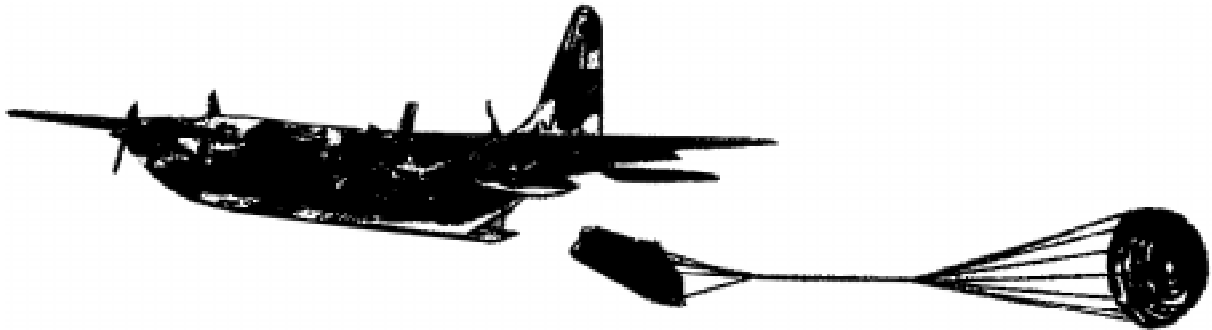
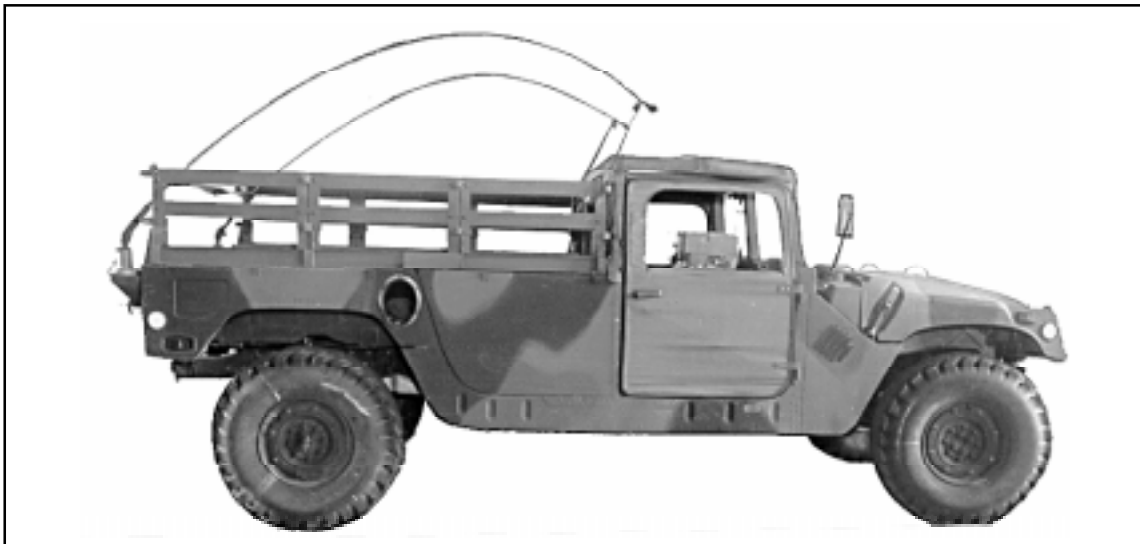


**ARMY FM 4-20.117 (FM 10-517)  
AIR FORCE TO 13C7-1-111**



**AIRDROP OF SUPPLIES AND EQUIPMENT:**

# **RIGGING HIGH-MOBILITY MULTIPURPOSE WHEELED VEHICLES**



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DEPARTMENT OF THE AIR FORCE  
Washington, DC, 22 July 2005

CHANGE NO. 1

**AIRDROP OF SUPPLIES AND EQUIPMENT:  
RIGGING HIGH-MOBILITY MULTIPURPOSE WHEELED VEHICLES**

This change incorporates the rigging procedures for the M1151 Armament Carrier and the procedure to mount a driver vision enhancer model number AN/VAS-5 on specific HMMWV series vehicles.

This change also includes a Marine Corps designation. The designation is Marine Corps Reference Publication (MCRP) 4-11.3M. This change reflects the entire manual and not just the rigging procedure in this change.

FM 4-20.117/TO 13C7-1-111, 1 October 2002, is changed as follows:

1. New or changed material is identified by a vertical bar in the margin opposite the changed material.
2. File the transmittal sheet in front of the publication for reference purpose.
3. Remove old pages and insert new pages as indicated below:

**Remove old pages**

i through vii  
1-1 through 1-4

References-1

**Insert new pages**

i through vi  
1-1 through 1-3  
4-53 through 4-75  
5-103 through 5-107  
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Technical Order  
NO 13C7-1-111

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DEPARTMENT OF THE ARMY  
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DEPARTMENT OF THE AIR FORCE  
Washington, DC, 22 July 2005

# **Airdrop of Supplies and Equipment: Rigging High-Mobility Multipurpose Wheeled Vehicles (HMMWV)**

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## Preface

### SCOPE

The manual tells and shows how to rig HMMWV-series trucks in the Army inventory at the time of publication for low-velocity parachute airdrop. Some specialized truck configurations and loads are included.

### USER INFORMATION

The proponent of this publication is HQ TRADOC. You are encouraged to report any errors or omissions and to suggest ways of making this a better manual.

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## CHAPTER 1

# INTRODUCTION

### DESCRIPTION OF ITEMS

1-1. The HMMWV-series trucks that can be rigged using the procedures in this manual are listed below.

**a. M998 Cargo/Troop Carriers.** The M998 truck weighs 5,200 pounds. It is 180 inches long and 85 inches wide. The reduced height of the truck is 54 inches.

The M998A1 truck weighs 5,380 pounds. Its length is 180 inches and its width is 86 inches. The reduced height is 56 inches.

**b. M1038 Cargo/Troop Carriers With Winch.** The M1038 truck weighs 5,327 pounds. It is 186 inches long and 85 inches wide. The reduced height of the truck is 54 inches.

The M1038A1 truck weighs 5,507 pounds. Its length is 186 inches and its width is 86 inches. The reduced height is 56 inches.

**c. M1025 Armament Carriers, Armored.** The M1025 truck weighs 5,960 pounds. It is 180 inches long and 85 inches wide. The reduced height of the truck is 74 inches.

The M1025A1 truck weighs 6,140 pounds. Its length is 180 inches and its width is 86 inches. The reduced height is 74 inches.

The M1025A2 truck weighs 6,780 pounds. Its length is 191 inches and its width is 86 inches. The reduced height is 74 inches.

**d. M1025A2 Armament Carrier (Modified), With Winch.** This is NOT the same carrier as the M1025A2. External and internal modifications have been made to support special operations. The M1025A2 (modified) carrier weighs 7,020 pounds. It is 191 inches long and 86 inches wide.

**e. M1026 Armament Carriers, Armored With Winch.** The M1026 truck weighs 6,087 pounds. It is 186 inches long and 85 inches wide. The reduced height of the truck is 74 inches.

The M1026A1 truck weighs 6,267 pounds. Its length is 186 inches and its width is 86 inches. The reduced height is 74 inches.

**f. M1026 Armament Carrier (Modified).** This is NOT the same carrier as the M1026. External and internal modifications have been made to support special operations. The M1026 (modified) carrier weighs 6,087 pounds. It is 185 inches long and 85 inches wide. The reduced height of the truck is 69 inches.

**g. M966 TOW Carriers, Armored.** The M966 truck weighs 6,051 pounds. It is 180 inches long and 85 inches wide. The reduced height of the truck is 74 inches.

The M966A1 truck weighs 6,231 pounds. Its length is 180 inches and its width is 86 inches. The reduced height is 74 inches.

**h. M1036 TOW Carrier, Armored With Winch.** The M1036 truck weighs 6,178 pounds. It is 186 inches long and 85 inches wide. The reduced height of the truck is 74 inches.

**i. M1121 TOW Carrier, Armored.** The M1121 truck weighs 7,900 pounds. It is 180 inches long and 85 inches wide. The reduced height of the truck is 74 inches.

**j. M1043 Armament Carriers, With Supplemental Armor.** The M1043 truck weighs 6,411 pounds. It is 180 inches long and 85 inches wide. The reduced height of the truck is 74 inches.

The M1043A1 truck weighs 6,591 pounds. Its length is 180 inches and its width is 86 inches. The reduced height is 74 inches.

The M1043A2 truck weighs 7,230 pounds. Its length is 191 inches and its width is 86 inches. The reduced height is 74 inches.

**k. M1044 Armament Carriers, With Supplemental Armor and Winch.** The M1044 truck weighs 6,411 pounds. It is 186 inches long and 85 inches wide. The reduced height of the truck is 74 inches.

The M1044A1 truck weighs 6,718 pounds. Its length is 186 inches and its width is 86 inches. The reduced height is 74 inches.

**l. M1045 Armament Carriers, With Supplemental Armor.** The M1045 truck weighs 6,438 pounds. It is 180 inches long and 85 inches wide. The reduced height of the truck is 74 inches.

The M1045A1 truck weighs 6,618 pounds. Its length is 180 inches and its width is 86 inches. The reduced height is 74 inches.

The M1045A2 truck weighs 7,258 pounds. Its length is 191 inches and its width is 86 inches. The reduced height is 74 inches.

**m. M1046 TOW Carriers, With Supplemental Armor and Winch.** The M1046 truck weighs 6,565 pounds. It is 186 inches long and 85 inches wide. The reduced height of the truck is 74 inches.

The M1046A1 truck weighs 6,745 pounds. Its length is 186 inches and its width is 86 inches. The reduced height is 74 inches.

**n. M1037 S250 Shelter Carrier.** The M1037 truck weighs 5,425 pounds. It is 191 inches long and 85 inches wide. The reduced height, without the shelter, is 54 inches.

**o. M1037 Cargo/Troop Carrier (Modified), With Winch.** This is NOT the same carrier as the M1037. External and internal modifications have been made to support artillery operations. The M1037 (modified) is 185 inches long and 85 inches wide. The reduced height of the truck is 70 inches.

**p. M1042 S250 Shelter Carrier, With Winch.** The M1042 truck weighs 5,551 pounds. It is 197 inches long and 85 inches wide. The reduced height, without the shelter, is 54 inches.

**q. M1097 Truck, Utility, Heavy Variant.** The M1097 truck weighs 5,600 pounds. It is 191 inches long and 86 inches wide. The reduced height of the truck is 56 inches.

The M1097A1 truck weighs 5,600 pounds. Its length is 191 inches and its width is 86 inches. The reduced height is 56 inches.

The M1097A2 truck weighs 5,900 pounds. Its length is 191 inches and its width is 86 inches. The reduced height is 56 inches. This truck may have a winch.

**r. M1113 Truck, Utility, Expanded Capacity.** The M1113 truck weighs 6,190 pounds. It is 197 inches long and 86 inches wide. The reduced height of the truck is 56 inches. This truck may have a winch.

**s. M1114 Armament Carrier, Expanded Capacity, Up-Armored, With Winch.** The M1114 truck weighs 9,800 pounds. It is 197 inches long and 86 inches wide. The reduced height of the truck is 74 inches.

**t. M1151 Armament Carrier, Expanded Capacity.** The M1151 truck weighs 7,300 pounds. It is 193 1/2 inches long and 86 inches wide. The reduced height of the truck is 77 inches.

## SPECIAL CONSIDERATIONS

1-2. Special considerations for this manual are listed below.

**a.** The loads covered in this manual may include hazardous materials as defined in AFMAN 24-204(I)/TM 38-250. If included, the hazardous material must be packaged, marked, and labeled as required by AFMAN 24-204(I)/TM 38-250.

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

### CAUTION

Only ammunition listed in FM 4-20.153/MCRP 4-11.3B/TO 13C7-18-41 may be airdropped.

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## CHAPTER 2

# RIGGING 1 1/4-TON HMMWV SOFT-TOP TRUCKS FOR LOW-VELOCITY AIRDROP

### DESCRIPTION OF LOAD

2-1. The unrigged M998 cargo/troop carrier (Figure 2-1) is described in Chapter 1. The HMMWV truck is rigged on a 16-foot type V platform for low-velocity airdrop. An accompanying load weighing a minimum of 800 pounds and a maximum of 2,000 pounds (2,500 pounds for the M1037 modified HMMWV, M1042, M1097, M1097A1, and M1097A2) must be rigged in the truck. The load requires two G-11 cargo parachutes. The following trucks can be rigged using the procedures given in this chapter:

M998A1

M1038 and M1038A1

M1037 and M1037 modified

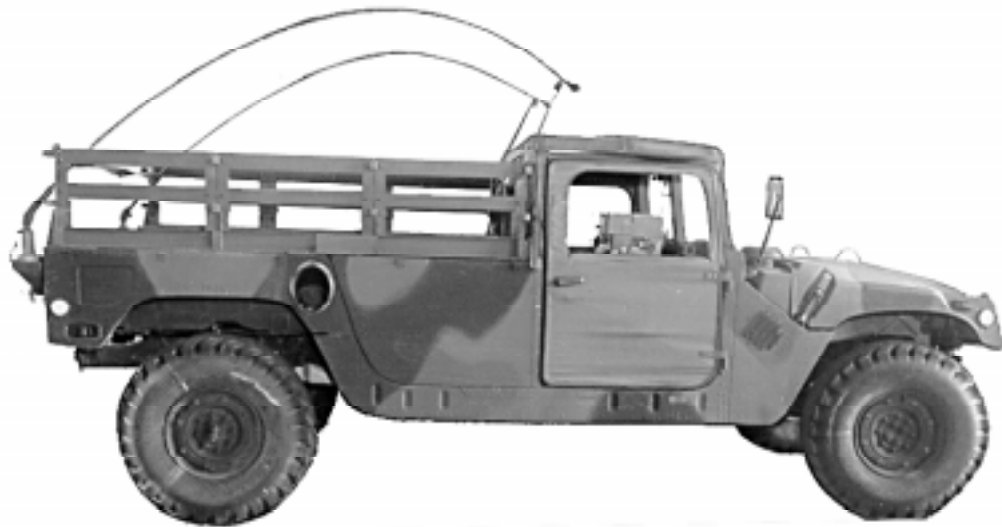
M1042

M1097, M1097A1, and M1097A2

### PREPARING PLATFORM

2-2. Prepare a 16-foot, type V airdrop platform according to TM 10-1670-268-20&P/TO 13C7-52-22. Install four tandem links as shown in Figure 2-2. Attach and number 18 clevis assemblies as shown in Figure 2-2.

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



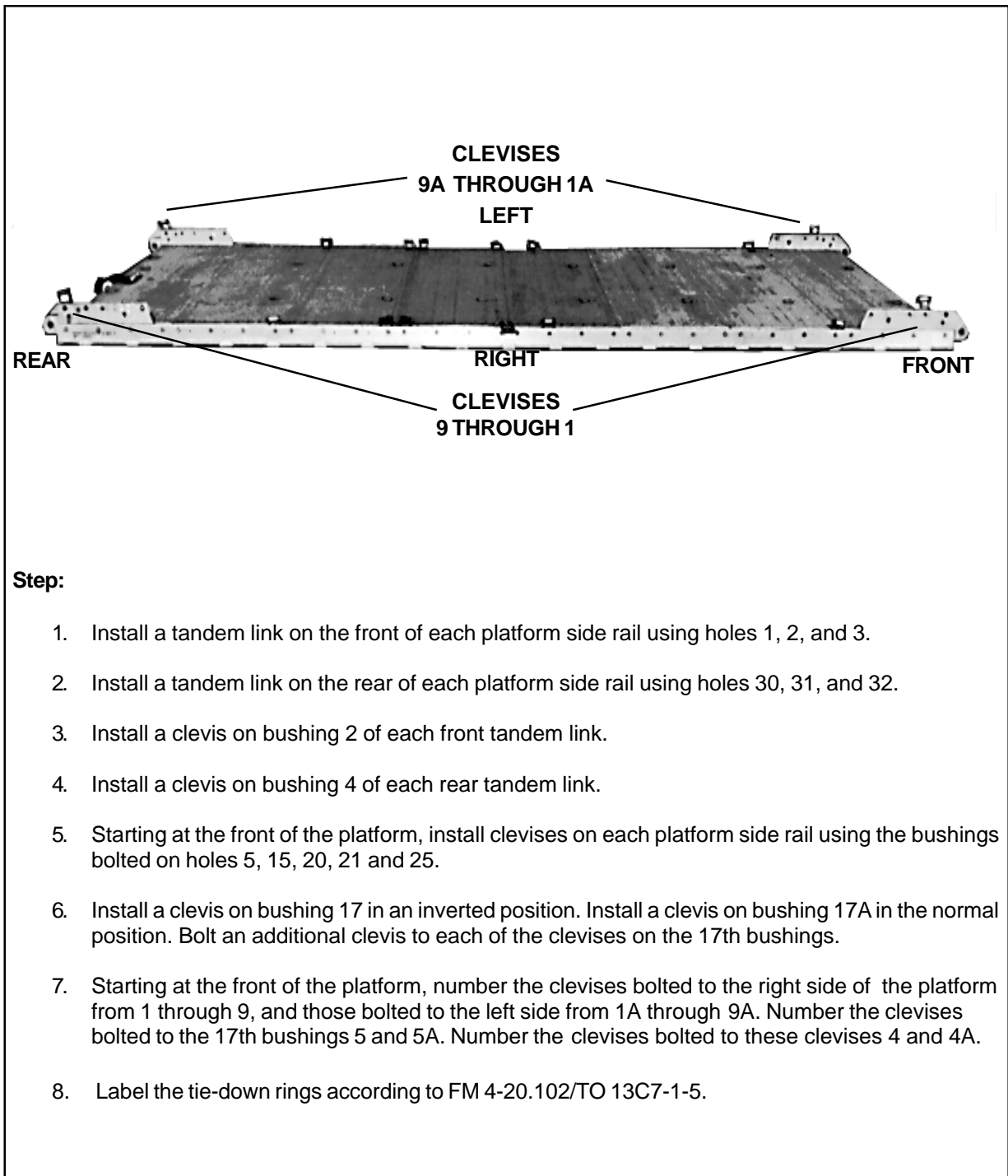
**TWO-DOOR CONFIGURATION**



**FOUR-DOOR CONFIGURATION**

**Figure 2-1. M998 Cargo/Troop Carrier**

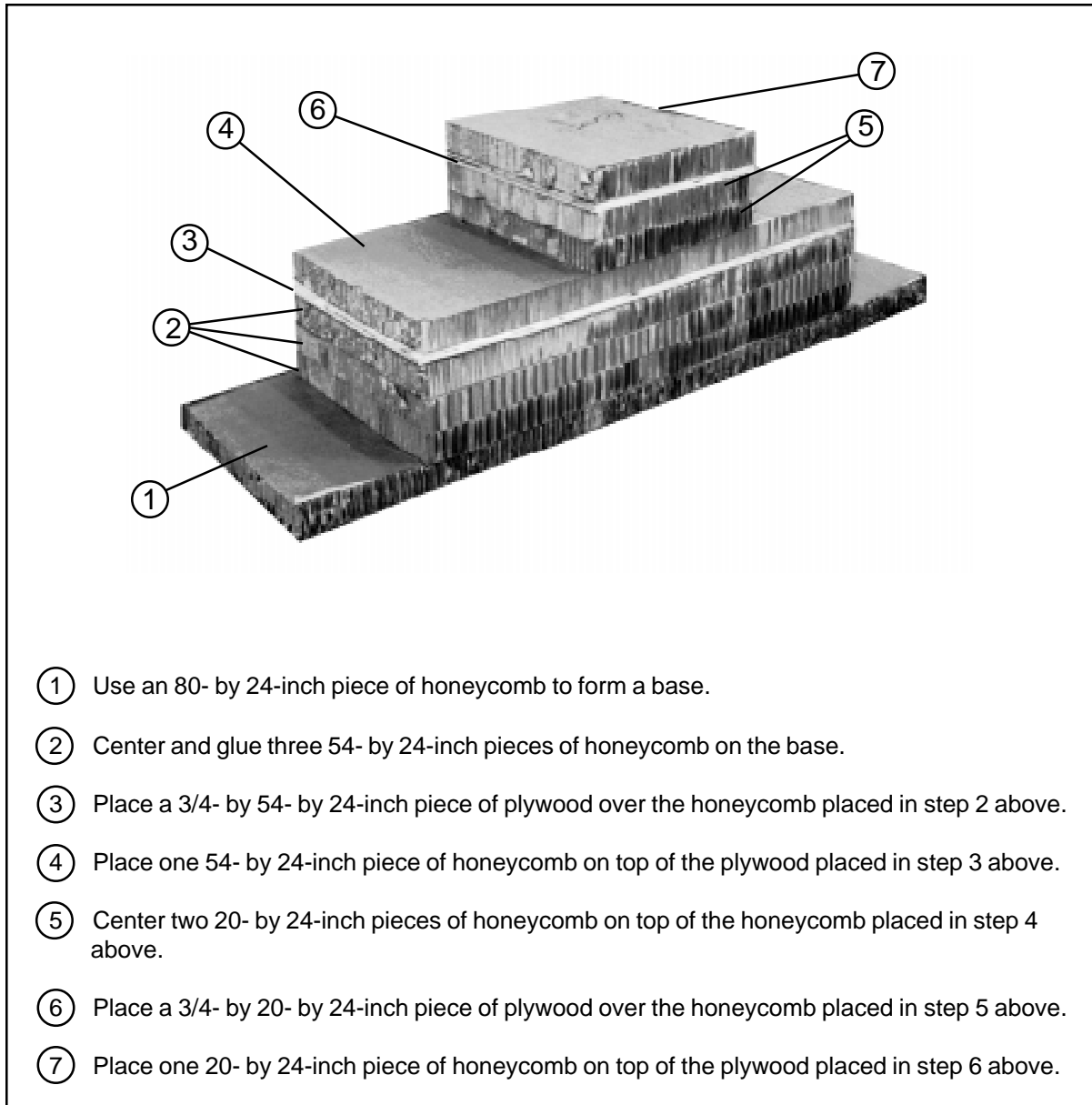




**Figure 2-2. Platform Prepared**

## PREPARING AND POSITIONING HONEYCOMB STACKS

2.3. Prepare three honeycomb stacks as shown in Figures 2-3 and 2-4. Position the stacks on the platform as shown in Figure 2-5.



- ① Use an 80- by 24-inch piece of honeycomb to form a base.
- ② Center and glue three 54- by 24-inch pieces of honeycomb on the base.
- ③ Place a 3/4- by 54- by 24-inch piece of plywood over the honeycomb placed in step 2 above.
- ④ Place one 54- by 24-inch piece of honeycomb on top of the plywood placed in step 3 above.
- ⑤ Center two 20- by 24-inch pieces of honeycomb on top of the honeycomb placed in step 4 above.
- ⑥ Place a 3/4- by 20- by 24-inch piece of plywood over the honeycomb placed in step 5 above.
- ⑦ Place one 20- by 24-inch piece of honeycomb on top of the plywood placed in step 6 above.

**Figure 2-3. Stacks 1 and 3 Prepared**

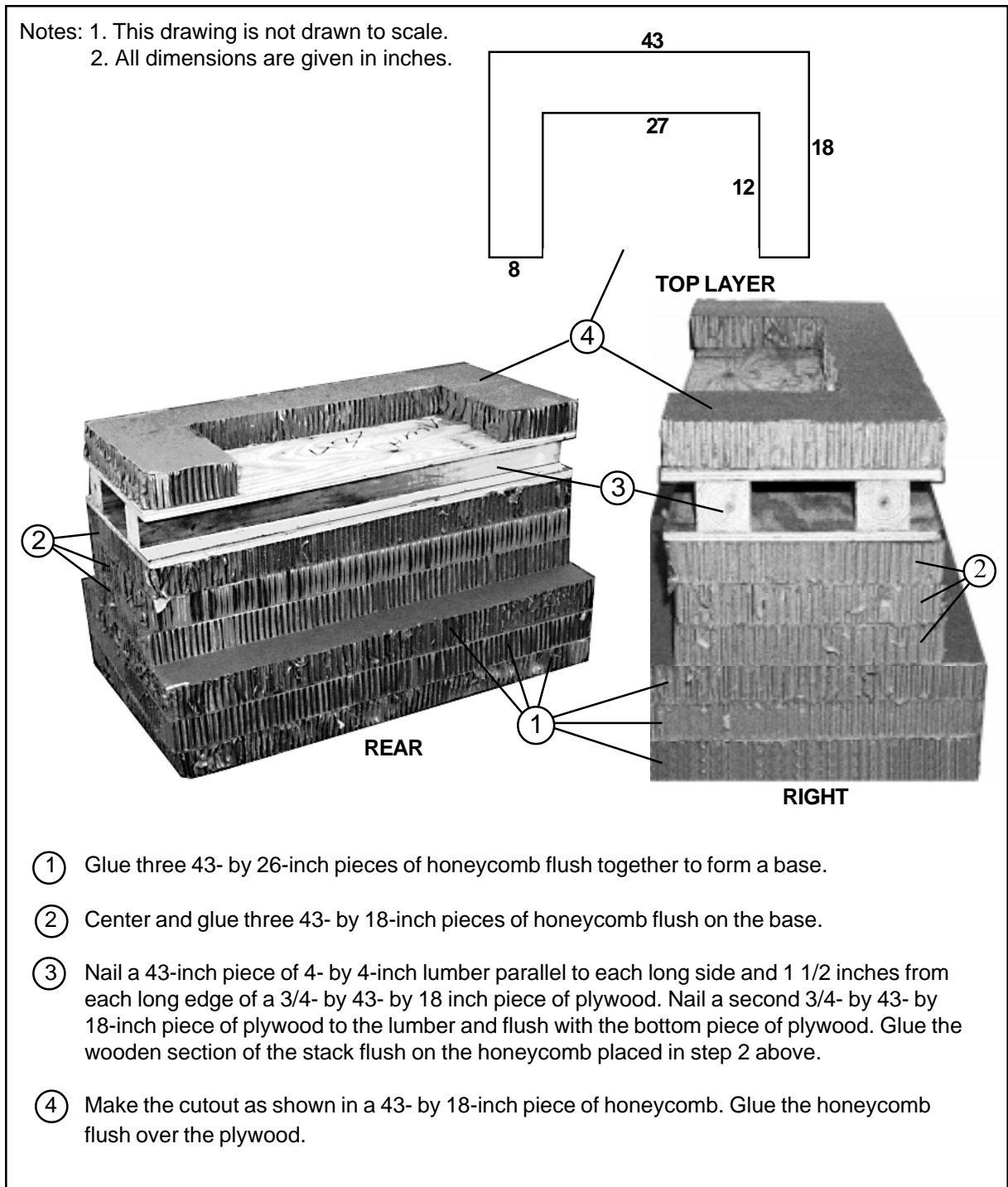


Figure 2-4. Stack 2 Prepared

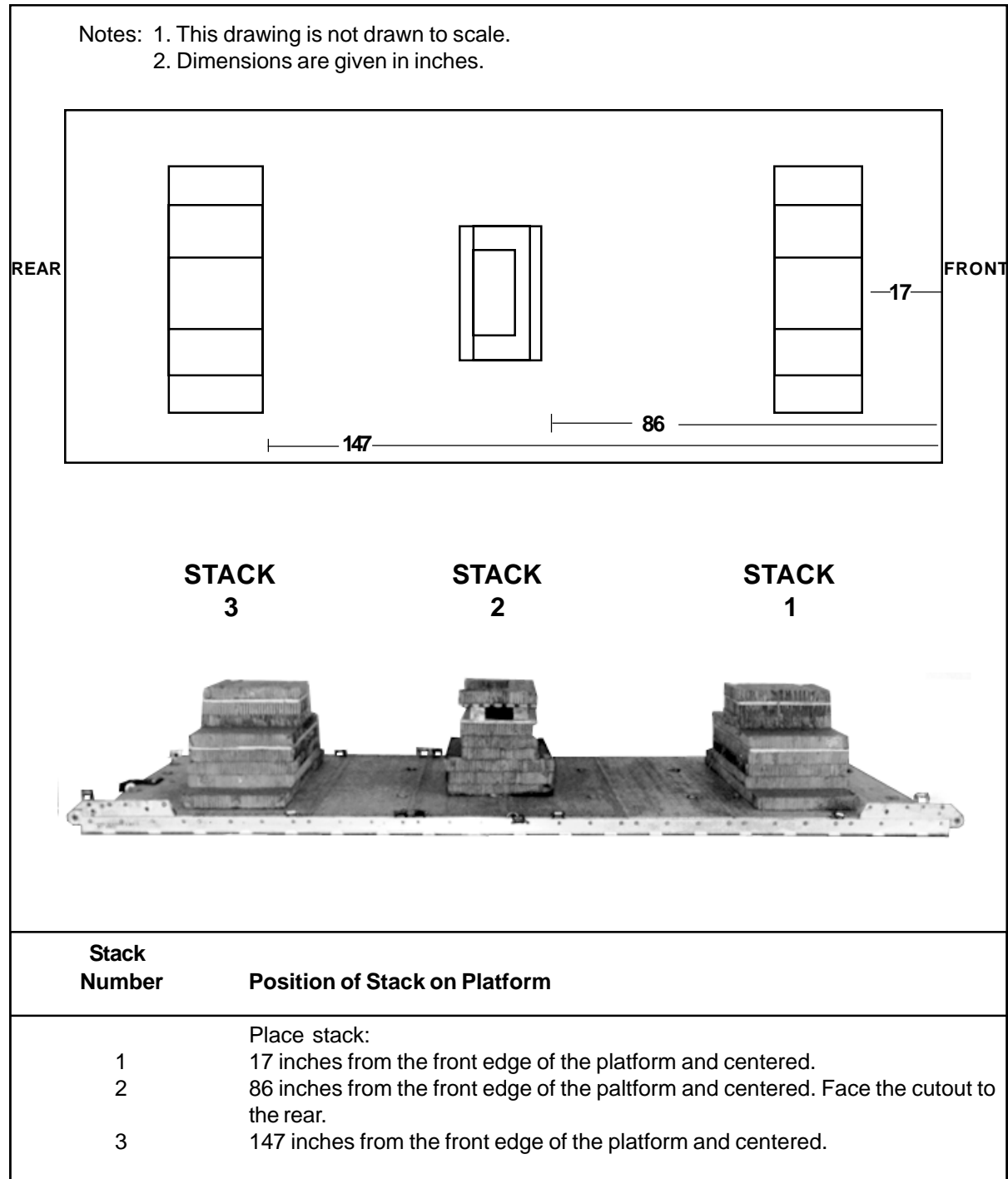


Figure 2-5. Honeycomb Stacks Positioned on Platform

## PREPARING TRUCK

2-4. Prepare the truck as described below.

**a.** Make sure the fuel tank is no more than 3/4 full. Prepare the fuel tank filler cap and fuel filler opening as shown in Figure 2-6. Prepare the fuel tank drain plug as shown in Figure 2-7.

Note: Certain units may be authorized a waiver allowing 95% fuel. One way to verify the tank is 95% full is to fill the tank and withdraw 1 1/4 gallons with a hand pump.

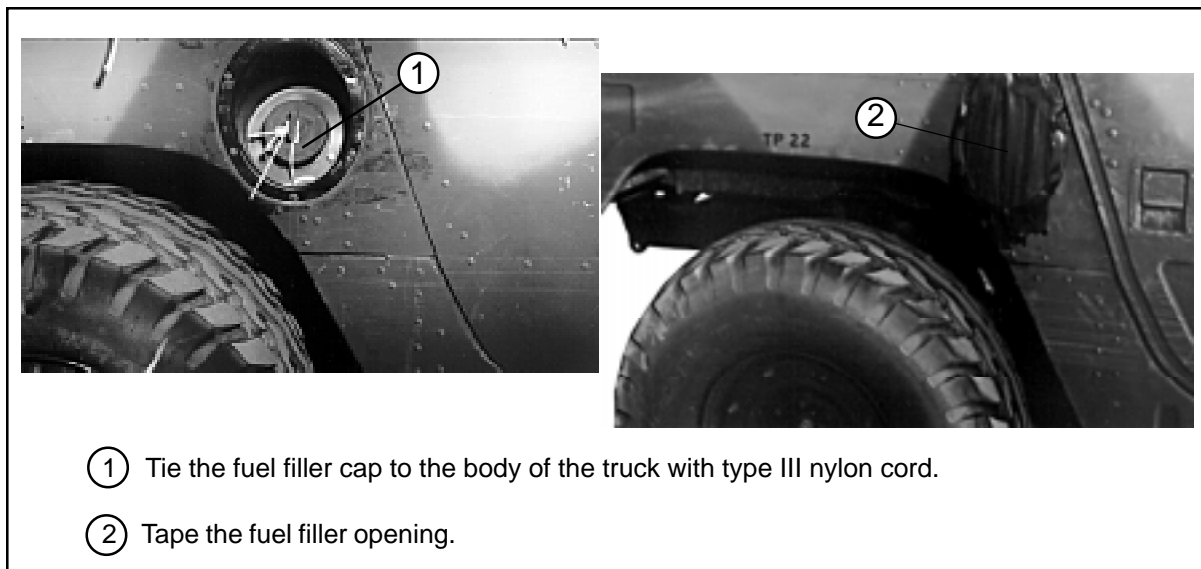
### CAUTION

A full tank does not allow for fuel expansion, and is a danger to aircraft and crew.

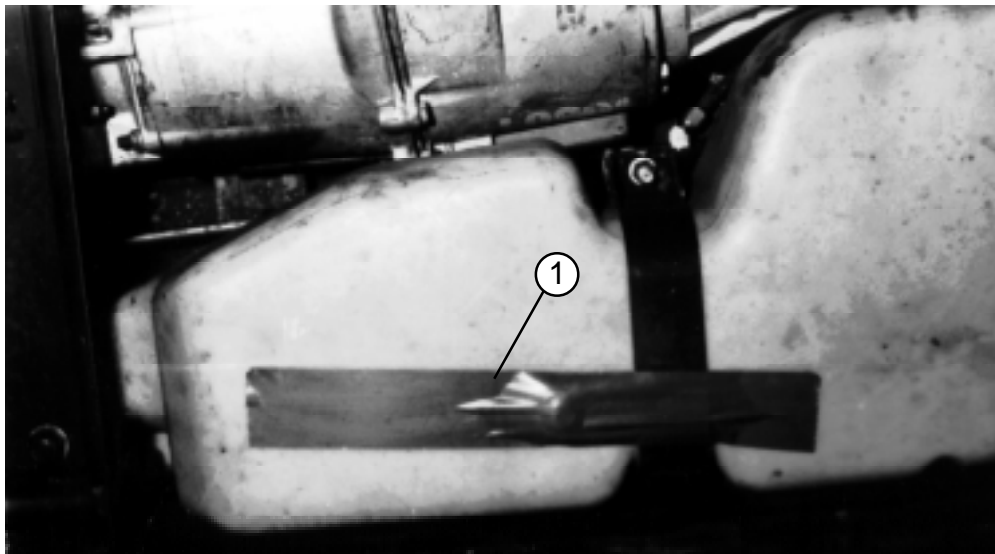
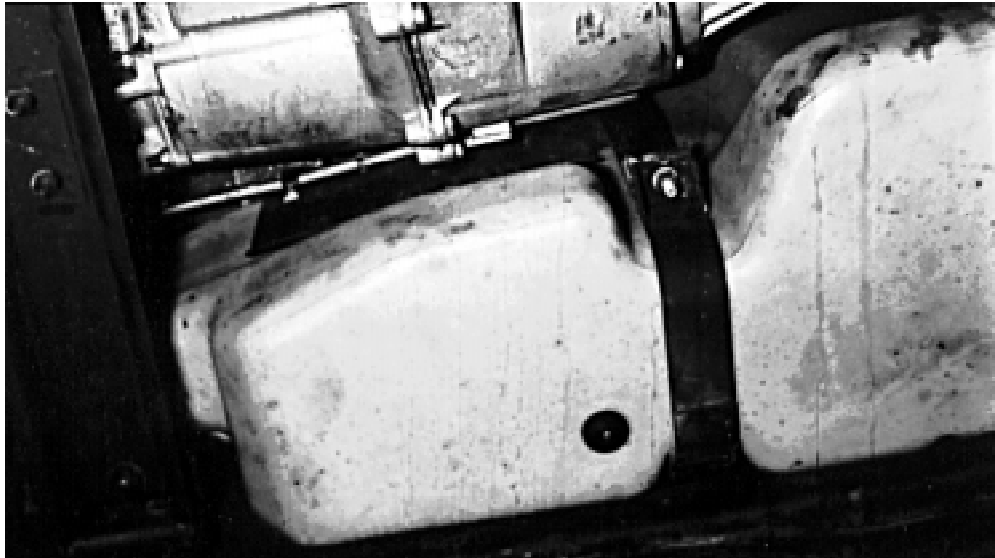
**b.** Make sure the batteries and battery compartment comply with AFJMAN 24-204/TM 38-250.

**c.** Stow the truck OVE according to TM 9-2320-280-10/TO 36A12-1A-2091-1/TM 2320-10/6.

**d.** Prepare the cab of the truck as shown in Figure 2-8.

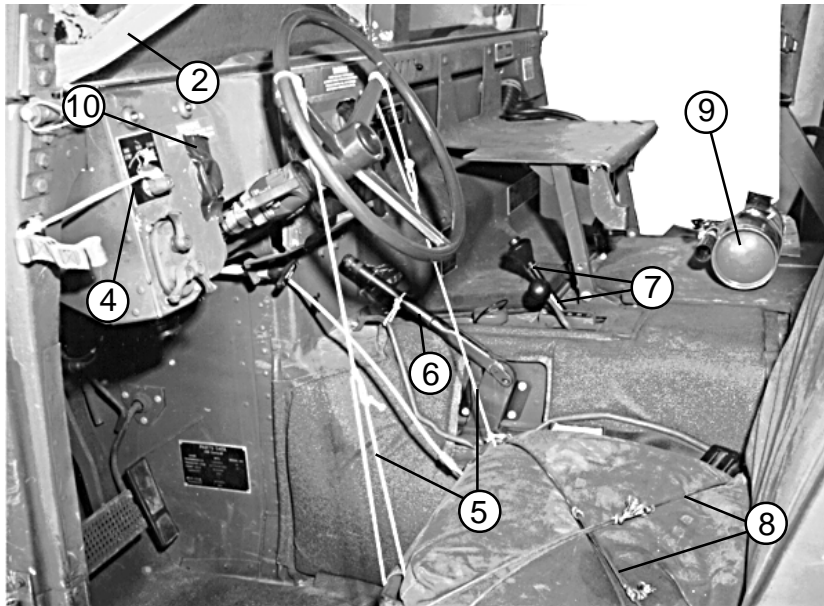


**Figure 2-6. Fuel Tank Filler Cap and Opening Prepared**



- ① Place a 12-inch length of cloth-backed tape over the fuel tank drain plug.

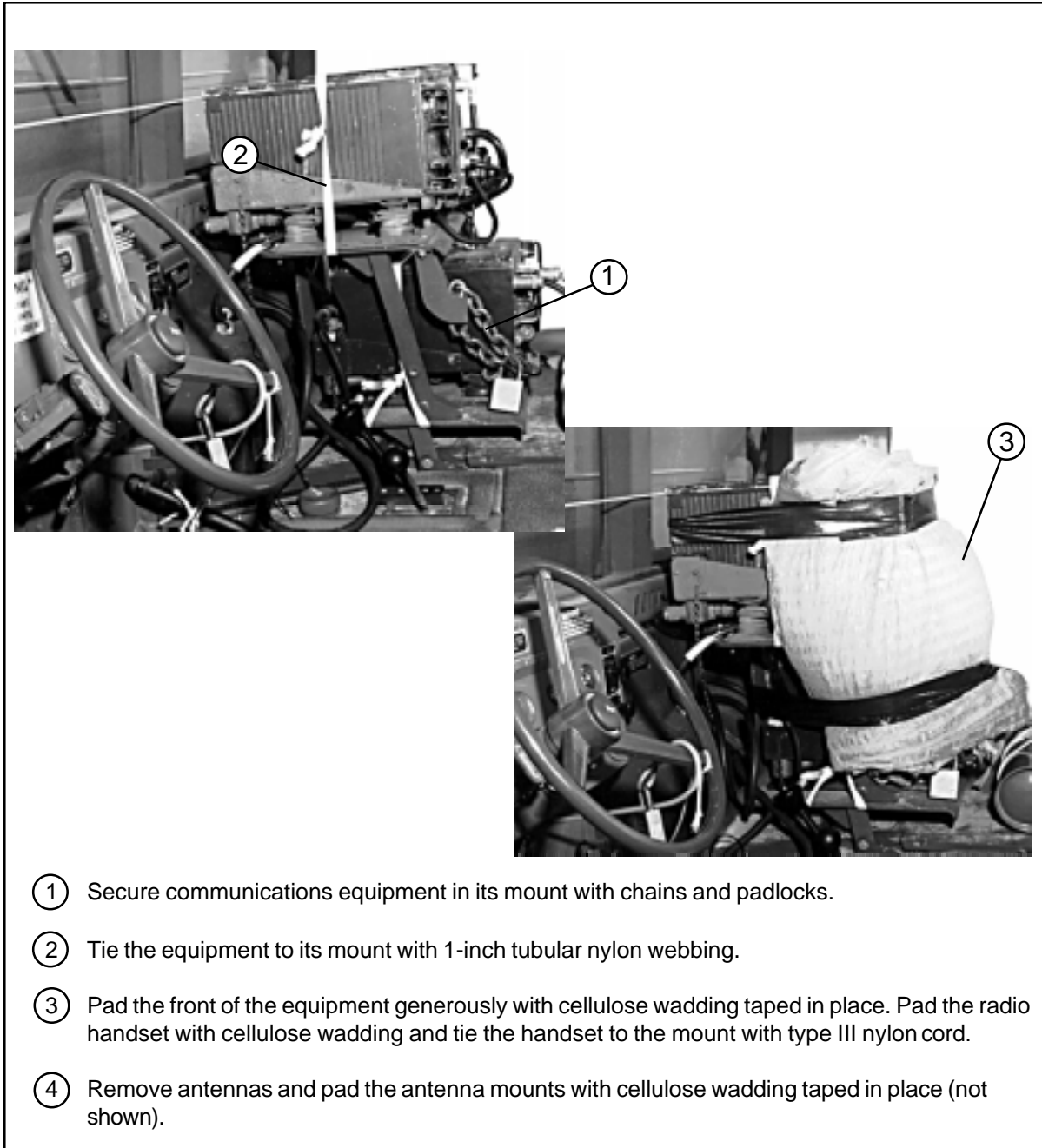
**Figure 2-7. Fuel Tank Drain Plug Prepared**



- ① Remove all doors, covers, and supporting bows.
- ② Tape the windshield glass on both sides in an X.
- ③ Remove and pad the mirrors. Secure them under the driver's seat with type III nylon cord.
- ④ Tie the engine start switch in the engine stop position with type I, 1/4-inch cotton webbing.
- ⑤ Tie the steering wheel to the seat frame in two places with type III nylon cord, or use the retractable steering wheel locking cable. If the locking cable is used, secure it to the steering wheel with type III nylon cord, not a padlock.
- ⑥ Tie the emergency brake handle in the off position with type III nylon cord.
- ⑦ Place the transmission and four-wheel drive levers in the neutral position.
- ⑧ Tie the seat cushions to the seat frames with type III nylon cord. Fold the passenger seats in four-door trucks and secure them with the pins provided.
- ⑨ Tie the fire extinguisher in place with two lengths of type III nylon cord.
- ⑩ Tape all instrument panel gauges.

**Figure 2-8. Cab Prepared**

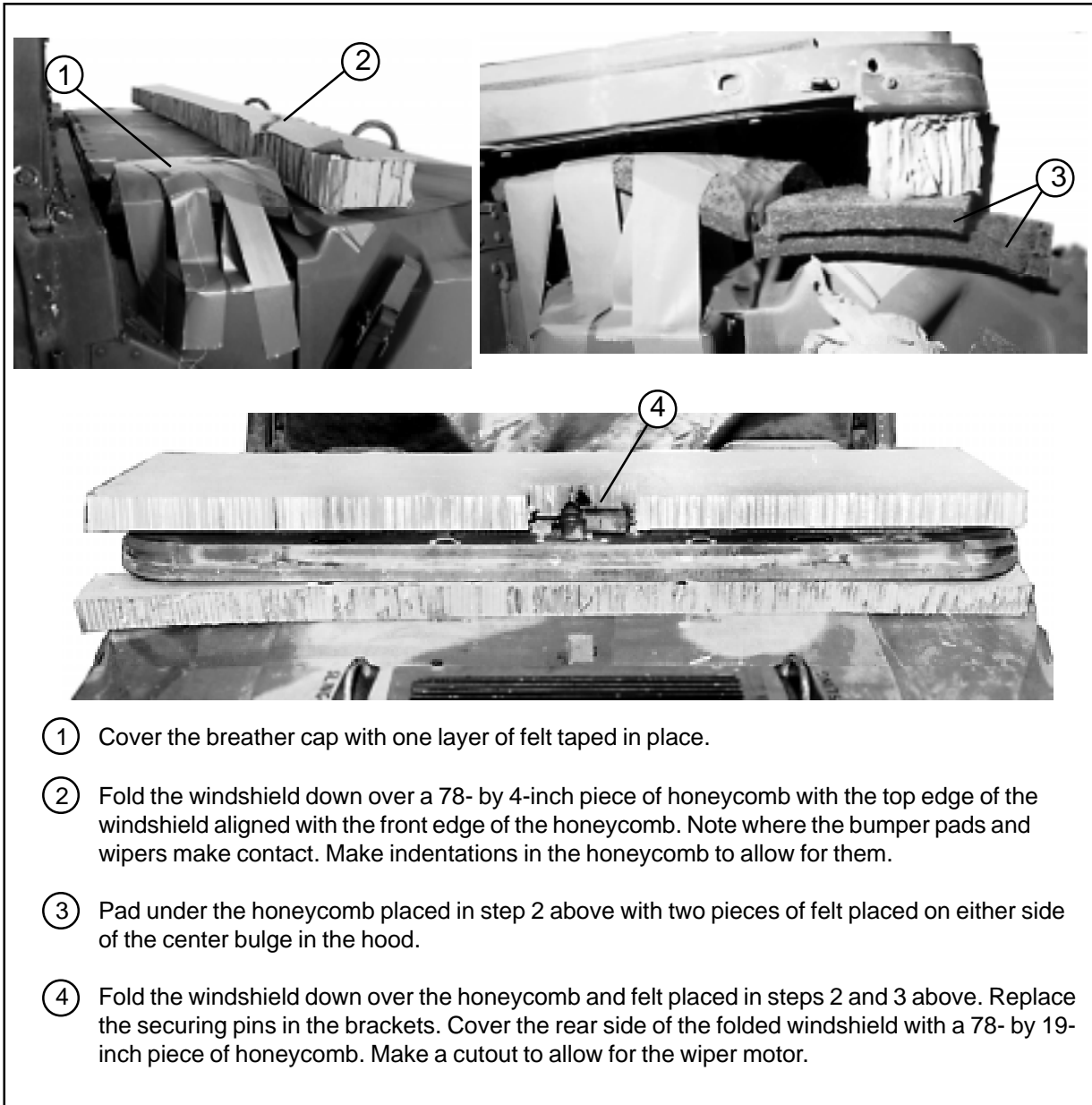
e. Secure and pad radio equipment in the cab section as shown in Figure 2-9.



**Figure 2-9. Communications Equipment Secured and Padded**

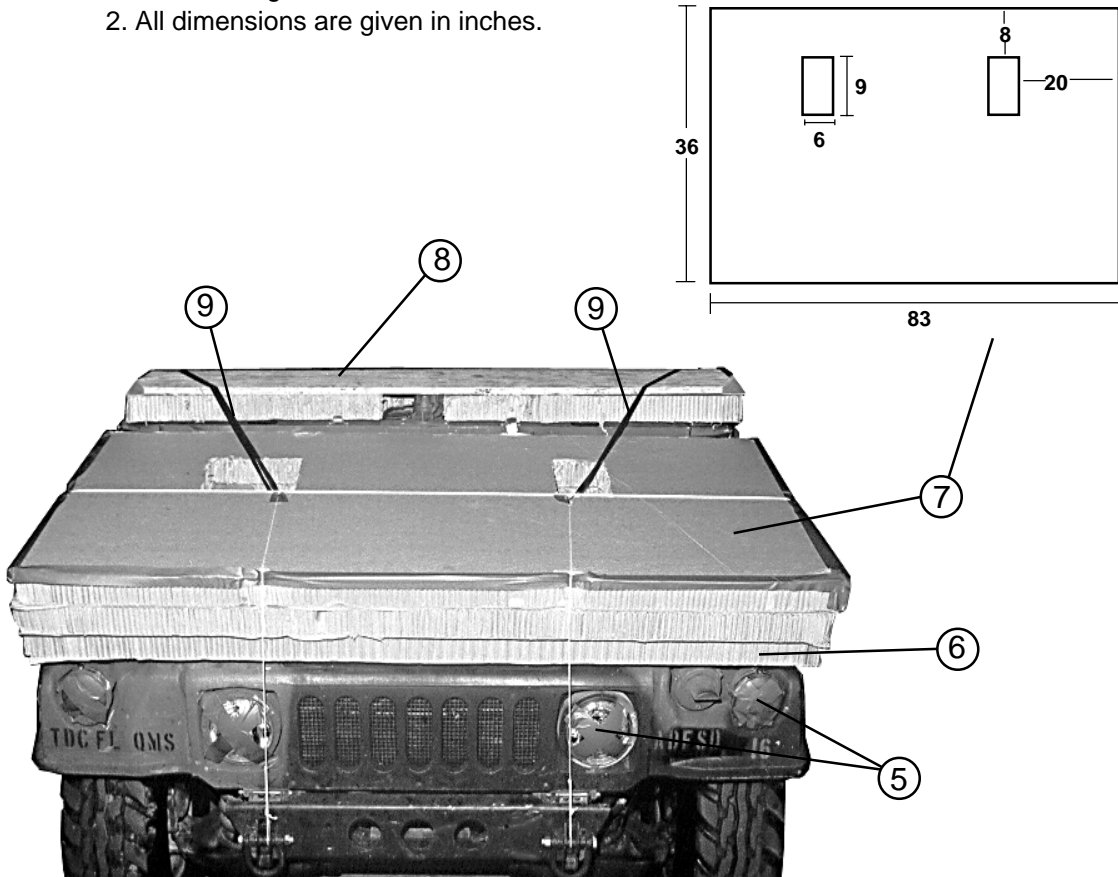


*f.* Prepare the front of soft-top trucks with foldable windshields as shown in Figure 2-10.



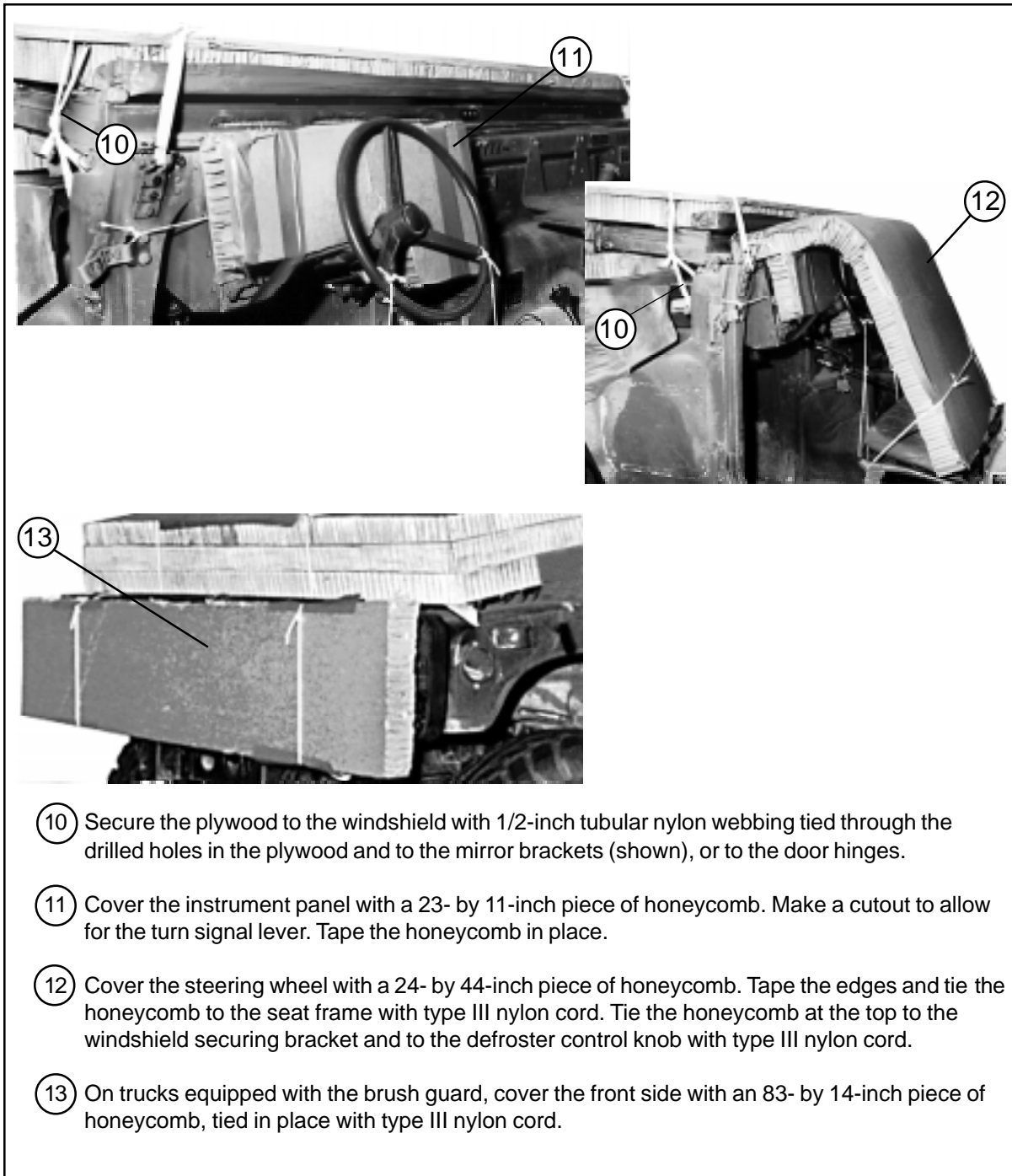
**Figure 2-10. Front of Truck Prepared**

Notes: 1. This drawing is not drawn to scale.  
 2. All dimensions are given in inches.



- ⑤ Tape all lights and reflectors. Tape the hood latches.
- ⑥ Center a 78- by 4-inch piece of honeycomb along the front edge of the hood.
- ⑦ Place two 83- by 36-inch pieces of honeycomb, with cutouts as shown, on the hood. Tie one length of type III nylon cord over the honeycomb to the front coil springs on each side. Tie two lengths of type III nylon cord from the airlift bracket to the front tie-down bracket on each side. Tape the honeycomb where the cord passes over the edges.
- ⑧ Place a 3/4- by 78- by 19-inch piece of plywood over the honeycomb placed in step 4. Round the front corners, and drill a 1/2-inch hole 6 inches from the bottom and 1 inch from each end.
- ⑨ Secure the plywood with two lengths of 1/2-inch tubular nylon webbing tied from the airlift bracket to the windshield securing pin on each side.

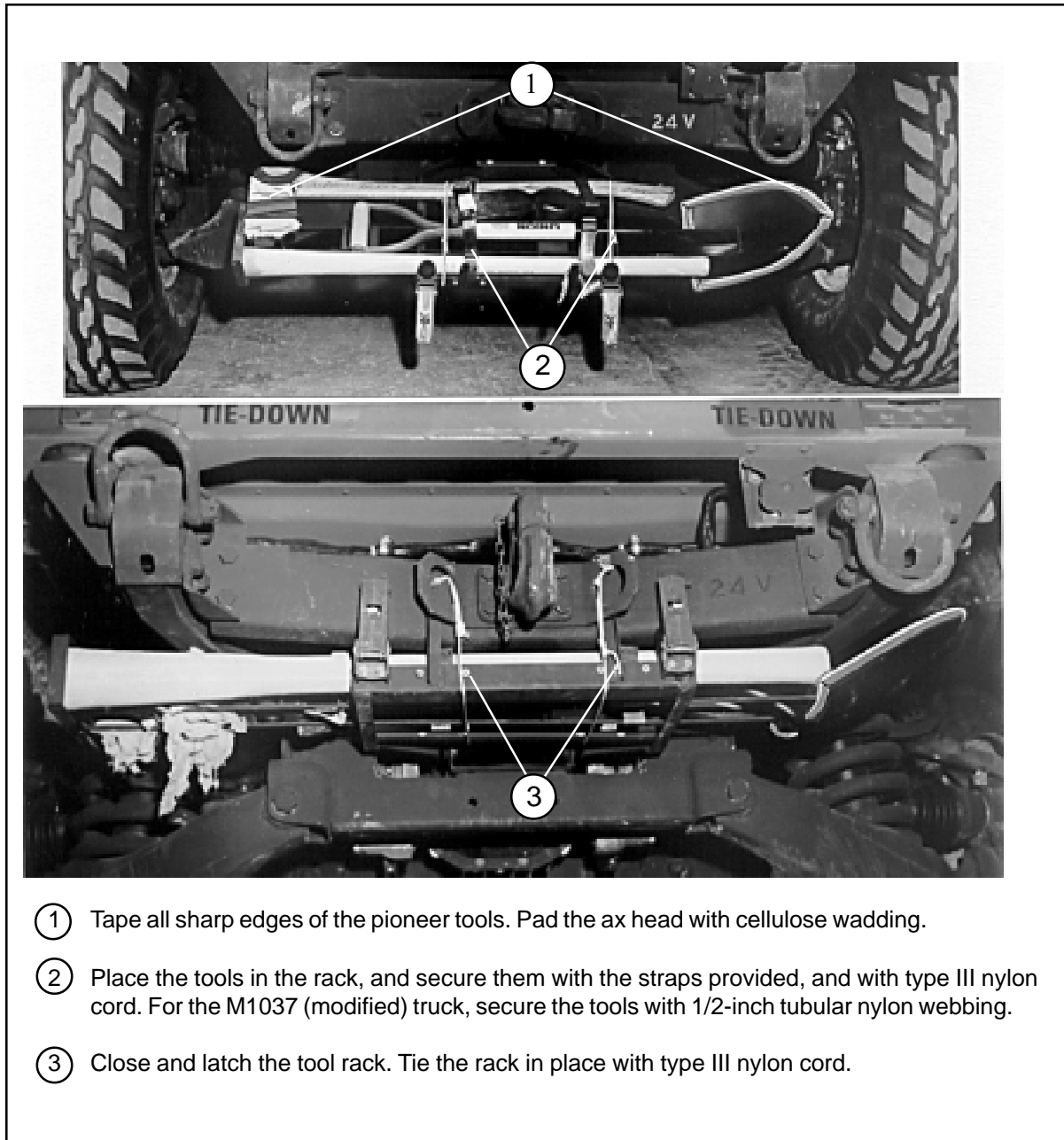
**Figure 2-10. Front of Truck Prepared (continued)**



- ⑩ Secure the plywood to the windshield with 1/2-inch tubular nylon webbing tied through the drilled holes in the plywood and to the mirror brackets (shown), or to the door hinges.
- ⑪ Cover the instrument panel with a 23- by 11-inch piece of honeycomb. Make a cutout to allow for the turn signal lever. Tape the honeycomb in place.
- ⑫ Cover the steering wheel with a 24- by 44-inch piece of honeycomb. Tape the edges and tie the honeycomb to the seat frame with type III nylon cord. Tie the honeycomb at the top to the windshield securing bracket and to the defroster control knob with type III nylon cord.
- ⑬ On trucks equipped with the brush guard, cover the front side with an 83- by 14-inch piece of honeycomb, tied in place with type III nylon cord.

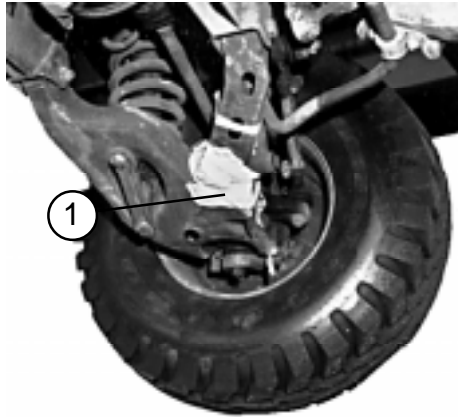
**Figure 2-10. Front of Truck Prepared (continued)**

*g.* Prepare and secure the pioneer tool kit according to TM 9-2320-280-10/ TO 36A12-1A-2091-1/TM 2320-10/6, and as shown in Figure 2-11.



**Figure 2-11. Pioneer Tool Kit Secured**

*h.* Prepare the underside of the truck as shown in Figure 2-12.



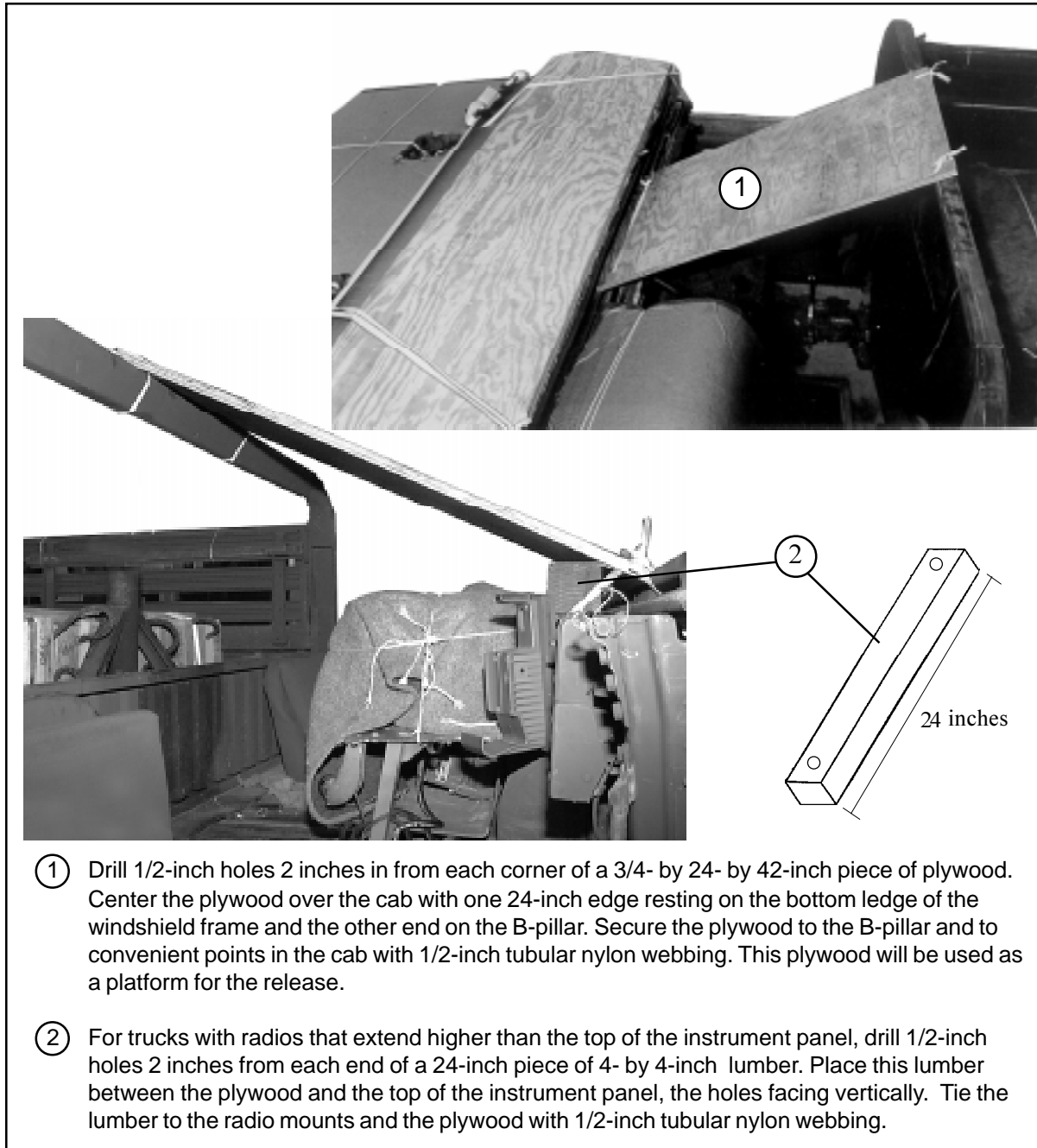
- ① Pad the lower control arms on the front and rear of the truck with cellulose wadding taped in place.



- ② Pass a 15-foot lashing over the right frame rail, under the oil pan, and over the left frame rail. Make sure the lashing goes over the exhaust pipe and then under it. Make sure the wires running along the frame rail are to the outside of the lashing. Place a 12- by 12-inch piece of honeycomb and a 2- by 6- by 16-inch piece of lumber between the lashing and the oil pan. Fasten the lashing with a D-ring and a load binder.
- ③ Install another lashing just to the rear of the lashing installed in step 2 above. Route the lashing in the same way.

**Figure 2-12. Underside of Truck Prepared**

i. Prepare the truck body as shown in Figure 2-13.



- ① Drill 1/2-inch holes 2 inches in from each corner of a 3/4- by 24- by 42-inch piece of plywood. Center the plywood over the cab with one 24-inch edge resting on the bottom ledge of the windshield frame and the other end on the B-pillar. Secure the plywood to the B-pillar and to convenient points in the cab with 1/2-inch tubular nylon webbing. This plywood will be used as a platform for the release.
- ② For trucks with radios that extend higher than the top of the instrument panel, drill 1/2-inch holes 2 inches from each end of a 24-inch piece of 4- by 4-inch lumber. Place this lumber between the plywood and the top of the instrument panel, the holes facing vertically. Tie the lumber to the radio mounts and the plywood with 1/2-inch tubular nylon webbing.

**Figure 2-13. Truck Body Prepared**

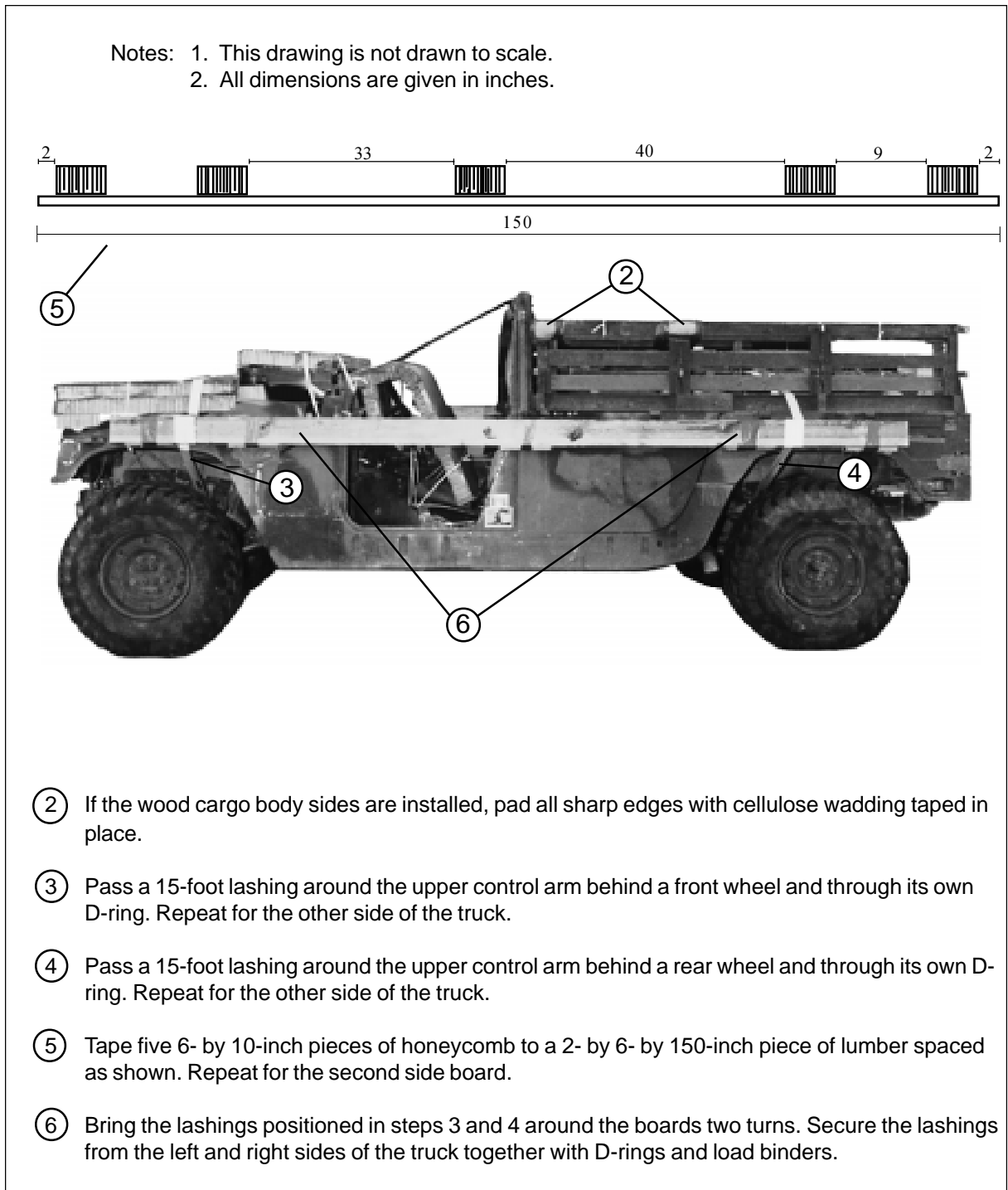
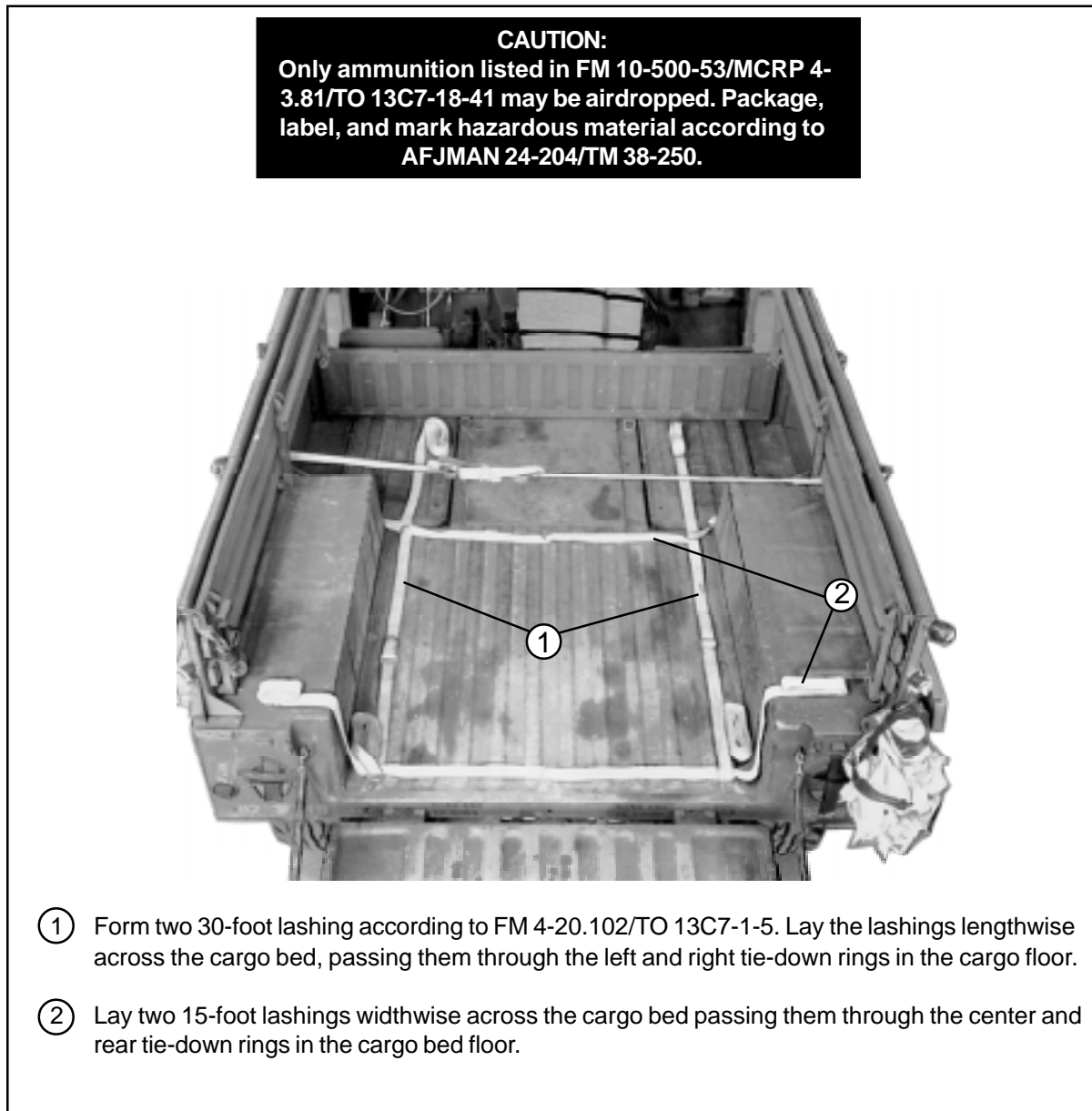


Figure 2-13. Truck Body Prepared (continued)

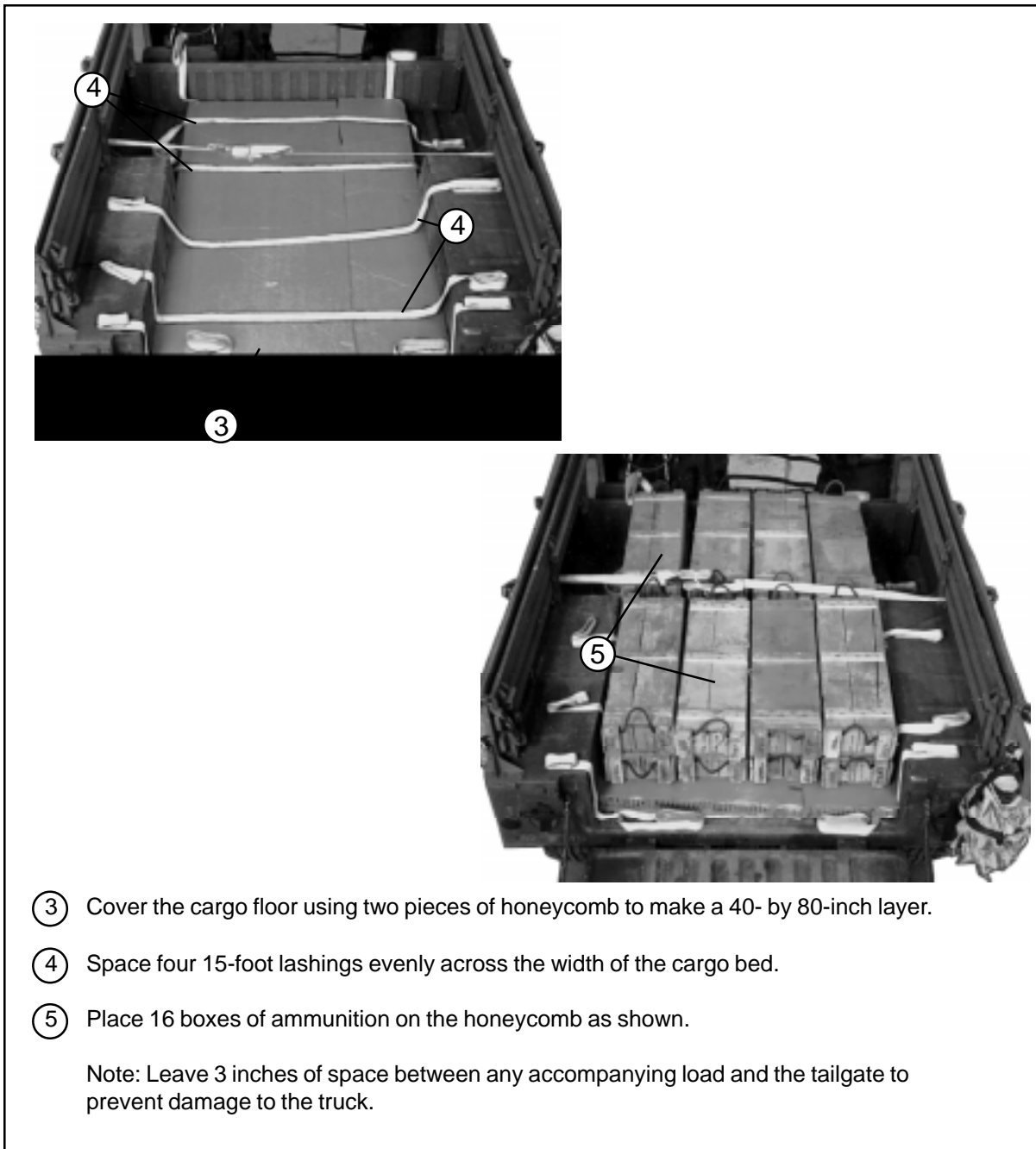
## STOWING ACCOMPANYING LOAD

2-5. Use or adapt the procedures shown in Figure 2-14 to stow ammunition and truck equipment. The accompanying load shown is 16 boxes of ammunition and truck equipment weighing 1,800 pounds.

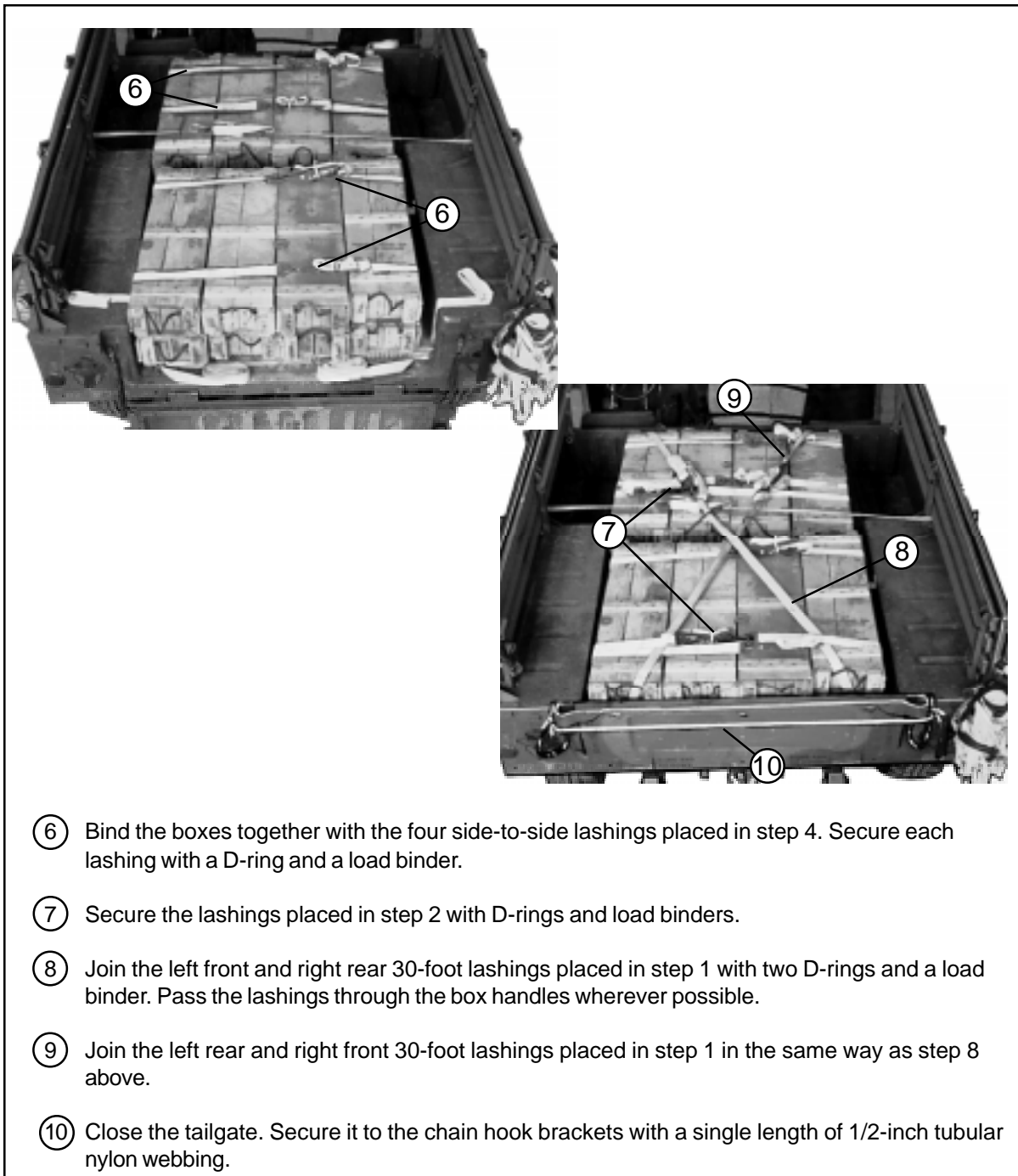


**Figure 2-14. Ammunition and Truck Equipment Stowed**



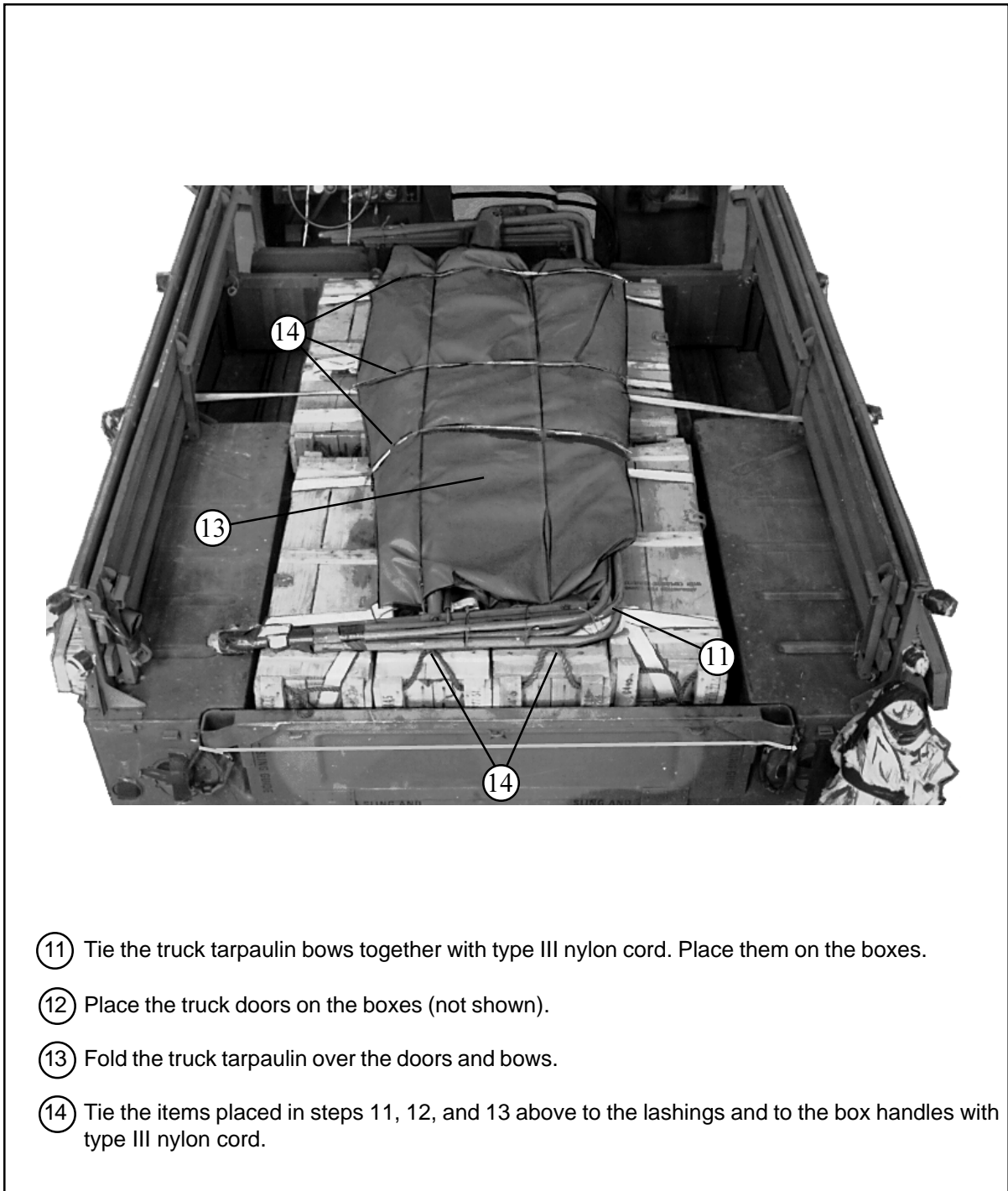


**Figure 2-14. Ammunition and Truck Equipment Stowed (continued)**



- ⑥ Bind the boxes together with the four side-to-side lashings placed in step 4. Secure each lashing with a D-ring and a load binder.
- ⑦ Secure the lashings placed in step 2 with D-rings and load binders.
- ⑧ Join the left front and right rear 30-foot lashings placed in step 1 with two D-rings and a load binder. Pass the lashings through the box handles wherever possible.
- ⑨ Join the left rear and right front 30-foot lashings placed in step 1 in the same way as step 8 above.
- ⑩ Close the tailgate. Secure it to the chain hook brackets with a single length of 1/2-inch tubular nylon webbing.

**Figure 2-14. Ammunition and Truck Equipment Stowed (continued)**

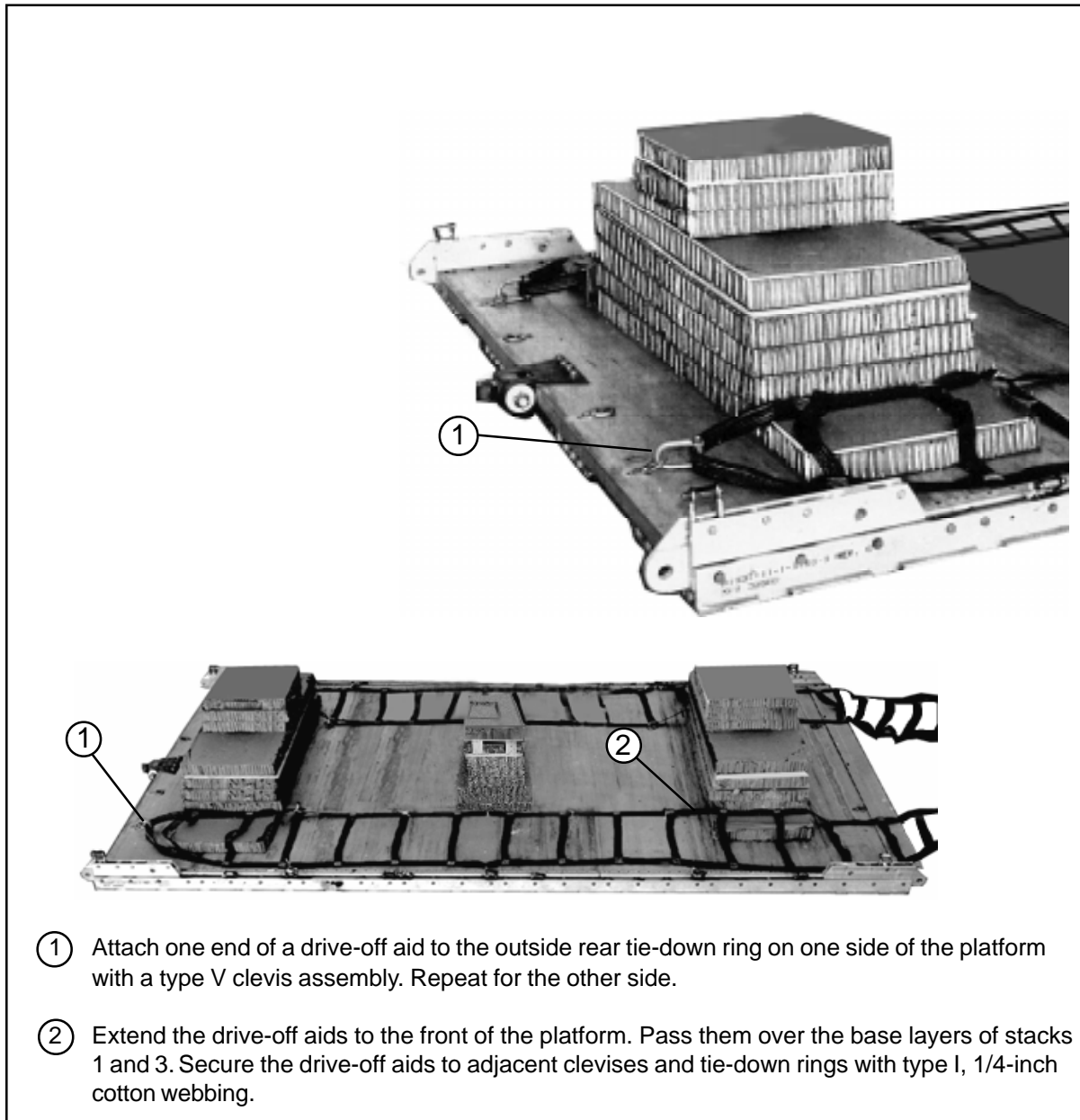


**Figure 2-14. Ammunition and Truck Equipment Stowed (continued)**

## INSTALLING OPTIONAL DRIVE-OFF AIDS ON PLATFORM

2-6. Install the drive-off aids on the platform as shown in Figure 2-15.

Note : The use of drive-off aids is optional.



**Figure 2-15. Drive-off Aids Installed on Platform**

**LIFTING AND POSITIONING TRUCK AND INSTALLING OPTIONAL DRIVE-OFF AIDS**

2-7. Install the lifting slings and position the truck on the honeycomb stacks as shown in Figure 2-16. Attach the drive-off aids to the wheels of the truck as shown in Figure 2-17, and according to FM 4-20.102/TO 13C7-1-5.



**Figure 2-16. Lifting Slings Installed and Truck Positioned**

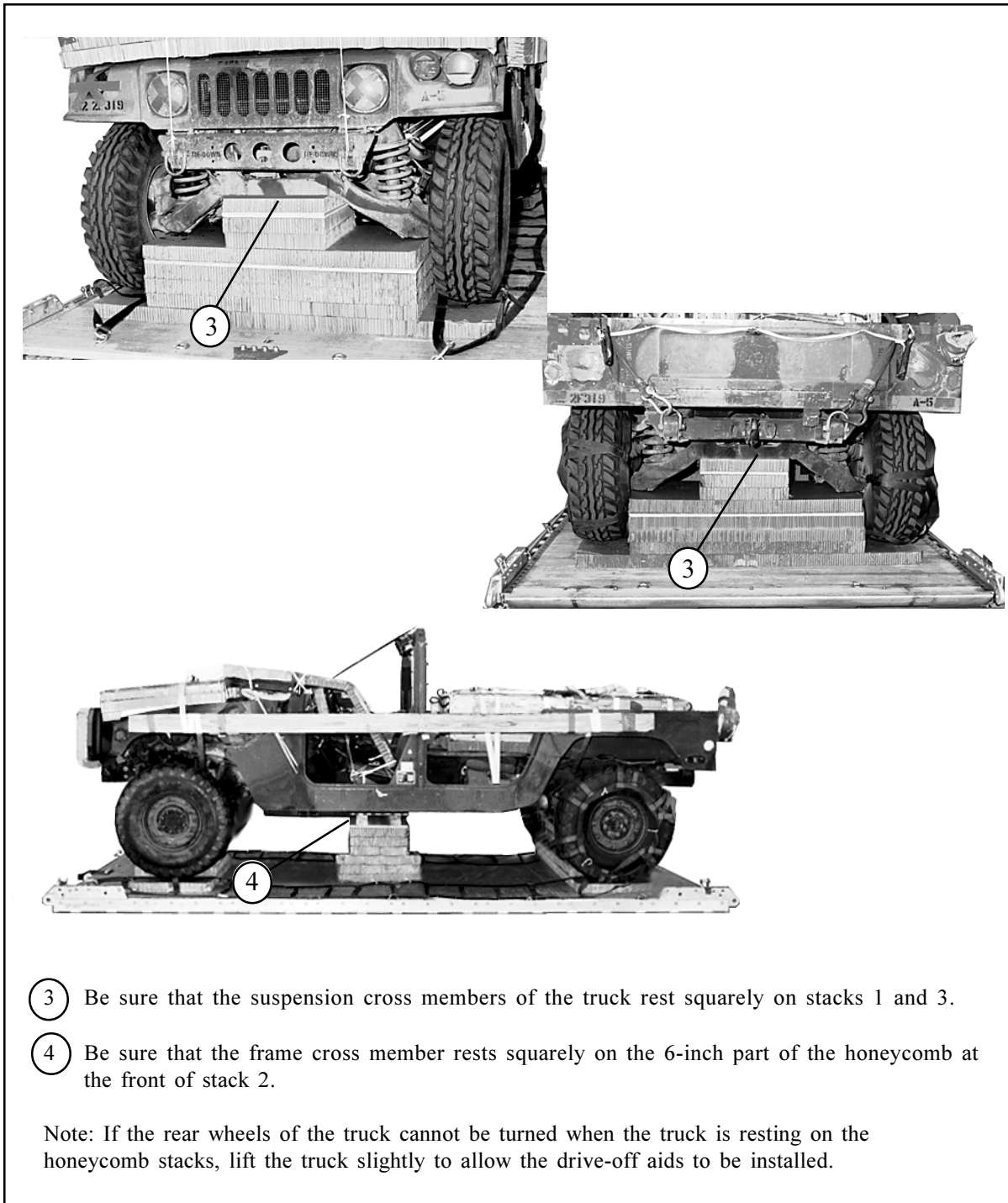
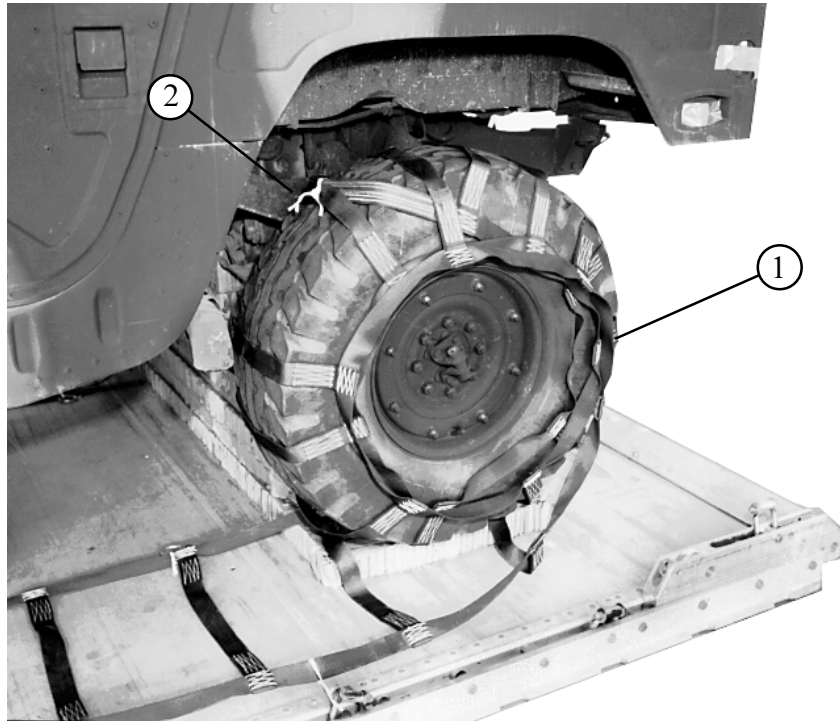


Figure 2-16. Lifting Slings Installed and Truck Positioned (continued)

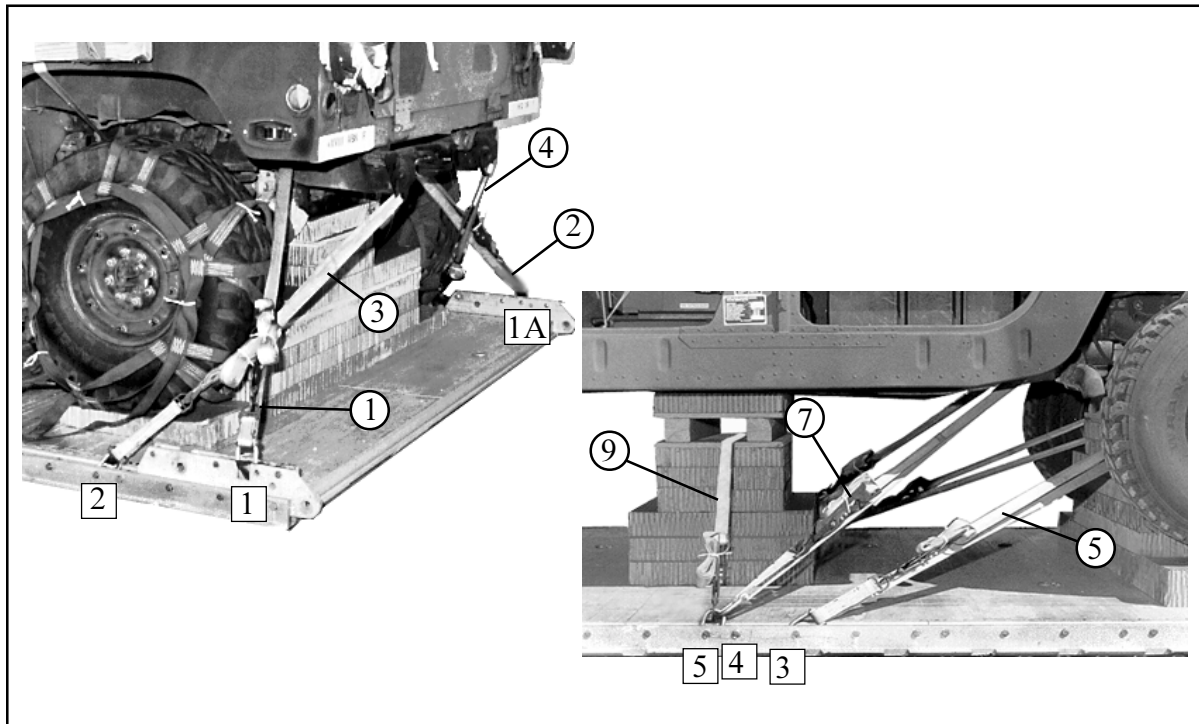


- ① Place a drive-off aid under the right wheel. Holding the drive-off aid against the wheel, turn the wheel counter-clockwise until the drive-off aid is under slight tension. Repeat for the other side, but turn the wheel clockwise.
- ② Tie the end loop of each drive-off aid to the nearest cross-piece with a double length of type I, 1/4-inch cotton webbing.

