

## CHAPTER 4

RIGGING SHILLELAGH MISSILES  
IN THE A-22 CARGO BAG

## 4-1. Description of Load

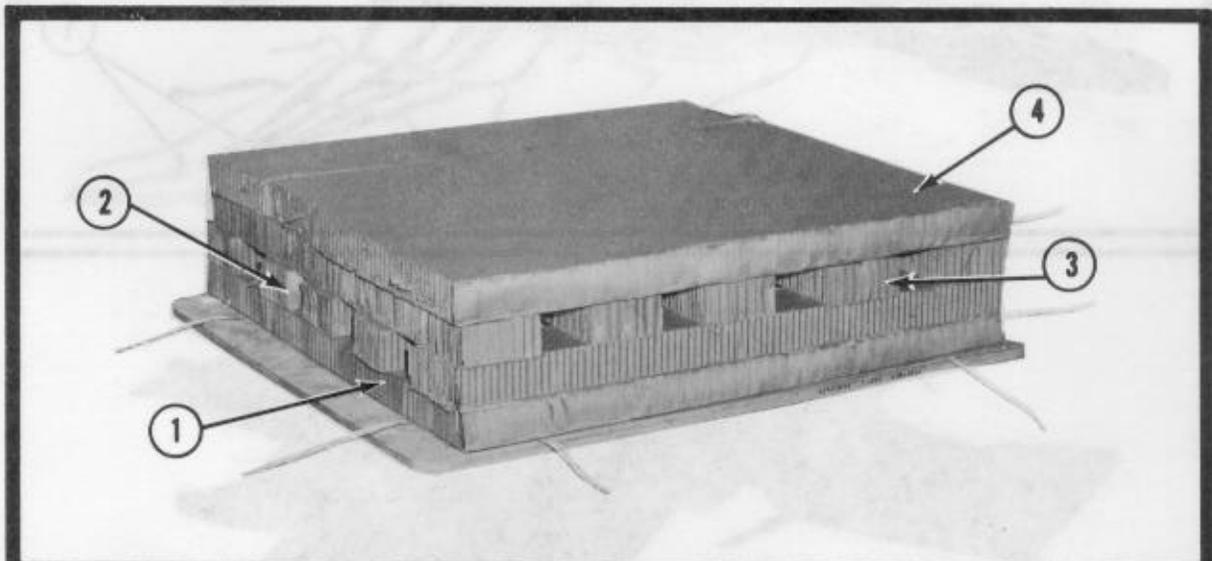
Nine M51C Shillelagh missiles in their containers are rigged in an A-22 cargo bag on a standard skid (NSN 1670-00-883-1654) or a piece of 3/4- by 48- by 53 1/2-inch plywood with one G-12D cargo parachute. Each missile in its container weighs 116 pounds.

## 4-2. Preparing the A-22 Cargo Bag

Prepare the skid, and lay out the A-22 cargo bag according to procedures given in FM 10-501/TO 13C7-1-11.

## 4-3. Placing Honeycomb

Place the honeycomb on the skid as shown in figure 4-1.

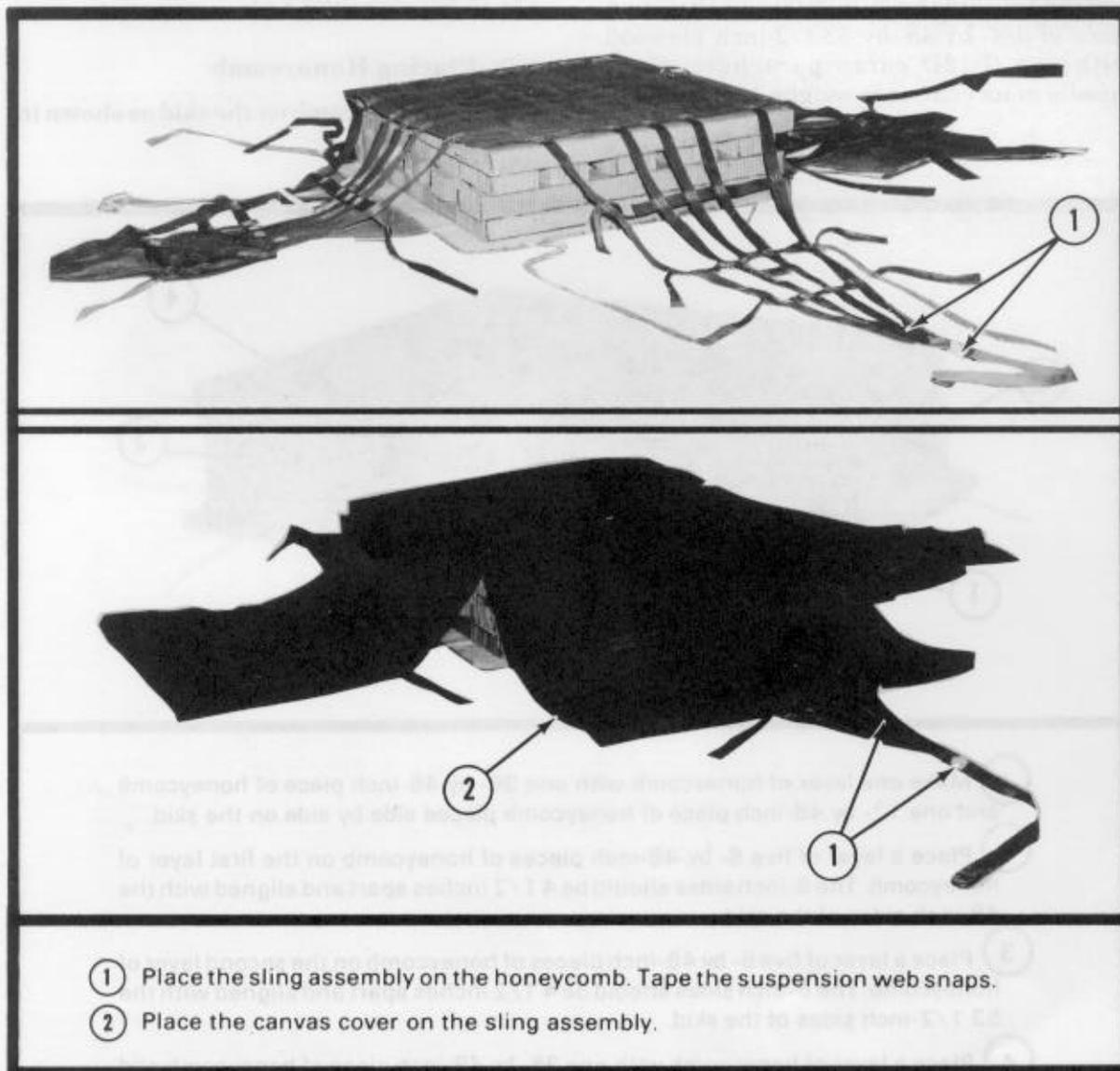


- 1 Make one layer of honeycomb with one 36- by 48-inch piece of honeycomb and one 12- by 48-inch piece of honeycomb placed side by side on the skid.
- 2 Place a layer of five 6- by 48-inch pieces of honeycomb on the first layer of honeycomb. The 6-inch sides should be 4 1/2 inches apart and aligned with the 48-inch sides of the skid.
- 3 Place a layer of five 6- by 48-inch pieces of honeycomb on the second layer of honeycomb. The 6-inch sides should be 4 1/2 inches apart and aligned with the 53 1/2-inch sides of the skid.
- 4 Place a layer of honeycomb with one 36- by 48-inch piece of honeycomb and one 12- by 48-inch piece of honeycomb side by side on layer 3.

Figure 4-1. Honeycomb placed on skid.

#### 4-4. Placing Cargo Bag

Place the sling assembly and the cover on the skid according to procedures given in FM 10-501/TO 13C7-1-11 and as shown in figure 4-2.

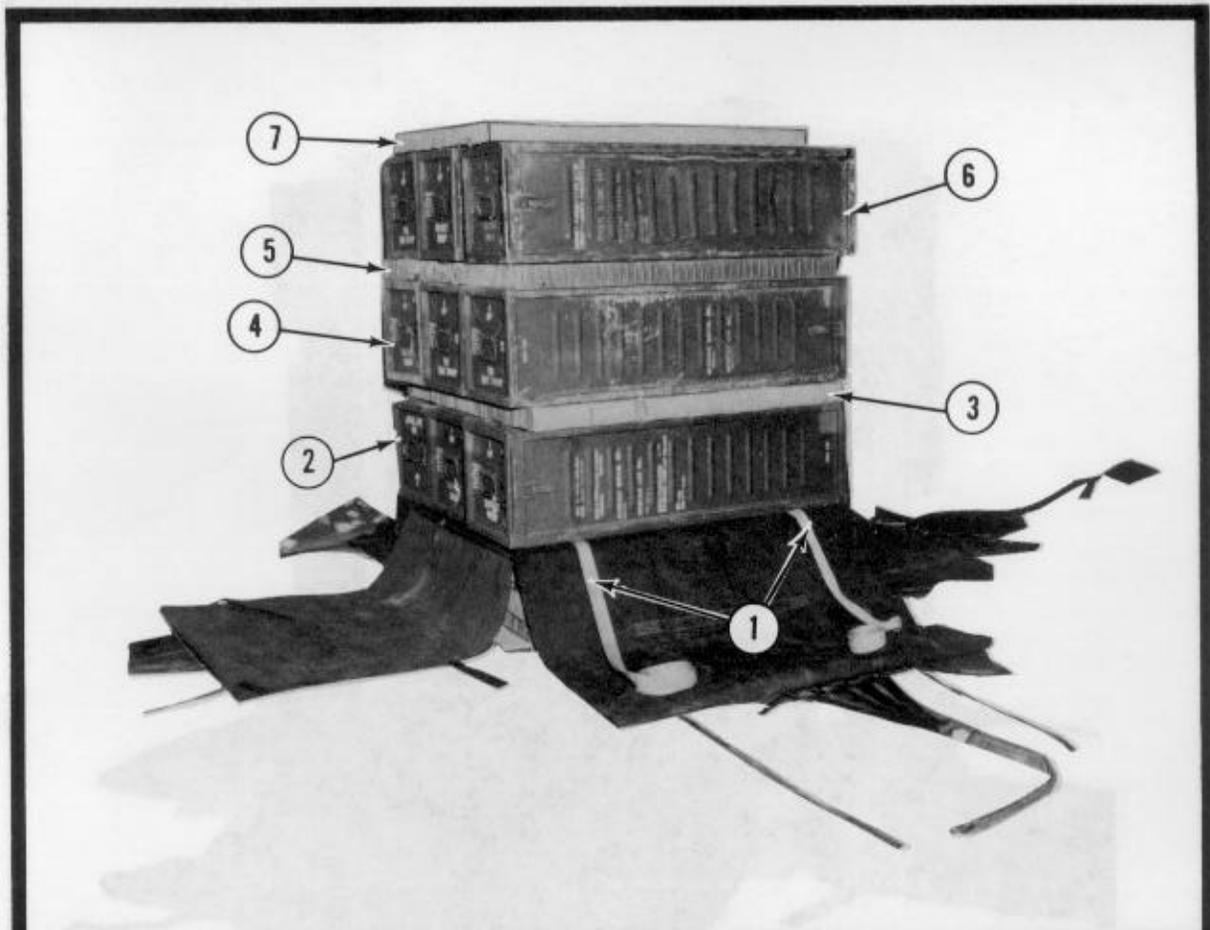


*Figure 4-2. Sling assembly and A-22 cargo bag placed on skid.*

**4-5. Placing Tiedown Straps and Missiles**

Form two 30-foot tiedown straps, using four 15-foot tiedown straps according to procedures given in FM 10-500/TO 13C7-1-5. Tape

the D-rings to prevent metal-to-metal contact. Place the 30-foot tiedown straps on top of the canvas cover as shown in figure 4-3. Place the nine encased missiles and three layers of 36-by 48-inch honeycomb as shown in figure 4-3.



- ① Place the 30-foot tiedown straps on the canvas cover.
- ② Place three encased missiles on the tiedown straps.
- ③ Place one 36- by 48-inch layer of honeycomb on the encased missiles.
- ④ Place three encased missiles on top of the honeycomb.
- ⑤ Place one 36- by 48-inch layer of honeycomb on the encased missiles.
- ⑥ Place three encased missiles on top of the honeycomb.
- ⑦ Place one 36- by 48-inch layer of honeycomb on the encased missiles.

*Figure 4-3. Tiedown straps and encased missiles placed.*

#### 4-6. Binding Missiles

Bind the missiles together with the pre-positioned 30-foot tiedown straps as shown in figure 4-4.

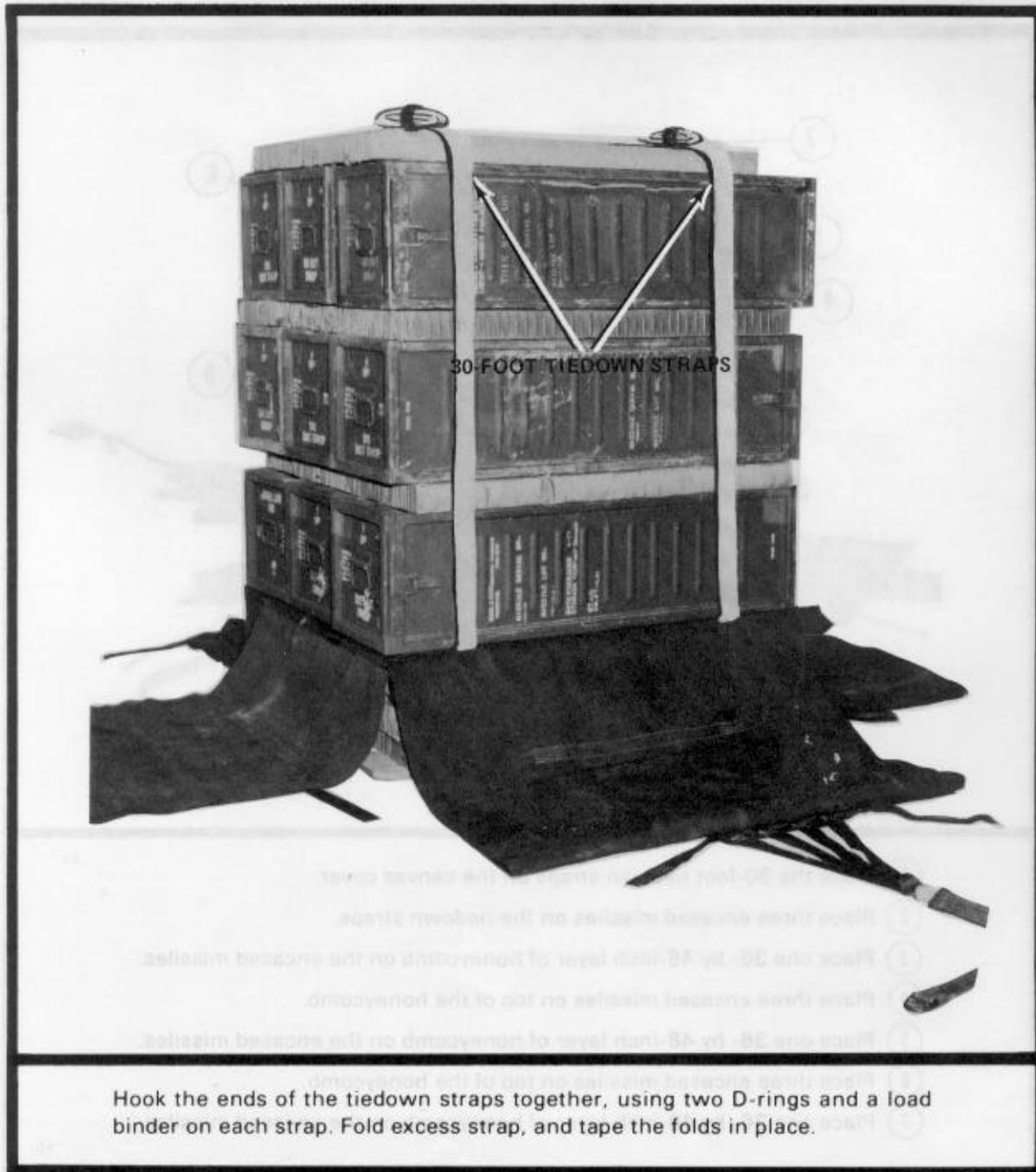


Figure 4-4. Encased missiles bound together.

#### 4-7. Closing Cargo Bags and Attaching Suspension Slings

Close the A-22 cargo bag, attach the suspension webs, and tie the skid according to procedures given in FM 10-501/TO 13C7-1-11 and as shown in figure 4-5.

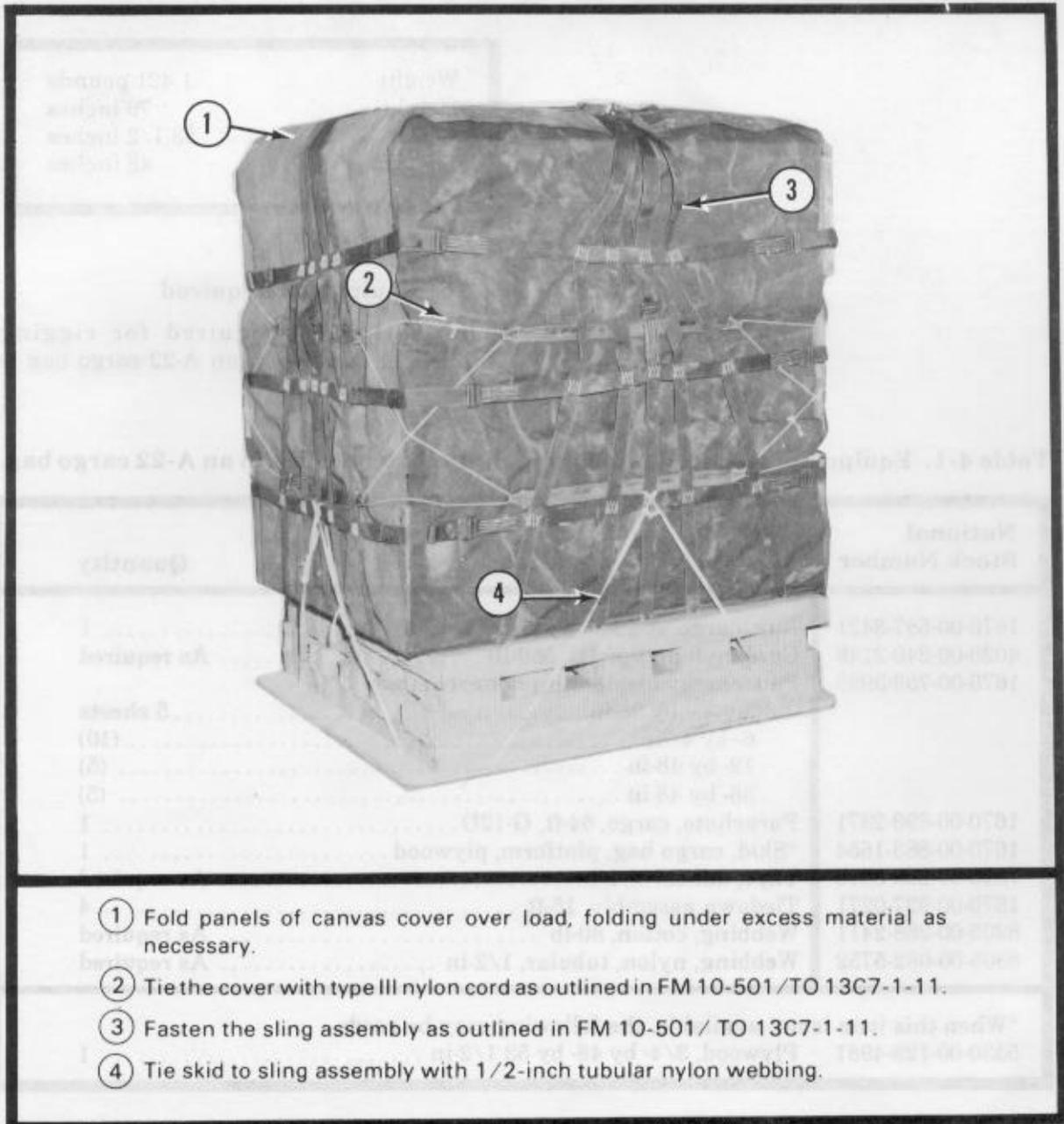


Figure 4-5. Cargo bag closed and skid tied to sling assembly.

**4-8. Stowing Cargo Parachute**

Place and attach one G-12D cargo parachute with pilot parachute to the load, according to procedures given in FM 10-501/TO 13C7-1-11.

**4-9. Rigged Load Data**

The rigged load data are as follows:

Weight	1,421 pounds
Height	79 inches
Width	53 1/2 inches
Length	48 inches

**4-10. Equipment Required**

The equipment required for rigging Shillelagh missiles in an A-22 cargo bag is listed in table 4-1.

