

## CHAPTER 11

### RIGGING THE PU-619M AND PU-620M TRAILER-MOUNTED POWER UNITS ON THE TYPE V PLATFORM

#### Section I

#### RIGGING THE PU-619M POWER UNIT FOR LOW-VELOCITY AIRDROP

##### 11-1. Description of Load

Two 10-kilowatt generators mounted on a 1 1/2-ton (M103A3) trailer make up the PU-619M power unit (line number J42100) (Figure 11-1). The power unit is rigged on a 12-foot, type V airdrop platform for low-velocity airdrop. The load

requires two G-11A or G-11B cargo parachutes. The unrigged power unit weighs 4,580 pounds. It is 174 inches long and 83 inches wide. Its height is 94 1/2 inches (reducible to 63 inches).

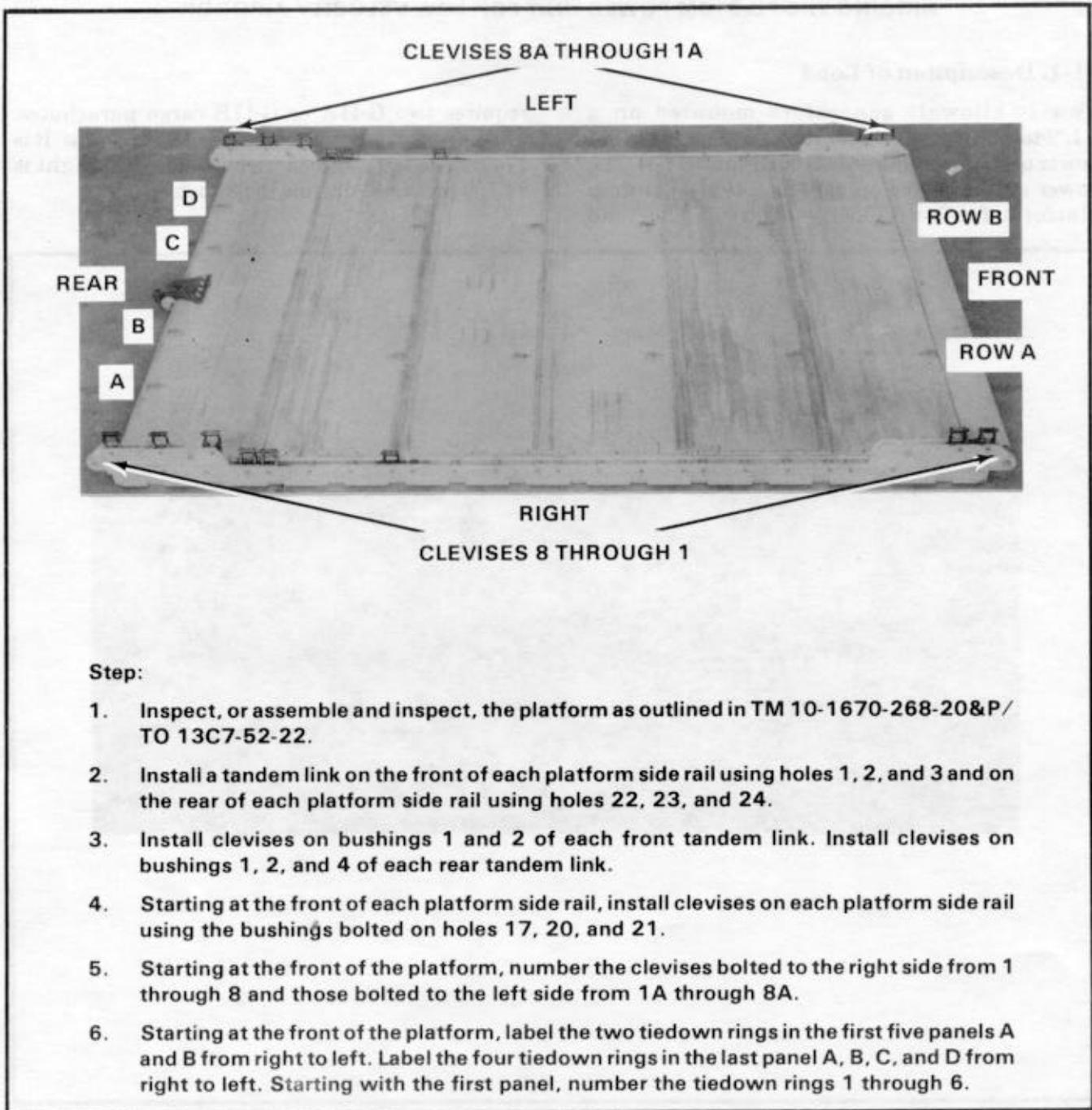


Figure 11-1. PU-619M power unit with bows and cover removed

### 11-2. Preparing Platform

Prepare a 12-foot, type V airdrop platform using four tandem links and 16 clevis assemblies as shown in Figure 11-2.

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



**Step:**

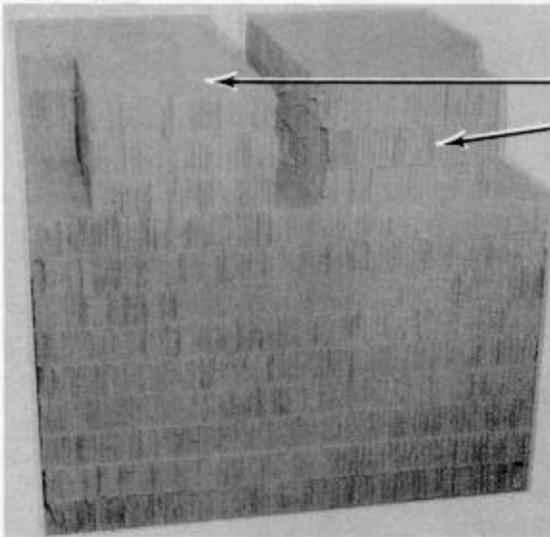
1. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3 and on the rear of each platform side rail using holes 22, 23, and 24.
3. Install clevises on bushings 1 and 2 of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

Figure 11-2. Platform prepared

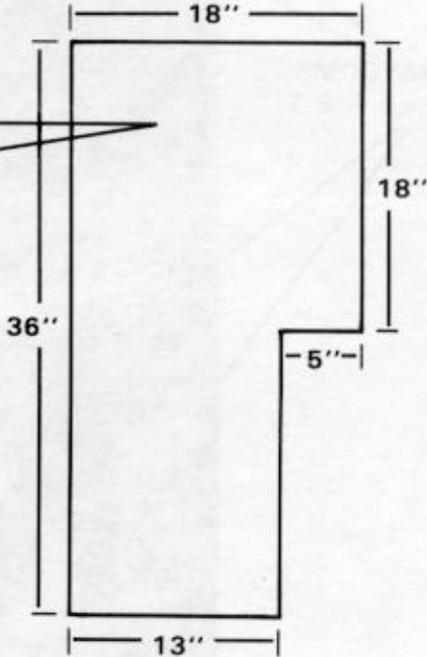
**11-3. Preparing and Positioning Honeycomb Stacks**

Prepare the honeycomb stacks as shown in Figures 11-3, 11-4, and 11-5. Position the stacks on the platform as shown in Figure 11-6.

Note: This drawing is not drawn to scale.



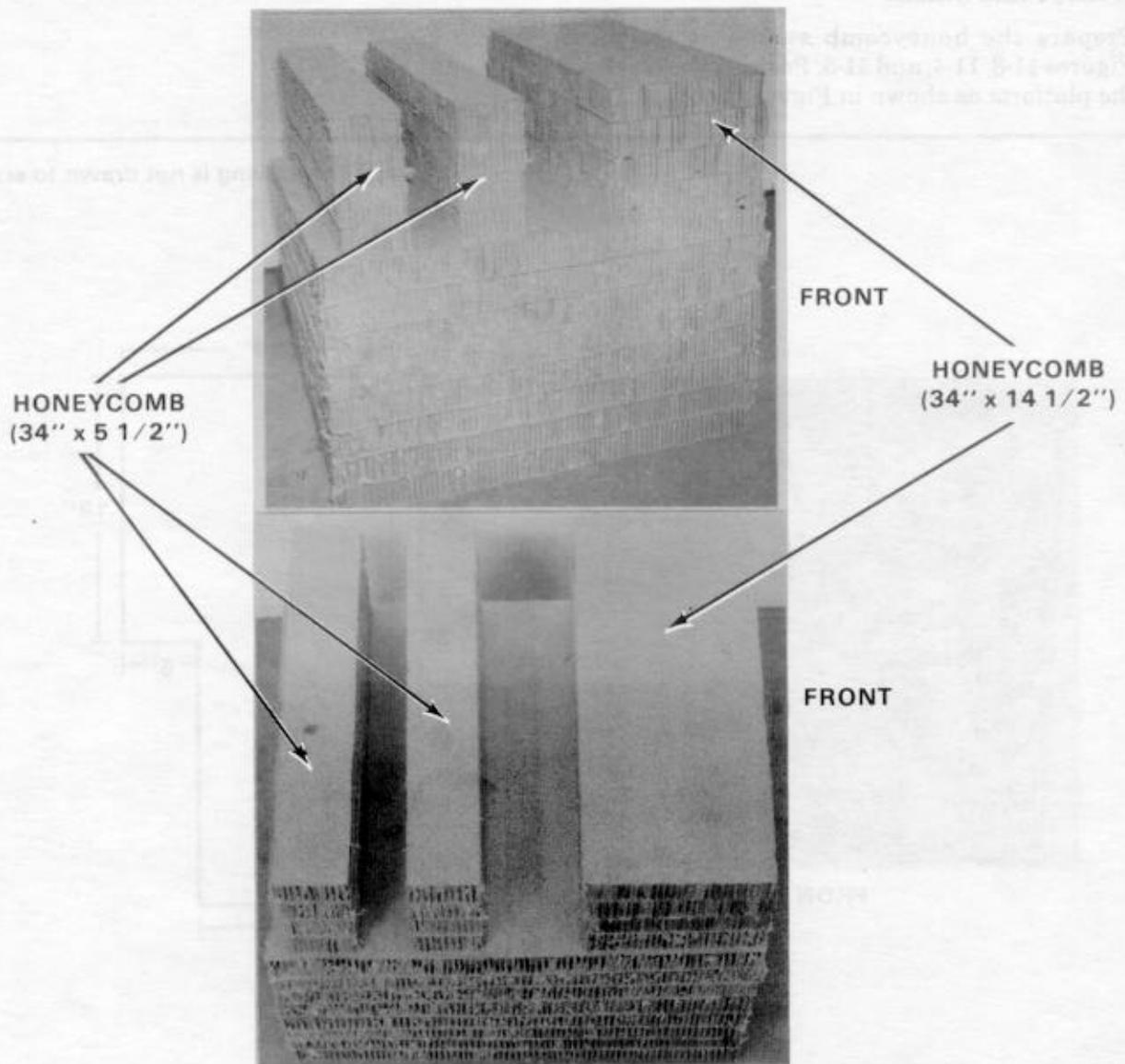
FRONT



FRONT

Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	9	40	36	Honeycomb	Stack honeycomb flush.
	6	18	36	Honeycomb	Make cutout as shown in all six pieces of honeycomb. Make two stacks of three layers each. Place them 4 inches apart on the base and flush with the base. Place the cutouts to the front of the base.

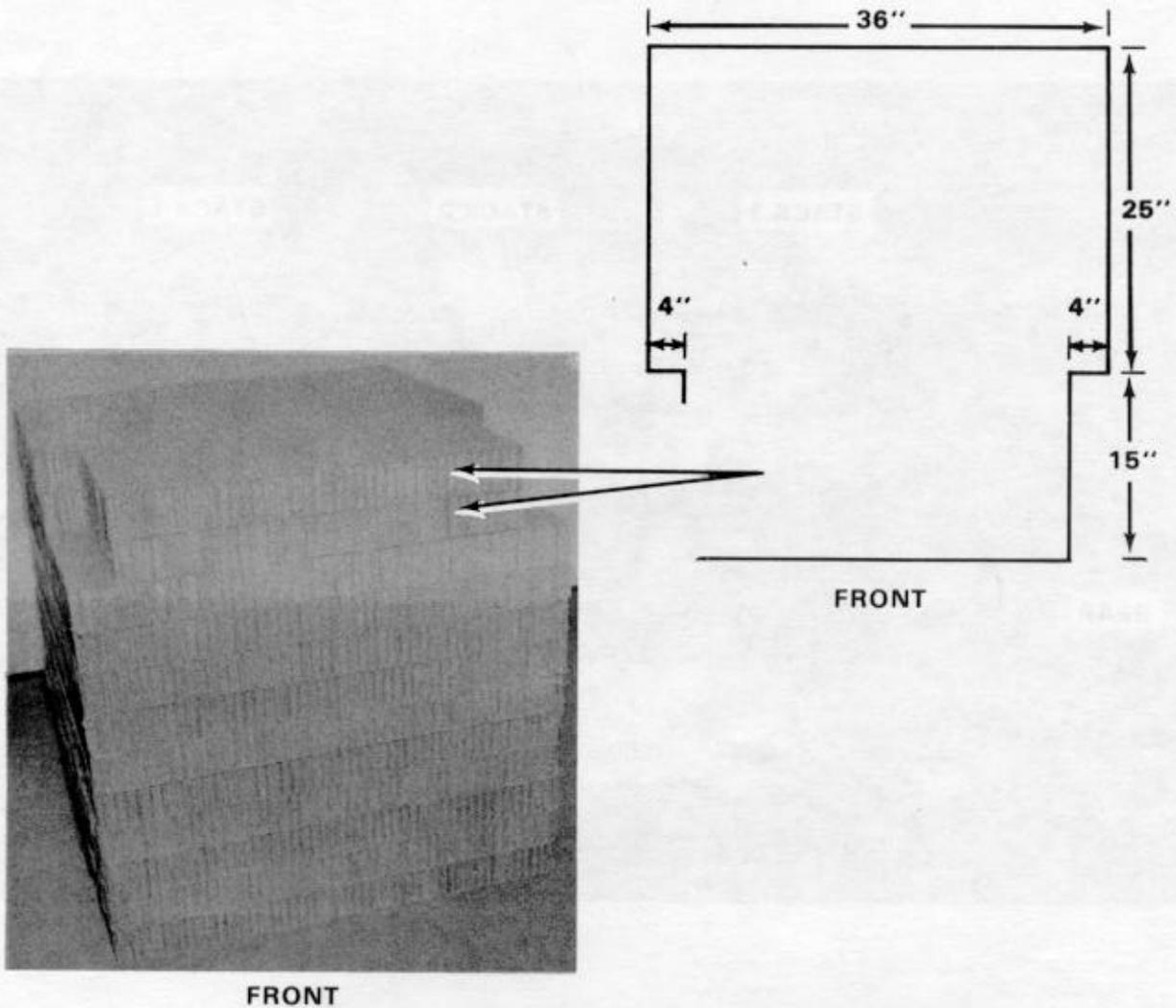
Figure 11-3. Honeycomb stack 1 prepared



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
2	8	35	40	Honeycomb	Stack honeycomb flush.
	8	34	5 1/2	Honeycomb	Make two stacks of four layers each. Center one on the base 2 inches from the rear edge and 1/2-inch from each side. Center the other 4 inches from the first.
	4	34	14 1/2	Honeycomb	Place honeycomb flush with the front edge, 1/2-inch from each side.

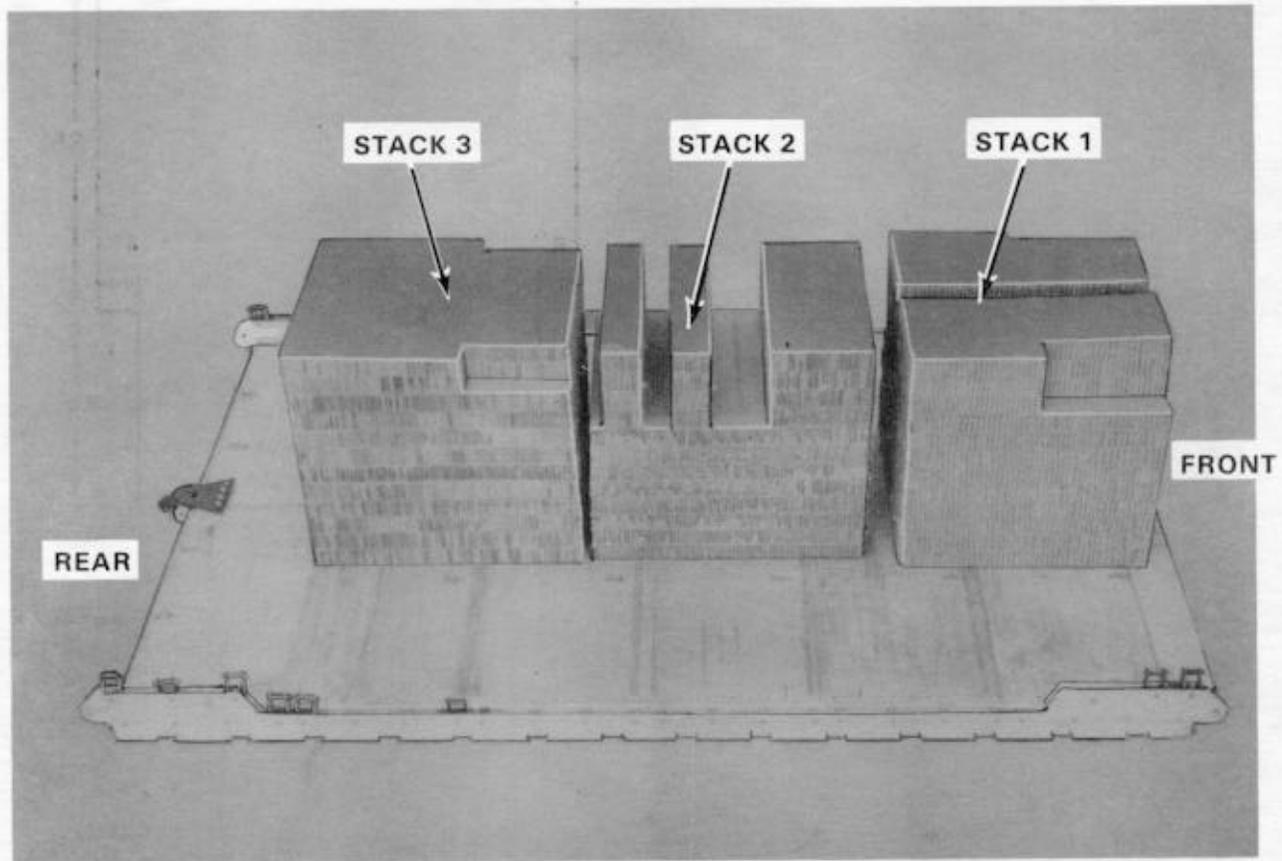
Figure 11-4. Honeycomb stack 2 prepared

Note: This drawing is not drawn to scale.



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3	10	36	40	Honeycomb	Stack honeycomb flush.
	2	36	40	Honeycomb	Make cutouts as shown. Stack honeycomb flush on the base with the cutouts to the front.

Figure 11-5. Honeycomb stack 3 prepared



Stack Number	Position of Stack on Platform
1	Place stack: Centered flush with the front edge of the platform.
2	Centered 5 inches from stack 1.
3	Centered 2 inches from stack 2.

