below and as shown in Figures 2-15 through 2-18.

- Make sure the fuel tank is not more than $\frac{3}{4}$ full.
- Pad and tape all light, reflectors, and gauges.

Note. All measurements are given in inches.



- 1 Raise the front forks approximately 20 inches off the ground measuring from the carriage assembly.
- 2 Tilt carriage toward the cab.

Figure 2-15. Front Forks Prepared

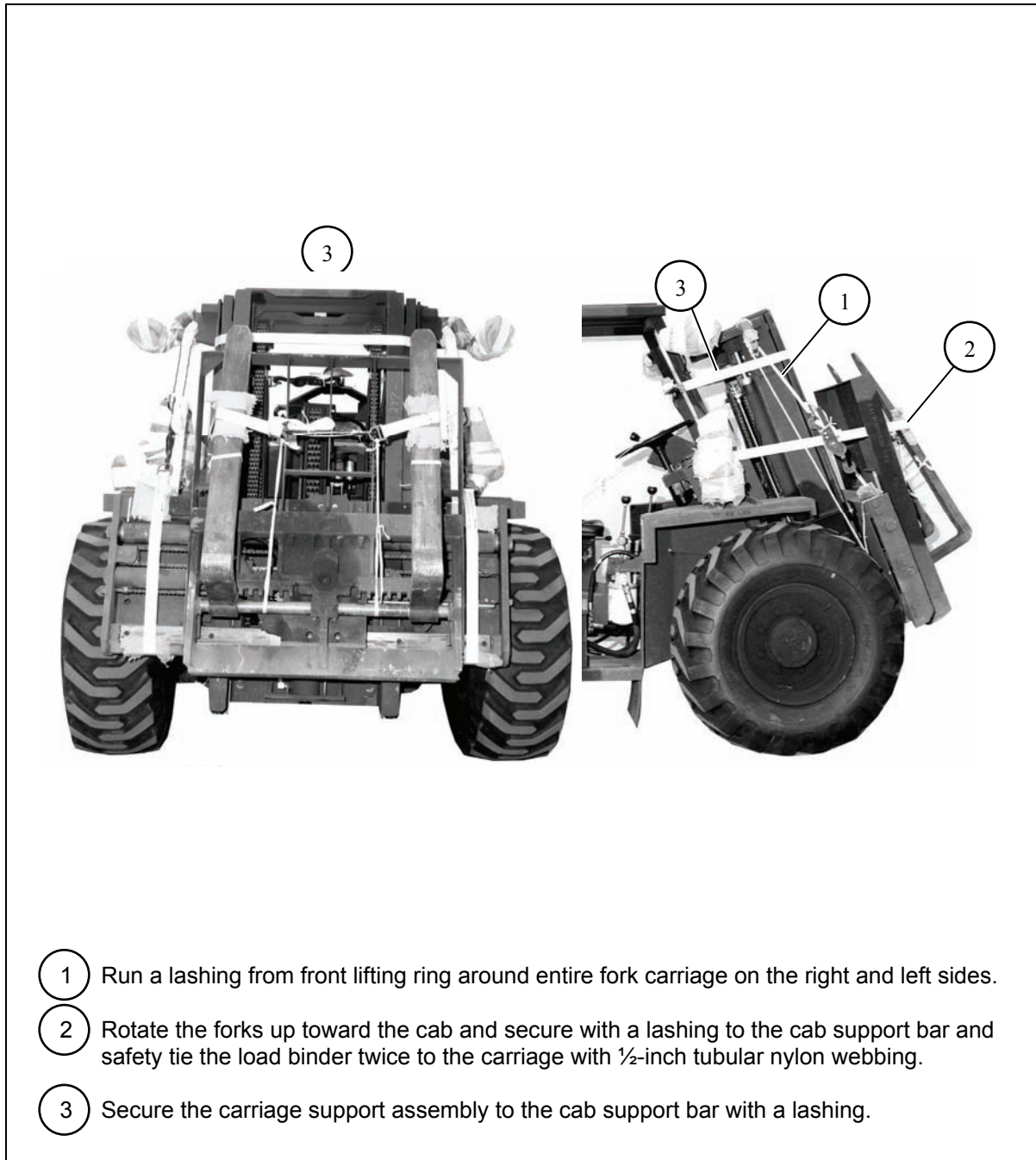
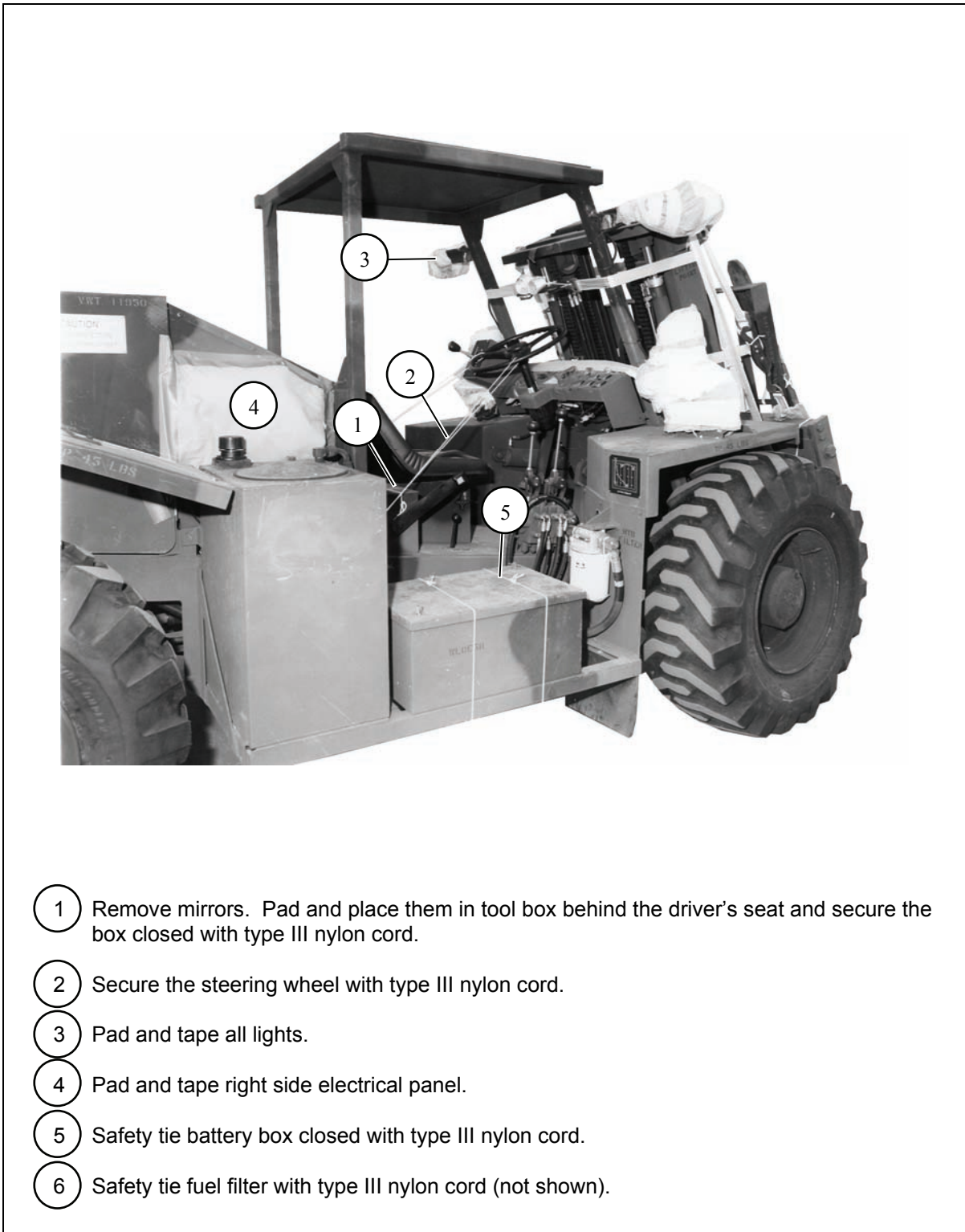


Figure 2-16. Fork Carriage Prepared



- 1 Remove mirrors. Pad and place them in tool box behind the driver's seat and secure the box closed with type III nylon cord.
- 2 Secure the steering wheel with type III nylon cord.
- 3 Pad and tape all lights.
- 4 Pad and tape right side electrical panel.
- 5 Safety tie battery box closed with type III nylon cord.
- 6 Safety tie fuel filter with type III nylon cord (not shown).

Figure 2-17. Mirrors, Steering Wheel, Lights, Electrical Panel, Battery Box and Fuel Filter Secured

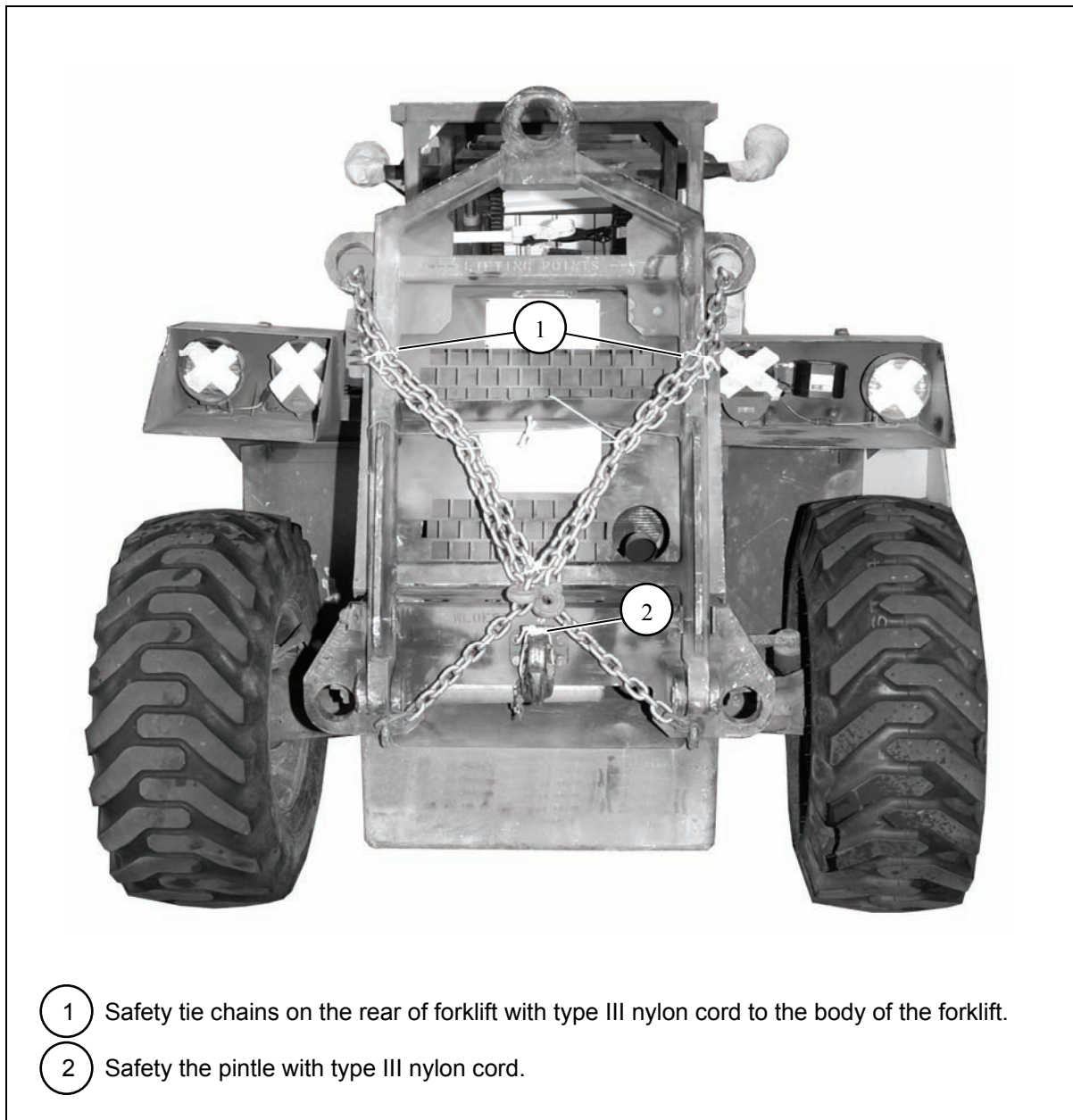


Figure 2-18. Rear of Forklift Prepared

BUILDING AND POSITIONING THE FENDER PROTECTION KIT

2-5. Build and position the fender protection kits as described below.

- Build two honeycomb fender protection kits as shown in Figures 2-19 and 2-20.
- Position the fender protection kits on the appropriate fender as shown in Figure 2-21.
- Secure the fender protection kits on forklift as shown in Figures 2-22 and 2-23.

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

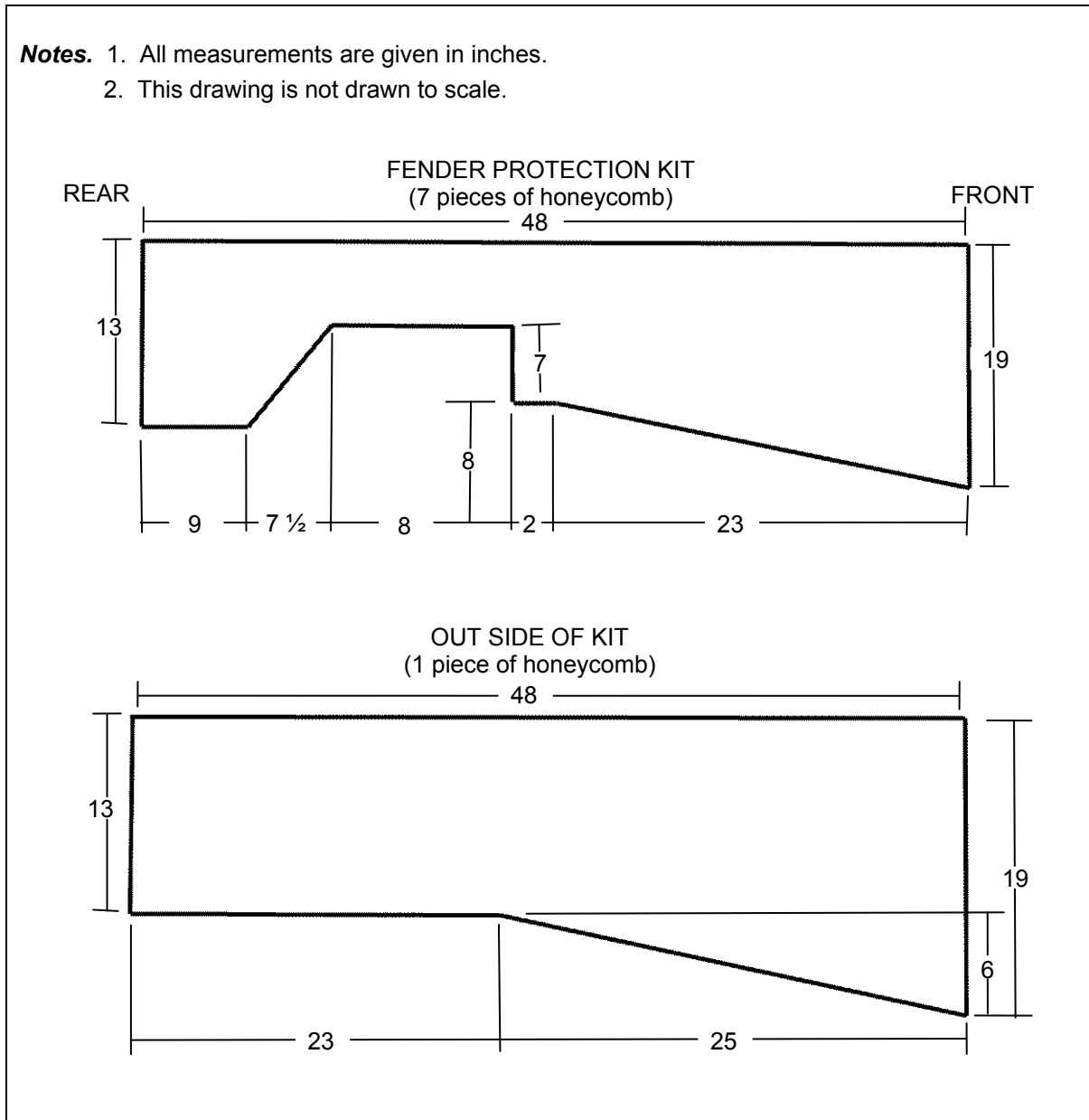


Figure 2-19. Details for Honeycomb Fender Protection

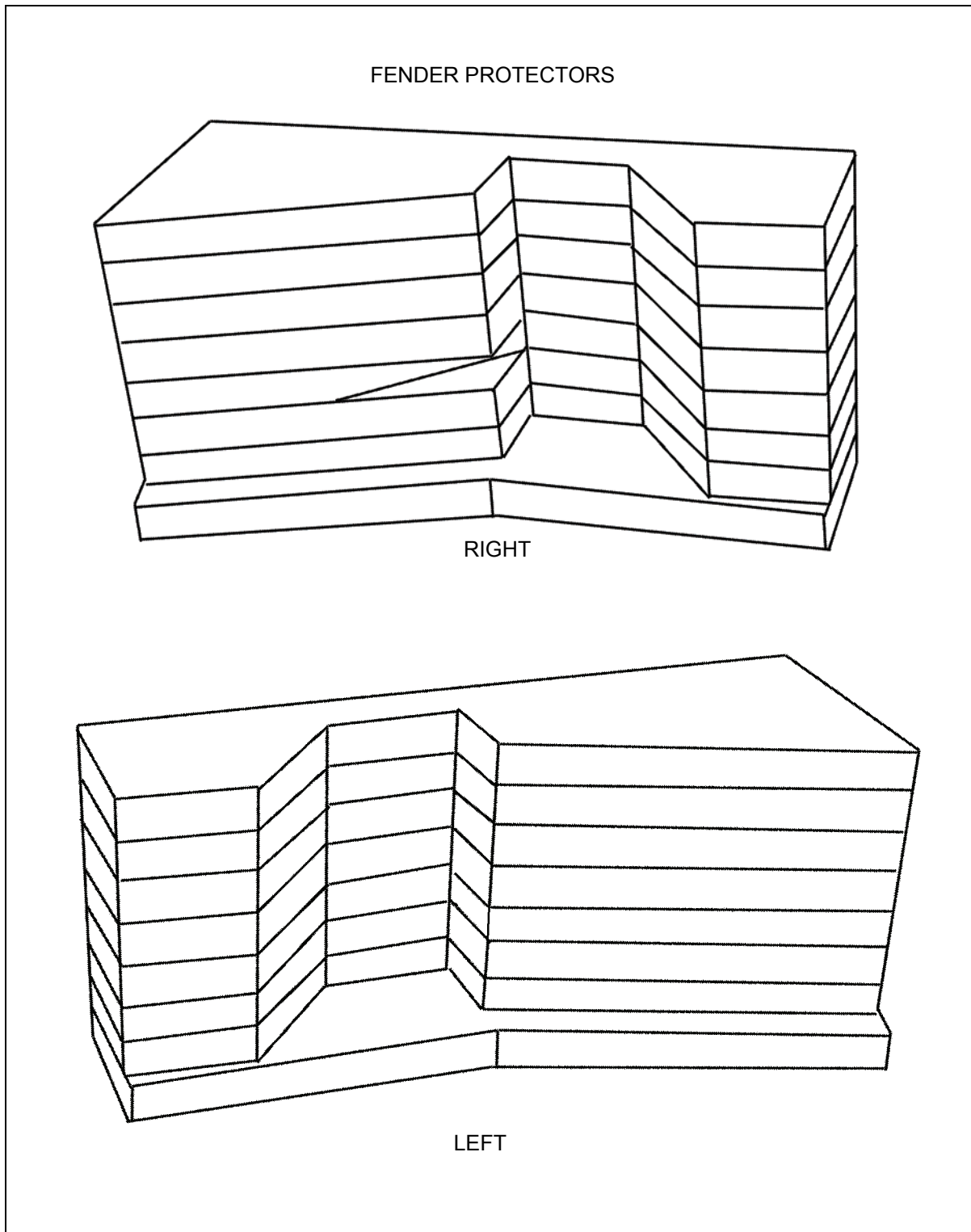
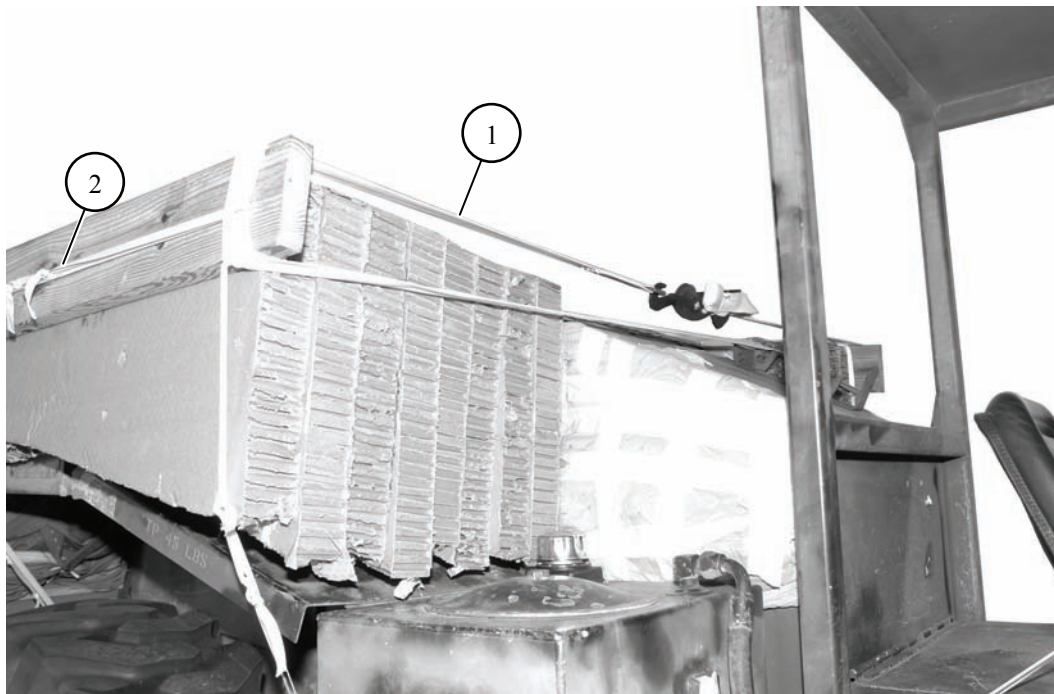


Figure 2-20. Honeycomb Fender Protectors Completed



- ① Secure the lumber in place with a lashing on the front and the rear of the lumber as shown above.
- ② Safety the lashings together with a length of ½-inch tubular nylon webbing.

Figure 2-22. Honeycomb Fender Protectors Secured

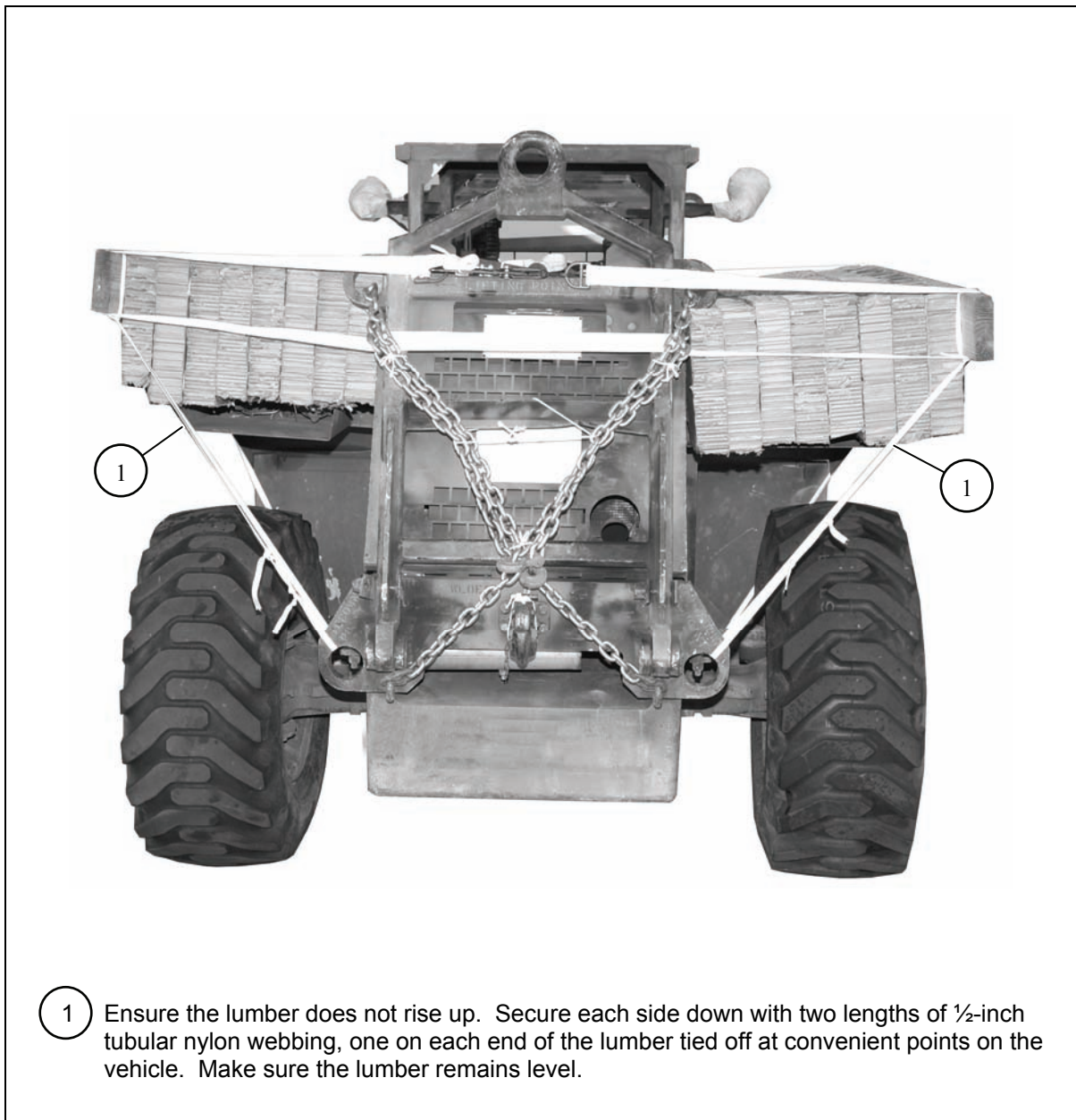


Figure 2-23. Honeycomb Fender Protectors Prepared

INSTALLING LIFTING SLINGS AND POSITIONING DRIVE-OFF AIDS

2-6. Install the lifting slings as shown and described in Figure 2-24. Position the drive-off aids as shown and described in Figures 2-25 and 2-26.

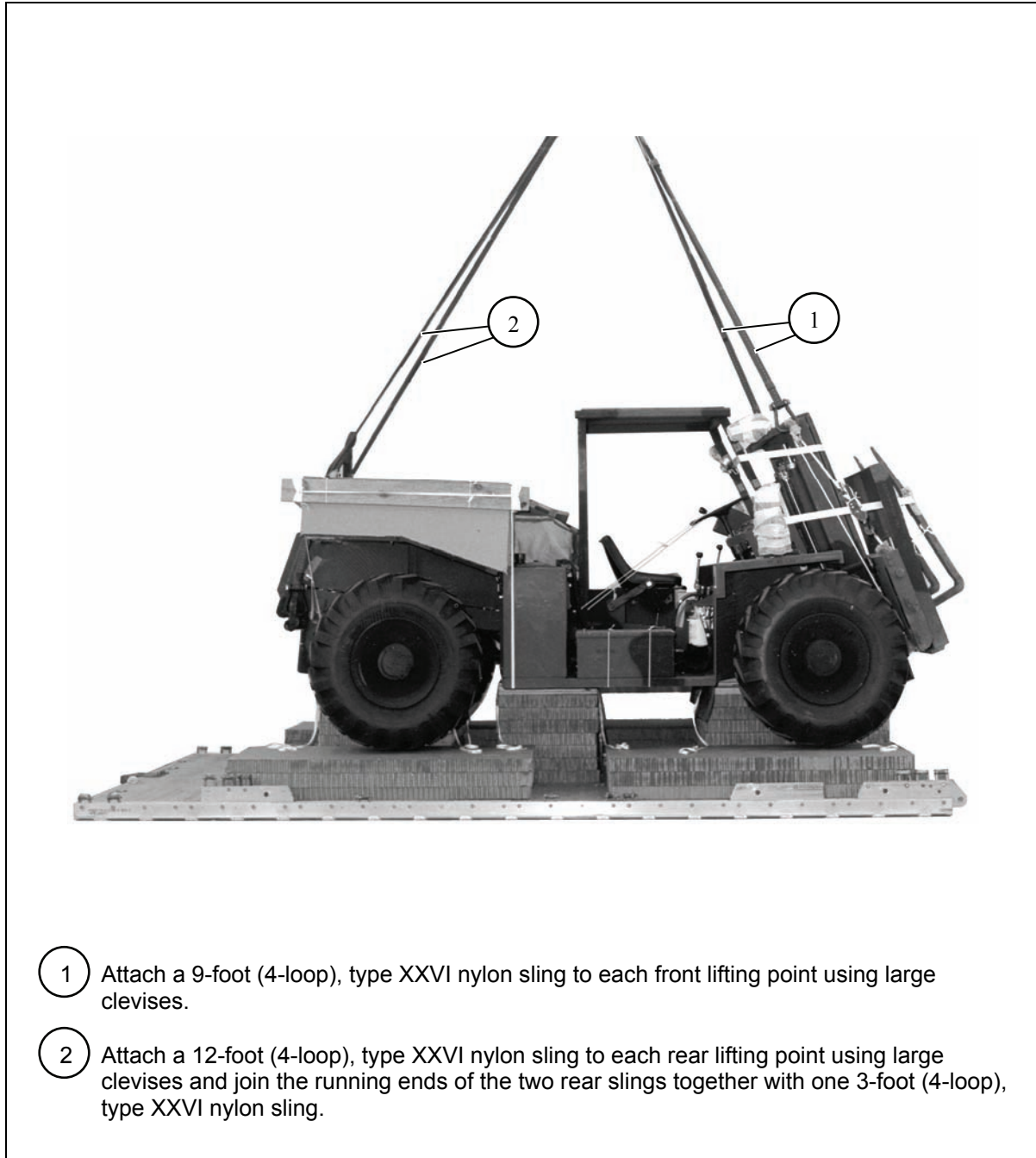
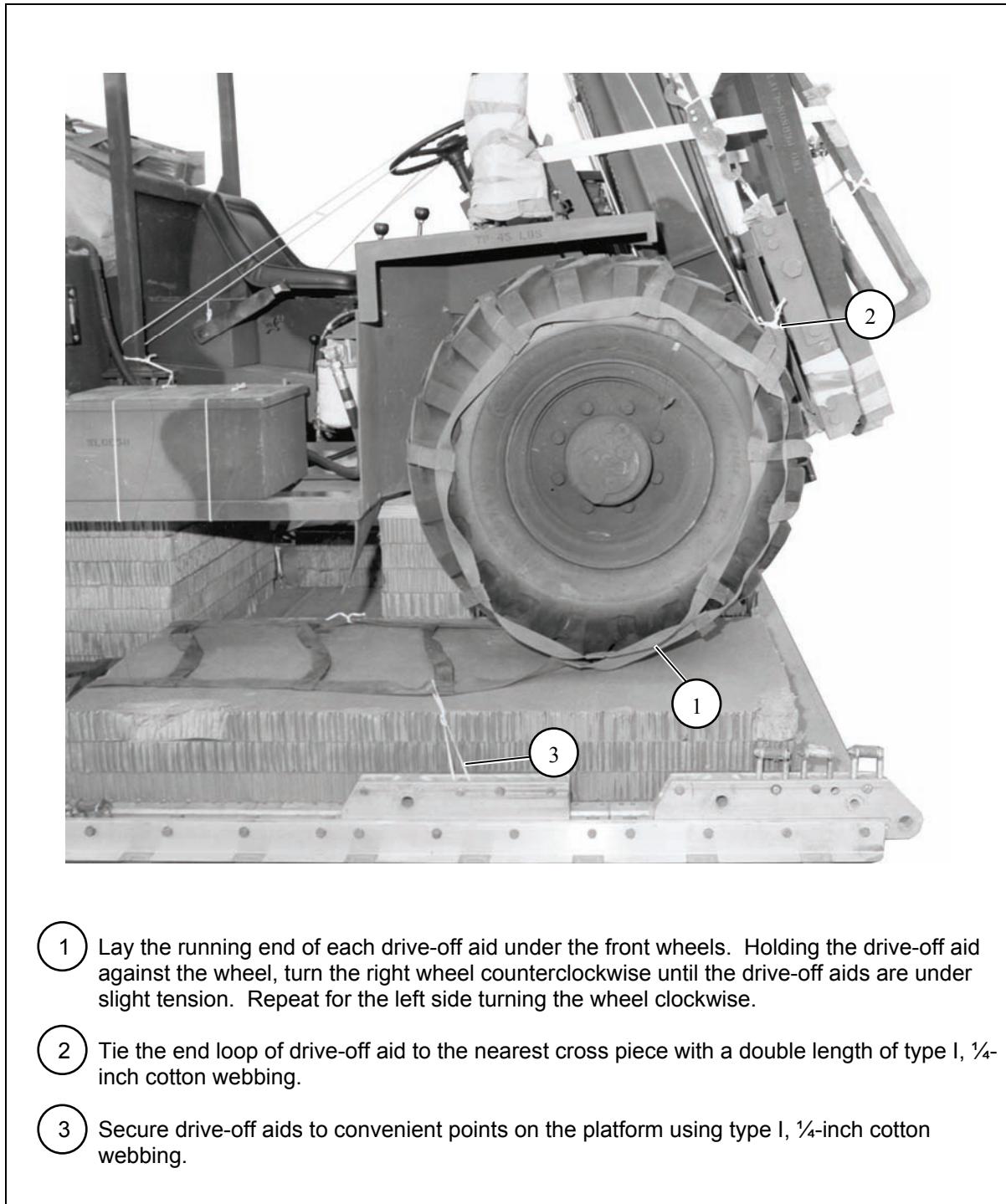


Figure 2-24. Lifting Slings Installed



- 1 Lay the running end of each drive-off aid under the front wheels. Holding the drive-off aid against the wheel, turn the right wheel counterclockwise until the drive-off aids are under slight tension. Repeat for the left side turning the wheel clockwise.
- 2 Tie the end loop of drive-off aid to the nearest cross piece with a double length of type I, 1/4-inch cotton webbing.
- 3 Secure drive-off aids to convenient points on the platform using type I, 1/4-inch cotton webbing.

Figure 2-26. Drive-Off Aids Installed

POSITIONING FORKLIFT

2-7. Position the forklift on the platform as shown and described in Figure 2-27.

