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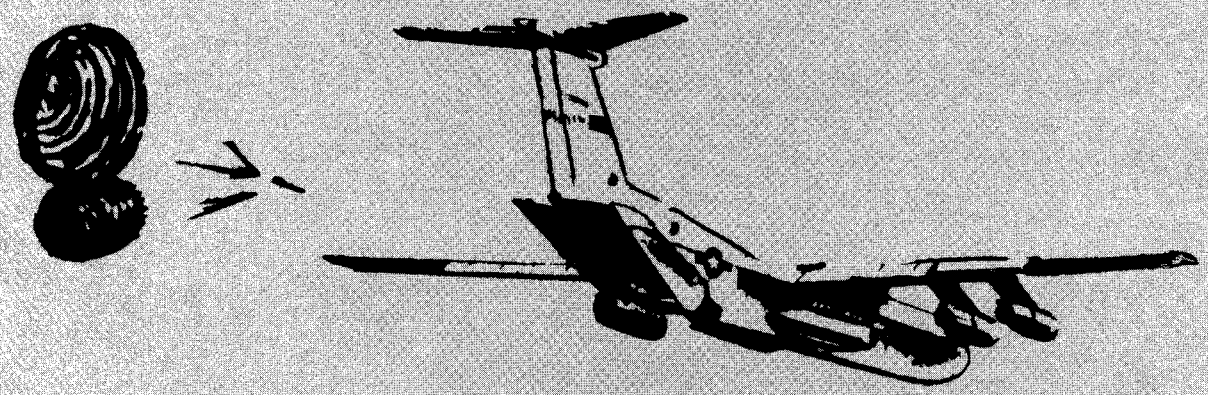
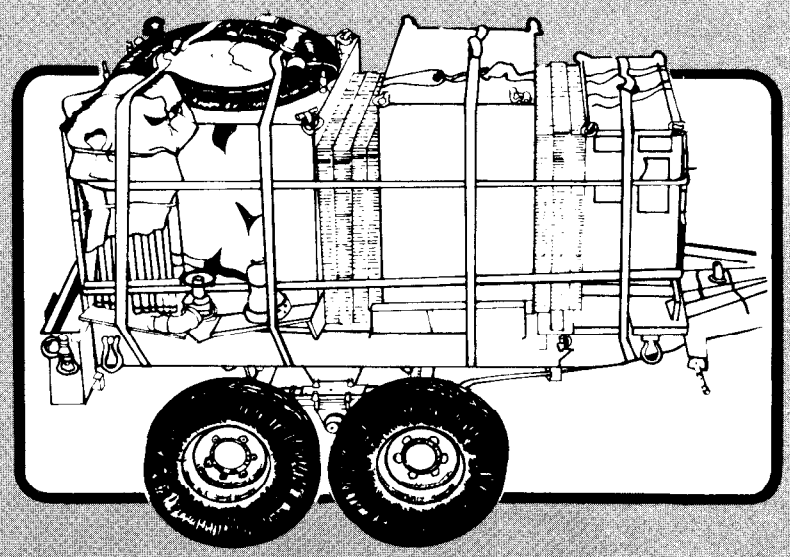


AIRDROP OF SUPPLIES AND EQUIPMENT

RIGGING M-12 DECONTAMINATION UNIT



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DEPARTMENTS OF THE ARMY AND THE AIR FORCE

FIELD MANUAL
No 10-557
TECHNICAL ORDER
No 13C7-1-20

DEPARTMENTS OF THE ARMY
AND THE AIR FORCE
Washington, DC, 31 May 1983

AIRDROP OF SUPPLIES AND EQUIPMENT
RIGGING M-12 DECONTAMINATION UNIT

TABLE OF CONTENTS

		Paragraph	Page
CHAPTER 1.	INTRODUCTION		
	Scope	1-1	1-1
	Special Consideration	1-2	1-1
	Recommended Changes	1-3	1-1
CHAPTER 2.	RIGGING M-12 DECONTAMINATION UNIT FOR LOW-VELOCITY AIRDROP		
	Description of Load	2-1	2-1
	Preparing Platform	2-2	2-1
	Building and Placing Honeycomb Stacks	2-3	2-4
	Preparing Decontamination Unit	2-4	2-7
	Placing Decontamination Unit	2-5	2-9
	Stowing Accompanying Load	2-6	2-11
	Lashing Decontamination Unit	2-7	2-13
	Installing Load Cover	2-8	2-18
	Safetying Suspension Slings	2-9	2-18
	Stowing Cargo Parachutes	2-10	2-18
	Installing Extraction System	2-11	2-18
	Installing Release System	2-12	2-19
	Placing Extraction Parachute	2-13	2-19
	Marking Rigged Load	2-14	2-19
	Equipment Required	2-15	2-19
CHAPTER 3.	RIGGING M-12 DECONTAMINATION UNIT ON M796 BOLSTER TRAILER FOR LOW-VELOCITY AIRDROP		
	Description of Load	3-1	3-1
	Preparing Platform	3-2	3-1
	Stowing Accompanying Load	3-3	3-2
	Building and Placing Honeycomb Stacks	3-4	3-5
	Preparing Decontamination Unit	3-5	3-9
	Preparing Trailer	3-6	3-11
	Stowing Decontamination Unit and Spare Tire	3-7	3-12
	Covering Load	3-8	3-19
	Installing Suspension Slings	3-9	3-19
	Placing Trailer	3-10	3-21
	Lashing Trailer	3-11	3-22
	Stowing Cargo Parachutes	3-12	3-25

		Paragraph	Page
	Installing Extraction System	3-13	3-27
	Installing Release System	3-14	3-27
	Placing Extraction Parachute	3-15	3-28
	Marking Rigged Load	3-16	3-28
	Equipment Required	3-17	3-28
CHAPTER 4.	**RIGGING M-12 DECONTAMINATION UNIT ON M796 BOLSTER TRAILER FOR LAPE AIRDROP**		
	REMOVED: 95 MESSAGE TERMINATION OF LAPES	4-1	4-1
		4-2	4-1
		4-3	4-2
		4-4	4-6
		4-5	4-9
		4-6	4-9
		4-7	4-9
		4-8	4-9
		4-9	4-9
		4-10	4-13
		4-11	4-15
		4-12	4-15
		4-13	4-15
		4-14	4-16
APPENDIX A	**REFERENCES**		**A-1**
GLOSSARY			**Glossary-1**

CHAPTER 1

INTRODUCTION

1-1. Scope

This manual tells and shows how to rig the M-12 decontamination unit. The decontamination unit is made up of one heater unit, one mixing tank, one pump/generator unit, and 50-pound drums of decontamination agent. The decontamination unit may be airdropped in the following ways:

a. The decontamination unit is rigged on a 12-foot modular type II platform for a low-velocity airdrop from C-130 or C-141 aircraft.

b. The decontamination unit, mounted on an M796 bolster trailer, is rigged on a 16-foot modular type II platform for a low-velocity airdrop from C-130 or C-141 aircraft.

c. The decontamination unit, mounted on an M796 bolster trailer, is rigged on a 16-foot low-altitude parachute-extraction (LAPE) airdrop platform for a low-altitude parachute-extraction system airdrop from C-130 aircraft.

1-2. Special Consideration

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

1-3. Recommended Changes

You are encouraged to report any errors or omissions and to suggest ways for making this manual better. Army personnel, send your comments on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to:

Commandant
US Army Quartermaster School
ATTN: ATSM-TDT
Fort Lee, VA 23801

Air Force personnel, send your reports on AFTO Form 22 (Technical Order Publication Improvement Report) through:

Headquarters
Military Airlift Command
(MAC/DOXT)
Scott AFB, IL 62225

to:

Commandant
US Army Quartermaster School
ATTN: ATSM-TDT
Fort Lee, VA 23801

Also, send an information copy of AFTO Form 22 to:

San Antonio ALC/MMEDTR
Kelly AFB, TX 78241

CHAPTER 2

RIGGING M-12 DECONTAMINATION UNIT FOR LOW-VELOCITY AIRDROP

2-1. Description of Load

The M-12 decontamination unit is rigged on a 12-foot modular type II platform with either two G-11A or G-11B cargo parachutes for a low-velocity airdrop from C-130 or C-141 aircraft. The complete decontamination unit is made up of four main items. The pump/generator unit weighs 1,190 pounds; it is 47 inches high, 30 inches wide, and 55 inches long. The heater unit weighs 640 pounds; it is 41 inches high, 21 inches wide, and 52 inches long. The mixing tank weighs 1,000 pounds; it is 48 inches high, 46 inches wide, and 83 inches long. Twenty-six drums of decontamination agent weighing 1,300 pounds make up the accompanying load.

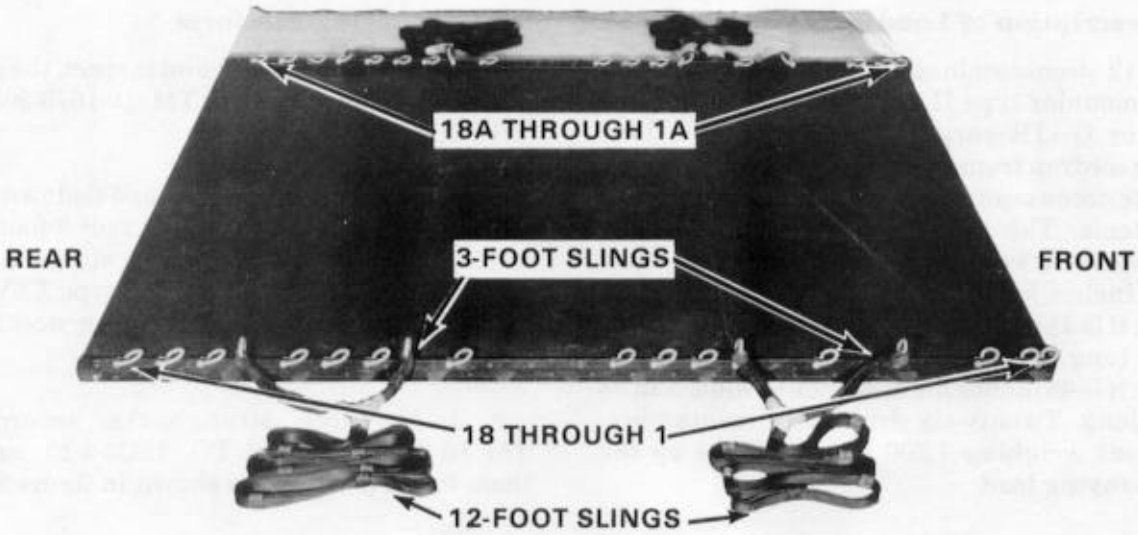
2-2. Preparing Platform

a. Inspect, or assemble and inspect, the modular platform as outlined in TM 10-1670-208-20&P/TO 13C3-4-12.

b. Attach and number the load tiedown clevises as shown in figure 2-1. Attach four 3-foot (3-loop) type X or (2-loop) type XXVI slings and four 12-foot (3-loop) type X or (2-loop) type XXVI slings as suspension slings to platform according to figure 2-1.

c. Build three strongbacks according to TM 10-1670-208-20&P/TO 13C3-4-12 and lash them to the platform as shown in figure 2-2.

Note: The load tiedown clevises have been painted white for purposes of contrast in the photographs.



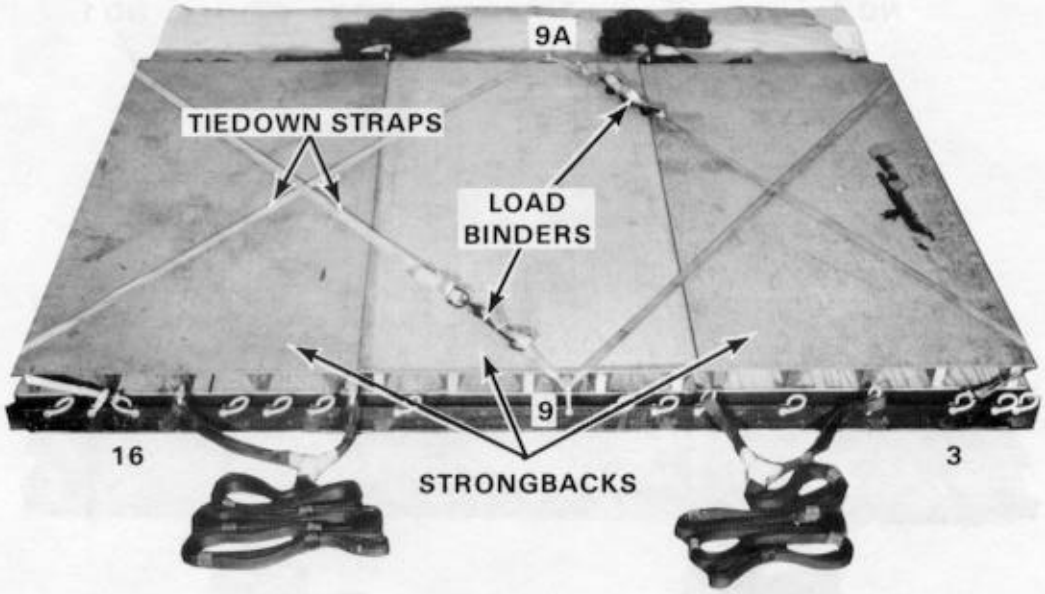
Step:

1. Form the suspension slings with four 3-foot and four 12-foot slings. Pass each 3-foot sling through the loop in a 12-foot sling. Even the ends of the 3-foot slings, pull the keepers on the 12-foot slings tight against the 3-foot slings, and tape them together.
2. Fit a load tiedown clevis to the free ends of each 3-foot sling. Bolt the clevises on the 3-foot slings to the 5th and 9th clevis holes (counting from the front of the platform) in each side rail for the front slings and on the 17th and 21st clevis holes for the rear slings.
3. Start at the front of each side rail, and bolt a tiedown clevis to the 1st, 2d, 3d, 7th, 10th, 11th, 12th, 16th, 18th, 19th, 20th, 22d, 23d, and 24th clevis holes.
4. Start at the front of the platform, and number the clevises bolted to the right rail from 1 through 18, and number those bolted to the left rail from 1A through 18A.

Figure 2-1. Platform prepared and suspension slings installed.

CAUTION

Place the load binders so they will not touch the honeycomb stacks when the stacks are placed on the platform.



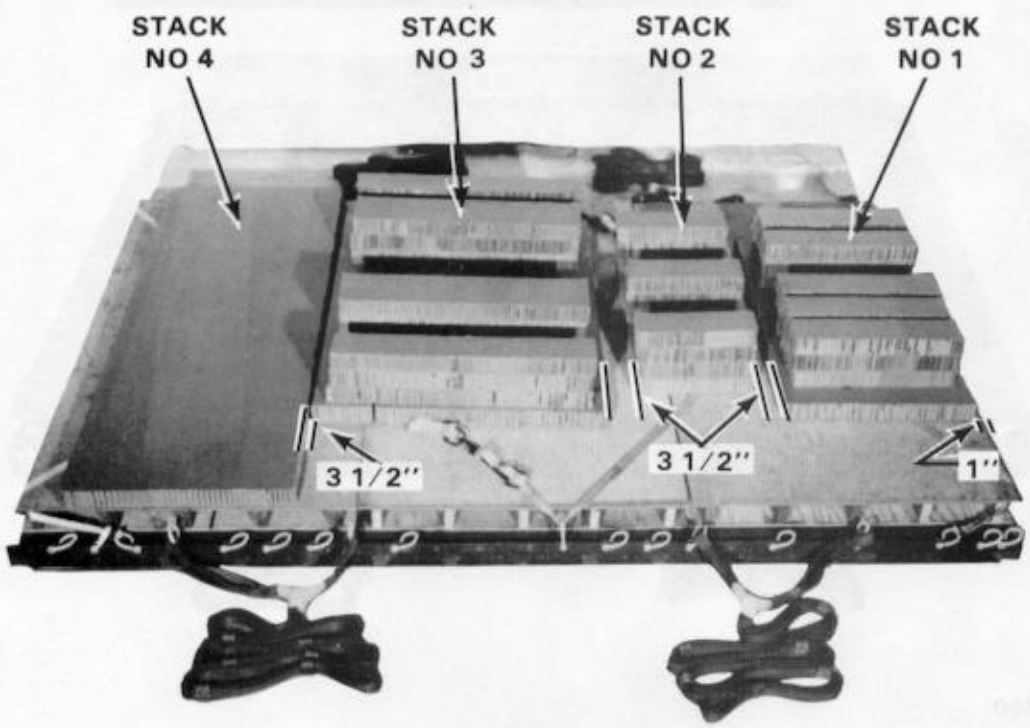
Step:

1. Set one strongback on each of the platform panels.
2. Fit one 15-foot tiedown strap to clevises in 3, 3A, 16, and 16A by passing the free end of the strap through the indicated clevis and through its own D-ring. Pull the strap taut.
3. Run the strap from clevis 3A around and over the front edge of the strongback and rearward through clevis 9.
4. Run the strap from clevis 16 around and over the rear edge of the strongback and forward through clevis 9A.
5. Run the strap from clevis 3 around and over the front edge of the strongback and rearward toward clevis 9A. Bind this strap to the strap in step 4.
6. Run the strap from clevis 16A around and over the rear edge of the strongback and forward toward clevis 9. Bind this strap to the strap in step 3.
7. Fold the excess strap, and tie the folds to the load binders with 80-pound cotton webbing.

Figure 2-2. Strongbacks lashed to platform.

2-3. Building and Placing Honeycomb Stacks

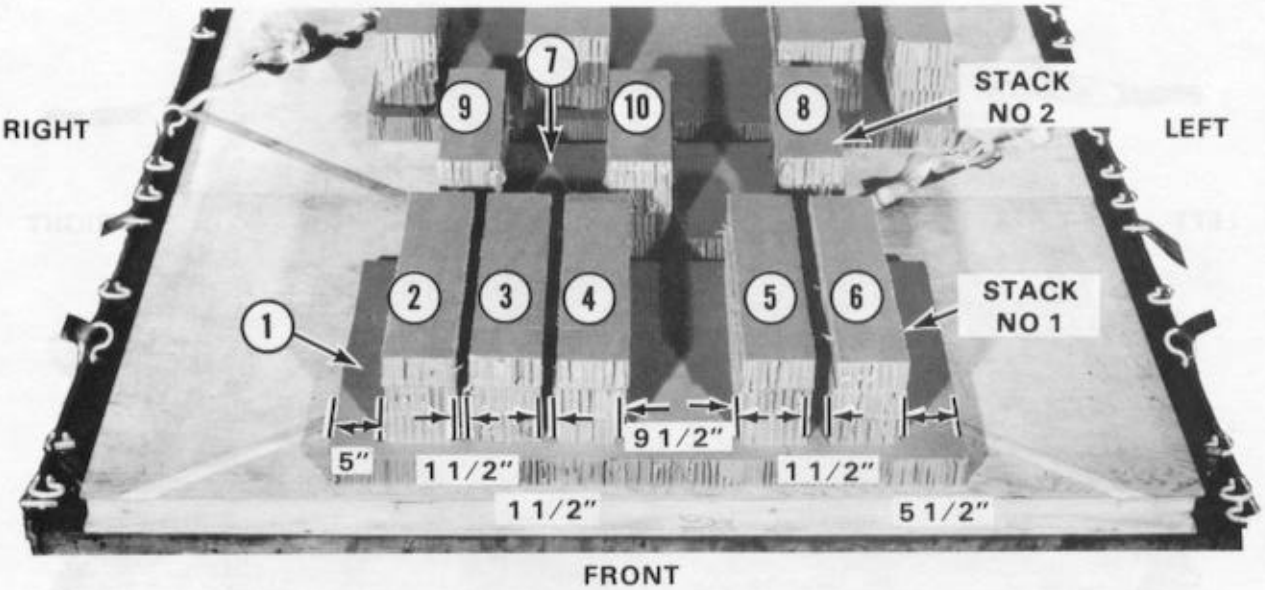
Build four honeycomb stacks and place them on the platform as shown in figures 2-3 through 2-5.