**Table 4-1. Equipment required for rigging Shillelagh missiles in an A-22 cargo bag.**

National Stock Number	Item	Quantity
1670-00-587-3421	Bag, cargo, A-22	1
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-753-3928	Pad, energy-dissipating honeycomb,	
	3- by 36- by 96-in:	5 sheets
	6- by 48-in	(10)
	12- by 48-in	(5)
	36- by 48-in	(5)
1670-00-893-2371	Parachute, cargo, 64-ft, G-12D	1
1670-00-883-1654	*Skid, cargo bag, platform, plywood	1
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tiedown assembly, 15-ft	4
8305-00-268-2411	Webbing, cotton, 80-lb	As required
8305-00-082-5752	Webbing, nylon, tubular, 1/2-in	As required
*When this item is not available, the following may be used:		
5530-00-128-4981	Plywood, 3/4- by 48- by 53 1/2-in	1

**CHAPTER 5**

**RIGGING M551A1 ARAAV ON A  
28-FOOT, TYPE V PLATFORM FOR  
LOW-VELOCITY AIRDROP**

**Section I**

**RIGGING ARAAV FOR AIRDROP  
FROM C-130 AIRCRAFT**

**5-1. Description of Load**

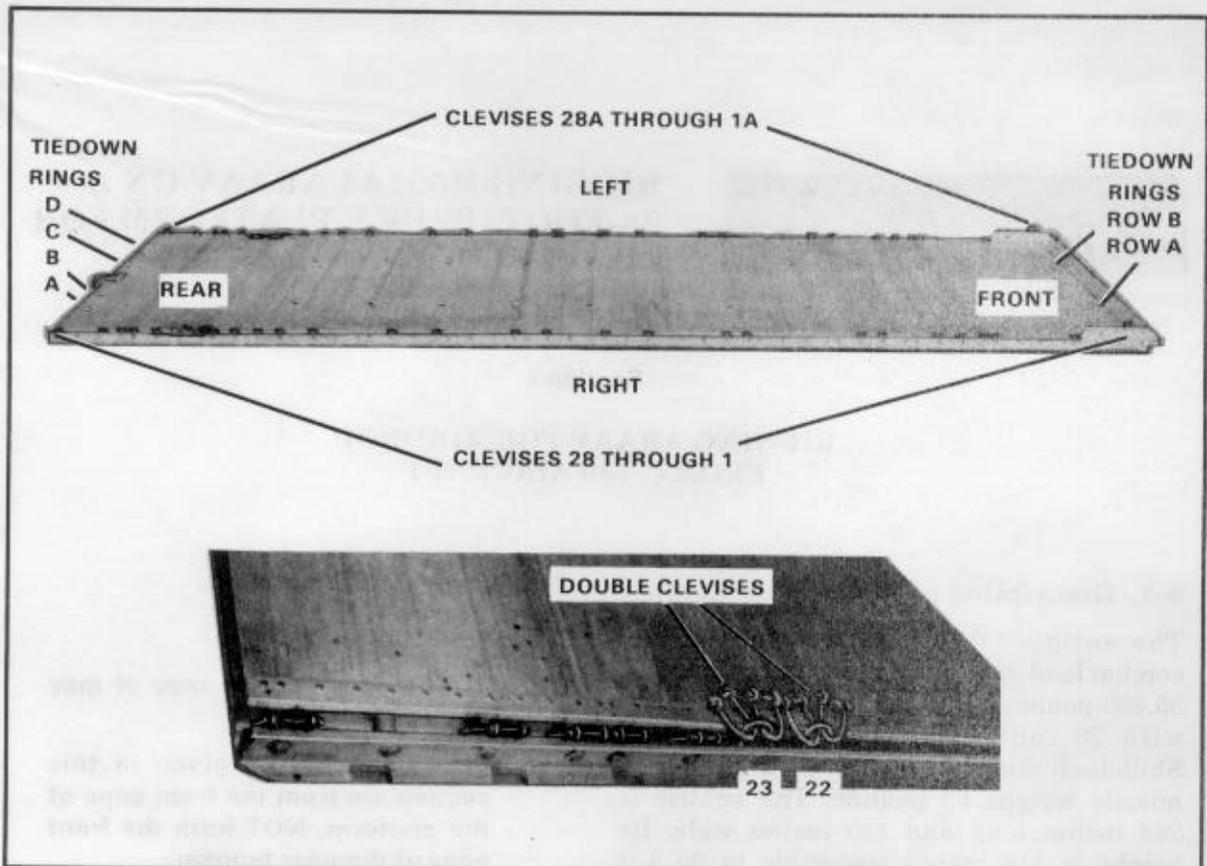
The unrigged M551A1 ARAAV with its combat load of ammunition and POL weighs 35,450 pounds. The vehicle will be dropped with 20 conventional rounds and nine Shillelagh missiles. An unboxed Shillelagh missile weighs 62 pounds. The vehicle is 248 inches long and 110 inches wide. Its height is 116 inches (reducible to 96 1/2 inches). This load can be dropped from a C-130 aircraft only.

**5-2. Preparing Platform**

Prepare a 28-foot, type V airdrop platform using two tandem links and 64 tiedown clevises as shown in Figure 5-1.

**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.
3. Install a clevis on bushing 2 on each front tandem link.
4. Install a clevis in an inverted position (bell portion up) on each platform side rail using the bushing bolted on hole 49. Install two clevises to each inverted clevis.
5. Repeat step 4 on each platform side rail using the bushing bolted on hole 50.
6. Starting at the front of each platform side rail, install clevises on each platform side rail using the bushings bolted on holes 4, 8, 9, 10, 11, 14, 15, 21, 22, 26, 28, 31, 33, 37, 39, 43, 45, 46, 47, 48, 51, 52, 53, 54, and 56.
7. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 28 and those bolted to the left side from 1A through 28A. Count double clevises in bushings 49 and 50 as one. For example, count clevises 22 (front) and 22 (rear) as one.
8. Starting at the front of the platform, number the tiedown rings 1 through 14. Label the rows A and B from right to left. Label the tiedown rings on the last panel A, B, C, and D from right to left.

Figure 5-1. Platform prepared

### 5-3. Building and Placing Honeycomb Stacks

Build and place honeycomb stacks as shown in Figure 5-2.

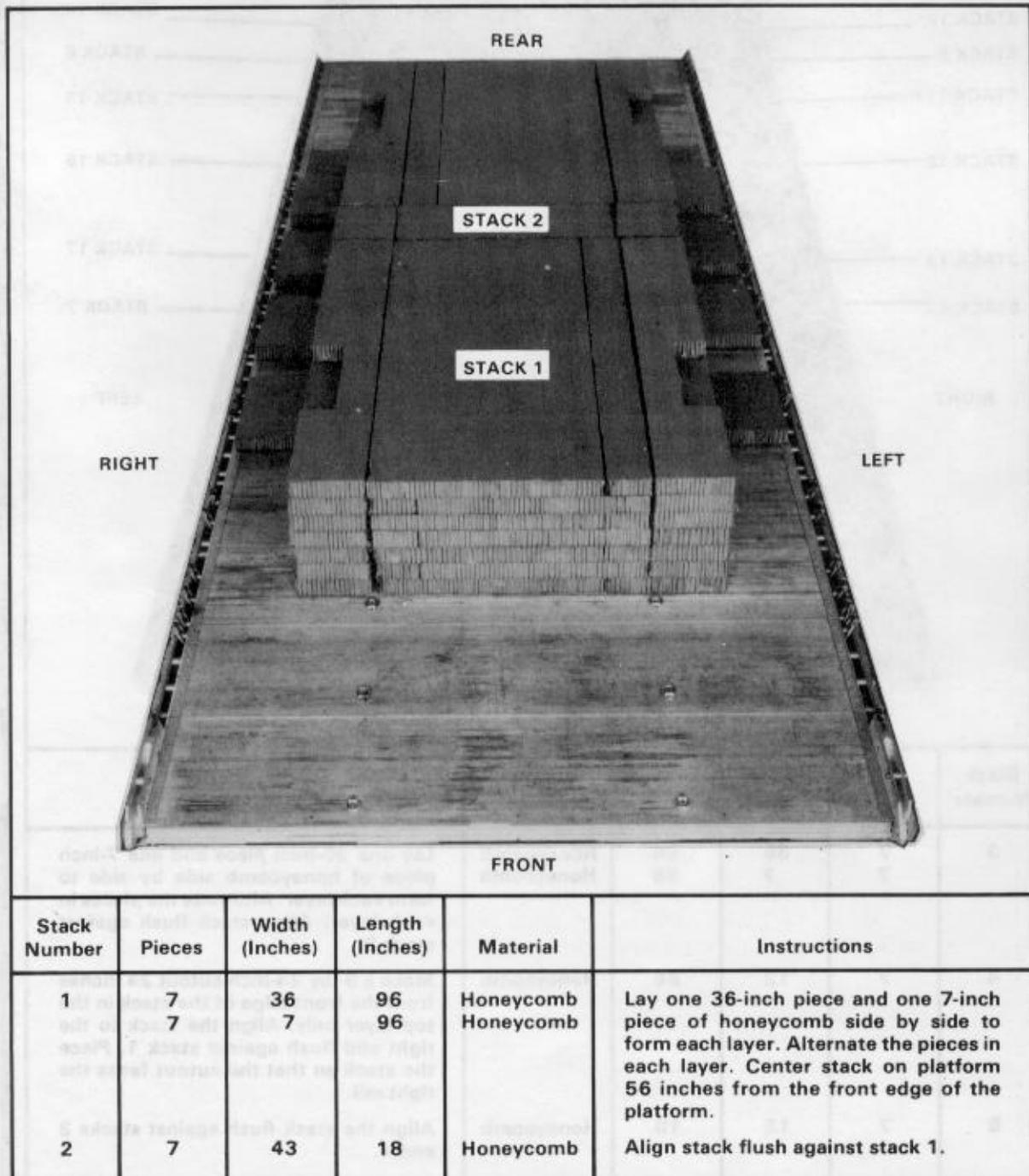
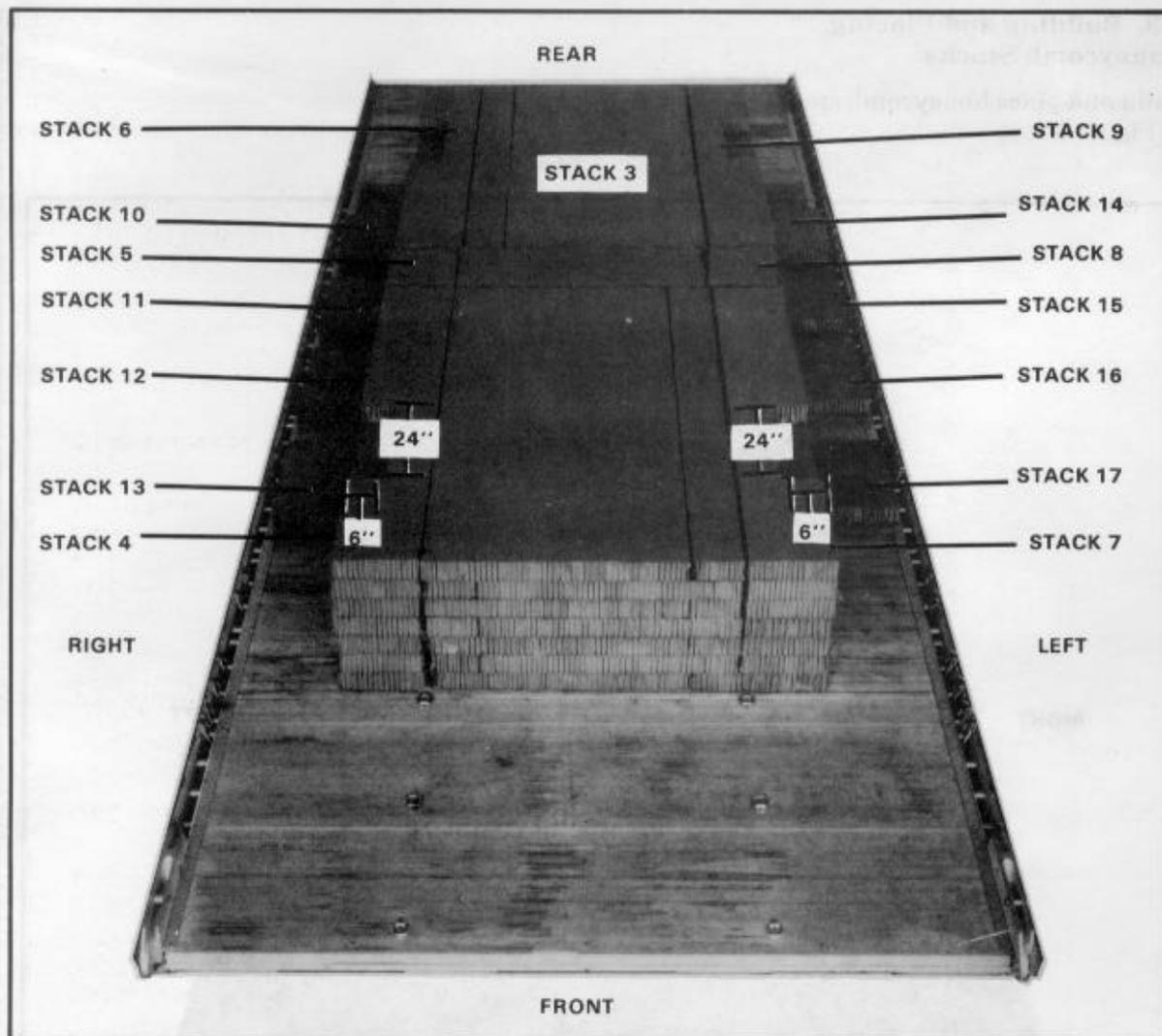


Figure 5-2. Honeycomb stacks prepared and placed on platform



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3	7 7	36 7	96 96	Honeycomb Honeycomb	Lay one 36-inch piece and one 7-inch piece of honeycomb side by side to form each layer. Alternate the pieces in each layer. Align stack flush against stack 2.
4	7	12	96	Honeycomb	Make a 6- by 24-inch cutout 24 inches from the front edge of the stack in the top layer only. Align the stack to the right and flush against stack 1. Place the stack so that the cutout faces the right rail.
5	7	12	18	Honeycomb	Align the stack flush against stacks 2 and 4.

Figure 5-2. Honeycomb stacks prepared and placed on platform (continued)

Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
6	7	12	96	Honeycomb	Make a 6- by 24-inch cutout 24 inches from the rear edge of the stack on the top layer only. Align the stack flush against stacks 3 and 5. Place the stack so that the cutout faces the right rail.
7	7	12	96	Honeycomb	Make a 6- by 24-inch cutout 24 inches from the front edge of the stack in the top layer only. Align the stack to the left and flush against stack 1. Place the stack so that the cutout faces the left rail.
8	7	12	18	Honeycomb	Align the stack flush against stacks 2 and 7.
9	7	12	96	Honeycomb	Make a 6- by 24-inch cutout 24 inches from the rear edge of the stack on the top layer only. Align the stack flush against stacks 3 and 8. Place the stack so that the cutout faces the left rail.
10	1	16	24	Honeycomb	Position honeycomb 108 inches from the rear edge of the platform, 2 1/2 inches from the outside right rail.
11	1	16	24	Honeycomb	Position honeycomb 12 inches from stack 10.
12	1	16	24	Honeycomb	Position honeycomb 12 inches from stack 11.
13	1	16	24	Honeycomb	Position honeycomb 12 inches from stack 12.
14	1	16	24	Honeycomb	Position honeycomb 108 inches from the rear edge of the platform, 2 1/2 inches from the outside left rail.
15	1	16	24	Honeycomb	Position honeycomb 12 inches from stack 14.
16	1	16	24	Honeycomb	Position honeycomb 12 inches from stack 15.
17	1	16	24	Honeycomb	Position honeycomb 12 inches from stack 16.

Figure 5-2. Honeycomb stacks prepared and placed on platform (continued)

#### 5-4. Preparing ARAAV

**NOTE:** Only authorized ARAAV maintenance personnel may prepare the vehicle for airdrop.

Prepare the ARAAV for airdrop as described in TM 9-2350-230-10 and as described below.

*a.* Make sure the fuel tank is not more than 1/2 full.

*b.* Disconnect the wiring harness quick-disconnects from the cupola traverse control switch assembly.

*c.* Remove the ammunition tray, the commander's ballistic shields, and the 50-caliber machine gun to be stowed later.

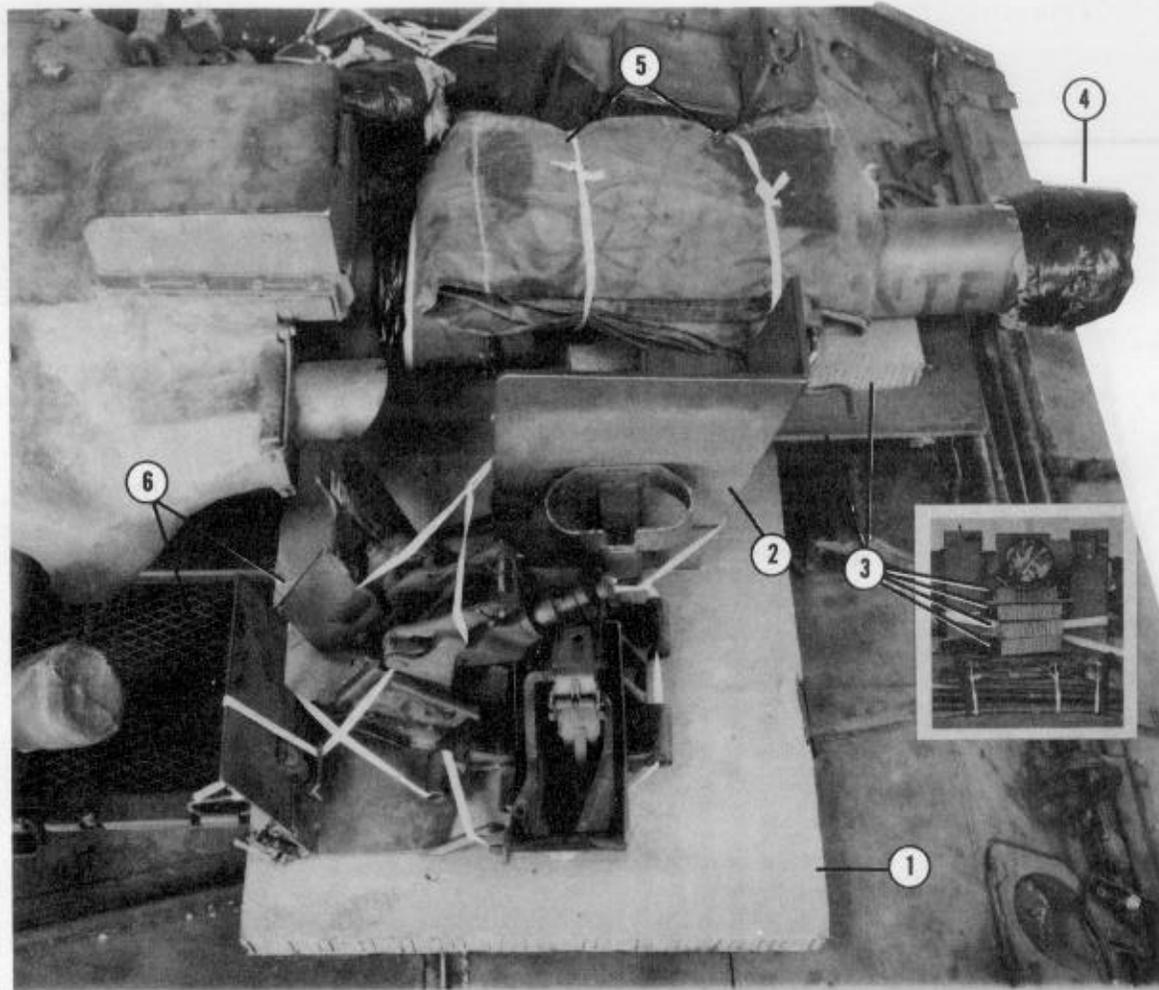
*d.* Remove the machine gun cradle, pintle assembly, and the pintle support. Place all

bolts and flat washers in the 20-millimeter ammunition box located on the turret stowage rack.

*e.* Remove the left and right cupola hatch covers, and place all screw bolts in the 20-millimeter ammunition box.

*f.* Remove the main antenna mount and auxiliary mount. Wrap them in cellulose wadding, and place them between the rear air bottle and the gas particulate filter. Secure them to the commander's floor support with 1/2-inch tubular nylon webbing.

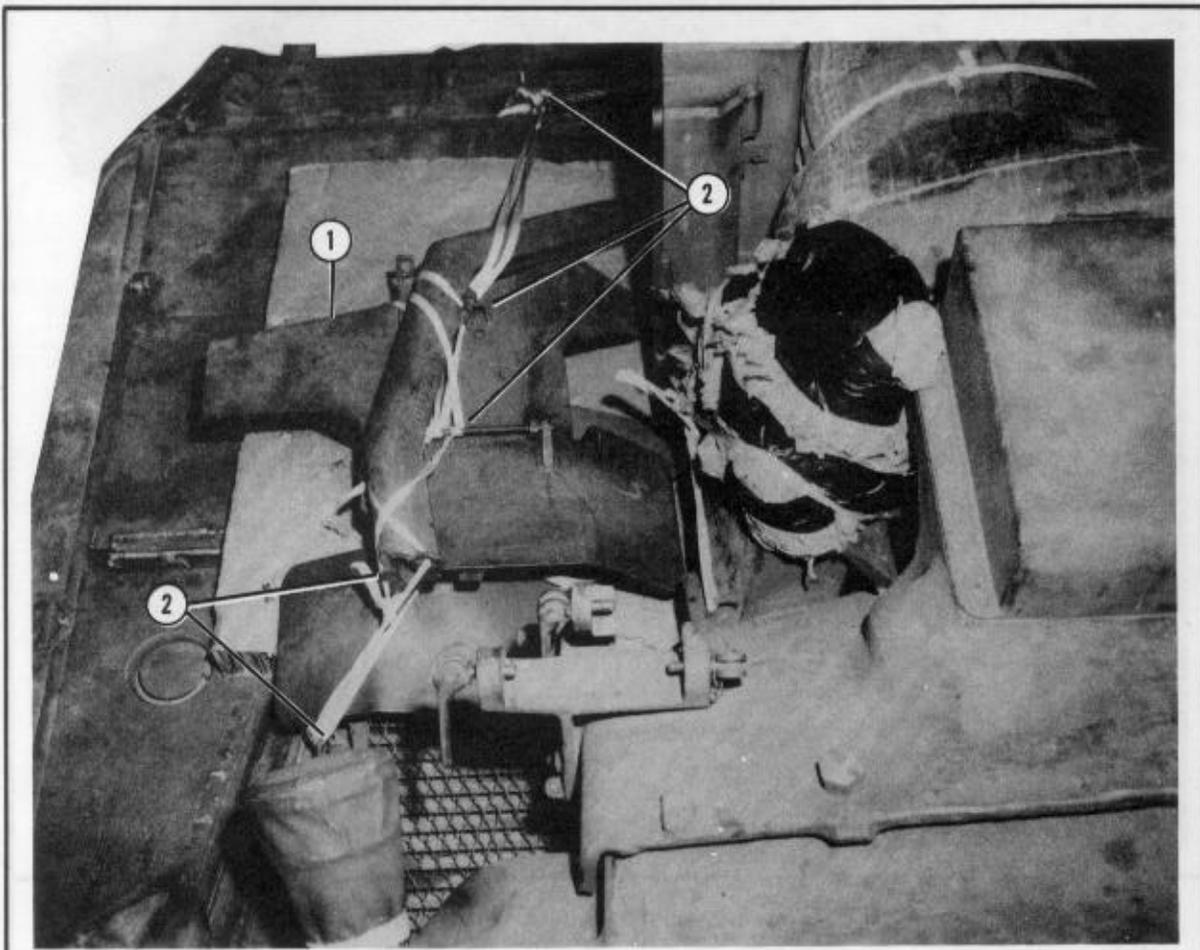
*g.* Secure the gun, the commander's rear ballistic shield, and other components as shown in Figure 5-3.