Figure 11-6. Honeycomb stacks positioned on platform

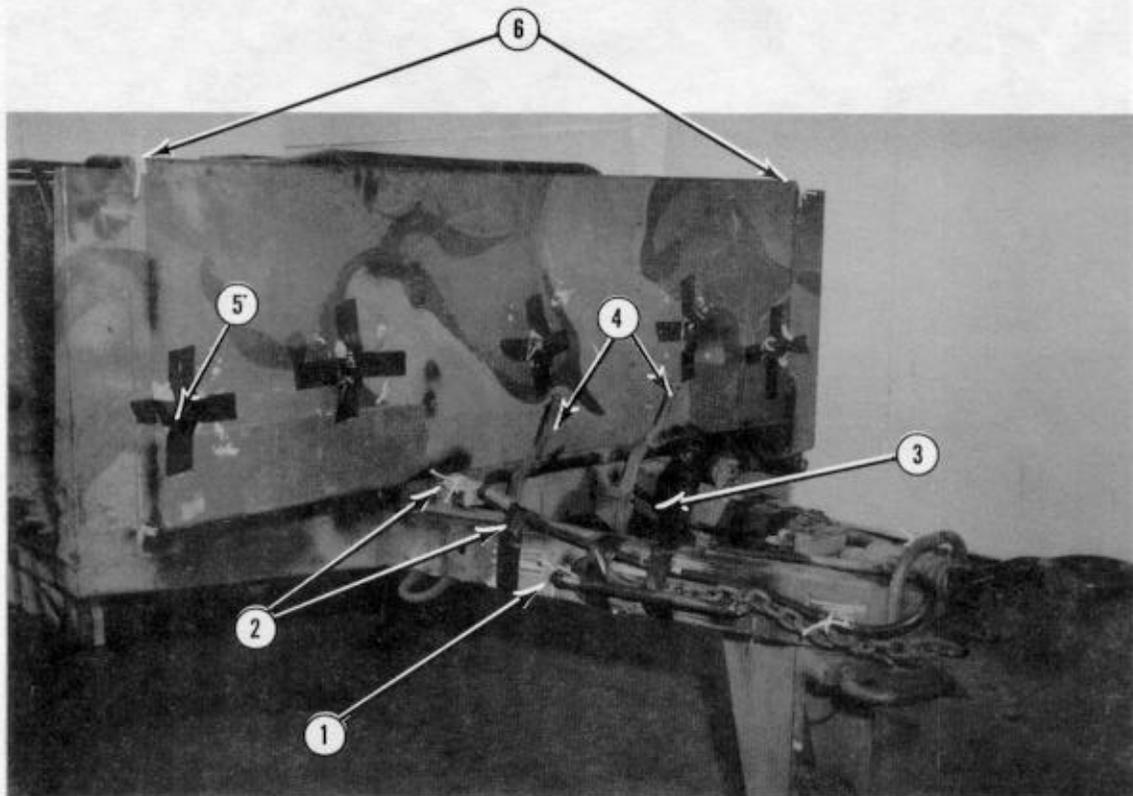
### 11-4. Preparing Power Unit

Prepare the power unit as described below.

- a. Remove the canvas cover and bows from the trailer.
- b. Make sure that the fuel tanks on the generators are 1/2 full. Fill any fuel cans to be

dropped with this load to within 1 inch of the filler opening.

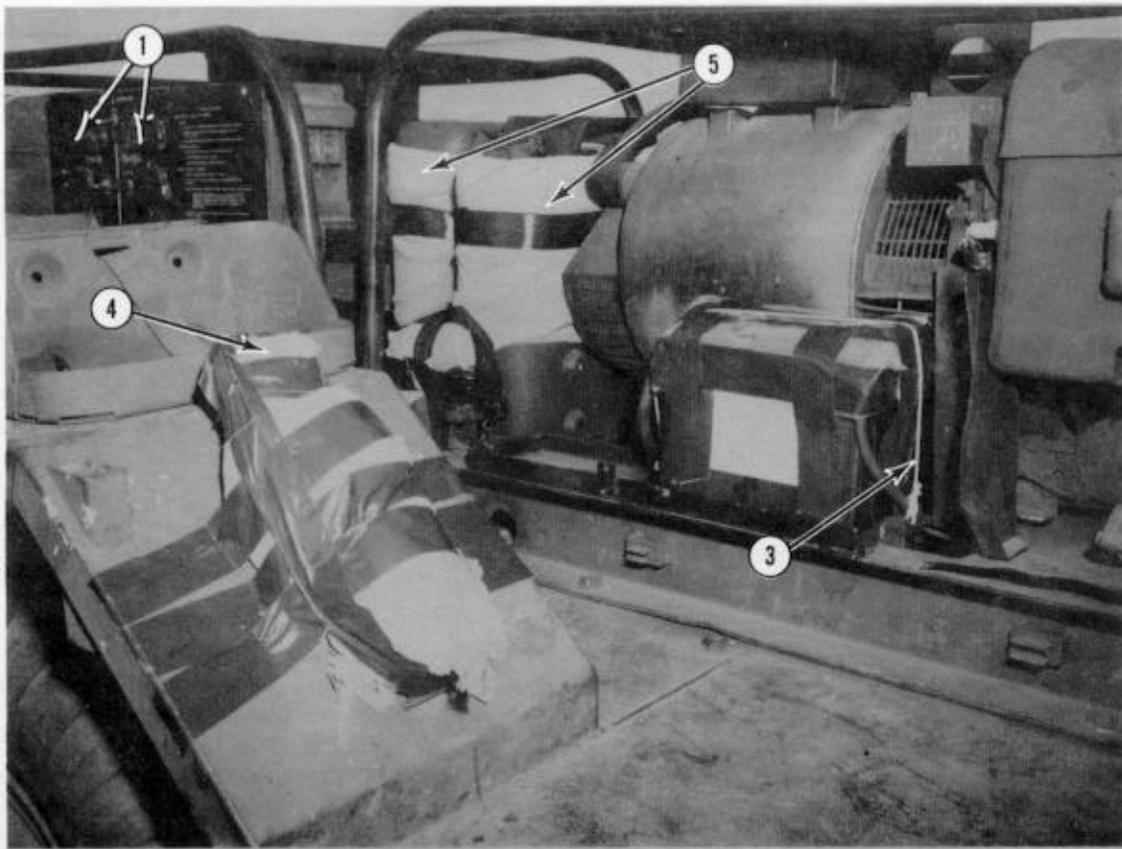
- c. Prepare the drawbar and splash shield as shown in Figure 11-7.



- ① Tie the chain hooks to the lifting handles with type III nylon cord.
- ② Secure the air brake cable to its connector and to the chain with type III nylon cord. Tape the cable and chain to the drawbar.
- ③ Tape the electrical cable to the left side of the drawbar.
- ④ Release the hand brakes.
- ⑤ Pad the tarp cover hooks on the splash shield with cellulose wadding. Tape the cellulose wadding in place.
- ⑥ Secure the splash shield to the front corner posts with type III nylon cord.

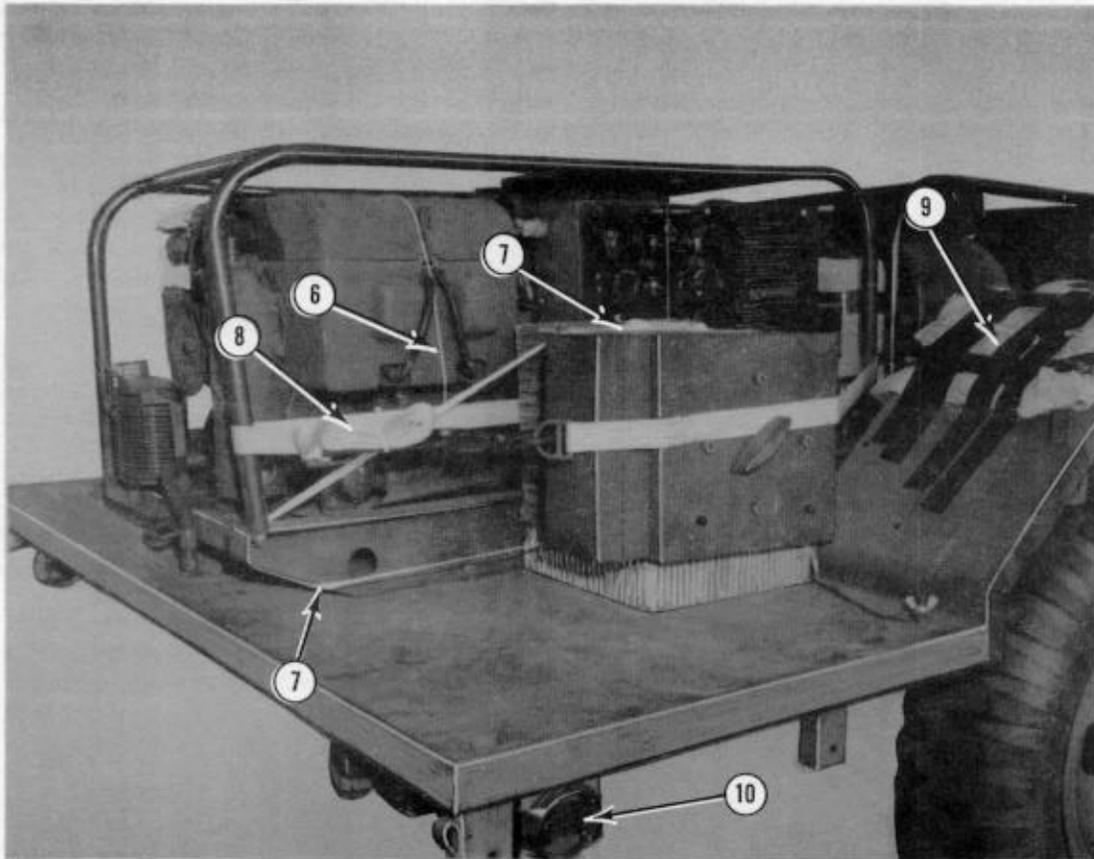
Figure 11-7. Front of trailer prepared

d. Prepare the trailer and generators as shown in Figure 11-8.



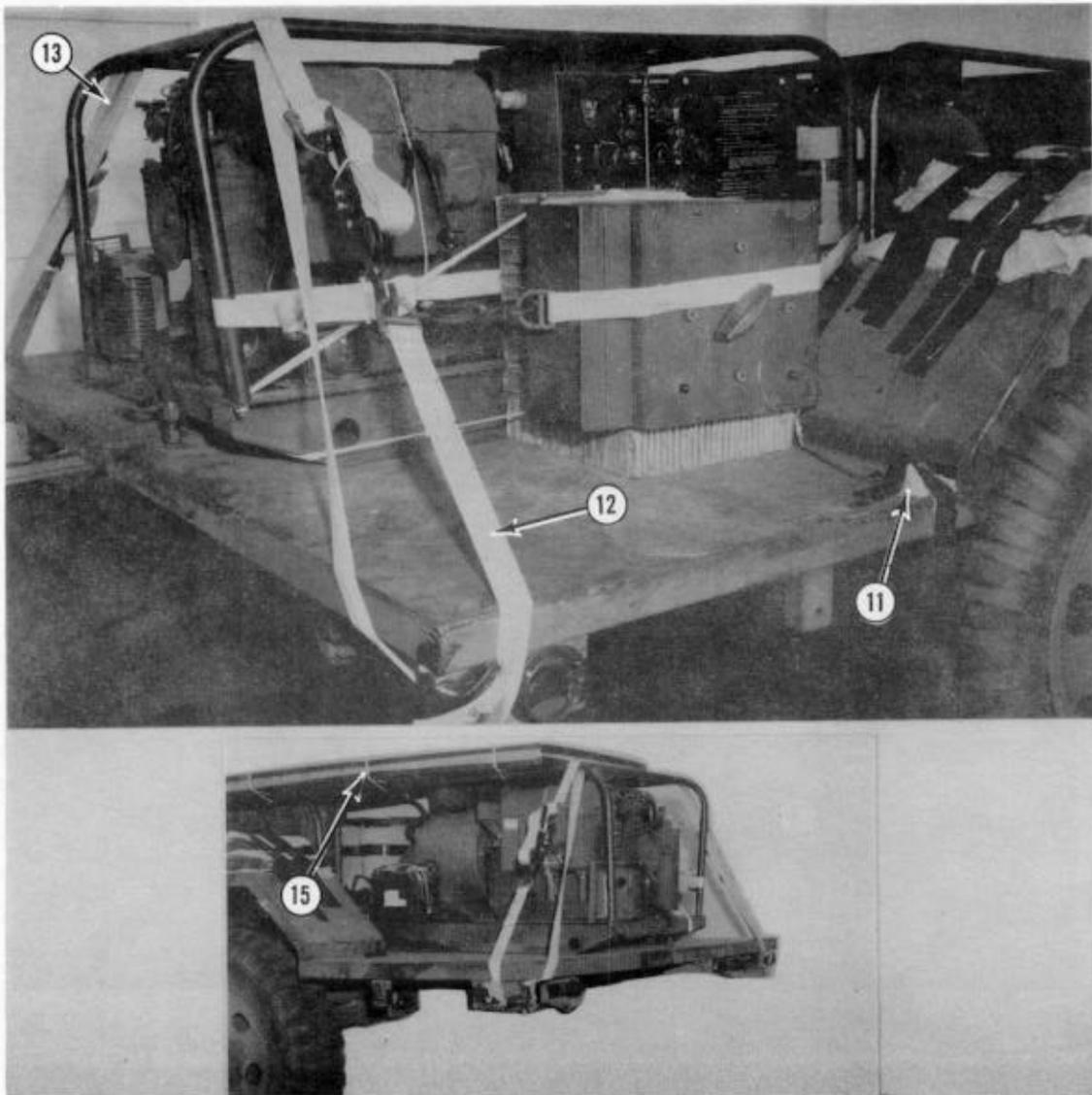
- ① Tape all gages on the generators.
- ② Pad the fuel line sediment bowl (not shown) on each generator with cellulose wadding. Tape the cellulose wadding in place.
- ③ Cover each battery with plastic. Tape the plastic in place. Tie the battery to its mount with type III nylon cord.
- ④ Safety the fire extinguishers in their holders with type III nylon cord. Pad them with cellulose wadding. Tape the cellulose wadding in place.
- ⑤ Pad the fuel cans and their mounts with cellulose wadding. Tape the cellulose wadding in place. Tie the cans to the mounts with type III nylon cord.

Figure 11-8. Trailer and generators prepared



- ⑥ Secure the top hoods of the generators with type III nylon cord tied to the exhaust manifolds on the left and the generator frames on the right.
- ⑦ Remove the voltage regulator box from the right fender. Place the box on a 14- by 14-inch piece of honeycomb with another 14- by 14-inch piece of honeycomb between the box and the generator. Run a 20-foot length of 1/2-inch tubular nylon webbing under the regulator box and around the right skid of the rear generator at the front and rear. Bring the webbing over the top of the box, and tie it.
- ⑧ Run a 15-foot lashing around the regulator box and generator frame. Secure it with a D-ring and a load binder.
- ⑨ Pad the fuel can brackets on each fender with cellulose wadding. Tape the cellulose wadding in place.
- ⑩ Tape all lights and reflectors.

Figure 11-8. Trailer and generators prepared (continued)



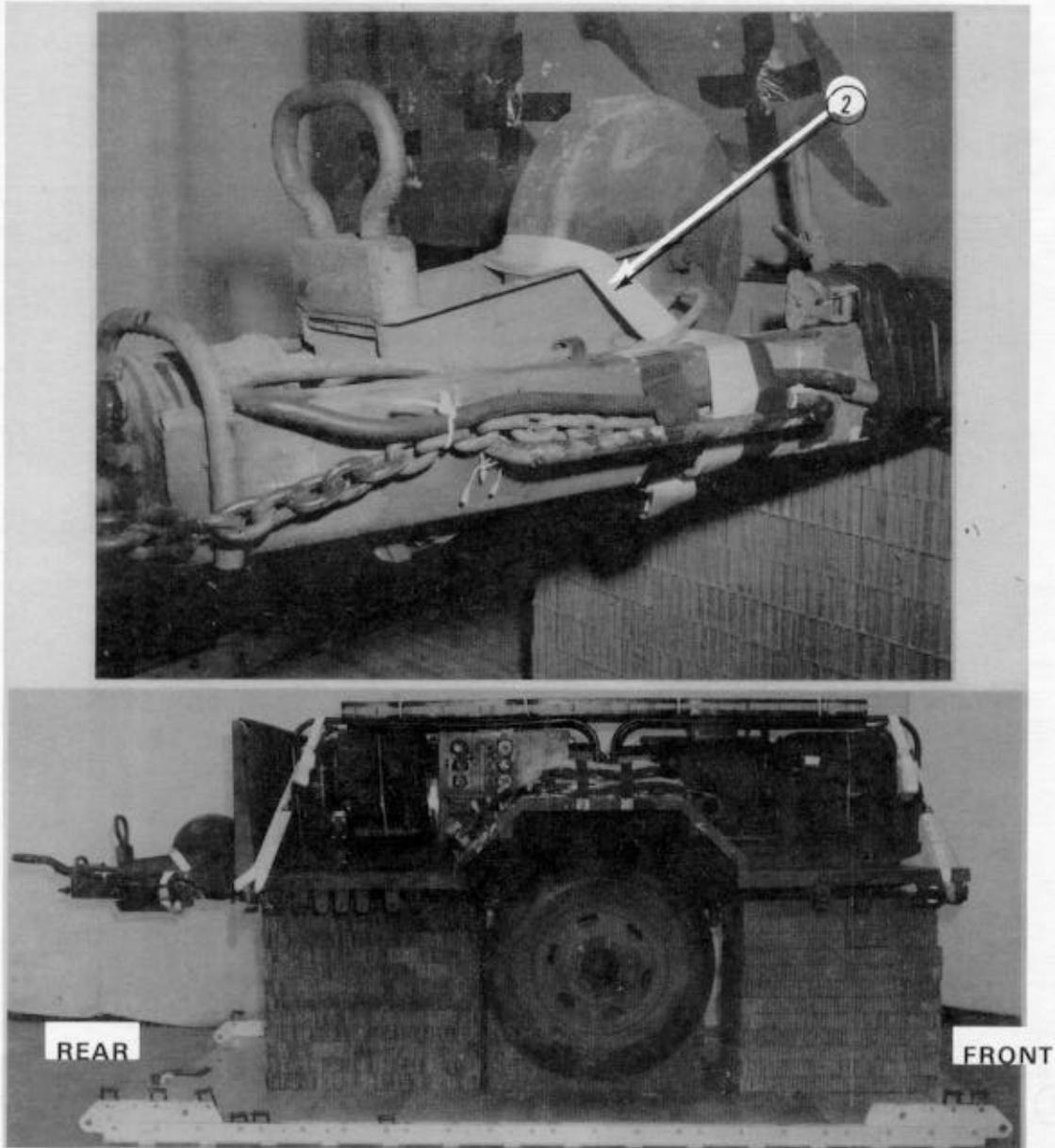
- ⑪ Cover the ground connection with cellulose wadding. Tape the cellulose wadding in place.
- ⑫ Pass a 15-foot lashing through the rear generator frame in front of the crossbar and down to the right rear corner of the trailer. Pad sharp edges at the trailer corner. Secure the lashing with a D-ring and a load binder.
- ⑬ Lash the generator frame to the left rear corner of the trailer as described in step 12 above.
- ⑭ Lash the generator frame to the front corners (not shown) of the trailer as described above.
- ⑮ Tape the edges of a 36- by 96-inch sheet of honeycomb. Tie the honeycomb to the top of the generator frames with type III nylon cord.

Figure 11-8. Trailer and generators prepared (continued)

### 11-5. Positioning Power Unit and Trailer Equipment on Platform

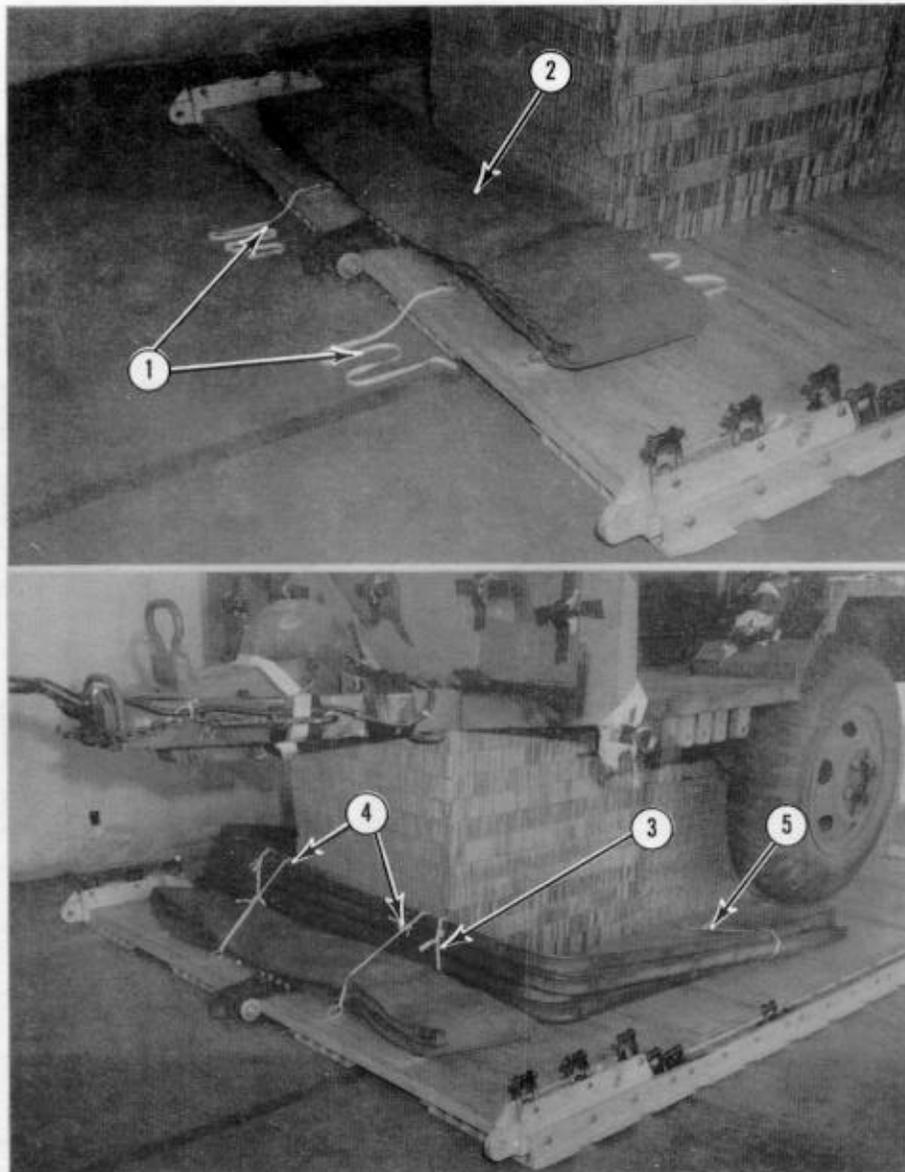
Position the power unit on the platform and secure the caster wheel as shown in Figure 11-9. Stow the

trailer equipment on the platform as shown in Figure 11-10.



