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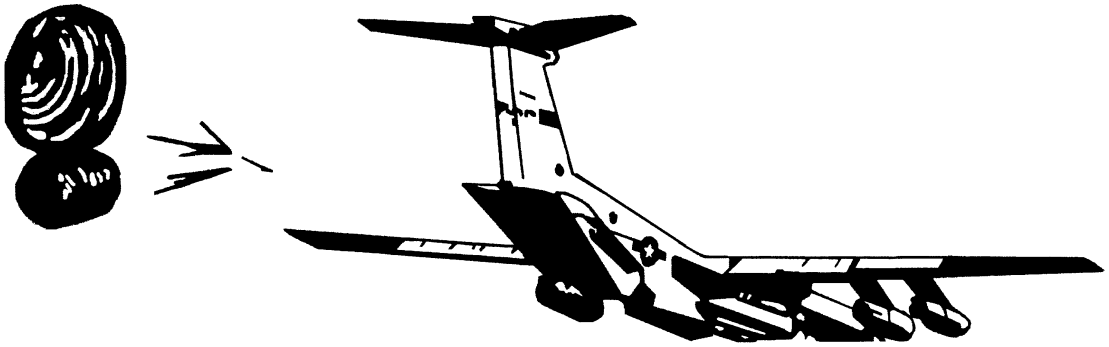
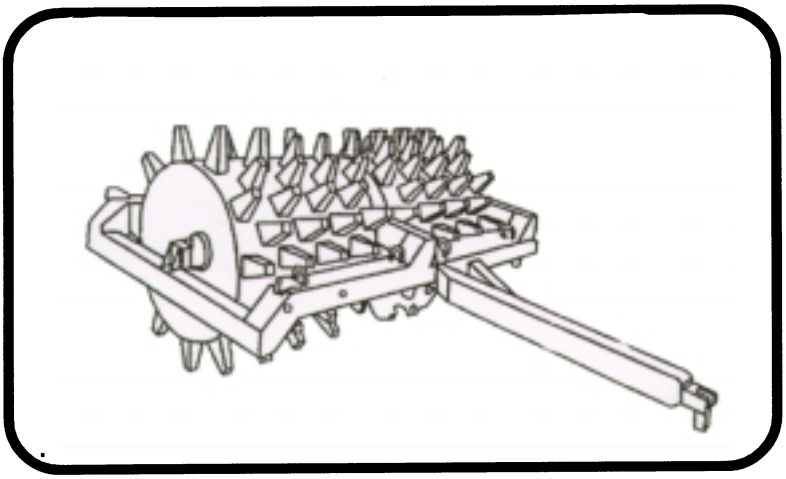


AIRDROP OF SUPPLIES AND EQUIPMENT:

RIGGING ROAD ROLLERS



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CHANGE
NO. 7

AIRDROP OF SUPPLIES AND EQUIPMENT: RIGGING ROAD ROLLERS

This change adds the procedures for rigging the vibratory compactor (Model CS-433C and Model CS-433P) for low-velocity airdrop on a type V platform.

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

1. New changed material is identified by a vertical bar (▮) in the margin opposite the changed material.

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HEADQUARTERS
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AIRDROP OF SUPPLIES AND EQUIPMENT:

RIGGING ROAD ROLLERS

This change adds the procedures for rigging the 13-wheel (model PT-13) towed roller for low-velocity airdrop on a type V platform.

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

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HEADQUARTERS
DEPARTMENT OF THE ARMY
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Washington, DC, 30 May 1997

AIRDROP OF SUPPLIES AND EQUIPMENT
RIGGING ROAD ROLLERS

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

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

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vii	vii-viii
1-1	1-1
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FIELD MANUAL
NO. 10-528
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AIRDROP OF SUPPLIES AND EQUIPMENT: RIGGING ROAD ROLLERS

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PREFACE

SCOPE

This manual tells and shows how to prepare and rig the vibratory compactor (Model CS-433C and Model CS-433P) on a 20-foot, type V platform for low-velocity airdrop. This manual is designed for use by all parachute riggers.

USER INFORMATION

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

CHAPTER I
INTRODUCTION

1-1. Description of Items

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

a. 7- 35-ton ballast pneumatic tire roller
b. Model W-2 sheepsfoot roller
c. Model MDG 96 sheepsfoot roller
d. 13-wheel pneumatic tire roller
e. 11-wheel pneumatic tire roller
f. M435 4- to 35-ton ballast pneumatic tire roller
g. Type I, SM 54 vibrating smooth drum roller
h. DED gas/VP4D diesel vibrating roll
i. 13-wheel Model (PT-13) pneumatic tire roller
j. Vibratory Compactor Model CS-433C
k. Vibratory Compactor Model CS-433P

1-2. Special Considerations

A copy of this manual should accompany the rigged load to the aircraft. The loads covered in this manual may include hazardous materials such as explosives, gasoline, or batteries. When included and, labeled according to AFJMAN 24-204/TM38-250.

CHAPTER 11

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

11-1. Description of Load

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

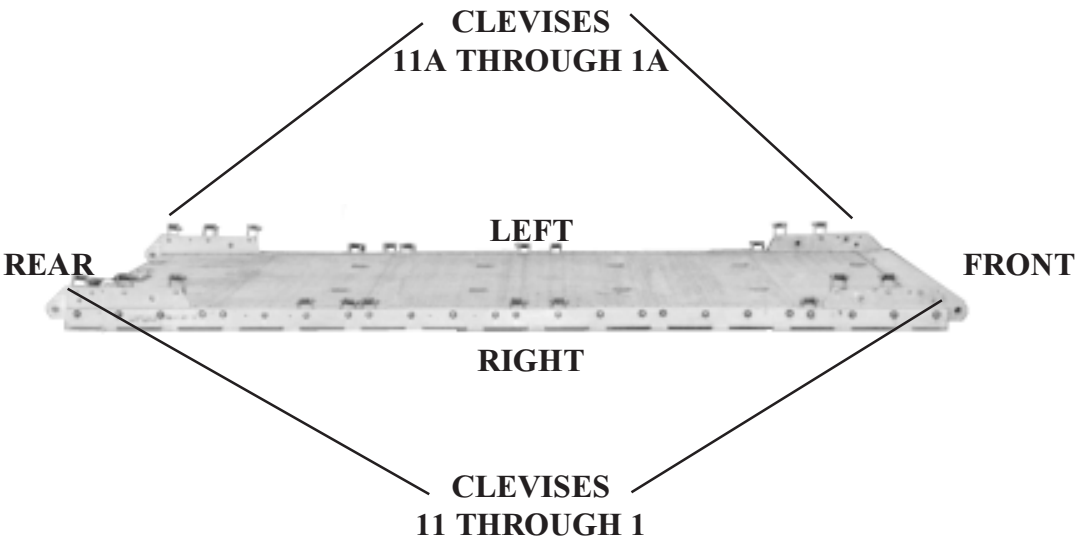
11-2. Preparing Platform

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

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

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

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



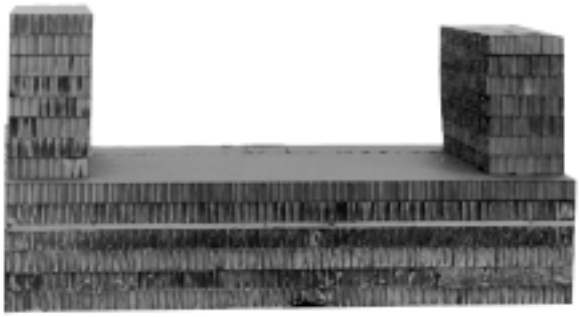
Step:

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

Figure 11-1. Platform prepared

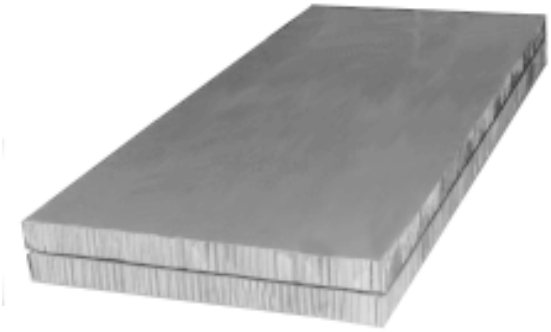
11-3. Preparing and Positioning Honeycomb Stacks

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



FRONT

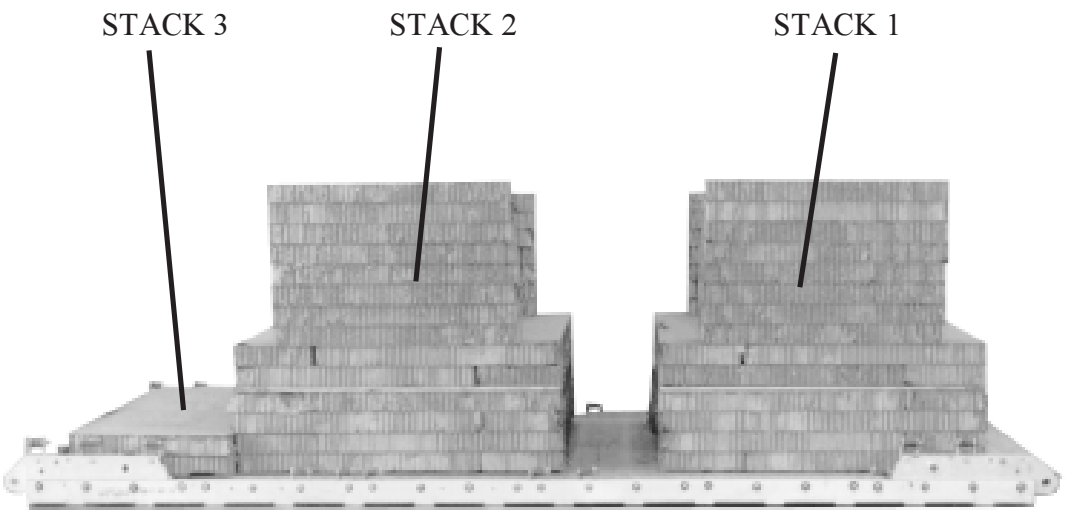
STACKS 1 AND 2



STACK 3

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

Figure 11-2. Honeycomb stacks prepared

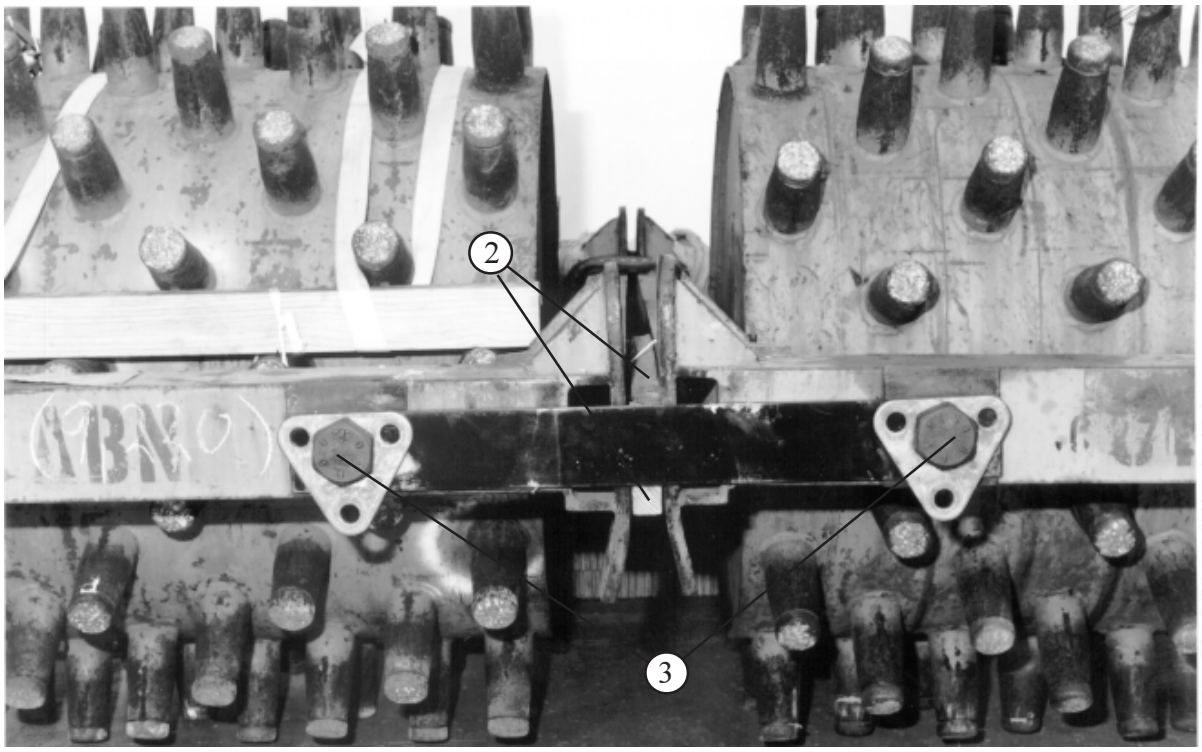


Stack Number	Position of Stack on Platform
	Place stack:
1	Centered and 5 1/2 inches from the front edge of the platform.
2	Centered and 14 1/2 inches from stack 1.
3	Flush with the rear of stack 2 and 6 1/2 inches from the right side rail.

Figure 11-3. Honeycomb stacks placed on platform

11-4. Preparing Roller and Installing Parachute Stowage Platform

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

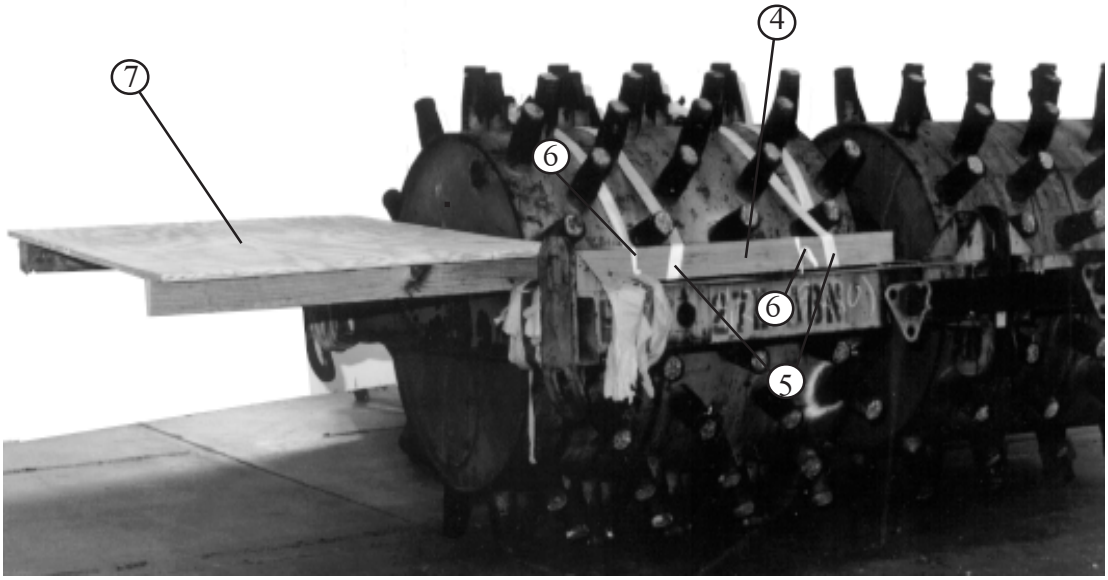


1. Remove the plugs and drain all ballast from the rollers. Replace and tighten the plugs. Remove the towing tongue from the frame sections (not shown).

2. Tie a length of 2- by 6-inch lumber between the frame sections to maintain spacing. (The length of the lumber will vary among rollers.)

3. Align the holes in the section bar (1/2-inch steel 4 inches by 36 inches) with the towing tongue bolt holes. Place a side plate from a three-point link assembly over each towing tongue bolt as a spacer. Bolt the section bar to the frame sections using the towing tongue bolt holes.

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



④ Place an 8-foot piece of 4- by 4-inch lumber on the frame section at the rear of the load, even with the front edge of the rear roller, and resting on a row of teeth so that the lumber is horizontal.

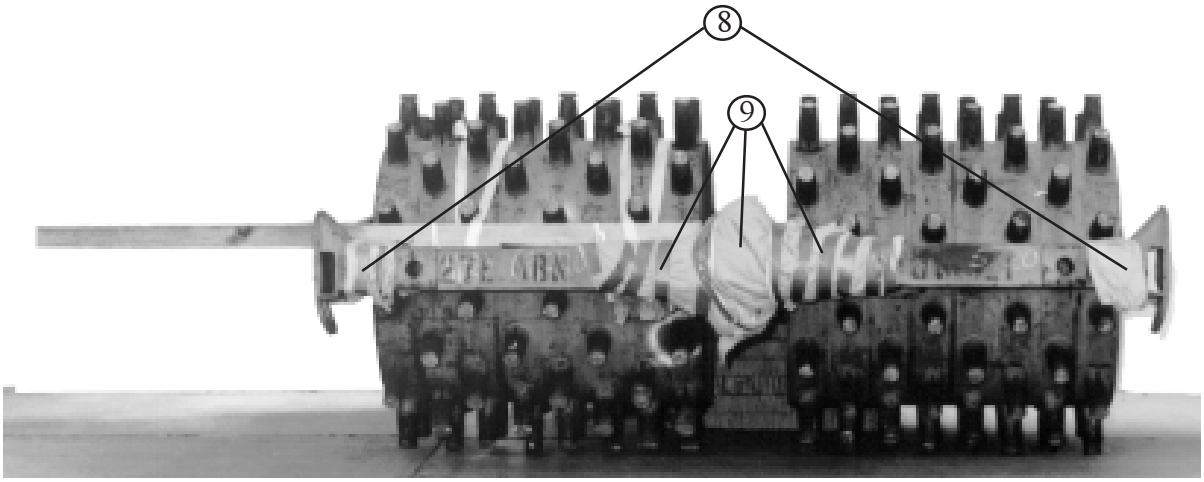
Note: It may be necessary to raise the roller and rotate it slightly so that the lumber will rest horizontally.

⑤ Pass two 15-foot lashings over the roller and around each piece of lumber. Pass the front lashing around the third row of teeth. Pass the rear lashing around the seventh row of teeth. Fasten the lashings over the roller.

⑥ Tie the lumber to the next lower row of teeth on each side in two places with 1/2-inch tubular nylon webbing.

⑦ Center and nail a 60- by 48-inch piece of 3/4-inch plywood over the lumber flush with the ends of the 4- by 4's. Center a 2-inch hole in each 48-inch side of the plywood 3 inches from the edge, measured on center.

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



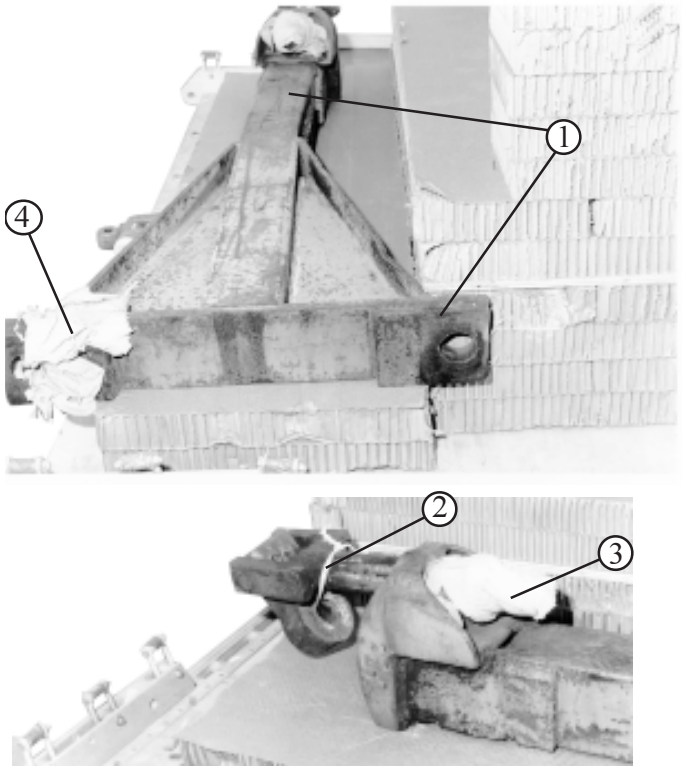
⑧ Pad the outside corners of the frame sections with cellulose wadding taped in place.

⑨ Pad the frame junction areas at the middle of the roller with cellulose wadding taped in place.

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

11-5. Positioning and Securing Towing Tongue

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



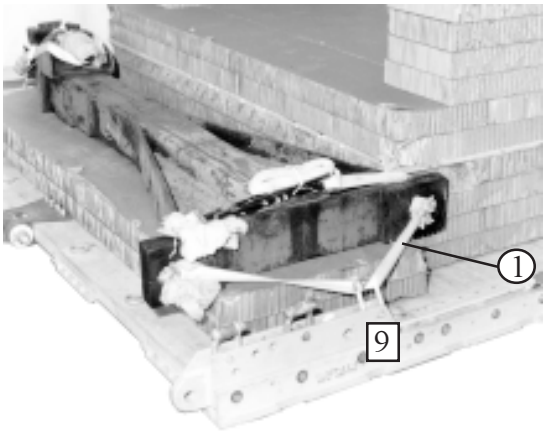
① Center the towing tongue on stack 3 with the lunette shaft on top and to the left. Align the right side of the tongue against stack 2 as shown. Crush the honeycomb on stack 2 enough to allow lashings to pass through the bolt hole.

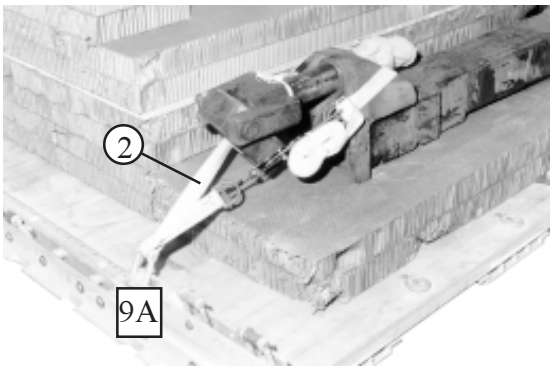
② Pass a length of 1/2-inch tubular nylon webbing through the lunette hole. Tie the lunette to the lunette shaft.

③ Pad the lunette shaft with cellulose wadding taped in place.

④ Pad the bolt holes with cellulose wadding (only the left hole is shown padded).

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

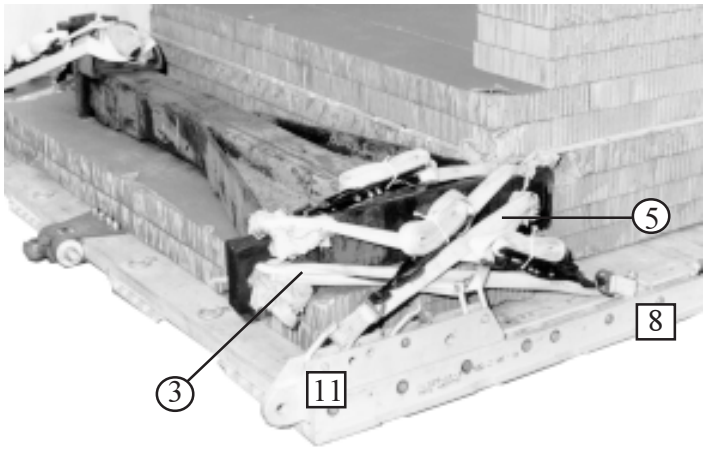


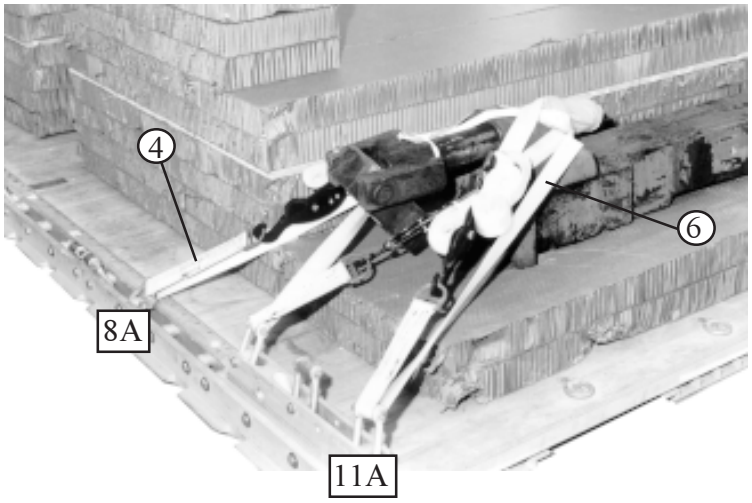


(5) Lash the towing tongue to the platform as shown below.