STACK NUMBER	PIECES	WIDTH (inch)	LENGTH (inch)
1	1 15	31 6	54 1/2 26
2	1 9	19 6	40 19
3	1 1 6 6	36 9 9 6	64 64 40 40
4	1	33	96

Figure 2-3. Honeycomb cut.

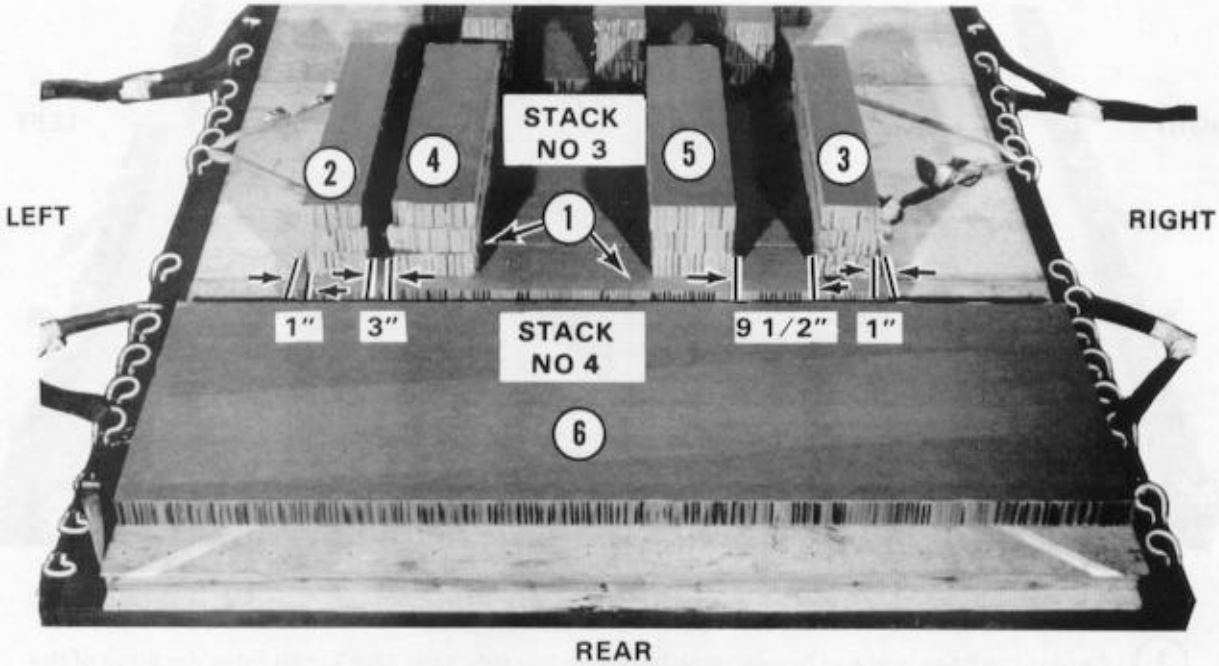
Note: Stack No 2 may have to be moved while the load is placed.



1. Center the base piece of honeycomb between the side rails and 1 inch from the edge of the strongback (fig 2-3).
2. Glue fifteen 6- by 26-inch pieces of honeycomb together in five sets of three pieces each. Center the first set of honeycomb pieces on the right side of the honeycomb base 5 inches in from the right edge. Glue the set of honeycomb pieces in place.
3. Place the second set of honeycomb on the base parallel with and 1 1/2 inches to the left of the first set. Glue the set of honeycomb pieces in place.
4. Repeat step 3 for the third set of honeycomb pieces.
5. Repeat step 3 for the fourth set of honeycomb pieces, except the fourth set will be 9 1/2 inches to the left of the third set of honeycomb pieces.
6. Repeat step 3, on the left side, for the fifth set of honeycomb pieces.
7. Center the base piece of honeycomb between the side rails and 3 1/2 inches from stack No 1.
8. Glue nine 6- by 19-inch pieces of honeycomb together in three sets of three pieces each. Center the first set of honeycomb pieces on the left side of the honeycomb base with the outside edges flush. Glue the set of honeycomb pieces in place.
9. Center the second set of honeycomb pieces on the right edge of the honeycomb base with the outside edges parallel. Glue the set of honeycomb pieces in place.
10. Center the third set of honeycomb pieces between the first and second sets of honeycomb pieces, and glue the set in place.

Figure 2-4. Honeycomb stacks 1 and 2 placed.

Note: Stacks No 3 and 4 may have to be moved while the load is placed.

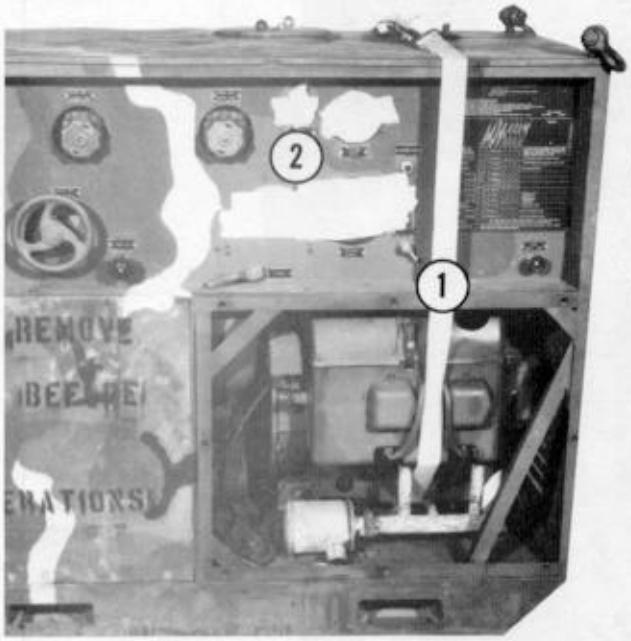


1. Butt the long sides of the two base pieces of honeycomb together, center them between the side rails, and set them 3 1/2 inches from stack No 2 (fig 2-3).
2. Glue six 6- by 40-inch pieces of honeycomb together in two sets of three pieces each. Center the first set of honeycomb pieces on the left side of the honeycomb base 1 inch from the left edge. Glue the set of honeycomb pieces in place.
3. Repeat step 2 and glue the second set of honeycomb pieces to the right side of the honeycomb base.
4. Glue six 9- by 40-inch pieces of honeycomb together in two sets of three pieces each. Center the first set of honeycomb pieces on the honeycomb base and 3 inches to the right of the honeycomb set in step 2. Glue the set of honeycomb pieces in place.
5. Center the second set of honeycomb pieces on the honeycomb base and 9 1/2 inches to the left of the honeycomb set in step 3. Glue the set of honeycomb pieces in place.
6. Center a 33- by 96-inch piece of honeycomb between the side rails and 3 1/2 inches from stack No 3 (fig 2-3).

Figure 2-5. Honeycomb stacks 3 and 4 placed.

2-4. Preparing Decontamination Unit

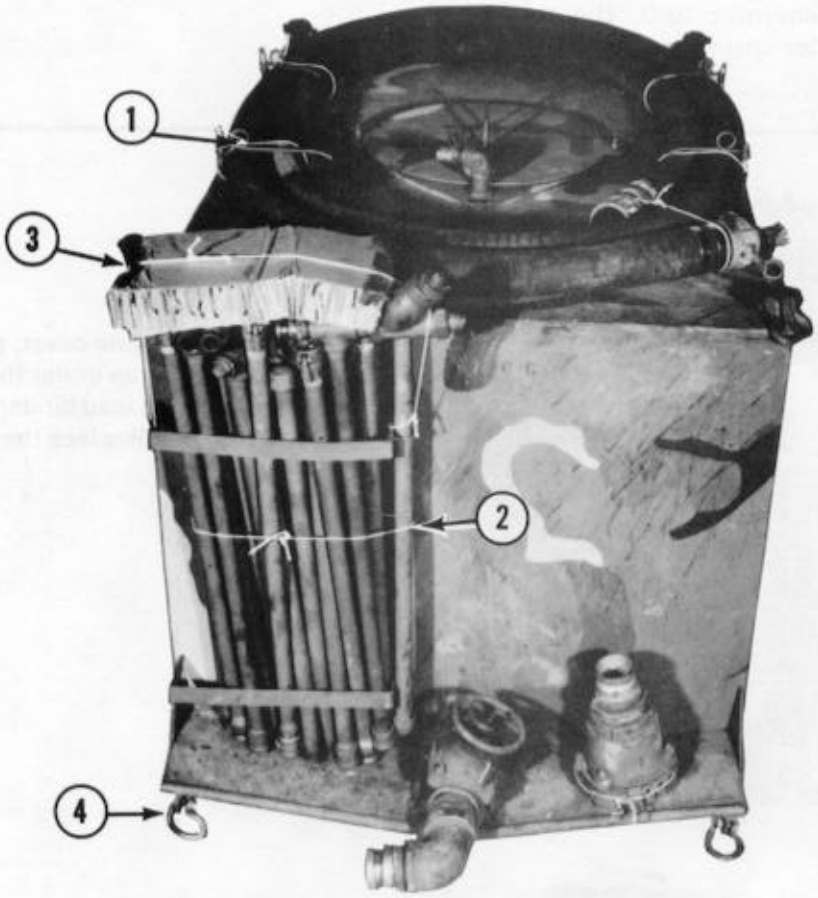
Prepare the pump/generator unit, the mixing tank unit, and the heater unit according to figures 2-6 through 2-8.



1. Remove the engine cover, and pass a 15-foot tiedown strap under the engine. Bind the strap with a load binder and D-ring on top of the unit. Replace the engine cover.
2. Tape all gages.

3. Tie the two hose ends in place with type III nylon cord.
4. Bolt a tiedown clevis to each side of the unit.

Figure 2-6. Pump/generator unit prepared.



1. Tie the hose on top of the tank with type III nylon cord.
2. Tie the pipes and pipe fittings to the side of the tank with type III nylon cord.
3. Tape the corners of an 8- by 18-inch piece of honeycomb, and tie it on top of the pipes with type III nylon cord.
4. Bolt four tiedown clevises to the lower corners.

Figure 2-7. Mixing tank unit prepared.

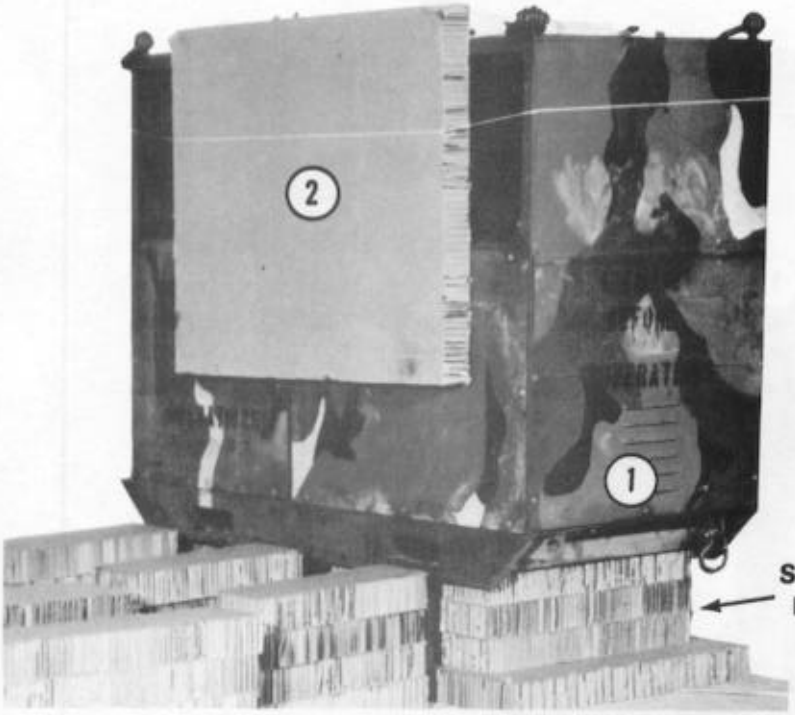
(1) Tape all gages.

(2) Bolt a tiedown clevis to each side of the unit.

Figure 2-8. Heater unit prepared.

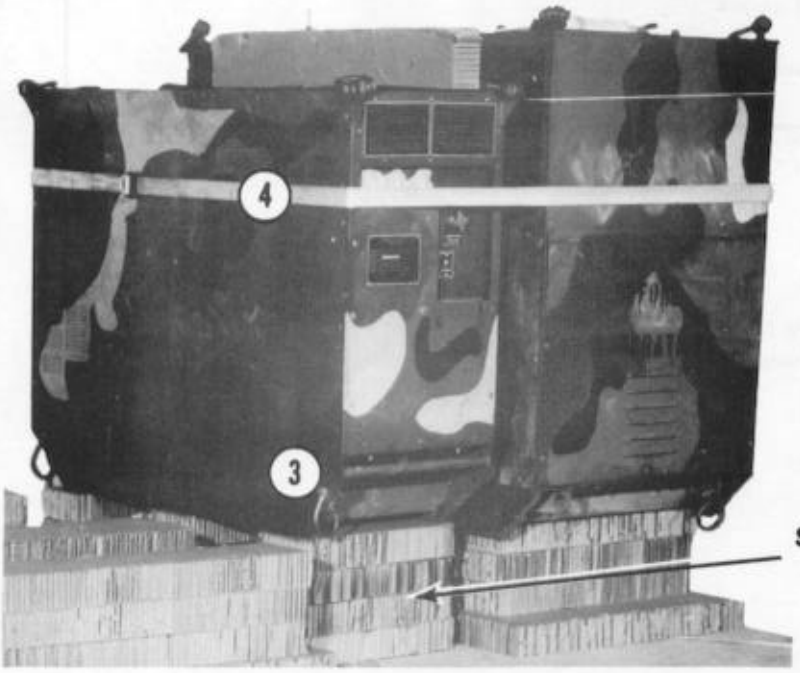
2-5. Placing Decontamination Unit

Bolt type X nylon webbing cargo slings to each unit, and place the units on the honeycomb according to figures 2-9 and 2-10.



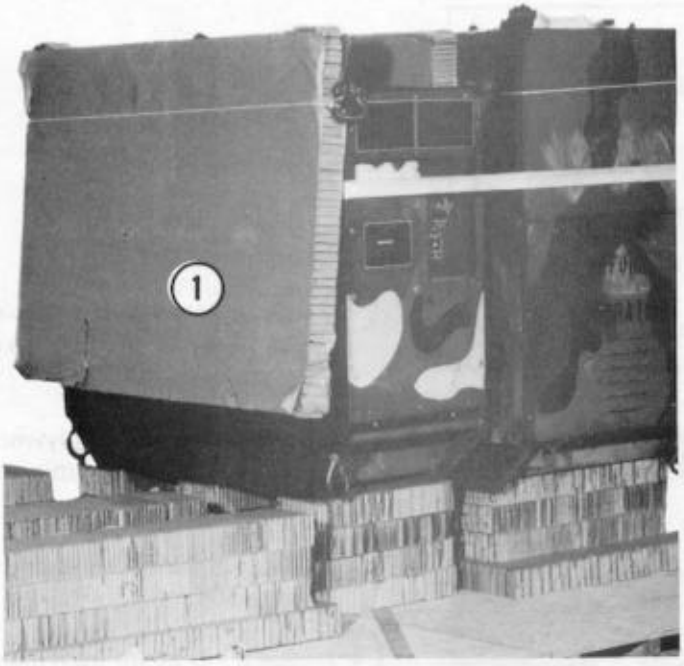
1. Set the pump/generator unit on honeycomb stack No 1.
2. Tie a 36- by 36-inch piece of honeycomb to the side of the unit with type III nylon cord.

Note: It may be necessary to move the stacks slightly to insure that the support ribs under each unit sit on honeycomb stacks.

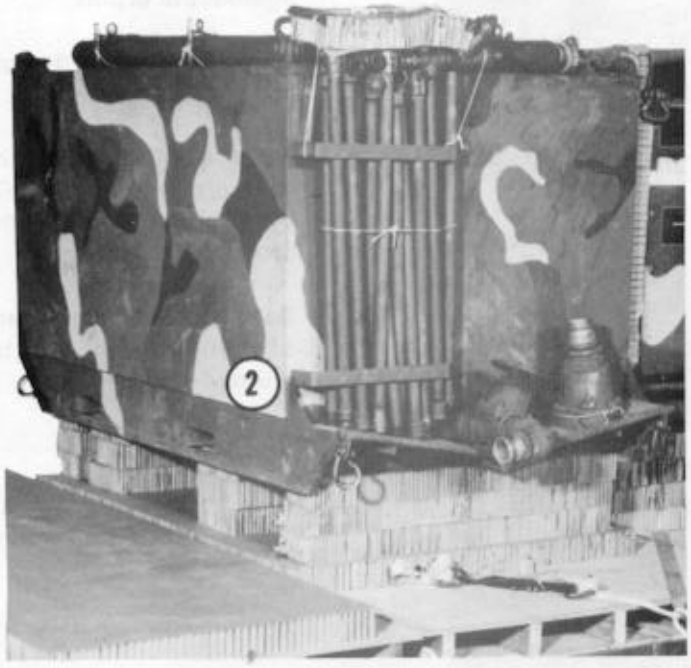


3. Set the heater unit on honeycomb stack No 2.
4. Form a 30-foot lashing according to FM 10-500/TO 13C7-1-5. Bind the two units together with two D-rings and a load binder.

Figure 2-9. Pump/generator unit and heater unit positioned.



(1) Tie a 36- by 50-inch piece of honeycomb to the side of the unit with type III nylon cord.



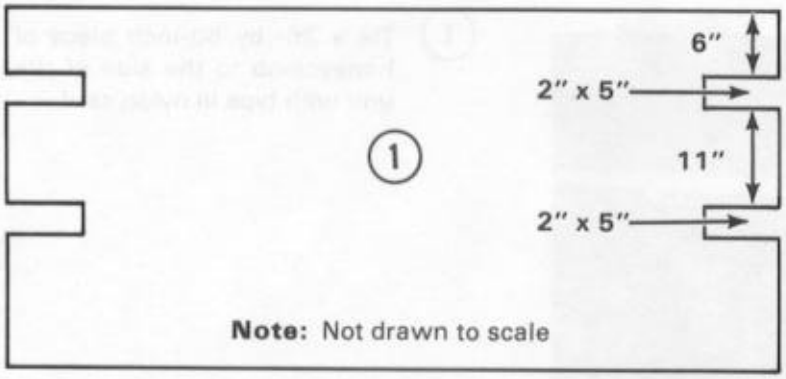
(2) Set the tank unit on honeycomb stack No 3, and butt it against the honeycomb tied to the heater unit.

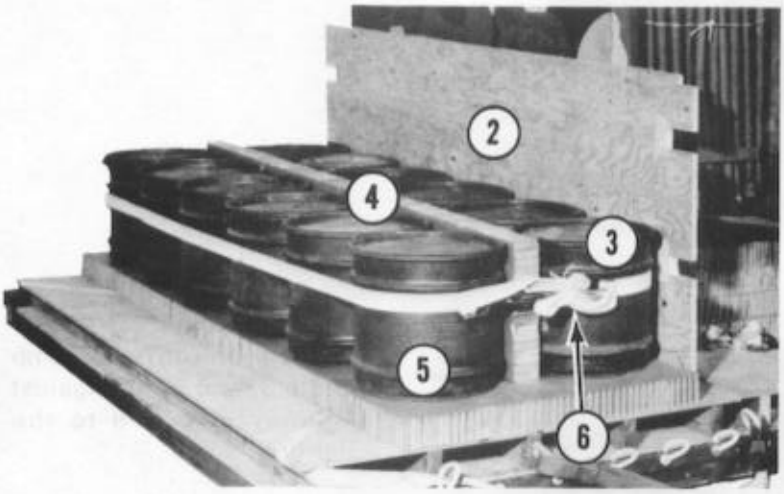
Note: Be sure the support ribs under each unit sit on the honeycomb stacks. Move stack No 3 rearward or forward.