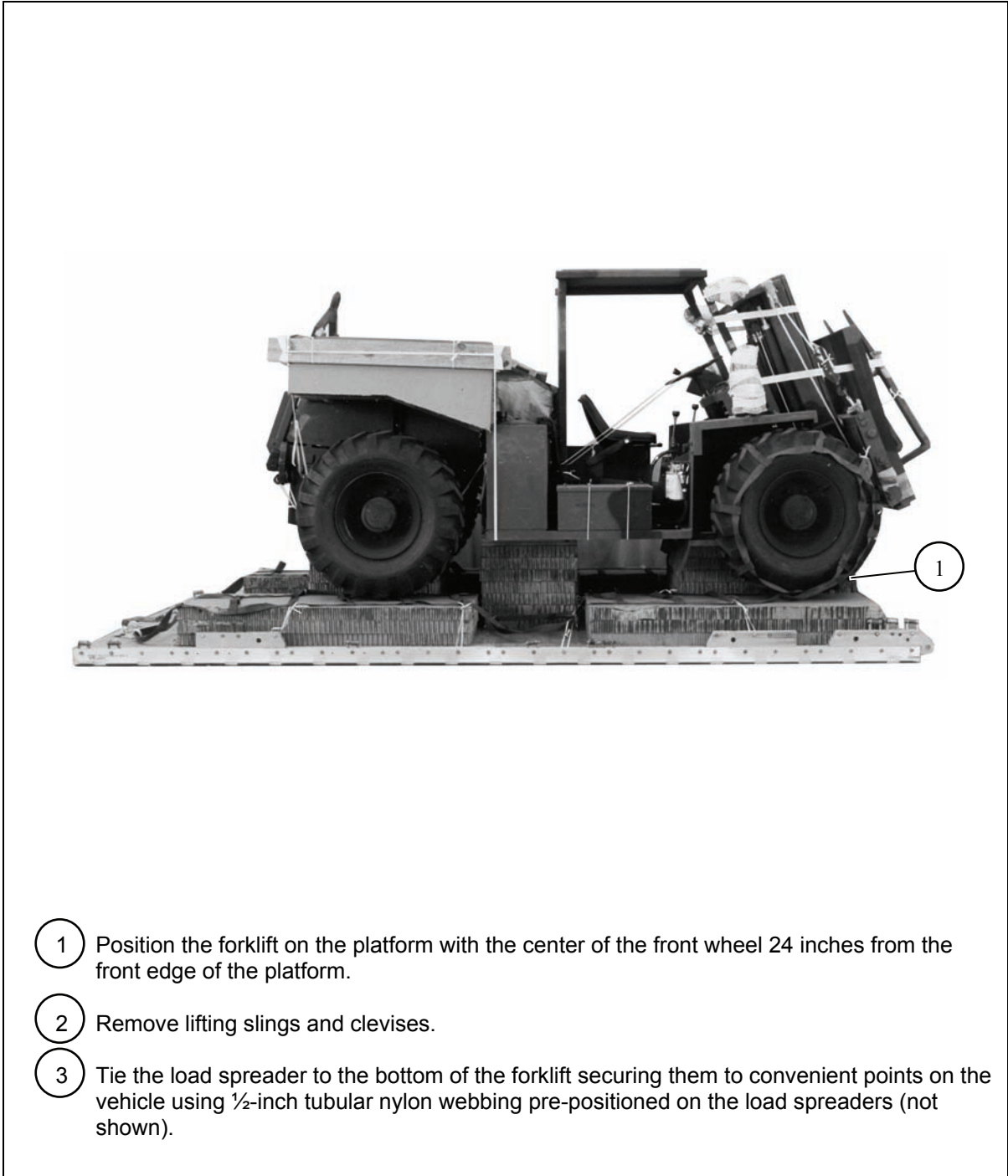
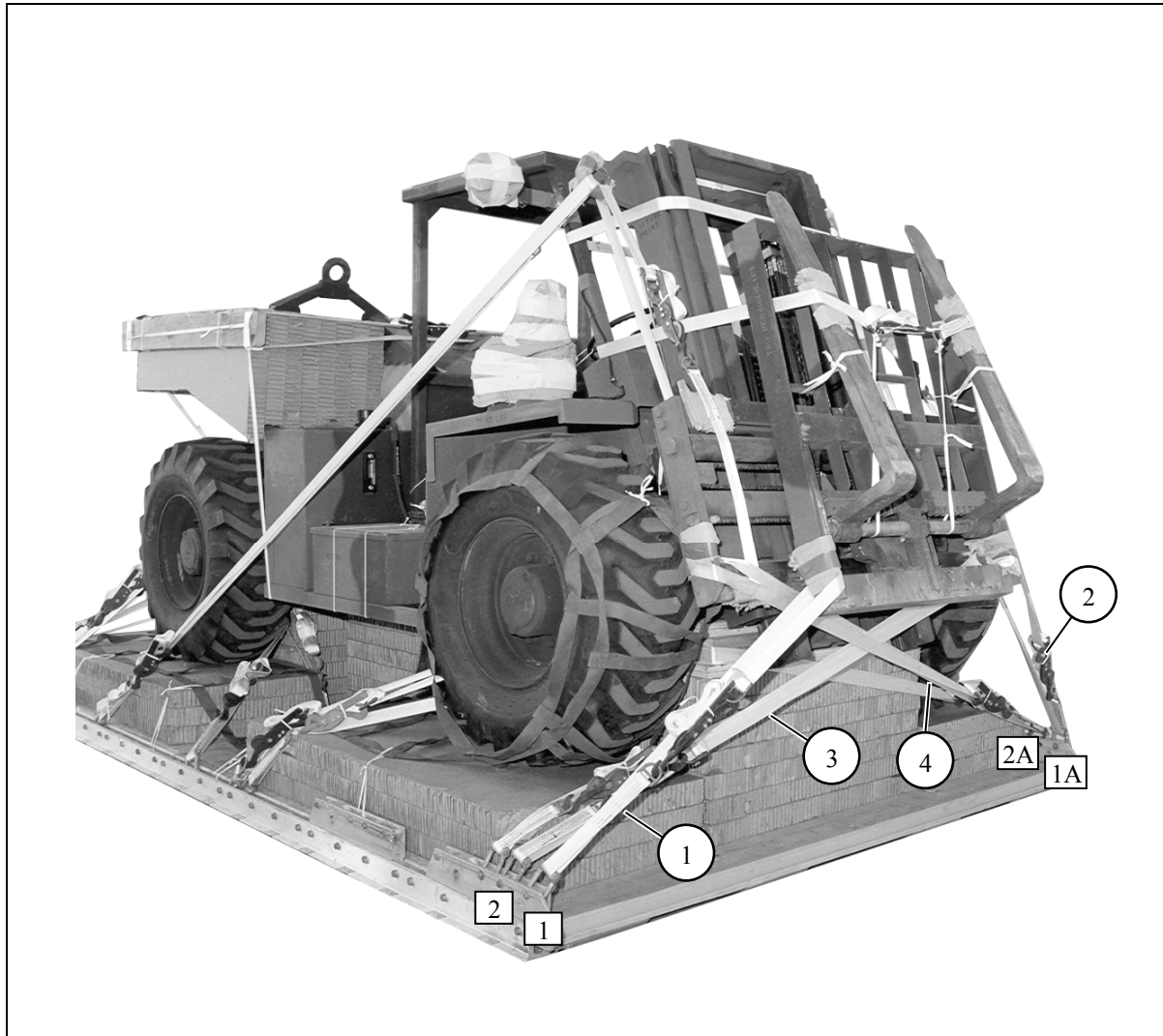


Figure 2-27. Forklift Positioned on Platform

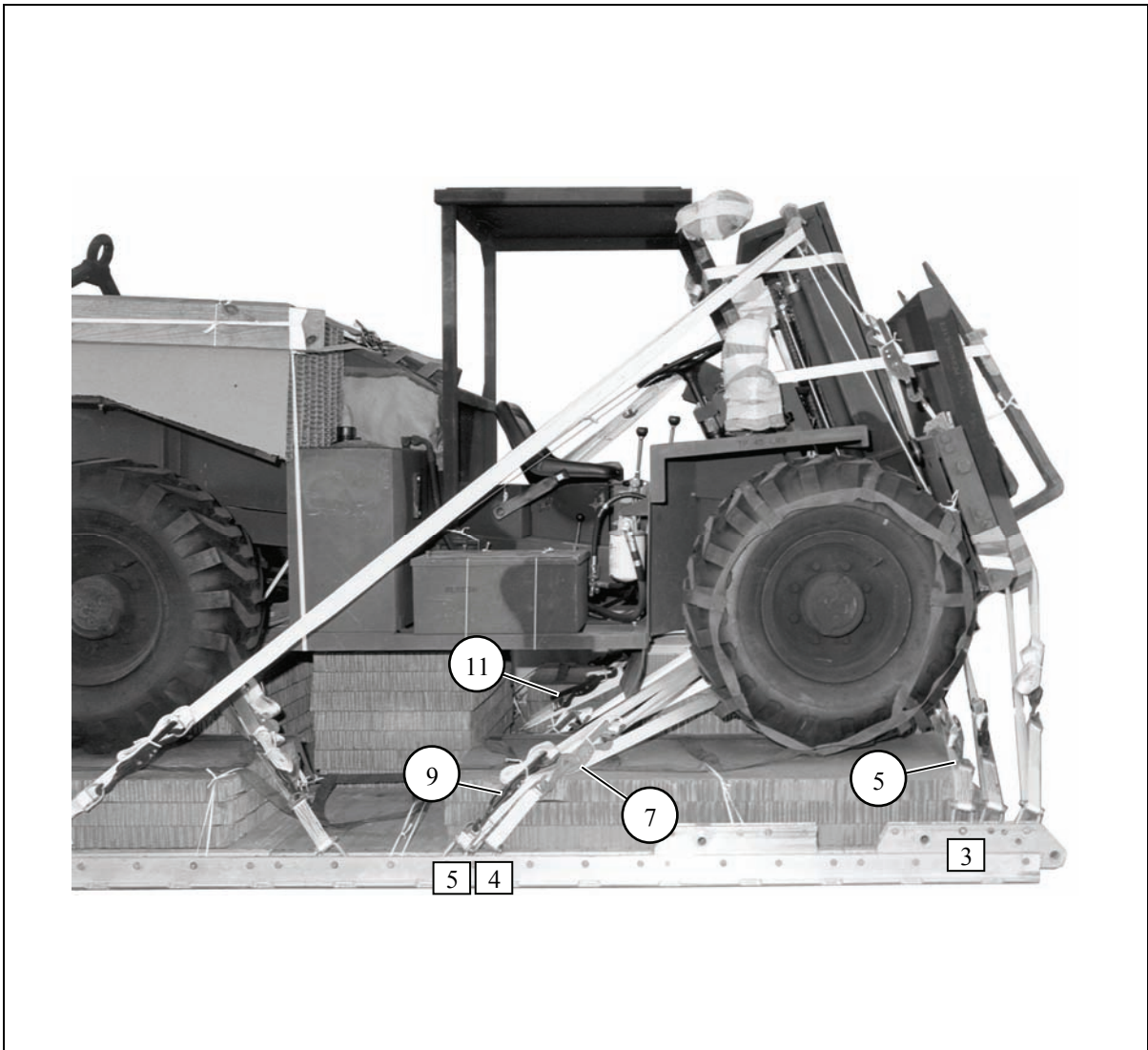
LASHING FORKLIFT

2-8. Lash the forklift to the platform using twenty-six 15-foot tie-down assemblies. Install the lashings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figures 2-28 through 2-31.



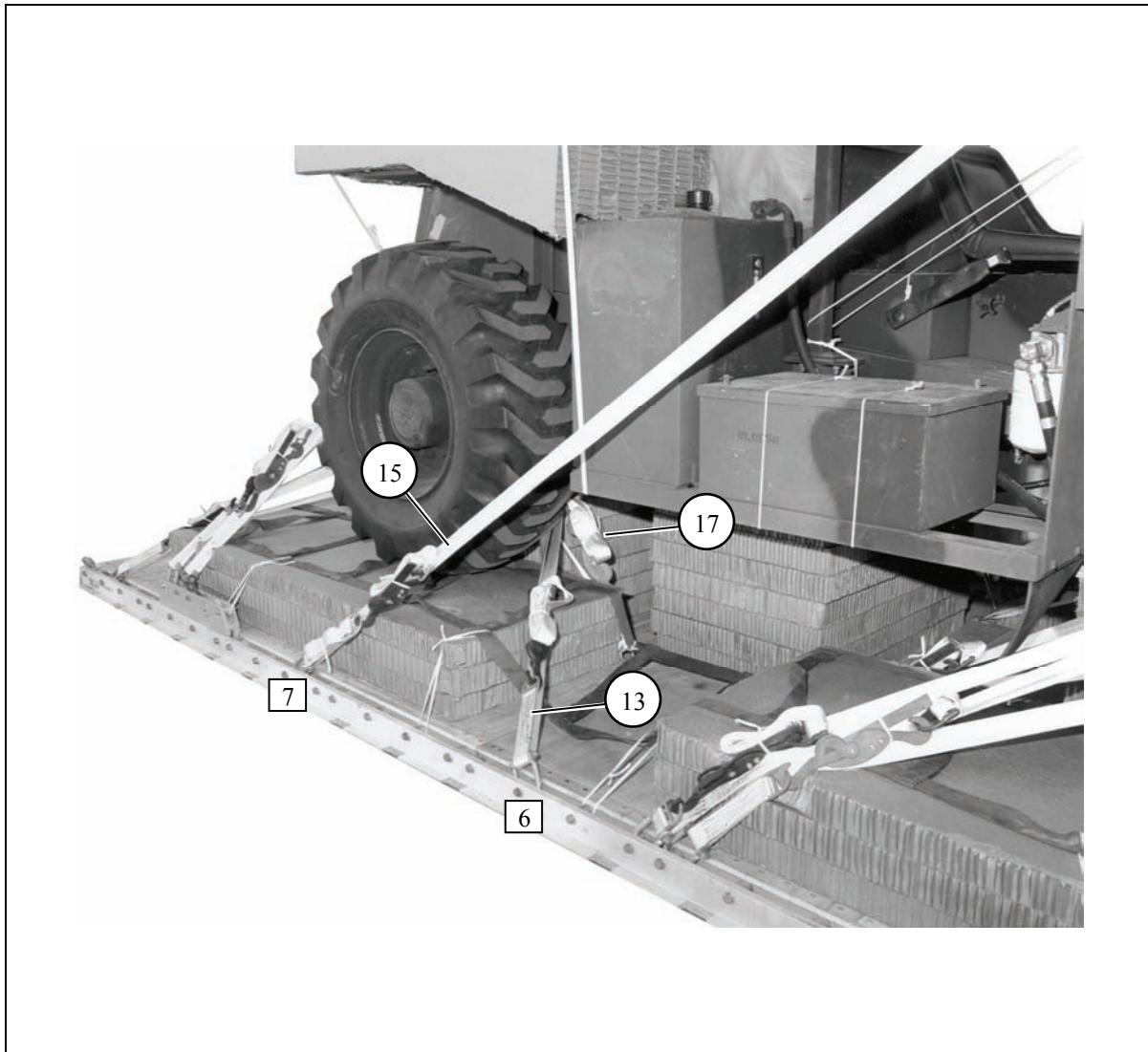
<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
1	1	Pass lashing: Around fork's right side.
2	1A	Around fork's left side.
3	2	Around fork's carriage left side.
4	2A	Around fork's carriage right side.

Figure 2-28. Lashings 1 Through 4 Installed



<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
		Pass lashing:
5	3	Through front axle ring left side.
6	3A	Through front axle ring right side.
7	4	Around front axle right side.
8	4A	Around front axle left side.
9	5	Around front axle right side.
10	5A	Around front axle left side.
11	A4	Around front axle right side.
12	B4	Around front axle left side.

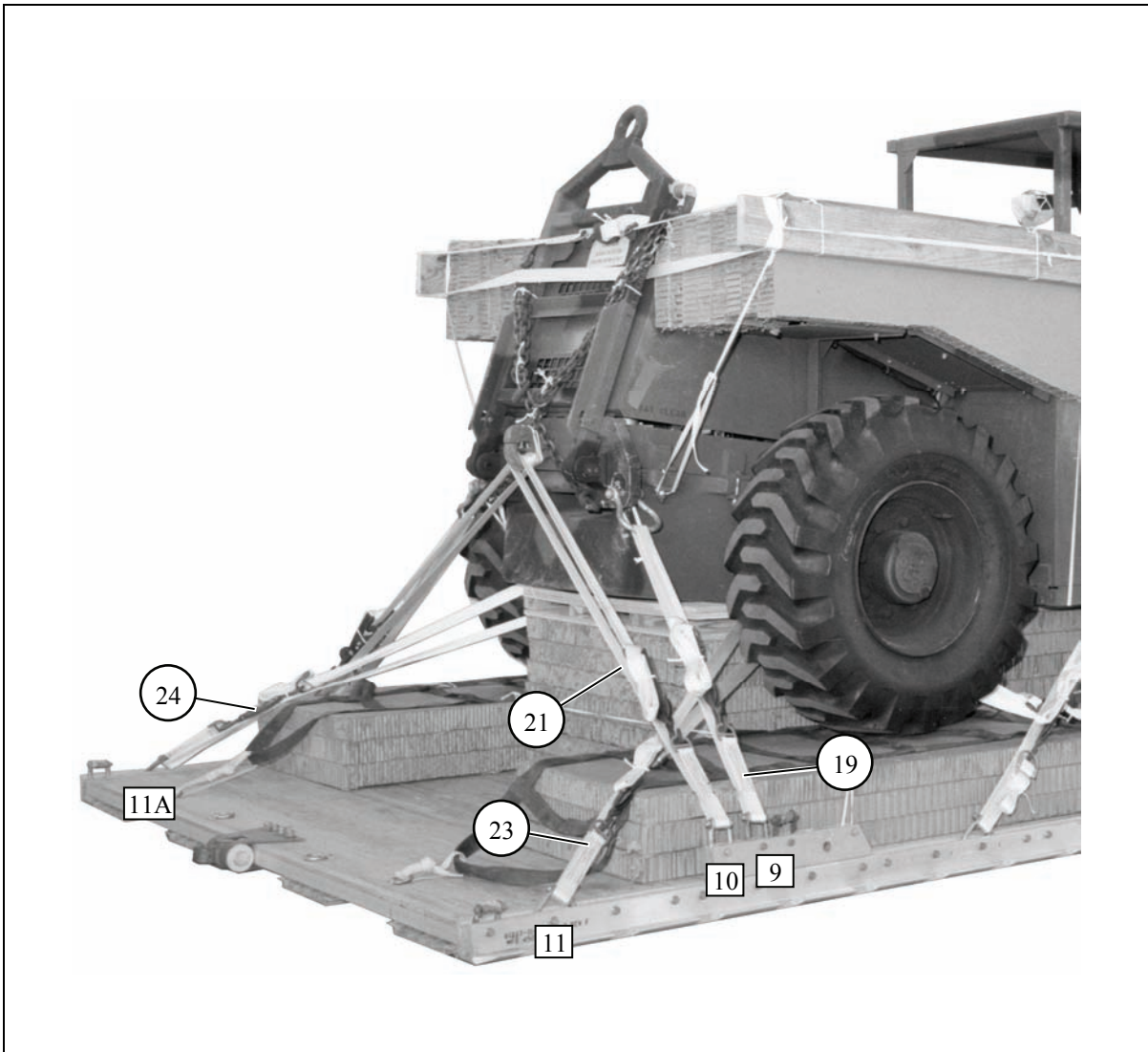
Figure 2-29. Lashings 5 Through 12 Installed



<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
13	6	Pass lashing: Around rear axle right side.
14	6A	Around rear axle left side.
*15	7	Through top lifting ring on fork's right side.
*16	7A	Through top lifting ring on fork's left side.
17	A5	Around rear axle right side.
18	B5	Around rear axle left side.

Note. * Annotates 30-foot lashings.

Figure 2-30. Lashings 13 Through 18 Installed



<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
19	9	Pass lashing: Through medium clevis attached to right rear tie down point.
20	9A	Through medium clevis attached to left rear tie down point.
21	10	Through towing pintle.
22	10A	Through towing pintle.
23	11	Around rear axle right side.
24	11A	Around rear axle left side.

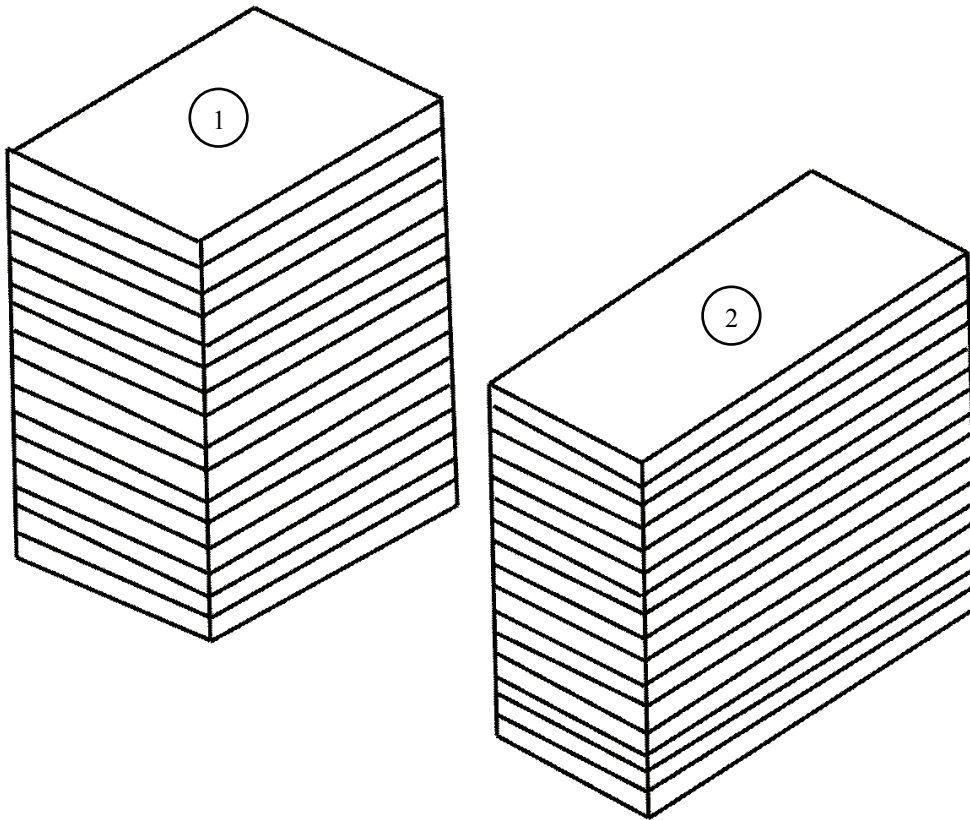
Figure 2-31. Lashings 19 Through 24 Installed

BUILDING AND POSITIONING PARACHUTE STOWAGE PLATFORM

2-9. Build and position the parachute stowage platform as described below.

- Build the honeycomb support stacks as shown in Figure 2-32.
- Build a parachute stowage platform as shown in Figure 2-33.
- Position the honeycomb support and parachute stowage platform. Lash the parachute stowage platform as shown in Figure 2-34.

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



- 1 Build two honeycomb support stacks by gluing sixteen 15- by 15-inch pieces of honeycomb together in each stack.
- 2 Build a third honeycomb support stack by gluing sixteen 15- by 36-inch pieces of honeycomb together.

Figure 2-32. Honeycomb Support Built

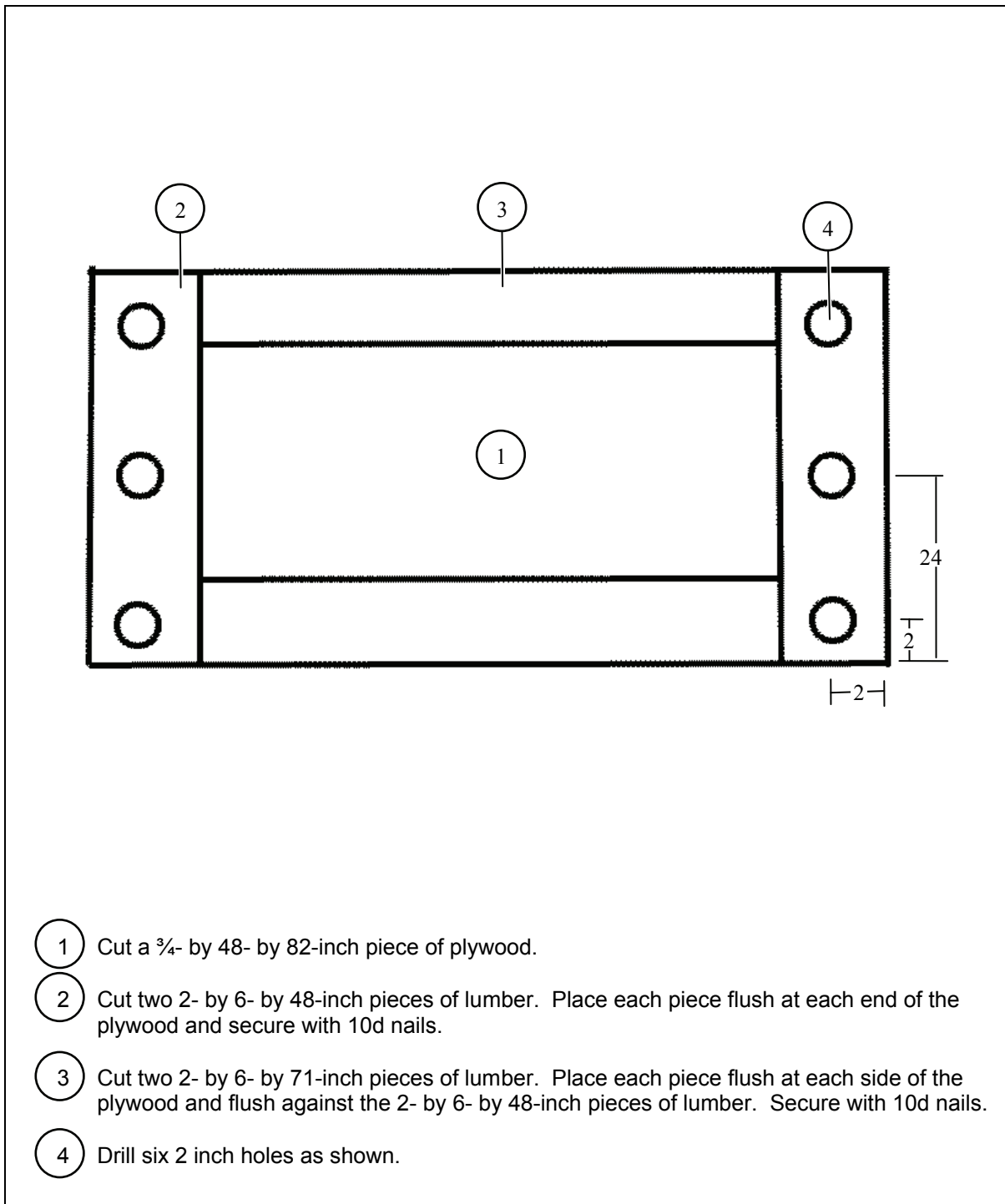
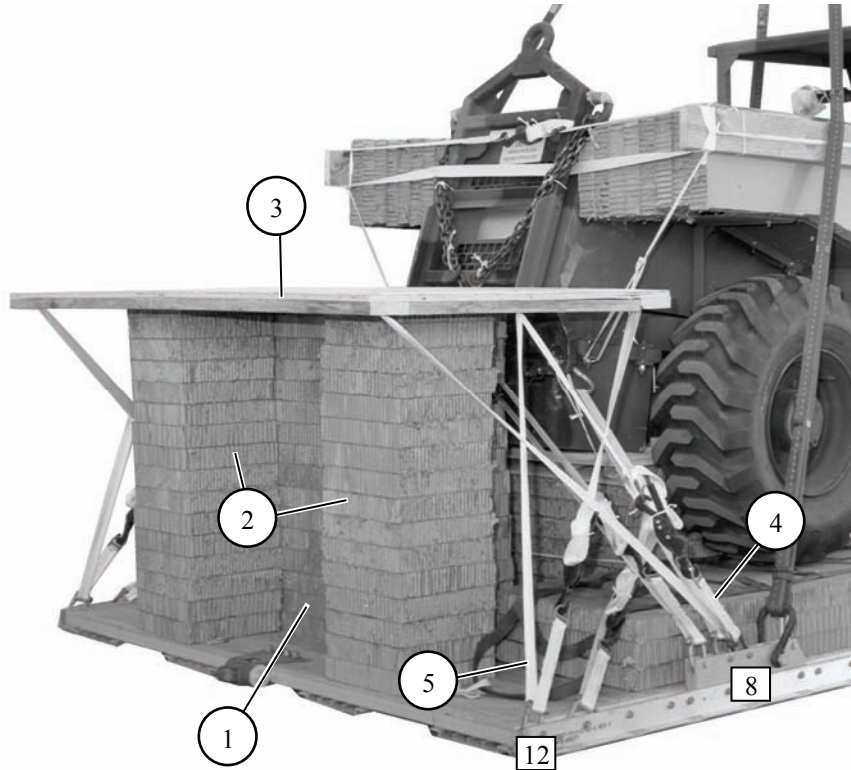


Figure 2-33. Detail of Parachute Stowage Platform Built



- 1 Position the 15- by 36-inch honeycomb support 15 inches and centered from the rear of the platform.
- 2 Position the 15- by 15-inch honeycomb supports flush with the rear of the platform and 36 inches apart.
- 3 Position the parachute stowage platform on top of honeycomb supports.
- 4 Pass a 15-foot lashing through clevis 8 and up through the right rear parachute stowage platform hole and down through the center right parachute stowage platform hole. Secure the ends with a D-ring and load binder. Repeat for left side using clevis 8A.
- 5 Pass a 15-foot lashing through clevis 12 and up through the right center parachute stowage platform hole and down through the right front parachute stowage platform hole. Secure the ends with a D-ring and load binder. Repeat for left side using clevis 12A.

Figure 2-34. Parachute Stowage Platform Positioned and Secured

INSTALLING SUSPENSION SLINGS AND DEADMAN'S TIE

2-10. Install the suspension slings and deadman's tie as shown in Figures 2-35 through 2-37.

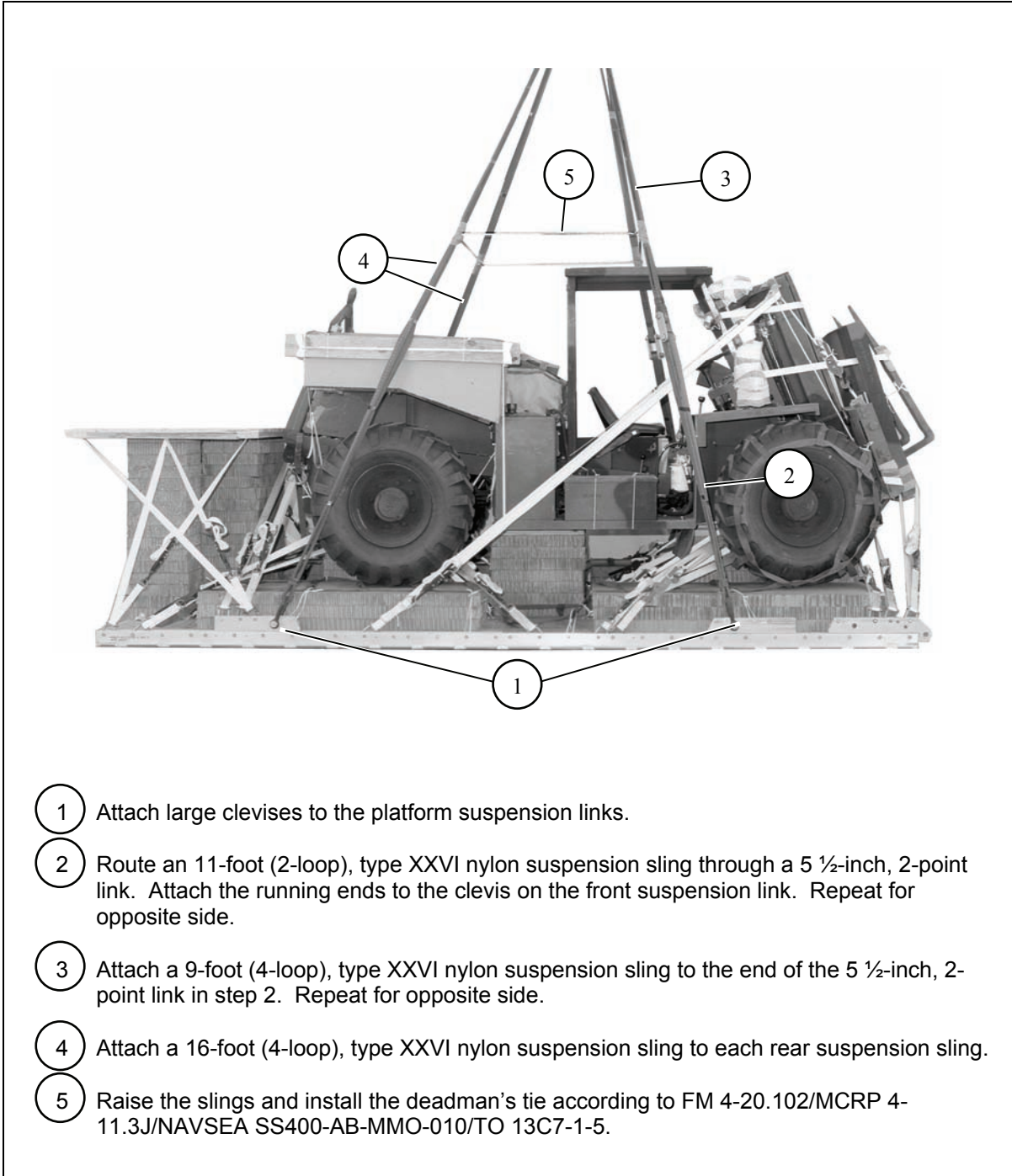


Figure 2-35. Suspension Slings and Deadman's Tie Installed

Note. Do not safety tie to the light brackets.



- 1 With tension on slings, place a safety tie to each front sling using double 1-inch tubular nylon webbing and secure it to the driver's cab. Do not safety tie to the light brackets.

Figure 2-36. Front Suspension Sling Safety Tied



Figure 2-37. Rear Suspension Sling Safety Tied and Padded

BUILDING AND POSITIONING PARACHUTE RELEASE TRAY

2-11. Build a parachute release tray as shown in Figure 2-38 and position the parachute release tray as shown in Figure 2-39.