**Figure 2-17. Drive-off Aids Attached to Wheels**

**LASHING TRUCK**

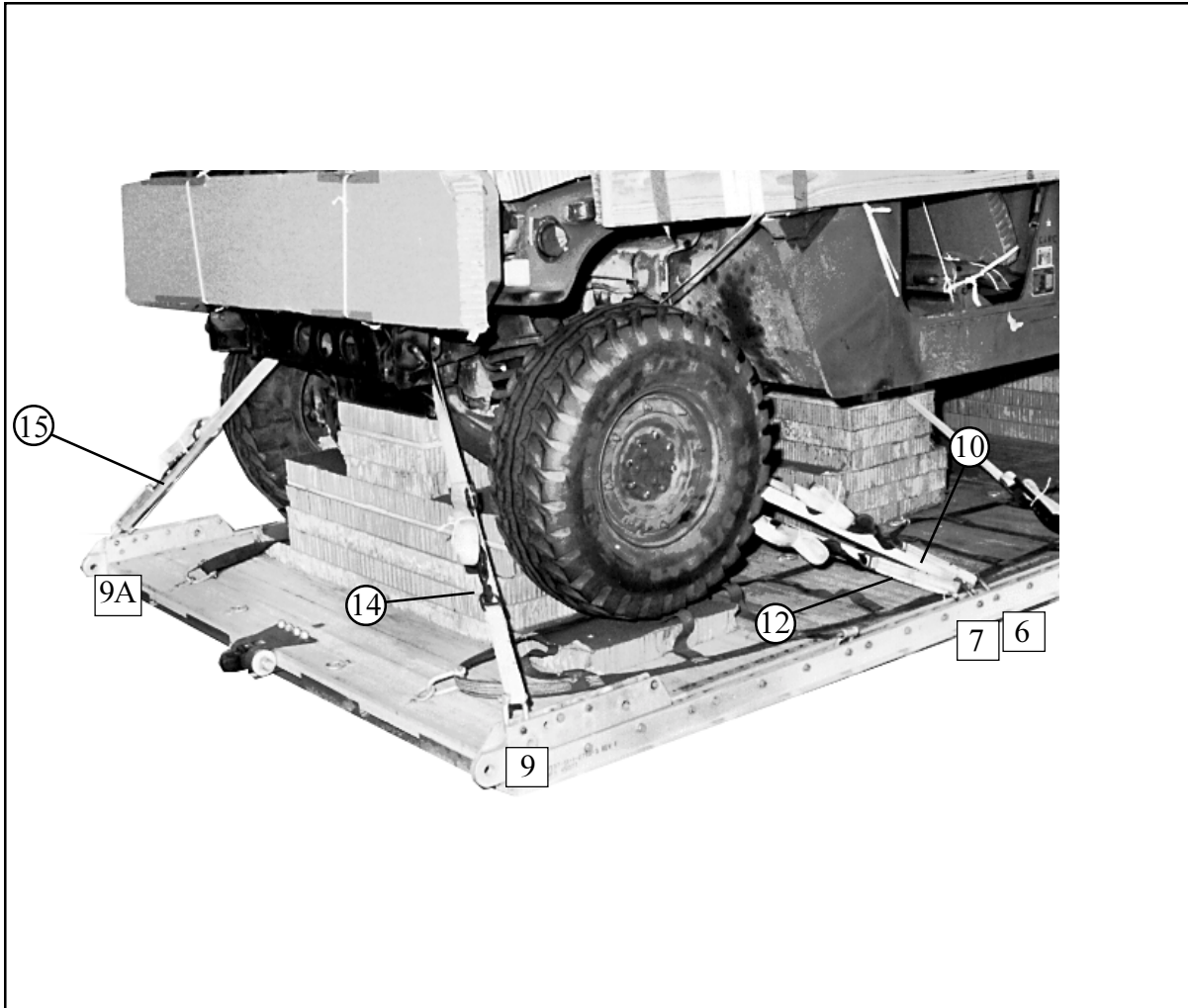
2-8. Lash the truck to the platform with fifteen 15-foot tie-down assemblies. Install the lashings according to FM 4-20.102/TO 13C7-1-5, and as shown in Figures 2-18 and 2-19.



Lashing Number	Tie-down Clevis Number	Instructions
1	1	Pass lashing: Through tie-down bracket behind left rear coil spring.
2	1A	Through tie-down bracket behind right rear coil spring.
3	2	Through left rear lifting shackle.
4	2A	Through right rear lifting shackle.
5	3	Around left rear lower control arm.
6	3A	Around right rear lower control arm.
7	4	Through tie-down bracket in front of left rear coil spring.
8	4A	Through tie-down bracket in front of right rear coil spring.
9	5 and 5A	Pass a 15-foot lashing through clevis 5A and through its own D-ring. Pass the lashing through the hole in stack 2. Attach the lashing to clevis 5 with a load binder.

**Figure 2-18. Lashings 1 through 9 Installed**





Lashing Number	Tie-down Clevis Number	Instructions
10	6	Pass lashing:
11	6A	Through tie-down bracket behind left front coil spring.
12	7	Through tie-down bracket behind right front coil spring.
13	7A	Around left lower control arm.
14	9	Around right lower control arm.
15	9A	Through tie-down bracket on end of left frame rail.
		Through tie-down bracket on end of right frame rail.

Figure 2-19. Lashings 10 through 15 Installed

## INSTALLING AND SAFETY TYING SUSPENSION SLINGS

2-9. Install and safety tie four 16-foot (2-loop), type XXVI nylon webbing suspension slings according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 2-20.

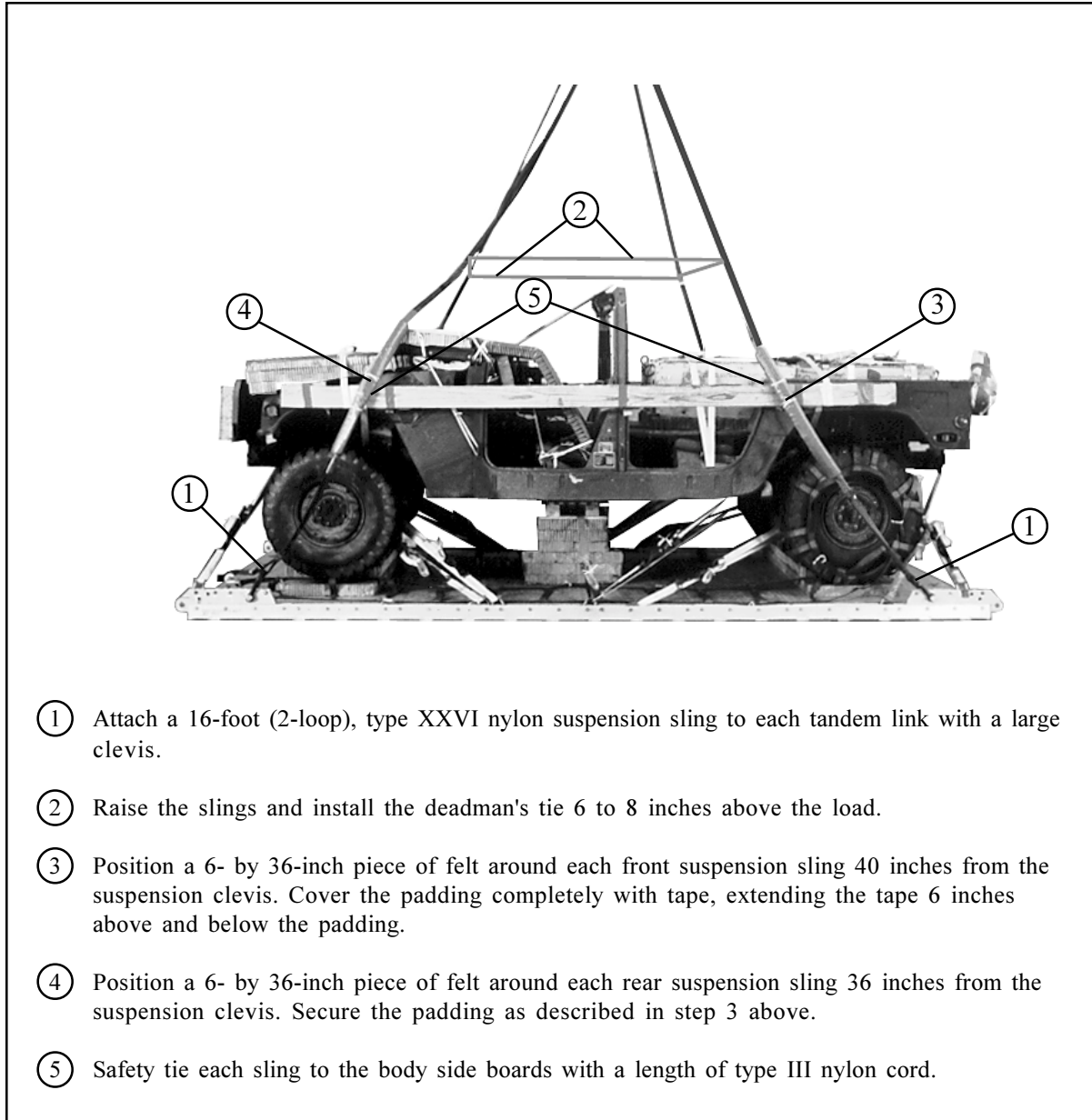
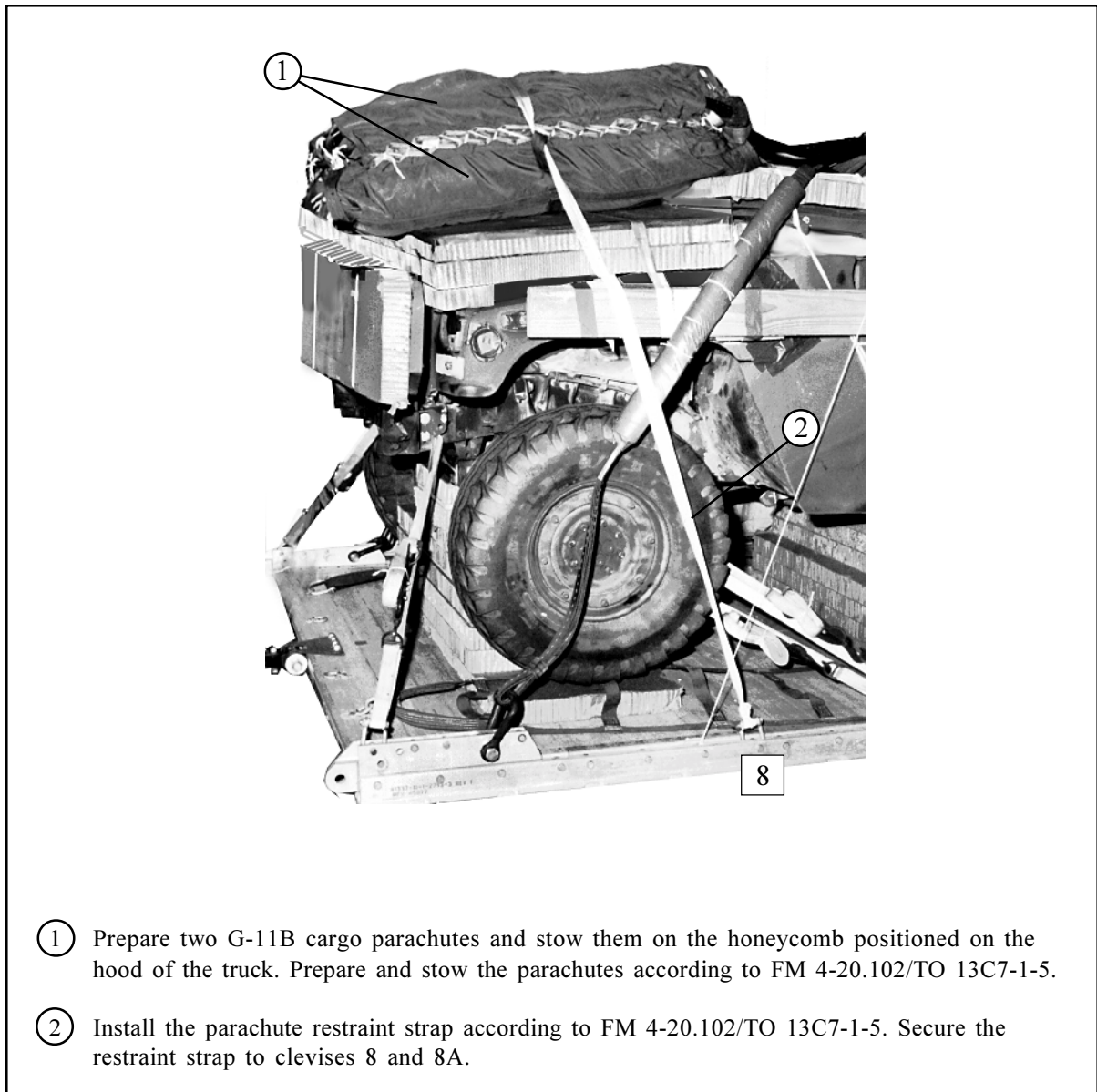


Figure 2-20. Suspension Slings Installed, Padded, and Safety Tied

**STOWING CARGO PARACHUTES**

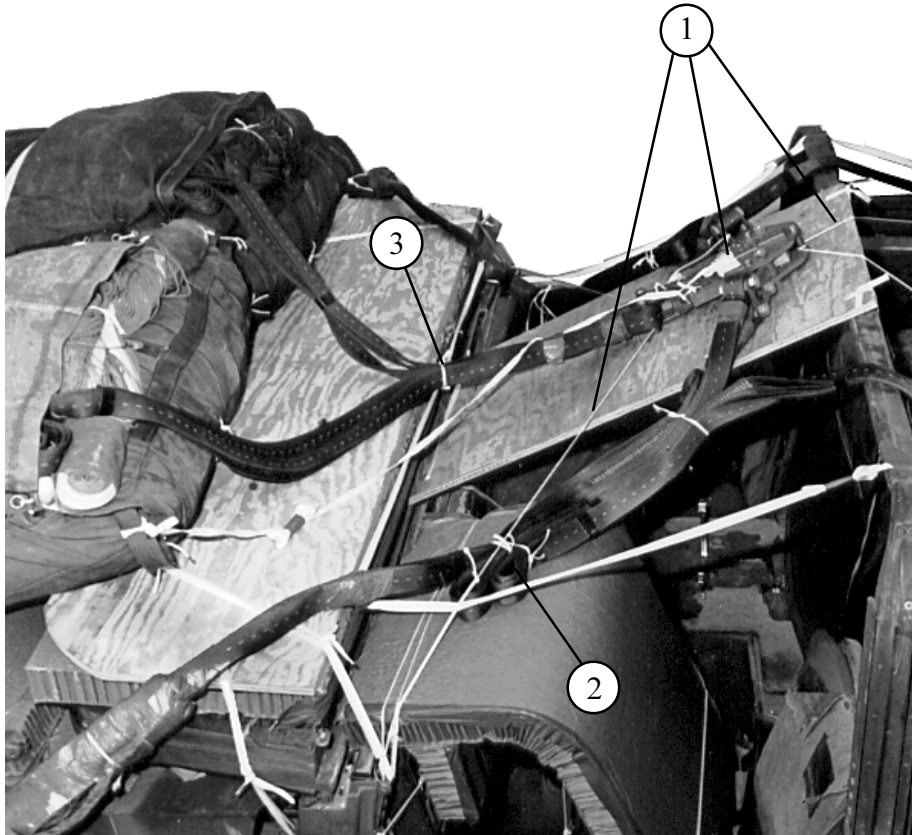
2-10. Use two G-11 cargo parachutes on this load. Prepare and stow the cargo parachutes as shown in Figure 2-21.



**Figure 2-21. G-11 Cargo Parachutes Stowed**

## INSTALLING PARACHUTE RELEASE

2-11. Prepare and install an M-1 cargo parachute release according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 2-22.



- ① Place the M-1 release on the 3/4- by 24- by 42-inch plywood over the driver compartment. Secure it to convenient points on the load with type III nylon cord.
- ② S-fold any slack in the suspension slings. Tie the folds in place with type I, 1/4-inch cotton webbing.
- ③ Tie the riser extensions together with a length of type I, 1/4-inch cotton webbing.

**Figure 2-22. M-1 Cargo Parachute Release Installed**

## INSTALLING EXTRACTION SYSTEM

2-12. Install the extraction force transfer coupling (EFTC) according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 2-23.

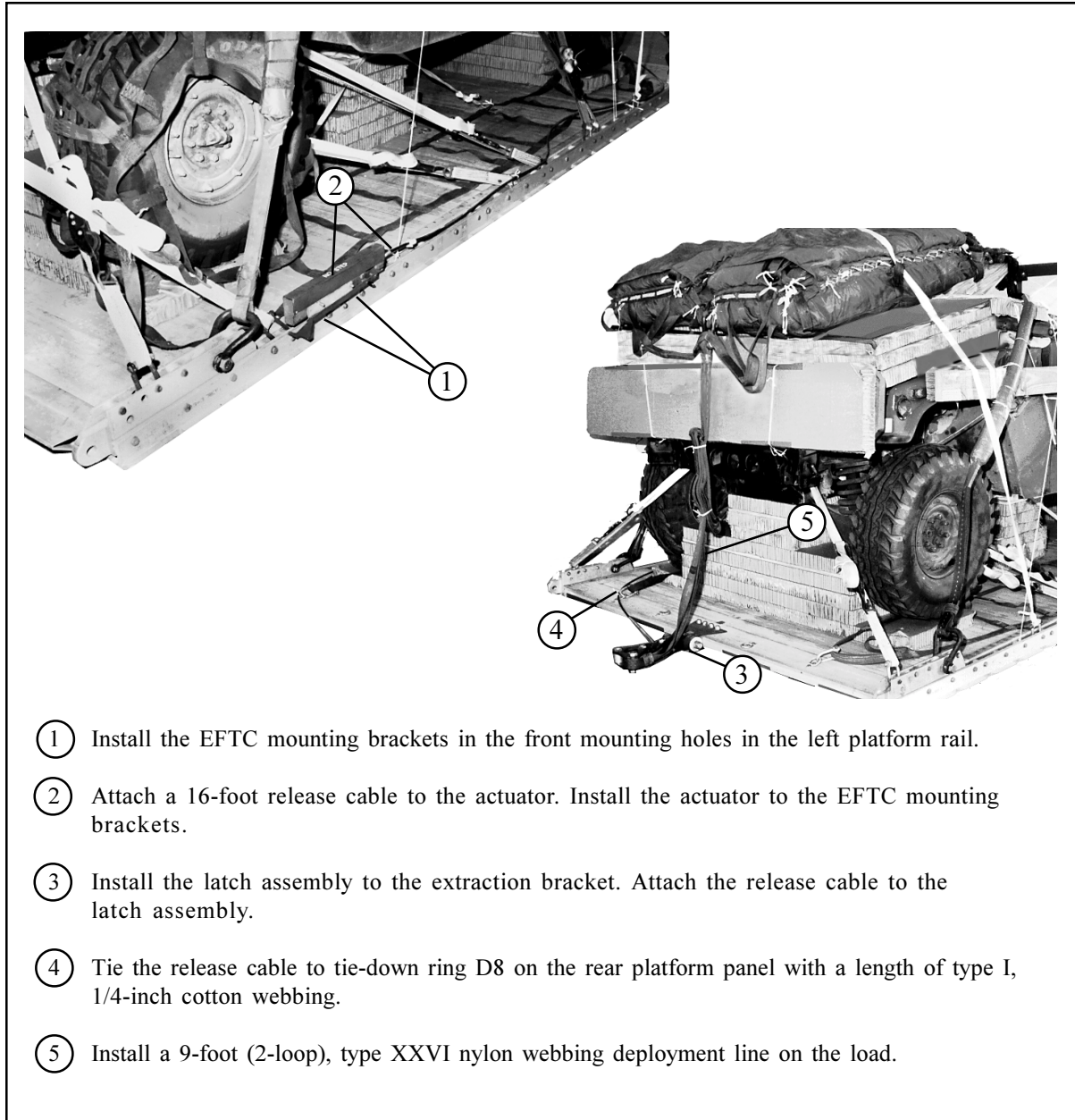


Figure 2-23. EFTC Installed

## **INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS**

2-13. Select and install provisions for emergency restraint according to the emergency aft restraint requirements table in FM 4-20.102/TO 13C7-1-5.

## **PLACING EXTRACTION PARACHUTE**

2-14. Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 4-20.102/TO13C7-1-5. Rig the extraction line in an extraction line bag according to TM 10-1670-286-20/TO 13C5-2-41. Place the extraction parachute and extraction line on the load for installation in the aircraft.

## **MARKING RIGGED LOAD**

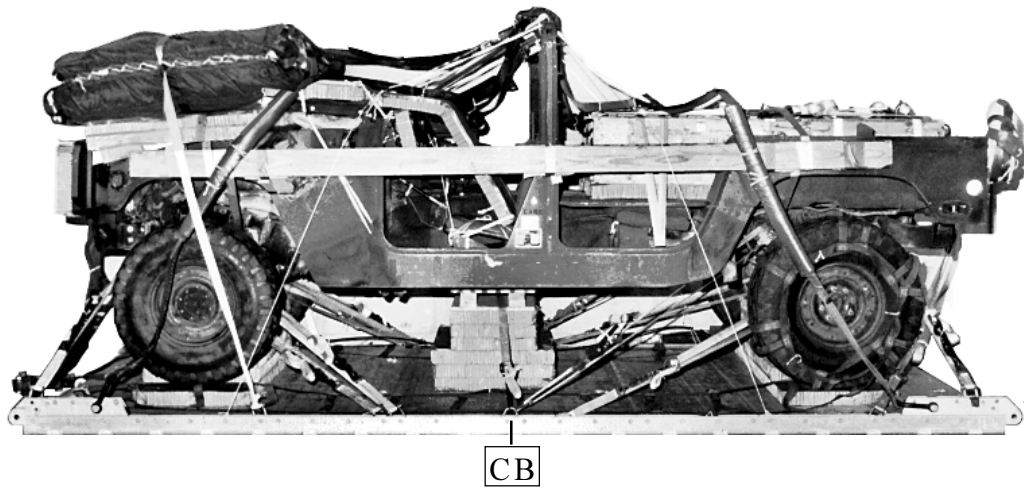
2-15. Mark the rigged load according to FM 4-20.102/TO 13C7-1-5 and as shown in Figure 2-24. Complete Shipper's Declaration for Dangerous Goods according to AFJMAN 24-204/TM 38-250. If the load varies from the one shown, the weight, height, CB, tip-off curve, and parachute requirements must be recomputed.

## **EQUIPMENT REQUIRED**

2-16. Use the equipment listed in Table 2-1 to rig this load. The equipment for rigging an accompanying load is NOT given in Table 2-1.

**CAUTION**  
**Make the final rigger inspection required by FM 4-20.102/  
 TO 13C7-1-5 before the load leaves the rigging site.**

Note: This load includes a 1,800-pound accompanying load.



**RIGGED LOAD DATA**

Weight: Load shown .....	9,750 pounds
Maximum load allowed .....	10,500 pounds
Height (with two G-11B parachutes).....	86 inches
Width.....	108 inches
Length (overall) .....	215 inches
Overhang: Front .....	0 inches
Rear (EFTC).....	.18 inches
CB (from front edge of platform) .....	95 inches

Figure 2-24. M998 Cargo/Troop Carrier Rigged for Low-Velocity Airdrop

**Table 2-1. Equipment Required for Rigging the M998 Cargo/Troop Carrier on a 16-Foot Platform**

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5785	Coupling assembly, airdrop, extraction force transfer with cable, 16-ft	1
1670-00-360-0328	Cover: Clevis, large	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 (line bag)	2
1670-01-062-6313	Line, drogue (for C-17) 60-ft (3-loop), type XXVI	1
1670-01-062-6313	Line, extraction: For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
1670-01-062-6313	For C-5: 60-ft, (3-loop), type XXVI and	1
1670-01-107-7651	140-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
5306-00-435-8994	Link Assembly: Two-point: Bolt, 1-in diam, 4-in long	1 (2)
5310-00-232-5165	Nut, 1-in, hexagonal	(2)
1670-00-003-1953	Plate, side, 3 3/4-in	(2)
5365-00-007-3414	Spacer, large	(2)
5510-00-220-6448	Lumber: 2- by 6-in	As required
5510-00-220-6274	4- by 4-in	As required
5315-00-010-4659	Nail, steel wire, 8d	As required



**Table 2-1. Equipment Required for Rigging the M998 Cargo/Troop Carrier on a 16-Foot Platform (continued)**

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating (honeycomb) 3- by 36- by 96-in	10 sheets
1670-01-016-7841	Parachute: Cargo: G-11B	2
1670-01-063-3716	Cargo extraction: 22-ft (for C-17, use H-block with this parachute.)	1
1670-01-063-3715	Drogue (for C-17) 15-ft	1
1670-01-353-8425	Platform, airdrop, type V, 16-ft Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(20)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(4)
5530-00-128-4981	Plywood, 3/4-in	3 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1
1670-01-063-7761	Sling, cargo, airdrop For suspension: 16-ft (2-loop), type XXVI nylon webbing	4
1670-01-062-6304	For lifting: 9-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6304	For deployment: 9-ft (2-loop), type XXVI nylon webbing	1
1670-01-062-6302	For riser extension: 20-ft (2-loop), type XXVI nylon webbing	2
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	19
1670-01-344-0825	Vehicle drive-off aid	1
8305-00-268-2411	Webbing: Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

## CHAPTER 3

# RIGGING ARMAMENT CARRIERS FOR LOW-VELOCITY AIRDROP

## SECTION I - RIGGING CARRIERS ON A 16-FOOT PLATFORM

### DESCRIPTION OF LOAD

3-1. The unrigged M1025 armament carrier (Figure 3-1) is described in Chapter 1. The truck is rigged on a 16-foot type V platform for low-velocity airdrop. An accompanying load weighing a minimum of 800 pounds and a maximum of 2,000 pounds must be rigged in the truck. The load requires two G-11 cargo parachutes.

The following trucks can be rigged using the procedures given in this chapter:

M1025A1, M1025A2, and M1025A2 modified

M1026, M1026 (modified) and M1026A1

M966 and M966A1

M1036

M1043, M1043A1, and M1043A2

M1044 and M1044A1

M1045, M1045A1, and M1045A2

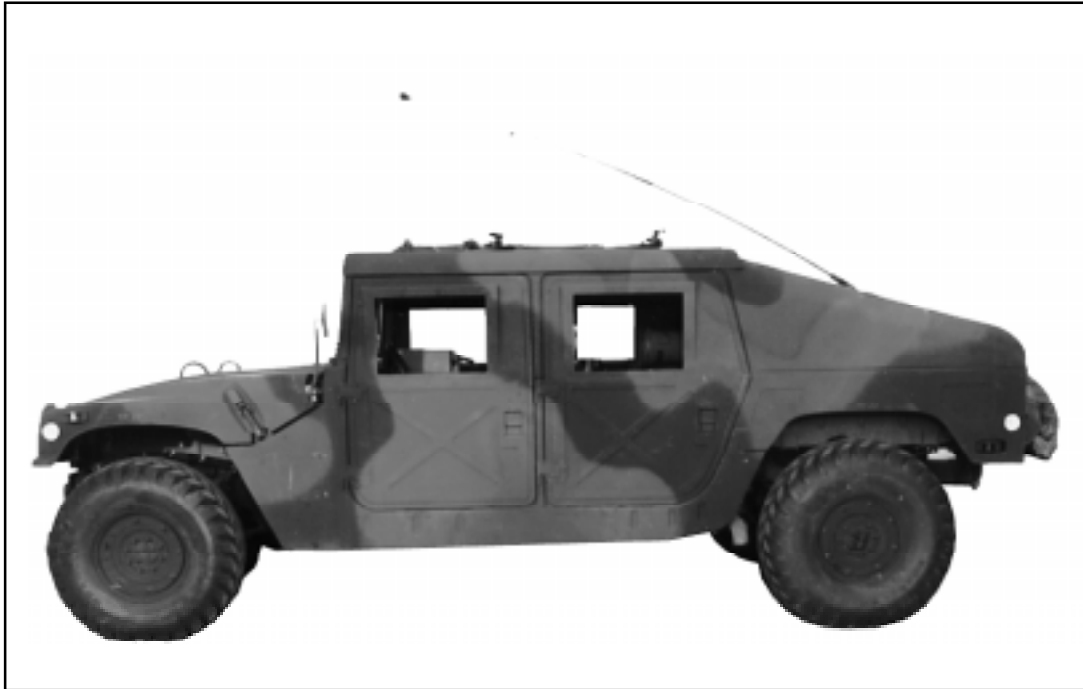
M1046 and M1046A1

M1121

### PREPARING PLATFORM

3-2. Prepare a 16-foot, type V airdrop platform using four tandem links and 18 load tie-down clevises as shown in Figure 2-2.

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



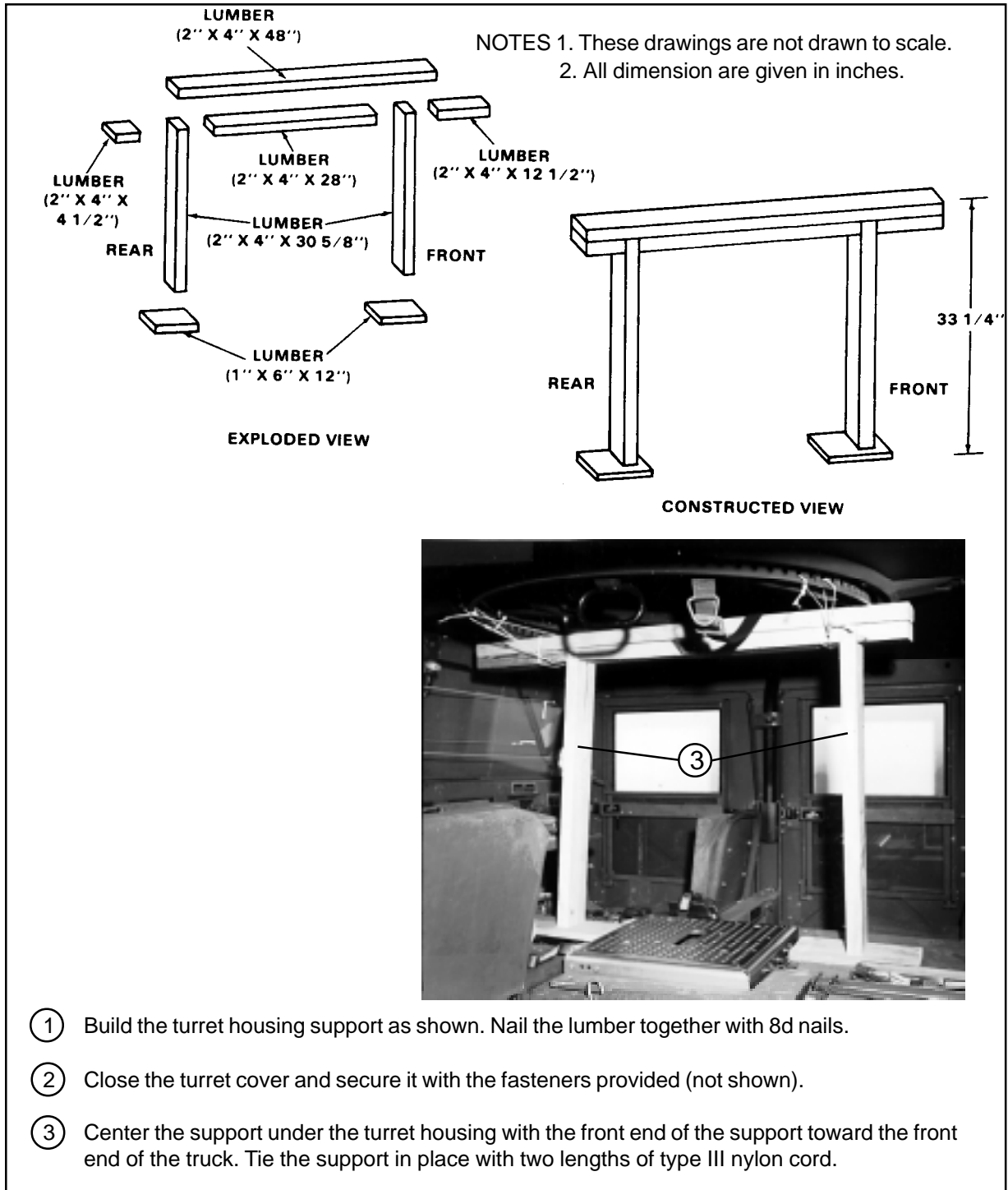
**Figure 3-1. M1025 Armament Carrier**

### **PREPARING AND POSITIONING HONEYCOMB STACKS**

3-3. Prepare three honeycomb stacks as shown in Figures 2-3 and 2-4. Position the stacks on the platform as shown in Figure 2-5, and according to FM 4-20.102/TO 13C7-1-5.

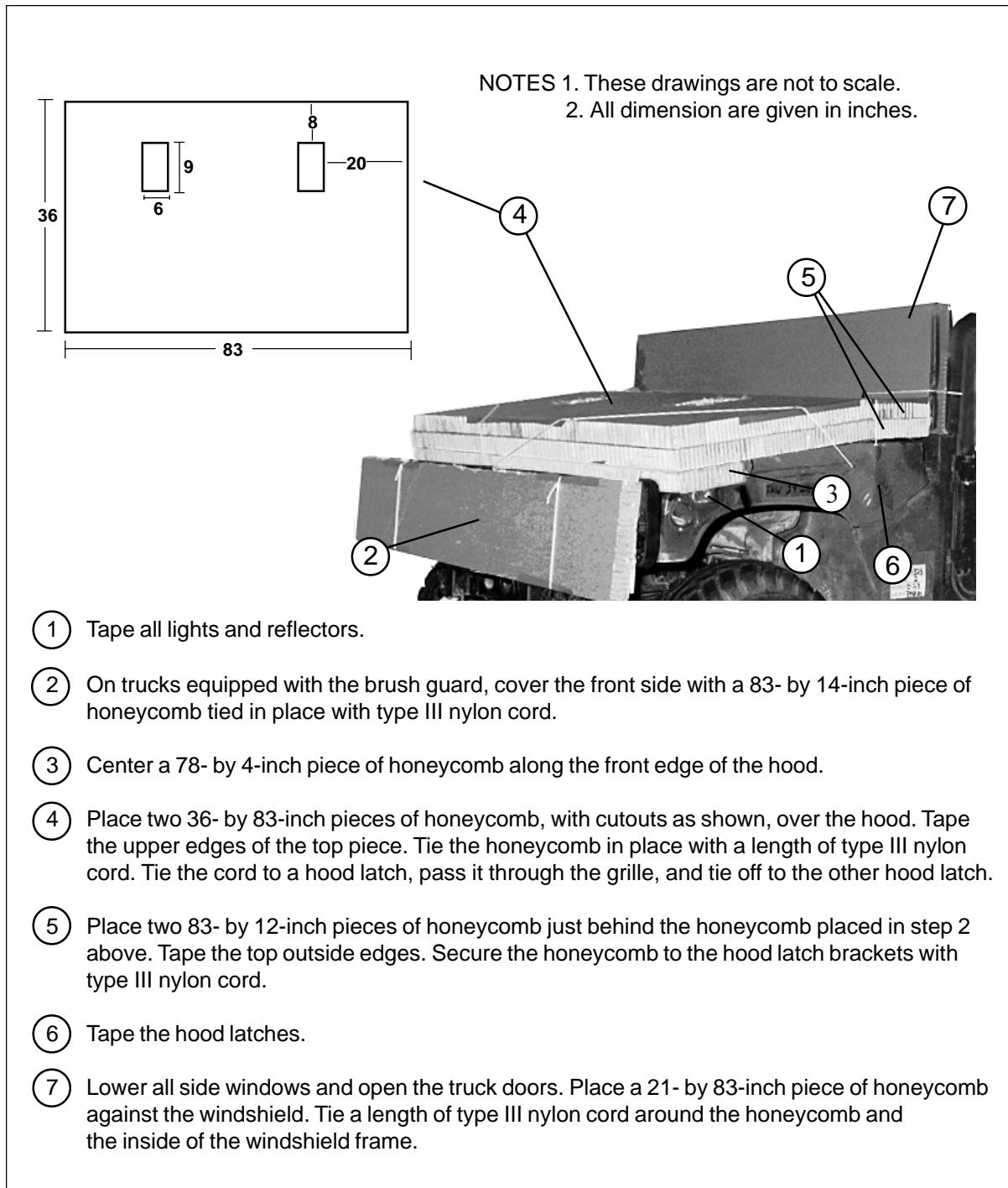
### **PREPARING TRUCK**

3-4. Prepare the truck as described in paragraphs 2-4a through e, g, and h, and as shown in Figures 2-6 and 2-7, 2-8 (omit steps 1 and 3), 2-9, 2-11, and 2-12. Further prepare the closed-body HMMWV as shown in Figures 3-2 and 3-3.

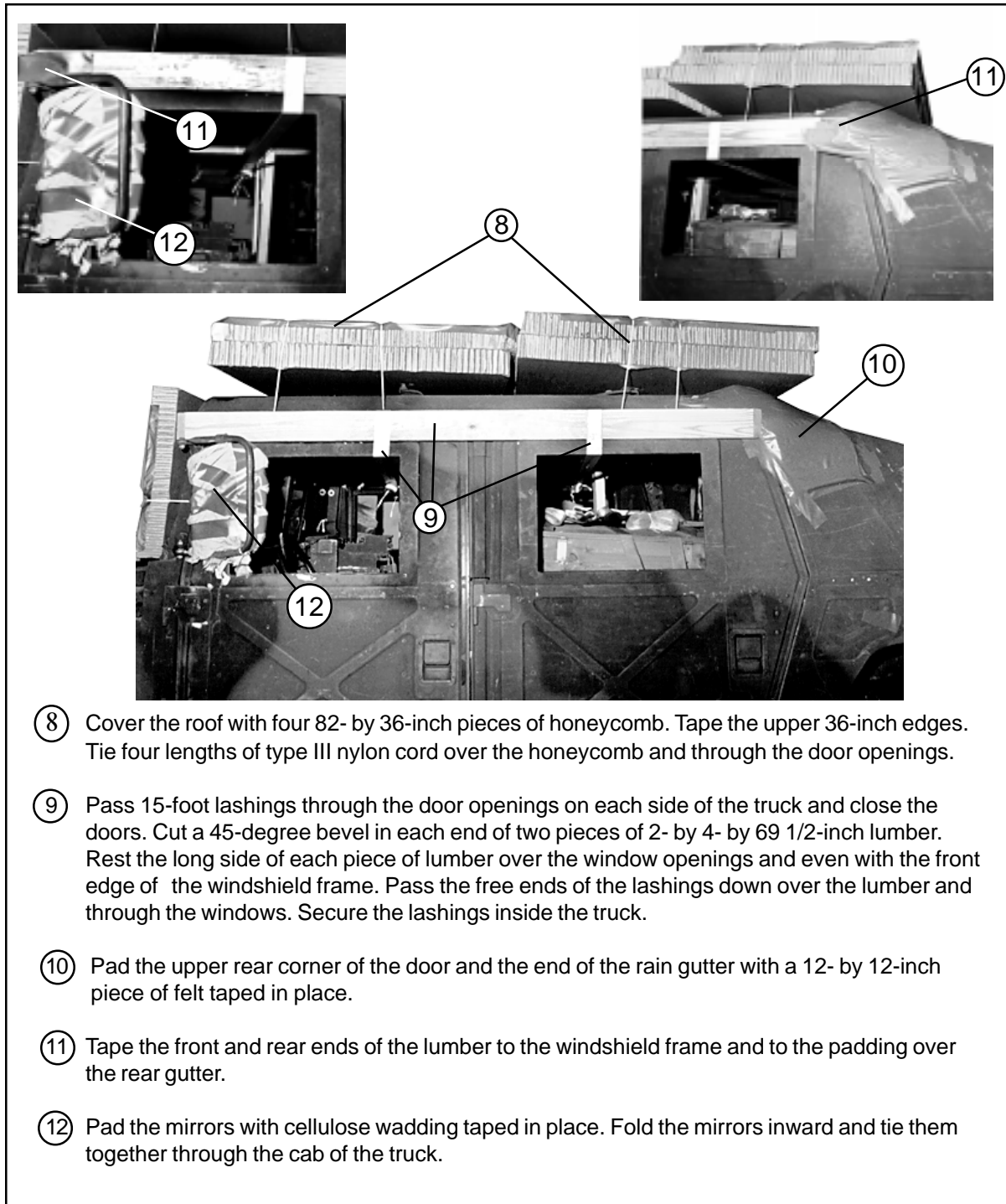


- ① Build the turret housing support as shown. Nail the lumber together with 8d nails.
- ② Close the turret cover and secure it with the fasteners provided (not shown).
- ③ Center the support under the turret housing with the front end of the support toward the front end of the truck. Tie the support in place with two lengths of type III nylon cord.

Figure 3-2. Turret Support Built and Placed



**Figure 3-3. Truck Body Prepared**



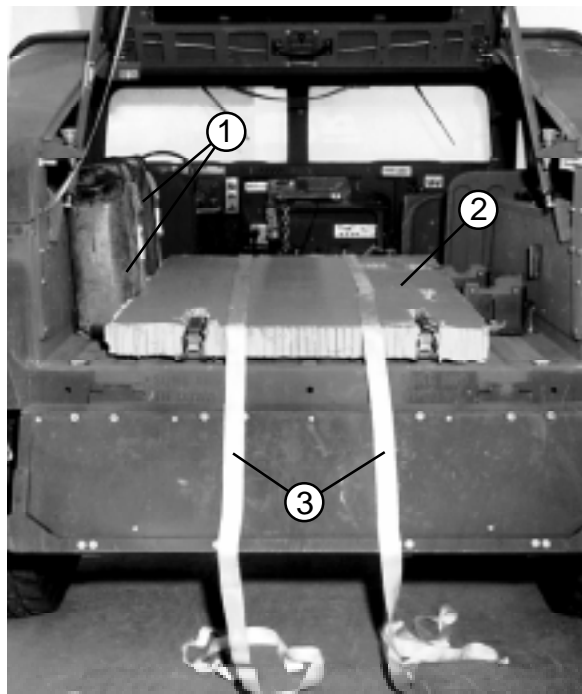
**Figure 3-3. Truck Body Prepared (continued)**

## STOWING ACCOMPANYING LOAD

3-5. Stow an accompanying load of 800 to 2,000 pounds in the cargo area of the truck. Use or adapt the procedures shown in Figure 3-4. Make sure the accompanying load complies with the restrictions outlined in FM 4-20.102/TO 13C7-1-5. The maximum restraint capacity of each cargo area tie-down ring is 2,000 pounds. The accompanying load of ammunition shown in Figure 3-4 weighs 930 pounds.

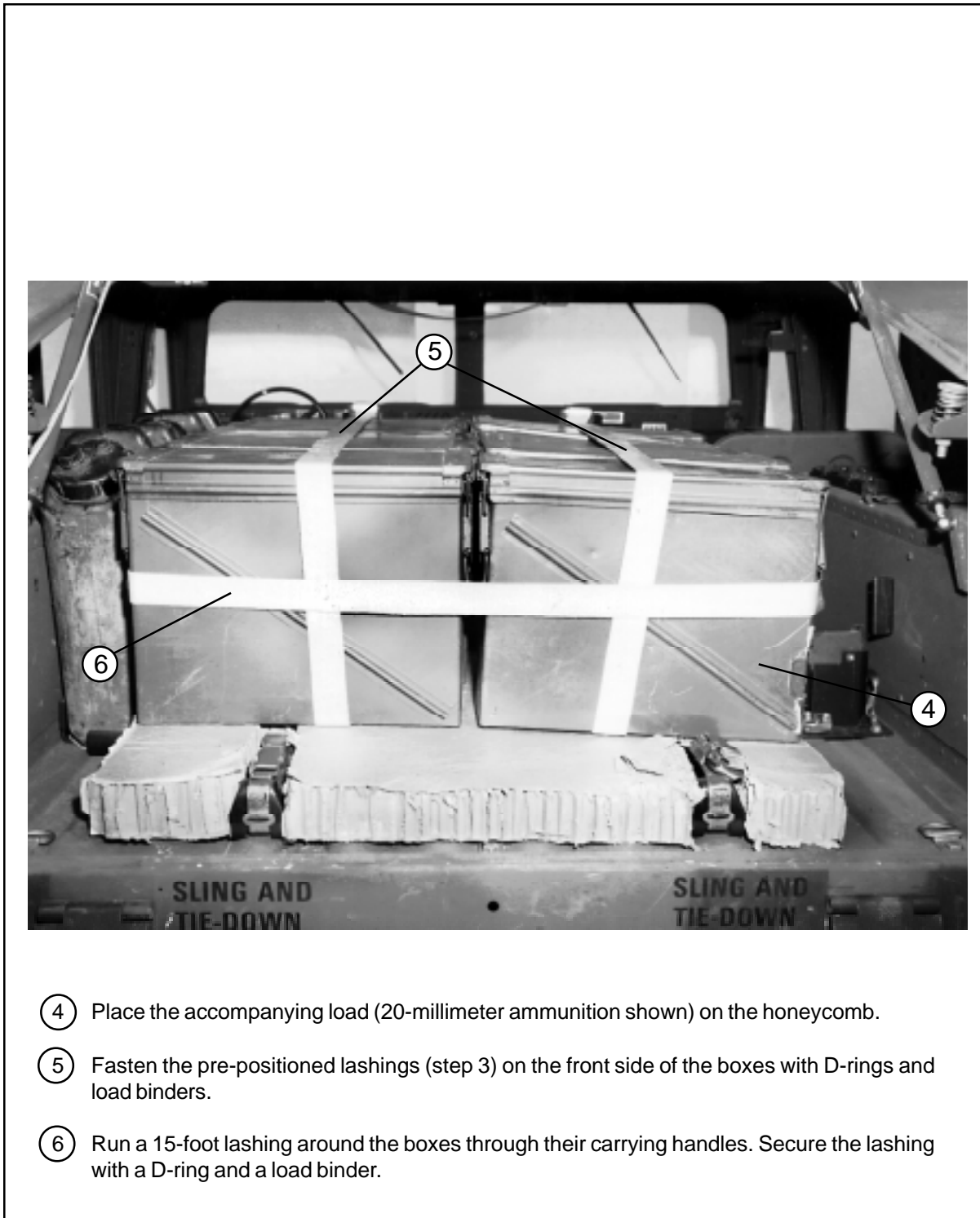
### CAUTION

Only ammunition listed in FM 10-500-53/MCRP 4-3.81/TO 13C7-18-41 may be airdropped. Package, mark, and label hazardous material according to AFJMAN 24-204/TM 38-250.



- ① Stow two water cans in their holders, and secure them with the straps provided.
- ② Lay a 36- by 50-inch piece of honeycomb in the cargo area. Make cutouts in the honeycomb for fixtures on the floor.
- ③ Lay two 15-foot lashings lengthwise on the honeycomb.

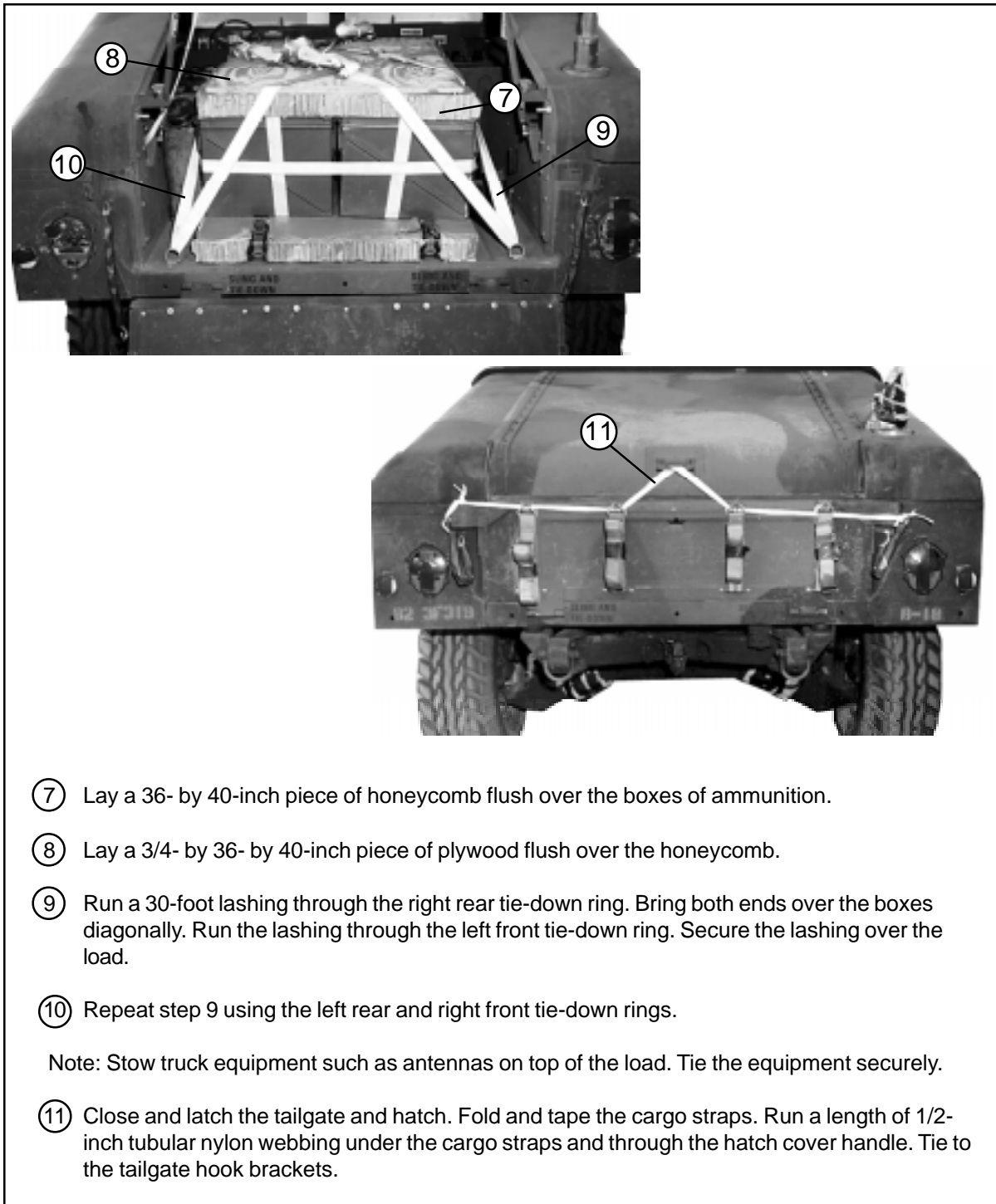
**Figure 3-4. Accompanying load stowed in truck**



- ④ Place the accompanying load (20-millimeter ammunition shown) on the honeycomb.
- ⑤ Fasten the pre-positioned lashings (step 3) on the front side of the boxes with D-rings and load binders.
- ⑥ Run a 15-foot lashing around the boxes through their carrying handles. Secure the lashing with a D-ring and a load binder.

**Figure 3-4. Accompanying Load Stowed in Truck (continued)**





- ⑦ Lay a 36- by 40-inch piece of honeycomb flush over the boxes of ammunition.
- ⑧ Lay a 3/4- by 36- by 40-inch piece of plywood flush over the honeycomb.
- ⑨ Run a 30-foot lashing through the right rear tie-down ring. Bring both ends over the boxes diagonally. Run the lashing through the left front tie-down ring. Secure the lashing over the load.
- ⑩ Repeat step 9 using the left rear and right front tie-down rings.

Note: Stow truck equipment such as antennas on top of the load. Tie the equipment securely.

- ⑪ Close and latch the tailgate and hatch. Fold and tape the cargo straps. Run a length of 1/2-inch tubular nylon webbing under the cargo straps and through the hatch cover handle. Tie to the tailgate hook brackets.

**Figure 3-4. Accompanying Load Stowed in Truck (continued)**

### **LIFTING AND POSITIONING TRUCK AND INSTALLING OPTIONAL DRIVE-OFF AIDS**

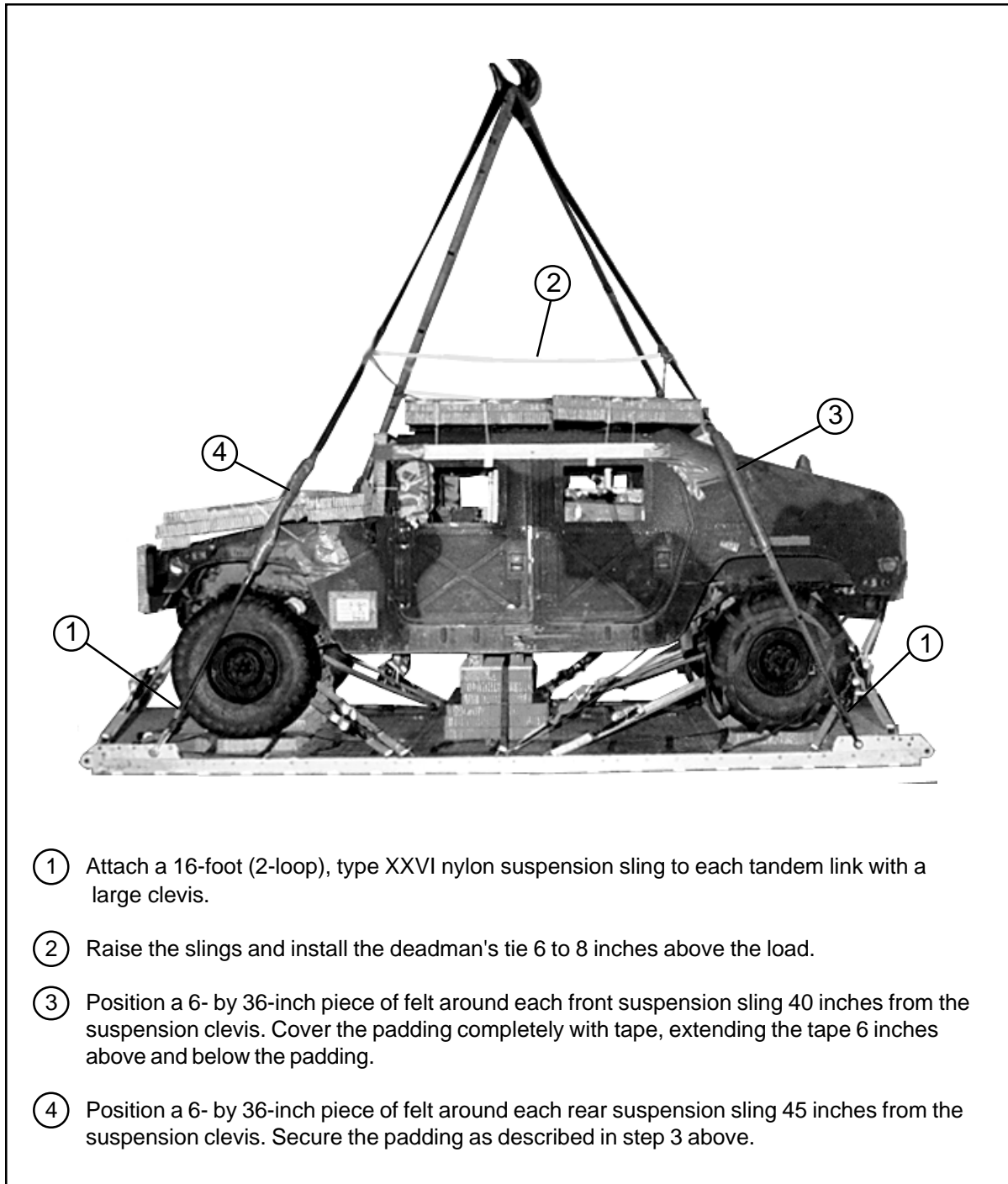
3-6. Install the optional drive-off aids on the platform as shown in Figure 2-16. Install lifting slings on the truck and position the truck on the platform as shown in Figure 2-16. Attach the driveoff aids to the wheels as shown in Figure 2-17.

### **LASHING TRUCK**

3-7. Lash the truck to the platform with fifteen 15-foot tie-down assemblies. Install the lashings according to FM 4-20.102/TO 13C7-1-5, and as shown in Figures 2-18 and 2-19.

### **INSTALLING AND SAFETY TYING SUSPENSION SLINGS**

3-8. Install and safety tie four 16-foot (2-loop), type XXVI nylon suspension slings according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 3-5.



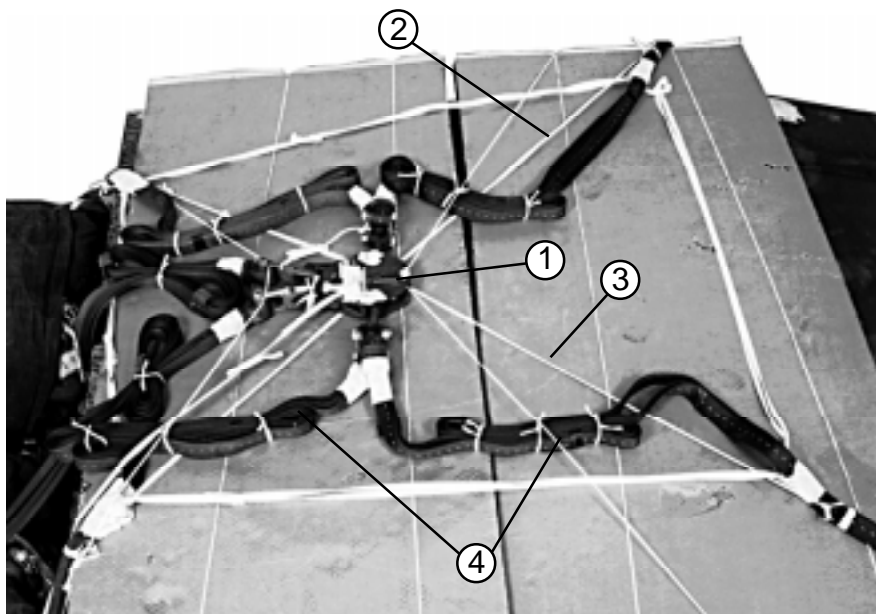
**Figure 3-5. Suspension Slings Installed, Padded and Safety Tied**

## STOWING CARGO PARACHUTES

3-9. Use two G-11 cargo parachutes on this load. Stow the cargo parachutes according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 2-21.

## INSTALLING PARACHUTE RELEASE

3-10. Prepare and install an M-1 cargo parachute release according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 3-6.



- ① Place the M-1 release on the honeycomb in front of the parachutes. Tie the release to convenient points on the load.
- ② Tie a length of Type I, 1/4-inch cotton webbing to the right rear suspension sling below the deadman's tie. Bring the webbing diagonally over the load to the left front. Pull it taut, and tie it to the left front sling below the deadman's tie.
- ③ Tie the left rear and right front suspension slings together in the same way as outlined in step 2 above.
- ④ S-fold the slack in the suspension slings, and tie the folds with Type I, 1/4-inch cotton webbing. Attach the suspension slings and the riser extensions to the release.

**Figure 3-6. M-1 Cargo Parachute Release Installed**

### **INSTALLING EXTRACTION SYSTEM**

3-11. Install the EFTC extraction system with a 16-foot release cable according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 2-23.

### **INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS**

3-12. Install the provisions for emergency restraints on the load according to FM 4-20.102/TO 13C7-1-5.

### **PLACING EXTRACTION PARACHUTE**

3-13. Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 4-20.102/TO 13C7-1-5. Rig the extraction line in an extraction line bag according to TM 10-1670-286-20/TO 13C5-2-41. Place the extraction parachute and extraction line on the load for installation in the aircraft.

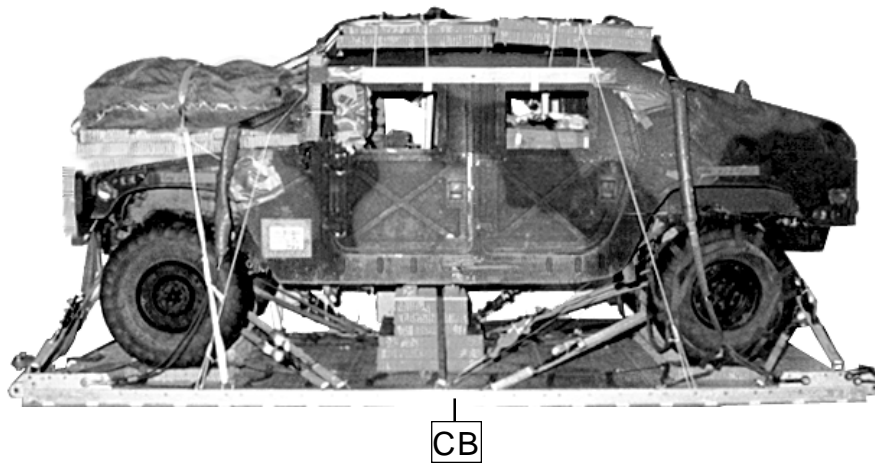
### **MARKING RIGGED LOAD**

3-14. Mark the rigged load according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 3-7. Complete Shipper's Declaration for Dangerous Goods according to AFJMAN 24-204/TM 38-250. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

### **EQUIPMENT REQUIRED**

3-15. Use the equipment listed in Table 3-1 to rig this load. The equipment for rigging the accompanying load is NOT given in Table 3-1.

**CAUTION**  
**Make the final rigger inspection required by FM 4-20.102/  
 TO 13C7-1-5 before the load leaves the rigging site.**



**RIGGED LOAD DATA**

Weight: Load shown .....	9,820 pounds
Maximum load allowed .....	10,500 pounds
Height (with two G-11 parachutes) .....	91 inches
Width.....	108 inches
Length (overall) .....	215 inches
Overhang: Front .....	0 inches
Rear (EFTC).....	18 inches
CB (from front edge of platform) .....	96 inches

**Figure 3-7. M1025 Armament Carrier Rigged for Low-Velocity Airdrop  
 on a 16-Foot Platform**

**Table 3-1. Equipment Required for Rigging Armament Carrier on a 16-Foot Platform**

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5785	Coupling assembly, airdrop, extraction force transfer with cable, 16-ft	1
1670-00-360-0328	Cover: Clevis, large	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 (line bag)	2
1670-01-064-4452	Line, drogue (for C-17) 60-ft (1-loop), type XXVI	1
1670-01-062-6313	Line, extraction: For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
1670-01-062-6313	For C-5: 60-ft, (3-loop), type XXVI and	1
1670-01-107-7651	140-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
5306-00-435-8994	Link Assembly: Two-point:	1 (2)
5310-00-232-5165	Bolt, 1-in diam, 4-in long	(2)
1670-00-003-1953	Nut, 1-in, hexagonal	(2)
5365-00-007-3414	Plate, side, 3 3/4-in Spacer, large	(2) (2)
5510-00-220-6146	Lumber: 2- by 4-in	As required
5510-00-220-6448	2- by 6-in	As required
5510-00-220-6274	4- by 4-in	As required
5315-00-010-4659	Nail, steel wire, 8d	As required

**Table 3-1. Equipment Required for Rigging Armament Carrier on a 16-Foot Platform (continued)**

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating (honeycomb) 3- by 36- by 96-in	13 sheets
1670-01-016-7841	Parachute: Cargo: G-11B	2
1670-01-063-3716	Cargo extraction: 22-ft (Use with H-block for C-17.)	1
1670-01-063-3715	Drogue (for C-17) 15-ft	1
1670-01-353-8425	Platform, airdrop, type V, 16-ft Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(20)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(4)
5530-00-128-4981	Plywood, 3/4-in	3 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1
1670-01-063-7761	Sling, cargo, airdrop For suspension: 16-ft (2-loop), type XXVI nylon webbing	4
1670-01-062-6304	For lifting: 9-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6304	For deployment: 9-ft (2-loop), type XXVI nylon webbing	1
1670-01-062-6302	For riser extension: 20-ft (2-loop), type XXVI nylon webbing	2
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	21
1670-01-344-0825	Vehicle drive-off aid	1
8305-00-268-2411	Webbing: Cotton, 1/4-in, type I	As required
8305-00-082-5752		As required
8305-00-263-3591		As required



## **SECTION II - RIGGING CARRIERS ON A 20-FOOT PLATFORM WITH ADDITIONAL ACCOMPANYING AMMUNITION LOAD**

### **DESCRIPTION OF LOAD**

3-16. The unrigged M1025 armament carrier (Figure 3-1) is described in Chapter 1. The truck and an accompanying load are rigged on a 20-foot type V platform for low-velocity airdrop. A load weighing a minimum of 800 pounds and a maximum of 2,000 pounds must be rigged in the truck. The load requires three G-11 cargo parachutes. The armament carriers listed on page 3-1 can be rigged using the procedures in this section.

### **PREPARING PLATFORM**

3-17. Prepare a 20-foot, type V airdrop platform according to TM 10-1670-268-20&P/TO 13C7-52-22. Install four tandem links, two suspension links and 32 load tie-down clevises as shown in Figure 3-8.

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

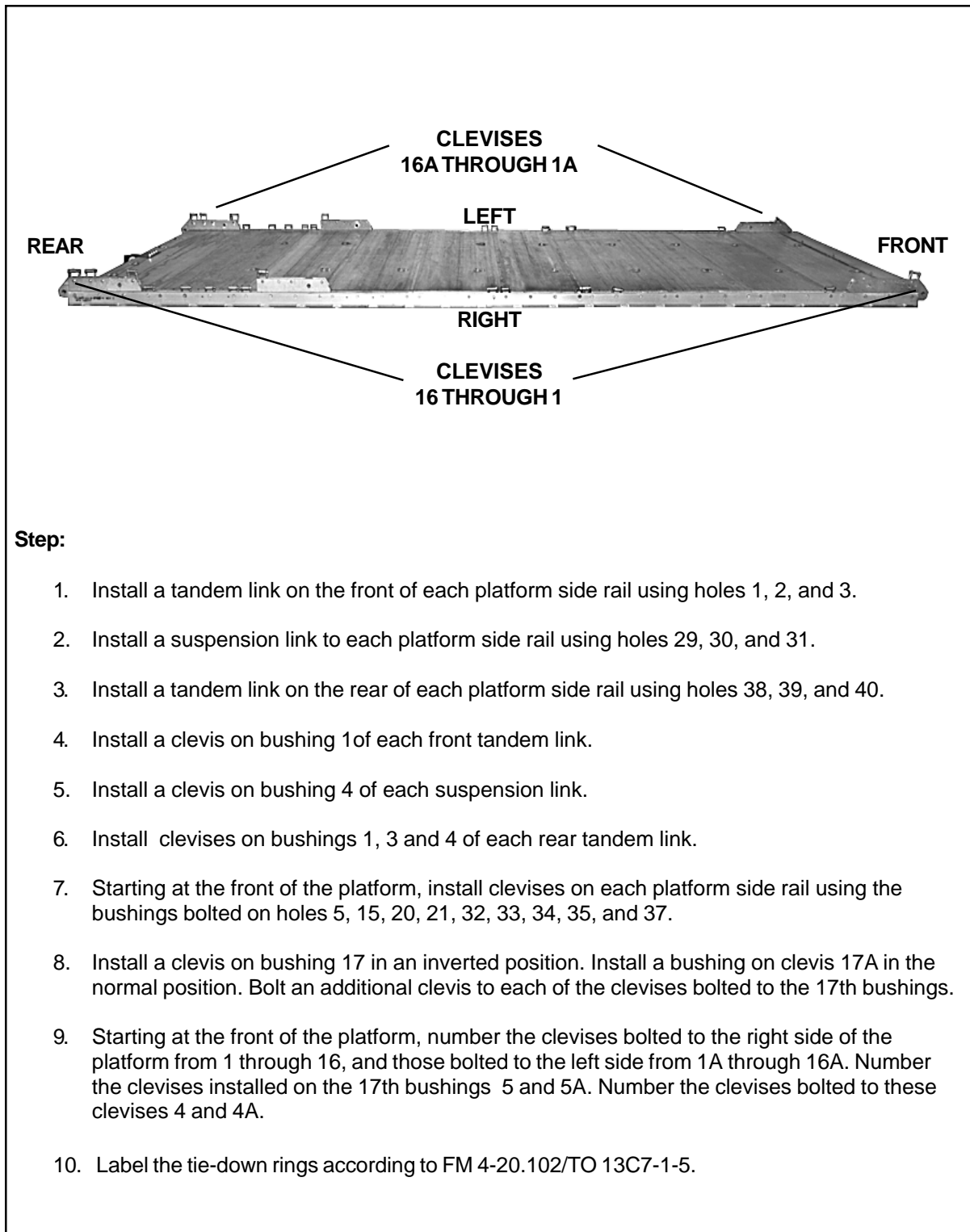
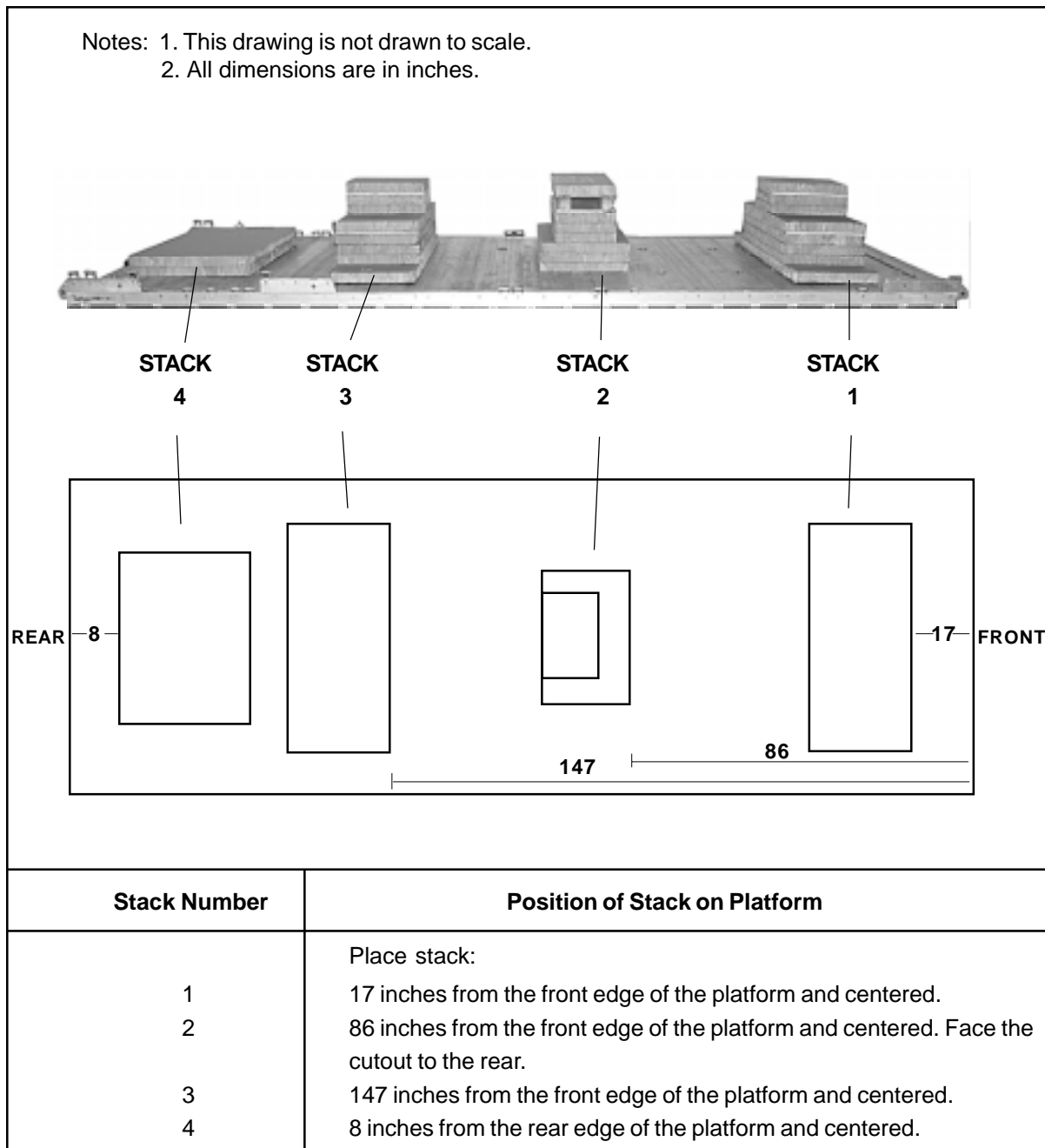


Figure 3-8. Platform Prepared

**PREPARING AND POSITIONING HONEYCOMB STACKS**

3-18. Prepare honeycomb stacks 1 through 3 as shown in Figures 2-3 and 2-4. Glue two 36- by 60-inch pieces of honeycomb flush together to make stack 4. Position the stacks on the platform as shown in Figure 3-9, and according to FM 4-20.102/TO 13C7-1-5.



**Figure 3-9. Honeycomb Stacks Positioned on Platform**

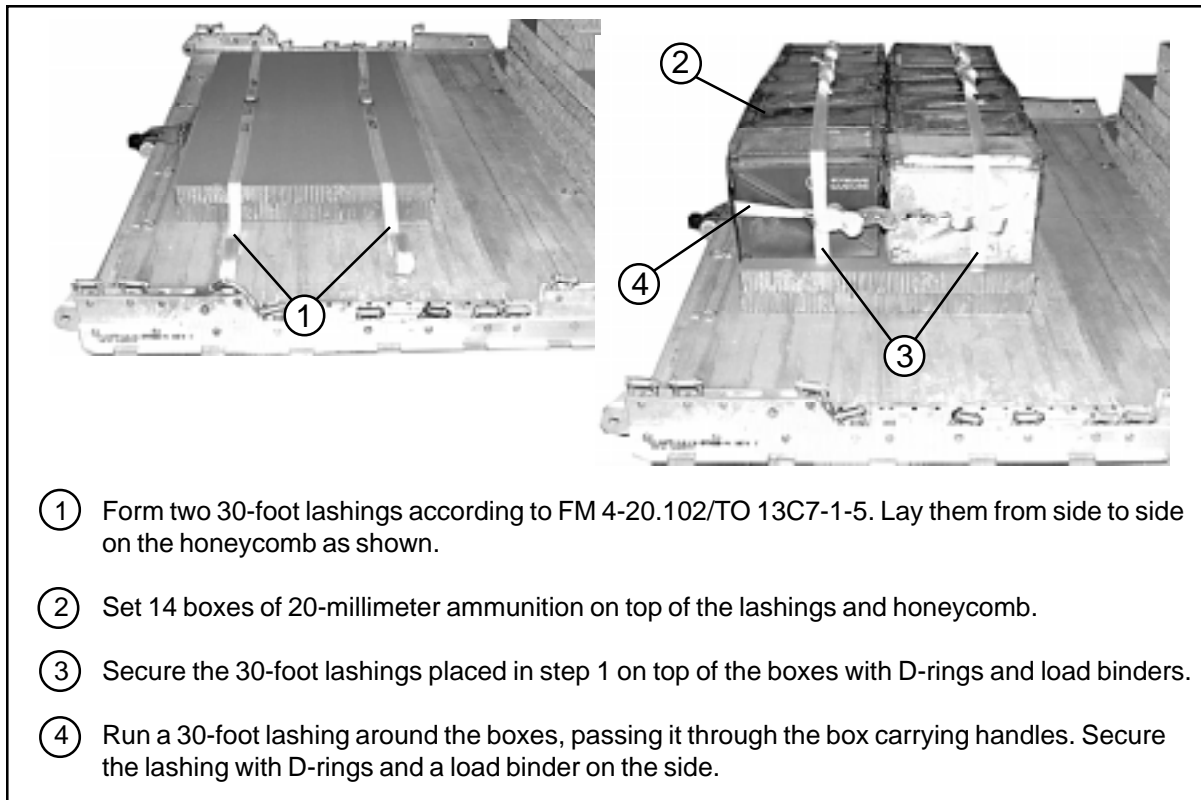
## RIGGING ACCOMPANYING LOADS ON THE PLATFORM AND IN THE TRUCK

3-19. The accompanying load shown is fourteen boxes of 20-millimeter ammunition. Any load of similar weight and configuration can be rigged on the platform. Rig this accompanying load on the platform as shown in Figure 3-10.

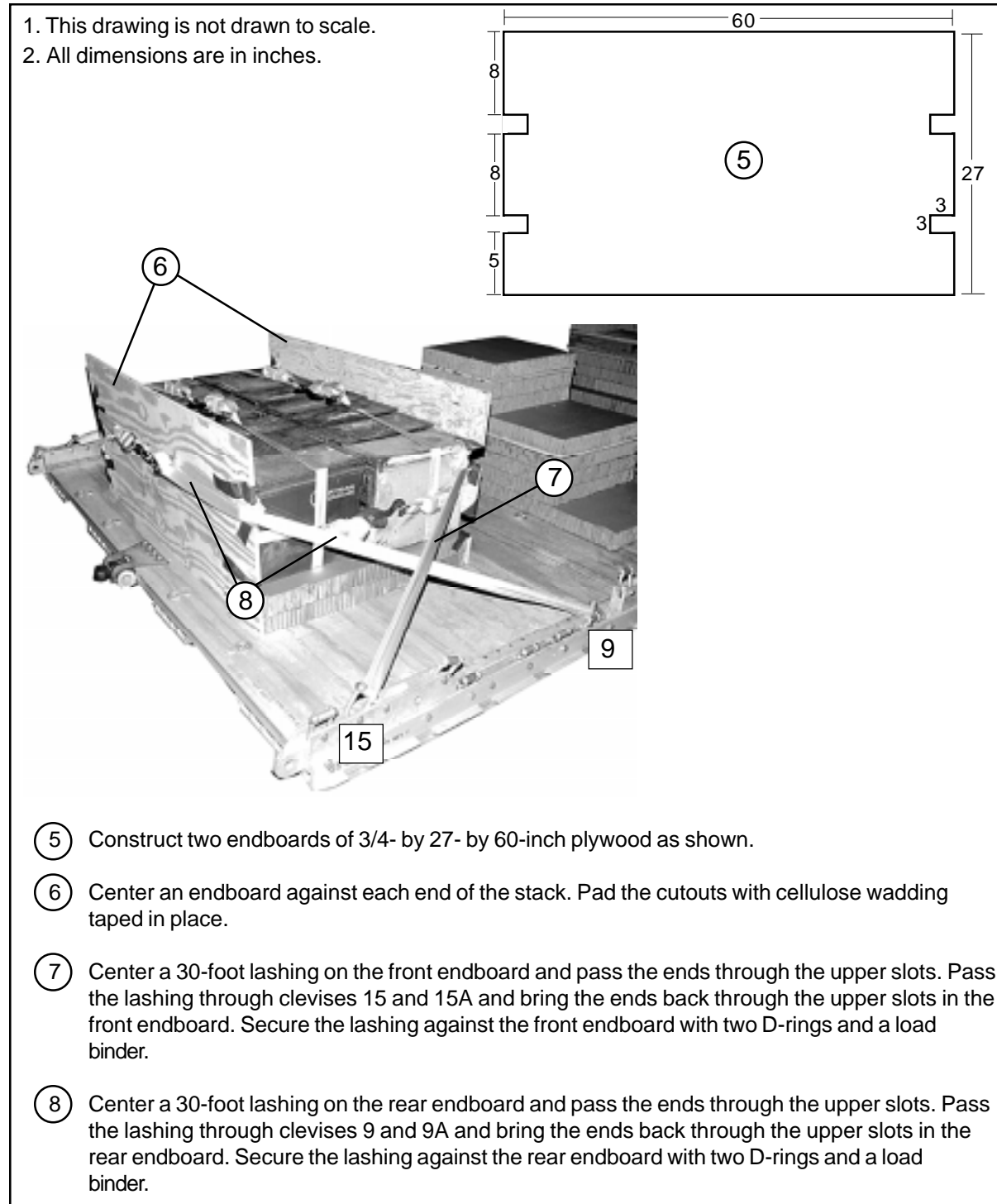
### CAUTION

**Only ammunition listed in FM 10-500-53/MCRP 4-3.81/TO 13C7-18-41 may be airdropped. Package, mark and label hazardous material according to AFJMAN 24-204/TM 38-250.**

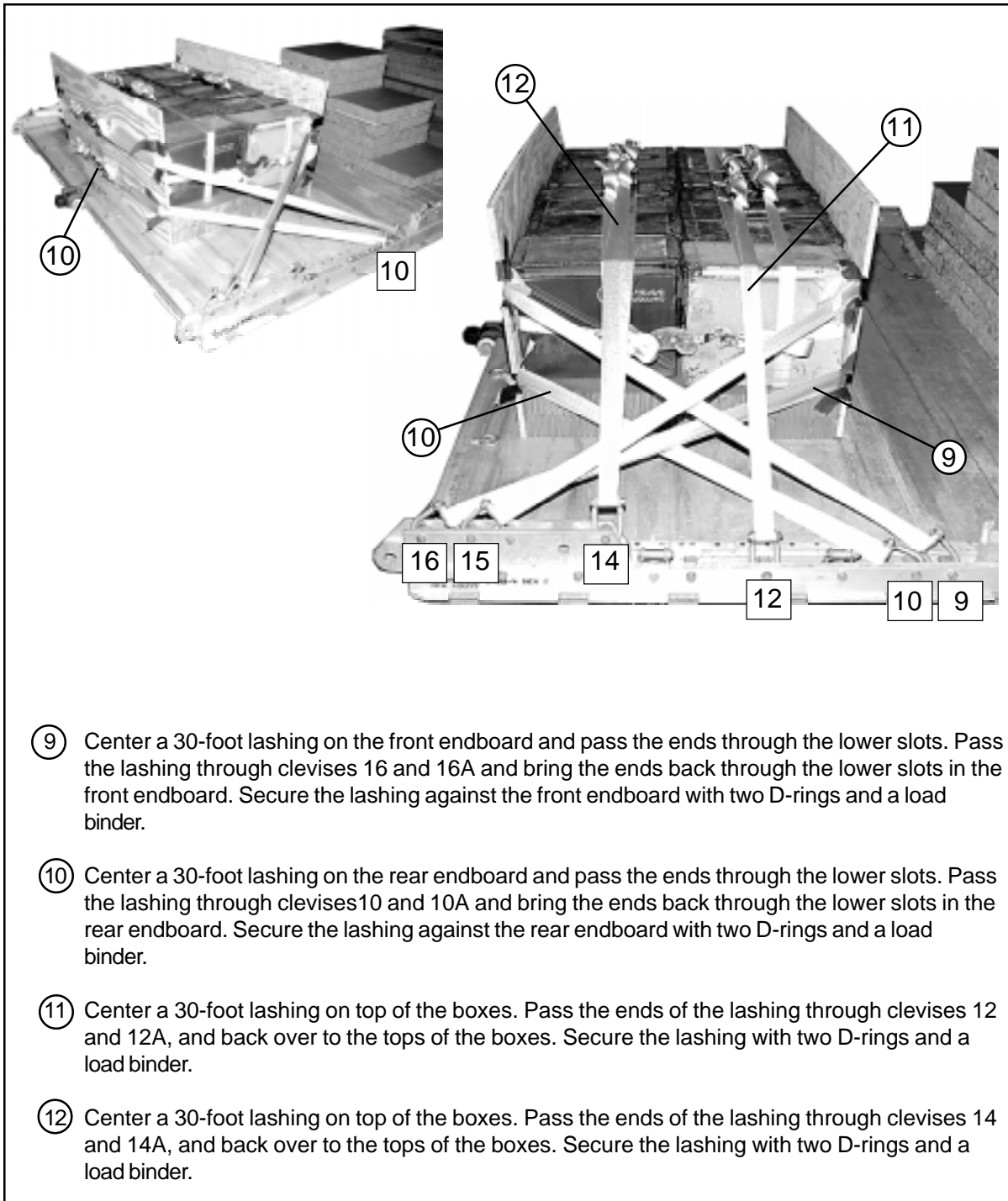
Rig an accompanying load in the truck as shown in Section I of this chapter. Chapter 5 shows specific accompanying loads. Make sure any accompanying loads meet the restrictions and requirements as outlined in FM 4-20.102/TO 13C7-1-5.



**Figure 3-10. Accompanying Load Stowed on Platform**



**Figure 3-10. Accompanying Load Stowed on Platform (continued)**



- ⑨ Center a 30-foot lashing on the front endboard and pass the ends through the lower slots. Pass the lashing through clevises 16 and 16A and bring the ends back through the lower slots in the front endboard. Secure the lashing against the front endboard with two D-rings and a load binder.
- ⑩ Center a 30-foot lashing on the rear endboard and pass the ends through the lower slots. Pass the lashing through clevises 10 and 10A and bring the ends back through the lower slots in the rear endboard. Secure the lashing against the rear endboard with two D-rings and a load binder.
- ⑪ Center a 30-foot lashing on top of the boxes. Pass the ends of the lashing through clevises 12 and 12A, and back over to the tops of the boxes. Secure the lashing with two D-rings and a load binder.
- ⑫ Center a 30-foot lashing on top of the boxes. Pass the ends of the lashing through clevises 14 and 14A, and back over to the tops of the boxes. Secure the lashing with two D-rings and a load binder.

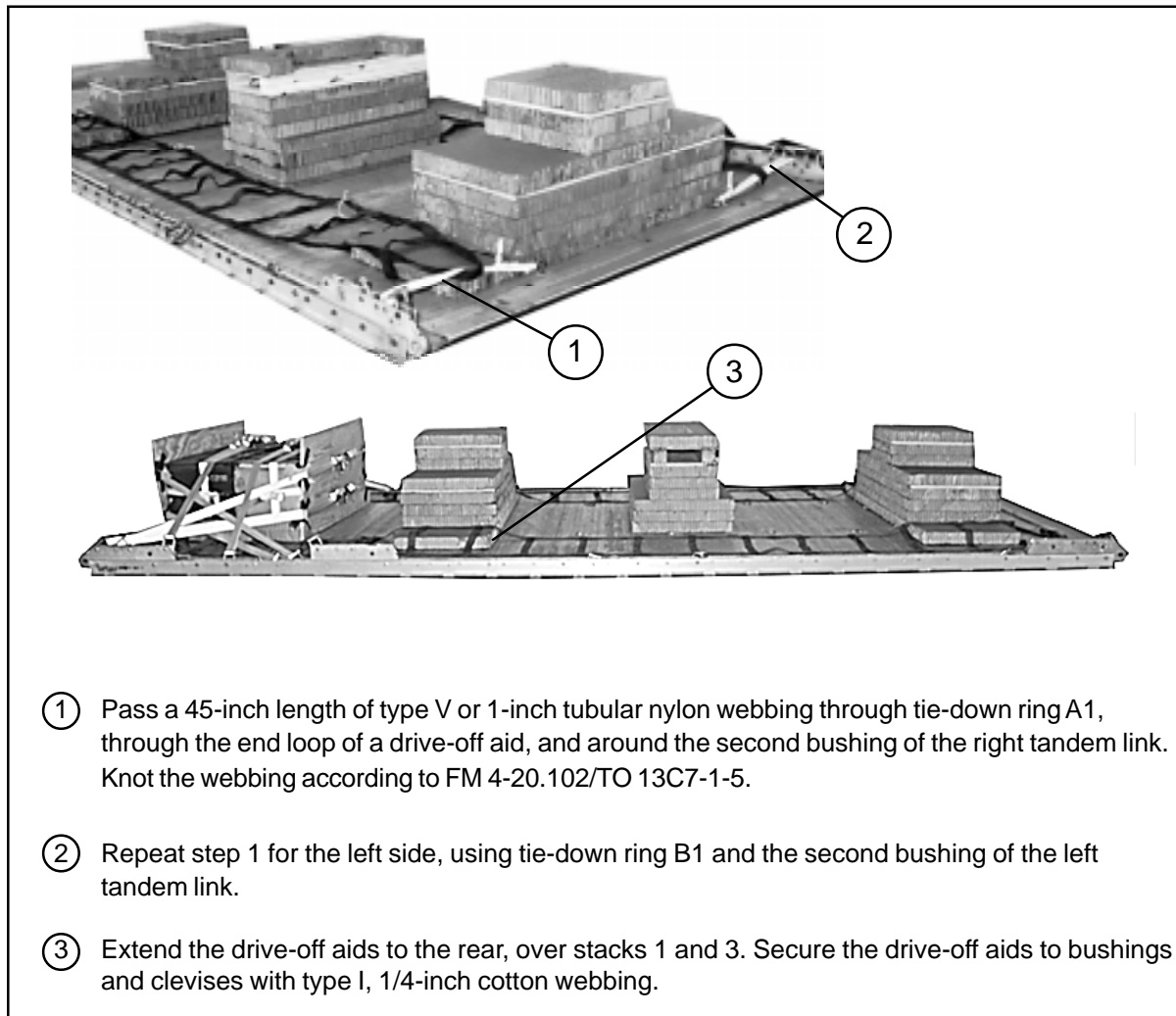
**Figure 3-10. Accompanying Load Stowed on Platform (continued)**

## PREPARING TRUCK

3-20. Prepare the truck as described in paragraphs 2-4a through e, g, and h, and as shown in Figures 2-6 and 2-7, 2-8 (omit steps 1 and 3), 2-9, 2-11, and 2-12. Further prepare the closed-body HMMWV as shown in Figures 3-2 and 3-3 (omit step 3).

## INSTALLING OPTIONAL DRIVE-OFF AIDS ON PLATFORM

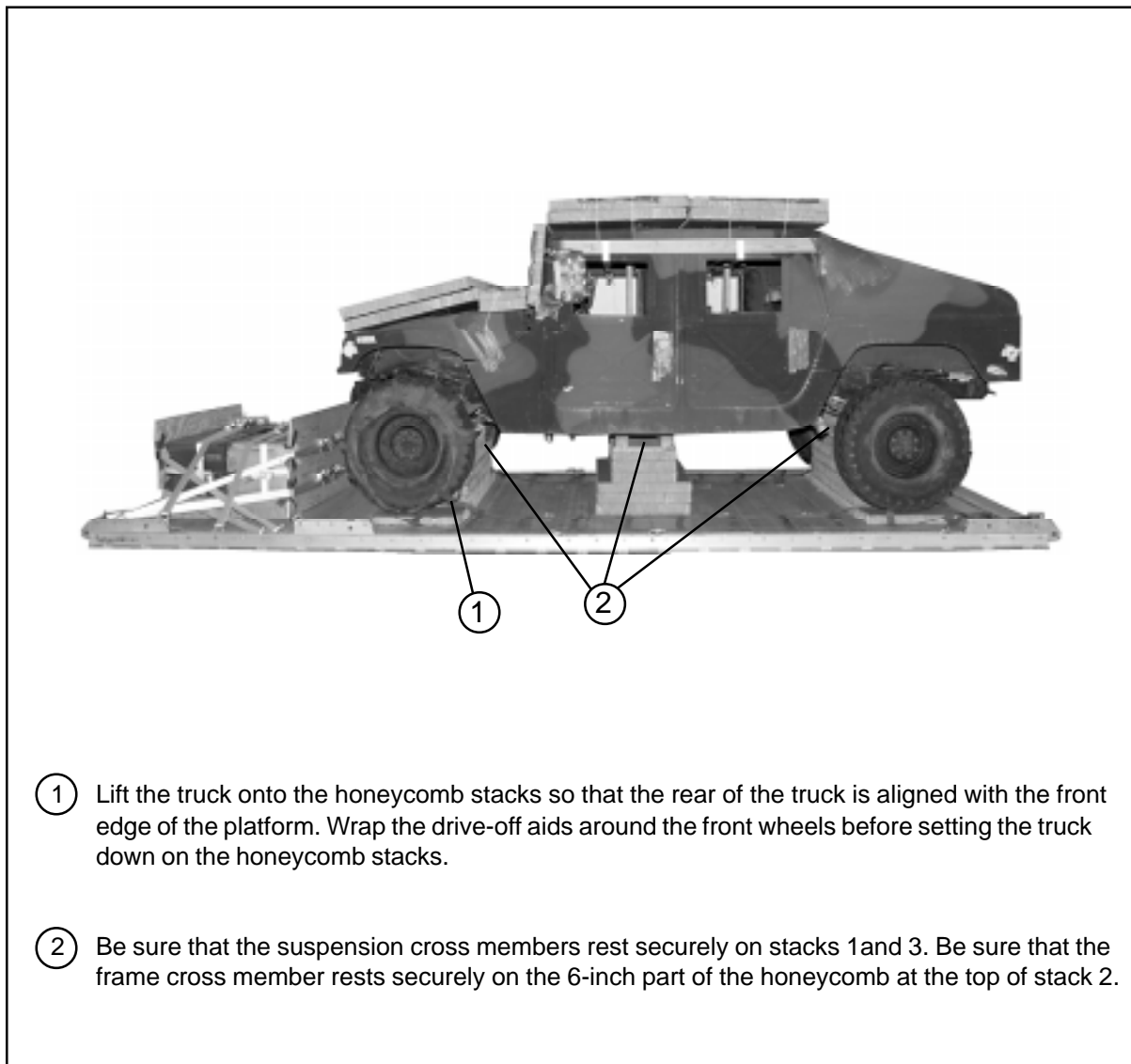
3-21. Install the optional drive-off aids on the platform as shown in Figure 3-11.



**Figure 3-11. Drive-off Aids Installed on Platform**

**LIFTING AND POSITIONING TRUCK AND INSTALLING OPTIONAL DRIVE-OFF AIDS**

3-22. Install lifting slings on the truck as shown in Figure 2-16. Position the truck on the platform as shown in Figure 3-12. Adapt the procedures in Figure 2-17 to install the drive-off aids to the front wheels of the truck.

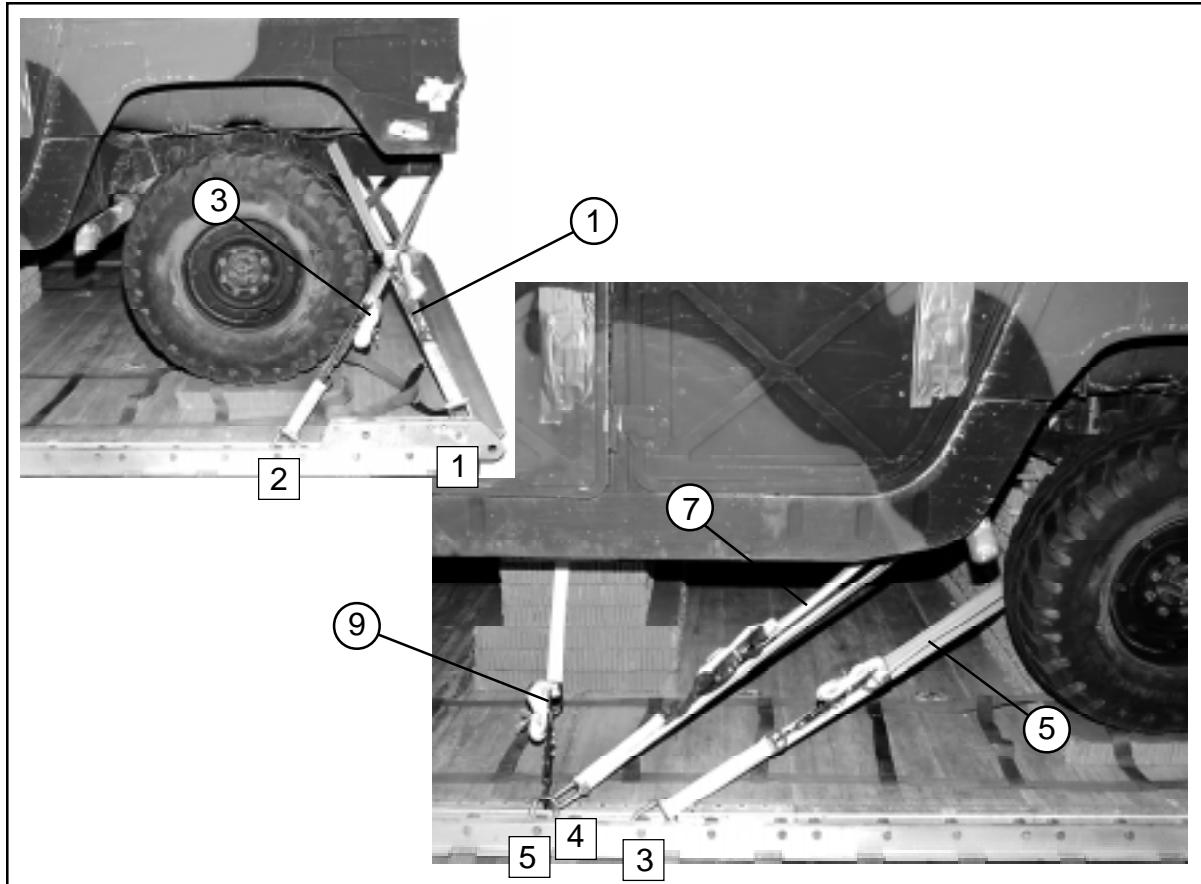


**Figure 3- 12. Truck Positioned on Platform**



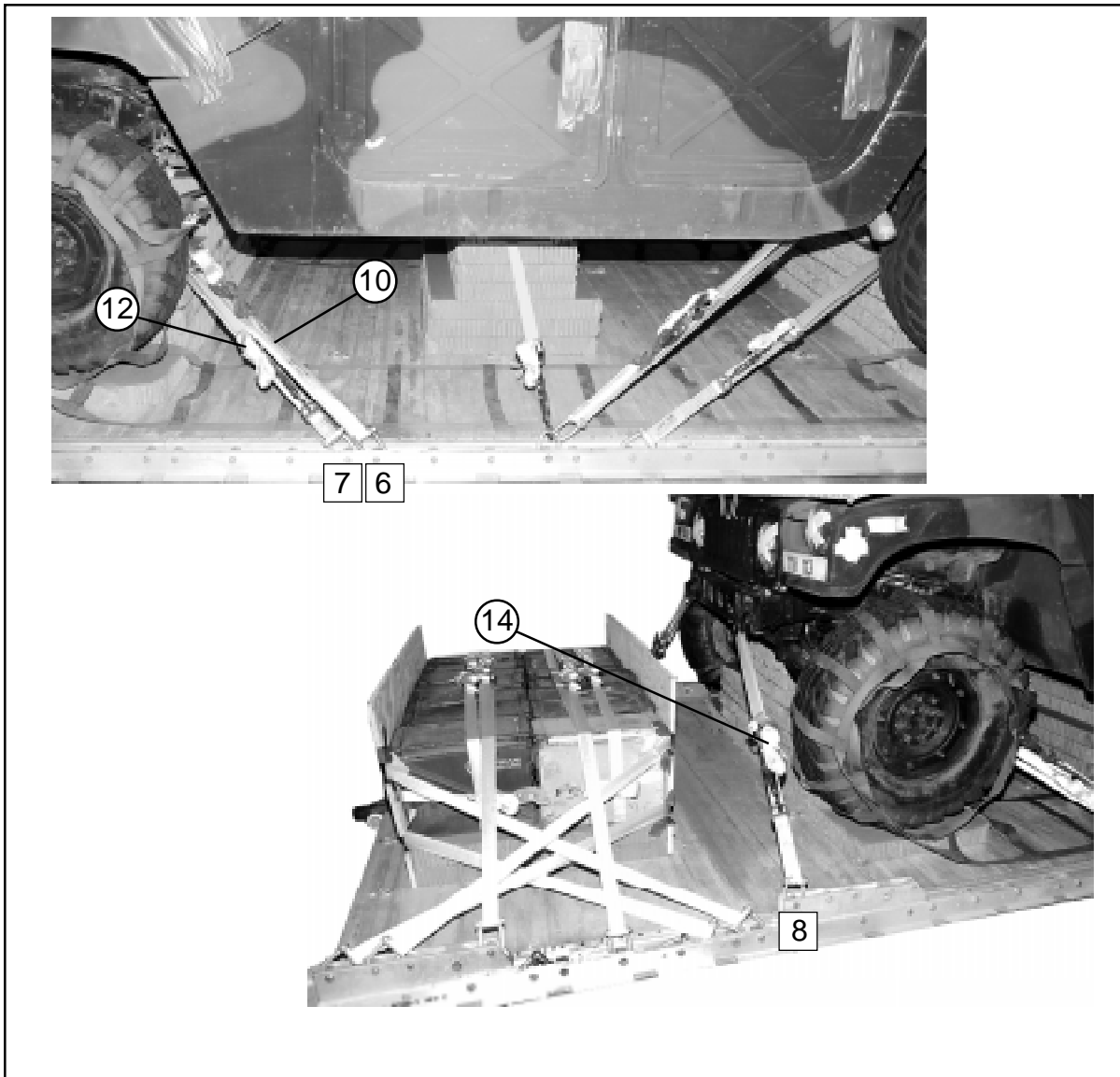
**LASHING TRUCK**

3-23. Lash the truck to the platform with fifteen 15-foot tie-down assemblies. Install the lashings according to FM 4-20.102/TO 13C7-1-5, and as shown in Figures 3-13 and 3-14.