- ① Center the power unit on the honeycomb stacks with the rear edge even with the front edge of stack 1.
- ② Lock the caster wheel in its up position. Secure it with a 15-foot lashing around the drawbar and through the lifting handles.

Figure 11-9. Power unit positioned on platform and caster wheel secured

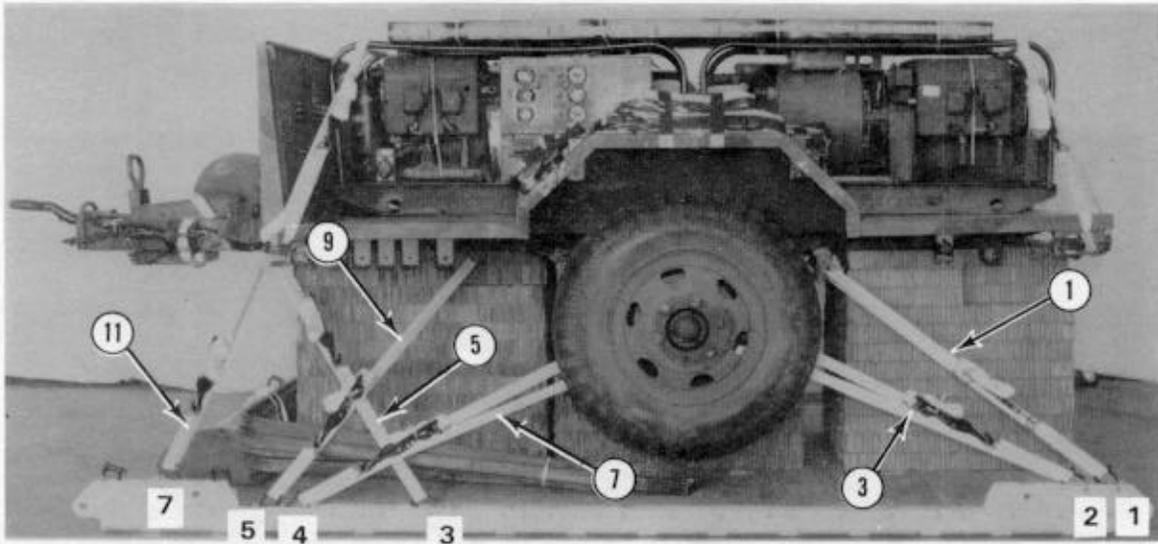


- ① Run a 5-foot length of 1/2-inch tubular nylon webbing through tiedown ring B6 and another through tiedown ring C6.
- ② Fold the tarp, and lay it over the webbing placed in step 1 above.
- ③ Tie the bows together at the tops and sides with 1/2-inch tubular nylon webbing.
- ④ Secure the bows over the tarp with the webbing placed in step 1 above.
- ⑤ Secure the sides of the bows to tiedown rings A4 and B4 with 1/2-inch tubular nylon webbing.

Figure 11-10. Trailer equipment stowed and secured on platform

### 11-6. Lashing Power Unit

Lash the power unit to the platform as shown in Figure 11-11.



Lashing Number	Tiedown Clevis Number	Instructions
1	1	Pass lashing: Around leaf spring, left side.
2	1A	Around leaf spring, right side.
3	2	Around left side axle, under the brake line.
4	2A	Around right side axle, under the brake line.
5	3	Through left front tiedown provision.
6	3A	Through right front tiedown provision.
7	4	Around left side axle, under the brake line.
8	4A	Around right side axle, under the brake line.
9	5	Around left center tiedown provision.
10	5A	Around right center tiedown provision.
11	7	Through left front tiedown provision.
12	7A	Through right front tiedown provision.

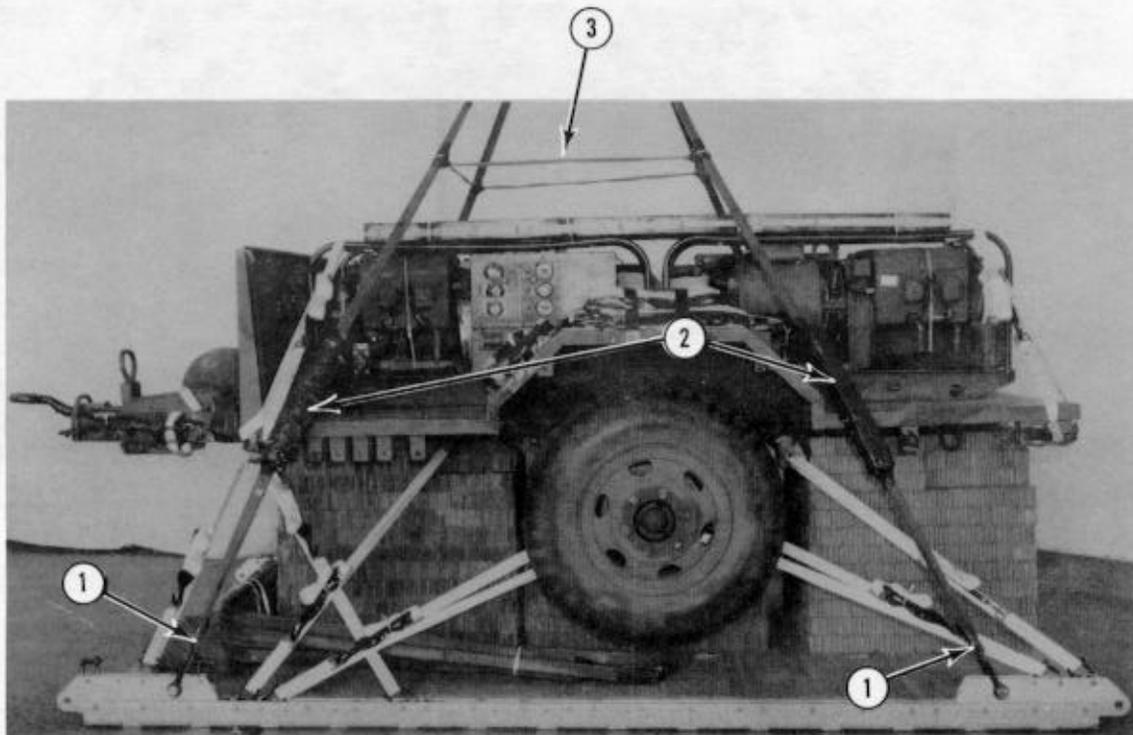
Figure 11-11. Lashings installed

### 11-7. Installing and Safetying Suspension Slings

Install and safety four 12-foot (2-loop), type XXVI nylon suspension slings according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-12.

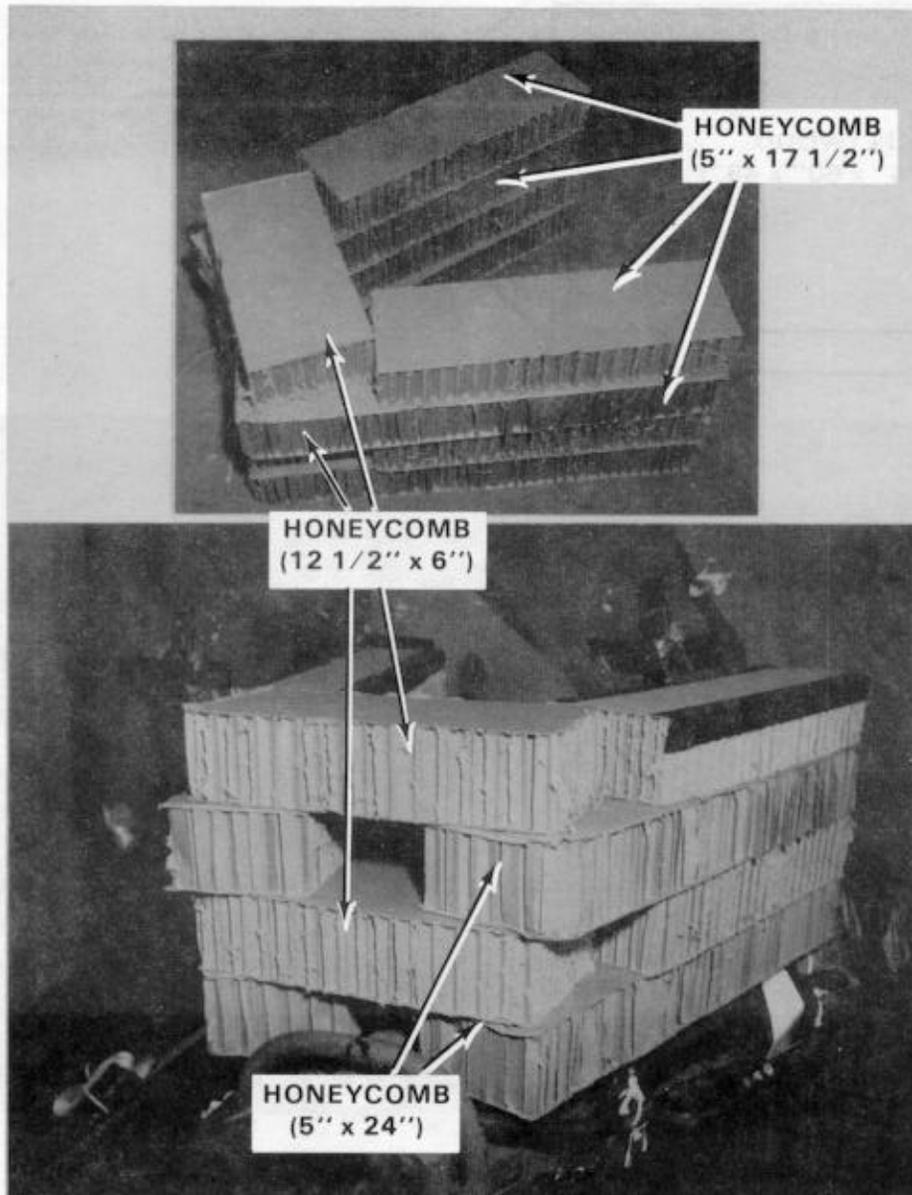
### 11-8. Stowing Cargo Parachutes

Prepare and install the parachute stowage platform as shown in Figure 11-13. Stow two G-11A or G-11B cargo parachutes on the load as shown in Figure 11-14.



- ① Attach a suspension sling to each tandem link with a large clevis.
- ② Wrap each sling where it touches the floor of the trailer with 6- by 18-inch pieces of felt. Tape the felt in place.
- ③ Install the deadman's tie according to FM 10-500-2/TO 13C7-1-5.

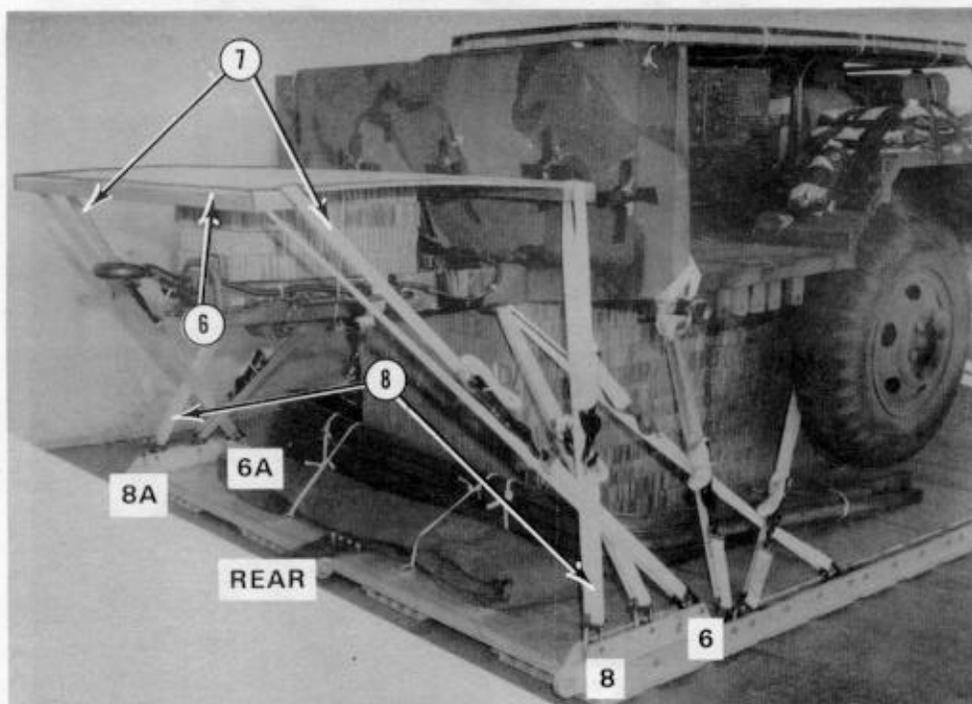
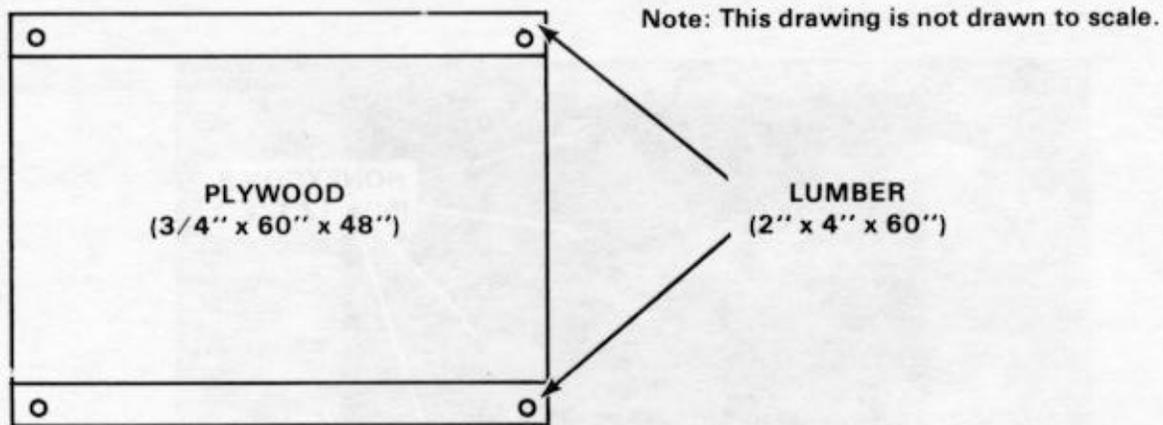
Figure 11-12. Suspension slings installed and safetied



- ① Alternate four 5- by 24-inch and four 5- by 17 1/2-inch pieces of honeycomb to make the sides of the platform support as shown.
- ② Bridge the two sides of the stack as shown using two 12 1/2- by 6-inch pieces of honeycomb.

**Note:** Assemble the stack on the drawbar of the trailer to ensure correct alignment.

Figure 11-13. Parachute stowage platform prepared



- ③ Cut one piece of 3/4- by 60- by 48-inch plywood.
- ④ Nail one 2- by 4- by 60-inch lumber flush with each 60-inch side of plywood. Use eightpenny nails.
- ⑤ Drill 2-inch holes in each corner 2 inches from each edge through the plywood and the 2- by 4-inch lumber as shown.
- ⑥ Center the parachute stowage platform on the honeycomb support as shown.
- ⑦ Run 15-foot lashings from clevises 6 and 6A through the rear holes of the parachute stowage platform. Secure each lashing with a D-ring and a load binder.
- ⑧ Run 15-foot lashings from clevises 8 and 8A through the front holes of the parachute stowage platform. Secure each lashing with a D-ring and a load binder.

Figure 11-13. Parachute stowage platform prepared (continued)

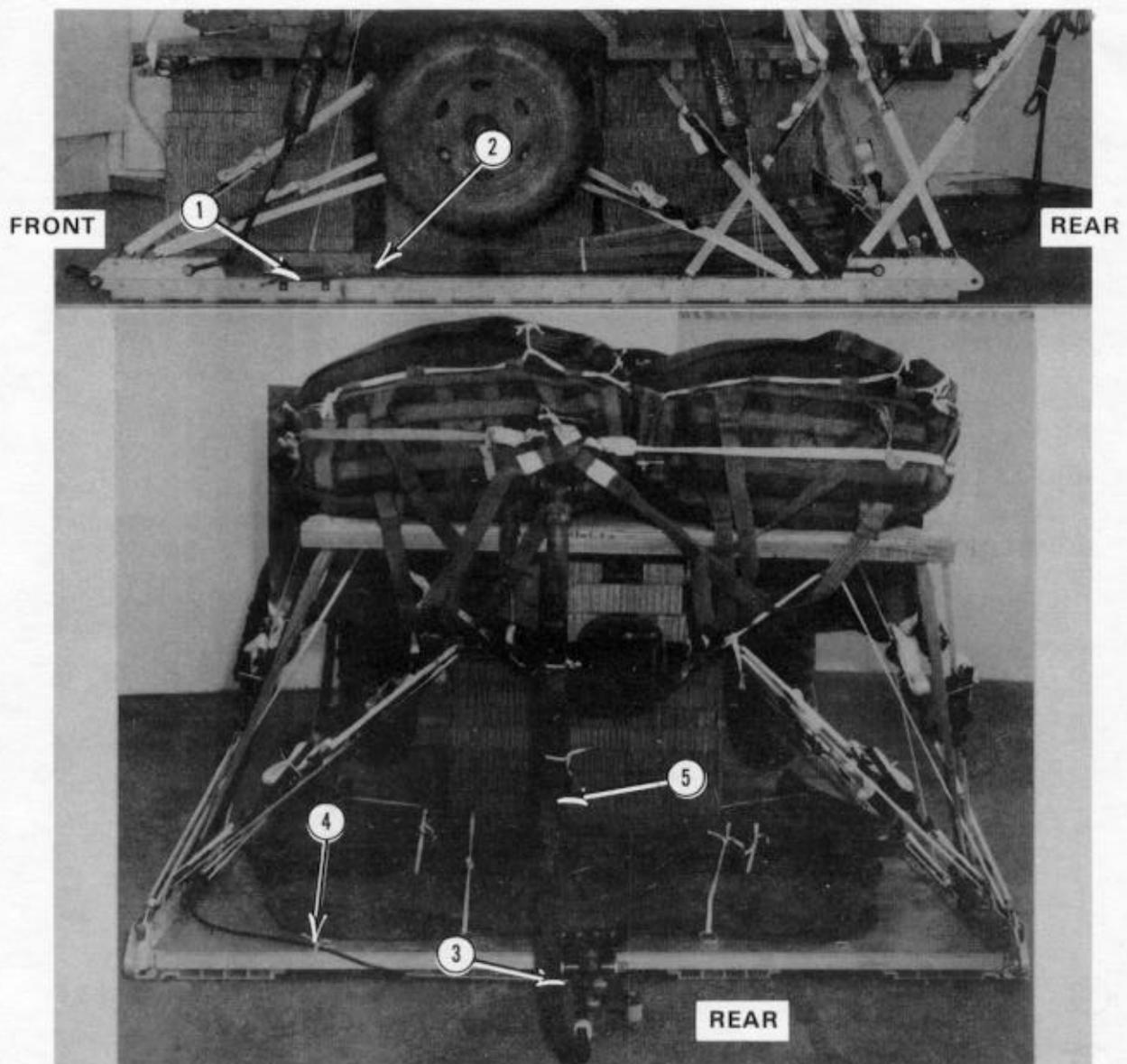


- ① Cluster two G-11A or G-11B cargo parachutes according to FM 10-500-2/TO 13C7-1-5.
- ② Restrain the parachutes to the lifting handles on the trailer drawbar with type VIII nylon webbing.