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

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



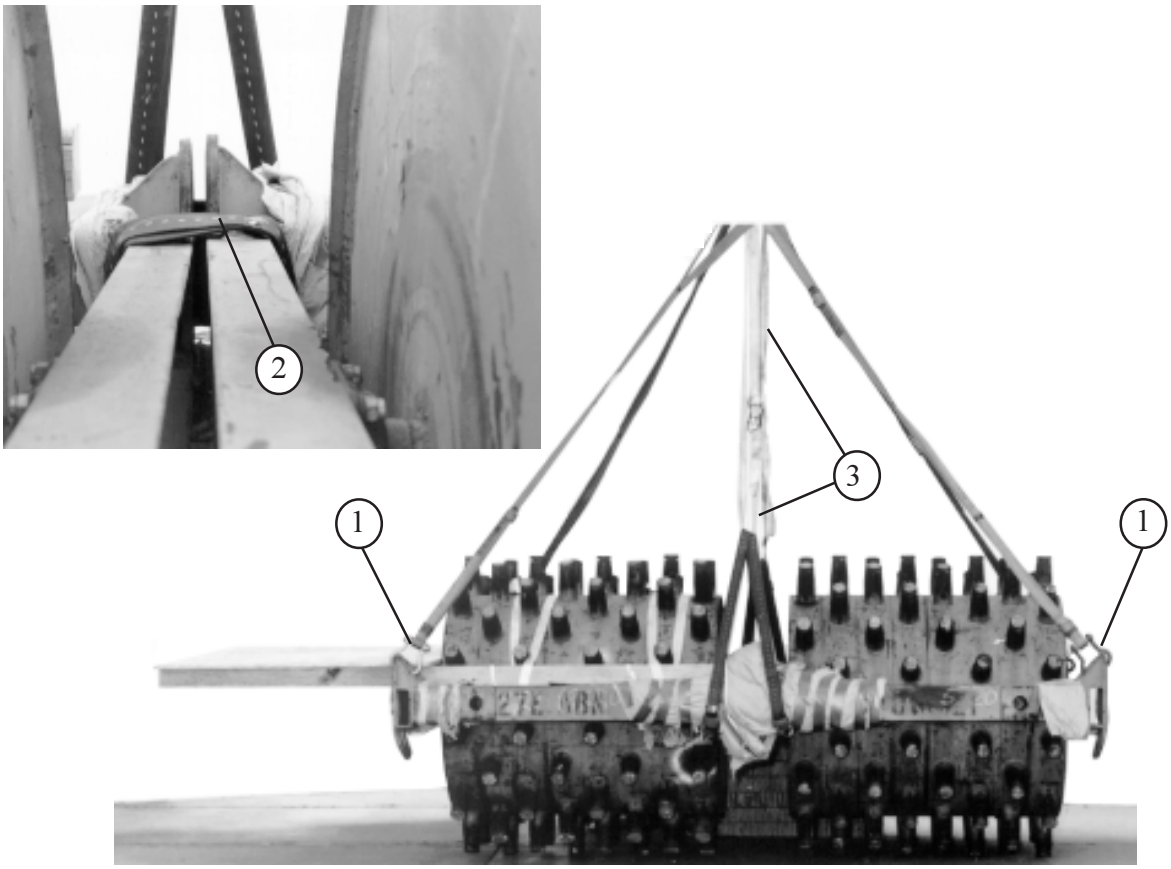


Lashing Number	Clevis Number	Instructions
		Pass lashing:
3	8	Through rear bolt hole.
4	8A	Around lunette shaft.
5	11	Through front bolt hole.
6	11A	Around lunette shaft.

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

11-6. Lifting and Positioning Roller

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

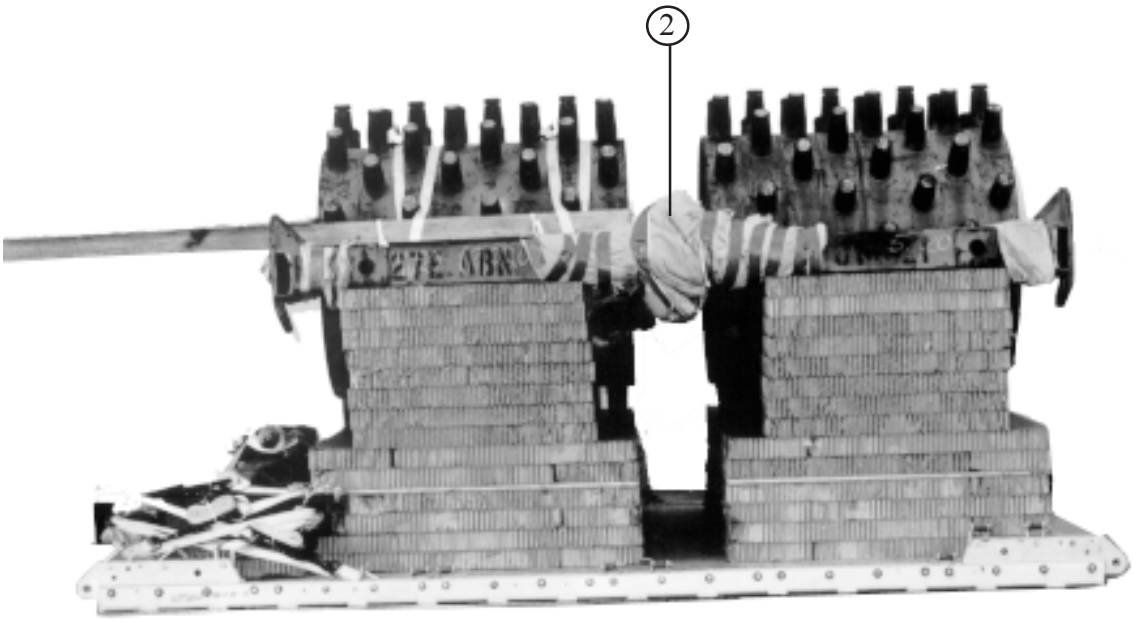


① Attach a 9-foot (2-loop), type XXVI nylon webbing sling to each corner lifting point with a large clevis.

② Center a 9-foot (2-loop), type XXVI nylon webbing sling over the inside center frames on each side. Pass the ends of the sling under the frames and upward.

③ Suspend each center sling from the crane hook with a 15-foot lashing passed through the end loops of the slings and through their own D-rings.

Figure 11-6. Lifting slings installed



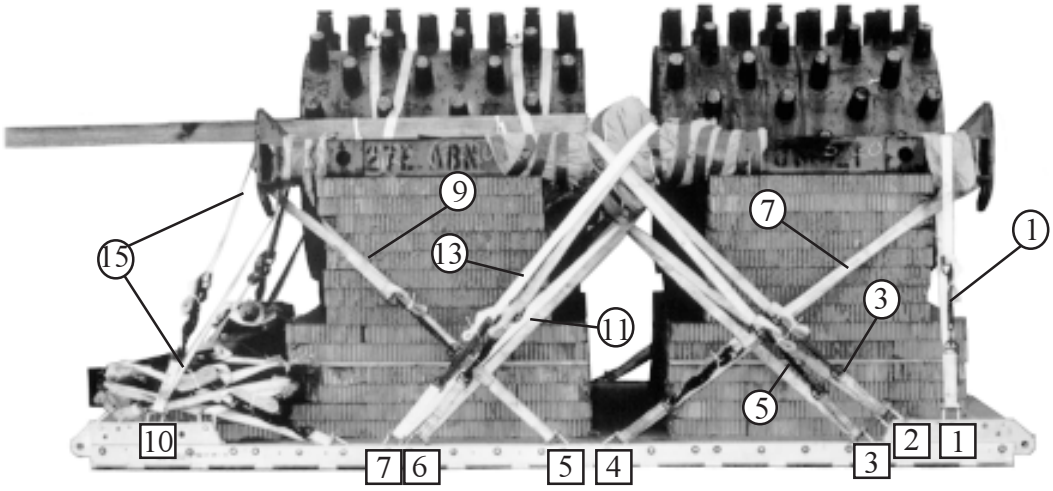
① Lift the roller slightly and tighten the center lifting slings if necessary to ensure the roller remains level (not shown).

② Set the roller on stacks 1 and 2 with the center of the roller frame midway between the stacks.

Figure 11-7. Roller positioned on honeycomb stacks

11-7. Lashing Roller

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

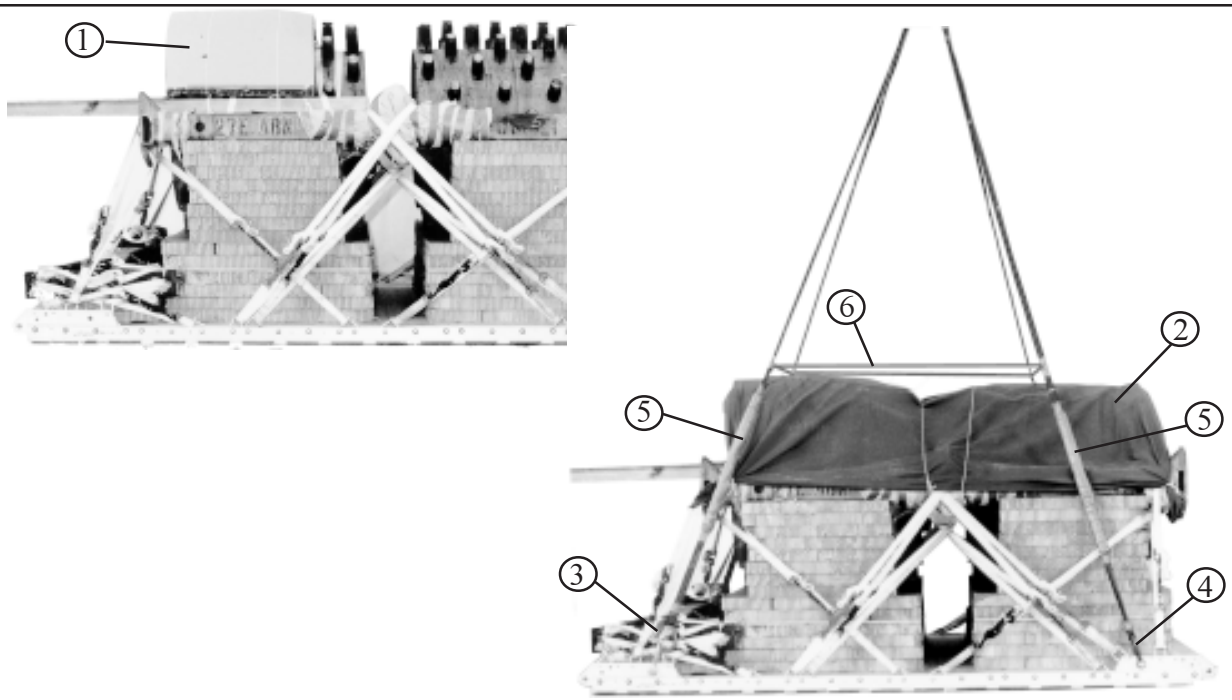


Lashing Number	Clevis Number	Instructions
		Pass lashing:
1	1	Around frame, right side.
2	1A	Around frame, left side.
3	2	Around rear side of center frame.
4	2A	Around rear side of center frame.
5	3	Around rear side of center frame.
6	3A	Around rear side of center frame.
7	4	Around end bar of frame,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

Figure 11-8. Roller lashed

11-8. Covering Roller and Installing Suspension Slings

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



1. Bend a 36- by 73-inch piece of honeycomb over the rear roller section.

2. Cover the roller with a 9- by 12-foot piece of cloth. Tie the cover to the load with type III nylon cord.

3. Attach a large clevis to each of two 16-foot (2-loop), type XXVI nylon webbing slings. Pass an additional large clevis through each of these clevises, and bolt the lower clevises to the rear tandem links. Tie the clevises together with type III nylon cord.

4. Attach a 16-foot (2-loop), type XXVI nylon webbing sling to each front tandem link with a large clevis.

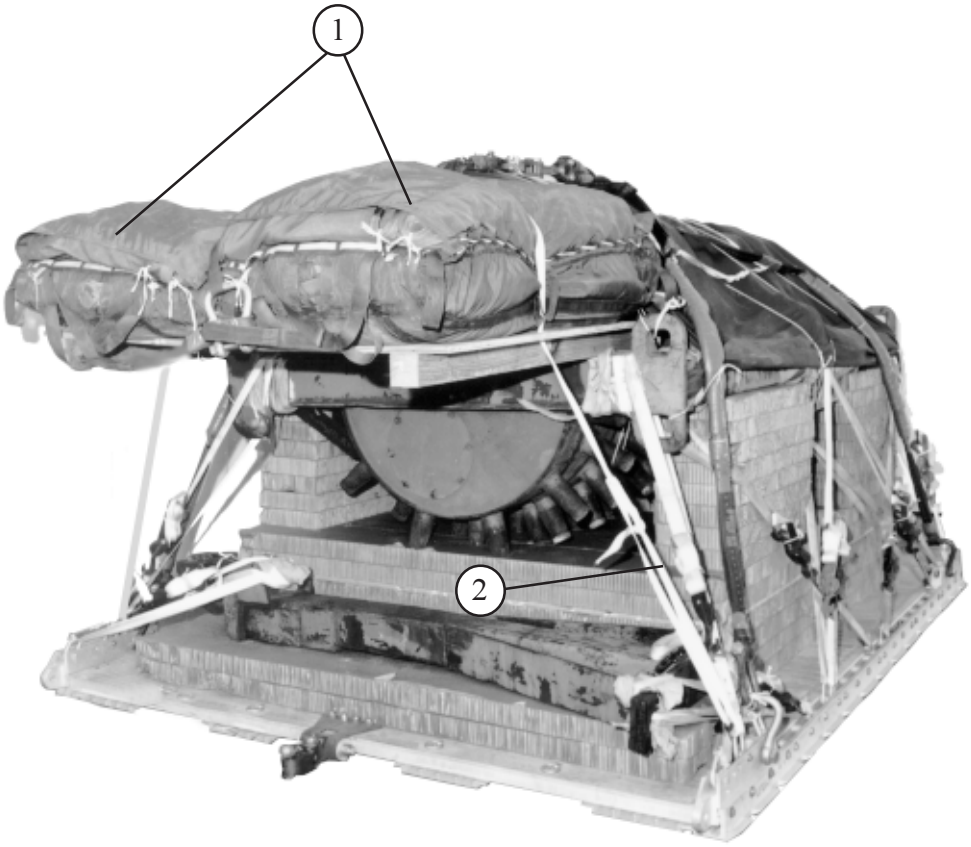
5. Pad each suspension sling with a 6- by 36-inch piece of felt taped in place 22 inches from the suspension clevis.

6. Raise the slings and install the deadman's tie acording to FM 10-500-2/TO 13C7-1-5.

Figure 11-9. Load cover and suspension slings installed

11-9. Installing Cargo Parachutes

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



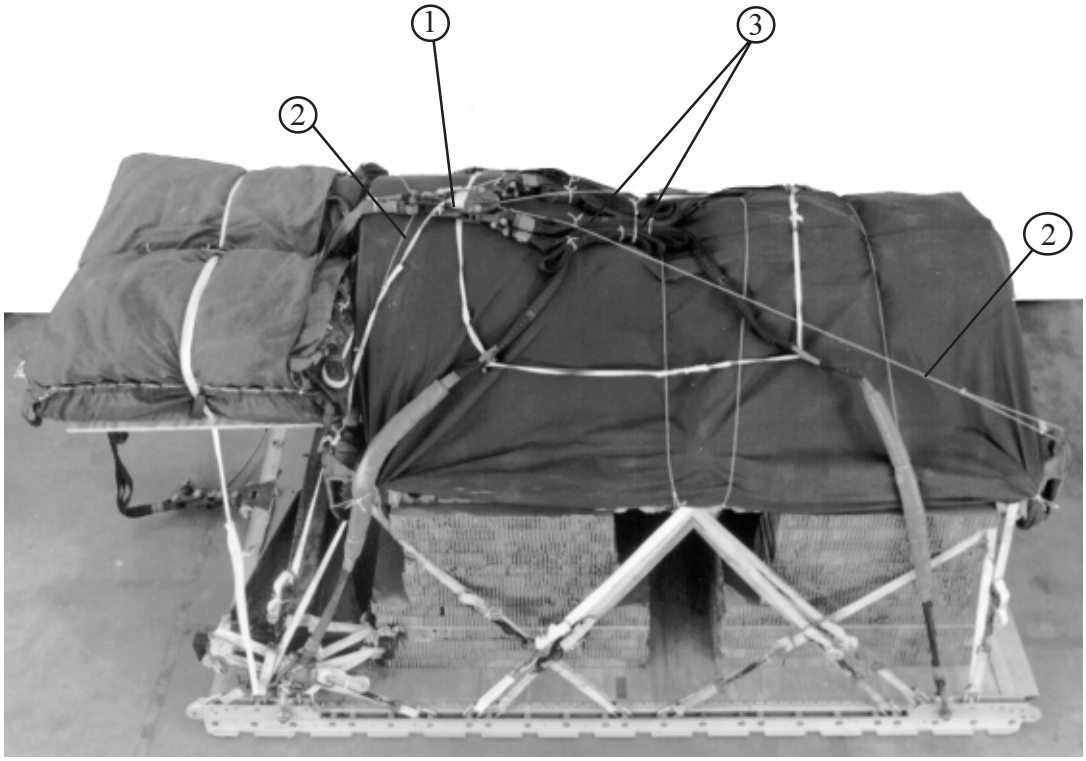
①Prepare and install two G-11 cargo parachutes.

②Restrain the parachutes to clevises 10 and 10A.

Figure 11-10. Parachutes installed

11-10. Installing Parachute Release

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



① Prepare an M-1 cargo parachute release assembly. Center the release on the rear roller section.

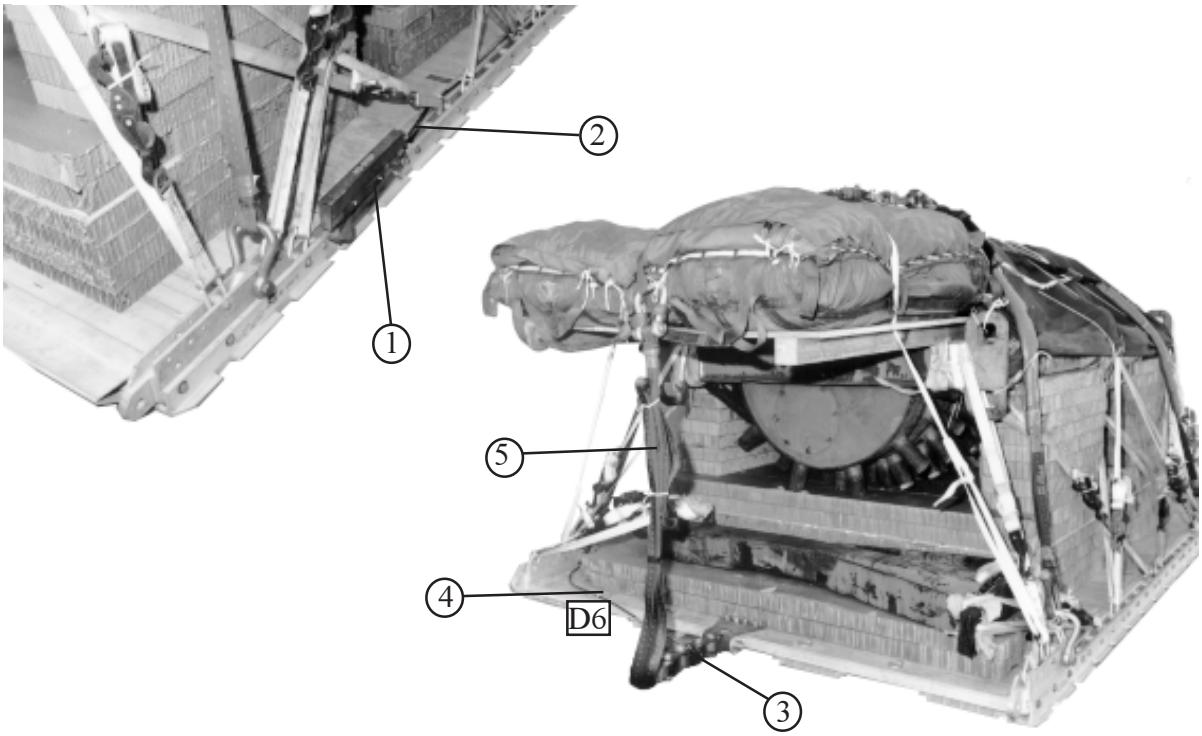
② Secure the release to the roller frame with type III nylon cord.

③ Fold the suspension slings. Tie the folds with type I, 1/4-inch cotton webbing.

Figure 11-11. M-1 release installed

11-11. Installing Extraction System

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



① Attach the mounting brackets to the front holes on the left platform side rail.

② Install the 12-foot cable to the actuator. Install the actuator to the brackets.

③ Attach the latch assembly to the extraction bracket. Attach the cable to the latch assembly.

④ Safety the cable to tie-down ring D6 with type I, 1/4-inch cotton webbing.

⑤ Install a 9-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold and tie the excess in two places with type I, 1/4-inch cotton webbing.

Figure 11-12. EFTC installed

11-12. Installing Provisions for Emergency Restraints

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

11-13. Placing Extraction Parachute

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

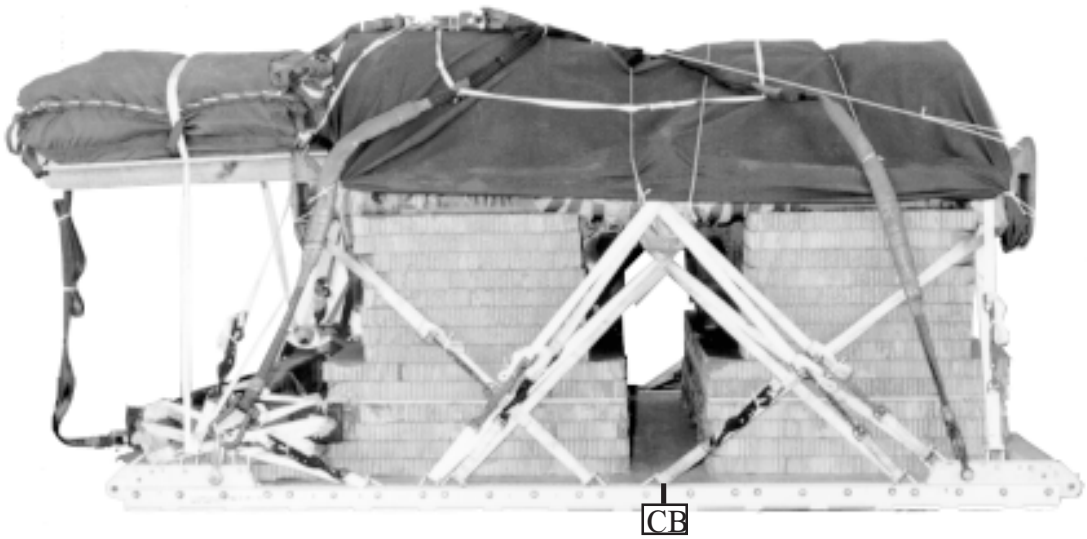
11-14. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-13. If the load varies from the one shown, the weight, height, CB, tip-off curve, and parachute requirements must be recomputed.

11-15. Equipment Required

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

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



Rigged Load Data

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

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

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

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

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

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

CHAPTER 12

RIGGING THE 13-WHEEL (MODEL PT-13) TOWED ROLLER ON A TYPE V PLATFORM FOR LOW-VELOCITY AIRDROP

12-1. Description of Load

The 13-wheel (Model PT-13) towed roller is rigged on a 12-foot, type V airdrop platform with two G-11 cargo parachutes. The roller weighs approximately 4,700 pounds unloaded. It is 140 1/2 inches long, 58 inches high, and 96 inches wide. The total rigged weight of this load is 6,582 pounds.

12-2. Preparing Platform

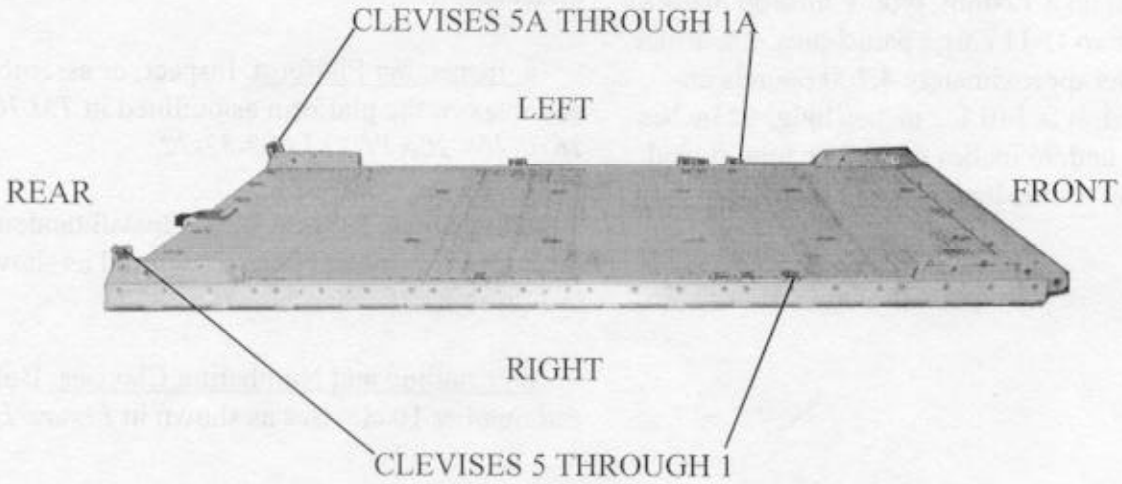
Prepare a 12-foot, type V airdrop platform as given below.