Lashing Number	Tie-down Clevis Number	Instructions
1	1	Pass lashing:
2	1A	Through tie-down bracket behind left rear coil spring.
3	2	Through tie-down bracket behind right rear coil spring.
4	2A	Through left rear lifting shackle.
5	3	Through right rear lifting shackle.
6	3A	Around left rear lower control arm.
7	4	Around right rear lower control arm.
8	4A	Through tie-down bracket in front of left rear coil spring.
9	5 and 5A	Through tie-down bracket in front of right rear coil spring.
		Pass a 15-foot lashing through clevis 5A and through its own D-ring. Pass the lashing through the hole in stack 2. Attach the lashing to clevis 5 with a load binder.

**Figure 3-13. Lashings 1 Through 9 Installed**

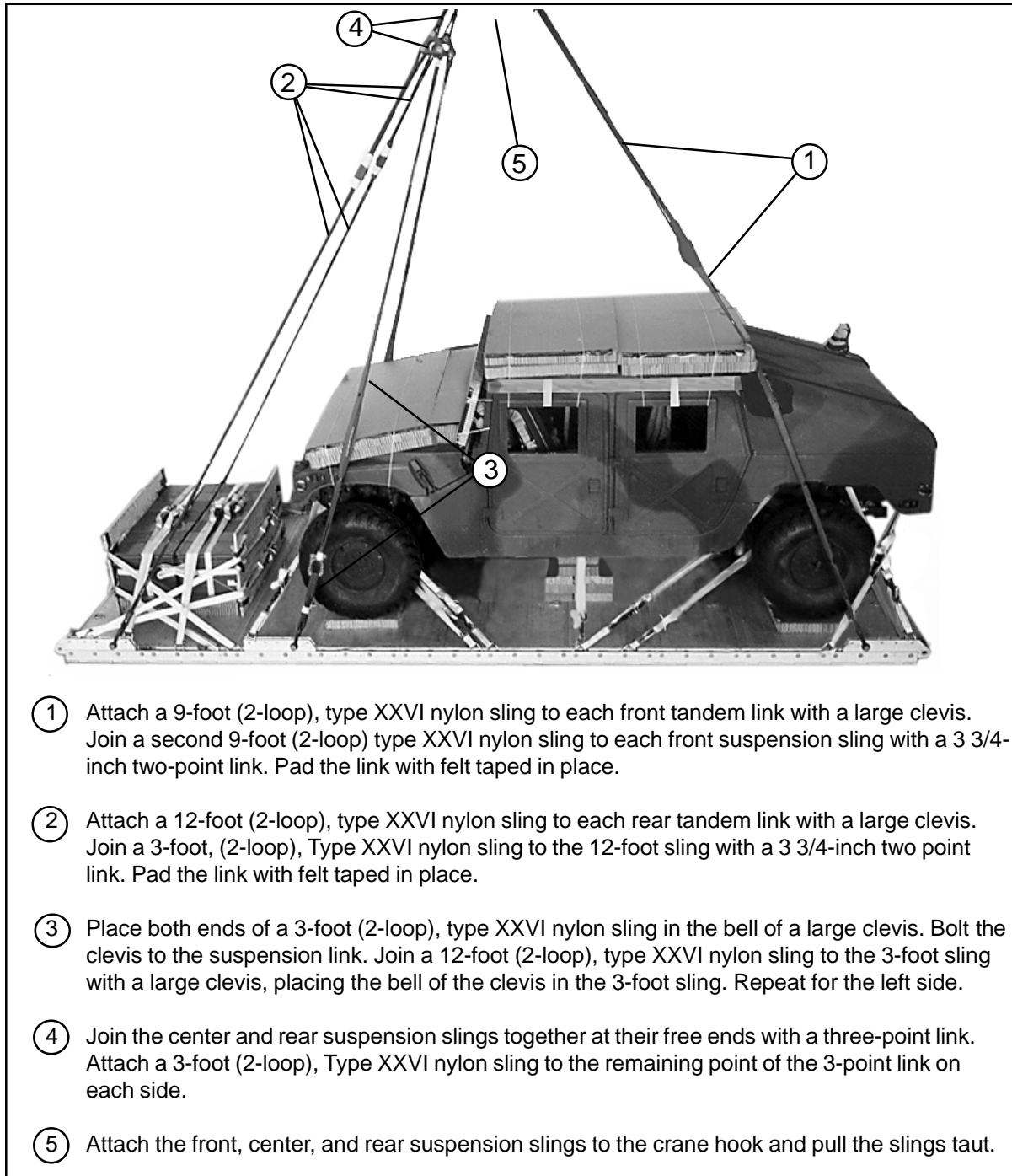


Lashing Number	Tie-down Clevis Number	Instructions
10	6	Pass lashing: Through tie-down bracket behind left front coil spring. Through tie-down bracket behind right front coil spring. Around left lower control arm. Around right lower control arm. Through tie-down bracket on end of left frame rail. Through tie-down bracket on end of right frame rail.
11	6A	
12	7	
13	7A	
14	8	
15	8A	

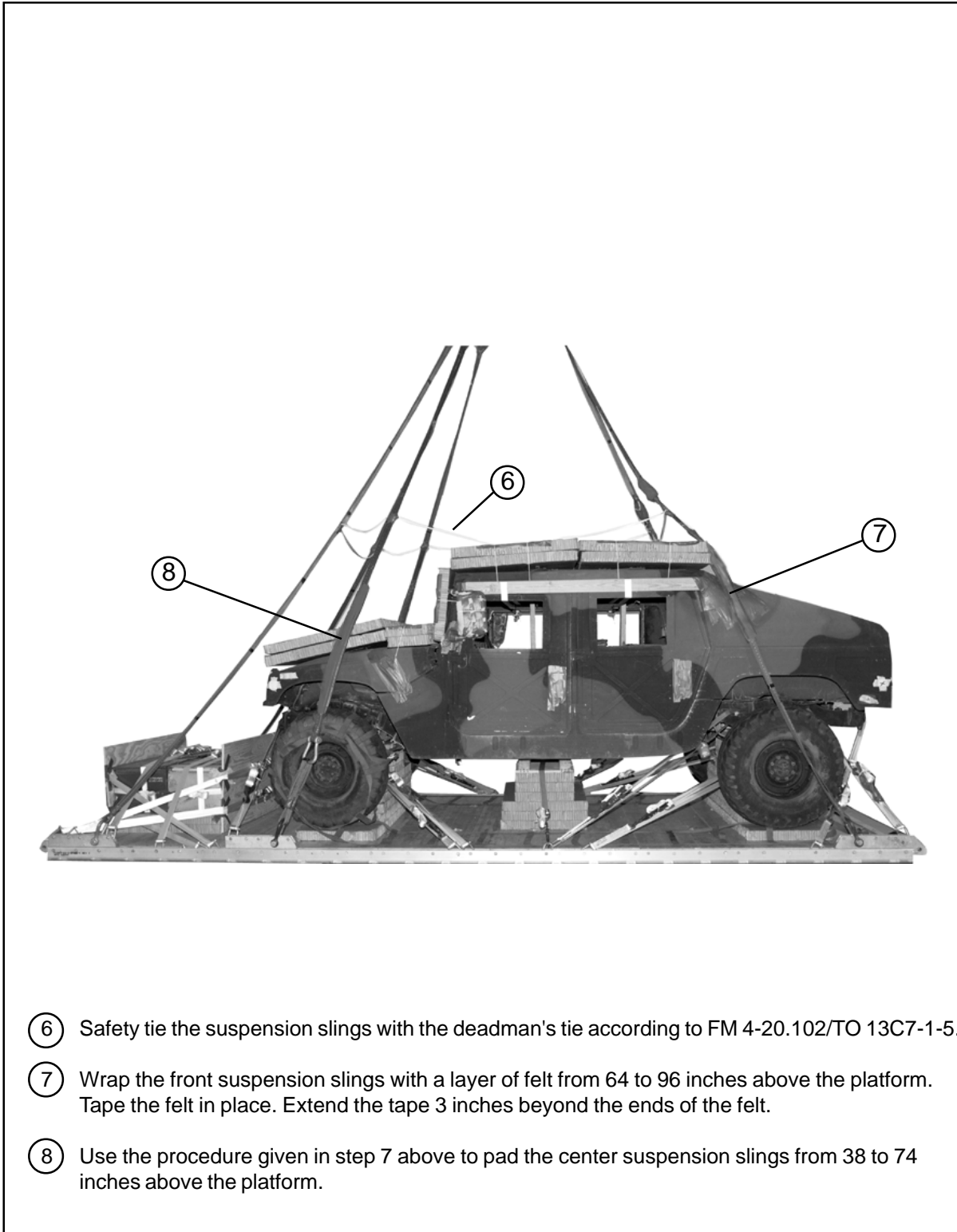
Figure 3-14. Lashings 10 Through 15 Installed

## INSTALLING AND SAFETY TYING SUSPENSION SLINGS

3-24. Install, pad and safety tie the suspension slings according to FM 4-20.102/ TO 13C7-1-5, and as shown in Figure 3-15.



**Figure 3-15. Suspension Slings Installed, Padded and Safety Tied**

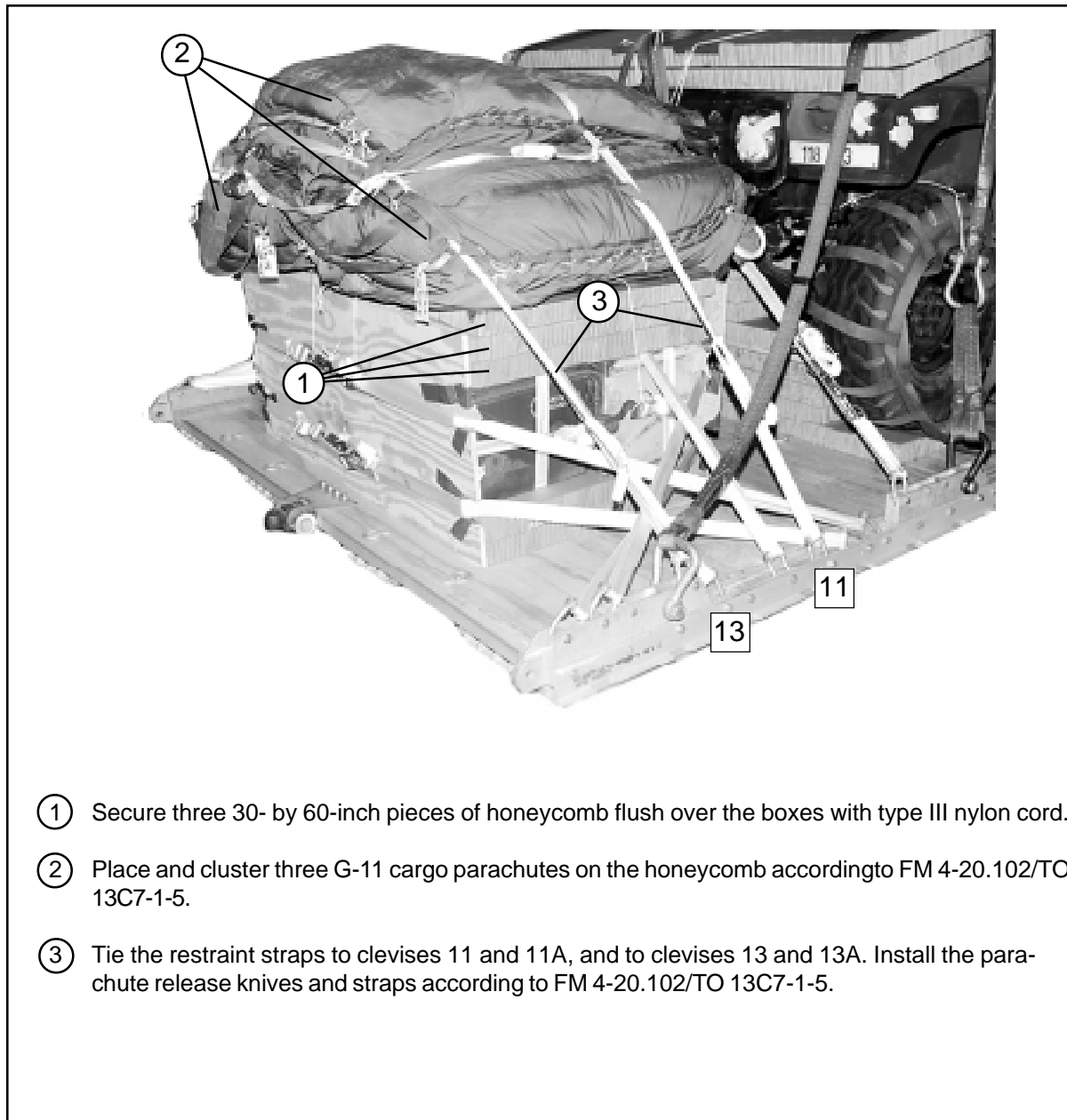


- ⑥ Safety tie the suspension slings with the deadman's tie according to FM 4-20.102/TO 13C7-1-5
- ⑦ Wrap the front suspension slings with a layer of felt from 64 to 96 inches above the platform. Tape the felt in place. Extend the tape 3 inches beyond the ends of the felt.
- ⑧ Use the procedure given in step 7 above to pad the center suspension slings from 38 to 74 inches above the platform.

**Figure 3-15. Suspension Slings Installed, Padded and Safety Tied (continued)**

## STOWING CARGO PARACHUTES

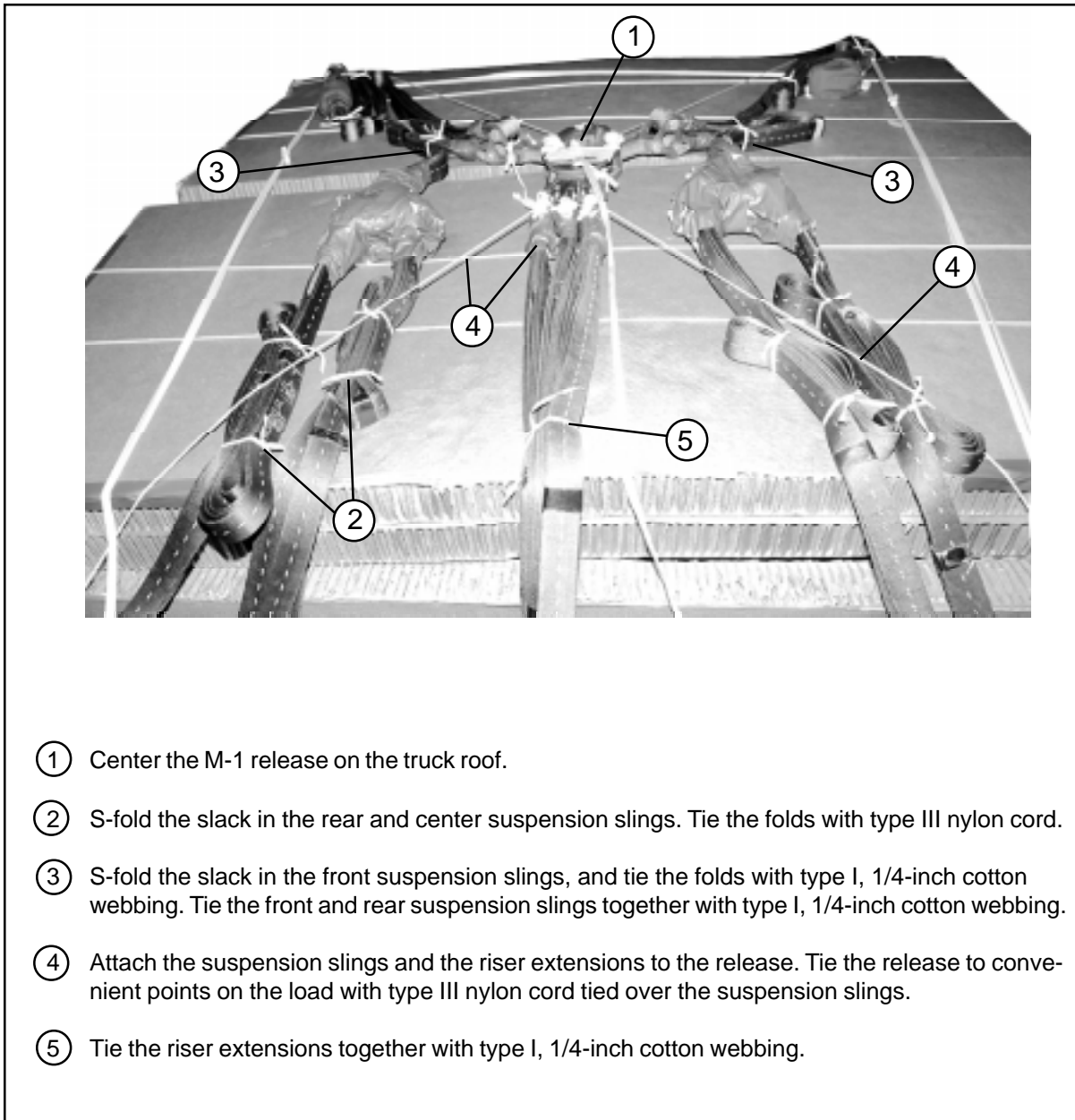
3-25. Use three G-11 cargo parachutes on this load. Stow the cargo parachutes according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 3-16.



**Figure 3-16. Cargo Parachutes Stowed**

## INSTALLING PARACHUTE RELEASE

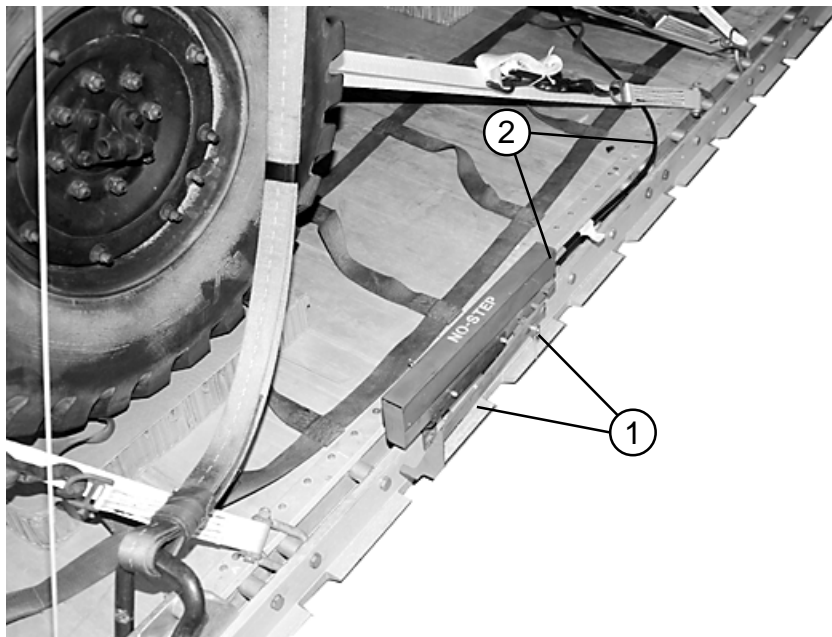
3-26. Prepare and install an M-1 cargo parachute release according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 3-17.



**Figure 3-17 . M-1 Cargo Parachute Release Installed**

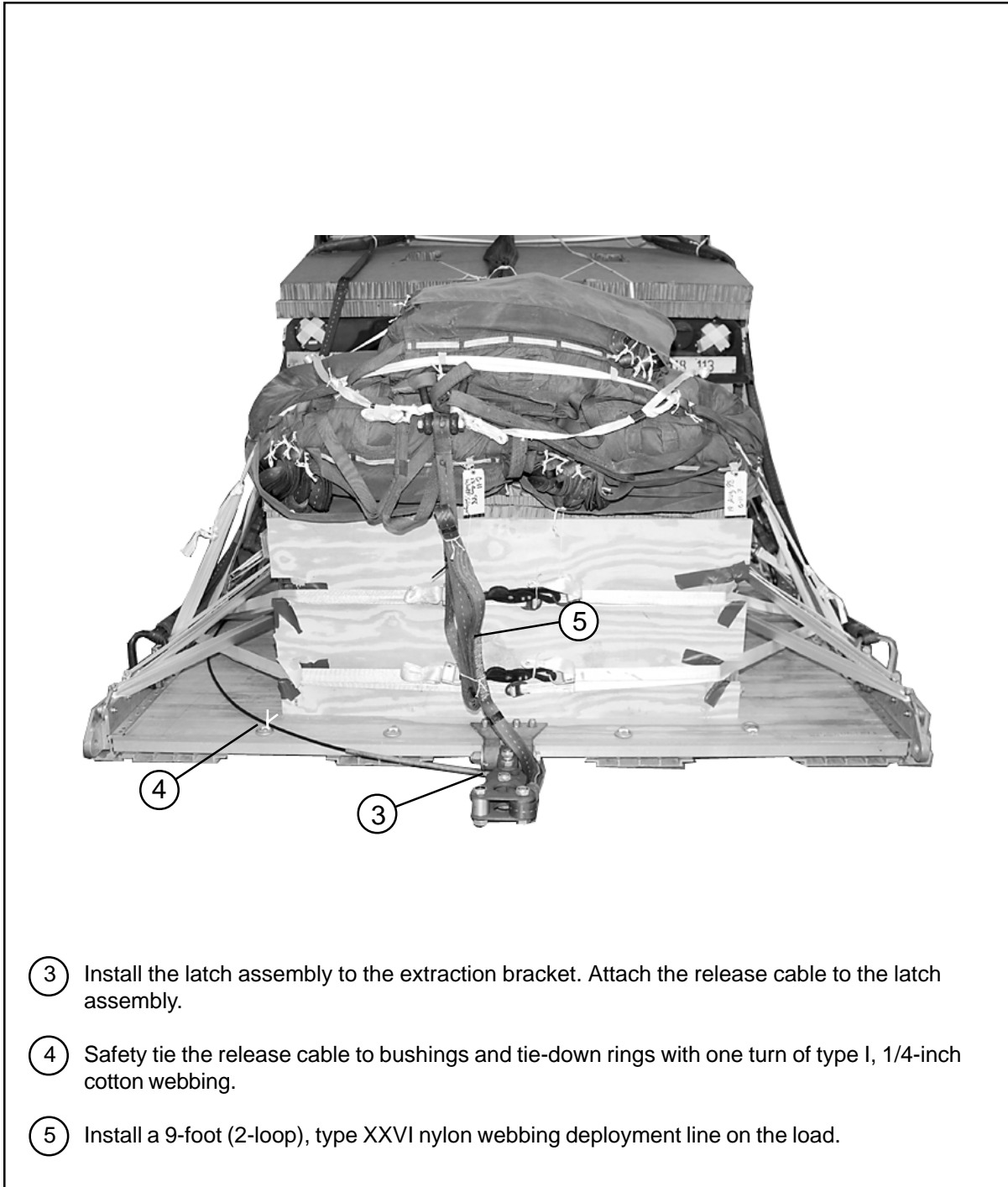
## INSTALLING EXTRACTION SYSTEM

3-27. Install the EFTC extraction system according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 3-18.



- ① Install the EFTC mounting brackets in the rear mounting holes in the left platform side rail.
- ② Attach a 20-foot release cable to the actuator. Install the actuator to the EFTC brackets.

**Figure 3-18. EFTC Installed**



**Figure 3-18. EFTC Installed (continued)**



## **INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS**

3-28. Install the provisions for emergency restraints on the load according to FM 4-20.102/TO 13C7-1-5.

## **PLACING EXTRACTION PARACHUTE**

3-29. Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 4-20.102/TO 13C7-1-5. Rig the extraction line in an extraction line bag according to TM 10-1670-286-20/TO 13C5-2-41. Place the extraction parachute and extraction line on the load for installation in the aircraft.

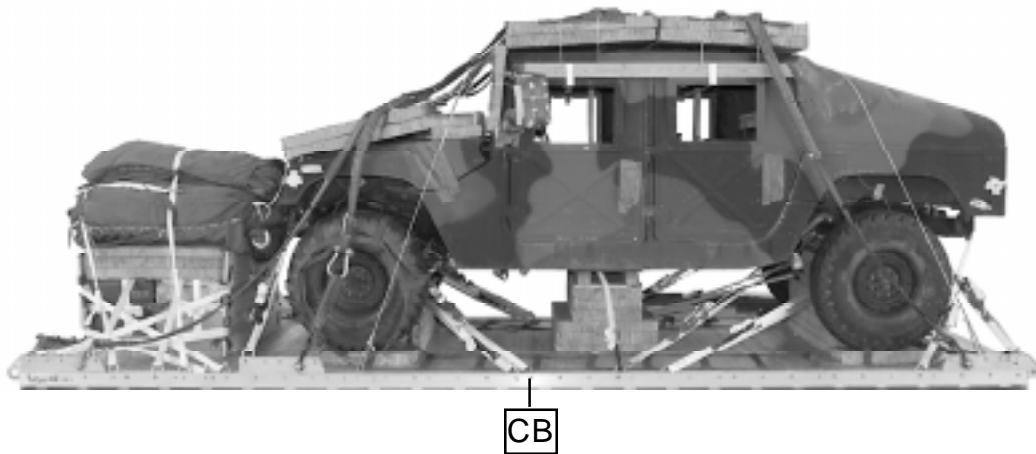
## **MARKING RIGGED LOAD**

3-30. Mark the rigged load according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 3-19. Complete Shipper's Declaration for Dangerous Goods according to AFJMAN 24-204/TM 38-250. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

## **EQUIPMENT REQUIRED**

3-31. Use the equipment listed in Table 3-2 to rig this load. The equipment for rigging the accompanying load is NOT given in Table 3-2.

**CAUTION**  
**Make the final rigger inspection required by FM 4-20.102/  
 TO 13C7-1-5 before the load leaves the rigging site.**



**RIGGED LOAD DATA**

Weight: Load shown .....	11,740 pounds
Maximum load allowed .....	12,100 pounds
Height .....	91 inches
Width .....	108 inches
Length (overall) .....	265 inches
Overhang: Front .....	0 inches
Rear (EFTC).....	18 inches
CB (from front edge of platform) .....	112 inches

**Figure 3-19. M1025 Armament Carrier Rigged on a 20-Foot Platform**

**Table 3-2. Equipment Required for Rigging M1025 Armament Carrier with Accompanying Load on 20-Foot Platform**

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	9
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5795	Coupling assembly, airdrop, extraction force transfer with cable, 20ft	1
1670-00-360-0328	Cover: Clevis, large	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 (line bag)	2
1670-01-062-6313	Line, drogue (for C-17) 60-ft (3-loop), type XXVI	1
1670-01-062-6313	Line, extraction: For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
1670-01-062-6313	For C-5: 60-ft, (3-loop), type XXVI and	1
1670-01-107-7651	140-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
5306-00-435-8994	Link Assembly: Two-point: Bolt, 1-in diam, 4-in long	6 (12)
5310-00-232-5165	Nut, 1-in, hexagonal	(12)
1670-00-003-1953	Plate, side, 3 3/4-in	(12)
5365-00-007-3414	Spacer, large	(12)
5510-00-220-6146	Lumber: 2- by 4-in	As required
5510-00-220-6448	2- by 6-in	As required
5510-00-220-6274	4- by 4-in	As required
5315-00-010-4659	Nail, steel wire, 8d	As required

**Table 3-2. Equipment Required for Rigging M1025 Armament Carrier with Accompanying Load on 20-Foot Platform (continued)**

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating (honeycomb) 3- by 36- by 96-in	15 sheets
1670-01-016-7841	Parachute: Cargo: G-11B	3
1670-01-063-3716	Cargo extraction: 22-ft (for C-17, use H-block with this parachute.)	1
1670-01-063-3715	Drogue (for C-17) 15-ft	1
1670-01-353-8425	Platform, airdrop, type V, 20-ft Bracket assembly, EFTC	(1)
1670-01-162-2372	Clevis assembly, type V	(46)
1670-01-162-2376	Bracket assembly, extraction	(1)
1670-01-247-2389	Link, suspension bracket, type V	(2)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(4)
5530-00-128-4981	Plywood, 3/4-in	5 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1
1670-01-062-6301	Sling, cargo, airdrop For suspension: 3-ft (2-loop), type XXVI nylon webbing	6
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	4
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	4
1670-01-062-6304	For lifting: 9-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6304	For deployment: 9-ft (2-loop), type XXVI nylon webbing	1
1670-01-062-6302	For riser extension: 20-ft (2-loop), type XXVI nylon webbing	6
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	39
1670-01-344-0825	Vehicle drive-off aid	2
8305-00-268-2411	Webbing: Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
No NSN	Type V	As required
8305-00-263-3591	Type VIII	As required

## **SECTION III - RIGGING STRIKER IN ARMAMENT CARRIER- CONFIGURED M1025 HMMWV-SERIES TRUCK ON A 16-FOOT PLATFORM**

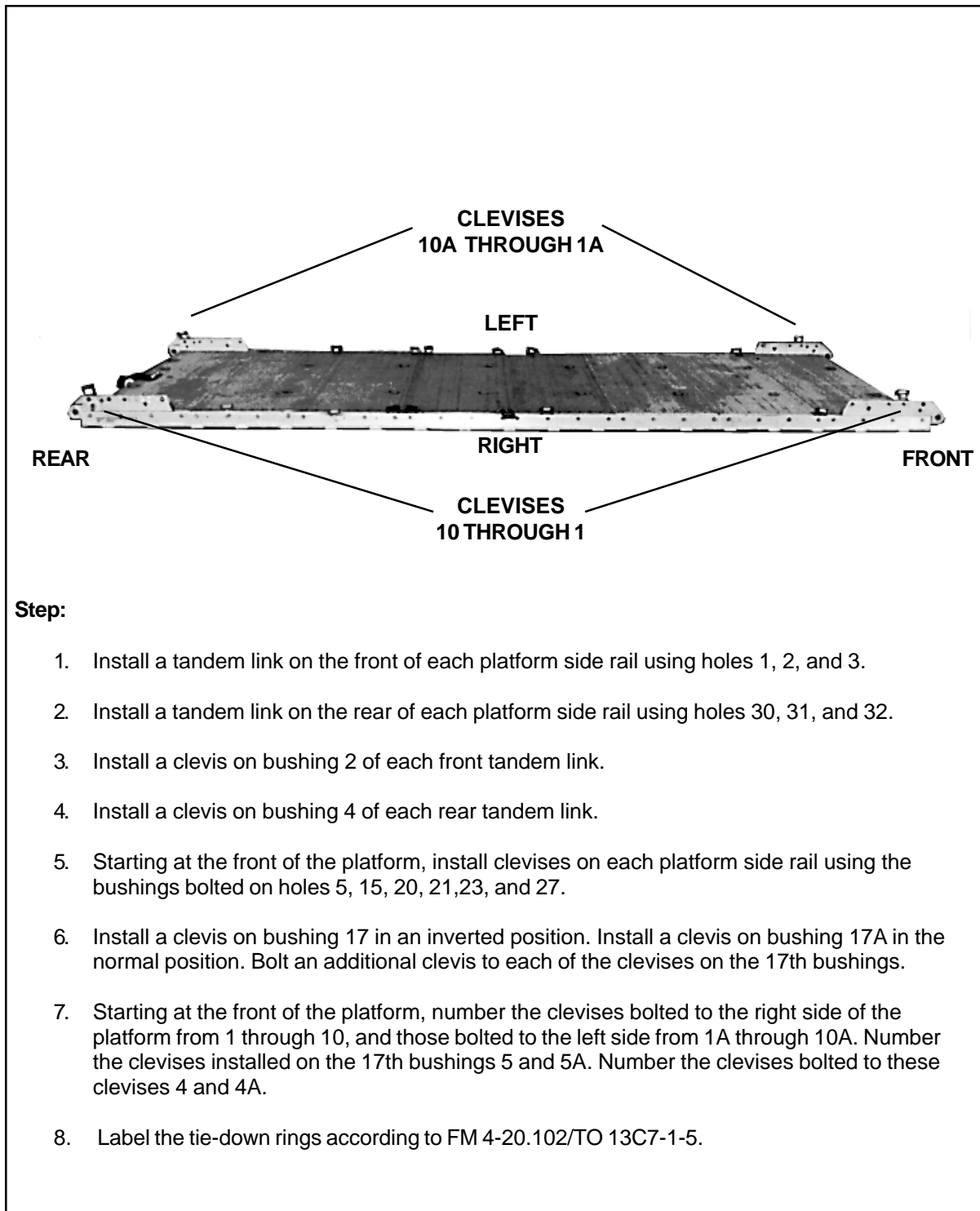
### **DESCRIPTION OF LOAD**

3-32. The unrigged M1025A2 armament carrier is described in Chapter 1. The Striker vehicle is configured as a field artillery observer carrier. The Striker serves fire direction control, self-location, target designation and night observation functions. The Striker components are contained within the truck. This load requires three G-11 cargo parachutes. Striker-equipped trucks using the M1025 and M1025A1 models are rigged using these procedures.

### **PREPARING PLATFORM**

3-33. Prepare a 16-foot, type V airdrop platform according to TM 10-1670-268-20&P/TO 13C7-52-22. Install four tandem links, two suspension links and 20 load tie-down clevises as shown in Figure 3-20.

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



**Figure 3-20. Platform Prepared**

### PREPARING AND POSITIONING HONEYCOMB STACKS

3-34. Prepare three honeycomb stacks as shown in Figures 2-3 and 2-4. Position the stacks on the platform as shown in Figure 2-5, and according to FM 4-20.102/TO 13C7-1-5.

### PREPARING TRUCK

3-35. Prepare the truck as described in paragraphs 2-4a through e, g, and h, and as shown in Figures 2-6 and 2-7, 2-8 (omit steps 1 and 3), 2-9, 2-11, and 2-12. Further prepare the closed-body HMMWV as shown in Figures 3-2 and 3-3, steps 1 through 6.

### PREPARING STRIKER EQUIPMENT

3-36. Prepare the components of the Striker system as shown in Figures 3-21 through 3-26.

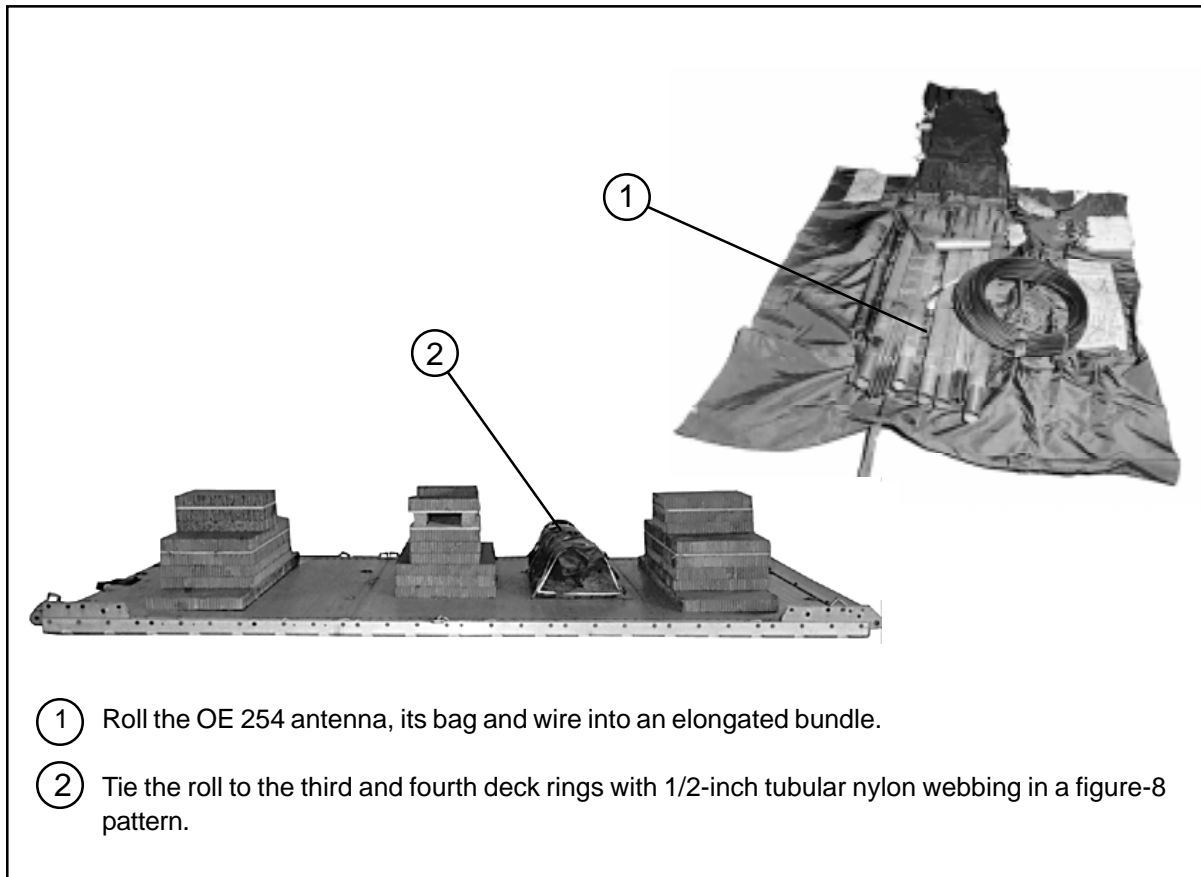
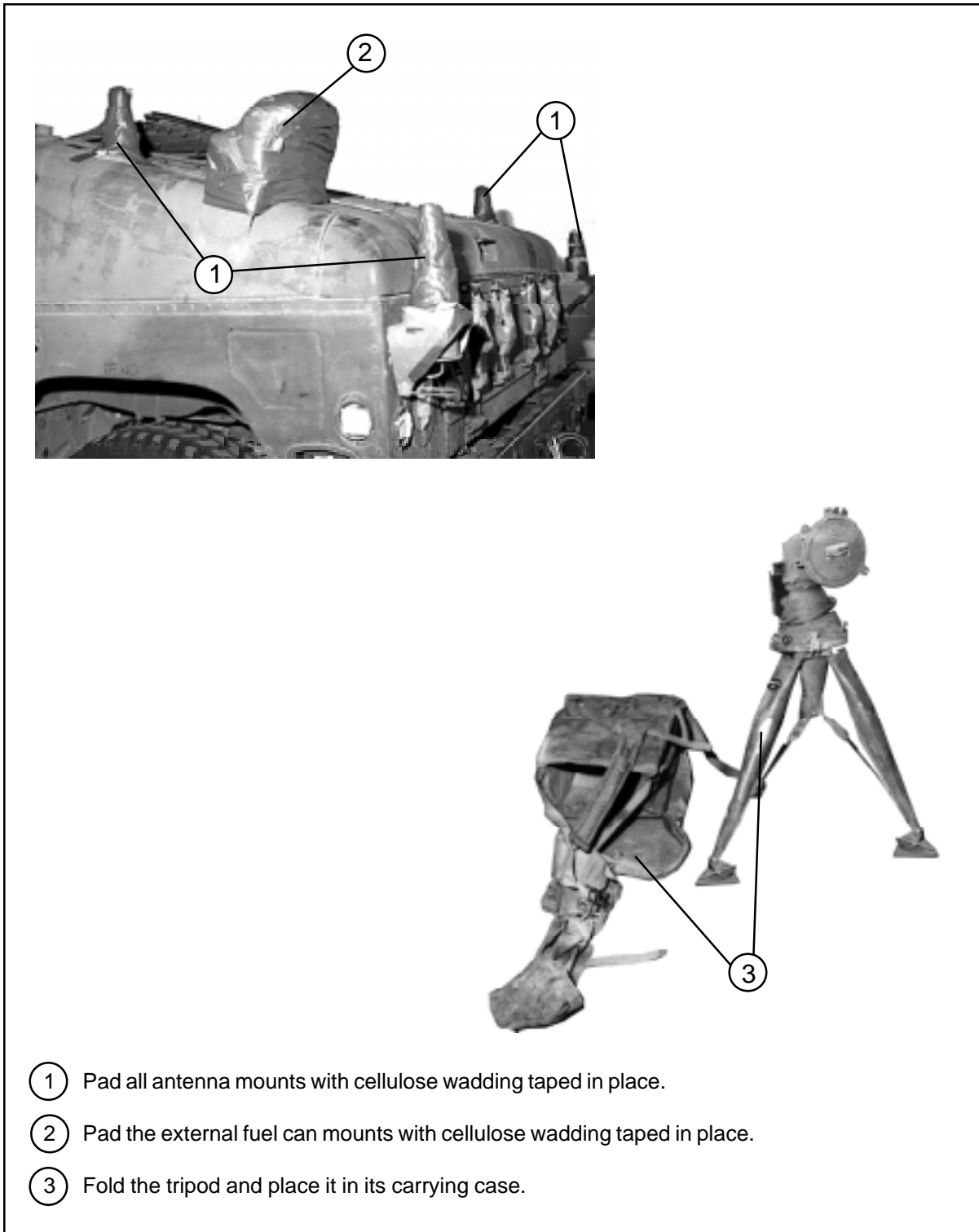


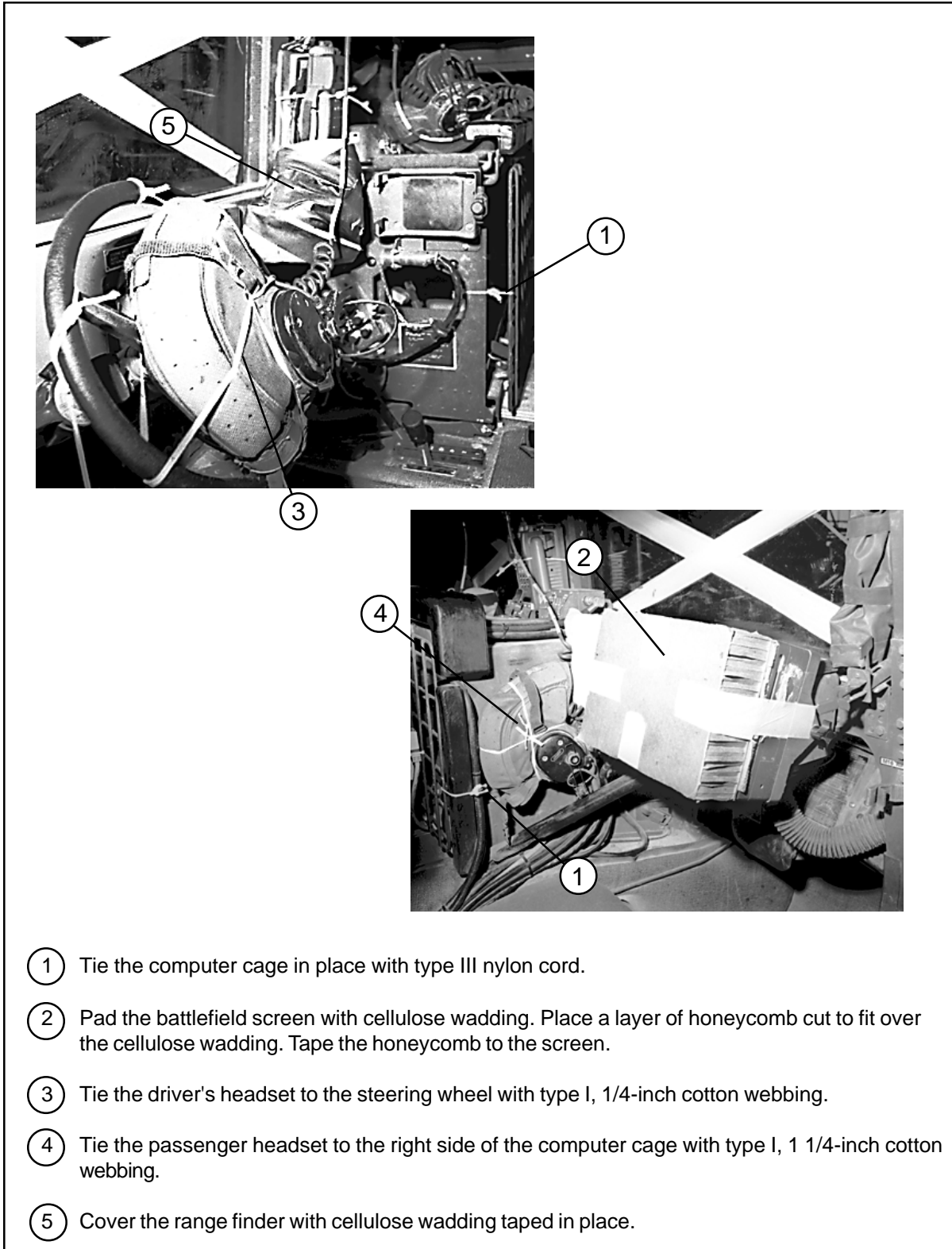
Figure 3-21. Poles and Nets Rigged on Platform



- ① Pad all antenna mounts with cellulose wadding taped in place.
- ② Pad the external fuel can mounts with cellulose wadding taped in place.
- ③ Fold the tripod and place it in its carrying case.

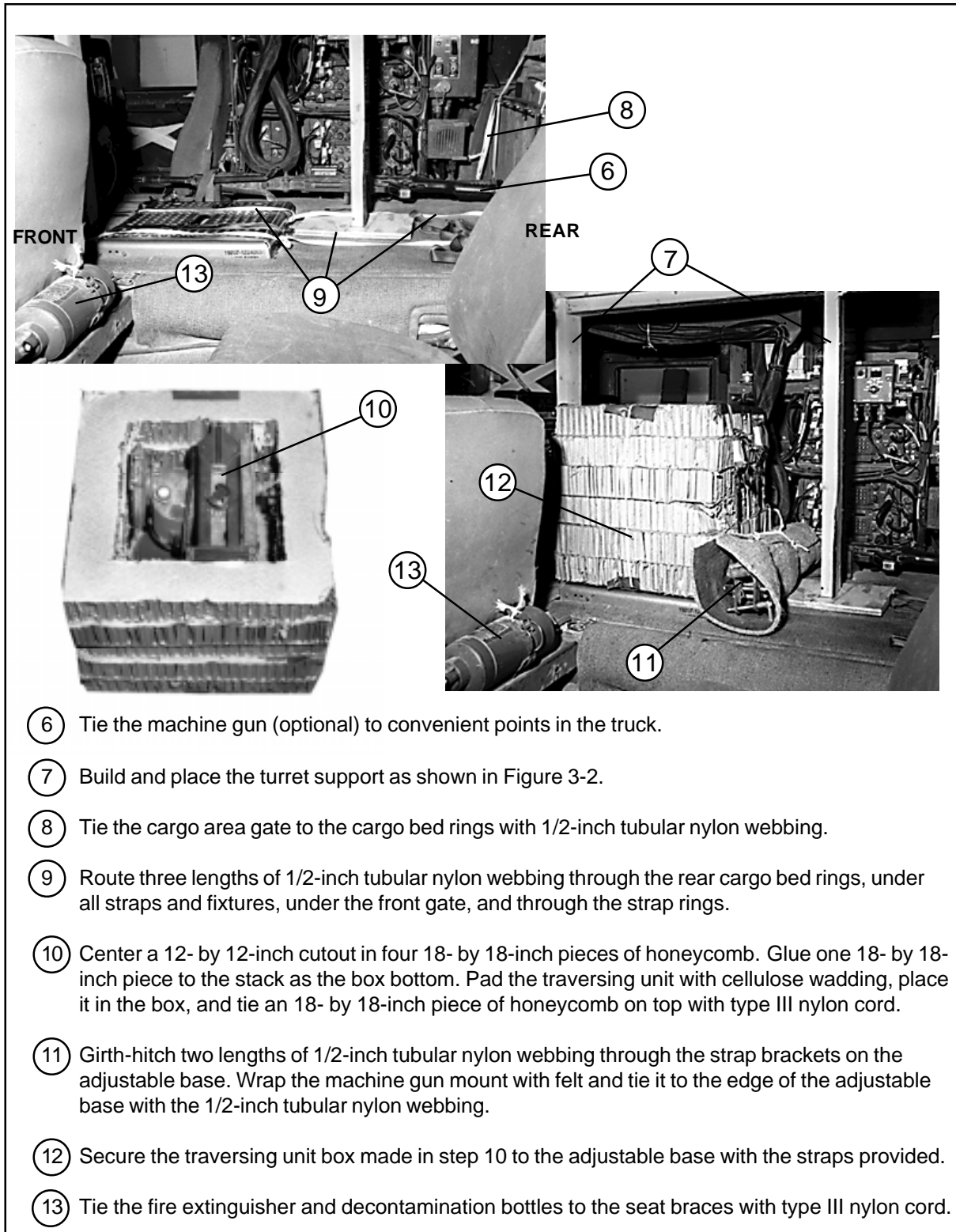
**Figure 3-22. Antenna Mounts Padded and Tripod Prepared**



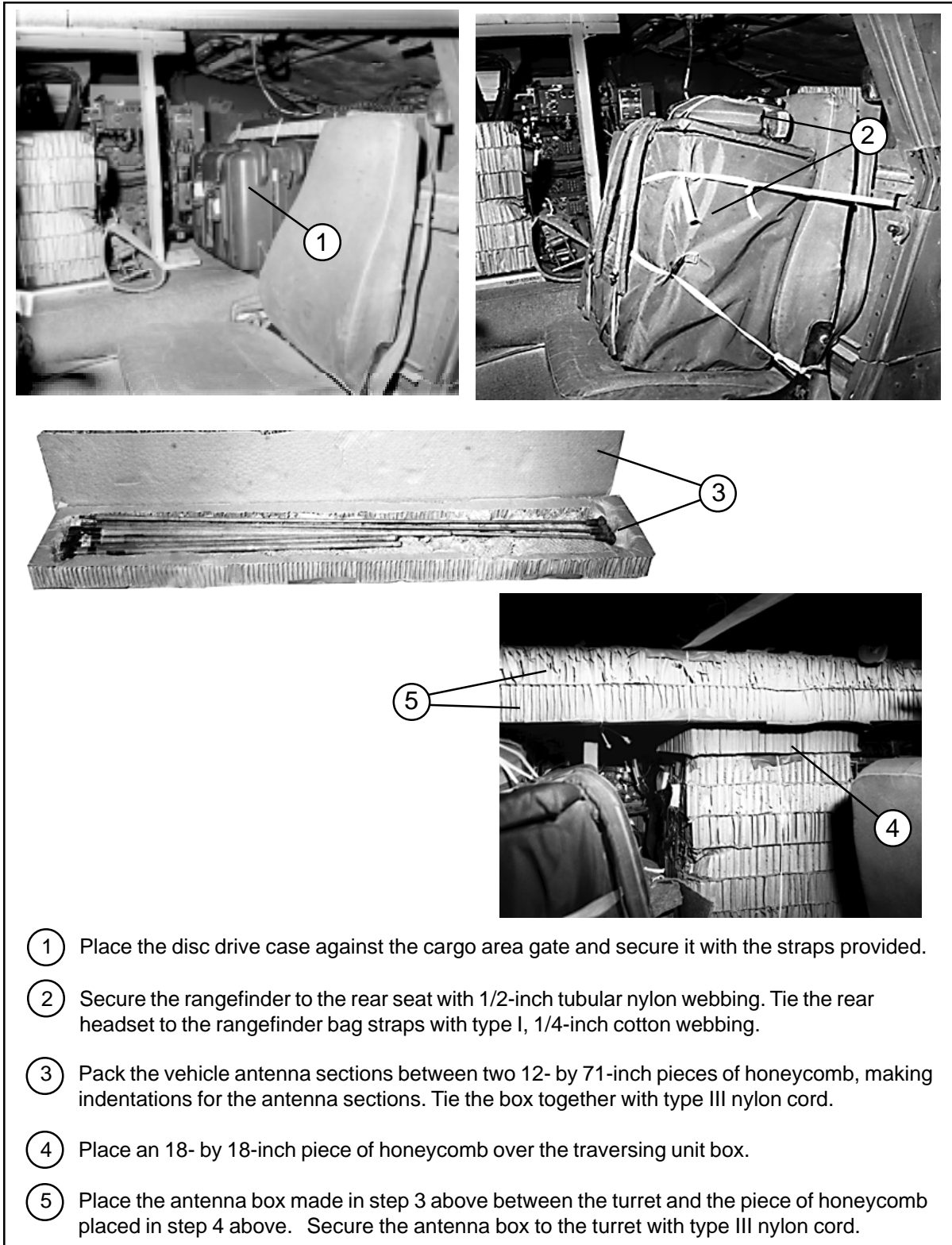


- ① Tie the computer cage in place with type III nylon cord.
- ② Pad the battlefield screen with cellulose wadding. Place a layer of honeycomb cut to fit over the cellulose wadding. Tape the honeycomb to the screen.
- ③ Tie the driver's headset to the steering wheel with type I, 1/4-inch cotton webbing.
- ④ Tie the passenger headset to the right side of the computer cage with type I, 1 1/4-inch cotton webbing.
- ⑤ Cover the range finder with cellulose wadding taped in place.

**Figure 3-23. Cab Section of Truck Prepared**

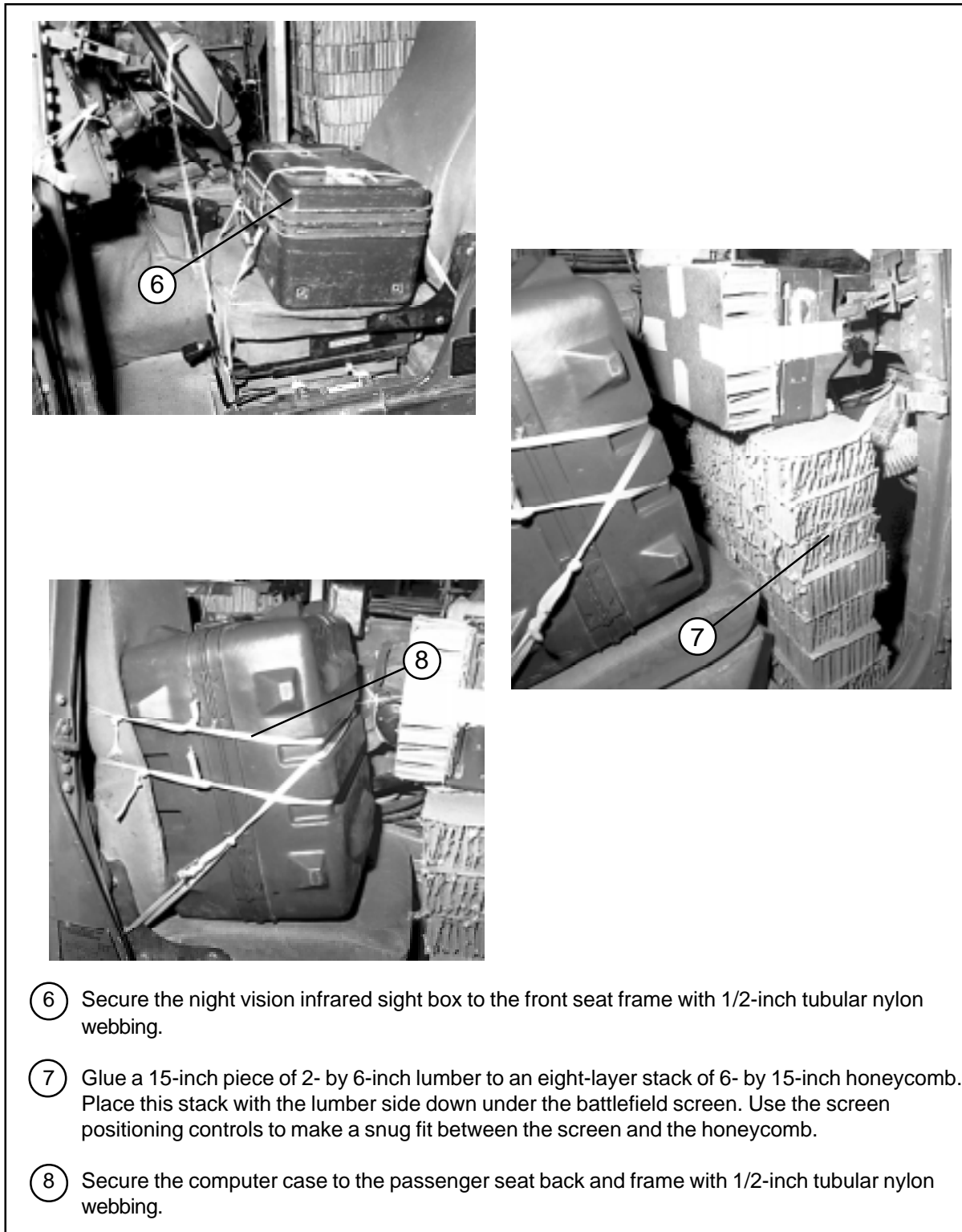


**Figure 3-23. Cab Section of Truck Prepared (continued)**



- ① Place the disc drive case against the cargo area gate and secure it with the straps provided.
- ② Secure the rangefinder to the rear seat with 1/2-inch tubular nylon webbing. Tie the rear headset to the rangefinder bag straps with type I, 1/4-inch cotton webbing.
- ③ Pack the vehicle antenna sections between two 12- by 71-inch pieces of honeycomb, making indentations for the antenna sections. Tie the box together with type III nylon cord.
- ④ Place an 18- by 18-inch piece of honeycomb over the traversing unit box.
- ⑤ Place the antenna box made in step 3 above between the turret and the piece of honeycomb placed in step 4 above. Secure the antenna box to the turret with type III nylon cord.

**Figure 3-24. Equipment Cases Stowed in Seat Area of Truck**



**Figure 3-24. Equipment Cases Stowed in Seat Area of Truck (continued)**

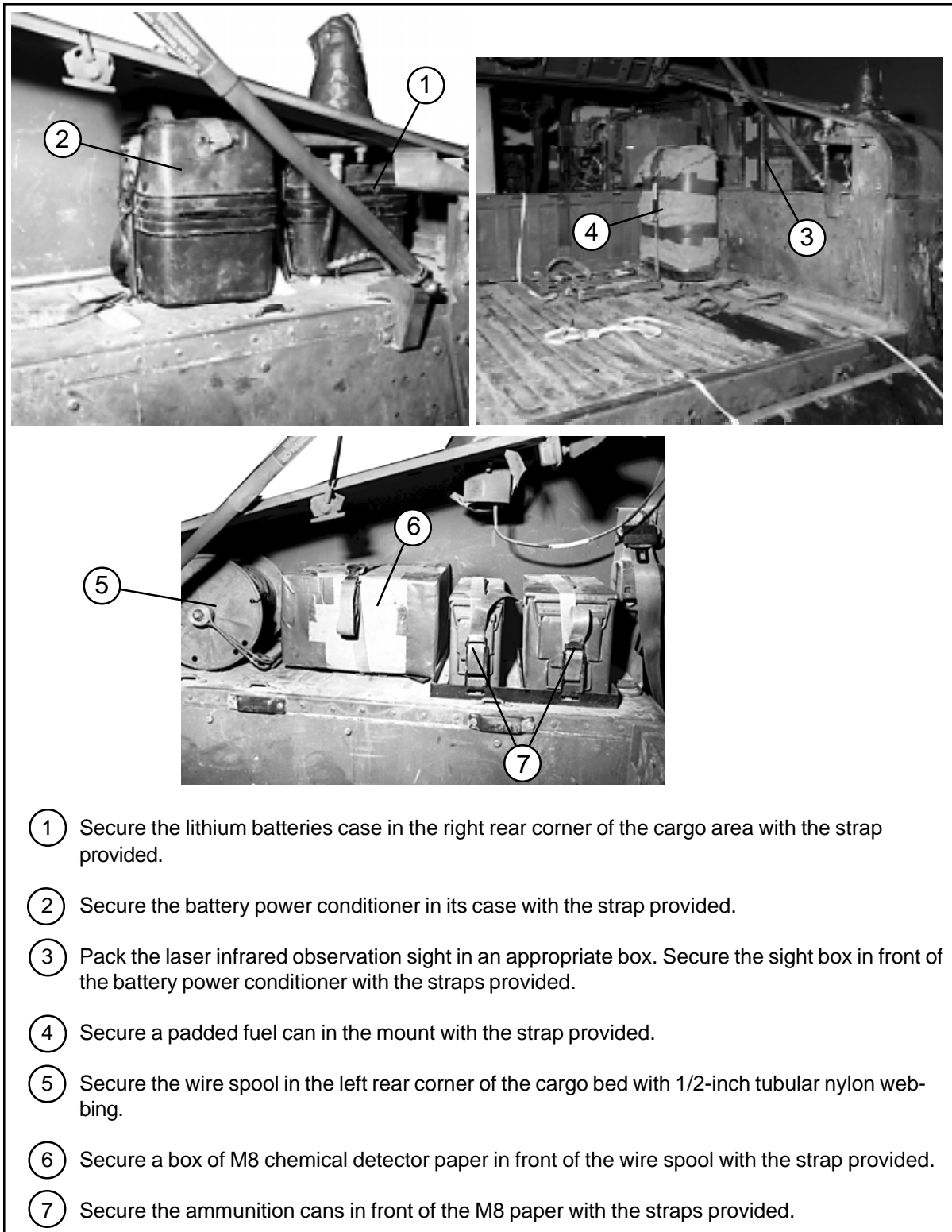
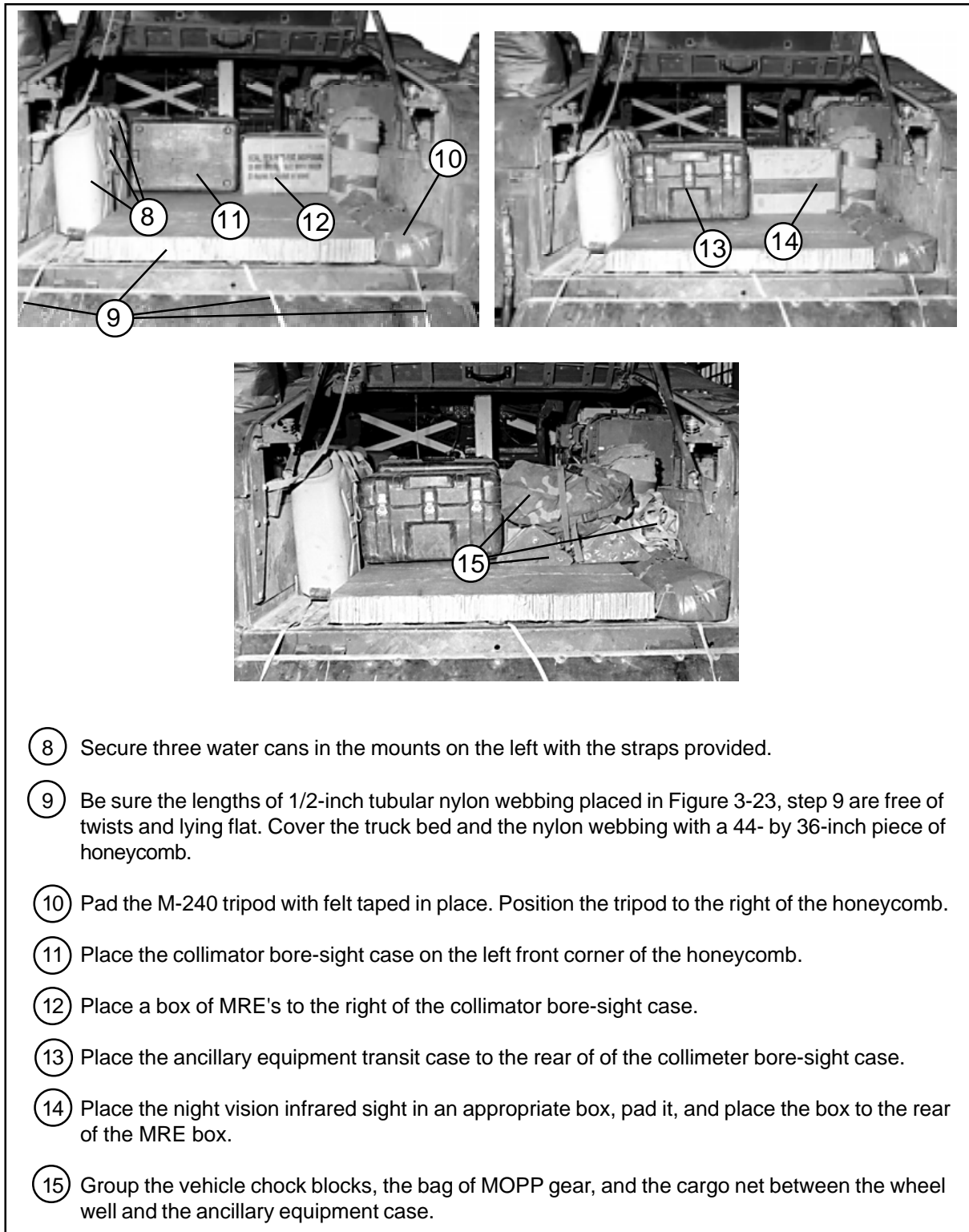


Figure 3-25. Equipment Stowed in Cargo Area



- ⑧ Secure three water cans in the mounts on the left with the straps provided.
- ⑨ Be sure the lengths of 1/2-inch tubular nylon webbing placed in Figure 3-23, step 9 are free of twists and lying flat. Cover the truck bed and the nylon webbing with a 44- by 36-inch piece of honeycomb.
- ⑩ Pad the M-240 tripod with felt taped in place. Position the tripod to the right of the honeycomb.
- ⑪ Place the collimator bore-sight case on the left front corner of the honeycomb.
- ⑫ Place a box of MRE's to the right of the collimator bore-sight case.
- ⑬ Place the ancillary equipment transit case to the rear of of the collimeter bore-sight case.
- ⑭ Place the night vision infrared sight in an appropriate box, pad it, and place the box to the rear of the MRE box.
- ⑮ Group the vehicle chock blocks, the bag of MOPP gear, and the cargo net between the wheel well and the ancillary equipment case.

**Figure 3-25. Equipment Stowed in Cargo Area (continued)**

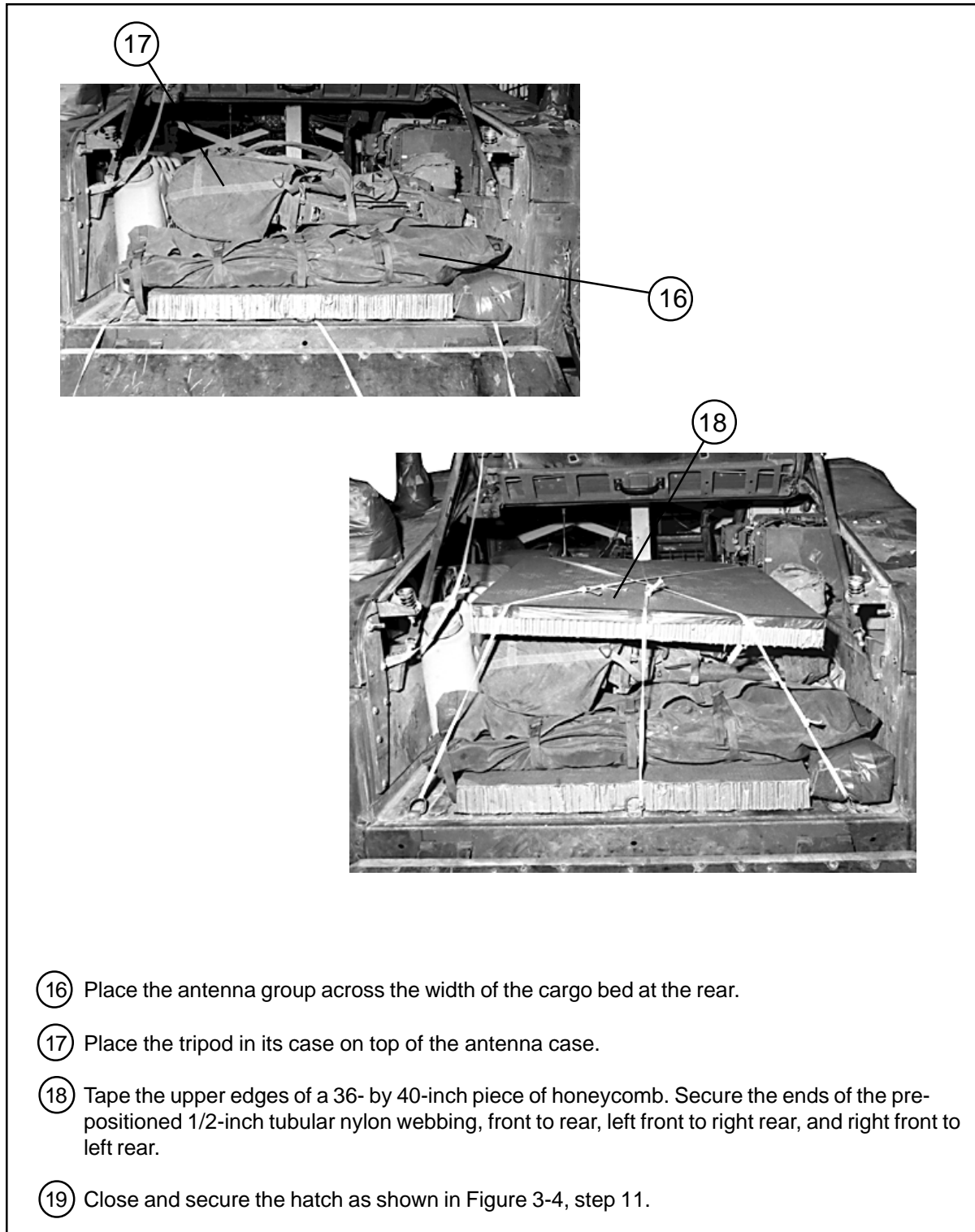
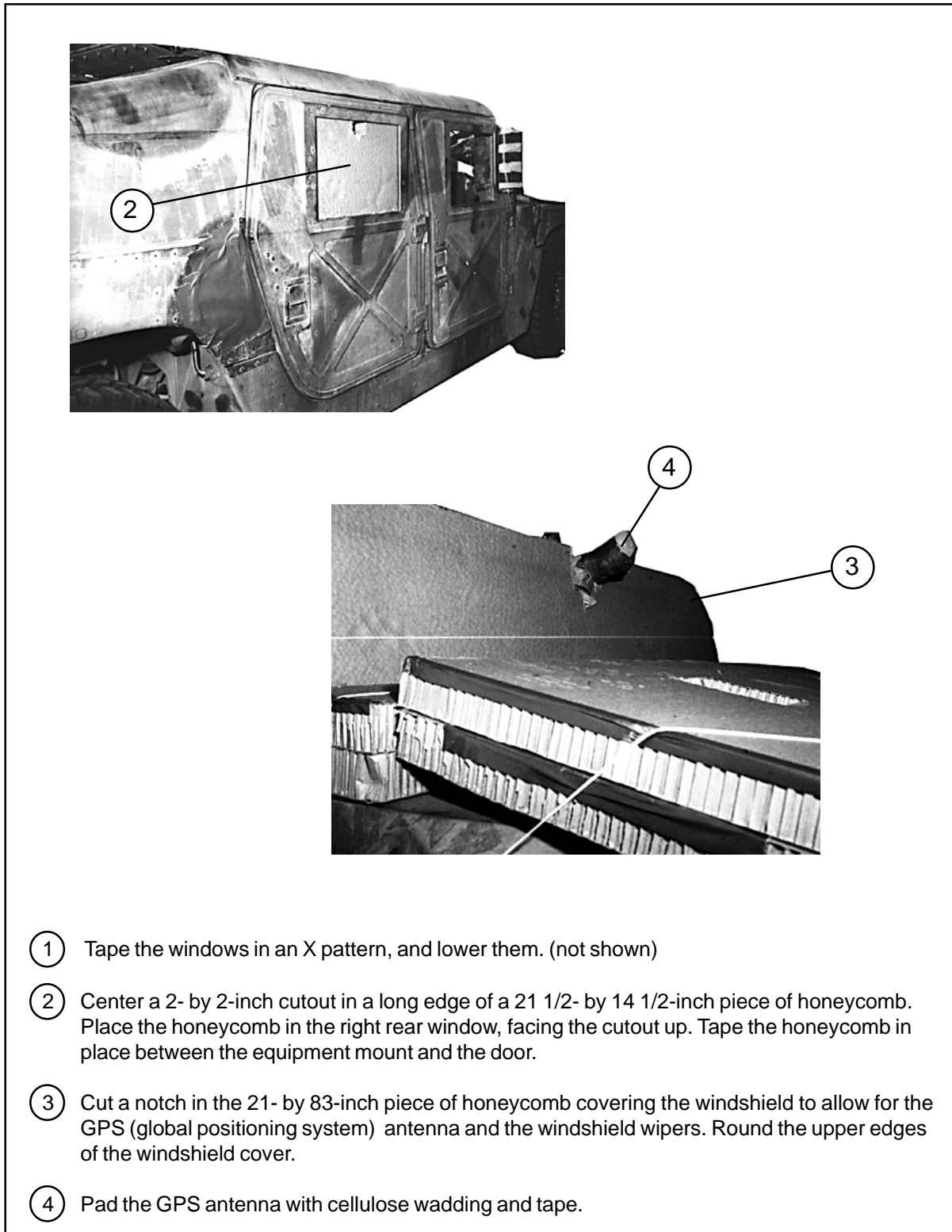


Figure 3-25. Equipment Stowed in Cargo Area (continued)



- ① Tape the windows in an X pattern, and lower them. (not shown)
- ② Center a 2- by 2-inch cutout in a long edge of a 21 1/2- by 14 1/2-inch piece of honeycomb. Place the honeycomb in the right rear window, facing the cutout up. Tape the honeycomb in place between the equipment mount and the door.
- ③ Cut a notch in the 21- by 83-inch piece of honeycomb covering the windshield to allow for the GPS (global positioning system) antenna and the windshield wipers. Round the upper edges of the windshield cover.
- ④ Pad the GPS antenna with cellulose wadding and tape.

**Figure 3-26. Outside and Top of Striker Truck Prepared**



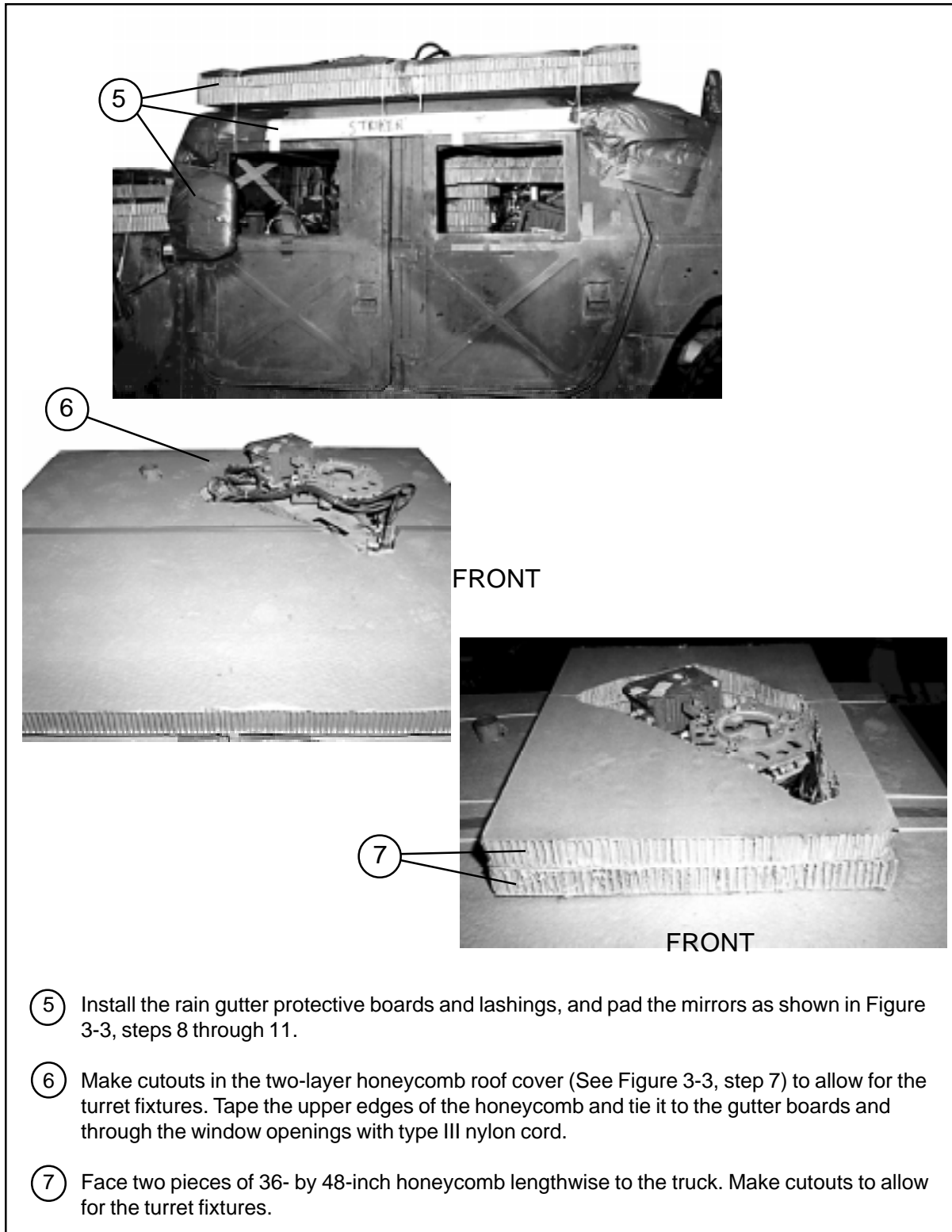


Figure 3-26. Outside and Top of Striker Truck Prepared (continued)

Notes:  
 1. This drawing is not drawn to scale.  
 2. All dimensions are in inches.

⑧

⑧ Construct the turret cover of 3/4-inch plywood and 2- by 4-inch lumber as shown. Nail the lumber to the edges of the plywood with 8d nails. Tape the upper edges of the plywood.

⑨ Place the cover flush over the 36- by 48-inch honeycomb placed in step 8 above. Tie the plywood cover from the 1/2-inch holes to convenient points inside the truck with 1/2-inch tubular nylon webbing.

Figure 3-26. Outside and Top of Striker Truck Prepared (continued)

**LIFTING AND POSITIONING TRUCK AND INSTALLING DRIVE-OFF AIDS**

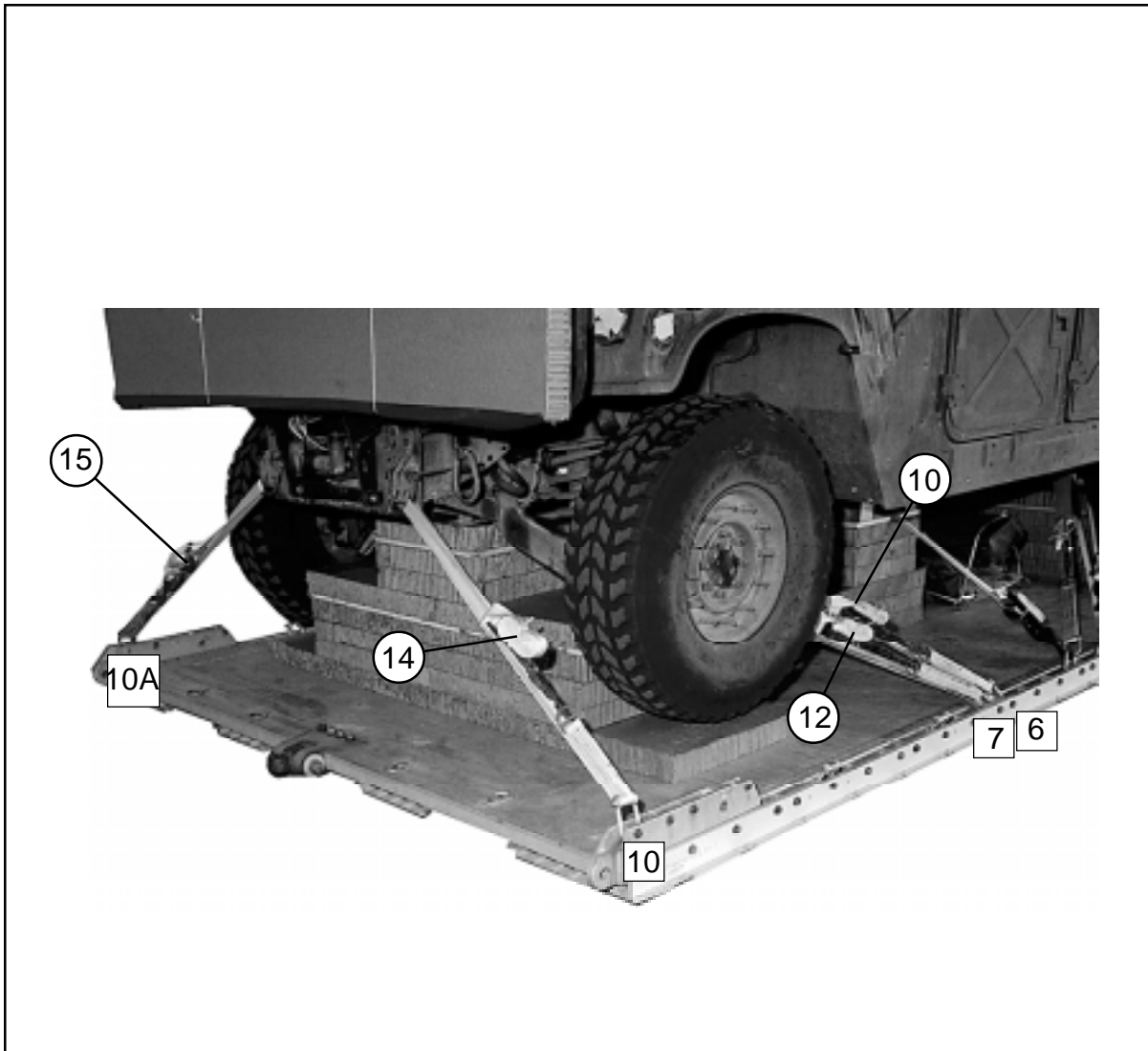
3-37. Install the lifting slings and position the truck on the honeycomb stacks as shown in Figure 2-16. Attach the drive-off aids to the wheels of the truck as shown in Figure 2-17, and according to FM 4-20.102/TO 13C7-1-5.

**LASHING TRUCK**

3-38. Lash the truck to the platform with fifteen 15-foot tie-down assemblies. Install the lashings according to FM 4-20.102/TO 13C7-1-5, and as shown in Figures 3-27 and 3-28.

Lashing Number	Tie-down Clevis Number	Instructions
1	1	Pass lashing:
2	1A	Through tie-down bracket behind left rear coil spring.
3	2	Through tie-down bracket behind right rear coil spring.
4	2A	Through left rear lifting shackle.
5	3	Through right rear lifting shackle.
6	3A	Around left rear lower control arm.
7	4	Around right rear lower control arm.
8	4A	Through tie-down bracket in front of left rear coil spring.
9	4A	Through tie-down bracket in front of right rear coil spring.
9	5 and 5A	Pass a 15-foot lashing through clevis 5A and through its own D-ring. Pass the lashing through the hole in stack 2. Attach the lashing to clevis 5 with a load binder.

**Figure 3-27. Lashings 1 Through 9 Installed**



Lashing Number	Tie-down Clevis Number	Instructions
10	6	Pass lashing: Through tie-down bracket behind left front coil spring.
11	6A	Through tie-down bracket behind right front coil spring.
12	7	Around left lower control arm.
13	7A	Around right lower control arm.
14	10	Through shackle on left side of bumper.
15	10A	Through shackle on right side of bumper

Figure 3-28. Lashings 10 Through 15 Installed

## INSTALLING AND SAFETY TYING SUSPENSION SLINGS

3-39. Install and safety tie four 16-foot (2-loop), type XXVI nylon suspension slings according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 3-5.

## STOWING CARGO PARACHUTES

3-40. Use three G-11 cargo parachutes on this load. Prepare and stow the cargo parachutes according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 3-29.

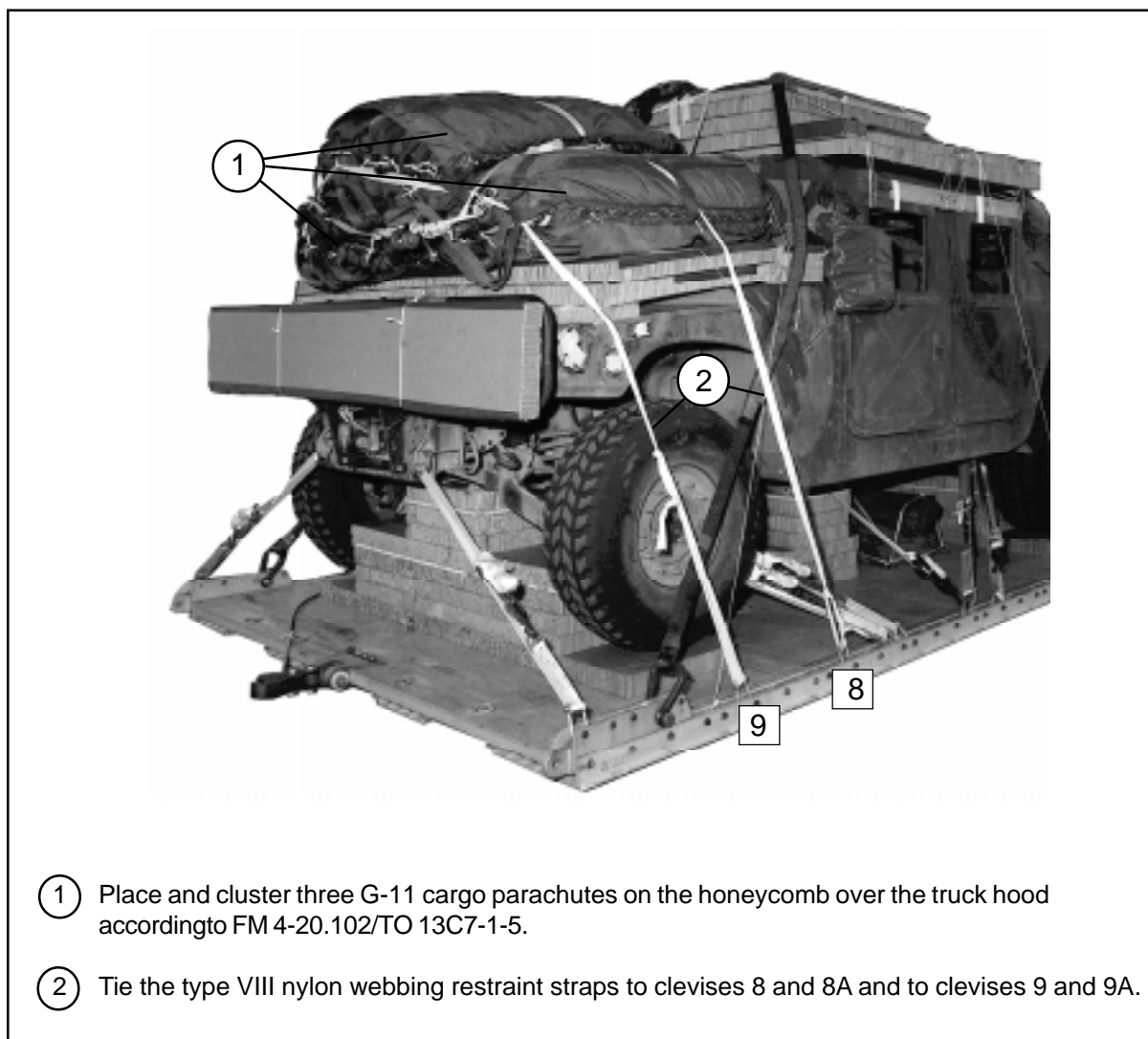
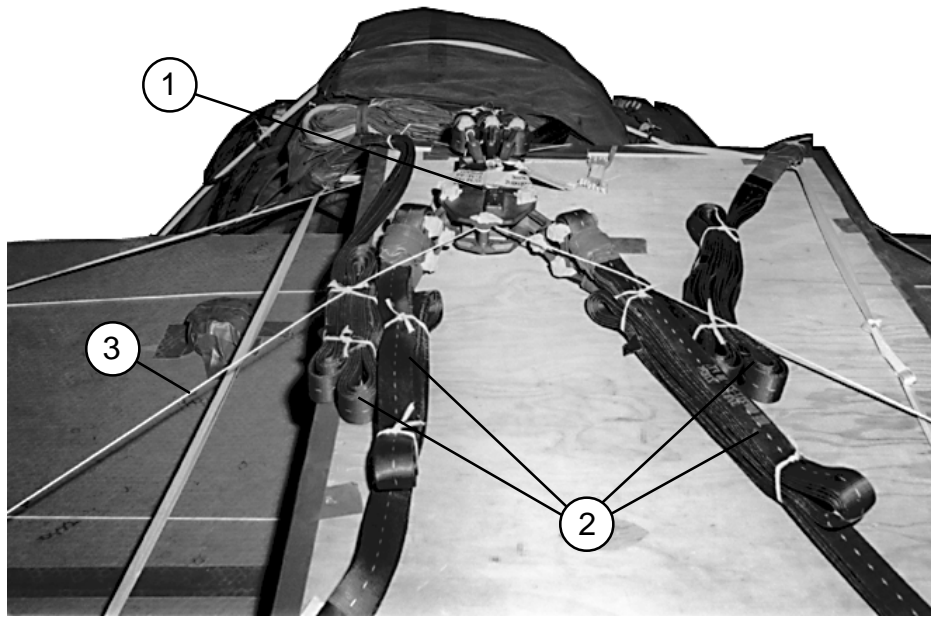


Figure 3-29. Cargo Parachutes Stowed

**INSTALLING PARACHUTE RELEASE**

3-41. Prepare and install an M-1 cargo parachute release according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 3-30.



- ① Place the M-1 release in front of the upper parachute on the plywood turret cover.
- ② S-fold the slack in the suspension slings. Tie the folds with type I 1/4-inch cotton webbing.
- ③ Attach the suspension slings and the riser extensions to the release. Tie the release to convenient points on the load with type III nylon cord tied over the suspension slings.

**Figure 3-30. M-1 Cargo Parachute Release Installed**

### **INSTALLING EXTRACTION SYSTEM**

3-42. Install the EFTC extraction system according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 2-23.

### **INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS**

3-43. Install the provisions for emergency restraints on the load according to FM 4-20.102/TO 13C7-1-5.

### **PLACING EXTRACTION PARACHUTE**

3-44. Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 4-20.102/TO 13C7-1-5. Rig the extraction line in an extraction line bag according to TM 10-1670-286-20/TO 13C5-2-41. Place the extraction parachute and extraction line on the load for installation in the aircraft.

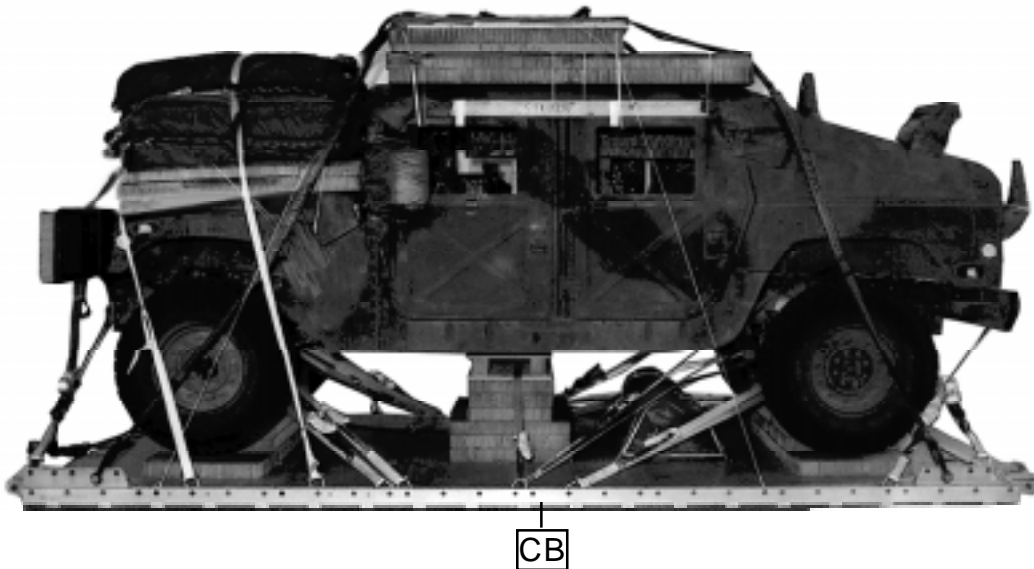
### **MARKING RIGGED LOAD**

3-45. Mark the rigged load according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 3-31. Complete Shipper's Declaration for Dangerous Goods according to AFJMAN 24-204/TM 38-250. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

### **EQUIPMENT REQUIRED**

3-46. Use the equipment listed in Table 3-3 to rig this load. The equipment for rigging the accompanying load is included in Table 3-1.

**CAUTION**  
**Make the final rigger inspection required by FM 4-20.102/  
 TO 13C7-1-5 before the load leaves the rigging site.**



**RIGGED LOAD DATA**

Weight: Load shown .....	11,389 pounds
Maximum load allowed .....	11,500 pounds
Height (with three G-11 parachutes) .....	98 inches
Width .....	108 inches
Length (overall) .....	215 inches
Overhang: Front .....	0 inches
Rear (EFTC).....	18 inches
CB (from front edge of platform) .....	97 inches

**Figure 3-31. M1025 Armament Carrier Rigged With Striker for Low-Velocity Airdrop  
 on a 16-Foot Platform**



**Table 3-3. Equipment Required for Rigging Striker Carrier on a 16-Ft Airdrop Platform**

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5785	Coupling assembly, airdrop, extraction force transfer with cable, 16-ft	1
1670-00-360-0328	Cover: Clevis, large	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 (line bag)	2
1670-01-062-6313	Line, drogue (for C-17) 60-ft (3-loop), type XXVI	1
1670-01-062-6313	Line, extraction: For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
1670-01-062-6313	For C-5: 60-ft, (3-loop), type XXVI and	1
1670-01-107-7651	140-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
5306-00-435-8994	Link Assembly: Two-point: Bolt, 1-in diam, 4-in long	7 (14)
5310-00-232-5165	Nut, 1-in, hexagonal	(14)
1670-00-003-1953	Plate, side, 3 3/4-in	(14)
5365-00-007-3414	Spacer, large	(14)
5510-00-220-6146	Lumber: 2- by 4-in	As required
5510-00-220-6448	2- by 6-in	As required
5510-00-220-6274	4- by 4-in	As required
5315-00-010-4659	Nail, steel wire, 8d	As required

**Table 3-3. Equipment Required for Rigging Striker Carrier on a 16-Ft Airdrop Platform  
(continued)**

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating (honeycomb) 3- by 36- by 96-in	13 sheets
1670-01-016-7841	Parachute: Cargo: G-11B	3
1670-01-063-3716	Cargo extraction: 22-ft (for C-17 aircraft, use H-block with this parachute)	1
1670-01-063-3715	Drogue (for C-17) 15-ft	1
1670-01-353-8425	Platform, airdrop, type V, 16-ft Bracket assembly, EFTC	(1)
1670-01-162-2372	Clevis assembly, type V	(20)
1670-01-162-2376	Bracket assembly, extraction	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(4)
5530-00-128-4981	Plywood, 3/4-in	4 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1
1670-01-063-7761	Sling, cargo, airdrop For suspension: 16-ft (2-loop), type XXVI nylon webbing	4
1670-01-062-6304	For lifting: 9-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6304	For deployment: 9-ft (2-loop), type XXVI nylon webbing	1
1670-01-062-6302	For riser extension: 20-ft (2-loop), type XXVI nylon webbing	6
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	21
1670-01-344-0825	Vehicle drive-off aid	1
8305-00-268-2411	Webbing: Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

**CHAPTER 4****RIGGING EXPANDED CAPACITY HMMWV-SERIES TRUCKS  
FOR LOW-VELOCITY AIRDROP****SECTION I - RIGGING M1113 TRUCK WITH M56 SMOKE GENERATOR  
ON A 16-FOOT PLATFORM****DESCRIPTION OF LOAD**

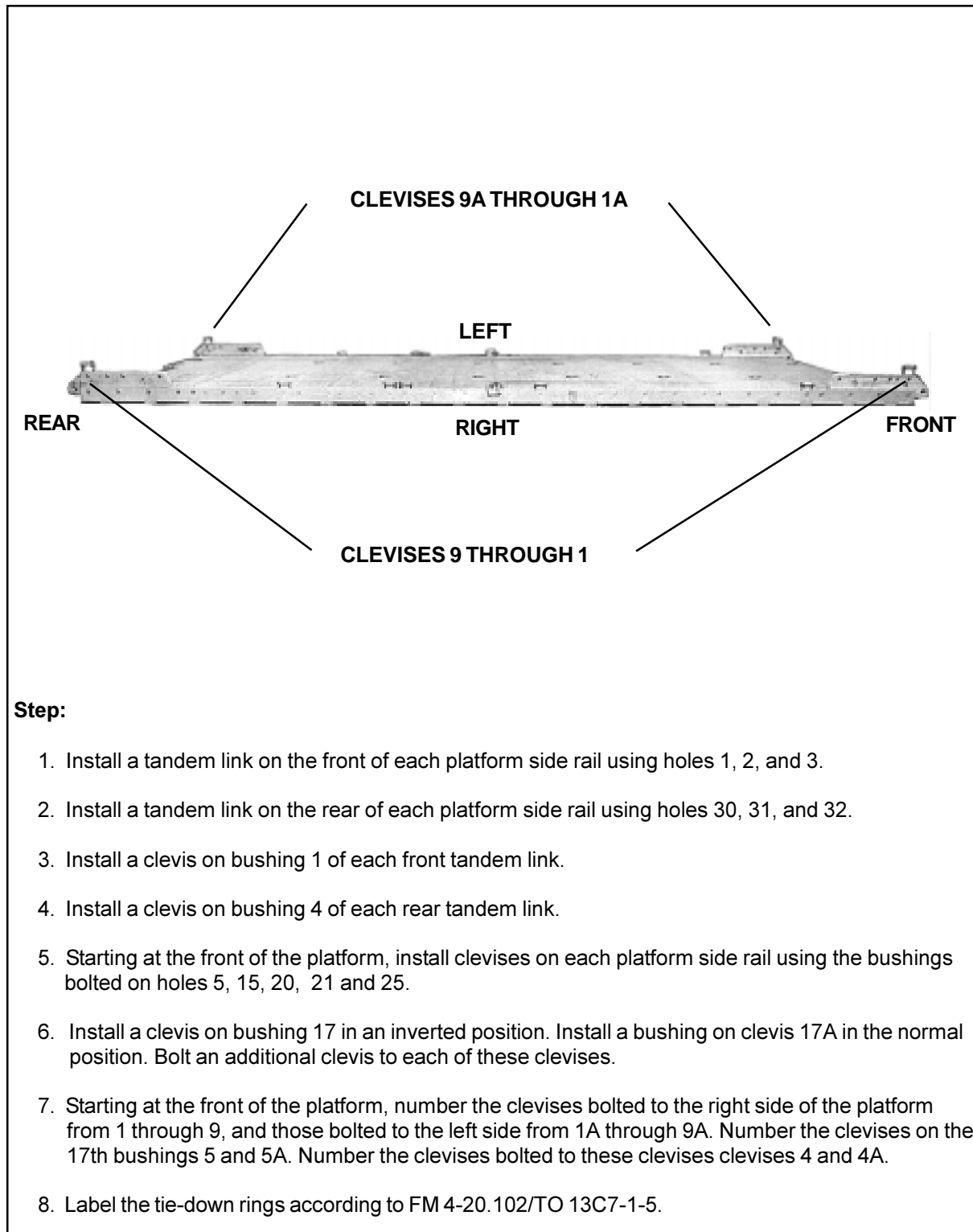
4-1. The M1113 HMMWV-series truck has a heavy-duty suspension and is rigged the same as the M998 truck except as noted. The truck is rigged on a 16-foot, type V airdrop platform for low-velocity airdrop. The M56 Smoke Generator is shown as the accompanying load. The procedure for rigging the M56 smoke generator in the truck is given in this chapter. An accompanying load weighing a minimum of 800 pounds and a maximum of 2,500 pounds must be rigged in the truck. The load requires three G-11 cargo parachutes.