Figure 11-14. Parachutes stowed

### 11-9. Installing Extraction System

Install the EFTC according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-15.

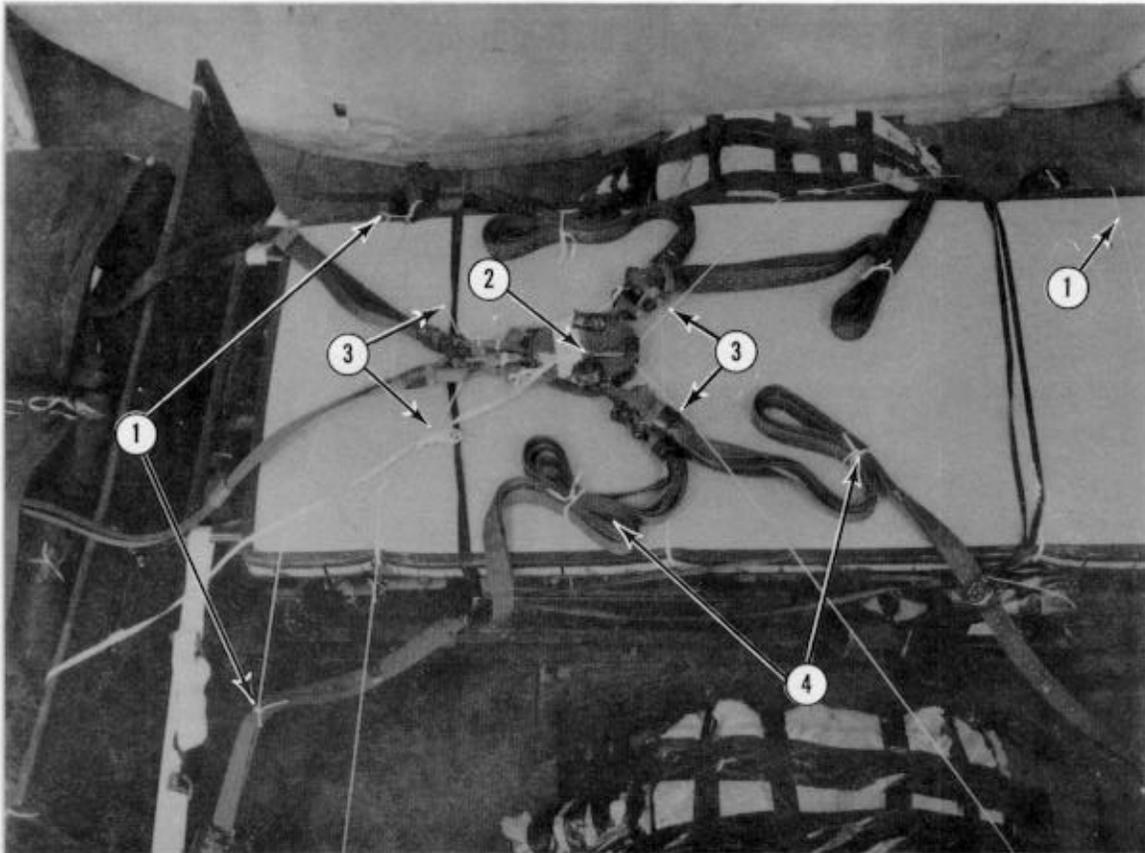


- ① Install the EFTC mounting brackets in the front mounting holes on the left platform rail.
- ② Attach a 12-foot cable to the actuator. Install the actuator to the EFTC mounting brackets.
- ③ Install the latch assembly, and attach the cable.
- ④ Tie the cable to tiedown ring D6 with type I, 1/4-inch cotton webbing.
- ⑤ Install a 9-foot (2-loop), type XXVI nylon deployment line on the load.

Figure 11-15. EFTC installed

### 11-10. Installing Parachute Release

Prepare and install an M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-16.



- ① Tie both rear slings together from points 12 inches above the padding with type III nylon cord. Tie the front slings in the same way.
- ② Prepare, install, and safety the M-1 release. Place it on the honeycomb covering the generators as shown.
- ③ Secure the release to convenient points on the load with type III nylon cord.
- ④ S-fold the slack in the suspension slings, and tie the folds with type I, 1/4-inch cotton webbing.

Figure 11-16. M-1 cargo parachute release installed

### 11-11. Installing Provisions for Emergency Restraints

Install a medium clevis in the end hole of each front tandem link as shown in Figure 11-17.

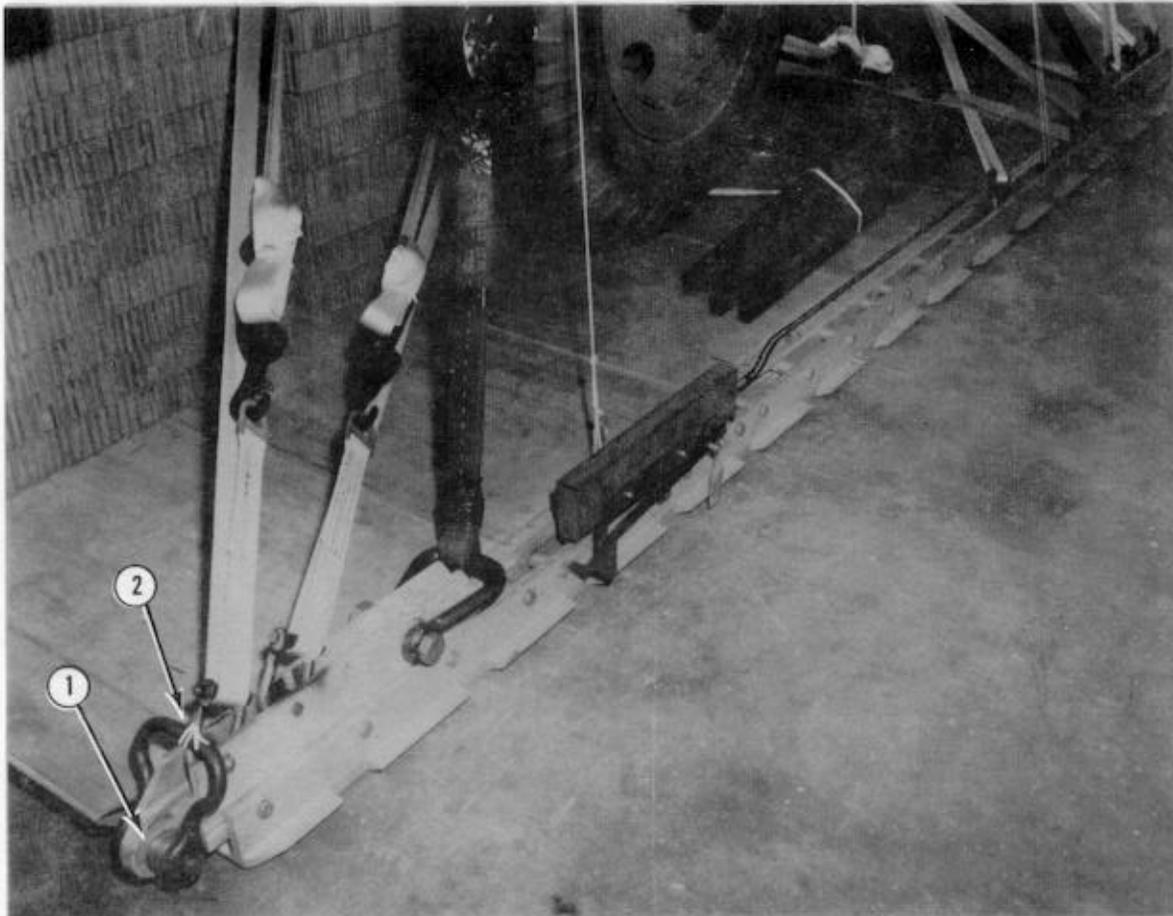
### 11-12. Placing Extraction Parachute

Place the extraction parachute as described below.

a. *C-130 Aircraft.* Place a 15-foot cargo extraction parachute and a 60-foot (1-loop),

type XXVI nylon extraction line on the load for installation in the aircraft.

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



- 1 Bolt a medium clevis to each front tandem link. Place spacers or washers on the clevis bolt on either side of the tandem link.
- 2 Place the clevises in an upright position, and tie them to the nearest lashing with type I, 1/4-inch cotton webbing.

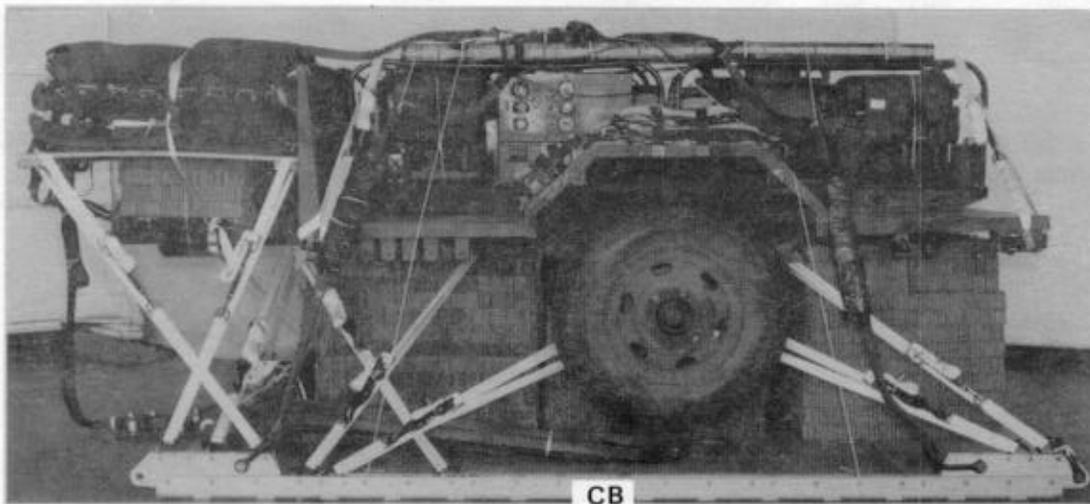
Figure 11-17. Emergency restraint provisions installed

### 11-13. Marking Rigged Load

Mark the rigged load as described in FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-18. Complete DD Form 1387-2, and securely attach it to the load. Indicate on DD Form 1387-2 that the generator fuel tanks and batteries have been prepared according to AFR 71-4/TM 38-250. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

#### CAUTION

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



#### RIGGED LOAD DATA

Weight:	Load shown .....	6,680 pounds
	Maximum load allowed .....	7,080 pounds
Height .....		76 inches
Width .....		108 inches
Length .....		180 inches
Overhang:	Front .....	5 1/2 inches
	Rear .....	30 1/2 inches
CB (from front edge of platform) .....		74 1/2 inches

Figure 11-18. PU-619M power unit rigged for low-velocity airdrop on the type V platform

**11-14. Equipment Required**

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

Table 11-1. Equipment required for rigging the PU-619M power unit for low-velocity airdrop on the type V platform

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal .....	As required
	Clevis, suspension:	
4030-00-678-8562	3/4-in (medium) .....	2
4030-00-090-5354	1-in (large) .....	5
4020-00-240-2146	Cord, nylon, type III, 550-lb .....	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer w 12-ft cable .....	1
1670-00-360-0329	Cover, link assembly (type IV) .....	1
8135-00-664-6958	Cushioning material, packaging, cellulose wadding .....	As required
8305-00-958-3685	Felt, 1/2-in thick .....	As required
1670-01-183-2678	Leaf, extraction line .....	2
	Line, extraction:	
1670-01-064-4452	60-ft (1-loop), type XXVI nylon webbing or .....	1
1670-00-856-0265	60-ft (1-loop), type X nylon webbing (use w 15-ft parachute) .....	1
1670-01-107-7652	160-ft (1-loop), type XXVI nylon webbing .....	1
1670-00-783-5988	Link assembly, type IV .....	3
5510-00-220-6146	Lumber, 2- by 4- by 60-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 .....	16 sheets
	5- by 17 1/2-in .....	(4)
	5- by 24-in .....	(4)
	12 1/2- by 6-in .....	(2)
	14- by 14-in .....	(2)
	18- by 36-in .....	(6)
	34- by 5 1/2-in .....	(8)
	34- by 14 1/2-in .....	(4)
	35- by 40-in .....	(8)
	36- by 96-in .....	(1)
	40- by 36-in .....	(21)
	Parachute:	
	Cargo:	
1670-00-269-1107	G-11A <u>or</u> .....	2
1670-01-016-7841	G-11B .....	2
	Cargo extraction:	
1670-00-052-1548	15-ft <u>or</u> .....	1
1670-01-063-3715	15-ft .....	1
	Platform, AD, type V, 12-ft: .....	1
	Bracket:	
1670-01-162-2375	Inside EFTA .....	(1)
1670-01-162-2374	Outside EFTA .....	(1)
1670-01-162-2372	Clevis assembly .....	(18)
1670-01-162-2376	Extraction bracket assembly .....	(1)
1670-01-162-2381	Tandem link .....	(4)
5530-00-128-4981	Plywood, 3/4- by 60- by 48-in .....	1
1670-01-097-8816	Release, cargo parachute, M-1 .....	1
	Sling, cargo airdrop:	
	For deployment line:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing .....	1

Table 11-1. Equipment required for rigging the PU-619M power unit for low-velocity airdrop on the type V platform (continued)

National Stock Number	Item	Quantity
1670-01-062-6302	For riser extension: 20-ft (2-loop), type XXVI nylon webbing .....	2
1670-01-062-6303	For suspension slings: 12-ft (2-loop), type XXVI nylon webbing .....	4
1670-00-040-8219	<b>Strap, parachute release, multicut comes w 3 knives .....</b>	2
7510-00-266-5016	Tape, adhesive, 2-in .....	As required
1670-00-937-0271	Tiedown assembly, 15-ft .....	22
<b>Webbing:</b>		
8305-00-268-2411	Cotton, type I, 1/4-in .....	As required
8305-00-082-5752	Nylon, tubular, 1/2-in, natural .....	As required
8305-00-263-3591	Nylon, type VIII .....	As required

**Section II**

**RIGGING THE PU-620M POWER UNIT FOR LOW-VELOCITY AIRDROP**

**11-15. Description of Load**

Two 5-kilowatt generators mounted on a 3/4-ton trailer make up the PU-620M power unit (line number J47617) (Figure 11-19). The power unit is rigged on a 12-foot, type V airdrop platform for low-velocity airdrop. Eight filled fuel cans and three AB-155 antenna kits are dropped with the

power unit. The load requires two G-11A cargo parachutes or one G-11B cargo parachute. The unrigged power unit with eight filled fuel cans weighs 2,680 pounds. It is 147 inches long and 75 inches wide. Its height is 80 inches (reducible to 56 inches).

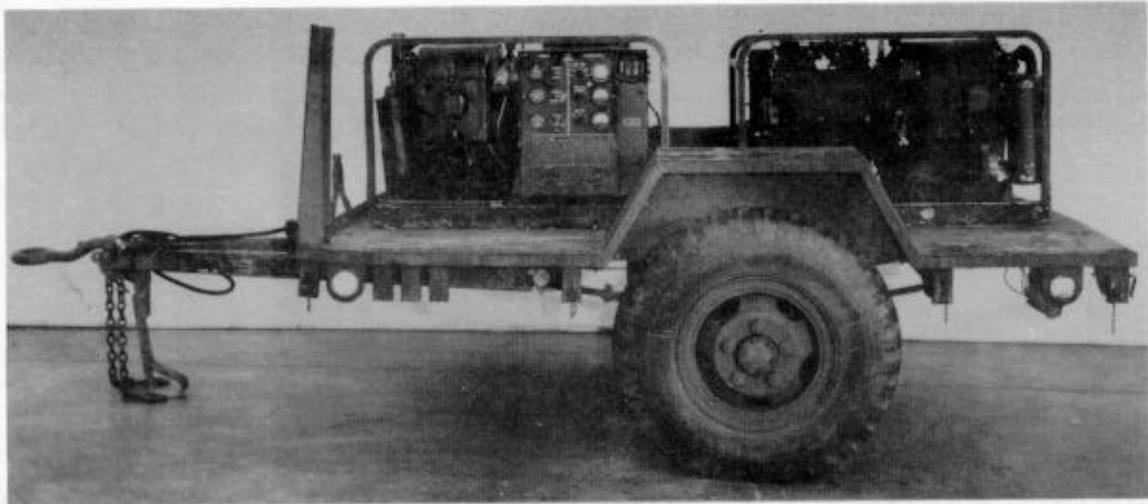
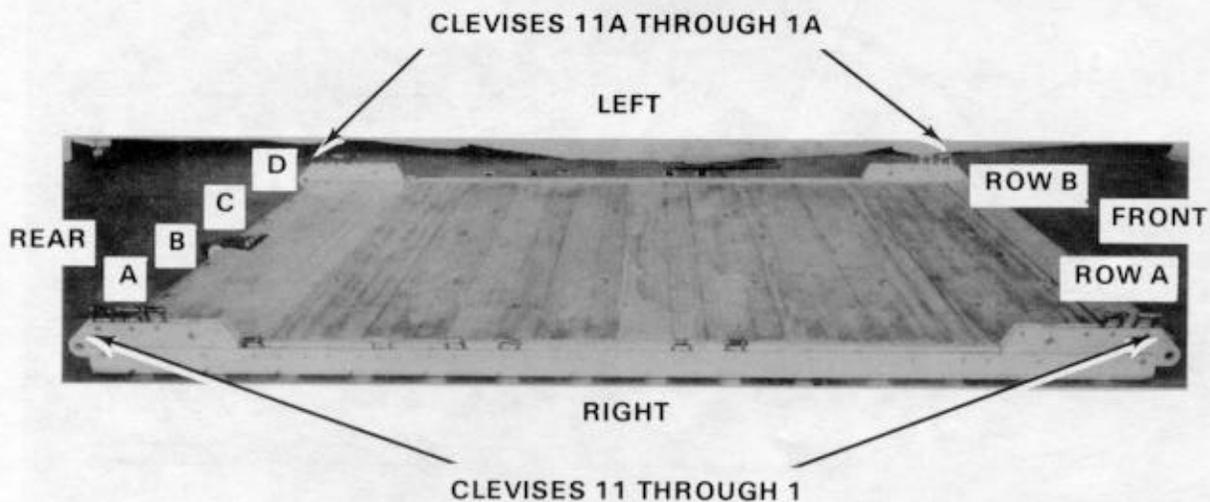


Figure 11-19. PU-620M power unit with bows, cover, and splash shield removed

### 11-16. Preparing Platform

Prepare a 12-foot, type V airdrop platform using four tandem links and 22 clevis assemblies as shown in Figure 11-20.