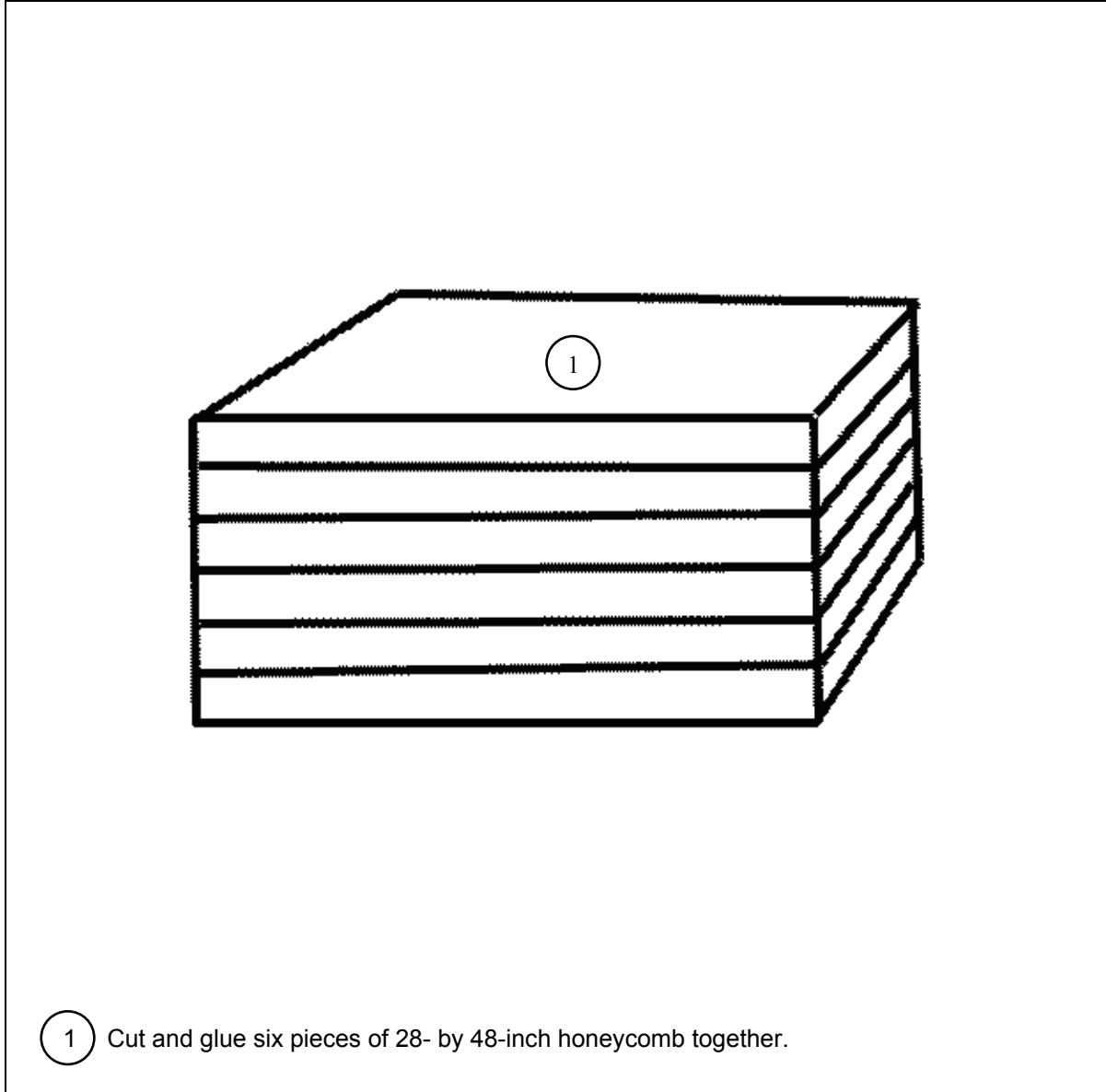


Figure 2-38. Parachute Release Tray Built

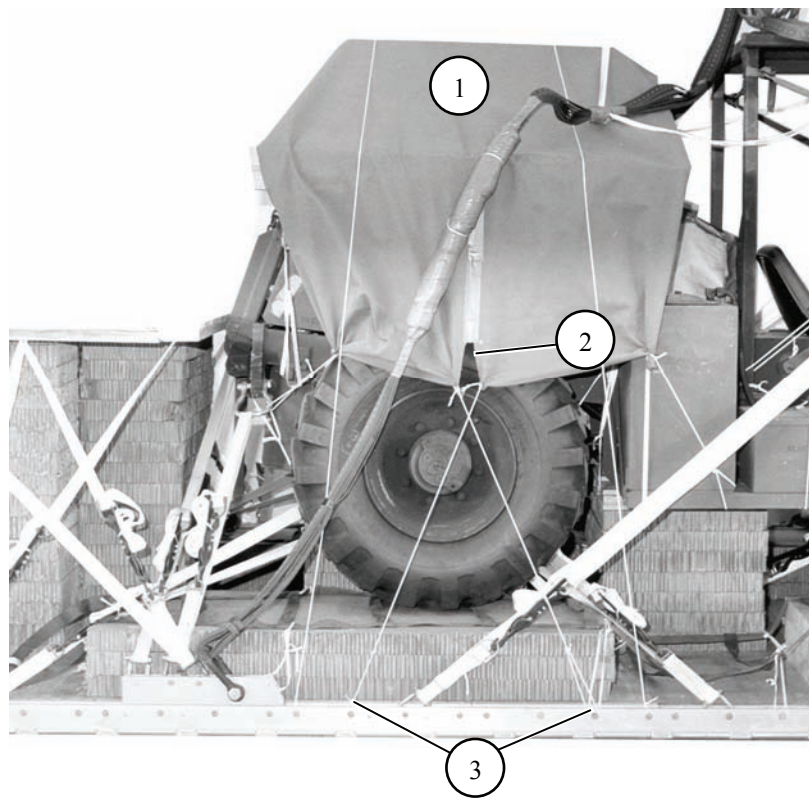


- 1 Position the honeycomb stack on the forklift engine compartment and secure in place with type III nylon cord to convenient point on the load.

Figure 2-39. Parachute Release Tray Positioned

POSITIONING LOAD COVER

2-12. Position a 12-foot canvas load cover over the parachute release tray as shown in Figure 2-40.



- ① Position a 12-foot canvas load cover over the honeycomb.
- ② Cut the side to allow for the safety tying of the rear slings.
- ③ Secure the cover in place with type III nylon cord tied to convenient points on the load.

Figure 2-40. Parachute Release Tray Covered

STOWING CARGO PARACHUTE

2-13. Prepare, stow and restrain three G-11 cargo parachutes on the parachute stowage platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figures 2-41 and 2-42.

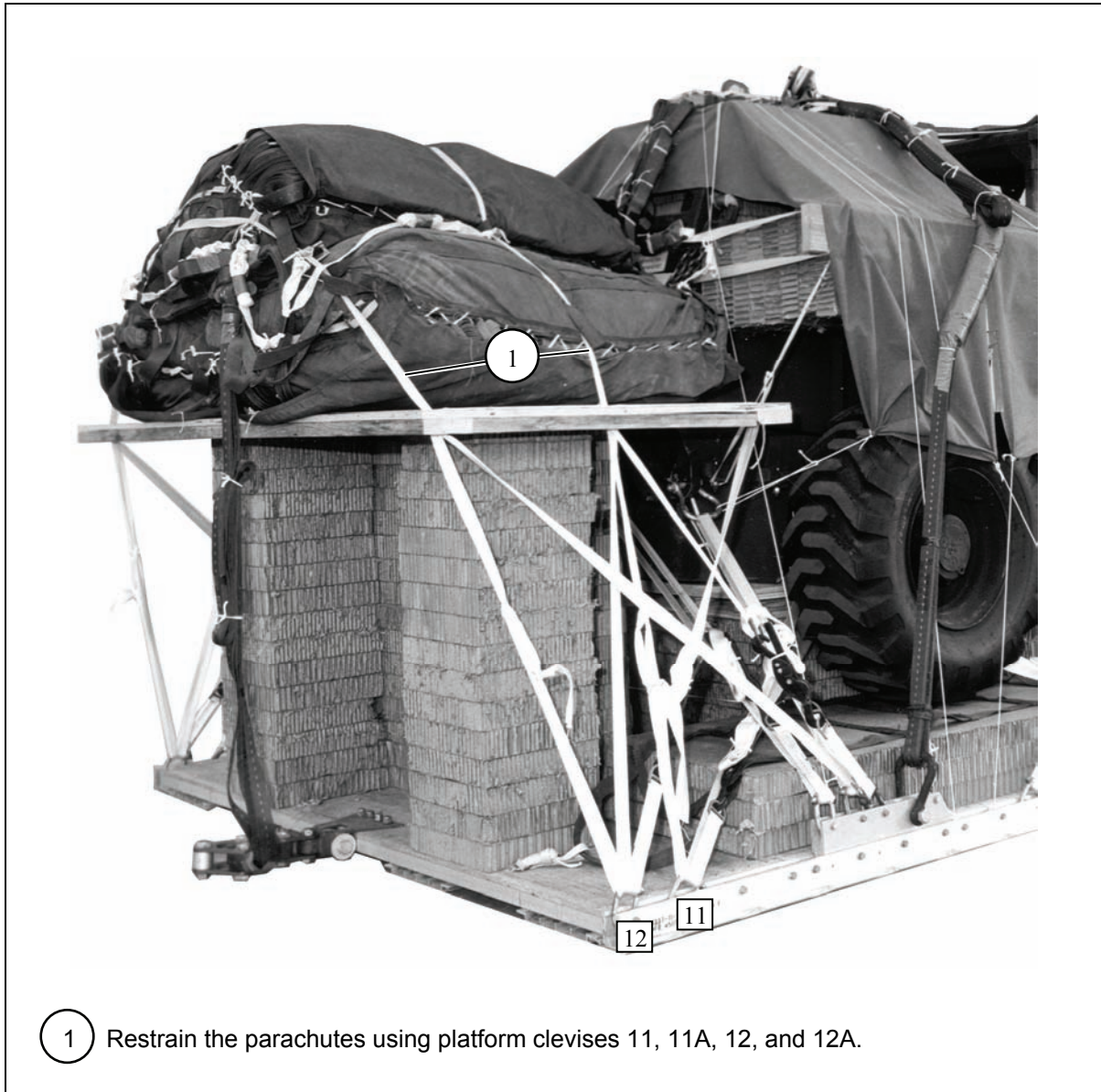


Figure 2-41. Cargo Parachute Stowed

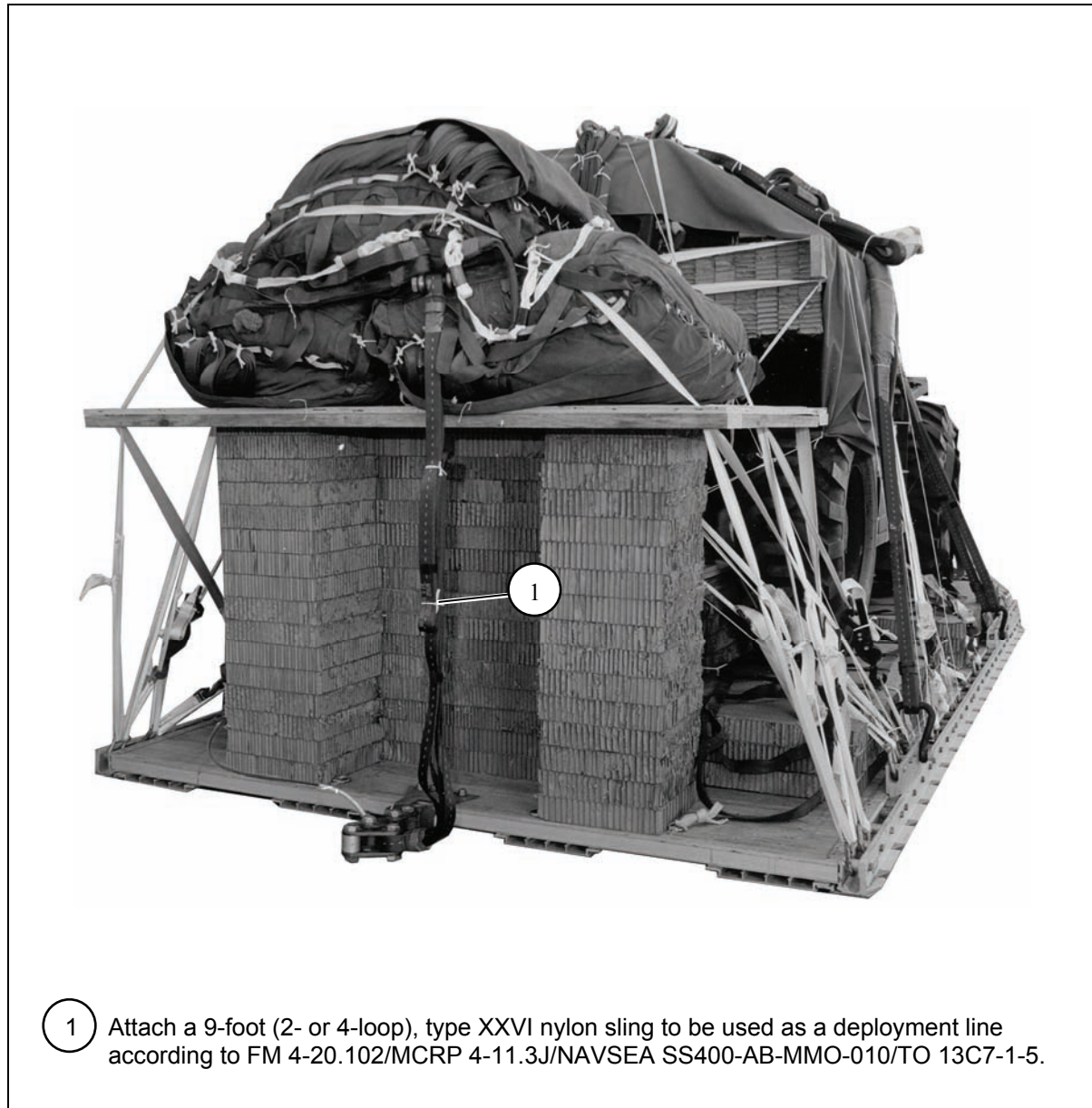
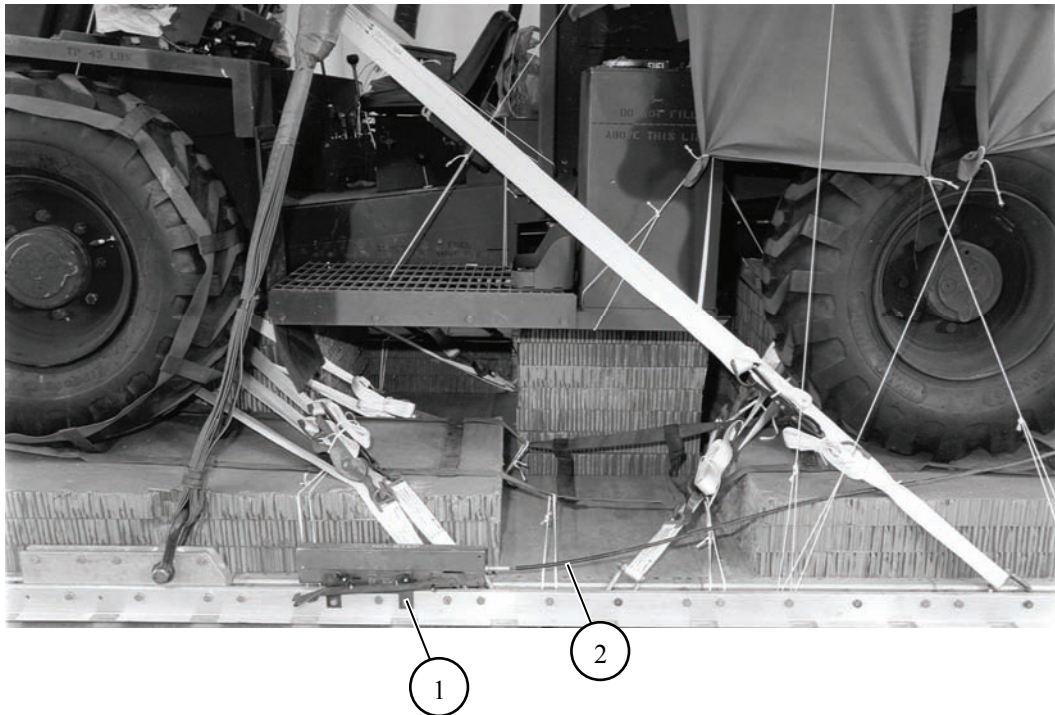


Figure 2-42. Deployment Line Installed

INSTALLING EXTRACTION SYSTEM

2-14. Install the extraction system according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-43. If applicable, install the EPJS according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

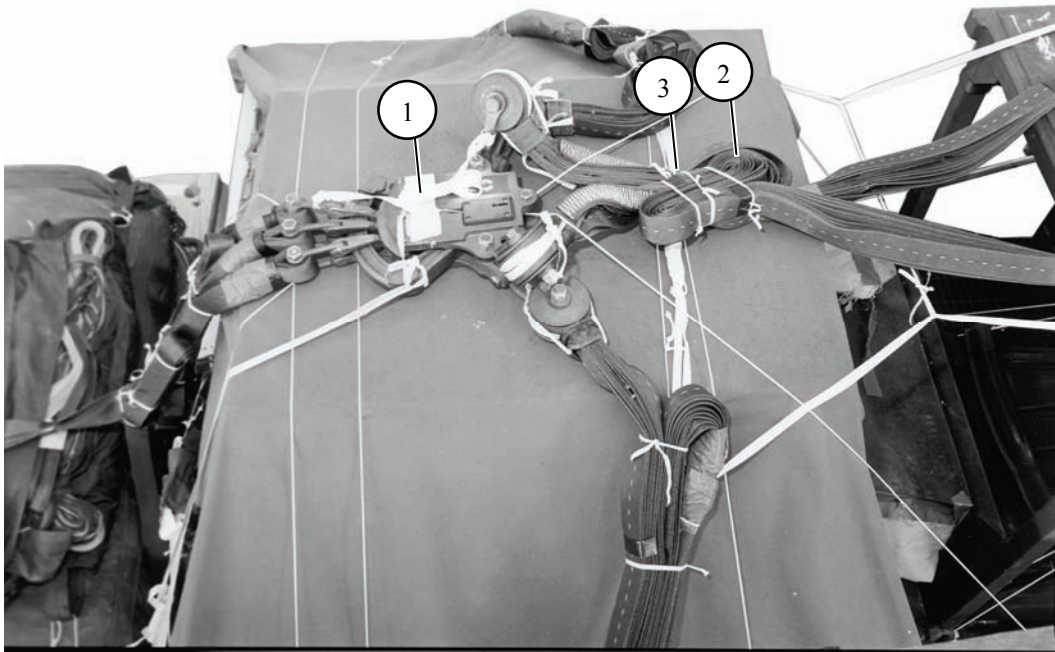


- ① Install the EFTC mounting brackets in the rear mounting holes on the platform left rail.
- ② Install a 16-foot, EFTC cable assembly to the actuator and latch assembly.
- ③ Secure the cable according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 (ties not shown).

Figure 2-43. EFTC Extraction System Installed

INSTALLING PARACHUTE RELEASE

2-15. Prepare, attach, and safety an M-2 cargo parachute release according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-44.



- 1 Place the M-2 release on top of the load cover and safety tie it to a convenient point on the load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
- 2 Attach the suspension slings and parachute riser extensions according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
- 3 S-fold the excess suspension slings and secure them with type I, 1/4-inch cotton webbing.

Figure 2-44. M-2 Release Installed

PLACING EXTRACTION PARACHUTE

2-16. Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Rig the extraction line in an extraction line bag according to TM 10-1670-286-20/TO 13C5-2-41. Place the extraction parachute and extraction line on the load for installation in the aircraft. If a drogue parachute and drogue line are required, place them on the platform for installation in the aircraft as well.

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

2-17. Install the provisions for the emergency restraints on the load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

MARKING RIGGED LOAD

2-18. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-45. Complete the Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

2-19. Use the equipment listed in Table 2-2 to rig this load.

CAUTION

Make the final rigger inspection required by FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 before the load leaves the rigging site.



RIGGED LOAD DATA

Weight: Load shown	15,400 pounds
Maximum load allowed	15,600 pounds
Height	98 ½ inches
Width.....	108 inches
Overall Length	228 inches
Overhang: Front (forks).....	15 inches
Rear (EFTC)	18 inches
Rear (EPJS).....	30 inches
Center of Balance (from front edge of platform).....	83 inches

Figure 2-45. M-270, 4,000-Pound Capacity Forklift Truck Rigged on a Type V Platform

Table 2-2. Equipment Required for Rigging the M-270, 4,000-Pound Capacity Forklift Truck on a Type V Platform

<i>National Stock Number</i>	<i>Item</i>	<i>Quantity</i>
8040-00-273-8713	Adhesive, paste, 1-gallon	As required
	Clevis, suspension:	
4030-00-678-8562	¾-inch (medium)	2
4030-00-090-5354	1-inch (large)	8
4020-00-240-2146	Cord, nylon, type III, 550-pound	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer with cable, 12-foot	1
1670-00-360-0328	Cover, clevis, large	3
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
1670-01-183-2678	Leaf, extraction line (line bag)	2
1670-01-064-4452	Line, drogue, 60-foot (1-loop), type XXVI (for C-17)	1
	Line, extraction	
1670-01-062-6313	60-foot (3-loop), type XXVI (for C-130)	1
1670-01-107-7651	140-foot (3-loop), type XXVI (for C-17)	1
	Link assembly, two-point:	
1670-00-003-1953	3 ¾-inch	7
1670-01-493-6420	5 ½-inch	2
	Lumber:	
5510-00-220-6146	2- by 4-inch	As required
5510-00-220-6148	2- by 6-inch	As required
5510-00-220-6274	4- by 4-inch	As required
	Nail, steel wire:	
5315-00-010-4659	8d	As required
5315-00-010-6611	10d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	26
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11	3
	Cargo extraction:	
1670-01-063-3716	22-foot	1
1670-01-063-3715	15-foot (drogue for C-17)	1
9030-01-222-6087	Parts kit, lifting shackle (5-ton truck)	2
	Platform, airdrop, type V, 16-foot	
1670-01-353-8425	Bracket assembly, coupling	1
1670-01-162-2372	Clevis assembly, type V	24
1670-01-353-8424	Extraction bracket assembly	1
1670-01-162-2381	Tandem link assembly (multipurpose link)	2
1670-01-247-2389	Suspension link assembly	4

Table 2-2. Equipment Required for Rigging the M-270, 4,000-Pound Capacity Forklift Truck on a Type V Platform (Continued)

<i>National Stock Number</i>	<i>Item</i>	<i>Quantity</i>
5530-00-129-7777	Plywood: ½-inch	As required
5530-00-128-4981	¾-inch	As required
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop:	
	For suspension:	
1670-01-062-6305	9-foot (4-loop), type XXVI nylon webbing	2
1670-01-062-7760	11-foot (2-loop), type XXVI nylon webbing	2
1670-01-062-6308	16-foot (4-loop), type XXVI nylon webbing	2
	For lifting:	
1670-01-062-6306	3-foot (4-loop), type XXVI nylon webbing	1
1670-01-062-6305	9-foot (4-loop), type XXVI nylon webbing	2
1670-01-062-6306	12-foot (4-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-foot (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6313	60-foot (3-loop), type XXVI nylon webbing	3
5340-00-040-8219	Strap, parachute release multi-cut, with 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-inch	As required
1670-00-937-0271	Tie-down assembly, 15-foot	36
1670-01-483-8259	Tow release mechanism (H-block for C-17)	1
	Webbing:	
8305-00-268-2411	Cotton, ¼-inch, type I	As required
8305-00-082-5752	Nylon, tubular, ½-inch	As required
8305-00-263-3591	Type VIII	As required

Chapter 3

Rigging the M-271, 4,000-Pound Capacity Forklift Truck on a Type V Platform

DESCRIPTION OF LOAD

3-1. The M-271, 4,000-pound capacity forklift truck with foam filled tires (Figure 3-1) has an unrigged weight of 13,730 pounds. The forklift is rigged with four G-11 cargo parachutes on a 16-foot, type V platform with a total rigged weight of 17,380 pounds, height of 98 ½ inches, width of 108 inches, and a length of 226 inches.

PREPARING PLATFORM

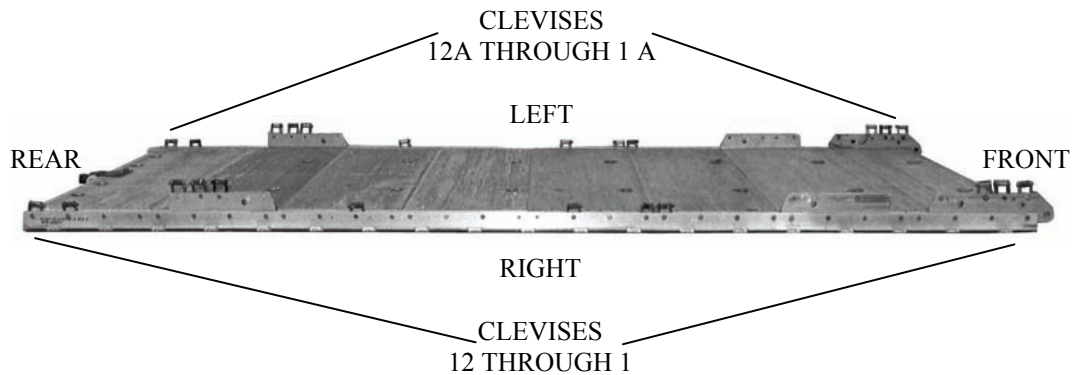
3-2. Prepare a 16-foot, type V platform using two tandem links, four suspension links and 24 clevis assemblies as described below and as shown in Figure 3-2.

- **Inspecting Platform.** Inspect, or assemble and inspect, the platform according to TM 10-1670-268-20&P/TO 13C7-52-22.
- **Installing Tandem Links.** Install tandem links as shown in Figure 3-2.
- **Installing Suspension Links.** Install suspension links as shown in Figure 3-2.
- **Attaching and Numbering Clevises.** Attach and number 24 clevis assemblies as shown in Figure 3-2.



Figure 3-1. M-271, 4,000-Pound Capacity Forklift Truck with Foam Filled Tires

Note. The nose bumper may or may not be installed.



Step:

1. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
2. Install a suspension link on each platform side rail using holes 6, 7, and 8, and 25, 26, and 27.
3. Install a clevis on bushings 1, 2, and 3 on each front tandem link.
4. Install a clevis on each rear suspension link on bushings 2, 3, and 4.
5. Starting at the front of each platform side rail, install clevises to bushings bolted on holes 12, 13, 15, 22, 31, and 32.
6. Starting at the front of the platform side rail, number the clevises bolted on the right side from 1 through 12 and those bolted on the left side from 1A to 12A.

Figure 3-2. Platform Prepared

PREPARING AND POSITIONING HONEYCOMB STACKS

3-3. Use the materials in Table 3-1 to prepare seven honeycomb stacks as shown in Figures 2-6 through 2-12 and Figures 3-3 through 3-5. Position the stacks on the platform as shown in Figures 2-13 and 2-14.

Table 3-1. Material Required to Build Honeycomb Stacks

Stack Number	Pieces	Width (inches)	Length (inches)	Material	Instructions
1	7	36	44	Honeycomb	See Figures 3-3 through 3-5.
	7	6	44	Honeycomb	
	2	42	44	¾-inch Plywood	
	1	42	37 ½	¾-inch Plywood	
	2	2 by 4	22 ½	Lumber	
	3	2 by 4	28 ½	Lumber	
	1	42	28 ½	¾-inch Plywood	
	2	4 by 4	10	Lumber	
	2	2 by 6	38	Lumber	
	1	38	4	¾-inch Plywood	
	2	36	4	½-inch Plywood	
2	7	36	24	Honeycomb	See Figures 2-6 through 2-8.
	1	34	24	¾-inch Plywood	
	4	2 by 6	24	Lumber	
	1	34	24	¾-inch Plywood	
	1	16	24	¾-inch Plywood	
3	7	42	32	Honeycomb	See Figures 2-9 through 2-11.
	1	42	32	¾-inch Plywood	
	4	2 by 4	32	Lumber	
	1	42	32	¾-inch Plywood	
	1	42	18	¾-inch Plywood	
	2	2 by 6	18	Lumber	
	1	4	6	¾-inch Plywood	
	1	42	6	¾-inch Plywood	
4, 5, 6, and 7	3	27	68	Honeycomb	See Figure 2-12.

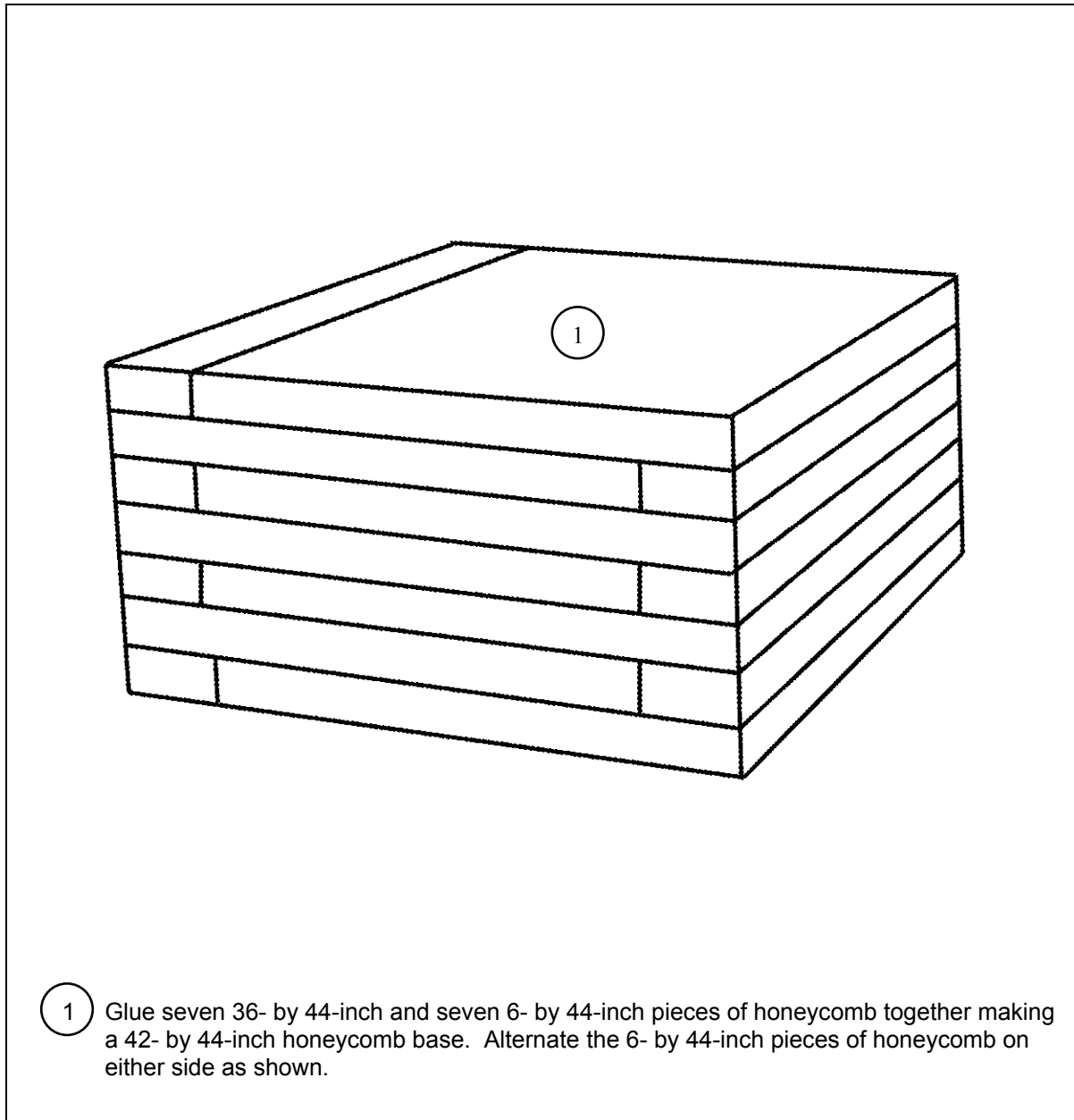


Figure 3-3. Honeycomb Stack 1 Base Prepared

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

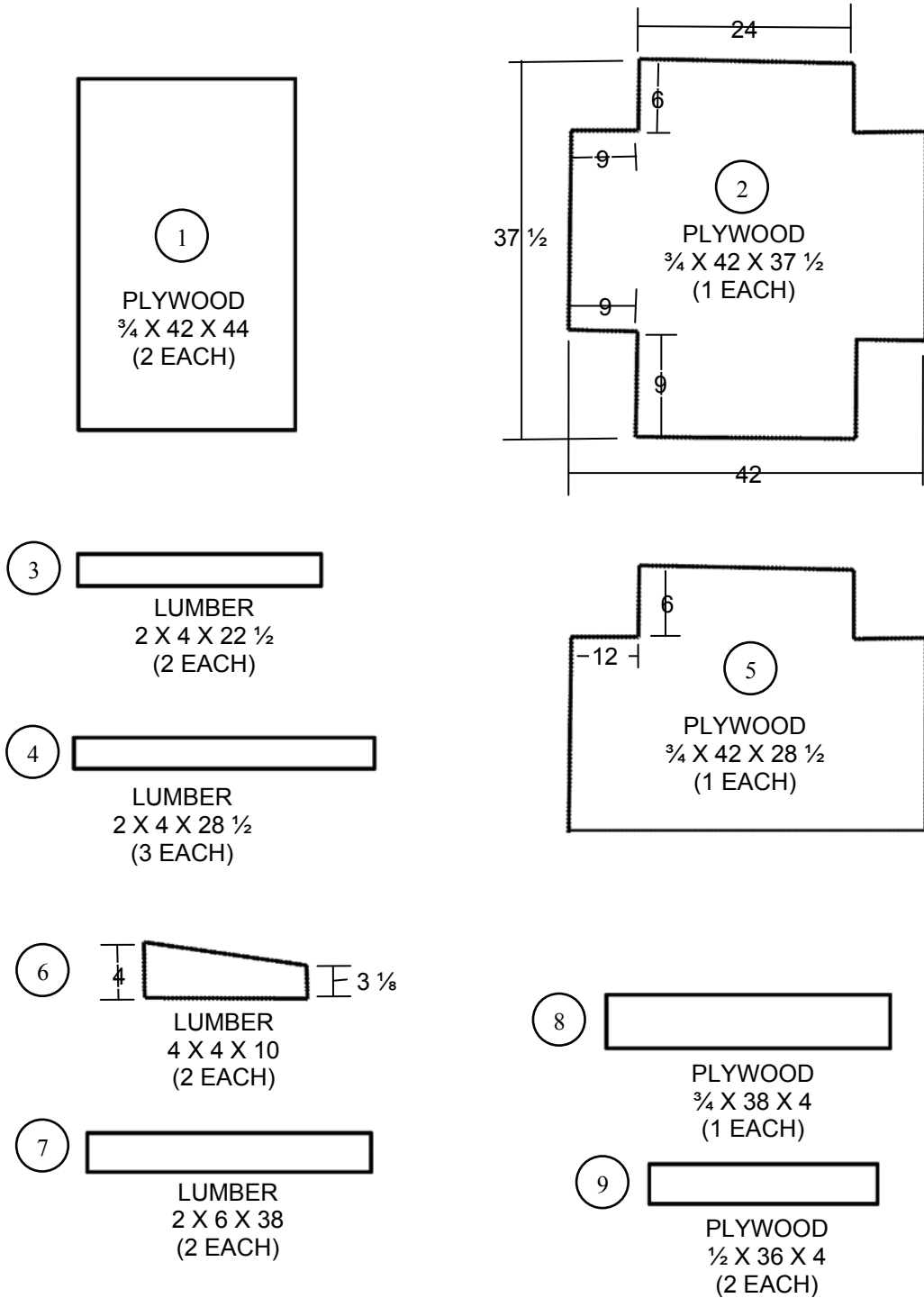
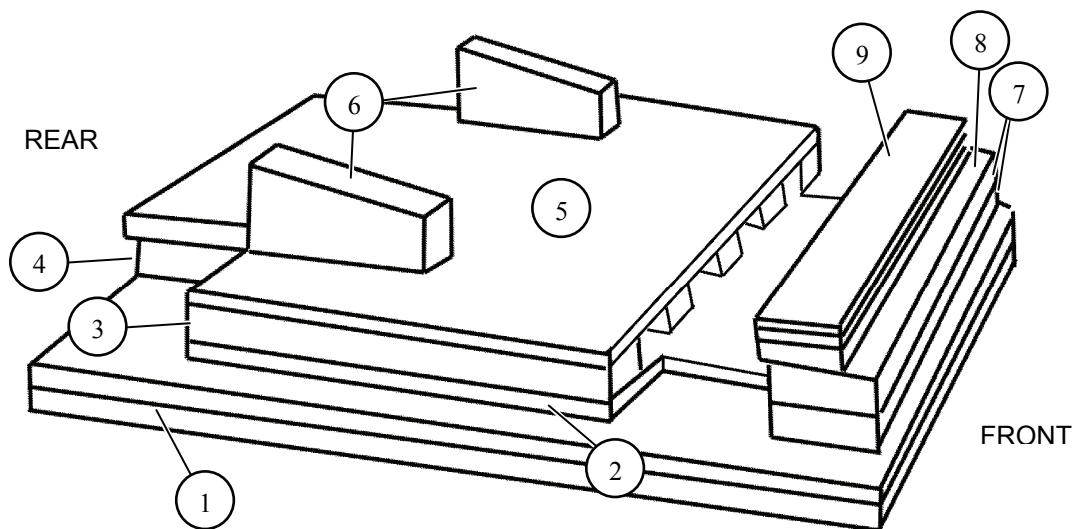


Figure 3-4. Pieces for Stack 1 Frame Support

Note. This drawing is not drawn to scale.