**PREPARING PLATFORM**

4-2. Prepare a 16-foot, type V airdrop platform according to TM 10-1670-268-20&P/TO 13C7-52-22. Install four tandem links and 18 load tie-down clevises according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 4-1.

**NOTES:**

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



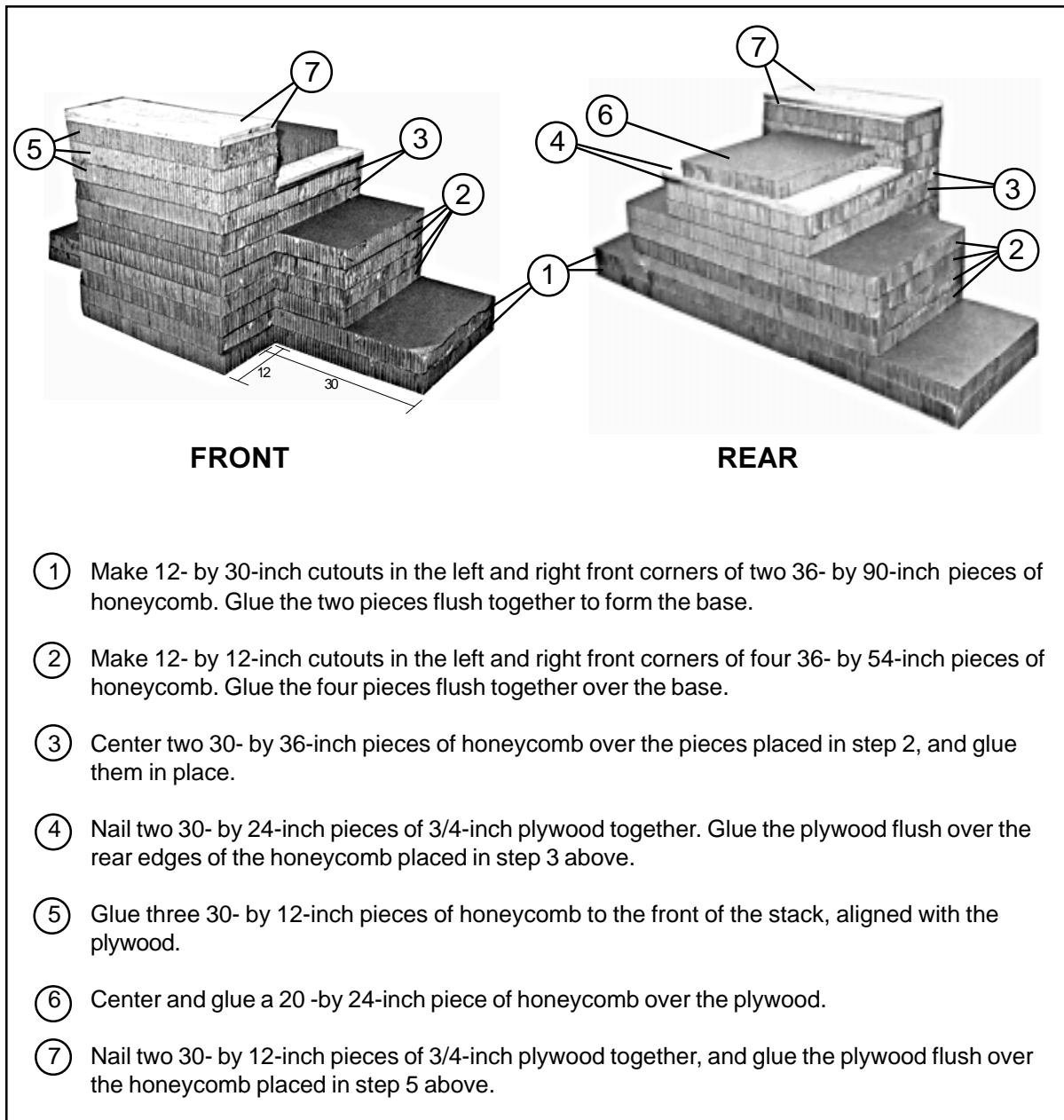
**Step:**

1. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
2. Install a tandem link on the rear of each platform side rail using holes 30, 31, and 32.
3. Install a clevis on bushing 1 of each front tandem link.
4. Install a clevis on bushing 4 of each rear tandem link.
5. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 5, 15, 20, 21 and 25.
6. Install a clevis on bushing 17 in an inverted position. Install a bushing on clevis 17A in the normal position. Bolt an additional clevis to each of these clevises.
7. Starting at the front of the platform, number the clevises bolted to the right side of the platform from 1 through 9, and those bolted to the left side from 1A through 9A. Number the clevises on the 17th bushings 5 and 5A. Number the clevises bolted to these clevises clevises 4 and 4A.
8. Label the tie-down rings according to FM 4-20.102/TO 13C7-1-5.

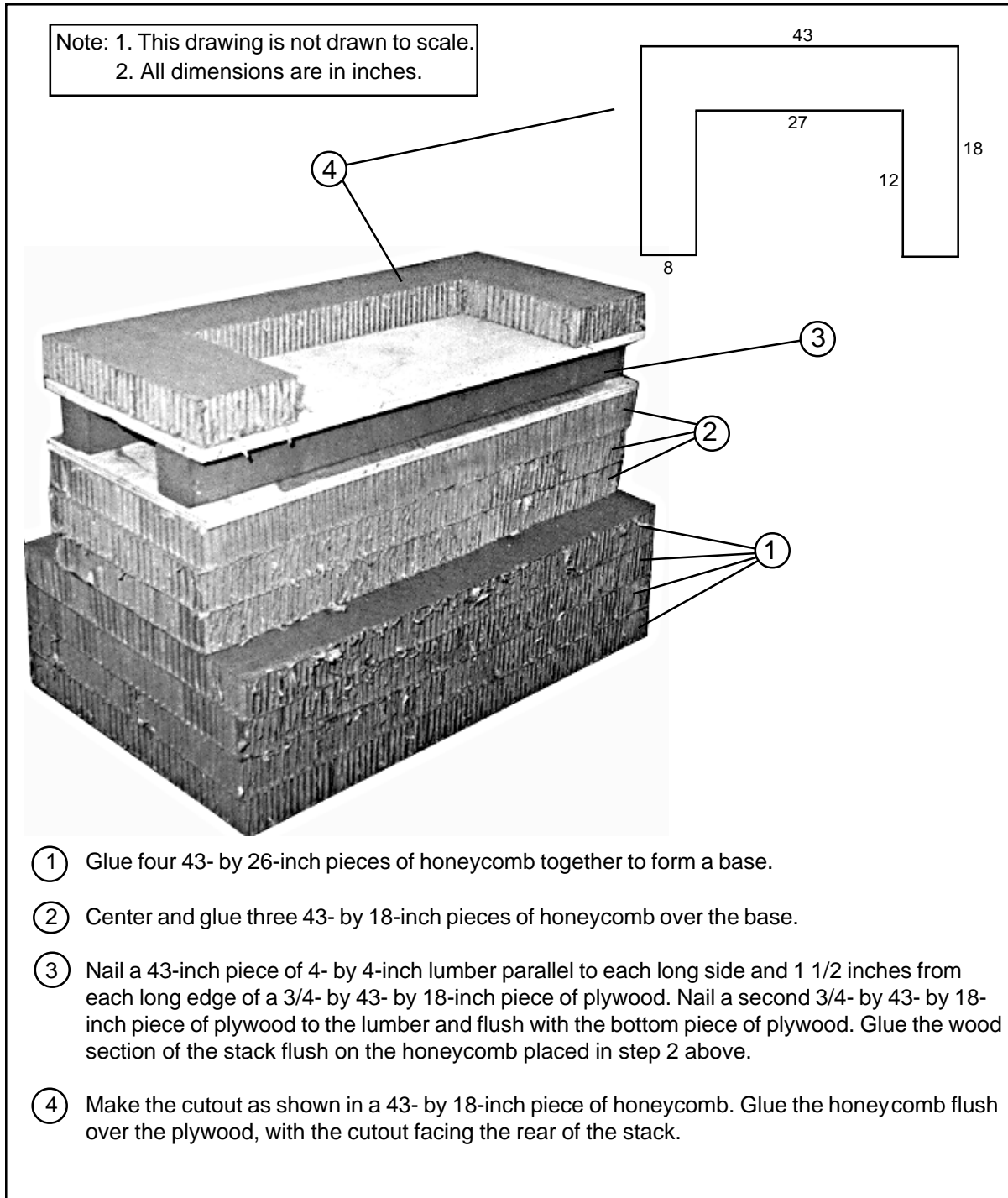
**Figure 4-1. Platform Prepared**

## PREPARING AND POSITIONING HONEYCOMB STACKS

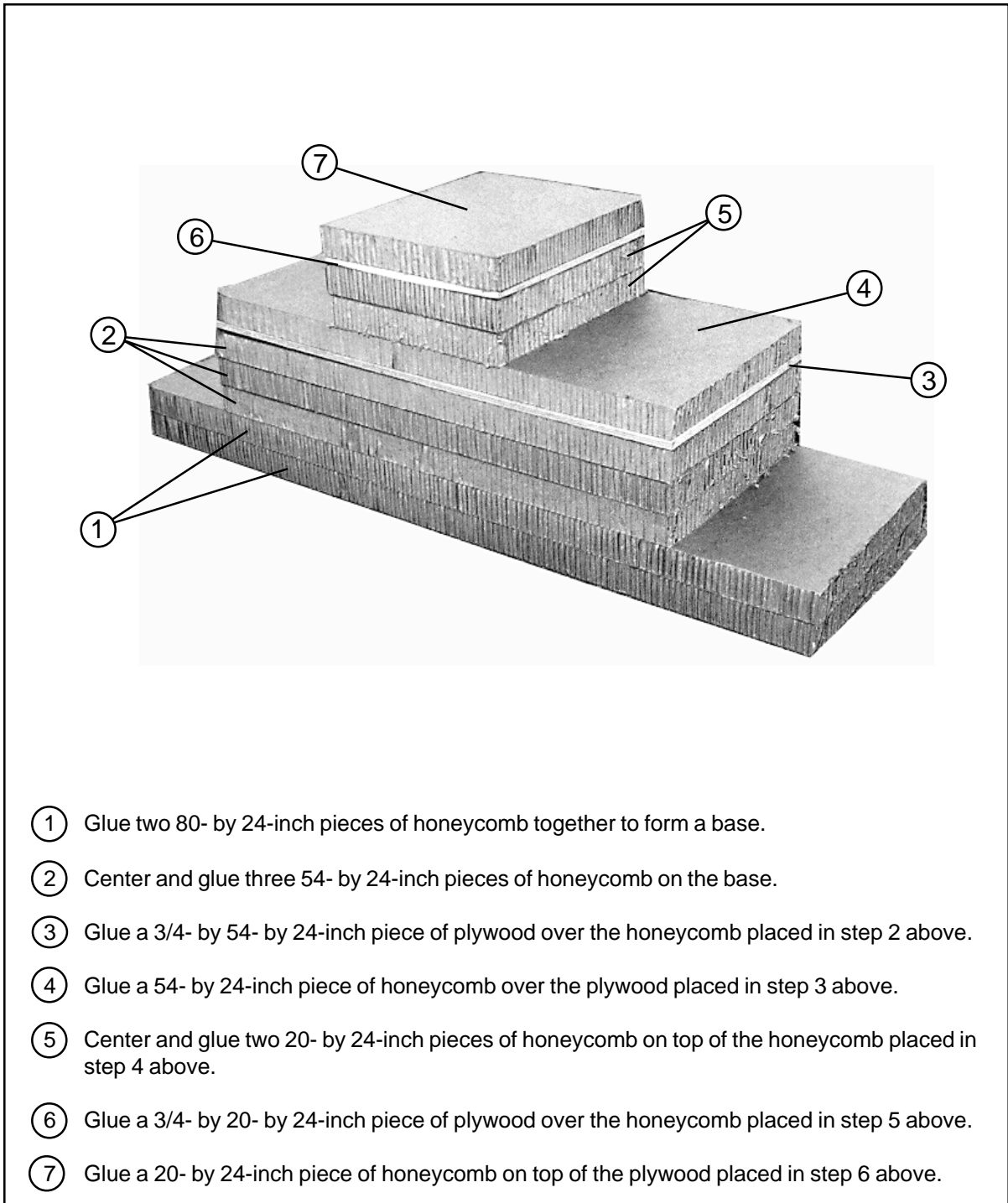
4-3. Build the honeycomb stacks as shown in Figures 4-2 through 4-4. Position the stacks on the platform as shown in Figure 4-5.



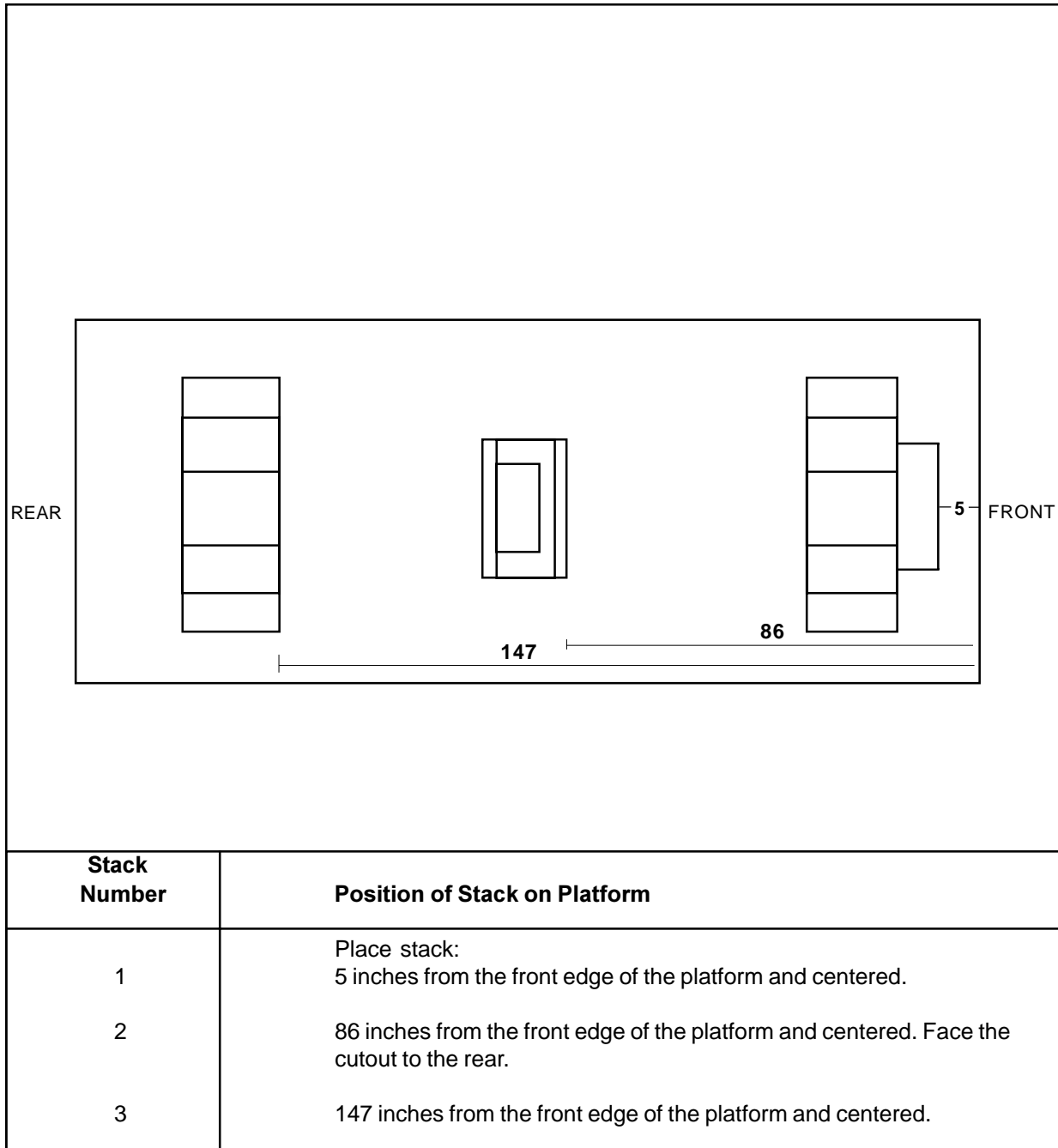
**Figure 4-2. Stack 1 Constructed**



**Figure 4-3. Stack 2 Constructed**



**Figure 4-4. Stack 3 Constructed**



**Figure 4-5. Honeycomb Stacks Positioned on Platform**



## PREPARING TRUCK AND SMOKE GENERATOR

4-4. Prepare the truck and the smoke generator as described below.

*a.* Prepare the truck as described in Paragraphs 2-4a through e, and h, and as shown in Figures 2-6 and 2-7.

*b.* Remove the pioneer tool kit from the rear underside of the truck and stow it in the cargo bed.

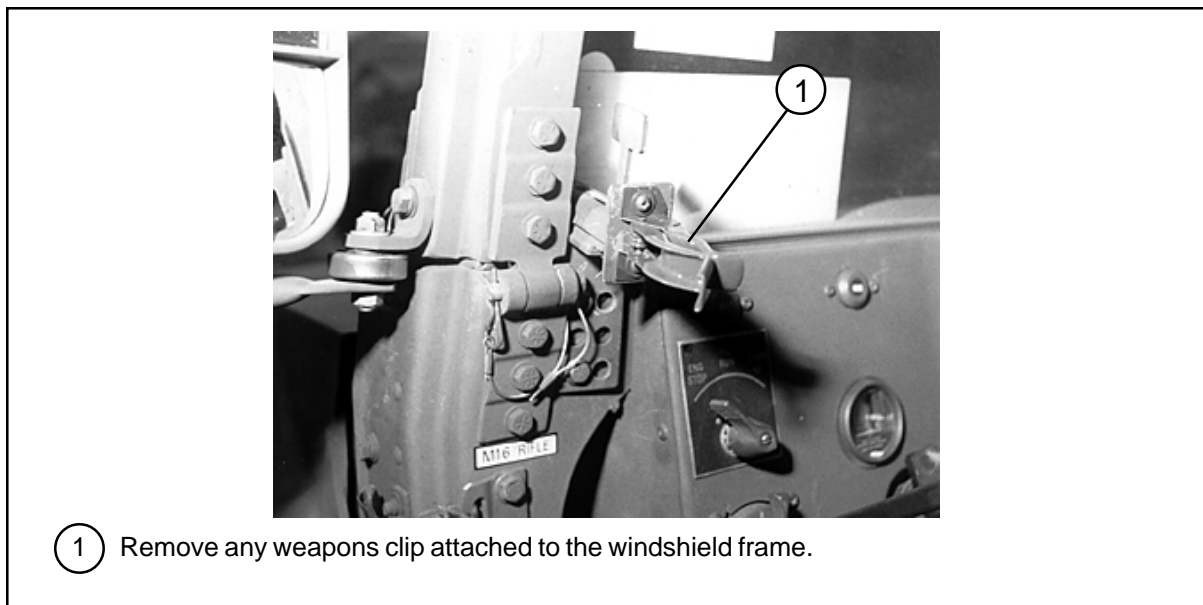
*c.* Prepare the cab of the truck as shown in Figure 2-8, and remove the rifle clips as shown in Figure 4-6.

*d.* Secure and pad radio equipment in the cab as shown in Figure 2-9.

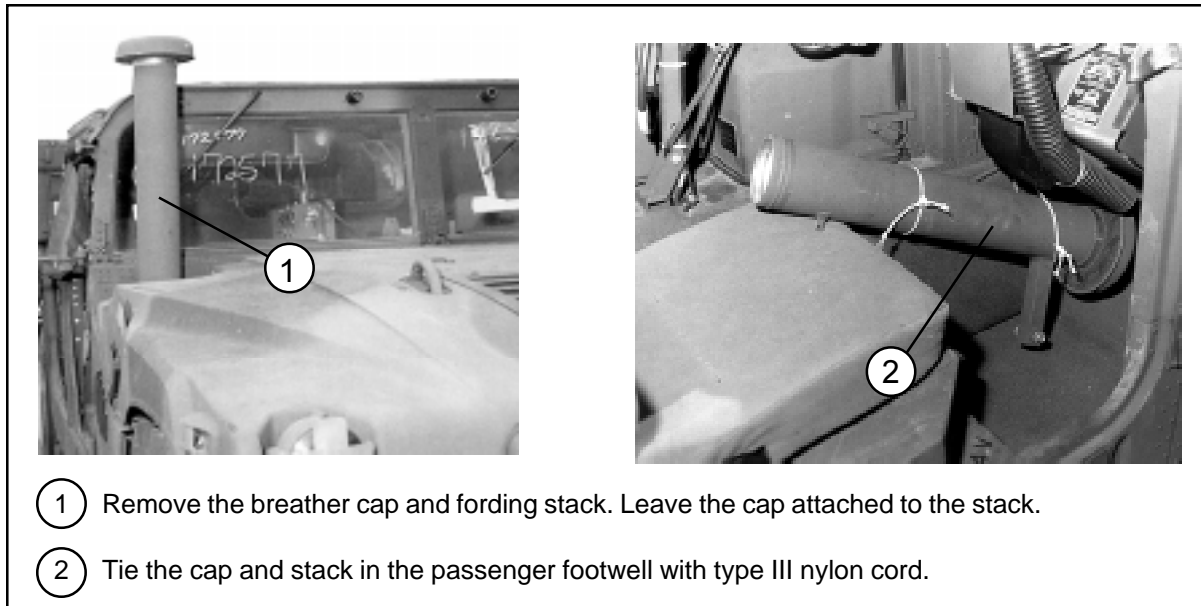
*e.* Remove the breather cap and fording stack and stow them in the truck as shown in Figure 4-7.

*f.* Prepare the front of the truck as shown in Figure 2-10. Use the modification shown in Figure 4-8. Place a 4- by 78-inch piece of honeycomb along the front edge of the hood. Also, cover the hood with one piece of honeycomb cut as shown in Figure 2-10, step 6, instead of with two pieces.

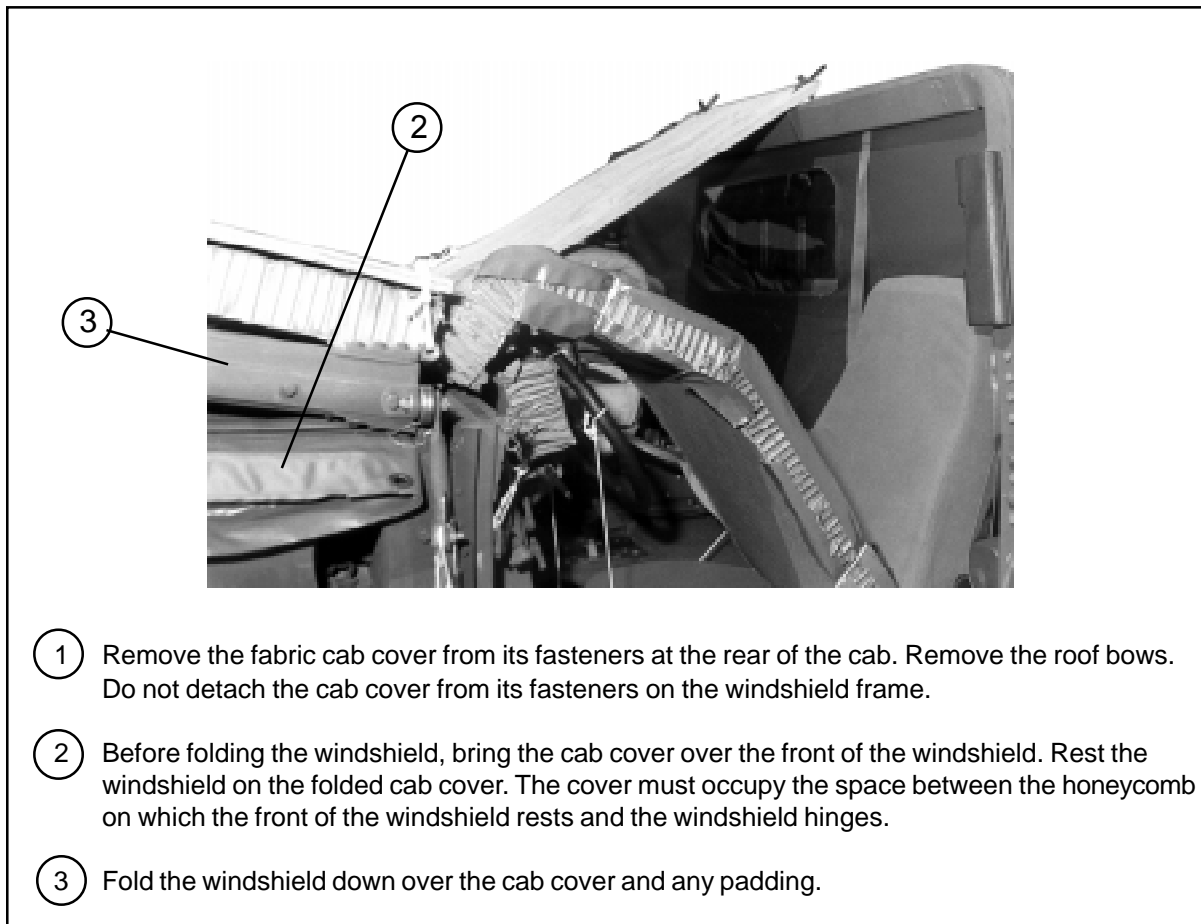
*g.* Prepare the truck body as shown in Figure 2-13.



**Figure 4-6. Weapons Clip**

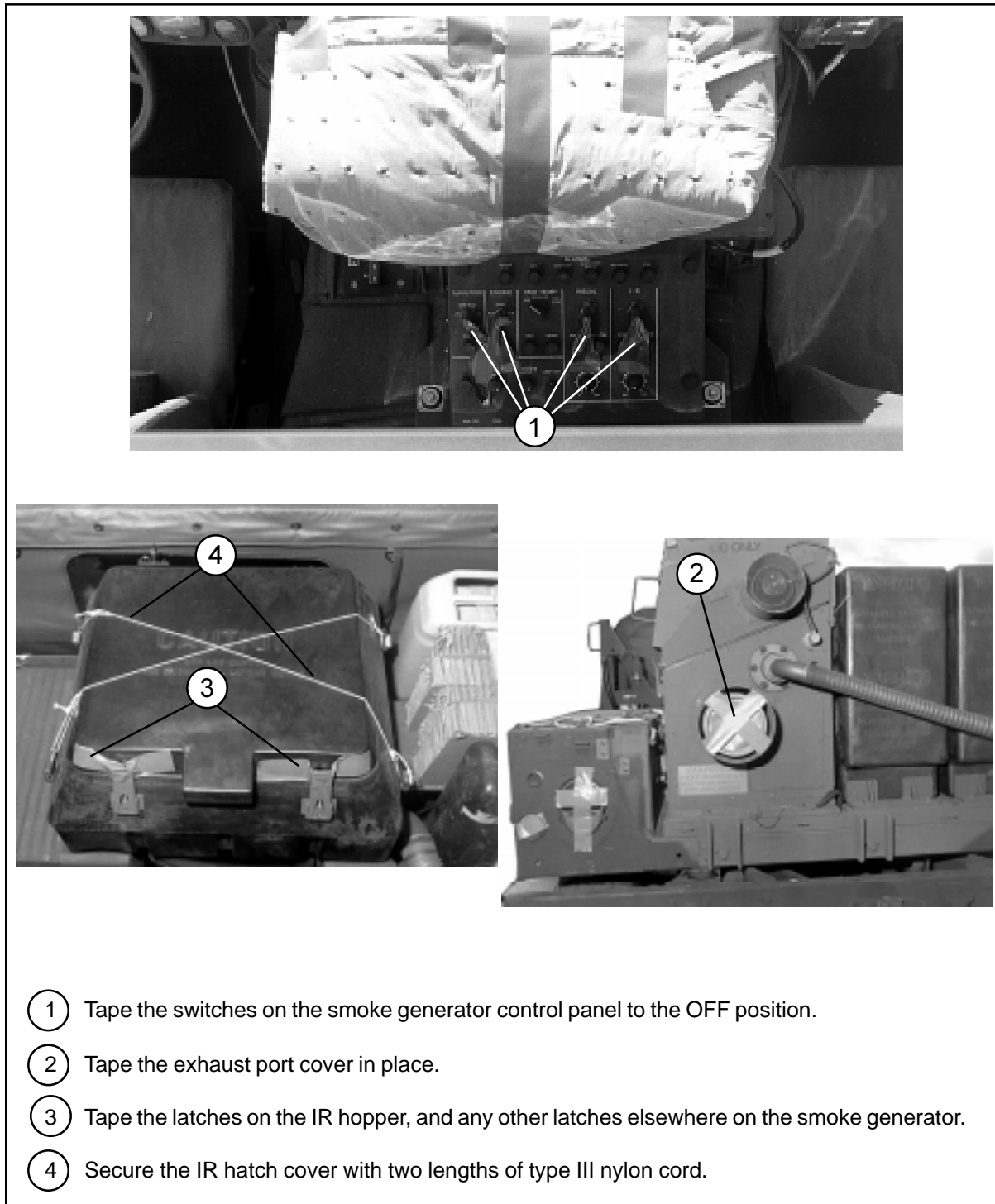


**Figure 4-7. Fording Kit Removed and Stowed**



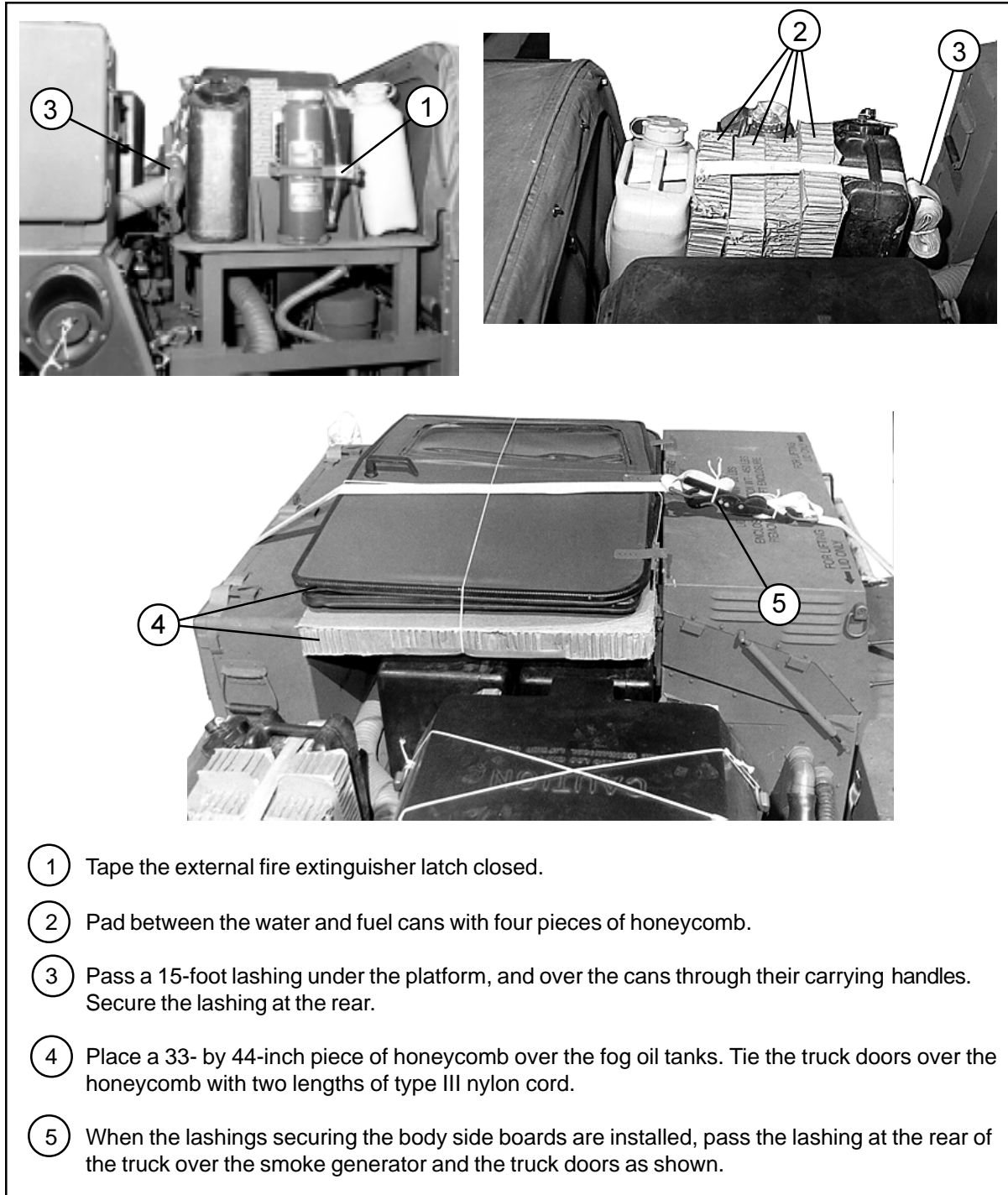
**Figure 4-8. Windshield Folded Over the Cab Cover**

*h.* Prepare the smoke generator as shown in Figure 4-9.



**Figure 4-9. Smoke Generator Prepared**

*i.* Stow and secure the smoke generator equipment and truck doors as shown in Figure 4-10.



- ① Tape the external fire extinguisher latch closed.
- ② Pad between the water and fuel cans with four pieces of honeycomb.
- ③ Pass a 15-foot lashing under the platform, and over the cans through their carrying handles. Secure the lashing at the rear.
- ④ Place a 33- by 44-inch piece of honeycomb over the fog oil tanks. Tie the truck doors over the honeycomb with two lengths of type III nylon cord.
- ⑤ When the lashings securing the body side boards are installed, pass the lashing at the rear of the truck over the smoke generator and the truck doors as shown.

**Figure 4-10. Fuel Cans, Water Cans, and Truck Doors Secured**

## LIFTING AND POSITIONING TRUCK, INSTALLING OPTIONAL DRIVE-OFF AIDS, AND STOWING SPREADER BAR

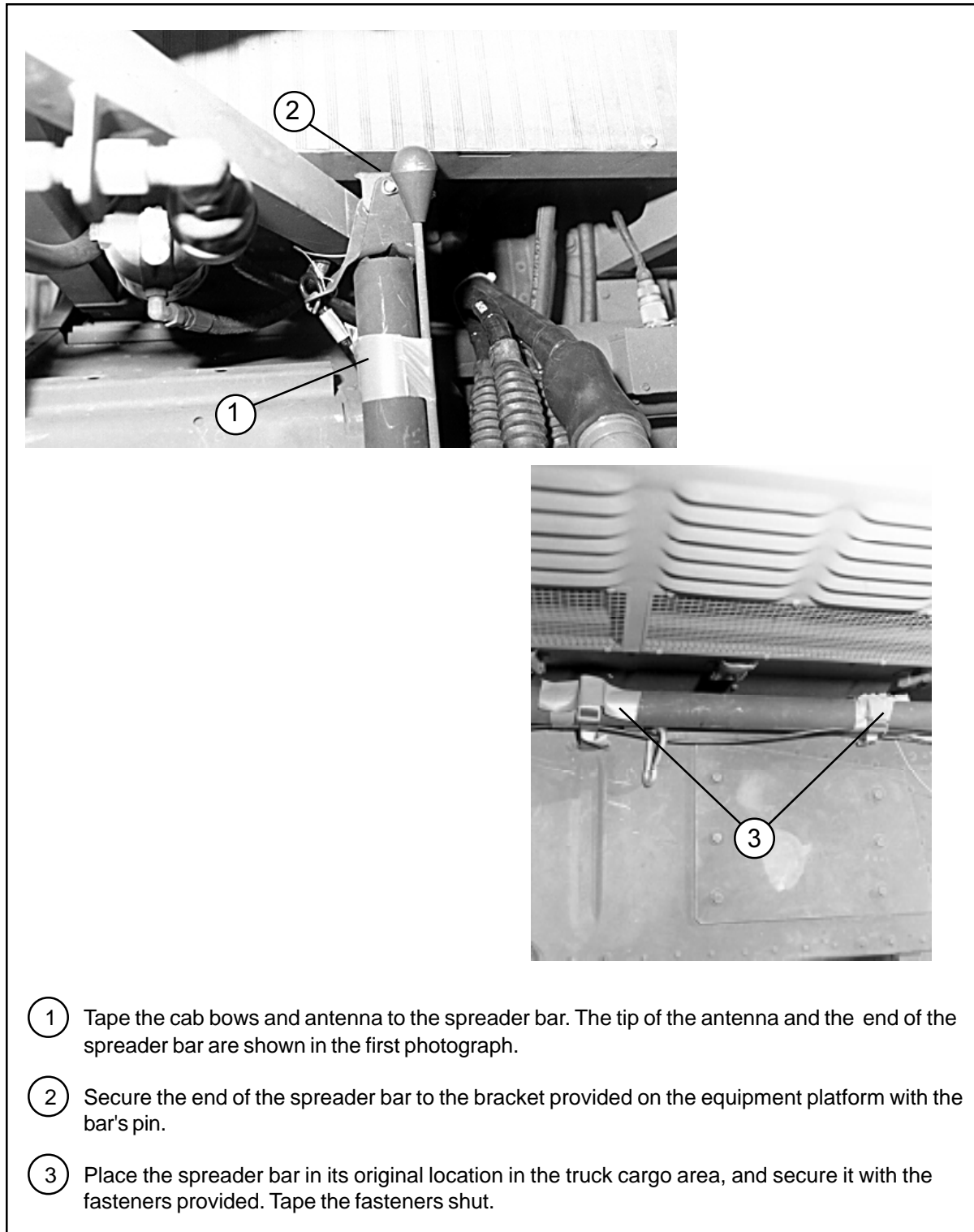
4-5. Install the optional drive-off aids on the platform as shown in Figure 2-15. Install lifting slings on the truck and position the truck on the honeycomb stacks as shown in Figure 2-16. Install the spreader bar assembly on the lifting slings to protect the smoke generator from damage.

**CAUTION**  
**USE OF THE SPREADER BAR IS ESSENTIAL.**  
**FAILURE TO COMPLY WILL RESULT**  
**IN DAMAGE TO THE EQUIPMENT.**

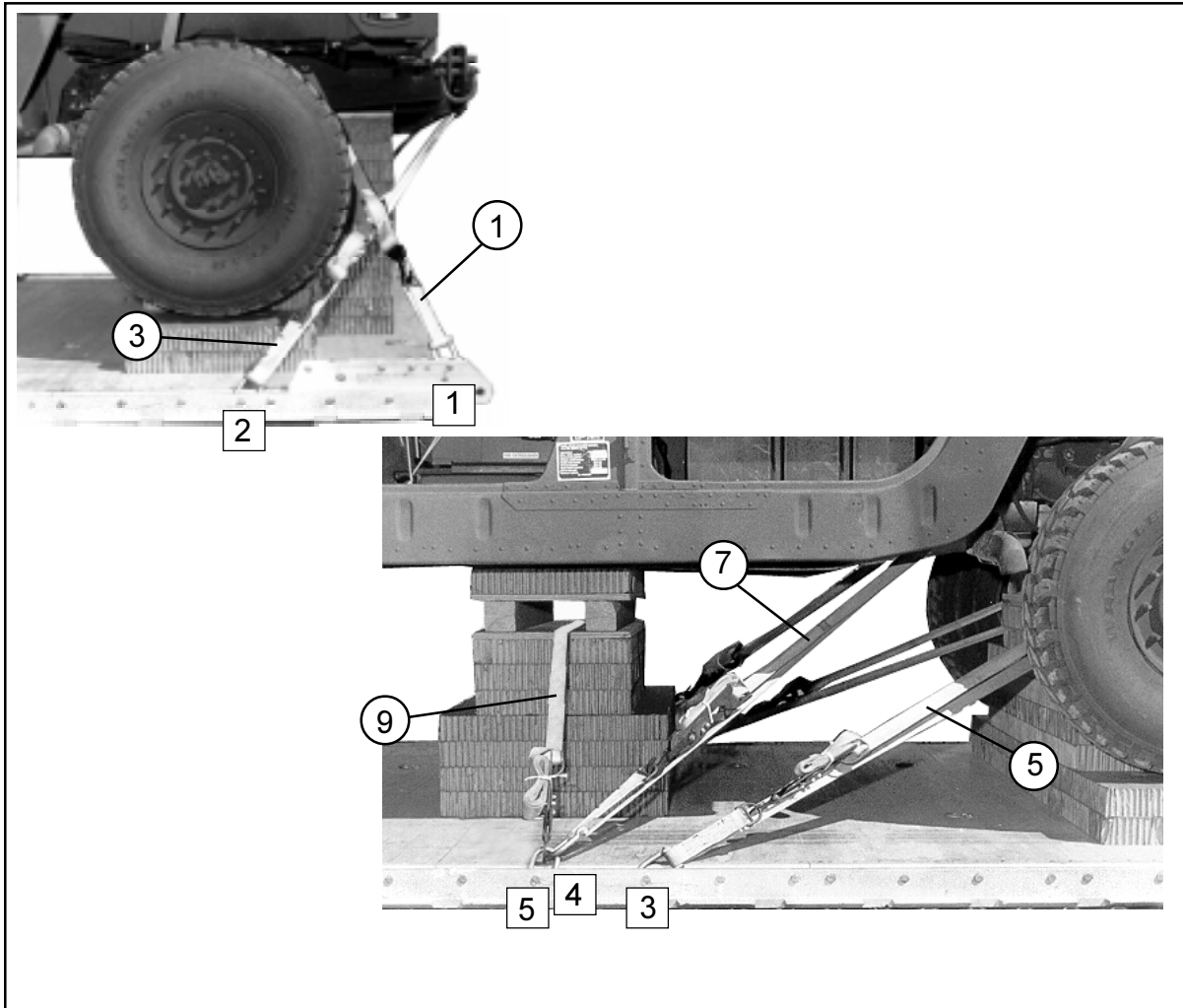
Install the drive-off aids, if used, to the rear wheels of the truck as shown in Figure 2-17. Stow the spreader bar, roof bows, and whip antenna as shown in Figure 4-11.

## LASHING TRUCK

4-6. Lash the truck to the platform with fifteen 15-foot tie-down assemblies as shown in Figures 4-12 and 4-13, and according to FM 4-20.102/TO 13C7-1-5.

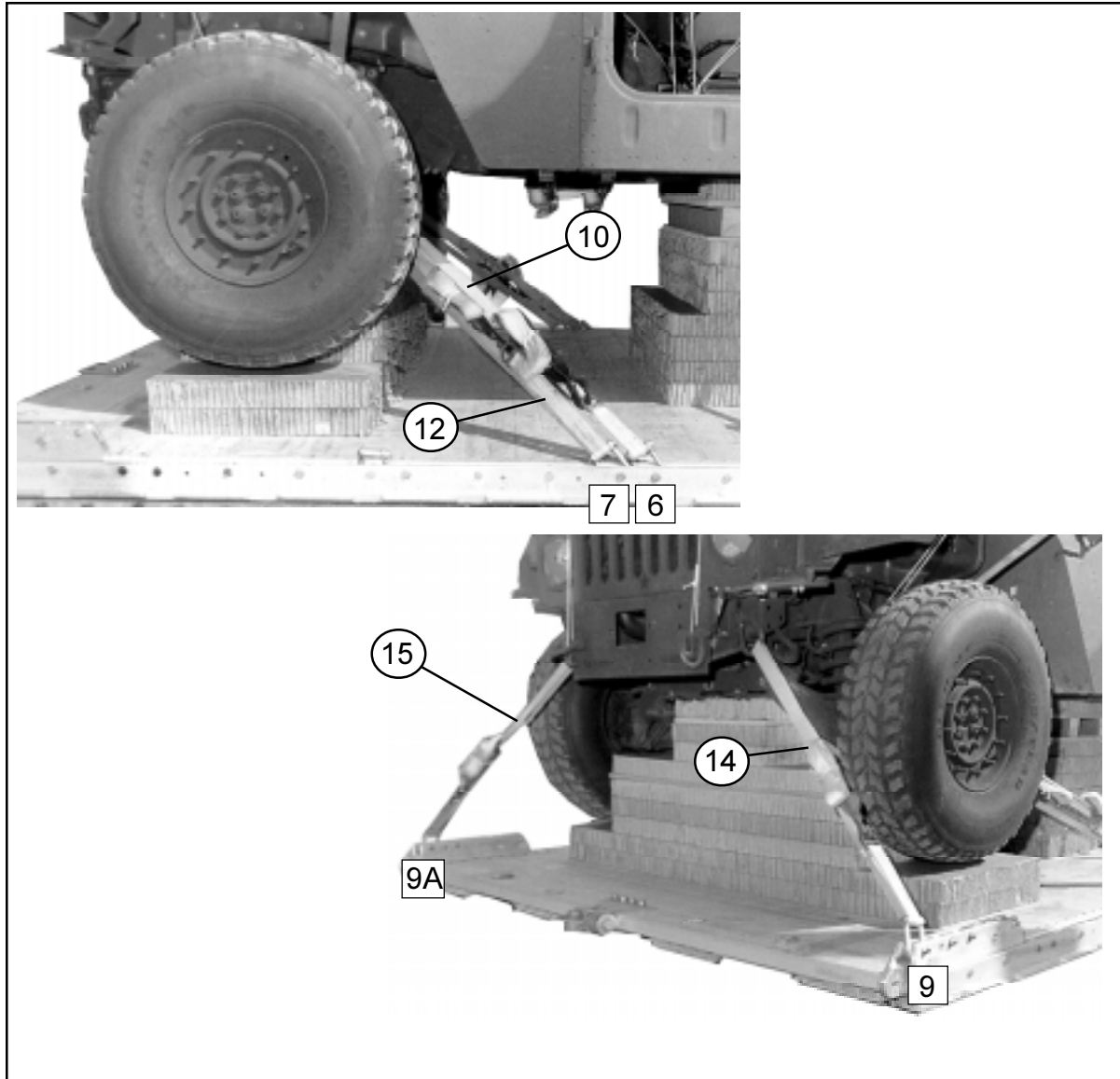


**Figure 4-11. Spreader Bar, Antenna, and Cab Bows Stowed**



Lashing Number	Tie-down Clevis Number	Instructions
1	1	Pass lashing:
2	1A	Through tie-down bracket behind left rear coil spring.
3	2	Through tie-down bracket behind right rear coil spring.
4	2A	Through left rear lifting shackle.
5	3	Through right rear lifting shackle.
6	3A	Around left rear lower control arm.
7	4	Around right rear lower control arm.
8	4A	Through tie-down bracket in front of left rear coil spring.
9	5 and 5A	Through tie-down bracket in front of right rear coil spring.
		Pass a 15-foot lashing through clevis 5A and through its own D-ring. Pass the lashing through the hole in stack 2. Attach the lashing to clevis 5 with a load binder.

Figure 4-12. Lashings 1 Through 9 Installed



Lashing Number	Tie-down Clevis Number	Instructions
10	6	Pass lashing:
11	6A	Through tie-down bracket behind left front coil spring.
12	7	Through tie-down bracket behind right front coil spring.
13	7A	Around left lower control arm.
14	9	Around right lower control arm.
15	9A	Through tie-down bracket on end of left frame rail.
		Through tie-down bracket on end of right frame rail.

Figure 4-13. Lashings 10 Through 15 Installed



## **INSTALLING AND SAFETY TYING SUSPENSION SLINGS**

4-7. Install and safety tie four 16-foot (2-loop), type XXVI nylon suspension slings as shown in Figure 2-20.

## **STOWING CARGO PARACHUTES**

4-8. Stow and restrain three G-11 cargo parachutes on the load according to FM 4-20.102/TO 13C7-1-5. Install two type VIII nylon webbing restraint straps. Tie the front restraint straps to clevises 8 and 8A. Tie the rear restraint straps to the 27th bushings on the platform side rails.

## **INSTALLING PARACHUTE RELEASE**

4-9. Prepare and install an M-1 cargo parachute release according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 2-22 .

## **INSTALLING EXTRACTION SYSTEM**

4-10. Install the EFTC extraction system according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 2-23.

## **INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS**

4-11. Install provisions for emergency restraints according to FM 4-20.102/TO 13C7-1-5.

## **PLACING EXTRACTION PARACHUTE**

4-12. Select the extraction parachute and extraction line needed, using the extraction line requirements table in FM 4-20.102/TO 13C7-1-5. Rig the extraction line in a line bag according to TM 10-1670-286-20/TO 13C5-2-41. Place the extraction parachute and extraction line on the load for installation in the aircraft.

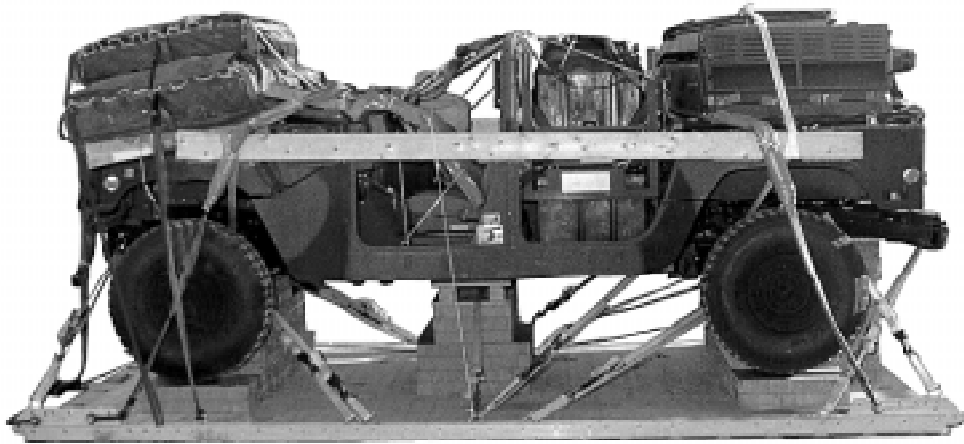
**MARKING RIGGED LOAD**

4-13. Mark the rigged load according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 4-14. Complete Shipper's Declaration for Dangerous Goods according to AFJMAN 24-204/TM 38-250. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

**EQUIPMENT REQUIRED**

4-14. Use the equipment listed in Table 4-1 to rig this load.

**CAUTION**  
**Make the final rigger inspection required by FM 4-20.102/  
 TO 13C7-1-5 before the load leaves the rigging site.**



CB

**RIGGED LOAD DATA**

Weight: Load shown .....	11,960 pounds
Maximum load allowed .....	12,710 pounds
Height (with three G-11B parachutes) .....	97 inches
Width .....	108 inches
Length (overall) .....	215 inches
Overhang: Front .....	8 inches
Rear (EFTC) .....	18 inches
CB (from front edge of platform) .....	91 inches

**Figure 4-14. M56 Smoke Generator Rigged in M1113 Truck for Low-Velocity Airdrop**

**Table 4-1. Equipment Required for Rigging the M1113 truck with M56 Smoke Generator for Low-Velocity Airdrop**

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5785	Coupling assembly, airdrop, extraction force transfer with cable, 16-ft	1
1670-00-360-0328	Cover, clevis, large	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 (line bag)	2
1670-01-064-4452	Line, drogue (for C-17) 60-ft (3-loop), type XXVI	1
1670-01-062-6313	Line, extraction: For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
1670-01-062-6313	For C-5: 60-ft (3-loop), type XXVI and	1
1670-01-107-7651	140-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
5306-00-435-8994	Link assembly, Two-point: Bolt, 1-in diam, 4-in long	1 (2)
5310-00-232-5165	Nut, 1-in, hexagonal	(2)
1670-00-003-1953	Plate, side, 3 3/4-in	(2)
5365-00-007-3414	Spacer, large	(2)
5510-00-220-6448	Lumber: 2- by 6-in	As required
5510-00-220-6274	4- by 4-in	As required
5315-00-010-4659	Nail, steel wire, 8d	As required

**Table 4-1. Equipment Required for Rigging the M1113 Truck with M56 Smoke Generator for Low-Velocity Airdrop (continued)**

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating (honeycomb) 3- by 36- by 96-in	13 sheets
1670-01-016-7841	Parachute: Cargo: G-11B	3
1670-01-063-3716	Cargo extraction: 22-foot ((for C-17, use H-block with this parachute)	1
1670-01-063-3715	Drogue (for C-17) 15-ft	1
1670-01-353-8425	Platform, airdrop, type V, 16-ft Bracket assembly, EFTC	(1)
1670-01-162-2372	Clevis assembly, type V	(20)
1670-01-353-8424	Bracket assembly, extraction	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(4)
5530-00-128-4981	Plywood, 3/4-in	4 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1
1670-01-063-7761	Sling, cargo, airdrop For suspension: 16-ft (2-loop), type XXVI nylon webbing	4
1670-01-062-6304	For lifting: 9-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6304	For deployment: 9-ft (2-loop), type XXVI nylon webbing	1
1670-01-062-6313	For riser extension: 60-ft (3-loop), type XXVI nylon webbing	3
4910-01-313-8839	Spreader bar assembly	1
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	20
1670-01-344-0825	Vehicle drive-off aid	1
8305-00-268-2411	Webbing: Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

## Section II - RIGGING M1114 UP-ARMORED ARMAMENT CARRIER

### DESCRIPTION OF LOAD

4-15. The M1114 HMMWV-series truck has a heavy-duty suspension and additional armor in the sides, door, and floor. The truck is shown in Figure 4-15. The truck is rigged on a 16-foot, type V airdrop platform for low-velocity airdrop. The load requires three G-11 cargo parachutes.

### PREPARING PLATFORM

4-16. Prepare a 16-foot, type V airdrop platform according to TM 10-1670-268-20&P/TO 13C7-52-22. Install four tandem links and 18 load tie-down clevises according to FM 4-20.102/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 4-16.

#### NOTES:

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

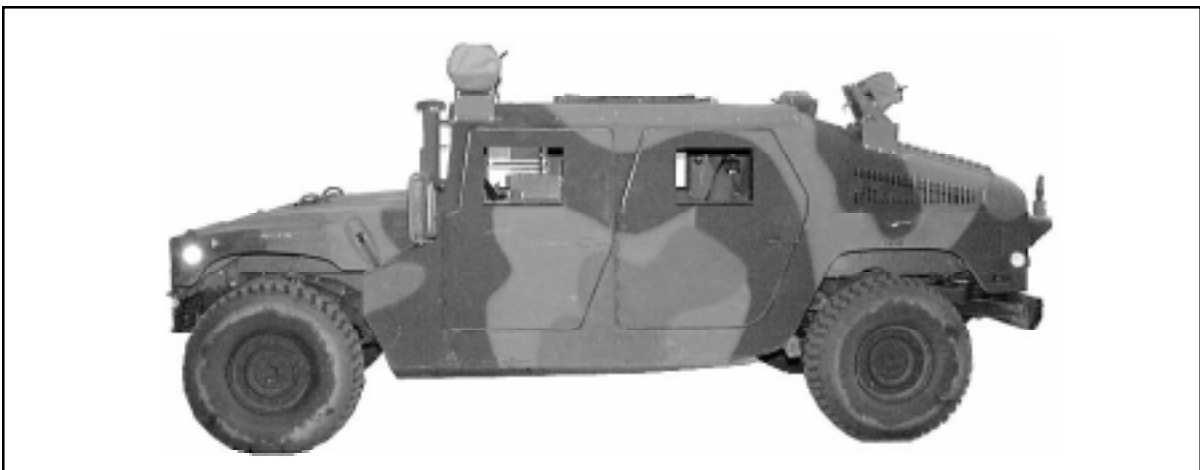
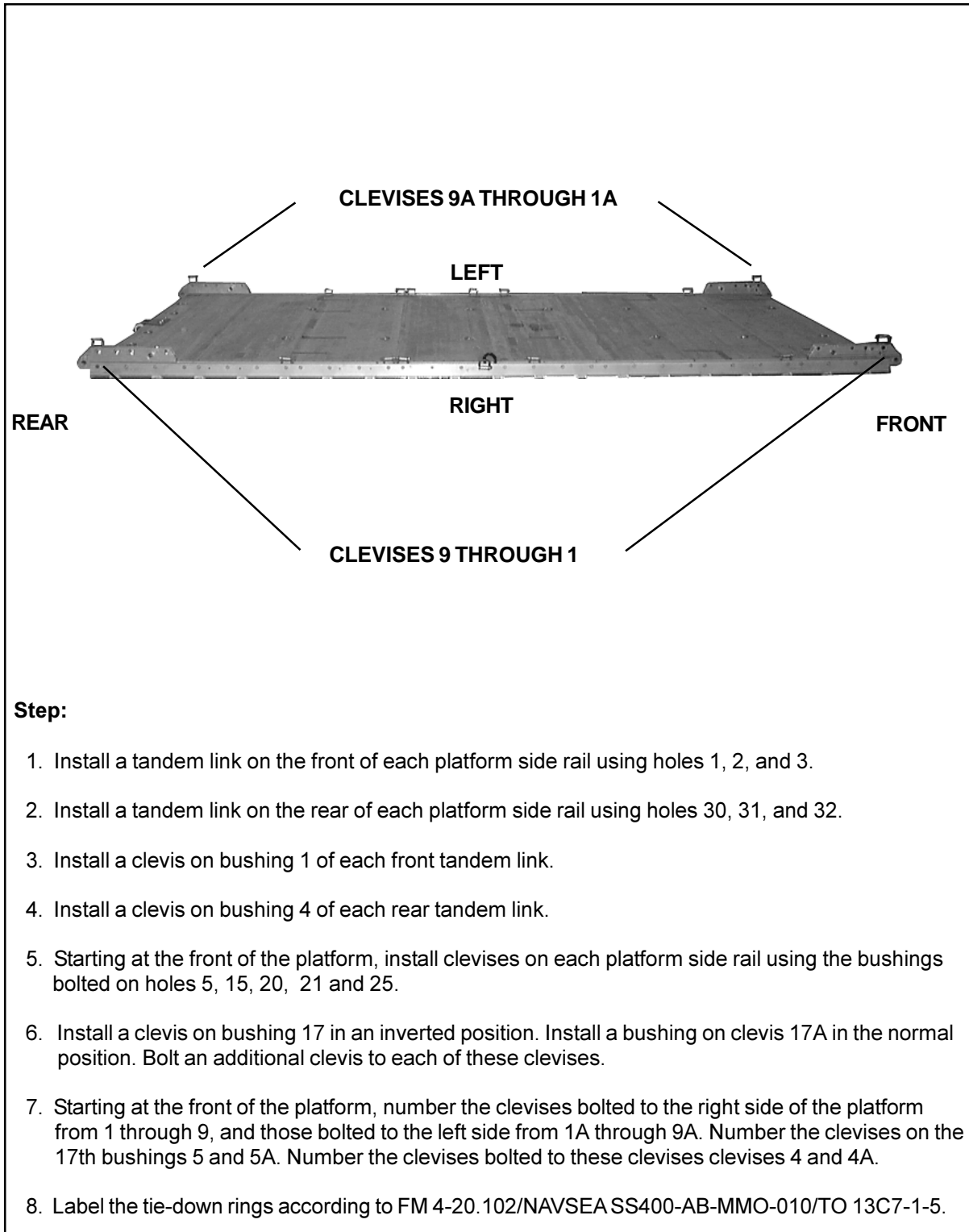


Figure 4-15. M1114 Up-Armored Armament Carrier



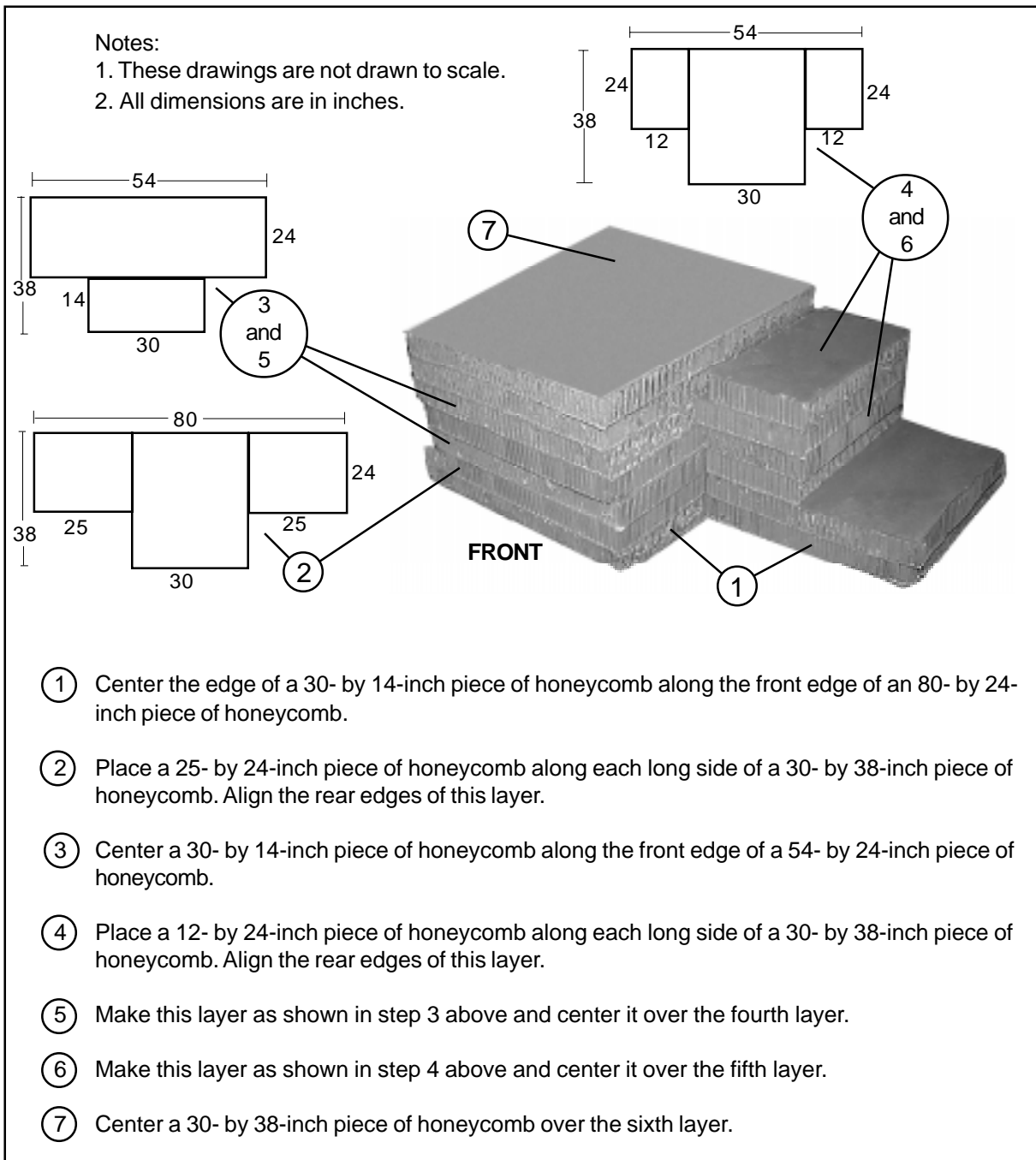
**Step:**

1. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
2. Install a tandem link on the rear of each platform side rail using holes 30, 31, and 32.
3. Install a clevis on bushing 1 of each front tandem link.
4. Install a clevis on bushing 4 of each rear tandem link.
5. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 5, 15, 20, 21 and 25.
6. Install a clevis on bushing 17 in an inverted position. Install a bushing on clevis 17A in the normal position. Bolt an additional clevis to each of these clevises.
7. Starting at the front of the platform, number the clevises bolted to the right side of the platform from 1 through 9, and those bolted to the left side from 1A through 9A. Number the clevises on the 17th bushings 5 and 5A. Number the clevises bolted to these clevises clevises 4 and 4A.
8. Label the tie-down rings according to FM 4-20.102/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

**Figure 4-16. Platform Prepared**

**PREPARING AND POSITIONING HONEYCOMB STACKS**

4-17. Build the honeycomb stacks as shown in Figures 4-17 through 4-19. Position the stacks on the platform as shown in Figure 4-20.



**Figure 4-17. Stack 1 Prepared**

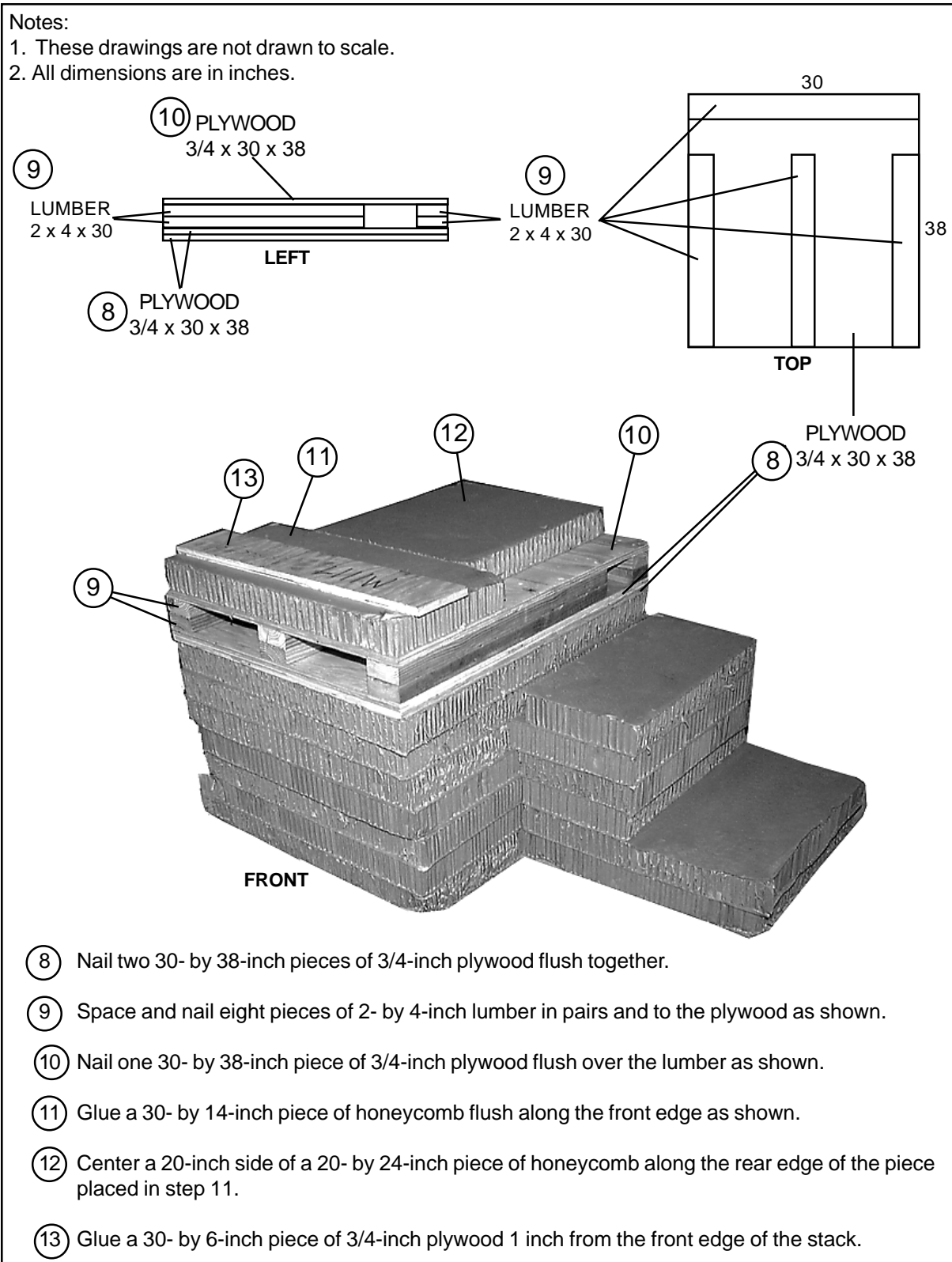


Figure 4-17. Stack 1 Prepared (continued)



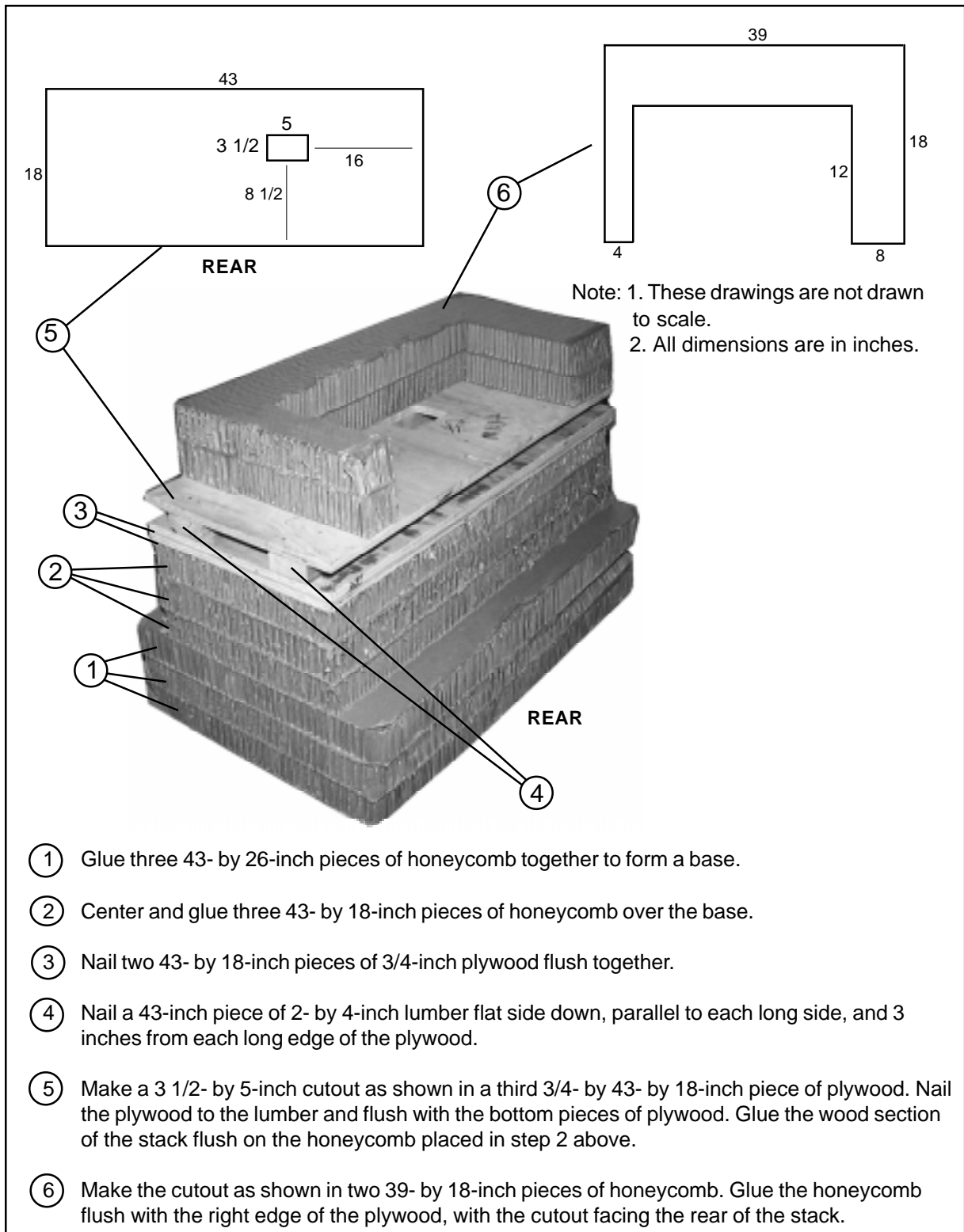
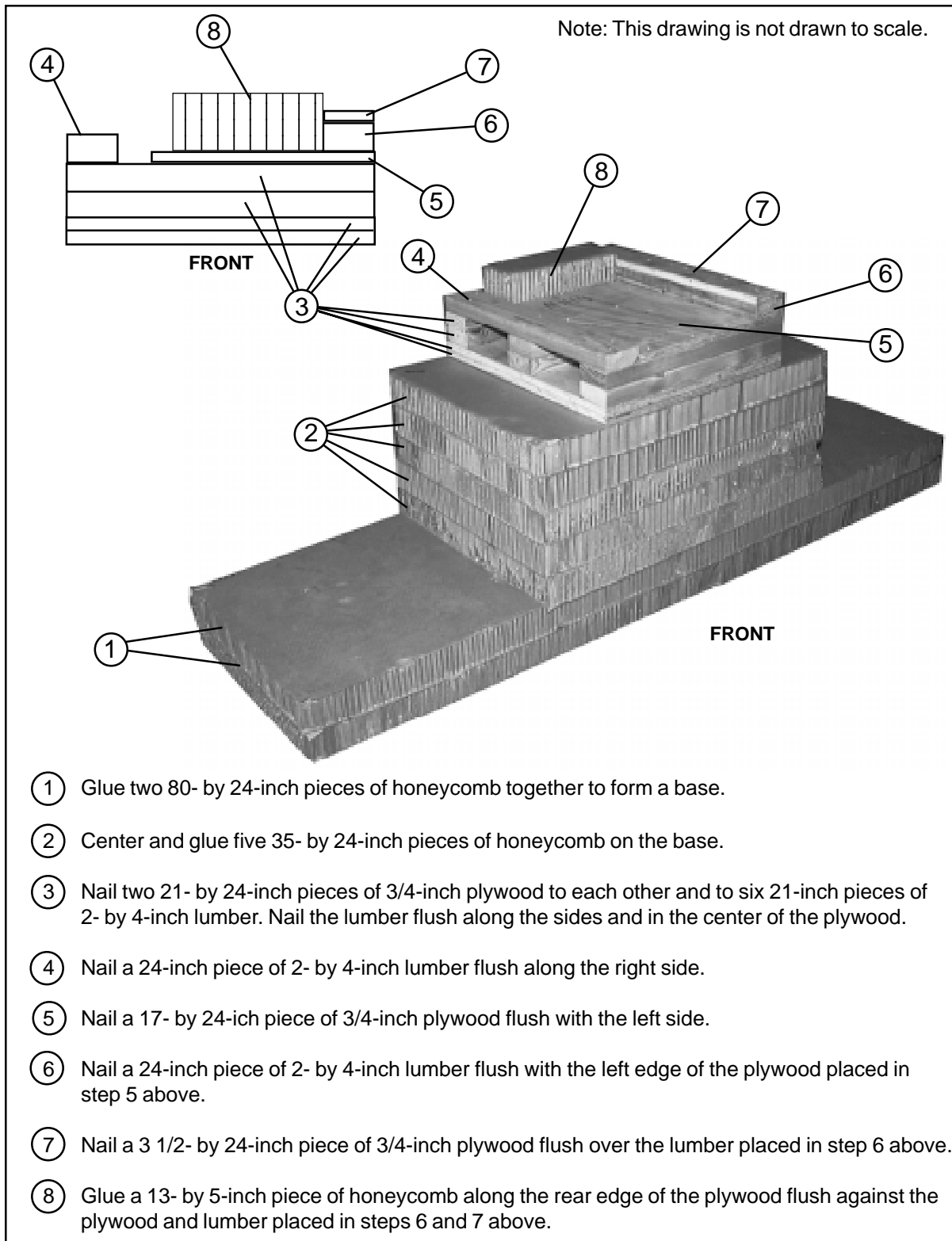
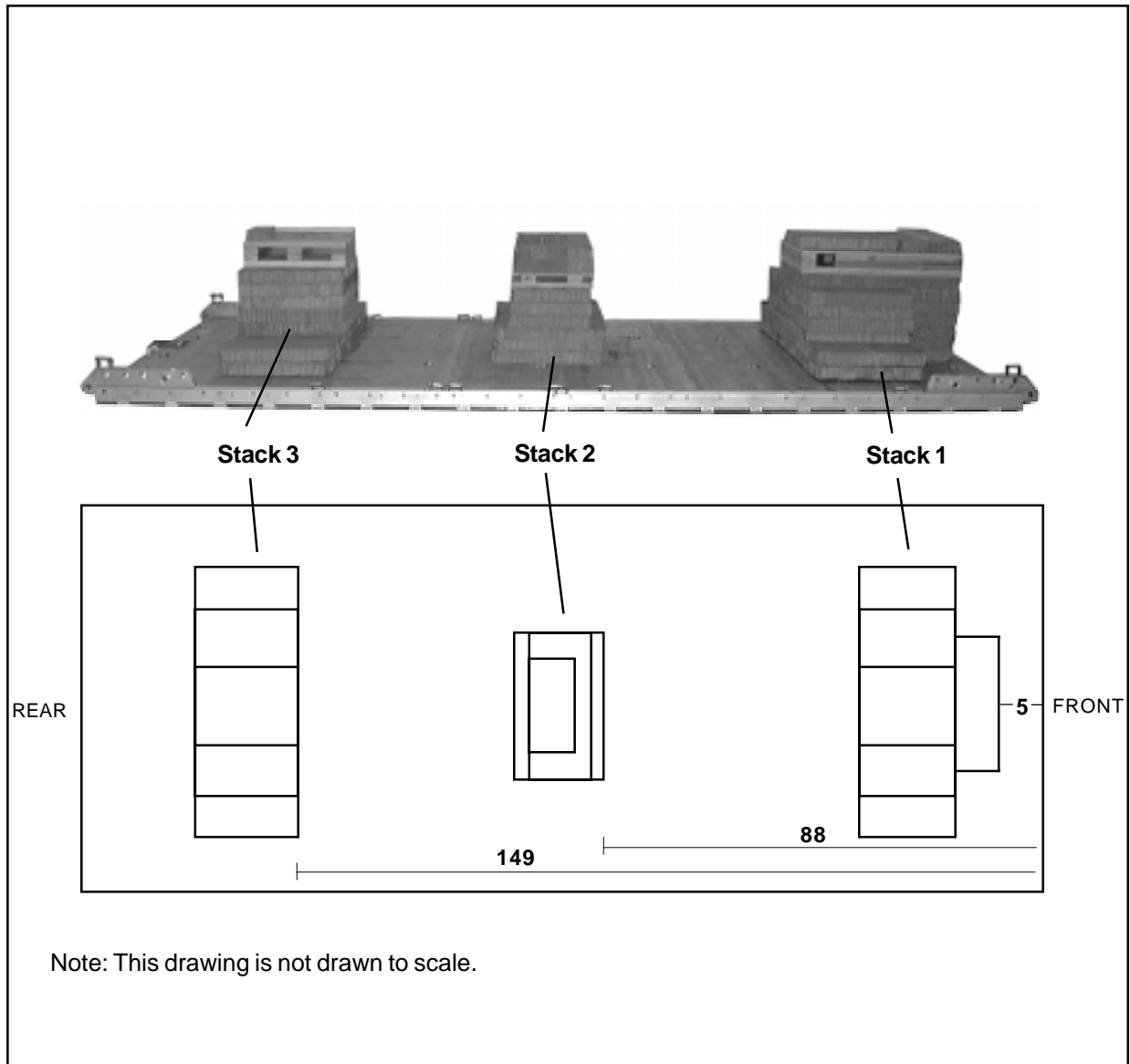


Figure 4-18. Stack 2 Prepared



**Figure 4-19. Stack 3 Prepared**



Note: This drawing is not drawn to scale.

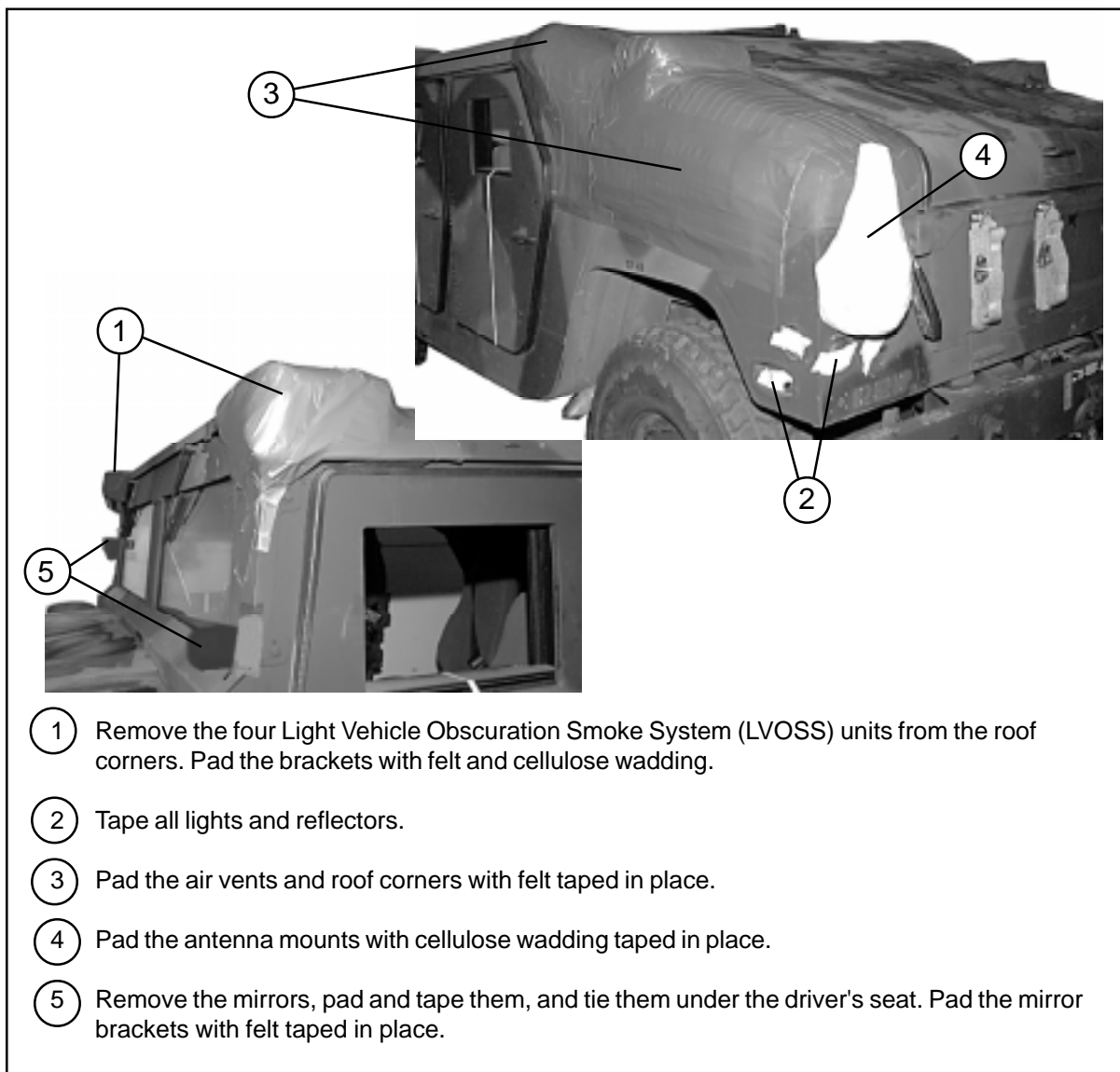
Stack Number	Position of Stack on Platform
1	Place stack: 5 inches from the front edge of the platform and centered.
2	88 inches from the front edge of the platform and centered. Face the cutout to the rear.
3	149 inches from the front edge of the platform and centered.

**Figure 4-20. Honeycomb Stacks Positioned on Platform**

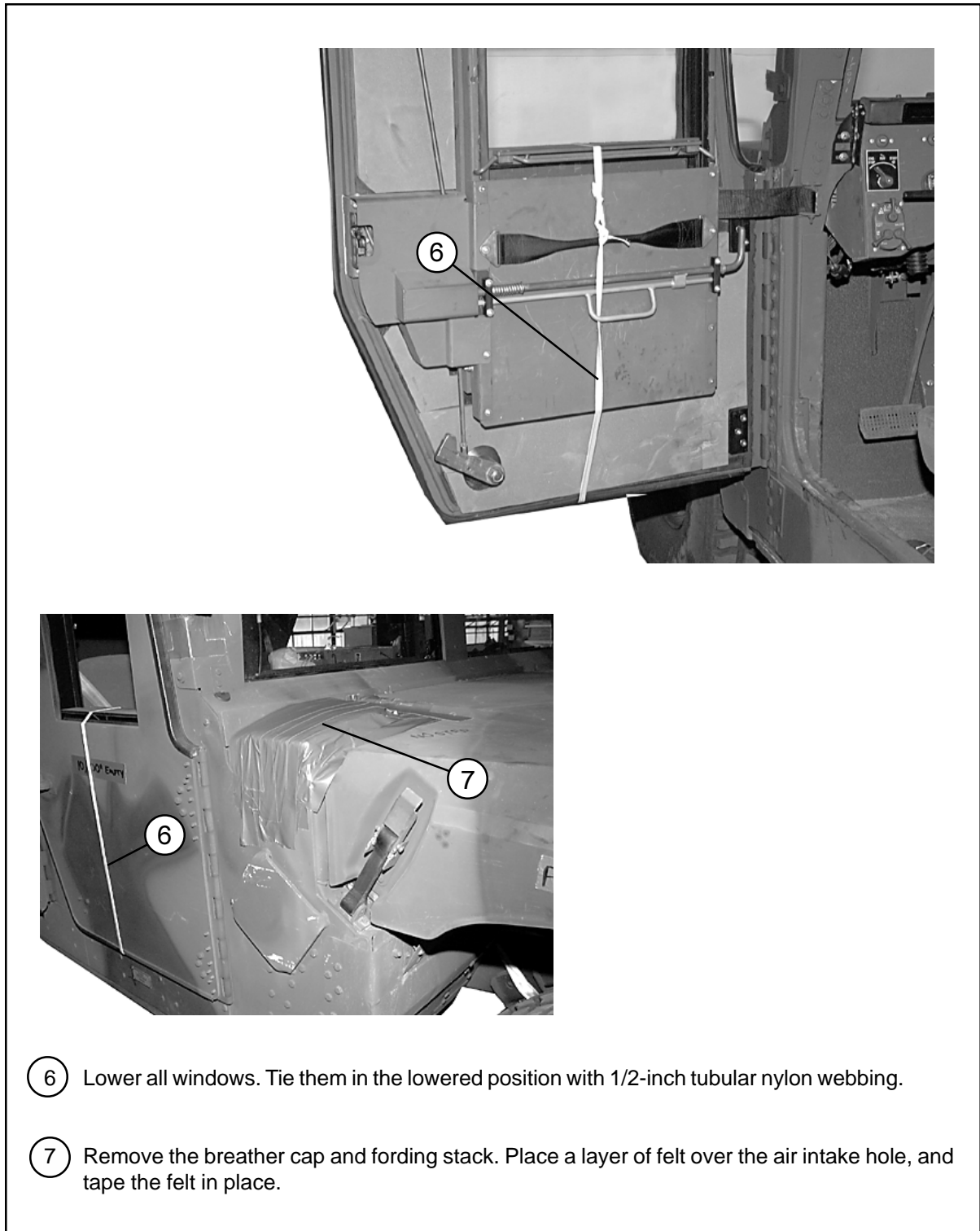
**PREPARING TRUCK**

4-18. Prepare the truck as described below.

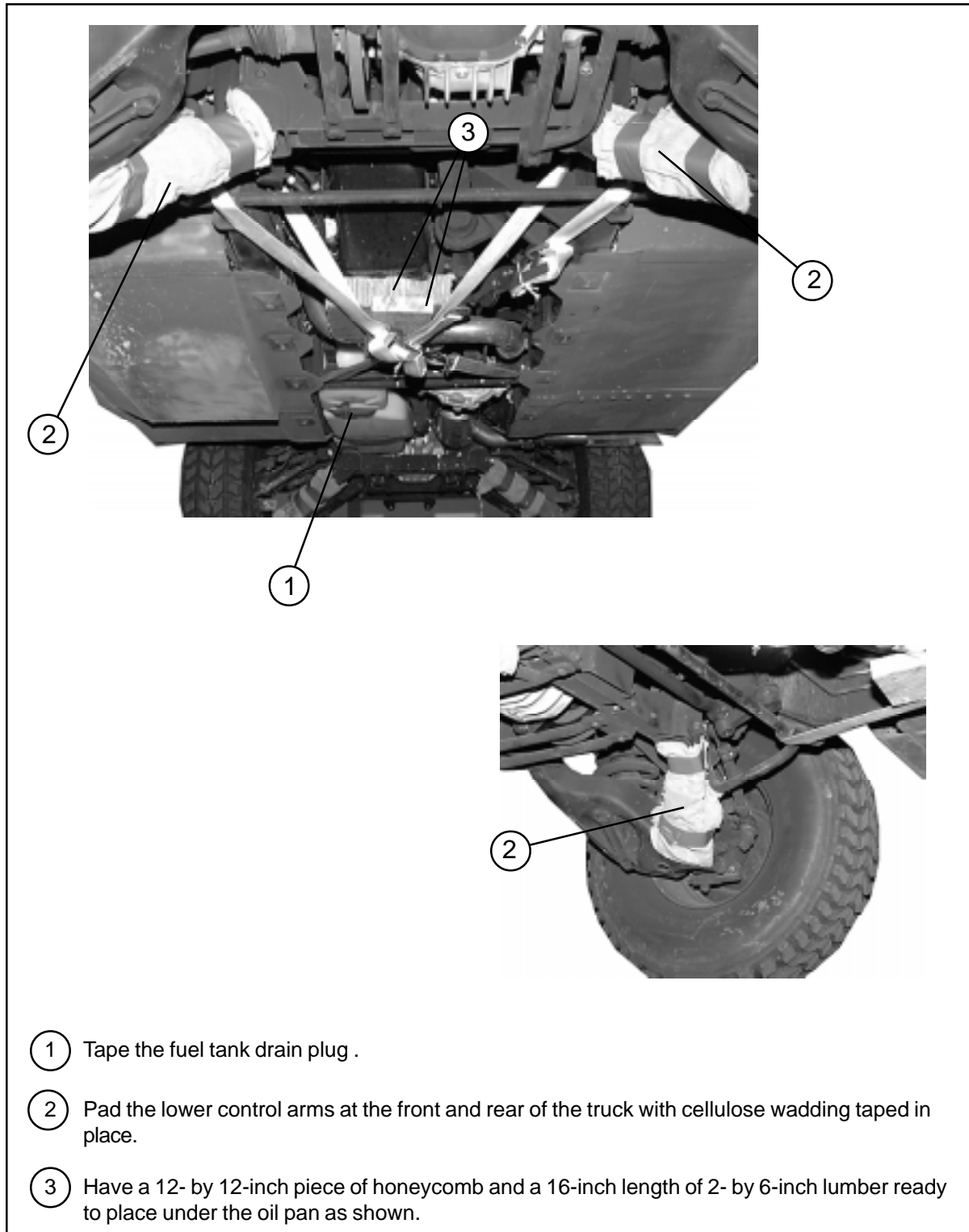
- a. Prepare the cab of the truck as shown in Figures 2-8, steps 3 through 10.
- b. Prepare the body of the truck as shown in Figure 4-21.
- c. Prepare the underside of the truck as shown in Figure 4-22.
- d. Prepare the hood and roof of the truck as shown in Figure 4-23.