- ① Place a 36- by 84-inch piece of honeycomb under the gun barrel. Raise the gun barrel.
- ② Position the commander's rear ballistic shield on the honeycomb under the barrel with the door toward the rear of the vehicle.
- ③ Place three 12- by 12-inch pieces of honeycomb under the shield of the gun. Place one additional 12- by 12-inch piece of honeycomb on top of the shield under the barrel of the gun.
- ④ Lower the gun to the traveling position. Cover the muzzle of the gun with cellulose wadding, and tape it in place.
- ⑤ Fold the tarpaulin, and place it on the top of the gun. Tie the cover to the gun with 1/2-inch tubular nylon webbing.
- ⑥ Place the 50-caliber machine gun mount, pintle, and ammunition tray on the honeycomb at the left rear of the vehicle. Secure them to the lifting handles and binocular rack with 1/2-inch tubular nylon webbing.

*Figure 5-3. Gun, commander's rear ballistic shield, and other items secured*

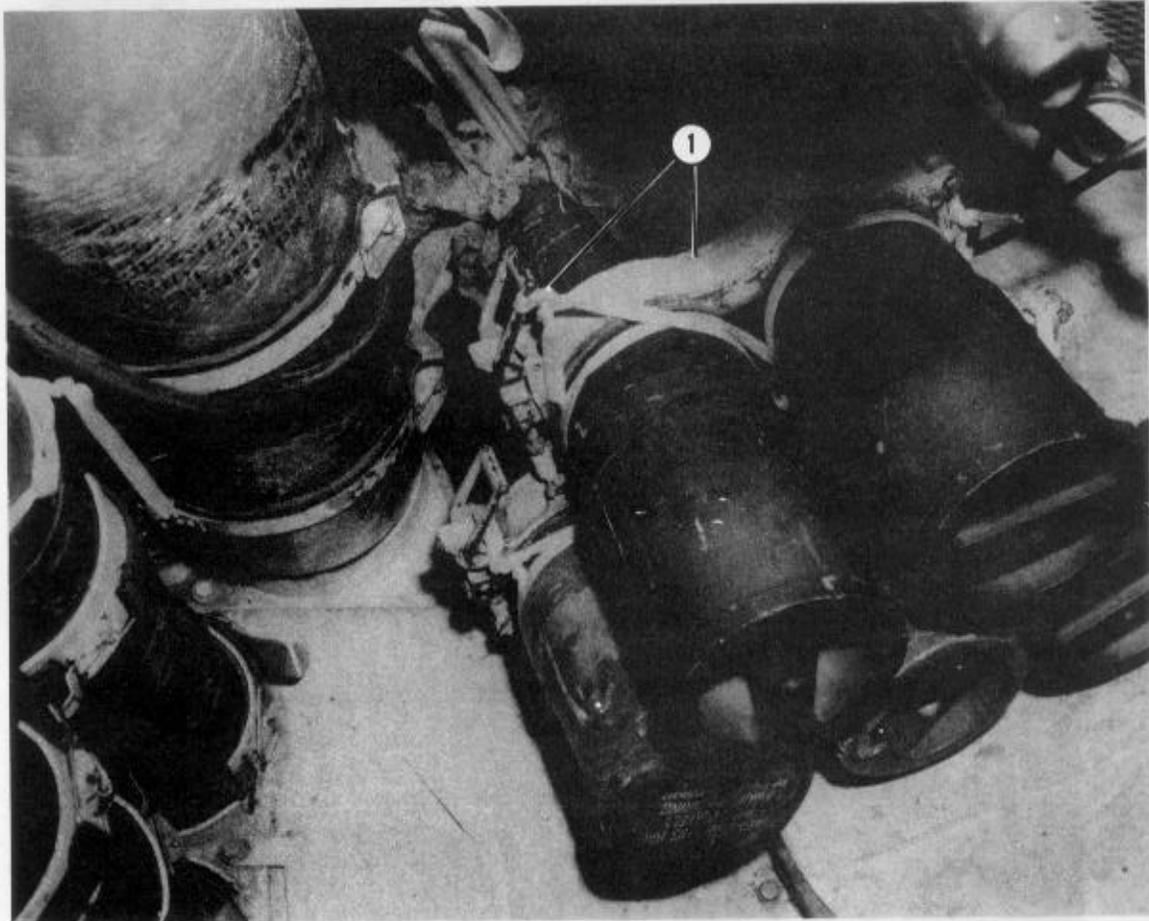
*h.* Stow the commander's front ballistic shield and the range finder cable guard as shown in Figure 5-4.



- ① Place the front ballistic shield and laser range finder cable guard on the honeycomb.
- ② Run a length of 1/2-inch tubular nylon webbing through the hinge pin and through the handle of the front ballistic shield to the right rear lifting handle. Pass the webbing through the lifting handle, and secure the webbing to both lifting handles.

*Figure 5-4. Front ballistic shield and range finder cable guard secured*

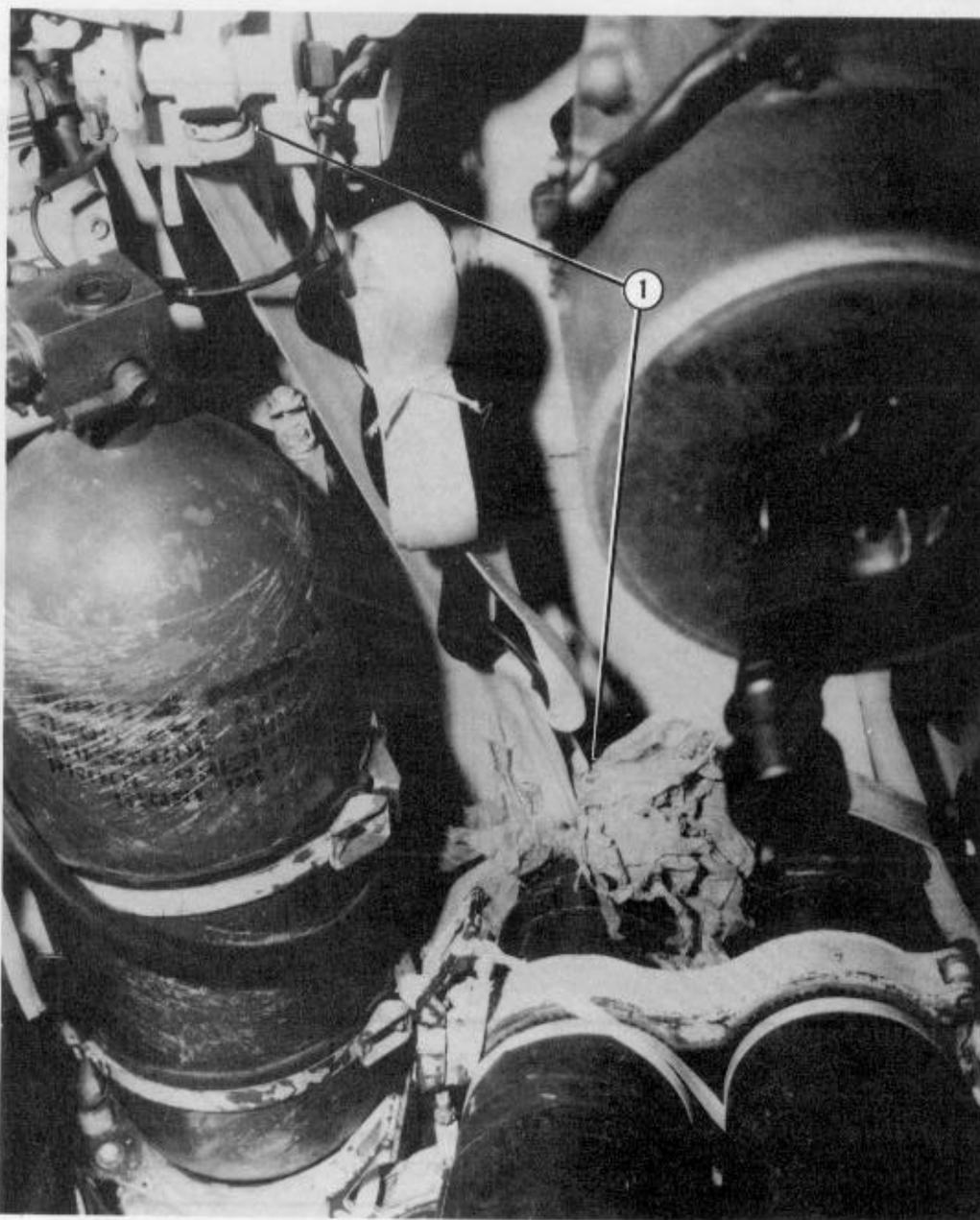
i. Prepare the inside and outside of the vehicle as shown in Figures 5-5 through 5-17.



- ① Position and secure ammunition in the ammunition racks, and safety tie the ammunition with 1/2-inch tubular nylon webbing.

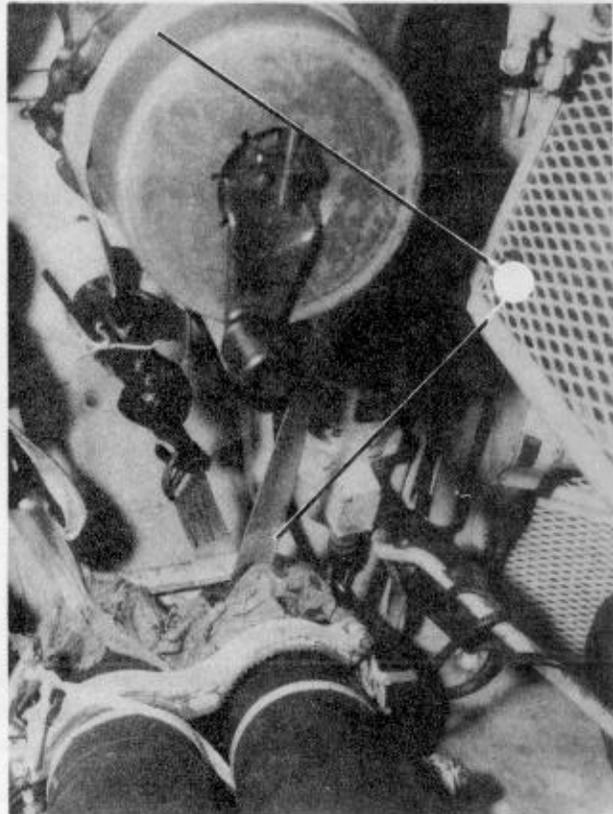
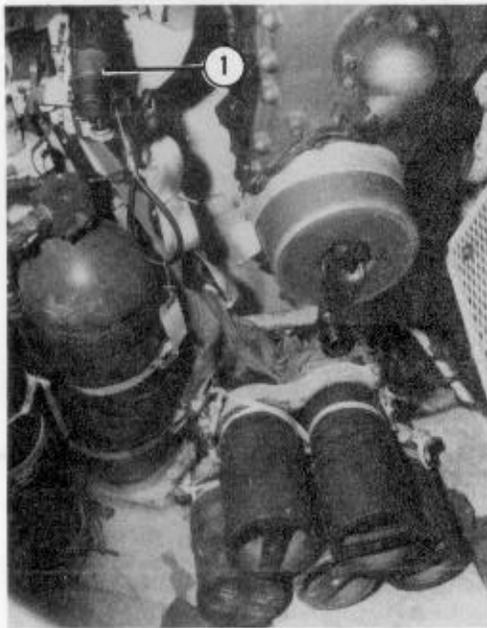
**Note:** This load contains 20 conventional rounds and nine missiles. The basic ammunition load will vary with the mission.

*Figure 5-5. Ammunition positioned and secured*



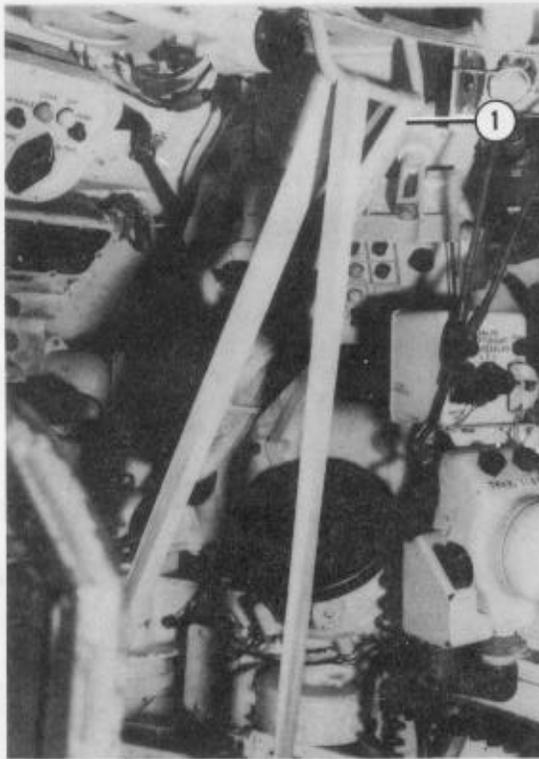
- ① Run a 15-foot tiedown strap through the ammunition storage rack, under the gun tube, and around the coaxial gun-mounting bracket. Hook the ends of the strap together with a D-ring and a load binder.

*Figure 5-6. Ammunition storage rack secured*



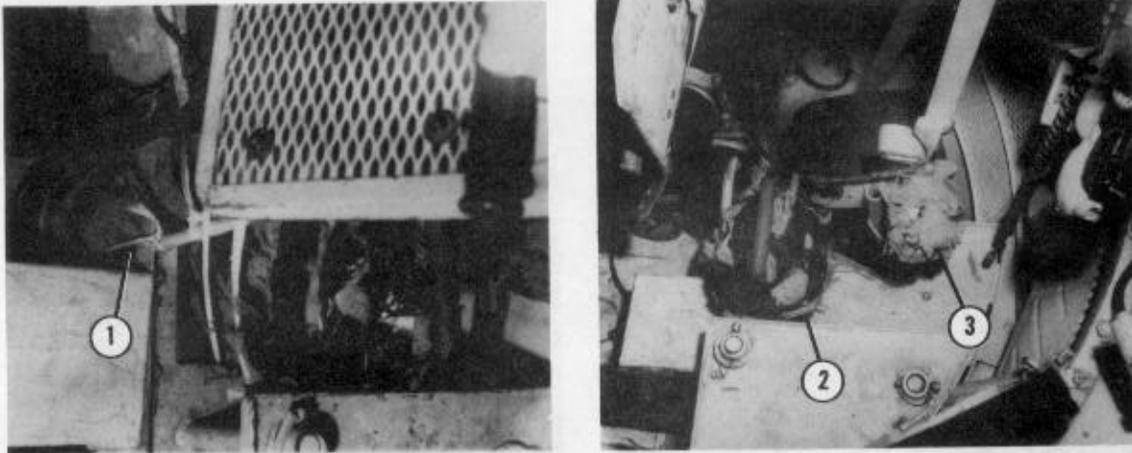
- ① Mount the M240 coaxial gun in its mount.
- ② Run a 15-foot tiedown strap through the ammunition rack, under the cable, and up over the front of the breech to the rear of the breech lock handle. Secure the ends of the strap together with a D-ring and a load binder.

*Figure 5-7. Coaxial gun and breech secured*



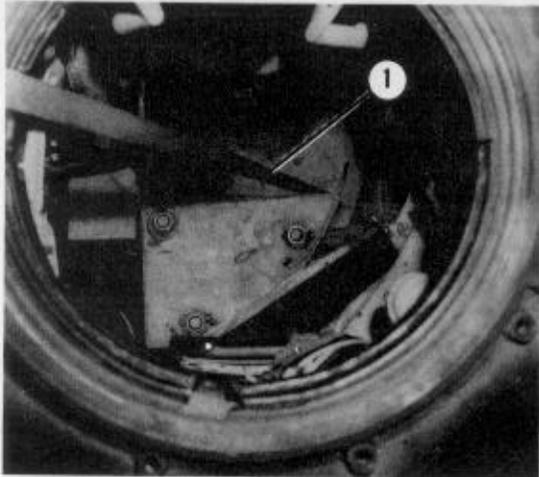
- ① Run a 15-foot tiedown strap around the turret motor (not shown) and through the gunner's right handhold. Secure the ends of the strap with a D-ring and a load binder.
- ② Run a 15-foot tiedown strap under the gunner's seat and through the gunner's right handhold. Hook the ends of the strap together with a D-ring and a load binder.

*Figure 5-8. Turret motor and gunner's seat secured*



- ① Place the communications set on the floor between the conventional ammunition storage rack and the gas particulate filter unit. Secure the set to the ammunition storage mount and the gunner's seat mount with 1/2-inch tubular nylon webbing.
- ② Wrap the chemical agent alarm detector unit in cellulose wadding, and secure the unit to the left leg guard of the tank commander's seat floor with 1/2-inch tubular nylon webbing.
- ③ Secure the M-11 decontaminating apparatus to the back of the gunner's seat with 1/2-inch tubular nylon webbing. Wrap the top of the apparatus with cellulose wadding.

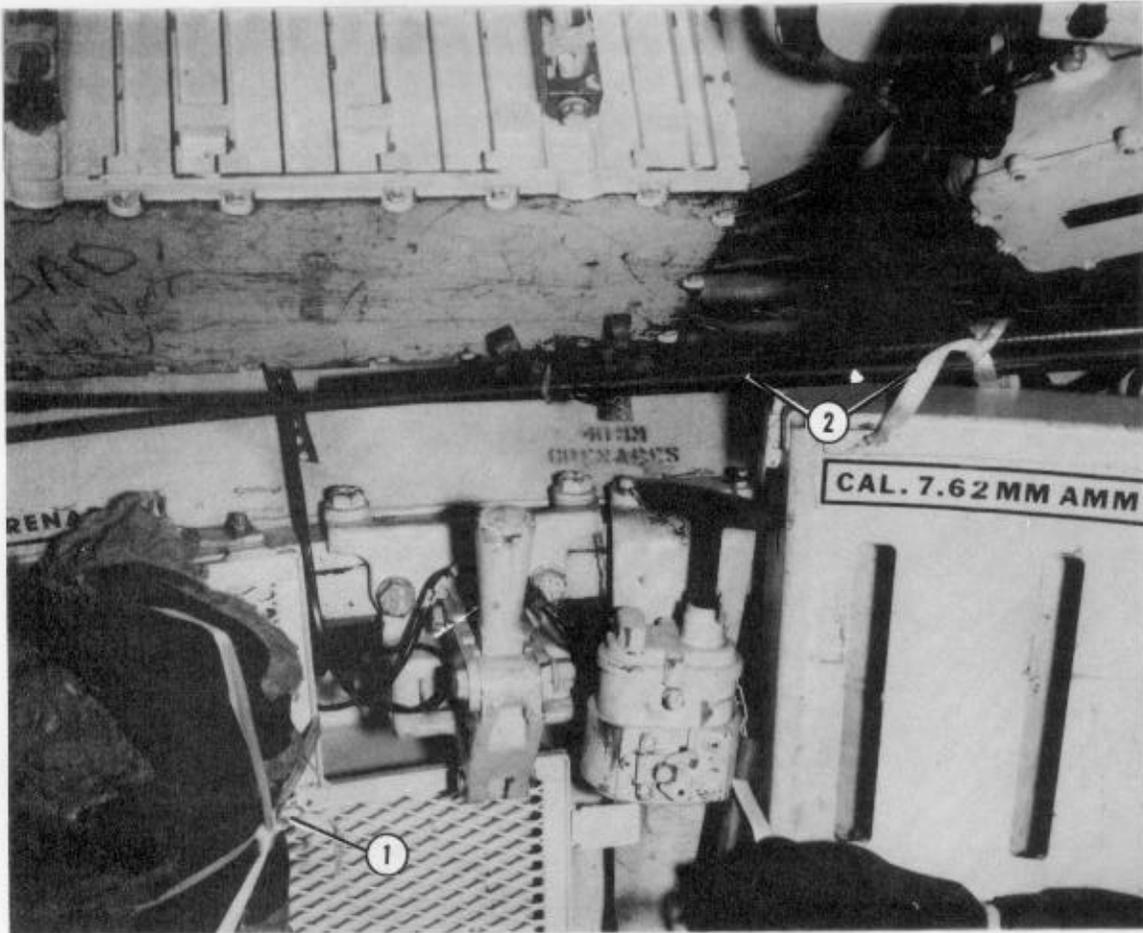
*Figure 5-9. Communications set, chemical unit, and M-11 decontaminating apparatus secured*



- ① Run a 15-foot tiedown strap under the commander's floor and through the commander's and loader's hatches. Hook the ends of the strap together with a D-ring and a load binder.
- ② Run a 15-foot tiedown strap through and under the loader's seat and through the binocular storage racks. Hook the ends of the strap together with a D-ring and a load binder.