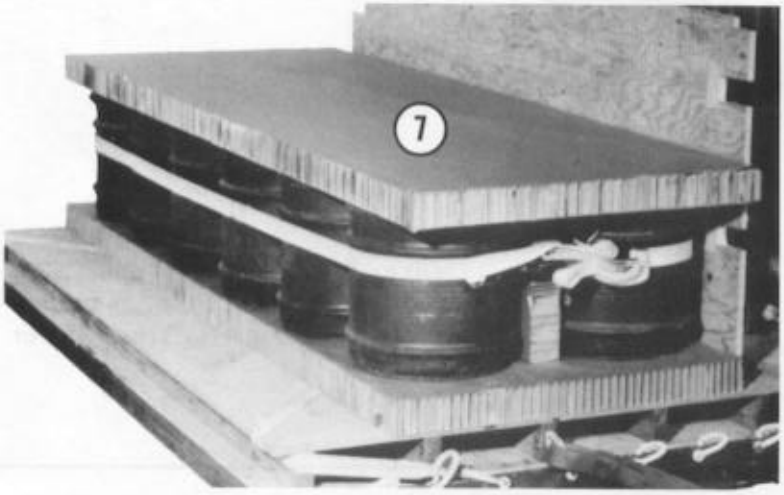
Figure 2-10. Tank unit positioned.

2-6. Stowing Accompanying Load

Stow 24 drums of decontamination agent according to figures 2-11 and 2-12.

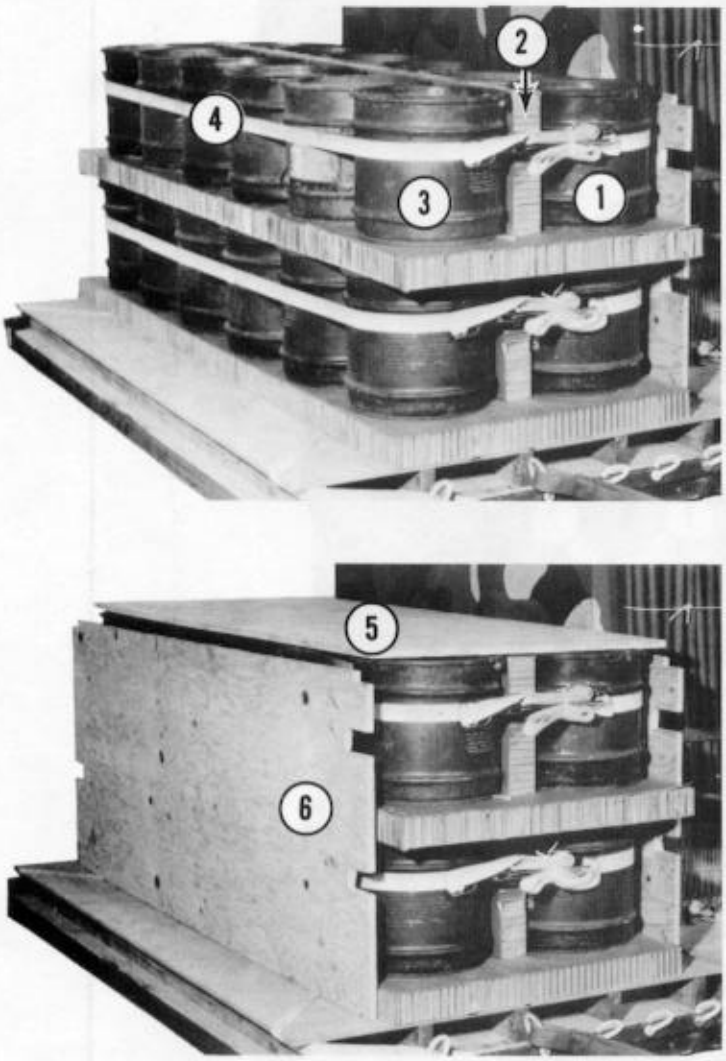






1. Cut notches into two 3/4- by 33- by 90-inch pieces of plywood.
2. Set one piece of plywood against the tank unit and on the platform.
3. Set six drums against the plywood.
4. Set a 14- by 84-inch piece of honeycomb on edge against the drums.
5. Set six more drums against the honeycomb.
6. Form a 30-foot lashing according to FM 10-500/TO 13C7-1-5, and bind the drums together.
7. Set a 33- by 96-inch piece of honeycomb on the drums.

Figure 2-11. Twelve drums stowed.



1. Set six drums against the plywood.
2. Set a 14- by 84-inch piece of honeycomb on edge against the drums.
3. Set six more drums against the honeycomb.
4. Form a 30-foot lashing according to FM 10-500/TO 13C7-1-5, and bind the drums together.
5. Set a 3/4- by 33- by 84-inch piece of plywood on the drums.
6. Set a 3/4- by 33- by 90-inch piece of plywood against the rear of the drums.

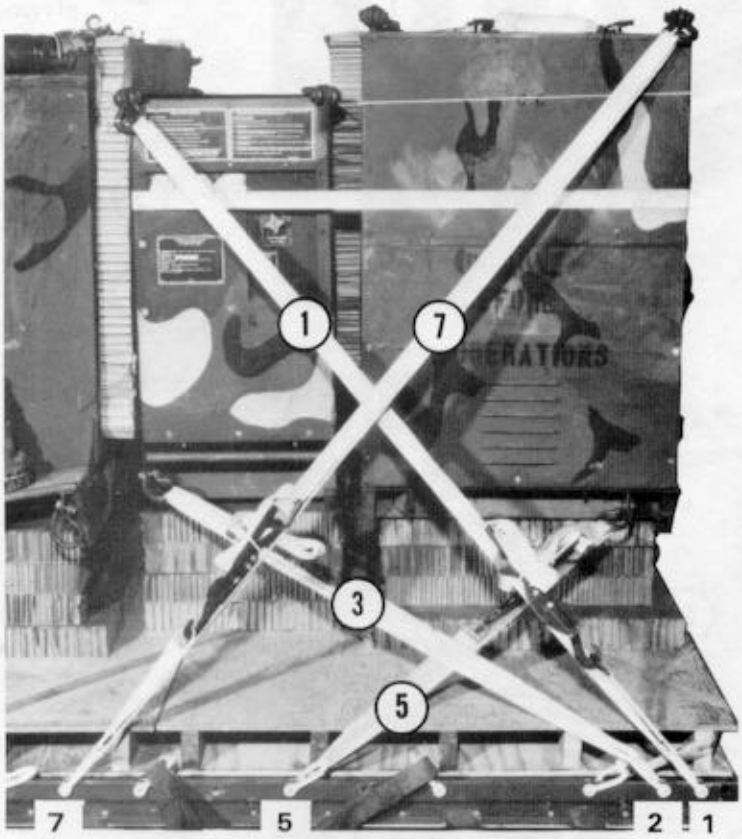
Figure 2-12. Twenty-four drums stowed.

2-7. Lashing Decontamination Unit

Use twenty-six 15-foot tiedown straps, 26 D-rings, and 23 load binders, and lash the decontamination unit to the platform as shown in figures 2-13 through 2-16.

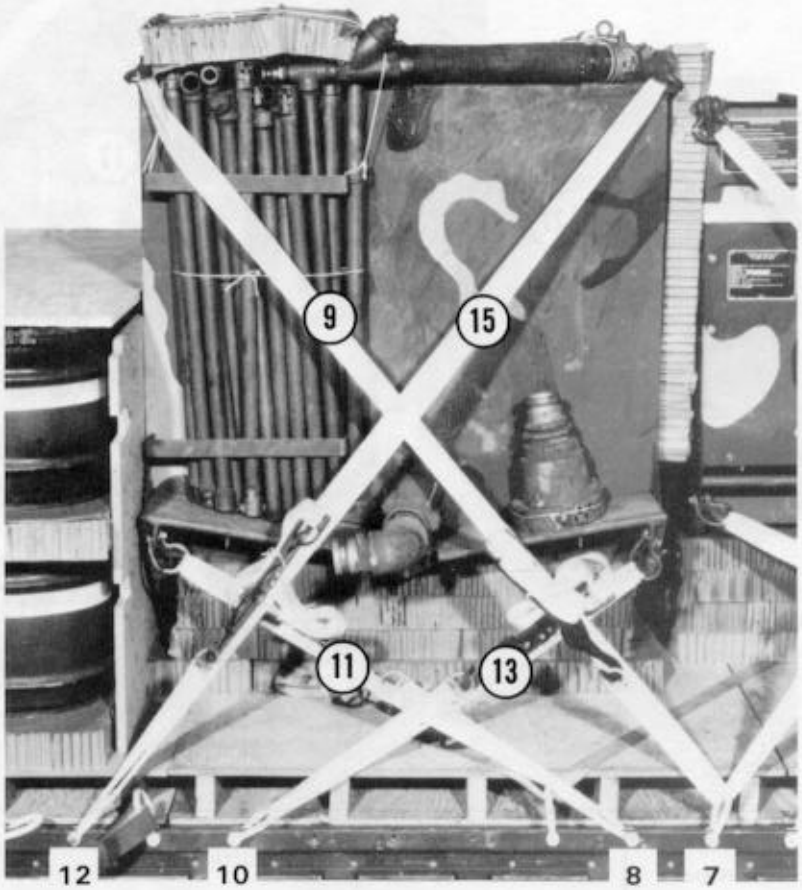
CAUTION

Make sure the lashings are not so tight that they cause the platform to bow.



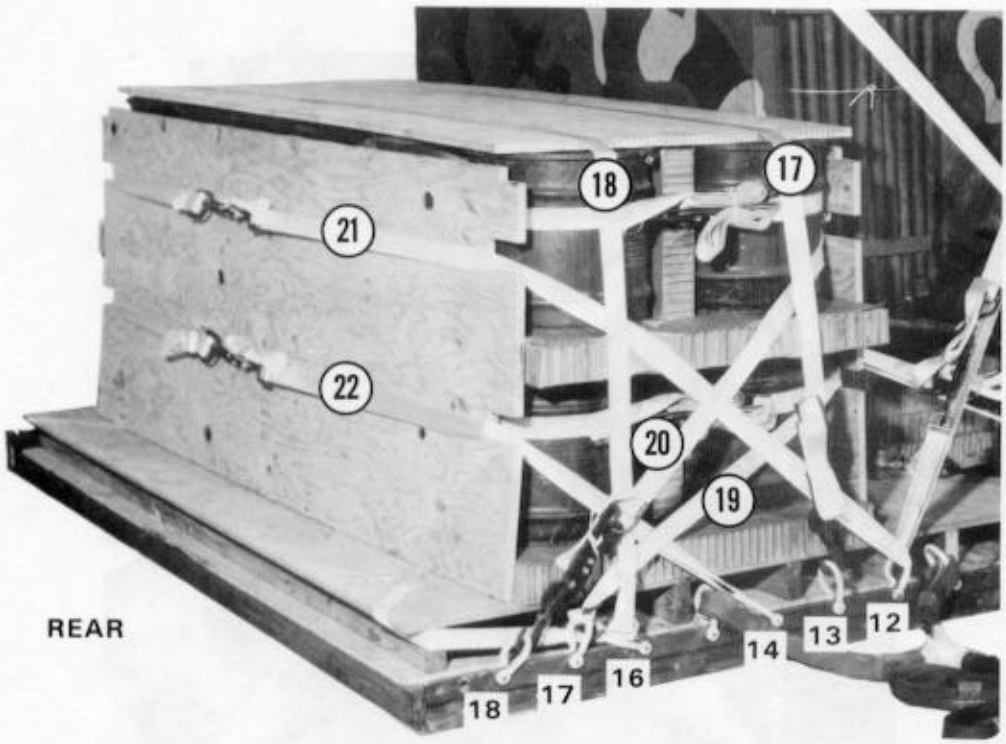
Lashing Number	Clevis Number	Instructions
1	1	Run strap through clevis on top of heater unit.
2	1A	Run strap through clevis on top of heater unit.
3	2	Run strap through clevis on bottom of heater unit.
4	2A	Run strap through clevis on bottom of heater unit.
5	5	Run strap through clevis on bottom of pump unit.
6	5A	Run strap through clevis on bottom of pump unit.
7	7	Run strap through clevis on top of pump unit.
8	7A	Run strap through clevis on top of pump unit.

Figure 2-13. Lashings 1 through 8 installed.



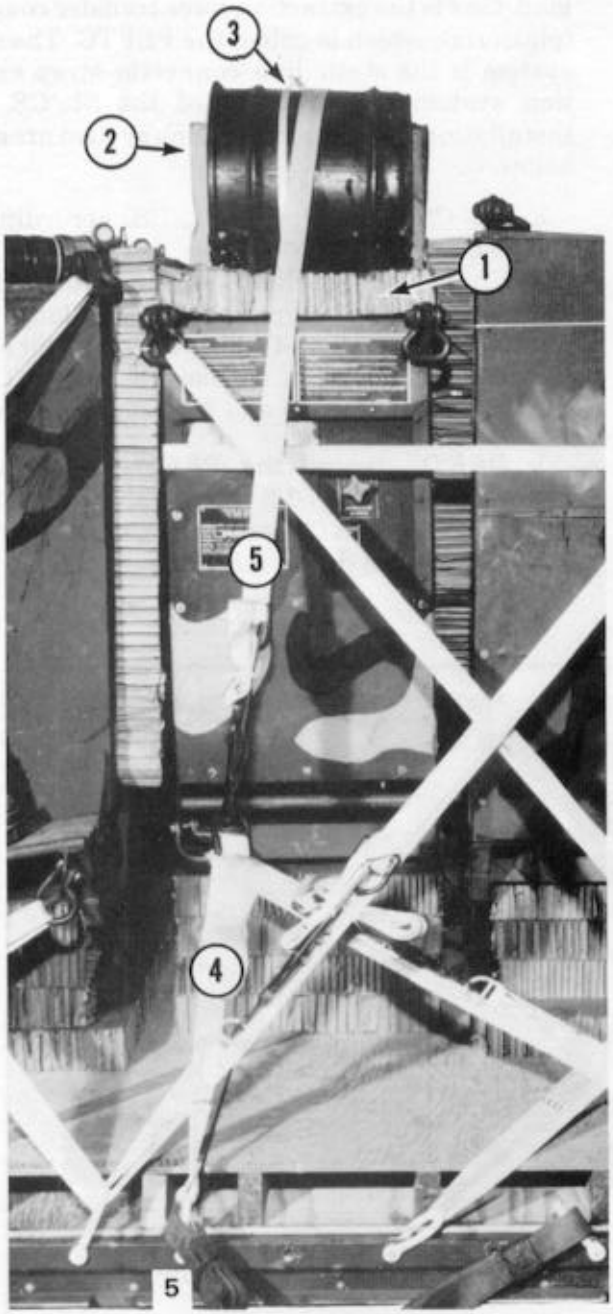
Lashing Number	Clevis Number	Instructions
9	7	Run strap through rear clevis on top of tank unit.
10	7A	Run strap through rear clevis on top of tank unit.
11	8	Run strap through rear clevis on bottom of tank unit.
12	8A	Run strap through rear clevis on bottom of tank unit.
13	10	Run strap through front clevis on bottom of tank unit.
14	10A	Run strap through front clevis on bottom of tank unit.
15	12	Run strap through front clevis on top of tank unit.
16	12A	Run strap through front clevis on top of tank unit.

Figure 2-14. Lashings 9 through 16 installed.



Lashing Number	Clevis Number	Instructions
17	13A to 13	Fit a 15-foot tiedown strap to the clevis by passing the free end of the strap through the clevis and through its D-ring. Run the strap over the drums and bind at clevis.
18	16 to 16A	Same as lashing number 17.
19	17 to 17A	Same as lashing number 17, but run strap through bottom notch and around front of plywood.
20	18 to 18A	Same as lashing number 17, but run strap through top notch and around front of plywood.
21	12 to 12A	Form a 30-foot strap according to FM 10-500/TO 13C7-1-5. Run strap through top notches and through clevises, and bind on rear of plywood.
22	14 to 14A	Same as lashing number 21, but run strap through bottom notches.

Figure 2-15. Lashings 17 through 22 installed.



1. Set an 18- by 48-inch piece of honeycomb on the heater unit. Drape a length of 1/2-inch tubular nylon webbing across the honeycomb.
2. Set two drums with a 12- by 18-inch piece of honeycomb between them on the honeycomb in step 1.
3. Tie the drums together with the draped webbing in step 1.
4. Fit a 15-foot tiedown strap to clevises number 5 and 5A by passing the free end of each strap through the clevis and through its D-ring. Pull strap taut.
5. Run left strap over drums. Fit D-ring to ends of each strap, and hook D-rings together with a load binder.

Figure 2-16. Drums lashed to platform.

2-8. Installing Load Cover

Tie an 8- by 10-foot piece of cotton duck cloth over the decontamination unit with lengths of type III nylon cord.

2-9. Safetying Suspension Slings

Safety the suspension slings with a deadman's tie according to FM 10-500/TO 13C7-1-5.

2-10. Stowing Cargo Parachutes

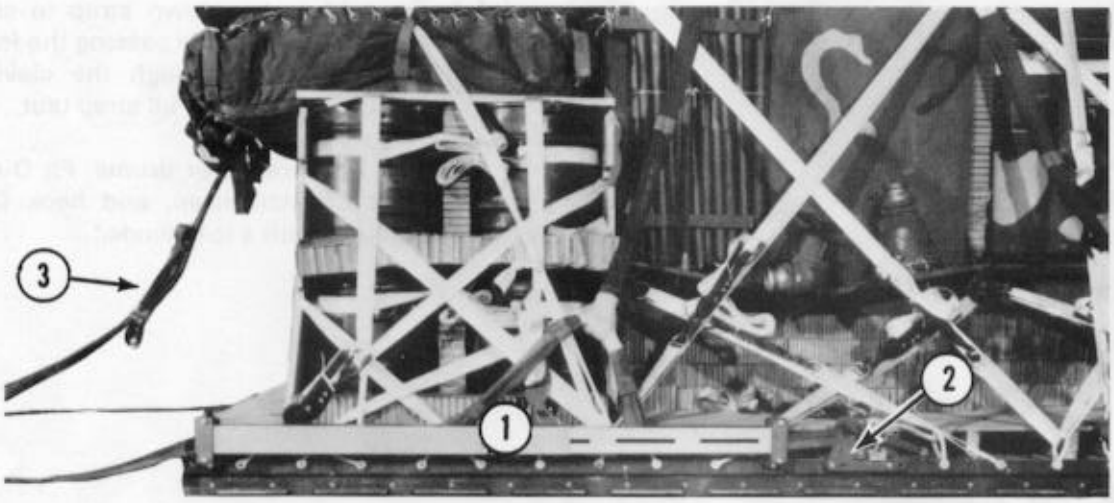
Prepare and stow (side by side) either two G-11A or two G-11B cargo parachutes as outlined in FM 10-500/TO 13C7-1-5. Use a 10-yard length of type VIII nylon webbing as a parachute restraint strap. Tie the strap to tiedown clevises number 12 and 12A.