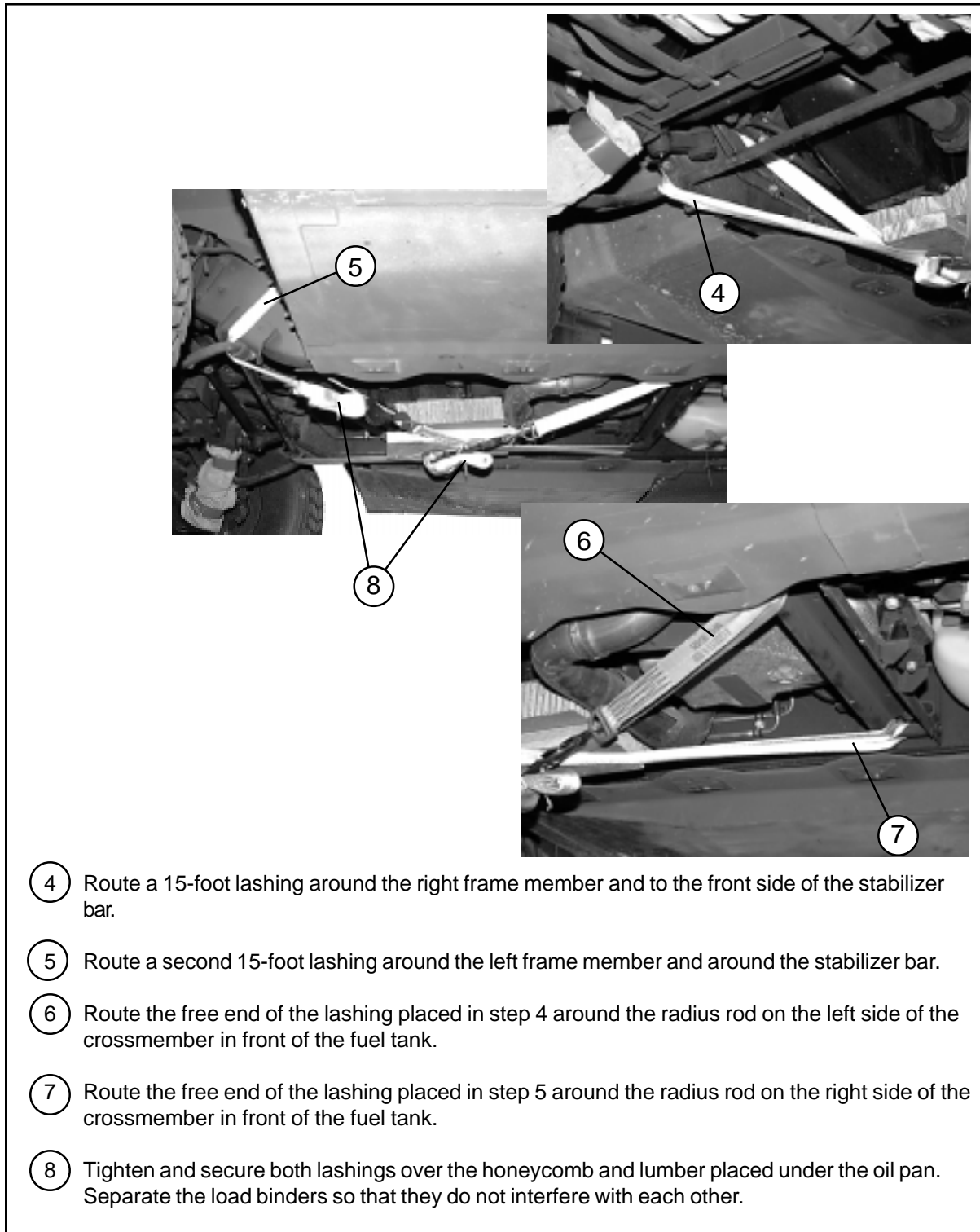
**Figure 4-21. Truck Body Prepared**



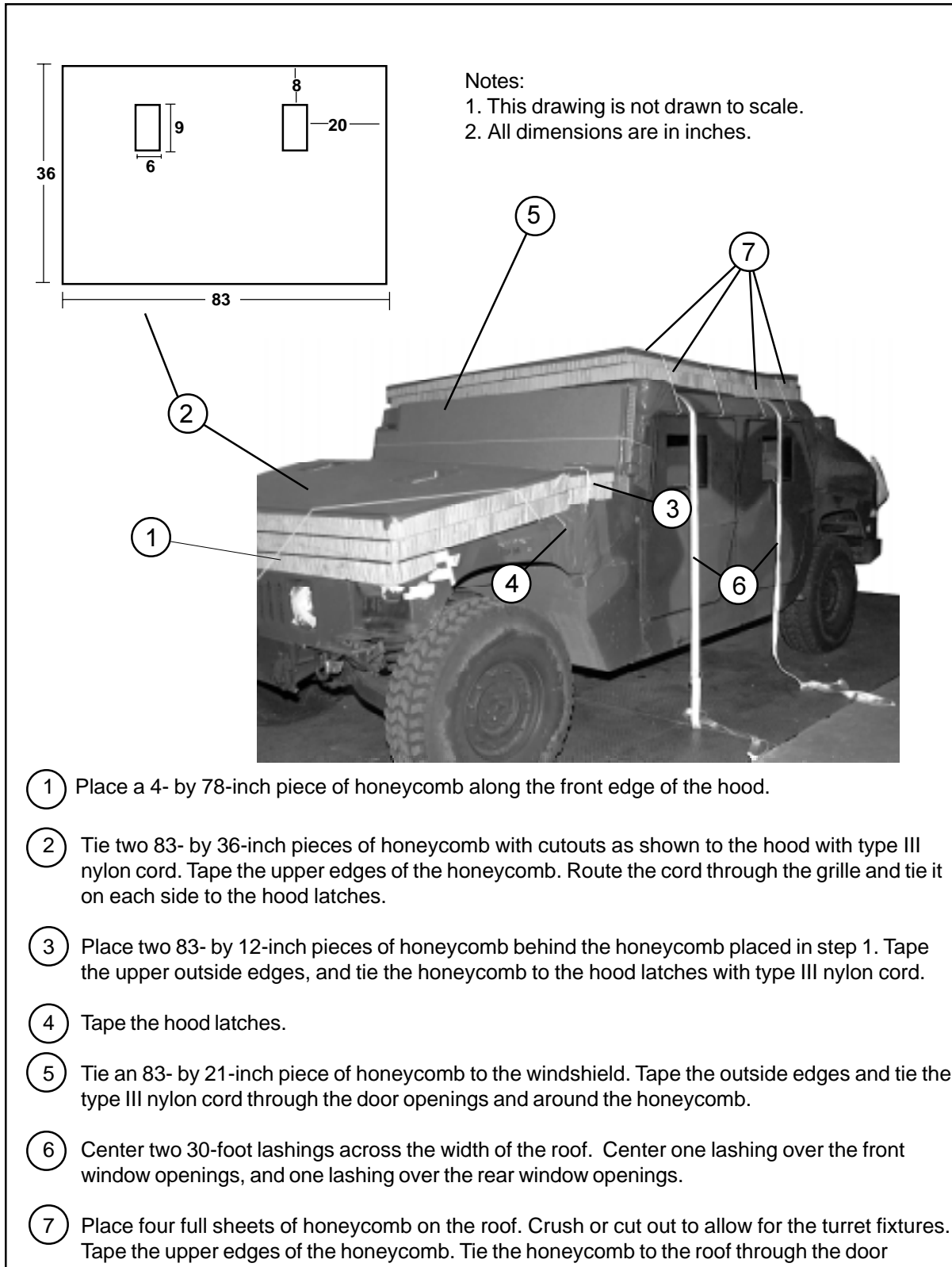
**Figure 4-21. Truck Body Prepared (continued)**



**Figure 4-22. Underside of Truck Prepared**



**Figure 4-22. Underside of Truck Prepared (continued)**



- ① Place a 4- by 78-inch piece of honeycomb along the front edge of the hood.
- ② Tie two 83- by 36-inch pieces of honeycomb with cutouts as shown to the hood with type III nylon cord. Tape the upper edges of the honeycomb. Route the cord through the grille and tie it on each side to the hood latches.
- ③ Place two 83- by 12-inch pieces of honeycomb behind the honeycomb placed in step 1. Tape the upper outside edges, and tie the honeycomb to the hood latches with type III nylon cord.
- ④ Tape the hood latches.
- ⑤ Tie an 83- by 21-inch piece of honeycomb to the windshield. Tape the outside edges and tie the type III nylon cord through the door openings and around the honeycomb.
- ⑥ Center two 30-foot lashings across the width of the roof. Center one lashing over the front window openings, and one lashing over the rear window openings.
- ⑦ Place four full sheets of honeycomb on the roof. Crush or cut out to allow for the turret fixtures. Tape the upper edges of the honeycomb. Tie the honeycomb to the roof through the door

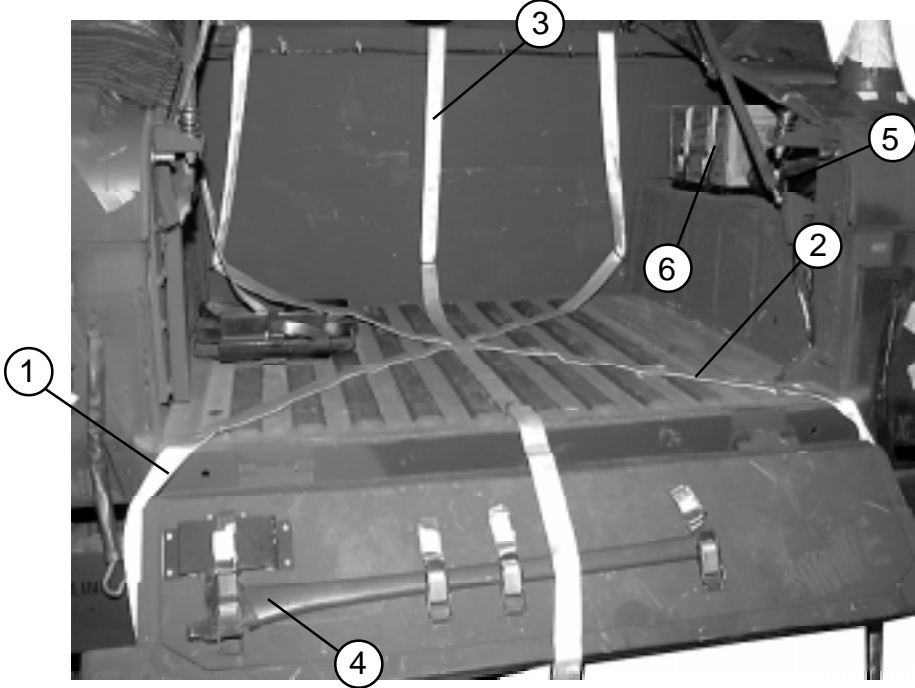
**Figure 4-23. Hood and Roof Covered**



## Stowing Load in M1114 Truck

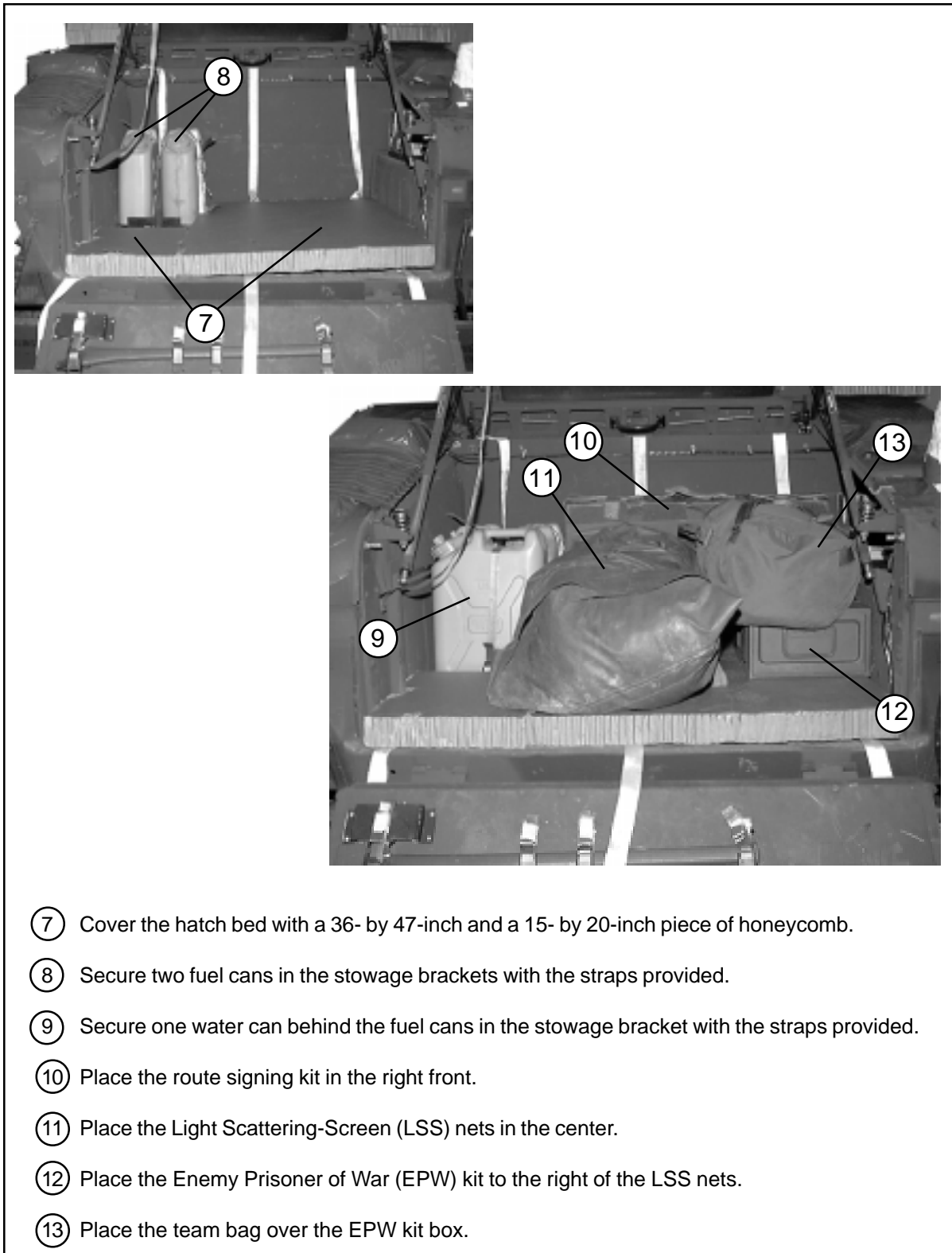
4-19. Stow mission equipment in the truck cargo compartment as shown in Figure 4-24. Stow items in the cab area as shown in Figure 4-25. Install the wood side protection boards as shown in Figure 4-26.

**CAUTION**  
Only ammunition listed in FM 10-500-53/MCRP 4-3.81/TO 137-18-41 may be airdropped. Package, label, and mark hazardous material according to AFJMAN 24-204/TM 38-250.



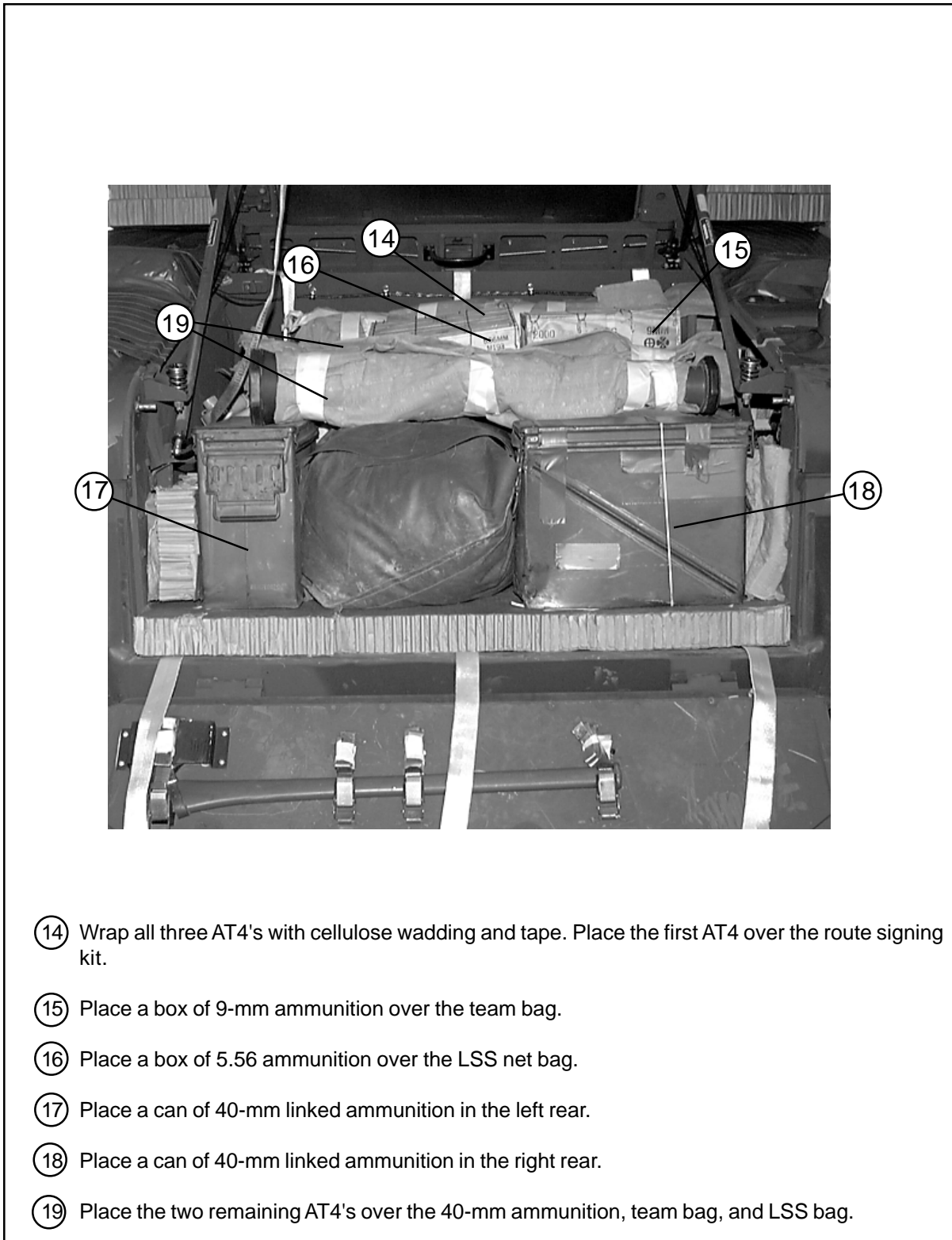
- ① Route a lashing through the left rear and right front cargo bed rings.
- ② Route a lashing through the right rear and left front cargo bed rings.
- ③ Route a lashing through the front center and rear center cargo bed rings.
- ④ Secure the axe in its mount on the tailgate with the straps provided.
- ⑤ Secure the jack and MAX tool kit in the right storage area over the wheel well with the straps provided.
- ⑥ Place one box of 9-mm ammunition in the right wheel well cargo area and secure it with the straps provided.

**Figure 4-24. Accompanying Load Stowed in Cargo Bed**



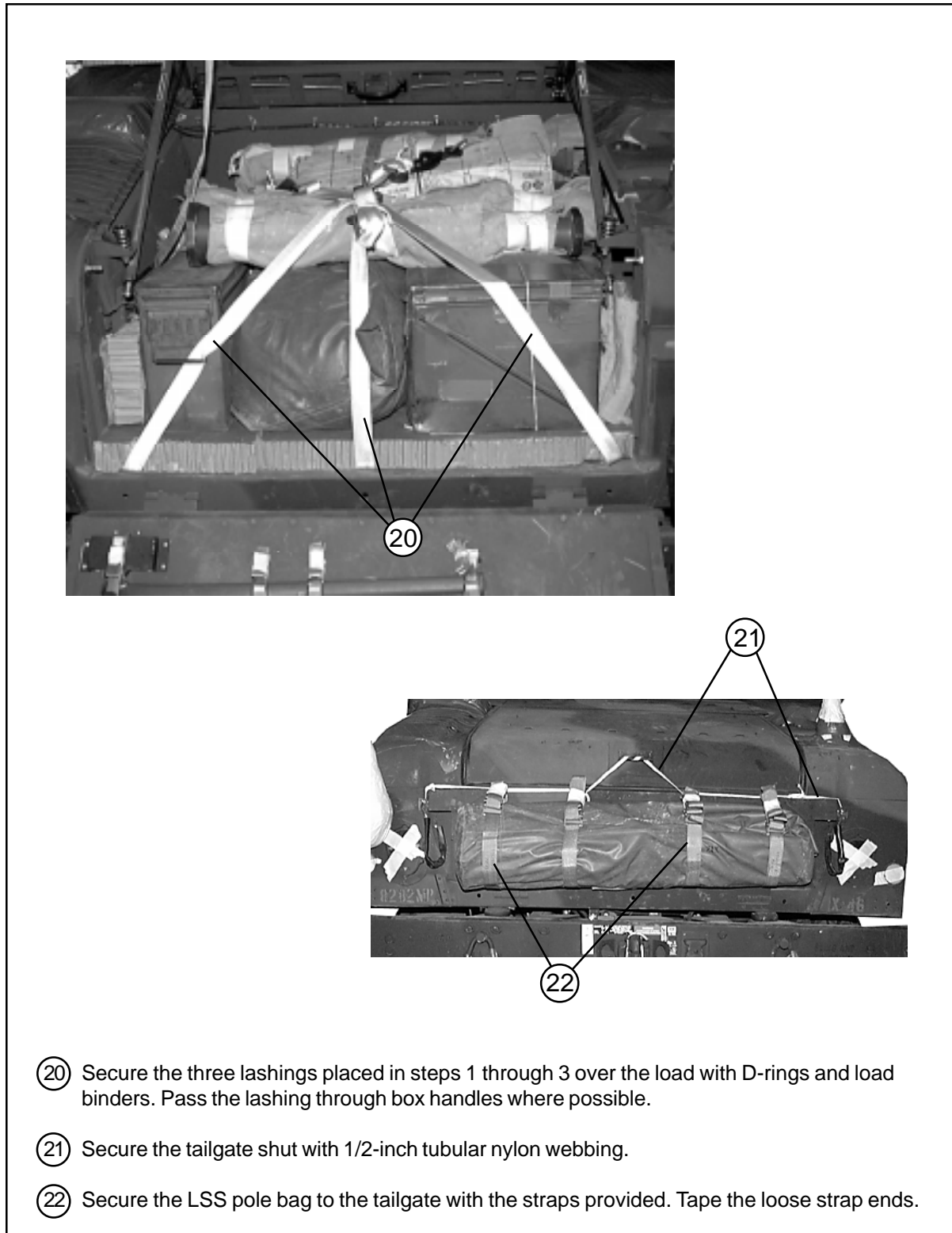
- ⑦ Cover the hatch bed with a 36- by 47-inch and a 15- by 20-inch piece of honeycomb.
- ⑧ Secure two fuel cans in the stowage brackets with the straps provided.
- ⑨ Secure one water can behind the fuel cans in the stowage bracket with the straps provided.
- ⑩ Place the route signing kit in the right front.
- ⑪ Place the Light Scattering-Screen (LSS) nets in the center.
- ⑫ Place the Enemy Prisoner of War (EPW) kit to the right of the LSS nets.
- ⑬ Place the team bag over the EPW kit box.

**Figure 4-24. Accompanying Load Stowed in Cargo Bed (continued)**



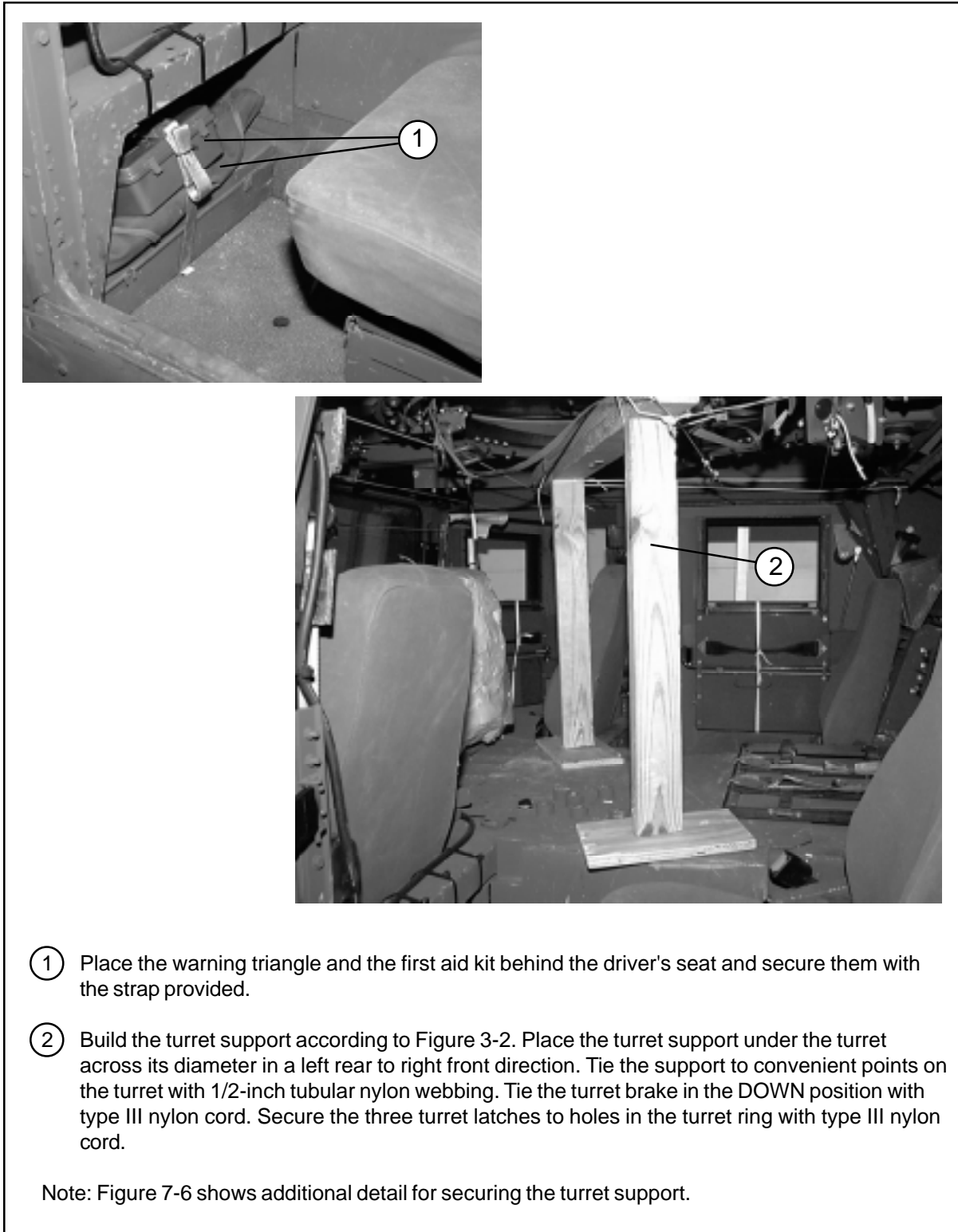
- ①④ Wrap all three AT4's with cellulose wadding and tape. Place the first AT4 over the route signing kit.
- ①⑤ Place a box of 9-mm ammunition over the team bag.
- ①⑥ Place a box of 5.56 ammunition over the LSS net bag.
- ①⑦ Place a can of 40-mm linked ammunition in the left rear.
- ①⑧ Place a can of 40-mm linked ammunition in the right rear.
- ①⑨ Place the two remaining AT4's over the 40-mm ammunition, team bag, and LSS bag.

**Figure 4-24. Accompanying Load Stowed in Cargo Bed (continued)**



- ⑳ Secure the three lashings placed in steps 1 through 3 over the load with D-rings and load binders. Pass the lashing through box handles where possible.
- ㉑ Secure the tailgate shut with 1/2-inch tubular nylon webbing.
- ㉒ Secure the LSS pole bag to the tailgate with the straps provided. Tape the loose strap ends.

**Figure 4-24. Accompanying Load Stowed in Cargo Bed (continued)**

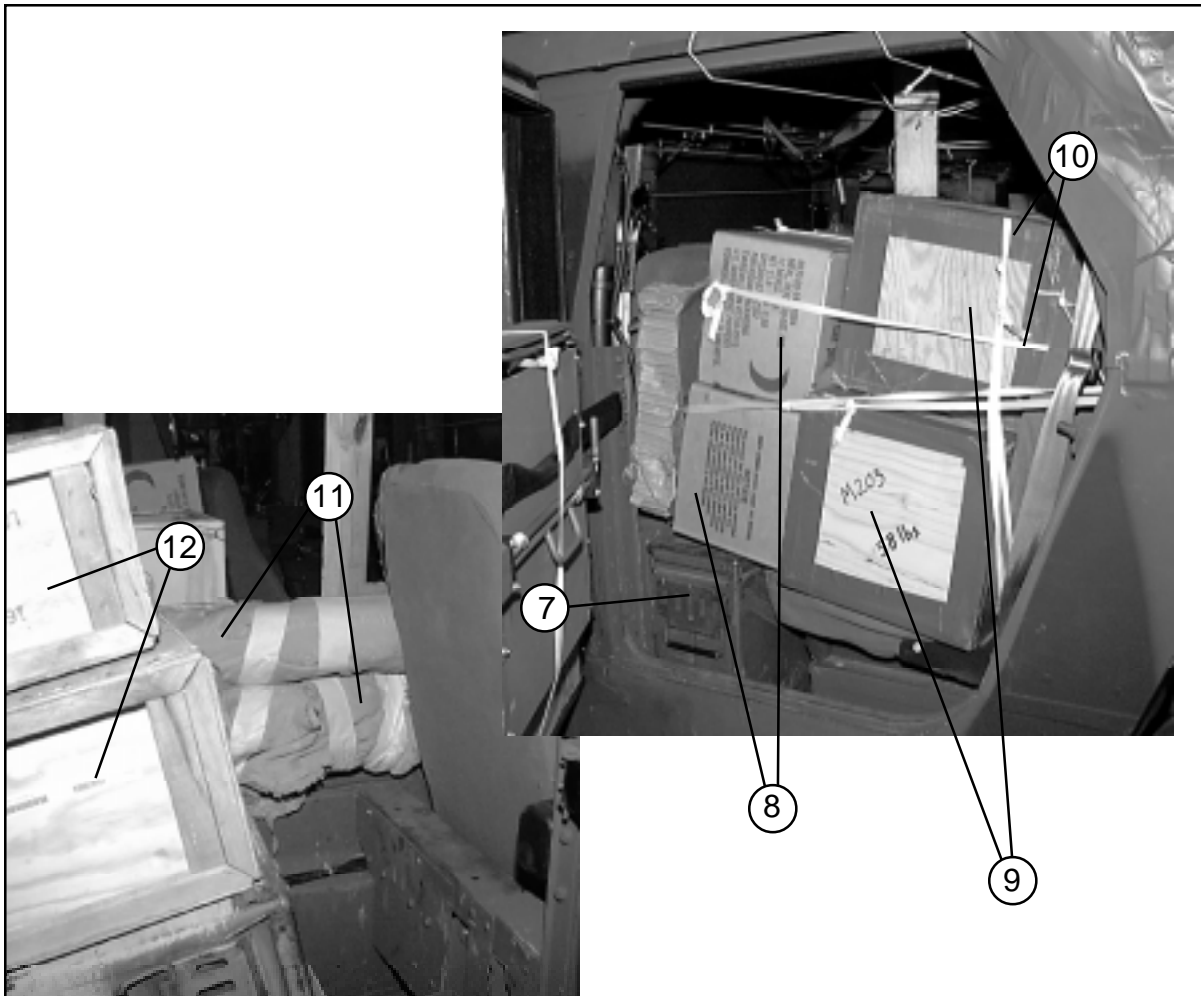


**Figure 4-25. Accompanying Load Stowed in Cab**



- ③ Place three boxes of 40-mm linked ammunition in the space provided between the seats. Place two boxes of 5.56-mm ammunition on the 40-mm boxes. Secure the ammunition with the straps provided. Safety the strap fasteners with type III nylon cord.
- ④ Place two 5.56-mm ammunition boxes in front of the ammunition placed in step 3.
- ⑤ Place a box of 40-mm linked ammunition on the right rear passenger seat.
- ⑥ Place the MOD60 kit to the left of the 5.56-mm ammunition boxes placed in step 4.

**Figure 4-25. Accompanying Load Stowed in Cab (continued)**



- ⑦ Place a box of 40-mm linked ammunition upright on the floor behind the driver's seat.
- ⑧ Set two boxes of MRE's on their sides over the 40-mm ammunition box.
- ⑨ Place a box of claymore mines and a box of M203 grenade rounds between the left rear seat back and the boxes placed in steps 7 and 8.
- ⑩ Tie the items placed in steps 7 through 9 to the seat back and to stationary points in the truck with 1/2-inch tubular nylon webbing. Place a piece of honeycomb between the driver's seat back and the tied items.
- ⑪ Wrap the Mark 19 grenade launcher, tripod, and fording stack with cellulose wadding and tape. Place them in the cab center between the passenger seats. Secure them to points near the floor with type III nylon cord.
- ⑫ Place two 5.56-mm ammunition boxes over the 40-mm ammunition box placed in step 5.

**Figure 4-25. Accompanying Load Stowed in Cab (continued)**

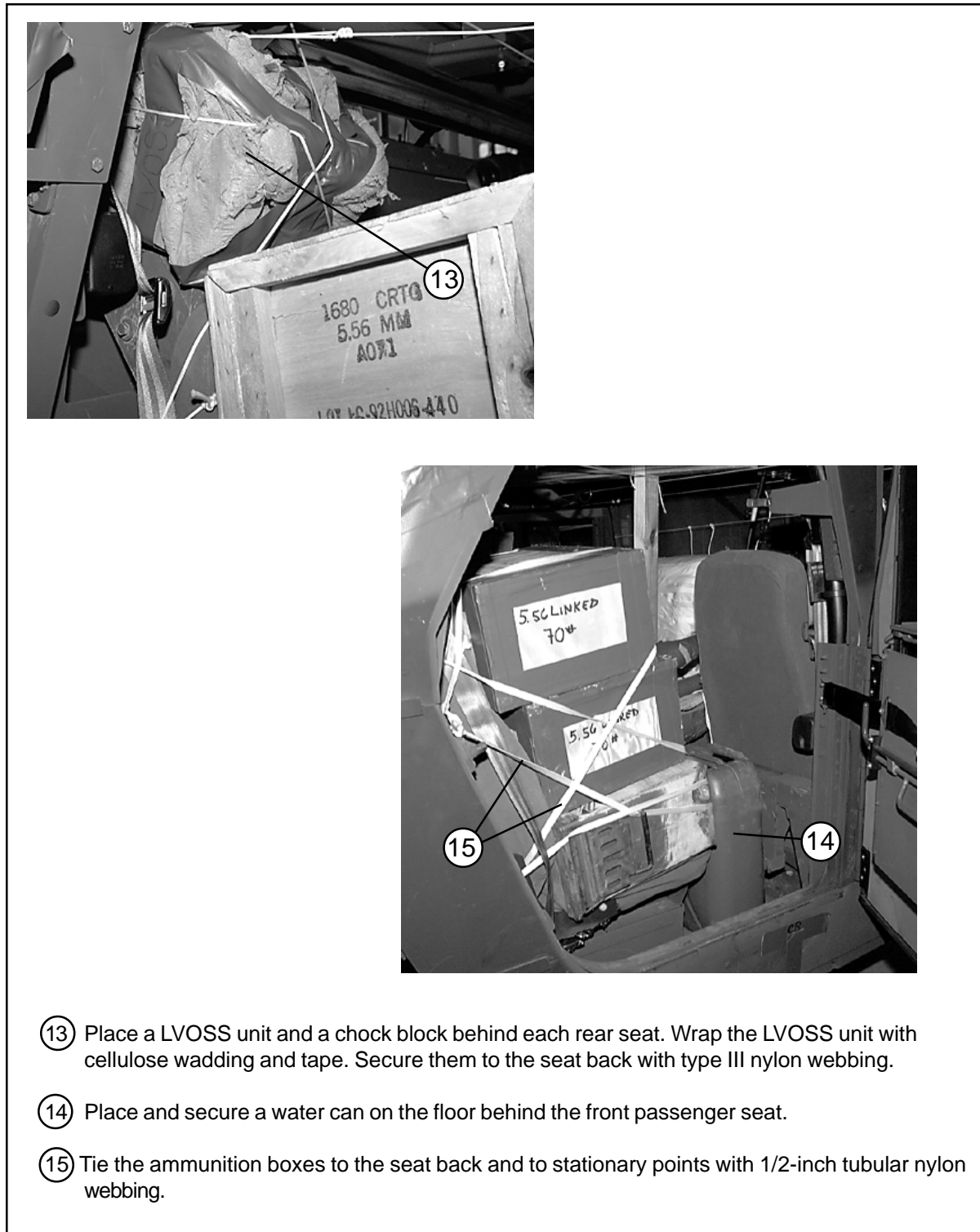
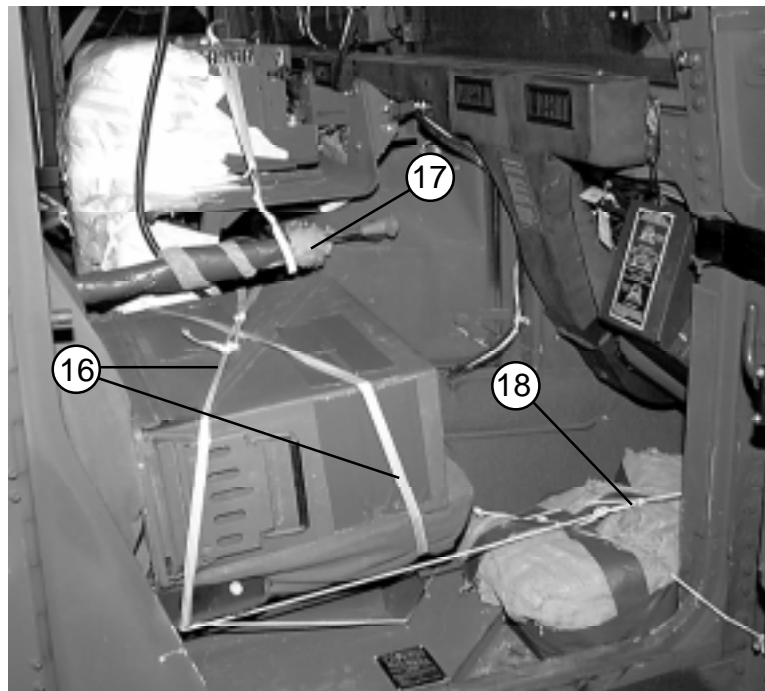


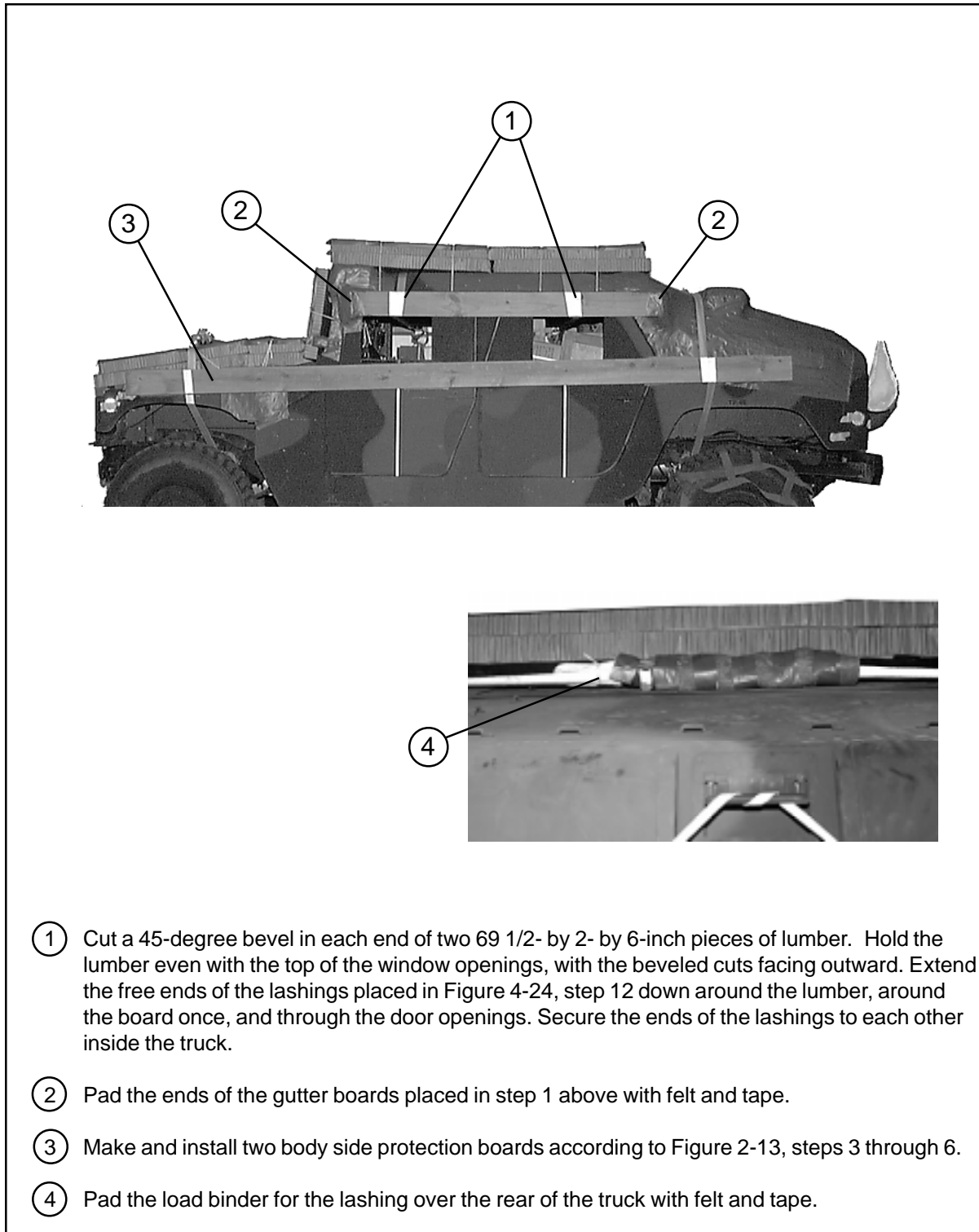
Figure 4-25. Accompanying Load Stowed in Cab (continued)





- ①⑥ Tie a box of 40-mm linked ammunition to the front passenger seat with 1/2-inch tubular nylon webbing.
- ①⑦ Wrap the antenna sections with cellulose wadding and tape. Tie the antenna sections to convenient points with 1/2-inch tubular nylon webbing.
- ①⑧ Pad the remaining LVOSS units with cellulose wadding and tape. Tie them in the front passenger footwell with 1/2-inch tubular nylon webbing.

**Figure 4-25. Accompanying Load Stowed in Cab (continued)**



- ① Cut a 45-degree bevel in each end of two 69 1/2- by 2- by 6-inch pieces of lumber. Hold the lumber even with the top of the window openings, with the beveled cuts facing outward. Extend the free ends of the lashings placed in Figure 4-24, step 12 down around the lumber, around the board once, and through the door openings. Secure the ends of the lashings to each other inside the truck.
- ② Pad the ends of the gutter boards placed in step 1 above with felt and tape.
- ③ Make and install two body side protection boards according to Figure 2-13, steps 3 through 6.
- ④ Pad the load binder for the lashing over the rear of the truck with felt and tape.

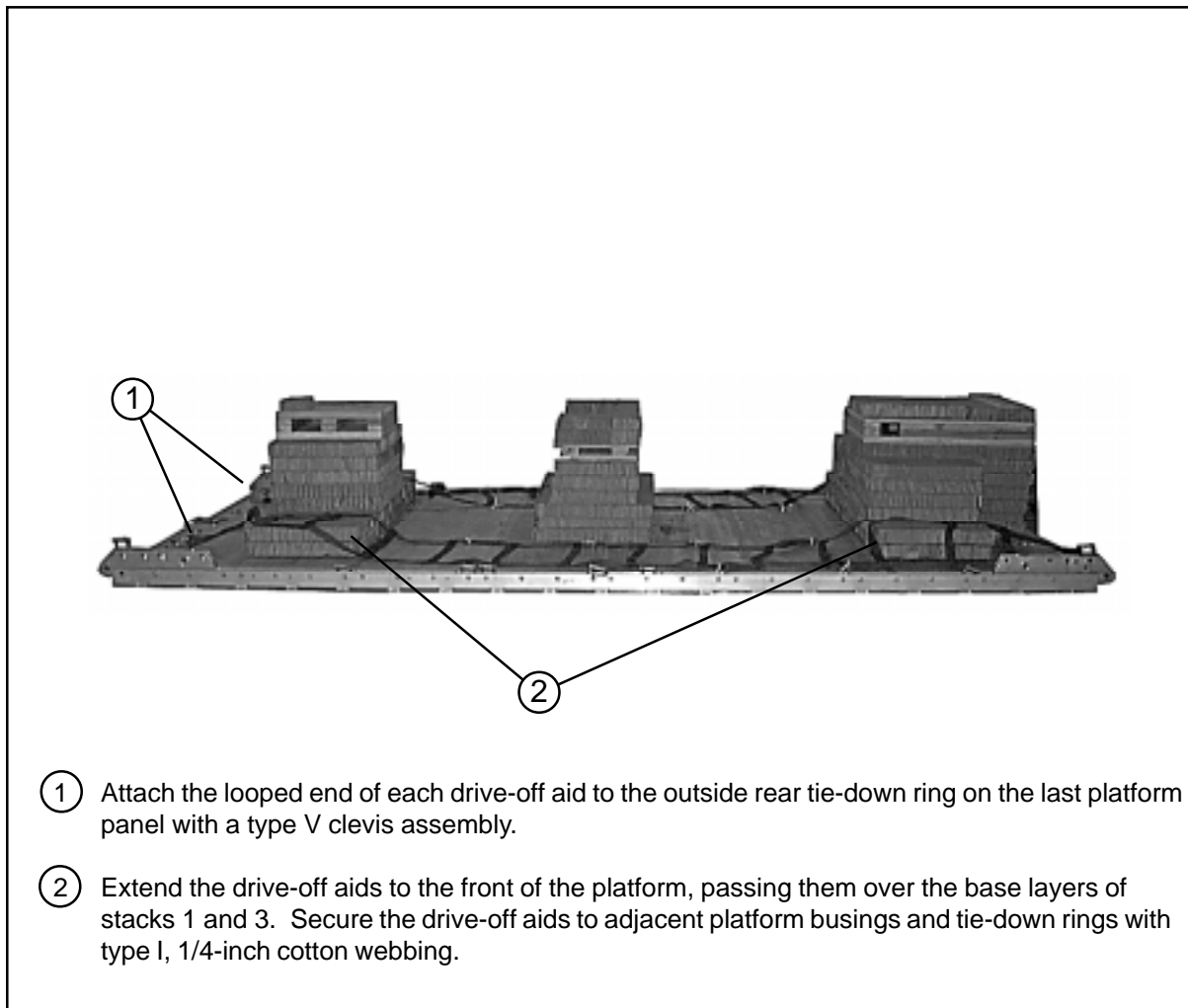
**Figure 4-26. Body Side Protection Boards Installed**

## LIFTING AND POSITIONING TRUCK, AND INSTALLING OPTIONAL DRIVE-OFF AIDS

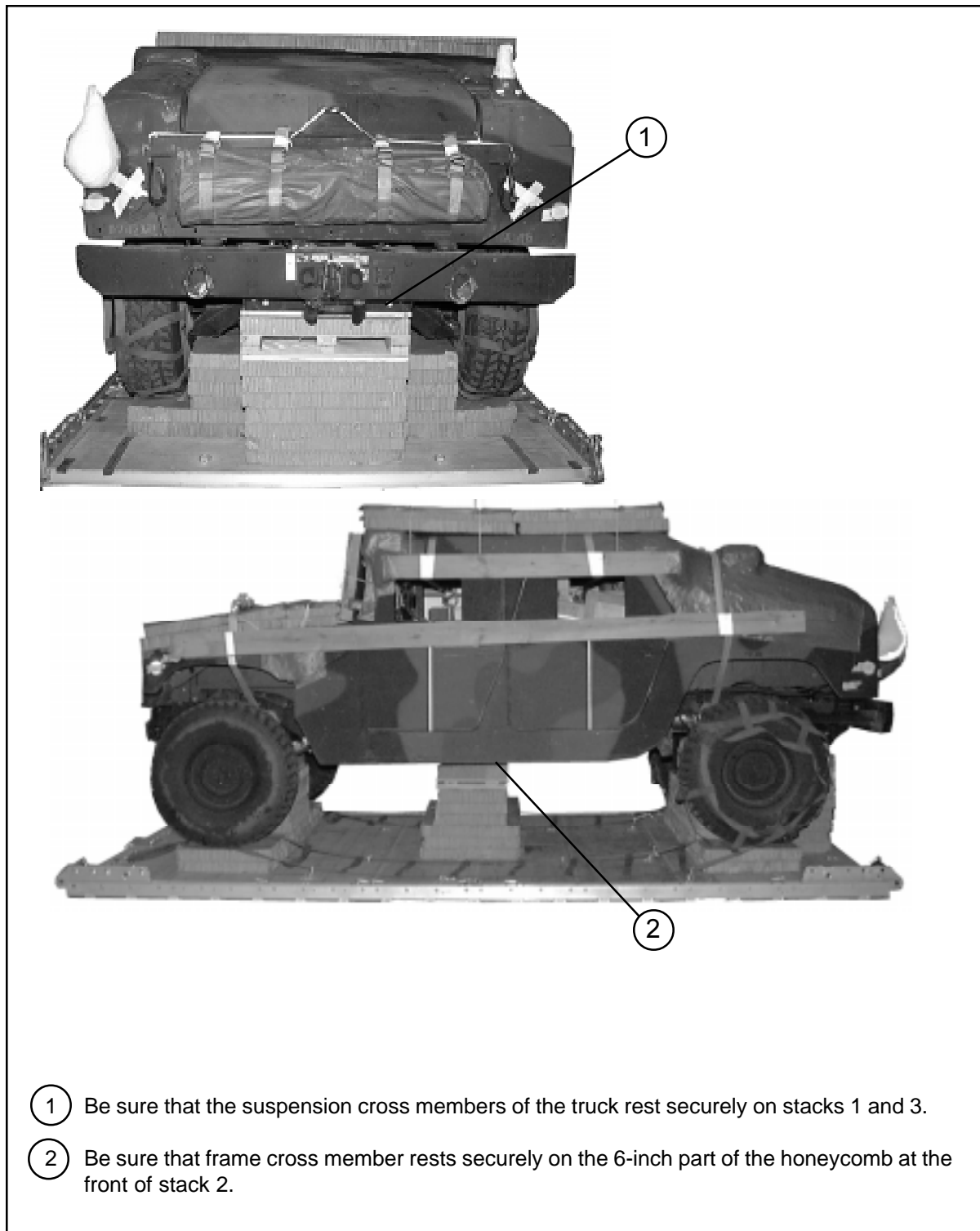
4-20. Install the optional drive-off aids on the platform as shown in Figure 4-27. Install lifting slings on the truck as shown in Figure 2-16. Position the truck on the honeycomb stacks as shown in Figure 4-28. Install the drive-off aids, if used, to the rear wheels of the truck as shown in Figure 2-17.

## LASHING TRUCK

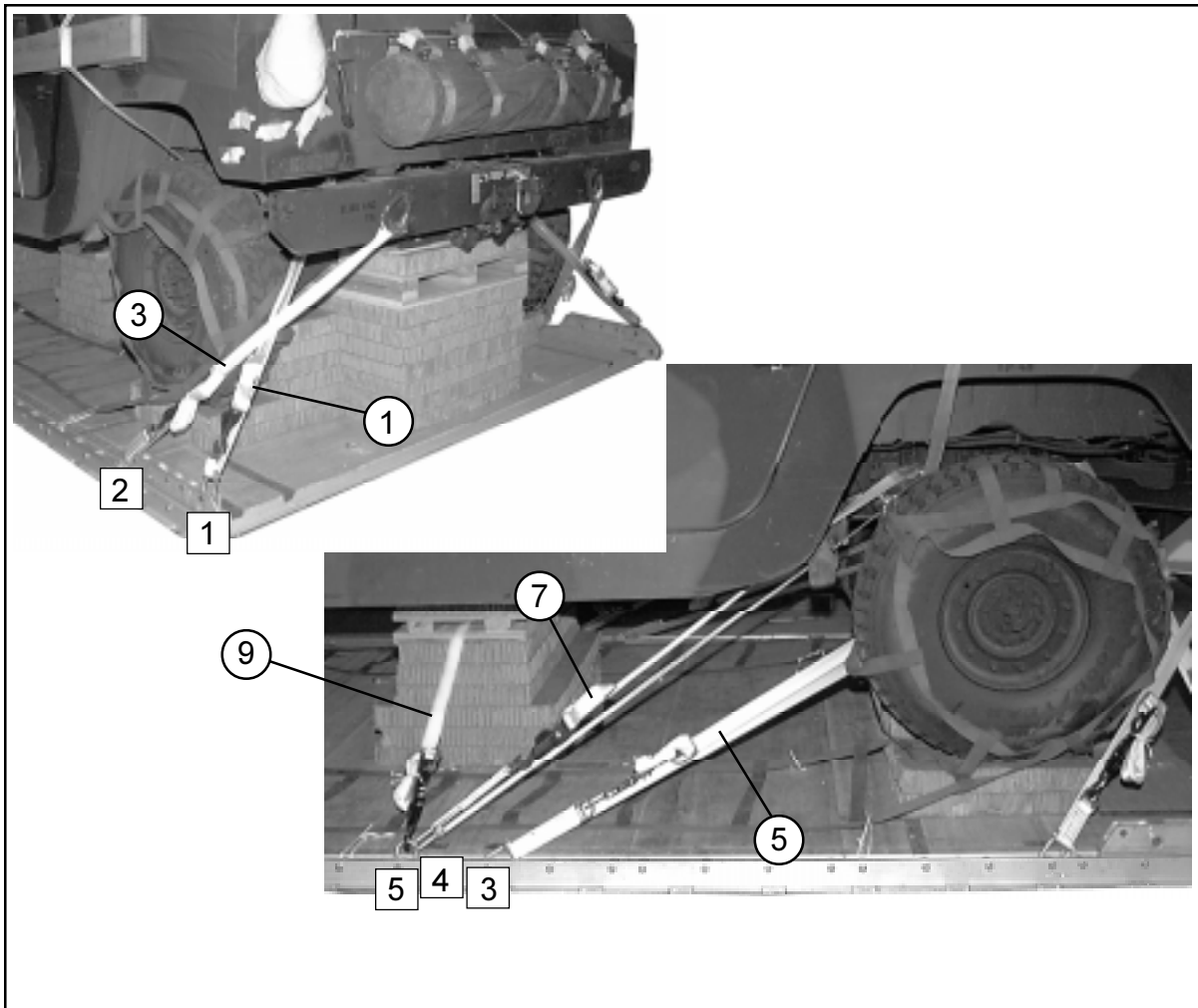
4-21. Lash the truck to the platform with fifteen 15-foot tie-down assemblies as shown in Figures 4-29 and 4-30, and according to FM 4-20.102/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.



**Figure 4-27. Drive-off Aids Installed on Platform**

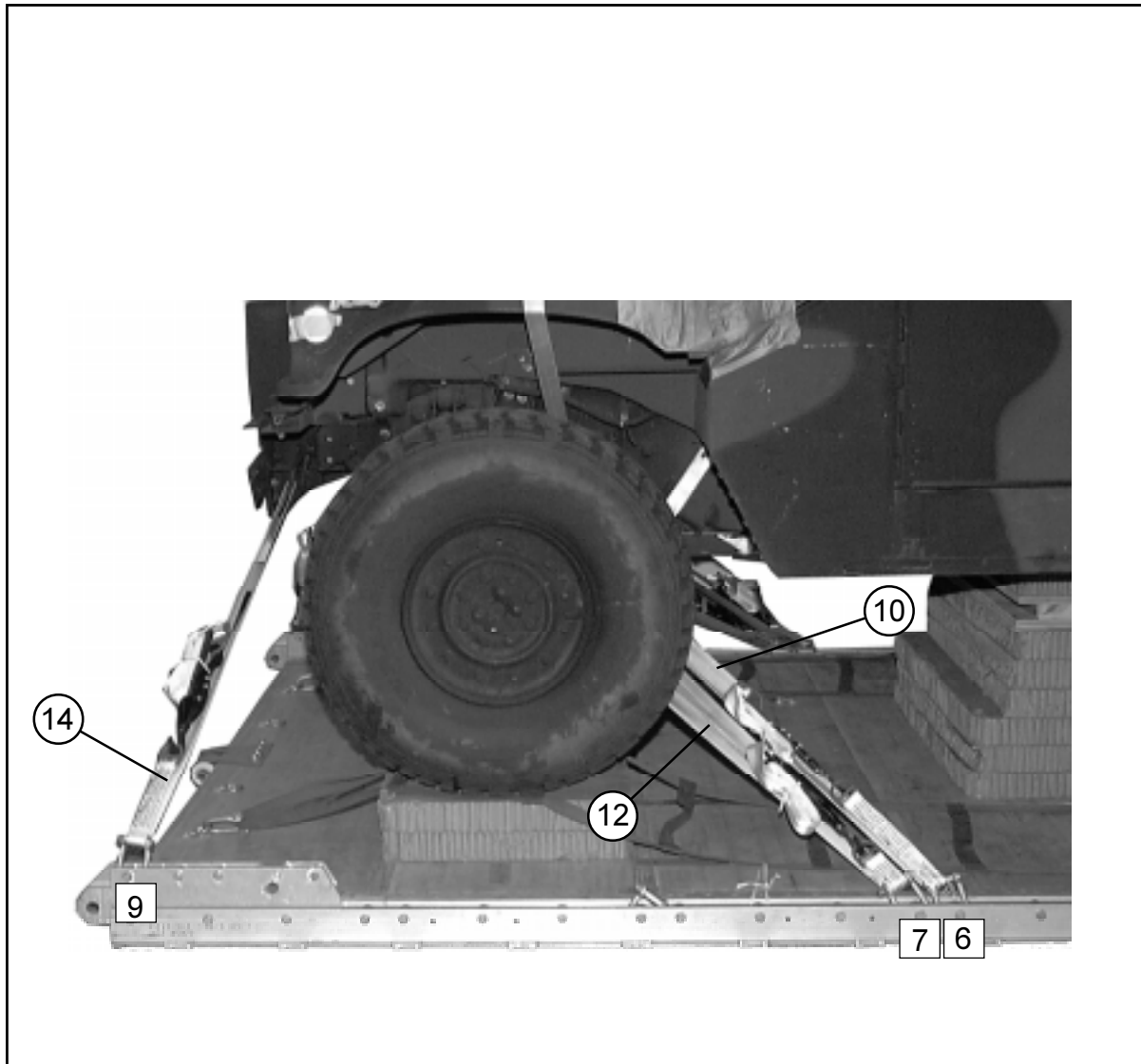


**Figure 4-28. Truck Positioned on Platform and Drive-Off Aids Installed**



Lashing Number	Tie-down Clevis Number	Instructions
1	1	Pass lashing:
2	1A	Through tie-down bracket behind left rear coil spring.
3	2	Through tie-down bracket behind right rear coil spring.
4	2A	Through left rear lifting shackle.
5	3	Through right rear lifting shackle.
6	3A	Around left rear lower control arm.
7	4	Around right rear lower control arm.
8	4A	Through tie-down bracket in front of left rear coil spring.
9	5 and 5A	Through tie-down bracket in front of right rear coil spring.
		Pass a 15-foot lashing through clevis 5A and through its own D-ring. Pass the lashing through the hole in stack 2. Attach the lashing to clevis 5 with a load binder.

Figure 4-29. Lashings 1 Through 9 Installed

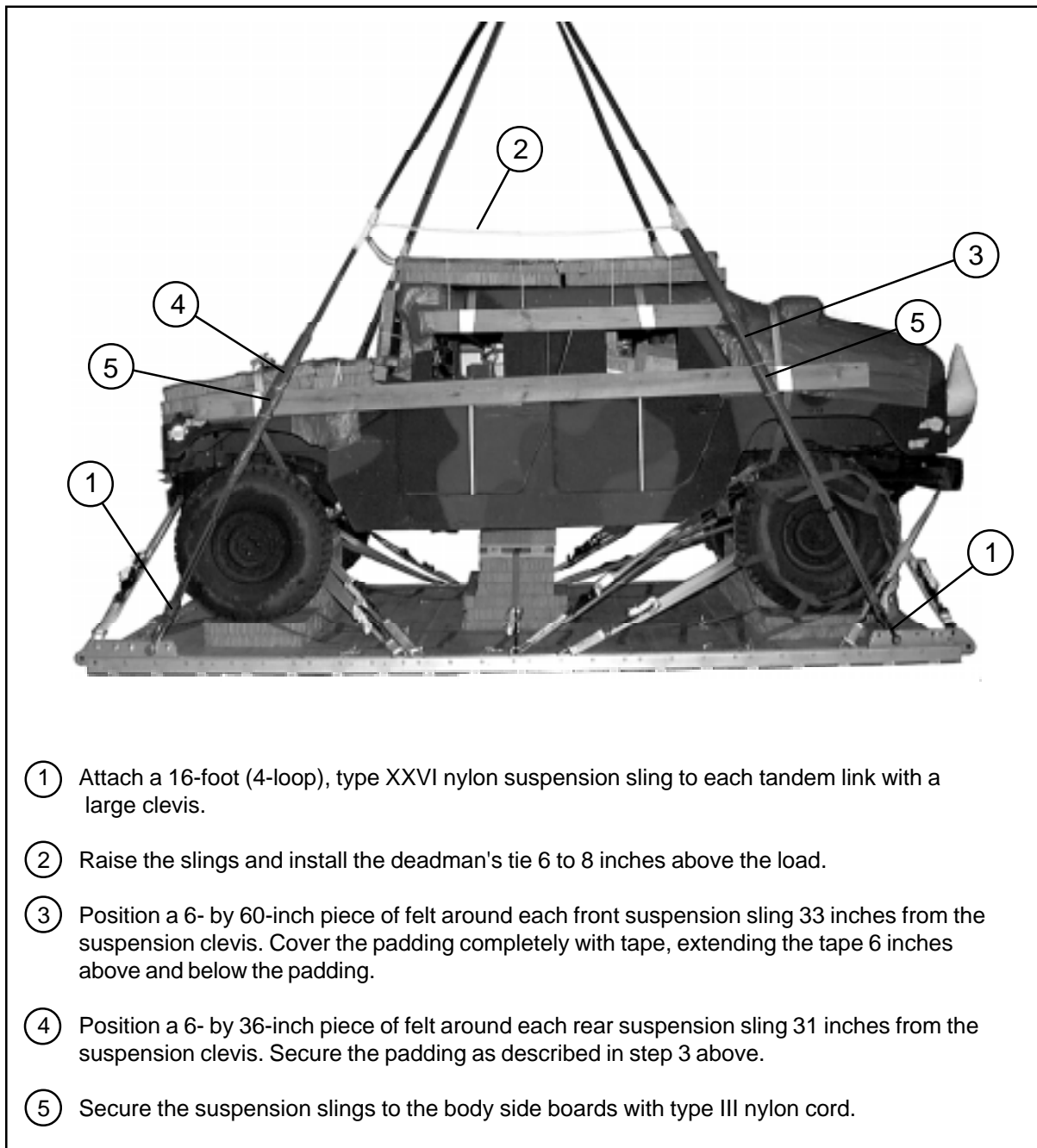


Lashing Number	Tie-down Clevis Number	Instructions
10	6	Pass lashing:
11	6A	Through tie-down bracket behind left front coil spring.
12	7	Through tie-down bracket behind right front coil spring.
13	7A	Around left lower control arm.
14	9	Around right lower control arm.
15	9A	Through tie-down bracket on end of left frame rail.

Figure 4-30. Lashings 10 Through 15 Installed

## INSTALLING AND SAFETY TYING SUSPENSION SLINGS

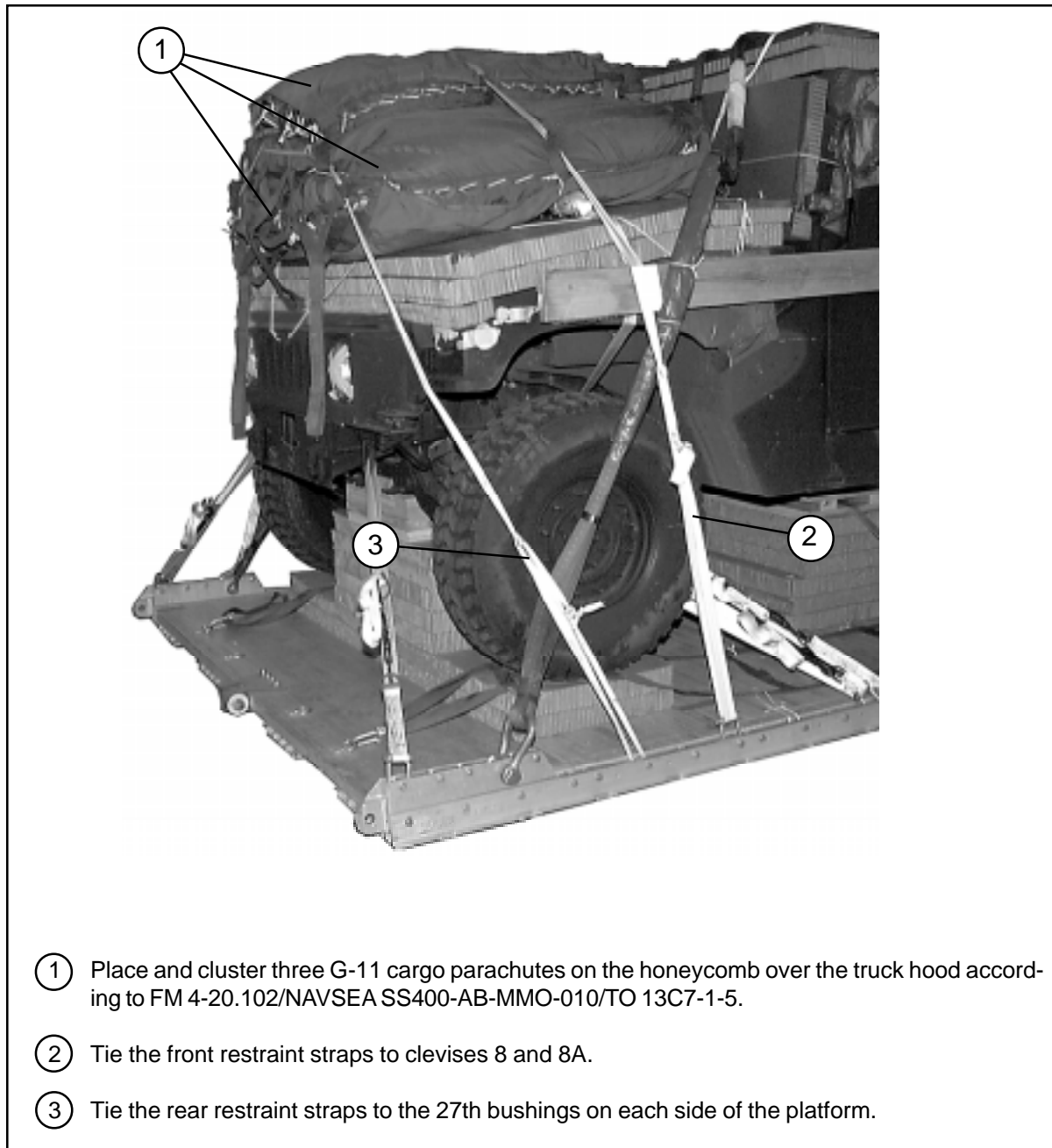
4-22. Install, pad and safety tie four 16-foot (4-loop), type XXVI nylon suspension slings as shown in Figure 4-31.



**Figure 4-31. Suspension Slings Installed, Padded and Safety Tied**

## STOWING CARGO PARACHUTES

4-23. Stow and restrain three G-11 cargo parachutes on the load according to FM 4-20.102/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 4-32.

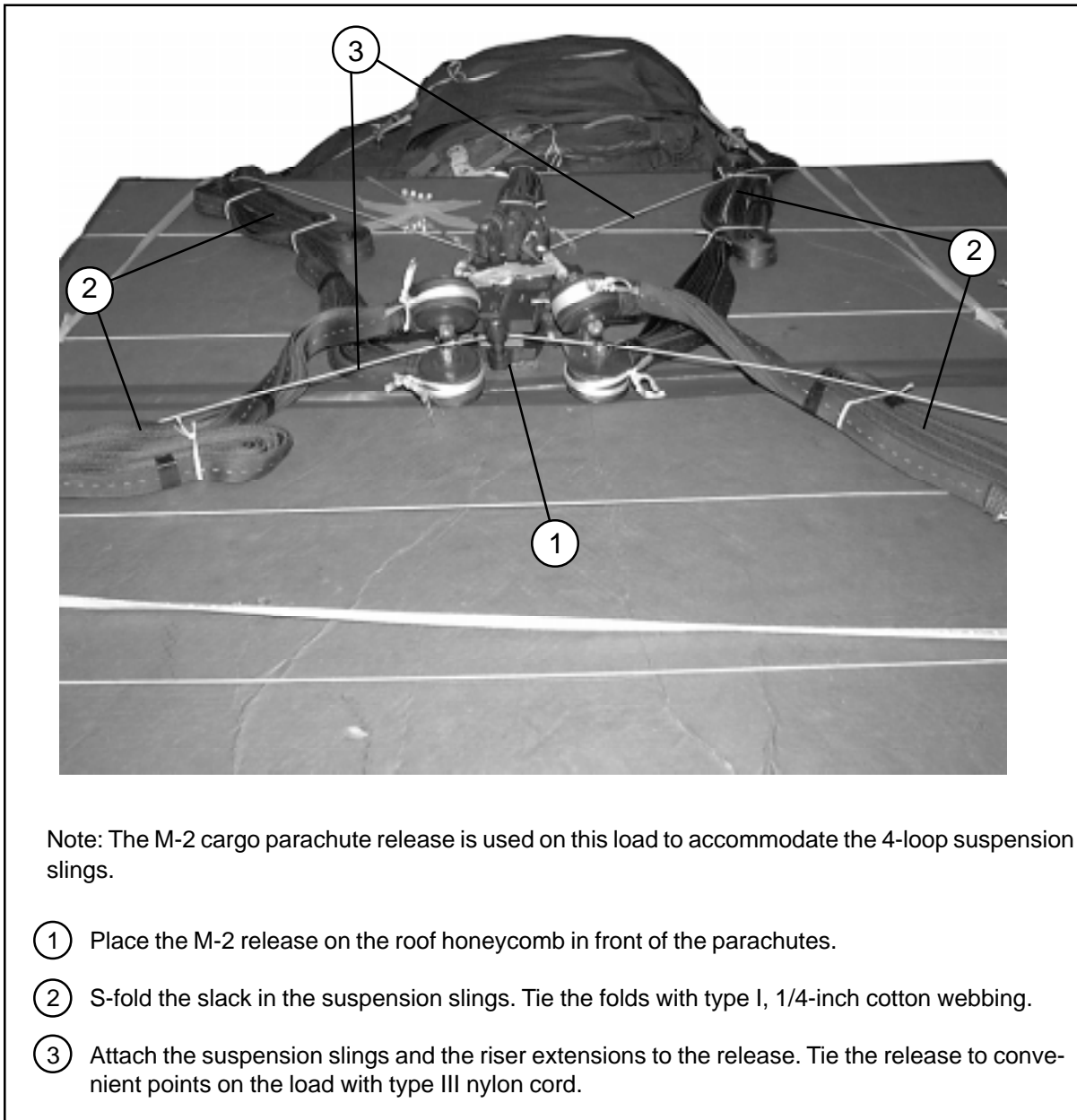


**Figure 4-32. Cargo Parachutes Installed**



**INSTALLING PARACHUTE RELEASE**

4-24. Prepare and install an M-2 cargo parachute release according to FM 4-20.102/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 4-33 .



**Figure 4-33. M-2 Release Installed**

## INSTALLING EXTRACTION SYSTEM

4-25. Install the EFTC extraction system according to FM 4-20.102/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 4-34.

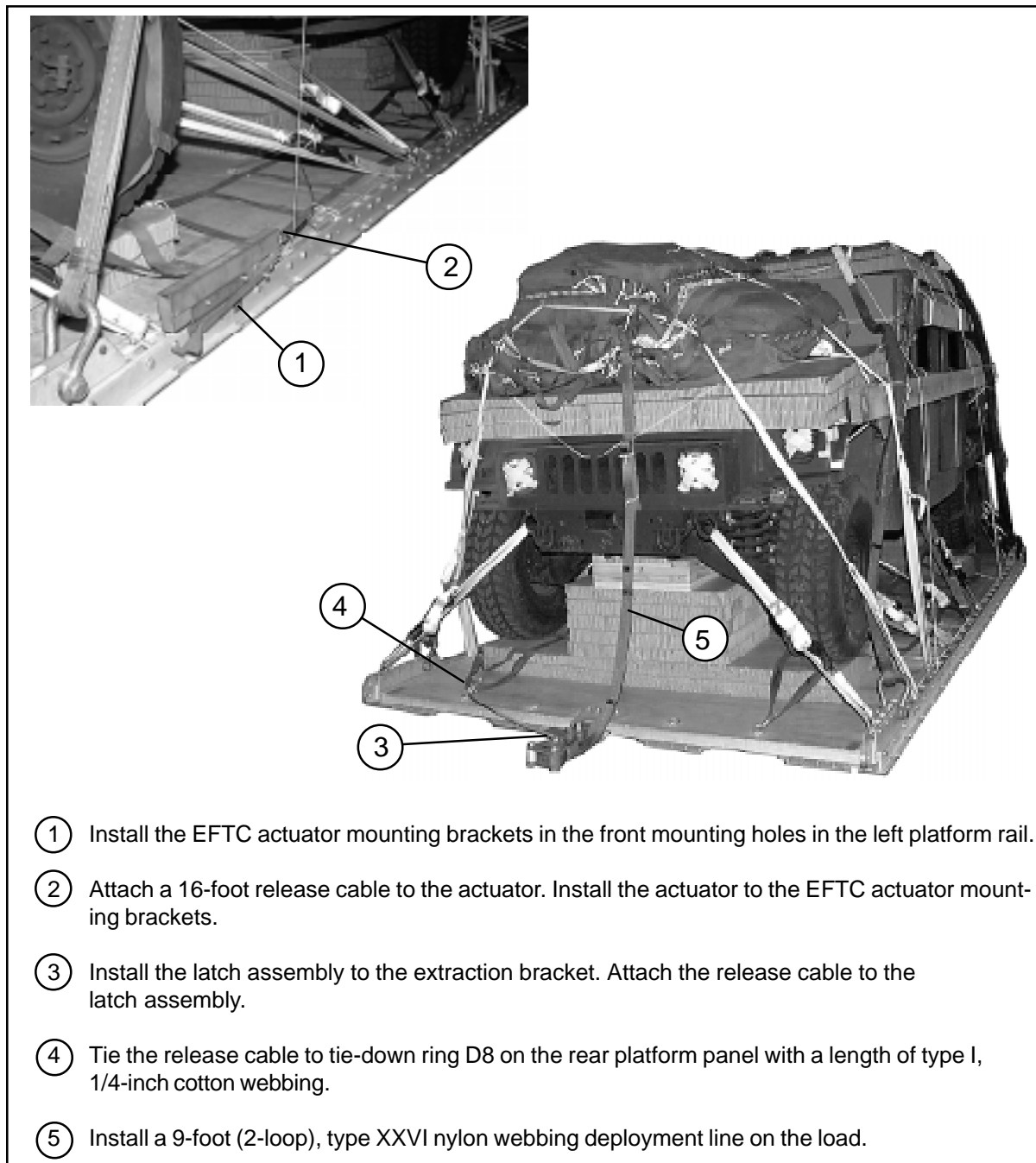


Figure 4-34. EFTC Installed

## **INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS**

4-26. Install provisions for emergency restraints according to FM 4-20.102/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

## **PLACING EXTRACTION PARACHUTE**

4-27. Select the extraction parachute and extraction line needed, using the extraction line requirements table in FM 4-20.102/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Rig the extraction line in a line bag according to TM 10-1670-286-20/TO 13C5-2-41. Place the extraction parachute and extraction line on the load for installation in the aircraft.

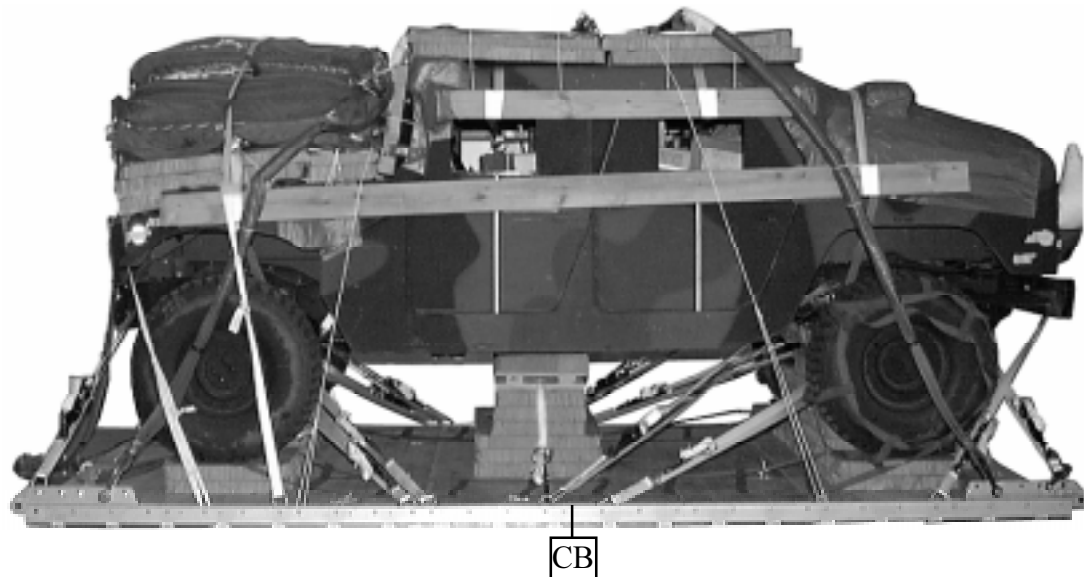
## **MARKING RIGGED LOAD**

4-28. Mark the rigged load according to FM 4-20.102/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 4-35. Complete Shipper's Declaration for Dangerous Goods according to AFJMAN 24-204/TM 38-250. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

## **EQUIPMENT REQUIRED**

4-29. Use the equipment listed in Table 4-2 to rig this load.

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



**RIGGED LOAD DATA**

Weight: Load shown .....	15,240 pounds
Maximum load allowed... ..	15,240 pounds
Height (with three G-11B parachutes) .....	98 inches
Width .....	108 inches
Length (overall) .....	210 inches
Overhang: Front .....	0 inches
Rear (EFTC) .....	18 inches
CB (from front edge of platform) .....	92 inches

**Figure 4-35. M1114 Up-Armored Armament Carrier Rigged for Low-Velocity Airdrop**

**Table 4-2. Equipment Required for Rigging the M1114 Up-Armored Armament Carrier for Low-Velocity Airdrop**

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5785	Coupling assembly, airdrop, extraction force transfer with cable, 16-ft	1
1670-00-360-0328	Cover, clevis, large	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 (line bag)	2
1670-01-035-6054	Bridle, extraction line bag (for C-17)	1
1670-01-064-4452	Line, drogue (for C-17) 60-ft (1-loop), type XXVI	1
1670-01-062-6313	Line, extraction: For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
1670-01-062-6313	For C-5: 60-ft (3-loop), type XXVI and	1
1670-01-107-7651	140-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
5306-00-435-8994	Link assembly, Two-point: Bolt, 1-in diam, 4-in long	1 (2)
5310-00-232-5165	Nut, 1-in, hexagonal	(2)
1670-00-003-1953	Plate, side, 3 3/4-in	(2)
5365-00-007-3414	Spacer, large	(2)
5510-00-220-6146	Lumber: 2- by 4-in	As required
5510-00-220-6448	2- by 6-in	As required
5510-00-220-6274	4- by 4-in	As required
5315-00-010-4659	Nail, steel wire, 8d	As required

**Table 4-2. Equipment Required for Rigging the M1114 Up-Armored Armament Carrier for Low-Velocity Airdrop (continued)**

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating (honeycomb) 3- by 36- by 96-in	13 sheets
1670-01-016-7841	Parachute: Cargo: G-11B	3
1670-01-063-3716	Cargo extraction: 22-ft (for C-17 aircraft, use H-block with this parachute)	1
1670-01-063-3715	Drogue (for C-17) 15-ft	1
1670-01-353-8425	Platform, airdrop, type V, 16-ft Bracket assembly, EFTC	(1)
1670-01-162-2372	Clevis assembly, type V	(20)
1670-01-353-8424	Bracket assembly, extraction	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(4)
5530-00-128-4981	Plywood, 3/4-in	5 sheets
1670-01-097-8817	Release, cargo parachute, M-2	1
1670-01-062-6308	Sling, cargo, airdrop For suspension: 16-ft 4-loop), type XXVI nylon webbing	4
1670-01-062-6304	For lifting: 9-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6304	For deployment: 9-ft (2-loop), type XXVI nylon webbing	1
1670-01-062-6313	For riser extension: 60-ft (3-loop), type XXVI nylon webbing	3
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	28
1670-01-344-0825	Vehicle drive-off aid	1
8305-00-268-2411	Webbing: Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

## SECTION III - RIGGING M1151 ARMAMENT CARRIER WITH ACCOMPANYING LOAD ON A 16-FOOT PLATFORM

### DESCRIPTION OF LOAD

4-30. The M1151 HMMWV shown in Figure 4-36 is rigged with an accompanying load on a 16-foot, type V platform. The load uses three G-11 cargo parachutes and the accompanying load has a minimum weight of 1,300 pounds and a maximum weight of 2,000 pounds. This load is 93 inches high, 108 inches wide, and 215 inches long.

### PREPARING PLATFORM

4-31. Prepare a 16-foot, type V airdrop platform according to TM 10-1670-268-20&P/TO 13C7-52-22. Install four tandem links and platform clevises according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 4-37.

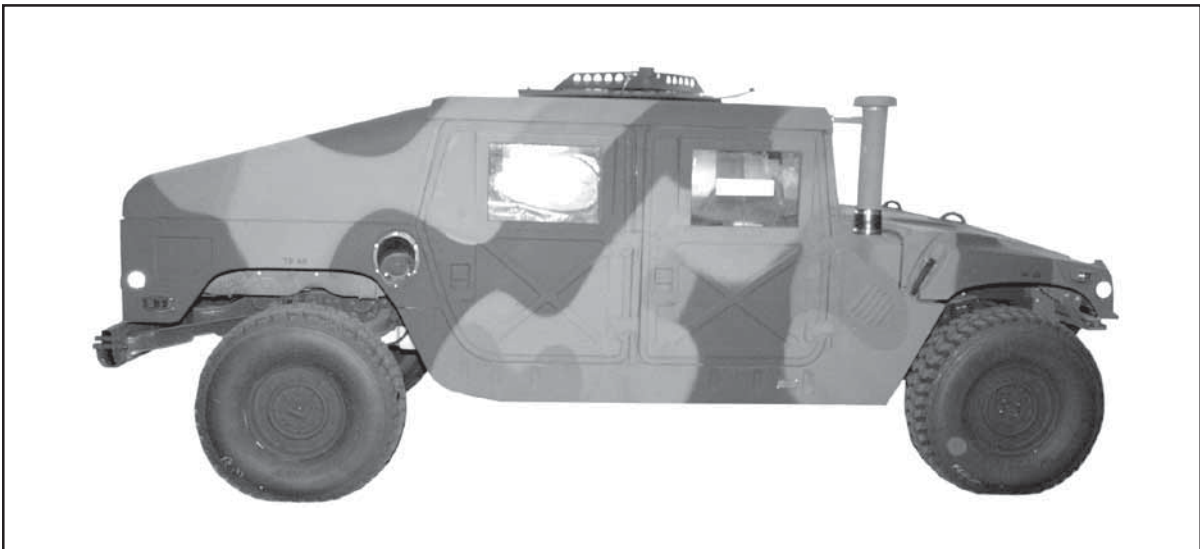
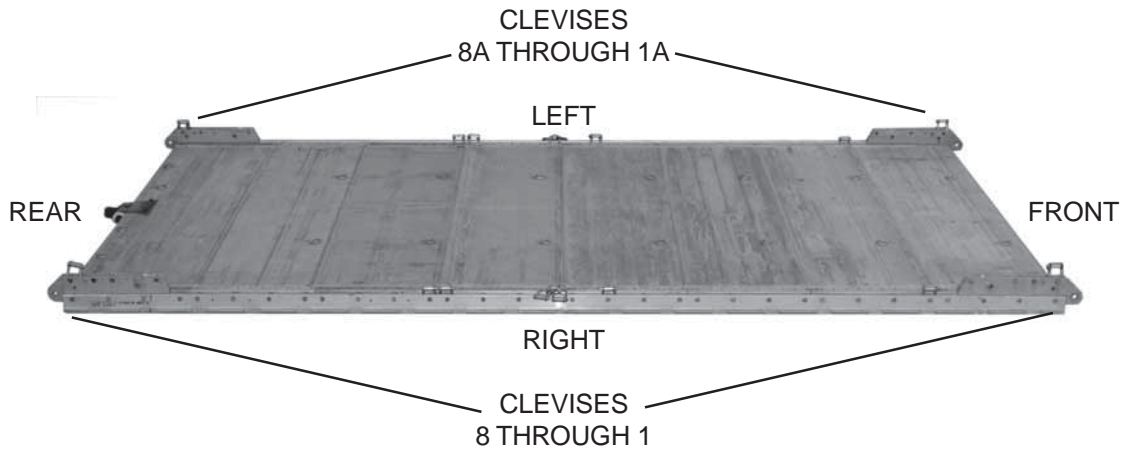


Figure 4-36. M1151 Armament Carrier

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



**Steps:**

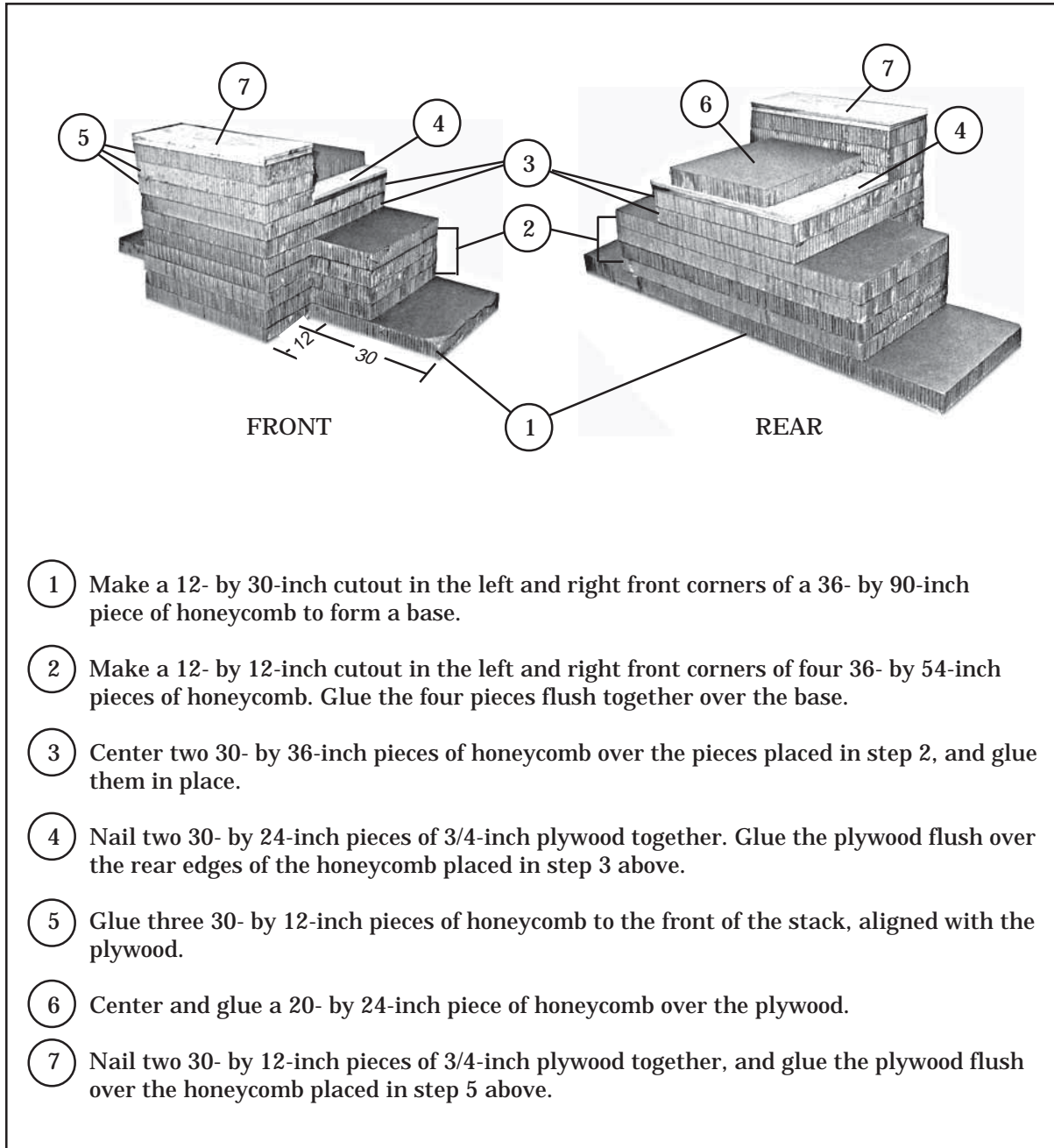
1. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
2. Install a tandem link on the rear of each platform side rail using holes 30, 31, and 32.
3. Install a clevis on bushing 1 on each front tandem link.
4. Install a clevis on bushing 4 on each rear tandem link.
5. Starting at the front of each platform side rail, install clevises on each platform side rail using the bushings bolted on holes 5, 15, 17 (tripled), 20, and 21.
6. 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.
7. Label the tie-down rings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

**Figure 4-37. Platform Prepared**



## PREPARING AND POSITIONING HONEYCOMB STACKS

4-32. Build the honeycomb stacks as shown in Figures 4-38 through 4-40. Position the stacks on the platform as shown in Figure 4-41.



- 1 Make a 12- by 30-inch cutout in the left and right front corners of a 36- by 90-inch piece of honeycomb to form a base.
- 2 Make a 12- by 12-inch cutout in the left and right front corners of four 36- by 54-inch pieces of honeycomb. Glue the four pieces flush together over the base.
- 3 Center two 30- by 36-inch pieces of honeycomb over the pieces placed in step 2, and glue them in place.
- 4 Nail two 30- by 24-inch pieces of 3/4-inch plywood together. Glue the plywood flush over the rear edges of the honeycomb placed in step 3 above.
- 5 Glue three 30- by 12-inch pieces of honeycomb to the front of the stack, aligned with the plywood.
- 6 Center and glue a 20- by 24-inch piece of honeycomb over the plywood.
- 7 Nail two 30- by 12-inch pieces of 3/4-inch plywood together, and glue the plywood flush over the honeycomb placed in step 5 above.

Figure 4-38. Stack 1 Constructed

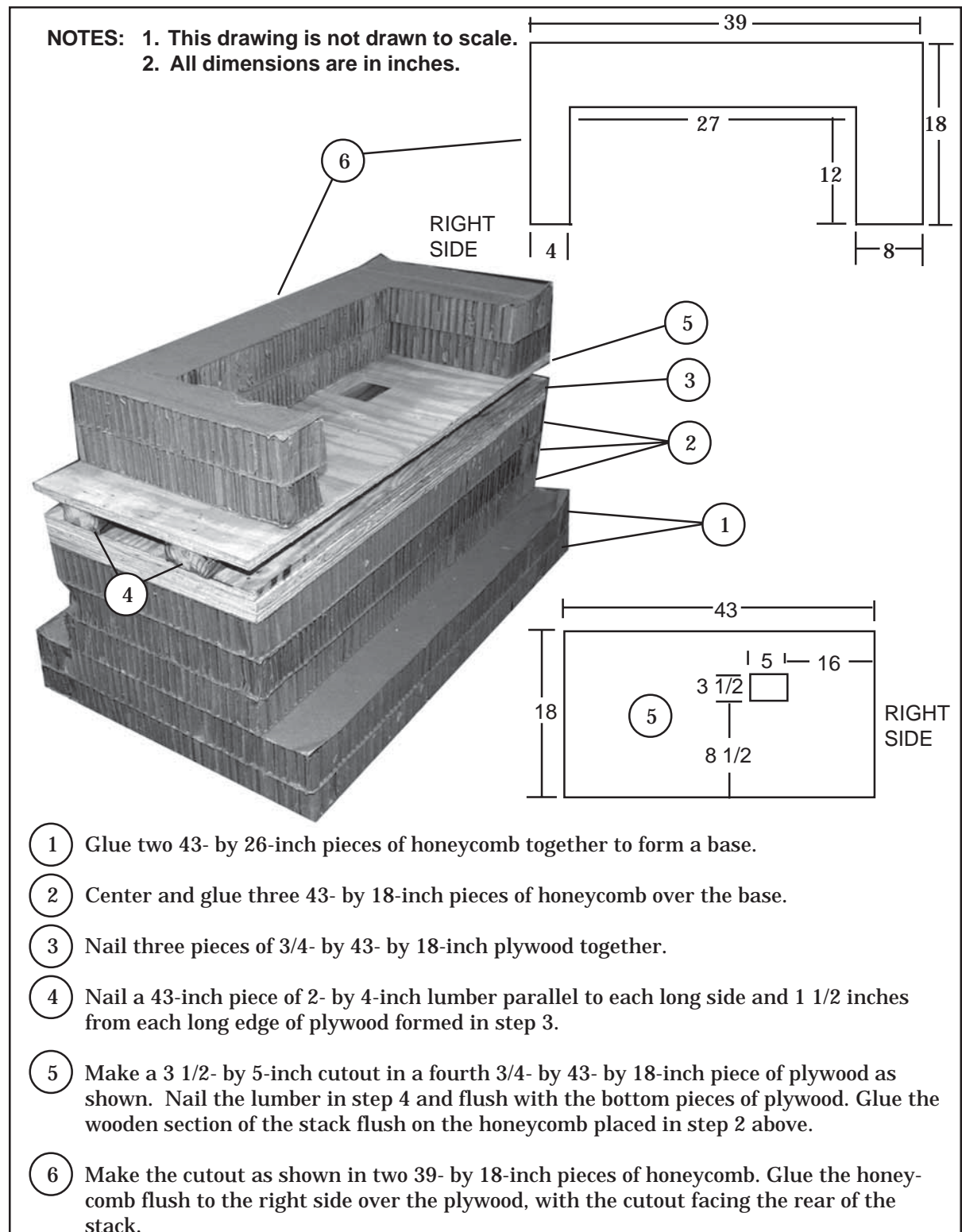


Figure 4-39. Stack 2 Constructed

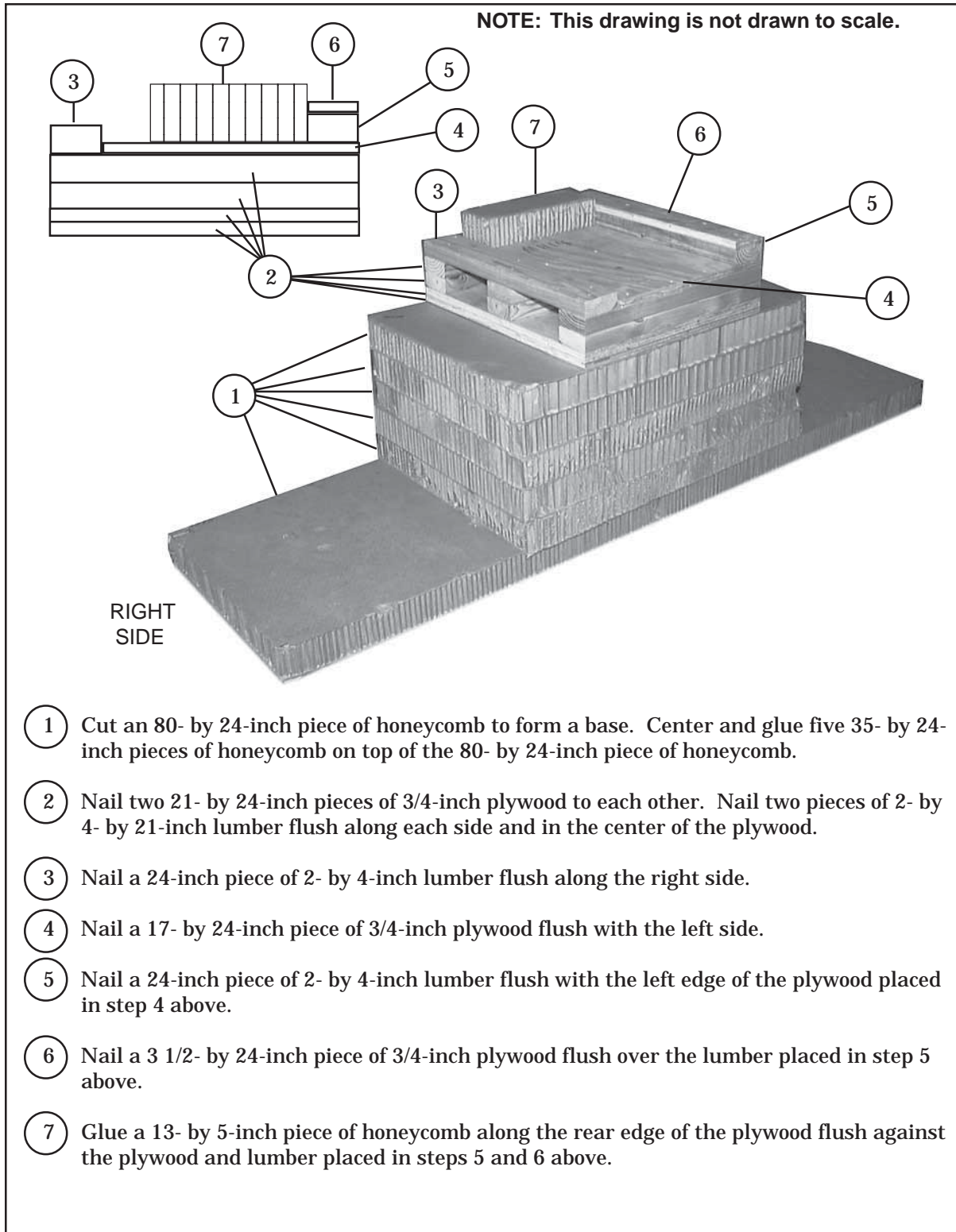
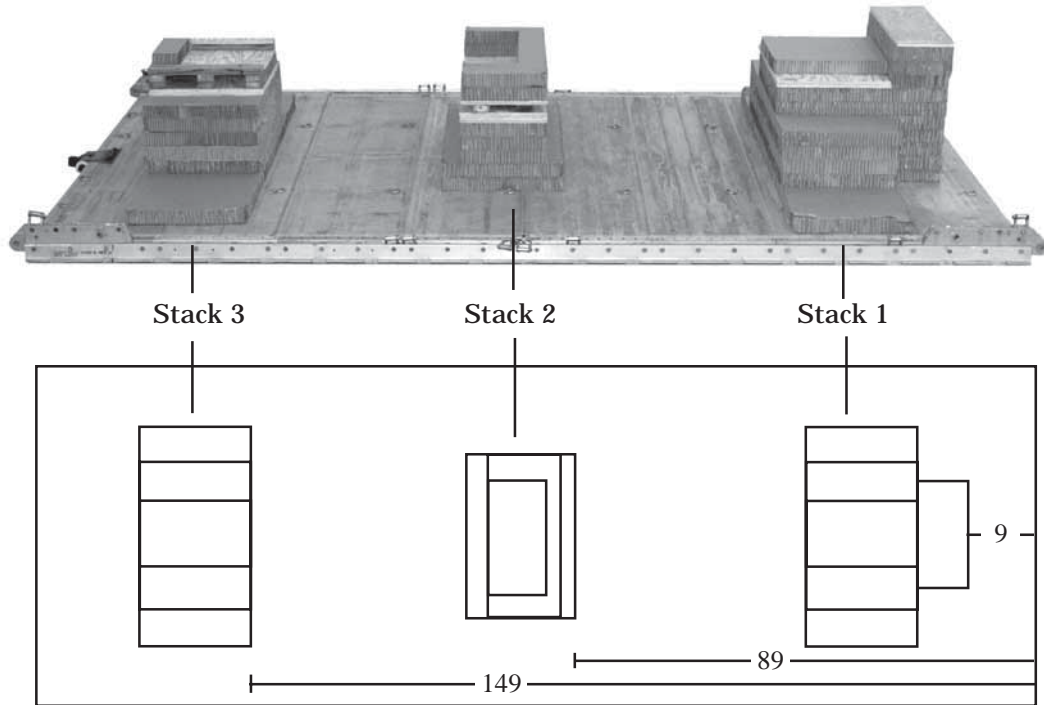


Figure 4-40. Stack 3 Constructed

**NOTES:** 1. This drawing is not drawn to scale.  
 2. All dimensions are in inches.



Stack Number	Position of Stack on Platform
1	Place stack: Centered 9 inches from front edge of platform.
2	Centered 89 inches from front edge of platform.
3	Centered 149 inches from front edge of platform.

**Figure 4-41. Honeycomb Stacks Positioned on Platform**

## PREPARING THE TRUCK

4-33. Prepare the truck as described in paragraphs 2-4a through e, g, and h, and as shown in Figures 2-6 and 2-7, 2-8 (omit steps 1 and 3), 2-9, 2-11, and 2-12. Further prepare the closed-body HMMWV as shown in Figures 4-42 and 4-43.