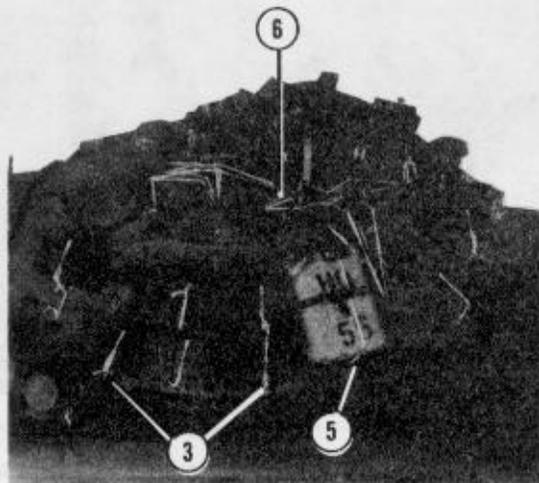
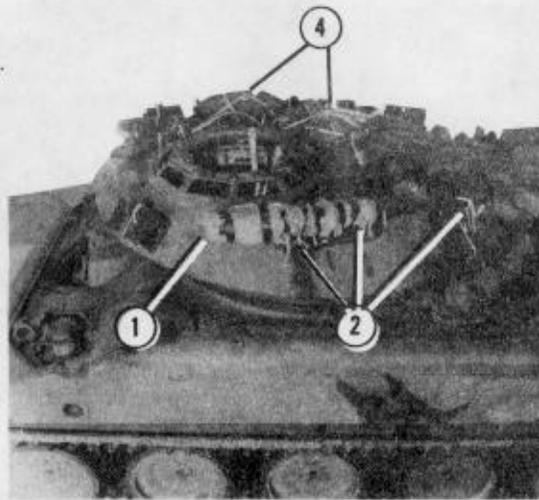
**Note:** If the binocular storage racks are not installed, run the lashing through the antenna mount hole on top of the turret.

*Figure 5-10. Binocular storage racks secured*



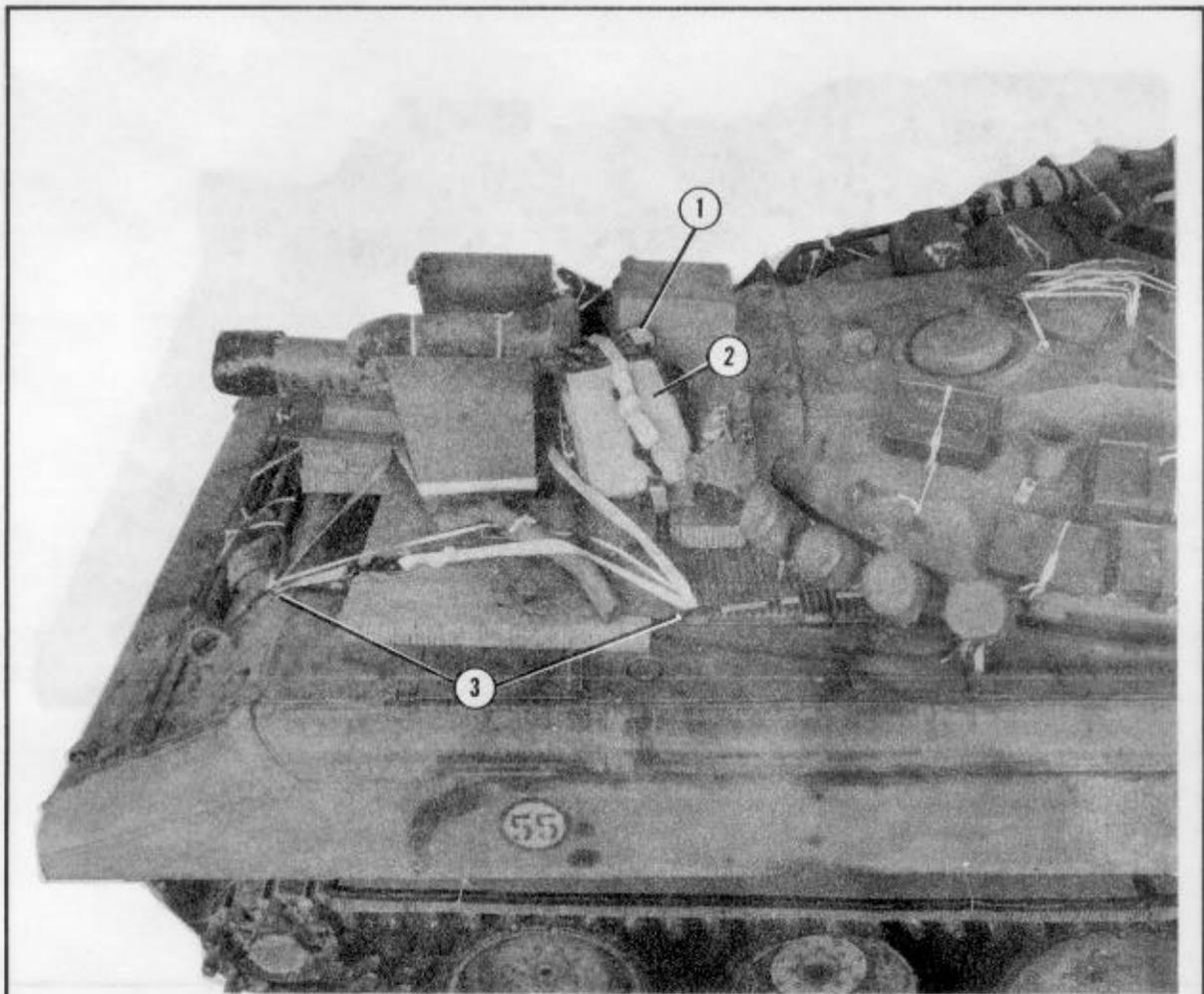
- ① Wrap the CVC helmets with cellulose wadding, and secure them at each station with 1/2-inch tubular nylon webbing.
- ② Secure the antennas to convenient points on the inside of the turret wall above the loader position.

Figure 5-11. CVC helmets and antennas secured



- ① Pad the machine gun, its handle, and the traverse mechanism switch assembly with cellulose wadding. Tape the padding in place.
- ② Position the machine gun on the right side of the turret, and secure it with 1/2-inch tubular nylon webbing.
- ③ Secure the 50-caliber ammunition to the turret with 1/2-inch tubular nylon webbing.
- ④ Secure the left and right cupola hatch covers to the turret with 1/2-inch tubular nylon webbing.
- ⑤ Position the 5-gallon oilcan on the right side of the turret, and secure it with 1/2-inch tubular nylon webbing.
- ⑥ Secure the hatch cover on top of the turret with 1/2-inch tubular nylon webbing.

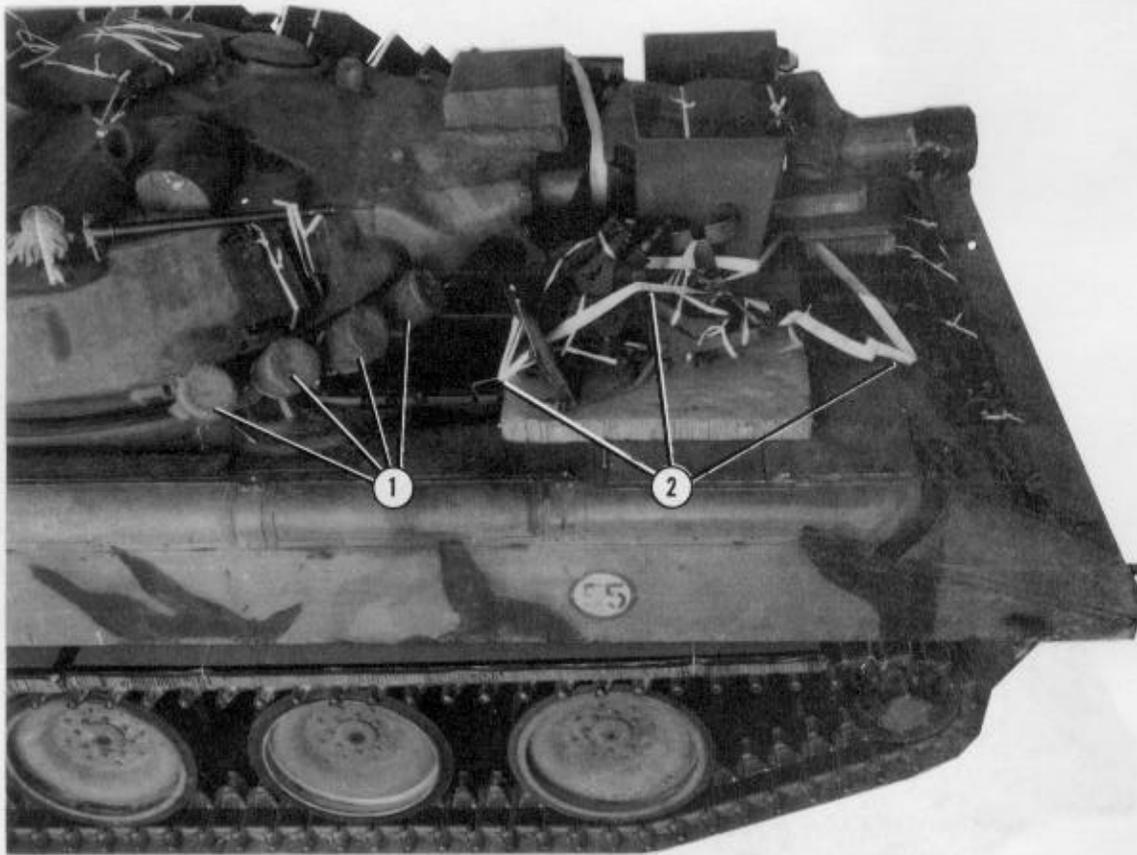
Figure 5-12. Gun, ammunition, cupola hatch covers, and oilcan secured



- ① Wrap the laser range finder in cellulose wadding, and position it between the ballistic shield and the left side of the gun barrel. Secure the range finder with 1/2-inch tubular nylon webbing.
- ② Place a 12- by 16-inch piece of honeycomb on the side of the laser range finder. Secure it in place with a lashing, two D-rings, and a load binder.
- ③ Wrap a 15-foot lashing around the left side of the ballistic shield. Run one end through the forward lifting handle on the right side of the vehicle and over the ballistic shield support and cable guard. Run the other end through the rear lifting handle on the right side of the vehicle. Join the ends with D-rings and a load binder.

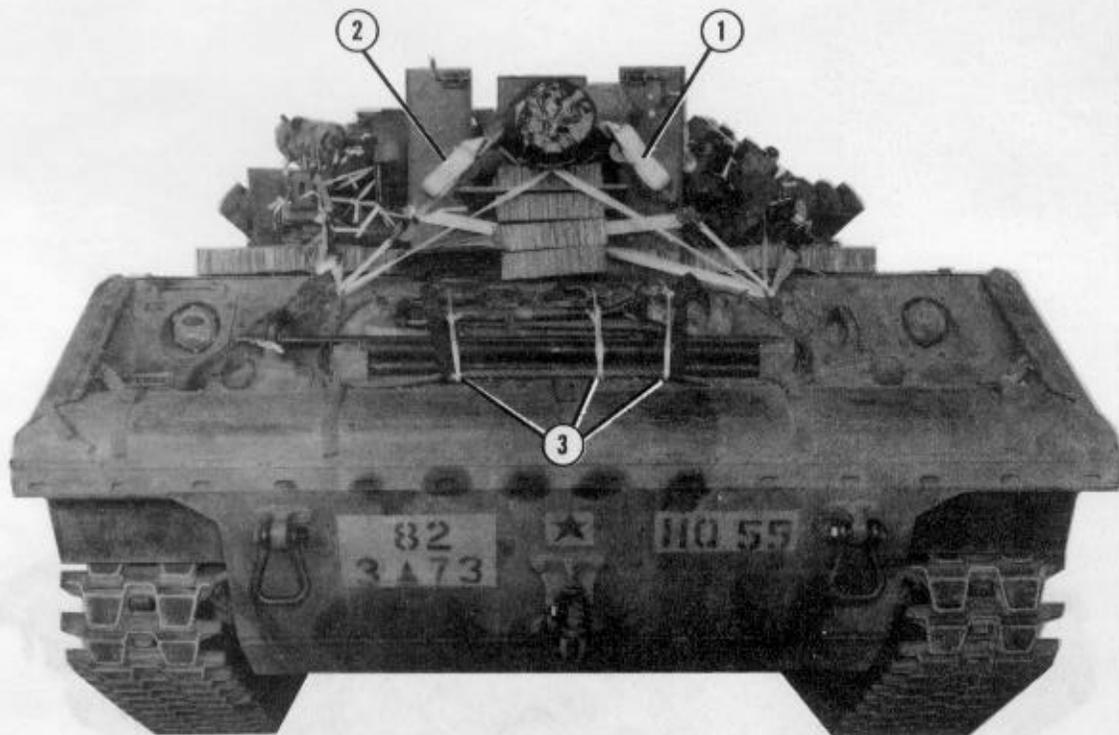
**Note:** Place the extra track shoes, if included with the vehicle, on the sheet of honeycomb next to the laser range finder. Secure all items with 1/2-inch tubular nylon webbing (not shown).

*Figure 5-13. Laser range finder and ballistic shield secured*



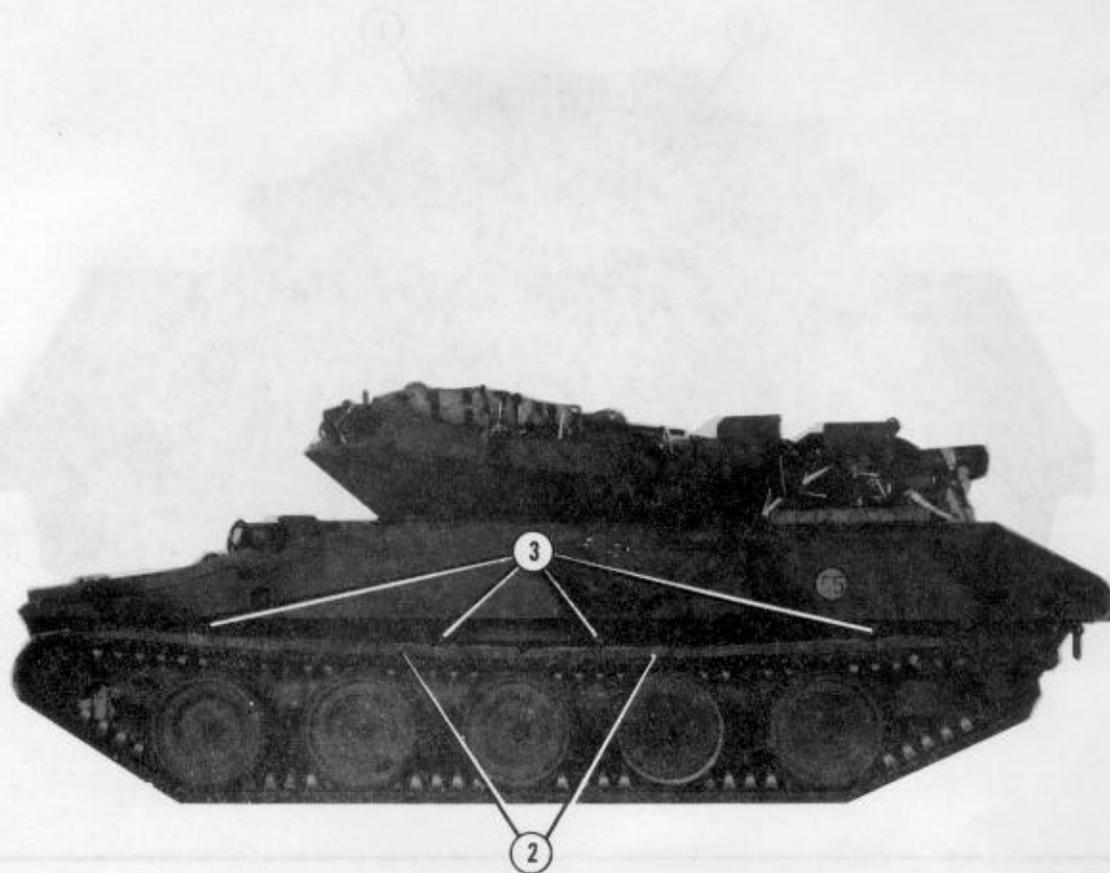
- ① Wrap the grenade launchers with cellulose wadding; or use covers, if provided.
- ② Wrap a tiedown strap around the left side of the ballistic shield. Run one end through the front lifting handle on the left side of the vehicle, through the machine gun mount, and over the ammunition tray. Run the other end through the rear lifting handle on the left side of the vehicle. Join the ends with D-rings and a load binder.

*Figure 5-14. Grenade launchers and ballistic shield secured*



- ① Run a tiedown strap around the gun barrel and through the rear lifting handles on the left side of the vehicle. Secure the strap with a D-ring and a load binder.
- ② Run a tiedown strap around the gun barrel and through the rear lifting handles on the right side of the vehicle. Secure the strap with a D-ring and a load binder.
- ③ Secure the pioneer tools in place with the retainer straps and 1/2-inch tubular nylon webbing.

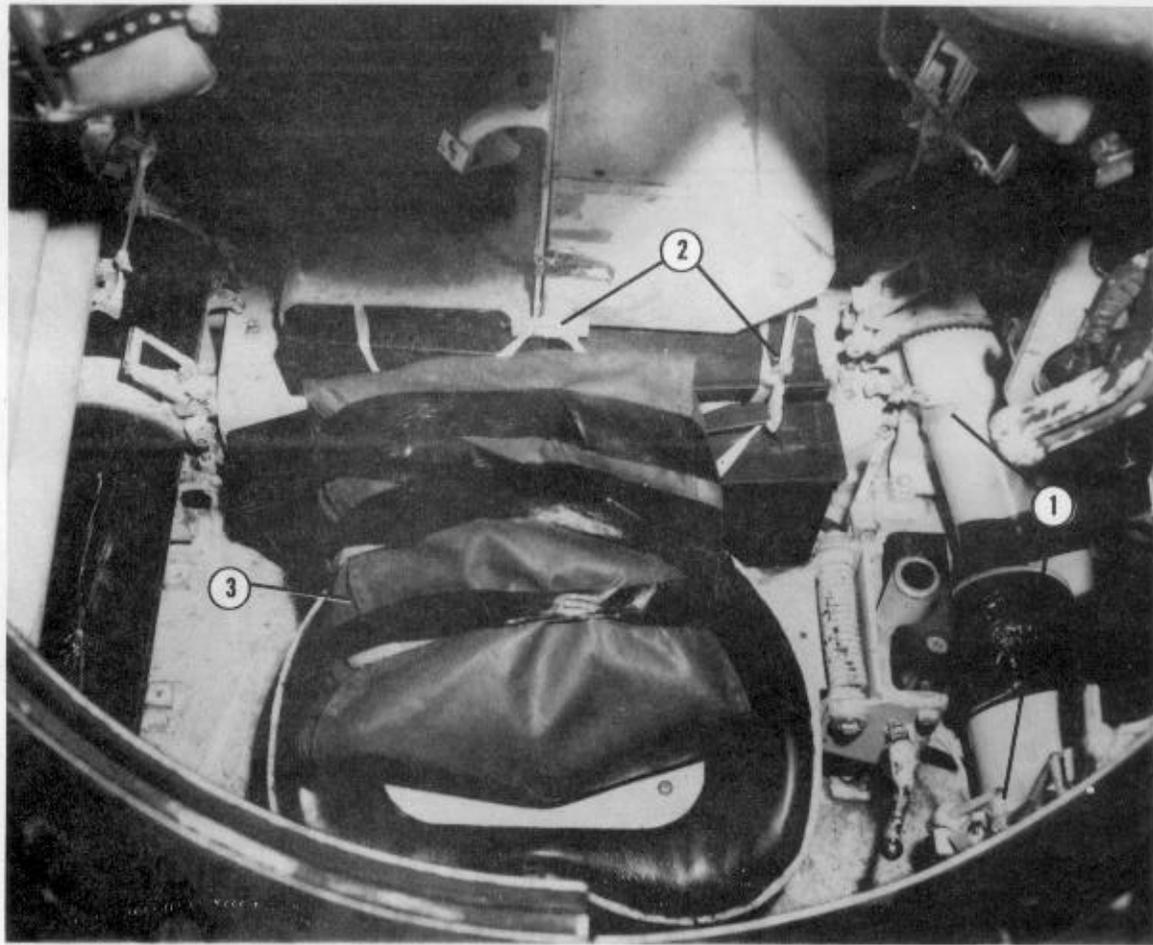
*Figure 5-15. Gun barrel and pioneer tools secured*



①  
②  
③

- ① Place two 16- by 96-inch pieces of honeycomb on the top tracks of the right side of the vehicle (not shown).
- ② Place two 16- by 96-inch pieces of honeycomb on the top tracks of the left side of the vehicle.
- ③ Secure the honeycomb on both sides of the vehicle with type III nylon cord.