2-11. Installing Extraction System

One of two extraction systems may be used on this load. One is the extraction force transfer coupling (platform), which is called the PEFTC. The other system is the static line/connector strap extraction system, which is called the SL/CS. The installation instructions for each system are given below.

a. SL/CS. Install the SL/CS according to FM 10-500/TO 13C7-1-5. Use a 12-foot (3-loop) type X *or* (2-loop) type XXVI sling as a deployment line, two 9-foot (3-loop) type X *or* (2-loop) type XXVI cargo slings, and a 60-inch connector strap. Bolt the load tiedown clevises of the SL/CS to clevis holes number 25 and 25A in the side rails.

b. PEFTC. Install the PEFTC according to FM 10-500/TO 13C7-1-5 and as shown in figure 2-17. Use a 16-foot (3-loop) type X *or* (2-loop) type XXVI sling as a deployment line.



1. Bolt a bracket to the 15th and 25th clevis holes in each side rail. Bolt guidance tubes to these brackets.
2. Use the B mounting holes and bolt an actuator to the 13th and 14th clevis holes in each side rail.
3. Use a 16-foot sling as the deployment line. Fold the slack in the deployment line, and tape the folds in place with two turns of tape.

Figure 2-17. PEFTC installed.

2-12. Installing Release System

Install and safety an M-1 cargo parachute release according to FM 10-500/TO 13C7-1-5. If the M-1 release is not available, use two 5,000-pound-capacity cargo parachute releases only with G-11A cargo parachutes. Prepare, attach, and safety the 5,000-pound releases according to FM 10-500/TO 13C7-1-5.

Note: Do NOT rig the 5,000-pound release with a G-11B cargo parachute on this load.

2-13. Placing Extraction Parachute

a. C-130 Aircraft. Lay an unreefed 15-foot cargo extraction parachute on the load for installation in the aircraft.

b. C-141B Aircraft. Use either a reefed or an unreefed 15-foot cargo extraction parachute. The extraction parachute must be equipped with a 36-inch adapter web and a continuous 160-foot (1-loop) type XXVI nylon extraction line. Place the parachute on the load for installation in the aircraft.

Note: The extraction line must be a continuous 160-foot (1-loop) type XXVI nylon extraction line. Do NOT use shorter lines to form the 160-foot extraction line.

2-14. Marking Rigged Load

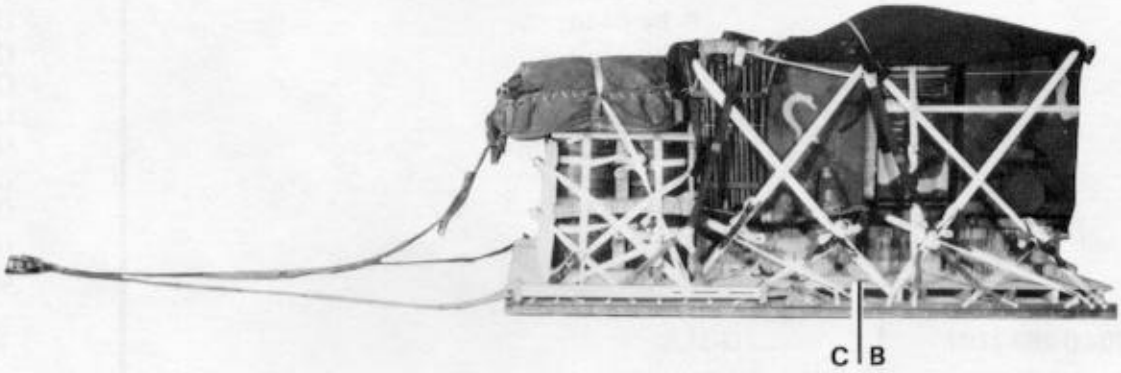
Mark the rigged load as outlined in FM 10-500/TO 13C7-1-5 and as shown in figure 2-18.

2-15. Equipment Required

The equipment required to rig this load is listed in table 2-1.

CAUTION

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



RIGGED LOAD DATA

Weight	6,080 pounds
Width	108 inches
Height	77 inches
Length	145 inches
Center of Balance (from front edge of platform)	78 inches
Extraction System (shown)	PEFTC

Figure 2-18. Decontamination unit rigged for low-velocity airdrop.

Table 2-1. Equipment required.

National Stock No	Item	Quantity
1670-00-040-8215	Adapter Web, 36-in (for C-141B)	1
8040-00-273-8713	Adhesive, paste, 1-gal	As required
1377-00-958-1048	*Cartridge, time-delay, 20-sec	2
1670-00-090-5354	Clevis Assembly, suspension, large	3
1670-00-893-1631	Clevis, load tiedown (for decon unit)	8
8305-00-242-3593	Cloth, cotton, duck, 60-in	5 1/2 yd
4020-00-240-2146	Cord, nylon, type II, 550-lb	As required
1670-00-168-6068	**Coupling, airdrop, extraction force transfer (platform)	1
1670-00-360-0328	Cover, clevis, large	2
1670-00-360-0329	Cover, link	1
8135-00-664-6958	Cushioning Material, packaging, cellulose wadding	As required
1670-01-107-7652	Line, extraction, type XXVI nylon webbing, 160-ft (for C-141B)	1
1670-00-783-5988	Link Assembly, type IV	1
1670-00-799-8596	*Load Coupler, 8-spool	1
1670-00-753-3928	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in:	8 sheets
	6- by 19-in	(9)
	6- by 26-in	(15)
	6- by 40-in	(6)
	8- by 18-in	(1)
	9- by 40-in	(6)
	9- by 64-in	(1)
	12- by 18-in	(1)
	18- by 48-in	(1)
	19- by 40-in	(1)
	31- by 54 1/2-in	(1)
	33- by 96-in	(2)
	36- by 36-in	(1)
	36- by 50-in	(1)
	36- by 64-in	(1)
	Parachute, cargo:	
1670-00-269-1107	G-11A	2
	or	
1670-01-016-7841	G-11B	2
1670-00-052-1548	***Parachute, cargo, extraction, 15-ft	1
	Platform, airdrop, modular, 12-ft:	1
1670-00-893-1631	Clevis, load tiedown	36
1670-00-893-1624	Panel	3
1670-00-082-5311	Rail, platform side, 12-ft	2
5320-00-893-1632	Rivet, blind-drive type, 1/4-in diam	48
5530-00-128-4981	Plywood, 3/4-in:	3 sheets
	33- by 84-in	1
	33- by 90-in	2
1670-01-097-8816	Release, cargo parachute, M-1	1
	or	
1377-00-799-8494	*Release, 5,000-lb-cap cargo parachute	2

Table 2-1. (Continued).

National Stock No	Item	Quantity
	Slings, cargo, airdrop:	
	For 5,000-lb releases:	
1670-00-753-3788	3-ft (3-loop) type X	4
	or	
1670-01-062-6301	3-ft (2-loop) type XXVI	4
	For platform suspension:	
1670-00-753-3788	3-ft (3-loop) type X	4
	or	
1670-01-062-6301	3-ft (2-loop) type XXVI	4
1670-00-823-5041	12-ft (3-loop) type X	4
	or	
1670-01-062-6303	12-ft (2-loop) type XXVI	4
	For deployment line:	
1670-00-823-5042	16-ft (3-loop) type X	1
	or	
1670-01-063-7761	16-ft (2-loop) type XXVI	1
	For riser extension:	
1670-00-360-0474	20-ft (2-loop) type X	2
	or	
1670-00-753-3794	20-ft (2-loop) type X	2
	or	
1670-00-823-5043	20-ft (3-loop) type X	2
	or	
1670-01-062-6302	20-ft (2-loop) type XXVI	2
1670-00-040-8219	Strap, parachute release, multiple cut	1
	Strongbacks:	3
5510-00-220-6146	Lumber, 2- by 4- by 96-in	(15)
5315-00-010-4657	Nails, steel wire, common, 6d	As required
5530-00-262-8195	Plywood, 1/2- by 48- by 96-in	(6)
7510-00-266-5016	Tape, adhesive, 2-in	As required
	Tiedown Assembly, 10,000-lb:	36
1670-00-937-0272	Binder, load, 10,000-lb-cap	(29)
5365-00-937-0147	D-ring, heavy-duty	(36)
1670-00-937-0273	Strap, 15-ft	(36)
8305-00-268-2411	Webbing, cotton, 80-lb	As required
	Webbing, nylon:	
8305-00-082-5752	Tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	10 yd

***Do NOT use the 5,000-pound release with the G-11B cargo parachute.**

****When this item is not used, use the following items for the SL/CS:**

1670-00-090-5354	Clevis Assembly, suspension, large	2
1670-00-893-1631	Clevis, load tiedown	2
1670-00-783-5988	Link Assembly, type IV	1

Table 2-1. (Continued).

National Stock No	Item	Quantity
	Sling, cargo, airdrop:	
1670-00-753-3631	9-ft (3-loop) type X	2
	or	
1670-01-062-6304	9-ft (2-loop) type XXVI	2
1670-00-823-5041	12-ft (3-loop) type X	1
	or	
1670-01-062-6303	12-ft (2-loop) type XXVI	1
1670-00-998-0117	Static Line, cargo parachute, breakaway-type, w/release knife and clevis	2
1670-00-738-5878	Strap, connector, 60-in	1

*****Install the extraction cargo parachute according to these types of aircraft:**

1. **C-130.** The unreefed 15-foot extraction parachute is used on loads for drop from C-130 aircraft.
2. **C-141B.** The reefed or unreefed 15-foot extraction parachute is used on loads rigged for drop from C-141B aircraft. In addition, the parachute needs a 36-in adapter web and a continuous 160-foot (1-loop) type XXVI nylon webbing extraction line. Do NOT use shorter lines to form the 160-foot line.

CHAPTER 3

RIGGING M-12 DECONTAMINATION UNIT ON M796 BOLSTER TRAILER FOR LOW-VELOCITY AIRDROP

3-1. Description of Load

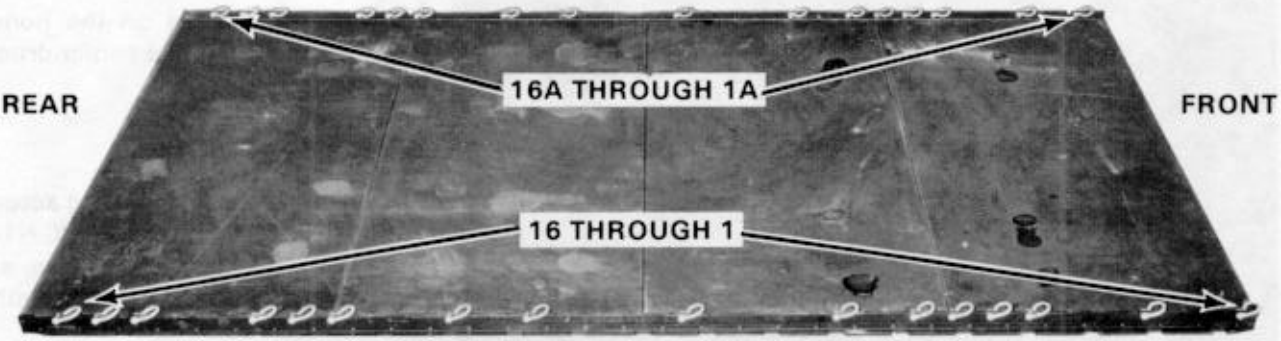
The M-12 decontamination unit on the M796 bolster trailer is rigged on a 16-foot modular type II platform wth three G-11A cargo parachutes for a low-velocity airdrop from C-130 or C-141 aircraft. The complete decontamination unit is made up of four main items. The pump/generator unit weighs 1,190 pounds; it is 47 inches high, 30 inches wide, and 55 inches long. The heater unit weighs 640 pounds; it is 41 inches high, 21 inches wide, and 52 inches long. The mixing tank weighs 1,000 pounds; it is 48 inches high, 46 inches wide, and 83 inches long. Twenty drums of decontamination agent weighing 1,000 pounds make up the accompanying load. The bolster trailer must have been modified to accept the M-12 decontamination unit. The unrigged trailer is 61 1/2 inches high, reducible to 42 inches. It is 92 inches wide and 258 inches long, reducible to 210 inches. It weighs 4,915 pounds.

3-2. Preparing Platform

a. Inspect, or assemble and inspect, the modular platform as outlined in TM 10-1670-208-20&P/TO 13C3-4-12.

b. Attach and number the load tiedown clevises as shown in figure 3-1.

Note: The load tiedown clevises have been painted white for purposes of contrast in the photographs.



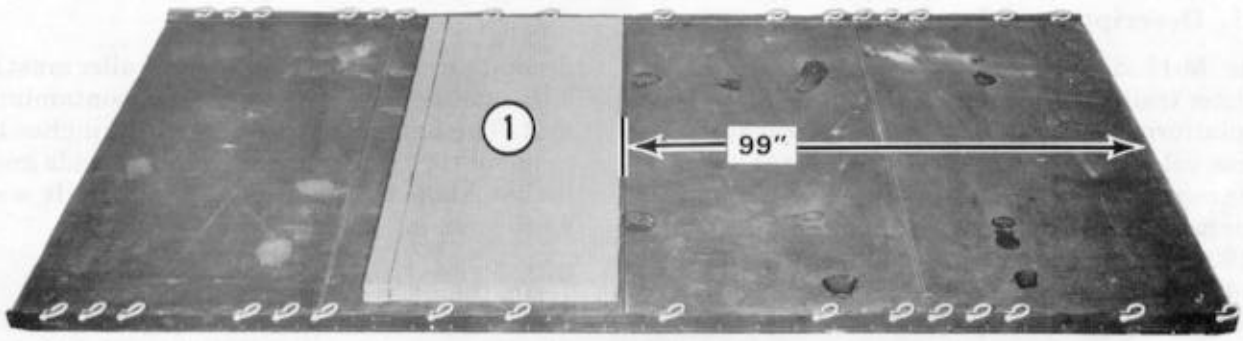
Step:

1. Start at the front of each rail and bolt a tiedown clevis to the 1st, 4th, 7th, 8th, 9th, 10th, 12th, 16th, 20th, 22d, 25th, 26th, 27th, 30th, 31st, and 32d clevis holes.
2. Start at the front of the platform and number the clevises bolted to the right rail from 1 through 16 and those bolted to the left rail from 1A through 16A.

Figure 3-1. Platform prepared.

3-3. Stowing Accompanying Load

Stow 20 drums of decontamination agent according to figures 3-2 through 3-5.



1. Center two pieces of honeycomb (one 36 by 96 inches, one 4 by 96 inches) between the side rails 99 inches from the edge of the platform.

2. Set 20 drums on the honeycomb. Offset the center drums.

3. Form a 30-foot lashing according to FM 10-500/TO 13C7-1-5. Fit a D-ring to each strap, and bind the drums together with a load binder.

Figure 3-2. Accompanying load stowed.

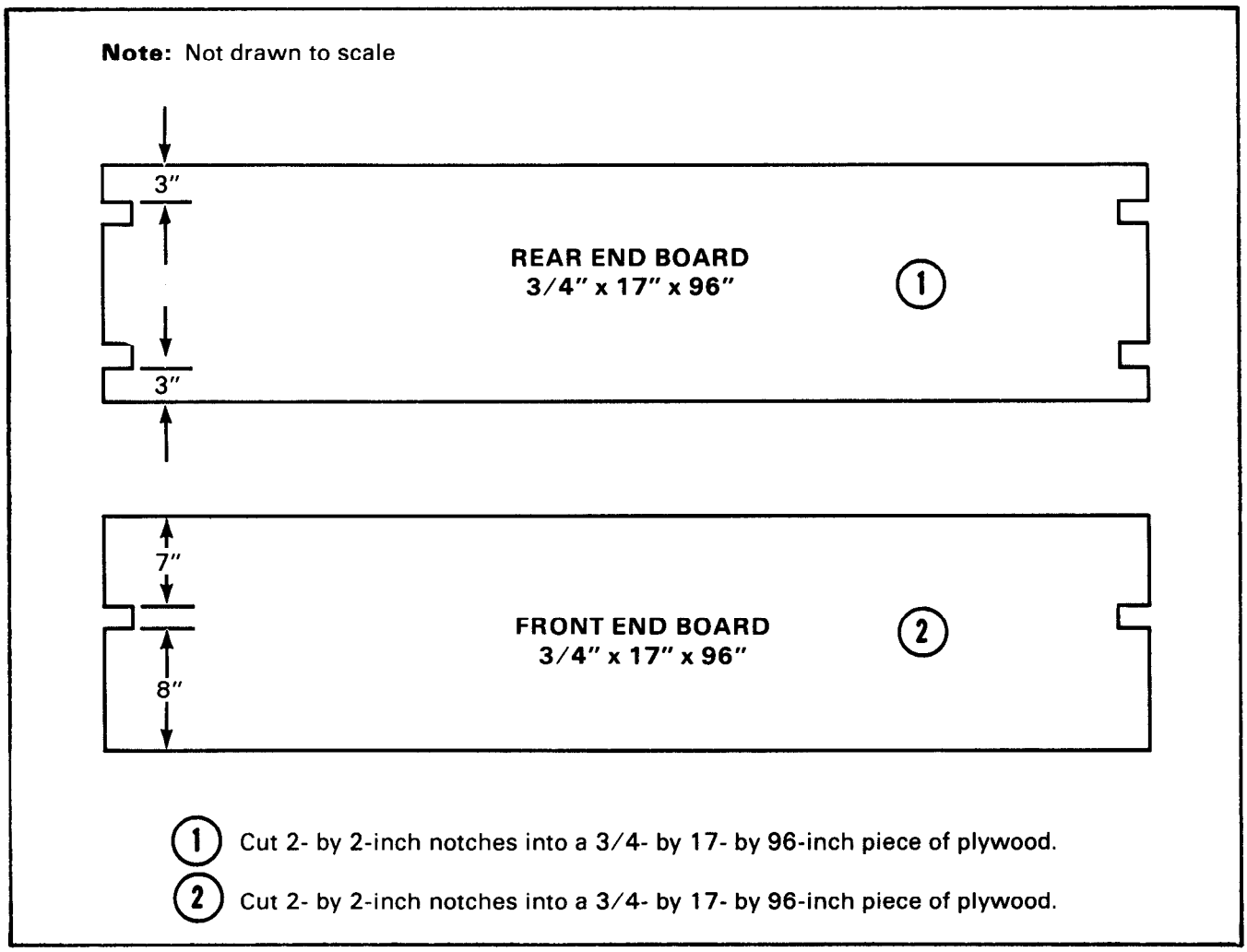
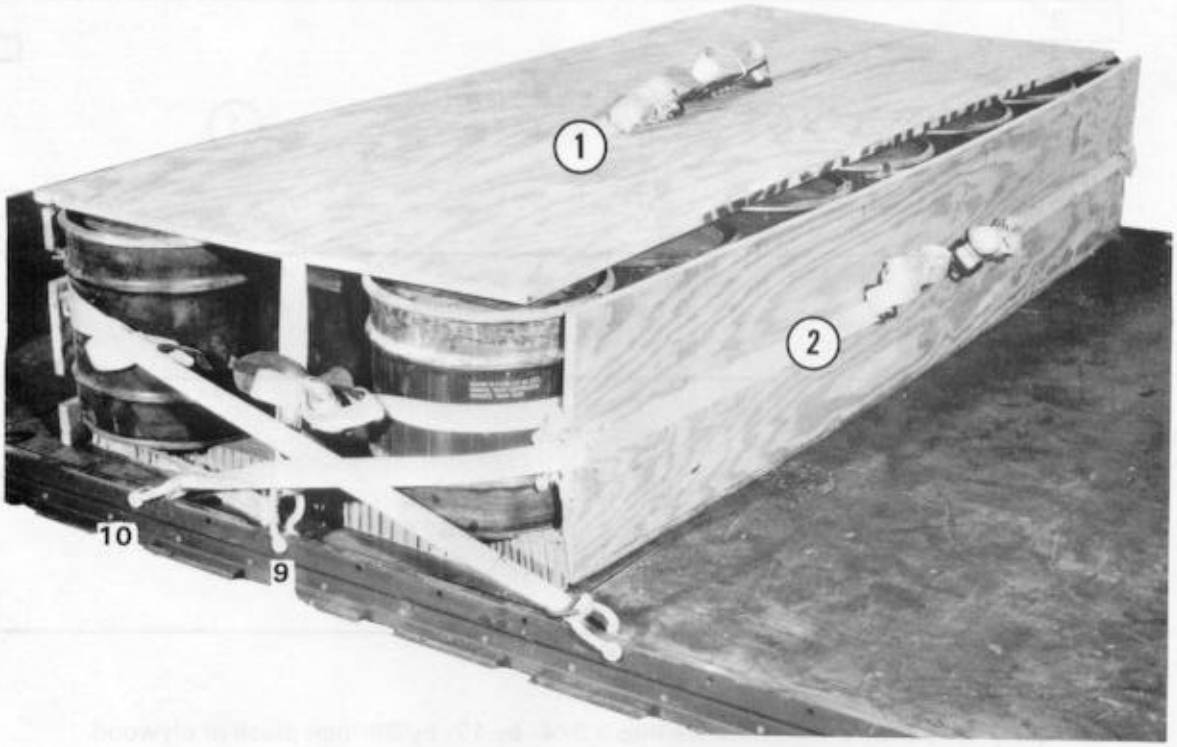


Figure 3-3. Construction details for end boards.