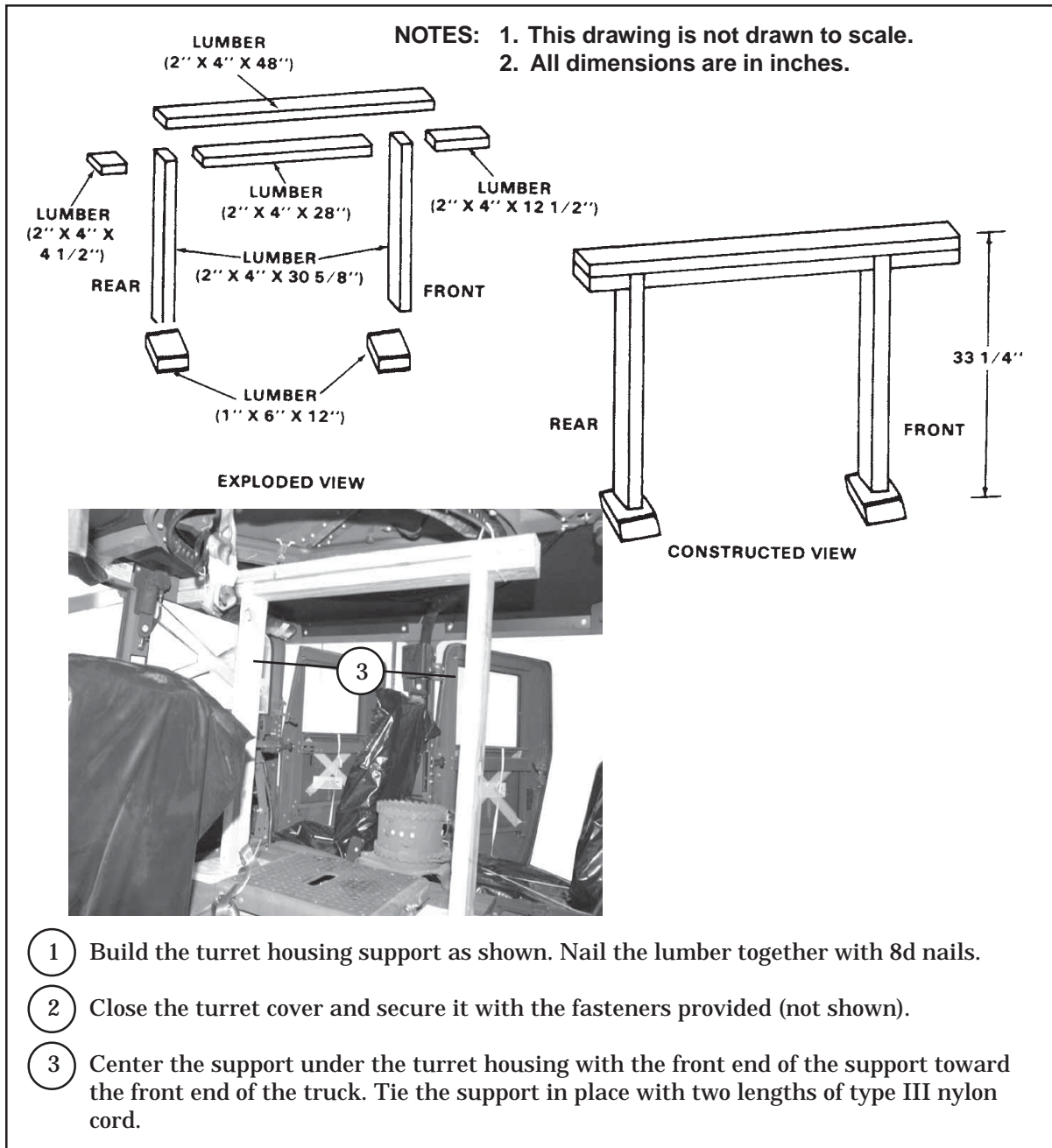
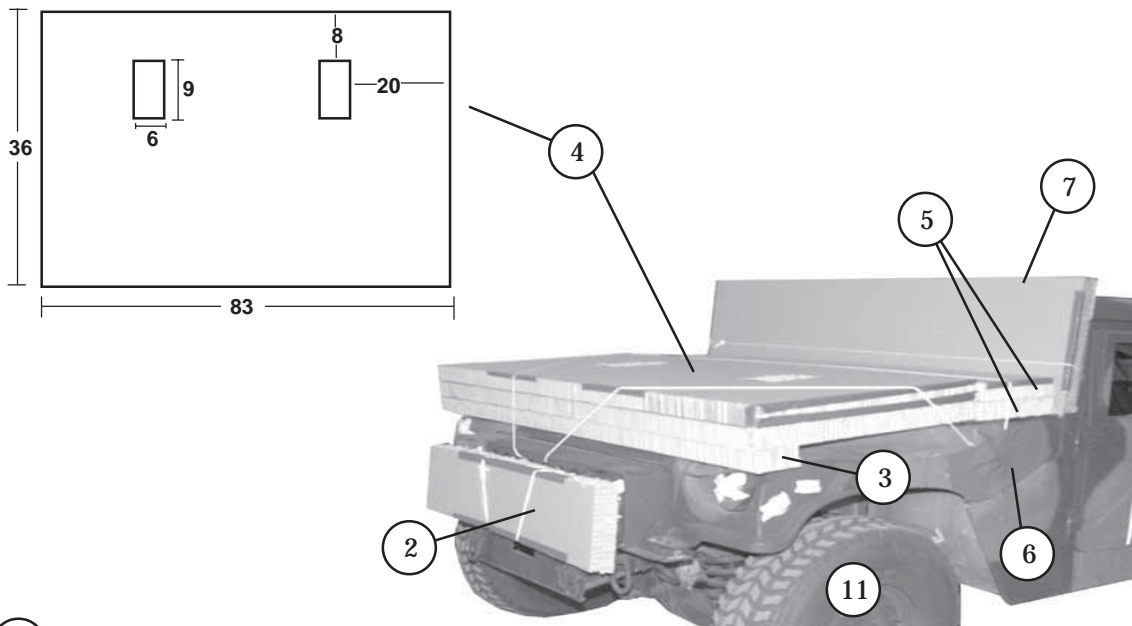


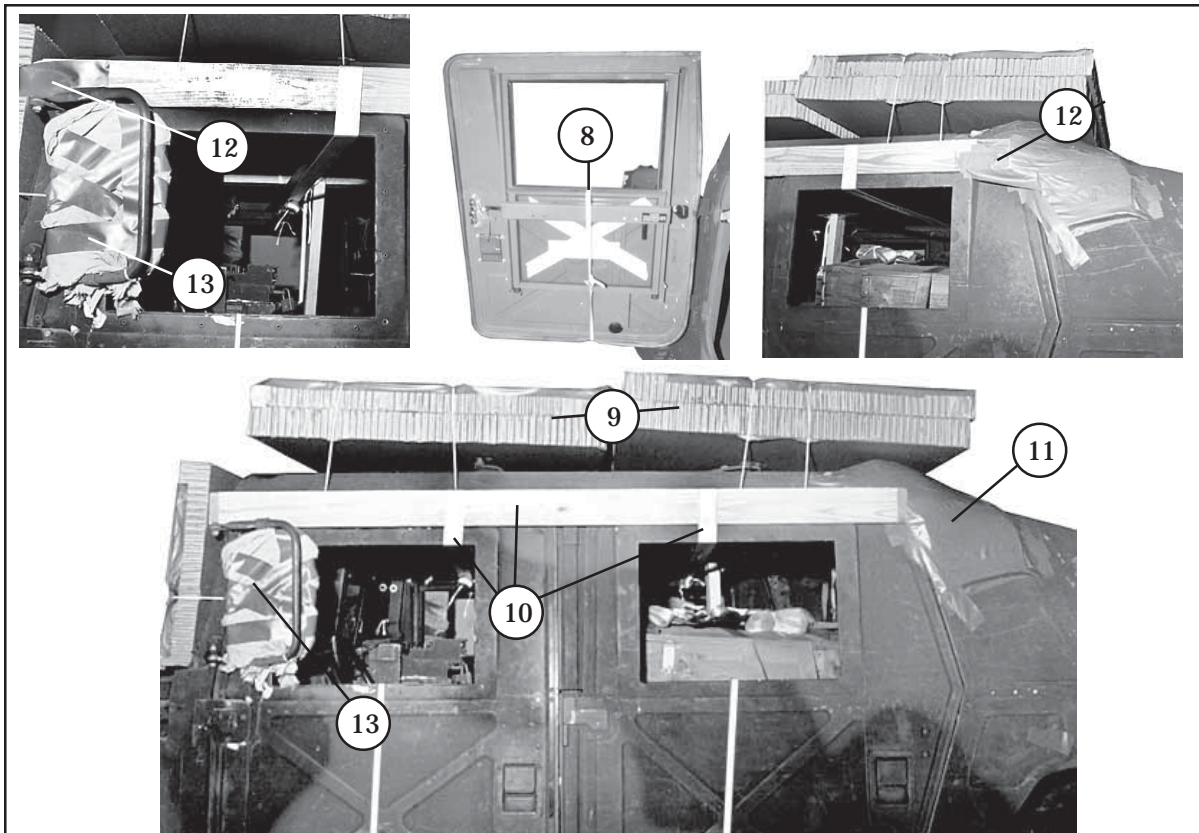
Figure 4-42. Turret Support Built and Placed

- NOTES:** 1. This drawing is not drawn to scale.  
2. All dimensions are in inches.



- 1 Tape all lights and reflectors.
- 2 On trucks equipped with the brush guard, cover the front side with an 83- by 14-inch piece of honeycomb tied in place with type III nylon cord.
- 3 Center an 83- by 6-inch piece of honeycomb along the front edge of the hood.
- 4 Place two 36- by 83-inch pieces of honeycomb, with cutouts as shown, over the hood. Tape the upper edges of the top piece. Tie the honeycomb in place with a length of type III nylon cord. Tie the cord to a hood latch, pass it through the grille, and tie off to the other hood latch.
- 5 Place two 83- by 15-inch pieces of honeycomb just behind the honeycomb placed in step 2 above. Tape the top outside edges. Secure the honeycomb to the hood latch brackets with type III nylon cord.
- 6 Tape the hood latches.
- 7 Lower all side windows and open the truck doors. Place a 21- by 83-inch piece of honeycomb against the windshield. Tie a length of type III nylon cord around the honeycomb and the inside of the windshield frame.

**Figure 4-43. Truck Body Prepared**

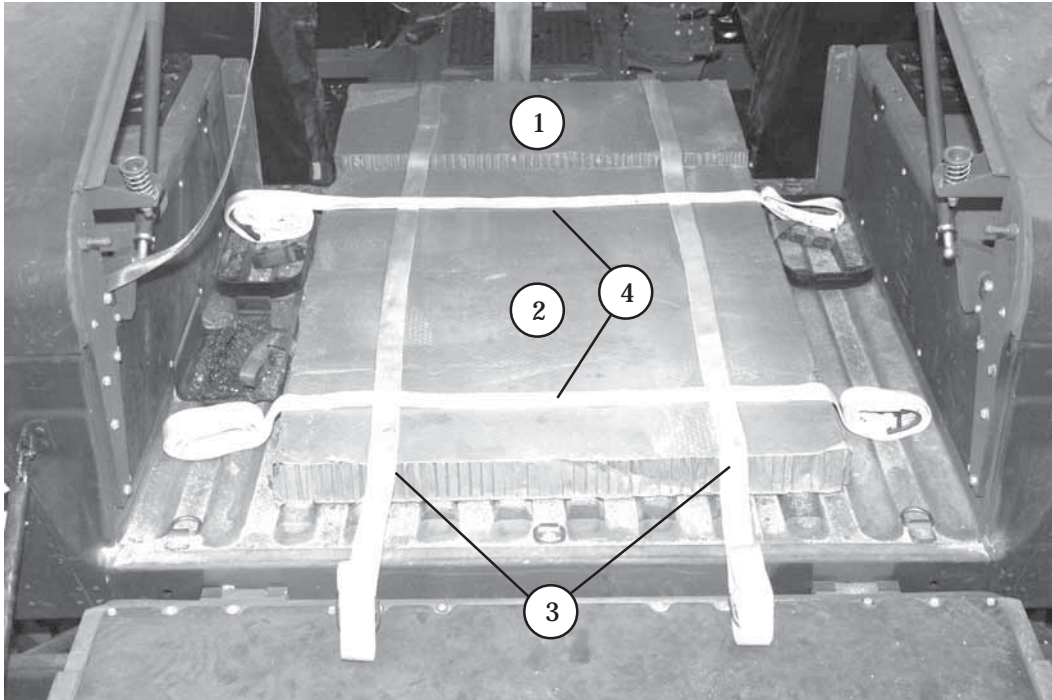


- 8 Secure the window in the down position with a length of 1/2-inch tubular nylon webbing. Secure with a slip knot on the inside of the door.
- 9 Cover the roof with four 82- by 36-inch pieces of honeycomb. Tape the upper 36-inch edges. Tie four lengths of type III nylon cord over the honeycomb and through the door openings.
- 10 Pass 15-foot lashings through the door openings on each side of the truck and close the doors. Cut a 45-degree bevel in each end of two pieces of 2- by 4- by 69 1/2-inch lumber. Rest the long side of each piece of lumber over the window openings and even with the front edge of the windshield frame. Pass the free ends of the lashings down over the lumber and through the windows. Secure the lashings inside the truck.
- 11 Pad the upper rear corner of the door and the end of the rain gutter with a 12- by 12- inch piece of felt taped in place.
- 12 Tape the front and rear ends of the lumber to the windshield frame and to the padding over the rear gutter.
- 13 Pad the mirrors with cellulose wadding taped in place. Fold the mirrors inward and tie them together through the cab of the truck.

Figure 4-43. Truck Body Prepared (continued)

## STOWING ACCOMPANYING LOAD

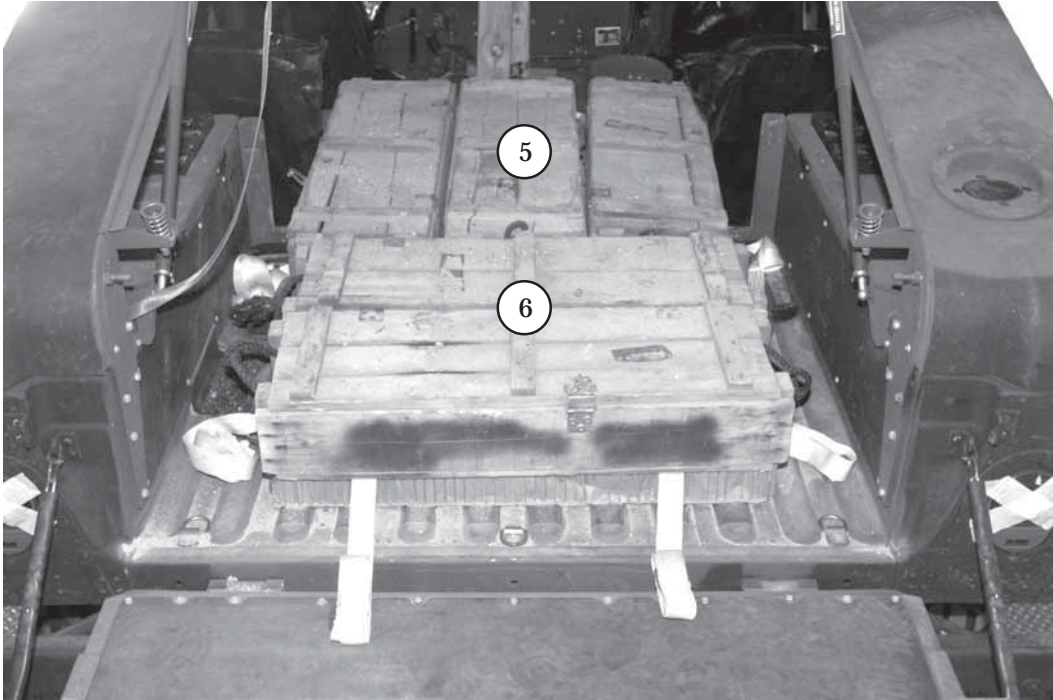
4-34. Stow an accompanying load of 1,300 to 2,000 pounds in the cargo area of the truck. Use or adapt the procedures shown in Figure 4-44. Make sure the accompanying load complies with the restrictions outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.



- ① Cut a 36- by 16-inch piece of honeycomb and position it against the rear turret support.
- ② Cut a 36- by 43-inch piece of honeycomb and position it against the honeycomb in step 1.
- ③ Position two 15-foot lashings lengthwise 6 inches from each outside edge of honeycomb.
- ④ Position two 15-foot lashings widthwise 6 inches from the front and rear edge of the honeycomb positioned in step 1 and 2.

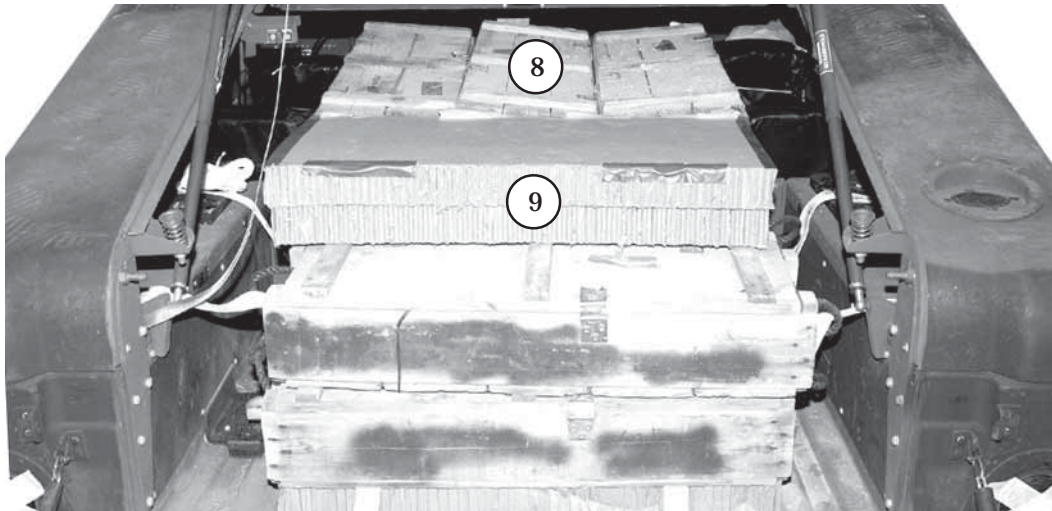
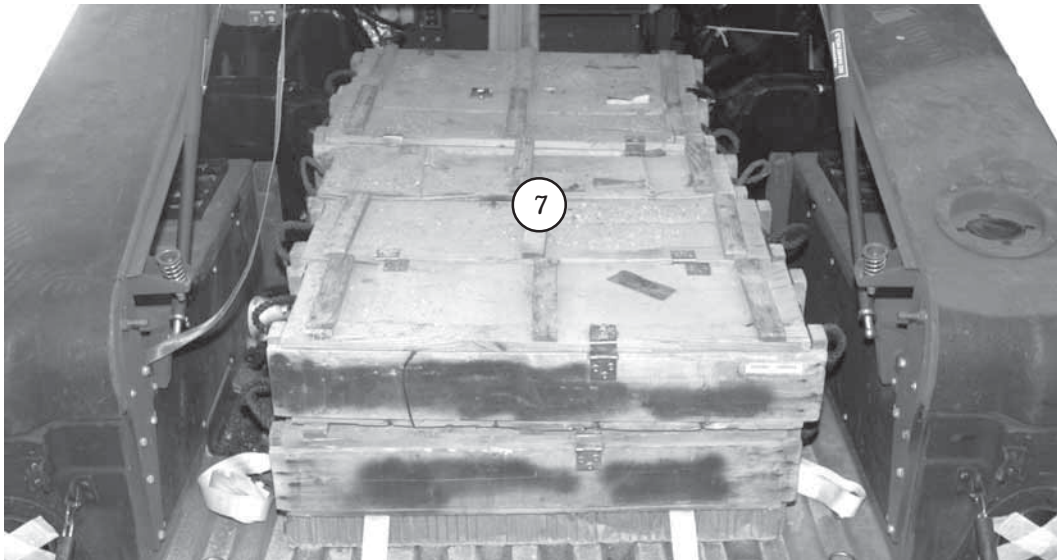
Figure 4-44. Accompanying Load Stowed in Truck





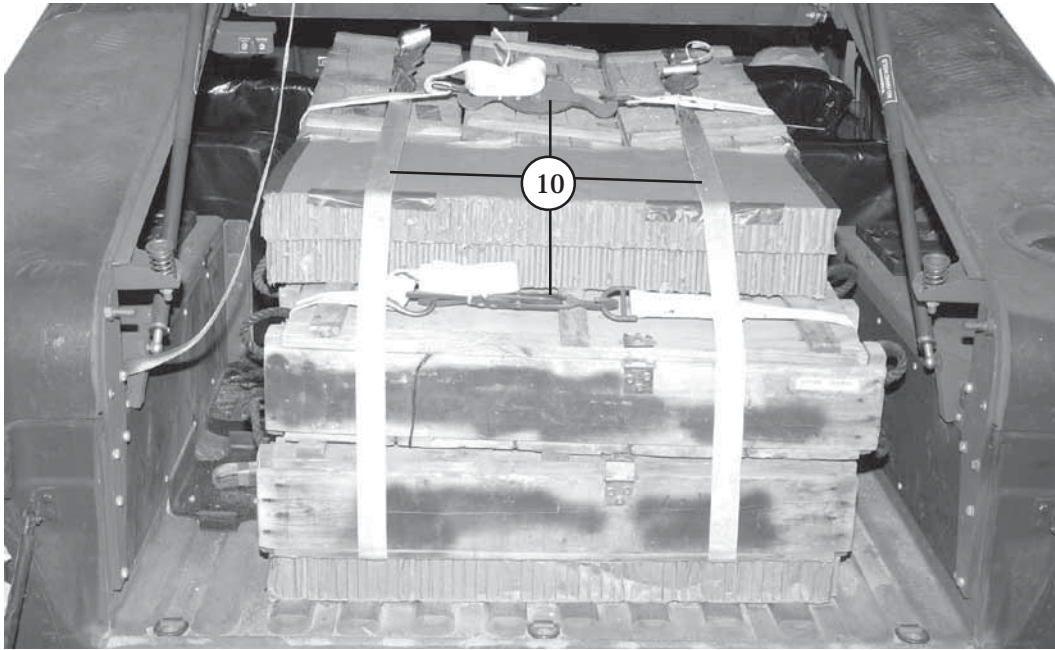
- 5 Position three 105-mm ammunition boxes lengthwise on top of the honeycomb. The boxes should be flush with the front edge of the 36- by 16-inch piece of honeycomb. Ensure the 15-foot lashing is running widthwise under the rear end of the ammunition boxes.
- 6 Position two 105-mm ammunition boxes widthwise flush against the ammunition boxes in step 5. Ensure the 15-foot lashing is running widthwise and is centered under the rear ammunition box.

**Figure 4-44. Accompanying Load Stowed in Truck (Continued)**



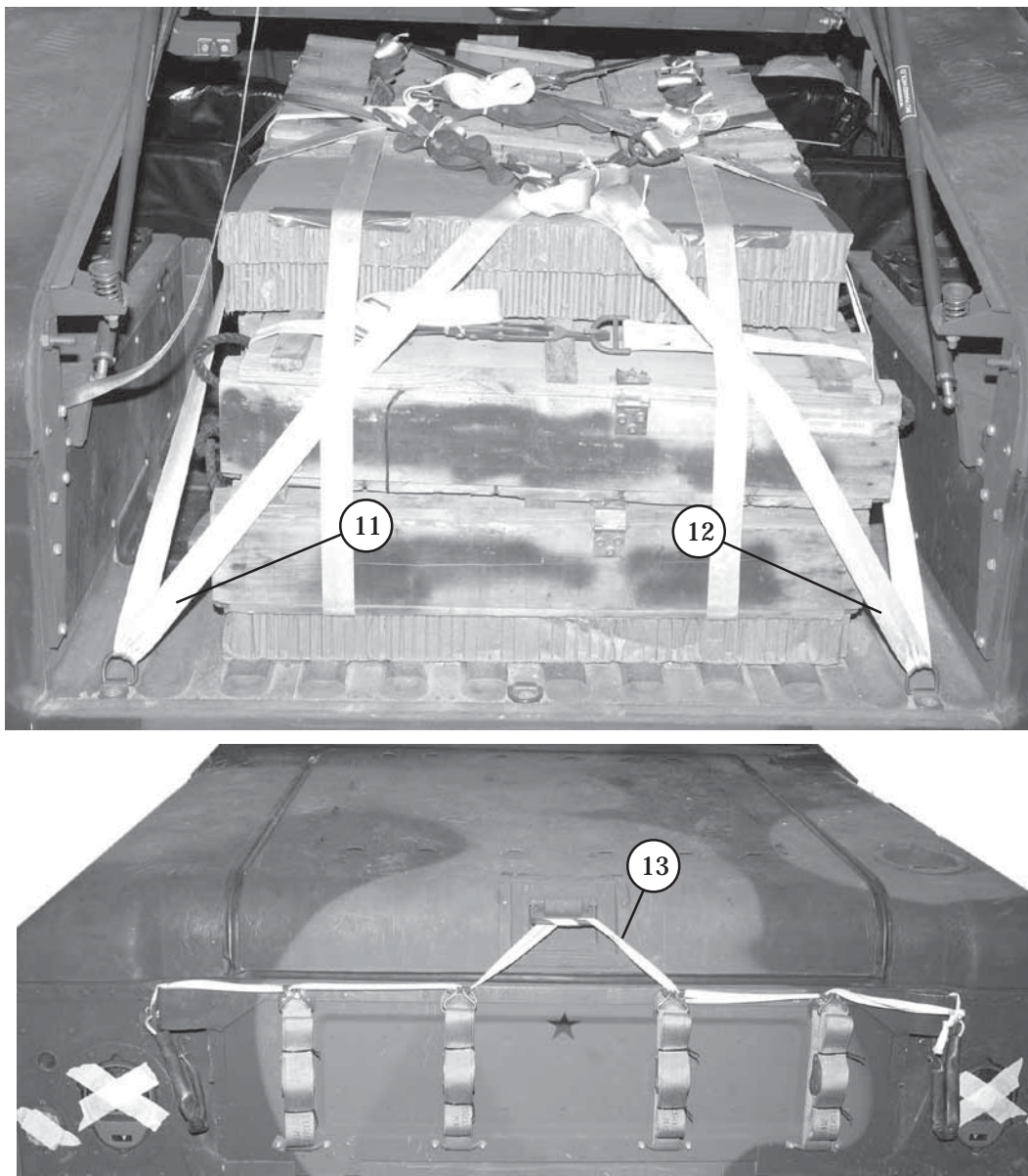
- 7 Position five ammunition boxes widthwise on top of the first layer of ammunition. The boxes should be flush with the bottom edges against the turret support.
- 8 Position three ammunition boxes lengthwise flush against the turret support on top of the previously placed ammunition boxes.
- 9 Cut two 17- by 36-inch pieces of honeycomb and position them to the rear of the boxes in step 8. Tape the edge of the honeycomb where the lashing makes contact.

Figure 4-44. Accompanying Load Stowed in Truck (Continued)



⑩ Secure the four pre-positioned lashings and secure with a D-ring and load binder.

Figure 4-44. Accompanying Load Stowed in Truck (Continued)



- ①① Route a 30-foot lashing through the left rear tie-down ring. Bring both ends over the boxes diagonally. Route the lashing through the right front tie-down ring. Secure the lashing over the load making sure to split the lashing on the corners.
- ①② Repeat step 11 using the right rear and left front tie-down rings.
- ①③ Close and latch the tailgate and hatch. Fold and tape the cargo straps. Run a length of 1/2-inch tubular nylon webbing under the cargo straps and through the hatch cover handle. Tie the running ends to the tailgate hook brackets.

Figure 4-44. Accompanying Load Stowed in Truck (Continued)

## LIFTING AND POSITIONING TRUCK AND INSTALLING OPTIONAL DRIVE-OFF AIDS

4-35. Install the optional drive-off aids on the platform as shown in Figure 2-15. Install lifting slings on the truck as shown in Figure 2-16 and position the truck as shown in Figure 4-45.

## LASHING TRUCK

4-36. Lash the truck to the platform with fifteen 15-foot tie-down assemblies as shown in Figures 4-46 and 4-47, and according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

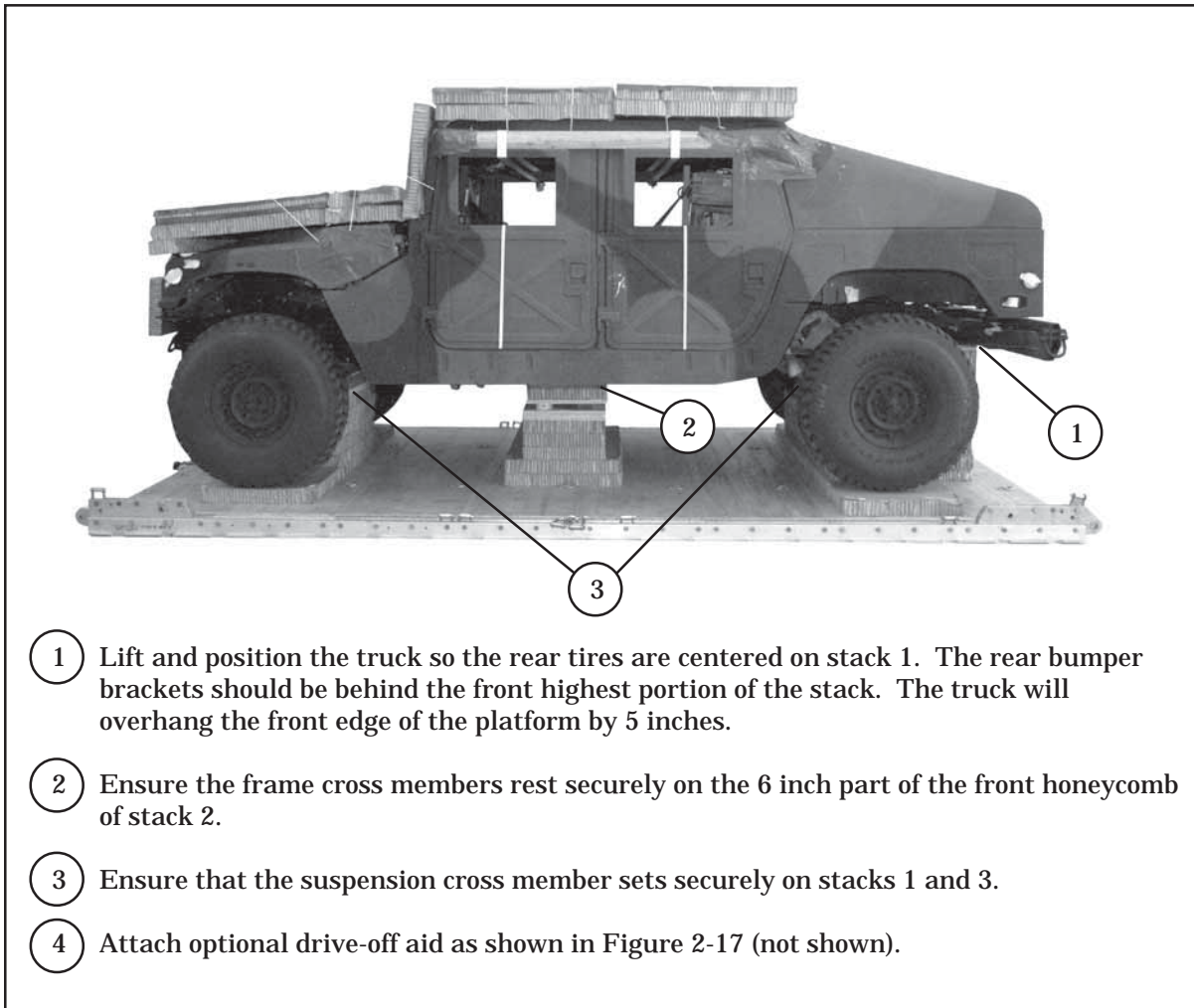
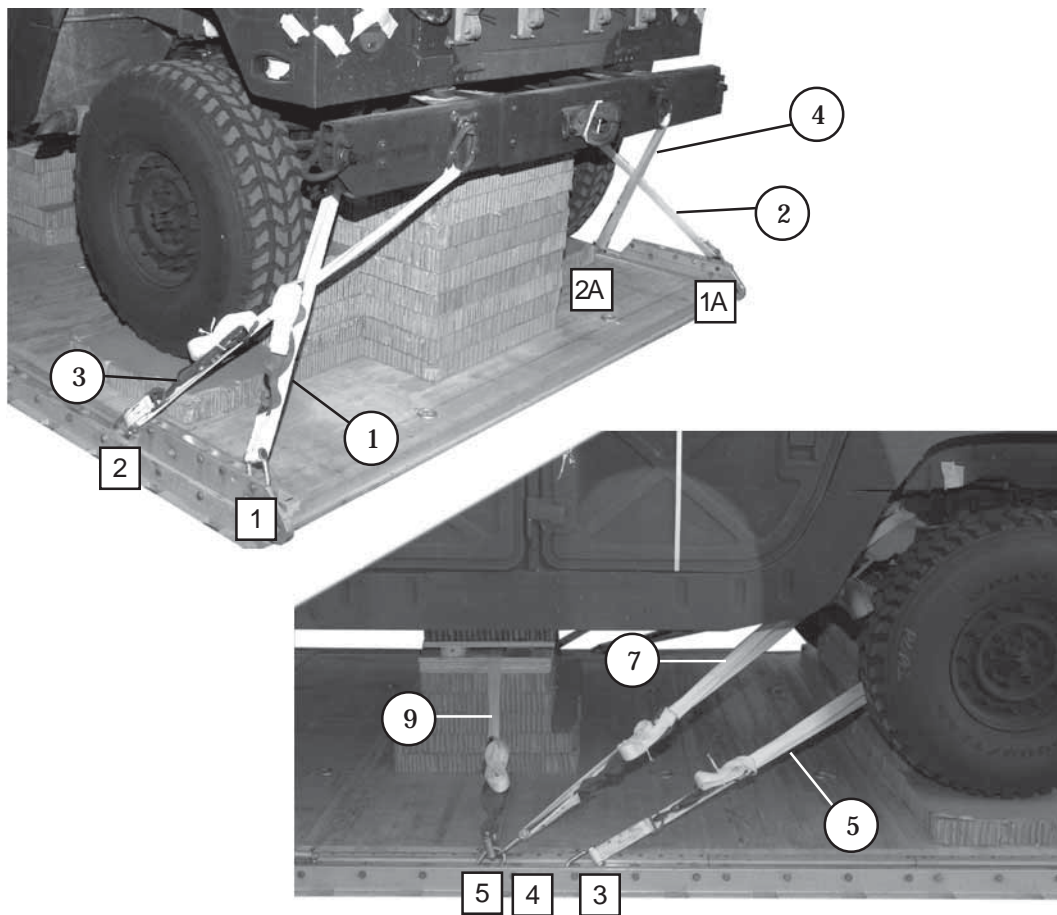
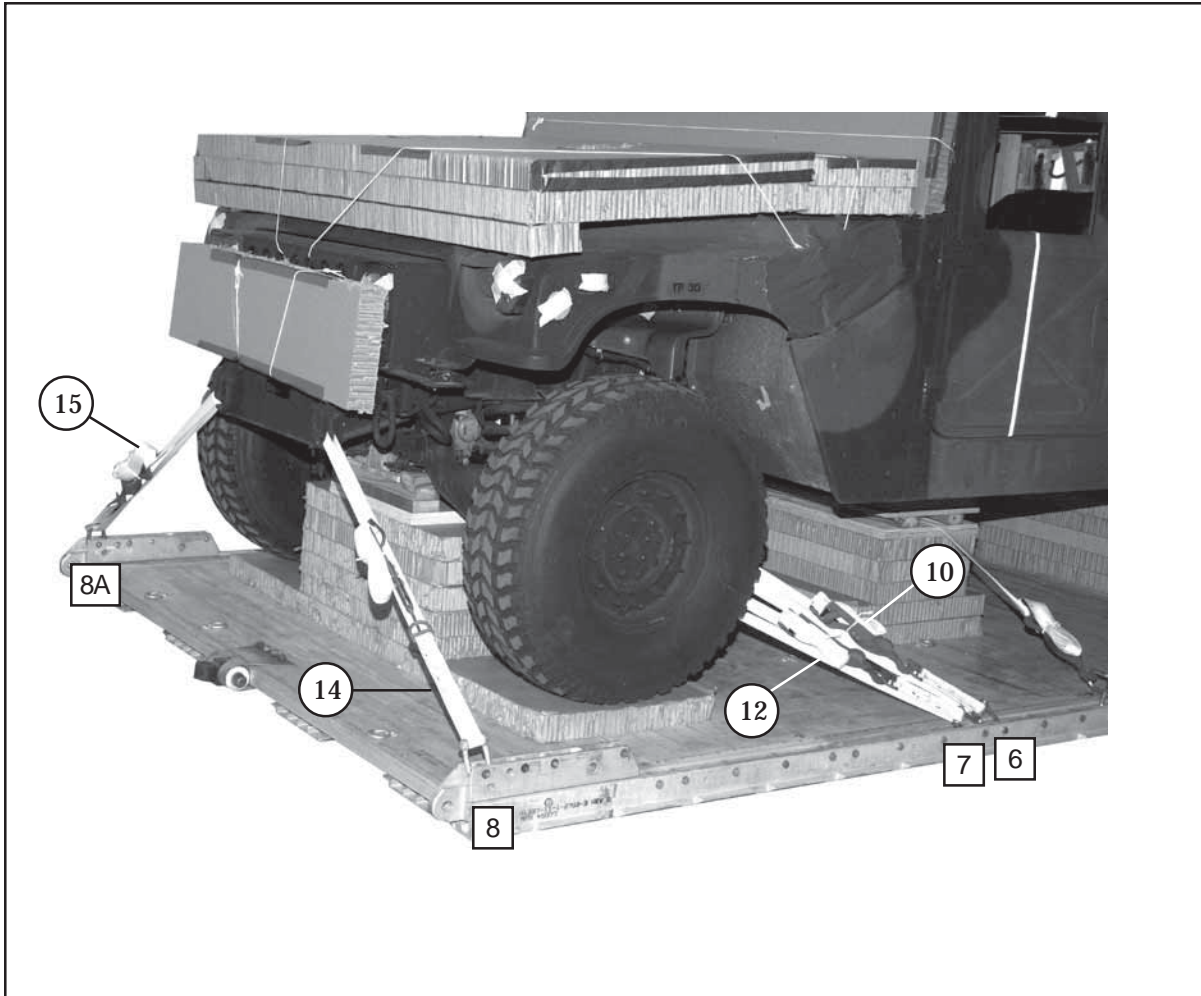


Figure 4-45. Truck Positioned



Lashing Number	Tie-down Clevis Number	Instructions
1	1	Pass lashing:
2	1A	Through tie-down bracket behind left rear coil spring.
3	2	Through tie-down bracket behind right rear coil spring.
4	2A	Through left rear lifting shackle.
5	3	Through right rear lifting shackle.
6	3A	Around left rear lower control arm.
7	4	Around right rear lower control arm.
8	4A	Through tie-down bracket in front of left rear coil spring.
9	5 and 5A	Through tie-down bracket in front of right rear coil spring.
		Pass a 15-foot lashing through clevis 5A and through its own D-ring. Pass the lashing through the hole in stack 2. Attach the lashing to clevis 5 with a load binder.

Figure 4-46. Lashings 1 Through 9 Installed



Lashing Number	Tie-down Clevis Number	Instructions
10	6	Pass lashing: Through tie-down bracket behind left front coil spring.
11	6A	Through tie-down bracket behind right front coil spring (not shown).
12	7	Around left lower control arm.
13	7A	Around right lower control arm (not shown).
14	8	Through tie-down bracket on end of left frame rail.
15	8A	Through tie-down bracket on end of right frame rail.

Figure 4-47. Lashings 10 Through 15 Installed

## INSTALLING AND SAFETY TYING SUSPENSION SLINGS

4-37. Install, pad and safety tie four 16-foot 2-loop type XXVI nylon suspension slings as shown in Figure 2-20.

## STOWING CARGO PARACHUTES

4-38. Stow and restrain three G-11 cargo parachutes on the load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 4-48.

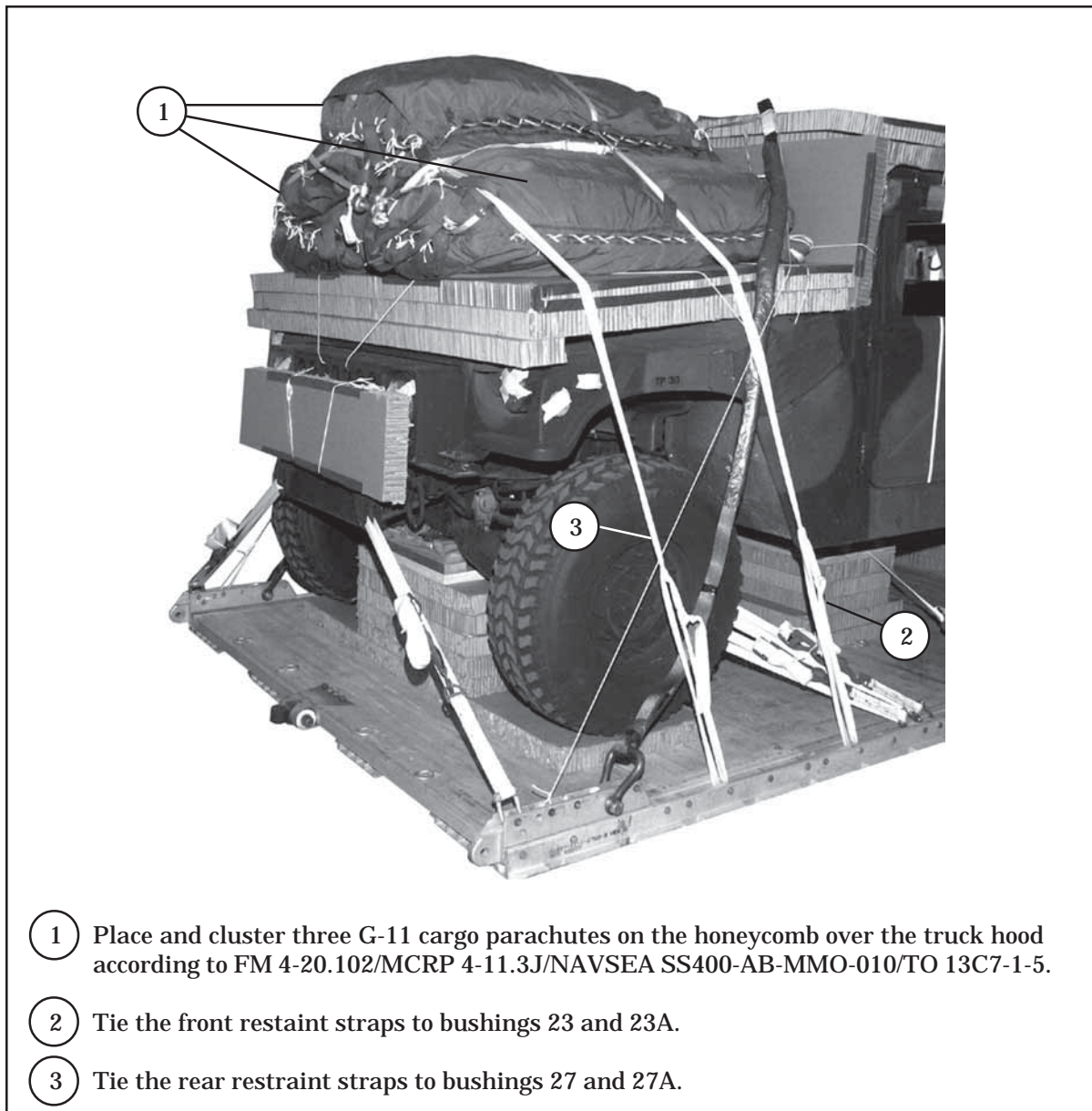
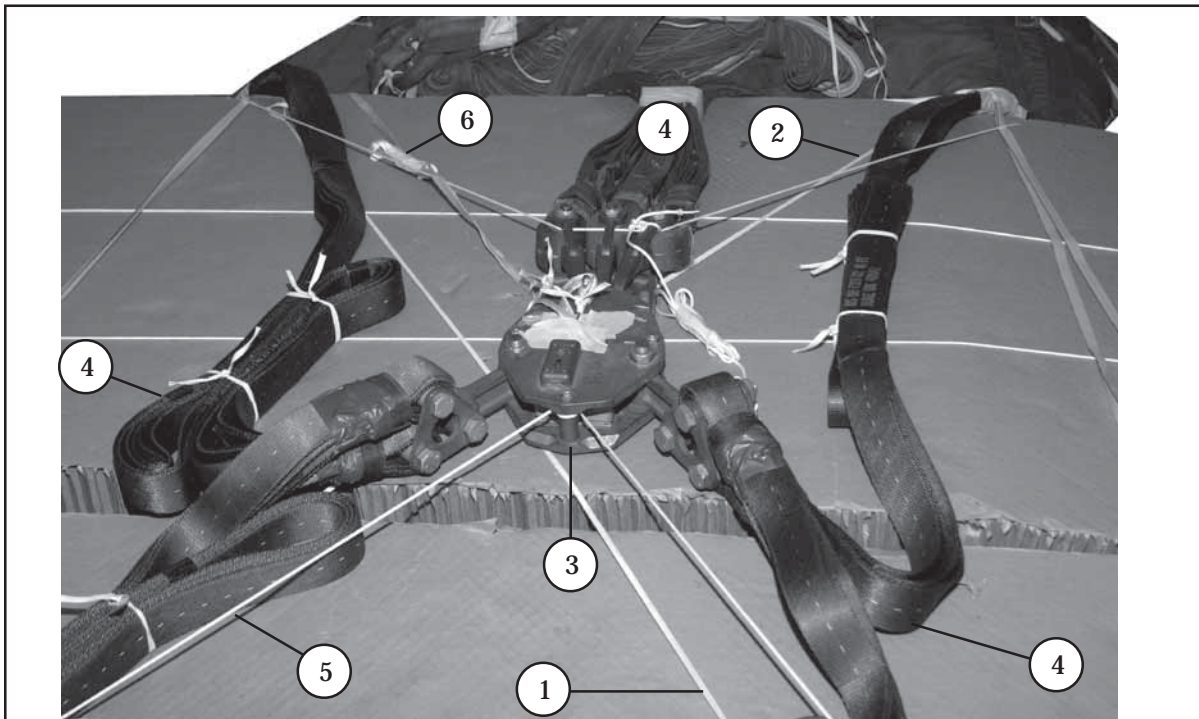


Figure 4-48. Cargo Parachutes Installed



## INSTALLING PARACHUTE RELEASE

4-39. Prepare and install an M-1 cargo parachute release according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 4-49.



- ① Tie a length of type I 1/4-inch cotton webbing to the right rear suspension sling below the deadman's tie. Bring the webbing diagonally over the load to the left front. Pull it taut, and tie it to the left front sling below the deadman's tie.
- ② Tie the left rear and right front suspension slings together in the same way as in step 1 above.
- ③ Place the M-1 release on the roof honeycomb in front of the parachutes.
- ④ Attach the suspension slings and riser extensions according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Fold the excess suspension slings and secure with type I 1/4-inch cotton webbing.
- ⑤ Restrain the release to a convenient point on the load with type III nylon cord.
- ⑥ Secure the arming wire lanyard to the parachute carrying handle and S-fold and tape the excess.

Figure 4-49. M-1 Release Installed

## **INSTALLING EXTRACTION SYSTEM**

4-40. Install the EFTC extraction system according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 4-34.

## **INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS**

4-41. Install provisions for emergency restraints according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

## **PLACING EXTRACTION PARACHUTE**

4-42. Select the extraction parachute and extraction line needed, using the extraction line requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Rig the extraction line in a line bag according to TM 10-1670-286-20/TO 13C5-2-41. Place the extraction parachute and extraction line on the load for installation on the aircraft.

## **MARKING RIGGED LOAD**

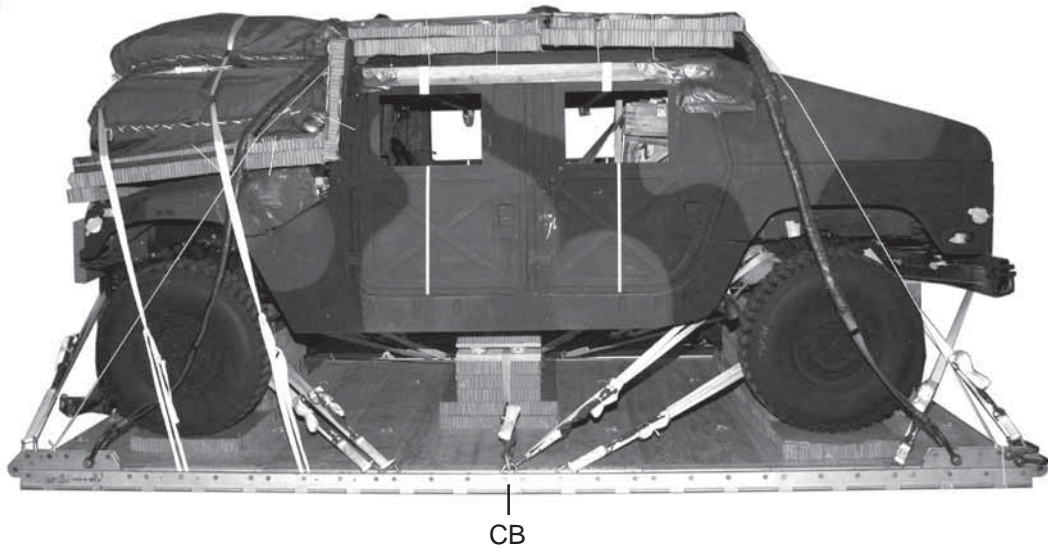
4-43. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 4-50. Complete Shipper's Declaration for Dangerous Goods according to AFMAN 24-204(I)/TM 38-250. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

## **EQUIPMENT REQUIRED**

4-44. Use the equipment listed in Table 4-3 to rig this load.

**CAUTION**

Make the final rigger inspection required by FM 4-20.102/ MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and AR 59-4/OPNAVINST 4463.24C/AFJ 13-210(I)/ MCO 13480.1B before the load leaves the rigging site.



**RIGGED LOAD DATA**

Weight: Load shown .....	11,340 pounds
Maximum load allowed .....	12,100 pounds
Height (with three G-11B parachutes) .....	93 inches
Width .....	108 inches
Length (overall) .....	215 inches
Overhang: Front .....	5 inches
Rear (EFTC) .....	18 inches
Rear (EPJS) .....	30 inches
CB (from front edge of platform) .....	96 inches

**Figure 4-50. M1151 Expanded Capacity Armament Carrier**

**Table 4-3. Equipment Required for Rigging the M1151 Expanded Capacity Armament Carrier for Low-Velocity Airdrop**

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
	Clevis, suspension:	
4030-00-090-5354	1-in (large)	5
4030-00-678-8562	3/4-in (medium)	2
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5785	Coupling, airdrop, extraction force transfer with cable, 16-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	3
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-191-1101	Felt, 1/2-in thick	As required
1670-00-003-4391	Knife, parachute bag for C-17	1
1670-01-183-2678	Leaf, extraction line (line bag)	2
	Line, drogue (for C-17)	
1670-01-064-4452	60-ft (1-loop), type XXVI	1
	Line, extraction:	
1670-01-062-6313	For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
	Link Assembly:	
	Two-point:	2
5306-00-435-8994	Bolt, 1-in diam, 4-in long	(4)
5310-00-232-5165	Nut, 1-in, hexagonal	(4)
1670-00-003-1953	Plate, side, 3 3/4-in	(4)
5365-00-007-3414	Spacer, large	(4)
	Lumber:	
5510-00-220-6448	2- by 6-in	As required
5510-00-220-6274	4- by 4-in	As required
5315-00-010-4659	Nail, steel wire, 8d	As required

**Table 4-3. Equipment Required for Rigging the M1151 Expanded Capacity Armament Carrier for Low-Velocity Airdrop (Continued)**

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating (honeycomb) 3- by 36- by 96-in	10 sheets
1670-01-016-7841	Parachute: Cargo: G-11B	3
1670-01-063-3716	Cargo extraction: 22-ft	1
1670-01-063-3715	Drogue (for C-17) 15-ft	1
1670-01-353-8425	Platform, airdrop, type V, 16-ft	(1)
1670-01-162-2372	Bracket assembly, coupling	(18)
1670-01-162-2376	Clevis assembly, type V	(1)
1670-01-162-2381	Extraction bracket assembly	(4)
5530-00-128-4981	Tandem link assembly (Multipurpose link)	3 sheets
1670-01-097-8816	Plywood, 3/4-in	1
1670-01-063-7761	Release, cargo parachute, M-1	4
1670-01-062-6304	Sling, cargo, airdrop For suspension: 16-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6303	For lifting: 9-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6304	12-ft (2-loop), type XXVI nylon webbing	1
1670-01-062-6302	For deployment: 9-ft (2-loop), type XXVI nylon webbing	3
5340-00-040-8219	For riser extension: 60-ft (3-loop), type XXVI nylon webbing	2
7510-00-266-5016	Strap, parachute release, multi-cut, comes w/ 3 knives	As required
1670-00-937-0271	Tape, adhesive, 2-in	27
1670-01-483-8259	Tie-down assembly, 15-foot	1
1670-00-431-8486	Towplate release mechanism (h-block) (C-17 only)	1
8305-00-268-2411	Vehicle drive-off aid	As required
8305-00-082-5752	Webbing: Cotton, 1/4-in, type I	As required
8305-00-268-2455	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Nylon, tubular, 1-in	As required
	Nylon, Type VIII	As required

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## CHAPTER 5

# RIGGING SPECIFIC ACCOMPANYING LOADS IN HMMWV-SERIES TRUCKS

### DESCRIPTION OF LOADS

5-1. This chapter tells and shows how to rig specific items of Army equipment in the cargo bodies of HMMWV-series trucks. All trucks on 16-foot and 20-foot platforms must be rigged with a load in the truck. See the chapter or section for the particular truck for the minimum and maximum allowable load weights. If a specific piece of equipment is lighter than the minimum specified weight, additional items must be rigged to meet the minimum weight requirement.

Since loads in actual tactical situations vary greatly, and equipment changes rapidly, use these procedures as guides for rigging similar items.

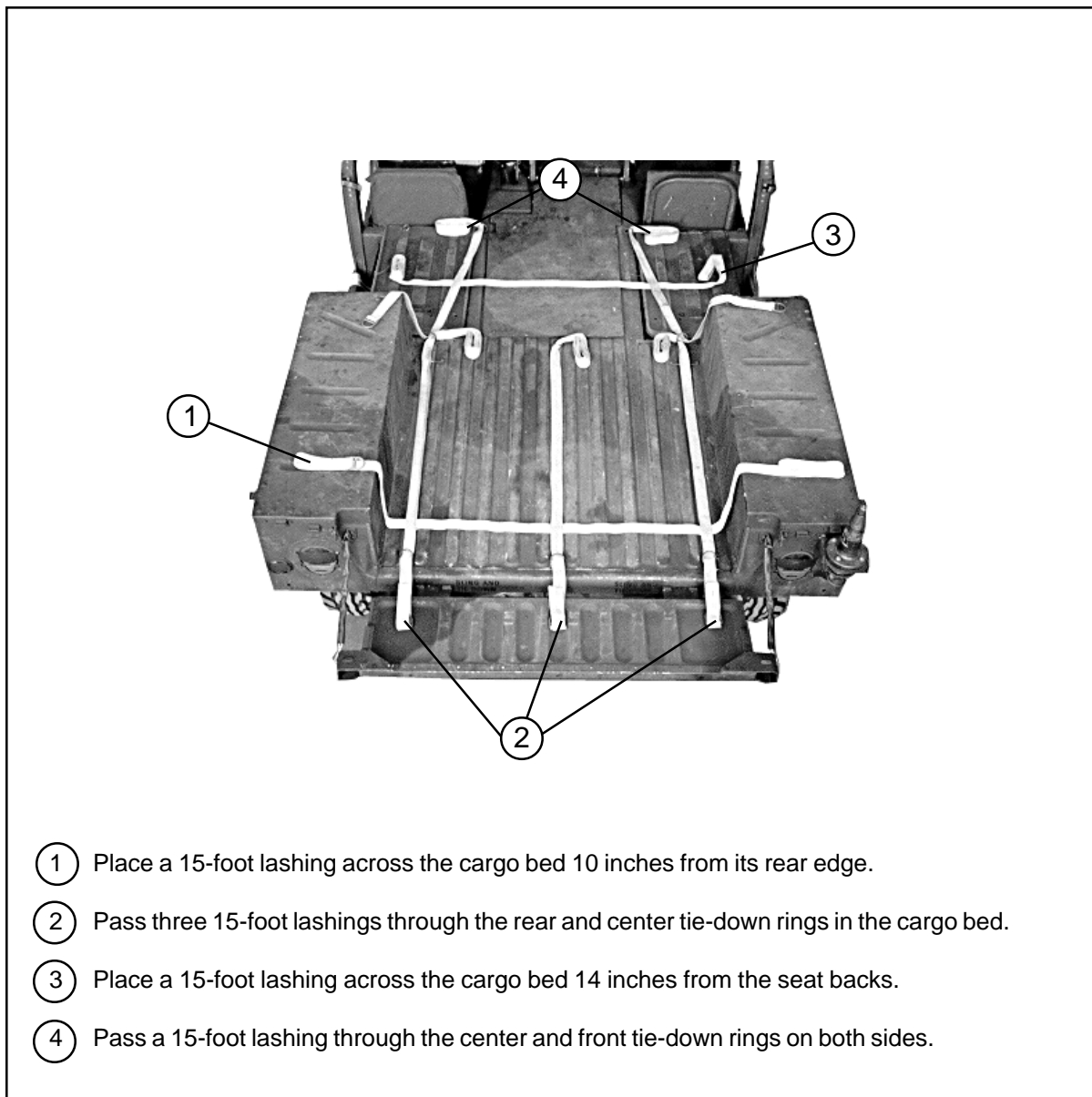
The loads shown in this chapter can be rigged in trucks of similar configuration and load capacity, unless the procedures specify that the load can be rigged in only one model of truck. Consult the chapter or section for the truck shown to find alternative truck models that can be used to rig the load.

#### CAUTION

**Only ammunition listed in FM 10-500-53/MCRP 4-3.81/TO 13C7-18-41 may be airdropped. Package, mark, and label hazardous material according to AFJMAN 24-204/TM 38-250.**

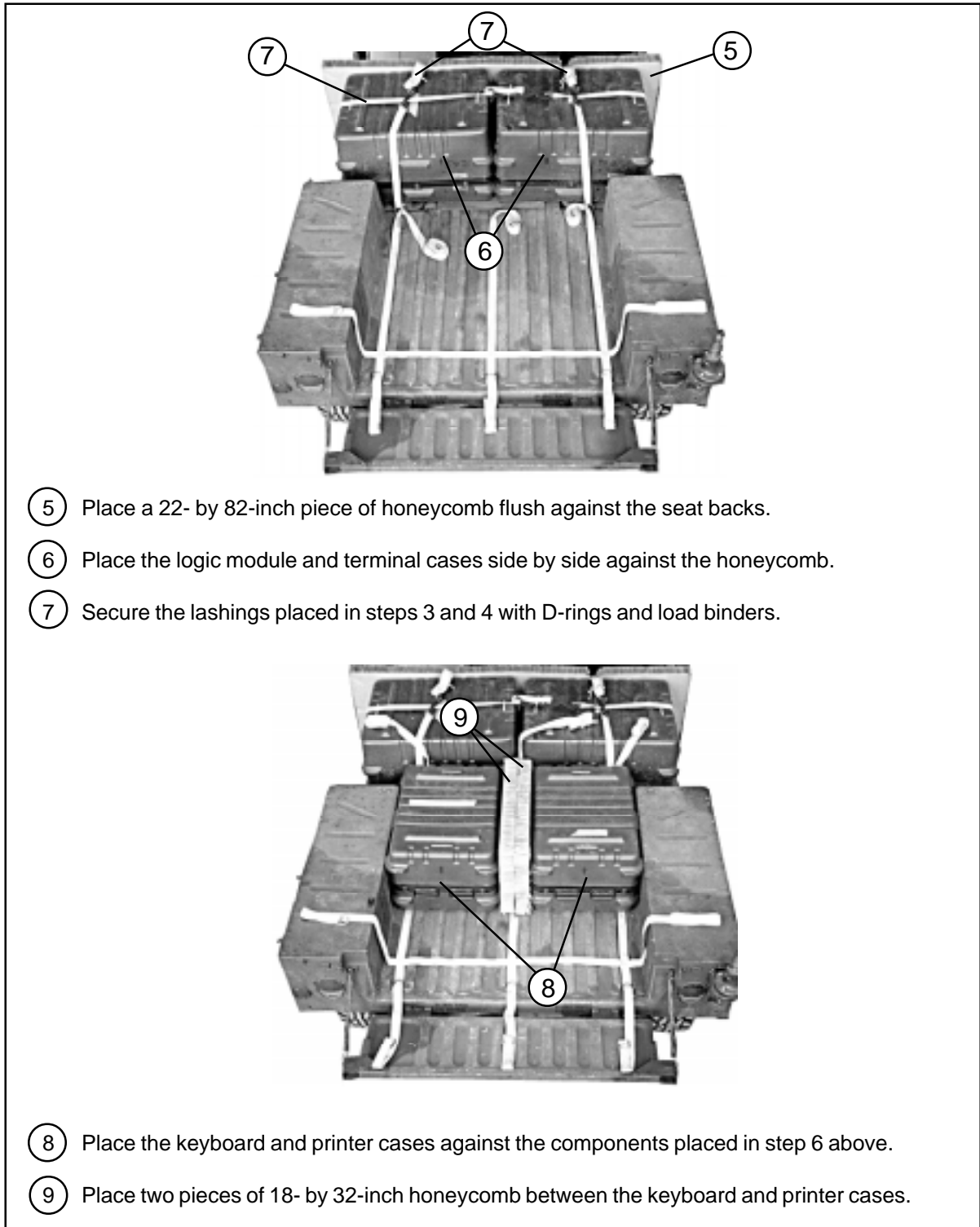
## RIGGING TACCS, AMMUNITION, AND TRUCK EQUIPMENT IN M998 AND M1039 CARGO/TROOP CARRIERS

5-2. Use the procedures in Figure 5-1 to stow the TACCS (Tactical Army Combat Service Support Computer System), six boxes of 20-mm ammunition, and truck equipment. The accompanying load shown weighs 990 pounds.

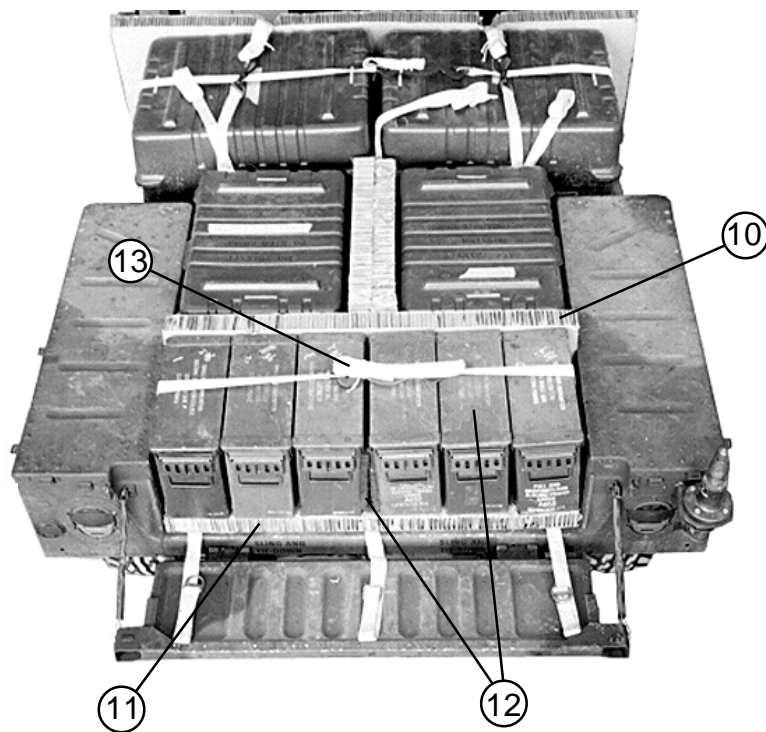


**Figure 5-1. TACCS, Ammunition, and Truck Equipment Rigged in Cargo/Troop Carrier**



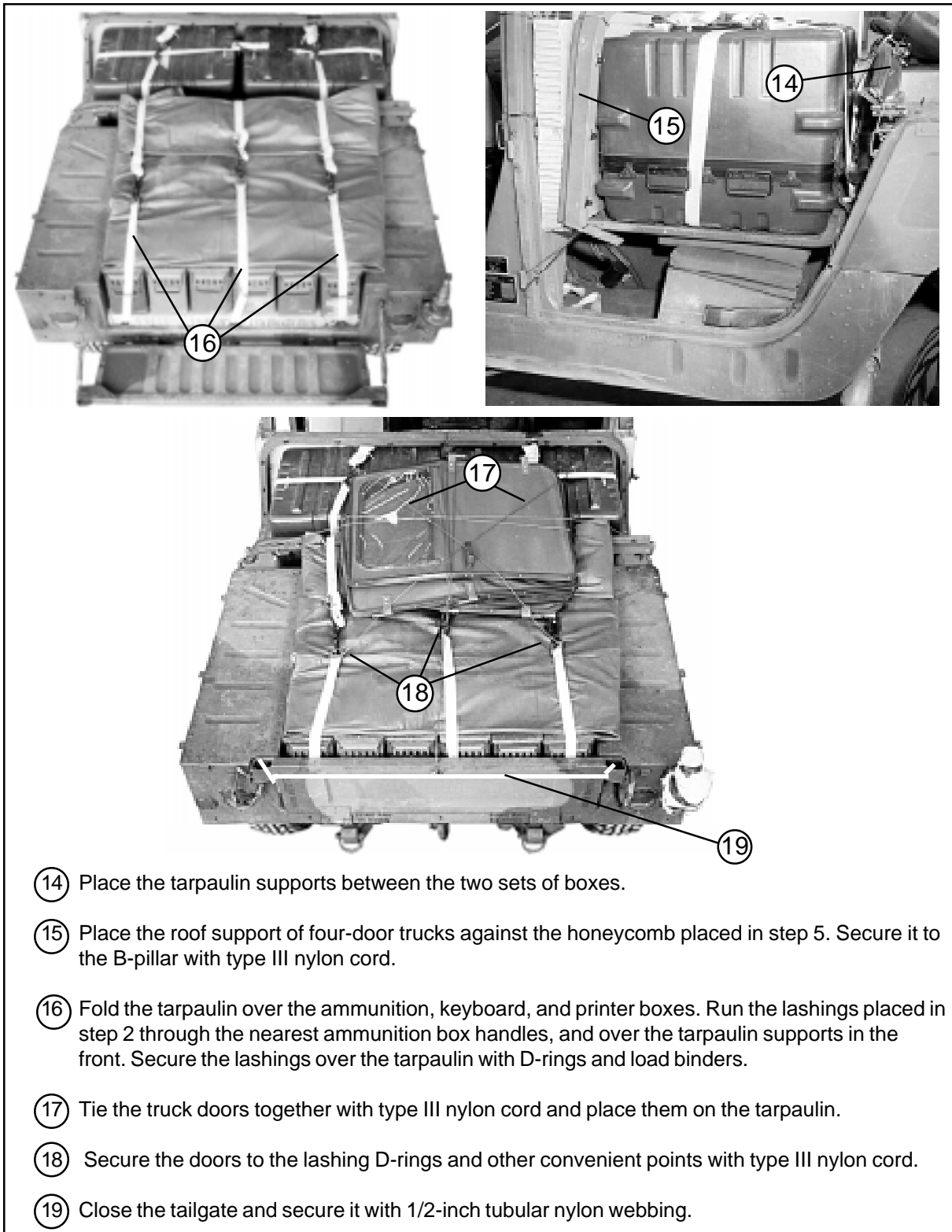


**Figure 5-1. TACCS, Ammunition, and Truck Equipment Rigged in Cargo/Troop Carrier (continued)**



- ⑩ Place an 18- by 52-inch piece of honeycomb against the keyboard and printer boxes.
- ⑪ Place an 18- by 52-inch piece of honeycomb on the cargo bed floor.
- ⑫ Place six boxes of 20-mm ammunition on the honeycomb. Place two pieces of 1/2- by 15- by 19-inch felt between the third and fourth boxes.
- ⑬ Bind the boxes together with the lashing placed in step 1.

**Figure 5-1. TACCS, Ammunition, and Truck Equipment Rigged in Cargo/Troop Carrier (continued)**



- ①④ Place the tarpaulin supports between the two sets of boxes.
- ①⑤ Place the roof support of four-door trucks against the honeycomb placed in step 5. Secure it to the B-pillar with type III nylon cord.
- ①⑥ Fold the tarpaulin over the ammunition, keyboard, and printer boxes. Run the lashings placed in step 2 through the nearest ammunition box handles, and over the tarpaulin supports in the front. Secure the lashings over the tarpaulin with D-rings and load binders.
- ①⑦ Tie the truck doors together with type III nylon cord and place them on the tarpaulin.
- ①⑧ Secure the doors to the lashing D-rings and other convenient points with type III nylon cord.
- ①⑨ Close the tailgate and secure it with 1/2-inch tubular nylon webbing.

**Figure 5-1. TACCS, Ammunition, and Truck Equipment Rigged in Cargo/Troop Carrier (continued)**

## RIGGING AN/TVQ/2 GROUND/VEHICLE LASER LOCATOR DESIGNATOR (G/VLLD) IN M966 TOW CARRIER

5-3. Use the procedures in Figure 5-2 to stow the G/VLLD, its accompanying equipment, camouflage net and poles, antenna, fuel can, and water can. This accompanying load weighs 801 pounds.

Note: Make sure the unit owning the truck has installed the deck tie-down rings.

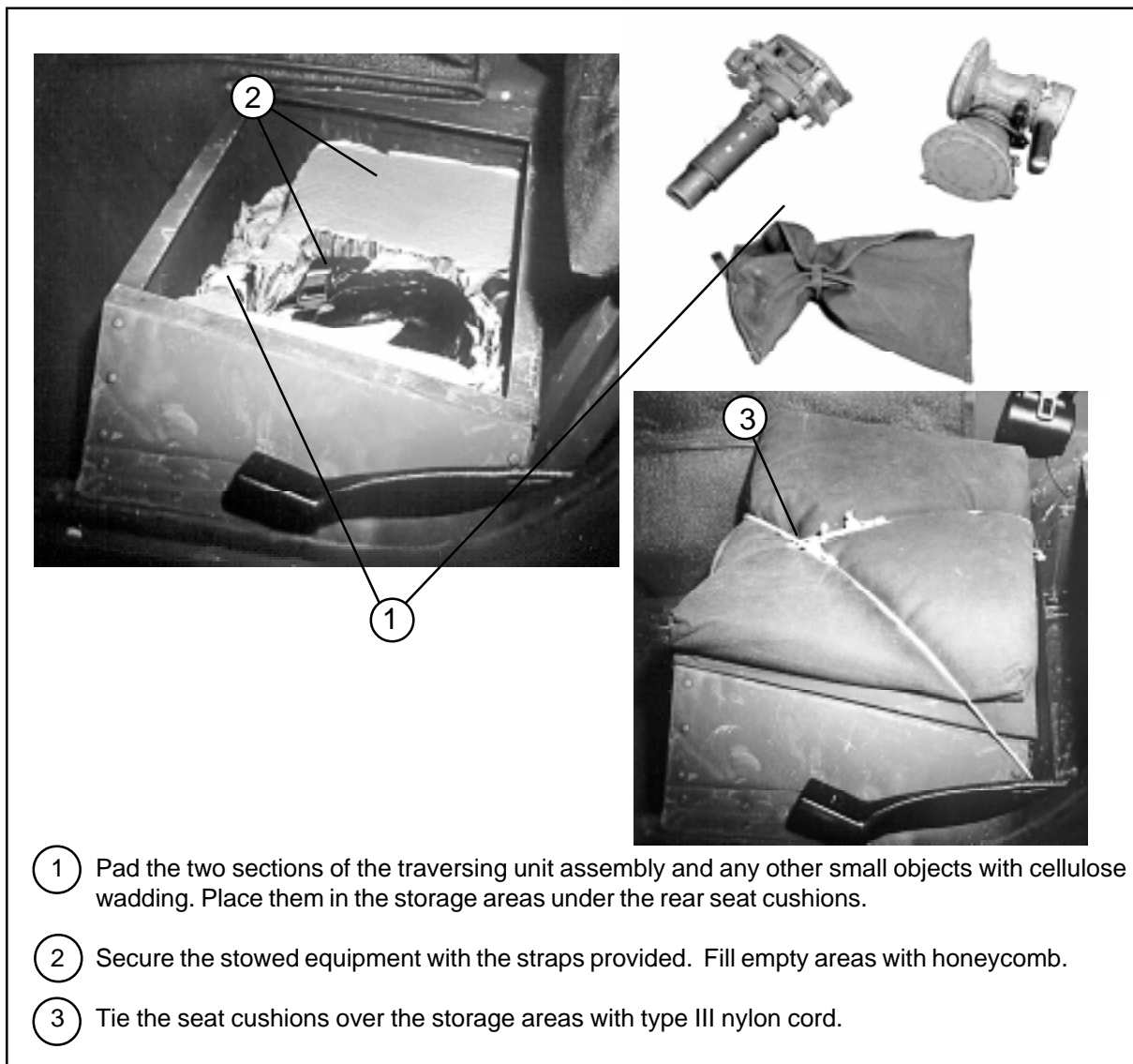
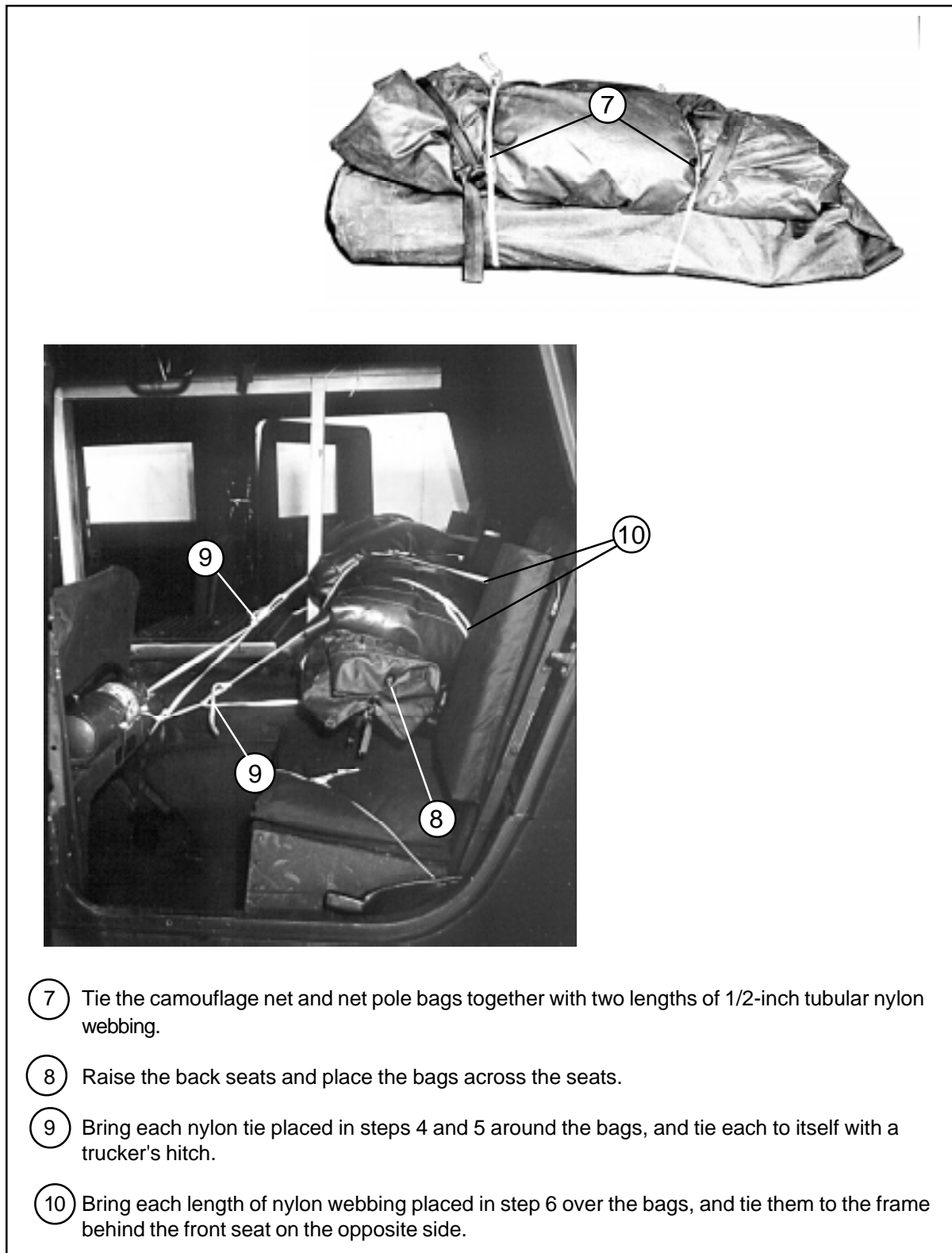


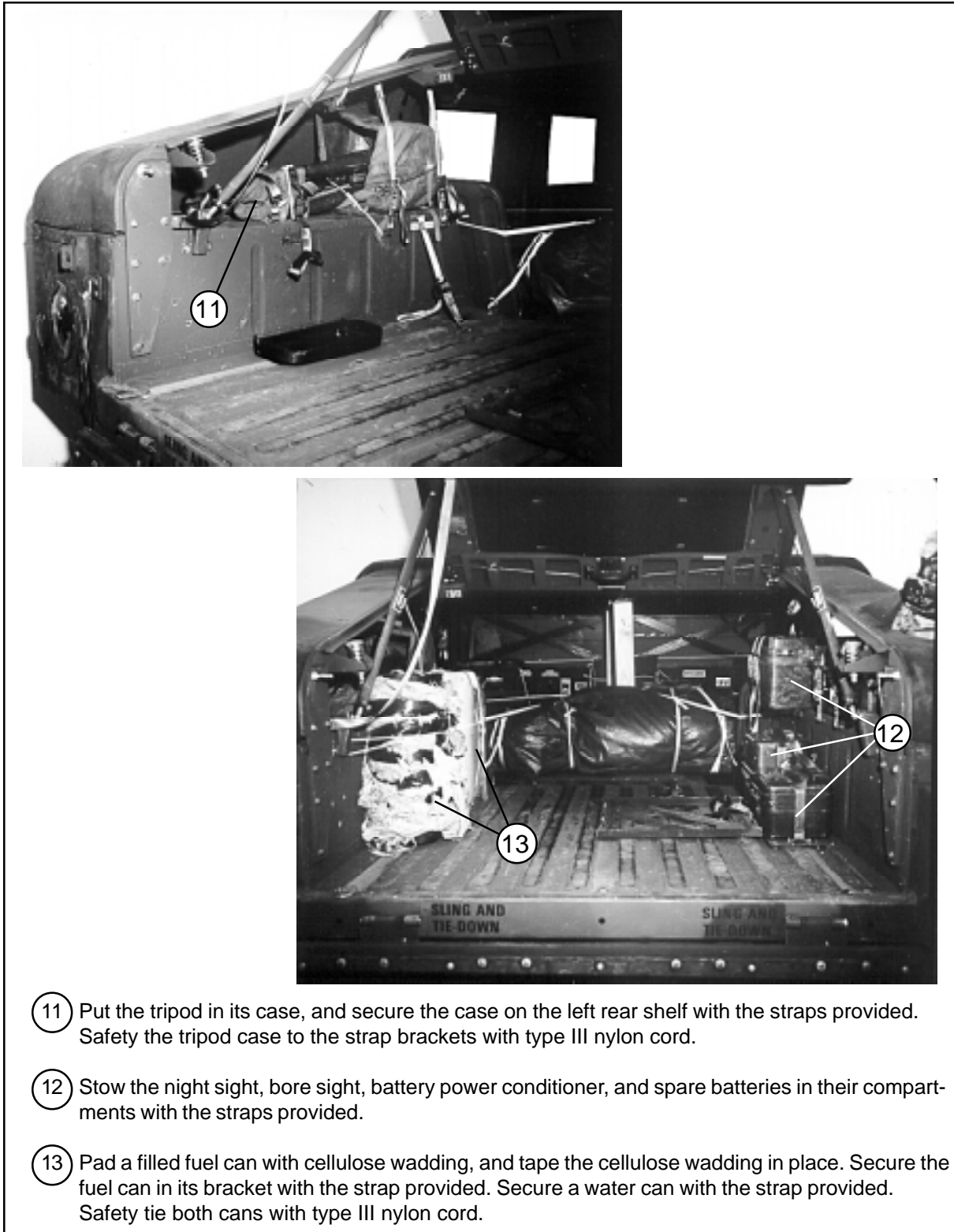
Figure 5-2. G/VLLD and Accompanying Equipment Rigged in M966 Truck



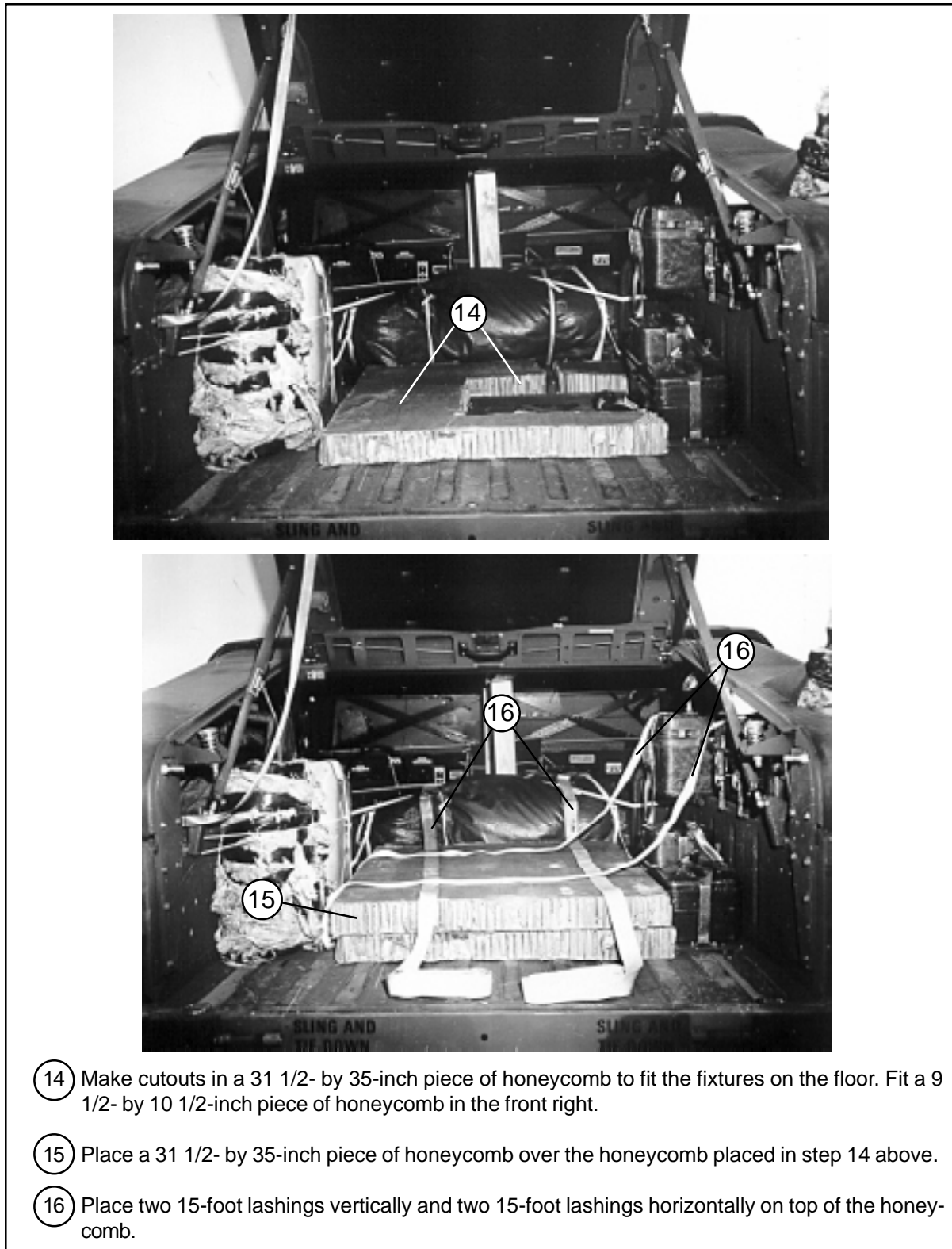
**Figure 5-2. G/VLLD and Accompanying Equipment Rigged in M966 Truck (continued)**



**Figure 5-2. G/VLLD and Accompanying Equipment Rigged in M966 Truck (continued)**



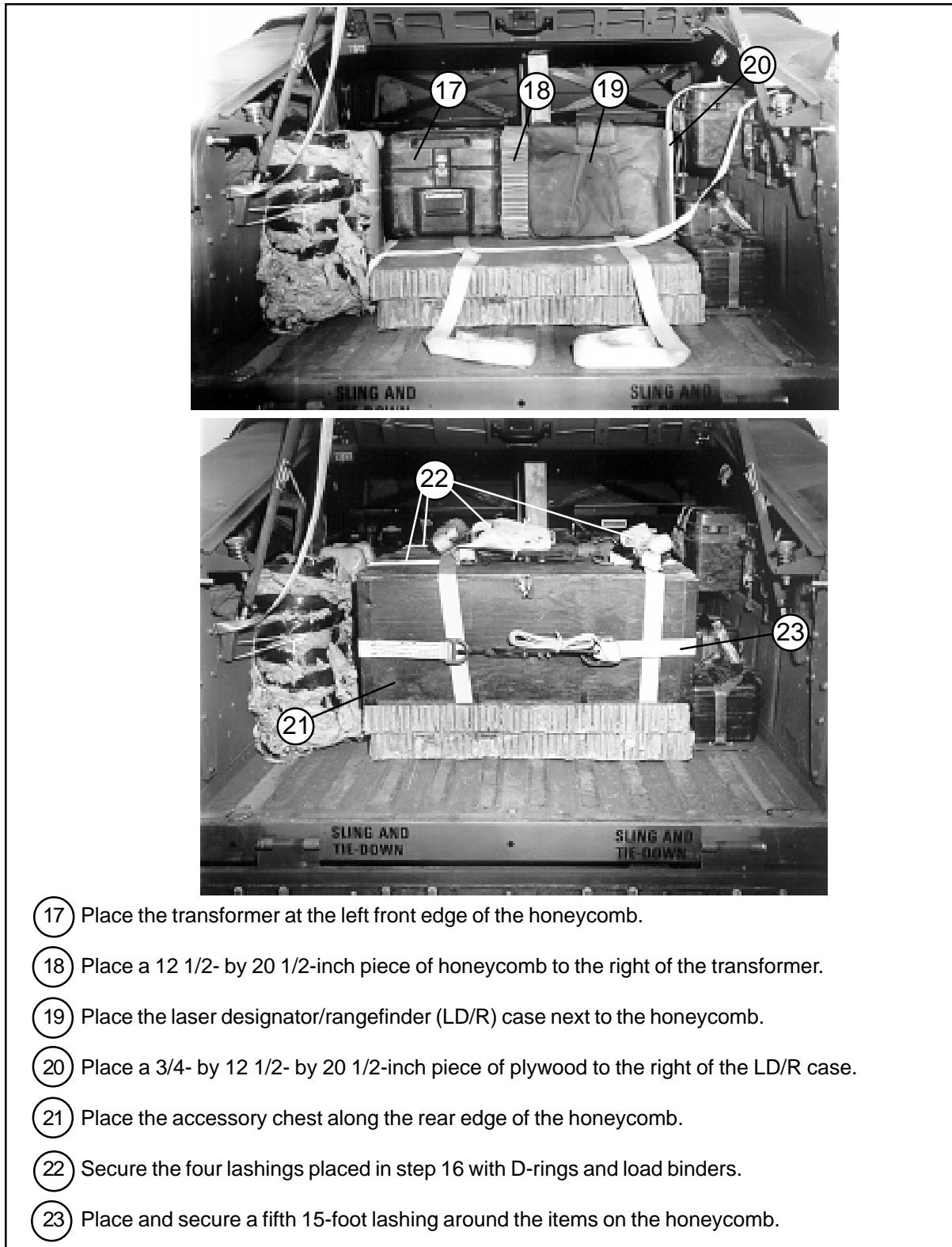
**Figure 5-2. G/VLLD and Accompanying Equipment Rigged in M966 Truck (continued)**



- ⑭ Make cutouts in a 31 1/2- by 35-inch piece of honeycomb to fit the fixtures on the floor. Fit a 9 1/2- by 10 1/2-inch piece of honeycomb in the front right.
- ⑮ Place a 31 1/2- by 35-inch piece of honeycomb over the honeycomb placed in step 14 above.
- ⑯ Place two 15-foot lashings vertically and two 15-foot lashings horizontally on top of the honeycomb.

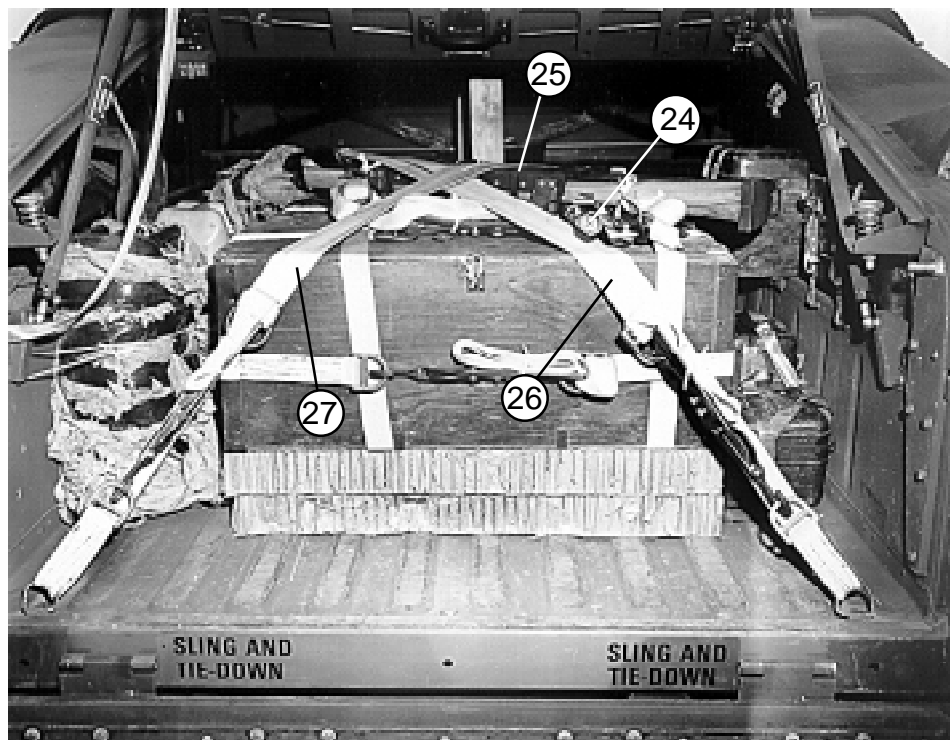
**Figure 5-2. G/VLLD and Accompanying Equipment Rigged in M966 Truck (continued)**





- ① Place the transformer at the left front edge of the honeycomb.
- ② Place a 12 1/2- by 20 1/2-inch piece of honeycomb to the right of the transformer.
- ③ Place the laser designator/rangefinder (LD/R) case next to the honeycomb.
- ④ Place a 3/4- by 12 1/2- by 20 1/2-inch piece of plywood to the right of the LD/R case.
- ⑤ Place the accessory chest along the rear edge of the honeycomb.
- ⑥ Secure the four lashings placed in step 16 with D-rings and load binders.
- ⑦ Place and secure a fifth 15-foot lashing around the items on the honeycomb.

**Figure 5-2. G/VLLD and Accompanying Equipment Rigged in M966 Truck (continued)**

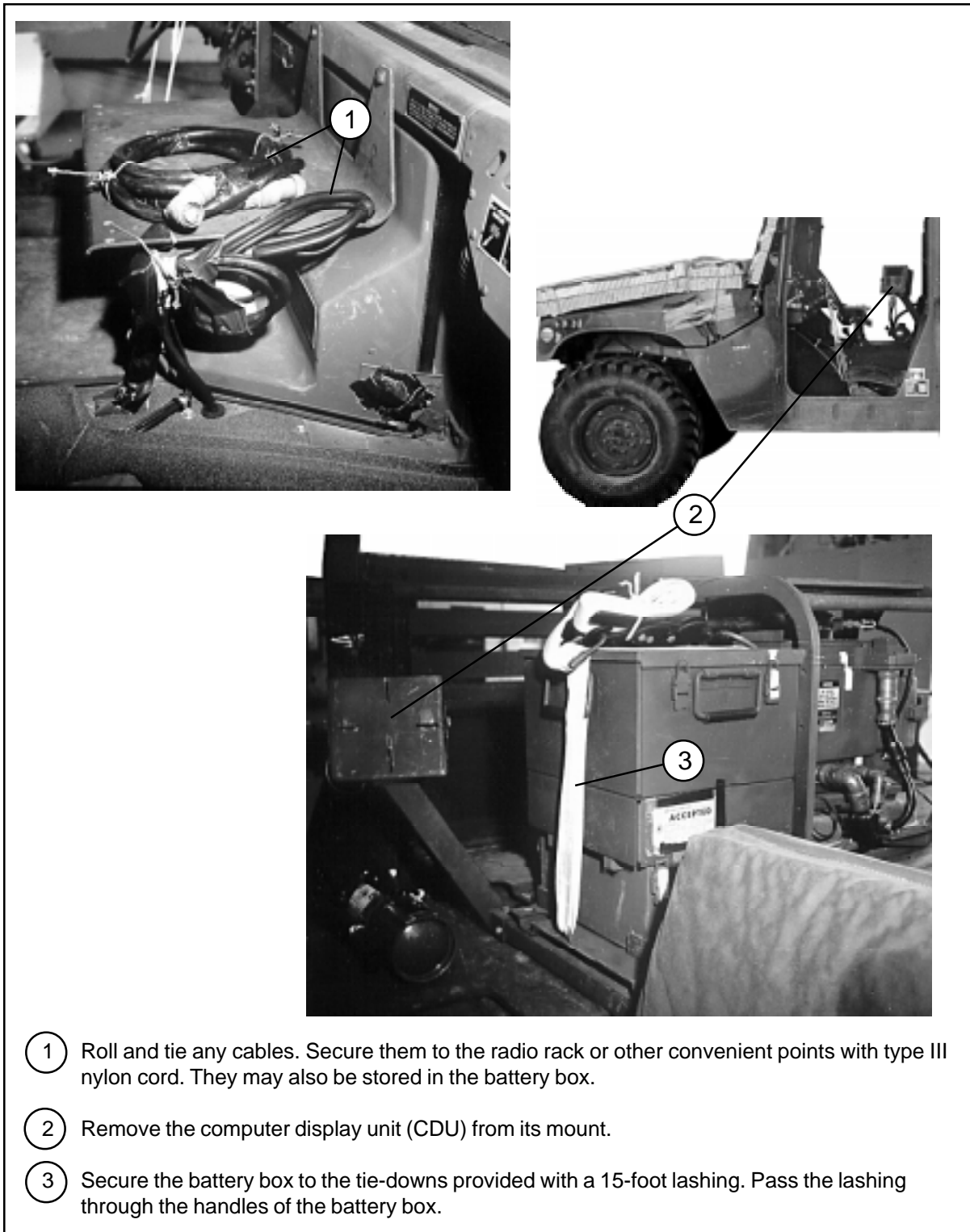


- ②④ Place the antenna poles on top of the load. Secure them to convenient points with type III nylon cord.
- ②⑤ Place any other truck equipment on top of the load, and secure it with 1/2-inch tubular nylon webbing. (The pioneer tool kit is shown, but it is not necessary to remove it from its normal stowage position under the truck.)
- ②⑥ Pass a 15-foot lashing over the load from the right rear to the left front tie-down ring. Secure it with a D-ring and a load binder.
- ②⑦ Pass a 15-foot lashing over the load from the left rear to the right front tie-down ring. Secure it with a D-ring and a load binder.

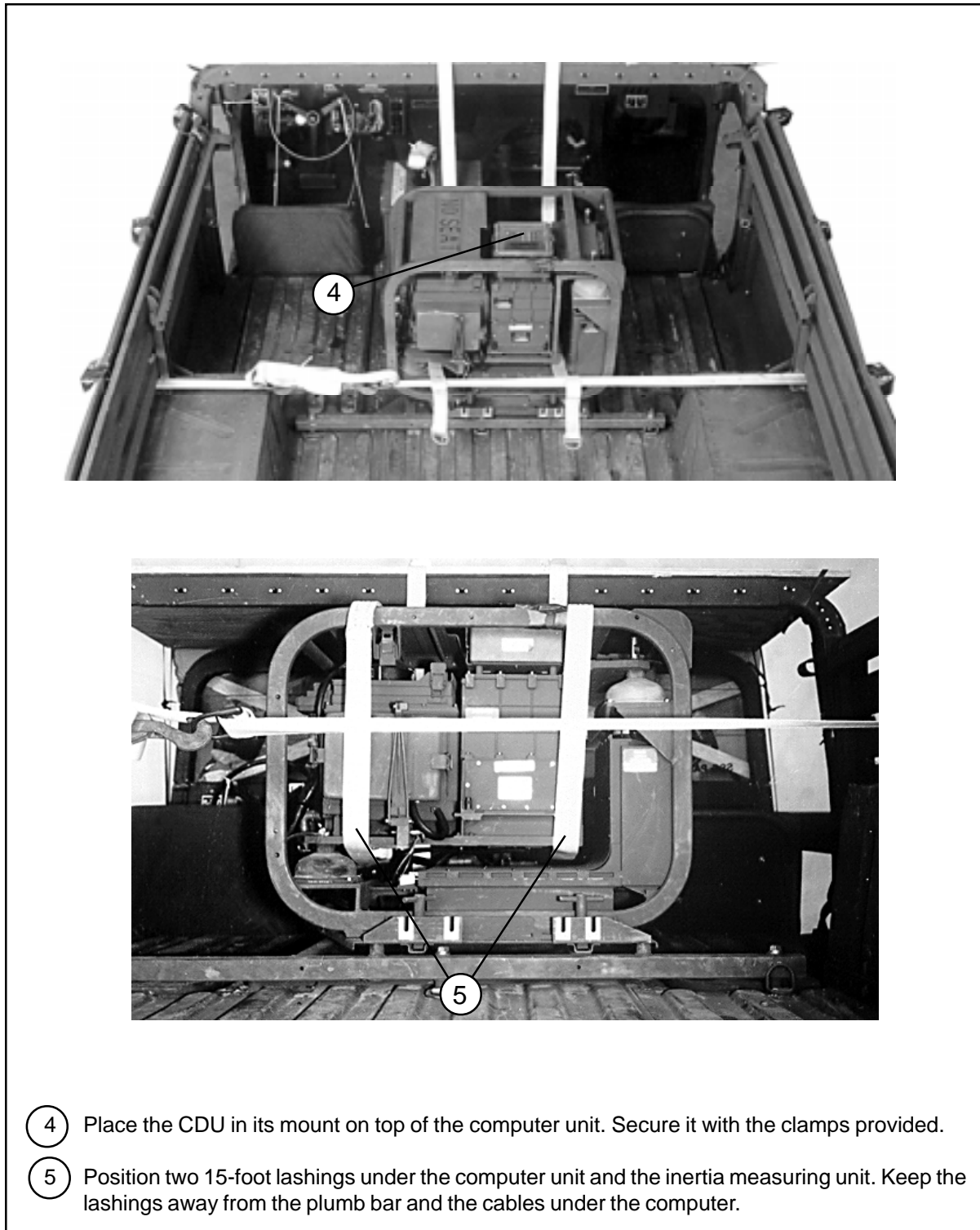
**Figure 5-2. G/VLLD and Accompanying Equipment Rigged in M966 Truck (continued)**

**RIGGING AN/USG-70 POSITION AND AZIMUTH DETERMINING SYSTEM (PADS) IN M998 CARGO/TROOP CARRIER**

5-3. Use the procedures shown in Figure 5-13 to rig the PADS, camouflage net and poles, fuel can, water can, and four boxes of 105-mm ammunition. The load shown here weighs 834 pounds.