- 1 Glue and nail two $\frac{3}{4}$ - by 42- by 44-inch pieces of plywood together. Do not glue to base.
- 2 Cut one $\frac{3}{4}$ - by 42- by 37 $\frac{1}{2}$ -inch piece of plywood. Glue and nail to a $\frac{3}{4}$ - by 42- by 44-inch piece of plywood with 24-inch side flush with rear edge.
- 3 Glue and nail the 2- by 4- by 22 $\frac{1}{2}$ -inch pieces of lumber flush with right and left sides of plywood.
- 4 Glue and nail three 2- by 4- by 37 $\frac{1}{2}$ -inch pieces of lumber.
- 5 Cut one $\frac{3}{4}$ - by 42- by 37 $\frac{1}{2}$ -inch piece of plywood. Glue and nail to the 2- by 4-inch pieces of lumber.
- 6 Cut two 4- by 4- by 10-inch pieces of lumber measuring 4 inches high on one end and 3 $\frac{1}{8}$ inches high on the other. Glue and nail flush with rear edge of plywood 6 inches from right and left sides as shown above.
- 7 Glue and nail two 2- by 6- by 38-inch pieces of lumber together flush against the plywood and a 2- by 6-inch piece of lumber centered from right to left.
- 8 Glue and nail one $\frac{3}{4}$ - by 38- by 4-inch piece of plywood flush with the rear edge of a 2- by 6- by 38-inch piece of lumber and centered.
- 9 Glue and nail two $\frac{1}{2}$ - by 36- by 4-inch pieces of plywood on top of the $\frac{3}{4}$ - by 38- by 4-inch piece of plywood.

Figure 3-5. Stack 1 Frame Support Built

PREPARING FORKLIFT

- 3-4. Prepare the forklift before positioning it on the platform as described below and as shown in Figures 2-15 through 2-18.
- Make sure the fuel tank is no more than $\frac{3}{4}$ full.
 - Pad and tape all lights, reflectors, and gauges.

BUILDING AND POSITIONING THE FENDER PROTECTION KIT

- 3-5. Build and position the fender protection kits as described below.
- Build two honeycomb fender protection kits as shown in Figures 2-19 and 2-20.
 - Position the fender protection kits on the appropriate fender as shown in Figure 2-21.
 - Secure the fender protection kits on forklift as shown in Figures 2-22 and 2-23.

POSITIONING THE FORKLIFT

- 3-6. Install the lifting slings and position the forklift as shown in Figure 3-6.

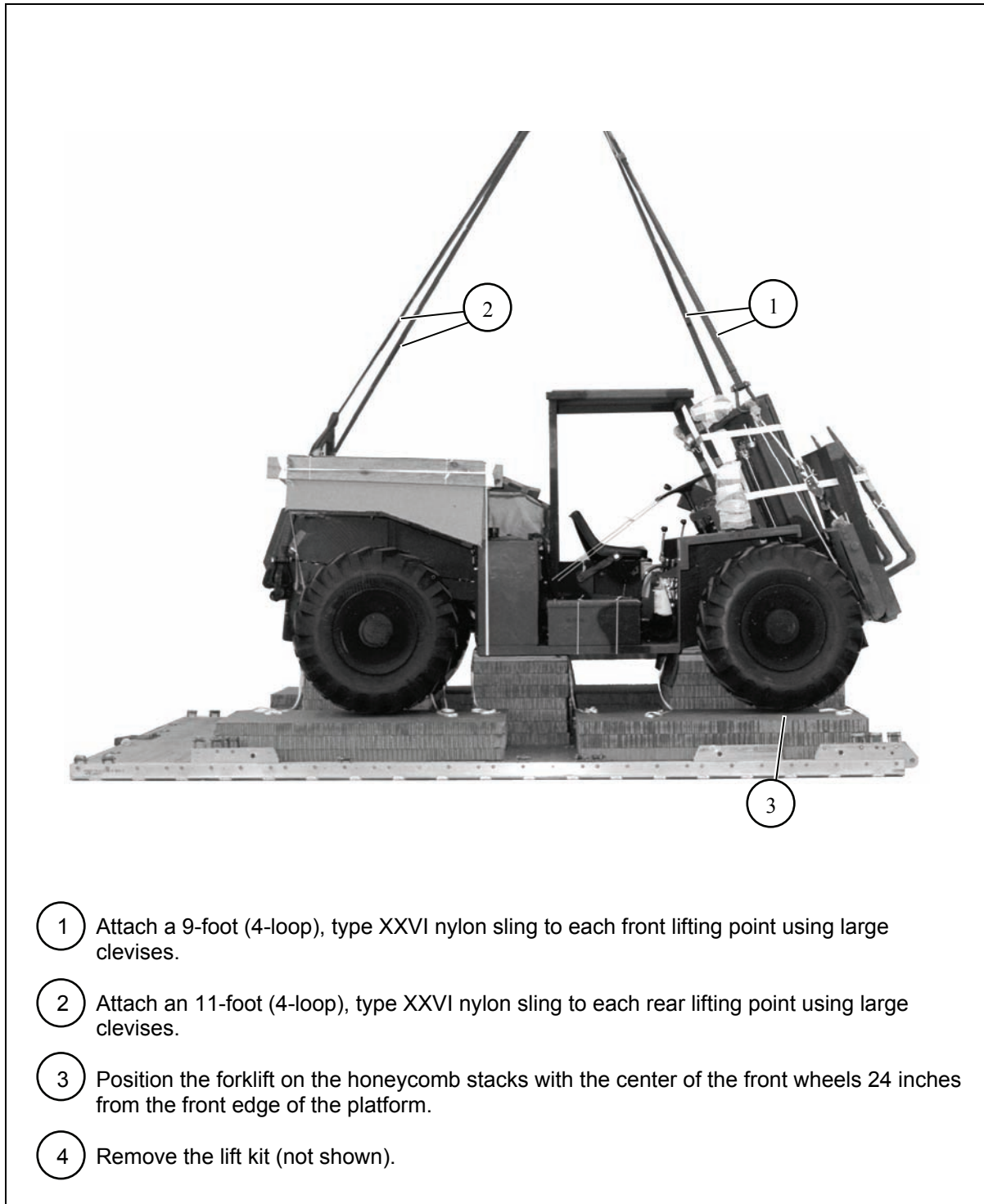
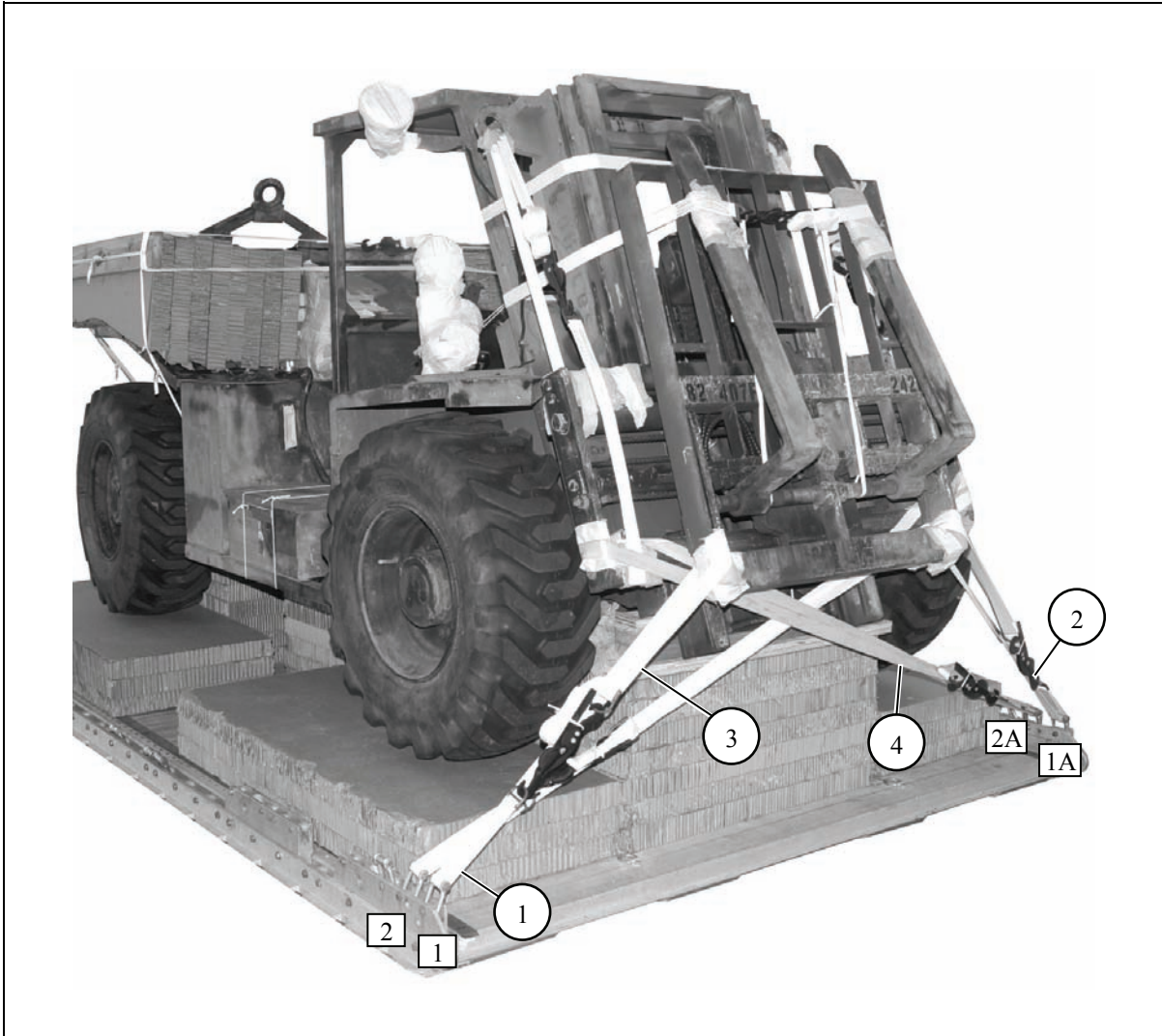


Figure 3-6. Forklift Positioned

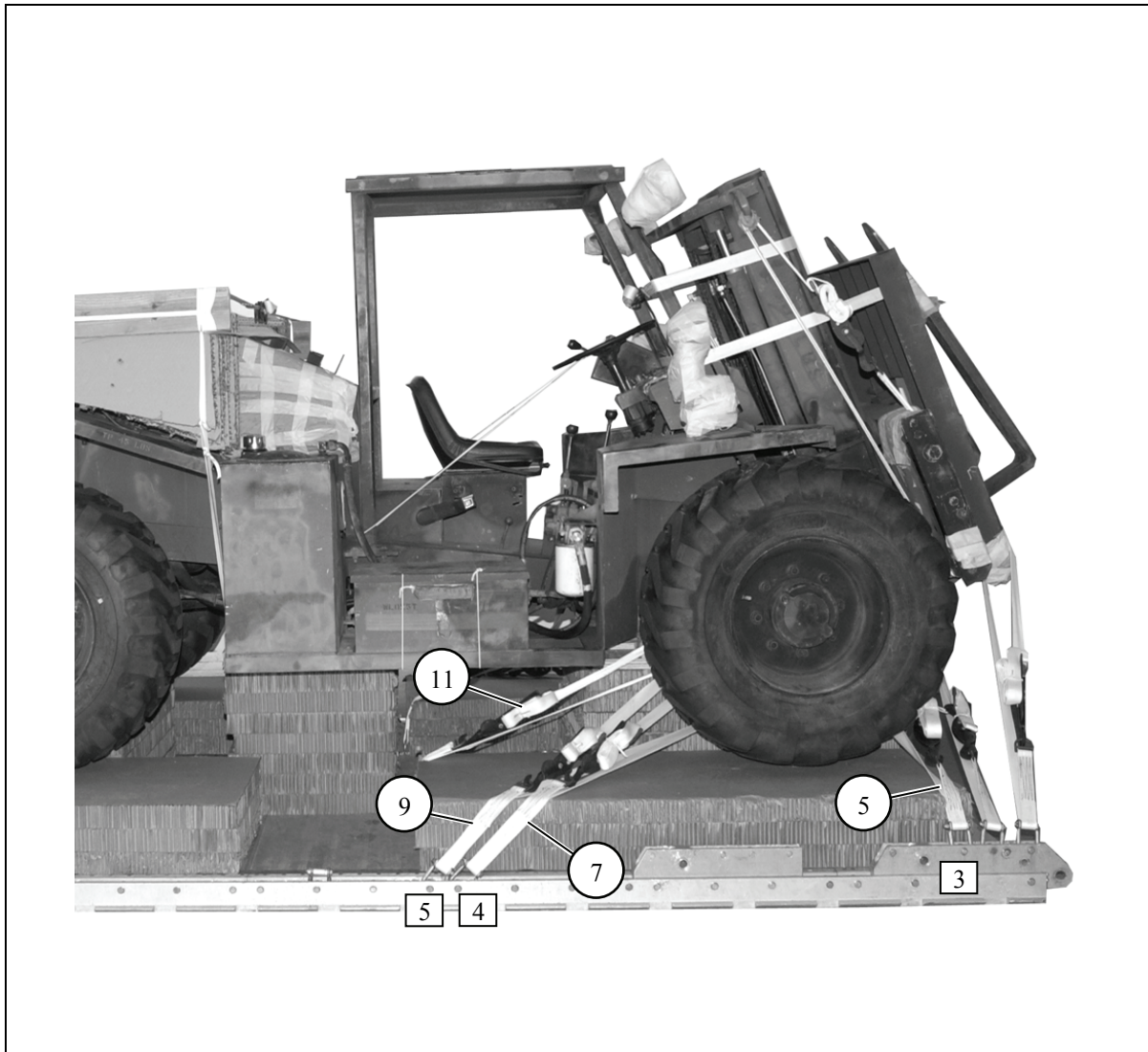
LASHING FORKLIFT

3-7. Lash the forklift to the platform using twenty-six 15-foot tie-down assemblies. Install the lashings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figures 3-7 through 3-10.



<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
1	1	Pass lashing: Around the right front of the carriage.
2	1A	Around the left front of the carriage.
3	2	Around the left front of the carriage.
4	2A	Around the right front of the carriage.

Figure 3-7. Lashings 1 Through 4 Installed



Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing: 5 3 Through front axle ring left side. 6 3A Through front axle ring right side. 7 4 Around front axle right side. 8 4A Around front axle left side. 9 5 Around front axle right side. 10 5A Around front axle left side. 11 A4 Around front axle right side. 12 B4 Around front axle left side.

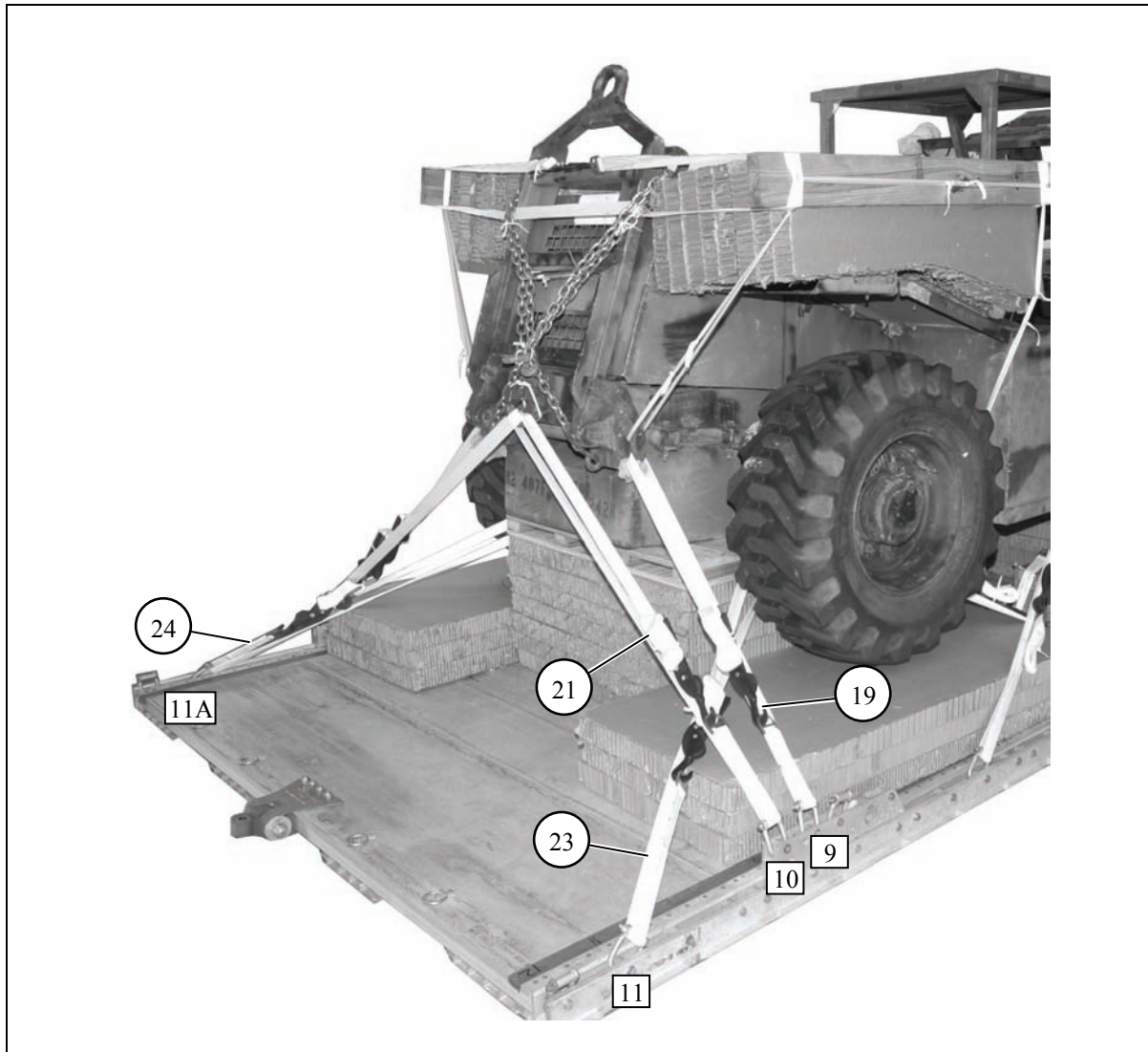
Figure 3-8. Lashings 5 Through 12 Installed



<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
13	6	Pass lashing: Around rear axle right side.
14	6A	Around rear axle left side.
*15	7	Through top lifting ring on forks right side.
*16	7A	Through top lifting ring on forks left side.
17	A5	Around rear axle right side (not shown).
18	B5	Around rear axle left side (not shown).

Note. * Annotates 30-foot lashings.

Figure 3-9. Lashings 13 Through 18 Installed



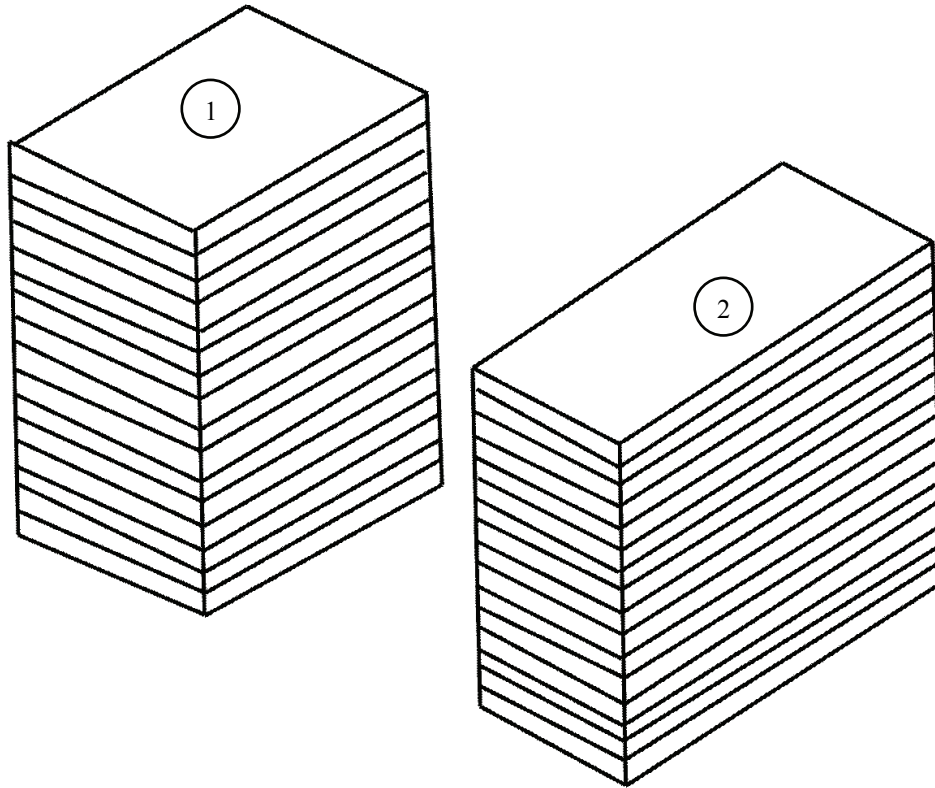
Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing:
19	9	Through right rear tie down point.
20	9A	Through left rear tie down point.
21	10	Through towing pintle.
22	10A	Through towing pintle.
23	11	Around rear axle right side.
24	11A	Around rear axle left side.

Figure 3-10. Lashings 19 Through 24 Installed

BUILDING AND POSITIONING PARACHUTE STOWAGE PLATFORM

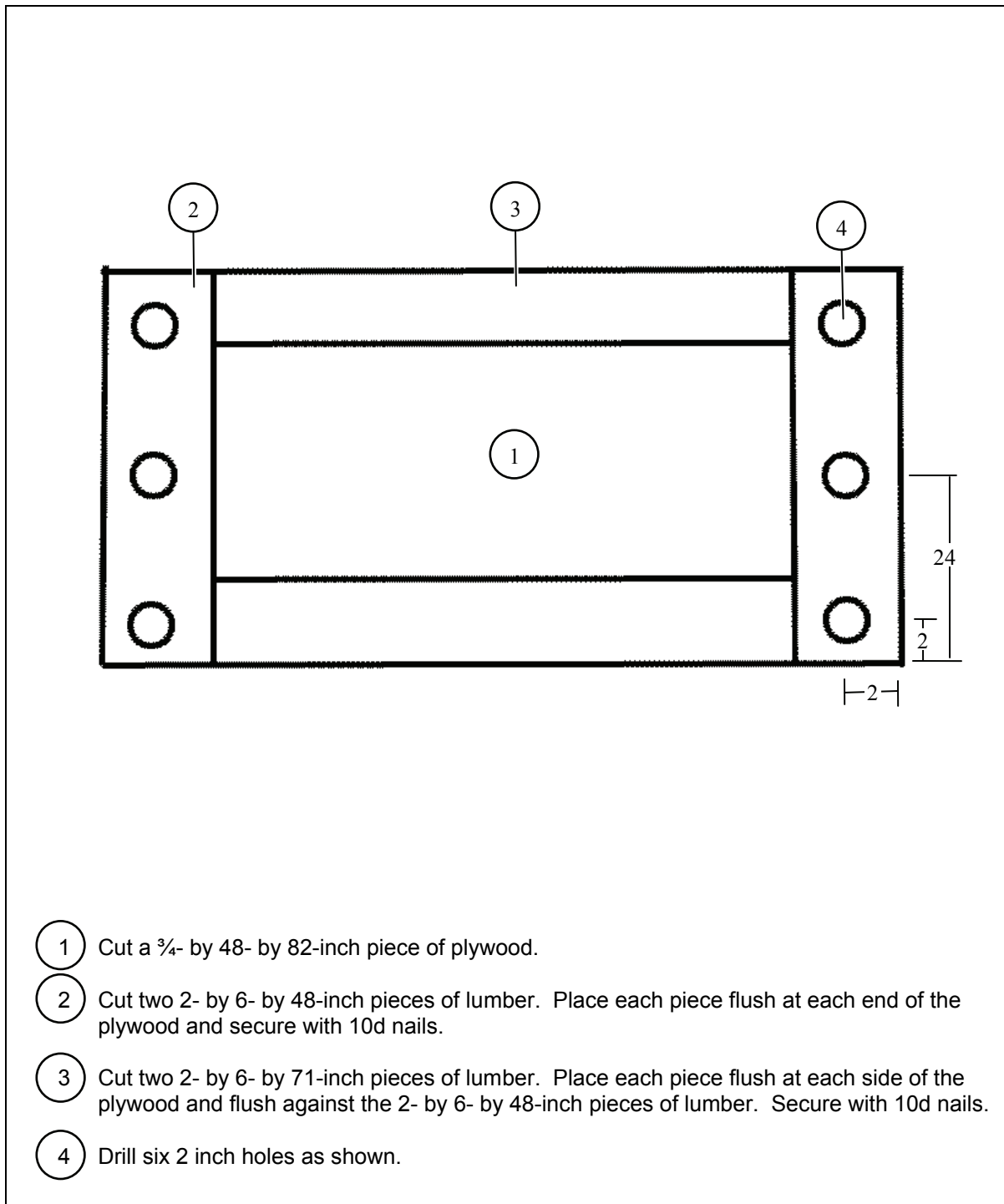
- 3-8. Build and position the parachute stowage platform as described below.
- Build the honeycomb support stacks as shown in Figure 3-11.
 - Build a parachute stowage platform as shown in Figure 3-12.
 - Position the honeycomb support and parachute stowage platform. Lash the parachute stowage platform as shown in Figure 3-13.

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



- ① Build two honeycomb support stacks by gluing sixteen 15- by 15-inch pieces of honeycomb together in each stack.
- ② Build a third honeycomb support stack by gluing sixteen 15- by 36-inch pieces of honeycomb together.

Figure 3-11. Honeycomb Support Built



- 1 Cut a $\frac{3}{4}$ - by 48- by 82-inch piece of plywood.
- 2 Cut two 2- by 6- by 48-inch pieces of lumber. Place each piece flush at each end of the plywood and secure with 10d nails.
- 3 Cut two 2- by 6- by 71-inch pieces of lumber. Place each piece flush at each side of the plywood and flush against the 2- by 6- by 48-inch pieces of lumber. Secure with 10d nails.
- 4 Drill six 2 inch holes as shown.

Figure 3-12. Details of Parachute Stowage Platform Built

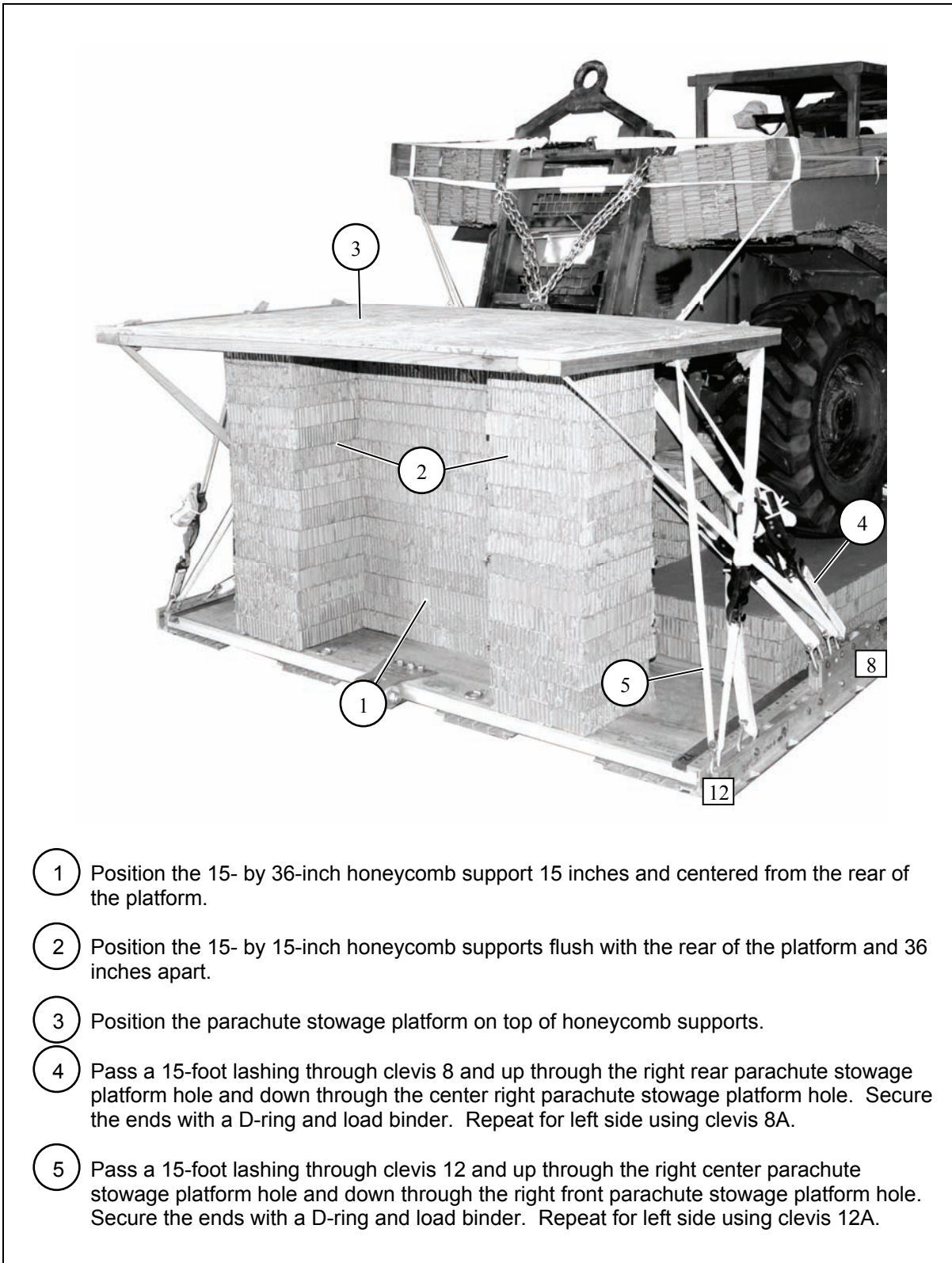


Figure 3-13. Parachute Stowage Platform Positioned and Secured

INSTALLING SUSPENSION SLINGS AND DEADMAN'S TIE

3-9. Install the suspension slings and deadman's tie as shown in Figures 3-14 through 3-16.