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

b. Installing Tandem Links. Install tandem links on the front and rear of each rail as shown in *Figure 12-1.*

c. Installing and Numbering Clevises. Bolt and number 10 clevises as shown in *Figure 12-1.*

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



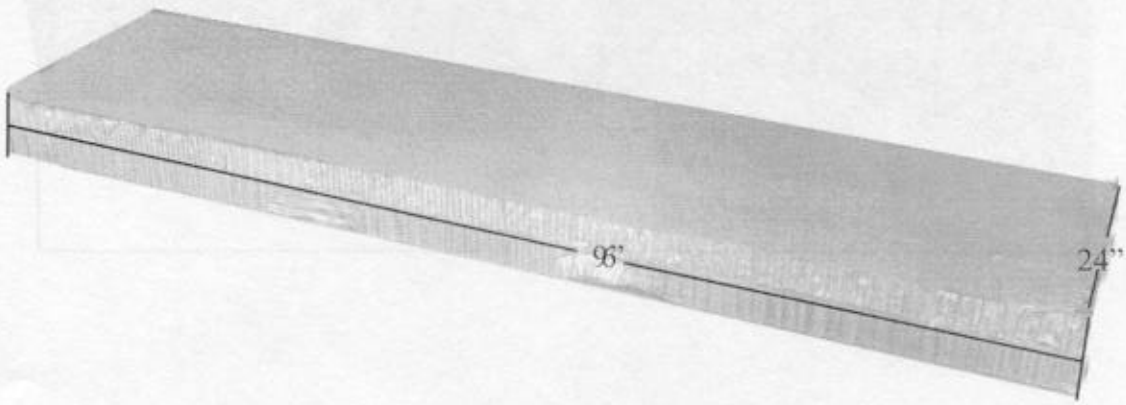
Step:

1. Inspect, or assemble and inspect, the platform according to TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
3. Install a tandem link on the rear of each platform side rail using holes 22, 23, and 24.
4. Install a platform clevise on tandem link bushing 4.
5. Starting at the front of each platform side rail, install clevises on the bushings bolted on holes 7, 8, 9, and 15.
6. Starting at the front of the platform, number the clevises 1 through 5 on the right side and 1A through 5A on the left side.
7. Label the tie-down rings according to FM 10-500-2/TO 13C7-1-5.

Figure 12-1. Platform prepared

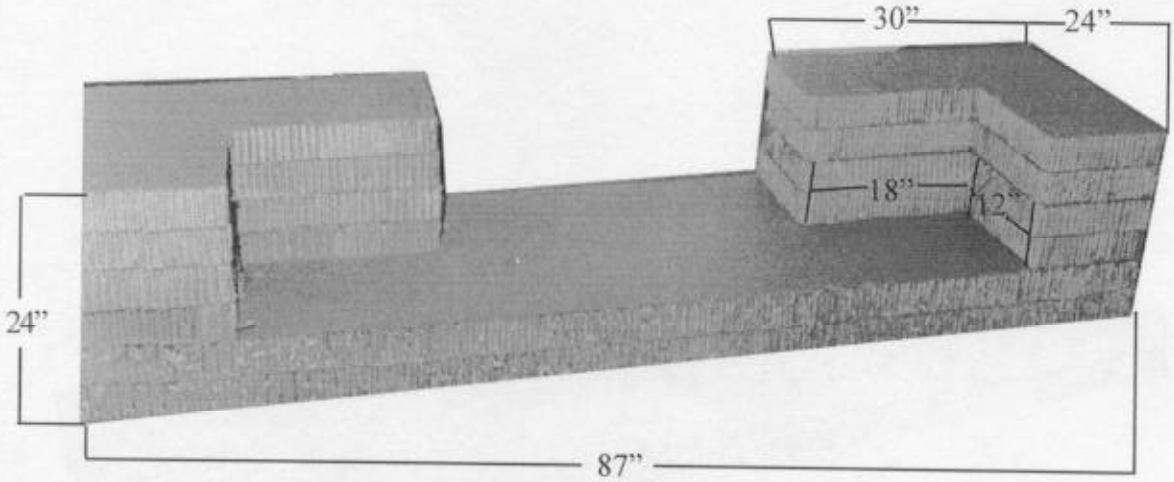
12-3. Preparing and Positioning Honeycomb Stacks

Prepare the honeycomb stacks as shown in *Figures 12-2 and 12-3*. Position the honeycomb stacks on the platform as shown in *Figure 12-4*.



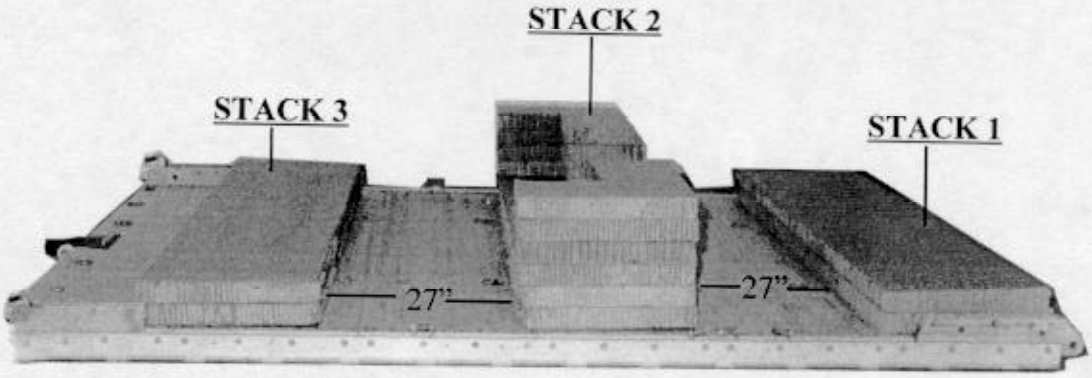
STACK NUMBER	PIECES	WIDTH (Inches)	LENGTH (Inches)	MATERIAL	INSTRUCTIONS
1 and 3	2	24	96	Honeycomb	Glue together.

Figure 12-2. Honeycomb stacks1 and 3 prepared



STACK NUMBER	PIECES	WIDTH (Inches)	LENGTH (Inches)	MATERIAL	INSTRUCTIONS
2	2	24	87	Honeycomb	Glue to form base.
	8	24	30	Honeycomb	Make 18-by 12-inch cut outs and glue four pieces on each side flush with edges. Form stack.

Figure 12-3. Honeycomb stack 2 prepared

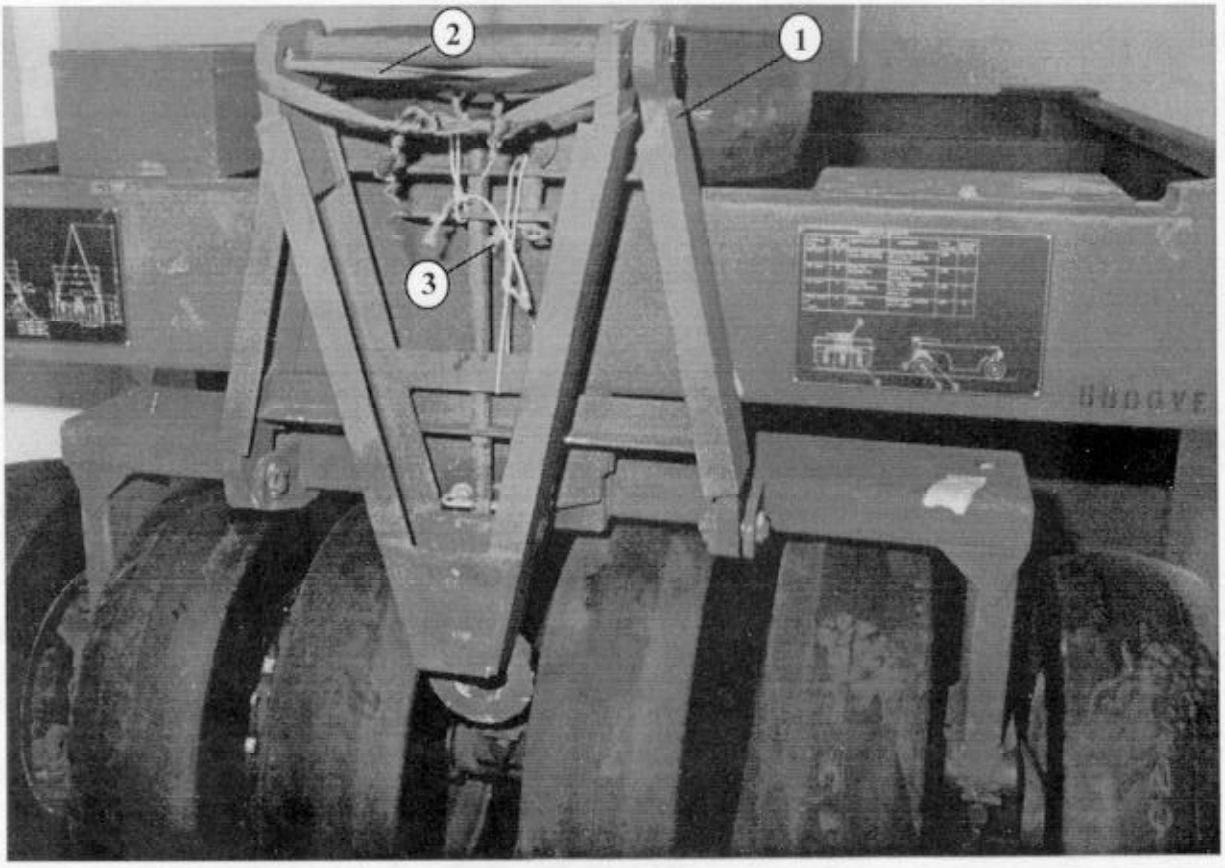


STACK NUMBER	POSITION OF HONEYCOMB STACKS ON PLATFORM
	Place stack:
1	**Centered and flush with front edge of the platform.**
2	**Centered and 27 inches from the rear of stack 1.**
3	**Centered and 27 inches from the rear of stack 2.**

Figure 12-4. Honeycomb stacks positioned on platform

12-4. Positioning and Securing Towing Tongue and Spare Tire

Position and secure the towing tongue and spare tire according to *Figures 12-5 and 12-6.*

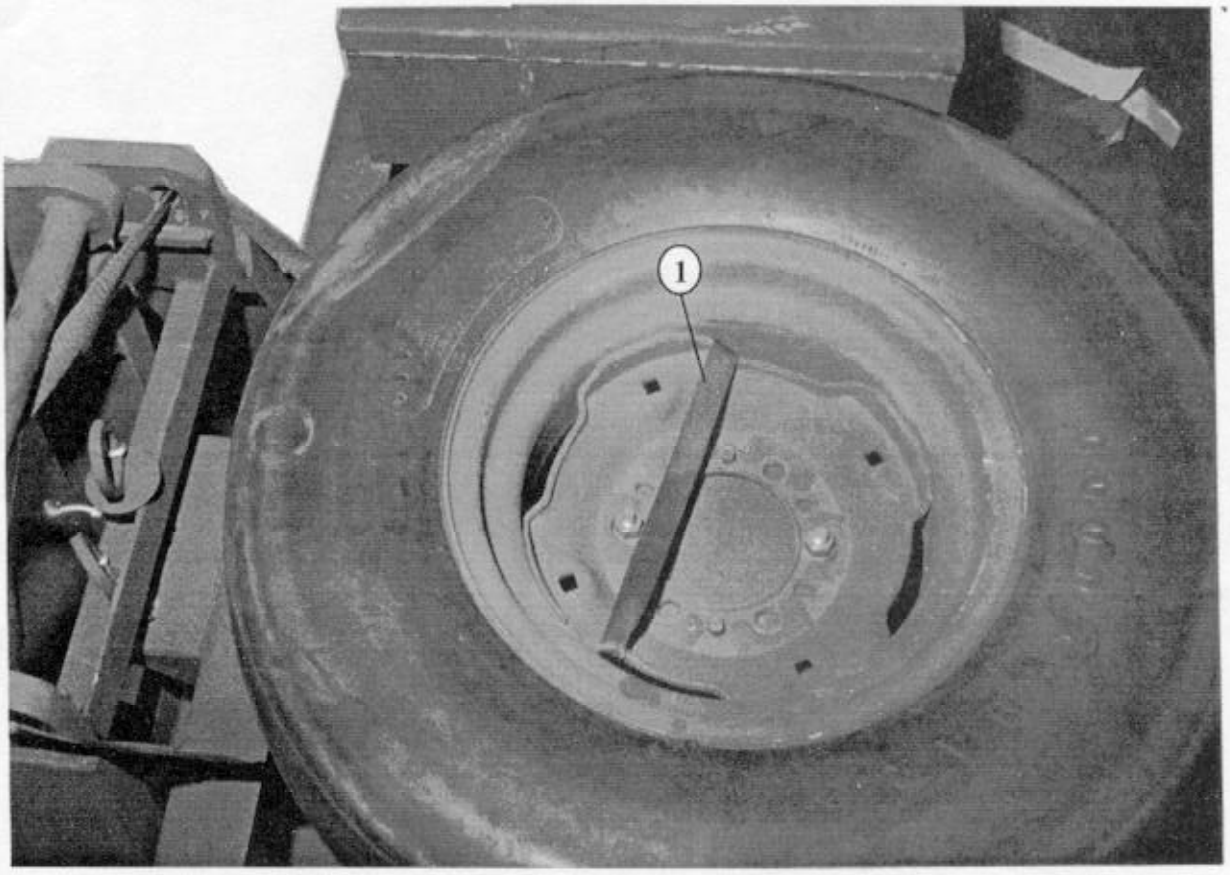


(1) Place the towing tongue in the up and folded position and lock it in place.

(2) Safety the two halves of the tongue together at the top joint using a length of 1-inch tubular nylon webbing. Run the webbing through pin eyes of the front section and rear section in a figure eight configuration.

(3) Safety the locking pins in place with type III nylon cord.

Figure 12-5. Towing tongue secured



(1) Safety the spare tire to the roller with a length of 1-inch tubular nylon webbing.

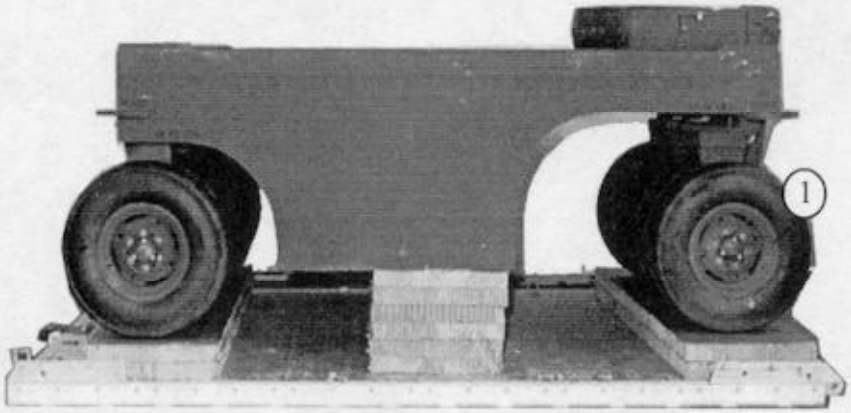
Figure 12-6. Spare tire safetied

12-5. Installing Lifting Slings

Install four 12-foot (2-loop), type XXVI nylon webbing slings to the four lifting provisions on the roller using four medium suspension clevises.

12-6. Positioning Roller

Position the roller on the honeycomb stacks as shown in *Figure 12-7.*

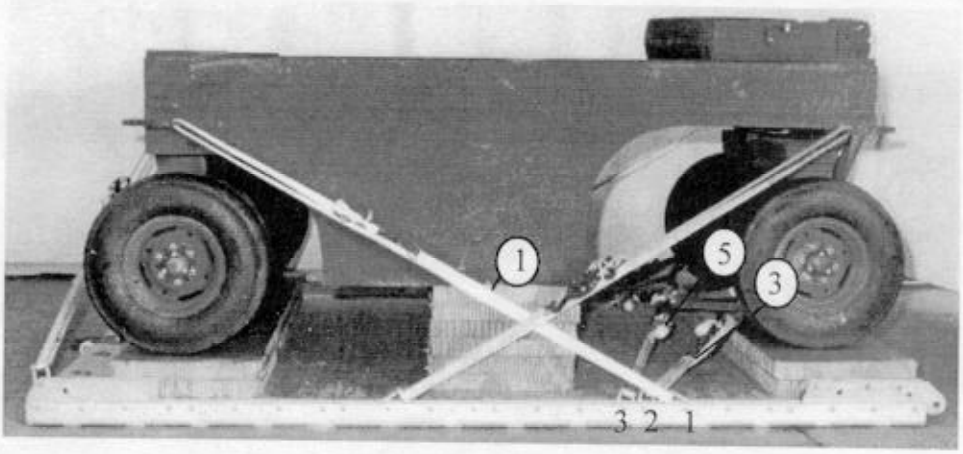


(1) Set the roller on the honeycomb stacks centered with the front wheels even with front edge of the platform.

Figure 12-7. Roller positioned on honeycomb stacks

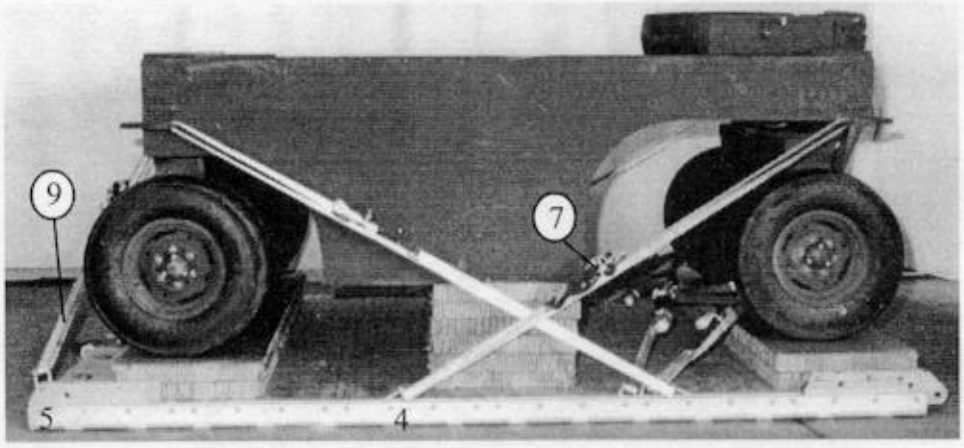
12-7. Lashing the Roller to the Platform

Lash the roller to the platform as shown in *Figures 12-8* and *12-9* and according to FM 10-500-2/TO 13C7-1-5.



LASHING NUMBER	CLEVIS NUMBER	INSTRUCTIONS
		Pass lashing:
1	1	**Through right rear lifting point.**
2	1A	**Through left rear lifting point.**
3	2	**Around axle of first right wheel right side.**
4	2A	**Around axle of first left wheel left side.**
5	3	**Around axle of wheel next to far left wheel.**
6	3A	**Around axle of second wheel from right side.**

Figure 12-8. Lashings 1 through 6 installed

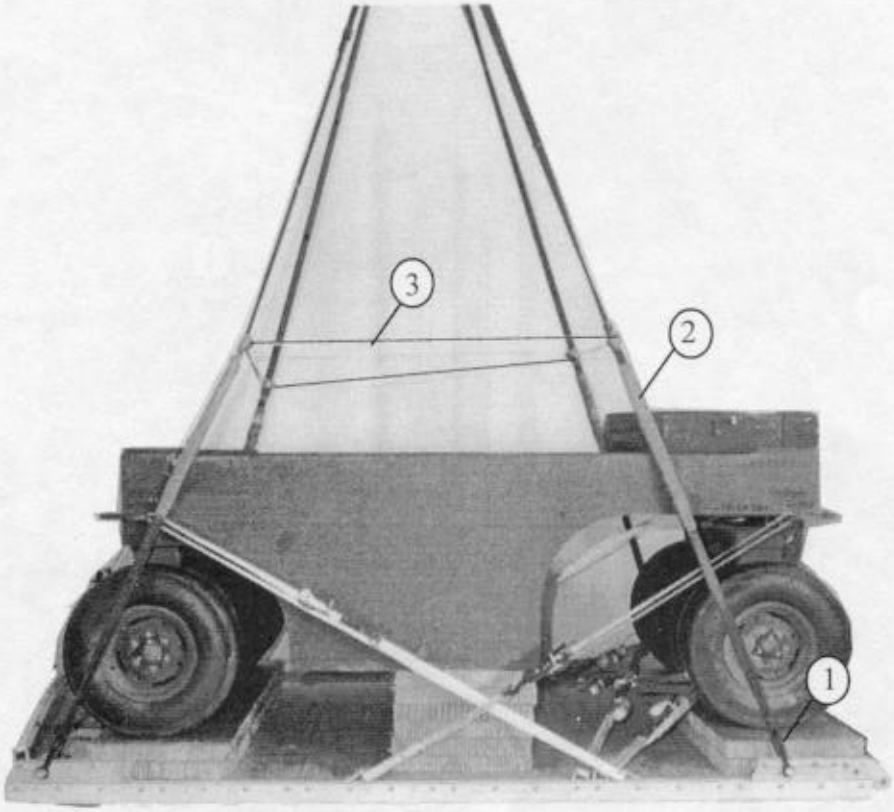


LASHING NUMBER	CLEVIS NUMBER	INSTRUCTIONS
		Pass lashing:
7	**4**	**Through right front lifting point.**
8	**4A**	**Through left front lifting point.**
9	**5**	**Through lunette.**
10	**5A**	**Through lunette.**

Figure 12-9. Lashings 7 through 10 installed

12-8. Installing and Safetying Suspension Slings and Deadman's Tie

Install and safety four 16-foot (2-loop), type XXVI nylon webbing slings to the tandem links as shown in *Figure 12-10.*



(1) Place a large clevis in one end of the four 16-foot (2-loop), type XXVI nylon suspension slings. Attach the large clevises to each suspension link.

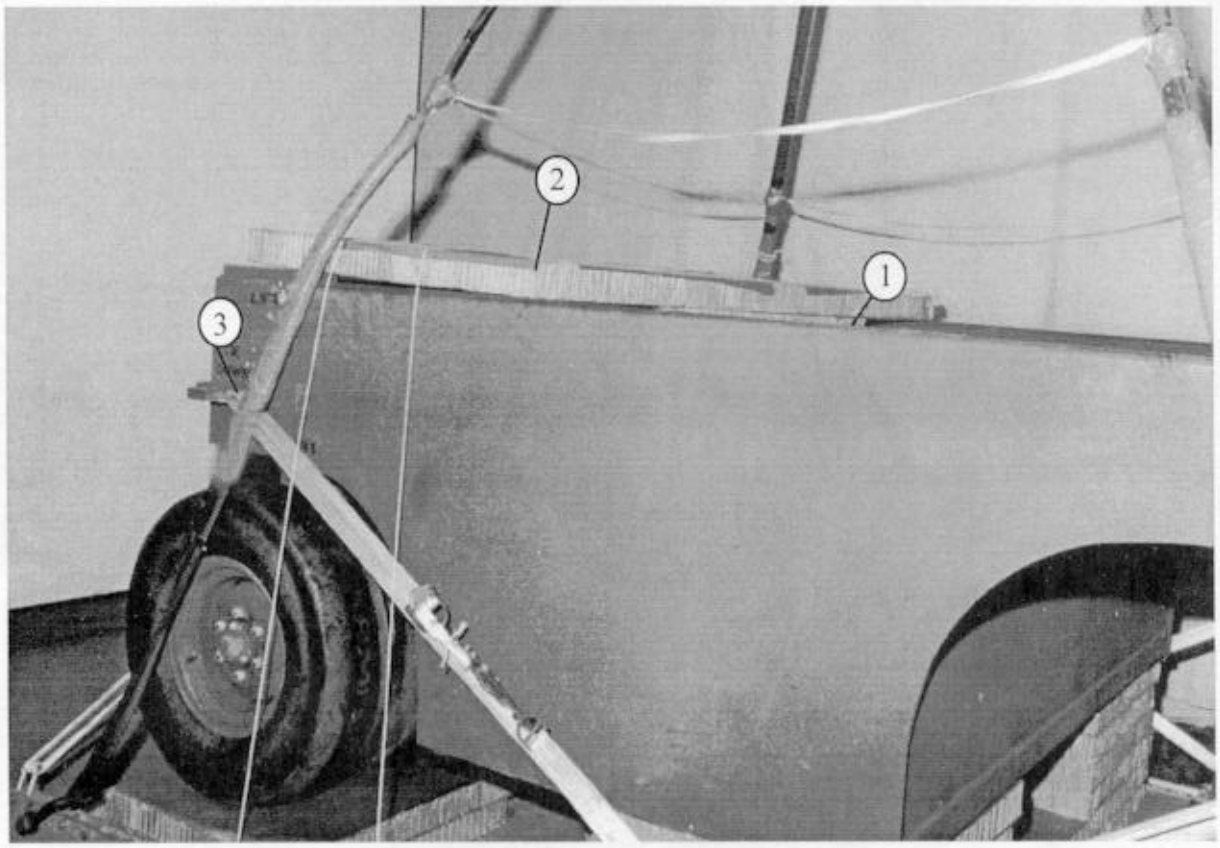
(2) Pad the slings with felt and pressure sensitive tape from top of the tires to 8 inches above the top of the load.