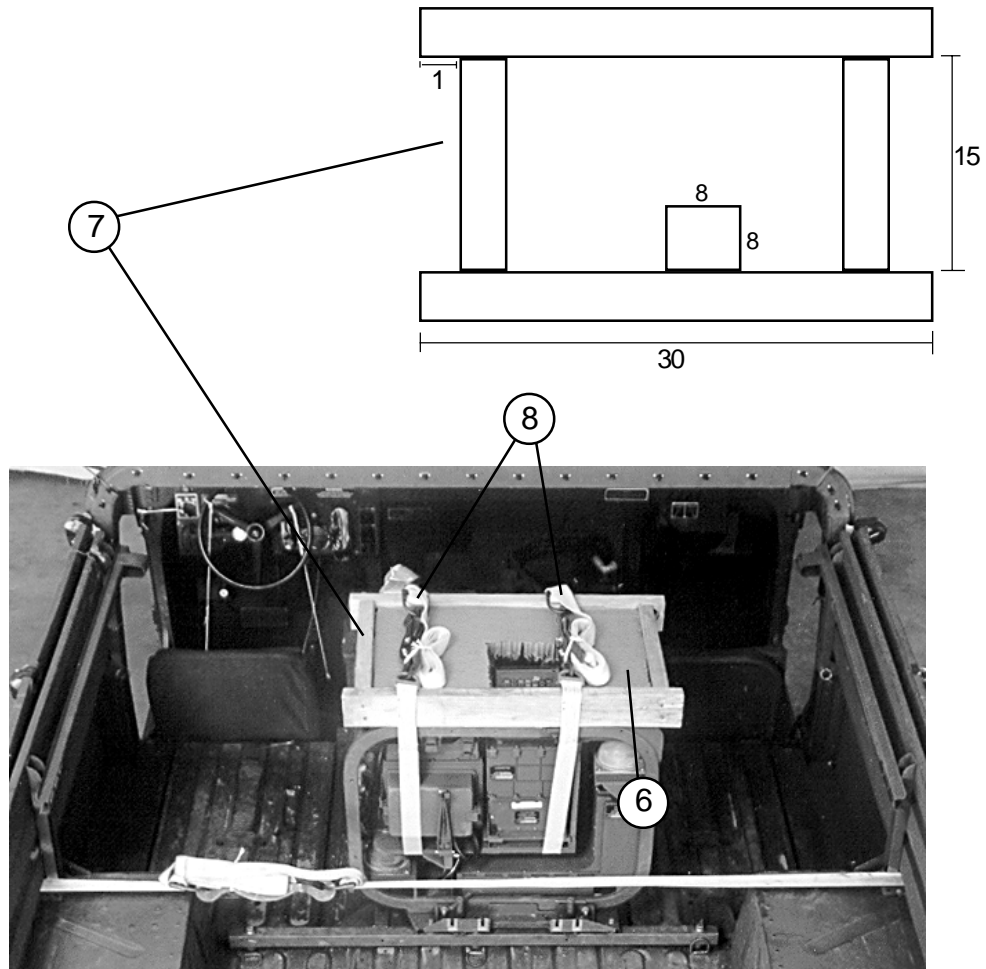


**Figure 5-3. PADS and Ammunition Rigged in M998 Truck**



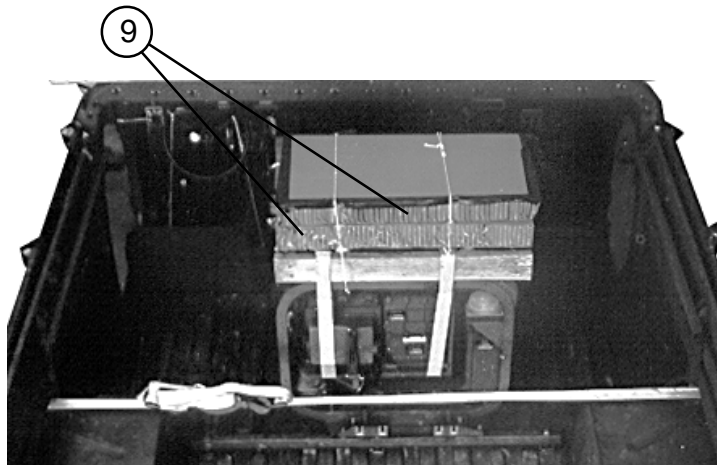
**Figure 5-3. PADS and Ammunition Rigged in M998 Truck (continued)**

- Notes: 1. This drawing is not drawn to scale.  
 2. All dimensions are in inches.



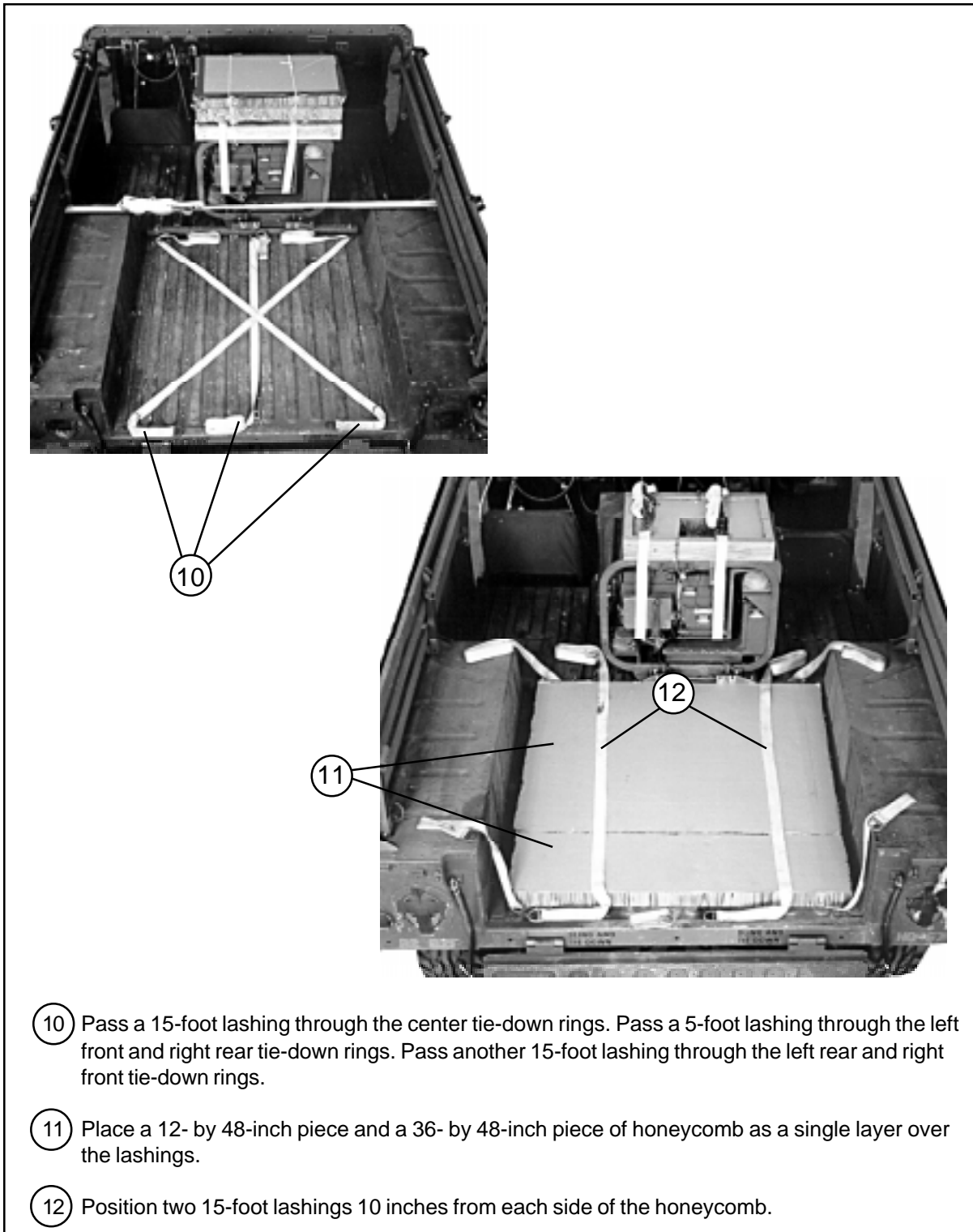
- ⑥ Center a 15- by 25-inch piece of honeycomb over the top of the equipment rack. Position an 8- by 8-inch cutout along the rear edge of the honeycomb to accommodate the CDU.
- ⑦ Construct a wood frame as shown using 2- by 4-inch lumber and 6-penny nails. Fit the wood frame around the honeycomb placed in step 6 above.
- ⑧ Fasten the lashings placed in step 5 over the honeycomb with D-rings and load binders.

Figure 5-3. PADS and Ammunition Rigged in M998 Truck (continued)



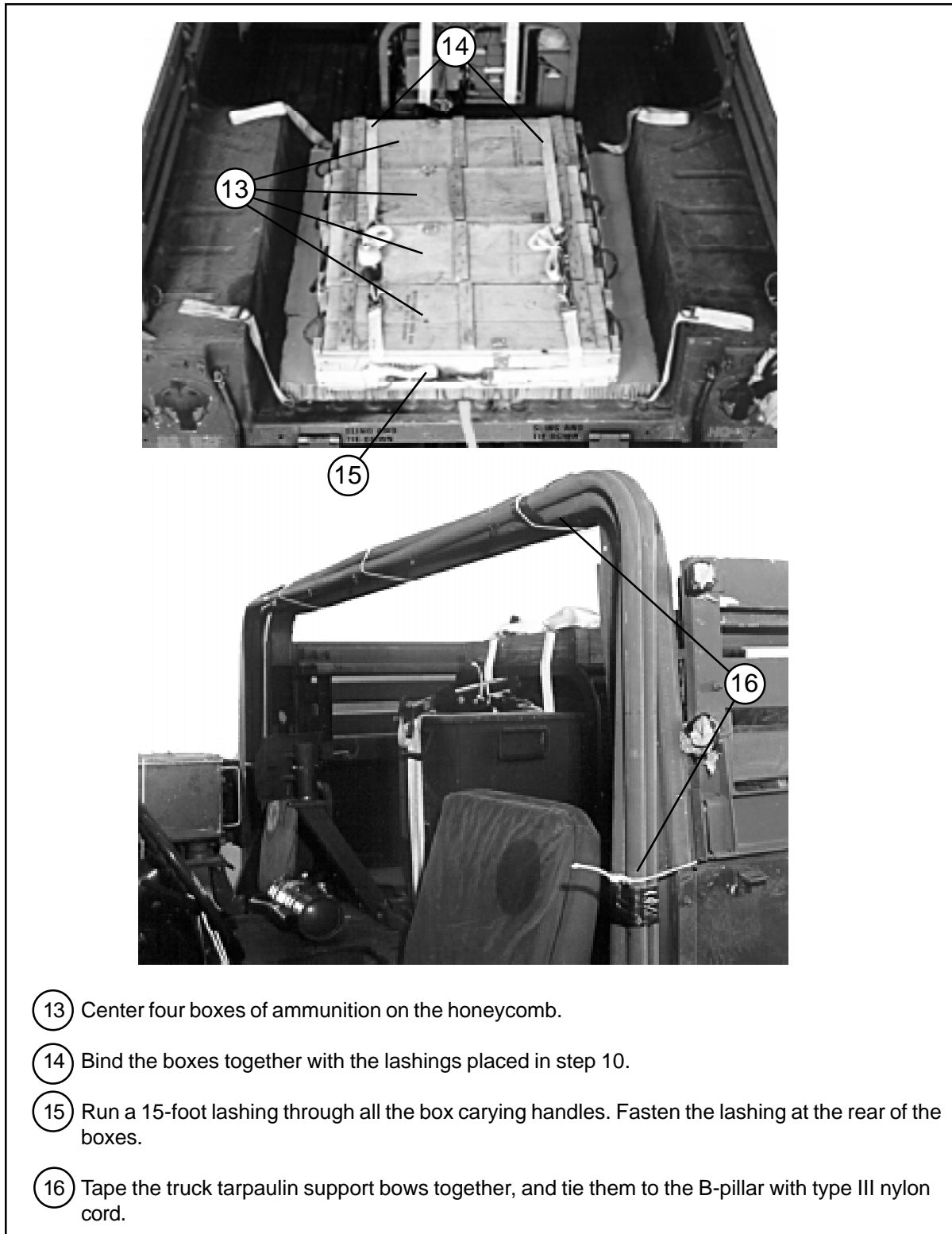
- 9 Place two 14- by 14-inch pieces of honeycomb over the battery box. Place two 18- by 31-inch pieces of honeycomb over the wood frame. Tape the edges of the top layers, and tie the honeycomb over the components with type III nylon cord.

**Figure 5-3. PADS and Ammunition Rigged in M998 Truck (continued)**



- ⑩ Pass a 15-foot lashing through the center tie-down rings. Pass a 5-foot lashing through the left front and right rear tie-down rings. Pass another 15-foot lashing through the left rear and right front tie-down rings.
- ⑪ Place a 12- by 48-inch piece and a 36- by 48-inch piece of honeycomb as a single layer over the lashings.
- ⑫ Position two 15-foot lashings 10 inches from each side of the honeycomb.

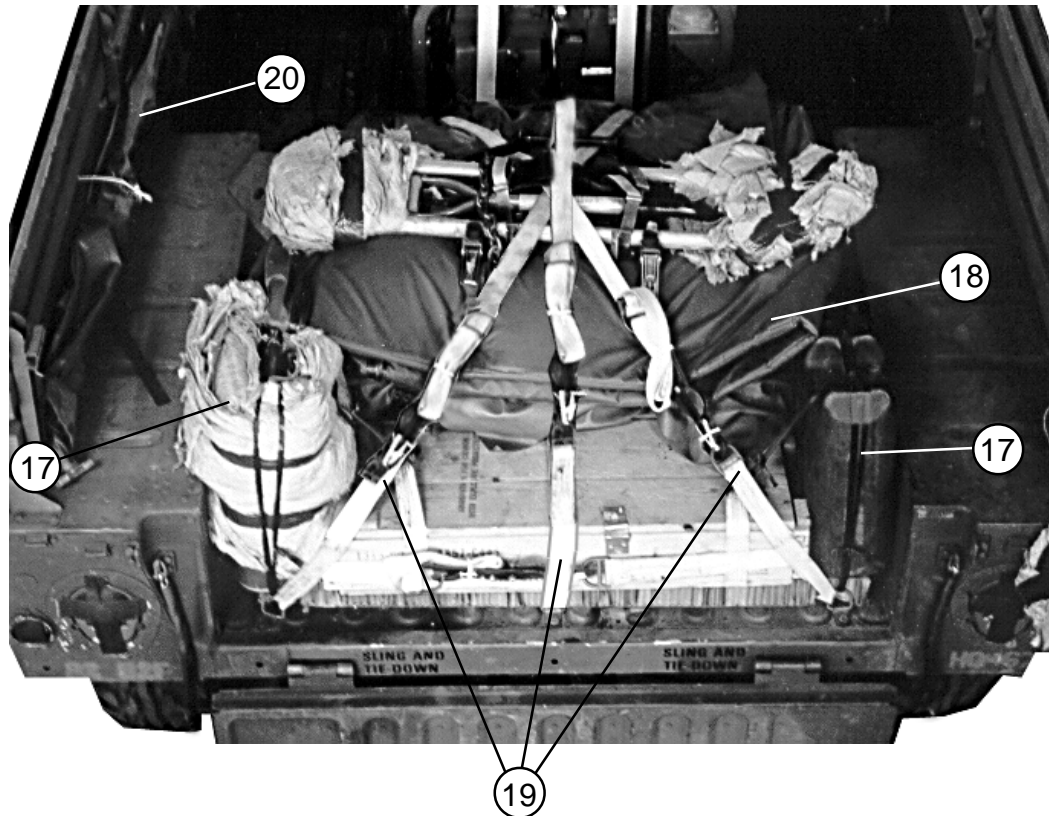
**Figure 5-3. PADS and Ammunition Rigged in M998 Truck (continued)**



- 13 Center four boxes of ammunition on the honeycomb.
- 14 Bind the boxes together with the lashings placed in step 10.
- 15 Run a 15-foot lashing through all the box carrying handles. Fasten the lashing at the rear of the boxes.
- 16 Tape the truck tarpaulin support bows together, and tie them to the B-pillar with type III nylon cord.

Figure 5-3. PADS and Ammunition Rigged in M998 Truck (continued)





- ①7 Set a padded fuel can and a plastic water can between the ammunition boxes and wheel wells at the rear of the load. Tie them to the nearest tie-down rings, to the PADS frame, and to the binding lashings with 1/2-inch tubular nylon webbing.
- ①8 Place the camouflage net and pole bags, the cab doors, the truck cab cover, and tarpaulin on top of the ammunition boxes.
- Note: The pioneer tool kit is also shown, but it does not need to be removed from its rack under the truck.
- ①9 Fasten the three lashings placed in step 10 over the load with D-rings and load binders.
- ②0 Tie the antenna, cab cover supports, or other loose objects to the side slats with type III nylon cord.
- ②1 Close the tailgate and tie it with 1/2-inch tubular nylon webbing (not shown).

**Figure 5-3. PADS and Ammunition Rigged in M998 Truck (continued)**

### RIGGING BATTERY COMPUTER SYSTEM (BCS) IN M998 TRUCK

5-5. Use the procedures shown in Figure 5-4 to rig the BCS, camouflage net and poles, generator, and truck and crew equipment. This accompanying load weighs 801 pounds.

Note: Be sure the unit owning the truck has installed the BCS in its mount and the solid side boards on the truck.

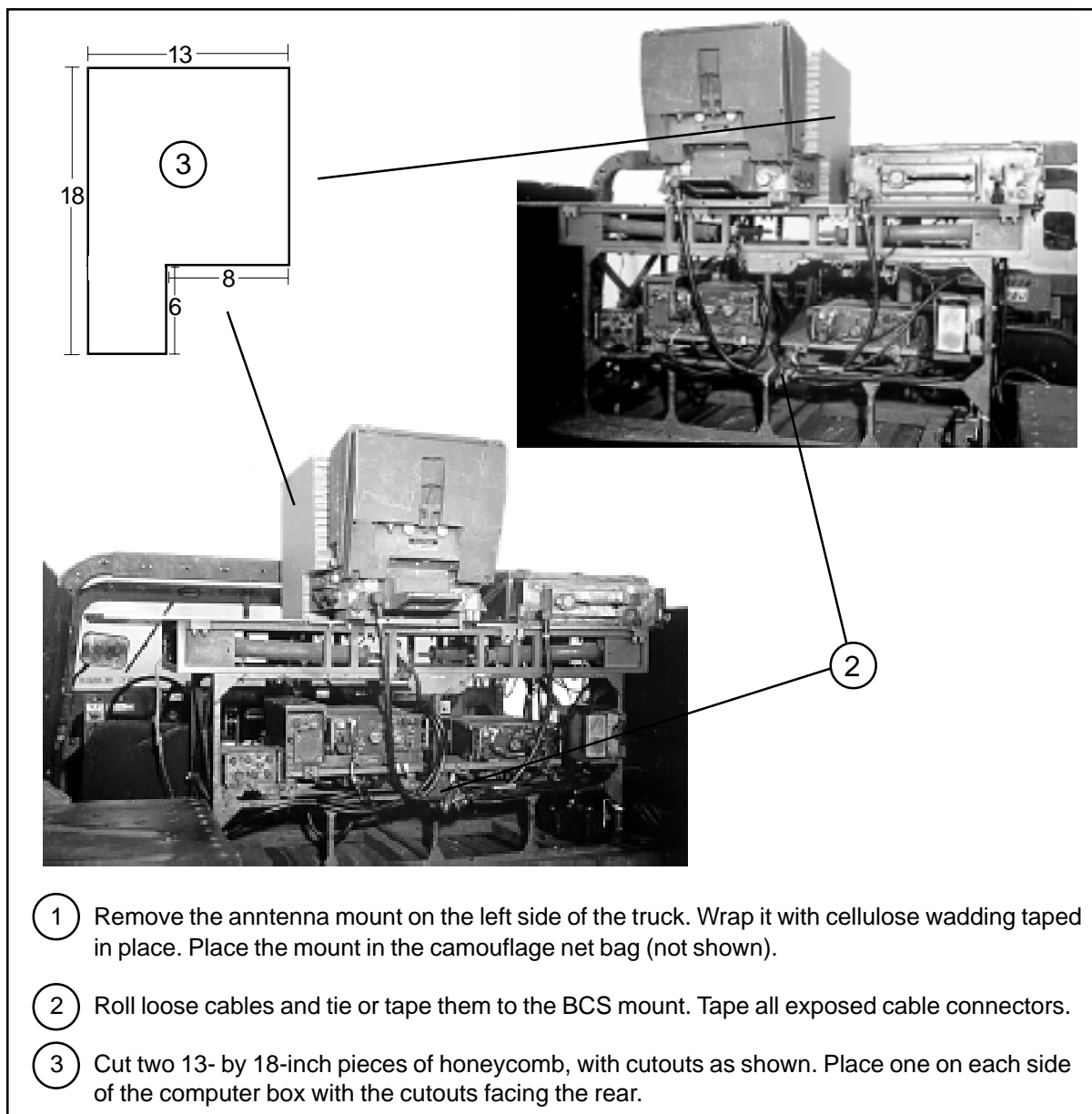
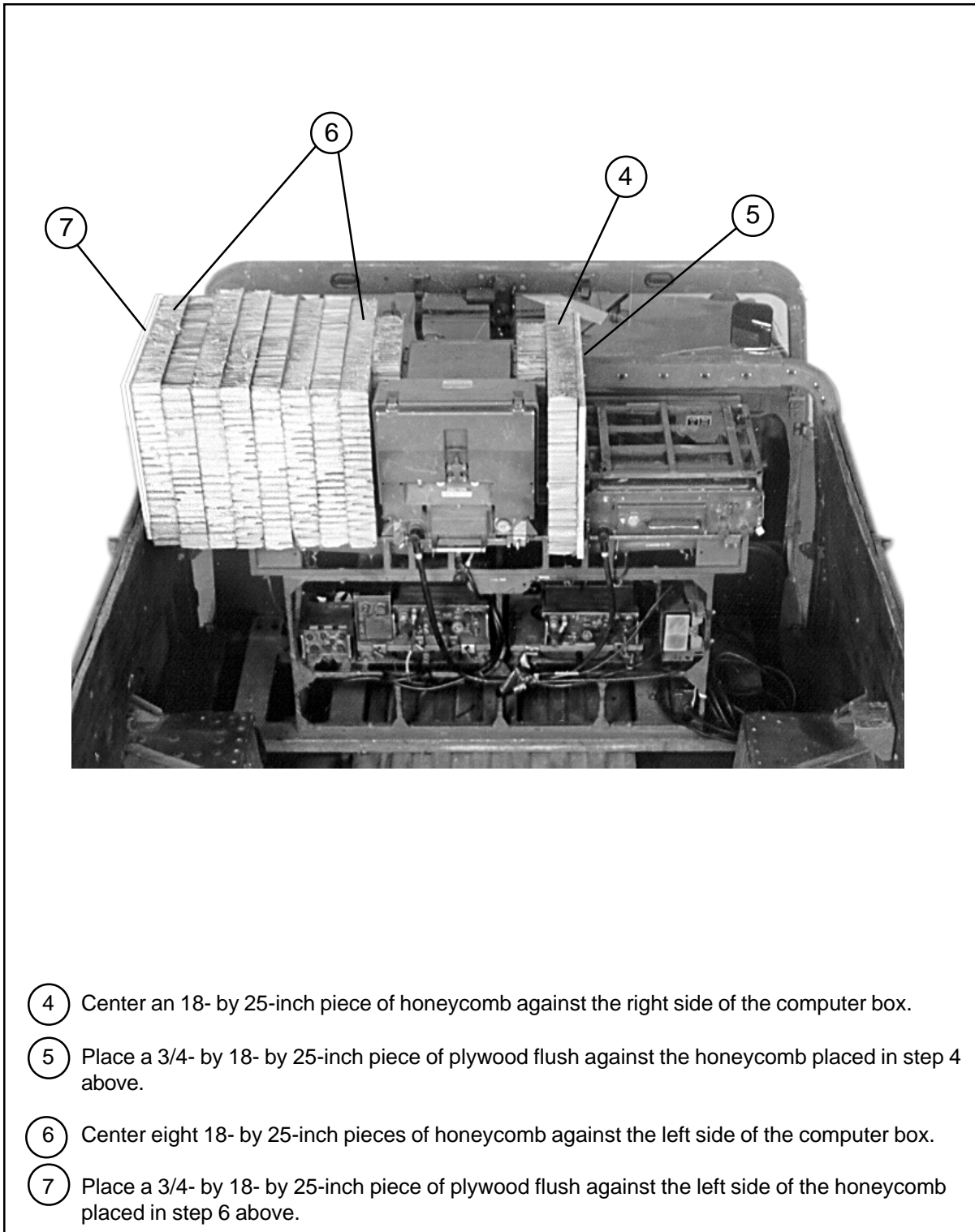
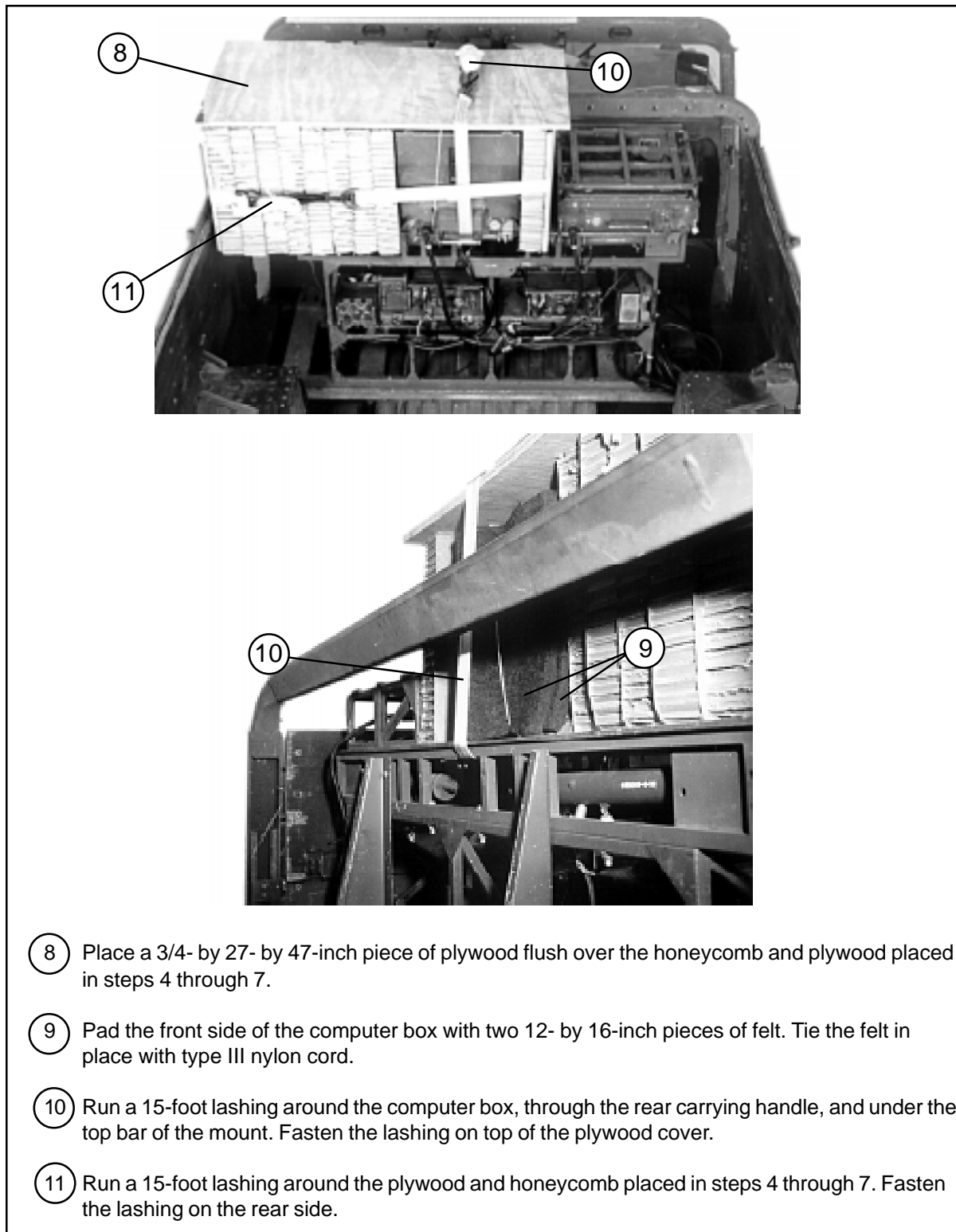


Figure 5-4. BCS and Accompanying Equipment Rigged in M998 Truck

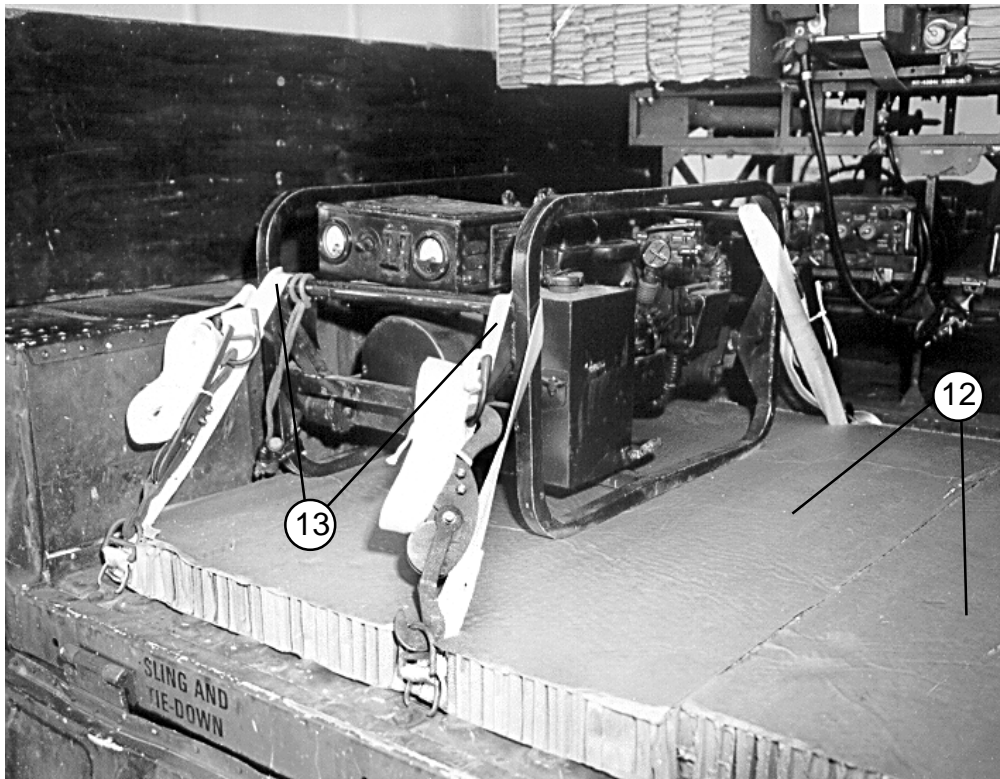


**Figure 5-4. BCS and Accompanying Equipment Rigged in M998 Truck (continued)**



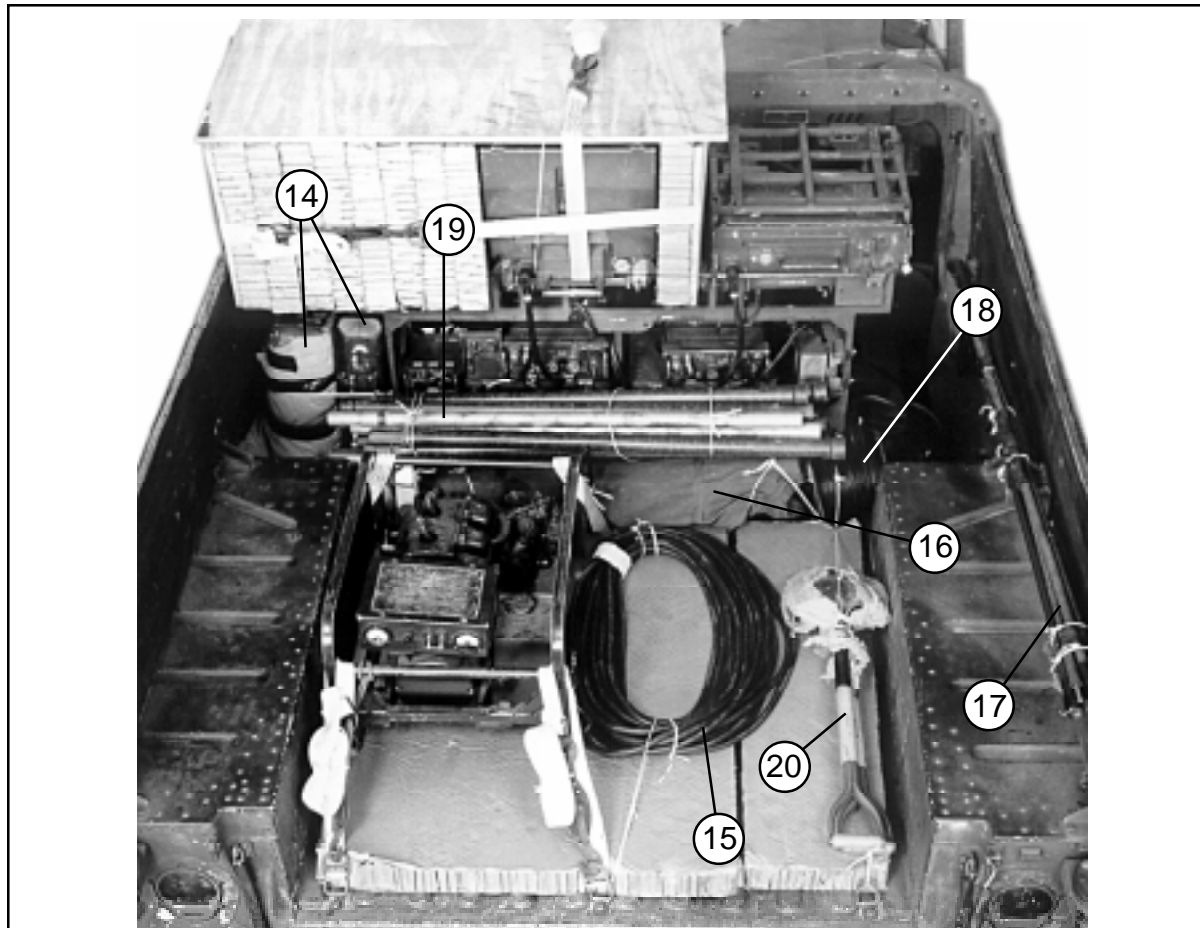
- ⑧ Place a 3/4- by 27- by 47-inch piece of plywood flush over the honeycomb and plywood placed in steps 4 through 7.
- ⑨ Pad the front side of the computer box with two 12- by 16-inch pieces of felt. Tie the felt in place with type III nylon cord.
- ⑩ Run a 15-foot lashing around the computer box, through the rear carrying handle, and under the top bar of the mount. Fasten the lashing on top of the plywood cover.
- ⑪ Run a 15-foot lashing around the plywood and honeycomb placed in steps 4 through 7. Fasten the lashing on the rear side.

**Figure 5-4. BCS and Accompanying Equipment Rigged in M998 Truck (continued)**



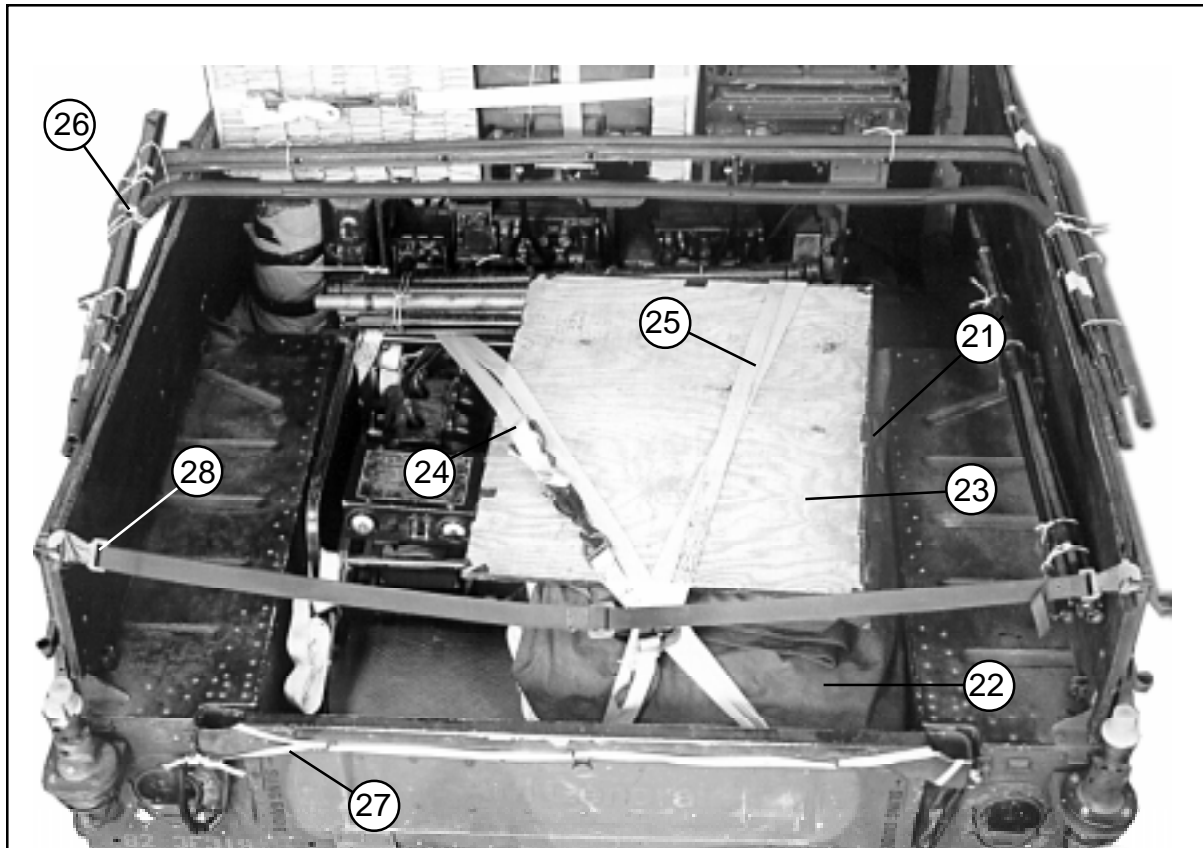
- ⑫ Cover the bed of the truck between the center and rear tie-down rings with a 12- by 48-inch piece and a 36- by 48-inch piece of honeycomb. Place the honeycomb as shown.
- ⑬ Place the generator on the honeycomb against the left wheel well. Lash each corner of the generator frame to the nearest tie-down ring.

**Figure 5-4. BCS and Accompanying Equipment Rigged in M998 Truck (continued)**



- ⑭ Set a padded fuel can and a plastic water can to the left of the BCS rack. Tie them to the rack with type III nylon cord.
- ⑮ Roll and tie the generator cable with type I, 1/4-inch cotton webbing. Lay it to the right of the generator, and tie the cable to the center tie-down rings with type III nylon cord.
- ⑯ Place the antenna bag on the floor across the front of the BCS rack. Use type III nylon cord to tie the ends of the bag, and to secure the bag to the nearest tie-down rings.
- ⑰ Secure the small truck antenna to the truck sideboards with type III nylon cord.
- ⑱ Place the spool of communications wire over the right center tie-down ring. Tie it to the ring with type III nylon cord.
- ⑲ Place the camouflage net poles over the antenna bag. Secure them to the left and right center tie-down rings with type III nylon cord.
- ⑳ Pad the blades of the two shovels with cellulose wadding taped in place. Tie the shovels to the right rear and right center tie-down rings with type III nylon cord.

**Figure 5-4. BCS and Accompanying Equipment Rigged in M998 Truck (continued)**



- ②1 Place the camouflage net bag on the right side of the cargo bed.
- ②2 Fold the tarpaulin and cab cover, and place them over the generator cable and shovels.
- ②3 Place the plotting boards over the truck covers.
- ②4 Pass a 15-foot lashing through the right rear tie-down ring, over the plotting boards, and through the left front tie-down ring. Secure the lashing on top of the load.
- ②5 Pass a 15-foot lashing through the center rear tie-down ring, over the plotting boards, and through the right front tie-down ring. Secure the lashing on top of the load.
- ②6 Tie the bows together with type III nylon cord. Tie them to the sideboards with type III nylon cord.
- ②7 Close the tailgate, and secure it with 1/2-inch tubular nylon webbing.
- ②8 Tape the snap hooks on the safety strap.

**Figure 5-4. BCS and Accompanying Equipment Rigged in M998 Truck (continued)**

## RIGGING AN/VSC-2 RADIOTELETYPE IN M998 TRUCK

5-6. Use the procedures shown in Figure 5-5 to rig the AN/VSC-2 radioteletype, two generators, and truck and crew equipment. This load weighs 1,373 pounds.

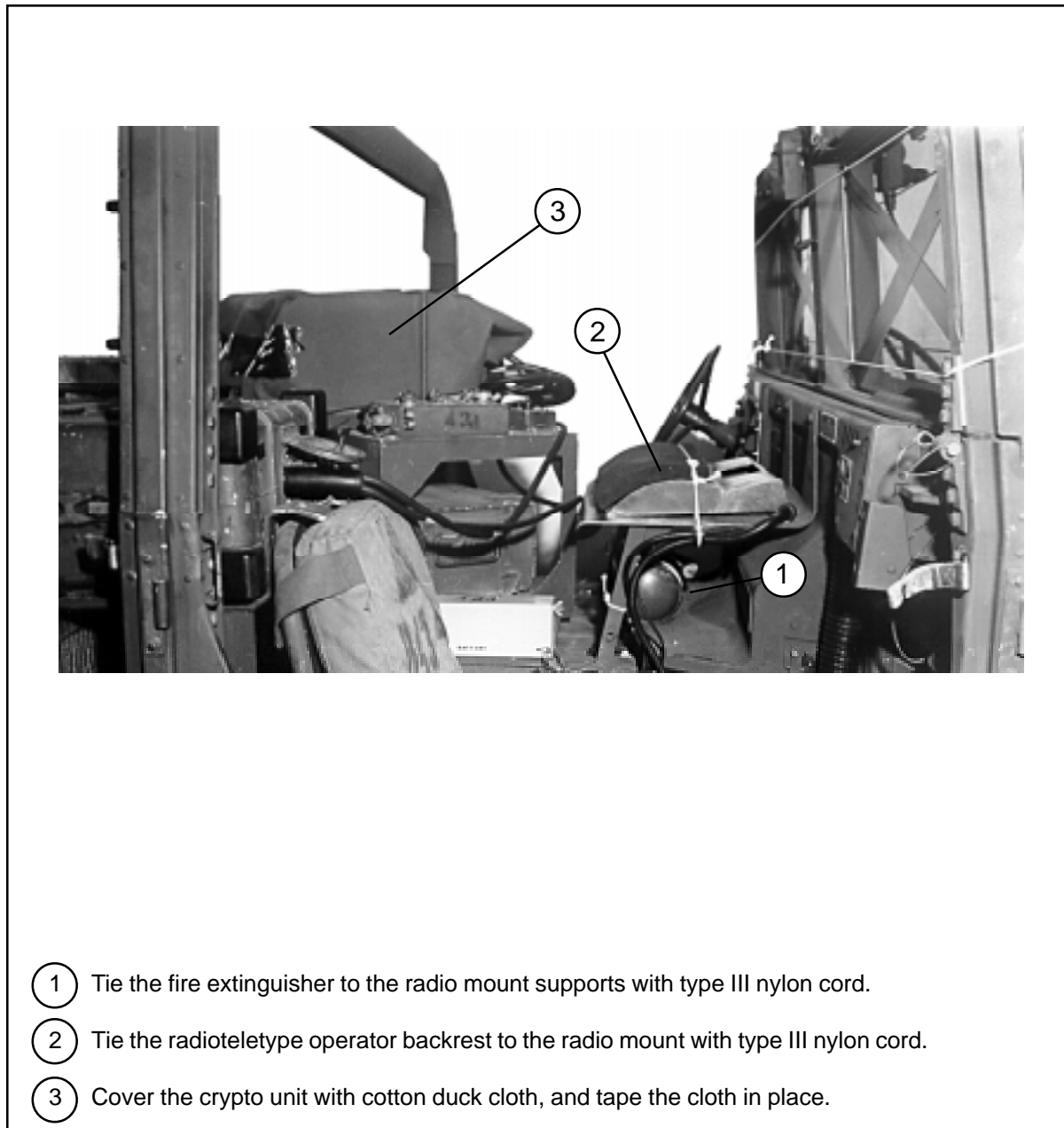
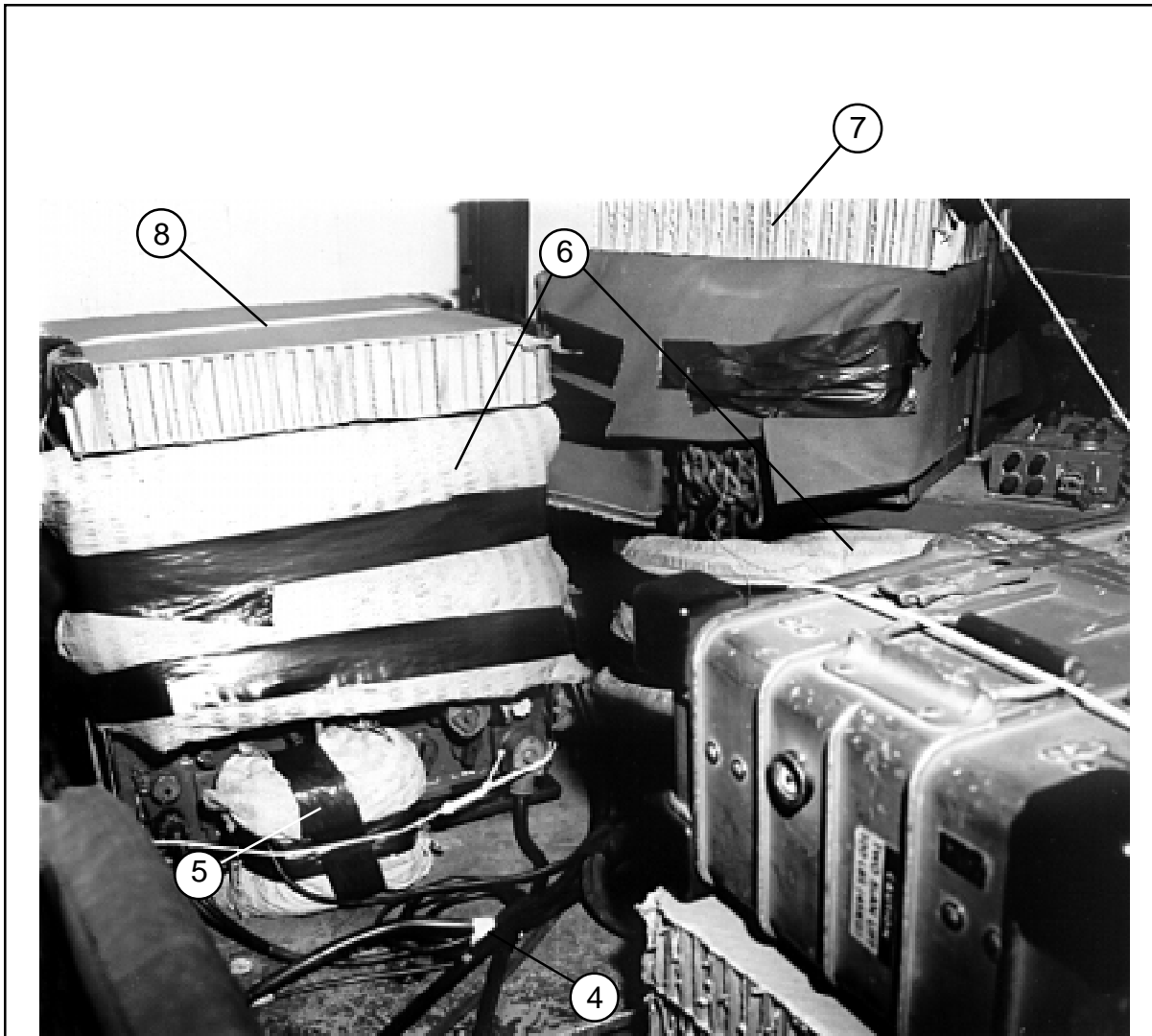


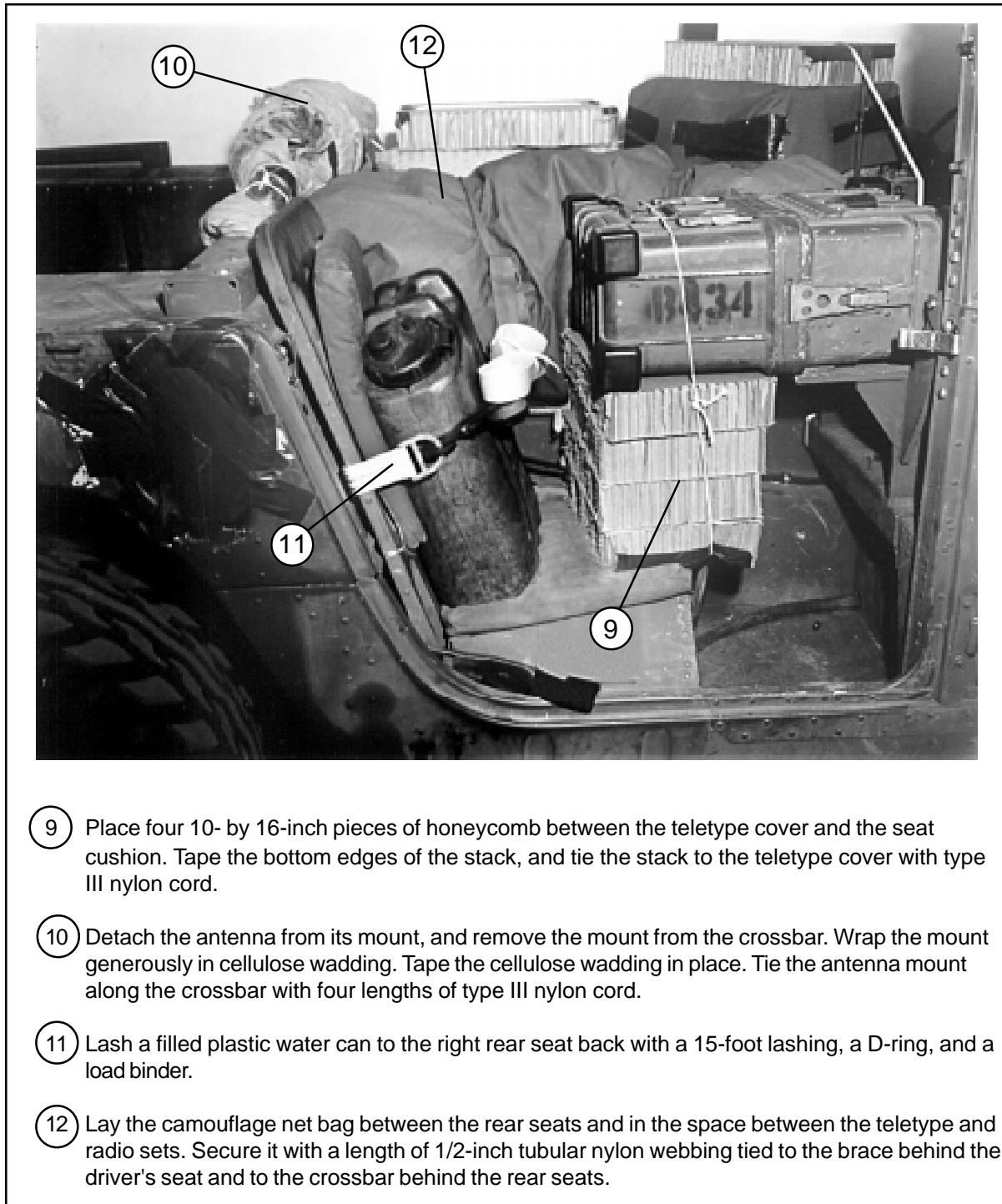
Figure 5-5. AN/VSC-2 Radioteletype Rigged in M998 Truck





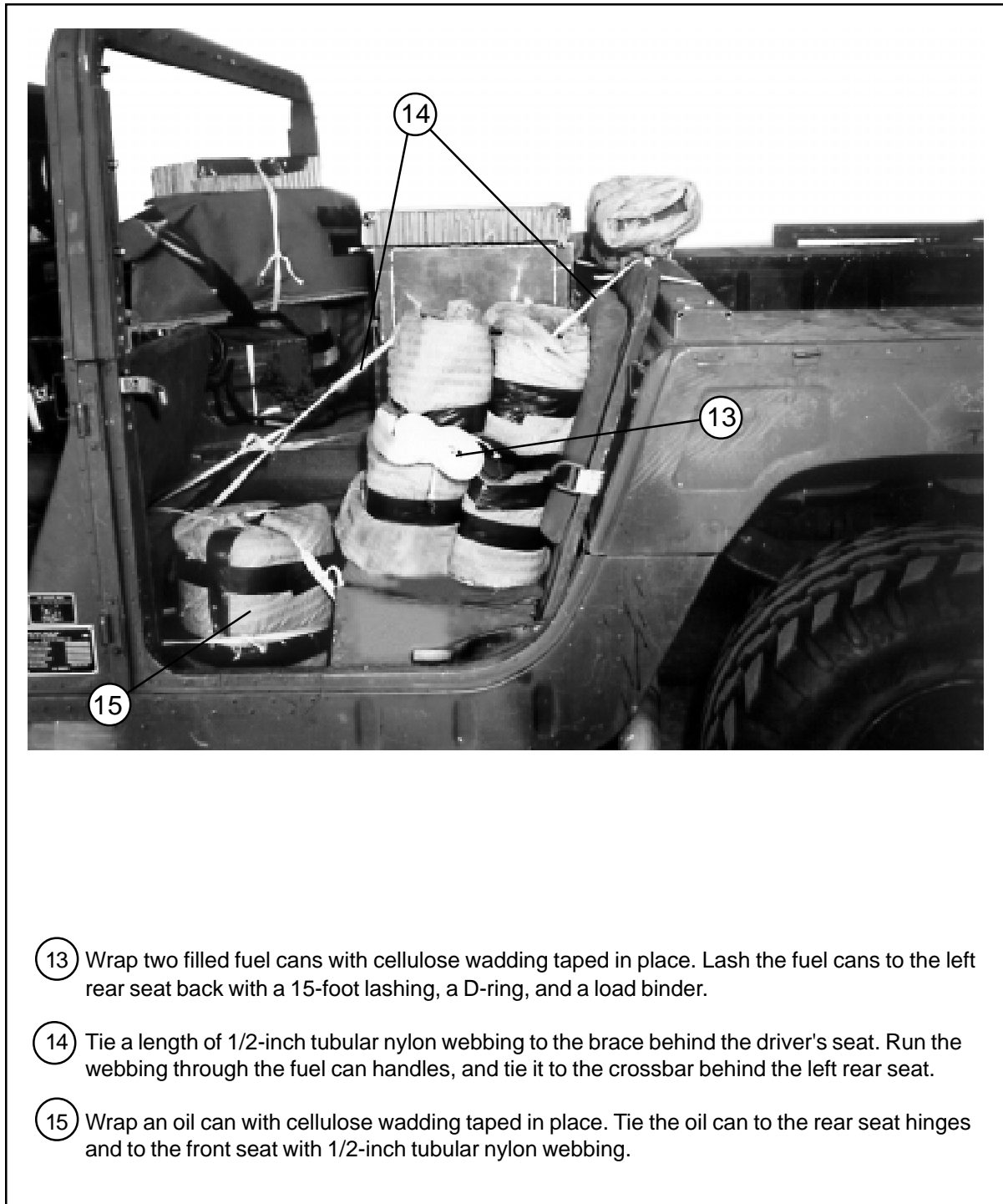
- ④ Roll and tape all loose cables.
- ⑤ Pad the speaker with cellulose wadding taped in place. Tie the speaker to the lifting handles of the bottom radio with type III nylon cord.
- ⑥ Pad the upper radio controls with cellulose wadding taped in place.
- ⑦ Tape the edges of a 12- by 15-inch piece of honeycomb. Tie the honeycomb over the crypto unit with 1/2-inch tubular nylon webbing.
- ⑧ Tape the edges of a 14- by 18-inch piece of honeycomb. Tie the honeycomb over the radio with type III nylon cord.

**Figure 5-5. AN/VSC-2 Radioteletype Rigged in M998 Truck (continued)**

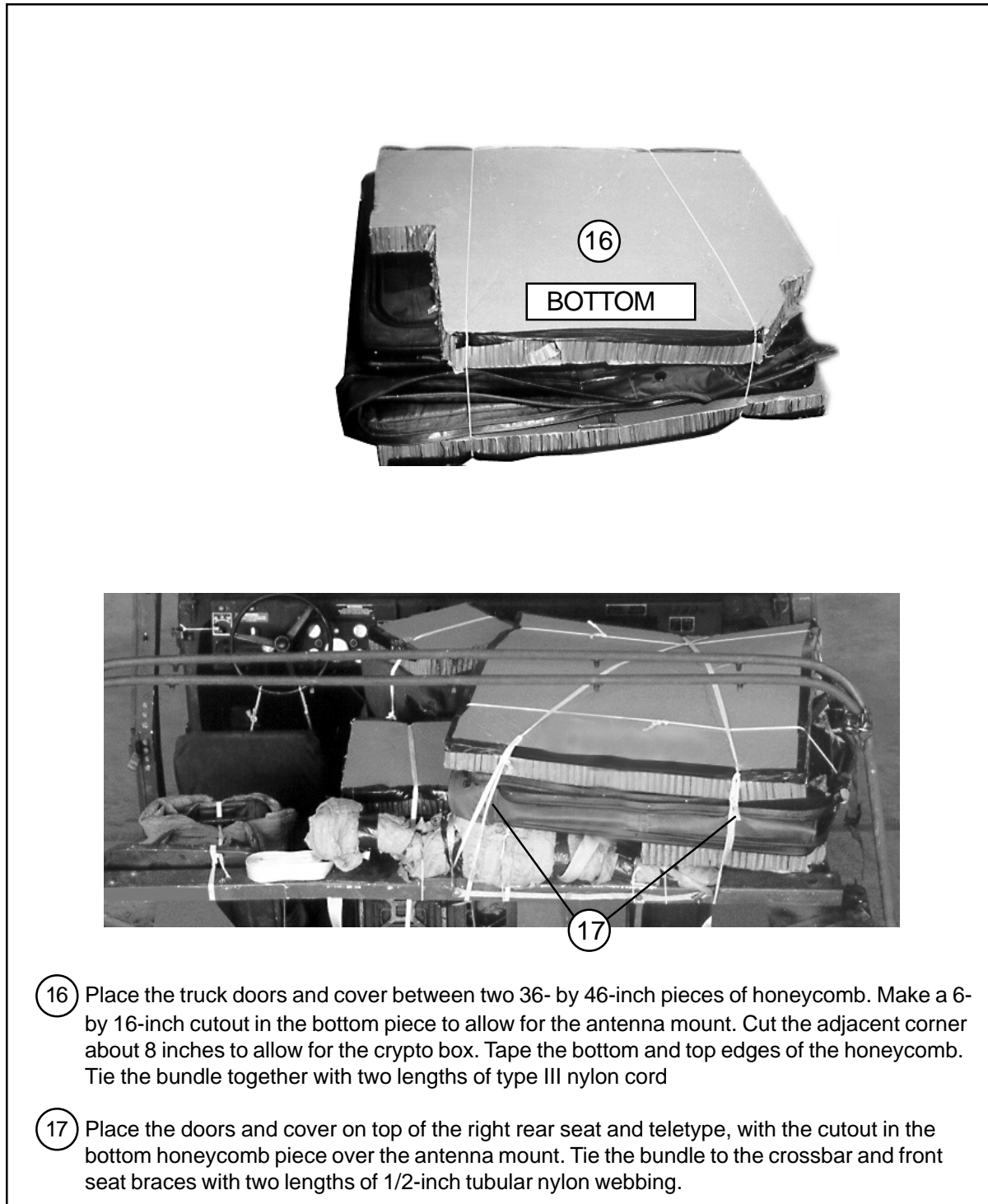


- ⑨ Place four 10- by 16-inch pieces of honeycomb between the teletype cover and the seat cushion. Tape the bottom edges of the stack, and tie the stack to the teletype cover with type III nylon cord.
- ⑩ Detach the antenna from its mount, and remove the mount from the crossbar. Wrap the mount generously in cellulose wadding. Tape the cellulose wadding in place. Tie the antenna mount along the crossbar with four lengths of type III nylon cord.
- ⑪ Lash a filled plastic water can to the right rear seat back with a 15-foot lashing, a D-ring, and a load binder.
- ⑫ Lay the camouflage net bag between the rear seats and in the space between the teletype and radio sets. Secure it with a length of 1/2-inch tubular nylon webbing tied to the brace behind the driver's seat and to the crossbar behind the rear seats.

**Figure 5-5. AN/VSC-2 Radioteletype Rigged in M998 Truck (continued)**

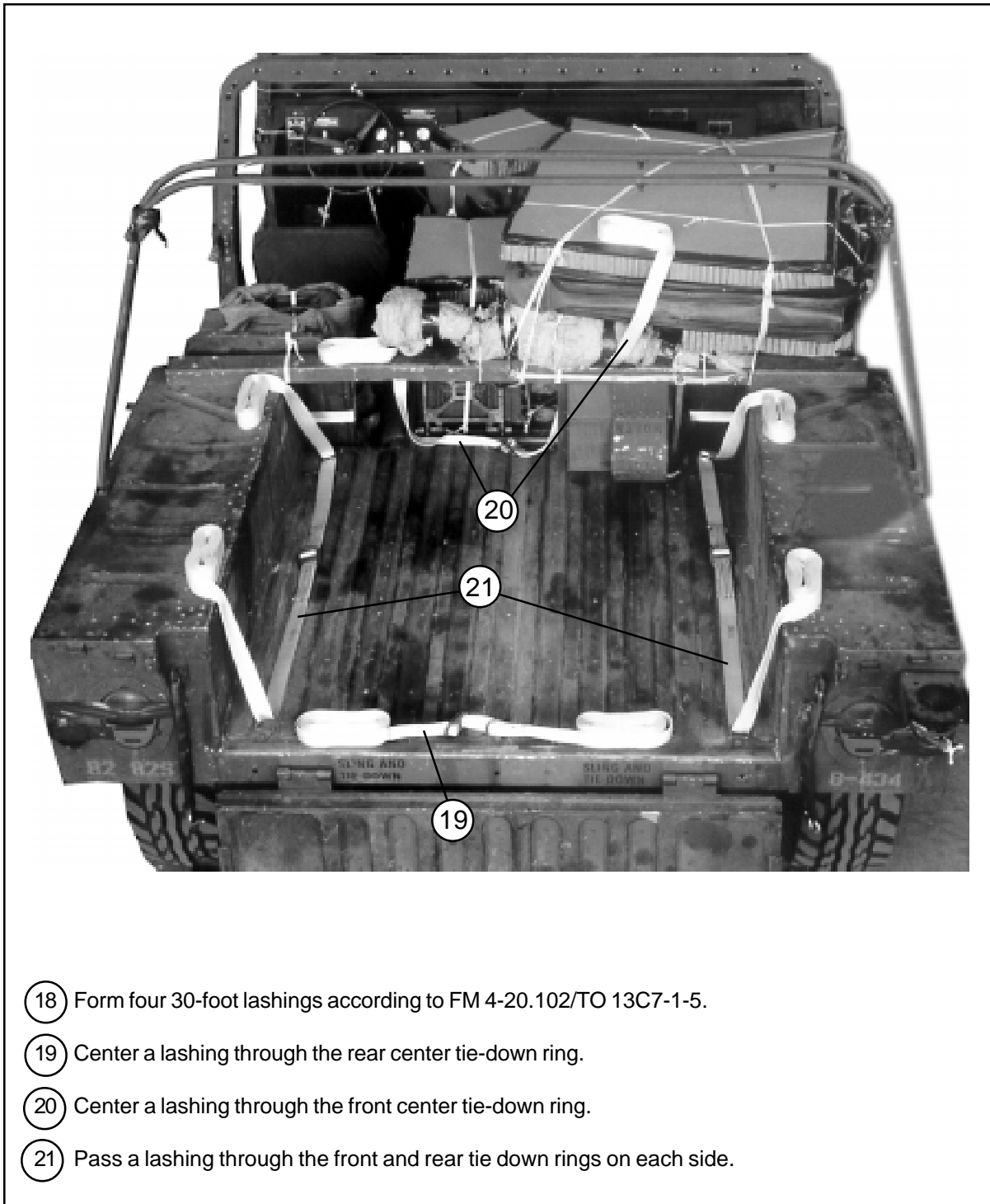


**Figure 5-5. AN/VSC-2 Radioteletype Rigged in M998 Truck (continued)**



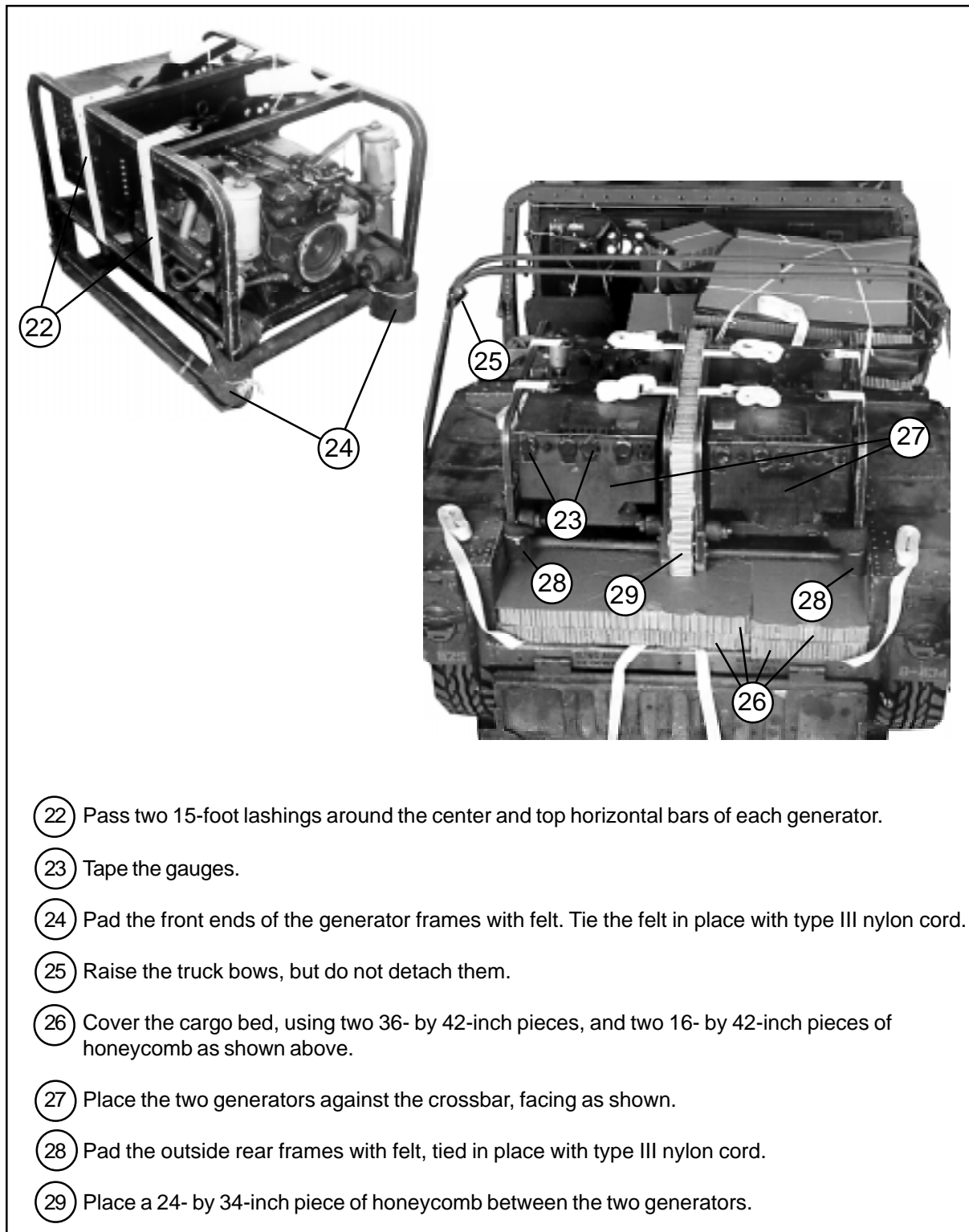
- 16 Place the truck doors and cover between two 36- by 46-inch pieces of honeycomb. Make a 6- by 16-inch cutout in the bottom piece to allow for the antenna mount. Cut the adjacent corner about 8 inches to allow for the crypto box. Tape the bottom and top edges of the honeycomb. Tie the bundle together with two lengths of type III nylon cord
- 17 Place the doors and cover on top of the right rear seat and teletype, with the cutout in the bottom honeycomb piece over the antenna mount. Tie the bundle to the crossbar and front seat braces with two lengths of 1/2-inch tubular nylon webbing.

Figure 5-5. AN/VSC-2 Radioteletype Rigged in M998 Truck (continued)



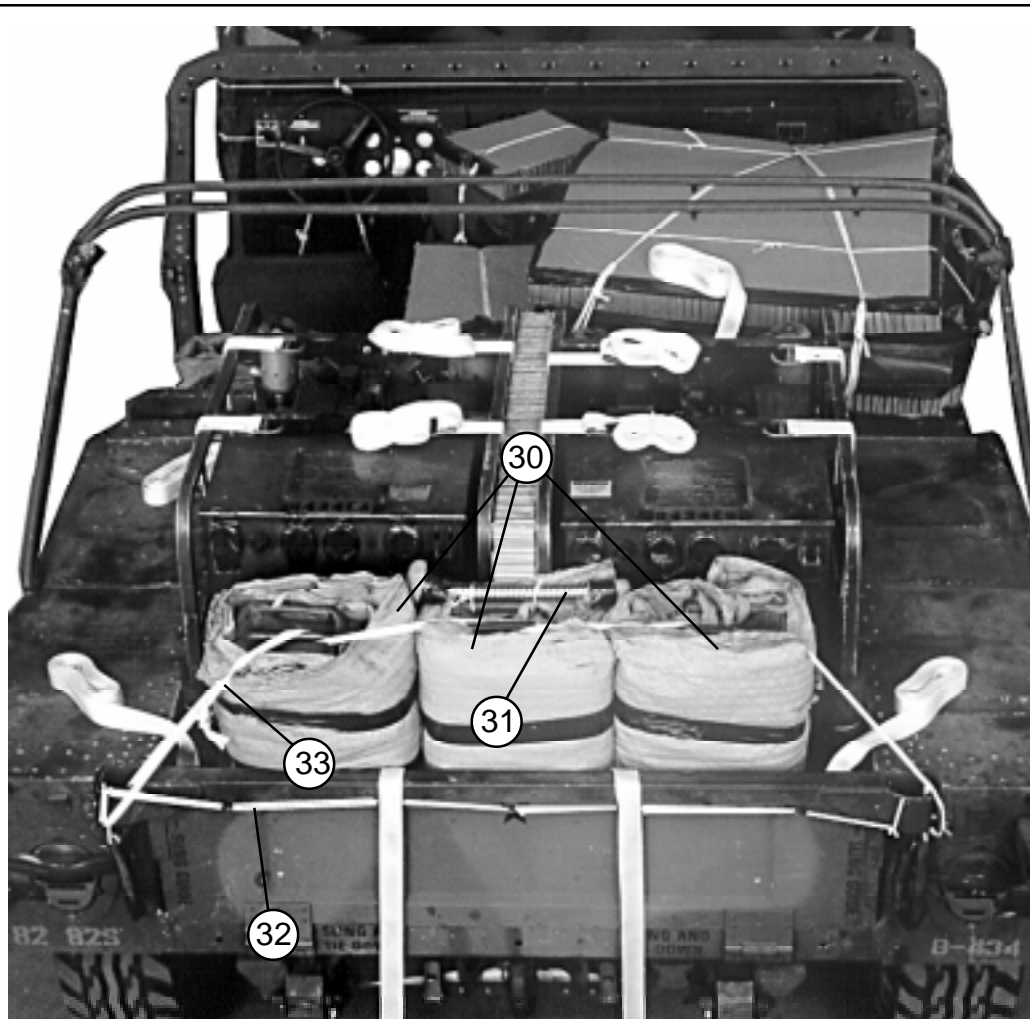
- ⑱ Form four 30-foot lashings according to FM 4-20.102/TO 13C7-1-5.
- ⑲ Center a lashing through the rear center tie-down ring.
- ⑳ Center a lashing through the front center tie-down ring.
- ㉑ Pass a lashing through the front and rear tie down rings on each side.

**Figure 5-5. AN/VSC-2 Radioteletype Rigged in M998 Truck (continued)**



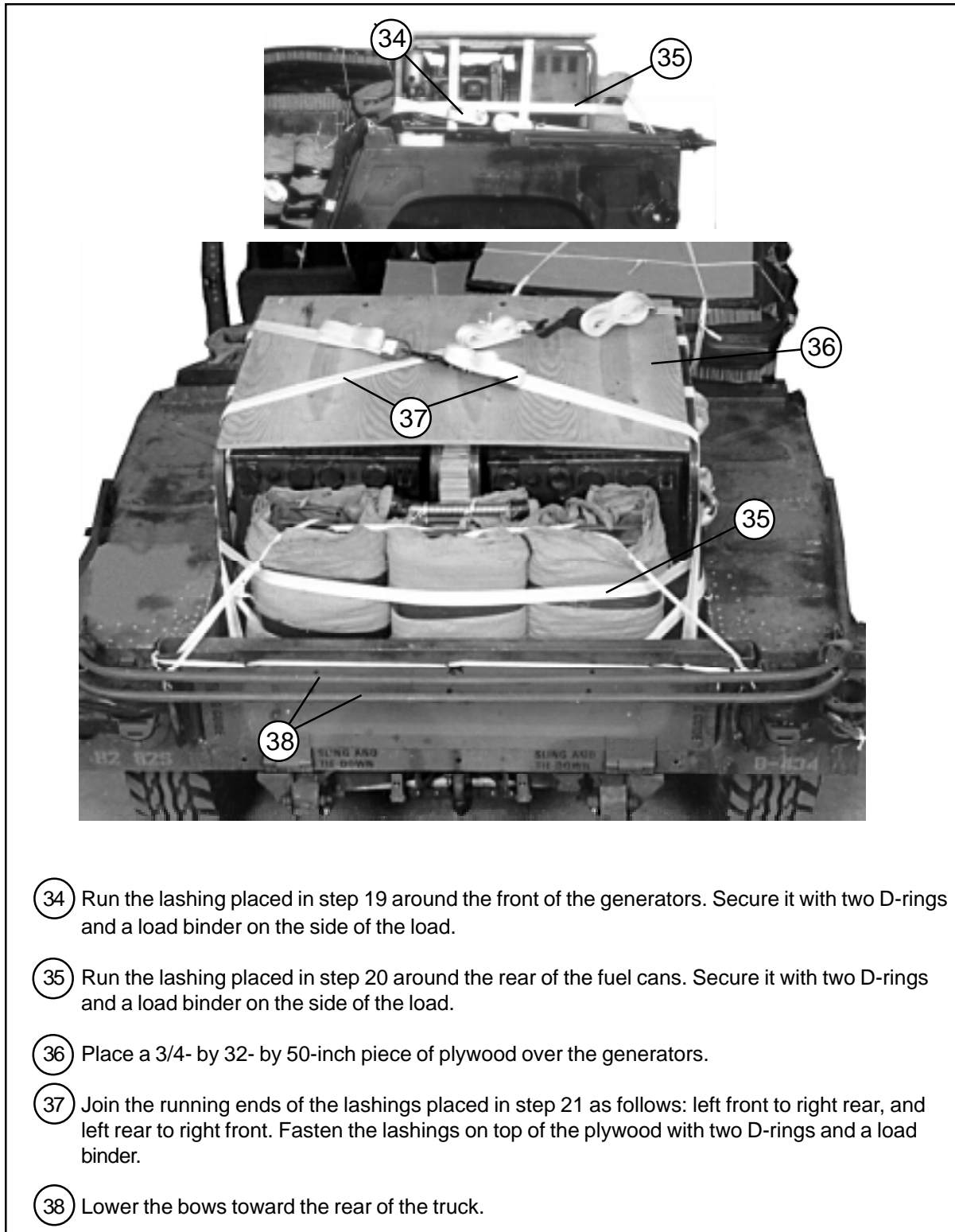
- ②② Pass two 15-foot lashings around the center and top horizontal bars of each generator.
- ②③ Tape the gauges.
- ②④ Pad the front ends of the generator frames with felt. Tie the felt in place with type III nylon cord.
- ②⑤ Raise the truck bows, but do not detach them.
- ②⑥ Cover the cargo bed, using two 36- by 42-inch pieces, and two 16- by 42-inch pieces of honeycomb as shown above.
- ②⑦ Place the two generators against the crossbar, facing as shown.
- ②⑧ Pad the outside rear frames with felt, tied in place with type III nylon cord.
- ②⑨ Place a 24- by 34-inch piece of honeycomb between the two generators.

Figure 5-5. AN/VSC-2 Radioteletype Rigged in M998 Truck (continued)



- ③0 Pad three filled fuel cans with cellulose wadding, and tape the wadding in place. Set the fuel cans flat against the rear of the generators.
- ③1 Tie a filler nozzle to the center can handle with type III nylon cord.
- ③2 Close the tailgate and tie it with 1/2-inch tubular nylon webbing.
- ③3 Secure the fuel cans to the tailgate brackets with 1/2-inch tubular nylon webbing, running the webbing through the can handles.

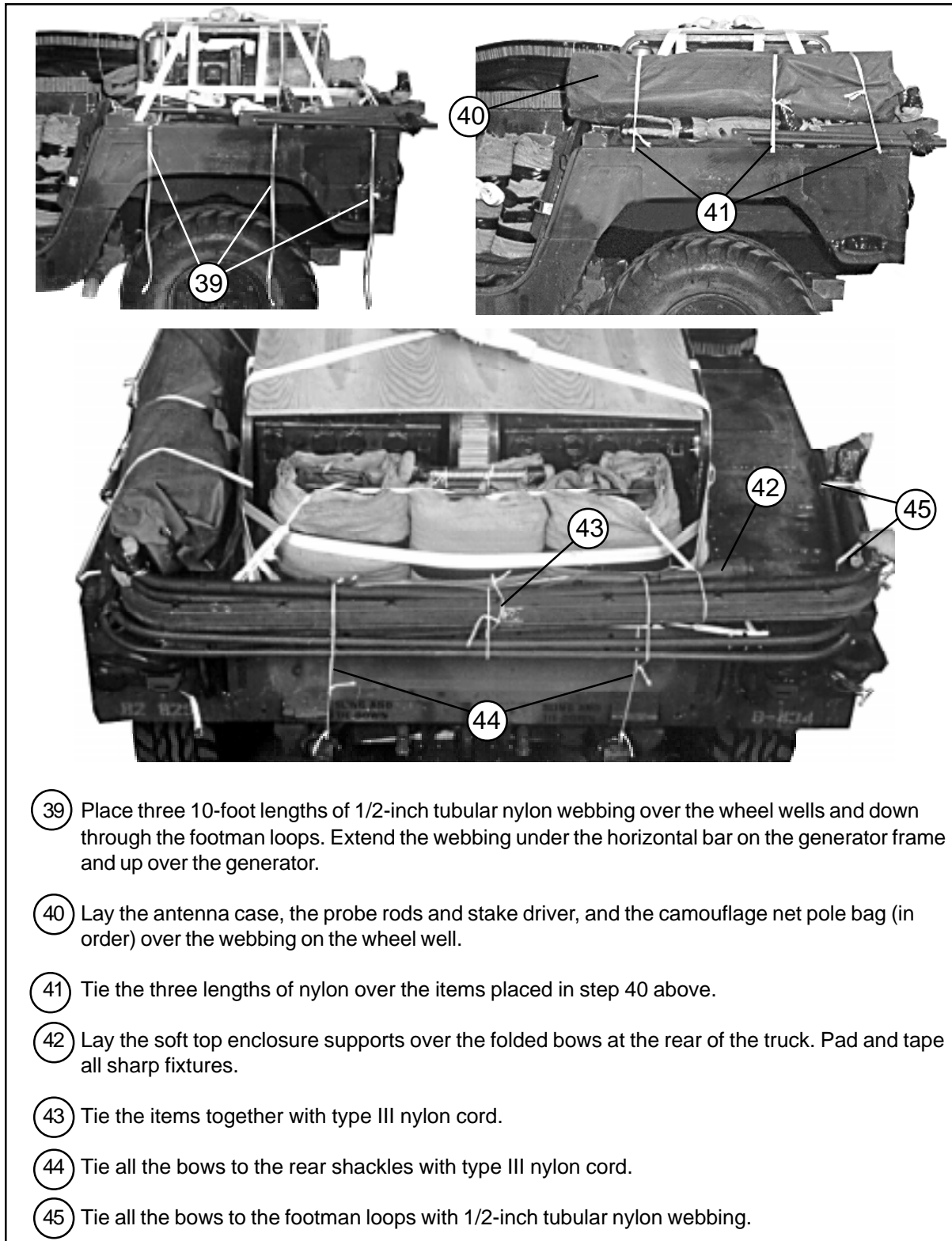
**Figure 5-5. AN/VSC-2 Radioteletype Rigged in M998 Truck (continued)**



- ③④ Run the lashing placed in step 19 around the front of the generators. Secure it with two D-rings and a load binder on the side of the load.
- ③⑤ Run the lashing placed in step 20 around the rear of the fuel cans. Secure it with two D-rings and a load binder on the side of the load.
- ③⑥ Place a 3/4- by 32- by 50-inch piece of plywood over the generators.
- ③⑦ Join the running ends of the lashings placed in step 21 as follows: left front to right rear, and left rear to right front. Fasten the lashings on top of the plywood with two D-rings and a load binder.
- ③⑧ Lower the bows toward the rear of the truck.

**Figure 5-5. AN/VSC-2 Radioteletype Rigged in M998 Truck (continued)**

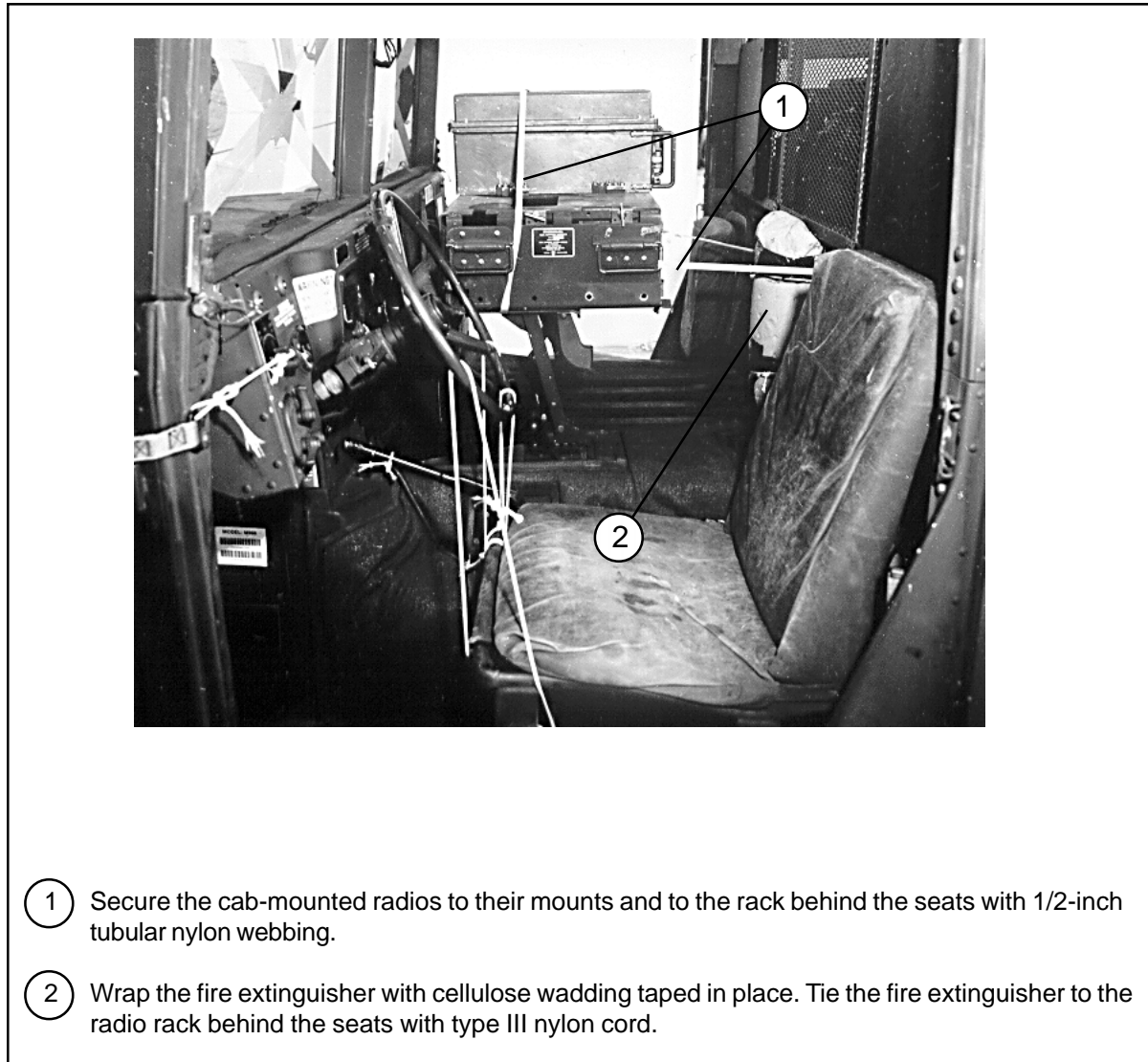




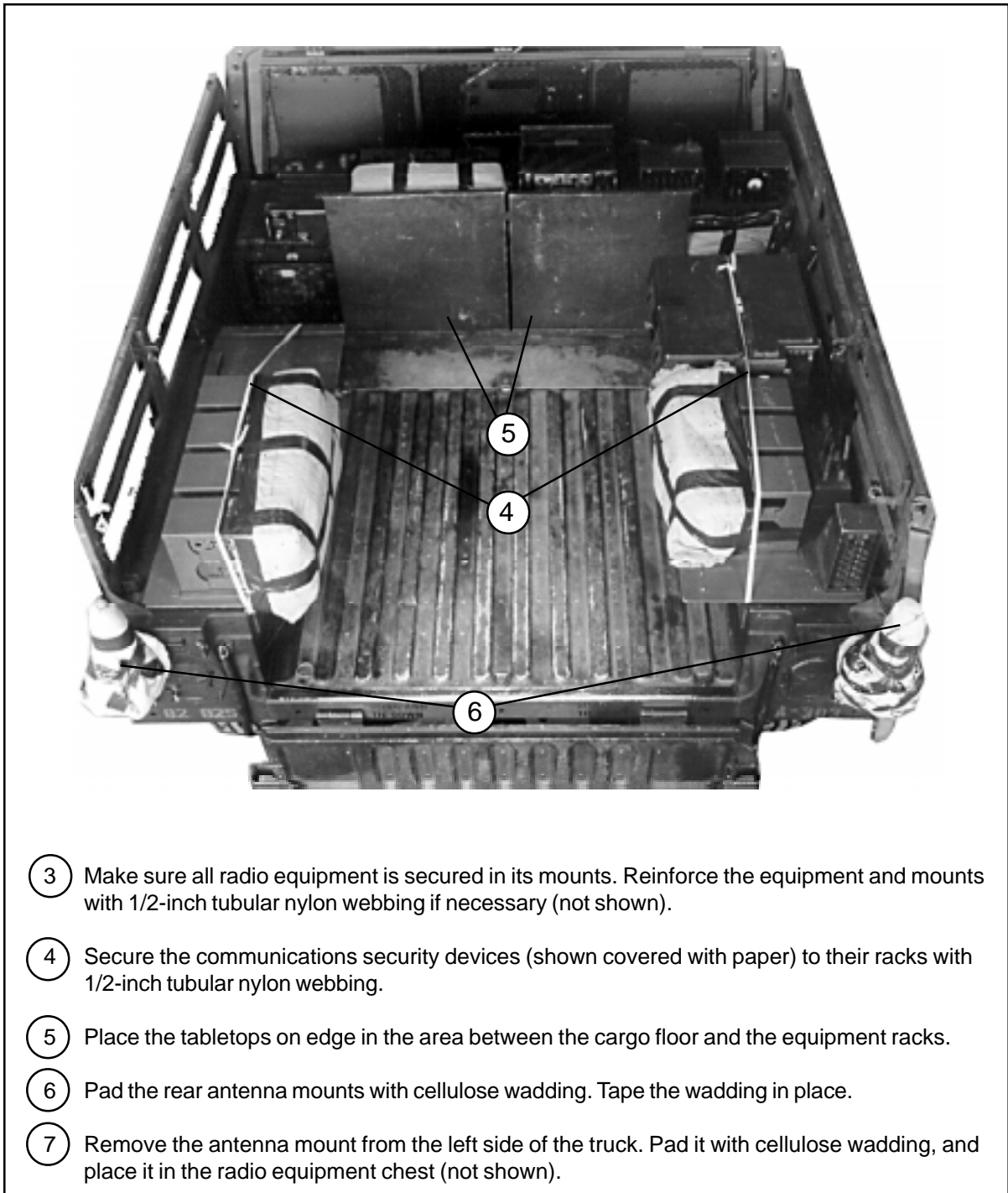
**Figure 5-5. AN/VSC-2 Radioteletype Rigged in M998 Truck (continued)**

## RIGGING DIVISION ASSAULT COMMAND RADIO SYSTEM IN M998 TRUCK

5-7. Use the procedures shown in Figure 5-6 to rig the Division Assault Command Radio System, and truck and crew equipment. This load weighs 1,520 pounds.

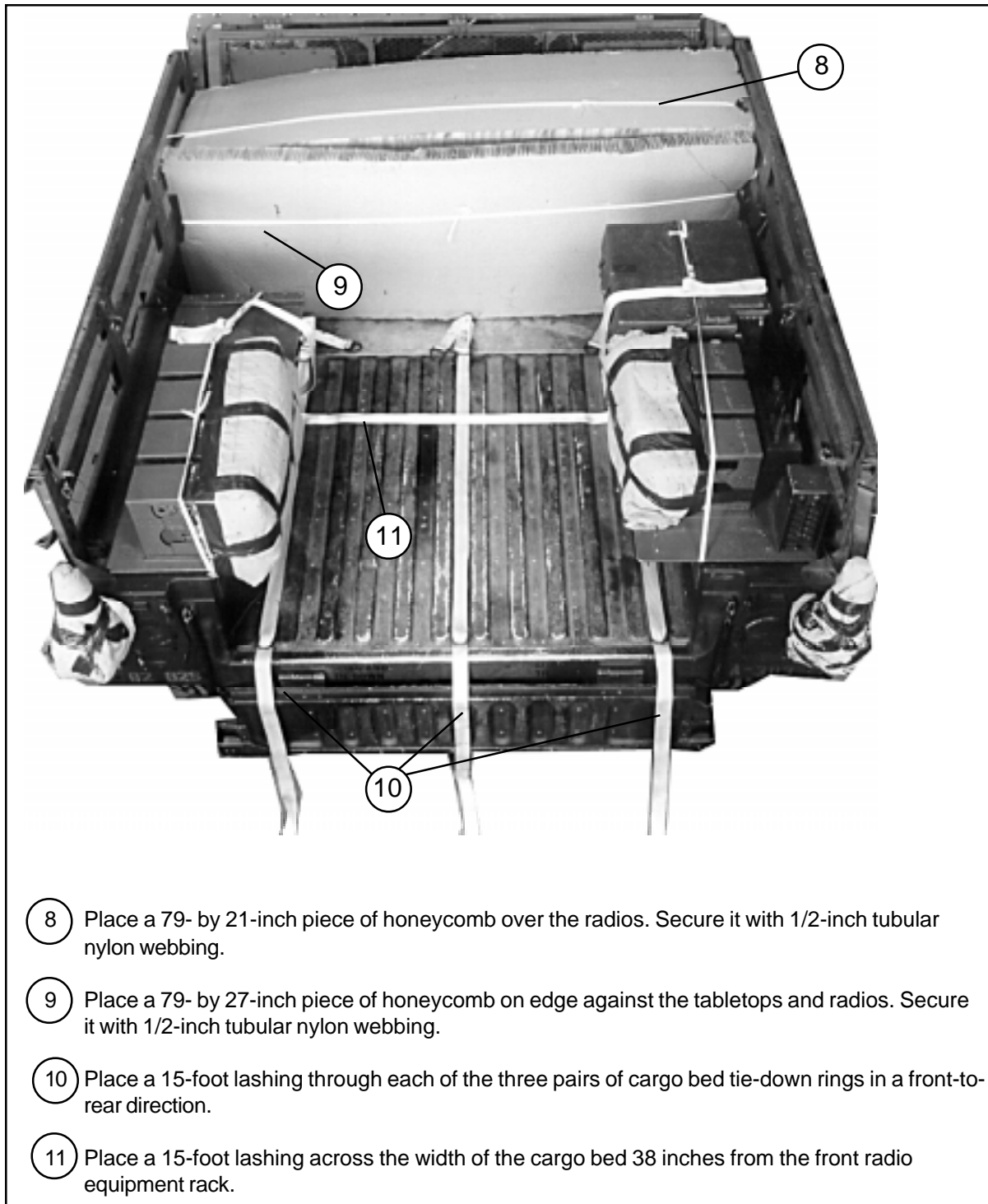


**Figure 5-6. Division Assault Command Radio System and Truck Equipment Rigged in M998 Truck**



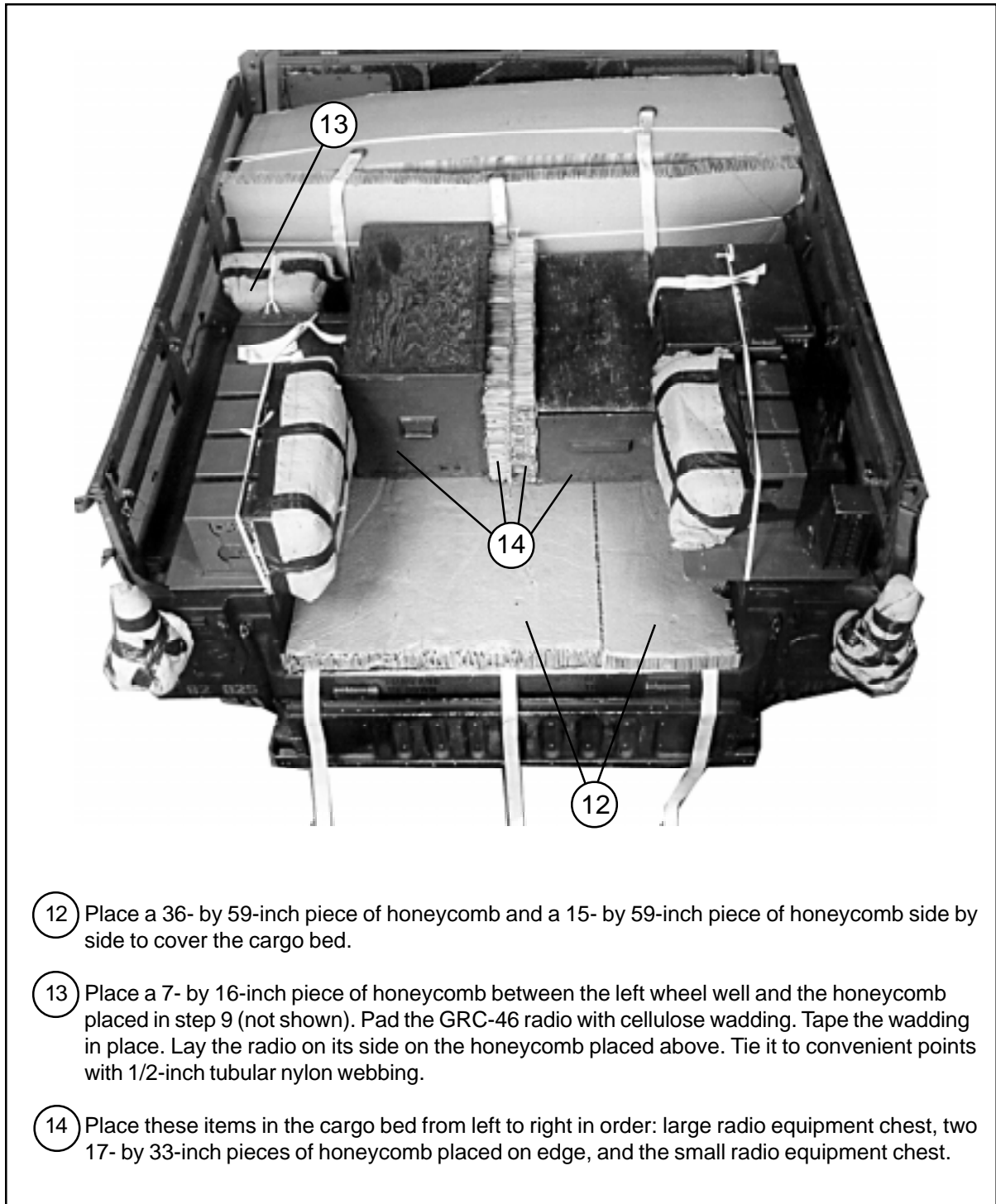
- ③ Make sure all radio equipment is secured in its mounts. Reinforce the equipment and mounts with 1/2-inch tubular nylon webbing if necessary (not shown).
- ④ Secure the communications security devices (shown covered with paper) to their racks with 1/2-inch tubular nylon webbing.
- ⑤ Place the tabletops on edge in the area between the cargo floor and the equipment racks.
- ⑥ Pad the rear antenna mounts with cellulose wadding. Tape the wadding in place.
- ⑦ Remove the antenna mount from the left side of the truck. Pad it with cellulose wadding, and place it in the radio equipment chest (not shown).

**Figure 5-6. Division Assault Command Radio System and Truck Equipment Rigged in M998 Truck (continued)**

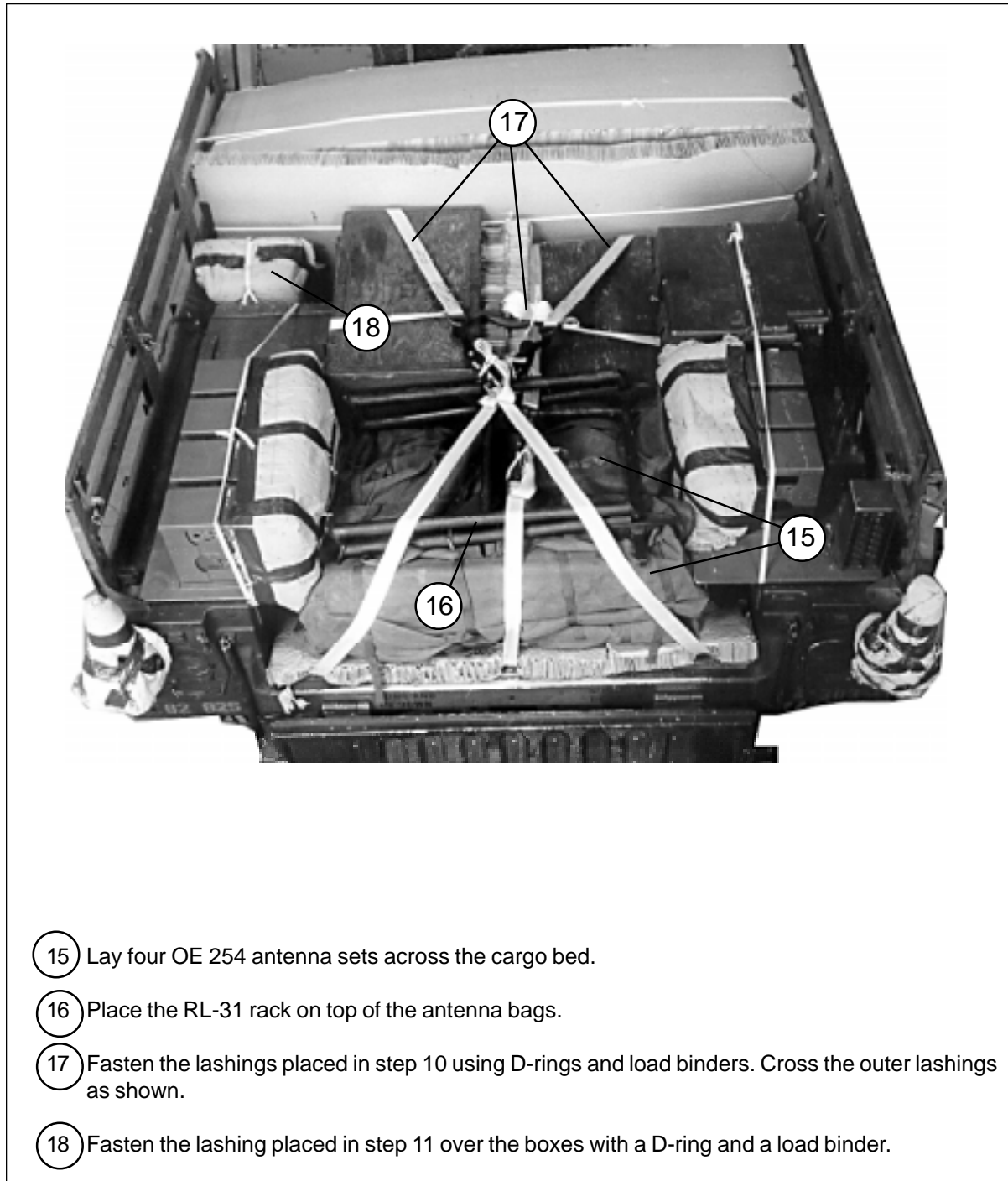


- 8 Place a 79- by 21-inch piece of honeycomb over the radios. Secure it with 1/2-inch tubular nylon webbing.
- 9 Place a 79- by 27-inch piece of honeycomb on edge against the tabletops and radios. Secure it with 1/2-inch tubular nylon webbing.
- 10 Place a 15-foot lashing through each of the three pairs of cargo bed tie-down rings in a front-to-rear direction.
- 11 Place a 15-foot lashing across the width of the cargo bed 38 inches from the front radio equipment rack.