Notes:

1. Set the two plywood end boards around the drums as shown.
2. Lay a 40- by 96-inch piece of plywood on the drums.
3. Pad the notches with cellulose wadding.



Lashing Number	Clevis Number	Instructions
1	9 & 9A	Fit a 15-foot tiedown strap to each clevis by passing the free end of each strap through the clevis and through its D-ring. Bind the straps on the top board with two D-rings and a load binder.
2	10 & 10A	Fit 15-foot tiedown straps to the clevises as in lashing number 1; however, pass the straps through the notches of the front end board and bind them with two D-rings and a load binder.

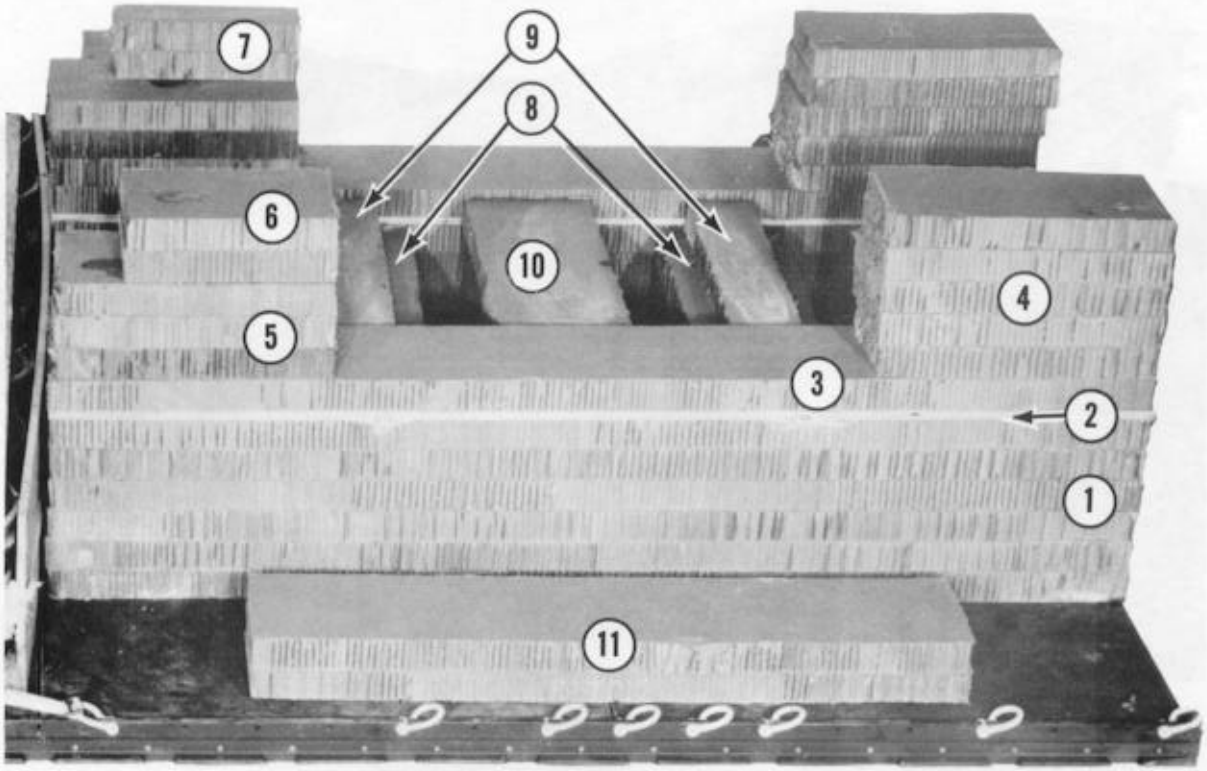
Figure 3-4. Lashings 1 and 2 installed on accompanying load.

Lashing Number	Clevis Number	Instructions
3	8 & 8A	Fit a 15-foot tiedown strap to each clevis by passing the free end of each strap through the clevis and through its D-ring. Pass the straps through the top notches of the rear end board. Bind the straps together with two D-rings and a load binder.
4	9 & 9A	Fit 15-foot tiedown straps to the clevises as in lashing number 1; however, pass the straps through the bottom notches of the rear end board. Bind the straps together with two D-rings and a load binder.

Figure 3-5. Lashings 3 and 4 installed on accompanying load.

3-4. Building and Placing Honeycomb Stacks

Build and place honeycomb stacks number 1 through number 7 according to figures 3-6 and 3-7. Build and place honeycomb stack number 8 according to figures 3-8 and 3-9.



STACKS NUMBER 1 AND NUMBER 2

1. Glue six 12- by 96-inch pieces of honeycomb together.
2. Glue a 3/4- by 12- by 96-inch piece of plywood on the honeycomb.
3. Glue a 12- by 96-inch piece of honeycomb on the plywood.
4. Glue five 12- by 24-inch pieces of honeycomb flush with the front edge of the 12- by 96-inch honeycomb.
5. Glue three 12- by 24-inch pieces of honeycomb flush with the rear edge of the 12- by 96-inch honeycomb.
6. Glue two 12- by 18-inch pieces of honeycomb flush with the front edge of the rear 12- by 24-inch honeycomb ON STACK NO 1 ONLY.
7. Glue two 6- by 18-inch pieces of honeycomb flush with the front and left edge of the 12- by 24-inch honeycomb ON STACK NO 2 ONLY.

STACKS NUMBER 3 AND NUMBER 5

8. Glue six 12- by 32-inch pieces of honeycomb together.
9. Center a 6- by 32-inch piece of honeycomb lengthwise on the 12-inch pieces and glue in place.

STACK NUMBER 4

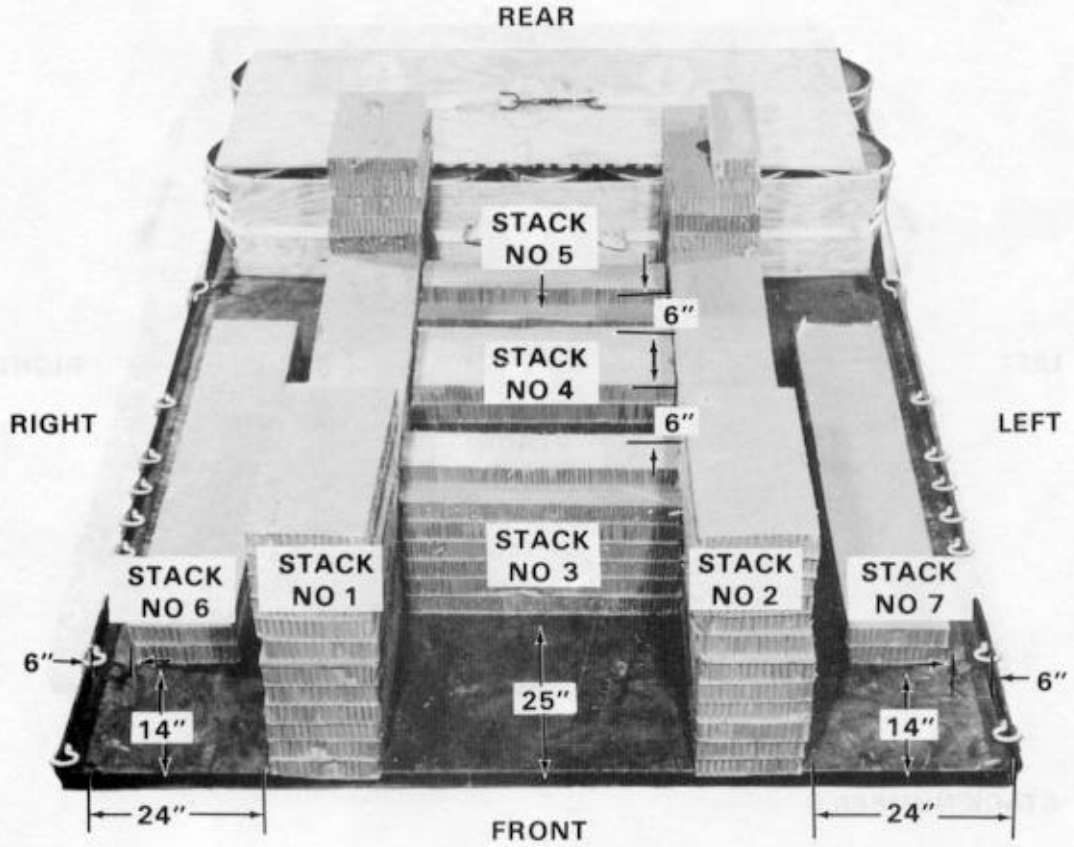
10. Glue seven 12- by 32-inch pieces of honeycomb together.

STACKS NUMBER 6 AND NUMBER 7

11. Glue two 12- by 60-inch pieces of honeycomb together.

Figure 3-6. Honeycomb stacks 1 through 7 built.

Note: Glue all stacks to the platform.

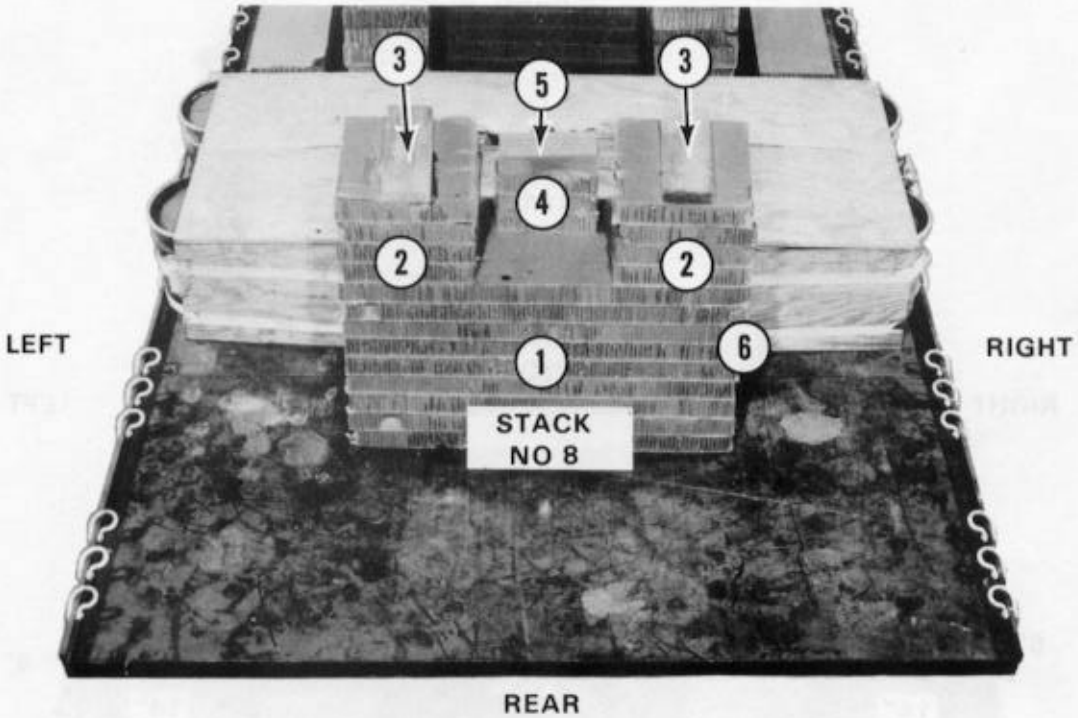


Step:

1. Place stacks number 1 and number 2 flush with the front edge of the platform and 24 inches from the side rail.
2. Place stack number 3 between stacks number 1 and number 2 and 25 inches from the front edge of the platform.
3. Place stack number 4 between stacks number 1 and number 2 and 6 inches from stack number 3.
4. Place stack number 5 between stacks number 1 and number 2 and 6 inches from stack number 4.
5. Place stacks number 6 and number 7 on the platform 14 inches from its front edge and 6 inches from the side rails.

Figure 3-7. Honeycomb stacks 1 through 7 placed.

Note: Glue the stack to the platform.



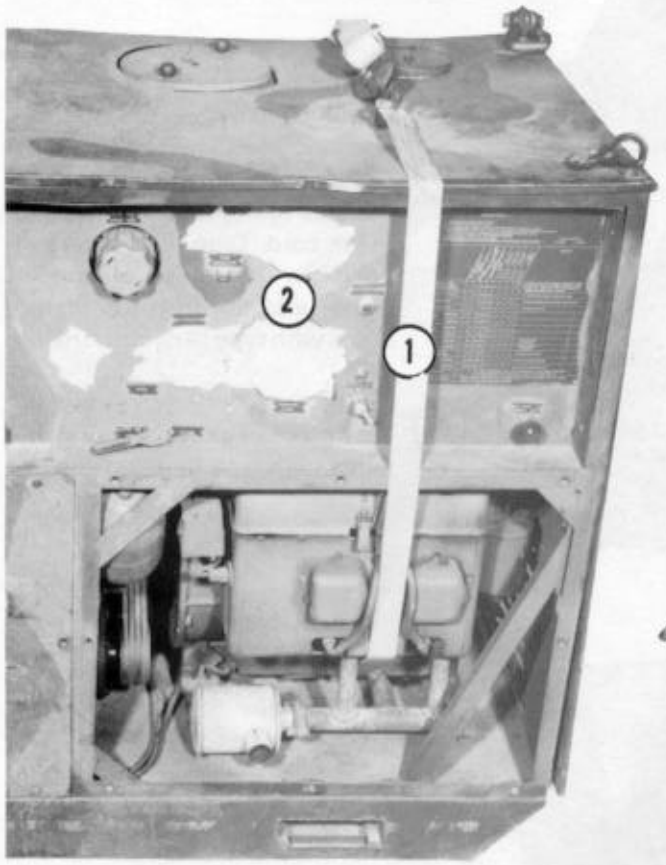
STACK NUMBER 8

1. Glue nine 18- by 48-inch pieces of honeycomb together.
2. Glue four 14- by 18-inch pieces of honeycomb flush with the side edges of the 18- by 48-inch pieces.
3. Center a 2- by 6- by 18-inch piece of lumber to each 14- by 18-inch stack of honeycomb and glue in place.
4. Glue three 10- by 12-inch pieces of honeycomb together and flush with the front edge of the honeycomb and between the taller stacks.
5. Glue a 2- by 4- by 12-inch piece of lumber flush with the rear edge of the 10- by 12-inch pieces of honeycomb.
6. Center the stack between the side rails and butt the stack against the accompanying load.

Figure 3-8. Honeycomb stack 8 built and placed.

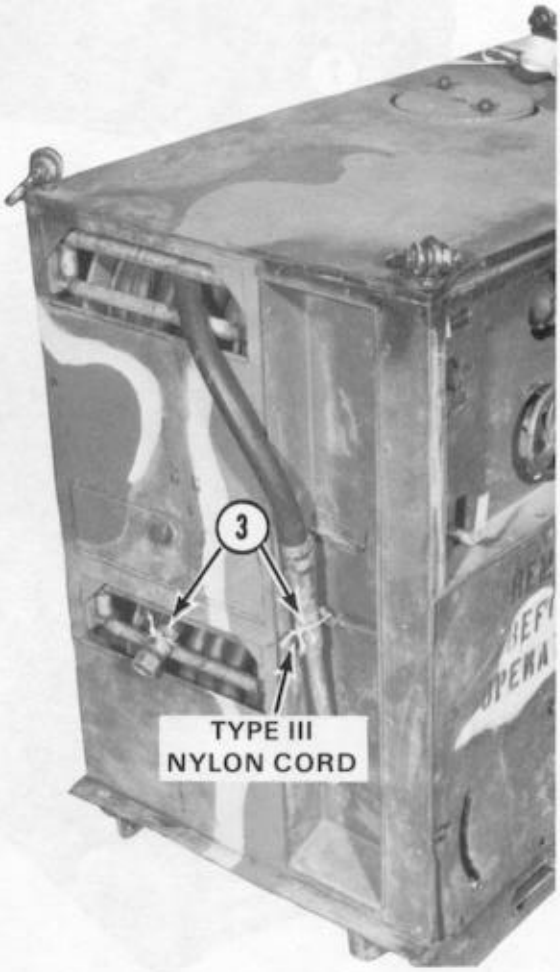
3-5. Preparing Decontamination Unit

Prepare the pump/generator unit, the mixing tank unit, and the heater unit according to figures 3-9 and 3-10.



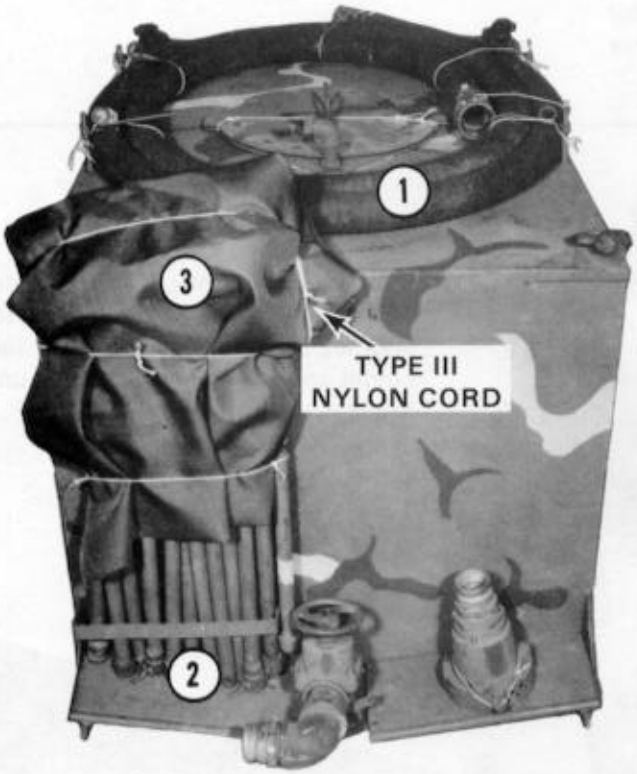
1. Remove the engine cover, and pass a 15-foot tiedown strap under the engine. Bind the strap with a load binder and a D-ring on top of the unit. Replace the engine cover.

2. Tape all glass gages.



3. Tie the two hose ends in place with type III nylon cord.

Figure 3-9. Pump/generator unit prepared.