Figure 5-16. Honeycomb on tracks secured

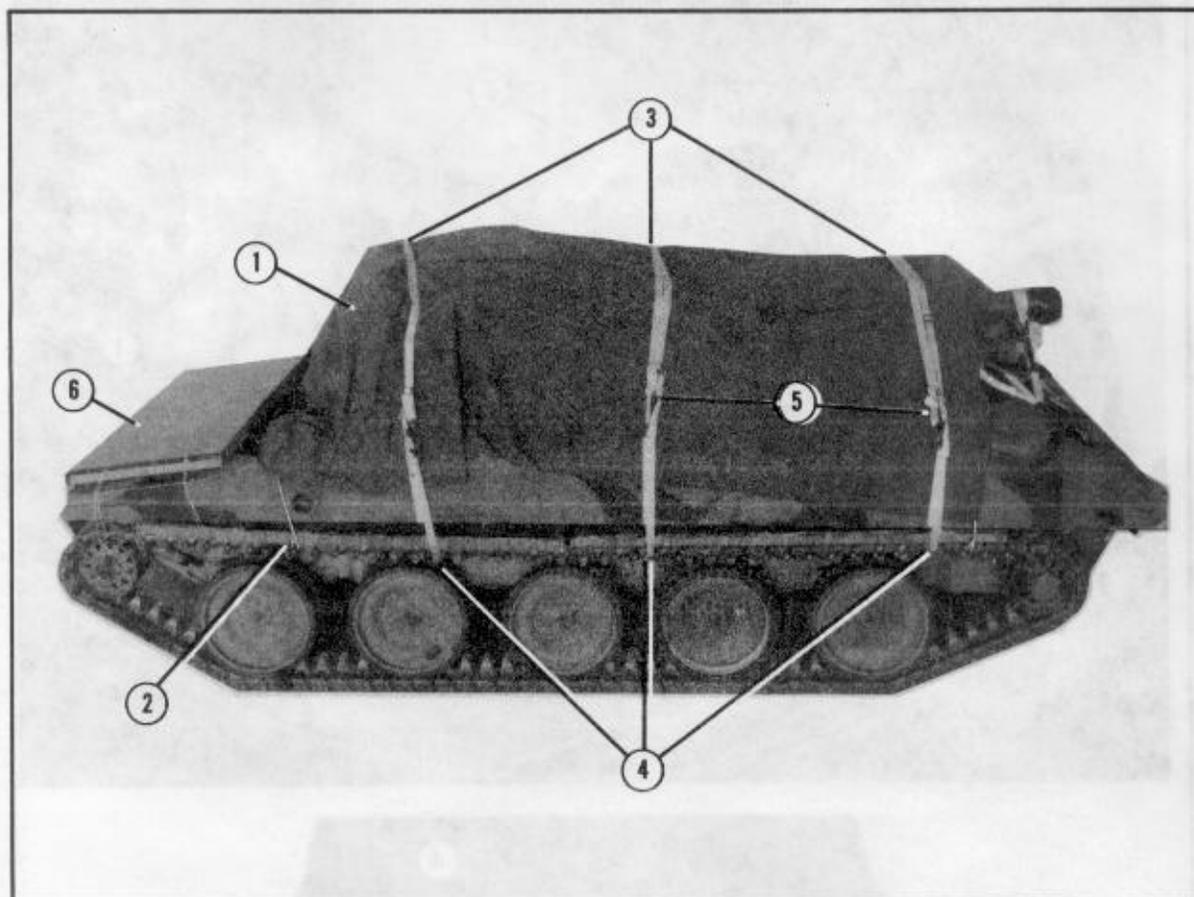


- ① Safety the missile racks and conventional racks in the driver compartment with 1/2-inch tubular nylon webbing.
- ② Safety additional cans of 20-millimeter and 7.62-millimeter rounds to the floor of the driver compartment with 1/2-inch tubular nylon webbing.
- ③ Wrap the TVS sight in its cover, and secure it with tape to the back of the driver seat.
- ④ Lock the driver hatch in the open position.

*Figure 5-17. Missile racks, ammunition, and the TVS sight secured*

### 5-5. Installing Load Cover and Track Support Tiedown Straps

Install the load cover and track support tiedown straps as shown in Figure 5-18.

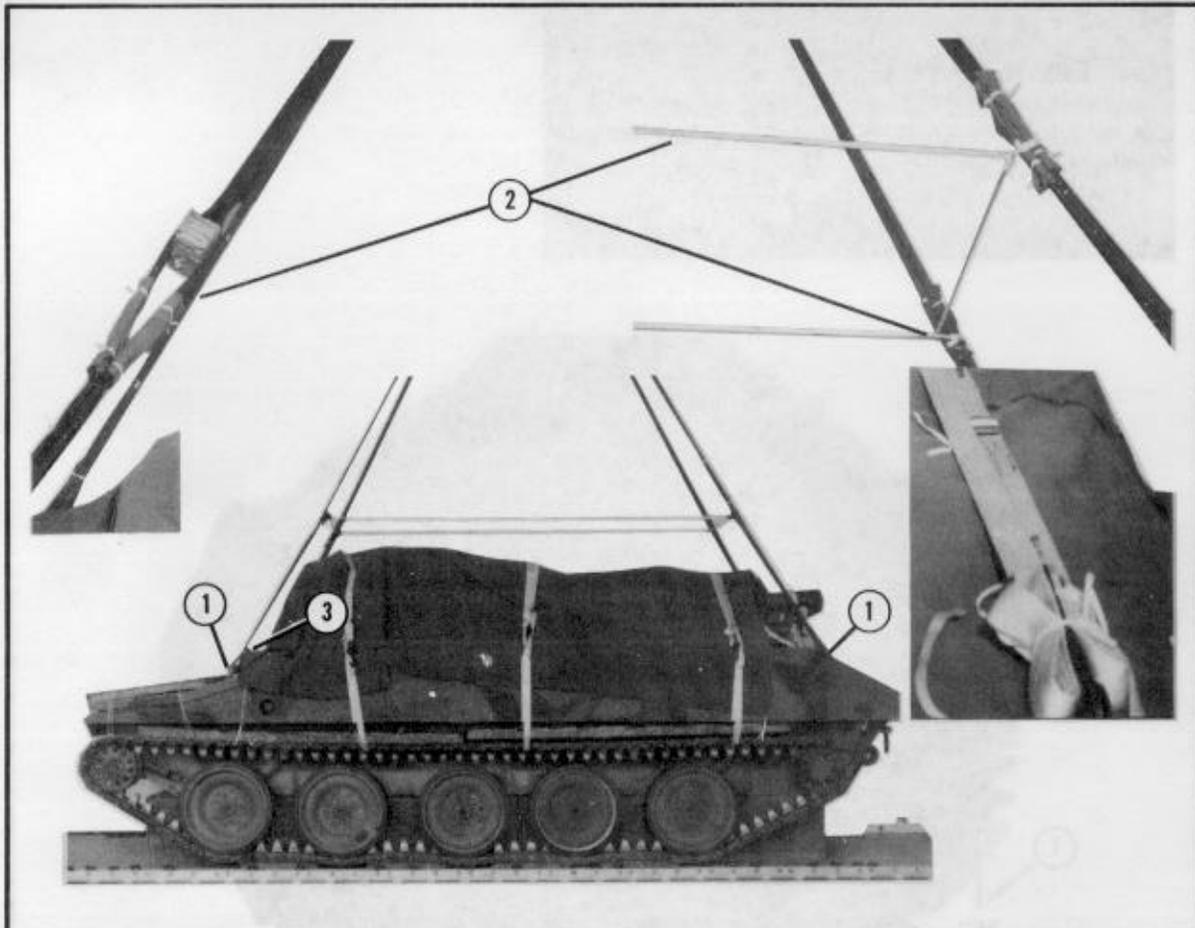


- ① Cover the load with a vehicle cover, if available. If not, use a 12- by 16-foot piece of cotton duck cloth to cover the load.
- ② Tie the corners of the cover to the track with type III nylon cord.
- ③ Run three 15-foot tiedown straps around the track on the right side of the vehicle and up through the D-ring on the end of each strap.
- ④ Run three 15-foot tiedown straps around the track on the left side of the vehicle and up through the D-ring on the end of each strap.
- ⑤ Hook the ends of the six straps together over the load with six D-rings and three load binders.
- ⑥ Place a 36- by 96-inch piece of honeycomb on top of the front of the vehicle. Secure it to convenient points with type III nylon cord.

Figure 5-18. Load cover and track support tiedown straps installed

### 5-6. Installing Suspension Slings and Deadman's Tie

Install the suspension slings and the deadman's tie as shown in Figure 5-19.



- ① Use four screw-pin clevises to install four 16-foot (4-loop), type XXVI nylon webbing suspension slings. Bolt a 16-foot sling to each front and rear suspension point with a screw-pin clevis.
- ② Prepare the deadman's tie as outlined in FM 10-500/TO 13C7-1-5. Use eight pieces of 10- by 10-inch cotton muslin to pad the suspension slings. Center one piece of cloth about 55 inches from the suspension point on one of the slings. Wrap it around four of the eight plies, and secure it with two lengths of 80-pound cotton webbing. Repeat the same procedure for the other four plies. Prepare the other three slings using these same procedures.
- ③ Push the keeper down to the attaching point.
- ④ Tape the keeper in place with masking tape or pressure-sensitive tape (not shown).

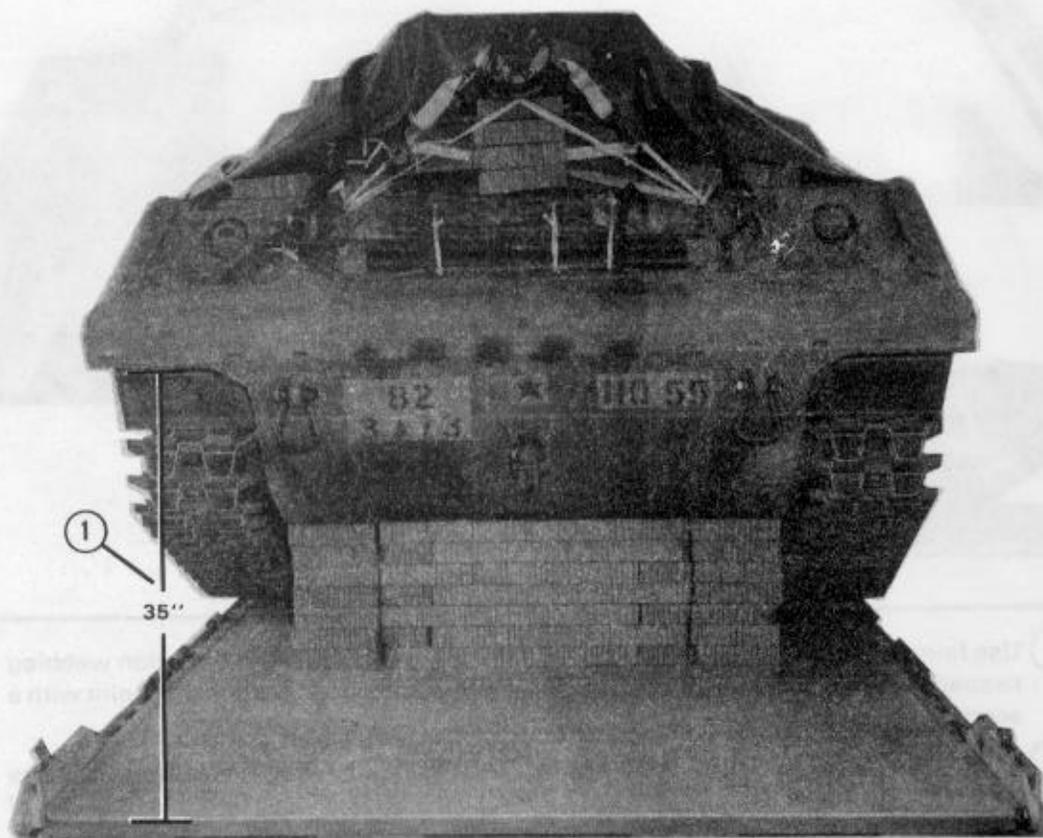
Figure 5-19. Suspension slings and deadman's tie prepared

### 5-7. Positioning ARAAV on Platform

Position the ARAAV on the platform as shown in Figure 5-20.

#### CAUTION

Alignment of the vehicle on the platform is critical. The vehicle must be positioned so that the tracks overhang the rails uniformly. The overhang must not exceed 1 inch on each side at the front and rear of the platform.



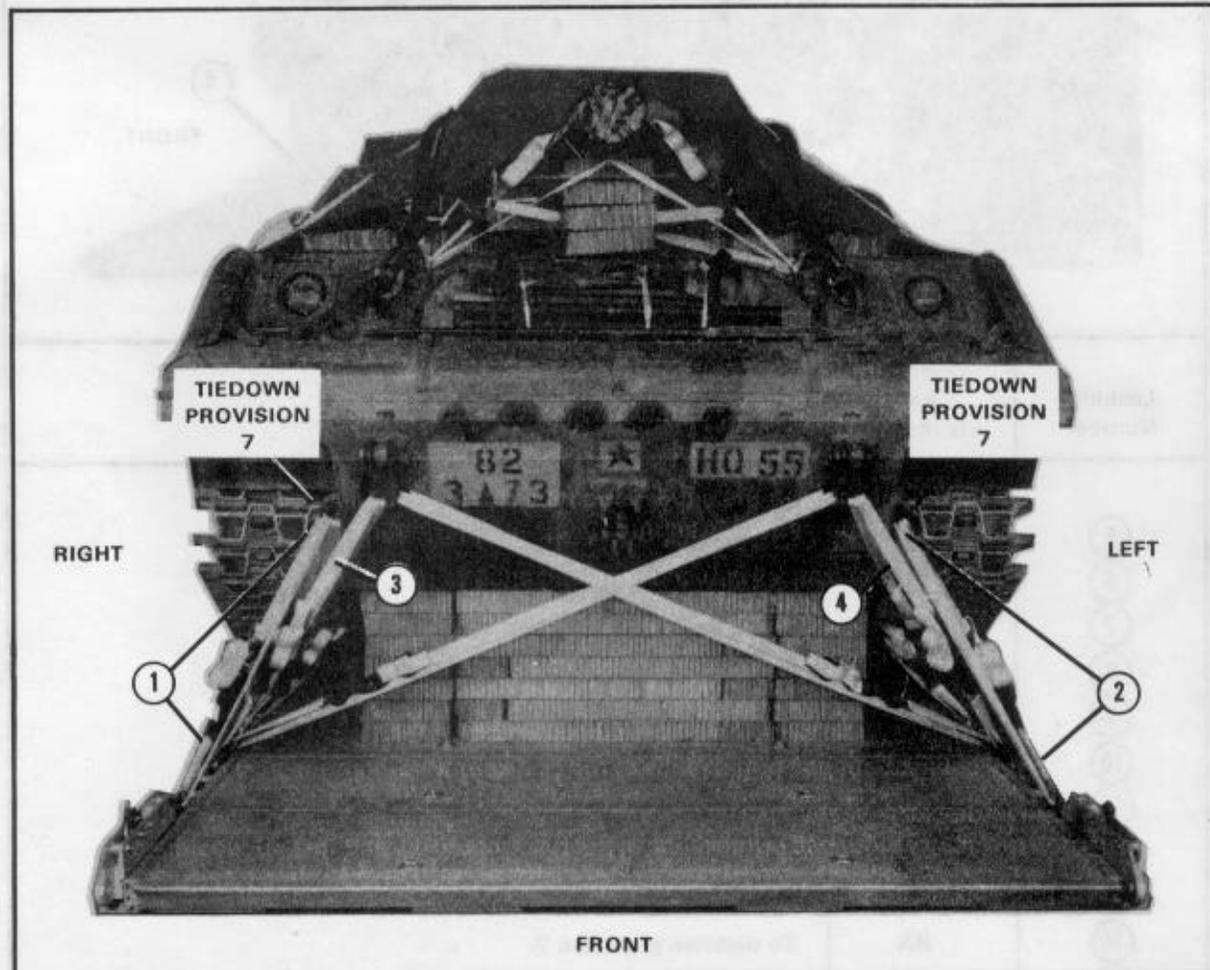
**Note:** When positioning the vehicle, make sure that the road wheels fit in the void between the honeycomb stacks.

- ① Position the ARAAV on the honeycomb stacks with the rear edge of the vehicle 35 inches from the front edge of the platform.

Figure 5-20. ARAAV positioned on the platform

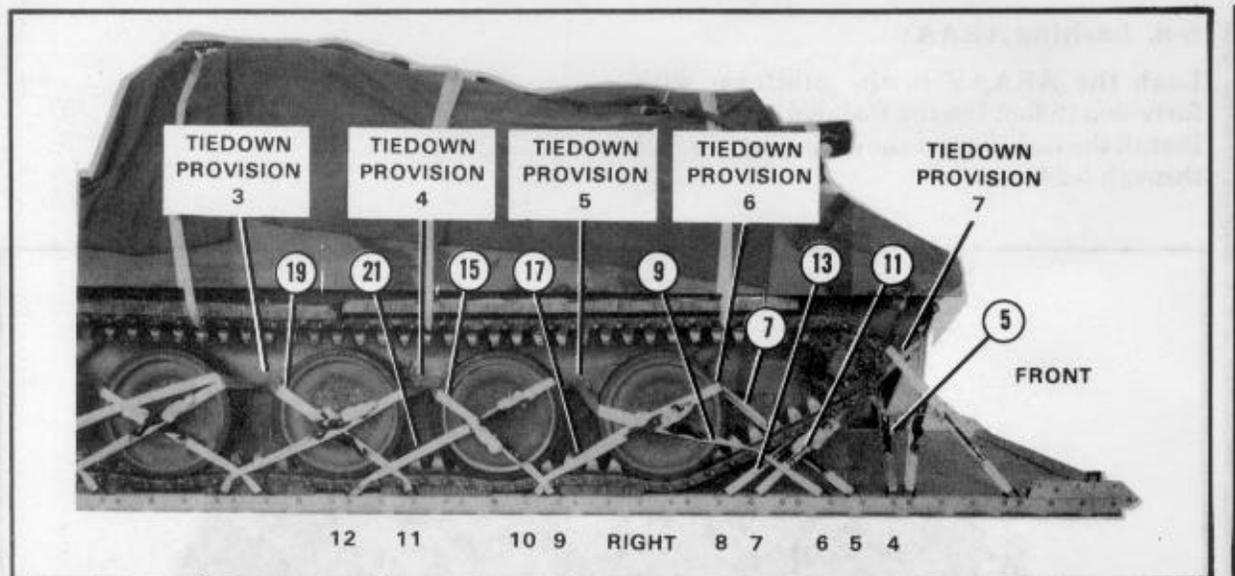
### 5-8. Lashing ARAAV

Lash the ARAAV to the platform with forty-two 15-foot Dacron tiedown assemblies. Install the lashings as shown in Figures 5-21 through 5-24.



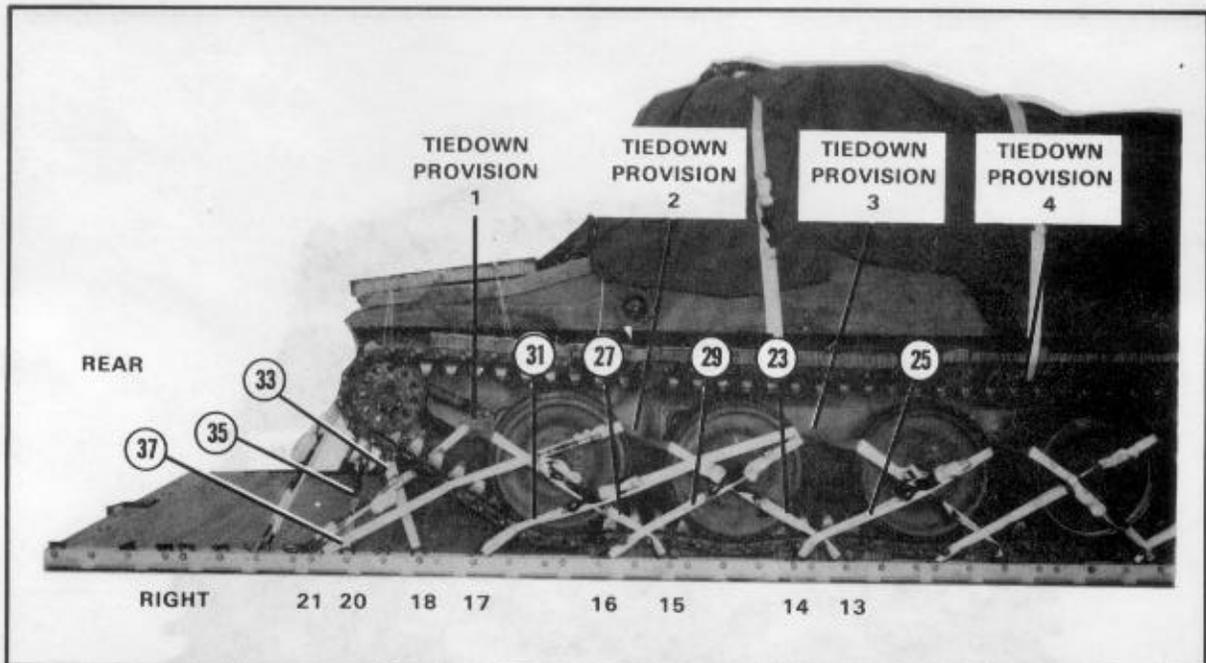
Lashing Number	Tiedown Clevis Number	Instructions
①	2	Pass lashing: To tiedown provision 7.
②	2A	To tiedown provision 7.
③	3	To rear towing clevis.
④	3A	To rear towing clevis.