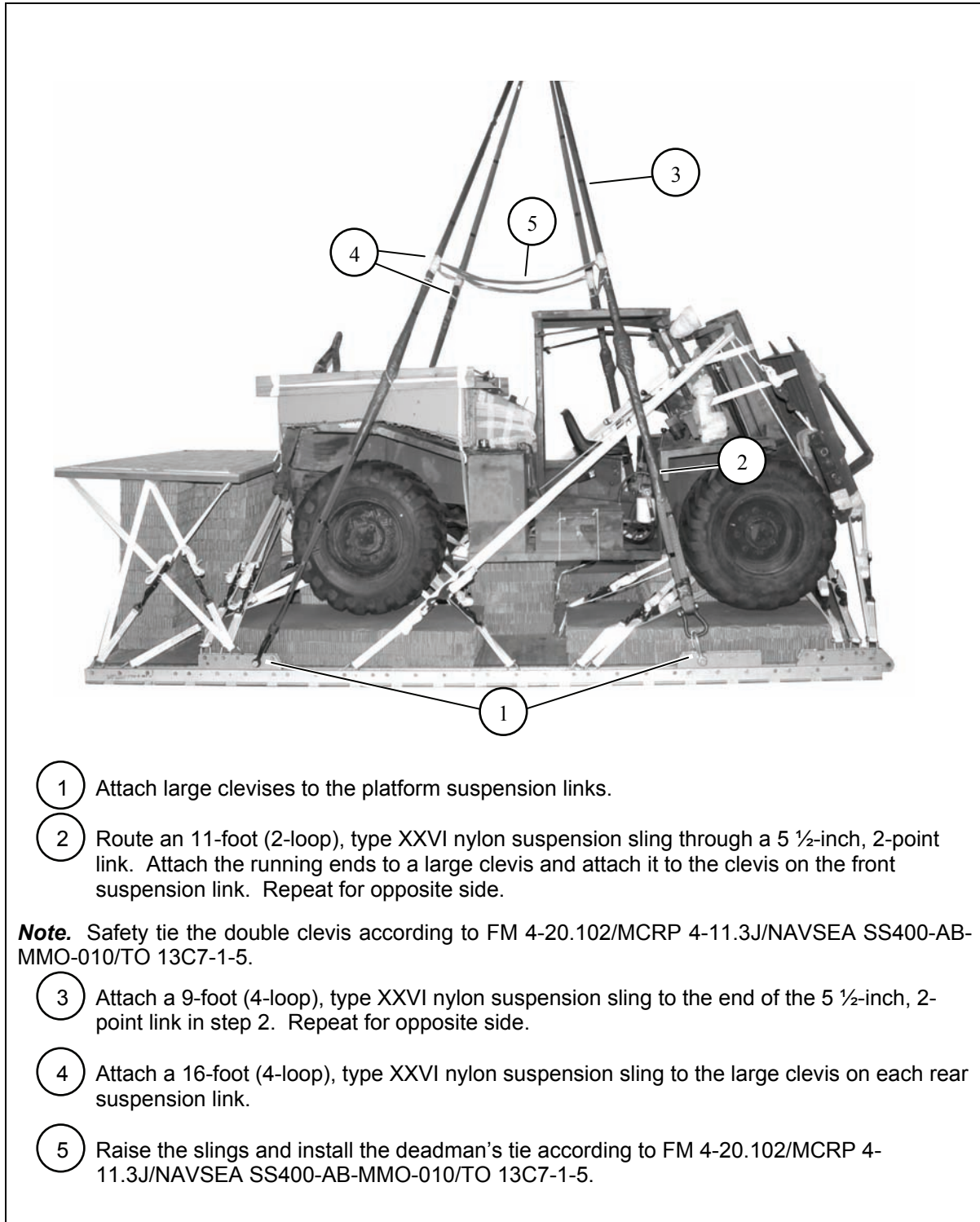
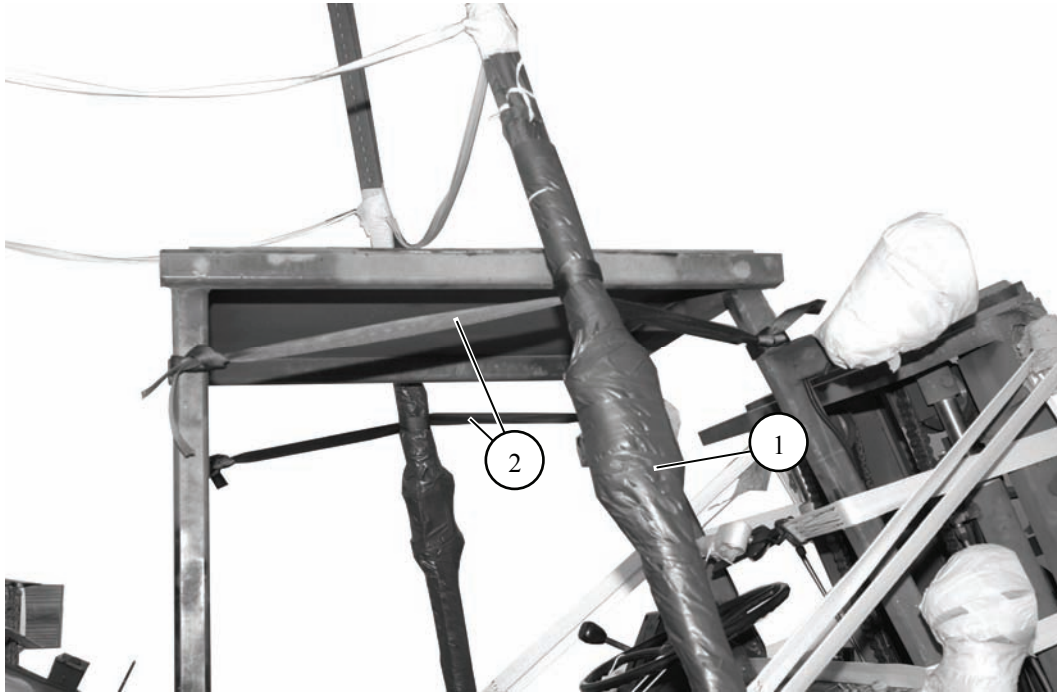


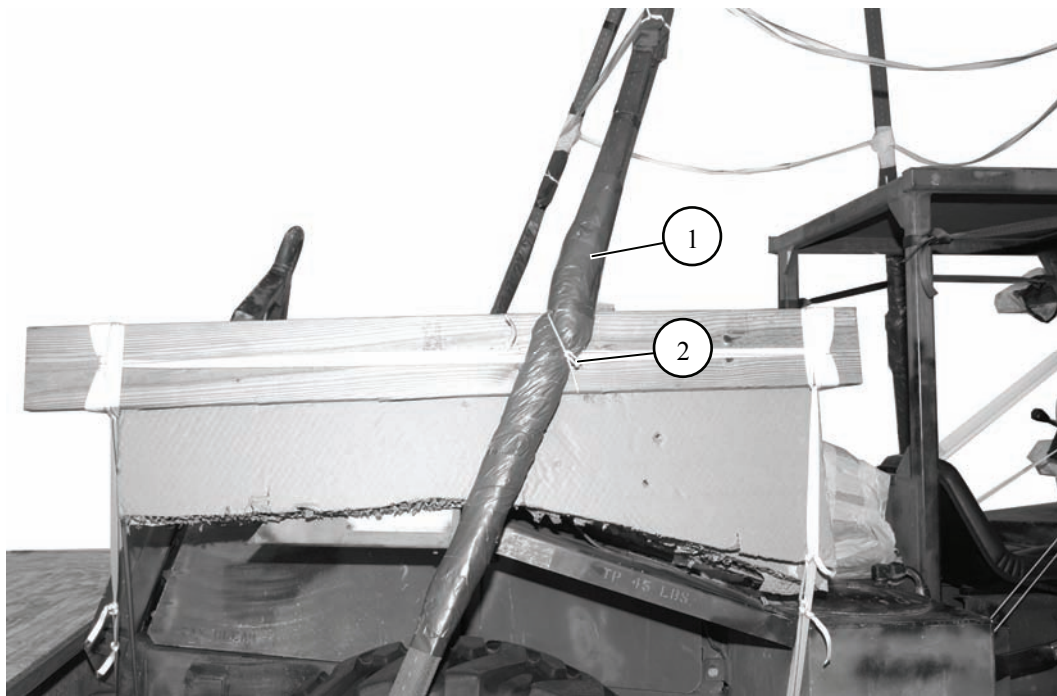
Figure 3-14. Suspension Slings and Deadman's Tie Installed

Note. Do not safety tie to the light brackets.



- ① Pad the front slings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Ensure the suspension slings are padded 6 inches above the driver's cab and approximately 18 inches below the top of the front fenders.
- ② With tension on slings, place a safety tie to each front sling using double 1-inch tubular nylon webbing and secure it to the driver's cab. Do not safety tie to the light brackets.

Figure 3-15. Front Suspension Sling Safety Tied



- ① Pad the rear slings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
- ② Safety tie the rear slings to the side of the lumber with type III nylon cord.

Figure 3-16. Rear Suspension Sling Safety Tied and Padded

STOWING CARGO PARACHUTE

3-10. Prepare, stow and restrain four G-11 cargo parachutes on the parachute stowage platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 3-17.

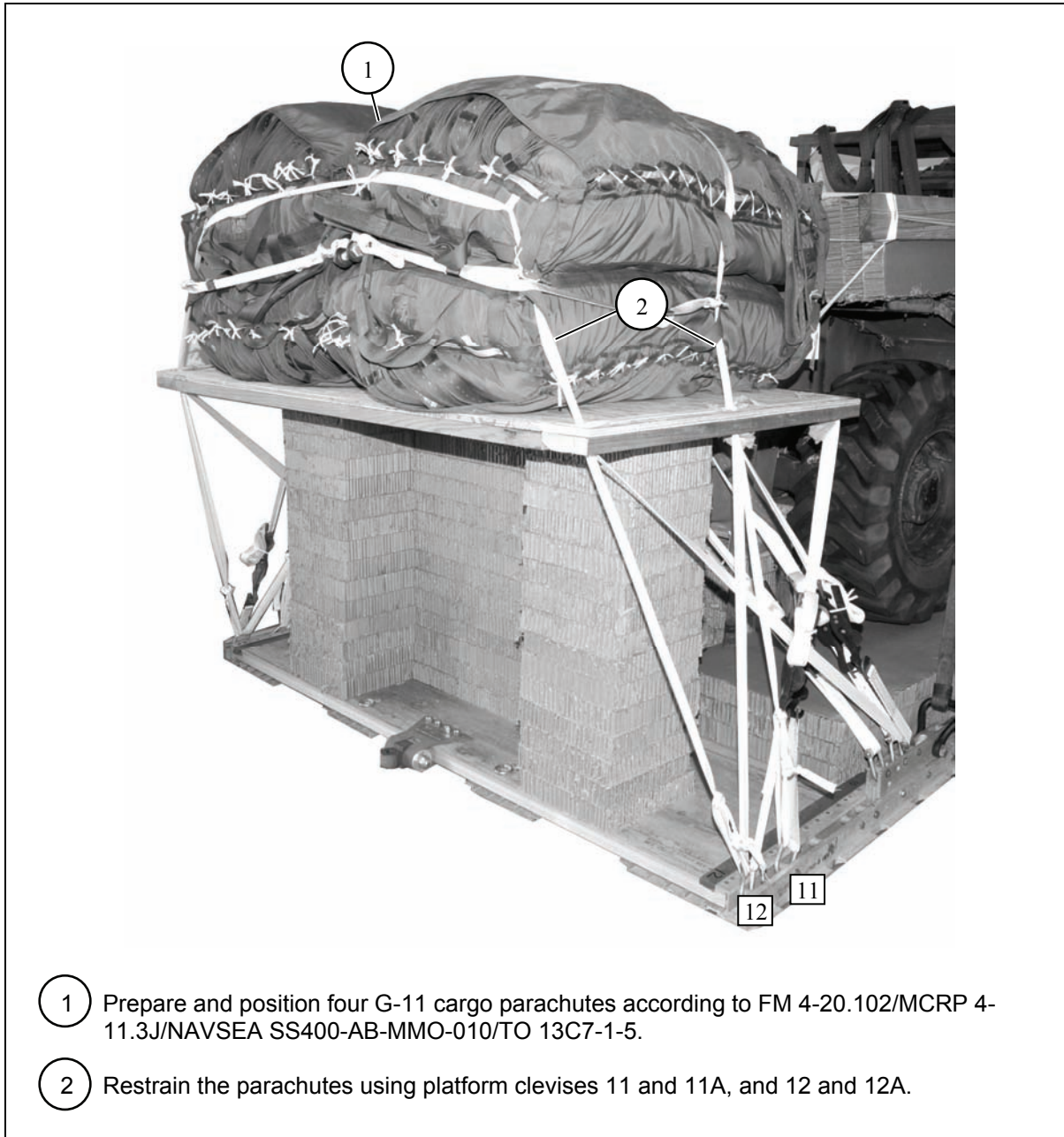


Figure 3-17. Cargo Parachute Stowed

INSTALLING PARACHUTE RELEASE

3-11. Prepare and install M-2 parachute release assembly according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as described below.

- Build a parachute release tray as shown in Figure 3-18.
- Position the parachute release tray as shown in Figure 3-19.
- Cover the parachute release tray as shown in Figure 3-20.
- Install the M-2 parachute release as shown in Figure 3-21.

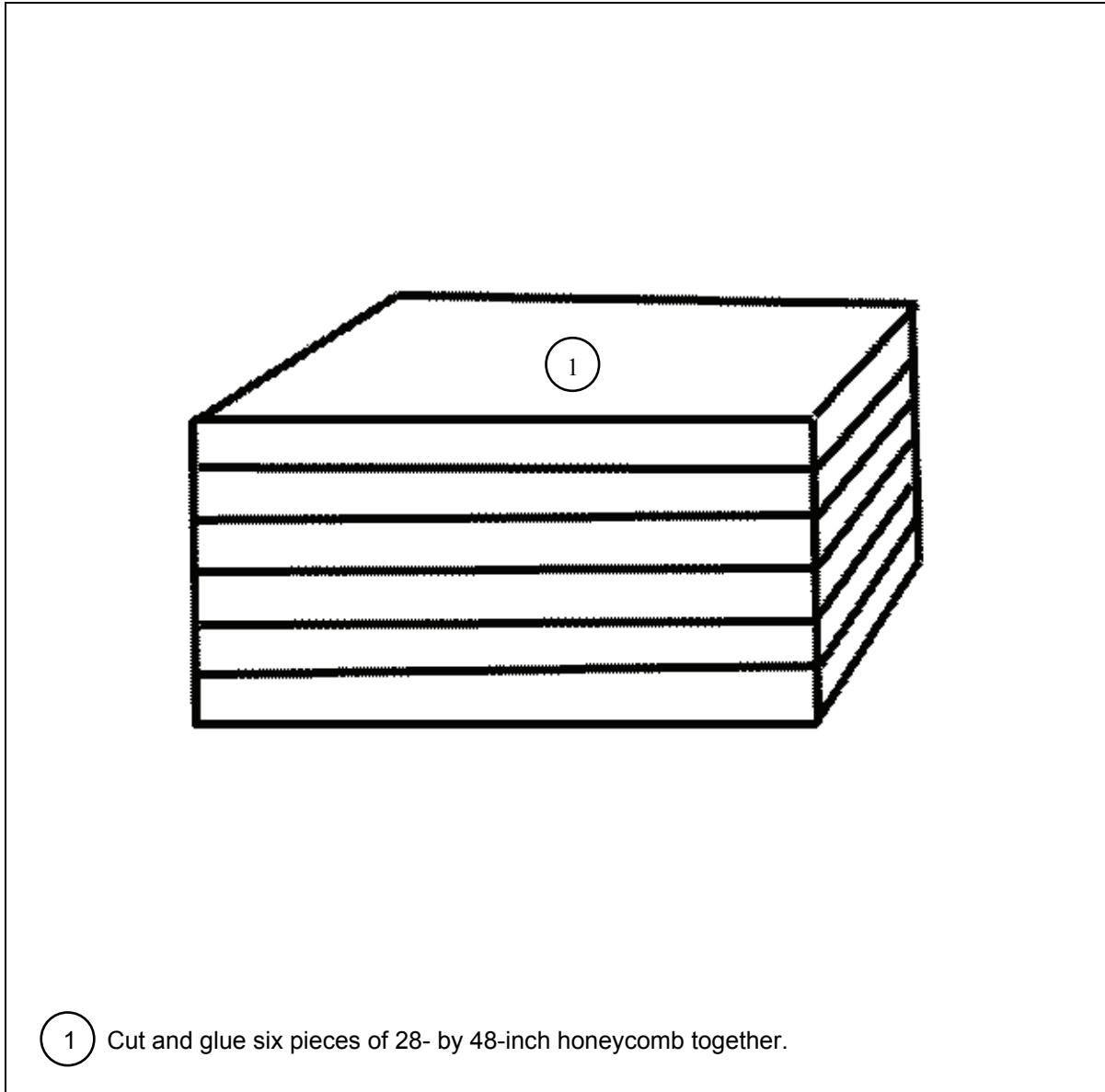
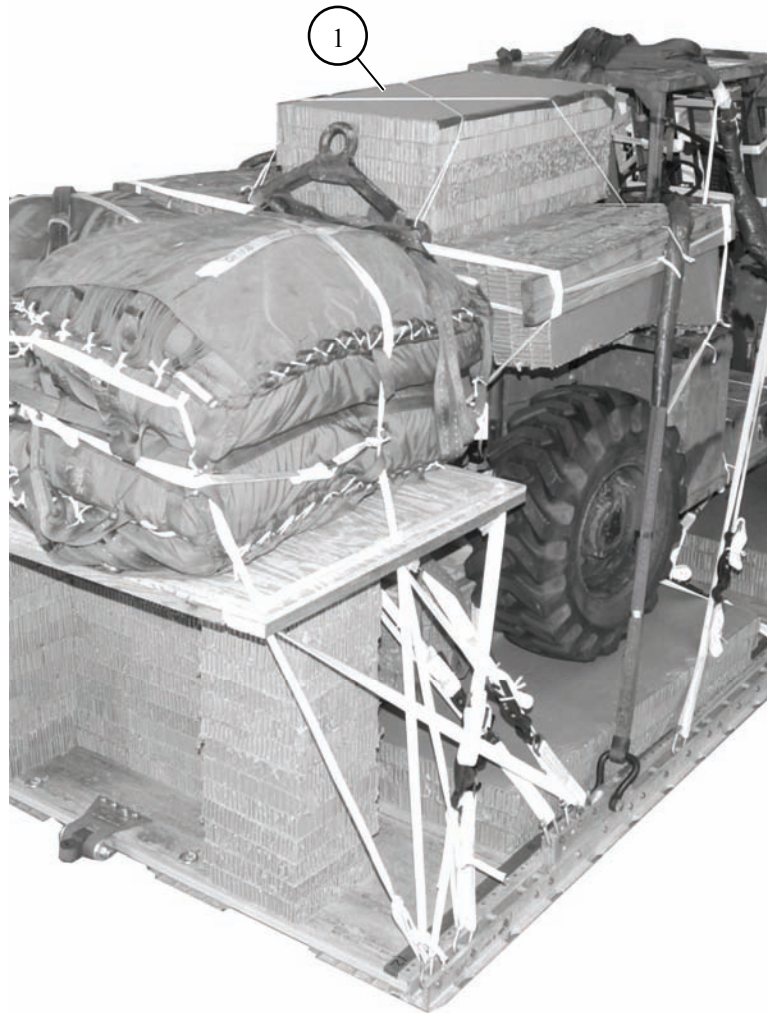


Figure 3-18. Parachute Release Tray Built



- 1 Position the honeycomb stack on the forklift engine compartment and secure in place with type III nylon cord to convenient point on the load.

Figure 3-19. Parachute Release Tray Positioned

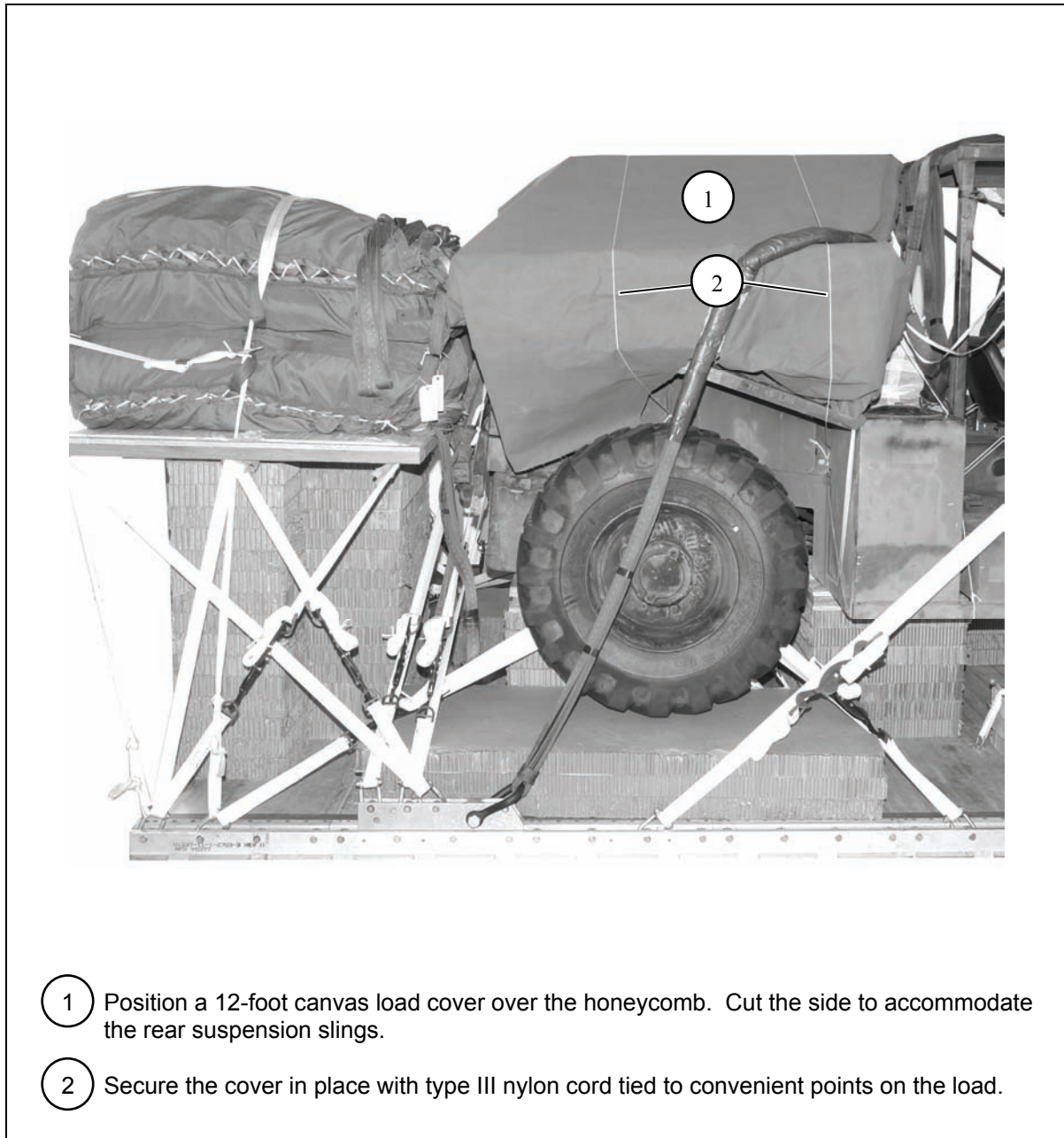
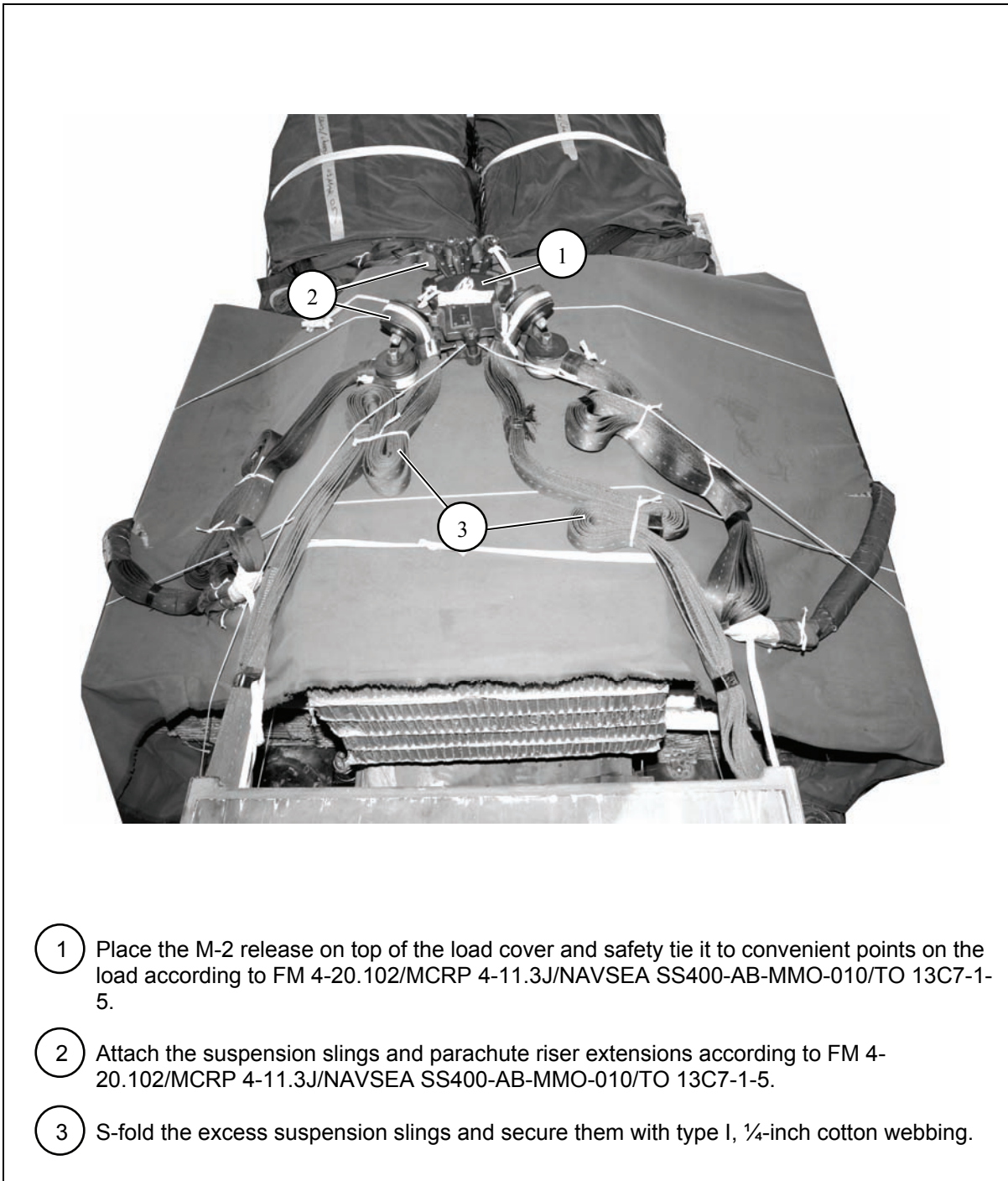


Figure 3-20. Parachute Release Tray Covered

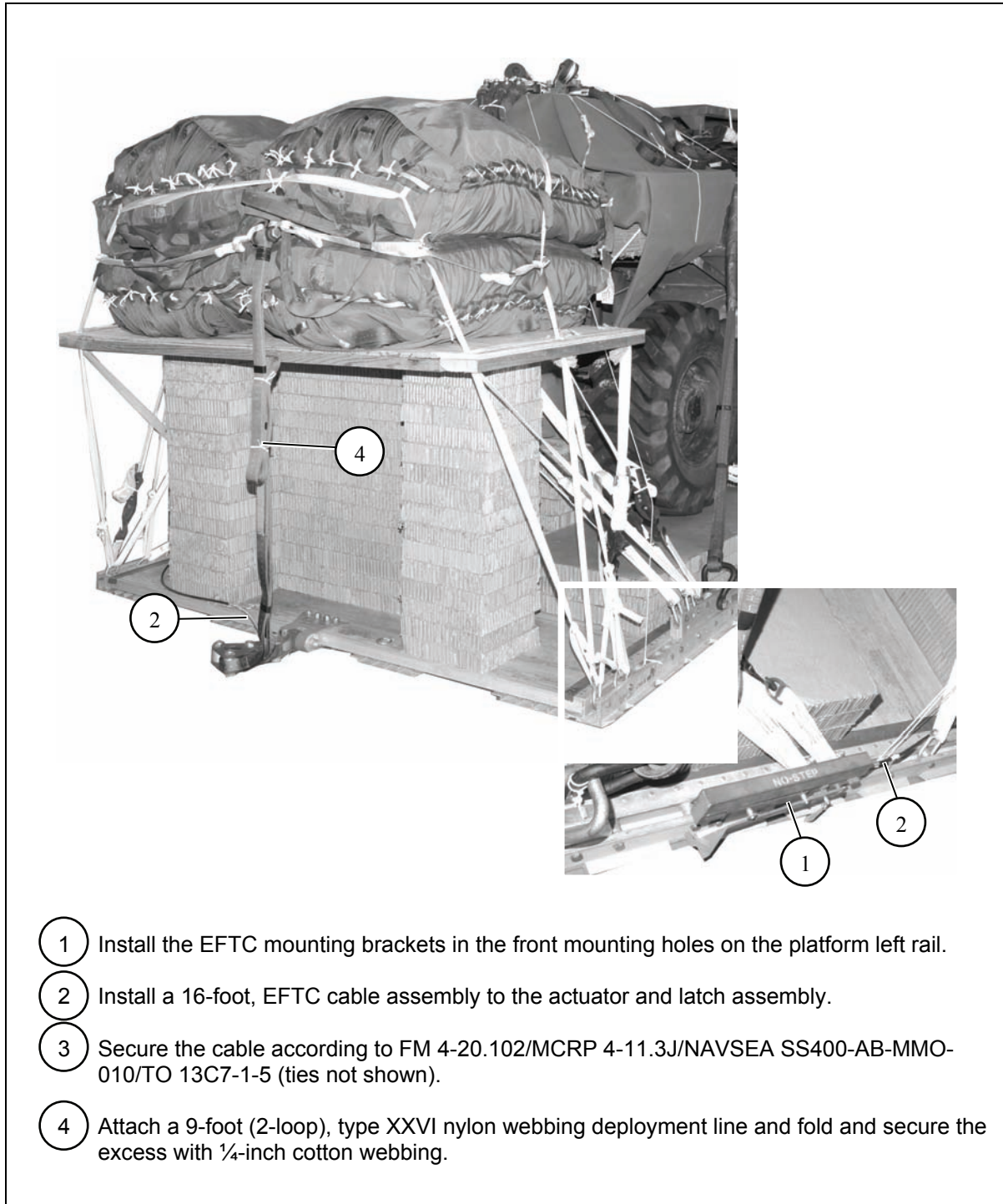


- 1 Place the M-2 release on top of the load cover and safety tie it to convenient points on the load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
- 2 Attach the suspension slings and parachute riser extensions according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
- 3 S-fold the excess suspension slings and secure them with type I, 1/4-inch cotton webbing.

Figure 3-21. M-2 Release Installed

INSTALLING EXTRACTION SYSTEM

3-12. Install the extraction system according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 3-22. If applicable, install the extraction parachute jettison system according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5



- 1 Install the EFTC mounting brackets in the front mounting holes on the platform left rail.
- 2 Install a 16-foot, EFTC cable assembly to the actuator and latch assembly.
- 3 Secure the cable according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 (ties not shown).
- 4 Attach a 9-foot (2-loop), type XXVI nylon webbing deployment line and fold and secure the excess with ¼-inch cotton webbing.

Figure 3-22. EFTC Extraction System Installed

PLACING EXTRACTION PARACHUTE

3-13. Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Rig the extraction line in an extraction line bag according to TM 10-1670-286-20/TO 13C5-2-41. Place the extraction parachute and extraction line on the load for installation in the aircraft. If a drogue parachute and drogue line are required, place them on the platform for installation in the aircraft as well.

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

3-14. Install the provisions for the emergency restraints on the load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

MARKING RIGGED LOAD

3-15. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 3-23. Complete the Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

3-16. Use the equipment listed in Table 3-2 to rig this load.

CAUTION

Make the final rigger inspection required by FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 before the load leaves the rigging site.



RIGGED LOAD DATA

Weight: Load shown	17,380 pounds
Maximum load allowed	21,000 pounds
Height	98 ½ inches
Width.....	108 inches
Overall Length	226 inches
Overhang: Front (forks).....	15 inches
Rear (EFTC)	18 inches
Rear (EPJS).....	30 inches
Center of Balance (from front edge of platform).....	82 inches

Figure 3-23. M-271, 4,000-Pound Capacity Forklift Truck Rigged on a Type V Platform

Table 3-2. Equipment Required for Rigging the M-271, 4,000-Pound Capacity Forklift Truck on a Type V Platform

<i>National Stock Number</i>	<i>Item</i>	<i>Quantity</i>
8040-00-273-8713	Adhesive, paste, 1-gallon	As required
	Clevis, suspension:	
4030-00-678-8562	¾-inch (medium)	2
4030-00-090-5354	1-inch (large)	8
4020-00-240-2146	Cord, nylon, type III, 550-pound	As required
1670-00-434-5798	Coupling, airdrop, extraction force transfer with cable, 16-foot	1
1670-00-360-0328	Cover, clevis, large	3
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
1670-01-183-2678	Leaf, extraction line (line bag)	2
1670-01-064-4452	Line, drogue, 60-foot (1-loop), type XXVI (for C-17)	1
	Line, extraction	
1670-01-062-6313	60-foot (3-loop), type XXVI (for C-130)	1
1670-01-107-7651	140-foot (3-loop), type XXVI (for C-17)	1
	Link assembly, two-point:	
1670-00-003-1953	3 ¾-inch	7
1670-01-493-6420	5 ½-inch	2
	Lumber:	
5510-00-220-6146	2- by 4-inch	As required
5510-00-220-6148	2- by 6-inch	As required
5510-00-220-6274	4- by 4-inch	As required
	Nail, steel wire:	
5315-00-010-4659	8d	As required
5315-00-010-6611	10d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	26
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11	4
	Cargo extraction:	
1670-01-063-3716	22-foot	1
1670-01-063-3715	15-foot (drogue for C-17)	1
9030-01-222-6087	Parts kit, lifting shackle (5-ton truck)	2
	Platform, airdrop, type V, 16-foot	
1670-01-353-8425	Bracket assembly, coupling	1
1670-01-162-2372	Clevis assembly, type V	24
1670-01-353-8424	Extraction bracket assembly	1
1670-01-247-2389	Suspension link assembly	4
1670-01-162-2381	Tandem link assembly (multipurpose link)	2

Table 3-2. Equipment Required for Rigging the M-271, 4,000-Pound Capacity Forklift Truck on a Type V Platform (Continued)

<i>National Stock Number</i>	<i>Item</i>	<i>Quantity</i>
5530-00-129-7777	Plywood: ½-inch	As required
5530-00-128-4981	¾-inch	As required
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop:	
	For suspension:	
1670-01-062-6305	9-foot (4-loop), type XXVI nylon webbing	2
1670-01-062-7760	11-foot (2-loop), type XXVI nylon webbing	2
1670-01-062-6308	16-foot (4-loop), type XXVI nylon webbing	2
	For lifting:	
1670-01-062-6305	9-foot (4-loop), type XXVI nylon webbing	2
1670-01-062-6310	11-foot (4-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-foot (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6313	60-foot (3-loop), type XXVI nylon webbing	4
5340-00-040-8219	Strap, parachute release multi-cut, with 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-inch	As required
1670-00-937-0271	Tie-down assembly, 15-foot	36
1670-01-483-8259	Tow release mechanism (H-block for C-17)	1
	Webbing:	
8305-00-268-2411	Cotton, ¼-inch, type I	As required
8305-00-082-5752	Nylon, tubular, ½-inch	As required
8305-00-263-3591	Type VIII	As required

Chapter 4

Rigging the 6,000-Pound Capacity Forklift Truck on a Type V Platform

DESCRIPTION OF LOAD

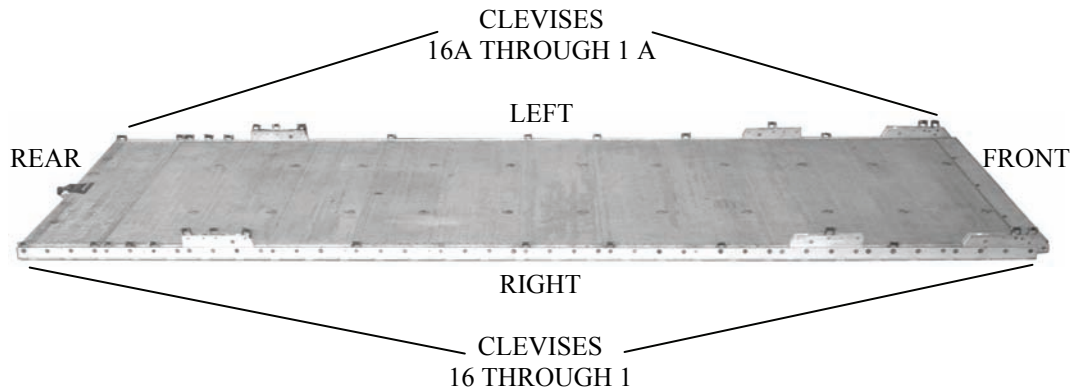
4-1. The 6,000-pound capacity forklift truck is rigged on a 24-foot, type V platform with six G-11 cargo parachutes for low-velocity airdrop from a C-130 or C-17 aircraft. The forklift weighs 23,000 pounds. It is 102 inches wide, 228 inches long and 124 inches high (reducible to 89 inches).

PREPARING PLATFORM

4-2. Inspect, or assemble and inspect, a 24-foot, type V platform as outlined in TM 10-1670-268-20&P. The platform will use two tandem links, four suspension links, and 32 clevis assemblies as shown in Figure 4-1.

- **Inspecting Platform.** Inspect, or assemble and inspect, the platform according to TM 10-1670-268-20&P/TO 13C7-52-22.
- **Installing Tandem Links.** Install tandem links as shown in Figure 4-1.
- **Installing Suspension Links.** Install suspension links as shown in Figure 4-1.
- **Attaching and Numbering Clevises.** Attach and number 32 clevis assemblies as shown in Figure 4-1.

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



Step:

1. Install a suspension link to each platform side rail using holes 9, 10, and 11.
2. Install a suspension link to each platform side rail using holes 38, 39, and 40.
3. Install a tandem link on each platform side rail using holes 1, 2, and 3.
4. Install clevises on bushings 1 and 2 of each front tandem link
5. Install a clevis on bushing 3 of each front suspension link.
6. Install clevises on bushings 1, 2, and 4 of each rear suspension link.
7. Starting at the front of each platform side rail, install clevises to bushings bolted on holes 7, 15, 20, 24, 32, 42, 43, 44, 45, and 48.
8. Starting at the front of each platform side rail, number the clevises bolted on the right side from 1 through 16 and those bolted on the left side from 1A through 16A.