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



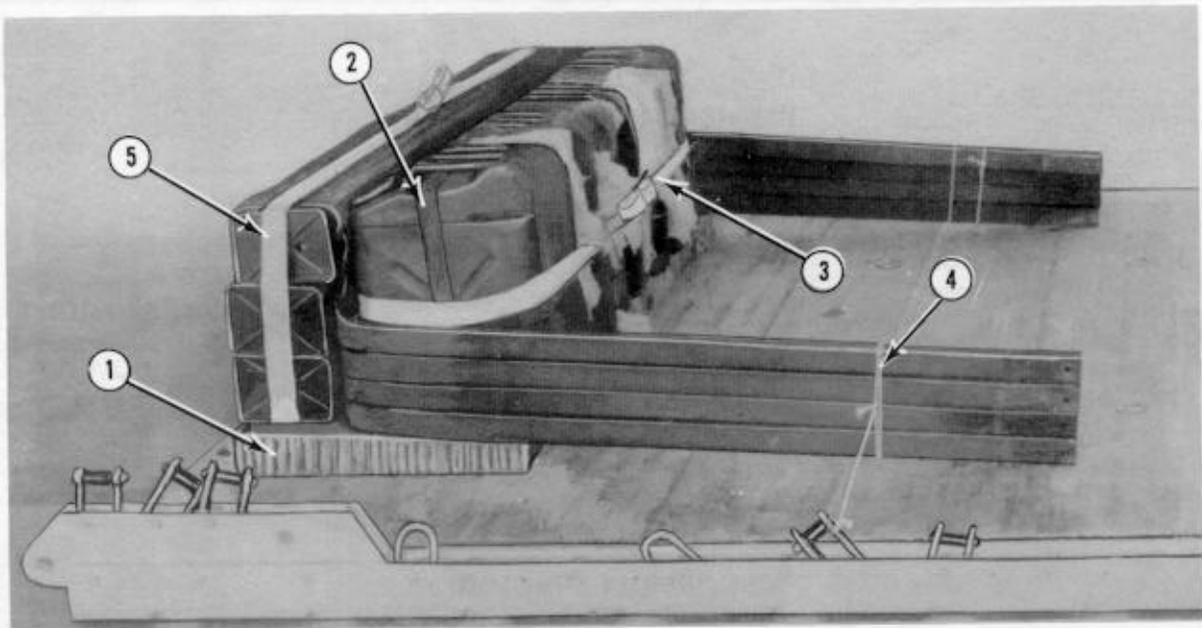
**Step:**

1. Inspect, or assemble and inspect, the platform as outlined in 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 and on the rear of each platform side rail using holes 22, 23, and 24.
3. Install clevises on bushings 1 and 2 of each front tandem link. Install clevises on bushings 2, 3, and 4 of each rear tandem link.
4. Starting at the front of each platform side rail, install clevises on each platform side rail using the bushings bolted on holes 10, 11, 15, 16, 18, and 21.
5. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 11 and those bolted to the left side from 1A through 11A.
6. Starting at the front of the platform, label the two tiedown rings in the first five panels A and B from right to left. Label the four tiedown rings in the last panel A, B, C, and D from right to left. Starting with the first panel, number the tiedown rings 1 through 6.

Figure 11-20. Platform prepared

### 11-17. Placing Accompanying Load on Platform

Remove the trailer canvas and bows. Place eight fuel cans, the trailer bows, and the antenna sections on the platform, and secure them as shown in Figure 11-21.

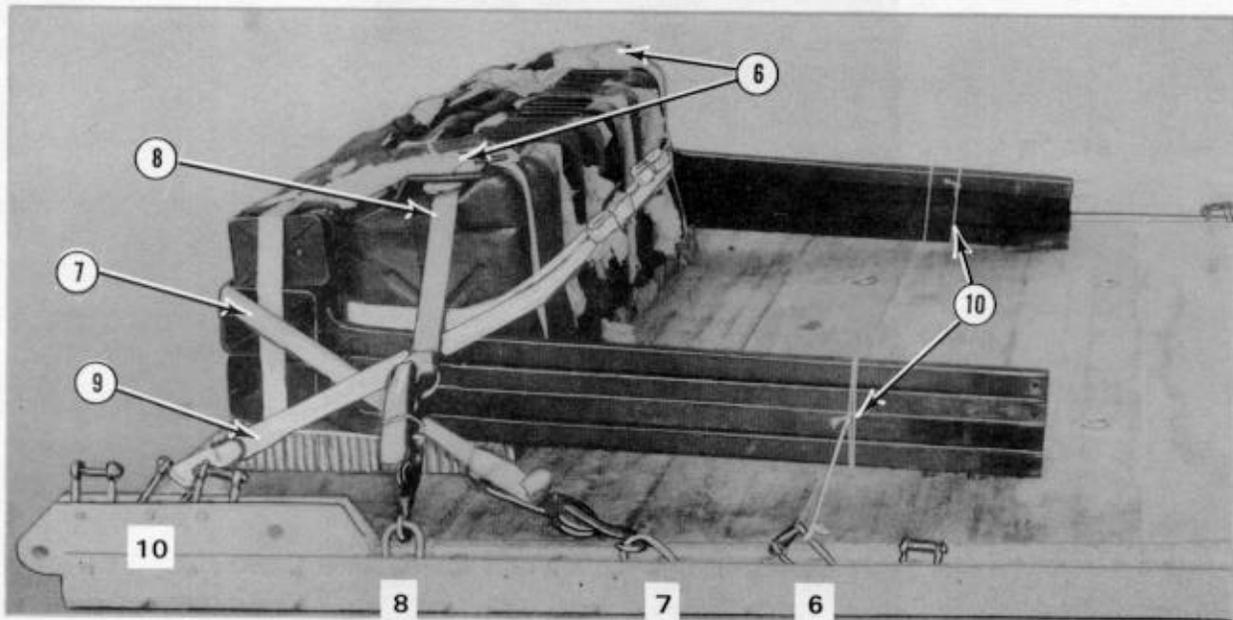


- ① Lay a 72- by 24-inch piece of honeycomb 4 inches from the rear edge of the platform. Place two 15-foot lashings on the honeycomb in a front-to-rear direction 12 inches from both sides of the honeycomb.
- ② Remove the fuel cans from their brackets on the fenders. Remove the can brackets and replace their attaching bolts on the fenders. Strap the brackets to the cans with the straps provided.
- ③ Set eight filled fuel cans along the front edge of the honeycomb. Pad between them with cellulose wadding. Bind them together with a 15-foot lashing.

Note: Fill the cans to within 1 inch of the filler opening.

- ④ Stack the trailer bows, and tie them together with type III nylon cord. Place the tops of the bows to the rear of the fuel cans.
- ⑤ Bind three AB-155 antenna kits together with a 15-foot lashing. Place the kits to the rear of the bows.

Figure 11-21. Power unit equipment placed on platform



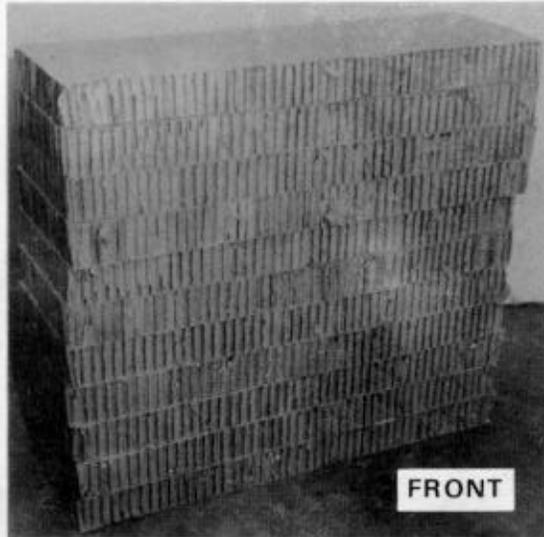
- ⑥ Fasten the two lashings positioned in step 1 with D-rings and load binders.
- ⑦ Run a 15-foot lashing through clevis 7A, through its own D-ring, and around the rear of the antennas. Secure the free end to clevis 7 with a D-ring and a load binder.
- ⑧ Run a 15-foot lashing through clevis 8A, through its own D-ring, and through the handles of the fuel cans. Secure the free end to clevis 8 with a D-ring and a load binder.
- ⑨ Run a 15-foot lashing through clevis 10A, through its own D-ring, and around the front of the fuel cans. Run a 15-foot lashing through clevis 10, through its own D-ring, and around the front of the fuel cans. Secure the free ends of the lashings in front of the fuel cans with two D-rings and a load binder.
- ⑩ Tie the legs of the bows to clevises 6 and 6A with type III nylon cord.

Figure 11-21. Power unit equipment placed on platform (continued)

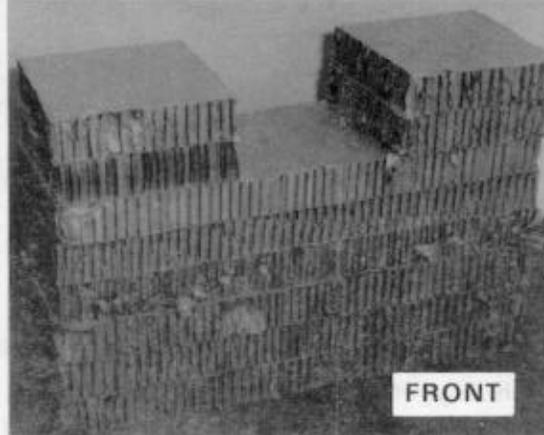
### 11-18. Preparing and Positioning Honeycomb Stacks

Prepare the honeycomb stacks as shown in Figures 11-22 and 11-23. Position the stacks on the platform as shown in Figure 11-24.

STACK 1



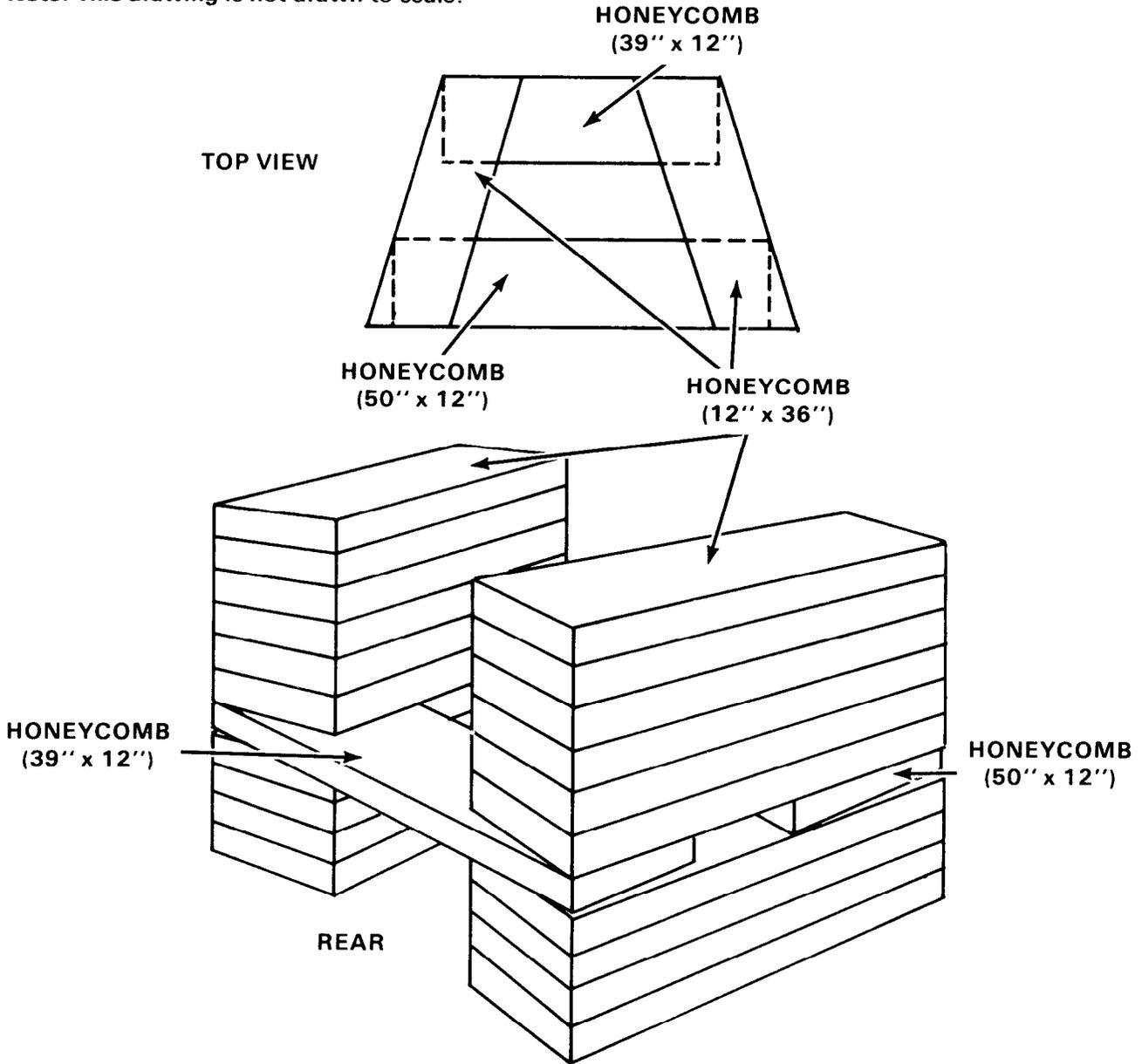
STACK 2



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	11	36	12	Honeycomb	Stack honeycomb flush.
2	6	36	12	Honeycomb	Stack honeycomb flush.
	4	12	12	Honeycomb	Stack two pieces of honeycomb flush over each side of the base.

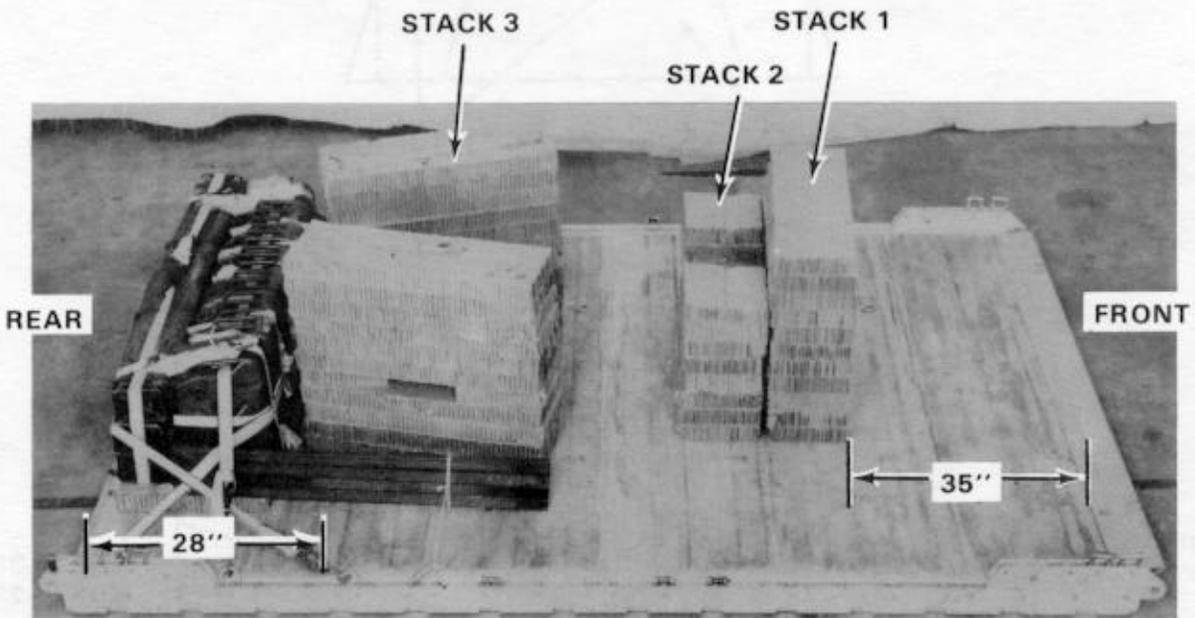
Figure 11-22. Honeycomb stacks 1 and 2 prepared

Note: This drawing is not drawn to scale.



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3	8	12	36	Honeycomb	Make two stacks of four layers each. Place them at an angle as shown.
	1	39	12	Honeycomb	
	1	50	12	Honeycomb	Bridge the two stacks as shown.
	12	12	36	Honeycomb	Make two stacks of six layers. Place each stack flush over each side of the base.

Figure 11-23. Honeycomb stack 3 prepared



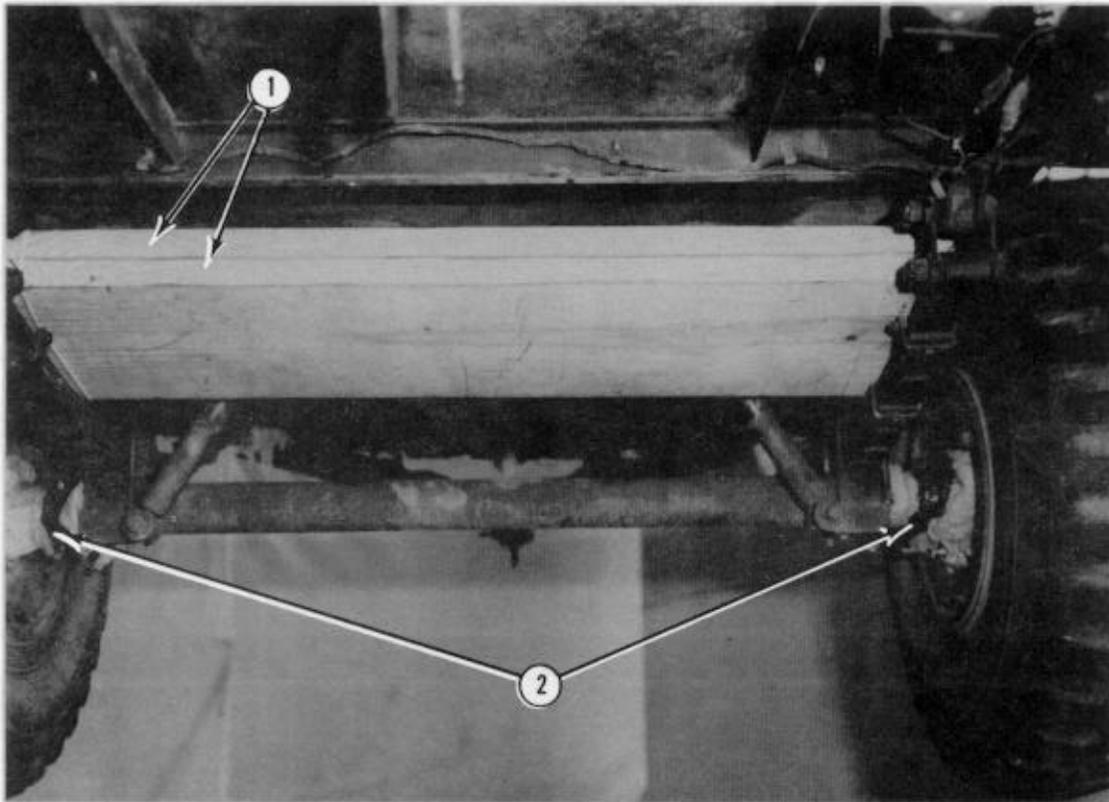
Stack Number	Position of Stack on Platform
1	Place stack: Centered 35 inches from the front edge of the platform. Centered flush against stack 1. Centered 28 inches from the rear edge of the platform.
2	
3	

Figure 11-24. Honeycomb stacks positioned on platform

### 11-19. Preparing Power Unit

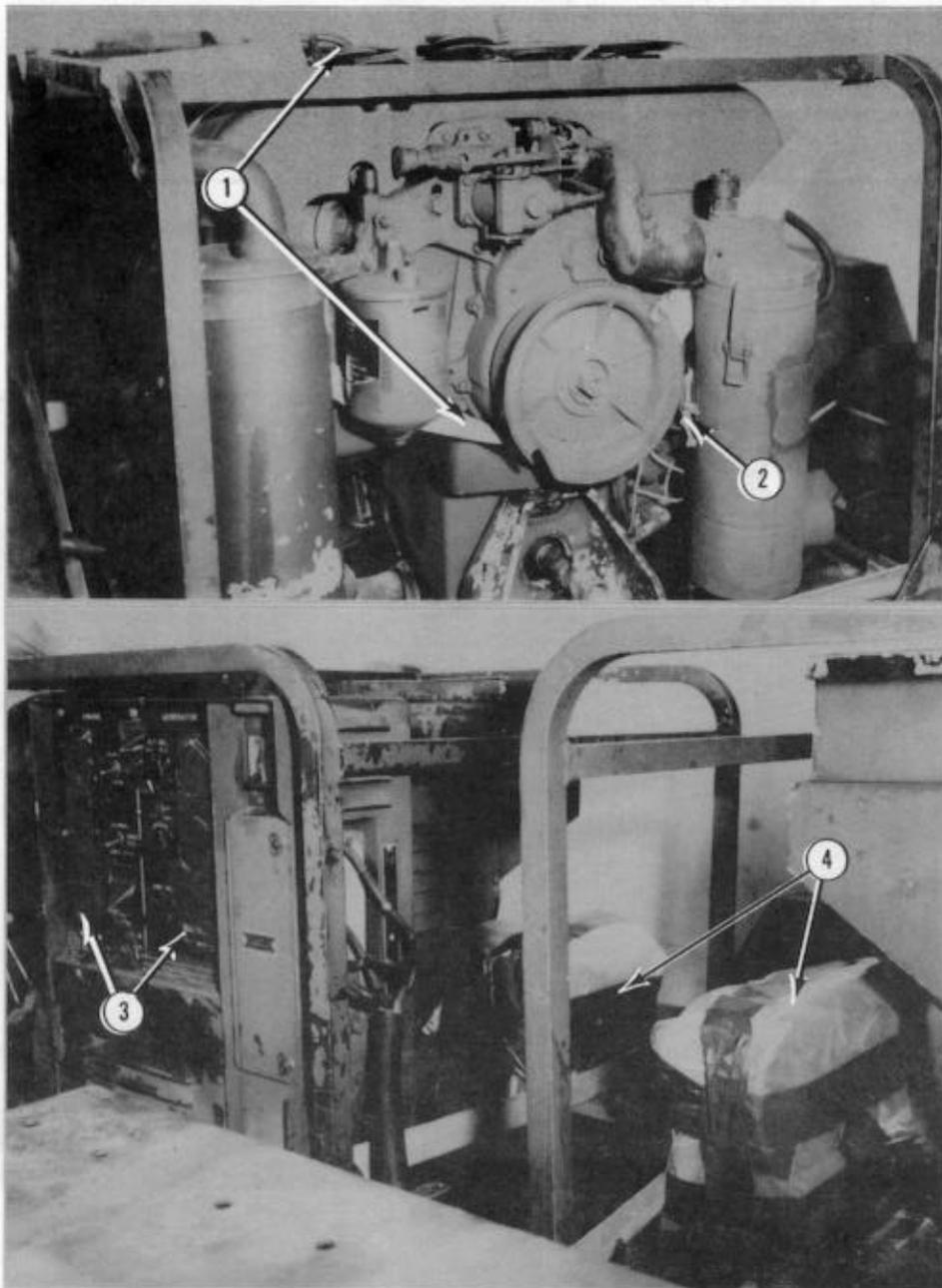
Prepare the power unit as described below and as shown in Figures 11-25 through 11-29.