Figure 5-21. Lashings 1 through 4 installed



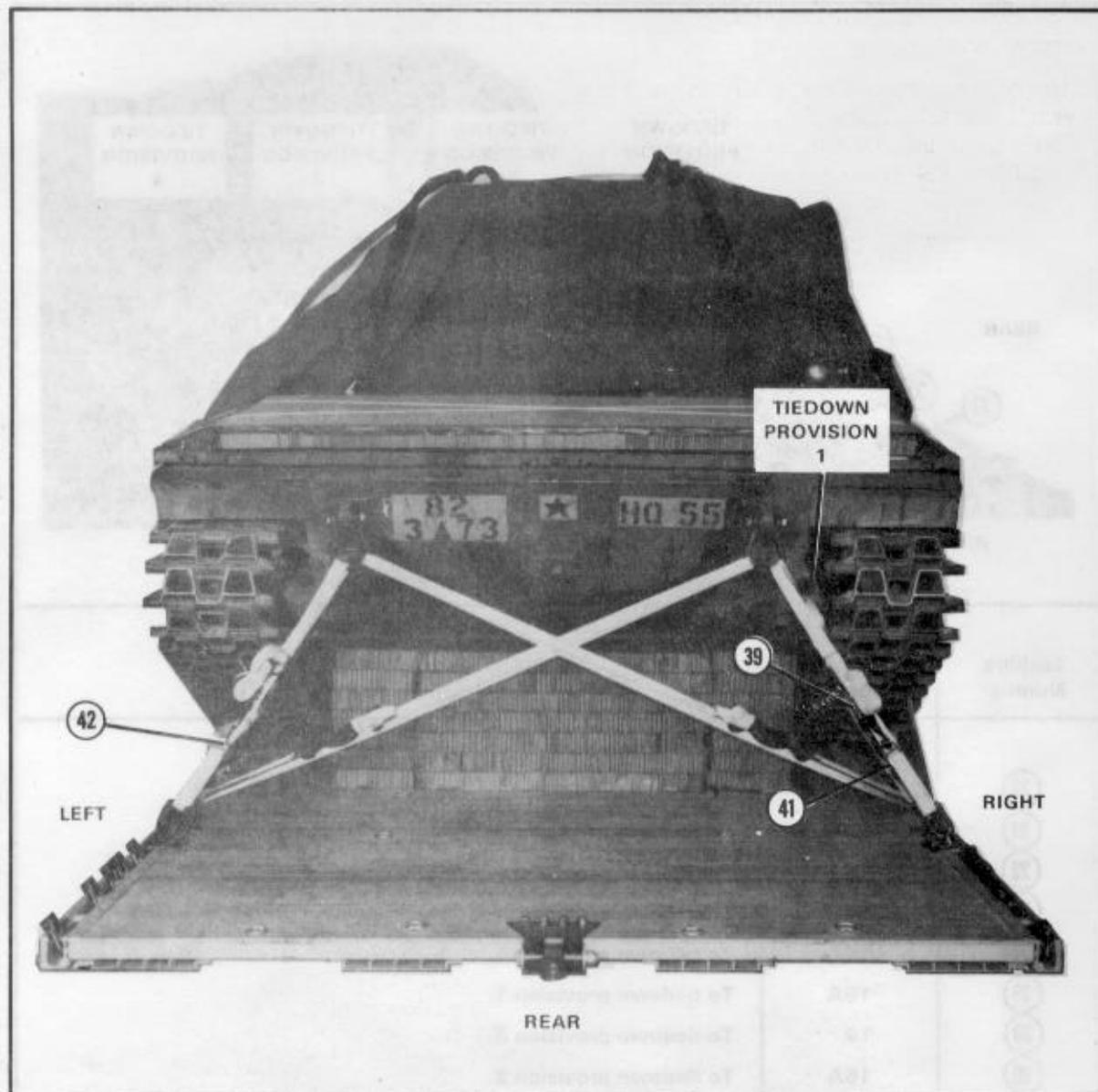
Lashing Number	Tiedown Clevis Number	Instructions
5	4	Pass lashing: To rear towing clevis.
6	4A	To rear towing clevis.
7	5	To tiedown provision 6.
8	5A	To tiedown provision 6.
9	6	To tiedown provision 5.
10	6A	To tiedown provision 5.
11	7	To rear towing clevis.
12	7A	To rear towing clevis.
13	8	To tiedown provision 7.
14	8A	To tiedown provision 7.
15	9	To tiedown provision 4.
16	9A	To tiedown provision 4.
17	10	To tiedown provision 6.
18	10A	To tiedown provision 6.
19	11	To tiedown provision 3.
20	11A	To tiedown provision 3.
21	12	To tiedown provision 5.
22	12A	To tiedown provision 5.

Figure 5-22. Lashings 5 through 22 installed



Lashing Number	Tiedown Clevis Number	Instructions
(23)	13	Pass lashing:
(24)	13A	To tiedown provision 2.
(25)	14	To tiedown provision 2.
(26)	14A	To tiedown provision 4.
(27)	14A	To tiedown provision 4.
(28)	15	To tiedown provision 1.
(29)	15A	To tiedown provision 1.
(30)	16	To tiedown provision 3.
(31)	16A	To tiedown provision 3.
(32)	17	To tiedown provision 3.
(33)	17A	To tiedown provision 3.
(34)	18	To front towing clevis.
(35)	18A	To front towing clevis.
(36)	20	To front towing clevis.
(37)	20A	To front towing clevis.
(38)	21	To tiedown provision 2.
	21A	To tiedown provision 2.

Figure 5-23. Lashings 23 through 38 installed

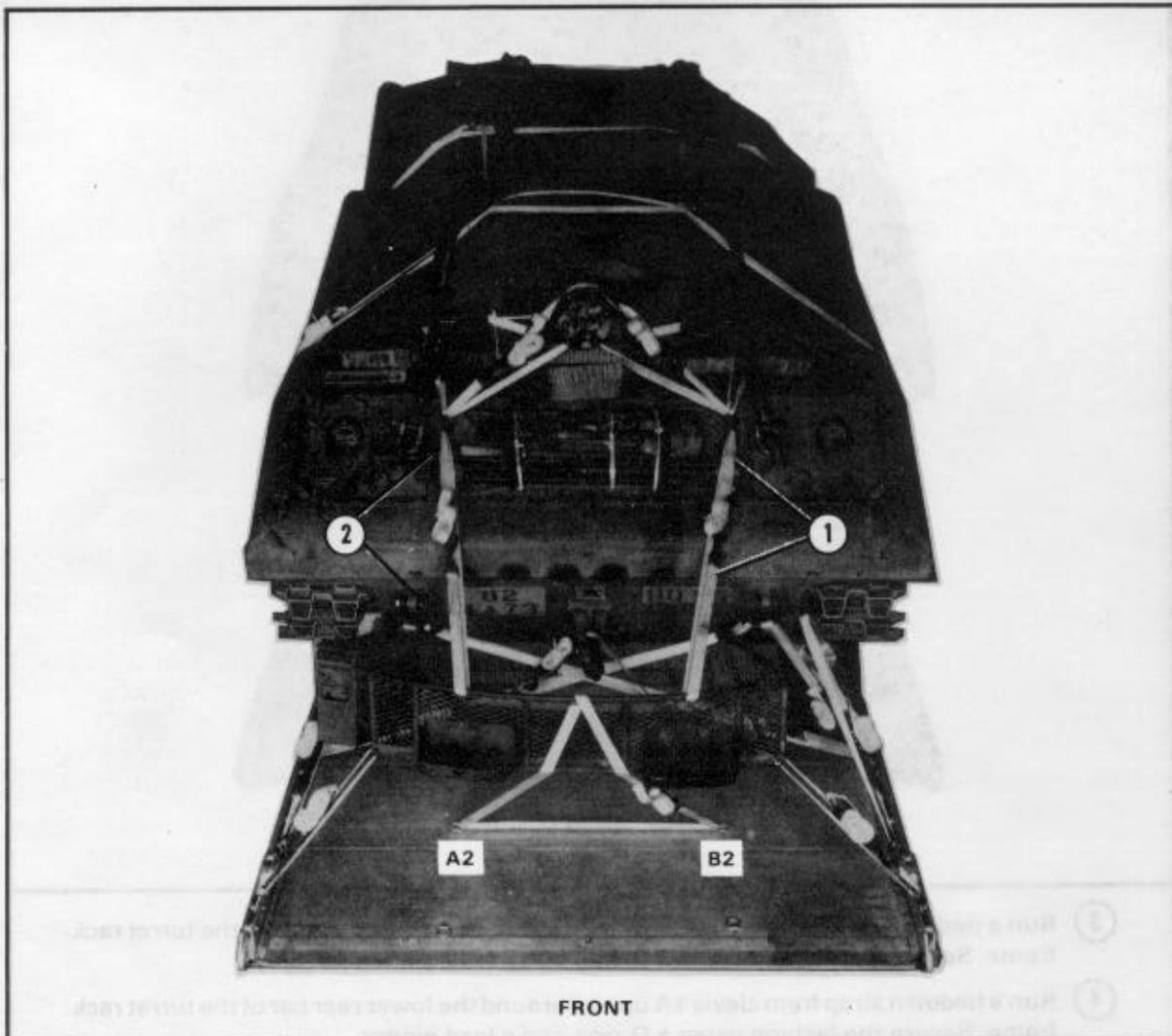


Lashing Number	Tiedown Clevis Number	Instructions
39	22 (front)	Pass lashing: To tiedown provision 1.
40	22A (front)	To tiedown provision 1.
41	23 (front)	To front towing clevis.
42	23A (front)	To front towing clevis.

Figure 5-24. Lashings 39 through 42 installed

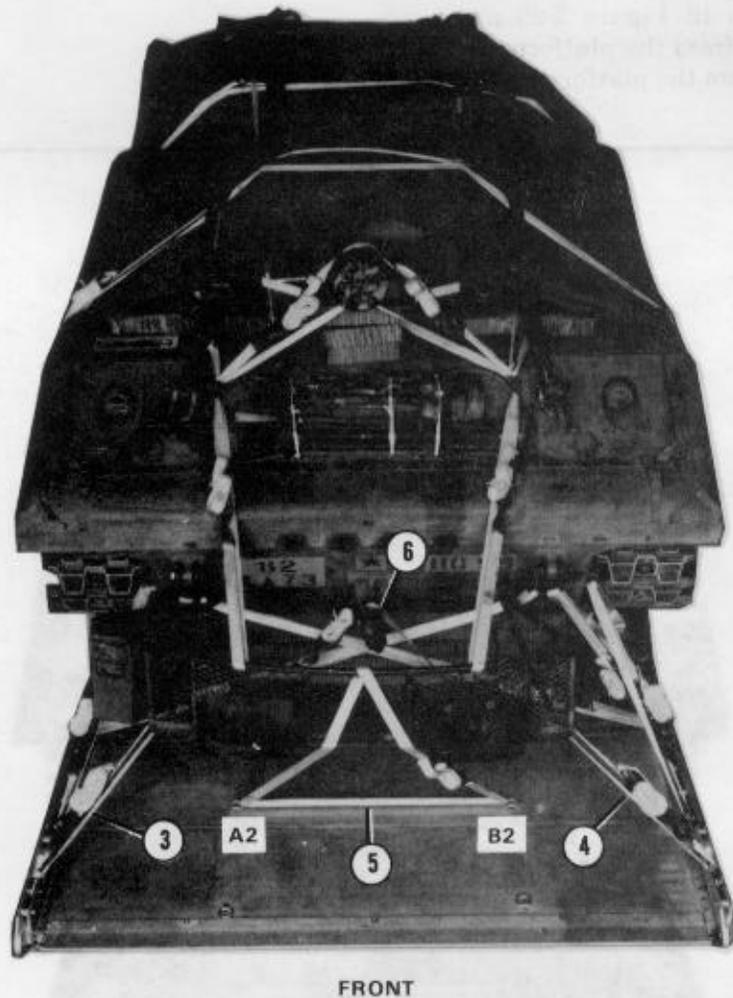
### 5-9. Positioning and Lashing Turret Rack

Attach the turret rack to the rear of the vehicle as shown in Figure 5-25 approximately 24 inches from the platform and the front 16 inches from the platform.



- ① Run a 15-foot lashing through the right rear lifting handle and the left rear D-ring fitting on the left rear D-ring on the turret rack. Secure the lashing using a D-ring and a load binder.
- ② Run a 15-foot lashing through the left rear lifting handle and the right rear D-ring fitting on the right rear D-ring on the turret rack. Secure the lashing using a D-ring and a load binder.

Figure 5-25. Turret rack lashed

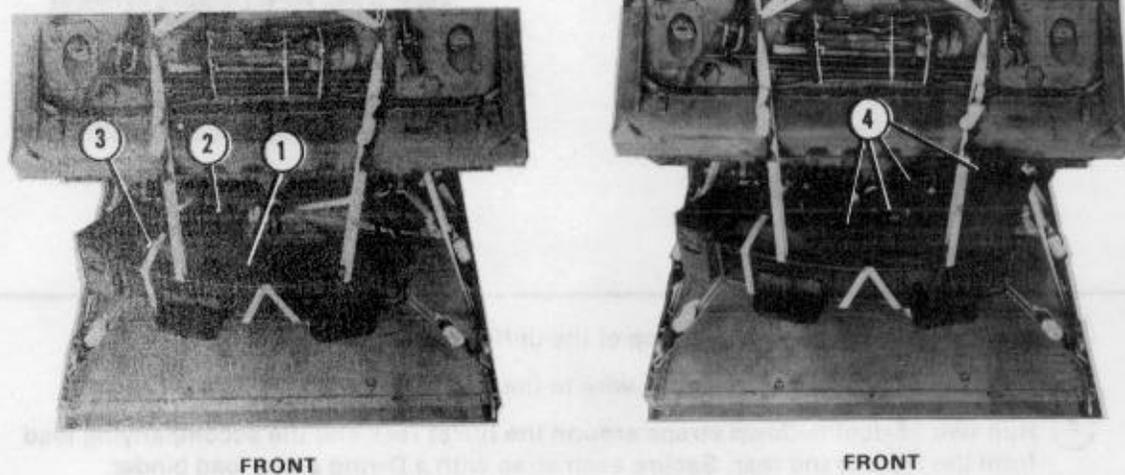


- ③ Run a tiedown strap from clevis 1 up and around the lower rear bar of the turret rack frame. Secure the lashing using a D-ring and a load binder.
- ④ Run a tiedown strap from clevis 1A up and around the lower rear bar of the turret rack frame. Secure the lashing using a D-ring and a load binder.
- ⑤ Run a 15-foot lashing from tiedown ring B2, through tiedown ring A2, up and around the rear of the turret rack, through the center D-ring fitting, and over the top of the top bar on the turret rack frame. Secure the lashing using a D-ring and a load binder.
- ⑥ Run a 15-foot tiedown lashing around the towing pintle and around the inner portion of the outside mounting brackets of the turret rack frame, and secure with D-rings and load binder.

*Figure 5-25. Turret rack lashed (continued)*

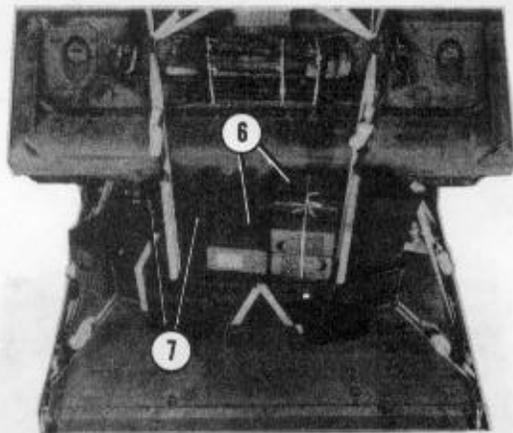
### 5-10. Loading Turret Rack

Load the turret rack as shown in Figure 5-26.

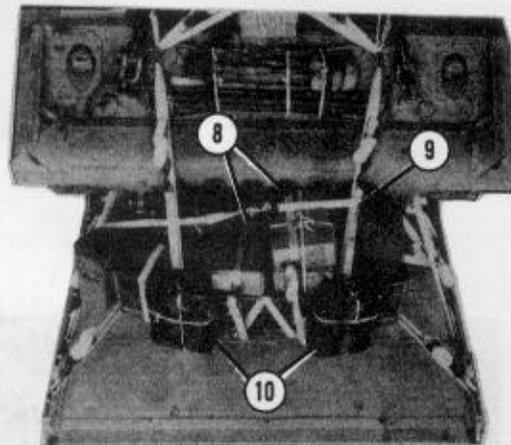


- ① Place a 30- by 36-inch piece of 1/2-inch felt padding on the right side of the turret rack.
- ② Place a searchlight on top of the padding on the right side of the turret rack.
- ③ Run a 15-foot lashing around the turret rack and searchlight. Secure it in place with a D-ring and a load binder.
- ④ Place four duffel bags into the turret rack.
- ⑤ Place signal flagpoles on top of the duffel bags (not shown).

Figure 5-26. Turret rack loaded



FRONT



FRONT

- ⑥ Place three boxes of MREs on top of the duffel bags.
- ⑦ Secure a roll of communications wire to the mount brackets of the searchlight.
- ⑧ Run two 15-foot tiedown straps around the turret rack and the accompanying load from the front to the rear. Secure each strap with a D-ring and a load binder.
- ⑨ Run a 15-foot tiedown strap around the turret rack and the accompanying load from side to side.
- ⑩ Place two oilcans in the support racks. Secure them in place with the provided straps. Safety the cans to the rack with 1/2-inch tubular nylon webbing.

Figure 5-26. Turret rack loaded (continued)

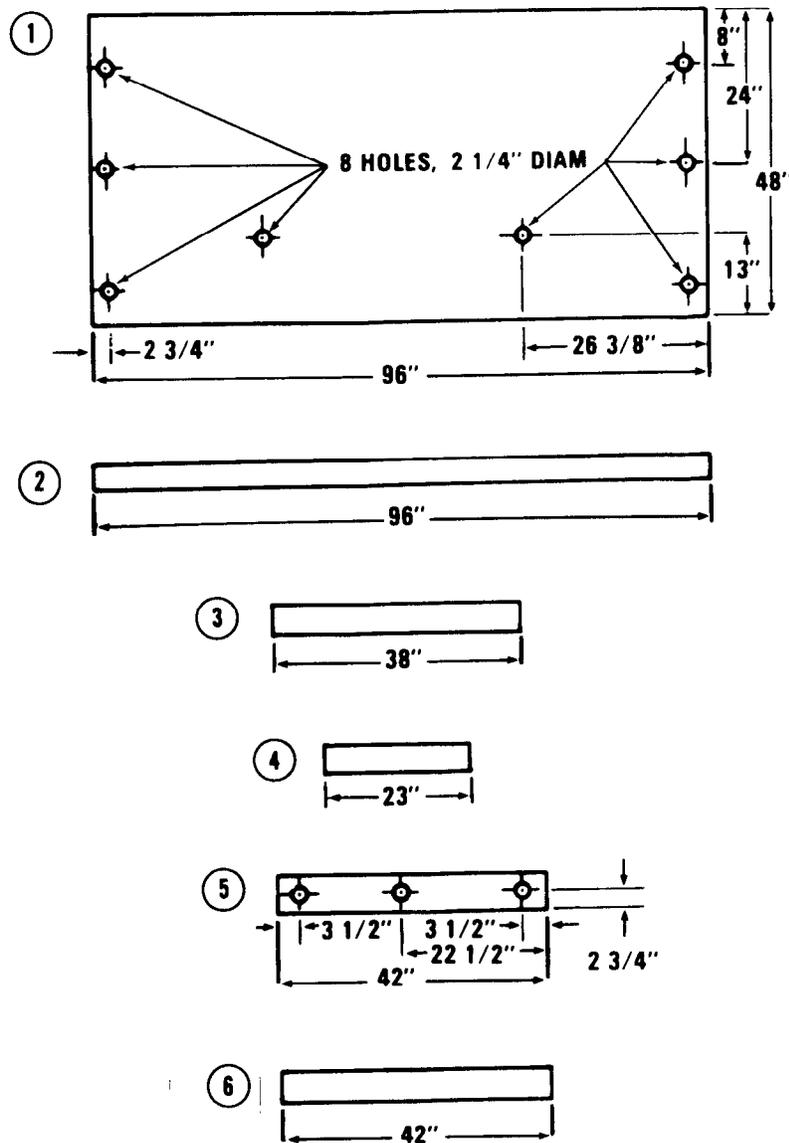
### 5-11. Building and Installing Cargo Parachute Stowage Platform

Build and install the cargo parachute stowage platform as described below.

**NOTE:** The honeycomb parachute stowage platform in paragraph 5-25 may be substituted for this wooden parachute stowage platform.

**a. Building Cargo Parachute Stowage Platform.** Build the platform as shown in Figure 5-27.

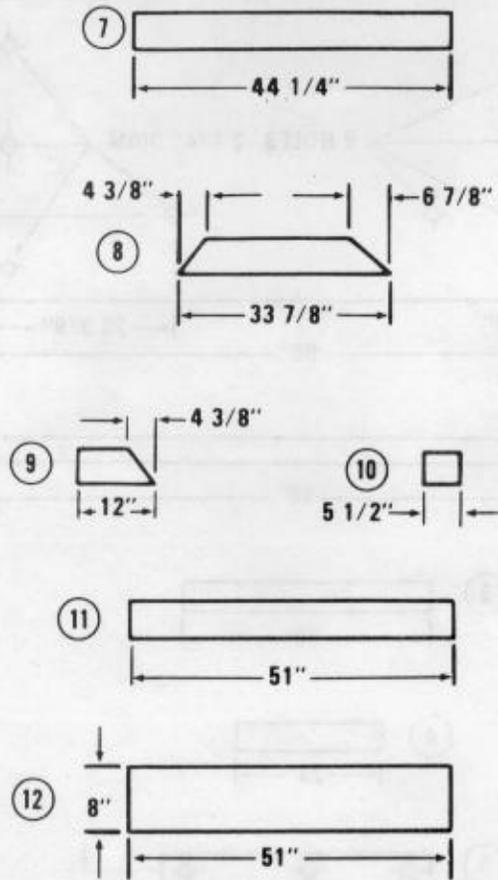
Note: These drawings are not drawn to scale.



Item Number	Pieces	Width (Inches)	Length (Inches)	Material
1	1	48	96	3/4-inch plywood
2	2	4	96	2-inch lumber
3	2	4	38	2-inch lumber
4	4	4	23	2-inch lumber
5	4	6	42	2-inch lumber
6	3	4	42	2-inch lumber

Figure 5-27. Cargo parachute stowage platform constructed

Note: These drawings are not drawn to scale.