1. Tie the hose on top of the tank with type III nylon cord.
2. Tie the pipes and pipe fittings to the side of the tank with type III nylon cord. Tape the corners of an 8- by 18- piece of honeycomb, and tie it on top of the pipes with type III nylon cord (fig 2-7).
3. Tie a piece of canvas around the pipes with type III nylon cord.

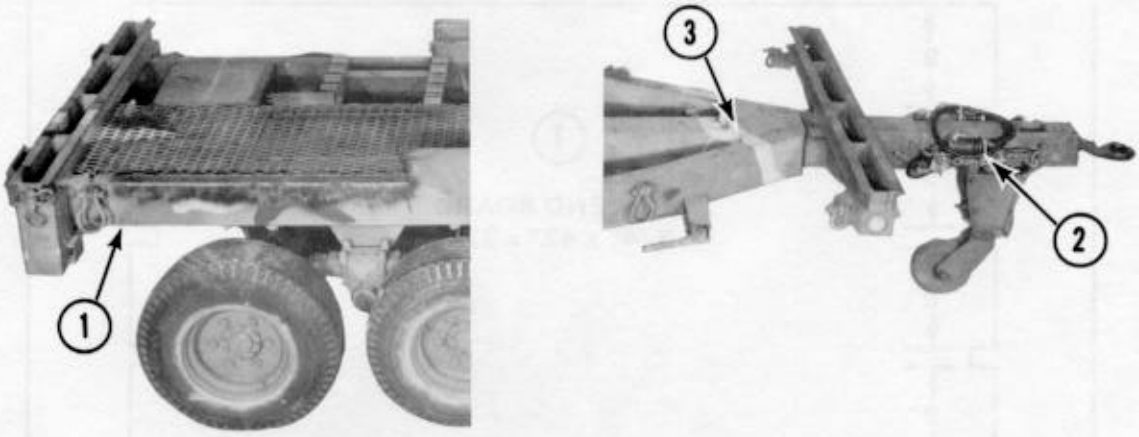
4. Tape the glass gages.

Figure 3-10. Mixing tank unit and heater unit prepared.

3-6. Preparing Trailer

Prepare the trailer according to figure 3-11.

Note: The rear segment of the side bars must be removed by qualified maintenance personnel prior to arrival at the rigging site.



1. Remove the spare tire from its rack.
2. Fold the intervehicular cable and chains on the drawbar. Tie them in place with type III nylon cord.
3. Tie the reach tube center pin in place with type III nylon cord.

Figure 3-11. Trailer prepared.

3-7. Stowing Decontamination Unit and Spare Tire

Stow the decontamination unit and the spare tire on the trailer according to figures 3-12 through 3-18.

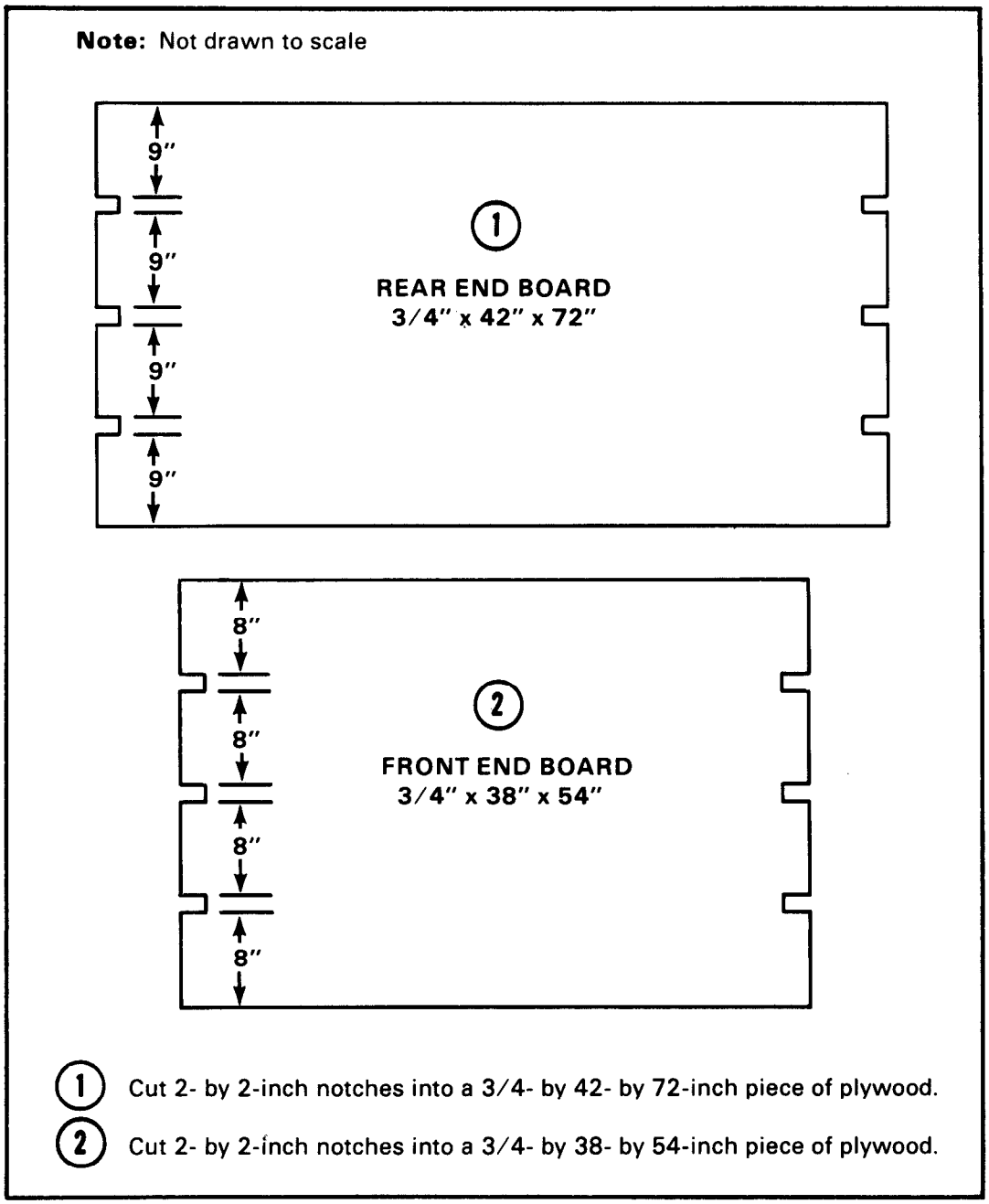
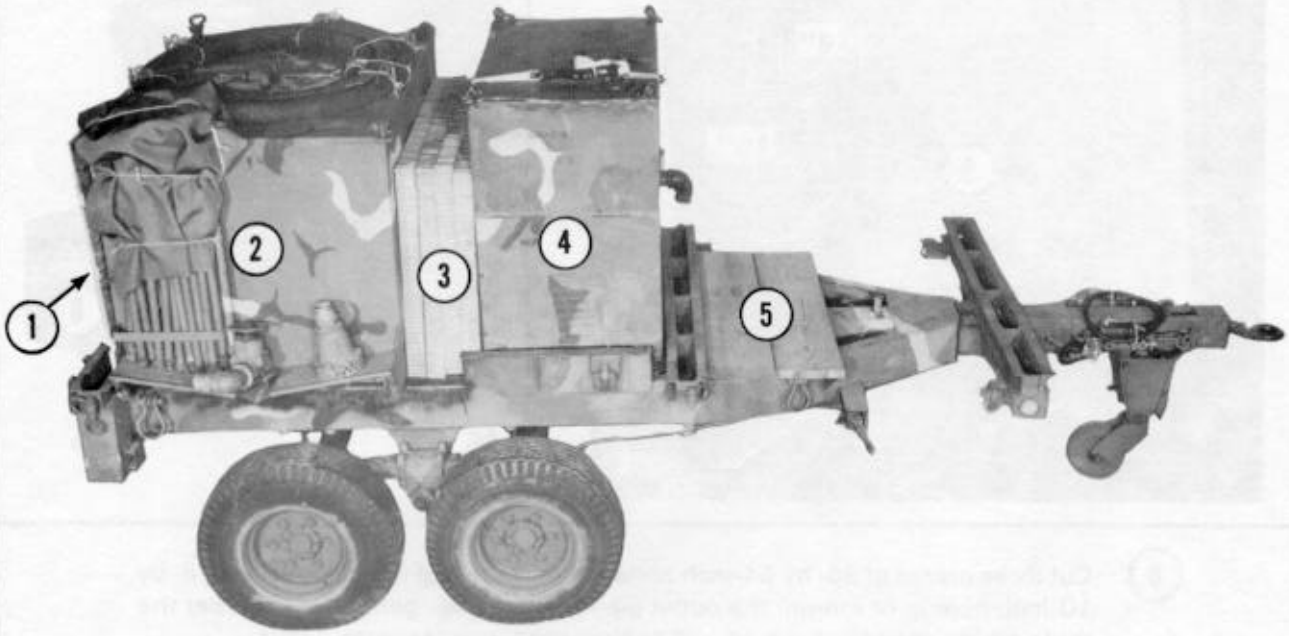


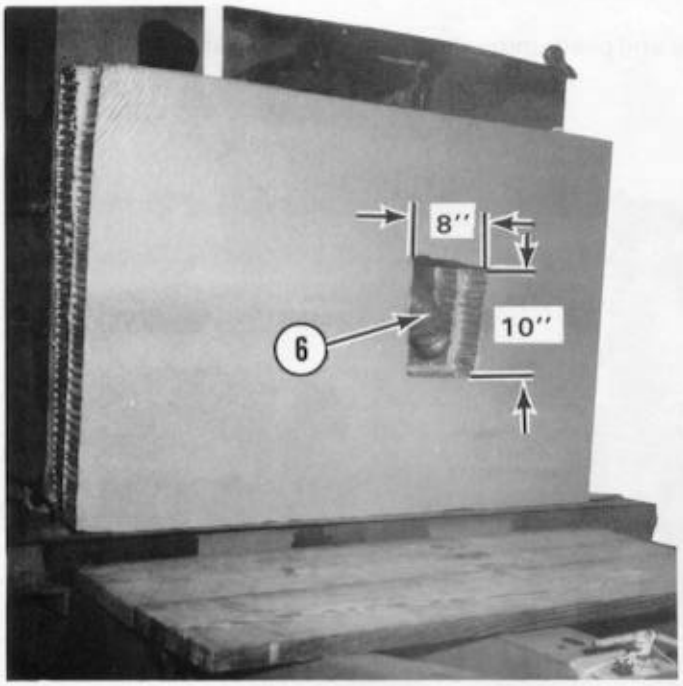
Figure 3-12. Construction details for plywood protectors.

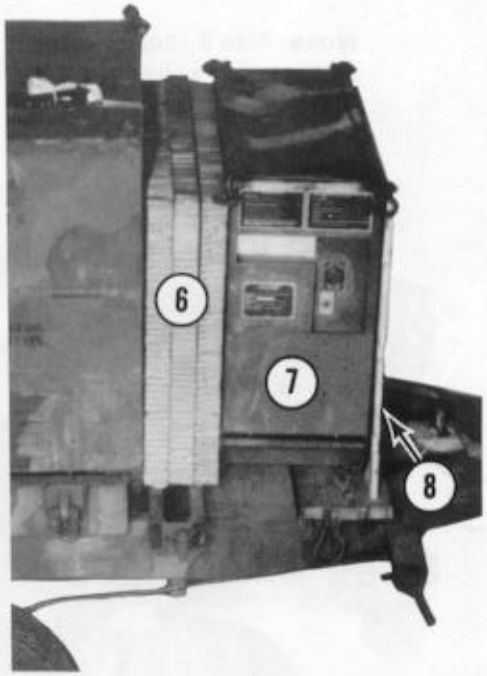
Note: Use 9-foot slings when lifting and positioning the items on the trailer. Fit the slings to the shackles on the items.



1. Center the 42- by 72-inch protector on the rear of the trailer and against the front of the rear support beam.
2. Butt the tank unit against the protector.
3. Center four 36- by 56-inch pieces of honeycomb against the tank unit.
4. Set the pump/generator unit against the honeycomb.
5. Lay two 2- by 12- by 55-inch pieces of lumber on the trailer.

Figure 3-13. Tank unit and pump/generator unit placed on trailer.



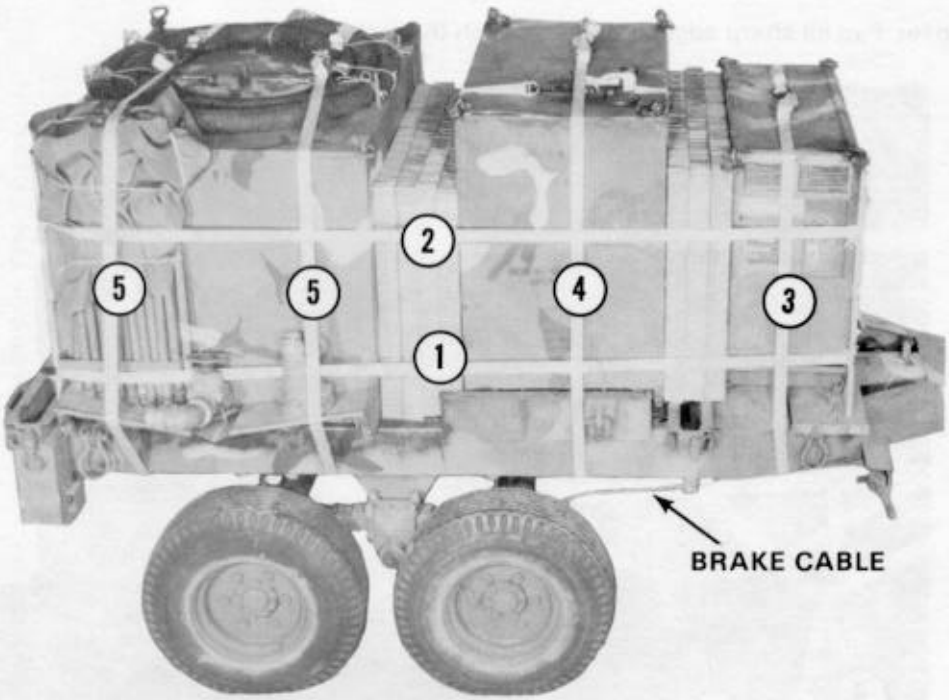


(6) Cut three pieces of 36- by 54-inch honeycomb. In two of the pieces cut an 8- by 10-inch hole to fit around the outlet pipe of the pump/generator unit. Set the three pieces of honeycomb on end against the pump/generator unit.

(7) Set the heater against the honeycomb.

(8) Center the 38- by 54-inch protector against the heater unit.

Figure 3-14. Heater unit placed on trailer.



Form six 30-foot tiedown straps according to FM 10-500/TO 13C7-1-5 and –

(1) Pad the bottom notches on the protectors with cellulose wadding. Run a 30-foot strap through the lower notches and around all the units. Fit a D-ring to each end of the strap, and hook the D-rings together with a load binder. Be sure the binder is in front of the front protector. Fold the excess strap, and tape the folds in place.

(2) Install a second strap through the top notches as in 1.

Note: Be sure the next two straps do not touch the brake cables.

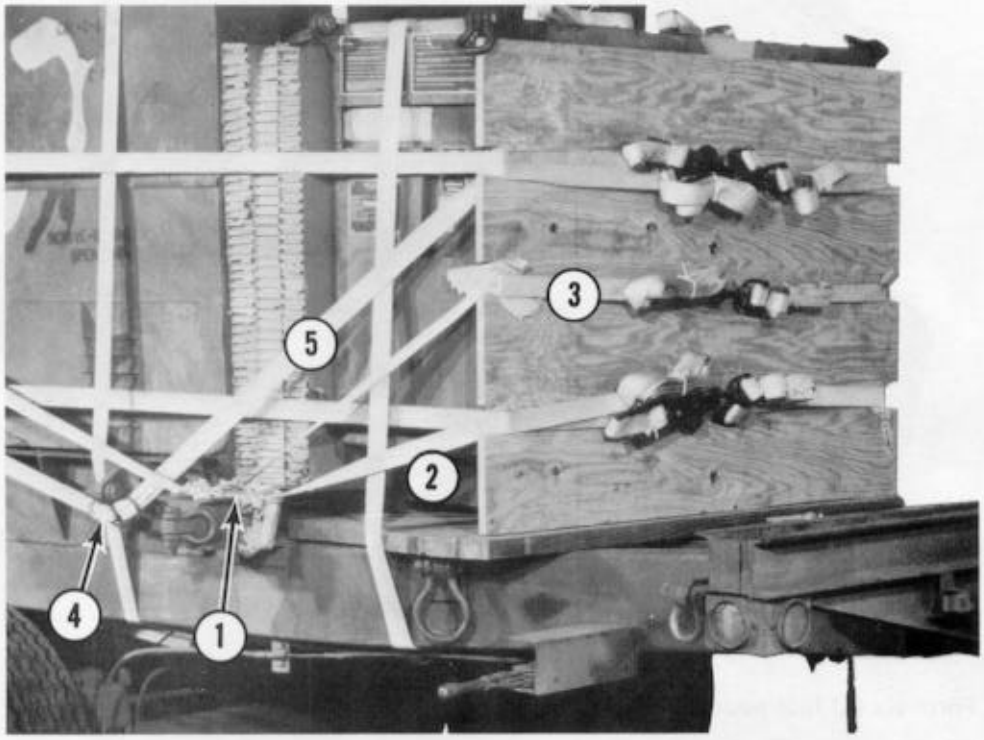
(3) Run one strap around the trailer frame (under the brake cables) and over the heater unit. Hook the ends of the strap together as in 1.

(4) Run one strap around the trailer frame and over the pump/generator unit. Hook the ends of the strap together as in 1.

(5) Run two straps around the trailer frame and over the tank unit. Hook the ends of the straps as in 1.

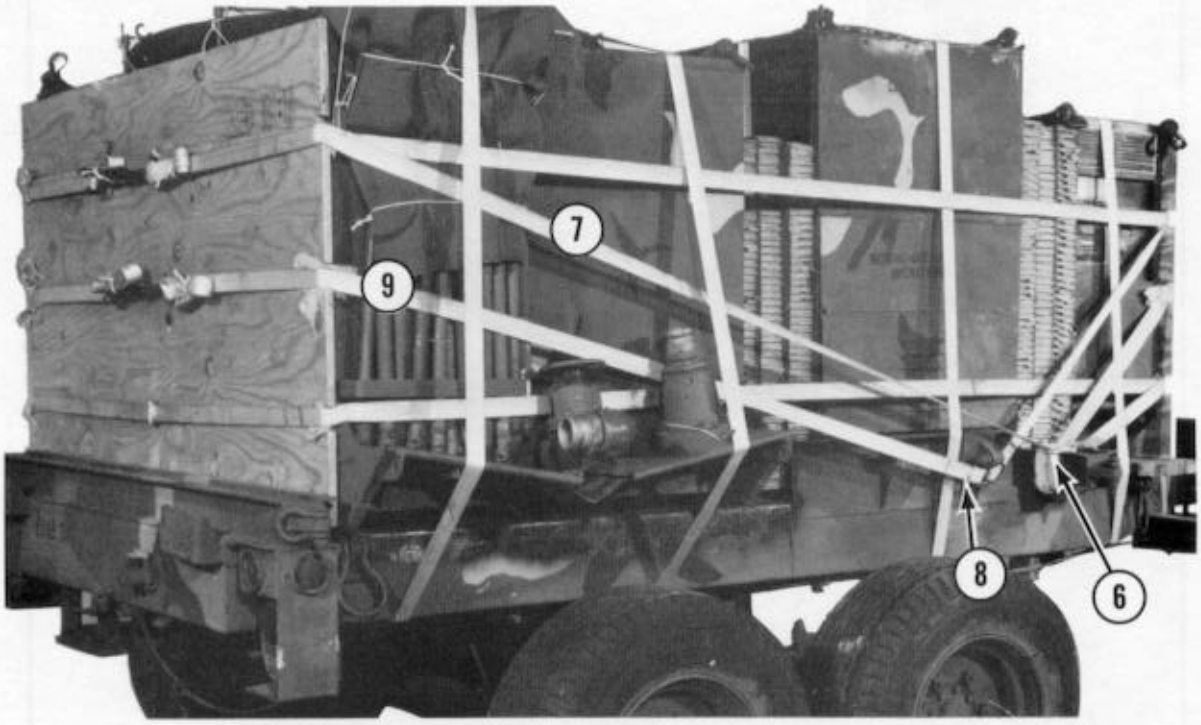
Figure 3-15. Decontamination unit stowed on trailer.