Figure 4-1. Platform Prepared

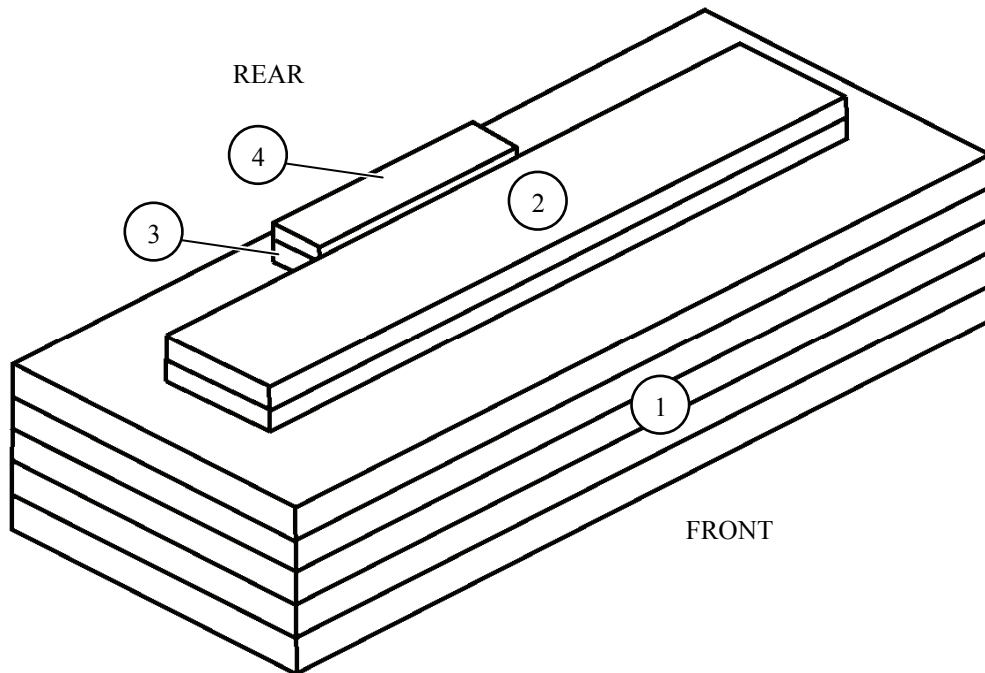
PREPARING AND POSITIONING HONEYCOMB STACKS

- 4-3. Use the materials in Table 4-1 to prepare seven honeycomb stacks as shown in Figures 4-2 through 4-7. Position the stacks on the platform as shown in Figure 4-8.

Table 4-1. Material Required to Build Honeycomb Stacks

Stack Number	Pieces	Width (inches)	Length (inches)	Material	Instructions
1	5	36	86	Honeycomb	See Figure 4-2.
	2	12	72	2- by 12-inch Lumber	
	1	6	30	2- by 6-inch Lumber	
	1	6	30	$\frac{3}{4}$ -inch Plywood	
2	7	30	65	Honeycomb	See Figure 4-3.
	2	20	30	Honeycomb	
	5	20	30	$\frac{3}{4}$ -inch Plywood	
3	7	36	65	Honeycomb	See Figure 4-4.
4	6	36	65	Honeycomb	See Figure 4-5.
	4	12	18	Honeycomb	
	4	12	18	$\frac{3}{4}$ -inch Plywood	
5	8	36	65	Honeycomb	See Figure 4-6.
6	2	18	36	Honeycomb	See Figure 4-7.
7	2	18	36	Honeycomb	See Figure 4-7.
8	2	18	36	Honeycomb	See Figure 4-7.
9	2	18	36	Honeycomb	See Figure 4-7.

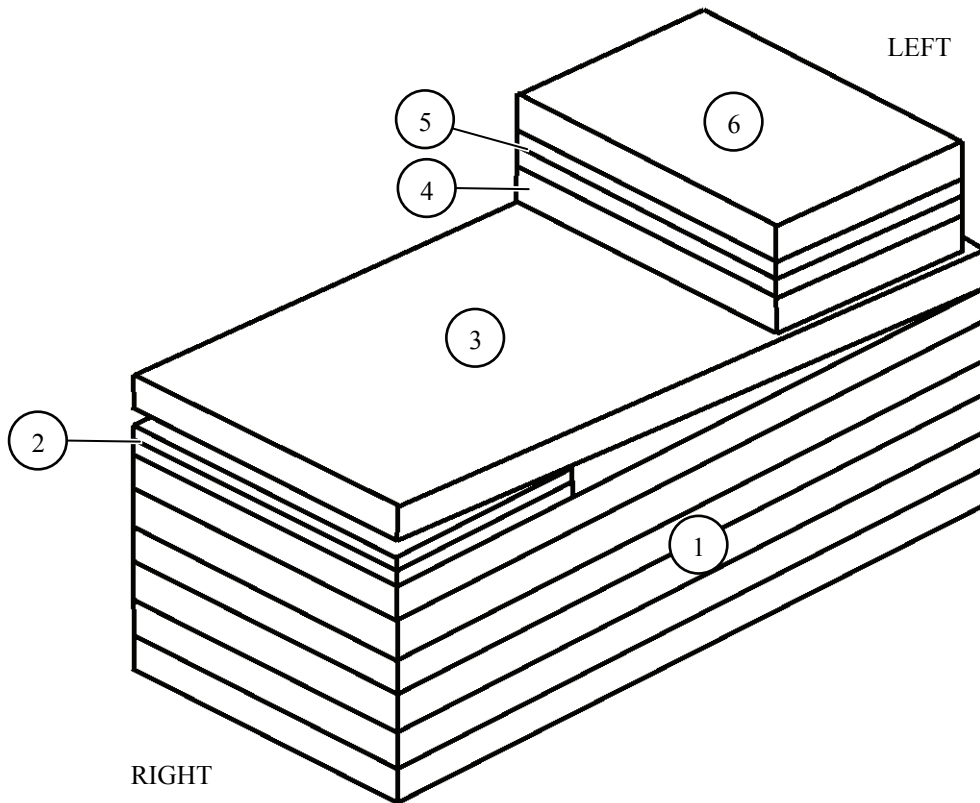
Note. This drawing is not drawn to scale.



- ① Glue five 36- by 86-inch pieces of honeycomb as the base.
- ② Center and glue two 2- by 12- by 72-inch pieces of lumber together, 10 inches from the front of the base.
- ③ Center and glue a 2- by 6- by 30-inch piece of lumber 2 inches from the 2- by 12- by 72-inch piece of lumber.
- ④ Glue a $\frac{3}{4}$ - by 6- by 30-inch piece of plywood on top of the 2- by 6- by 30-inch piece of lumber.

Figure 4-2. Honeycomb Stack 1 Prepared

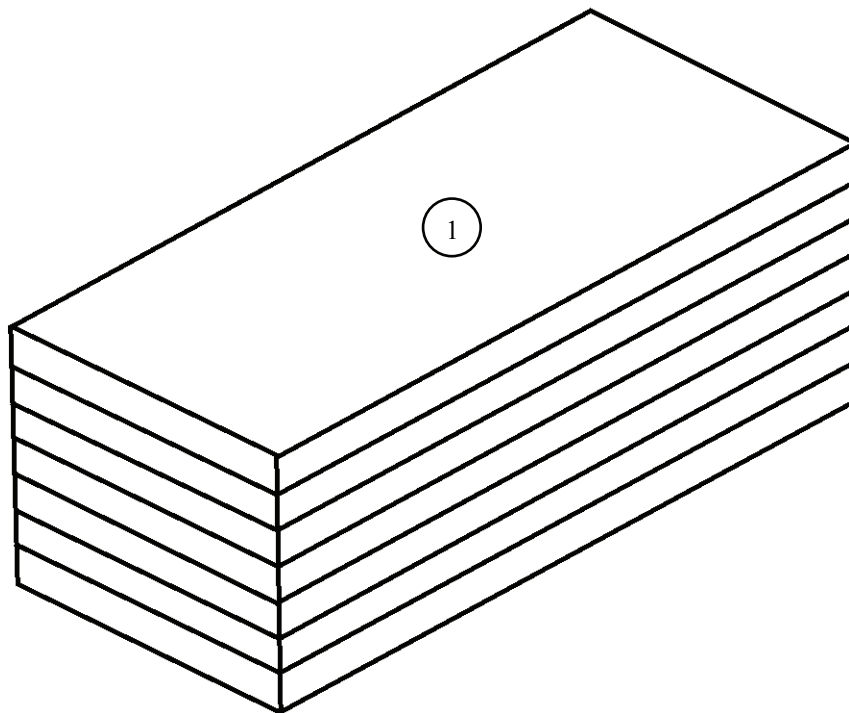
Note. This drawing is not drawn to scale.



- 1 Glue six 30- by 65-inch pieces of honeycomb as the base.
- 2 Glue two $\frac{3}{4}$ - by 20- by 30-inch pieces of plywood flush with the right edge of the base.
- 3 Glue a 30- by 63-inch piece of honeycomb on top of the plywood and base.
- 4 Glue a 20- by 30-inch piece of honeycomb 3 inches from the left edge of the stack.
- 5 Glue two $\frac{3}{4}$ - by 20- by 30-inch pieces of plywood on top of the 20- by 30-inch piece of honeycomb.
- 6 Glue a 20- by 30-inch piece of honeycomb on top of the $\frac{3}{4}$ - by 20- by 30-inch piece of plywood.

Figure 4-3. Honeycomb Stack 2 Prepared

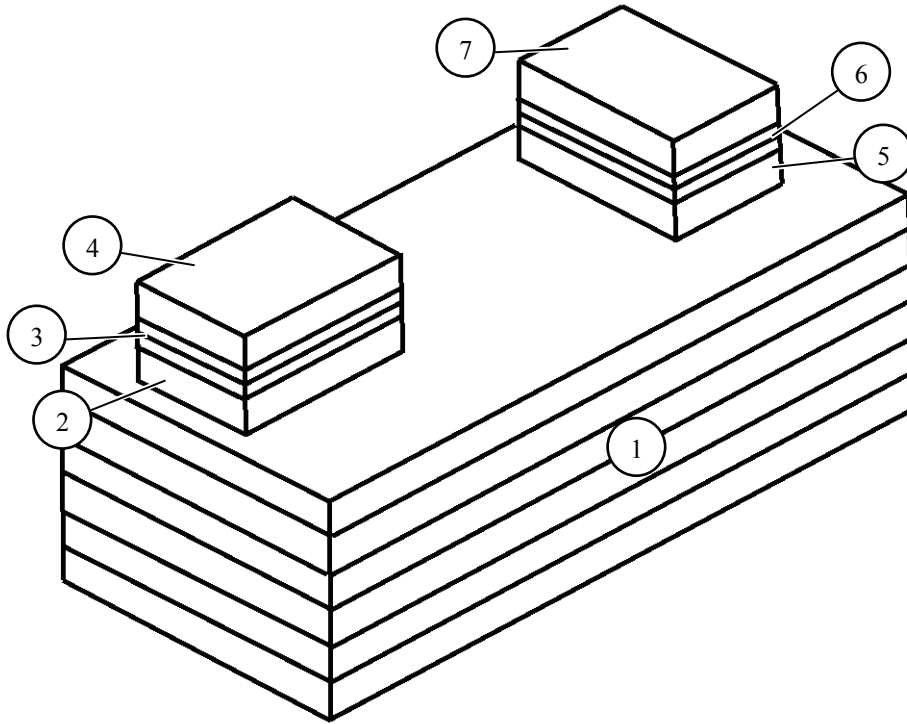
Note. This drawing is not drawn to scale.



① Place seven 36- by 65-inch pieces of honeycomb to form the stack.

Figure 4-4. Honeycomb Stack 3 Prepared

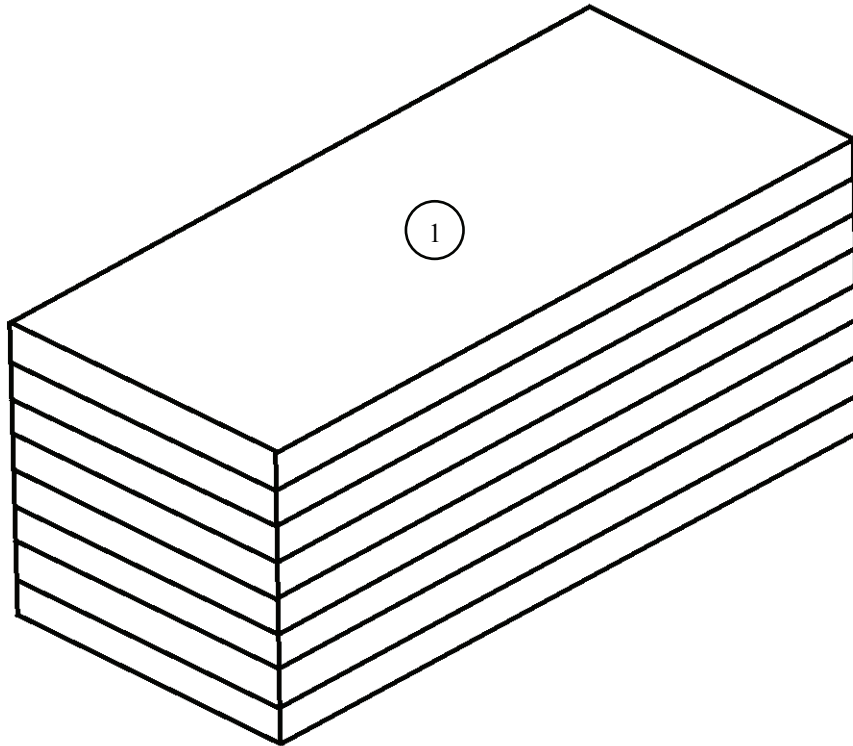
Note. This drawing is not drawn to scale.



- 1 Glue six 36- by 65-inch pieces of honeycomb as the base.
- 2 Glue an 18- by 12-inch piece of honeycomb 3 inches from the right edge of the base and 8 inches from the rear edge of the base.
- 3 Glue two 3/4- by 18- by 12-inch pieces of plywood on top of the 18- by 12-inch piece of honeycomb.
- 4 Glue an 18- by 12-inch piece of honeycomb on top of the 3/4- by 18- by 12-inch pieces of plywood.
- 5 Glue a 12- by 18-inch piece of honeycomb 5 inches from the left edge of the base and 8 inches from the rear edge of the base.
- 6 Glue two 3/4- by 12- by 18-inch pieces of plywood on top of the 12- by 18-inch piece of honeycomb.
- 7 Glue a 12- by 18-inch piece of honeycomb on top of the 3/4- by 12- by 18-inch pieces of plywood.

Figure 4-5. Honeycomb Stack 4 Prepared

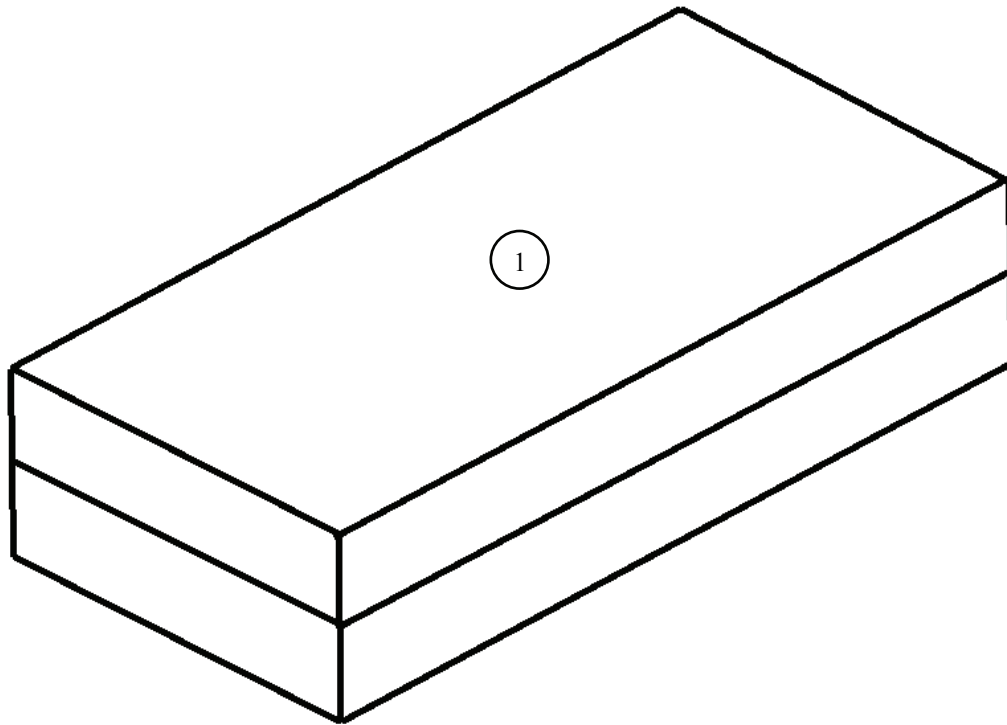
Note. This drawing is not drawn to scale.



① Glue eight 36- by 65-inch pieces of honeycomb to form the stack.

Figure 4-6. Honeycomb Stack 5 Prepared

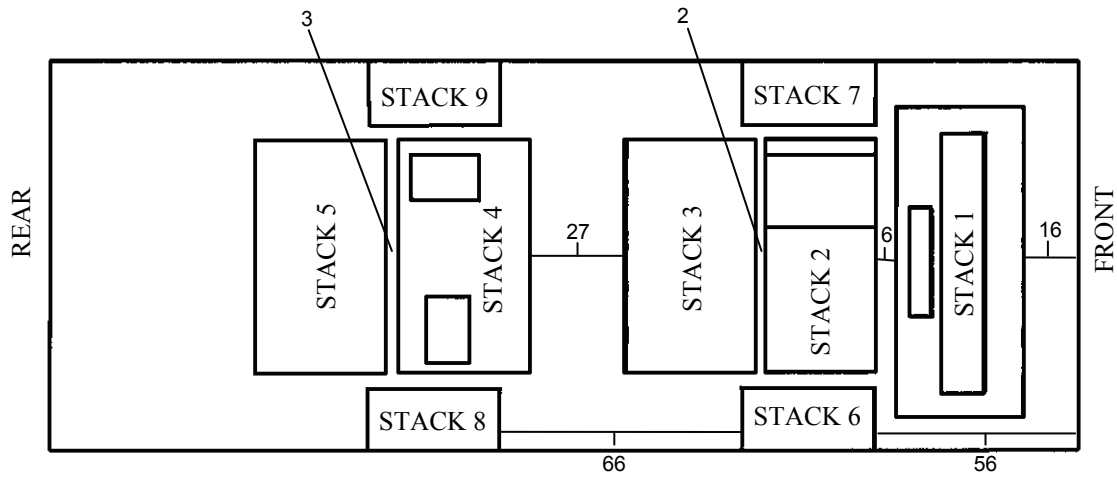
Note. This drawing is not drawn to scale.



① Glue two 18- by 36-inch pieces of honeycomb to form the stack.

Figure 4-7. Honeycomb Stacks 6, 7, 8, and 9 Prepared

Note. This drawing is not drawn to scale.



Stack Number	Position of Stack on Platform
	Place stack:
1	Centered and 16 inches from front edge of the platform.
2	Centered and 6 inches from stack 1.
3	Centered and 2 inches from stack 2.
4	Centered and 27 inches from stack 3.
5	Centered and 3 inches from stack 4.
6	Flush with right edge of platform 56 inches from front edge of platform.
7	Flush with left edge of platform 56 inches from front edge of platform.
8	Flush with right edge of platform 66 inches from stack 6.
9	Flush with left edge of platform 66 inches from stack 7.

Figure 4-8. Honeycomb Stacks Placed on Platform

BUILDING AND POSITIONING FRAME SUPPORTS

- 4-4. Build and position the frame supports as described below.
- Build the front frame support as shown in Figures 4-9 and 4-10.
 - Build the rear frame support as shown in Figures 4-11 and 4-12.
 - Position the front frame support by turning the front wheels to the left. Extend the forks to lift the front frame support into position from the right side. Secure the support in place as shown in Figure 4-13.
 - Position the rear frame support under the forklift with the rear of the frame support flush with the rear of the forklift. Secure the rear frame support as shown in Figure 4-14.

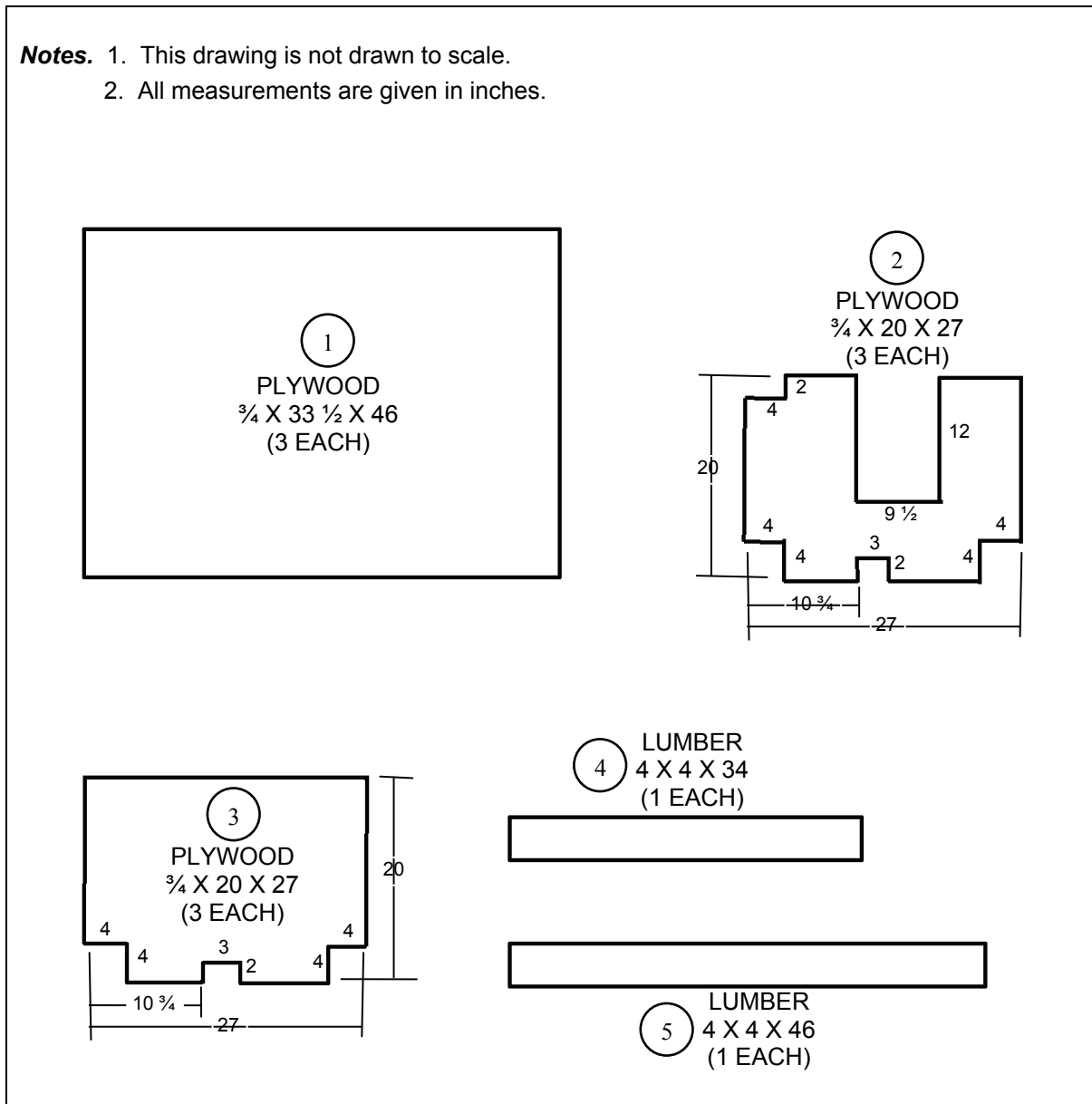


Figure 4-9. Rear Frame Support Installed

- Notes.** 1. This drawing is not drawn to scale.
2. Use 6d and 16d nails.

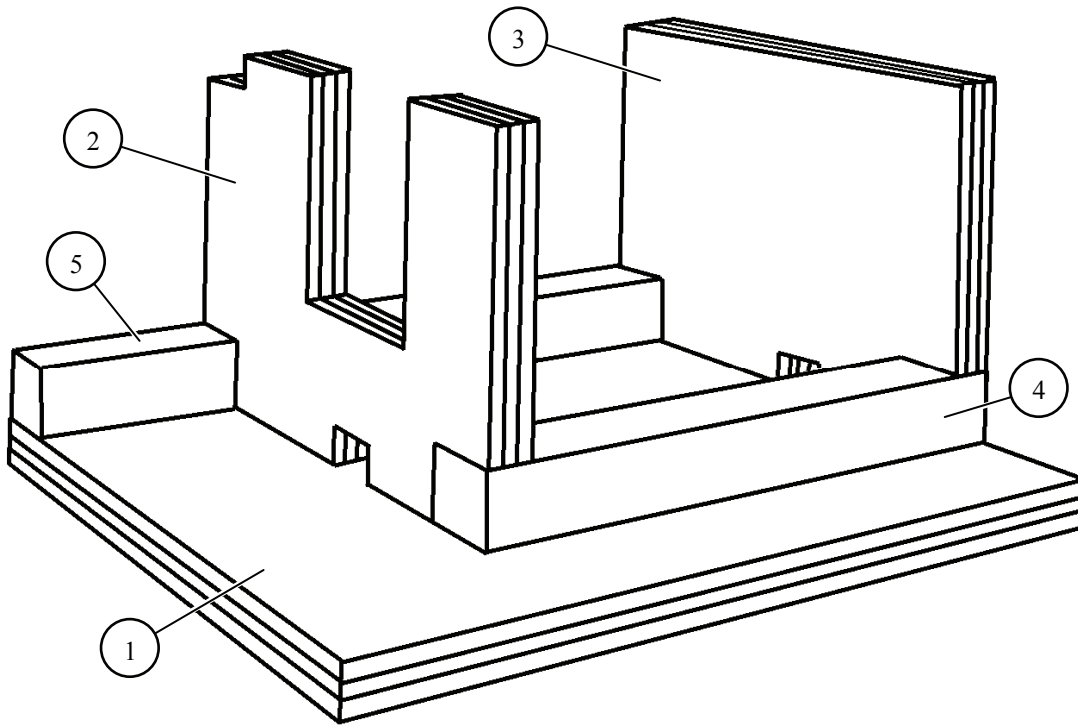


Figure 4-10. Front Frame Support Built

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

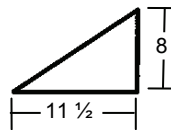
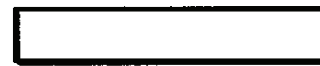
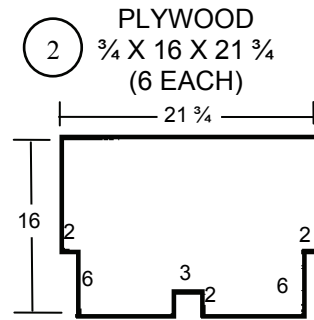
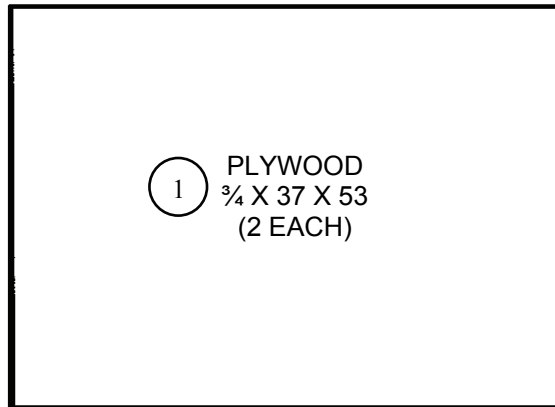


Figure 4-11. Pieces for Rear Frame Support

- Notes.** 1. This drawing is not drawn to scale.
2. All measurements are given in inches.
3. Use 6d and 16d nails.

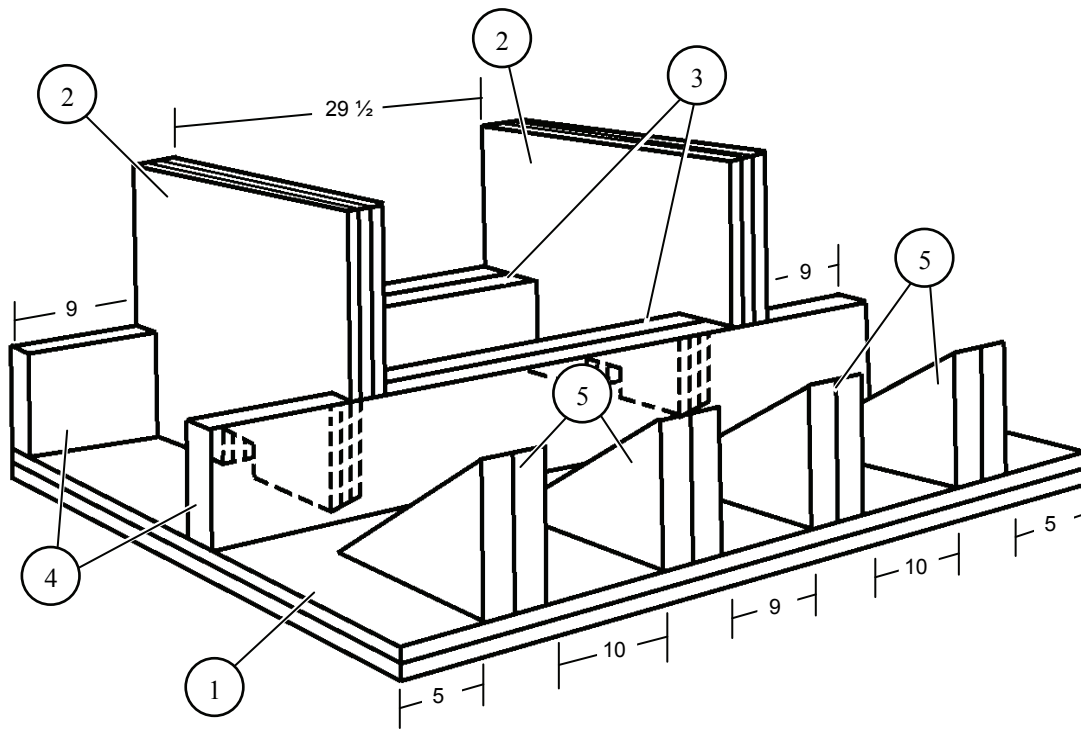
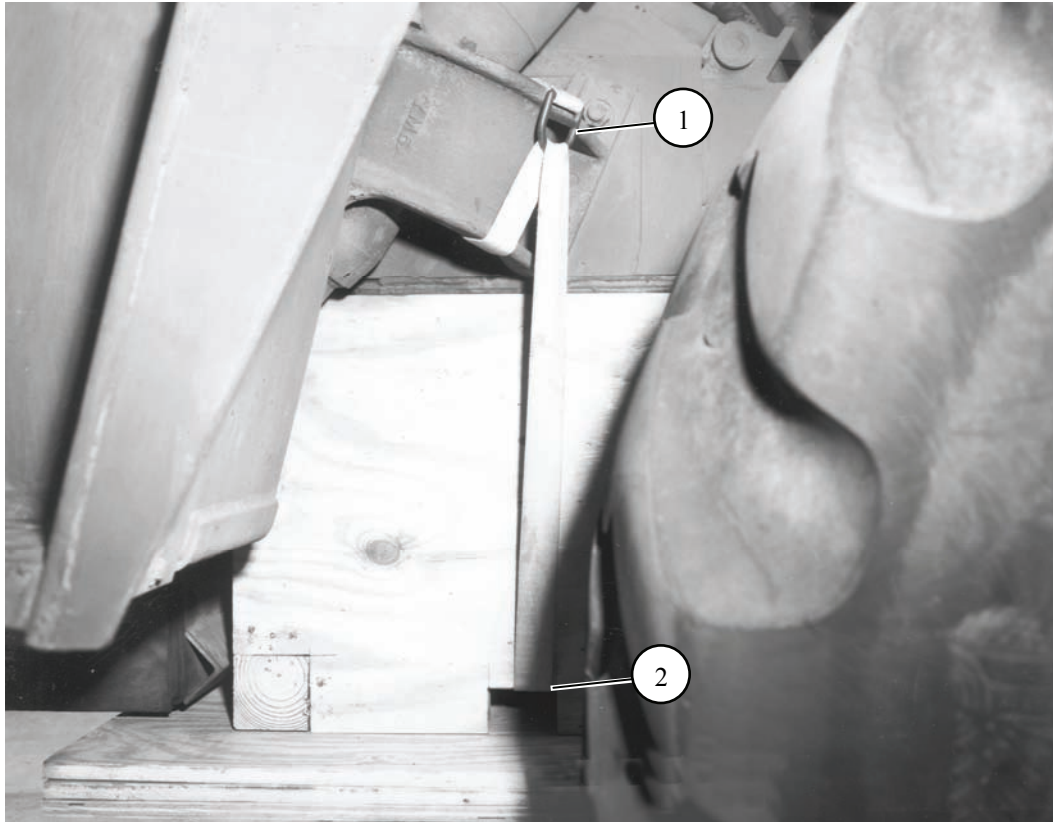
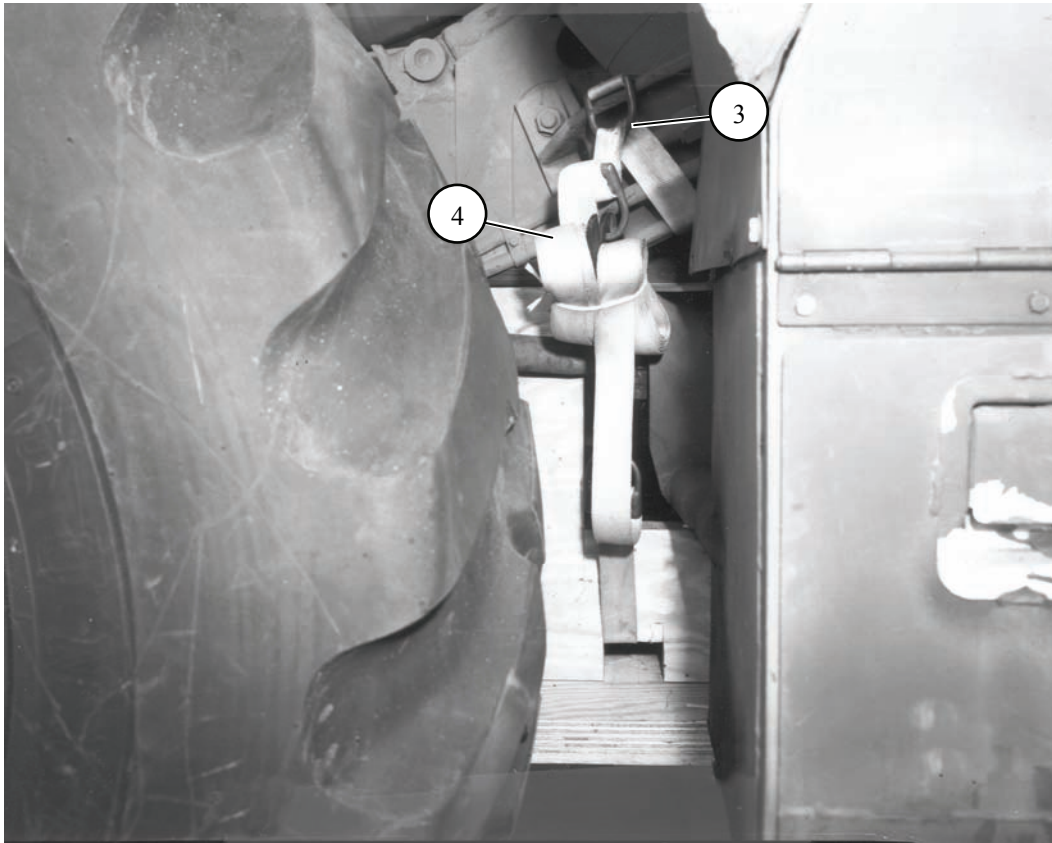


Figure 4-12. Rear Frame Support Built



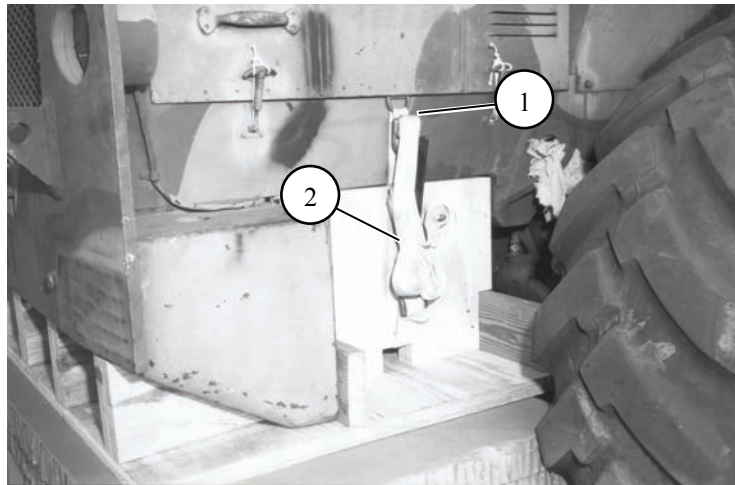
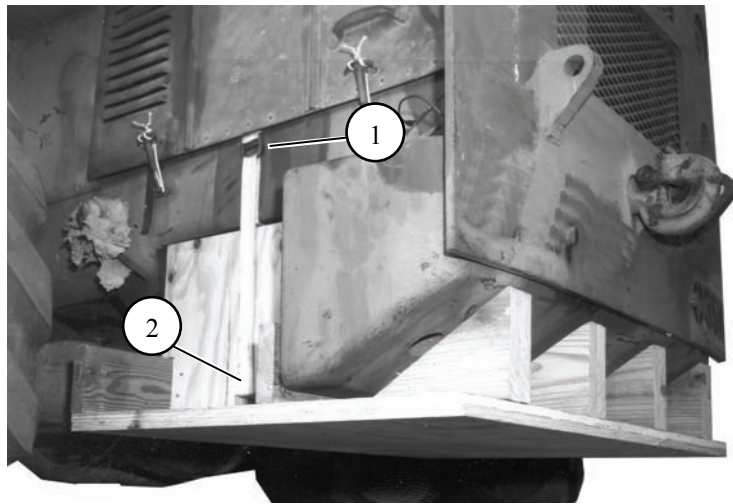
- ① Pass a 15-foot lashing around the right cylinder guard and through its own D-ring.
- ② Pass the 15-foot lashing through the cutouts of the front frame support, from right to left.