Item Number	Pieces	Width (Inches)	Length (Inches)	Material
7	4	6	44 1/4	2-inch lumber
8	2	6	33 7/8	2-inch lumber
9	4	6	12	2-inch lumber
10	2	4	5 1/2	2-inch lumber
11	1	6	51	2-inch lumber
12	1	8	51	3/4-inch plywood

**Step:**

1. Build the cargo parachute stowage platform using the materials given above and eightpenny and sixteen-penny nails.
2. Drill eight 2 1/4-inch holes through the lumber and plywood after the platform is assembled.

Figure 5-27. Cargo parachute stowage platform constructed (continued)

**CAUTION**

This stowage platform supports 2,240 pounds of parachutes. Use a generous amount of nails.

- Notes:**
1. This drawing is not drawn to scale.
  2. Platform legs may require adjustment.

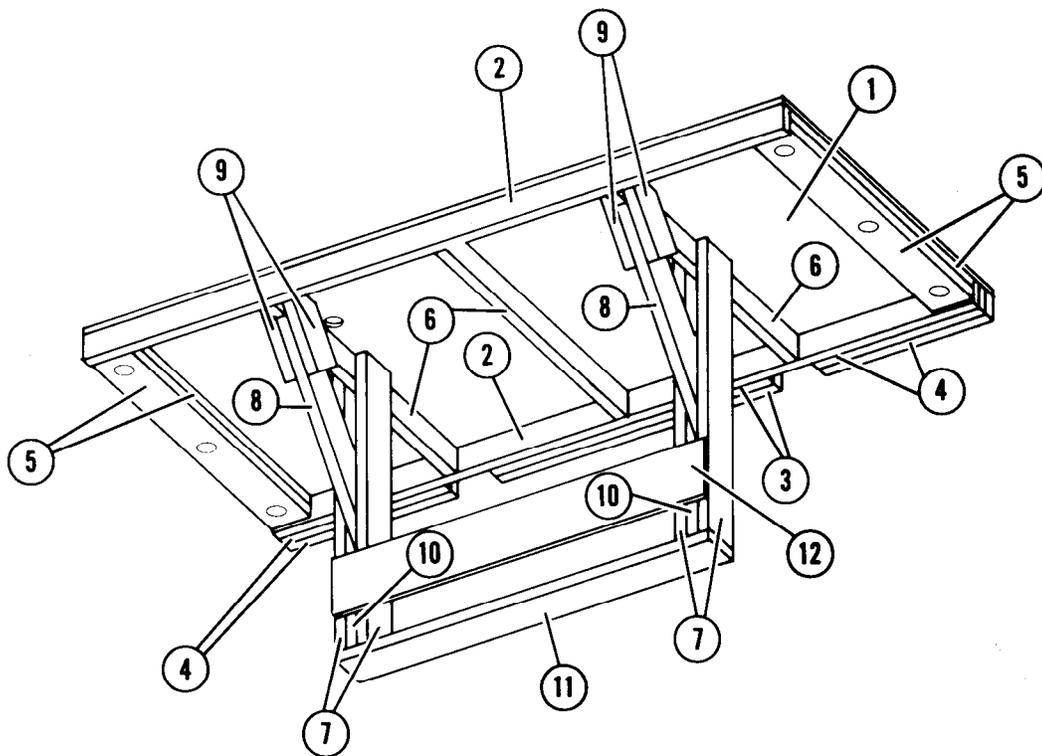


Figure 5-27. Cargo parachute stowage platform constructed (continued)

Note: These drawings are not drawn to scale.

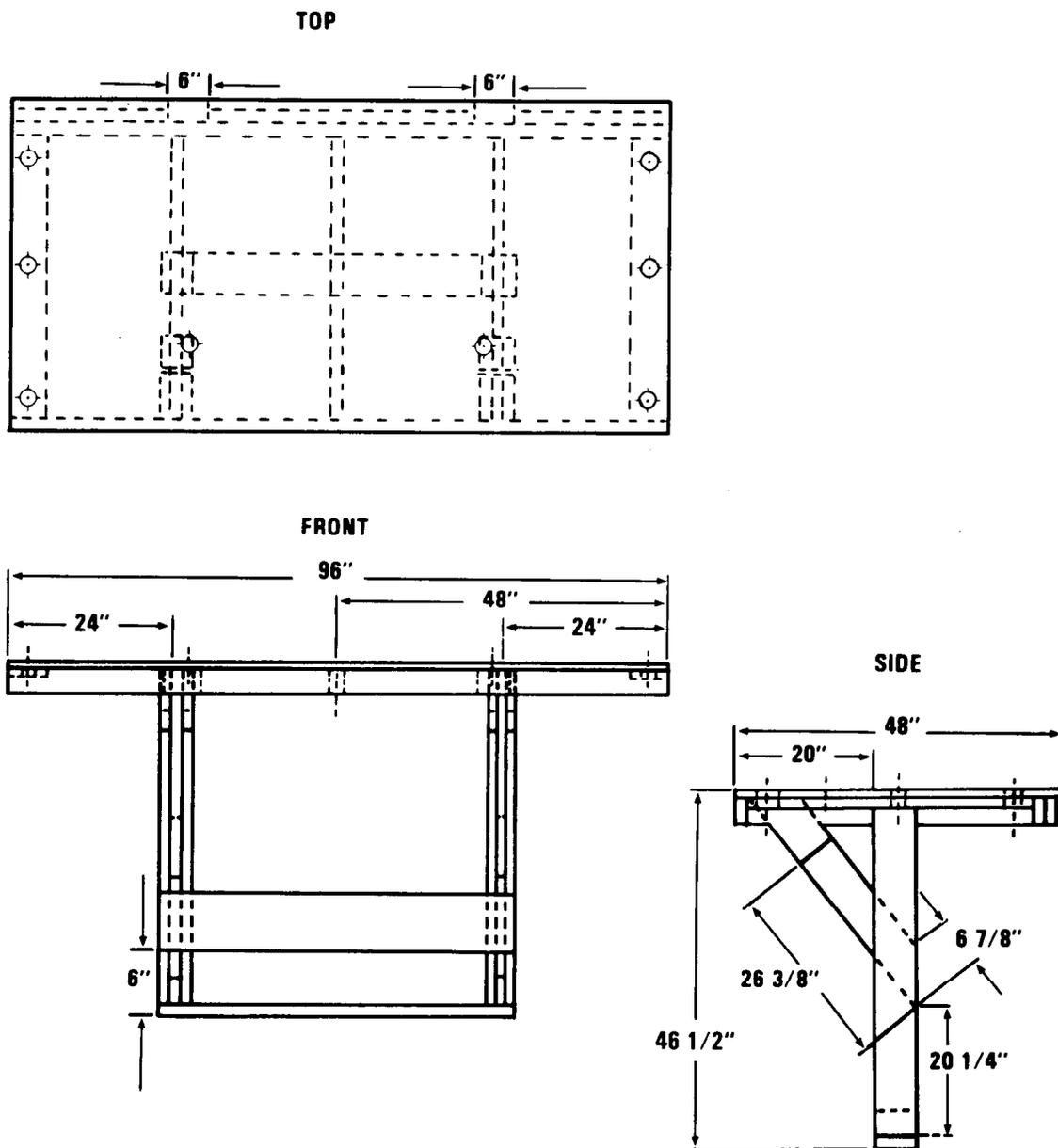
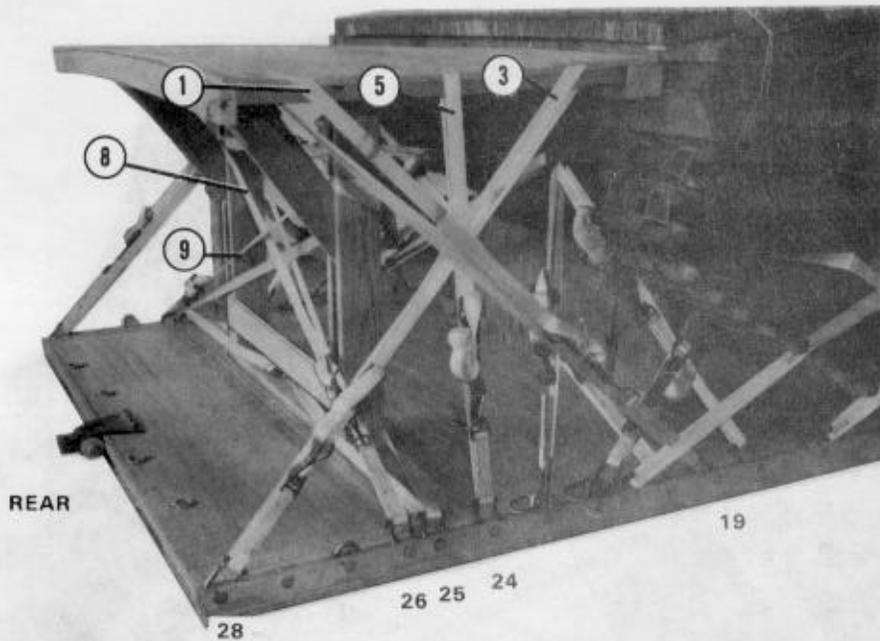


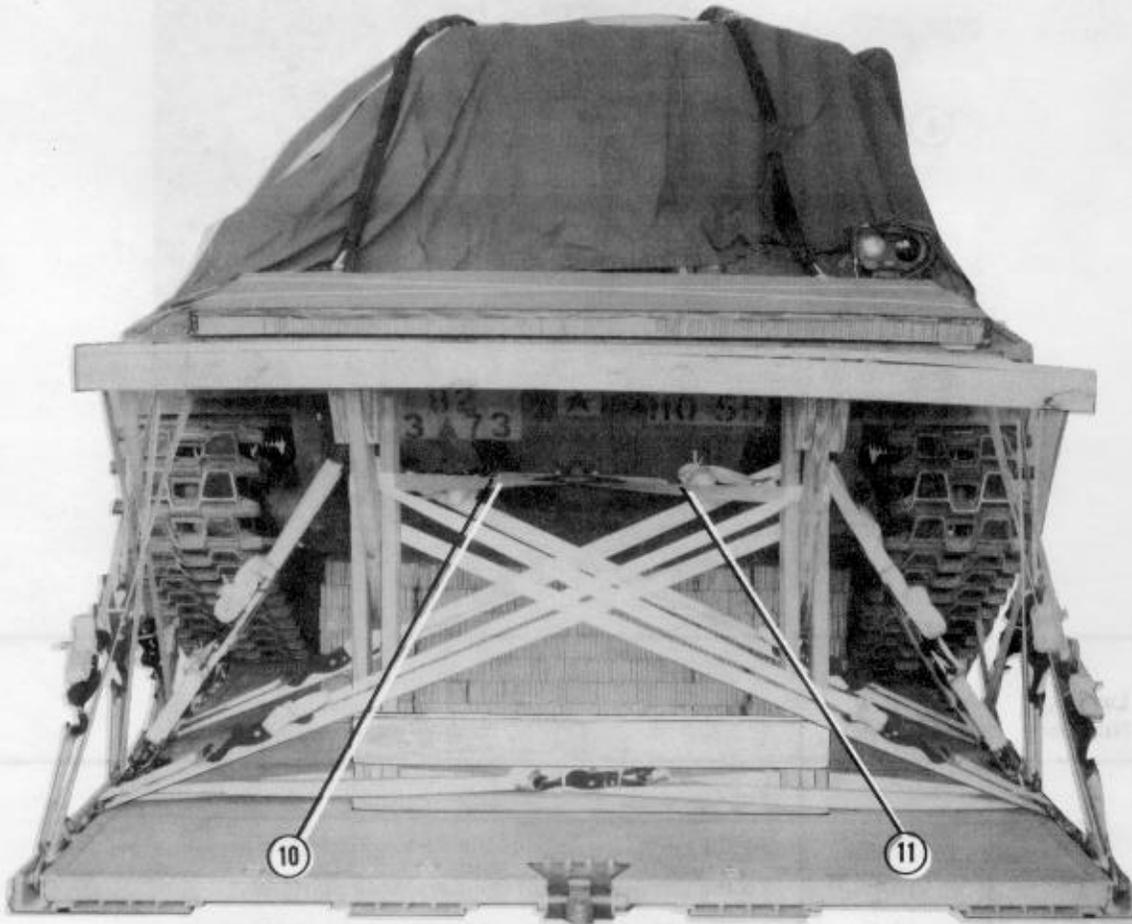
Figure 5-27. Cargo parachute stowage platform constructed (continued)

**b. Positioning and Lashing Cargo Parachute Stowage Platform.** Position the platform flush against the front of the vehicle at the rear of the load. Lash the platform as shown in Figures 5-28 and 5-29.



Lashing Number	Tiedown Clevis Number	Instructions
① ② ③ ④ ⑤ ⑥ * ⑦	19 19A 28 28A 24 24A 25 and 25A	<p>Pass lashing:</p> <p>To the right rear hole of the parachute platform.</p> <p>To the left rear hole of the parachute platform.</p> <p>To the right front hole of the parachute platform.</p> <p>To the left front hole of the parachute platform.</p> <p>To the right center hole of the parachute platform.</p> <p>To the left center hole of the parachute platform.</p>
⑧ ⑨	26 26A	<p>From the center of the parachute platform stand, run one free end of the lashing around the rear of the right support leg, through clevis 25, and back around the rear of the right support leg. Place a D-ring on the free end. Run the other free end to the front of the left support leg, through clevis 25A, then around to the rear of the left support leg. Place a D-ring on each free end, and secure the lashing with a load binder.</p> <p>To the left support leg above the brace of the parachute stowage platform.</p> <p>To the right support leg above the brace of the parachute stowage platform.</p>
*30-foot lashing		

Figure 5-28. Lashings 1 through 9 installed



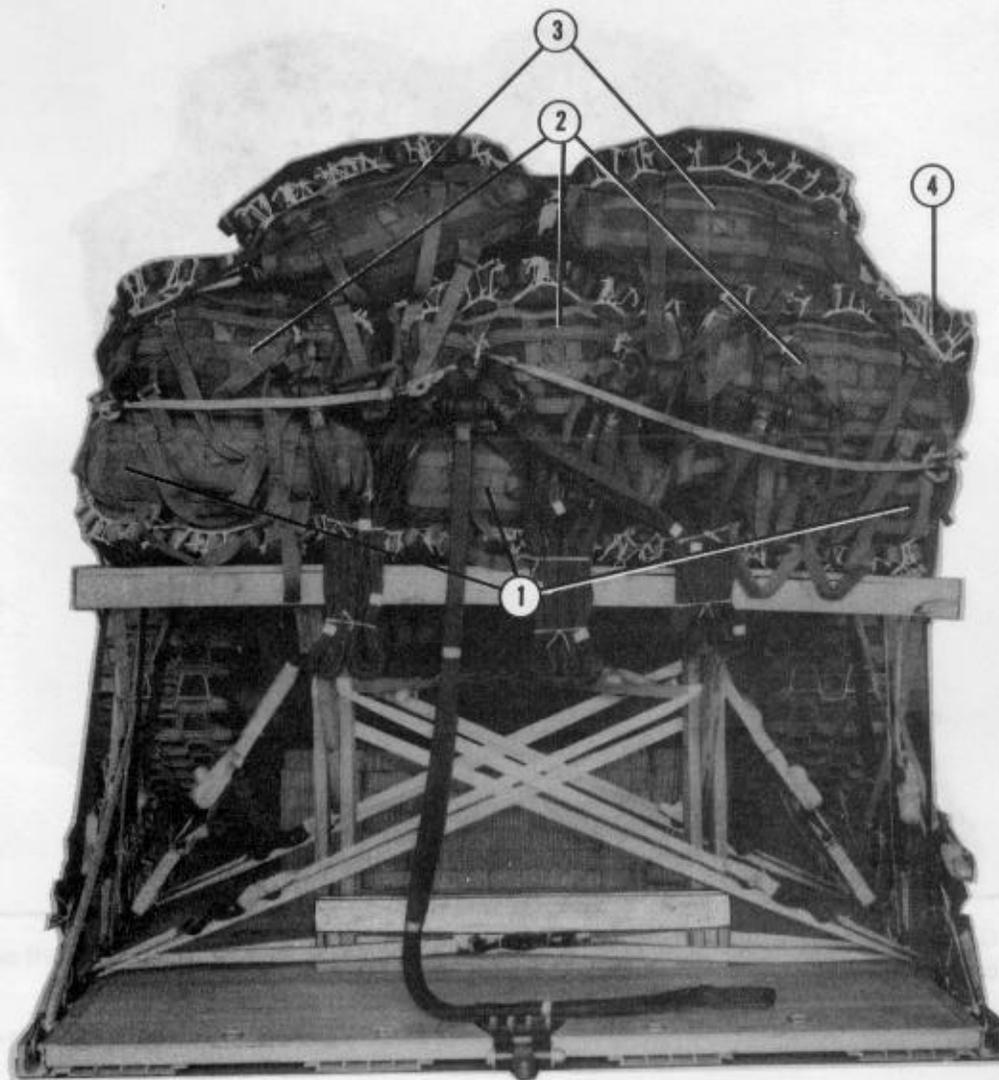
Lashing Number	Tiedown Clevis Number	Instructions
⑩		Pass lashing: Through the front center towing clevis and around the left frame support leg.
⑪		Through the front center towing clevis and around the right frame support leg.

Figure 5-29. Lashings 10 and 11 installed

**5-12. Stowing Cargo Parachutes**

Stow eight G-11C cargo parachutes according to FM 10-500/TO 13C7-1-5 and as shown in Figures 5-30 and 5-31.

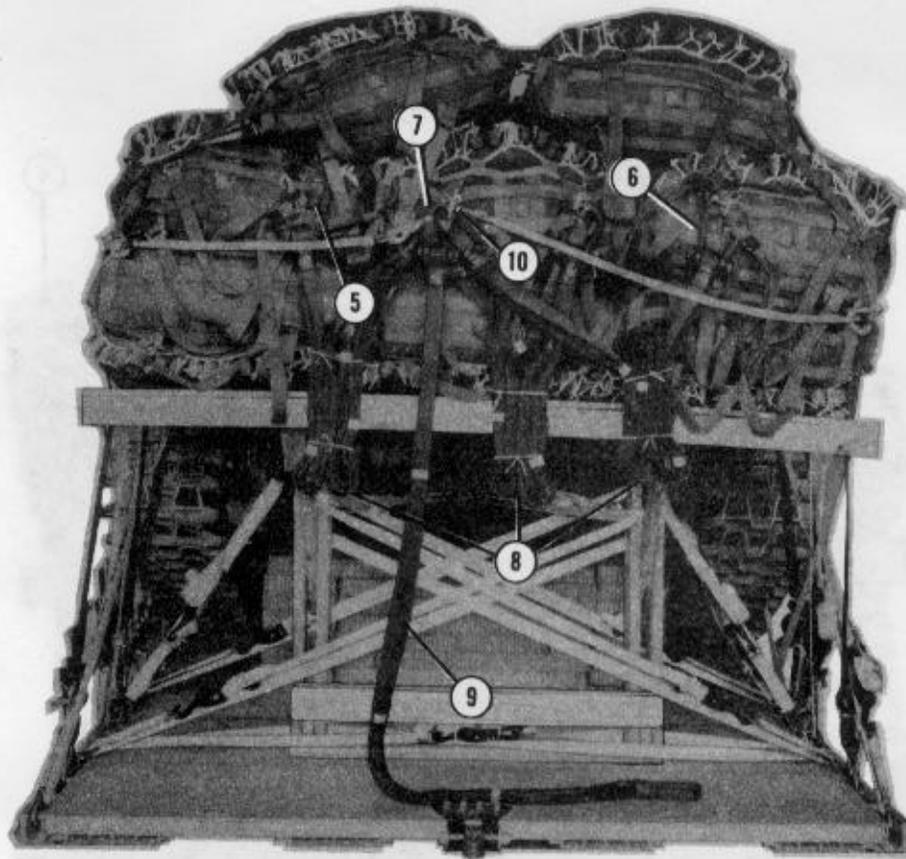
**Note:** Use either a 120-foot (3-loop), type X or a 120-foot (2-loop), type XXVI nylon webbing riser extension.



- ① Set three parachutes side by side on the front of the vehicle with the riser compartments on the bottom.
- ② Set three additional parachutes side by side on top of the first layer of parachutes with riser compartments on top.
- ③ Center the two remaining parachutes side by side on top of the second layer with the riser compartments on top.
- ④ Cluster the parachutes together with 1/2-inch tubular nylon webbing.