(3) Raise the slings and install the Deadman's tie according to FM 10-500-2/TO 13C7-1-5.

Figure 12-10. Suspension slings and Deadman's tie installed

12-9. Building and Positioning Parachute Stowage Platform

Build and position the parachute stowage platform as shown in *Figure 12-11.*

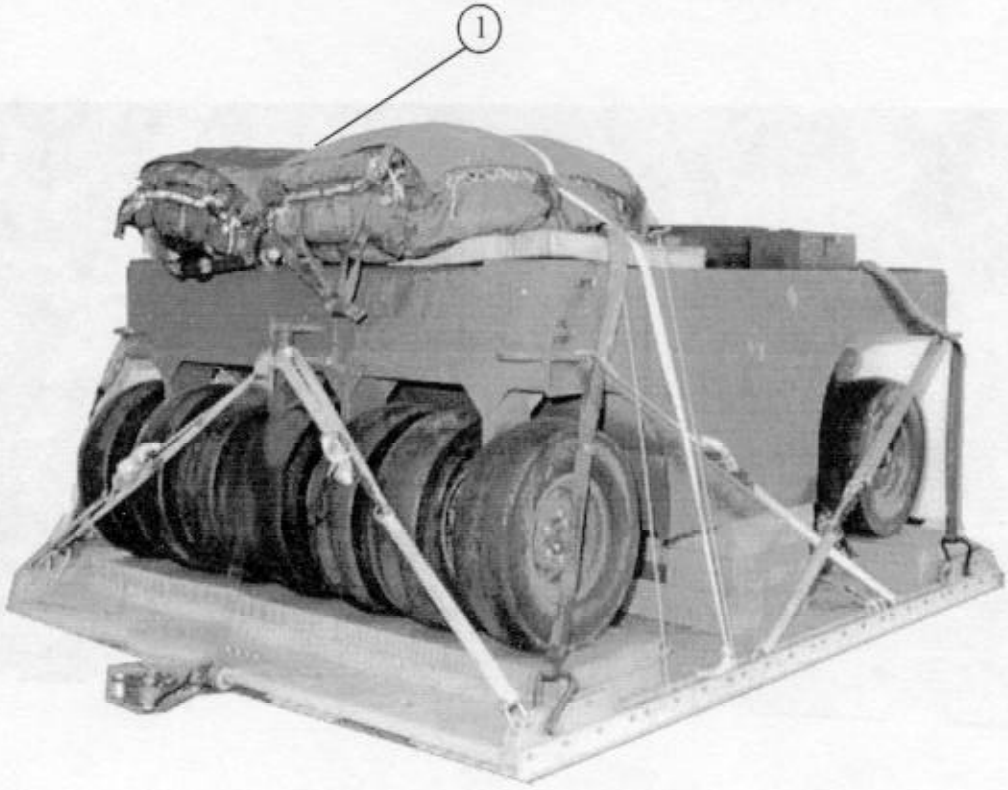


1. Cut and glue ten 12- by 26-inch pieces of honeycomb together and place the stack in the roller against the rear section.
2. Cut a 36- by 86-inch piece of honeycomb and place it on top of the stack in step 1, and secure it in place with two lengths of type III nylon cord.
3. Saftey tie the rear suspension slings to the roller frame with type III nylon cord.

Figure 12-11. Parachute stowage platform built and positioned

12-10. Installing Cargo Parachutes

Install two G-11 cargo parachutes on the load according to FM 10-500-2/TO 13C7-1-5 and as shown in *Figure 12-12.*

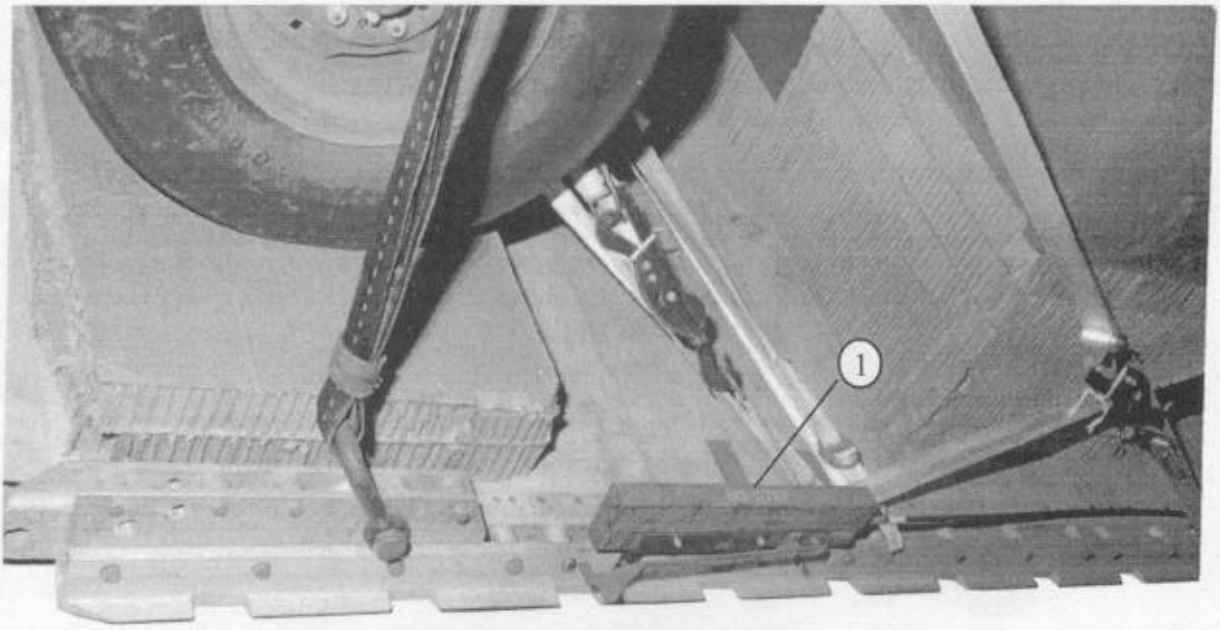


(1) Prepare, stow and restrain two G-11 cargo parachutes on top of the honeycomb provided and according to FM 10-500-2/TO 13C7-1-5.

Figure 12-12. Parachutes stowed

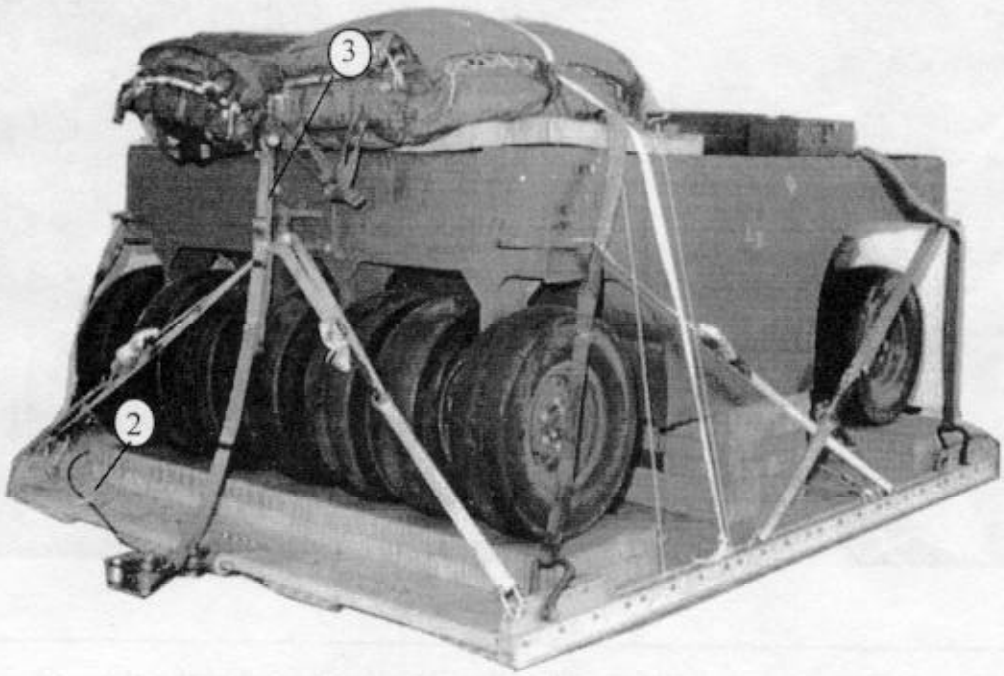
12-11. Installing Extraction System

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



(1) Install the components of the extraction force transfer coupling (EFTC) according to FM 10-500-2/TO 13C7-1-5. Use the forward mounting holes for the EFTC bracket.

Figure 12-13. EFTC installed



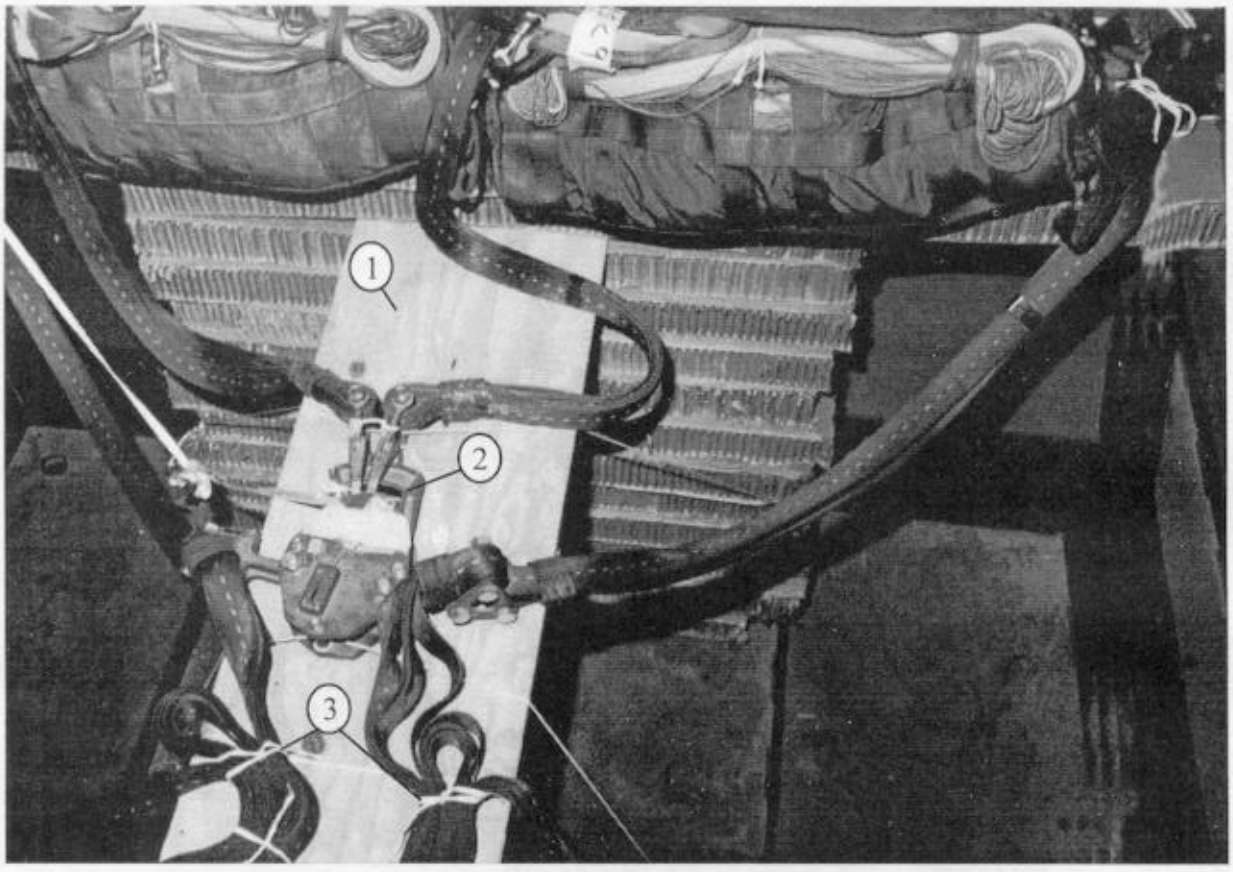
(2) Using a 12-foot EFTC cable, safety the cable to deck ring D6 using one turn of type I, 1/4-inch cotton webbing.

(3) Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line.

Figure 12-13. EFTC installed (continued)

12-12. Installing Parachute Release

Install an M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5, and as shown in *Figure 12-14.*



(1) Cut a piece of 3/4-inch plywood 16- by 60-inches. Wedge one end of the plywood between the top two pieces of honeycomb of the parachute platform stack and set the other end on the bottom of the roller. Secure the plywood in place with type III nylon cord.

(2) Place the M-1 release centered on top of the plywood in step 1, and safety it to convenient points on the load.

(3) Fold and tie all slack in the suspension slings.

Figure 12-14. M-1 release installed

12-13. Installing Provisions for Emergency Restraints

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

12-14. Placing Extraction Parachute

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

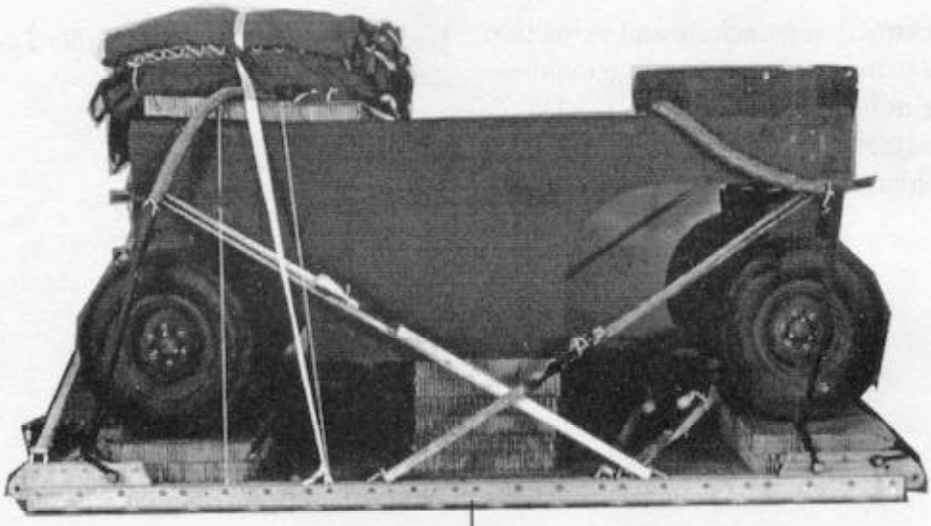
12-15. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in *Figure 12-15.* If the load varies from the one shown, the weight, height, CB, tip-off curve, and parachute requirement must be recomputed.

12-16. Equipment Required

Use the equipment list in *Table 12-1* to rig this load.

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



RIGGED LOAD DATA

Weight:	Load shown	6,582 pounds
	Maximum load allowed	6,700 pounds
Height		75 inches
Width		108 inches
Length		162 inches
Overhang:	Front	0 inches
	Rear	0 inches
CB (from edge of platform)		68 inches
Extraction System (adds 18 inches to length of platform)		EFTC

Figure 12-15. Thirteen wheel (model PT-13) towed roller rigged on a type V platforn for low-velocity airdrop

Table 12-1. Equipment required for rigging the 13-wheel (model PT-13) towed roller on a type V platform for low-velocity airdrop

NATIONAL STOCK NUMBER	ITEM	QUANTITY
8040-00-273-8713	Adhesive, paste, 1-gal	As required
	Clevis, suspension:	
4030-00-678-8562	3/4-inch, shackle (medium)	4
4030-00-090-5354	1-inch, shackle (large)	5
4020-00-240-2146	Cord, fibrous, nylon, type III, (550-lb)	As required
1670-00-434-5783	Coupling assembly, airdrop, extraction force transfer with 12-ft cable (42K)	1
1670-00-360-0328	Cover, Clevis, large	2
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-00-003-4391	Knife, parachute bag (C-17)	1
5340-00-040-8219	Knife, Multi parachute release, strap, webbing	1
1670-01-183-2678	Leaf, extraction line	As required
	Line, extraction:	
1670-01-064-4452	60-ft (1-loop), type XXVI nylon webbing (C-130 aircraft)	1
1670-01-107-7652	160-ft (1-loop), type XXVI nylon webbing (C-141, C-5 aircrafts)	1
	(C-17 only)	2
1670-00-783-5988	Link assembly, single, type IV (C-17 only)	1
1670-00-753-3928	Pad, energy-dissipating, AD (honeycomb)	12 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B (100-ft, dia)	2
1670-01-063-3715	Cargo extraction, 15-ft	1
1670-00-003-1953	Plate, side, 3 3/4-in., Arm, cargo extra (C-17 only)	2
5365-00-077-3414	Spacers, large	(2)
5305-00-435-8994	Bolts, 1-in diam., 4-in long	(2)
5310-00-232-5165	Nuts, 1-in	(2)
	Platform, AD, type V, 12-ft:	1
1670-01-353-8425	Bracket, assembly component, (EFTC)	(1)
1670-01-353-8424	Bracket, assembly extraction	(1)
1670-01-163-2372	Clevis assembly (type V, tiedown clevis)	(10)

Table 12-1. Equipment required for rigging the 13-wheel (model PT-13) towed roller on a type V platform for low-velocity airdrop (continued)

NATIONAL STOCK NUMBER	ITEM	QUANTITY
1670-01-162-2381	Tandem link assembly (Muti-purpose link)	(4)
5530-00-618-8073	Plywood, construction, (3/4-inch)	1 sheet
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo airdop:	
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For lifting:	
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	4
	For suspension:	
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	4
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	2
7510-00-266-6712	Tape, adhesive, masking, (2-in)	As required
7510-00-079-7906	Tape, pressure sensitive, (2-in)	As required
1670-00-937-0271	Tie-down assembly, 15-ft	10
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I, (80-Ib)	As required
	Nylon:	
	Tubular:	
8305-00-082-5752	1/2-in, natural *or*	As required
8305-00-268-2453	1/2-in, olive drab	As required
8305-00-268-2455	1-in, olive drab	As required
8305-00-263-3591	Type VIII	As required

*U.S. Government Printing Office: 1998 — 628-027/80087

PIN : 021557-006

CHAPTER 13

RIGGING THE VIBRATORY COMPACTOR (MODEL CS-433C) ON A 20-FOOT, TYPE V PLATFORM FOR LOW- VELOCITY AIRDROP

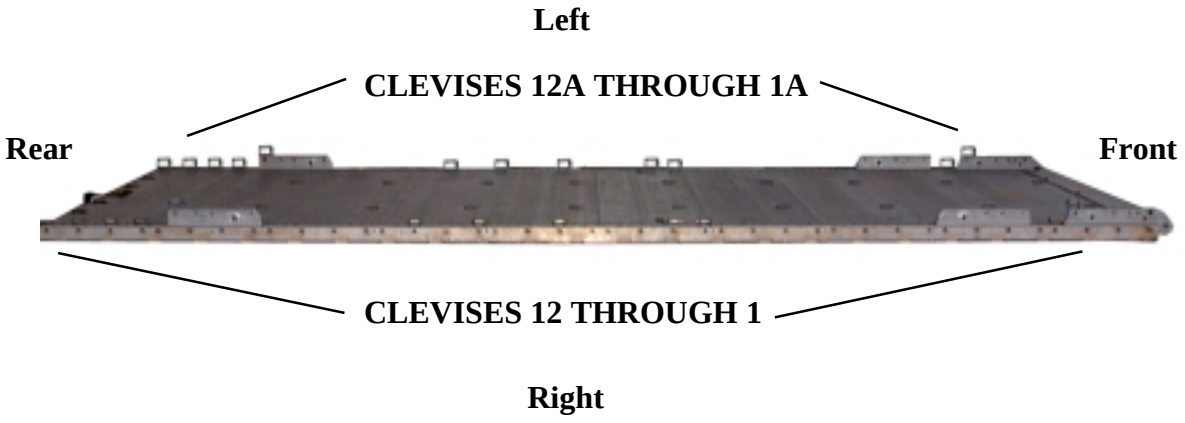
13-1. Description of Load

The vibratory compactor (Figure 13-1) is a four-cylinder, turbocharged, self-propelled diesel driven engine. This load is rigged on a 20-foot, type V platform with four G-11 cargo parachutes.The rigged weight of the vibratory compactor is 18,890 pounds. It is 262 inches long, 99 inches high with the roll over protection system removed, and 108 inches wide, when prepared for rigging.

13-2. Preparing the Platform

Prepare a 20-foot, type V platform using two tandem multi-purpose links, four suspension links and 24 tiedown clevises as shown in Figure 13-2.

Figure 13-1. Vibratory compactor (Model CS-433C)



Step:

1. Install a tandem multi-purpose link to each platform side rail using holes 1, 2, and 3.

2. Install a suspension link to each platform side rail using holes 6, 7, and 8.

3. Install a suspension link to each platform side rail using holes 33, 34, and 35.

4. Install a clevis on bushing 4 on each of the front tandem links.

5. Install a clevis on bushing 4 on each of the second suspension links.

6. Starting at the front of each platform side rail, install clevises on the bushings bolted on holes 4,17,18, 22, 25, 27, 37, 38, 39 and 40.

7. Starting at the front of the platform number the clevises 1 through 12 on the right side and 1A through 12A on the left side.

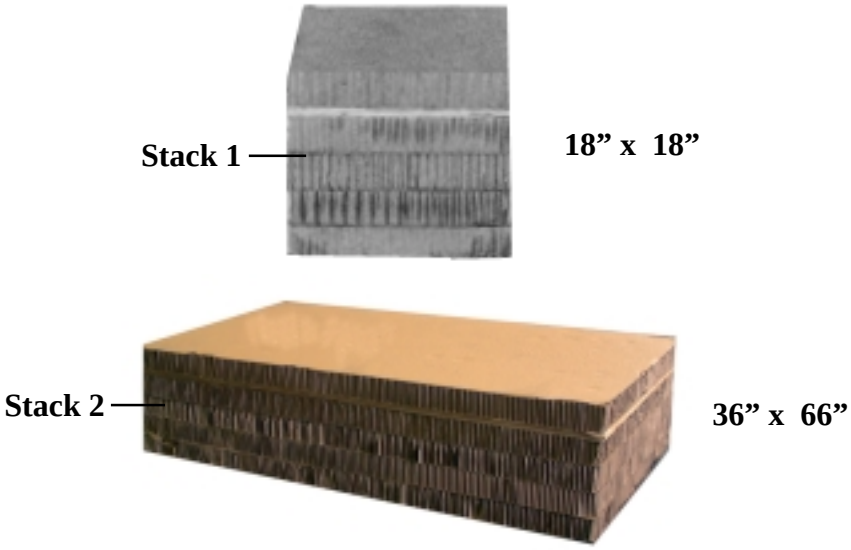
8. Label the tiedown rings according to FM 10-500-2/TO13C7-1-5.