- a. Remove the splash shield from the trailer.
- b. Make sure the generator fuel tanks are 1/2 full.



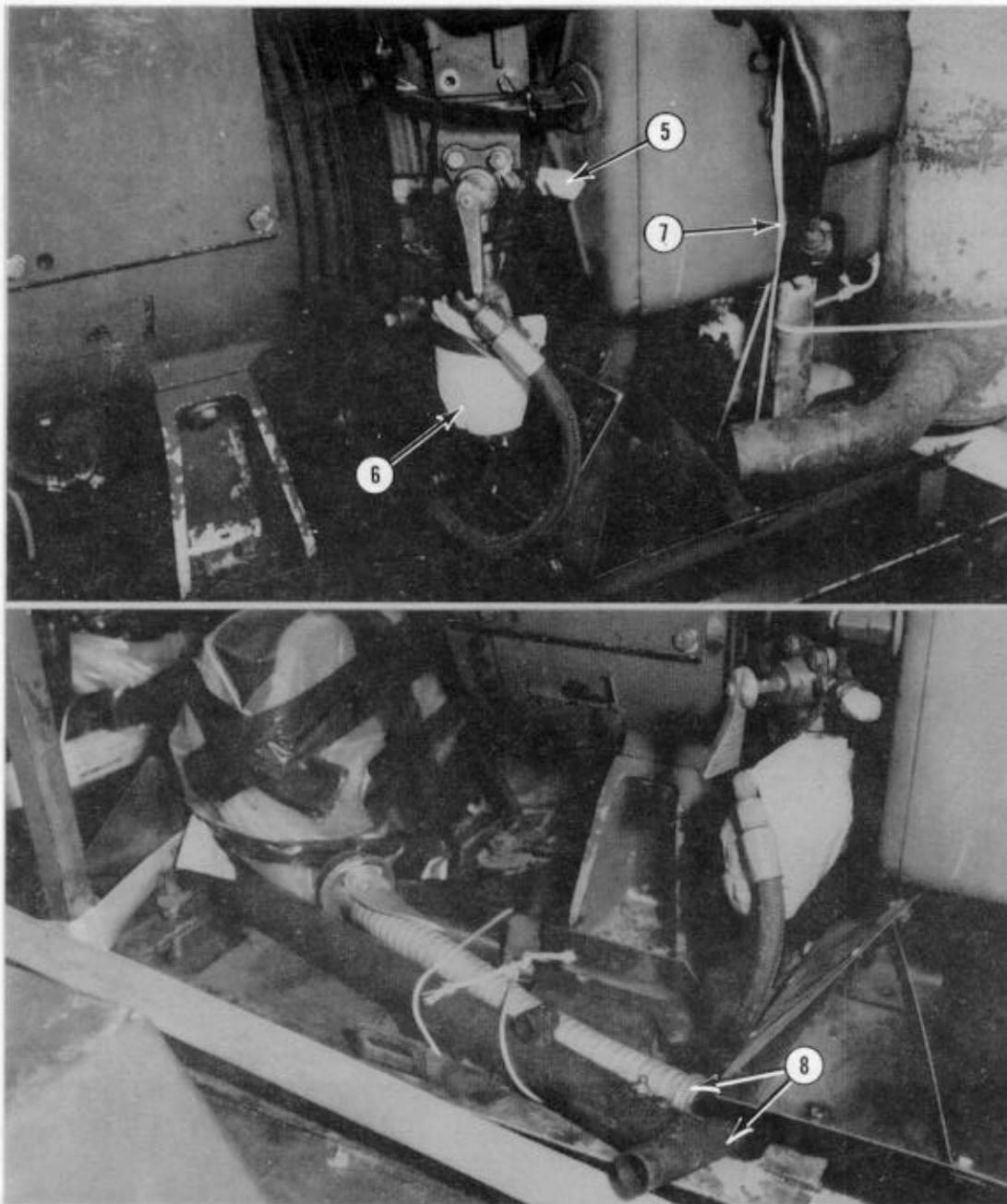
- ① Secure two pieces of 2- by 12- by 46-inch lumber under the trailer frame behind the shock absorbers with type III nylon cord.
- ② Pad the axles between the springs and the wheels with cellulose wadding. Tape the cellulose wadding in place.

Figure 11-25. Underside of trailer prepared



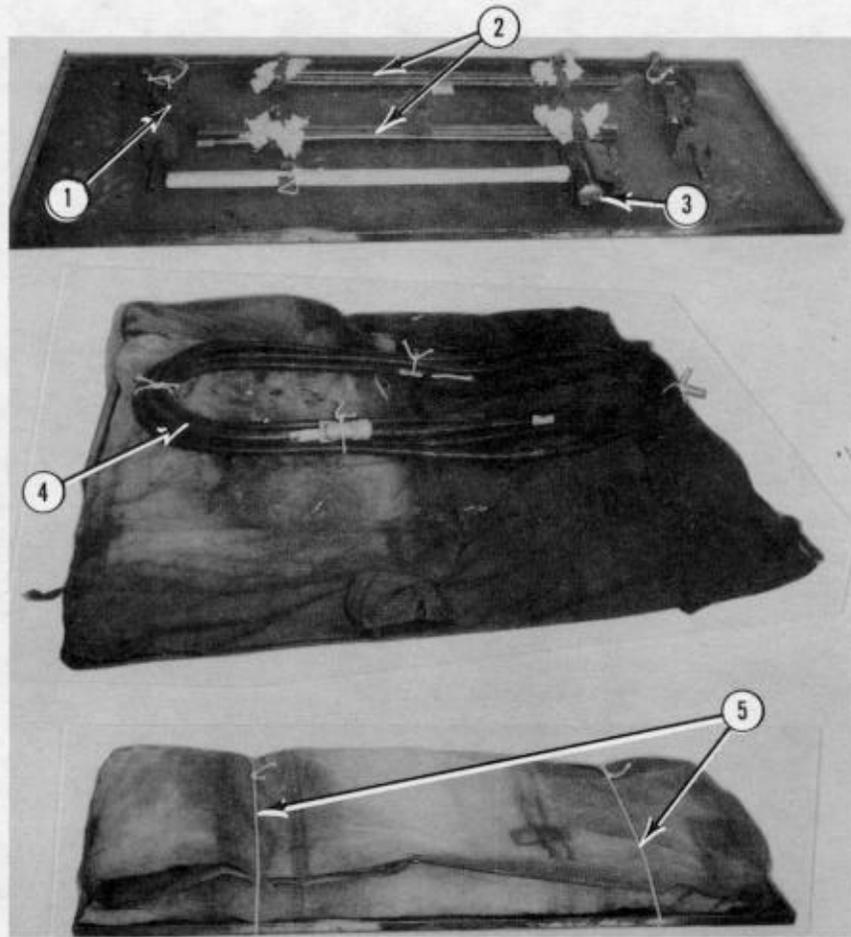
- ① Pass a 15-foot lashing just behind the crankshaft pulley on each generator. Secure them on top of the generator frames with D-rings and load binders.
- ② Tie the air cleaner to its bracket with type III nylon cord.
- ③ Tape all gages. Tape the oil filler caps in place (not shown).
- ④ Cover the batteries with plastic. Tape the plastic in place. Make sure the battery hold-downs are intact and tight. Reinforce them with type III nylon cord, if necessary.

Figure 11-26. Generators prepared



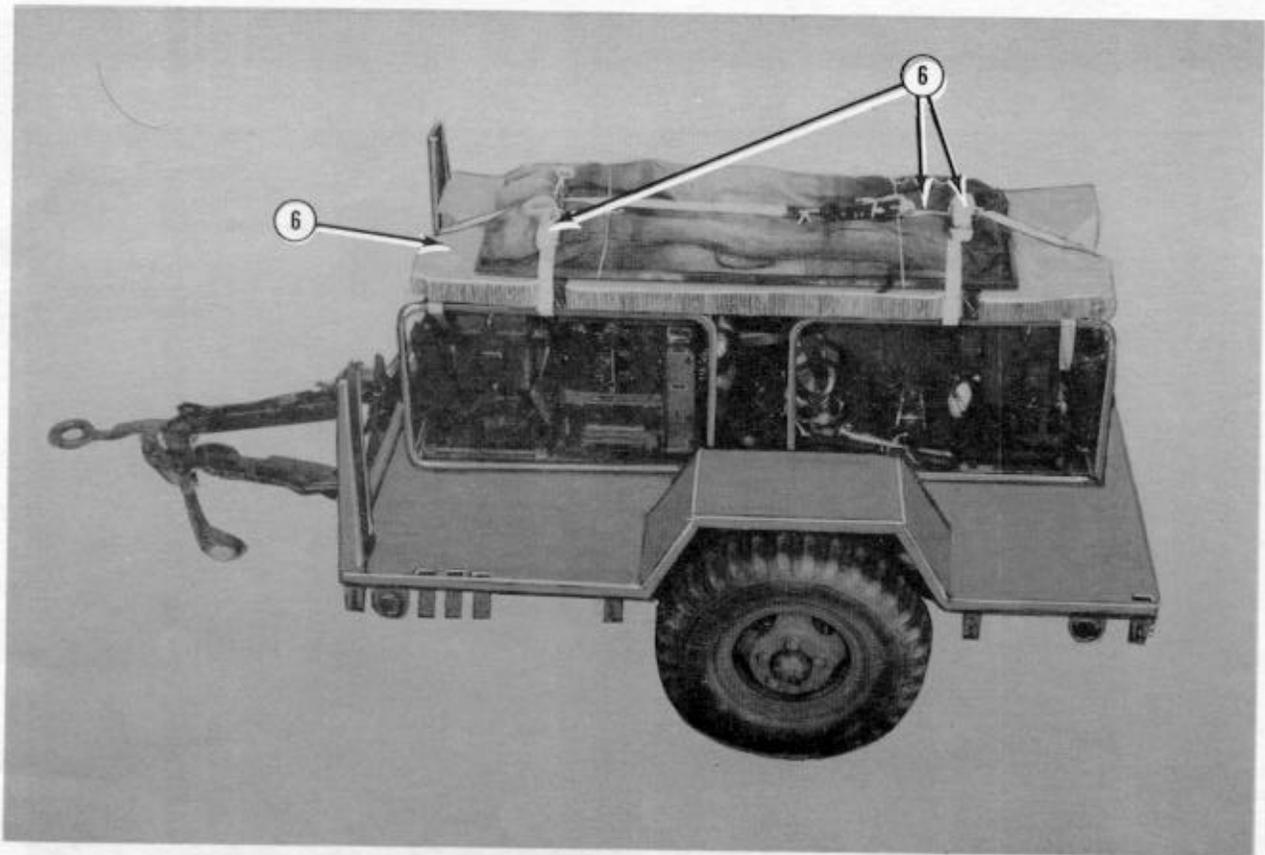
- ⑤ Remove the fuel lines and adapters (not shown). Tape the threaded fuel line connector.
- ⑥ Pad the fuel sediment bowl with cellulose wadding. Tape the cellulose wadding in place.
- ⑦ Pass type III nylon cord over the engine covers. Tie it to convenient points on both sides of the generators.
- ⑧ Tie a fuel can nozzle and the trailer leveling strut to the generator skid with type III nylon cord.

Figure 11-26. Generators prepared (continued)



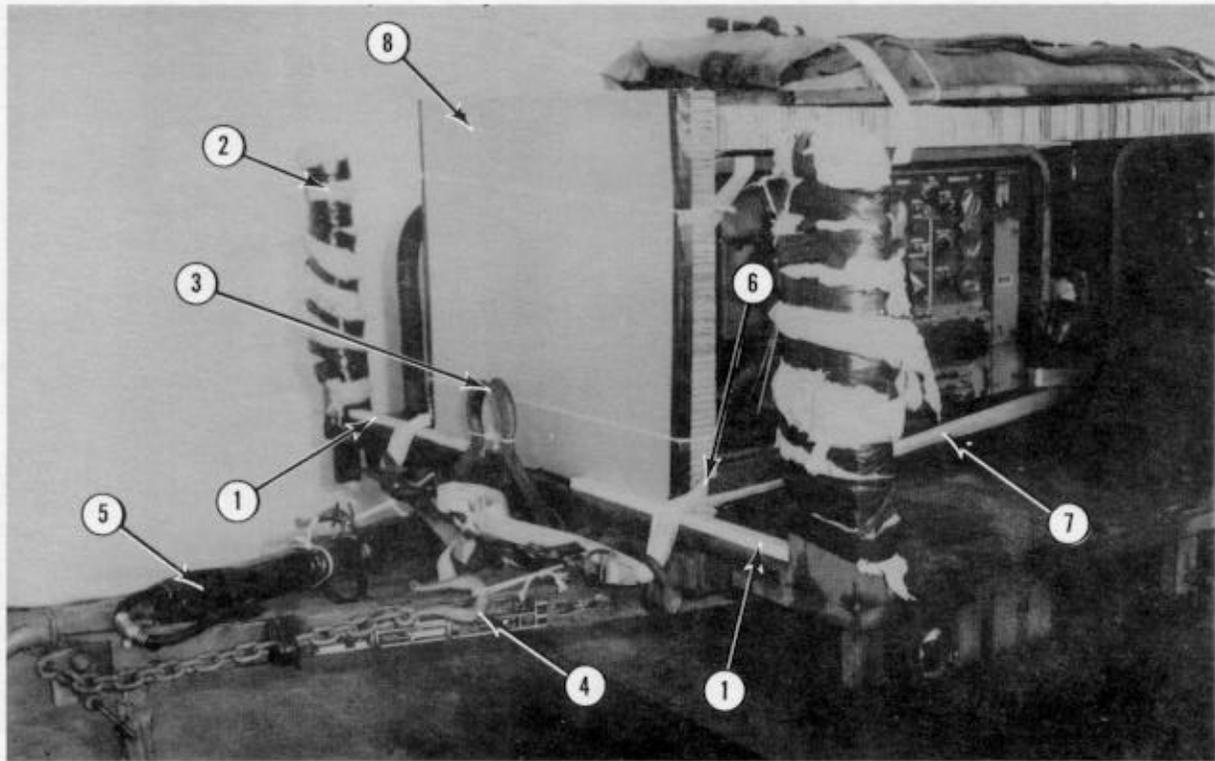
- ① Stow the fuel line adapters and fuel lines removed in step 5 of Figure 11-26 in their brackets on the splash shield. Safety them in place with type III nylon cord.
- ② Stow the grounding rods in their holders. Use cellulose wadding and tape to ensure a snug fit.
- ③ Stow the sledgehammer in its holder, and safety the handle with type III nylon cord.
- ④ Tie the power cable in a loop with type III nylon cord. Lay it on the trailer tarp.
- ⑤ Fold the tarp to fit over the splash shield. Tie the tarp over the splash shield with type III nylon cord.

Figure 11-27. Generator equipment stowed on splash shield



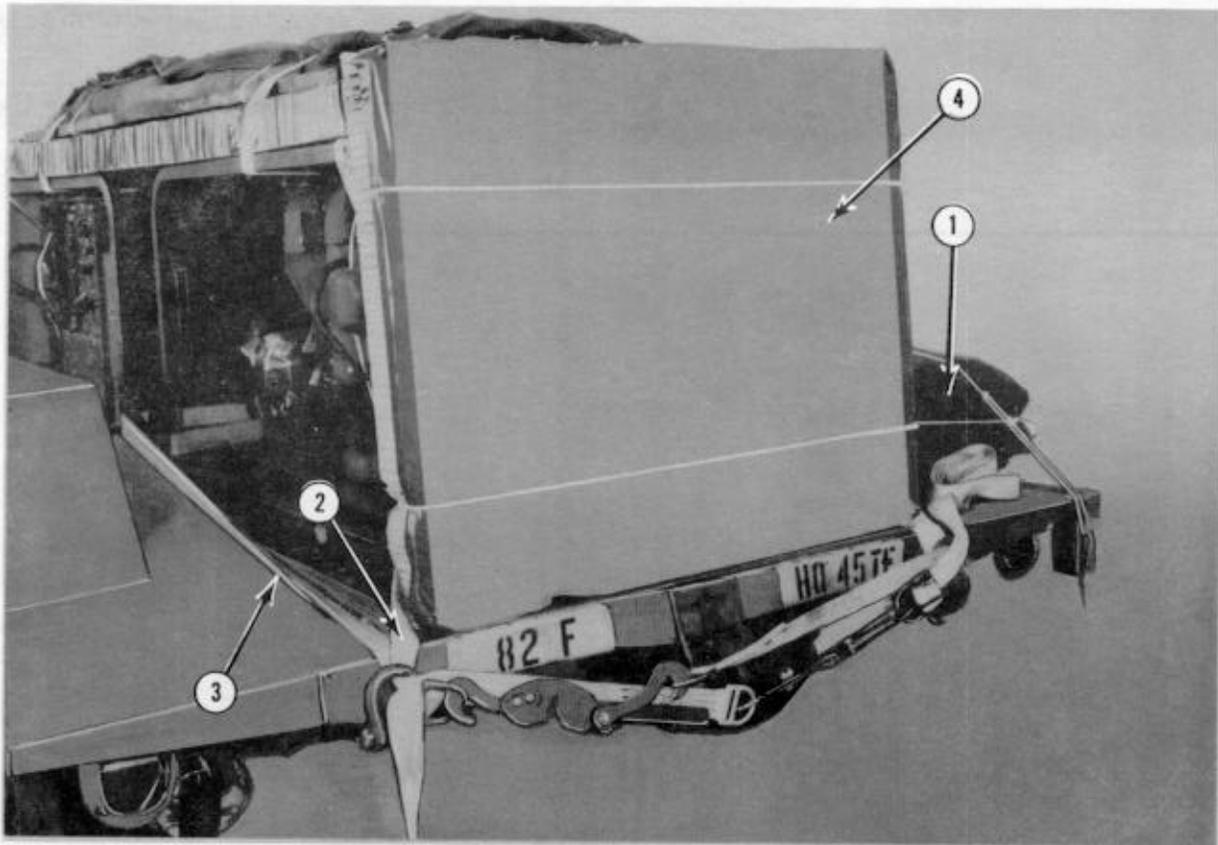
- ⑥ Center a 30- by 84-inch piece of honeycomb over the generator frames. Place the splash shield flat side down on the honeycomb. Lash it to both generator frames with two 15-foot lashings placed side to side and one 15-foot lashing placed front to rear.