Figure 4-13. Front Frame Support Installed



- 3 Pass a 15-foot lashing around the left cylinder guard and through its own D-ring.
- 4 Secure the two lashings with two D-rings and a load binder.

Figure 4-13. Front Frame Support Installed (Continued)



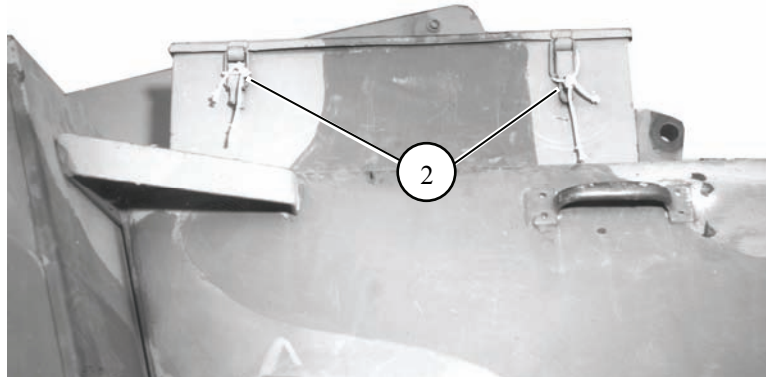
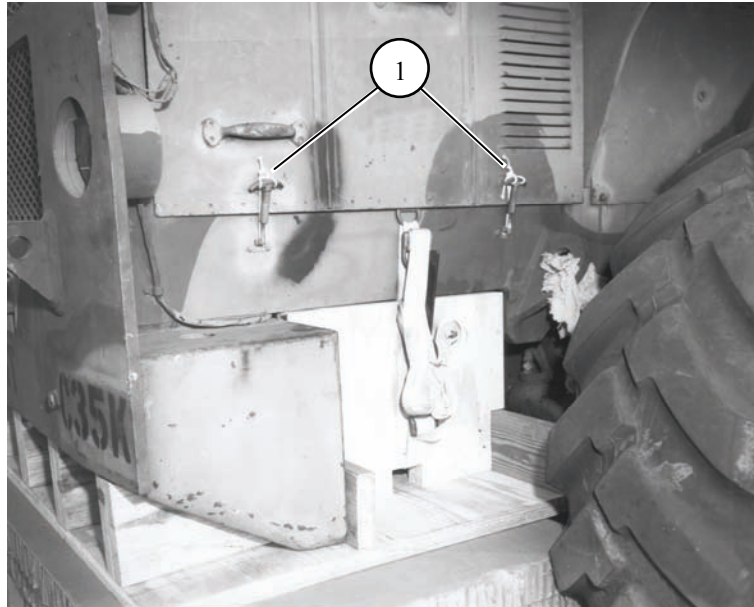
- 1 Pass a 15-foot lashing around the mainframe and through its own D-ring on both sides of the forklift.
- 2 Pass the free end of the 15-foot lashing on the left mainframe through the slots in the frame support and attach the lashings with two D-rings and a load binder.

Figure 4-14. Rear Frame Support Installed

PREPARING FORKLIFT

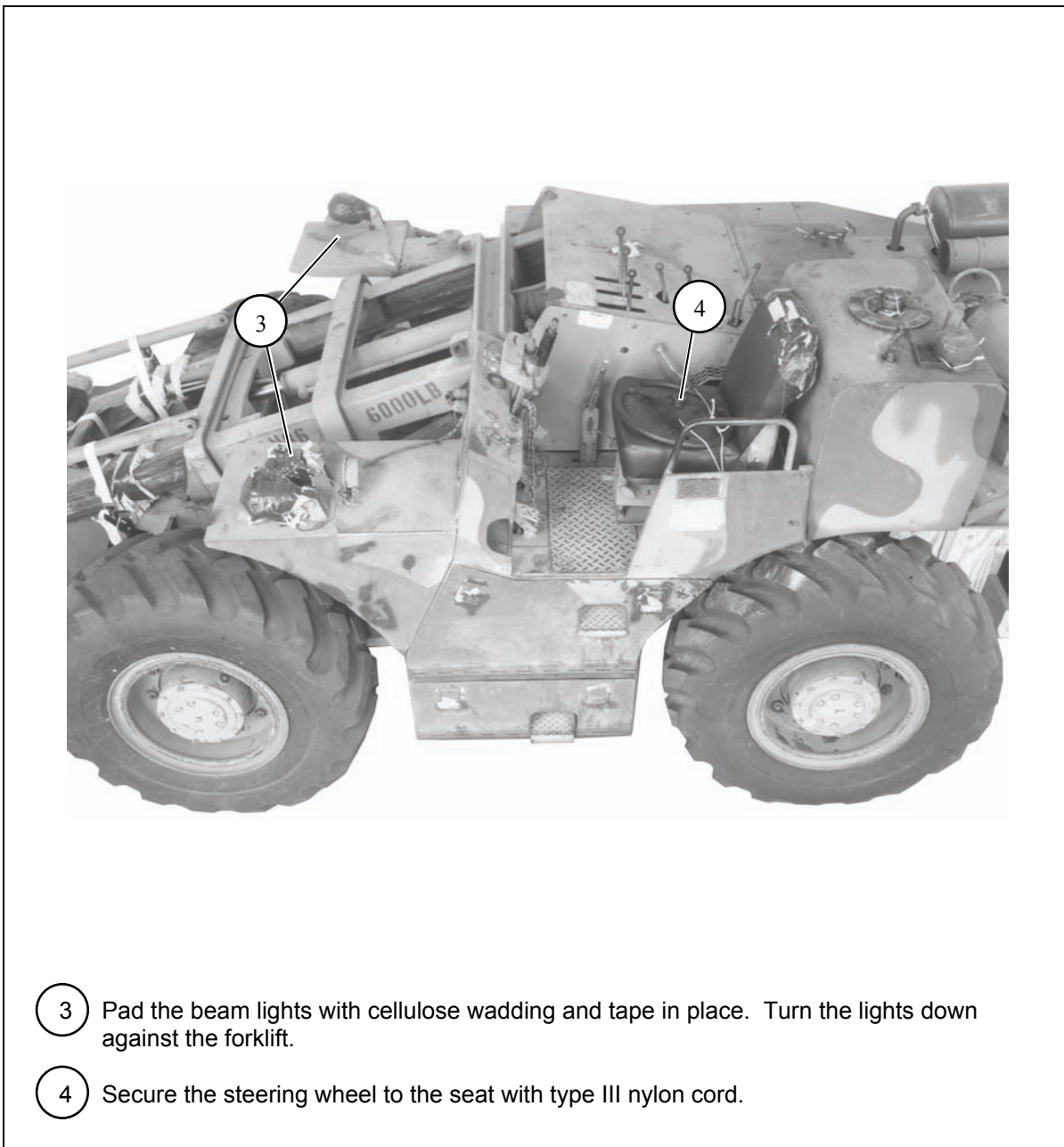
4-5. Prepare the forklift as described below and as shown in Figure 4-15.

- Make sure the fuel tank is not more than $\frac{3}{4}$ full.
- Make sure the front tires are inflated to 30 psi and the rear tires are inflated to 20 psi of air pressure.
- Remove the ROPS guard, the air intake stack with support bracket, and the steering wheel.



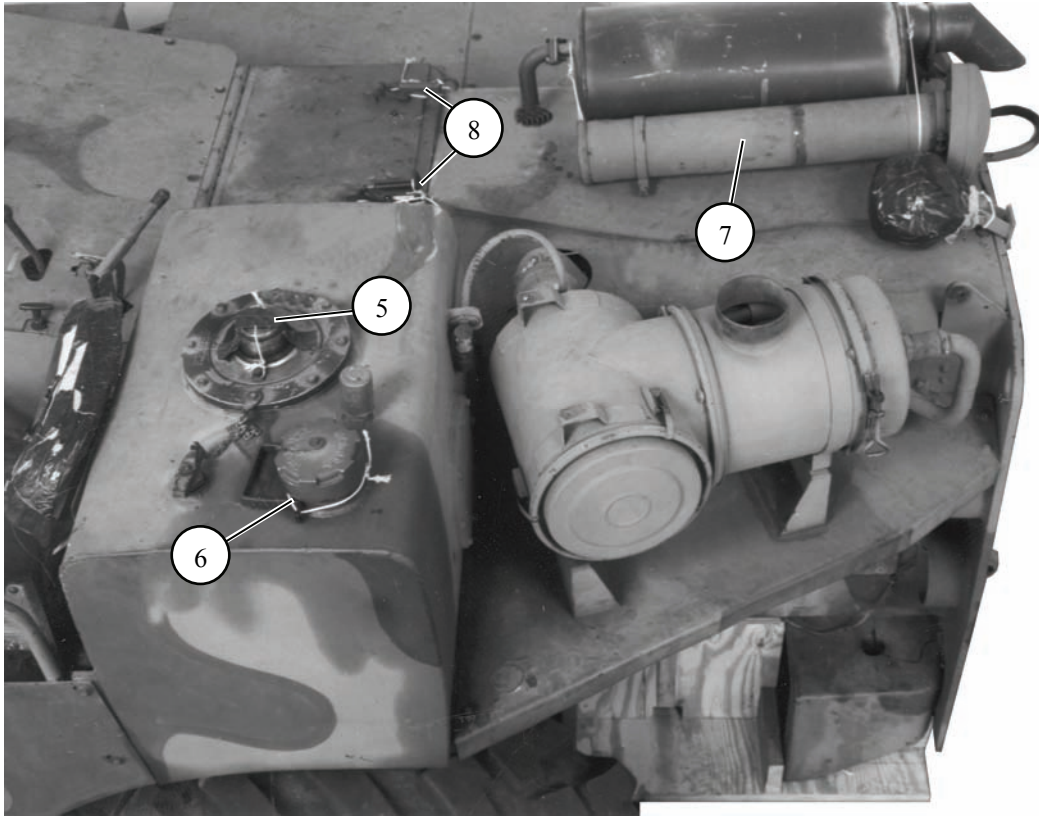
- ① Safety the engine compartment door with type III nylon cord.
- ② Safety the storage box latches with type III nylon cord.

Figure 4-15. Forklift Prepared



- 3 Pad the beam lights with cellulose wadding and tape in place. Turn the lights down against the forklift.
- 4 Secure the steering wheel to the seat with type III nylon cord.

Figure 4-15. Forklift Prepared (Continued)



- 5 Remove the bracket above the hydraulic warning indicator. Safety the indicator with tape and type III nylon cord.
- 6 Secure the hydraulic warning indicator bracket to the hydraulic fluid filler cap with tape and type III nylon cord.
- 7 Remove the air intake stack, lay it beside the muffler, and tie it in place with type III nylon cord.
- 8 Safety the battery box with type III nylon cord.

Figure 4-15. Forklift Prepared (Continued)

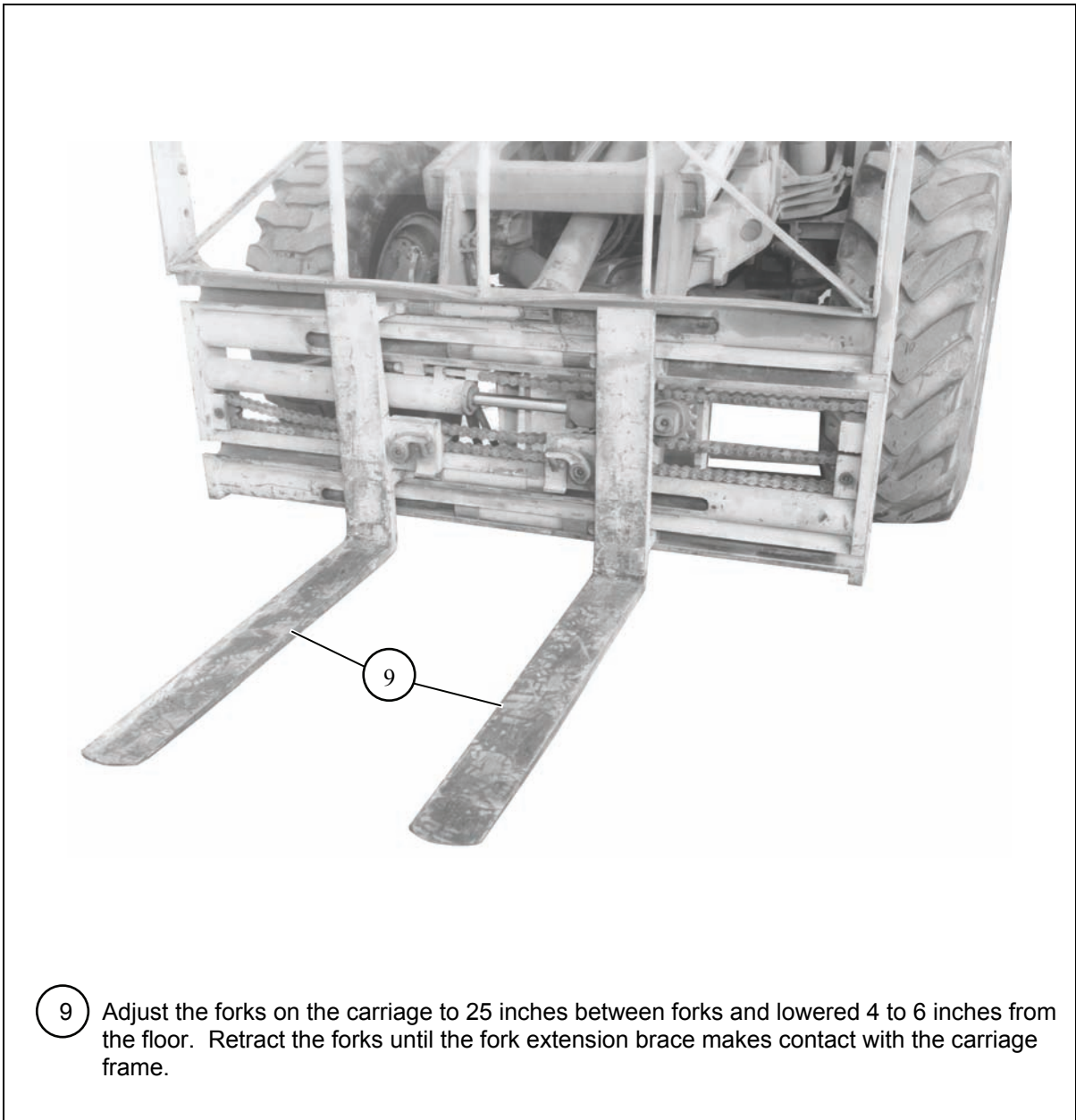
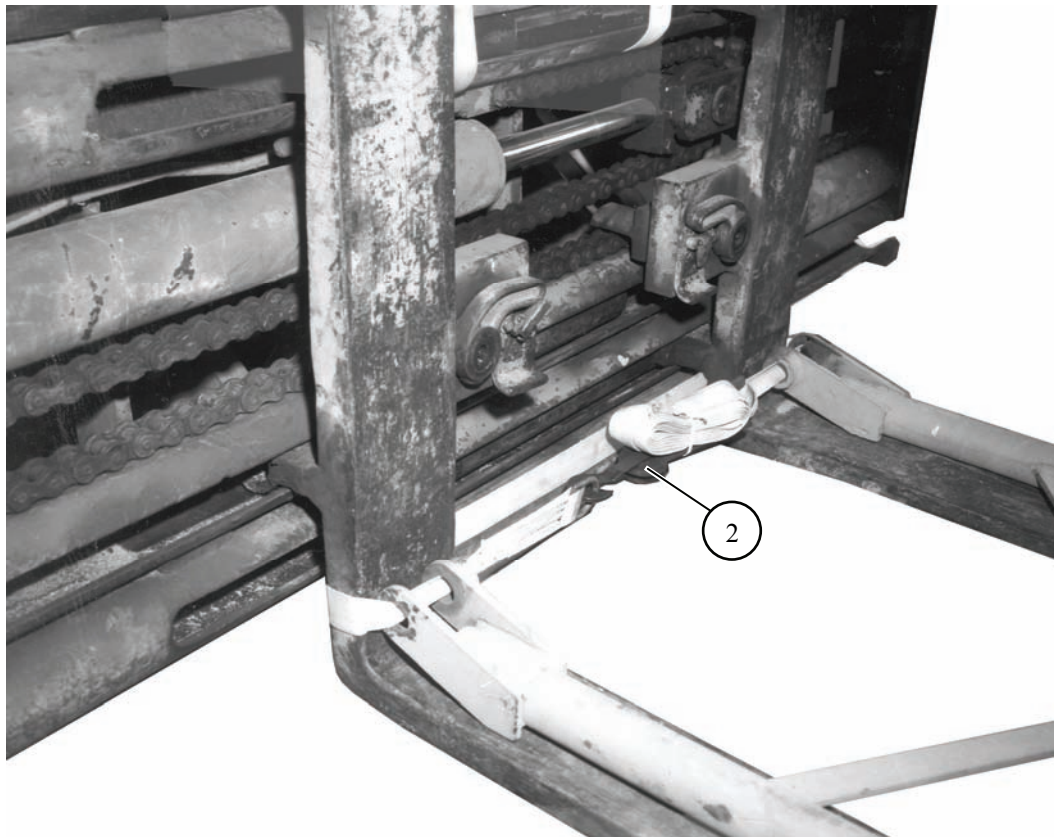


Figure 4-15. Forklift Prepared (Continued)



- ① Pass the rear support members of the ROPS through the carriage backrest. Lay the guard support members on the forks (not shown).
- ② Pass a 15-foot lashing through the pin holes in the ROPS support members and around the forks. Secure the ends with a D-ring and a load binder.

Figure 4-16. ROPS Secured to Forks

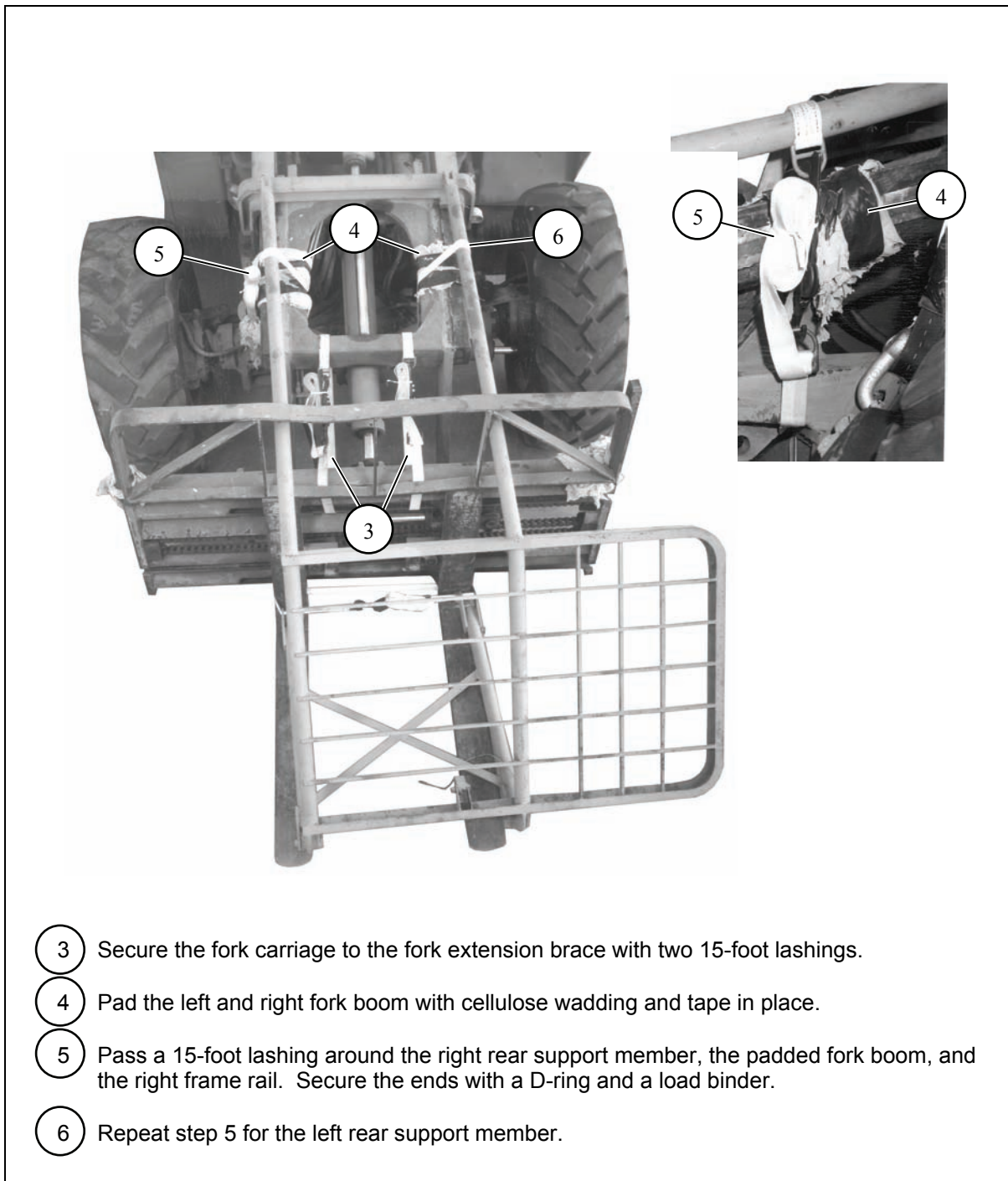
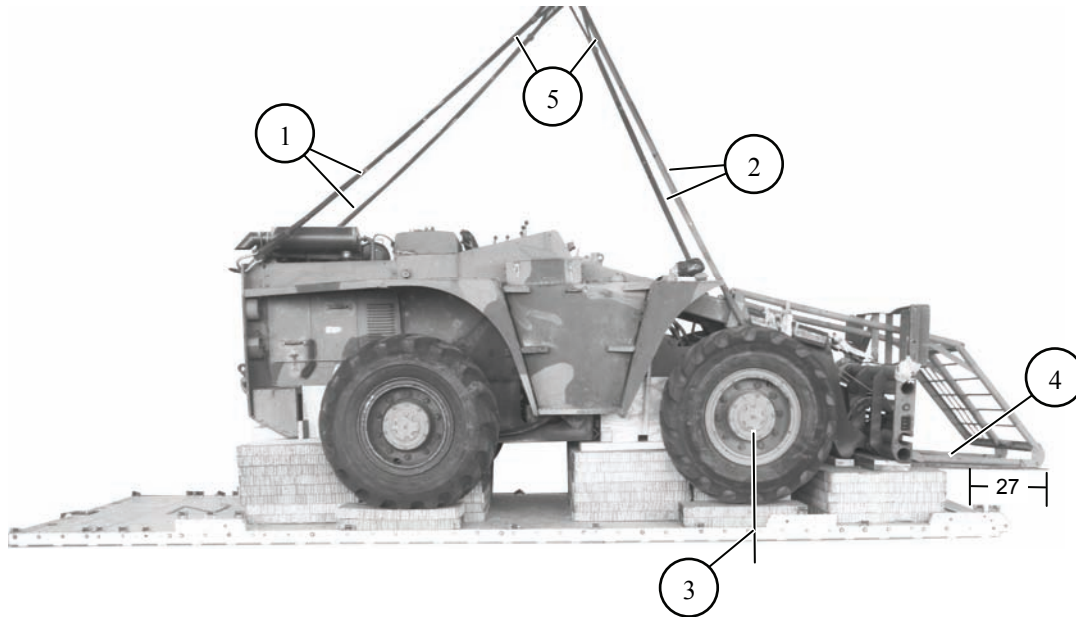


Figure 4-16. ROPS Secured to Forks (Continued)

POSITIONING FORKLIFT

4-6. Install the lifting slings and position the forklift on the platform as shown and described in Figure 4-17.

Note. All measurements given in inches.

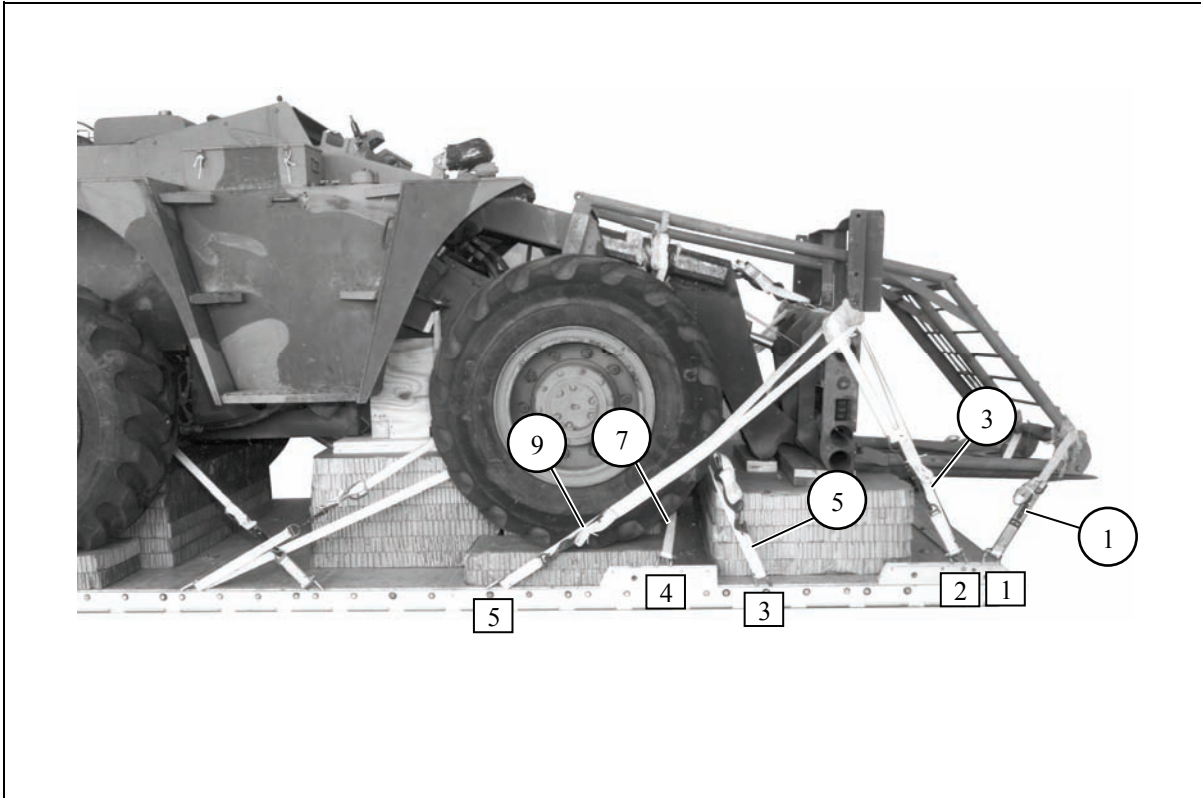


- 1 Attach an 11-foot (4-loop), type XXVI nylon sling to each rear lifting point with a large clevis.
- 2 Attach an 11-foot (4-loop), type XXVI nylon sling to each front lifting point with a large clevis.
- 3 Set the forklift on the platform with the center of the front wheel 74 inches from the front edge of the platform.
- 4 Lower the forks on top of the honeycomb stacks so the fork carriage is centered on the 12-by 72-inch lumber of stack 1. The forks should overhang the front of the platform 27 inches.
- 5 Remove the lifting slings after forklift is positioned.

Figure 4-17. Forklift Positioned

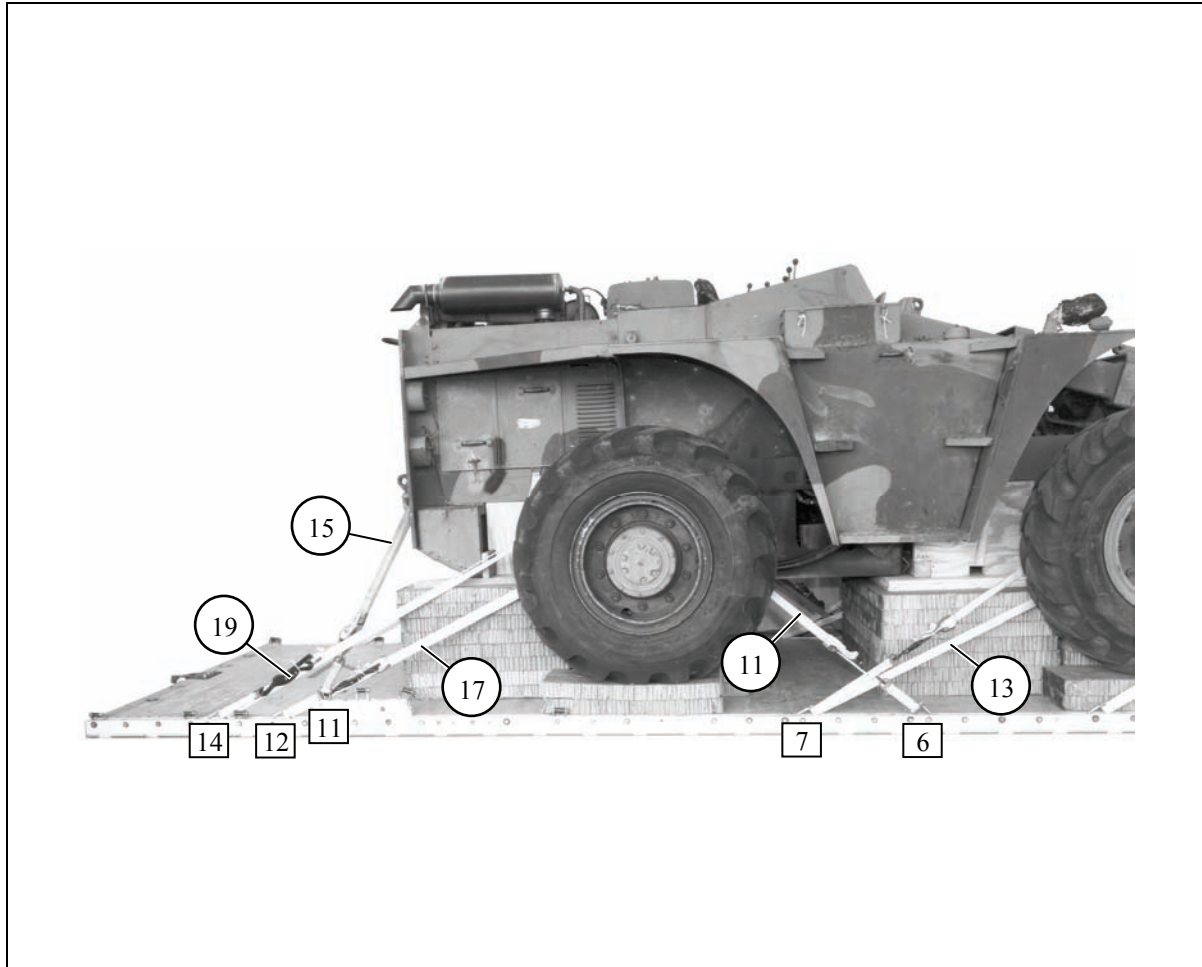
LASHING FORKLIFT

4-7. Lash the forklift to the platform with twenty 15-foot tie-down assemblies. Install the lashings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figures 4-18 and 4-19.



<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
		Pass lashing:
1	1	Around operator's guard and fork, right side.
2	1A	Around operator's guard and fork, left side.
3	2	Around padded fork carriage, right side.
4	2A	Around padded fork carriage, left side.
5	3	Through padded front lifting point, right side.
6	3A	Through padded front lifting point, left side.
7	4	Around front mainframe cross brace, right side.
8	4A	Around front mainframe cross brace, left side.
9	5	Around padded fork carriage, right side.
10	5A	Around padded fork carriage, left side.

Figure 4-18. Lashings 1 Through 10 Installed



<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
		Pass lashing:
11	6	Through padded rear tie-down point, right side.
12	6A	Through padded rear tie-down point, left side.
13	7	Around front axle, right side.
14	7A	Around front axle, left side.
15	11	Through towing pintle.
16	11A	Through towing pintle.
17	12	Around rear axle, right side.
18	12A	Around rear axle, left side.
19	14	Through padded rear tie-down point, right side.
20	14A	Through padded rear tie-down point, left side.