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

Figure 13-2. Platform prepared

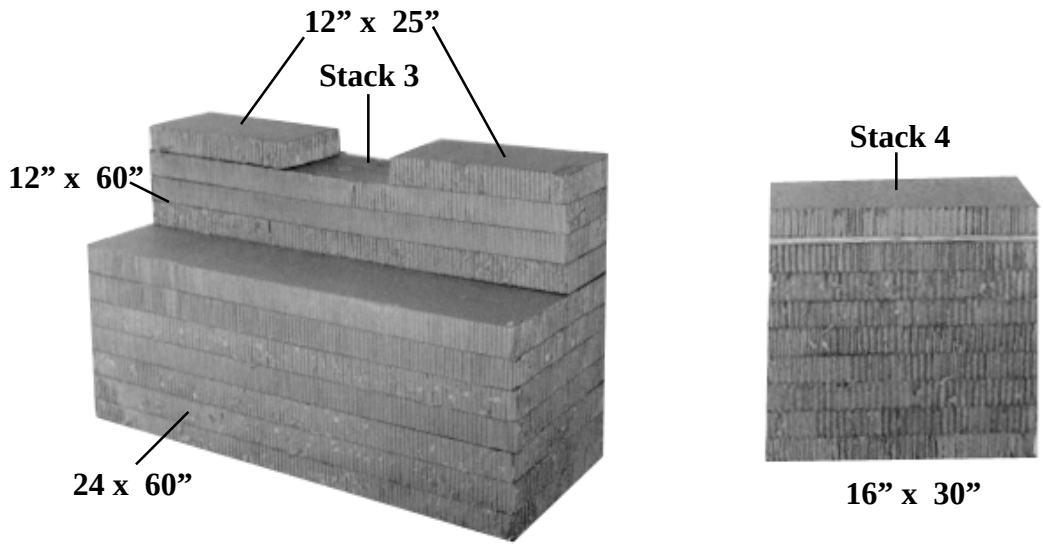
13-3. Preparing and Positioning Honeycomb Stacks

Prepare the honeycomb stacks as shown in Figures 13-3 through 13-5. Position the honeycomb stacks on the platform as shown in Figure 13-6.



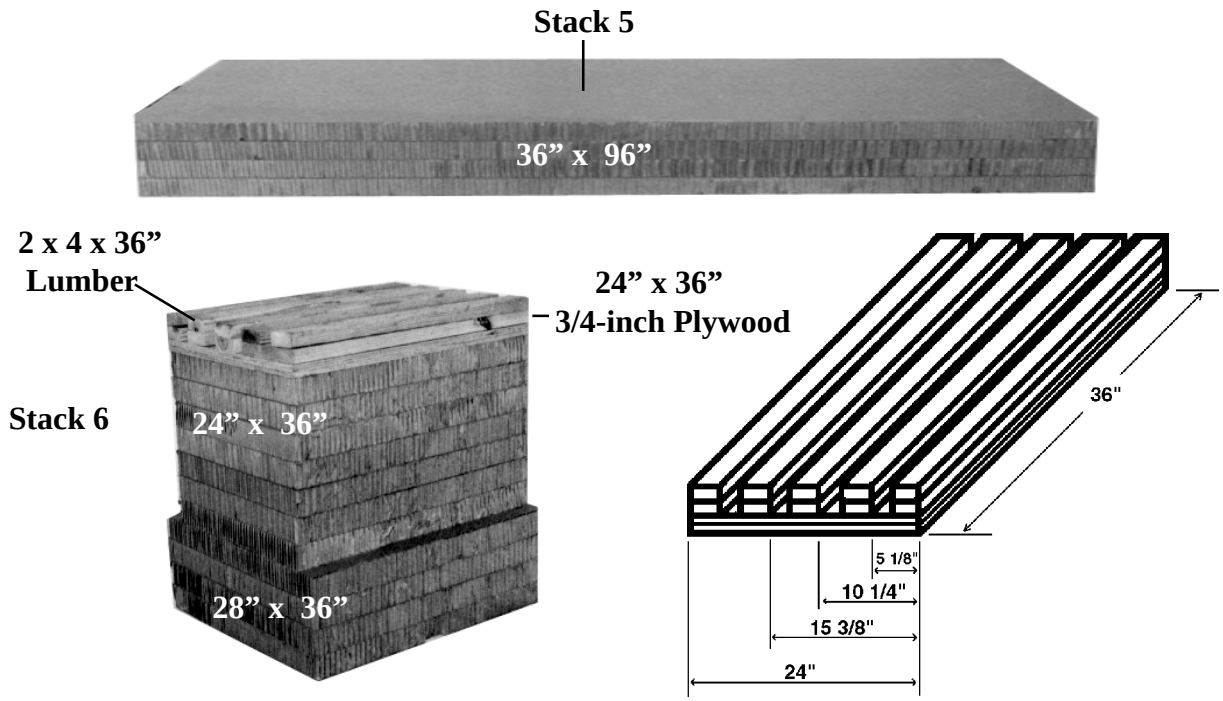
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	5	18	18	Honeycomb	Glue four pieces of honeycomb together to form a base.
	1	18	18	3/4-inch Plywood	Glue plywood to the base and glue the remaining 18-inch by 18-inch piece of honeycomb on top of the plywood.
2	5	36	66	Honeycomb	Glue the five pieces of honeycomb together to form a base.
	1	36	66	3/4-inch Plywood	Glue plywood to the top of the base and glue the remaining piece of 36-inch by 66-inch honeycomb to the top of the plywood.

Figure 13-3. Honeycomb stacks 1 and 2 prepared



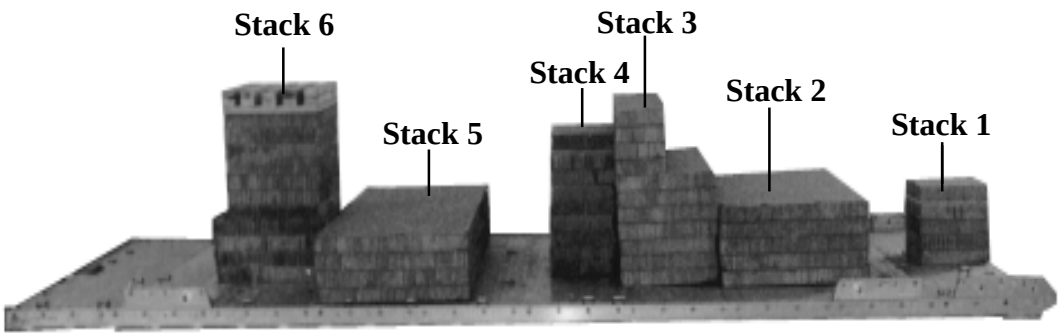
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3	7	24	60	Honeycomb	Glue honeycomb together to form a base.
	3	12	60	Honeycomb	Glue pieces of honeycomb to the base aligned to the rear edge.
	2	12	25	Honeycomb	Glue each piece of honeycomb to the outer edge of the 12-inch by 60-inch piece of honeycomb.
4	9	16	30	Honeycomb	Glue eight pieces of honeycomb together to form a base.
	1	16	30	3/4-inch Plywood	Glue the plywood to the base. Glue the remaining 16-inch by 30-inch piece of honeycomb on top of the plywood.

Figure 13-4. Honeycomb stacks 3 and 4 prepared



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
5	4	36	96	Honeycomb	Glue pieces of honeycomb together to form a base.
6	4	28	36	Honeycomb	Glue pieces of honeycomb together to form a base.
	7	24	36	Honeycomb	Center and glue to base.
	2	24	36	3/4-inch Plywood	Position and nail ten pieces of lumber to the two pieces of plywood as shown in Figure 13-5.
	10	2 x 4	36	Lumber	

Figure 13-5. Honeycomb stacks 5 and 6 prepared



Step:

1. Position stack 1 centered and flush with the front edge of the platform.
2. Position stack 2 centered and 18 inches from stack 1.
3. Position stack 3 centered and flush against stack 2.
4. Position stack 4 centered and flush against stack 3.
5. Position stack 5 centered and 19 inches from stack 4.
6. Position stack 6 centered and flush against stack 5.

Figure 13-6. Honeycomb stacks positioned on platform

13-4. Preparing and Positioning Vibratory Compactor on Platform

Prepare and position the vibratory compactor on a platform as shown in Figures 13-7 and 13-8.

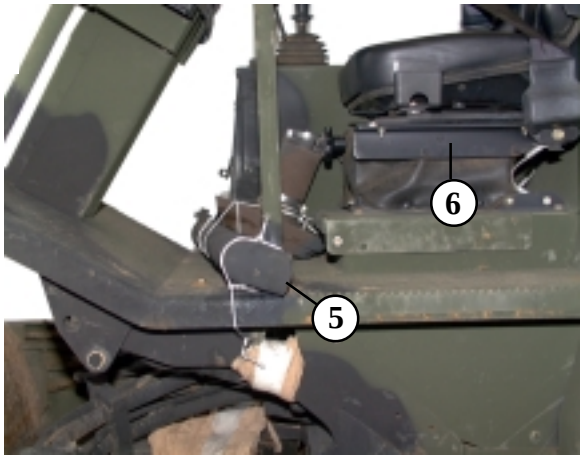
1. Remove the roll over protection system and tape all lights and reflectors.
2. Tape cellulose wadding to all lashing tiedown points.

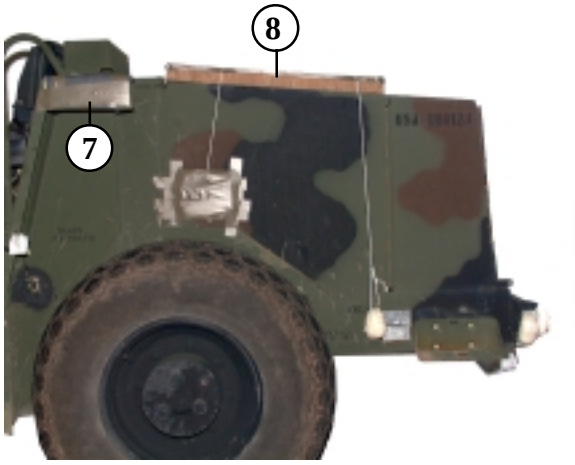
Figure 13-7. Vibratory compactor prepared

(3) Tape cellulose wadding to the upper pivot arm of the chassis.

(4) Tape cellulose wadding to the hydraulic attaching point of the blade.

Figure 13-7. Vibratory compactor prepared (continued)





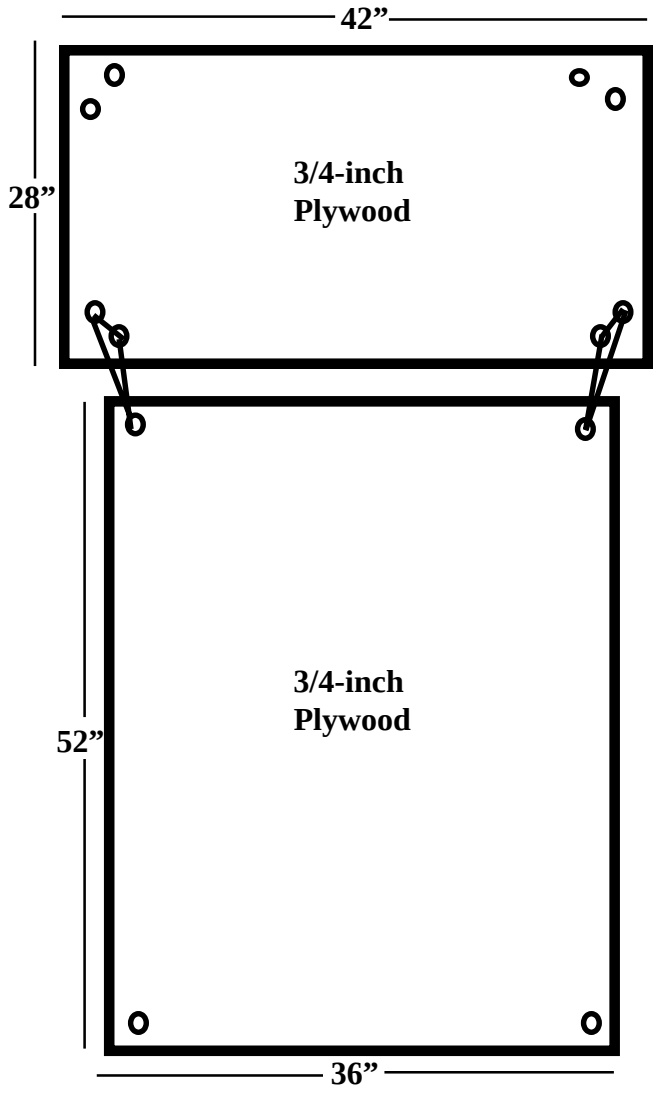
(5) Remove the air-filter and exhaust pipe. Secure them to convenient points in the cab.

(6) Lower the seat and lock it down.

(7) Tape felt on the upper portions of the rear wheel wells where the slings will make contact.

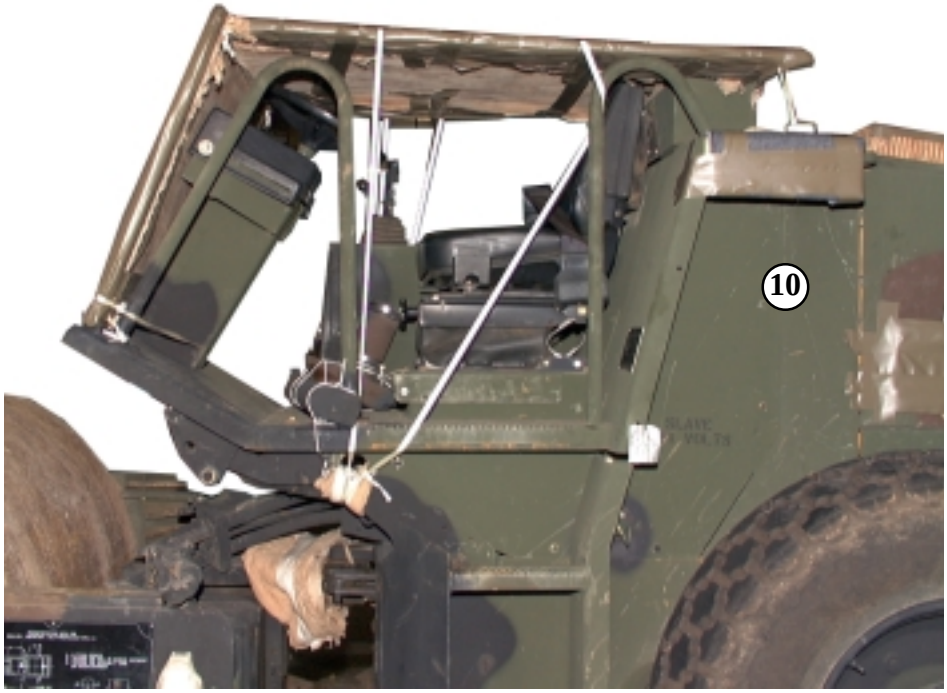
(8) Tape the edges of a 29-inch by 38-inch piece of honeycomb and secure it on top of the engine compartment with type III nylon cord tied to a convenient point on the load.

Figure 13-7. Vibratory compactor prepared (continued)



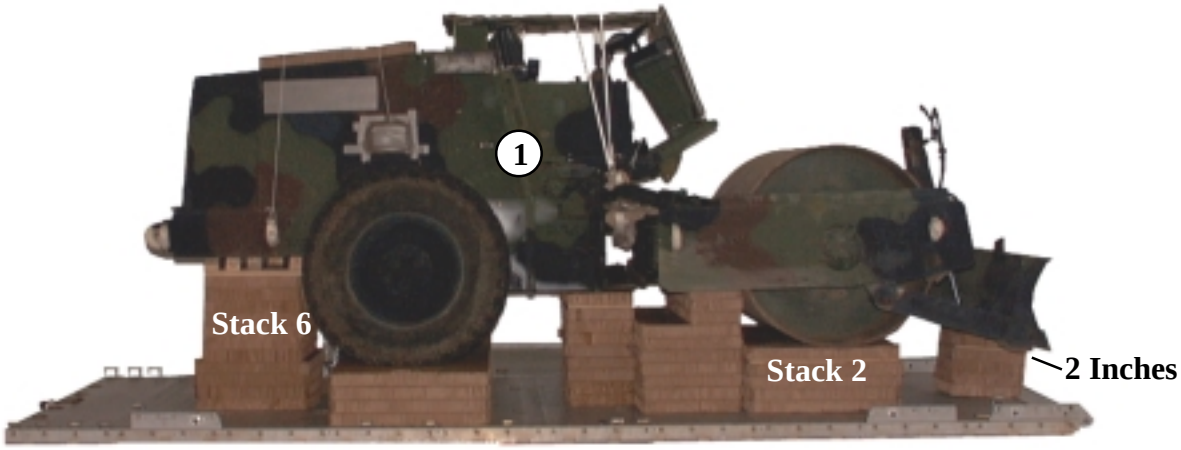
9 Tie a 28-inch by 42-inch piece of 3/4-inch plywood flush with a 36-inch by 52-inch piece of 3/4-inch plywood using type III nylon cord. Tape cellouse wadding to the outer edges of plywood.

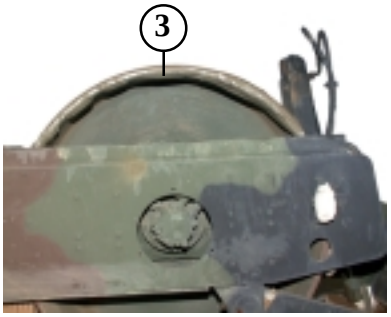
Figure 13-7. Vibratory compactor prepared (continued)



(10) Using 1/2-inch tubular nylon, secure the plywood to the cab of the vibratory compactor and to a convenient point on the load.

Figure 13-7. Vibratory compactor prepared (continued)





(1) Position the roller on the honeycomb aligning the front edge of the blade 2 inches from the front edge of the platform.

(2) Make sure the bolts under the rear engine compartment are aligned between the 4th and 5th pieces of 2 x 4 x 36-inch lumber on stack 6 (not shown).

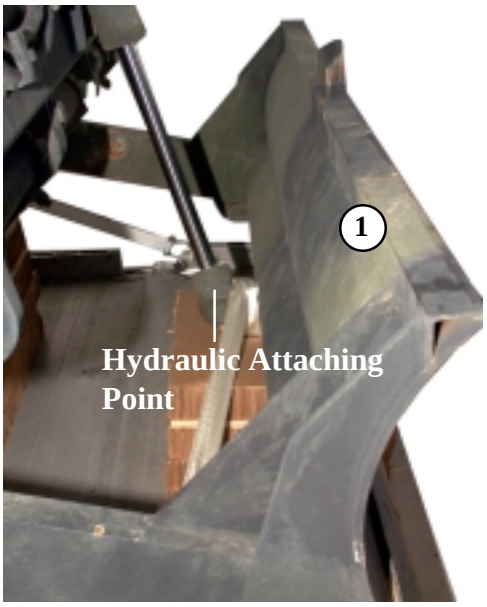
(3) Tape felt on the top edges of the roller.

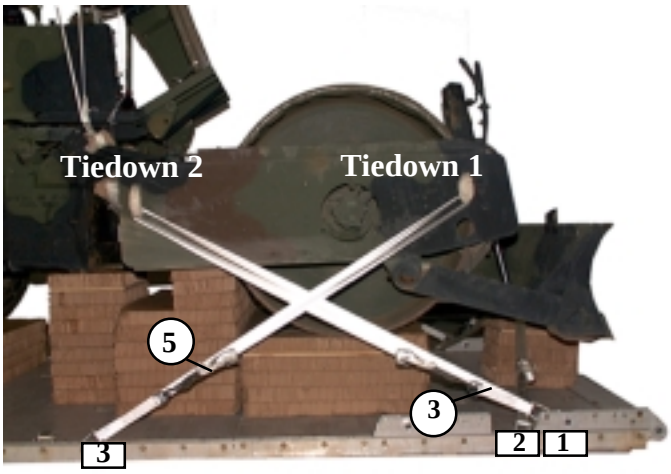
(4) Secure the blade control with type III nylon cord to the fuse box hinge.

Figure 13-8. Vibratory compactor positioned on platform

13-5. Lashing Vibratory Compactor to Platform

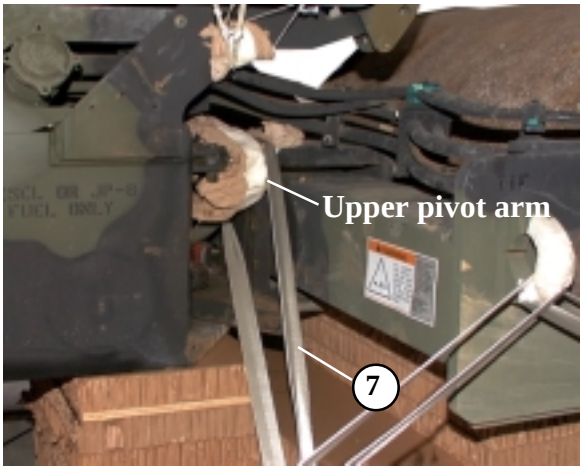
Lash the vibratory compactor to the platform as shown in Figures 13-9 through 13-11 and FM 10-500-2/TO 13C7-1-5.

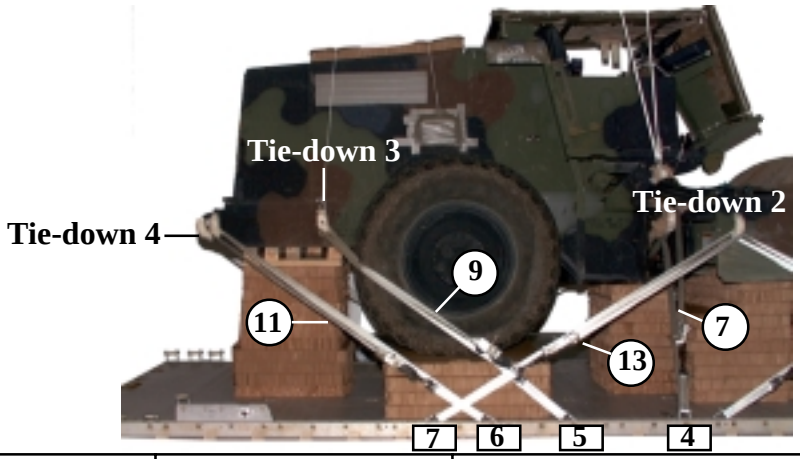




Lashing Number	Clevis Number	Instructions
		Pass lashing:
1	2	Around right hydraulic attaching point of blade.
2	2A	Around left hydraulic attaching point of blade.
3	1	Through tie-down number 2, right side.
4	1A	Through tie-down number 2, left side.
5	3	Through tie-down number 1, right side.
6	3A	Through tie-down number 1, left side.

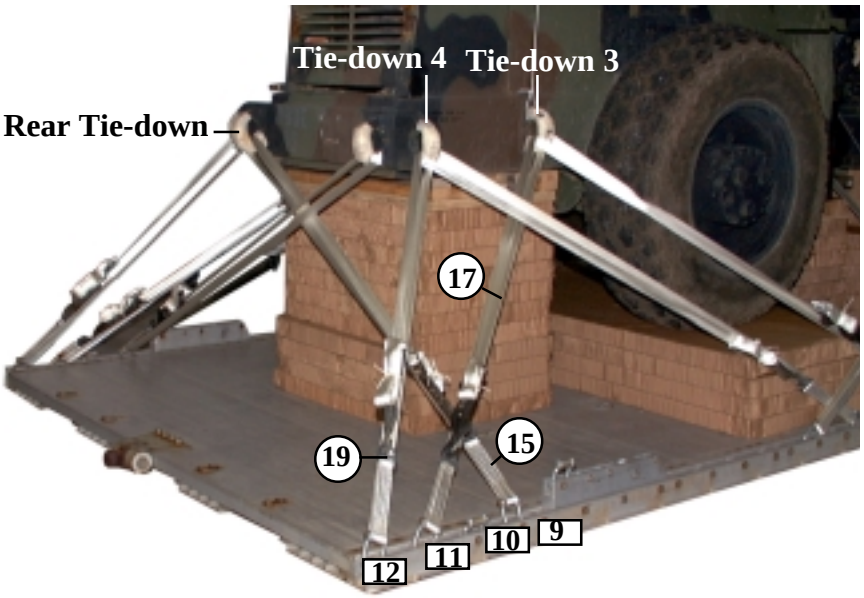
Figure 13-9. Lashings 1 through 6 installed





Lashing Number	Clevis Number	Instructions
		Pass lashing:
7	4	Around upper pivot arm of chassis, right side.
8	4A	Around upper pivot arm of chassis, left side.
9	5	Through tie-down number 3, right side.
10	5A	Through tie-down number 3, left side.
11	6	Through tie-down number 4, right side.
12	6A	Through tie-down number 4, left side.
13	7	Through tie-down number 2, right side.
14	7A	Through tie-down number 2, left side.