Figure 11-27. Generator equipment stowed on splash shield (continued)



- ① Fill the gap in the front edge of the trailer floor with two pieces of 1 1/8- by 2- by 24-inch lumber placed against the splash shield supports.
- ② Pad the splash shield supports with cellulose wadding. Tape the cellulose wadding in place.
- ③ Tie the two hand brake levers together in the off position with type III nylon cord.
- ④ Tie the trailer chains taut to the bracket at the edge of the trailer bed with type III nylon cord.
- ⑤ Fold the intervehicular cable, and tape it to the drawbar. Tie the connector end of the cable to the drawbar with type III nylon cord.
- ⑥ Run a 15-foot lashing through the front lifting shackles and around the two nearest upright bars of the front generator frame. Fasten the ends of the lashing with a D-ring and a load binder, but do not tighten the lashing.
- ⑦ Run a 15-foot lashing through the front lifting shackles and around the two nearest upright bars of the rear generator frame. Fasten the ends of the lashing with a D-ring and a load binder, but do not tighten the lashing.
- ⑧ Secure a 29- by 36-inch piece of honeycomb to the front generator frame with type III nylon cord.

Figure 11-28. Front of trailer prepared



- ① Cover the regulator box with a 24- by 24-inch piece of felt. Tie the felt in place with type III nylon cord.
- ② Run a 15-foot lashing through the rear lifting shackles and around the two nearest upright bars of the rear generator frame. Fasten the ends of the lashing with a D-ring and a load binder, but do not tighten the lashing.
- ③ Run a 15-foot lashing through the rear lifting shackles and around the two nearest upright bars of the front generator frame. Fasten the ends of the lashing with a D-ring and a load binder, but do not tighten the lashing.

**Note:** If lifting shackles are not present, bolt medium cargo suspension clevises to the shackle brackets.

- ④ Secure a 29- by 36-inch piece of honeycomb to the rear generator frame with type III nylon cord.

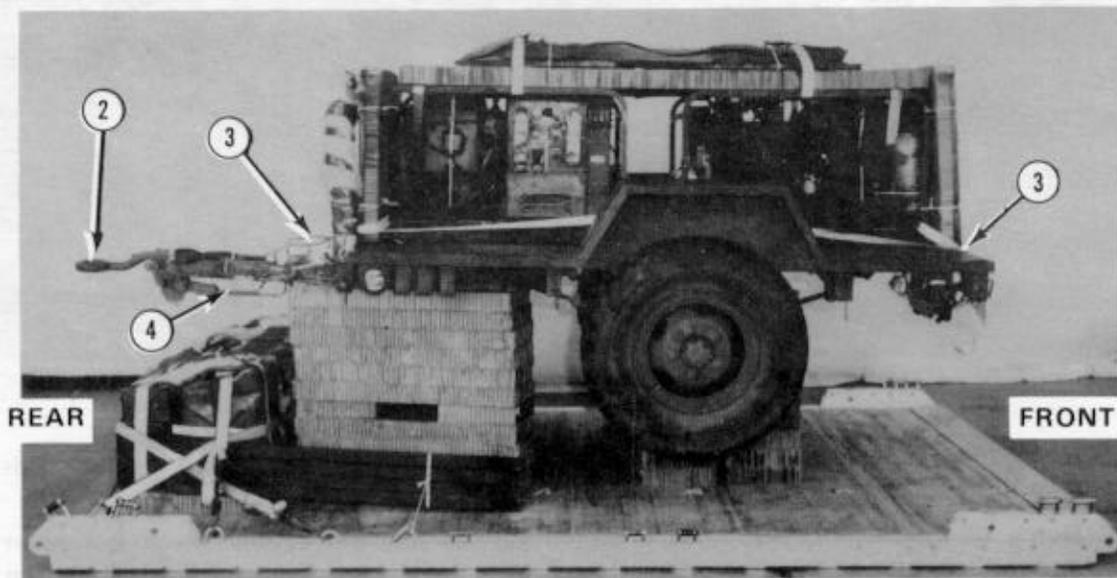
Figure 11-29. Rear and top of trailer prepared

### 11-20. Positioning Power Unit on Platform

Position the power unit on the platform as shown in Figure 11-30.

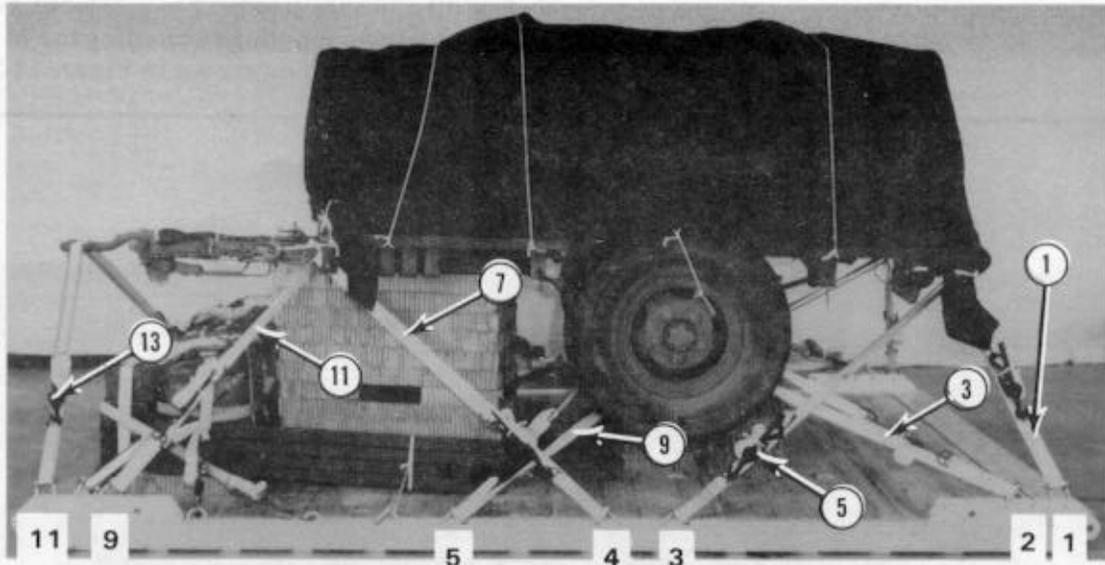
### 11-21. Covering and Lashing Power Unit

Cover the power unit and lash it to the platform as shown in Figure 11-31.



- ① Attach a 9-foot, type X or type XXVI nylon sling to each lifting shackle with a medium cargo suspension clevis (not shown).
- ② Lift the trailer, and center it on the honeycomb stacks with the end of the lunette 12 inches over the rear edge of the platform. Remove the lifting slings.
- ③ Tighten the lashings placed in steps 6 and 7 of Figure 11-28 and steps 2 and 3 of Figure 11-29.
- ④ Place the trailer support in the travel position.

Figure 11-30. Power unit positioned on platform

**Step:**

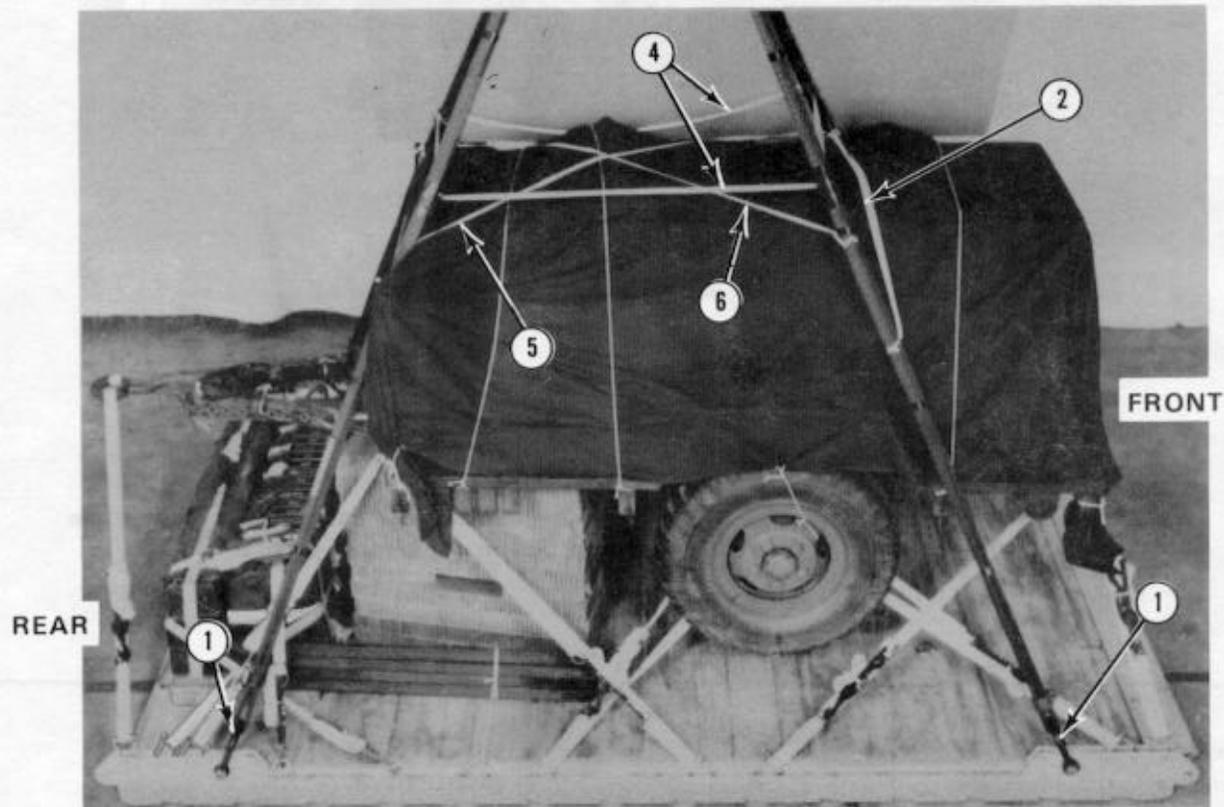
1. Place a 10- by 15-foot canvas load cover over the load. Tie it at each corner. Secure the cover with three lengths of type III nylon cord tied to convenient points.
2. Lash the power unit to the platform as follows:

Lashing Number	Tiedown Clevis Number	Instructions
1	1	Pass lashing:
2	1A	Through left rear lifting shackle.
3	2	Through right rear lifting shackle.
4	2A	Around left side of axle.
5	3	Around right side of axle.
6	3A	Through left rear lifting shackle.
7	4	Through right rear lifting shackle.
8	4A	Through left front lifting shackle.
9	5	Through right front lifting shackle.
10	5A	Around left side of axle.
11	9	Around right side of axle.
12	9A	Through left front lifting shackle.
13	11	Through right front lifting shackle.
14	11A	Through lunette.
		Through lunette.

Figure 11-31. Power unit covered and lashings installed

### 11-22. Installing and Safetying Suspension Slings

Install and safety four 12-foot (2-loop), type XXVI nylon suspension slings according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-32.



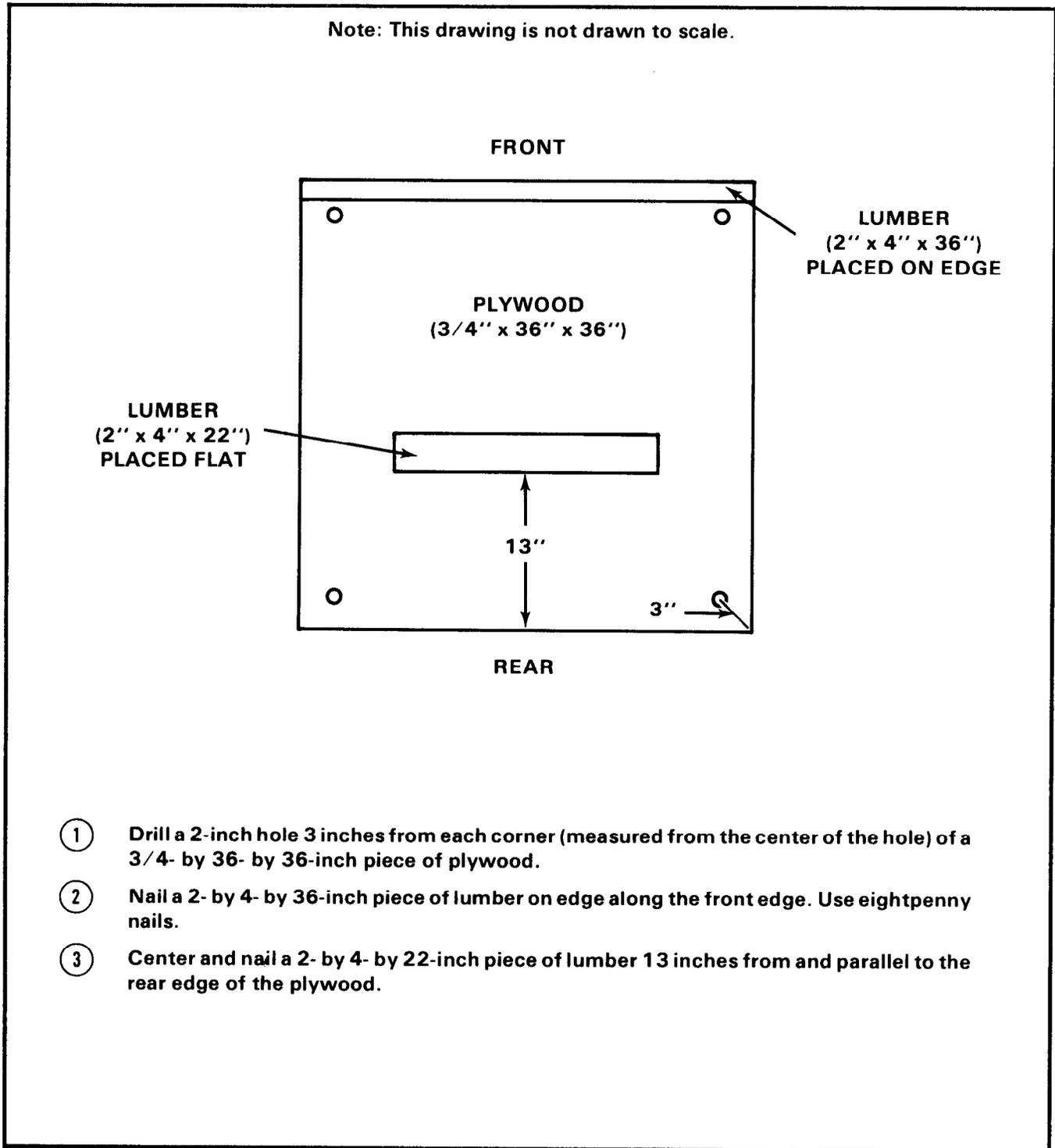
- ① Attach a suspension sling to each tandem link with a large clevis.
- ② Raise the suspension slings. Safety the two front suspension slings to each other 55 inches from the clevises with a double length of 1/2-inch tubular nylon webbing.
- ③ Safety the two rear suspension slings to each other 60 inches from the clevises with a double length of 1/2-inch tubular nylon webbing (not shown).
- ④ Install the deadman's tie according to FM 10-500-2/TO 13C7-1-5.
- ⑤ Safety the right rear sling to the left front sling 8 inches below the deadman's tie with a length of 1/2-inch tubular nylon webbing.
- ⑥ Safety the right front sling to the left rear sling 8 inches below the deadman's tie with a length of 1/2-inch tubular nylon webbing.

Figure 11-32. Suspension slings installed and safetied

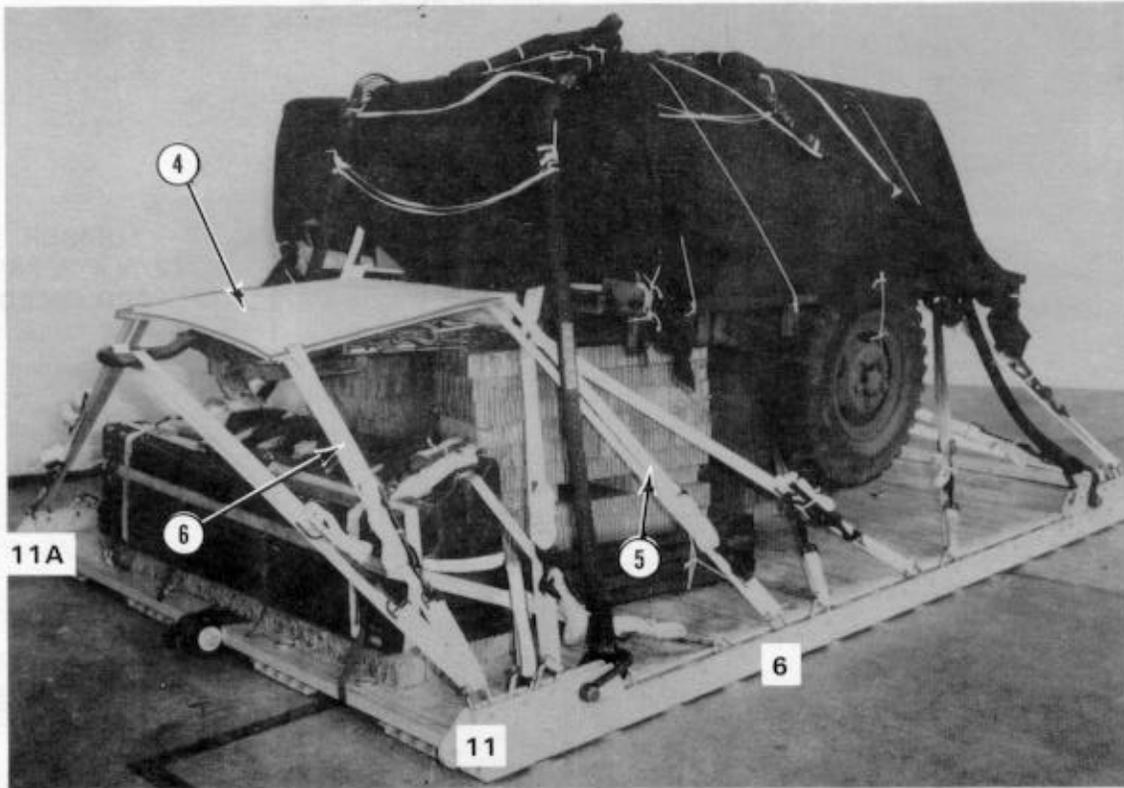
### 11-23. Stowing Cargo Parachutes

Prepare and install the parachute stowage platform as shown in Figure 11-33. Prepare and install two G-11A cargo parachutes or one G-11B cargo

parachute on the load according to FM 10-500-2/TO 13C7-1-5. Figure 11-34 shows one G-11B cargo parachute installed.

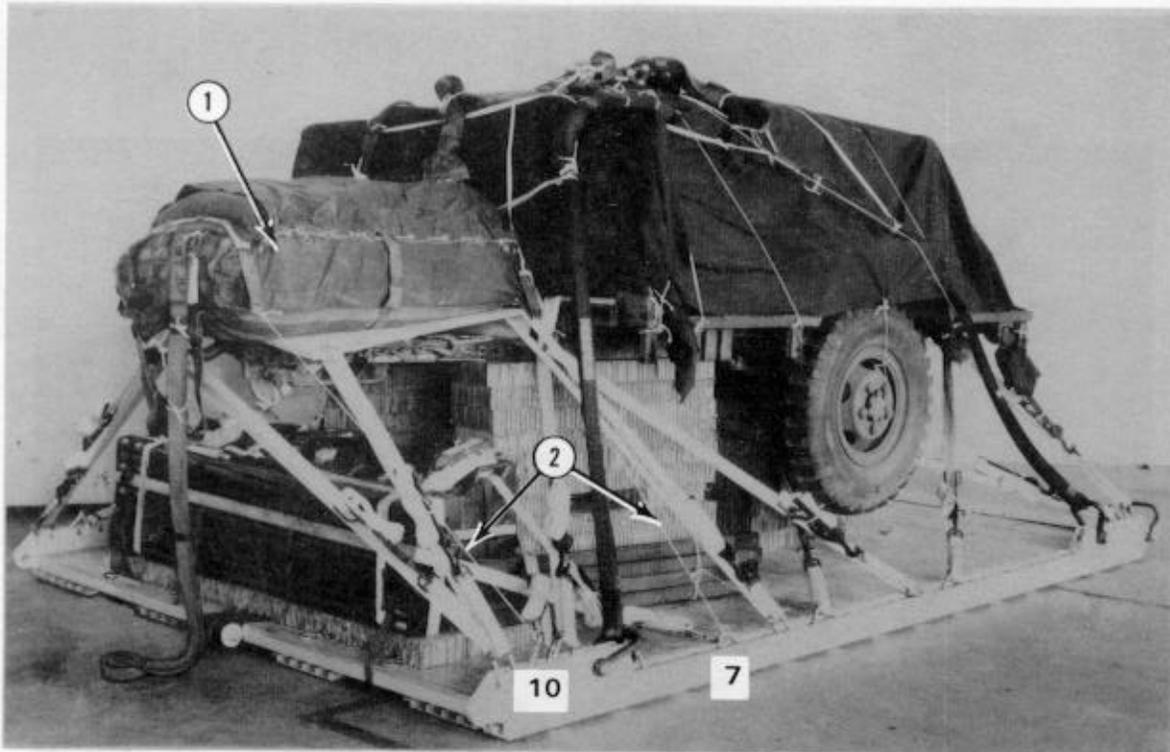


**Figure 11-33. Parachute stowage platform prepared and installed**



- ④ Center the parachute stowage platform on the drawbar.
- ⑤ Run 15-foot lashings from clevises 6 and 6A through the front holes of the parachute stowage platform. Secure each lashing with a D-ring and a load binder.
- ⑥ Run 15-foot lashings from clevises 11 and 11A through the rear holes of the parachute stowage platform. Secure each lashing with a D-ring and a load binder.