Note: Pad all sharp edges that may touch the lashings.



1. Fit two 15-foot tiedown straps to the second cross member on both sides of the trailer. Pass the straps through the cross member and through the D-ring on the strap.
2. Run a strap from each side of the trailer through the lower notches, and bind the straps together with two D-rings and a load binder on the front end board.
3. Run the other straps following the instructions from number 2 above; however, use the center notches.
4. Fit a 15-foot tiedown strap to the fourth tiedown provision on both sides of the trailer.
5. Run the strap from each side of the trailer through the upper notches, and bind the straps together with two D-rings and a load binder on the front end board.

Figure 3-16. Front tiedown straps installed on trailer.



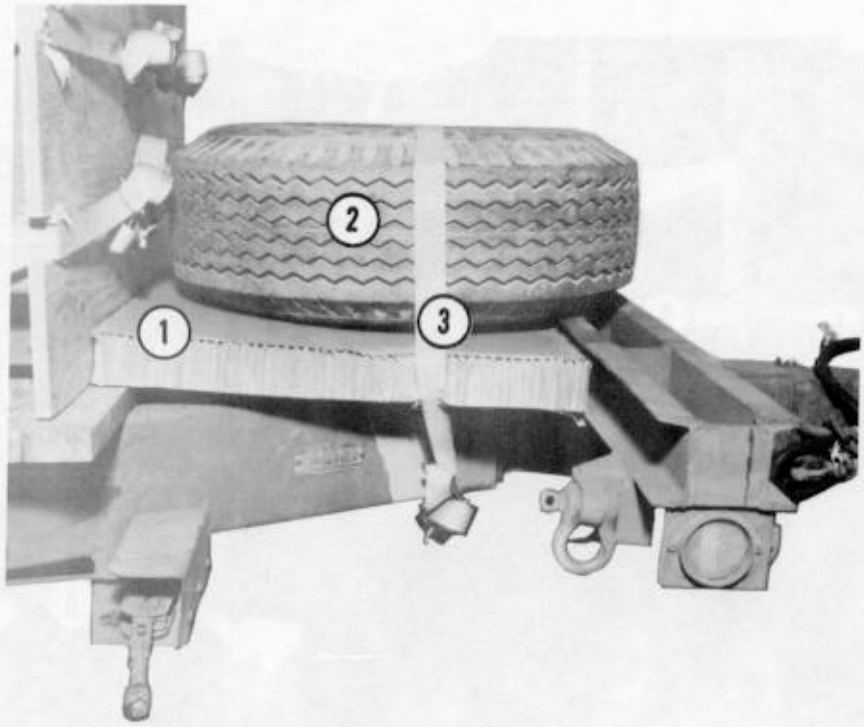
(6) Fit a 15-foot tiedown strap to the second cross member on both sides of the trailer. Pass the strap through the cross member and through the D-ring on the strap.

(7) Run the strap from each side of the trailer through the upper notches, and bind the straps together with two D-rings and a load binder on the rear end board.

(8) Fit a 15-foot tiedown strap to the fourth tiedown provision on both sides of the trailer.

(9) Run the strap from each side of the trailer through the middle notches, and bind the straps together with two D-rings and a load binder on the rear end board.

Figure 3-17. Rear tiedown straps installed on trailer.



1. Lay a 28- by 36-inch piece of honeycomb on the trailer in front of the front end board.
2. Set the tire on the honeycomb.
3. Pass a 15-foot tiedown strap through the vent holes in the tire rim. Bind the ends of the strap together with a D-ring and a load binder under the trailer.

Figure 3-18. Spare tire stowed.

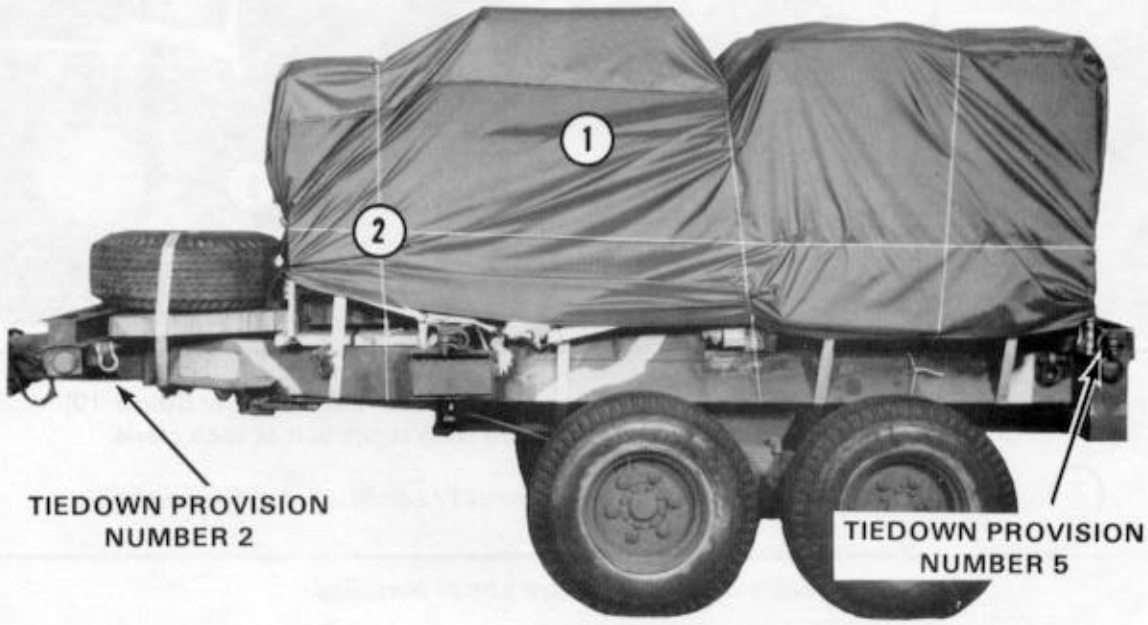
3-8. Covering Load

Cover the decontamination unit, and tie the cover in place according to figure 3-19.

3-9. Installing Suspension Slings

a. Bolt four 12-foot (3-loop) type X or (2-loop) type XXVI nylon webbing suspension slings and four cargo suspension clevis assemblies to the trailer according to figure 3-20.

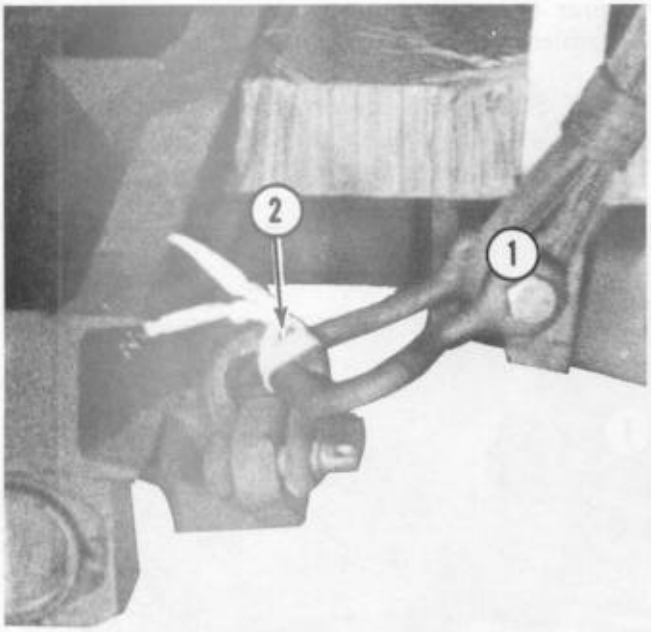
b. Safety the suspension slings with a deadman's tie according to FM 10-500/TO 13C7-1-5 and as shown in figure 3-21.

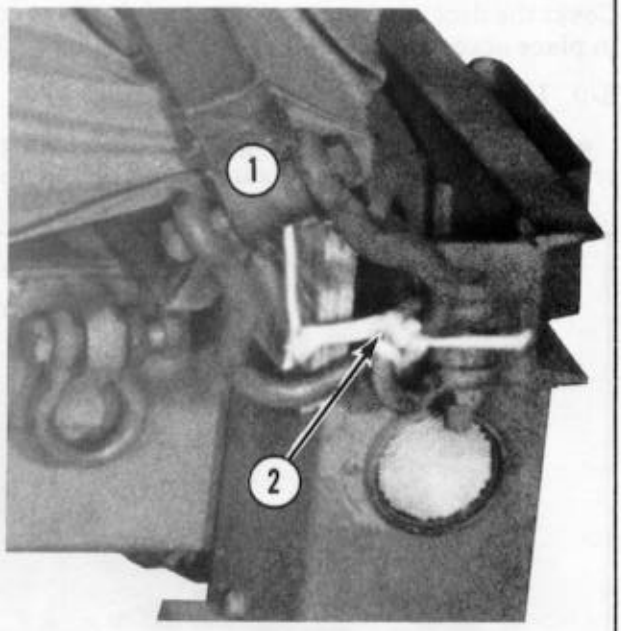


(1) Cover the decontamination unit completely with a 12- by 16-foot piece of cotton duck cloth.

(2) Tie the cover in place with type III nylon cord.

Figure 3-19. Decontamination unit covered.

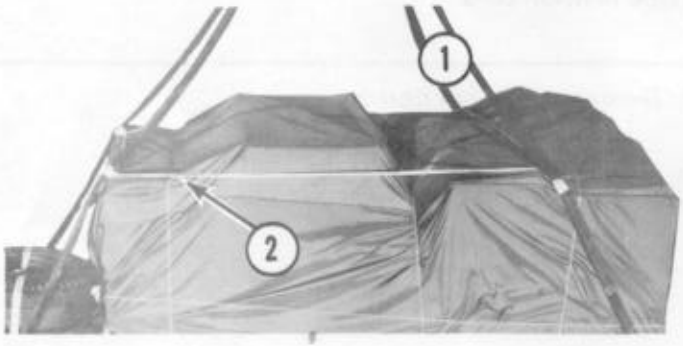




(1) Slip a cargo clevis through tiedown provisions number 2 and number 5 (fig 3-19) on both sides of the trailer. Fit a suspension sling to the bolt of each clevis.

(2) Tie the two clevises together with two turns of 1/2-inch tubular nylon webbing.

Figure 3-20. Suspension slings installed.



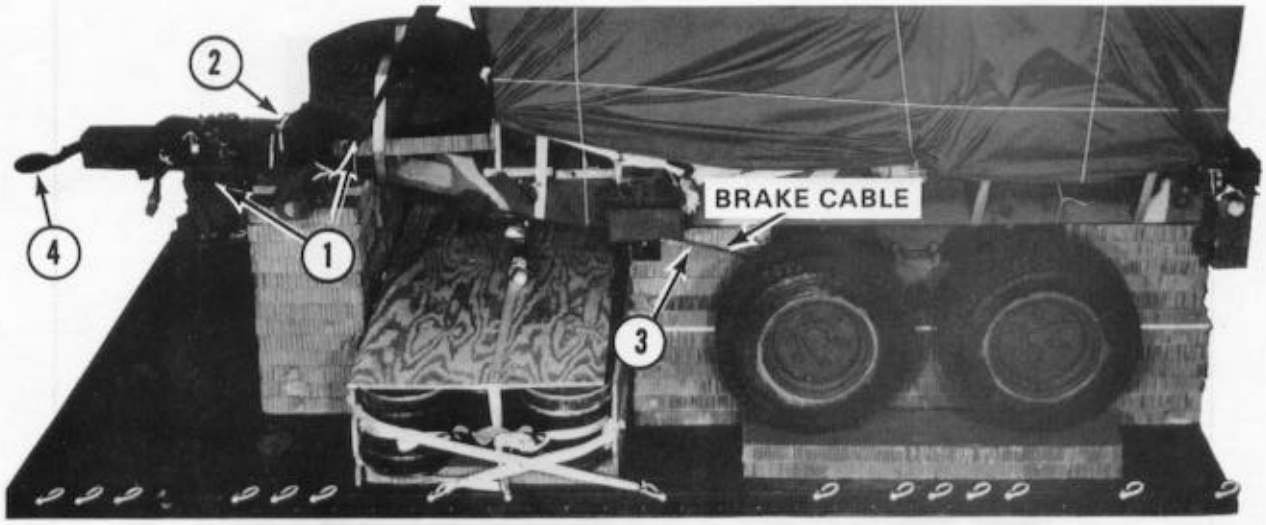
(1) Raise the suspension slings above the load.

(2) Install the deadman's tie. The tie must touch the top of the covered load.

Figure 3-21. Suspension slings safetied.

3-10. Placing Trailer

Place the trailer on the honeycomb stacks according to figure 3-22.



1. Lift the trailer with the suspension lines, and raise the retractable support assembly.
2. Tie the wheel to the left (or right) with 1/2-inch tubular nylon webbing.
3. Set the trailer carefully on the honeycomb stacks so the brake cables are not caught between the stacks and the trailer frame.
4. Allow the lunette to overhang the rear edge of the platform by 11 inches.

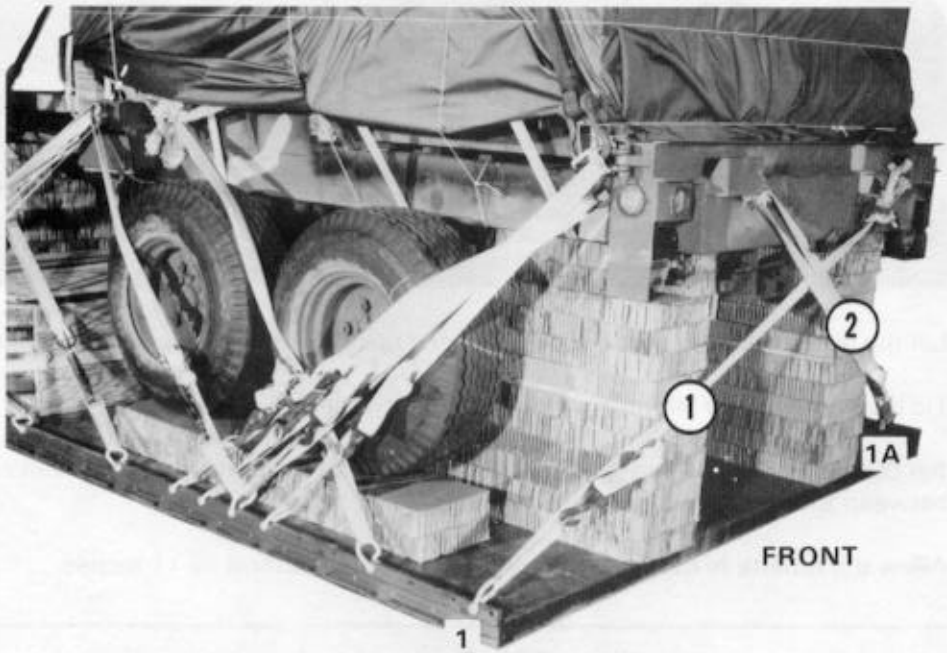
Figure 3-22. Trailer placed.

3-11. Lashing Trailer

Use twenty-eight 15-foot tiedown strap assemblies, and lash the trailer to the platform as shown in figures 3-23 through 3-25.

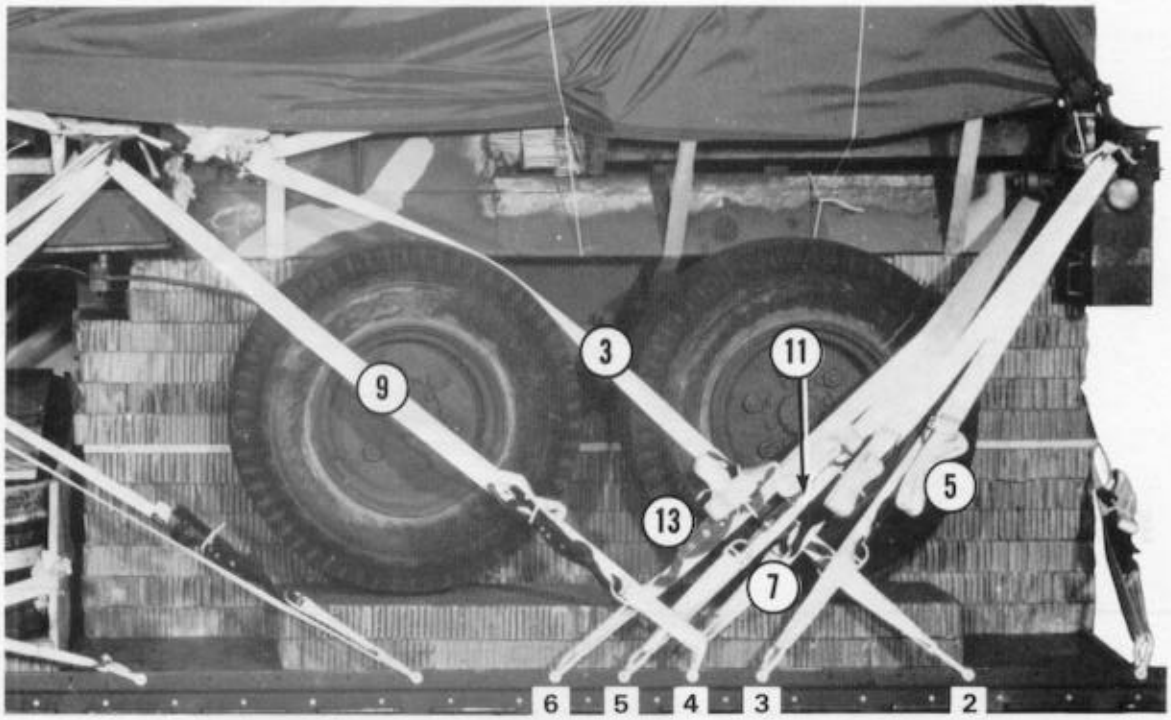
CAUTION

Make sure the lashings are not so tight that they cause the platform to bow.