Figure 13-10. Lashings 7 through 14 installed

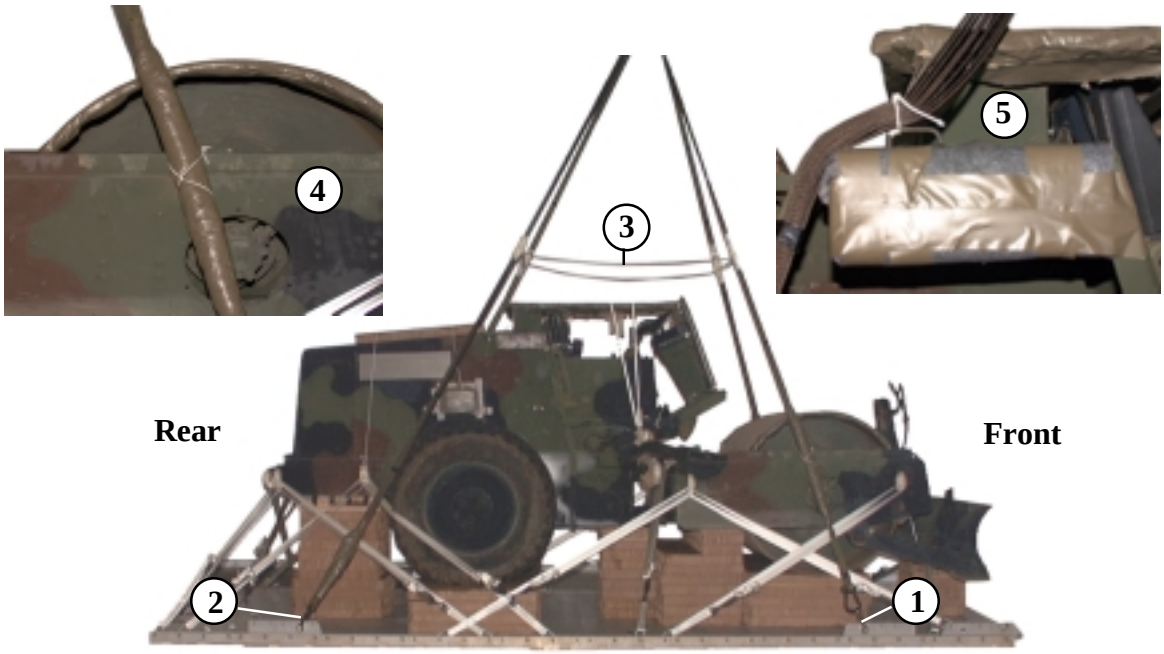


Lashing Number	Clevis Number	Instructions
		Pass lashing:
15	9	Through rear tie-down, left side.
16	9A	Through rear tie-down, right side.
17	11	Through tie-down number 3, right side.
18	11A	Through tie-down number 3, left side.
19	12	Through tie-down number 4, right side.
20	12A	Through tie-down number 4, left side.

Figure 13-11. Lashings 15 through 20 installed

13-6. Installing and Safetying Suspension Slings and Deadman's Tie

Install and safety four 16-foot (4-loop), type XXVI nylon webbing slings to the tandem links as shown in Figure 13-12.



1. Place a large clevis in one end of a 16-foot (4-loop), type XXVI nylon suspension sling. Attach another large clevis to the front right and front left suspension links. Attach the large clevises together and safety-tie them with type III nylon cord in an hourglass configuration.

2. Place a 5 1/2-inch two point link in one end of a 16-foot (4-loop), type XXVI nylon suspension sling. Pass a 3-foot (4-loop), type XXVI nylon sling through the two point link and fold in half. Attach both running ends of the 3-foot sling to a large clevis. Attach the large clevis to the rear right and rear left suspension links. Tape a piece of felt to the 5 1/2-inch two point link.

3. Raise the slings and install the deadman's tie on the front and rear sets of slings IAW FM 10-500-2/TO 13C7-1-5.

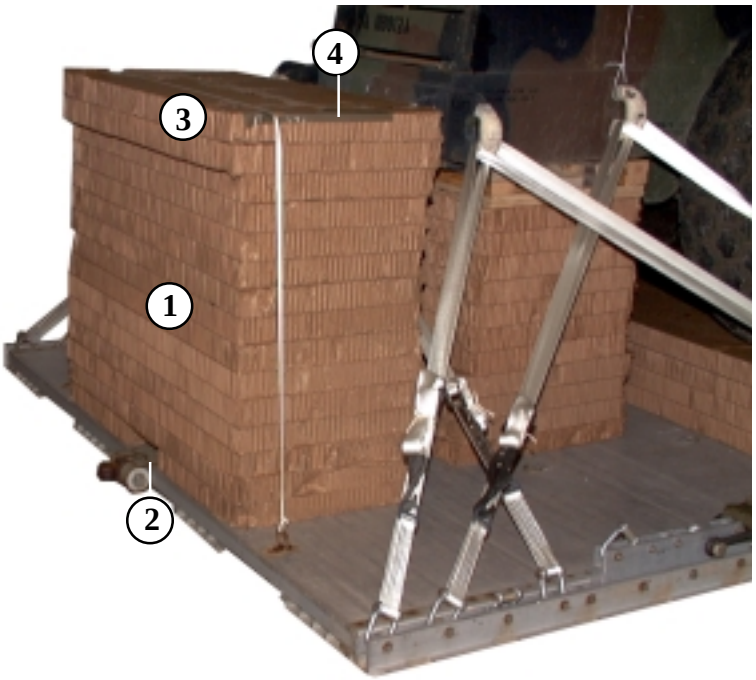
4. Tape a piece of felt on the front slings, starting at a point 18 inches above the clevis to 18 inches above the roller.

5. Tie the rear slings to the padded and taped portions of the wheel well using type III nylon cord.

Figure 13-12. Suspension slings and deadman's tie installed

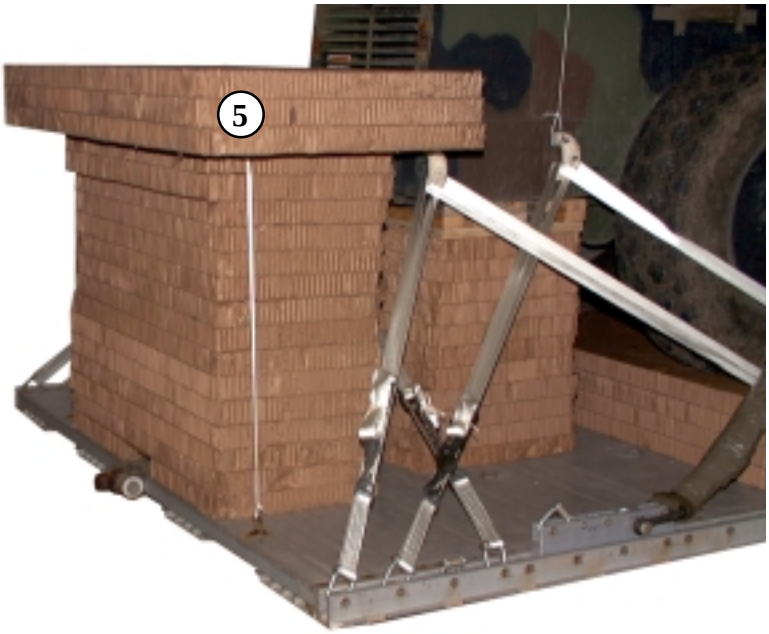
13-7. Building and Positioning Parachute Stowage Platform

Build and position the parachute stowage platform as shown in Figure 13-13.



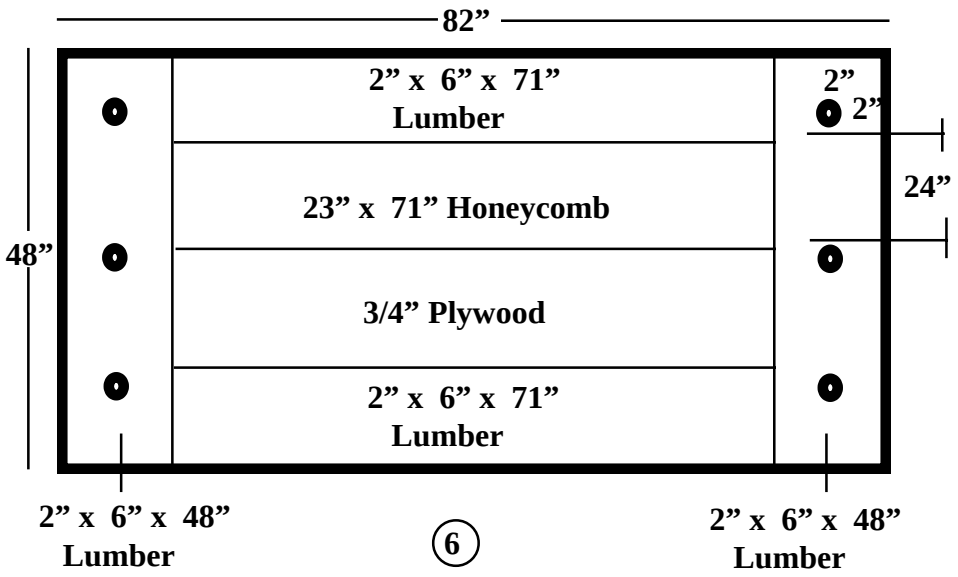
1. Cut and glue 13 layers of 23-inch by 50-inch pieces of honeycomb together to form the base.
2. Cut a channel in the bottom layer of the honeycomb that will allow the extraction bracket to fit under it.
3. Cut and glue two layers of 36-inch by 50-inch pieces of honeycomb together on top of the base and flush with the front edge.
4. Tape the outer edges of the 26-inch by 50-inch pieces of honeycomb and position it on the platform centered and flush with the rear edges. Secure it to the platform with 1/2-inch tubular nylon webbing to deck-rings 10A and 10D.

Figure 13-13. Parachute stowage platform built and positioned



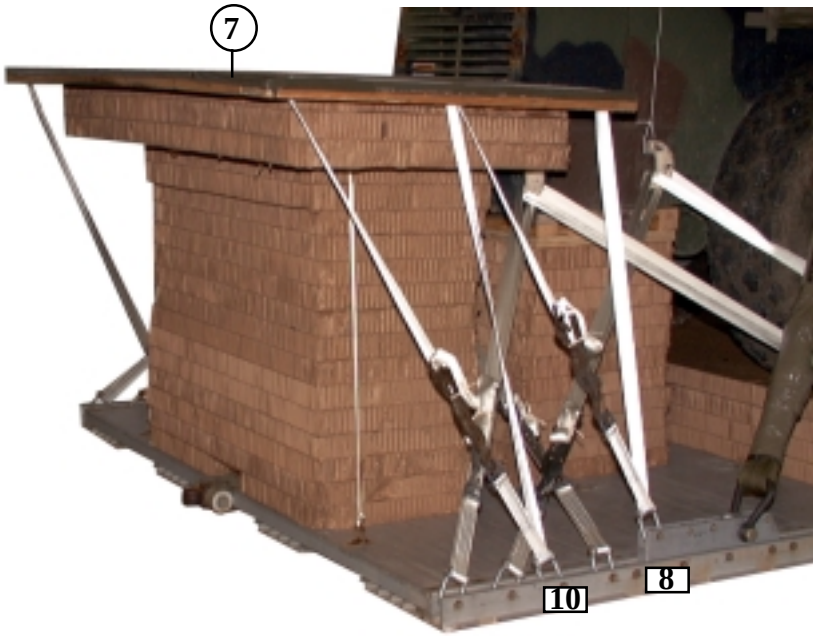
(5) Cut and glue three layers of 36-inch by 71-inch pieces of honeycomb centered on top of the base.

Figure 13-13. Parachute stowage platform built and positioned (continued)



6 Construct a parachute stowage platform using two pieces of 2-inch by 6-inch by 71-inch lumber, two pieces of 2-inch by 6-inch by 48-inch lumber, one piece of 48-inch by 82-inch plywood, and one piece of 23-inch by 71-inch honeycomb.

Figure 13-13. Parachute stowage platform built and positioned (continued)



7 Place the parachute stowage platform on the honeycomb stack. Secure it by routing a 15-foot lashing from clevis 8 to the front right hole to the center hole. Secure with a load binder. Route a 15-foot lashing from clevis 8A to the front left hole to the center hole and secure with a loadbinder.

8 Route a 15-foot lashing from clevis 10 to the center hole to the rear hole and secure with a loadbinder. Route a 15-foot lashing from clevis 10A to the center hole to the rear hole and secure with a loadbinder.

Figure 13-13. Parachute stowage platform built and positioned (continued)

13-8. Installing Cargo Parachutes

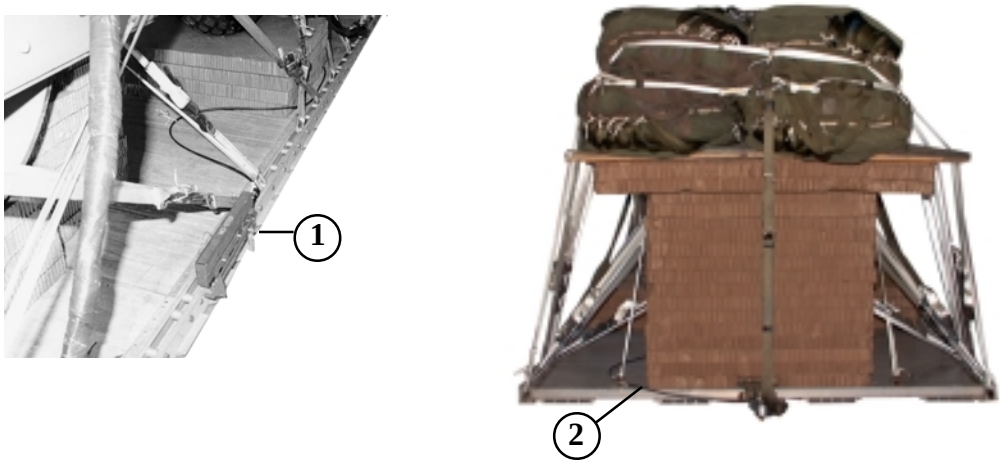
Install four G-11 cargo parachutes on the load according to FM 10-500-2/ TO 13C7-1-5 and as shown in Figure 13-14.

1. Prepare and stow four G-11 cargo parachutes in accordance with FM 10-500-2/ TO 13C7-1-5.
2. Restrain the parachutes using bushings 40, 40A, and 36, 36A on the platform.

Figure 13-14. Parachutes stowed

13-9. Installing Extraction System

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

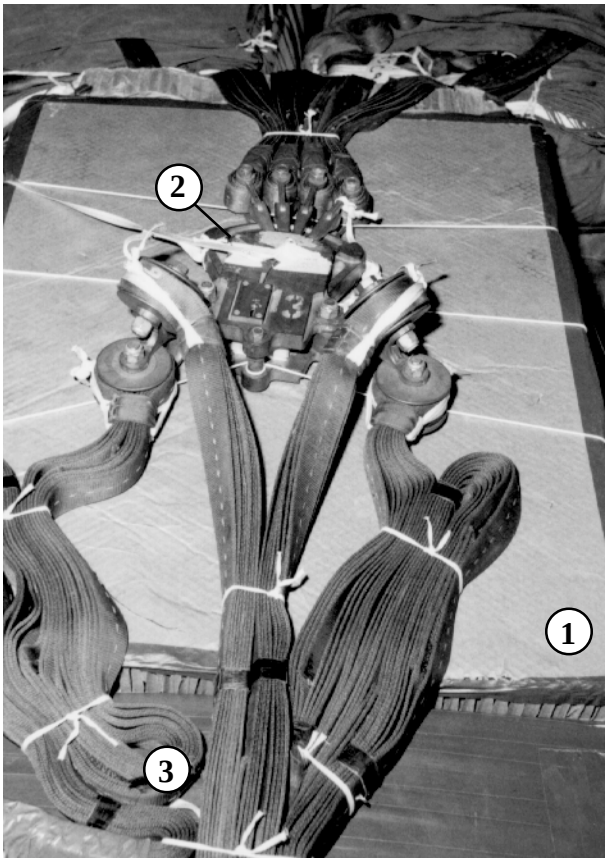


1. Install the components of the extraction force transfer coupling (EFTC) according to FM 10-500-2/TO 13C7-1-5. Use the rear mounting holes for the EFTC bracket.
2. Secure a 16-foot EFTC cable with type I, 1/4-inch cotton webbing to a convenient point on the platform.
3. Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line.

Figure 13-15. EFTC installed

13-10. Installing Parachute Release

Install an M-2 cargo parachute release according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 13-16.



1. Cut and position a 29-inch by 38-inch piece of honeycomb on the engine compartment and secure it with type III nylon cord.
2. Attach the suspension slings and the riser extensions to the M-2 release according to FM 10-500-2/TO 13C7-1-5. Secure the release to the platform with type III nylon cord.
3. S-fold the suspension slings and tie the folds with type I, 1/4-inch cotton webbing.

Figure 13-16. M-2 release installed

13-11. Installing Provisions for Emergency Restraints

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

13-12. Placing Extraction Parachute

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

13-13. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 13-17. If the load varies from the one shown, the weight, height, CB, tip-off curve, and parachute requirment must be recomputed.

13-14. Equipment Required

Use the equipment list in Table 13-1 to rig this load.

Make the final rigger inspection required by FM 10-500-2/TO13C7-1-5 before the load leaves the rigging site.

CB

RIGGED LOAD DATA

WEIGHT.....18,890 Pounds

MAXIMUM WEIGHT.....20,000 Pounds

HEIGHT.....99 Inches

WIDTH.....108 Inches

LENGTH.....262 Inches

OVERHANG.....Front: 0 Inches
Rear: 22 Inches

CB (from the front edge of platform).....108 Inches

Extraction System (adds 18 inches to length of platform)

Figure 13-17. Vibratory compactor (Model CS-433C) rigged on a type V platform

Table 13-1. Equipment required for rigging vibratory compactor (Model CS-433C) for low-velocity airdrop on a type V platform

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As Required
4030-00-090-5354	Clevis, suspension, 1-in (large)	11
4030-00-067-8562	Clevis, emergency restraints, (med)	6
8305-00-242-3593	Cloth, cotton duck, 60-in	As Required
4020-00-240-2164	Cord, nylon III, 550-lb	As Required
1670-00-434-5787	Coupling, airdrop, extraction force transfer with cable, 20ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	1
8135-00-664-6958	Cushioning material, packaging,cellulose wadding	As Required
8305-00-958-3685	Felt 1/2-inch	As Required
1670-01-183-2678	Leaf, extraction line, (line bag)	2
	Line, extraction:	
1670-01-062-6313	60-ft (3-loop), type XXVI (for C130)	1
1670-01-107-7651	140-ft (3-loop), type XXVI (for C141, C5, and C17)	1
1670-01-064-4452	Line, drogue (C17) 60-ft (1-loop), type XXVI	1
	Suspension:	
1670-00-062-6310	11-ft (4-loop), type XXVI	2
1670-00-062-6307	12-ft (4-loop), type XXVI	2
	Link assembly:	
1670-00-783-2752	Two-point, 5 1/2-in	3
1670-00-783-5988	Type IV	12

Table 13-1. Equipment required for rigging vibratory compactor (Model CS-433C) for low-velocity airdrop on a type V platform (continued)

National Stock Number	Item	Quantity
5315-00-010-4657	Nail, steel wire, common, 6d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	28 sheets
5530-00-618-8073	Plywood, 3/4-in	2 sheets
5510-00-220-6146	Lumber, 2 by 4-in	As required
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11B	4
	Cargo Extraction	
1670-00-040-8135	28ft	1
1670-01-063-3715	Drogue, 15-ft (C17)	1
	Platform, airdrop, type V, 20ft	1
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	4
1670-01-162-2381	Tandem Link	2
1670-01-097-8816	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop	
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For extension:	
1670-01-062-6314	60-ft (3-loop), type XXVI nylon webbing	4
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	1

Table 13-1. Equipment required for rigging vibratory compactor (Model CS-433C) for low-velocity airdrop on a type V platform (continued)

National Stock Number	Item	Quantity
1670-00-040-8219	Knife, multi, strap, parachute release	2
7510-00-266-5016	Tape, PSA, cloth back, 2-in	As required
1670-00-937-0271	Tiedown assembly, 15-ft	28
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

CHAPTER 14

RIGGING THE VIBRATORY COMPACTOR (MODEL CS-433P) ON A 20-FOOT, TYPE V PLATFORM FOR LOW-VELOCITY AIRDROP

14-1. Description of Load

The vibratory compactor (Figure 14-1) is a four-cylinder, turbocharged, selfpropelled diesel driven engine, and uses a single sheep-foot drum with an optional leveling blade. This load is rigged on a 20-foot, type V platform with four G-11 cargo parachutes. The rigged weight of the vibratory compactor is 19,147 pounds. It is 262 inches long, 99 inches high, and 108 inches wide, when prepared for rigging.

14-2. Preparing the Platform

Prepare a 20-foot, type V platform using two tandem multi-purpose links, four suspension links and 24 tiedown clevises as shown in Figure 14-2.

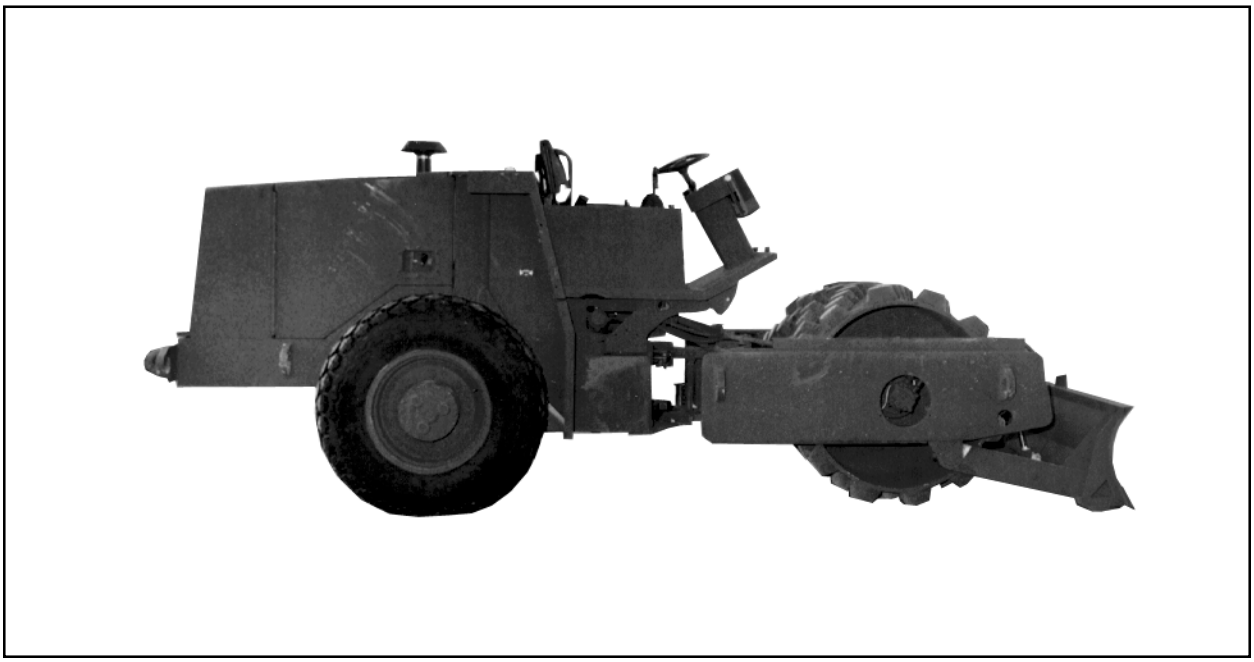
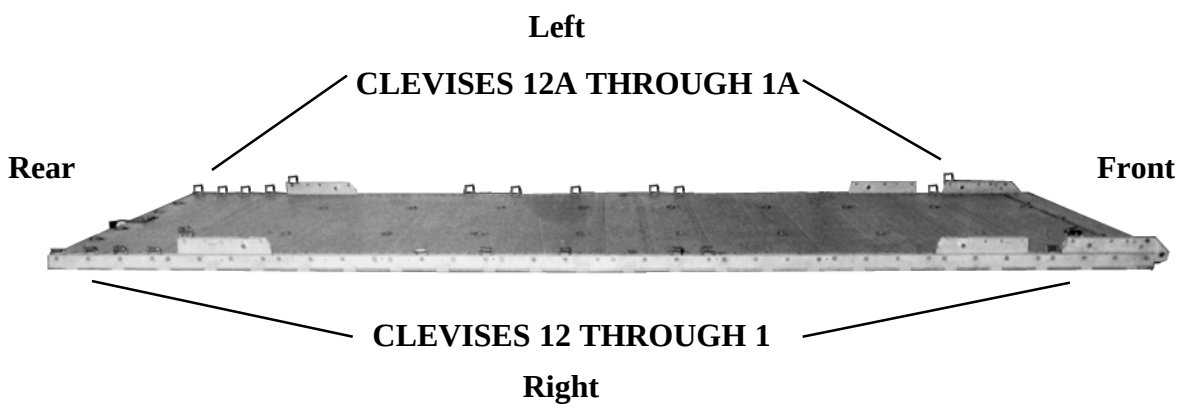


Figure 14-1. Vibratory compactor (Model CS-433P)



Step:

1. Install a tandem multi-purpose link to each plaform side rail using holes 1, 2, and 3.

2. Install a suspension link to each platform side rail using holes 6, 7, and 8.

3. Install a suspension link to each platform side rail using holes 33, 34, and 35.

4. Install a clevis on bushing 4 on each of the front tandem links.

5. Install a clevis on bushing 4 on each of the second suspension links.

6. Starting at the front of each platform side rail, install clevises on the bushings bolted on holes 4, 17, 18, 22, 25, 27, 37, 38, 39 and 40.