Figure 11-33. Parachute stowage platform prepared and installed (continued)



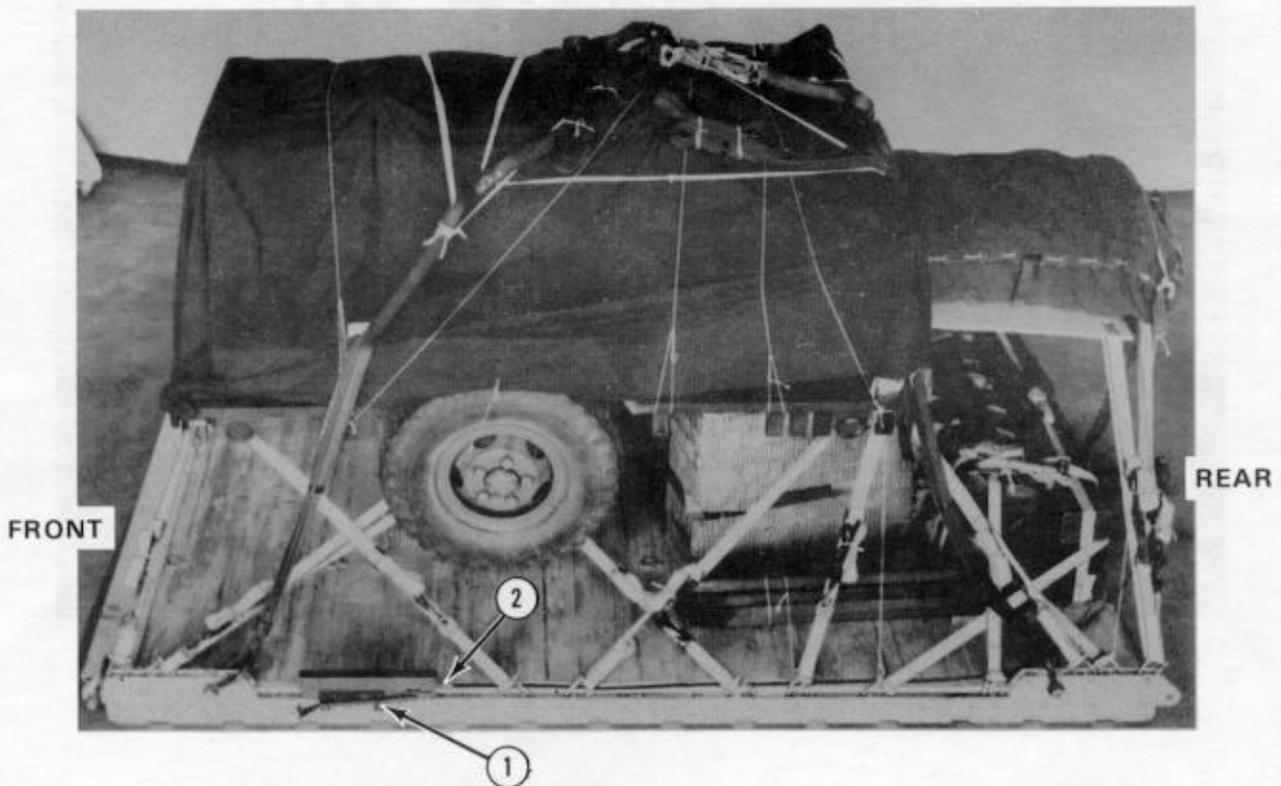
- ① Center a G-11B cargo parachute on the parachute stowage platform. Complete the installation according to FM 10-500-2/TO 13C7-1-5.
- ② Restrain the parachute with type III nylon cord tied to the bag carrying handles and load tiedown clevises 7, 7A, 10, and 10A.

**Note:** If two G-11A parachutes are used, restrain them with type VIII nylon webbing to clevises 10 and 10A.

Figure 11-34. One G-11B cargo parachute installed

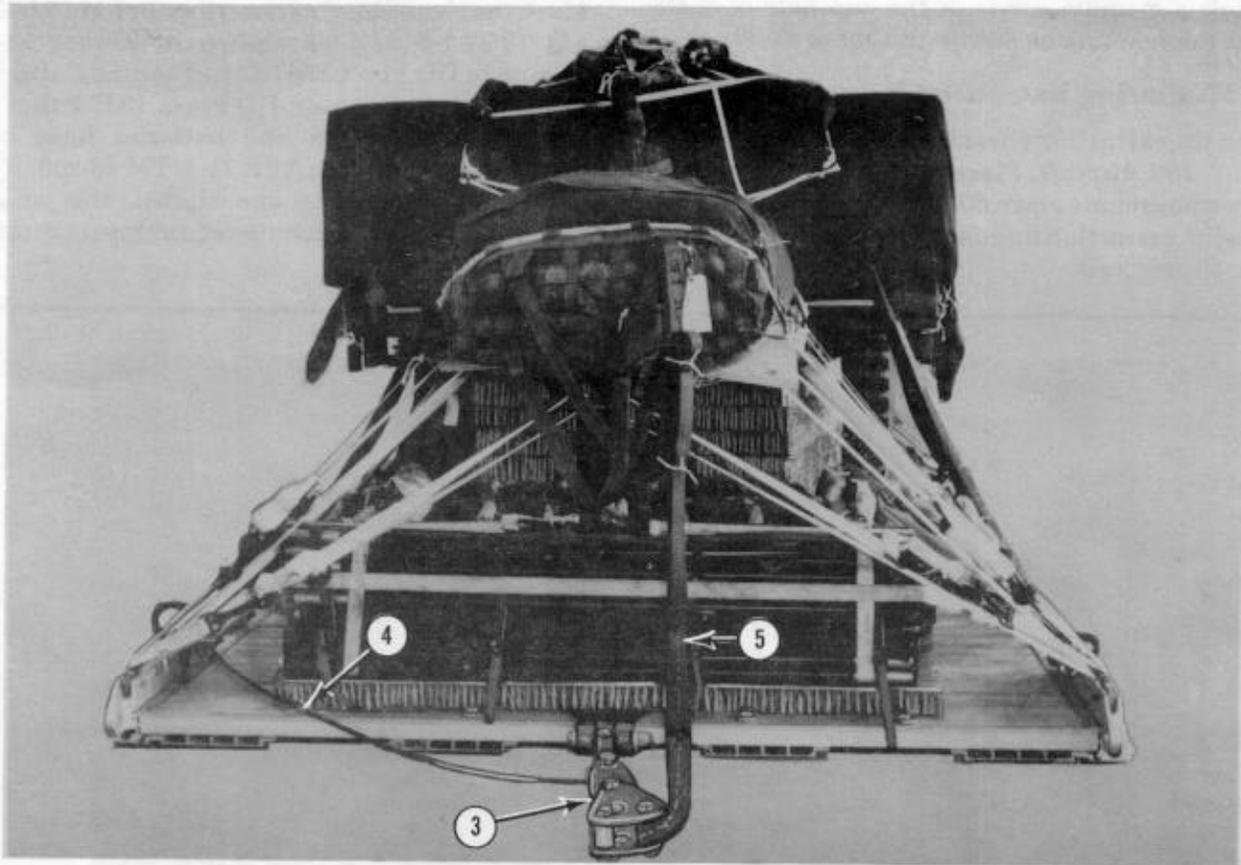
### 11-24. Installing Extraction System

Install the EFTC according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-35.



- ① Install the EFTC mounting brackets in the front mounting holes on the left platform rail.
- ② Attach a 12-foot cable to the actuator. Install the actuator to the EFTC mounting brackets.

Figure 11-35. EFTC installed



- ③ Install the latch assembly and attach the cable.
- ④ Tie the cable to tiedown ring D6 with type I, 1/4-inch cotton webbing.
- ⑤ Install a 9-foot (2-loop), type XXVI nylon deployment line on the load.

Figure 11-35. EFTC installed (continued)

### 11-25. Installing Parachute Release

Prepare and install an M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5. Center the release on the load directly above the wheels.

### 11-26. Installing Provisions for Emergency Restraints

Install a medium clevis in the end hole of each front tandem link as shown in Figure 11-36.

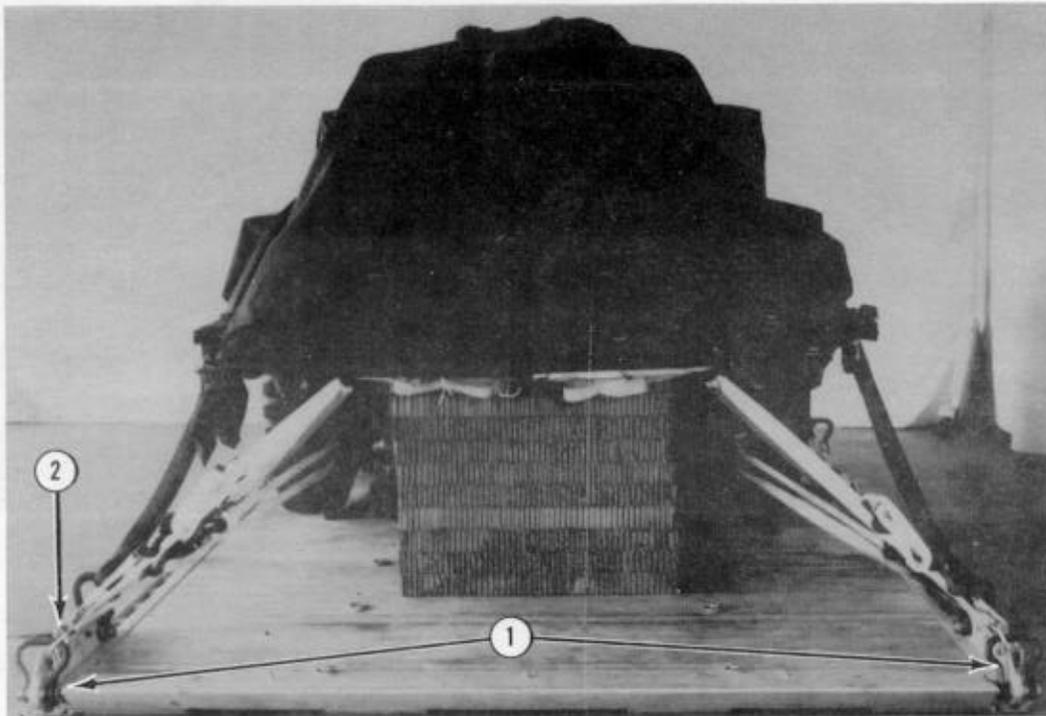
### 11-27. Placing Extraction Parachute

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

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

### 11-28. Marking Rigged Load

Mark the rigged load as described in FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-37. Complete DD Form 1387-2, and securely attach it to the load. Indicate on DD Form 1387-2 that the generator fuel tanks and batteries have been prepared according to AFR 71-4/TM 38-250. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

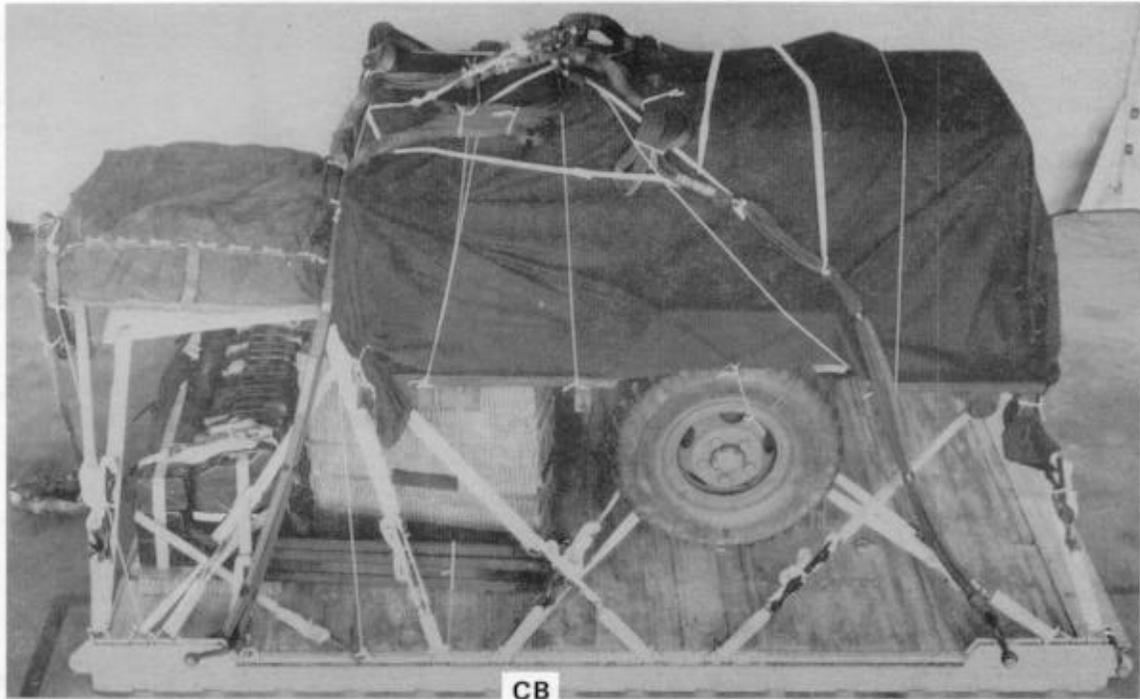


- ① Bolt a medium clevis to each front tandem link. Place spacers or washers on the clevis bolt on either side of the tandem link.
- ② Place the clevises in an upright position, and tie them to the nearest lashing with type I, 1/4-inch cotton webbing.

Figure 11-36. Emergency restraint provisions installed

**CAUTION**

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

**RIGGED LOAD DATA**

Weight:	Load shown .....	4,750 pounds
	Maximum load allowed .....	5,250 pounds
Height .....		81 inches
Width .....		108 inches
Length .....		169 inches
Overhang:	Front .....	4 1/2 inches
	Rear .....	19 inches
CB (from front edge of platform) .....		82 1/2 inches

Figure 11-37. PU-620M power unit rigged for low-velocity airdrop on the type V platform

**11-29. Equipment Required**

Use the equipment listed in Table 11-2 to rig this load.

Table 11-2. Equipment required for rigging the PU-620M power unit for low-velocity airdrop on the type V platform

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal .....	As required
	Clevis, suspension:	
4030-00-678-8562	3/4-in (medium) .....	2
4030-00-090-5354	1-in (large) .....	5
8305-00-242-3593	Cloth, cotton duck, 60-in .....	As required
4020-00-240-2146	Cord, nylon, type III, 550-lb .....	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer w 12-ft cable .....	1
	Cover:	
1670-00-360-0328	Clevis, large .....	1
1670-00-360-0329	Link assembly (type IV) .....	3
8135-00-664-6958	Cushioning material, packaging, cellulose wadding .....	As required
8305-00-958-3685	Felt, 1/2-in thick .....	As required
1670-01-183-2678	Leaf, extraction line .....	2
	Line, extraction:	
1670-01-064-4452	60-ft (1-loop), type XXVI nylon webbing <u>or</u> .....	1
1670-00-856-0265	60-ft (1-loop), type X nylon webbing (use w 15-ft parachute) .....	1
1670-01-107-7652	160-ft (1-loop), type XXVI nylon webbing .....	1
1670-00-783-5988	Link assembly, type IV .....	3
	Lumber:	
5510-00-220-6146	2- by 4-in:	
	22-in .....	1
	24-in .....	2
	36-in .....	1
5510-00-220-6250	2- by 12- by 46-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 .....	7 sheets
	12- by 12-in .....	(4)
	29- by 36-in .....	(2)
	30- by 84-in .....	(1)
	36- by 12-in .....	(37)
	39- by 12-in .....	(1)
	50- by 12-in .....	(1)
	72- by 24-in .....	(1)
	Parachute:	
	Cargo:	
1670-00-269-1107	G-11A <u>or</u> .....	2
1670-01-016-7841	G-11B .....	1
	Cargo extraction:	
1670-00-052-1548	15-ft <u>or</u> .....	1
1670-00-063-3715	15-ft .....	1
	Platform, AD, type V, 12-ft: .....	1
	Bracket:	
1670-01-162-2375	Inside EFTA .....	(1)
1670-01-162-2374	Outside EFTA .....	(1)
1670-01-162-2372	Clevis assembly .....	(22)
1670-01-162-2376	Extraction bracket assembly .....	(1)
1670-01-162-2381	Tandem link .....	(4)
5530-00-128-4981	Plywood, 3/4- by 36- by 36-in .....	1

Table 11-2. Equipment required for rigging the PU-620M power unit for low-velocity airdrop on the type V platform (continued)

National Stock Number	Item	Quantity
1670-01-097-8816	Release, cargo parachute, M-1 .....	1
	Sling, cargo airdrop:	
	For deployment line:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing .....	1
	For lifting:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing .....	4
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing .....	2
	For suspension:	
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing .....	4
1670-00-040-8219	Strap, parachute release, multicut comes w 3 knives .....	2
7510-00-266-5016	Tape, adhesive, 2-in .....	As required
1670-00-937-0271	Tiedown assembly, 15-ft .....	33
	Webbing:	
8305-00-268-2411	Cotton, type I, 1/4-in .....	As required
8305-00-082-5752	Nylon, tubular, 1/2-in, natural .....	As required
8305-00-263-3591	Nylon, type VIII .....	As required

## GLOSSARY

ACB	attitude control bar	LAPE	low-altitude parachute-extraction
AD	airdrop	LAPES	low-altitude parachute-extraction system
AFB	Air Force base	lb	pound
AFR	Air Force regulation	MAC	Military Airlift Command
AFTO	Air Force technical order	MD	Maryland
ALC	Air Logistics Center	no	number
ARNG	Army National Guard	NSN	national stock number
attn	attention	PEFTC	extraction force transfer coupling (platform)
CB	center of balance	qty	quantity
d	penny	rqr	required
DA	Department of the Army	sec	second
DC	District of Columbia	SL/CS	static line/connector strap
DD	Department of Defense	sld	slotted
diam	diameter	sq	square
ea	each	TM	technical manual
EFTA	extraction force transfer actuator	TO	technical order
EFTC	extraction force transfer coupling	TRADOC	United States Army Training and Doctrine Command
FM	field manual	US	United States
ft	foot/feet	USAR	United States Army Reserve
gal	gallon	VA	Virginia
HQ	headquarters	w	with
in	inch	yd	yard

## REFERENCES

AFR 71-4/TM 38-250	Packaging and Materials Handling: Preparing Hazardous Materials for Military Air Shipments
FM 10-500-2/TO 13C7-1-5	Airdrop of Supplies and Equipment: Rigging Airdrop Platforms
FM 10-553/TO 13C7-18-41	Airdrop of Supplies and Equipment: Rigging Ammunition
TM 5-2805-258-14/ TM 03523B/TO 38G2-89-21	Operator, Organizational, Direct Support and General Support Maintenance Manual, Engine, Gasoline, 10-HP
TM 10-1670-208-20&P/ TO 13C3-4-12	Organizational Maintenance Manual Including Repair Parts and Special Tools Lists for Platforms, Types 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 Parachute, Cargo Types
TM 10-1670-268-20&P/ TO 13C7-52-22	Organizational Maintenance Manual With Repair Parts and Special Tools List: Type V Airdrop Platform
AFTO Form 22	Technical Order Publication Improvement Report
DA Form 2028	Recommended Changes to Publications and Blank Forms
DD Form 1387-2	Special Handling Data/Certification