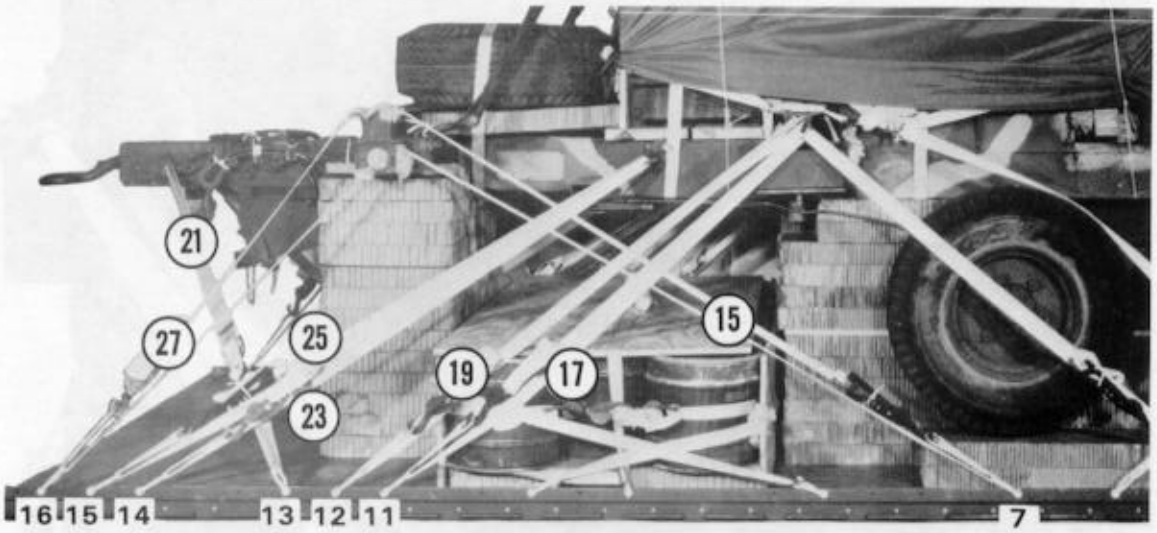
Lashing Number	Clevis Number	Instructions
1	1	Pad right bumperette with cellulose wadding, and run tiedown strap through it.
2	1A	Pad left bumperette with cellulose wadding, and run tiedown strap through it.

Figure 3-23. Lashings 1 and 2 installed.



Lashing Number	Clevis Number	Instructions
3	2	Through tiedown provision number 4
4	2A	Through tiedown provision number 4
5	3	Through tiedown provision number 5
6	3A	Through tiedown provision number 5
7	4	Through tiedown provision number 5
8	4A	Through tiedown provision number 5
9	4	Through tiedown provision number 3
10	4A	Through tiedown provision number 3
11	5	Through rear lifting point
12	5A	Through rear lifting point
13	6	Through rear lifting point
14	6A	Through rear lifting point

Figure 3-24. Lashings 3 through 14 installed.

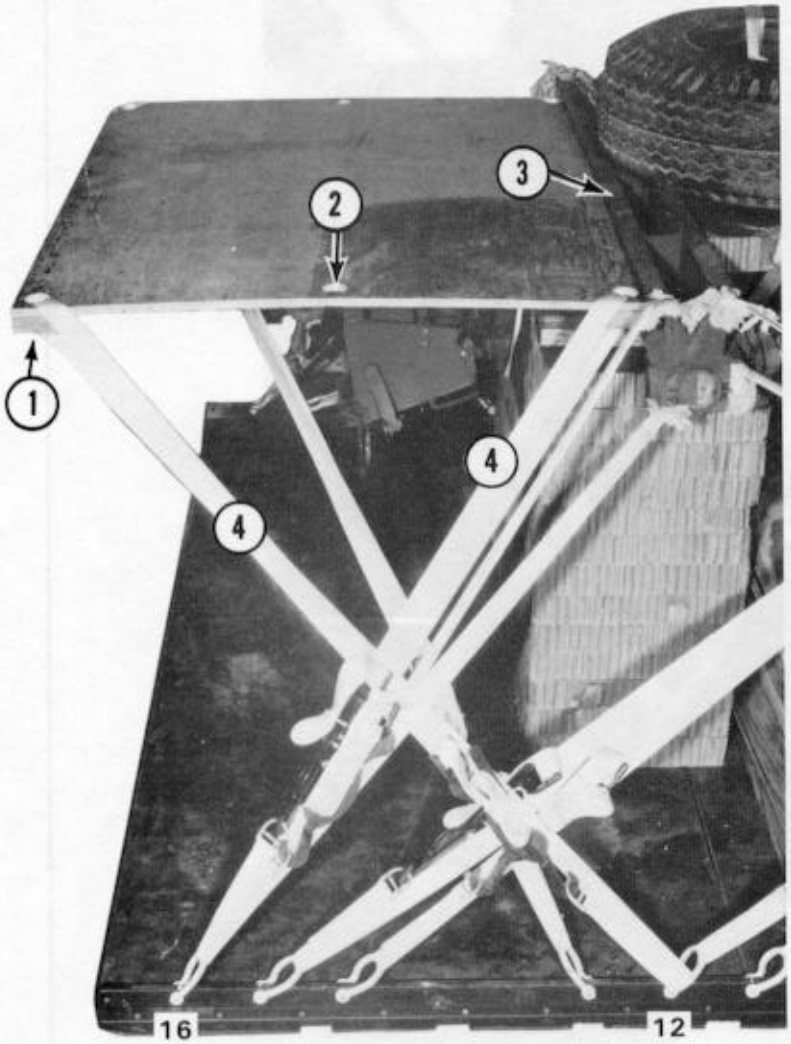


Lashing Number	Clevis Number	Instructions
15	7	Through front cross member (padded with cellulose wadding)
16	7A	Same as lashing number 15
17	11	Through tiedown provision number 3
18	11A	Through tiedown provision number 3
19	12	Through tiedown provision number 3
20	12A	Through tiedown provision number 3
21	13	Through tiedown provision number 1
22	13A	Through tiedown provision number 1
23	14	Through front lifting point
24	14A	Through front lifting point
25	15	Through front lifting point
26	15A	Through front lifting point
27	16	Through front cross member (padded with cellulose wadding)
28	16A	Same as lashing number 27

Figure 3-25. Lashings 15 through 28 installed.

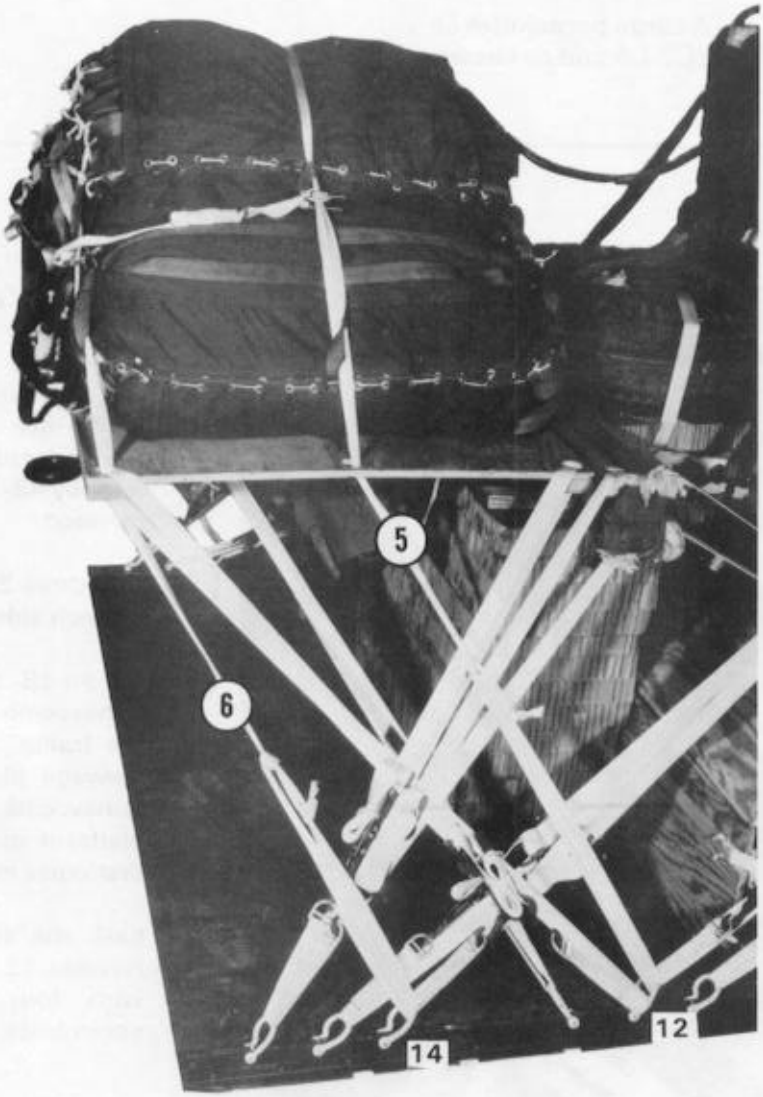
3-12. Stowing Cargo Parachutes

Prepare and stow three G-11A cargo parachutes as outlined in FM 10-500/TO 13C7-1-5 and as shown in figures 3-26 and 3-27.



1. Use 8d nails, and nail a 2- by 4- by 60-inch piece of lumber to the underside, long edges of a 3/4- by 48- by 60-inch piece of plywood.
2. Drill three 2-inch holes in each 48-inch side of the plywood.
3. Set an 18- by 40-inch piece of honeycomb on the drawbar of the trailer. Set the parachute stowage platform around the honeycomb. Slip the stowage platform under the lip of the first cross member.
4. Lash the stowage platform to clevises 12, 16, 12A, and 16A with four 15-foot tiedown assemblies.

Figure 3-26. Parachute stowage platform installed.



(5) Tie the ends of the first restraint strap to load tiedown clevises 12 and 12A.

(6) Tie the ends of the second restraint strap to load tiedown clevises 14 and 14A.

Figure 3-27. Cargo parachutes stowed.

3-13. Installing Extraction System

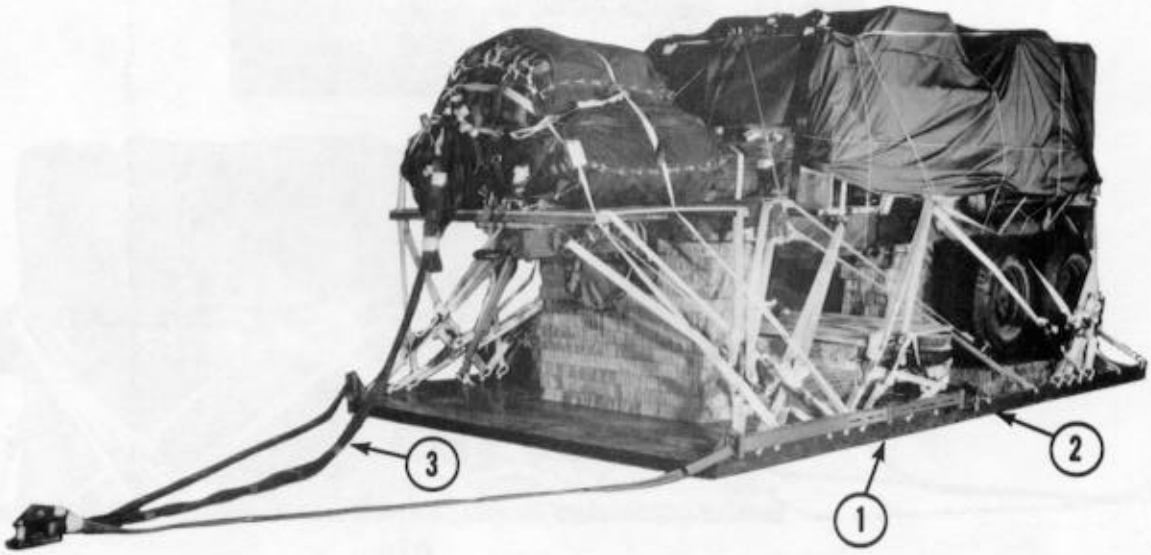
One of two extraction systems may be used on this load. One is the extraction force transfer coupling (platform), which is called the PEFTC. The other system is the static line/connector strap extraction system, which is called the SL/CS. The installation instructions for each system are given below.

a. PEFTC. Install the PEFTC according to FM 10-500/TO 13C7-1-5 and as shown in figure 3-28. Use a 16-foot (3-loop) type X *or* (2-loop) type XXVI sling as a deployment line.

b. SL/CS. Install the SL/CS according to FM 10-500/TO 13C7-1-5. Use a 12-foot (3-loop) type X *or* (2-loop) type XXVI sling as a deployment line, two 9-foot (3-loop) type X *or* (2-loop) type XXVI slings, and a 120-inch connector strap. Bolt the SL/CS to the lunette of the trailer.

3-14. Installing Release System

Install and safety an M-1 cargo parachute release according to FM 10-500/TO 13C7-1-5. If the M-1 release is not available, use three 5,000-pound-capacity cargo parachute releases. Prepare, attach, and safety the 5,000-pound releases according to FM 10-500/TO 13C7-1-5.



1. Bolt a bracket to the 19th, 24th, and 33d clevis holes in each rail. Bolt guidance tubes to these brackets.
2. Use the B mounting holes, and bolt an actuator to the 17th and 18th clevis holes in each rail.
3. Use a 16-foot sling as the deployment line. Fold the slack in the deployment line, and tape the folds in place with two turns of adhesive tape or tie the folds with 80-pound cotton webbing.

Figure 3-28. PEFTC installed.

3-15. Placing Extraction Parachute

a. C-130 Aircraft. Lay a 22-foot cargo extraction parachute, a 60-foot (3-loop) type X or type XXVI nylon webbing extraction line, and a type IV link assembly on the load for installation in the aircraft.

b. C-141 Aircraft. Lay a 22-foot cargo extraction parachute, a continuous 140-foot (3-loop) type XXVI nylon webbing extraction line, and a type IV link assembly on the load for installation in the aircraft.

3-16. Marking Rigged Load

Mark the rigged load according to FM 10-500/TO 13C7-1-5 and as shown in figure 3-29.

3-17. Equipment Required

The equipment required to rig this load is listed in table 3-1.

CAUTION

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

RIGGED LOAD DATA

Weight	10,670 pounds
Width	108 inches
Height	98 inches
Length:	210 inches
Overhang: Front	7 inches
Rear	11 inches
Center of Balance (from front edge of platform)	98 inches
Extraction System (shown)	PEFTC

Figure 3-29. Decontamination unit on M796 bolster trailer rigged for low-velocity airdrop.

Table 3-1. Equipment required.

National Stock No	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
1377-00-958-1048	Cartridge, time delay 20-sec (for 5,000-lb releases)	3
	Clevis Assembly, suspension:	
4030-00-678-8562	Cargo	4
1670-00-090-5354	Large	4
8305-00-242-3593	Cloth, cotton, duck, 60-in	16 yd
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-168-6068	*Coupling, extraction force transfer (platform)	1
1670-00-360-0328	Cover, clevis, large	3
1670-00-360-0329	Cover, link	3
8135-00-664-6958	Cushioning Material, packaging cellulose wadding	As required
	Line, extraction:	
	For C-130:	
1670-00-856-0266	60-ft (3-loop) type X	1
	or	
1670-01-062-6313	60-ft (3-loop) type XXVI	1
	For C-141B:	
1670-01-107-7651	140-ft (3-loop) type XXVI	1
1670-00-783-5988	Link Assembly, type IV	4
1670-00-799-8596	Load Coupler, 8-spool (for 5,000-lb releases)	1
	Lumber:	
5510-00-220-6146	2- by 4- by 12-in	1
5510-00-220-6146	2- by 4- by 60-in	2
5510-00-220-6148	2- by 6- by 18-in	2
5510-00-220-6250	2- by 12- by 55-in	2
5315-00-010-4659	Nail, steel wire, common, 8d	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in:	21 sheets
	4- by 96-in	(1)
	6- by 18-in	(2)
	6- by 32-in	(2)
	10- by 12-in	(3)
	12- by 18-in	(2)
	12- by 24-in	(16)
	12- by 32-in	(19)
	12- by 60-in	(4)
	12- by 96-in	(14)
	14- by 18-in	(8)
	18- by 40-in	(1)
	18- by 48-in	(9)
	28- by 36-in	(1)
	36- by 56-in	(7)
	36- by 96-in	(1)
1670-00-269-1107	Parachute, cargo, 100-ft diam, G-11A	3
1670-00-687-5458	**Parachute, cargo, extraction, 22-ft	1

Table 3-1. (Continued).

National Stock No	Item	Quantity
	Platform, airdrop, modular, 16-ft:	
1670-00-893-1631	Clevis, load tiedown	32
1670-00-893-1624	Panel	4
1670-00-893-1627	Rail, platform side, 16-ft	2
5320-00-893-1632	Rivet, blind-drive-type, 1/4-in diam	64
5530-00-128-4981	Plywood, 3/4-in:	6 sheets
	12- by 96-in	(2)
	17- by 96-in	(2)
	38- by 54-in	(1)
	40- by 96-in	(1)
	42- by 72-in	(1)
	48- by 60-in	(1)
1670-01-097-8816	Release, cargo parachute, M-1	1
	or	
1377-00-799-8494	Release, 5,000-lb-cap cargo parachute	3
	Slings, cargo, airdrop:	
	For 5,000-lb releases:	
1670-00-753-3788	3-ft (3-loop) type X	6
	or	
1670-01-062-6301	3-ft (2-loop) type XXVI	6
	For lifting:	
1670-00-753-3790	9-ft (2-loop) type X	4
	or	
1670-01-062-6304	9-ft (2-loop) type XXVI	4
	For suspension:	
1670-00-823-5041	12-ft (3-loop) type X	4
	or	
1670-01-062-6303	12-ft (2-loop) type XXVI	4
	For PEFTC deployment line:	
1670-00-823-5042	16-ft (3-loop) type X	1
	or	
1670-01-063-7761	16-ft (2-loop) type XXVI	1
	For riser extension:	
1670-00-360-0474	20-ft (2-loop) type X	6
	or	
1670-00-753-3794	20-ft (2-loop) type X	6
	or	
1670-00-823-5043	20-ft (3-loop) type X	6
	or	
1670-01-062-6302	20-ft (2-loop) type XXVI	6
1670-00-040-8219	Strap, parachute release, multiple cut	1
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tiedown Assembly:	66
1670-00-937-0272	Binder, load	(50)
5365-00-937-0147	D-ring	(66)
1670-00-937-0273	Strap, 15-ft	(66)
8305-00-268-2411	Webbing, cotton, 80-lb	As required
	Webbing, nylon:	
8305-00-082-5752	Tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	16 yd

Table 3-1. (Continued).

National Stock No	Item	Quantity
***When this item is not used, use the following items for the SL/CS:**		
1670-00-090-5354	Clevis Assembly, suspension, large	1
1670-00-783-5988	Link Assembly, type IV	1
	Slings, cargo, airdrop:	
1670-00-753-3631	9-ft (3-loop) type X	2
	or	
1670-01-062-6304	9-ft (2-loop) type XXVI	2
1670-00-823-5041	12-ft (3-loop) type X	1
	or	
1670-01-062-6303	12-ft (2-loop) type XXVI	1
1670-00-998-0117	Static Line, cargo parachute, breakaway-type, w/release knife and clevis	2
1670-00-738-5879	Strap, connector, 120-in	1

****Install the extraction cargo parachute according to these types of aircraft:**

1. **C-130.** The 22-foot extraction parachute and 60-foot (3-loop) extraction line are used on loads for drop from C-130 aircraft.
2. **C-141B.** The 22-foot extraction parachute is used on loads rigged for drop from C-141B aircraft. In addition, the parachute needs a continuous 140-foot (3-loop) type XXVI nylon webbing extraction line. Do NOT use shorter lines to form the 140-foot line.

APPENDIX A

REFERENCES

FM 10-500/TO 13C7-1-5	Airdrop of Supplies and Equipment: General information for Rigging Airdrop Platforms
TM 10-1670-208-20&P/ TO 13C3-4-12	Organizational Maintenance Manual Including Repair Parts and Special Tools List for Platforms Type II Modular and LAPES/Airdrop Modular
TM 10-1670-215-23/ TO 13C5-1-102	Organizational and DS Maintenance Manual Including Repair Parts and Special Tools List for Parachutes, Cargo Types

GLOSSARY

ACB	attitude control bar
AD	airdrop
CB	center of balance
d	penny
diam	diameter
EFTC	extraction force transfer coupling
ft	feet/foot
gal	gallon
in	inch
LAPE	low-altitude parachute-extraction
lb	pound
NSN	national stock number
SL/CS	static line/connector strap