7. Starting at the front of the platform number the clevises 1 through 12 on the right side and 1A through 12A on the left side.

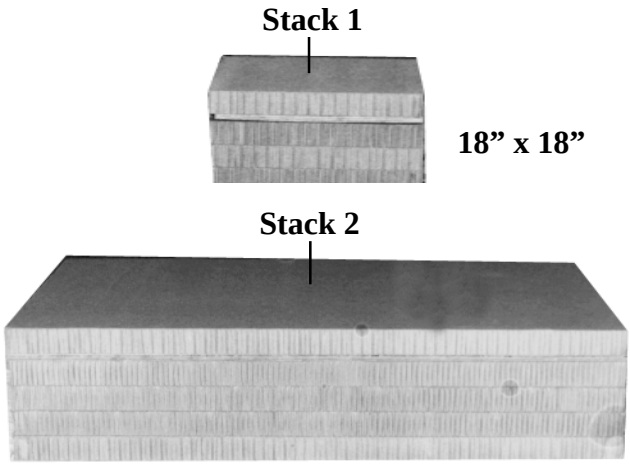
8. Label the tiedown rings according to FM 10-500-2/TO 13C7-1-5.

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

Figure 14-2. Platform prepared

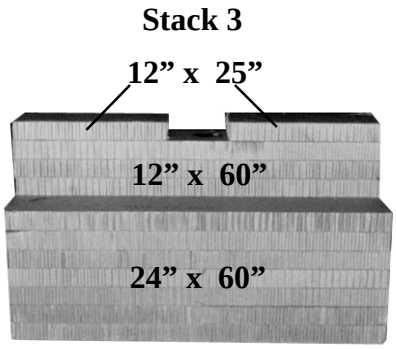
14-3. Preparing and Positioning Honeycomb Stacks

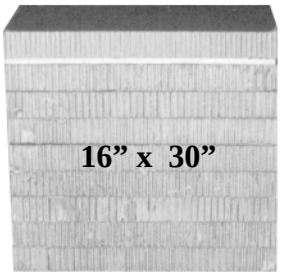
Prepare the honeycomb stacks as shown in Figures 14-3 through 14-5. Position the honeycomb stacks on the platform as shown in Figure 14-6.



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	5	18	18	Honeycomb	Glue four pieces of honey-comb together to form a base.
	1	18	18	3/4-inch Plywood	Glue plywood to the base and glue the remaining 18-inch by 18-piece of honey comb on top of the plywood.
2	5	36	66	Honeycomb	Glue four pieces of honey-comb together to form a base.
	1	36	66	3/4-inch Plywood	Glue plywood to the top of the base and glue the remain-ing piece of 36-inch by 66-inch honeycomb to the top of the plywood.

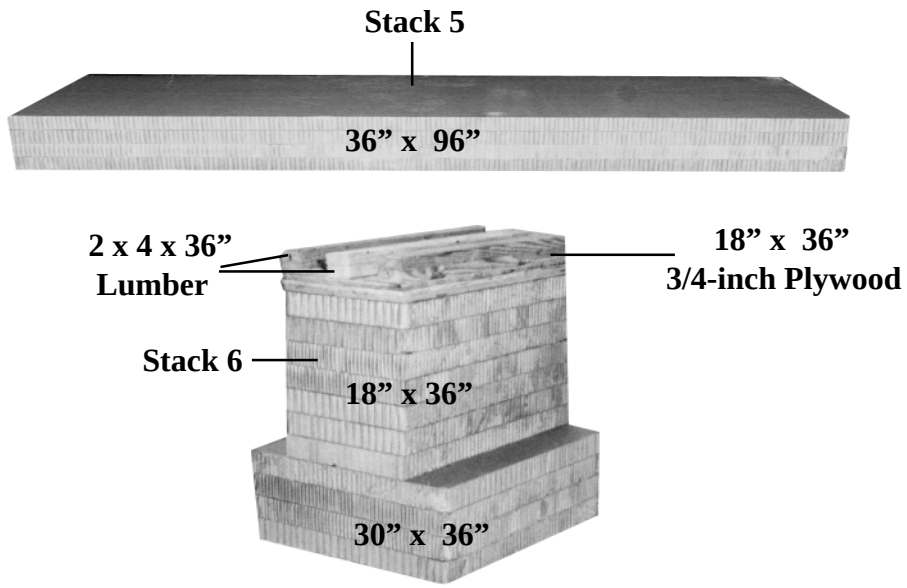
Figure 14-3. Honeycomb stacks 1 and 2 prepared





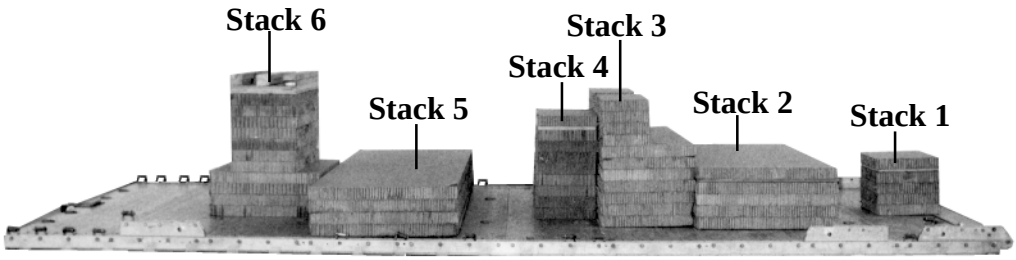
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3	7	24	60	Honeycomb	Glue honeycomb together to form a base.
	3	12	60	Honeycomb	Glue pieces of honeycomb to the base aligned on the rear edge.
	2	12	25	Honeycomb	Glue each piece of honey-comb to the outer edge of the 12-inch by 60-inch piece of honeycomb.
4	9	16	30	Honeycomb	Glue eight pieces of honey-comb together to form a base.
	1	16	30	3/4-inch Plywood	Glue the plywood to the top of the base. Glue the re-maning piece of honeycomb to the top of the plywood.

Figure 14-4. Honeycomb stacks 3 and 4 prepared



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
5	4	36	96	Honeycomb	Glue pieces of honeycomb together to form a base.
6	4	30	36	Honeycomb	Glue pieces of honeycomb together to form a base.
	7	18	36	Honeycomb	Center and glue to base.
	3	18	36	3/4-inch Plywood	Nail three pieces of 3/4-inch plywood together.
	6	2 x 4	36	Lumber	Nail two pieces of lumber to the rear edge of the plywood and two more pieces centered on the plywood. Glue the piece on top of the 18-inch by 36-inch piece of honey-comb.

Figure 14-5. Honeycomb stacks 5 and 6 prepared



Step:

1. Position stack 1 centered and flush with the front edge of the platform and not the nose bumper if present.

2. Position stack 2 centered and 18 inches from stack 1.

3. Position stack 3 centered and flush against stack 2.

4. Position stack 4 centered and flush against stack 3.

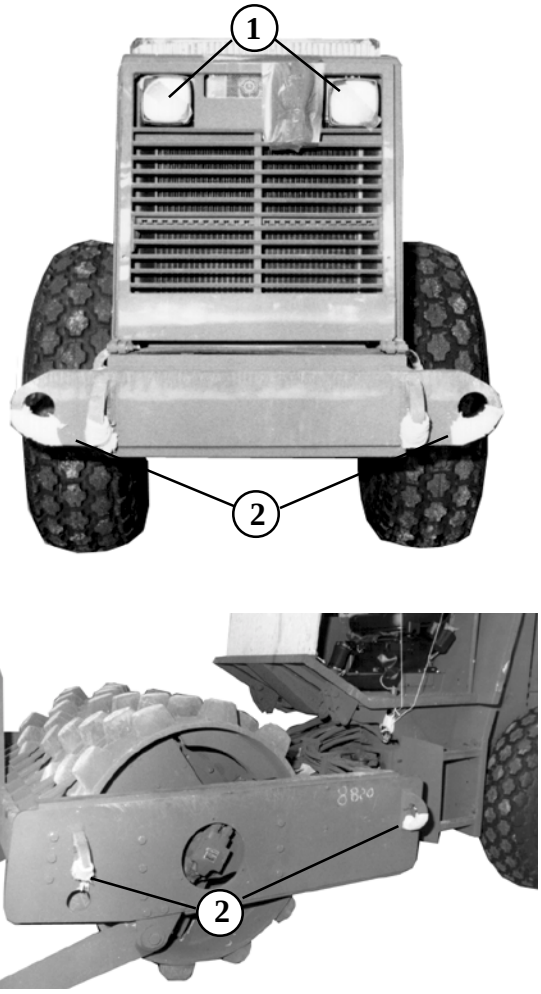
5. Position stack 5 centered and 19 inches from stack 4.

6. Position stack 6 centered and 1 inch from stack 5.

Figure 14-6. Honeycomb stacks positioned on platform

14-4. Preparing and Positioning Vibratory Compactor on Platform

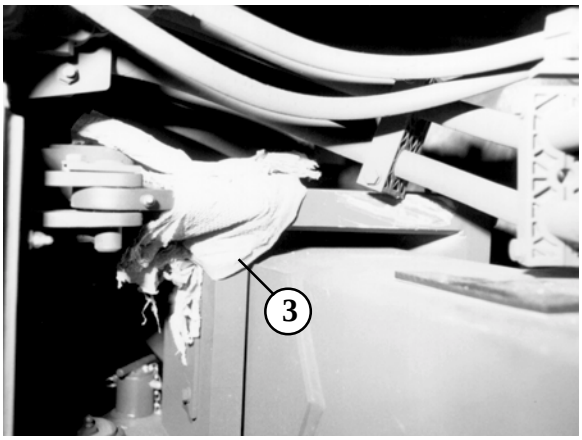
Prepare and position the vibratory compactor on a platform as shown in Figures 14-7 and 14-8.

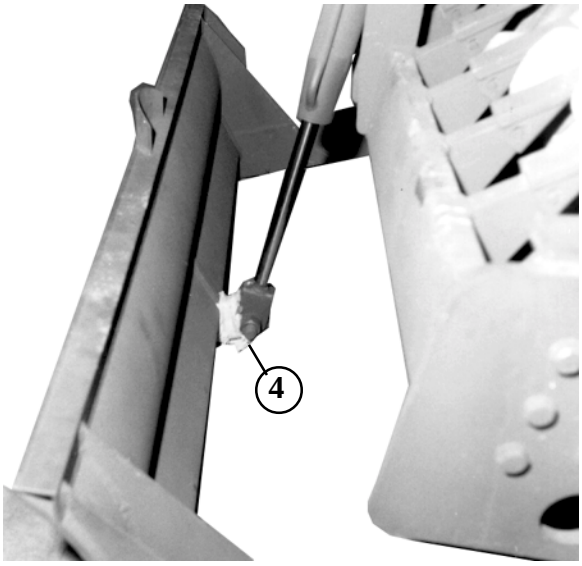


(1) Tape all lights and reflectors.

(2) Tape cellulose wadding to all lashing tiedown points.

Figure 14-7. Vibratory compactor prepared

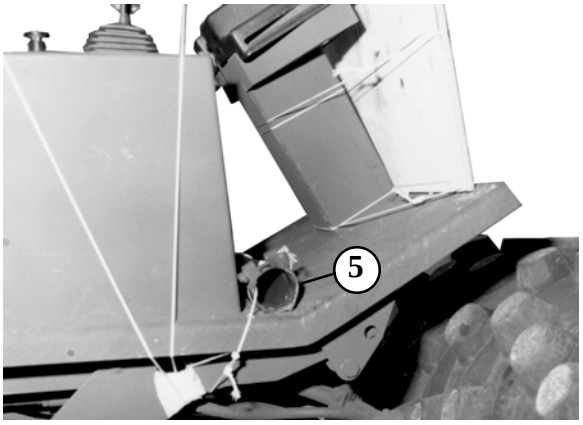


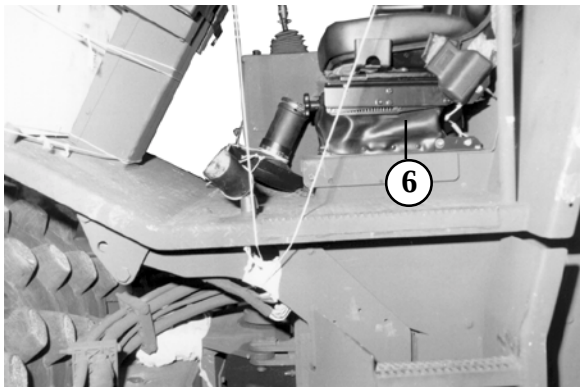


(3) Tape cellulose wadding to the upper pivot arm of the chassis.

(4) Tape cellulose wadding to the hydraulic attaching point of the blade.

Figure 14-7. Vibratory compactor prepared (continued)

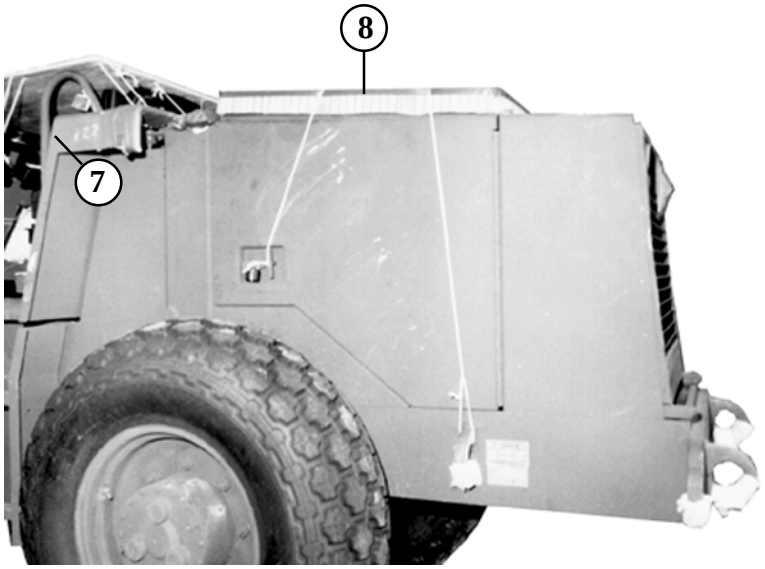




(5) Remove the air-filter and exhaust pipe. Secure them to convenient points in the cab.

(6) Lower the seat and lock it down.

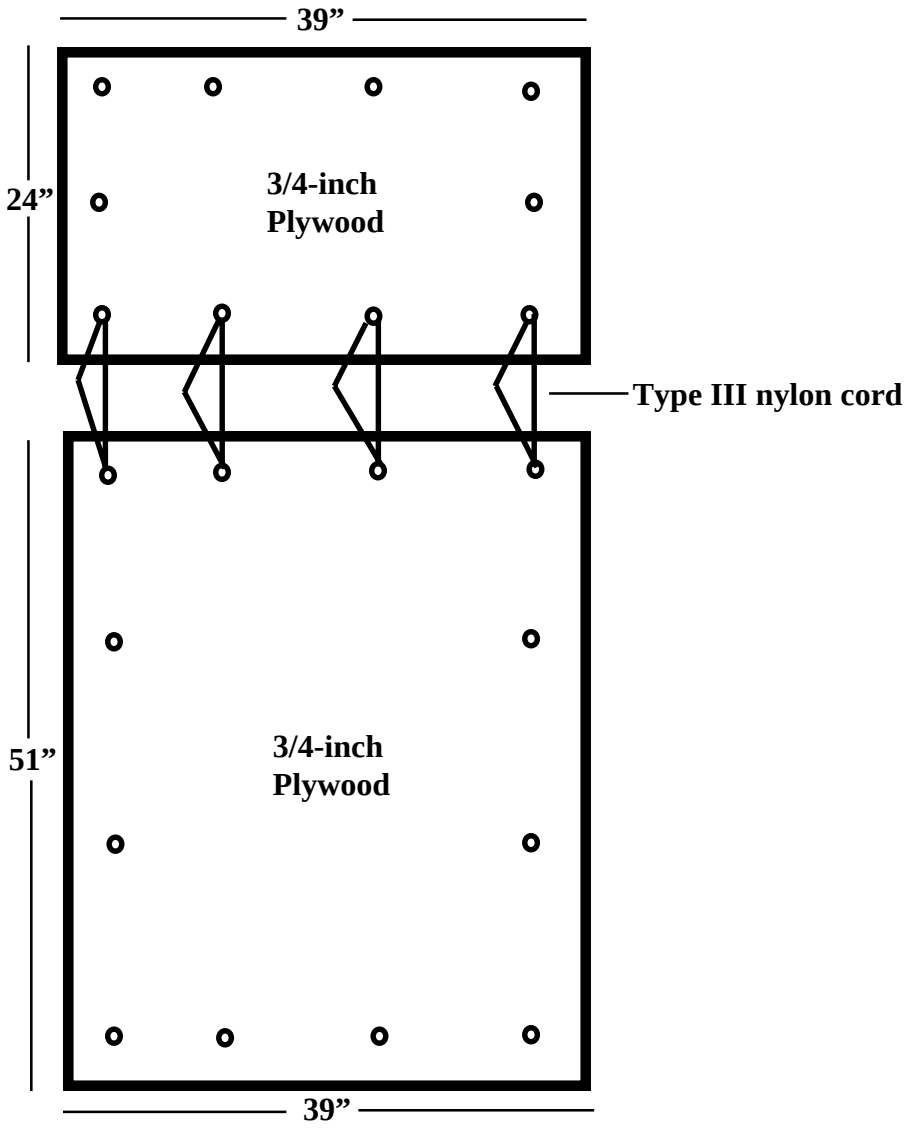
Figure 14-7. Vibratory compactor prepared (continued)



(7) Tape felt on the upper portions of the rear wheel wells where the slings will make contact.

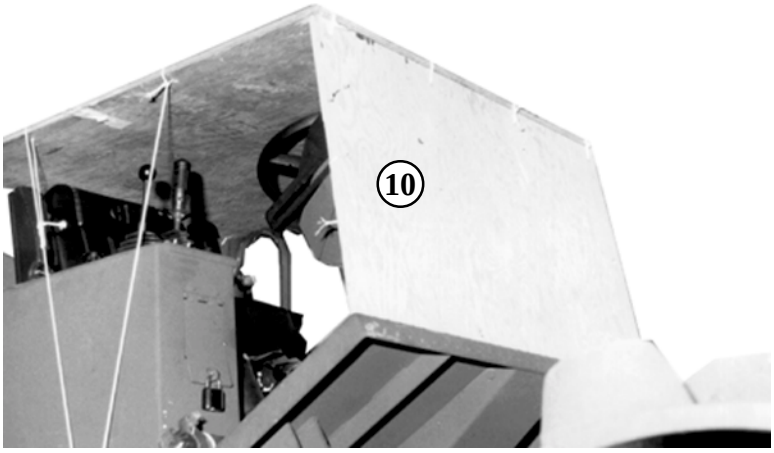
(8) Tape the edges of a 29-inch by 38-inch piece of honeycomb and secure it on top of the engine compartment with type III nylon cord tied to a convenient point on the roller.

Figure 14-7. Vibratory compactor prepared (continued)



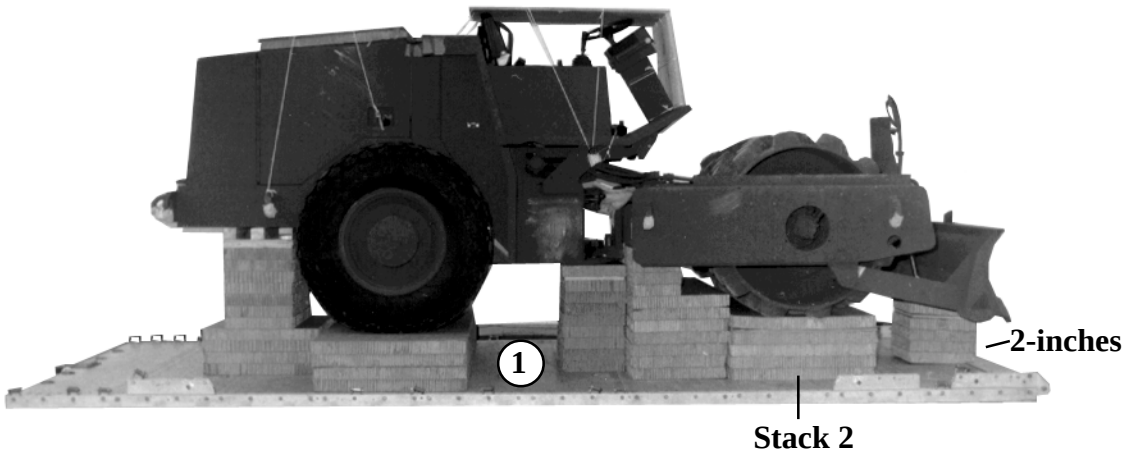
9 Tie a 24-inch by 39-inch piece of 3/4-inch plywood to a 39-inch by 51-inch piece of 3/4-inch plywood using type III nylon cord as shown.

Figure 14-7. Vibratory compactor prepared (continued)



(10) Using 1/2-inch tubular nylon, secure the piece of plywood to the cab of the vibratory compactor to a convenient point on the load.

Figure 14-7. Vibratory compactor prepared (continued)

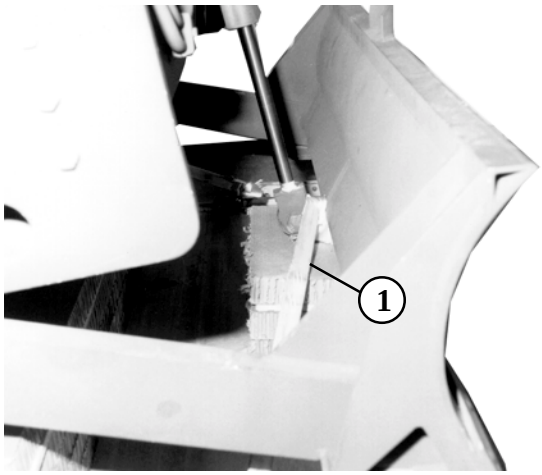


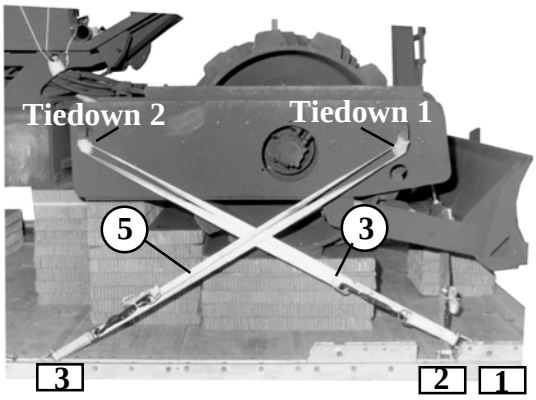
1 Position the vibratory compactor with the roller on honeycomb stack 2 aligning the front edge of the blade 2 inches from the front edge of the platform.

Figure 14-8. Vibratory compactor positioned on platform

14-5. Lashing Vibratory Compactor to the Platform

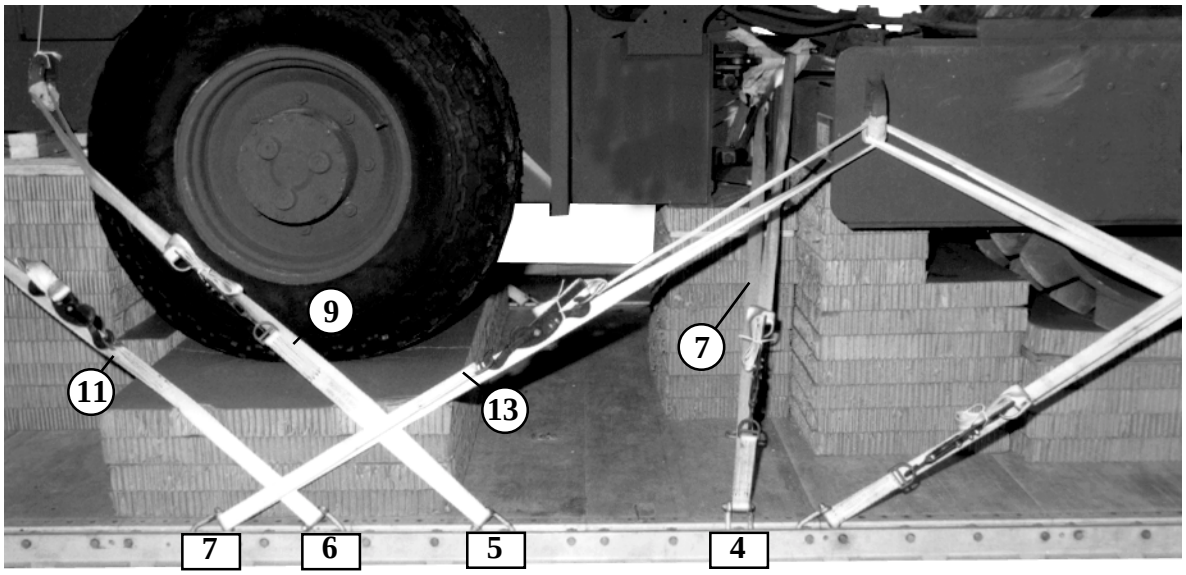
Lash the vibratory compactor to the platform as shown in Figures 14-9 through 14-11 and FM 10-500-2/TO 13C7-1-5.