Figure 4-19. Lashings 11 Through 20 Installed

COVERING LOAD

4-8. Cover the load as shown in Figure 4-20.

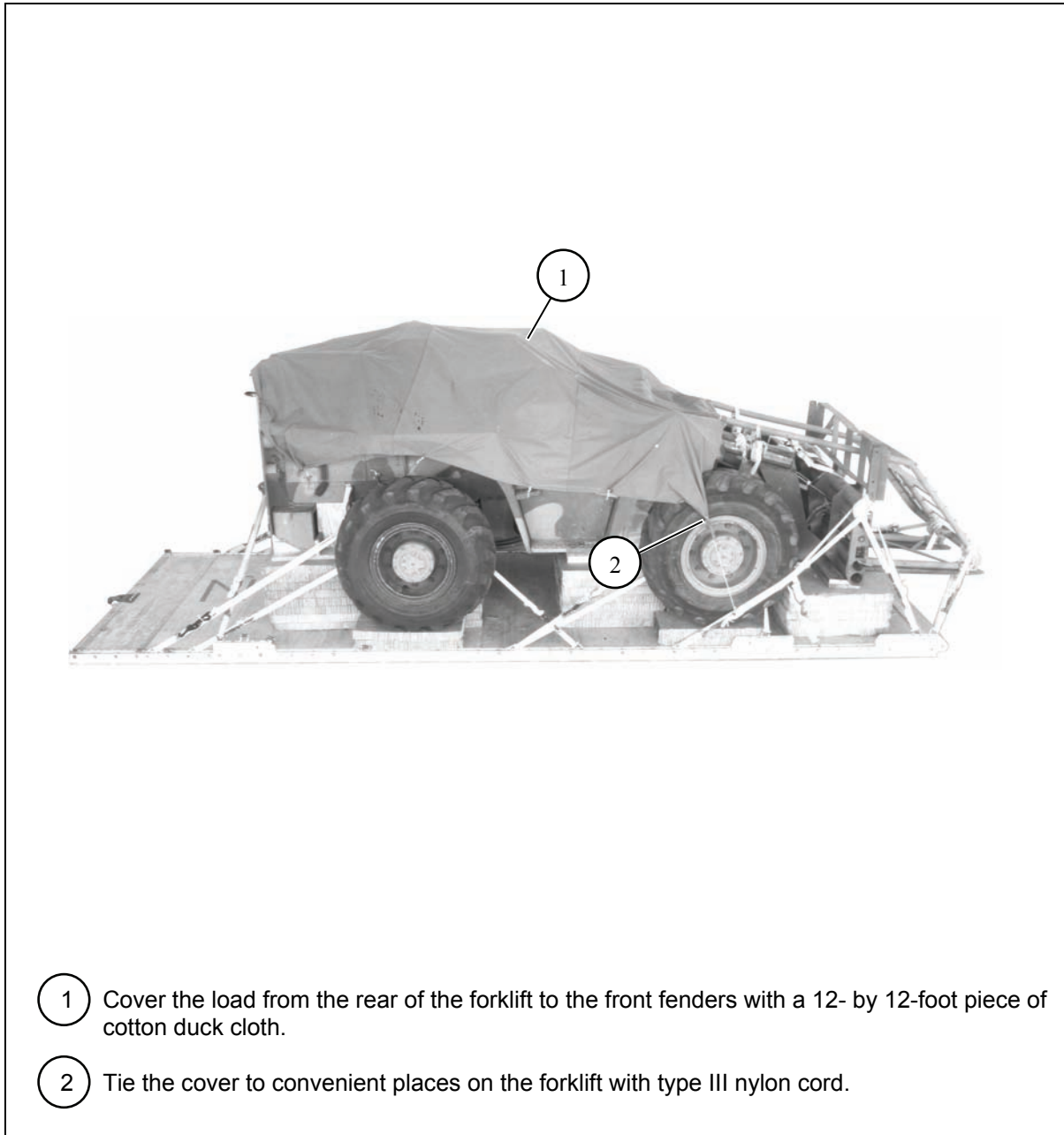


Figure 4-20. Load Covered

INSTALLING SUSPENSION SLINGS AND DEADMAN'S TIE

4-9. Install the suspension slings and the deadman's tie as shown in Figure 4-21.

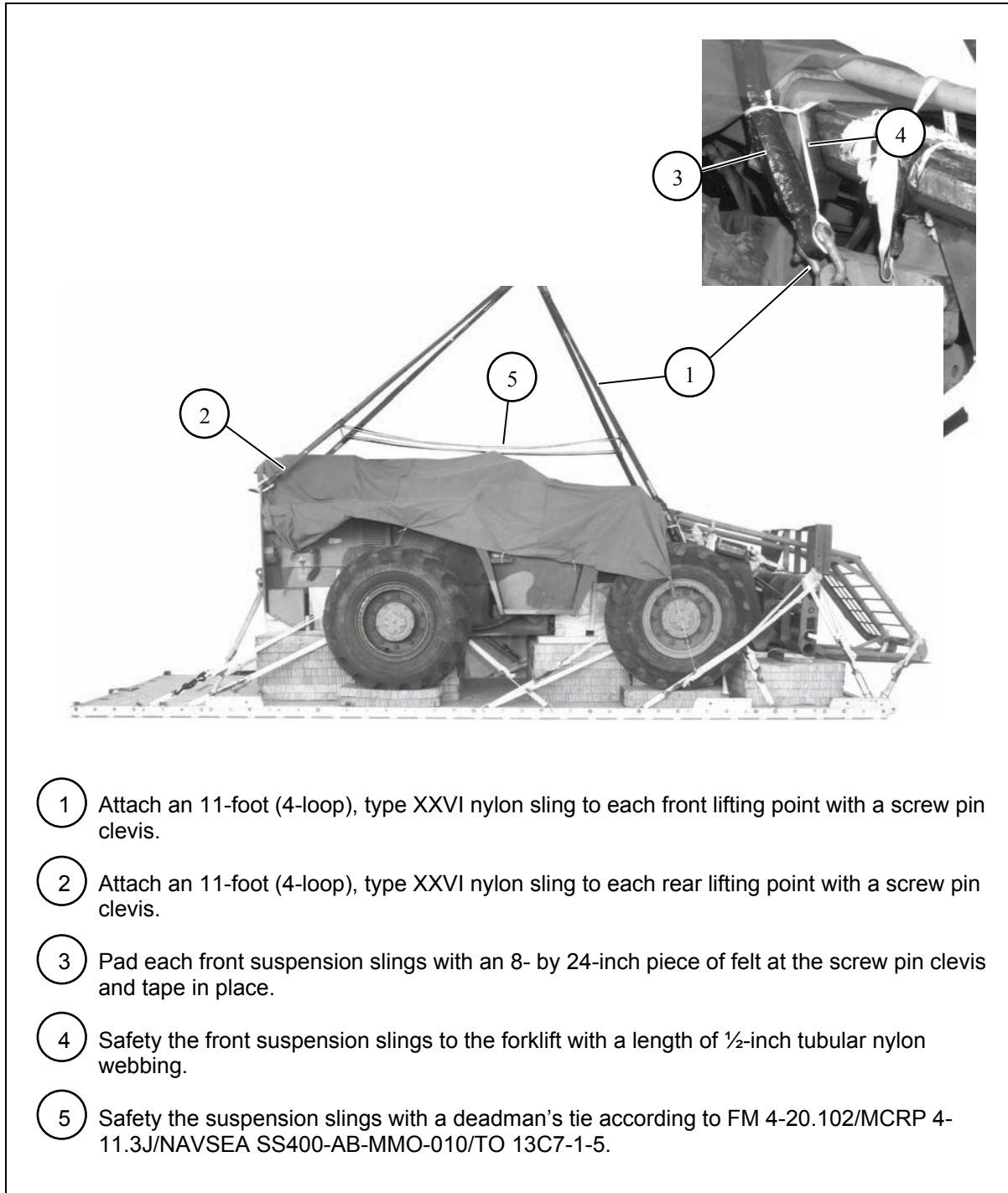


Figure 4-21. Suspension Slings and Deadman's Tie Installed

BUILDING AND POSITIONING PARACHUTE STOWAGE PLATFORM

4-10. Build and position the parachute stowage platform as described below.

- Build two honeycomb supports with thirty 18- by 48-inch pieces of honeycomb, 15 pieces for each stack.
- Build a parachute stowage platform as shown in Figure 4-22.
- Position the honeycomb support as shown in Figure 4-23.
- Position and lash the parachute stowage platform as shown in Figure 4-24.

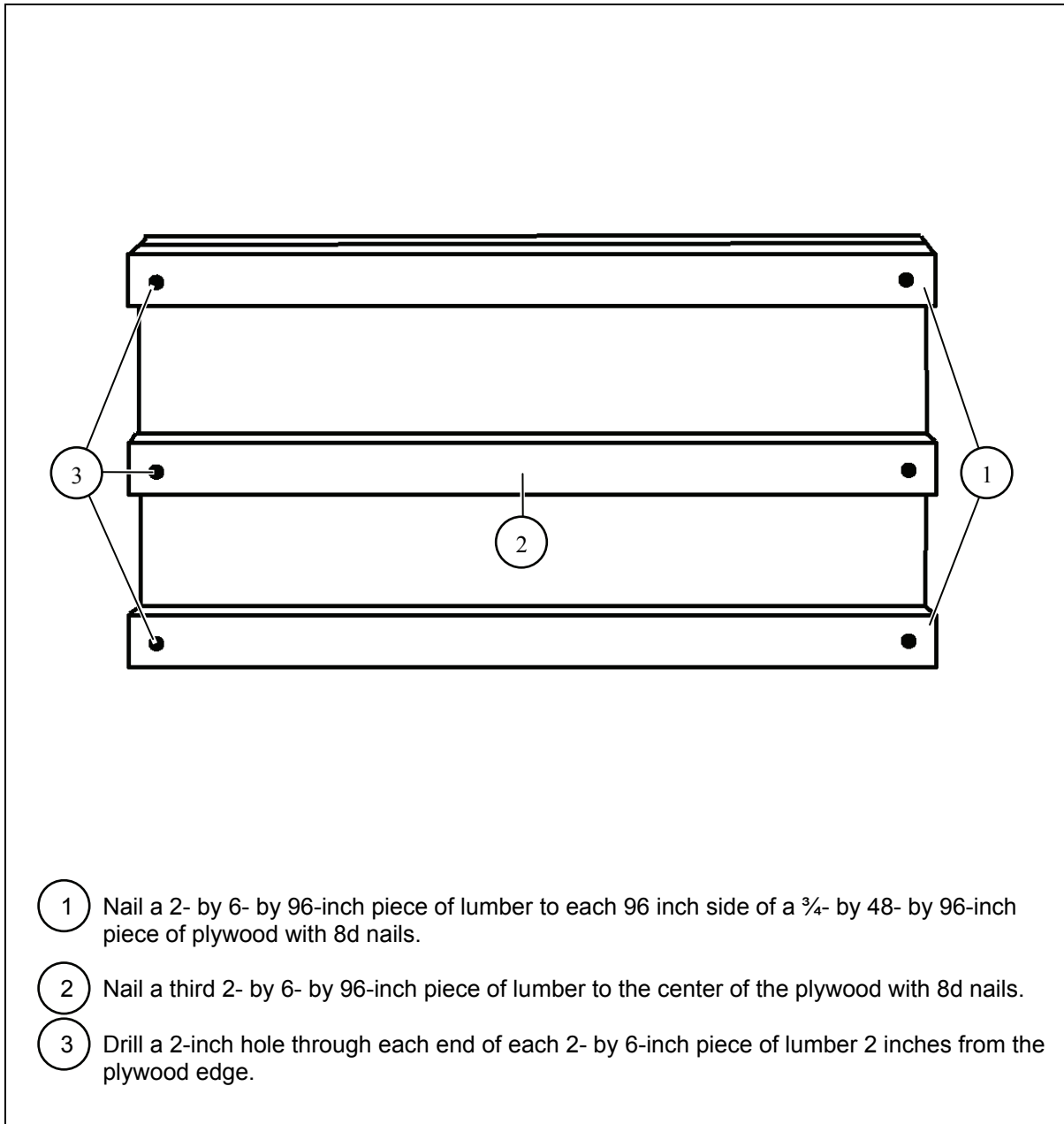


Figure 4-22. Parachute Stowage Platform Built

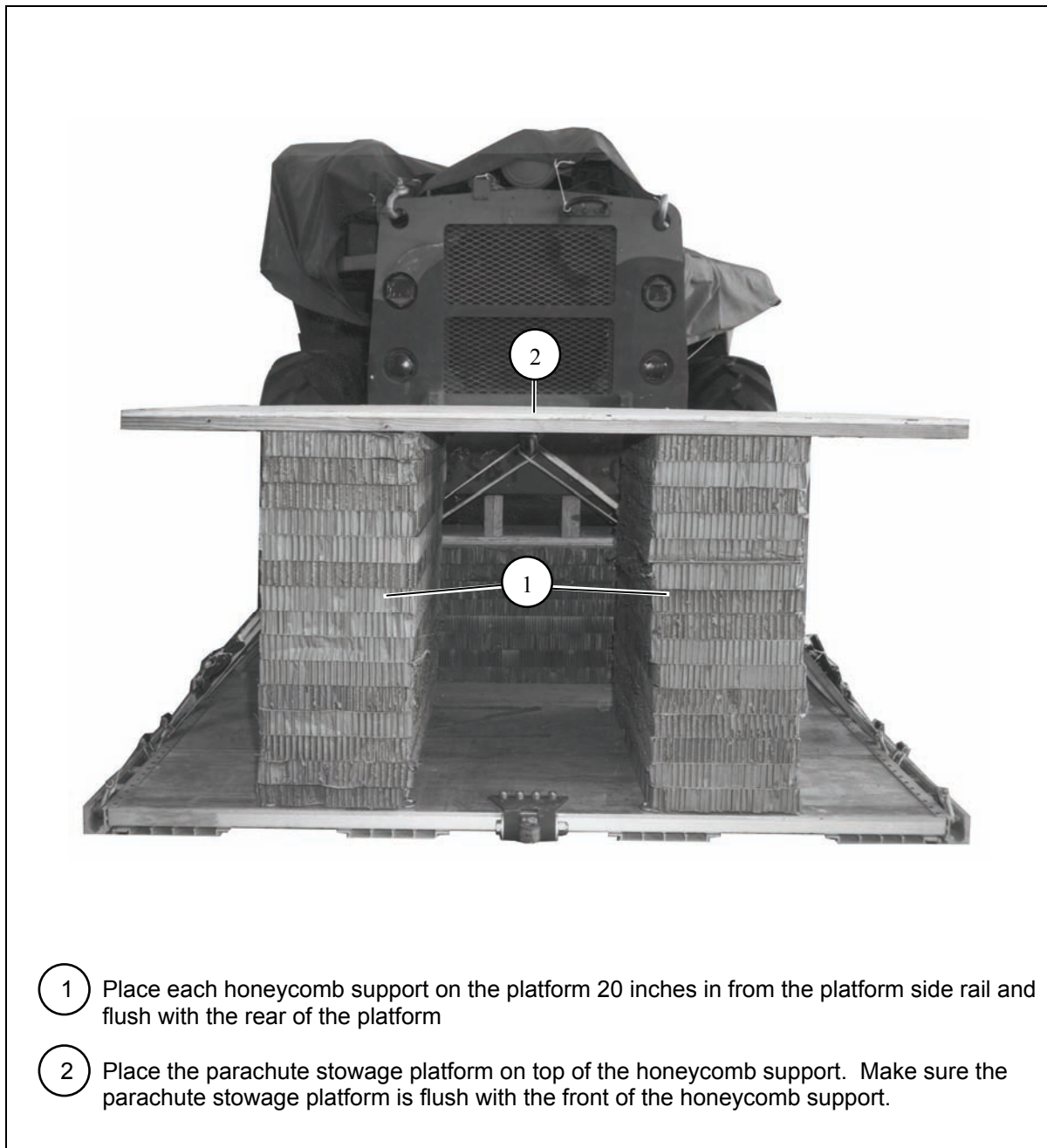
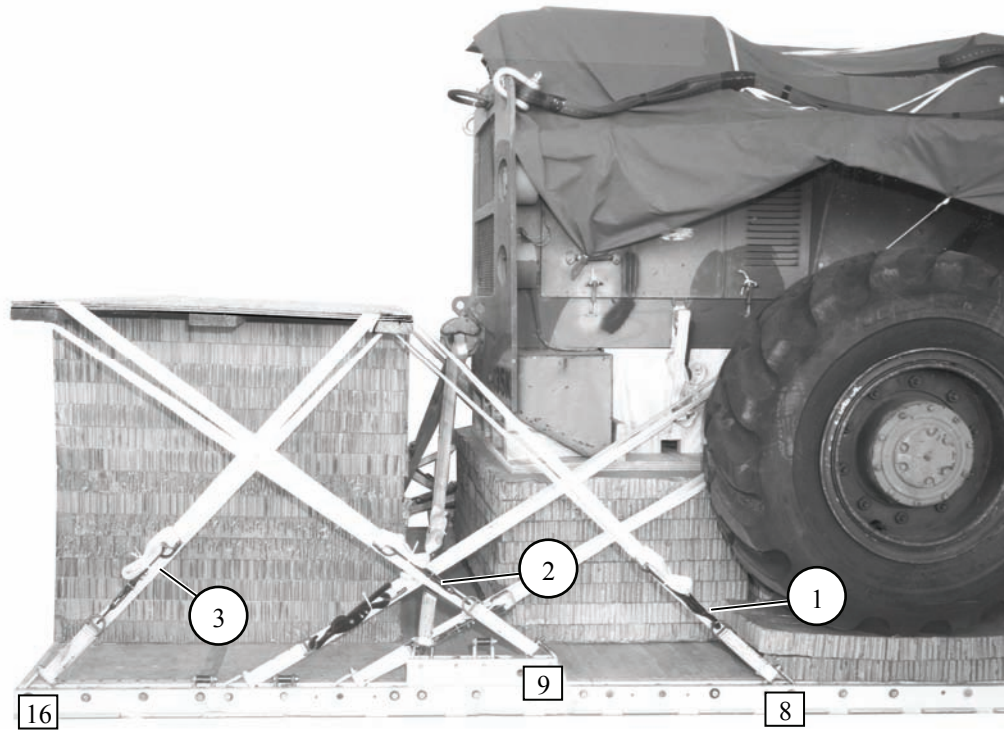


Figure 4-23. Honeycomb Support Positioned



- ① Pass a 15-foot lashing through clevis 8 and through the right front hole of the parachute stowage platform. Secure the ends with a D-ring and load binder. Repeat for left side using clevis 8A.
- ② Pass a 15-foot lashing through clevis 9 and through the right rear hole of the parachute stowage platform. Secure the ends with a D-ring and load binder. Repeat for left side using clevis 9A.
- ③ Pass a 15-foot lashing through clevis 16 and through the right front hole of the parachute stowage platform. Secure the ends with a D-ring and load binder. Repeat for left side using clevis 16A.

Figure 4-24. Parachute Stowage Platform Lashed to Platform

STOWING CARGO PARACHUTE

4-11. Prepare, stow and restrain six G-11 cargo parachutes on the parachute stowage platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 4-25.

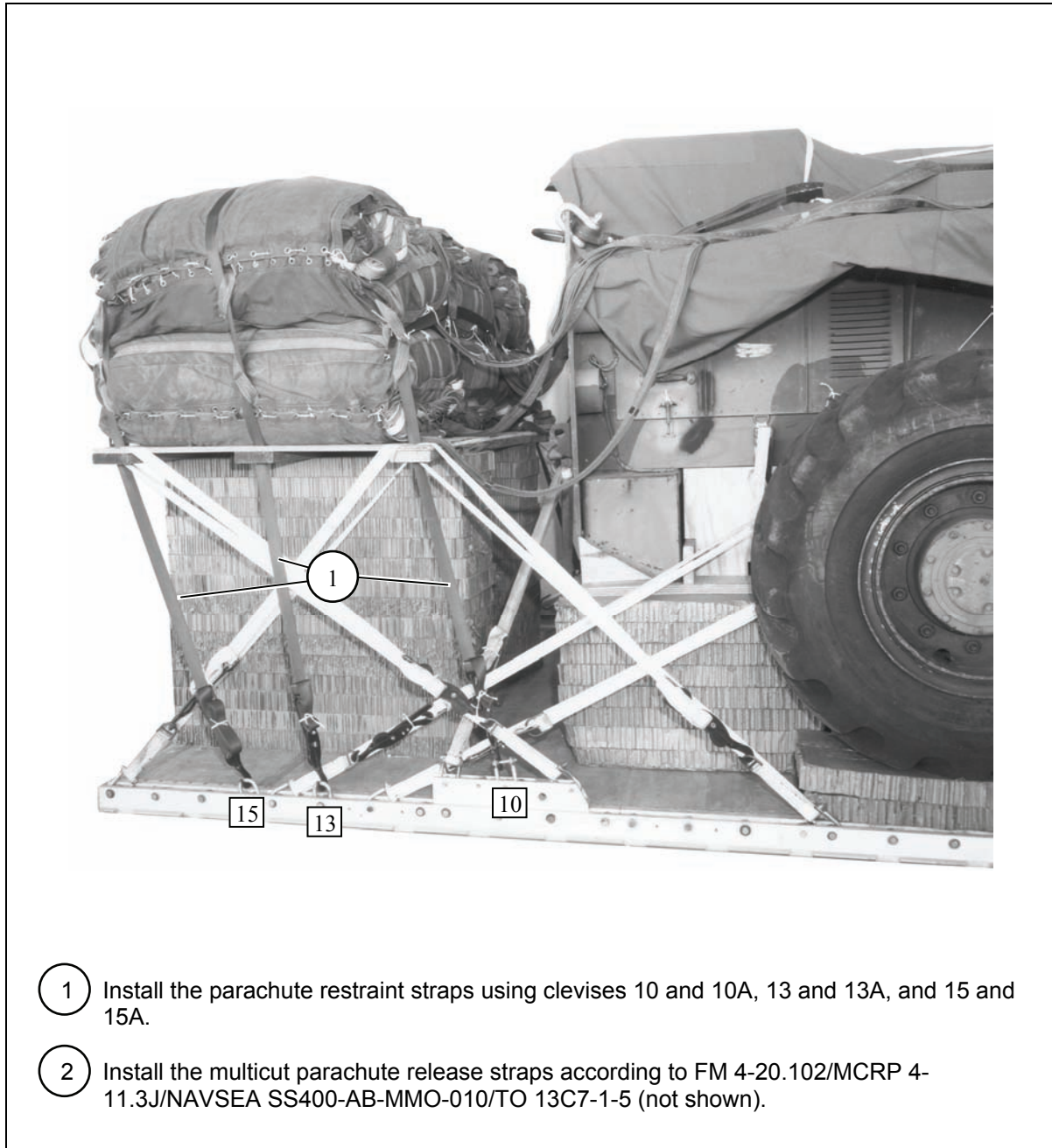


Figure 4-25. Cargo Parachutes Stowed

INSTALLING EXTRACTION SYSTEM

4-12. Install the EFTC extraction system according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 4-26. If applicable, install the EPJS according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

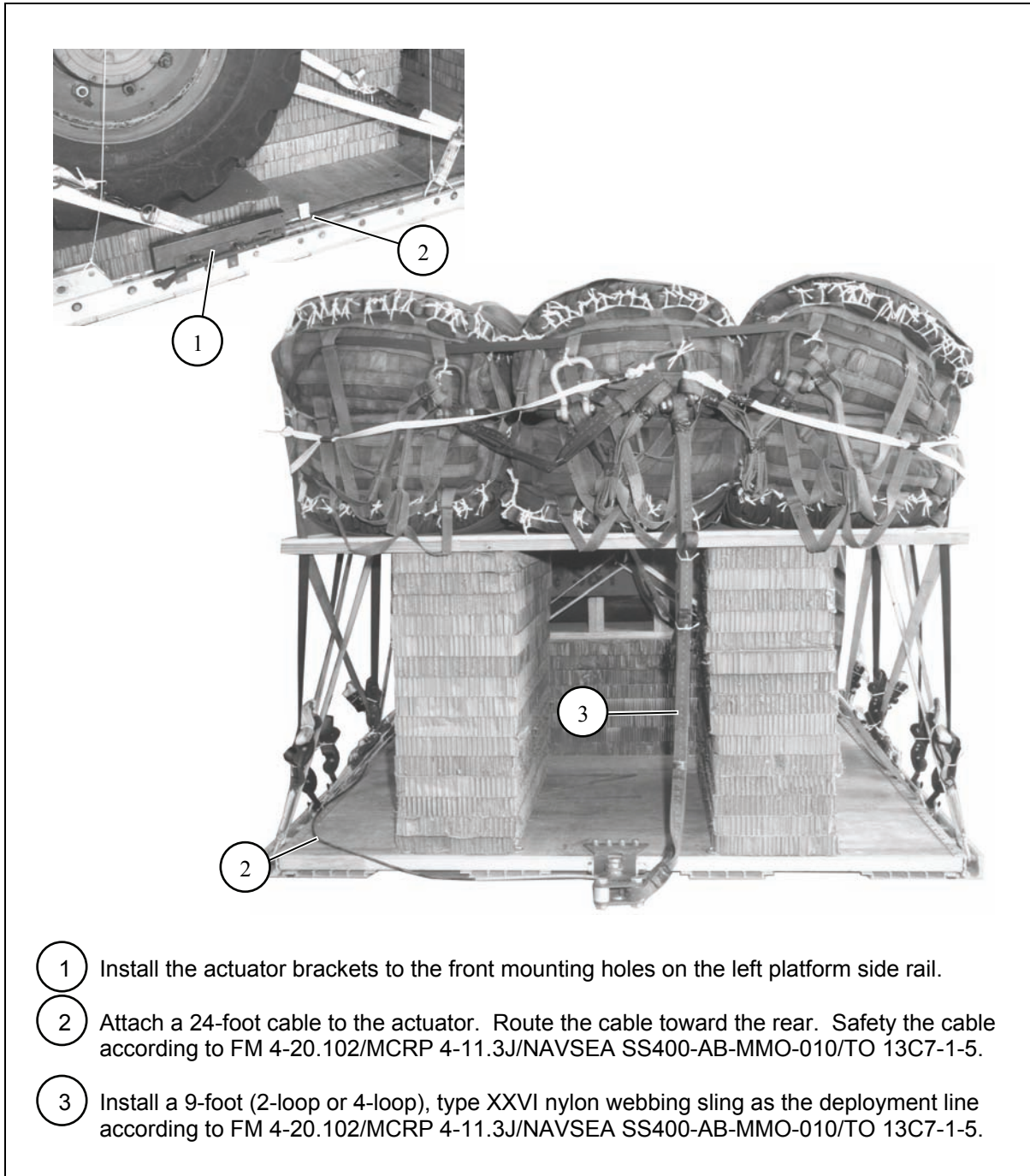
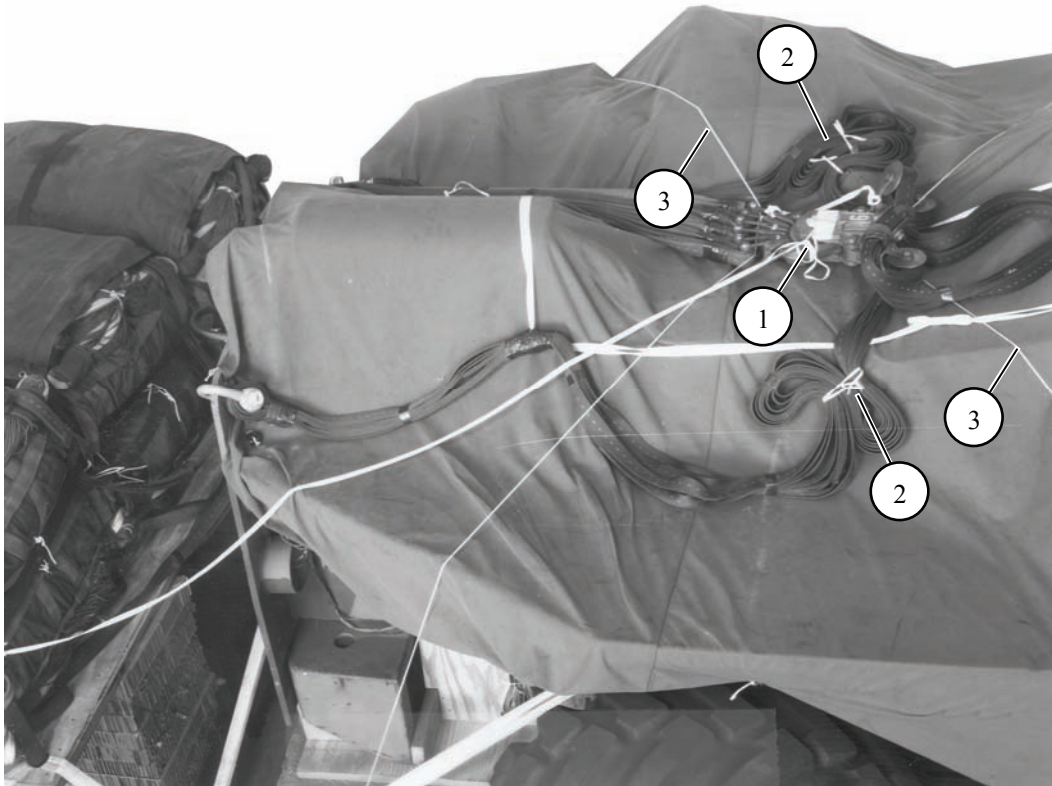


Figure 4-26. EFTC Installed

INSTALLING PARACHUTE RELEASE

4-13. Install an M-2 cargo parachute release according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 4-27.



- 1 Place the M-2 release on top of the load and attach the suspension slings and parachute riser extension according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
- 2 S-fold the excess suspension slings and tie them with type I, ¼-inch cotton webbing.
- 3 Secure the M-2 release with type III nylon cord to clevises 6 and 6A, and 9 and 9A.

Figure 4-27. M-2 Cargo Parachute Release Installed

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

4-14. Install the provision for the emergency restraints on the load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

PLACING EXTRACTION PARACHUTE

4-15. Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Rig the extraction line in an extraction line bag according to TM 10-1670-286-20/TO 13C5-2-41. Place the extraction parachute and extraction line on the load for installation in the aircraft. If a drogue parachute and drogue line are required, place them on the platform for installation in the aircraft as well.

MARKING RIGGED LOAD

4-16. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 4-28. Complete the Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

INSTALLING LOAD LIFTING SLINGS

4-17. Install lifting slings as described below to lift the rigged load onto the transport vehicle.

- Attach an 11-foot (4-loop), type XXVI nylon sling to each front lifting point with a large clevis.
- Attach an 11-foot (4-loop), type XXVI nylon sling to each rear lifting point with a large clevis.

EQUIPMENT REQUIRED

4-18. Use the equipment listed in Table 4-2 to rig this load.

CAUTION

Make the final rigger inspection required by FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 before the load leaves the rigging site.

NOTICE OF EXCEPTION

The rigged height is greater than 100 inches. The location of the maximum height is behind the seat.



RIGGED LOAD DATA

Weight: Load shown	28,660 pounds
Maximum load allowed	29,500 pounds
Height	100 ¾ inches
Width.....	108 inches
Overall Length	343 inches
Overhang: Front (forks).....	27 inches
Rear (EFTC).....	18 inches
Rear (EPJS).....	30 inches
Center of Balance (from front edge of platform).....	141 inches

Figure 4-28. 6,000-Pound Capacity Forklift Truck Rigged on a Type V Platform

Table 4-2. Equipment Required for Rigging the 6,000-Pound Capacity Forklift Truck on a Type V Platform

<i>National Stock Number</i>	<i>Item</i>	<i>Quantity</i>
8040-00-273-8713	Adhesive, paste, 1-gallon	As required
	Clevis, suspension:	
4030-00-090-5354	1-inch (large)	4
4030-00-432-2516	Screw-pin	4
4020-00-240-2146	Cord, nylon, type III, 550-pound	As required
1670-00-434-5782	Coupling, airdrop, extraction force transfer with cable, 24-foot	1
1670-00-360-0328	Cover, clevis, large	6
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, ½-inch	As required
1670-01-183-2678	Leaf, extraction line (line bag)	2
1670-01-064-4452	Line, drogue, 60-foot (1-loop), type XXVI (for C-17)	1
	Line, extraction	
1670-01-064-4454	60-foot (6-loop), type XXVI (for C-130)	1
1670-01-468-9178	140-foot (6-loop), type XXVI (for C-17)	1
	Link assembly:	
1670-00-006-2752	Four point	1
1670-00-003-1953	Two-point:3 ¾-inch	2
	Lumber:	
5510-00-220-6146	2- by 4-inch	As required
5510-00-220-6148	2- by 6-inch	As required
5510-00-220-6274	4- by 4-inch	As required
	Nail, steel wire:	
5315-00-010-4657	6d	As required
5315-00-010-4659	8d	As required
5315-00-753-3885	16d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	26
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11	6
	Cargo extraction:	
1670-00-040-8135	28-foot	2
1670-01-063-3715	15-foot (drogue for C-17)	1
	Platform, airdrop, type V, 24-foot	
1670-01-353-8425	Bracket assembly, coupling	1
1670-01-162-2372	Clevis assembly, type V	32
1670-01-353-8424	Extraction bracket assembly	1
1670-01-247-2389	Suspension link assembly	4
1670-01-162-2381	Tandem link assembly (multipurpose link)	2

Table 4-2. Equipment Required for Rigging the 6,000-Pound Capacity Forklift Truck on a Type V Platform (Continued)

<i>National Stock Number</i>	<i>Item</i>	<i>Quantity</i>
5530-00-128-4981	Plywood, 3/4-inch	As required
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop:	
	For suspension:	
1670-01-062-6310	11-foot (4-loop), type XXVI nylon webbing	2
	For lifting:	
1670-01-062-6310	11-foot (4-loop), type XXVI nylon webbing	4
	For deployment:	
1670-01-062-6304	9-foot (2-loop), type XXVI nylon webbing or	1
1670-01-062-6305	9-foot (4-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6313	120-foot (2-loop), type XXVI nylon webbing	6
5340-00-040-8219	Strap, parachute release multi-cut, with 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-inch	As required
1670-00-937-0271	Tie-down assembly, 15-foot	39
1670-01-483-8259	Tow release mechanism (H-block for C-17)	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-inch	As required
8305-00-268-2455	Nylon, tubular, 1-inch	As required
8305-00-263-3591	Type X	As required

Glossary

AD	airdrop
AFB	Air Force base
AFMAN	Air Force Joint Manual
AFR	Air Force regulation
AFTO	Air Force Technical Order
ALC	Airlift Logistics Center
attn	attention
CB	center of balance
d	penny
DA	Department of the Army
DC	District of Columbia
DD	Department of Defense
EFTC	extraction force transfer coupling
EPJS	extraction parachute jettison system
FM	field manual
HQ	headquarters
MCRP	Marine Corps Reference Publication
NSN	national stock number
PSI	pounds per square inch
ROPS	roll-over protection structure
TM	technical manual
TO	technical order
TRADOC	US Army Training and Doctrine Command
US	United States

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References

- AFMAN 24-204(I)/TM 38-250, *Preparing Hazardous Materials for Military Air Shipments*, December 2001
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By Order of the Secretary of the Army and the Air Force:

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