Figure 5-30. Parachutes stowed

**Note:** Use either a 120-foot (3-loop), type X or a 120-foot (2-loop), type XXVI nylon webbing riser extension.

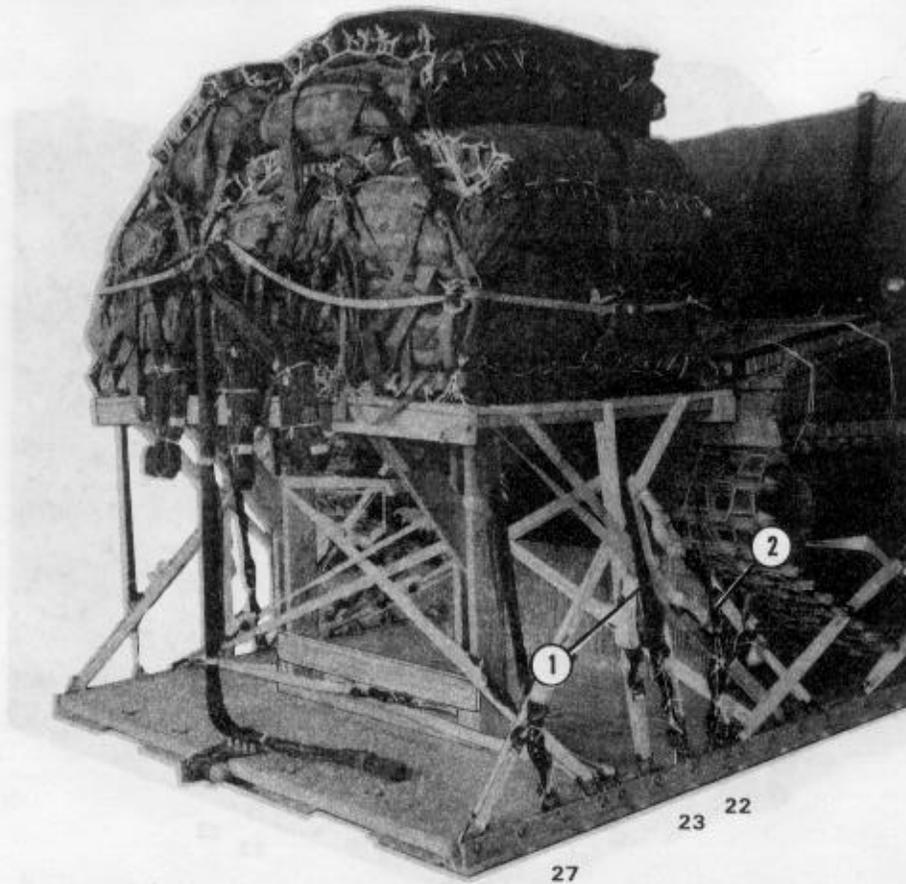


- ⑤ Group the deployment bag bridle loops of the three cargo parachutes on the left on one large clevis assembly.
- ⑥ Group the deployment bag bridle loops of the three cargo parachutes on the right on a second large clevis assembly.
- ⑦ Group the deployment bag bridle loops of the two center parachutes on a third large clevis assembly.
- ⑧ Attach a 9-foot (2-loop), type XXVI nylon sling deployment line to each of the three large clevis assemblies.
- ⑨ Place the free ends of the deployment lines on the arm of a large clevis assembly, and bolt a 9-foot (4-loop), type XXVI nylon webbing sling to the same clevis.
- ⑩ Tie the clevises to the cargo parachutes with double lengths of 80-pound cotton webbing. Fold the excess in the slings, and tape the folds in place.

*Figure 5-30. Parachutes stowed (continued)*

**CAUTION**

The load binders of the parachute restraint straps must be tied to the clevises with lengths of type III nylon cord to prevent loss during airdrop.

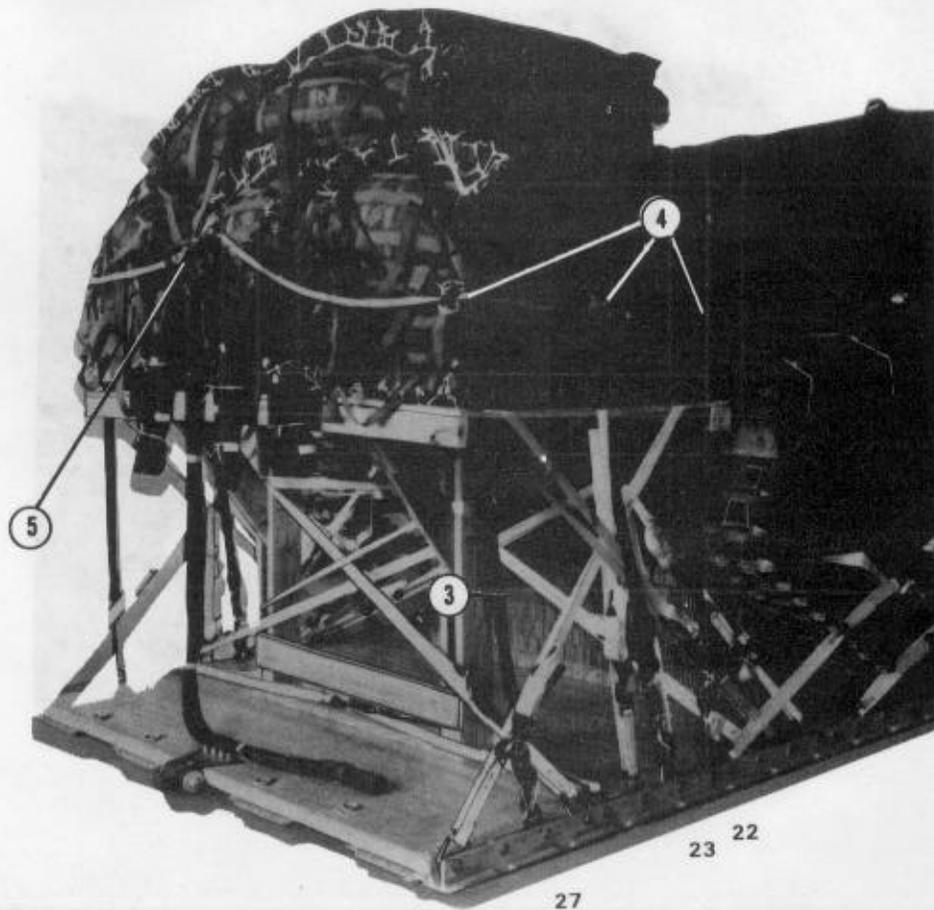


- ① Run an 11-yard length of type X nylon webbing (restraint strap) across the middle of the parachutes, through all available cluster attaching straps (carrying handles) inside and outside, and down through the center holes on the sides of the stowage platform. Attach the ends of the restraint strap to clevises 23 (rear) and 23A (rear) with two D-rings and load binders.
- ② Run a second 11-yard restraint strap across the front end of the parachutes, through the cluster attaching straps, and down through the front holes of the stowage platform. Attach the ends of the restraint strap to clevises 22 (rear) and 22A (rear) with two D-rings and load binders.

*Figure 5-31. Release straps installed*

**CAUTION**

The load binders of the parachute restraint straps must be tied to the clevises with lengths of type III nylon cord to prevent loss during airdrop.



- ③ Run a third 11-yard restraint strap across the rear of the parachutes, through the cluster attaching loops, through all bridle attaching loops, and down through the rear holes of the stowage platform. Attach the ends of the restraint strap to clevises 27 and 27A with two D-rings and load binders.
- ④ Install two multicut parachute release straps with three release knives on each strap as outlined in FM 10-500/TO 13C7-1-5.  
**Note:** Only the multicut parachute release strap may be used on this load.
- ⑤ Tie the free end of the release straps to the deployment line clevis.

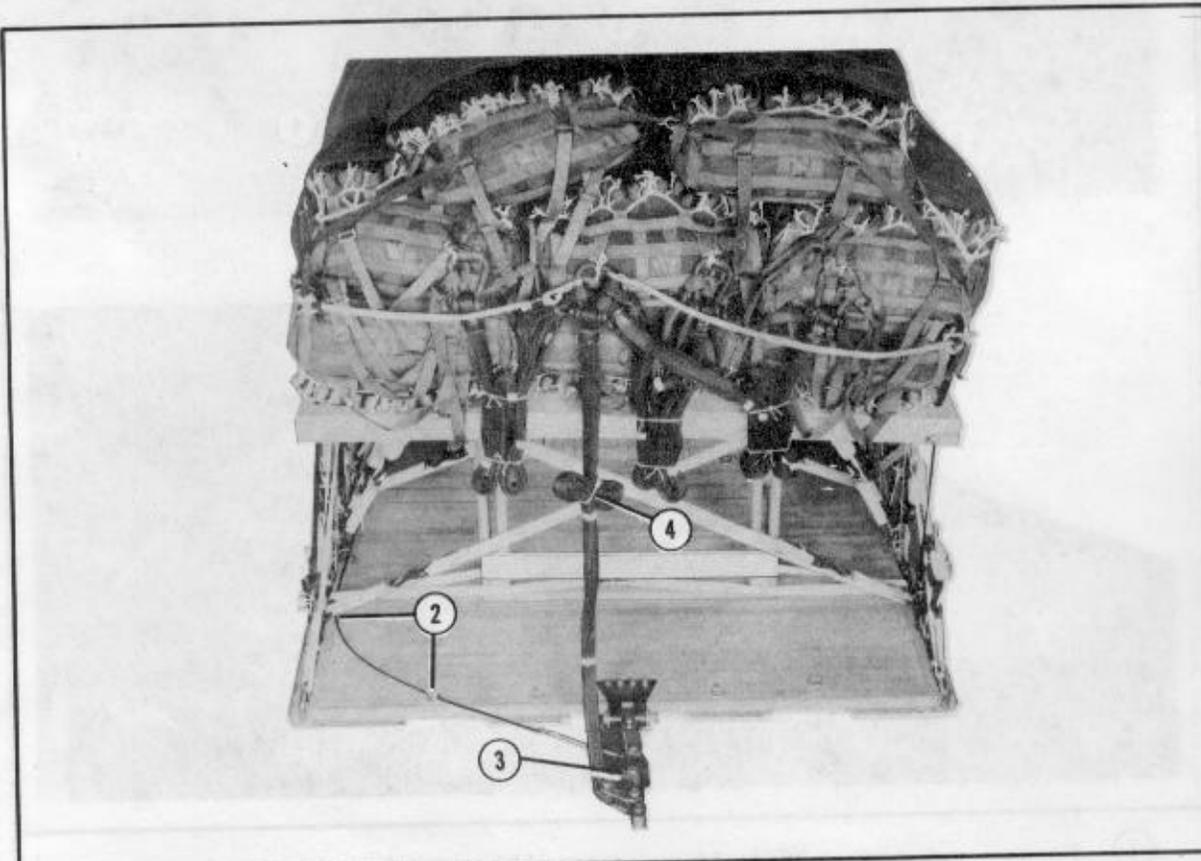
*Figure 5-31. Release straps installed (continued)*

**5-13. Installing Extraction System**

Install the components of the EFTC as outlined in FM 10-500/TO 13C7-1-5 and as shown in Figure 5-32.

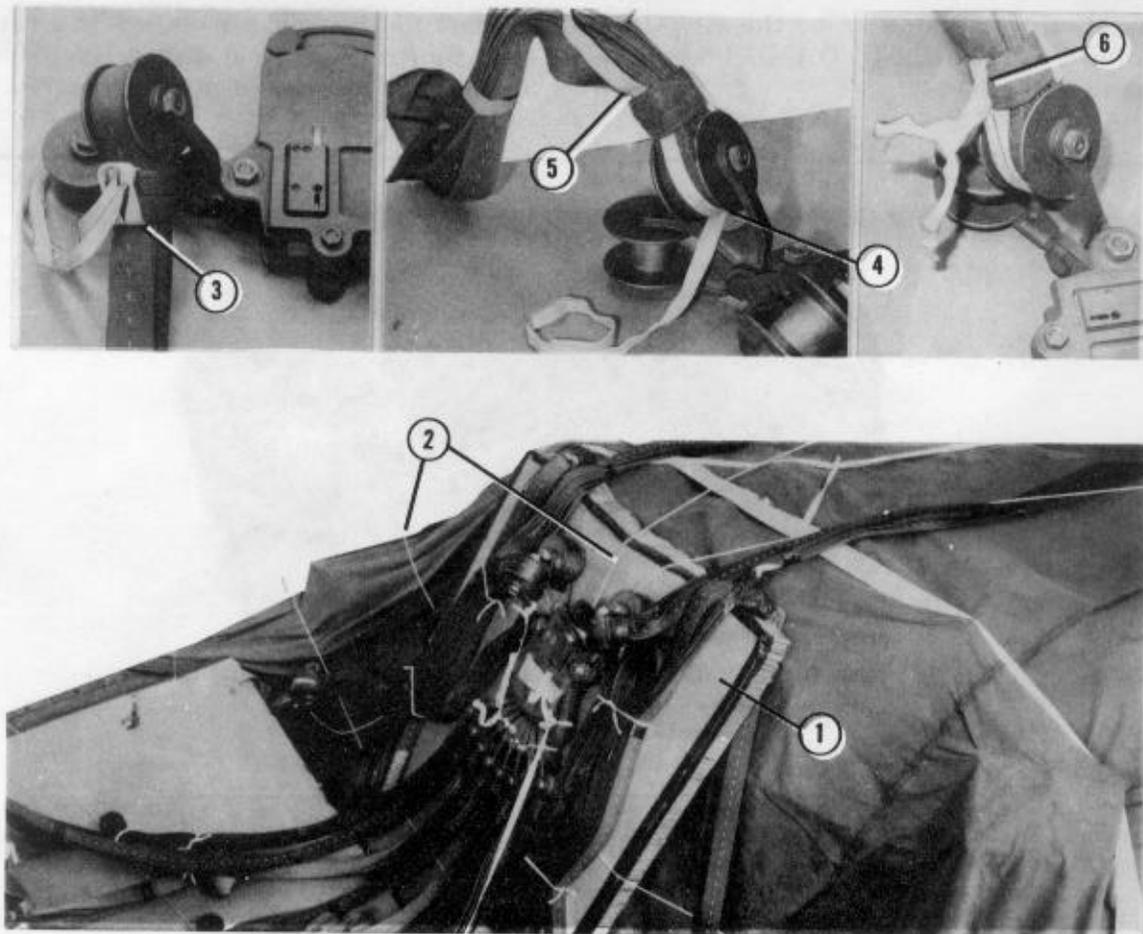
**5-14. Installing Release System**

Prepare and attach a modified M-2 cargo parachute release as outlined in FM 10-500/TO 13C7-1-5 and as shown in Figure 5-33.



- ① Bolt the actuator bracket to the front bracket mounting holes on the left side rail (not shown).
- ② Run a 28-foot release cable from the actuator bracket rearward along the left side rail. Bring the cable up to the top of the platform behind clevis 17A. Tie the cable to clevis 22A and tiedown ring D14 with 80-pound cotton webbing.
- ③ Bolt the latch assembly (with the latch assembly adapter attached) to the extraction bracket assembly using a link assembly with spacers. Tighten all bolts securely to prevent movement during extraction.  
**Note:** A link assembly adapter must be used to attach the 6-loop extraction line to the three-point link assembly.
- ④ Attach the free end of the 9-foot (4-loop), type XXVI nylon sling deployment line to the top of the link assembly. Fold the deployment line, and tie the folds in place with two turns of 80-pound cotton webbing.

Figure 5-32. Extraction system installed



- ① Position and secure a 36- by 54-inch piece of honeycomb on the rear of the turret. Tape the edges of each side of the honeycomb. Safety the honeycomb to the platform with type III nylon cord.
- ② Tie the release from the parachute connectors to the tracks on the front of the vehicle with type III nylon cord. Tie the suspension links to the rear suspension points on the vehicle with type III nylon cord.
- ③ Form a girth hitch around one side of a sliding keeper with a 60-inch length of 1/2-inch tubular nylon webbing. Make sure the running ends are equal.
- ④ Route both ends around the looped end of the sling and through the lower suspension link.
- ⑤ Route one end of the 1/2-inch tubular nylon webbing through the sliding keeper.
- ⑥ Slide the keeper as close to the lower suspension link as possible using 1/2-inch tubular nylon webbing. Tie the running ends together with two alternating half hitches and an overhand knot.

Figure 5-33. M-2 cargo parachute release installed on load

**5-15. Placing Extraction Parachutes**

Cluster two 28-foot cargo extraction parachutes as outlined in FM 10-500/TO 13C7-1-5, and position them on the load for installation in the aircraft. Equip the parachutes with a 60-foot (6-loop), type XXVI nylon webbing extraction line.

**5-16. Marking Rigged Load**

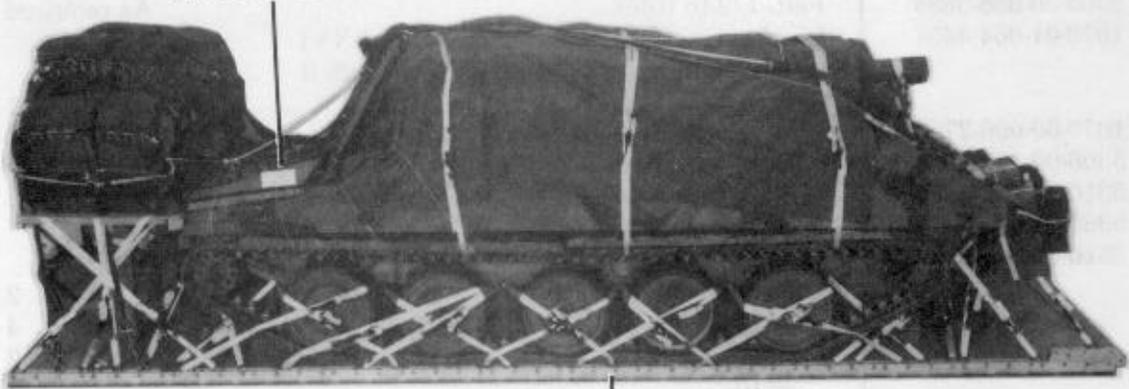
Mark the rigged load as outlined in FM 10-500/TO 13C7-1-5 and as shown in

Figure 5-34. Complete DD Form 1387-2 (Special Handling Data/Certification), and securely attach it to the load. Indicate on DD Form 1387-2 that the vehicle fuel tank and battery 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 AFR 55-40/AR 59-4 before the load leaves the rigging site.

DD FORM 1387-2



**RIGGED LOAD DATA**

Weight: Load shown .....	41,800 pounds
Maximum allowed .....	42,000 pounds
Height .....	101 1/2 inches
Width .....	110 inches
Length .....	346 inches
Overhang: Each side .....	1 inch
Rear .....	20 inches
CB (from front of platform) .....	157 inches
Extraction System .....	.42K EFTC

Figure 5-34. M551A1 ARAAV rigged for low-velocity airdrop on a type V platform

**5-17. Equipment Required**

Use the equipment listed in Table 5-1 to rig this load.

*Table 5-1. Equipment required for rigging the ARAAV for low-velocity airdrop on a type V airdrop platform from a C-130 aircraft*

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal . . . . .	As required
3990-00-937-0272	Binder, load, 10,000-lb . . . . .	6
4030-00-090-5354	Clevis, suspension, 1-in (large) . . . . .	4
4030-00-432-2516	Clevis, screw-pin . . . . .	4
8305-00-242-3593	Cloth, cotton duck, 60-in . . . . .	As required
4020-00-240-2146	Cord, nylon, type III, 550-lb . . . . .	As required
1670-00-157-6527	Coupling, airdrop, extraction force transfer w 28-ft cable . . . . .	1
8135-00-664-6958	Cushioning material, packaging, cellulose wadding . . . . .	As required
5365-00-937-0147	D-ring, heavy-duty, 10,000-lb . . . . .	6
8305-00-958-3685	Felt, 1/2-in thick . . . . .	As required
1670-01-064-4454	Line, extraction, 60-ft (6-loop), type XXVI nylon webbing (for C-130) (Use with 28-ft parachute.) . . . . .	1
1670-00-006-2752	Link assembly, four-point . . . . .	1
5306-00-435-8994	Bolt, 1-in diam, 4-in long	
5310-00-232-5165	Nut, 1-in	
5365-00-007-3414	Spacer, large	
5510-00-220-6146	Lumber, 2- by 4-in:	
	5 1/2-in . . . . .	2
	23-in . . . . .	4
	38-in . . . . .	2
	42-in . . . . .	2
	96-in . . . . .	2
5510-00-220-6448	Lumber, 2- by 6-in:	
	12-in . . . . .	4
	37 7/8-in . . . . .	2
	42-in . . . . .	2
	44 1/4-in . . . . .	4
	51-in . . . . .	1
	Nail, steel wire, common:	
5315-00-010-4659	8d . . . . .	As required
5315-00-010-4663	16d . . . . .	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in: . . . . .	19 sheets
	7- by 96-in . . . . .	(14)
	12- by 12-in . . . . .	(3)
	12- by 16-in . . . . .	(1)

Table 5-1. Equipment required for rigging the ARAAV for low-velocity airdrop on a type V airdrop platform from a C-130 aircraft (continued)

National Stock Number	Item	Quantity
	12- by 18-in . . . . .	(14)
	12- by 96-in . . . . .	(28)
	16- by 24-in . . . . .	(8)
	16- by 96-in . . . . .	(4)
	36- by 84-in . . . . .	(1)
	36- by 96-in . . . . .	(15)
	43- by 18-in . . . . .	(7)
	Parachute:	
1670-01-016-7841	Cargo, G-11C . . . . .	8
1670-00-040-8135	Cargo extraction, 28-ft, heavy-duty . . . . .	2
	Platform, airdrop, type V, 28-ft: . . . . .	1
	Bracket:	
1670-01-162-2375	Inside EFTA . . . . .	(1)
1670-01-162-2374	Outside EFTA . . . . .	(1)
1670-01-162-2372	Clevis, load tiedown . . . . .	(58)
1670-01-162-2376	Extraction bracket assembly . . . . .	(1)
1670-01-162-2381	Tandem link assembly (multipurpose link) . . . . .	(2)
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in . . . . .	1
1670-01-097-8817	Release, cargo parachute, M-2, modified . . . . .	1
	Sling, cargo, airdrop:	
	For deployment lines:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing . . . . .	3
1670-01-062-6305	9-ft (4-loop), type XXVI nylon webbing . . . . .	1
	For riser extensions:	
1670-00-432-2494	120-ft (3-loop), type X nylon webbing . . . . .	8
	or	
1670-01-062-6311	120-ft (2-loop), type XXVI nylon webbing . . . . .	8
	For suspension slings:	
1670-00-432-2507	16-ft (4-loop), type XXVI nylon webbing . . . . .	4
	or	
1670-00-003-7237	16-ft (4-loop), type XXVI nylon webbing . . . . .	4
	or	
1670-01-062-6308	16-ft (4-loop), type XXVI nylon webbing . . . . .	4
1670-00-998-0116	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 . . . . .	84
	Webbing:	
8305-00-268-2411	Cotton, 80-lb . . . . .	As required
	Nylon:	
8305-00-082-5752	Tubular, 1/2-in, 1,000-lb, natural . . . . .	As required
8305-00-261-8584	Type X, treated, 8,700-lb, olive drab . . . . .	As required