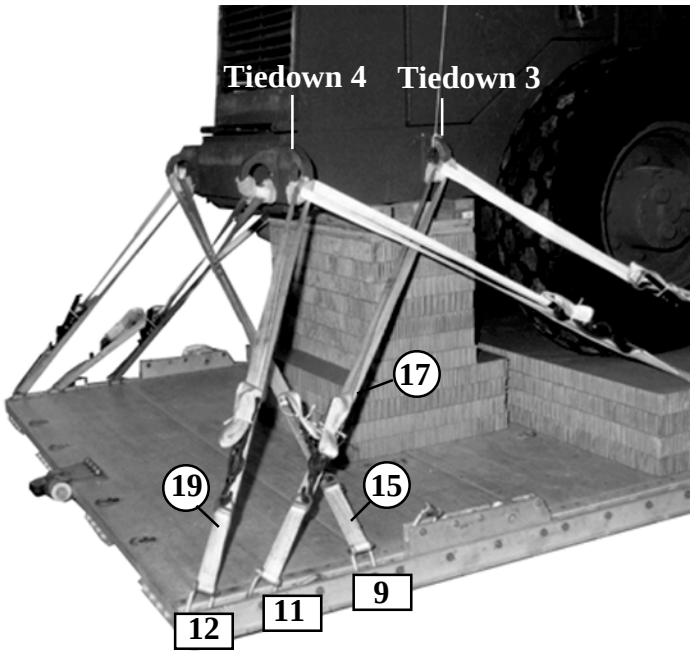
Lashing Number	Clevis Number	Instructions
		Pass lashing:
1	2	Around right hydraulic attaching point of blade.
2	2A	Around left hydraulic attaching point of blade.
3	1	Through tie-down number 2, right side.
4	1A	Through tie-down number 2, left side.
5	3	Through tie-down number 1, right side.
6	3A	Through tie-down number 1, left side.

Figure 14-9. Lashings 1 through 6 installed



Lashing Number	Clevis Number	Instructions
		Pass lashing:
7	4	Around right upper pivot arm of chassis.
8	4A	Around left upper pivot arm of chassis.
9	5	Through tie-down number 3, right side.
10	5A	Through tie-down number 3, left side.
11	6	Through tie-down number 4, right side.
12	6A	Through tie-down number 4, left side.
13	7	Through tie-down number 2, right side
14	7A	Through tie-down number 2, left side.

Figure 14-10. Lashings 7 through 14 installed

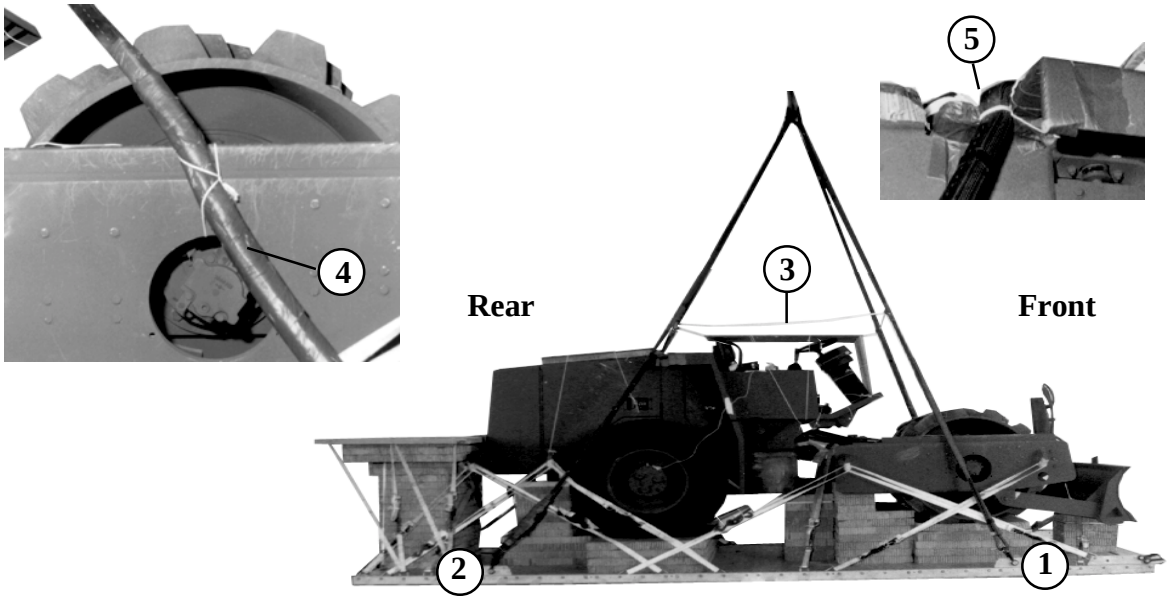


Lashing Number	Clevis Number	Instructions
		Pass lashing:
15	9	Through rear tie-down, left side.
16	9A	Through rear tie-down, right side.
17	11	Through clevis 11 to tie-down number 3, left side.
18	11A	Through clevis 11A to tie-down number 3, right side.
19	12	Through clevis 12 to tie-down number 4, left side.
20	12A	Through clevis 12A to tie-down number 4, right side.

Figure 14-11. Lashings 15 through 20 installed

14-6. Installing and Safetying Suspension Slings and Deadman's Tie

Install and safety four 16-foot (4-loop), type XXVI nylon webbing slings to the tandem links as shown in Figure 14-12.



(1) Place a large clevis in one end of a 16-foot (4-loop), type XXVI nylon suspension sling. Attach another large clevis to the front right and front left suspension links. Attach the large clevises together and safety-tie them with type III nylon cord in an hourglass configuration.

(2) Place a 5 1/2-inch two point link in one end of a 16-foot (4-loop), type XXVI nylon suspension sling. Pass a 3-foot (4-loop), type XXVI nylon sling through the two point link and fold in half. Attach both running ends of the 3-foot sling to a large clevis. Attach the large clevis to the rear right and rear left suspension links. Tape a piece of felt to the 5 1/2-inch two point link.

(3) Raise the slings and install the deadman's tie on the front and rear sets of slings IAW FM 10-500-2/TO 13C7-1-5.

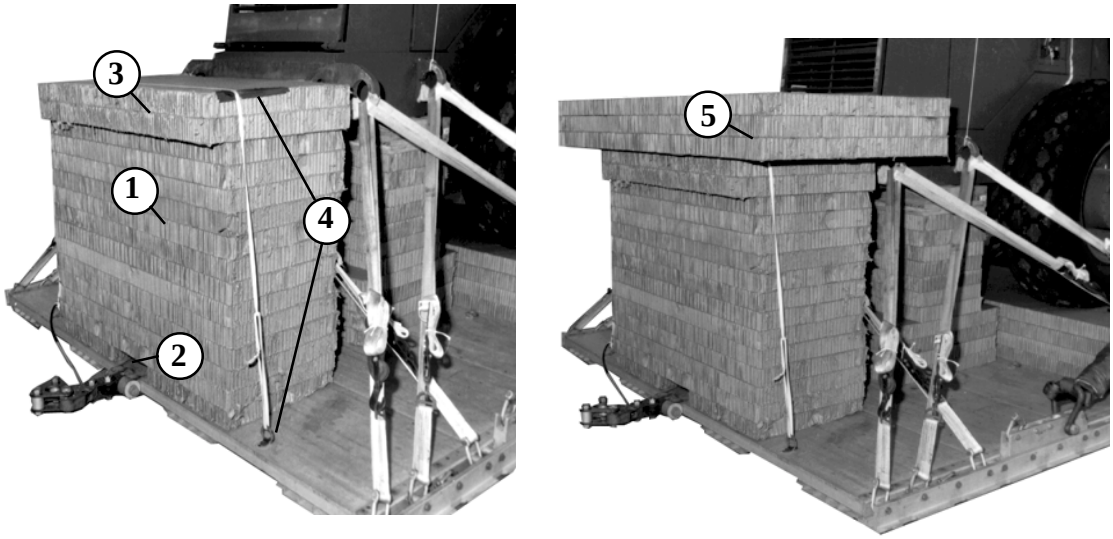
(4) Tape a piece of felt on the front slings, starting at a point 18 inches above the clevis to 18 inches above the roller and tie to a conveniewnt point.

(5) Tie the rear slings to the padded and taped portions of the wheel well using type III nylon cord.

Figure 14-12. Suspension slings and deadman's tie installed

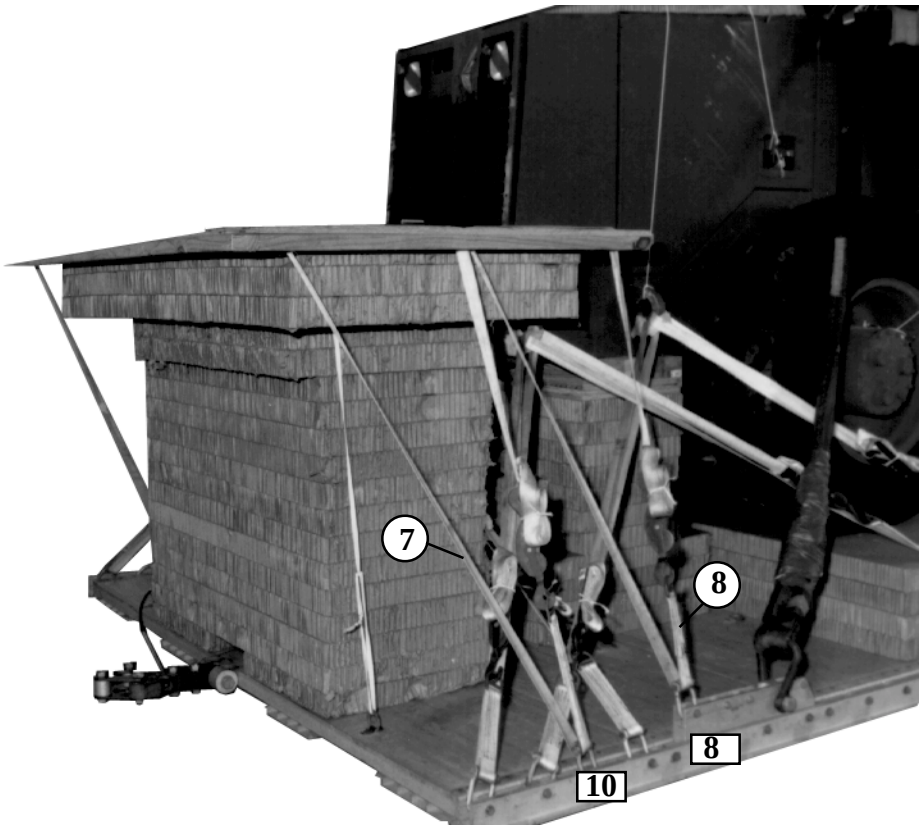
14-7. Building and Positioning Parachute Stowage Platform

Build and position the parachute stowage platform as shown in Figure 14-13.



1. Cut and glue 13 layers of 23-inch by 50-inch pieces of honeycomb together to form the base on the platform.
2. Cut a channel in the bottom layer of honeycomb that will allow the extraction bracket to fit under it.
3. Cut and glue two layers of 26-inch by 50-inch pieces of honeycomb together on top of the base and flush with the front edge.
4. Tape the outer edges of the 26-inch by 50-inch piece of honeycomb and position it on the platform centered and flush with the rear edge. Secure it to the platform with 1/2-inch tubular nylon webbing to deck-rings 10A and 10D.
5. Cut and glue three layers of 36-inch by 71-inch pieces of honeycomb centered on top of the base.

Figure 14-13. Parachute stowage platform constructed and positioned



(6) Contsruct a parachute stowage platform as shown in Figure 13-13, step 6.

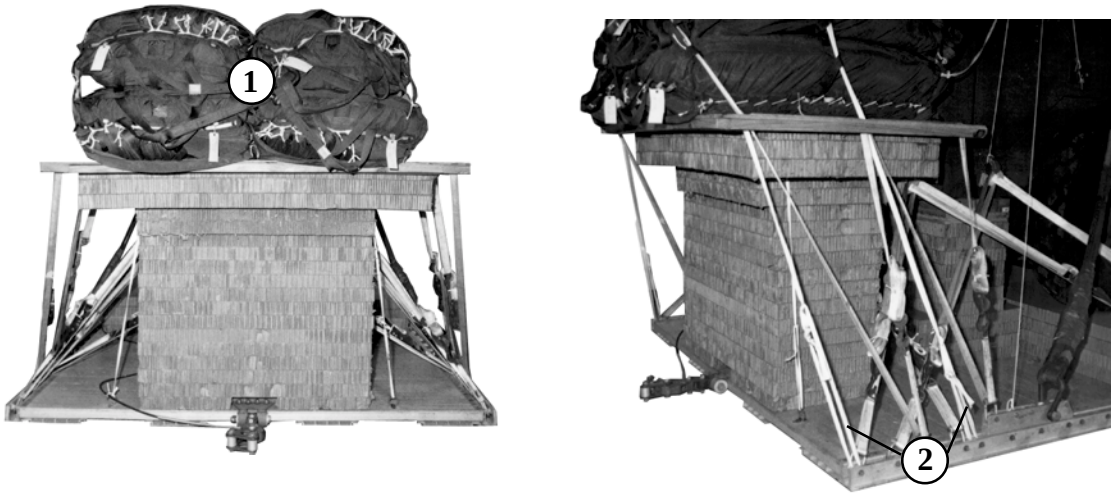
(7) Place the parachute stowage platform on the honeycomb stack. Secure it by routing a 15-foot lashing from clevis 10 to the front right hole to the center hole. Secure with a load binder. Route a 15-foot lashing from clevis 10A to the front left hole to the center hole and secure with a loadbinder.

(8) Route a 15-foot lashing from clevis 8 to the center hole to the rear hole and secure with a load binder. Route a 15-foot lashing from clevis 8A to the center hole to the rear hole and secure with a loadbinder.

Figure 14-13. Parachute stowage platform constructed and positioned (continued)

14-8. Installing Cargo Parachutes

Install four G-11 cargo parachutes on the load according to FM 10-500-2/ TO 13C7-1-5 and as shown in Figure 14-14.

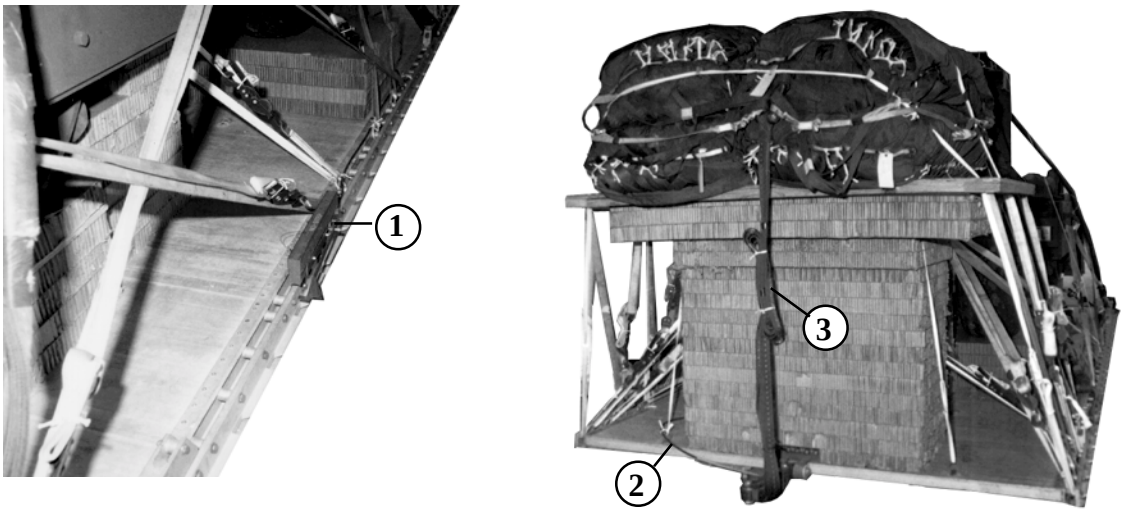


1. Prepare and stow four G-11 cargo parachutes in accordance with FM 10-500-2/ TO 13C7-1-5.
2. Restrain the parachutes using bushings 40, 40A, 36, and 36A on the platform.

Figure 14-14. Parachutes stowed

14-9. Installing Extraction System

Install the EFTC system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 14-15.

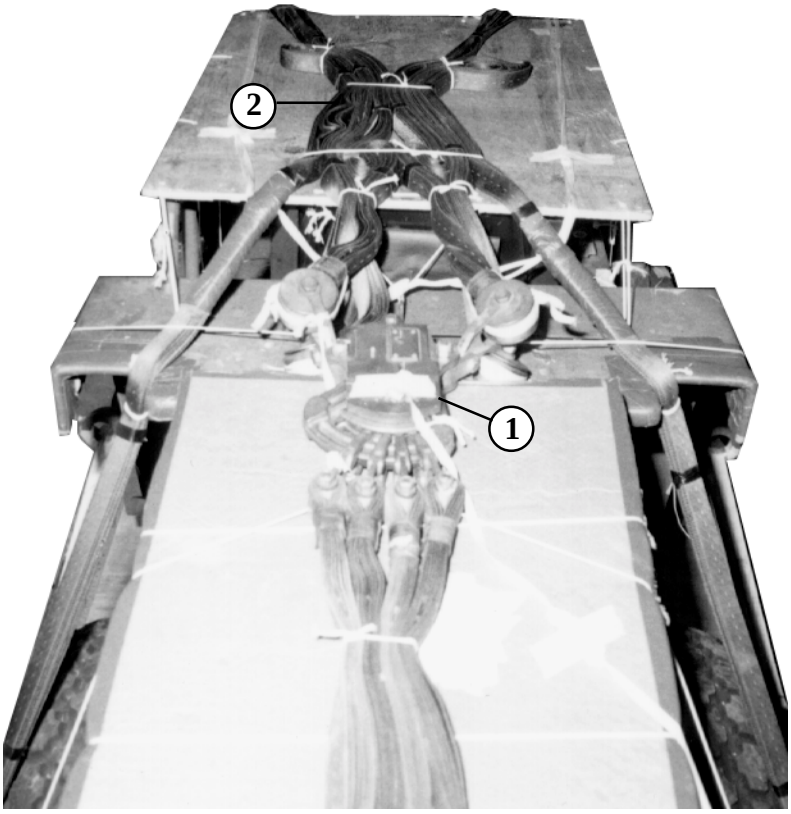


1. Install the components of the extraction force transfer coupling (EFTC) according to FM 10-500-2/TO13C7-1-5. Use the rear mounting holes for the EFTC bracket.
2. Secure a 16-foot EFTC cable with type I, 1/4-inch cotton webbing to a convenient point on the platform.
3. Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line.

Figure 14-15. EFTC installed

14-10. Installing Parachute Release

Install an M-2 cargo parachute release according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 14-16.



(1) Attach the suspension slings and the riser extensions to the M-2 release according to FM 10-500-2/TO 13C7-1-5. Secure the release to the platform with type III nylon cord.

(2) S-fold the suspension slings and tie the folds with type I, 1/4-inch cotton webbing.

Figure 14-16. M-2 release installed

14-11. Installing Provisions for Emergency Restraints

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

14-12. Placing Extraction Parachute

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

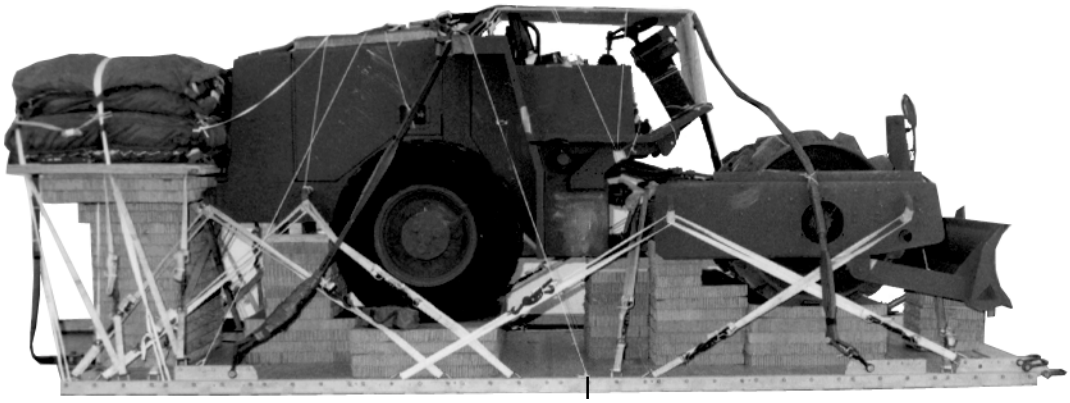
14-13. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 14-17.

14-14. Equipment Required

Use the equipment list in Table 14-1 to rig this load.

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



RIGGED LOAD DATA

WEIGHT.....19,147 Pounds

MAXIMUM WEIGHT.....21,000 Pounds

HEIGHT.....99 Inches

WIDTH.....108 Inches

LENGTH..... 262 Inches

OVERHANG.....Front: 0 Inches
Rear: 22 Inches

CB (from the front of platform).....108 inches

Extraction System (adds 18 inches to length of platform)

Figure 14-17. Vibratory compactor (model CS-433P) rigged on a type V platform

Table 14-1. Equipment required for rigging vibratory compactor (Model CS-433P) for low-velocity airdrop on a type V platform

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
4030-00-067-8562	Clevis, emergency restraints, (med)	6
8305-00-242-3593	Cloth, cotton duck, 60-in	As required
4020-00-240-2164	Cord, nylon III, 550-lb	As required
1670-00-434-5787	Coupling, airdrop, extraction force transfer with cable, 20ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	1
8135-00-664-6958	Cushioning material, packaging,cellulose wadding	As required
8305-00-958-3685	Felt 1/2-inch	As required
1670-01-183-2678	Leaf, extraction line, (line bag)	2
	Line, extraction:	
1670-01-062-6313	60-ft (3-loop), type XXVI (for C130)	1
1670-01-107-7651	140-ft (3-loop), type XXVI (for C141, C5, and C17)	1
1670-01-064-4452	Line, drogue (C17) 60-ft (1-loop), type XXVI	1
	Suspension:	
1670-00-062-6310	12-ft (4-loop), type XXVI	2
1670-00-062-6310	11-ft (4-loop), type XXVI	2
	Link assembly:	
1670-00-783-5988	Type IV	2
1670-00-783-2752	Two-point, 5 1/2-in	3

Table 14-1. Equipment required for rigging vibratory compactor (Model CS-433P) for low-velocity airdrop on a type V platform (continued)

National Stock Number	Item	Quantity
5315-00-010-4657	Nail, steel wire, common, 6d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	28 sheets
5530-00-618-8073	Plywood, 3/4-in	2 sheets
5510-00-220-6146	Lumber, 2 by 4-in	As required
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11B	4
	Cargo Extraction	
1670-00-040-8135	28ft	1
1670-01-063-3715	Drogue, 15-ft (C17)	1
	Platform, airdrop, type V, 20ft	1
1670-01-353-8425	Bracket assembly, compoent, EFTC	1
1670-01-162-2372	Clevis assembly, type V	24
1670-01-353-8424	Extraction bracket assembly	1
1670-01-247-2389	Suspension link	4
1670-01-162-2381	Tandem Link	2
1670-01-097-8816	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop	
	Suspension and lifting:	
1670-01-062-6308	16-ft (4-loop),type XXVI nylon webbing	4
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For extension:	
1670-01-062-6314	60-ft (3-loop), type XXVI nylon webbing	4
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	1

Table 14-1. Equipment required for rigging vibratory compactor (Model CS-433P) for low-velocity airdrop on a type V platform (continued)

National Stock Number	Item	Quantity
1670-01-062-6305	Link, assembly, coupling, 3-point	2
5340-00-040-8219	Knife, multi, strap, parachute release	2
7510-00-266-5016	Tape, PSA, cloth back, 2-in	As required
1670-00-937-0271	Tiedown assembly, 15-ft	28
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3598	Type VIII, OD	As required