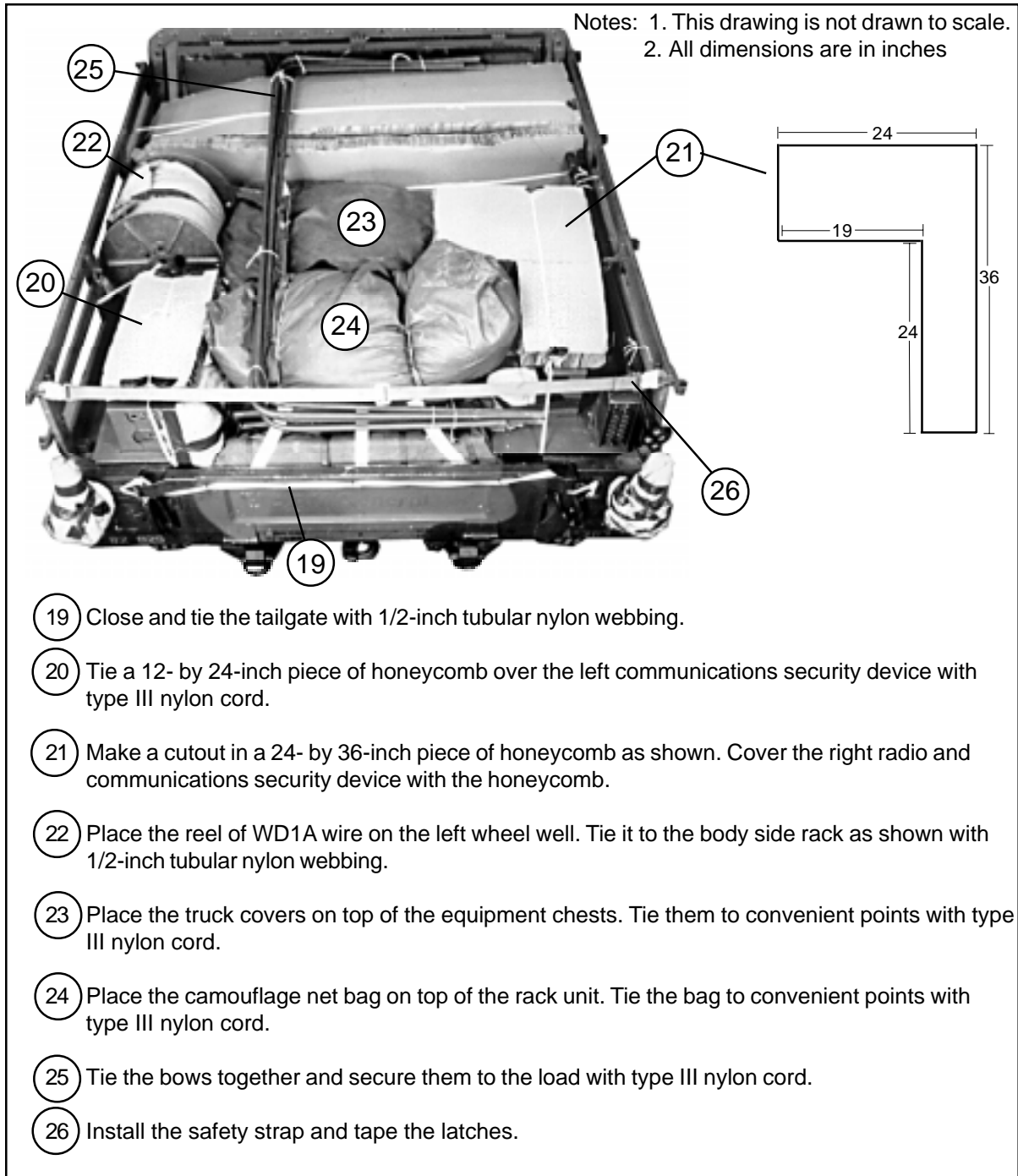
**Figure 5-6. Division Assault Command Radio System and Truck Equipment Rigged in M998 Truck (continued)**



**Figure 5-6. Division Assault Command Radio System and Truck Equipment Rigged in M998 Truck (continued)**



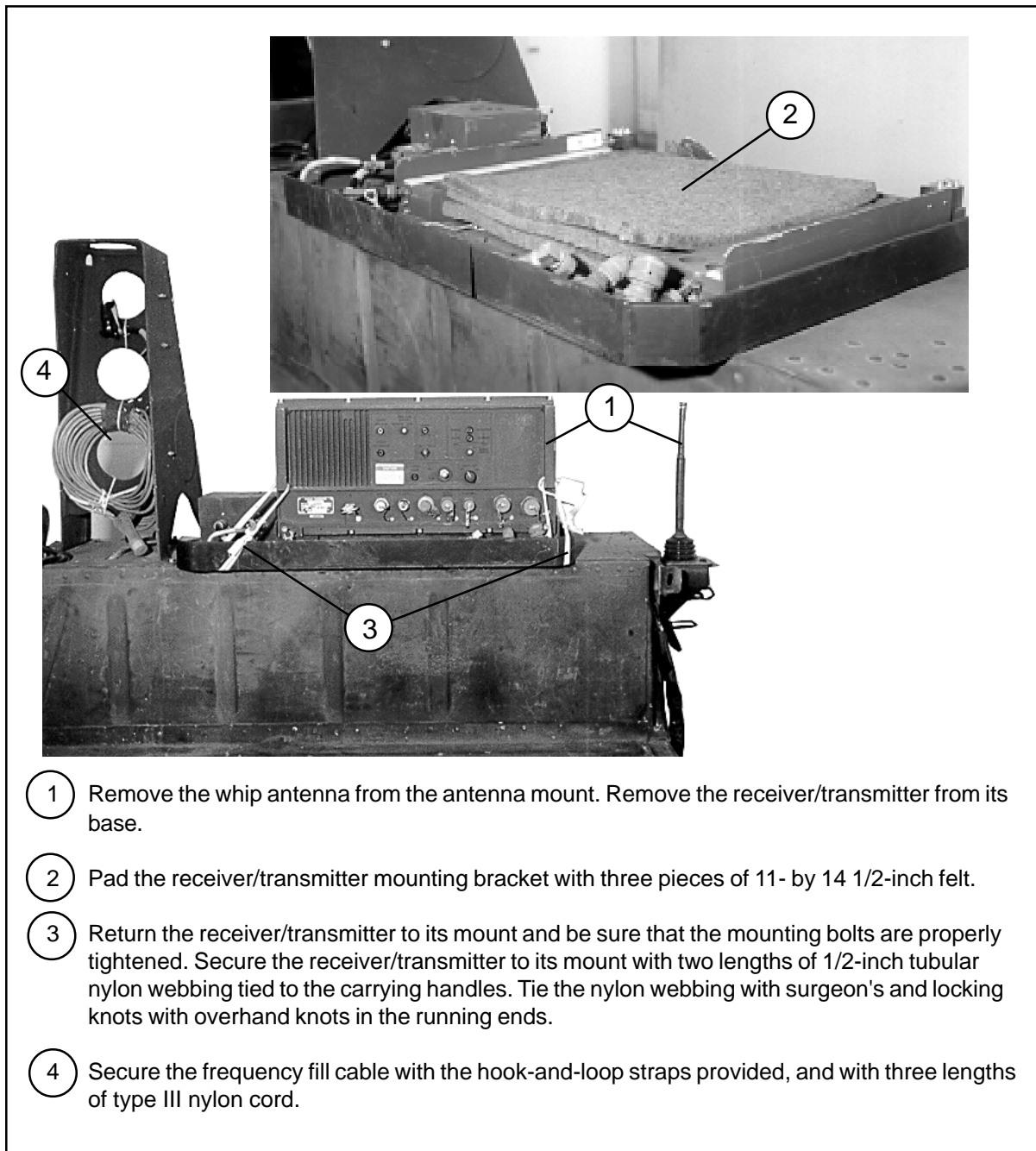
**Figure 5-6. Division Assault Command Radio System and Truck Equipment Rigged in M998 Truck (continued)**



**Figure 5-6. Division Assault Command Radio System and Truck Equipment Rigged in M998 Truck (continued)**

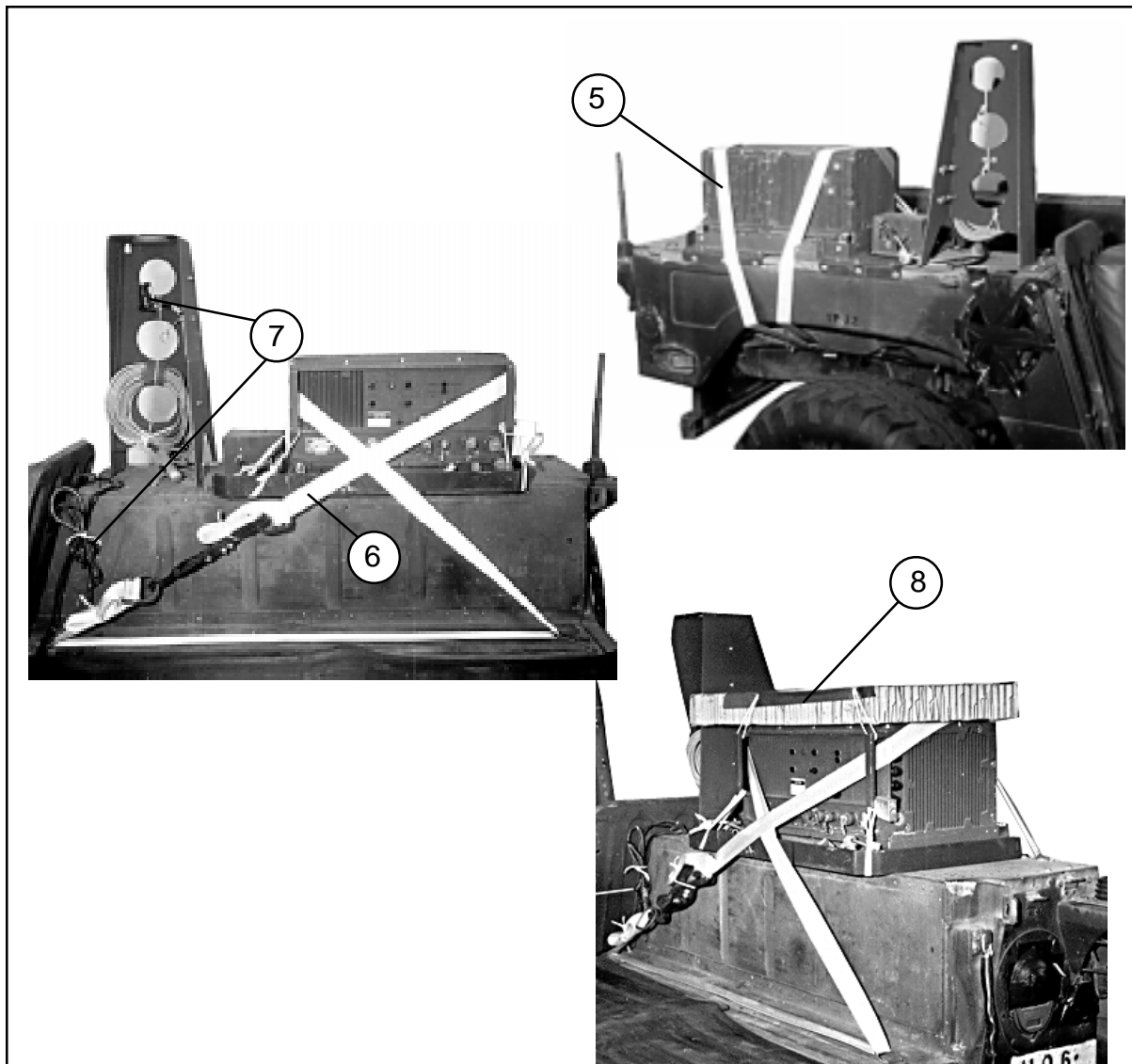
### RIGGING MOBILE SUBSCRIBER RADIO TELEPHONE IN M998 TRUCK

5-8. Use the procedures shown in Figures 5-7 and 5-8 to rig the Mobile Subscriber Radio Telephone Terminal (AN/VRC-97). Rig equipment in addition to the items shown to meet the weight requirement.



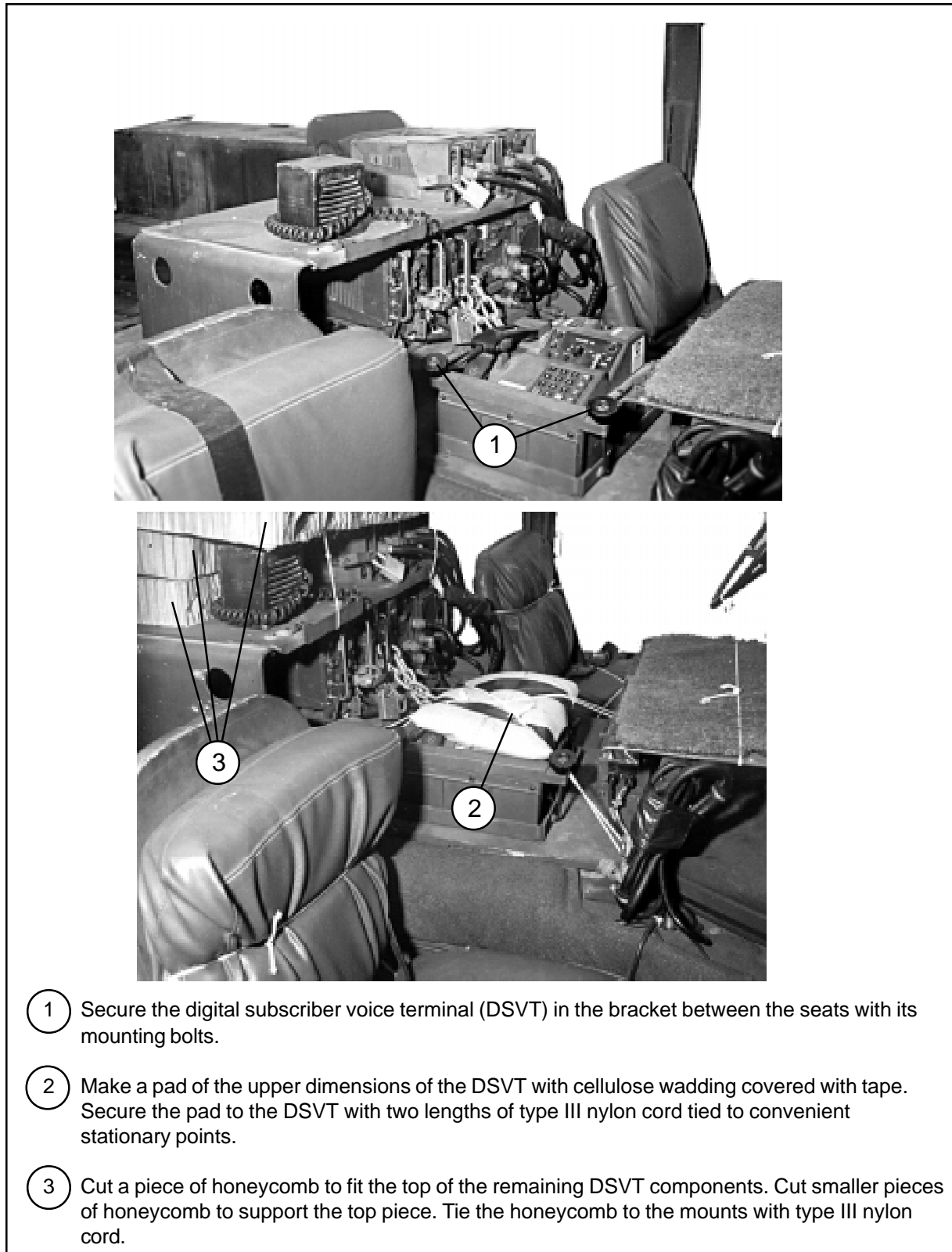
**Figure 5-7. Receiver/Transmitter RT-1539 Prepared and Secured**





- 5 Center a 30-foot lashing through the tie-down provision behind the right rear wheel. Pass both ends of the lashing over the receiver/transmitter and through the carrying handles.
- 6 Cross the lashing in front of the receiver/transmitter and pass it through the cargo bed tie-down rings. Secure the lashing with two D-rings and a load binder.
- 7 Safety tie any cables to convenient stationary points with type III nylon cord.
- 8 Place a 15- by 30-inch piece of honeycomb on top of the receiver/transmitter. Tape the upper 30-inch sides of the honeycomb. Secure the honeycomb to the receiver/transmitter with type III nylon cord. Run the cord over the honeycomb from the right carrying handle to the left rear mounting bracket, and from the left carrying handle to the right rear mounting bracket.

**Figure 5-7. Receiver/Transmitter RT-1539 Prepared and Secured (continued)**

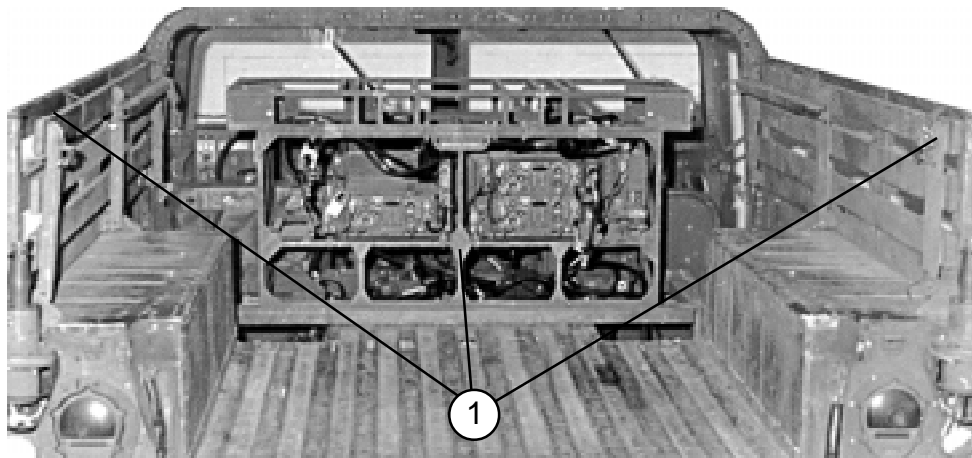


- ① Secure the digital subscriber voice terminal (DSVT) in the bracket between the seats with its mounting bolts.
- ② Make a pad of the upper dimensions of the DSVT with cellulose wadding covered with tape. Secure the pad to the DSVT with two lengths of type III nylon cord tied to convenient stationary points.
- ③ Cut a piece of honeycomb to fit the top of the remaining DSVT components. Cut smaller pieces of honeycomb to support the top piece. Tie the honeycomb to the mounts with type III nylon cord.

**Figure 5-8. Digital Subscriber Voice Terminal (KY-68) Components Prepared and Secured**

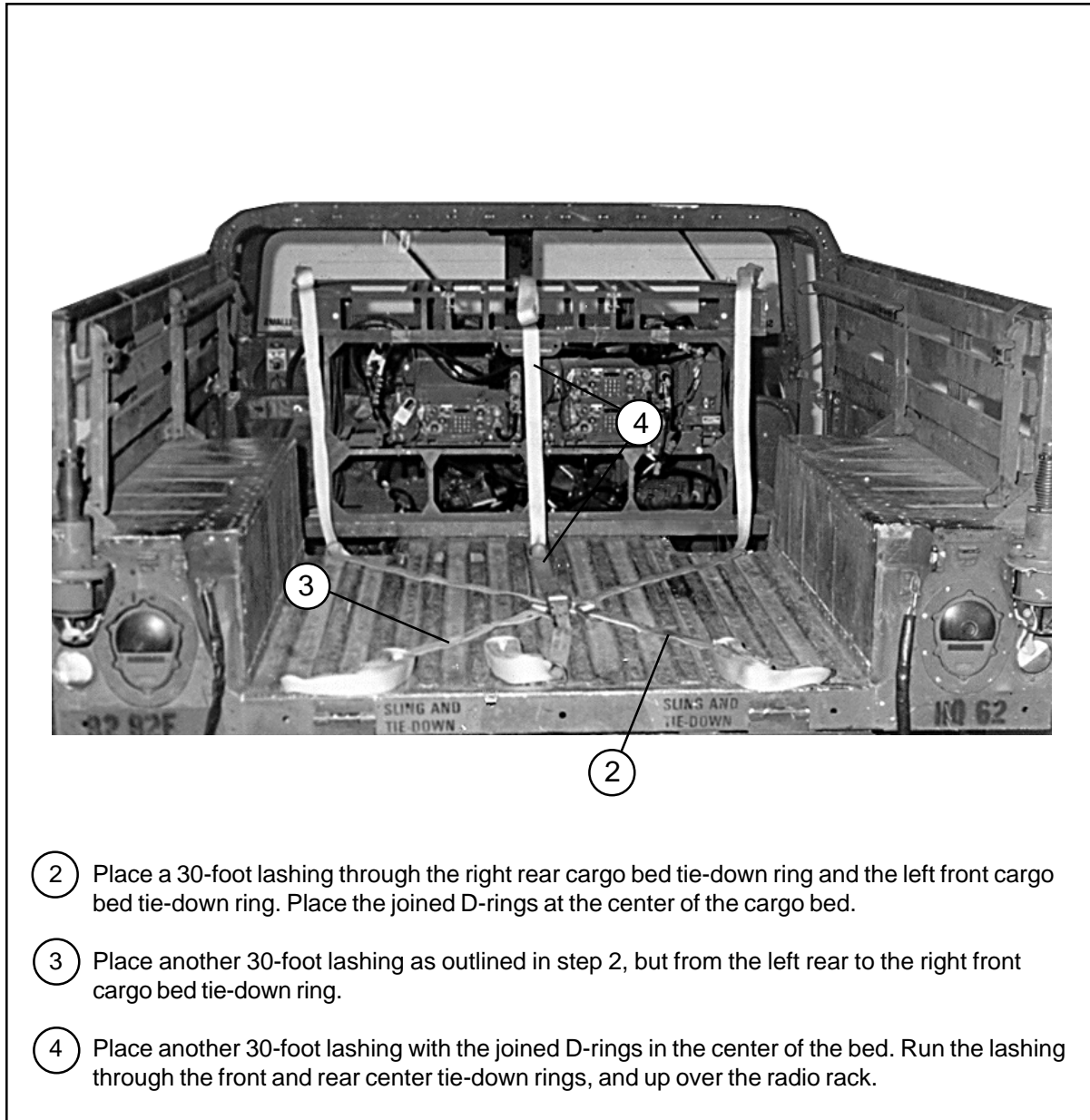
## RIGGING LIGHTWEIGHT TACTICAL FIRE DIRECTION CONTROL SYSTEM (LTACFIRE) IN M998 TRUCK

5-9. Use the procedures shown in Figure 5-9 to rig the components of the LTACFIRE and accompanying equipment. The LTACFIRE system consists of a syncgar radio system mounted in a rack. The upper rack has a program load unit (PLU), a power distribution box (PDB), and a digitizer mounted in it. The printer and monitor have their own containers. A keyboard requires a container to be made of honeycomb. Miscellaneous items include, but are not limited to, a map board, field desk, footlocker, camouflage net and poles, and two folding chairs.

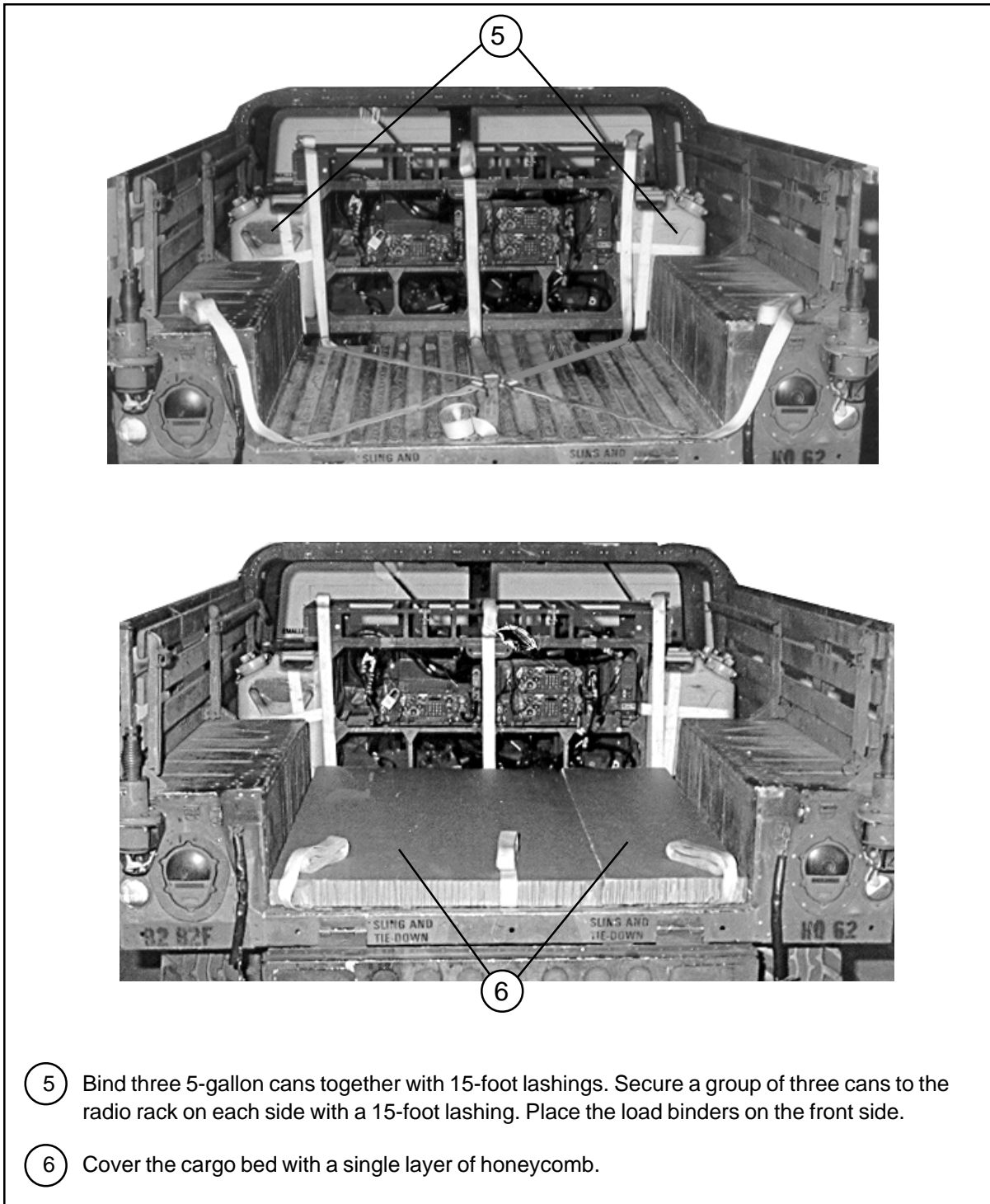


- 1 Remove all components of the LTACFIRE system and accompanying equipment from the truck except the syncgar radios mounted in their rack bolted to the bed of the carrier. Raise and secure the left and right side troop seats.

**Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M998 Truck**

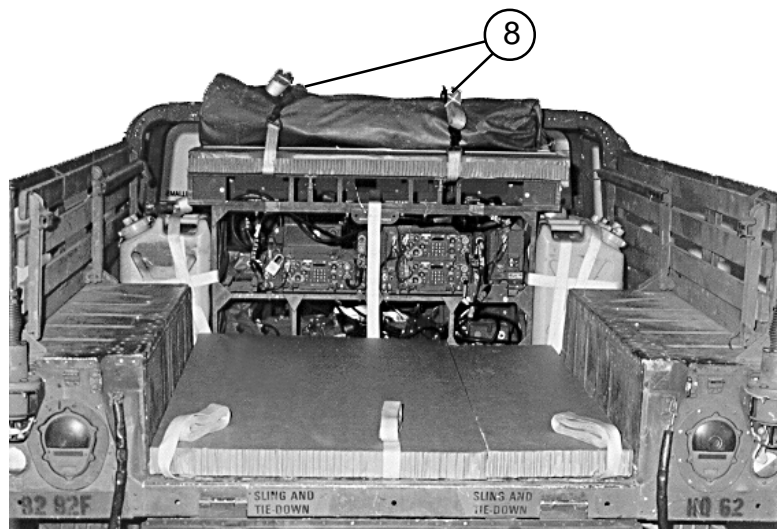


**Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M998 Truck (continued)**



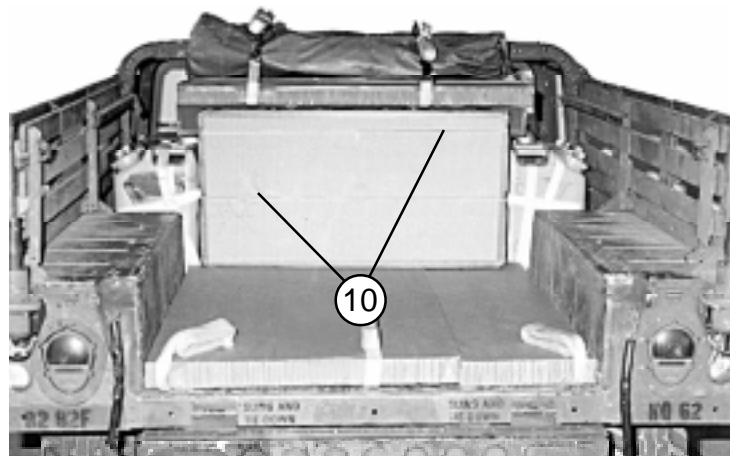
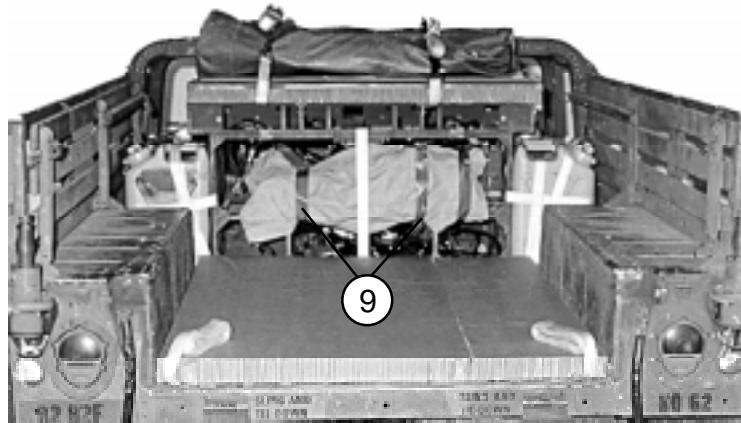
- ⑤ Bind three 5-gallon cans together with 15-foot lashings. Secure a group of three cans to the radio rack on each side with a 15-foot lashing. Place the load binders on the front side.
- ⑥ Cover the cargo bed with a single layer of honeycomb.

**Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M998 Truck (continued)**



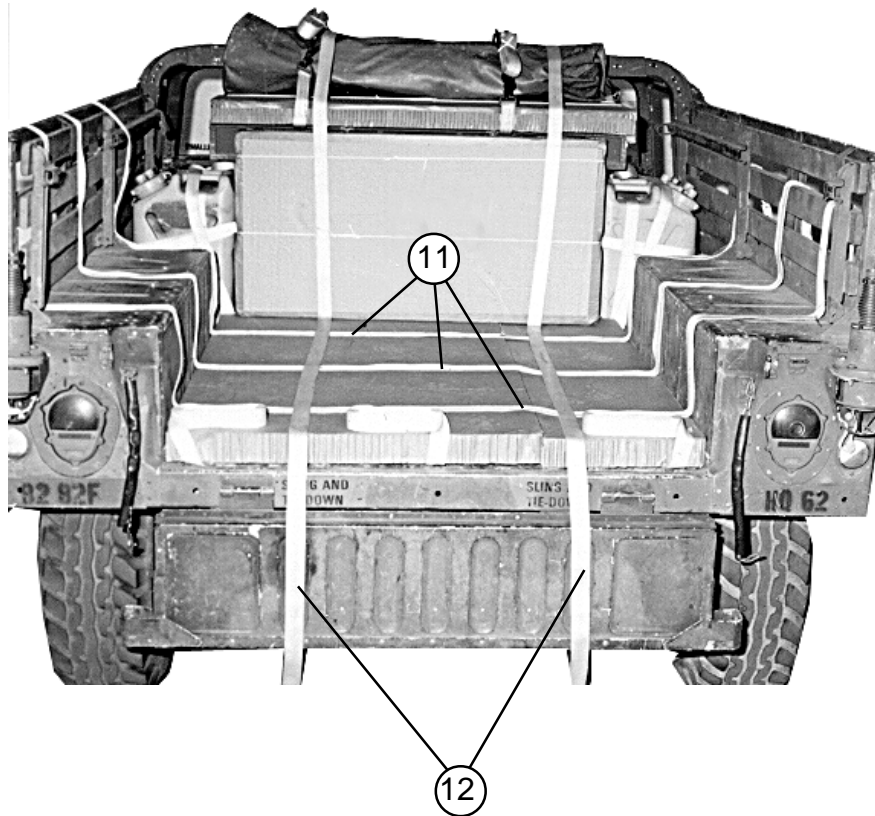
- ⑦ Move any prepositioned lashings aside, and place a 24- by 54-inch piece of honeycomb on top of the radio rack and secure it with type III nylon cord.
- ⑧ Place one camouflage net pole bag on top of the honeycomb placed in step 7 above. Secure the bag to the radio rack with two 15-foot lashings.

**Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M998 Truck (continued)**



- ⑨ Pad the radio with cellulose wadding. Tape the wadding in place.
- ⑩ Place a 24 1/2- by 47-inch piece of honeycomb against the radio rack and secure it in place with type III nylon cord.

**Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M98 Truck (continued)**

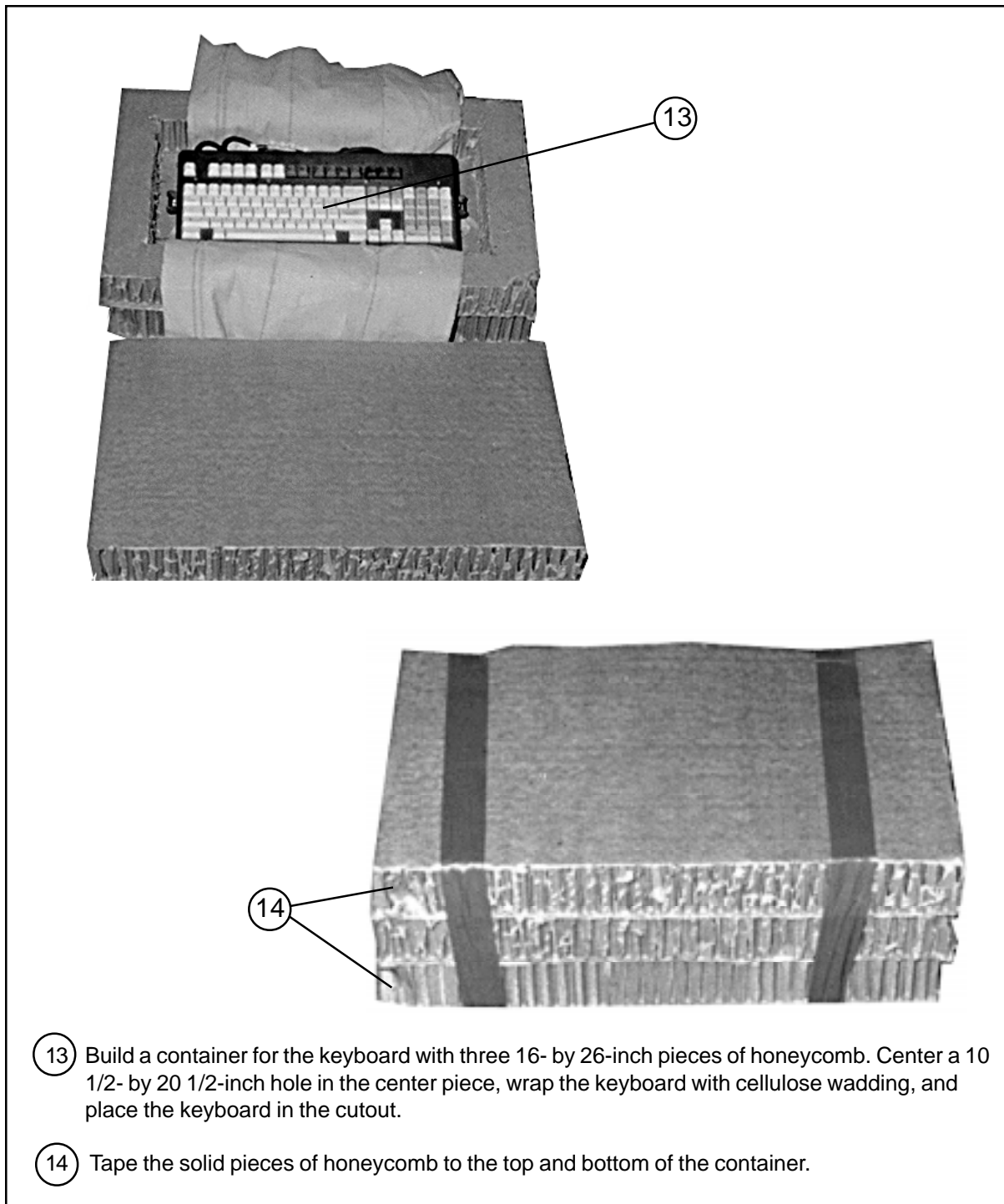


① Place three 15-foot lashings evenly spaced from right to left on the honeycomb placed in step 6.

② Place two more 15-foot lashings on the honeycomb running from front to rear.

**Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M998 Truck (continued)**





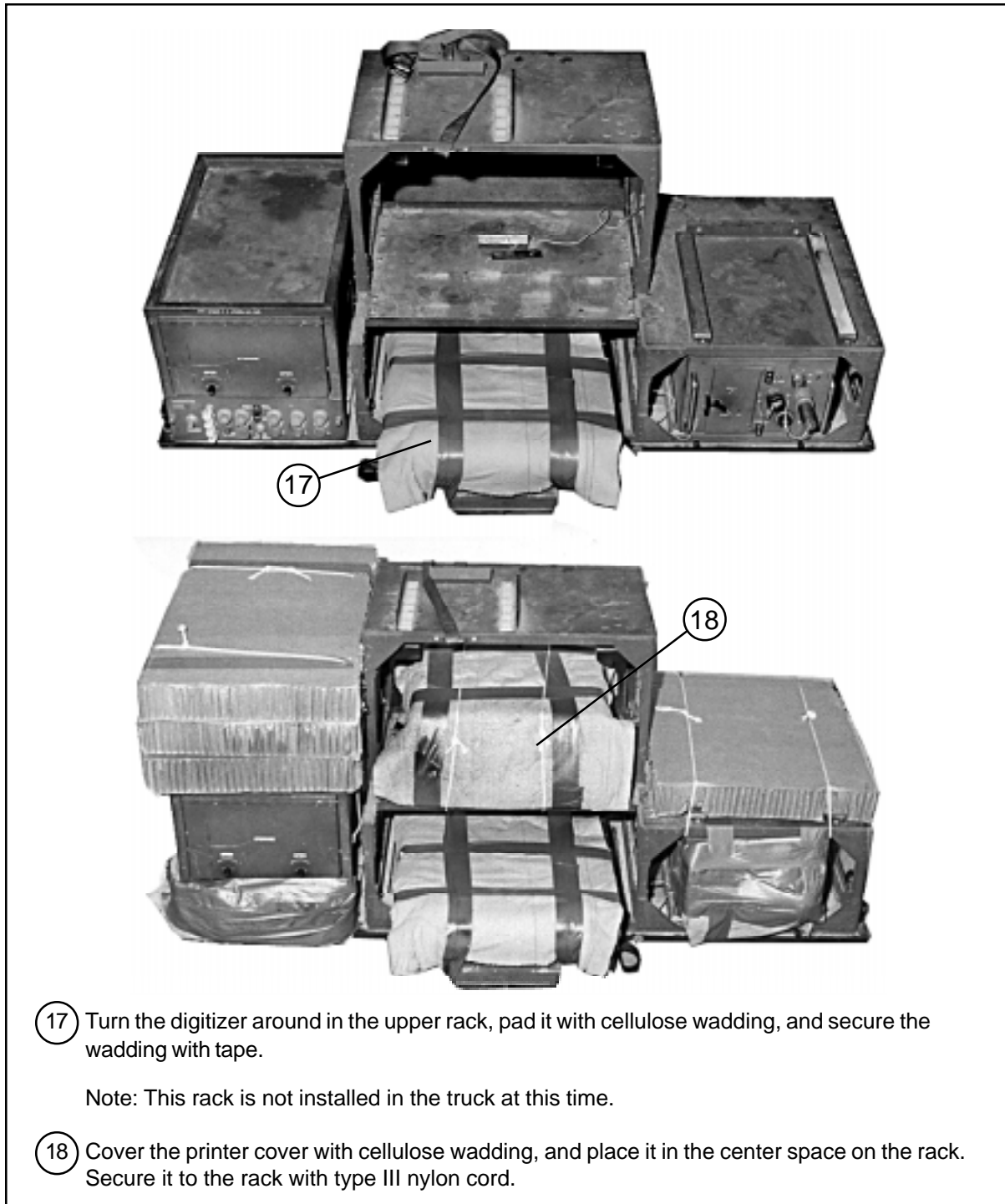
13 Build a container for the keyboard with three 16- by 26-inch pieces of honeycomb. Center a 10 1/2- by 20 1/2-inch hole in the center piece, wrap the keyboard with cellulose wadding, and place the keyboard in the cutout.

14 Tape the solid pieces of honeycomb to the top and bottom of the container.

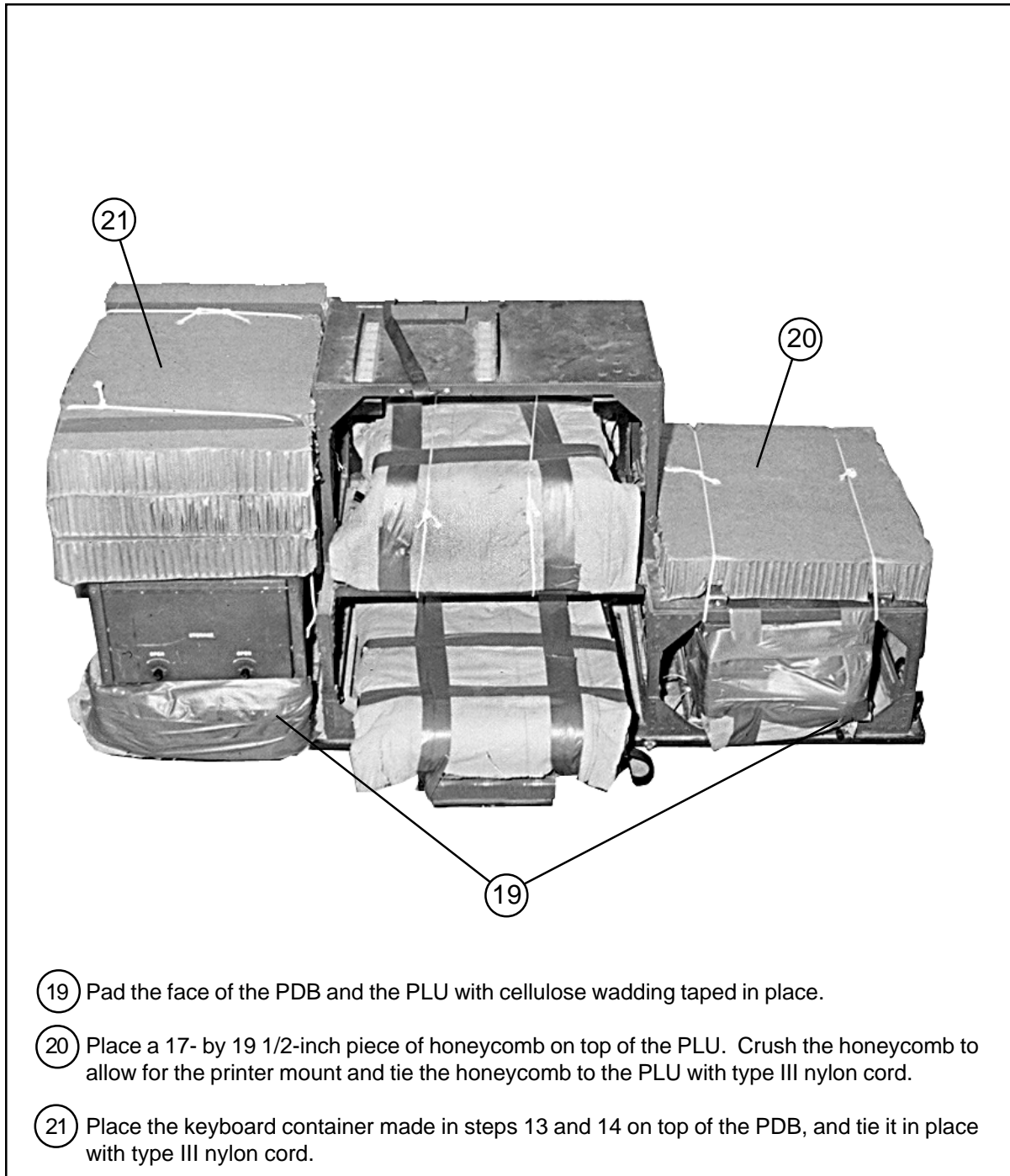
Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M998 Truck (continued)



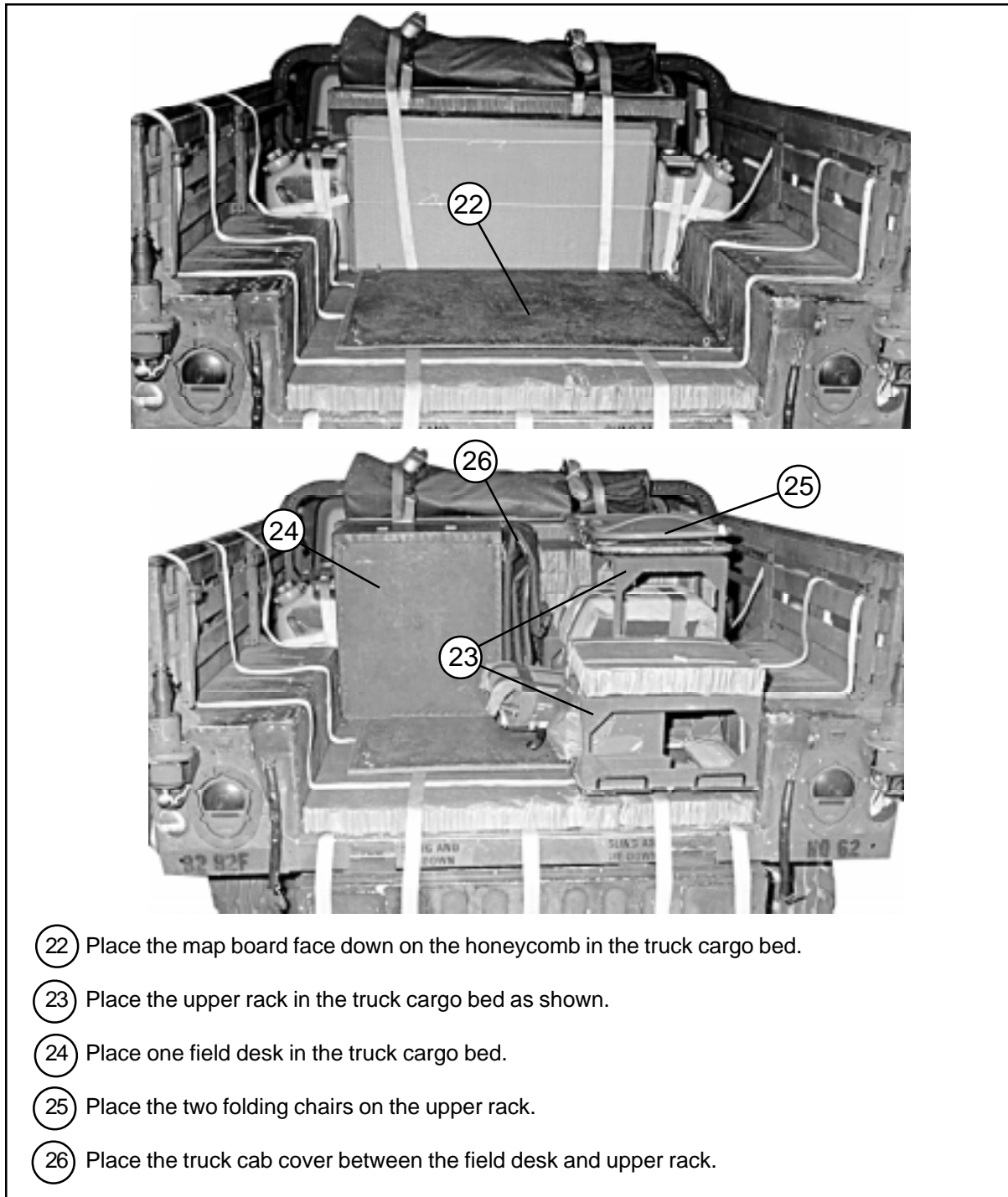
**Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M998 Truck (continued)**



**Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M998 Truck (continued)**



**Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M998 Truck (continued)**



**Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M998 Truck (continued)**

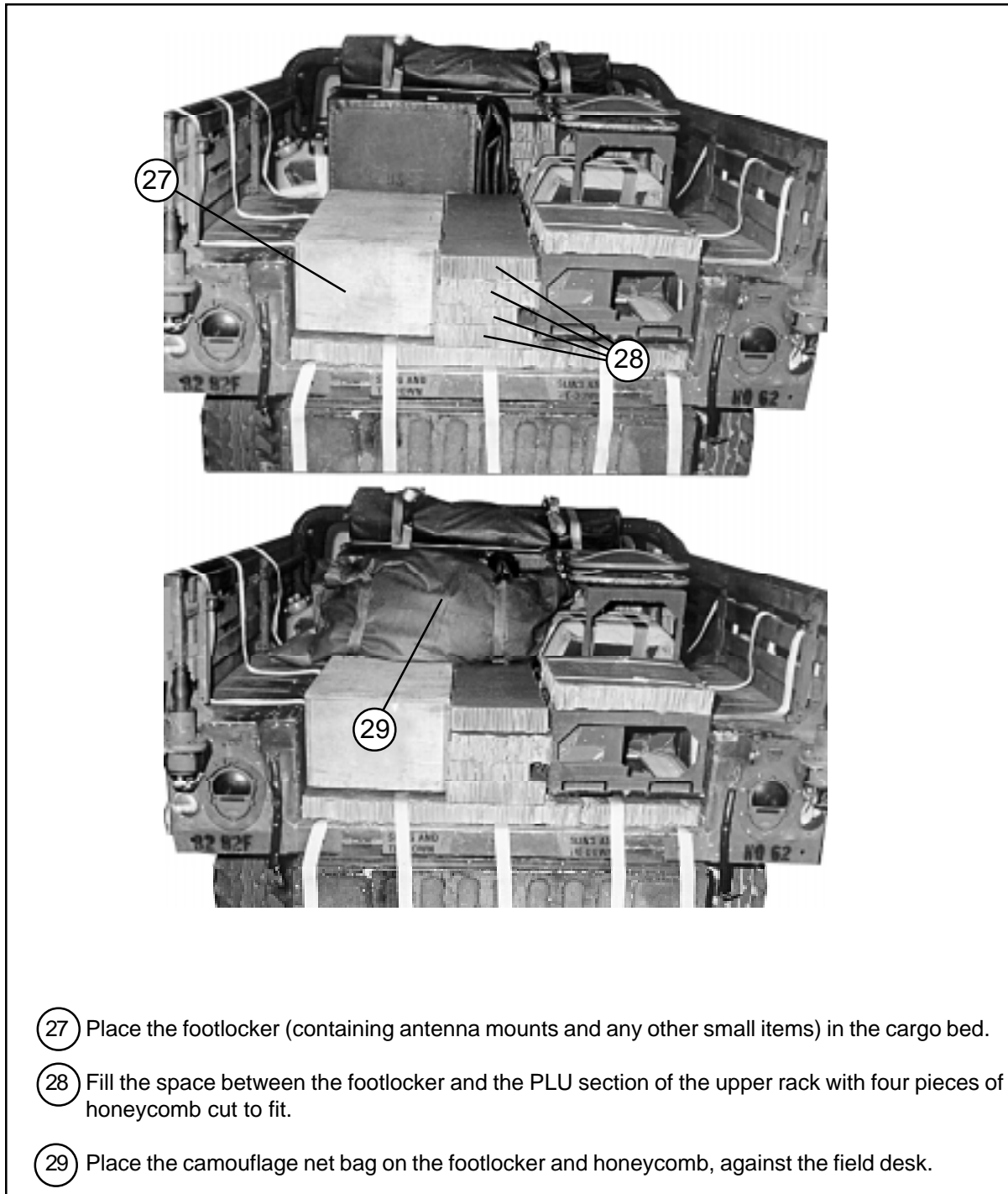
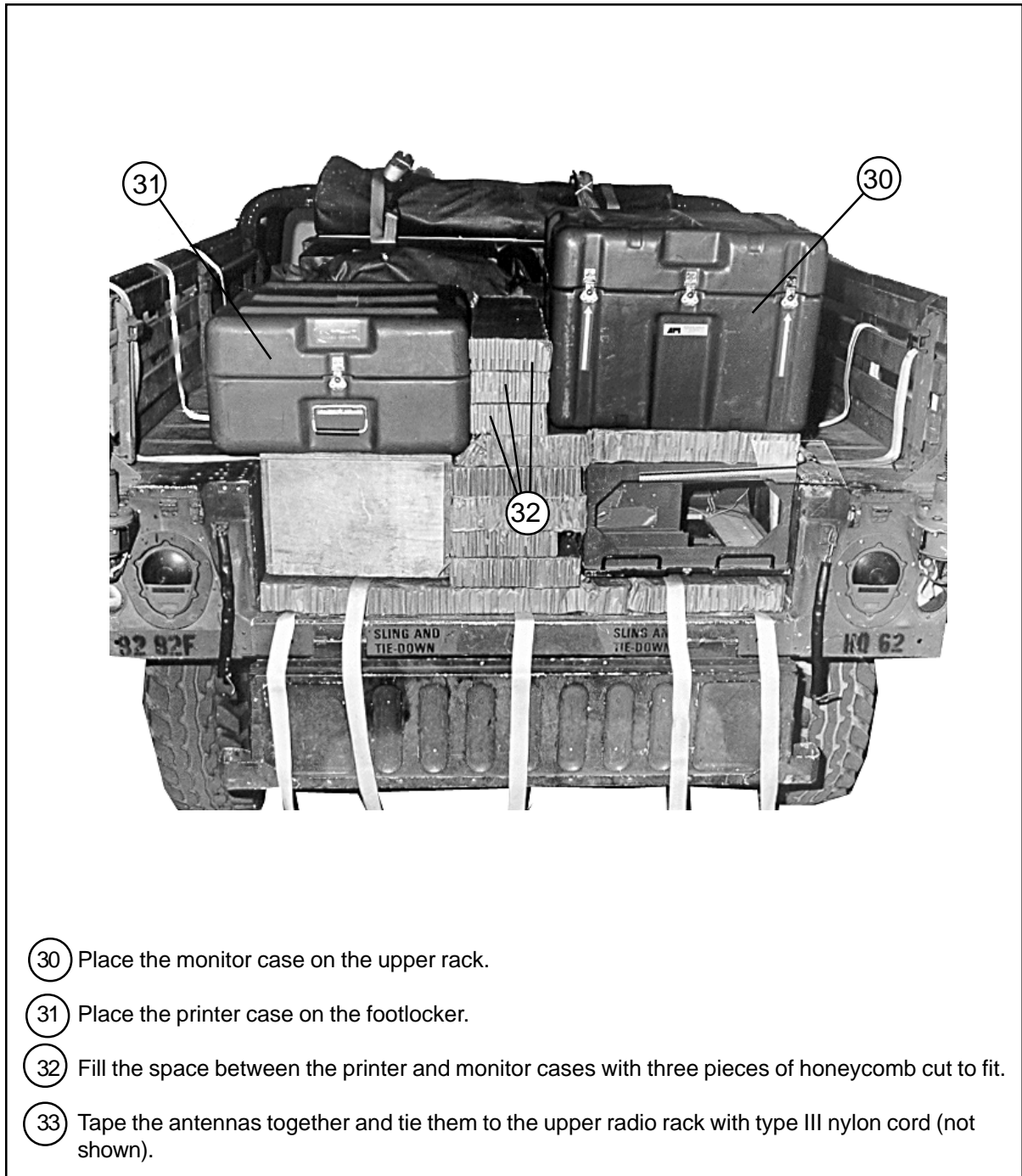
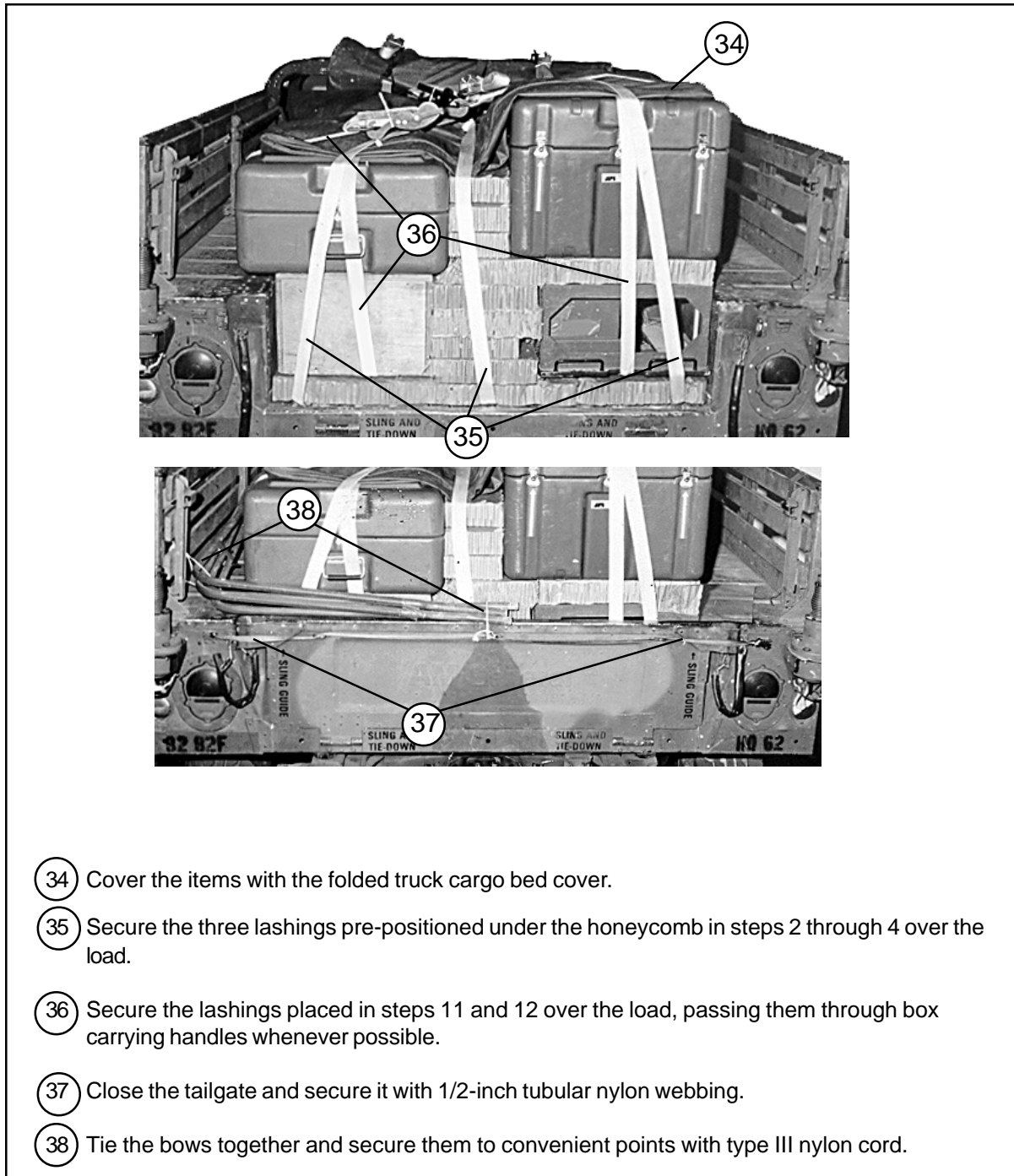


Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M998 Truck (continued)



**Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M998 Truck (continued)**



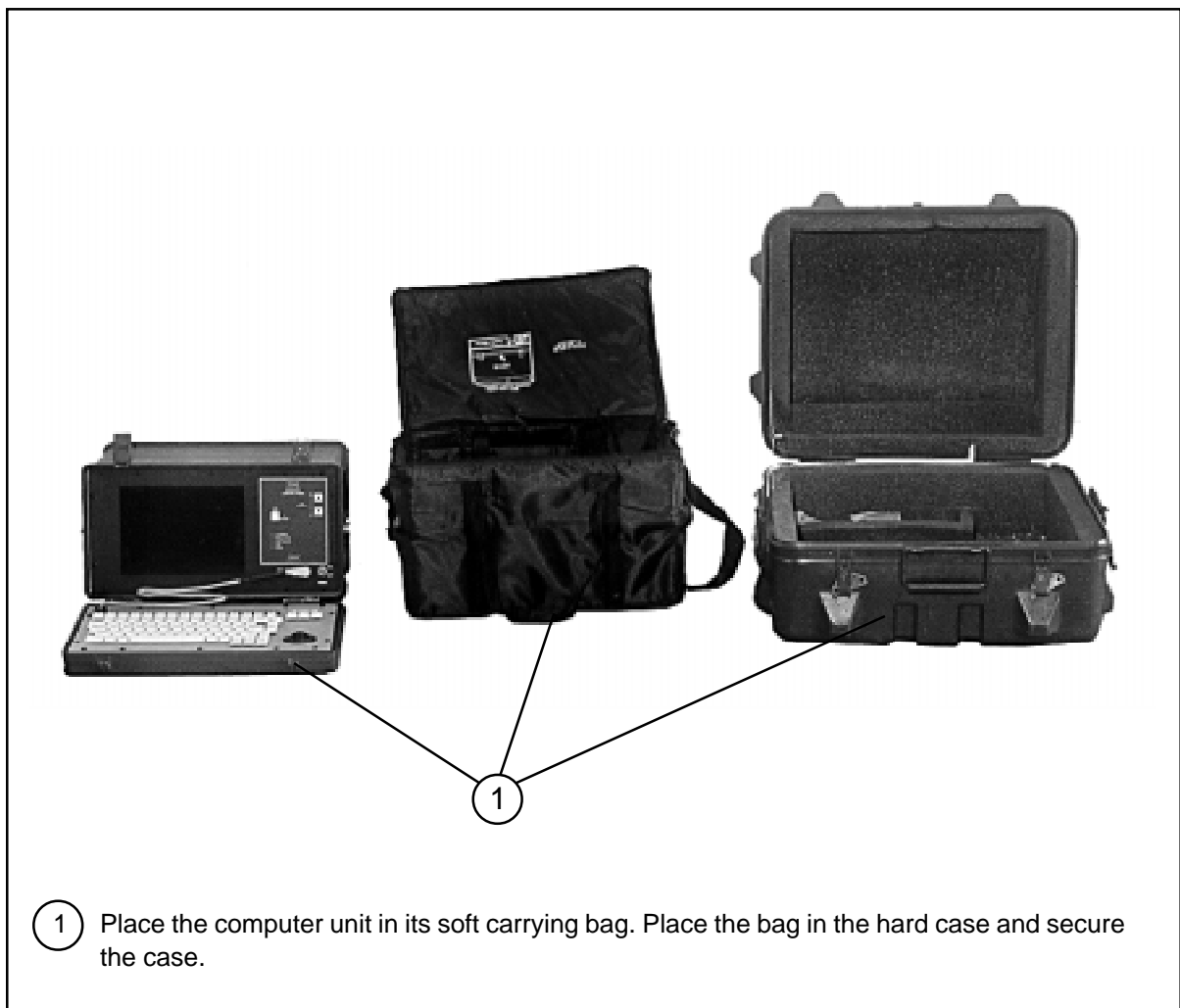
- ③④ Cover the items with the folded truck cargo bed cover.
- ③⑤ Secure the three lashings pre-positioned under the honeycomb in steps 2 through 4 over the load.
- ③⑥ Secure the lashings placed in steps 11 and 12 over the load, passing them through box carrying handles whenever possible.
- ③⑦ Close the tailgate and secure it with 1/2-inch tubular nylon webbing.
- ③⑧ Tie the bows together and secure them to convenient points with type III nylon cord.

Figure 5-9. LTACFIRE and Accompanying Equipment Rigged in M998 Truck (continued)



**RIGGING INITIAL FIRE SUPPORT AUTOMATED SYSTEM (IFSAS) IN M998 TRUCK**

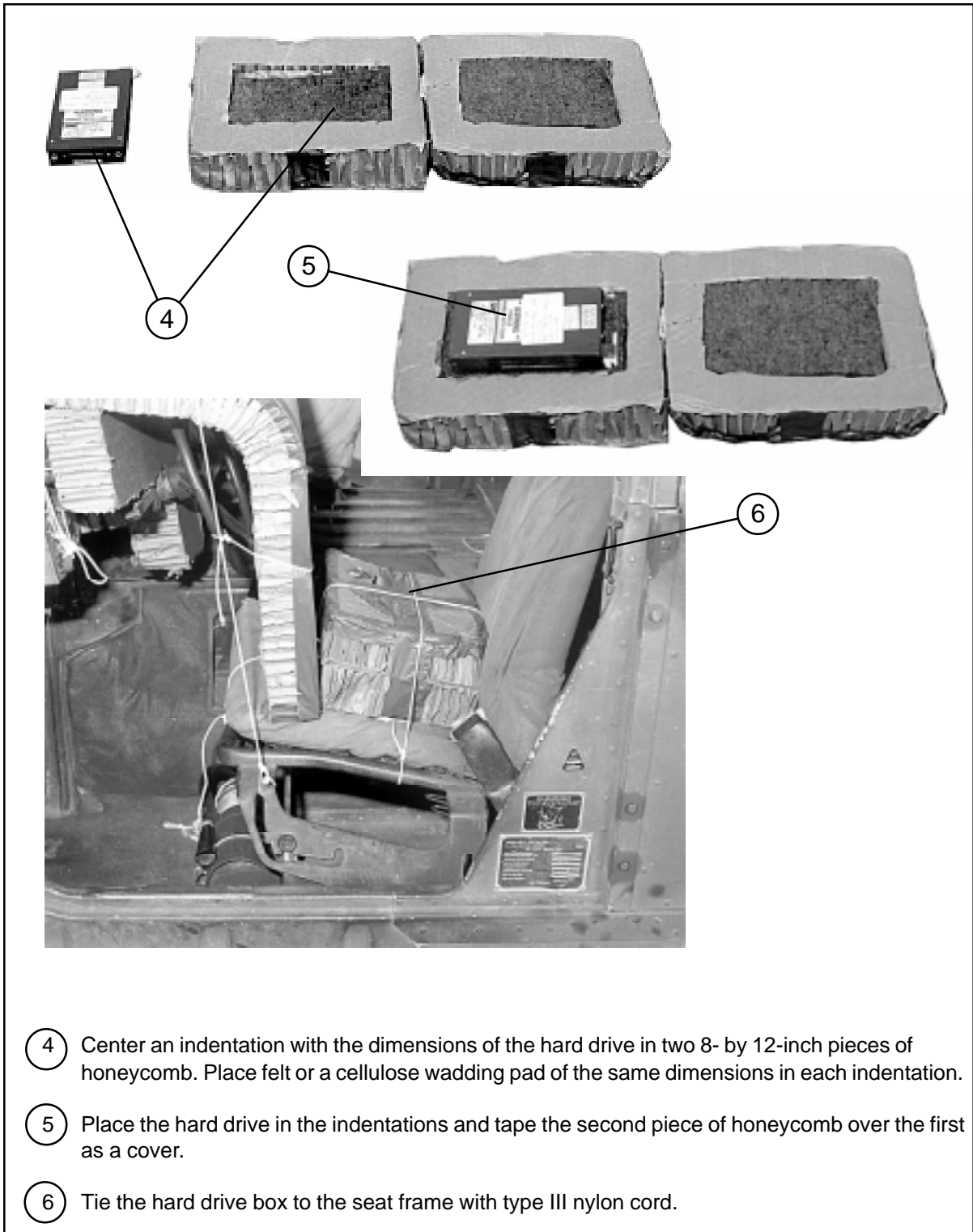
5-10. Use the procedures shown in Figure 5-10 to rig the IFSAS in a cargo/troop carrier-configured truck. An additional 500 pounds of equipment must be added to the items shown to meet the minimum weight requirement of 800 pounds for the accompanying load. Boxes of 105-millimeter ammunition are shown here, but other items weighing the same or more may be used.



**Figure 5-10. IFSAS Rigged in M998 Truck**

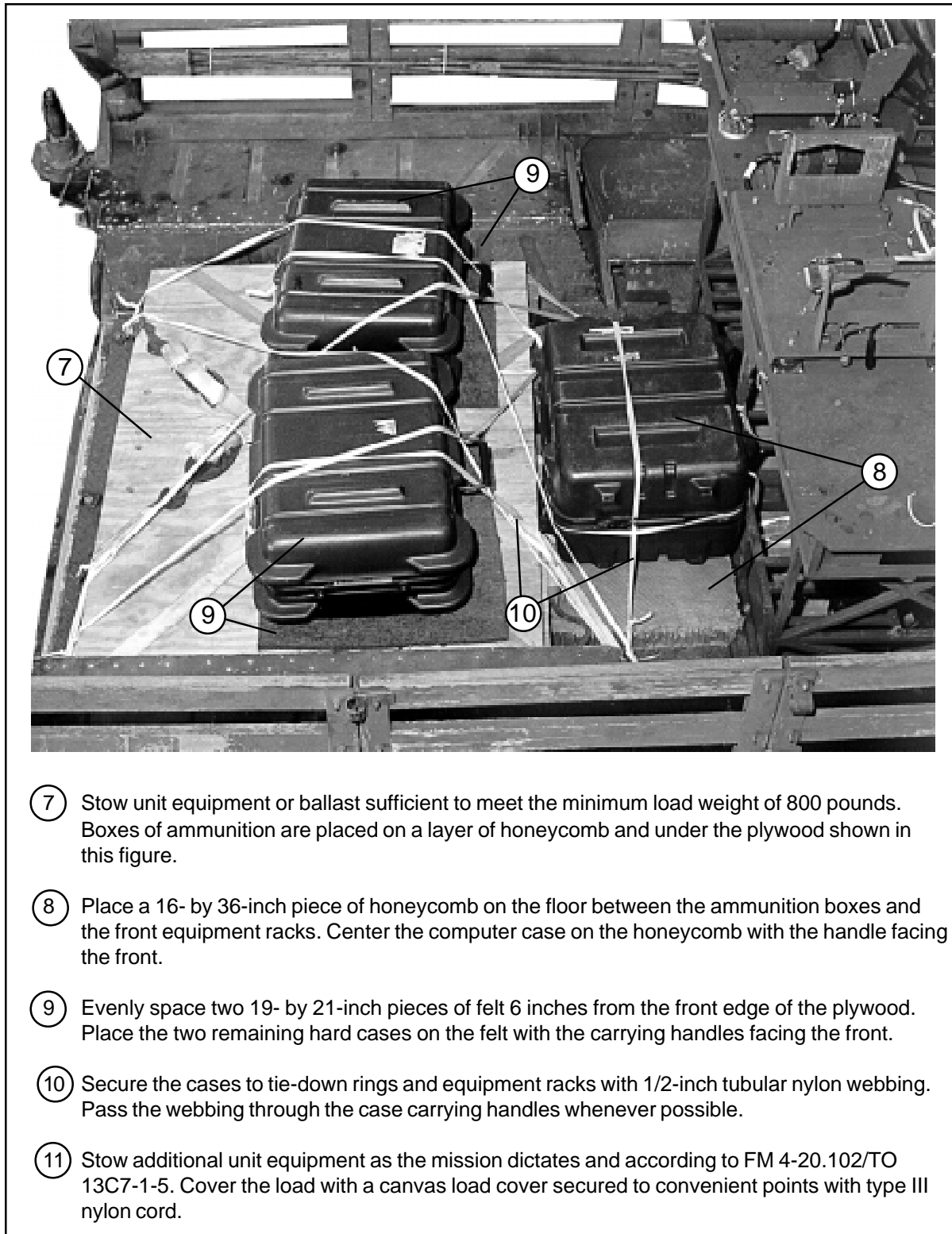


Figure 5-10. IFSAS Rigged in M998 Truck (continued)



- ④ Center an indentation with the dimensions of the hard drive in two 8- by 12-inch pieces of honeycomb. Place felt or a cellulose wadding pad of the same dimensions in each indentation.
- ⑤ Place the hard drive in the indentations and tape the second piece of honeycomb over the first as a cover.
- ⑥ Tie the hard drive box to the seat frame with type III nylon cord.

**Figure 5-10. IFSAS Rigged in M998 Truck (continued)**

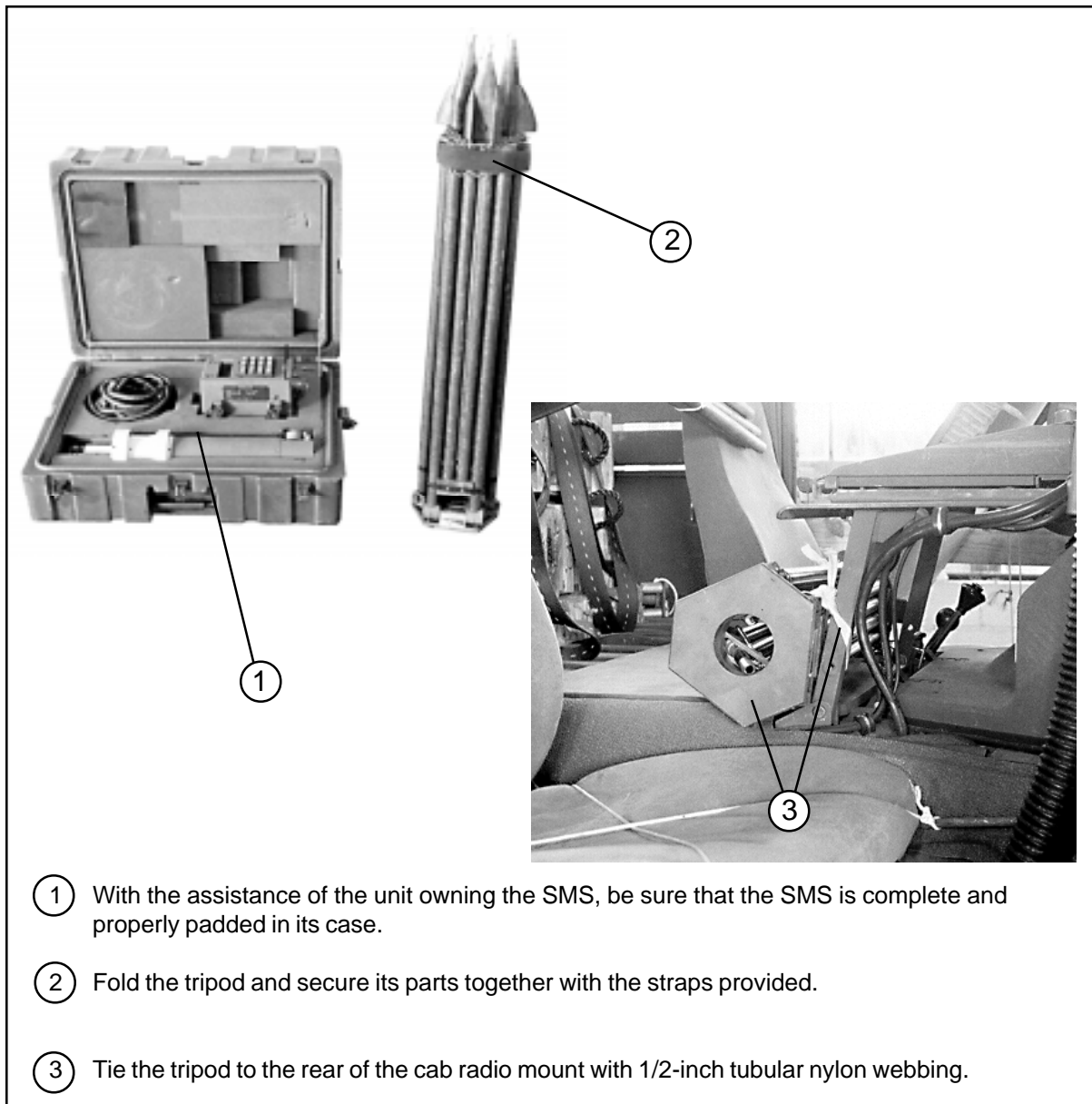


- ⑦ Stow unit equipment or ballast sufficient to meet the minimum load weight of 800 pounds. Boxes of ammunition are placed on a layer of honeycomb and under the plywood shown in this figure.
- ⑧ Place a 16- by 36-inch piece of honeycomb on the floor between the ammunition boxes and the front equipment racks. Center the computer case on the honeycomb with the handle facing the front.
- ⑨ Evenly space two 19- by 21-inch pieces of felt 6 inches from the front edge of the plywood. Place the two remaining hard cases on the felt with the carrying handles facing the front.
- ⑩ Secure the cases to tie-down rings and equipment racks with 1/2-inch tubular nylon webbing. Pass the webbing through the case carrying handles whenever possible.
- ⑪ Stow additional unit equipment as the mission dictates and according to FM 4-20.102/TO 13C7-1-5. Cover the load with a canvas load cover secured to convenient points with type III nylon cord.

**Figure 5-10. IFSAS Rigged in M998 Truck (continued)**

**RIGGING SEMI-AUTOMATIC METEOROLOGICAL SENSOR (SMS) IN M998 TRUCK**

5-11. Use the procedures shown in Figure 5-11 to rig the SMS in a cargo/troop carrier-configured truck. Additional equipment must be added to the items shown to meet the minimum weight requirement of 800 pounds for the accompanying load.



**Figure 5-11. Rigging SMS in Cargo/Troop Carrier**



Figure 5-11. Rigging SMS in Cargo/Troop Carrier (continued)

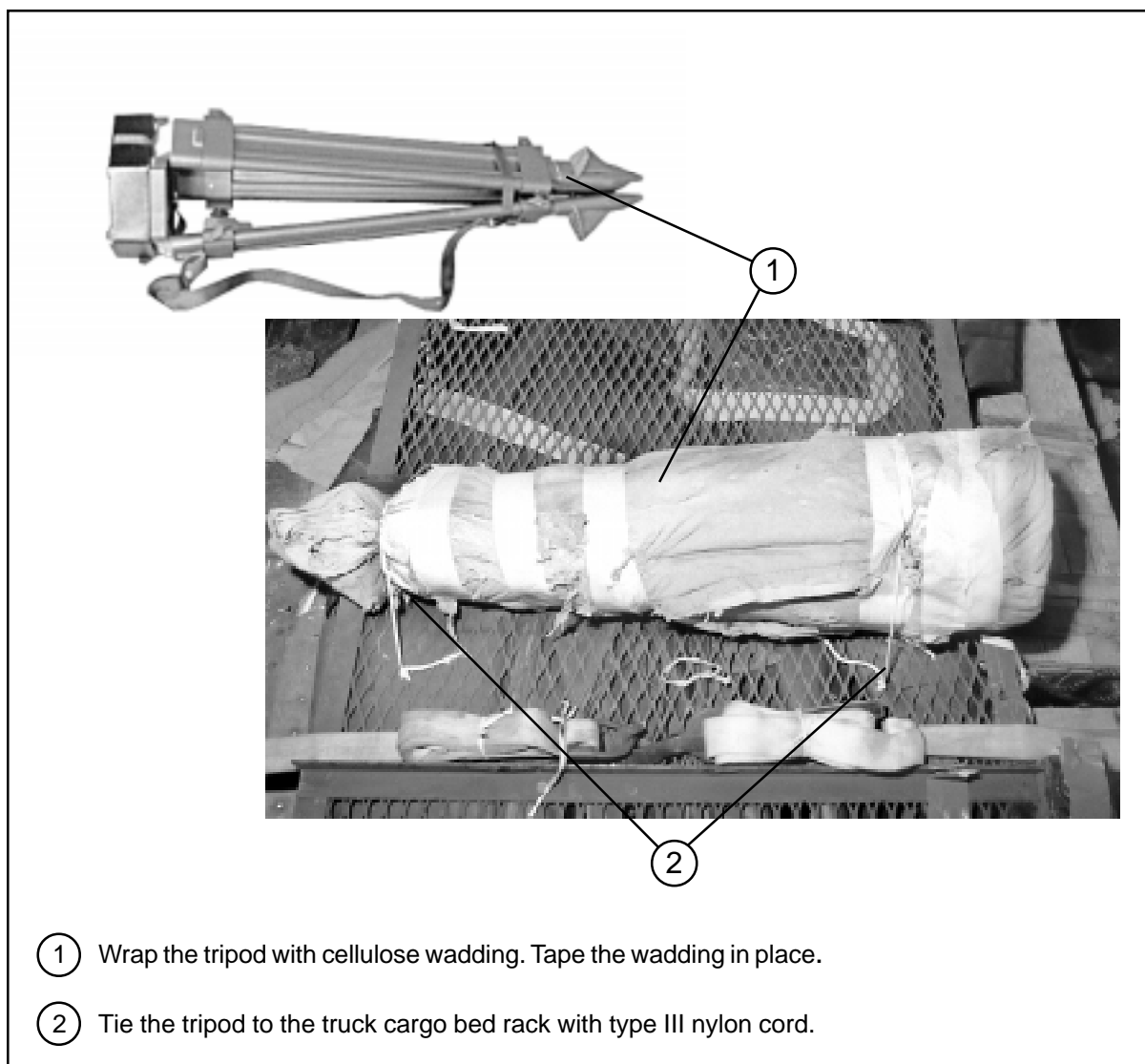


- ⑦ Tie two lengths of 1/2-inch tubular nylon webbing around the case and the seat back. Tie one length above the outside carrying handle, and tie the other length through the carrying handle.

**Figure 5-11. Rigging SMS in Cargo/Troop Carrier (continued)**

### RIGGING GUN LAYING POSITIONING SYSTEM (GLPS) IN M998 TRUCK

5-12. Use the procedures shown in Figure 5-12 to rig the GLPS in a cargo/troop carrier-configured truck (the M1056 truck outfitted as an artillery prime mover is shown). The GLPS consists of four components, each in its own case. The components are the gyro, theodolite, charger, and winterization kit. Additional equipment must be added to the items shown to meet the minimum weight requirement of 800 pounds for the accompanying load.



**Figure 5-12. GLPS Rigged in M1056 Truck**



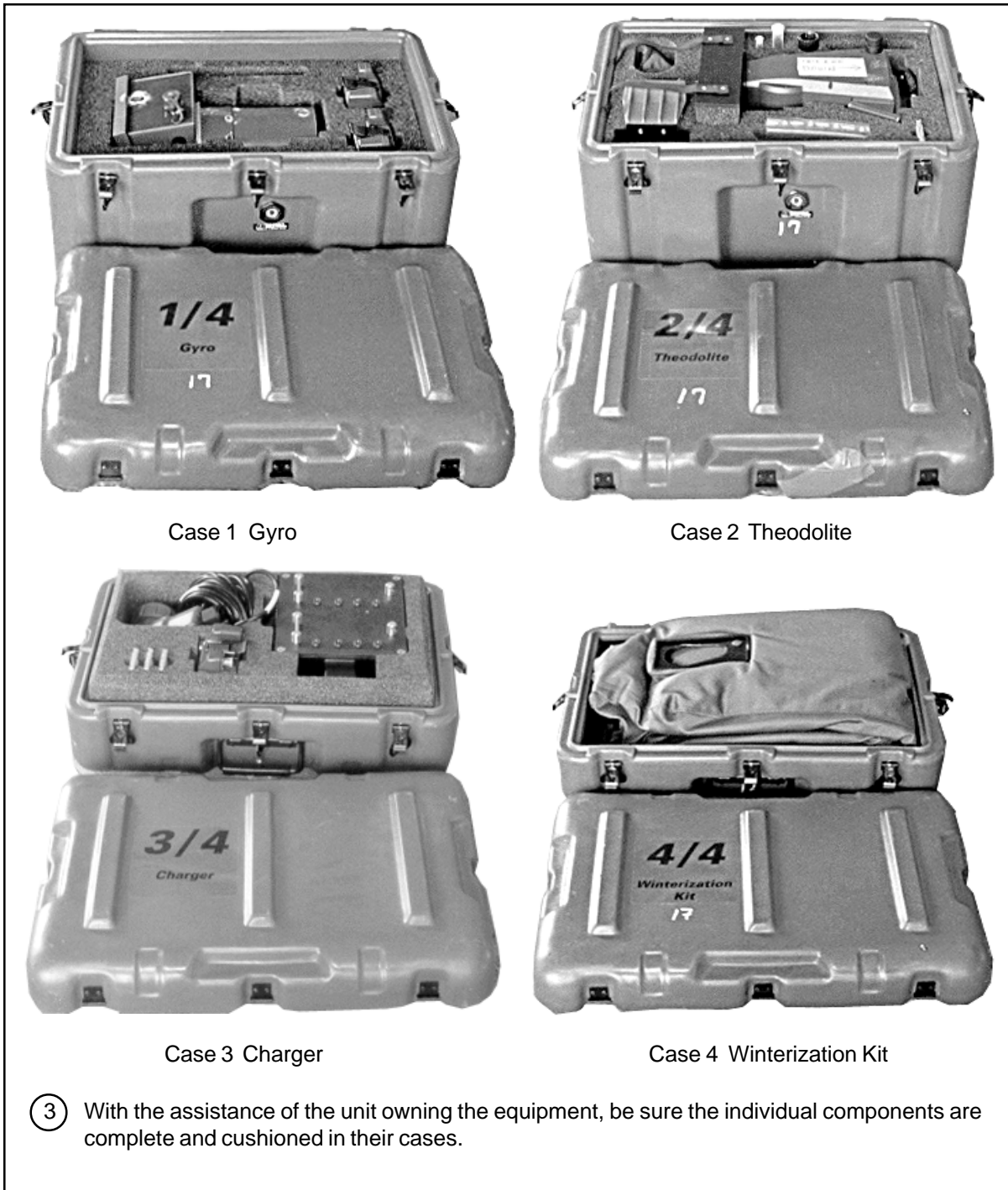
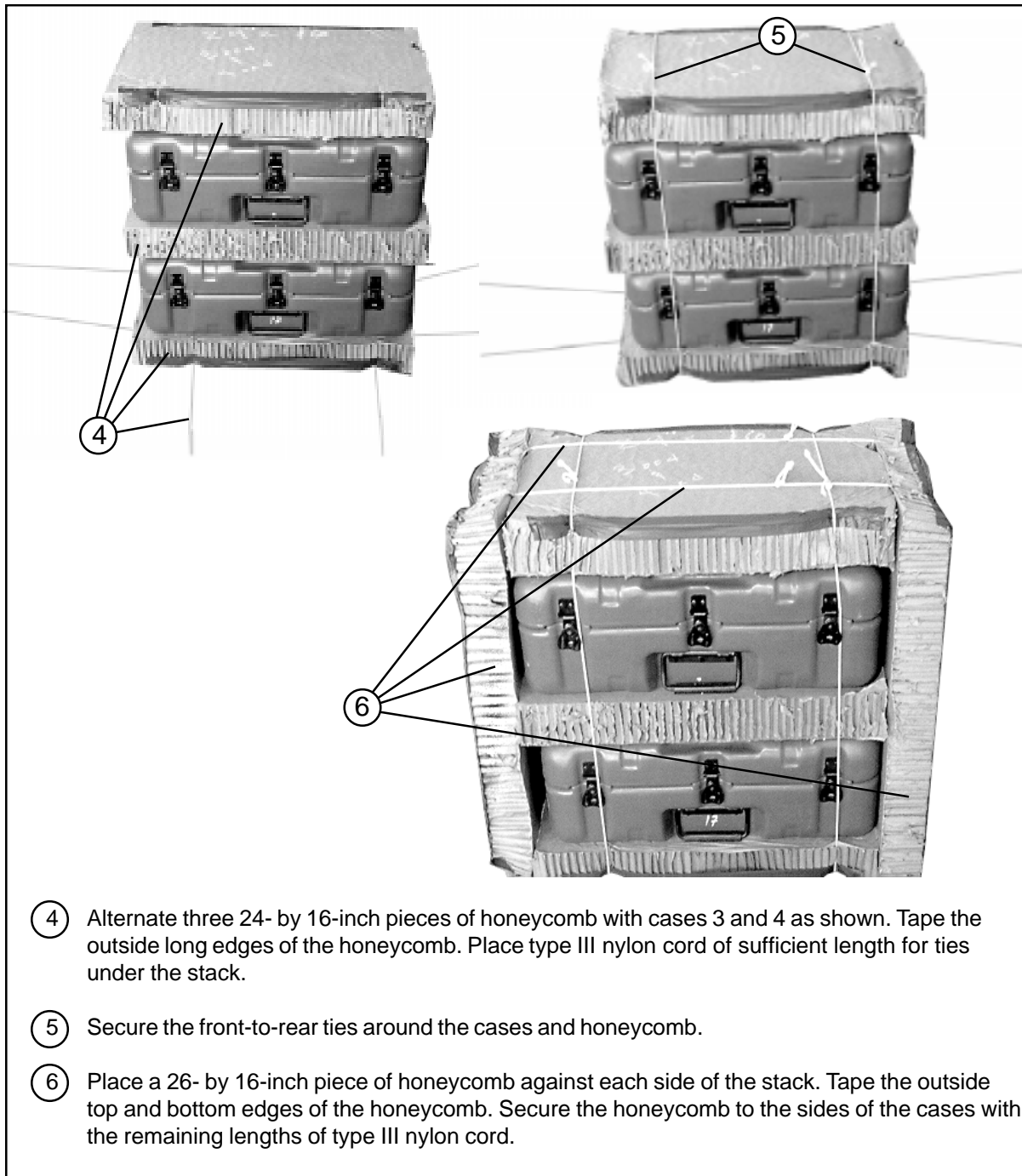
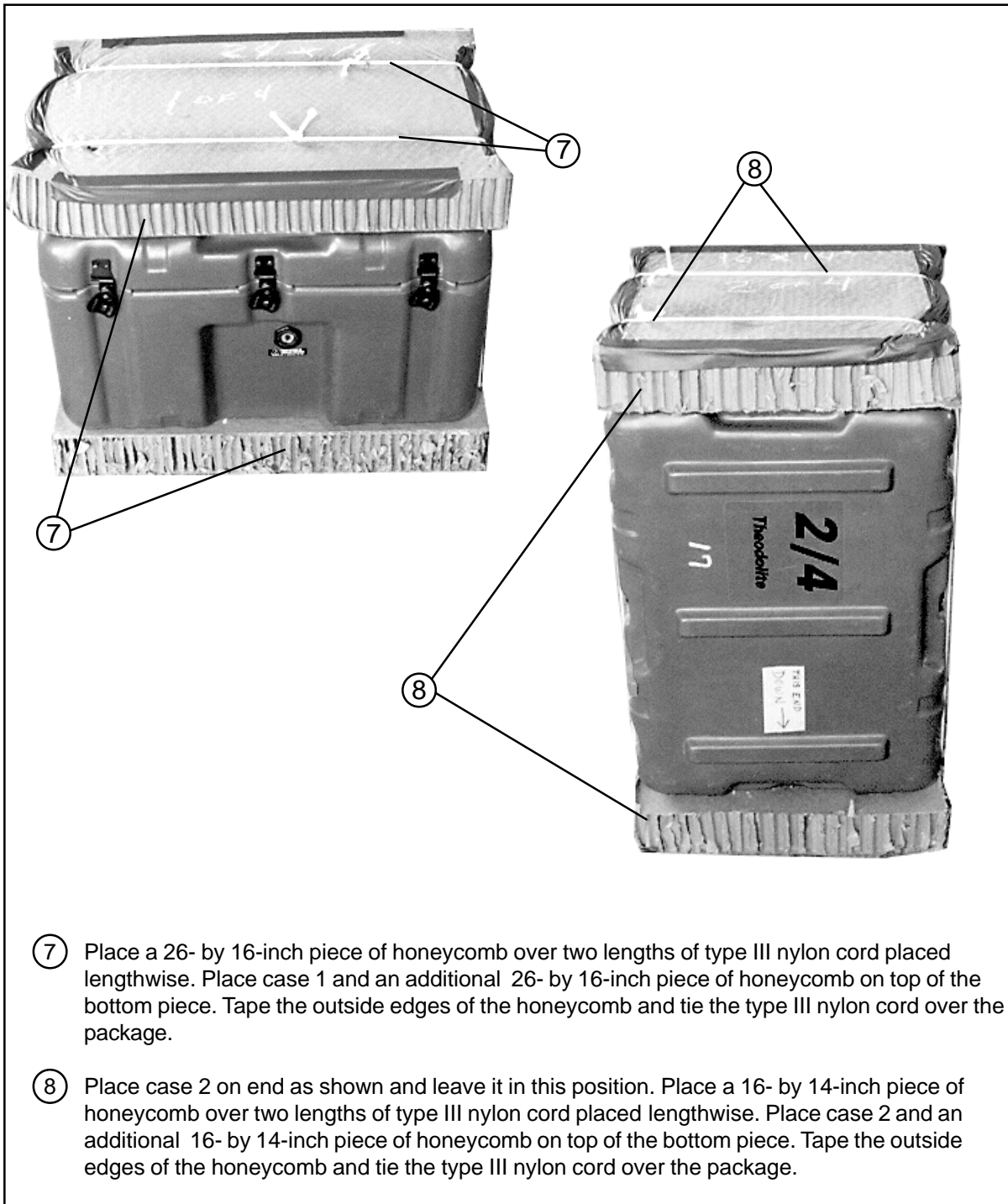


Figure 5-12. GLPS Rigged in M1056 Truck (continued)

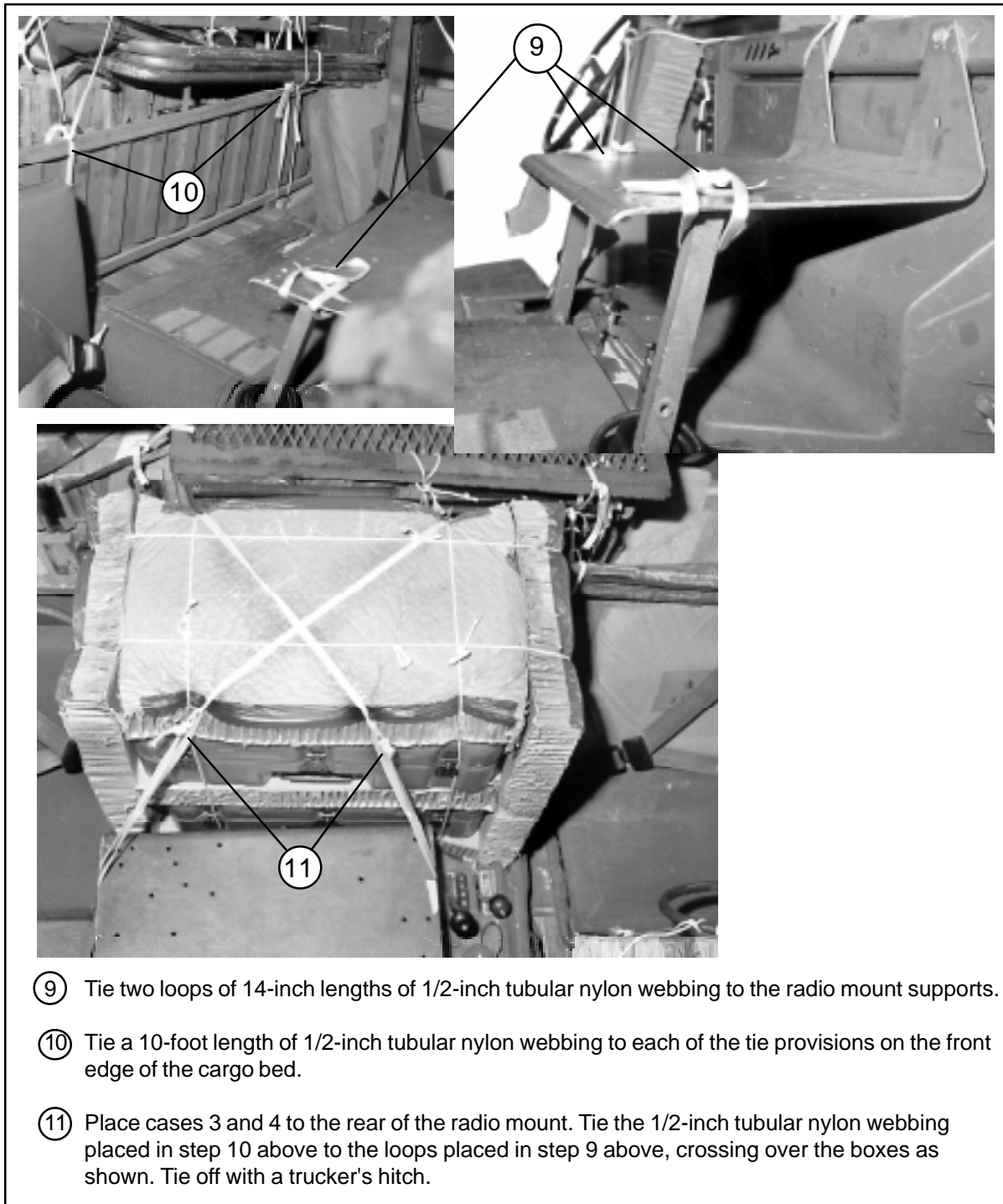


- ④ Alternate three 24- by 16-inch pieces of honeycomb with cases 3 and 4 as shown. Tape the outside long edges of the honeycomb. Place type III nylon cord of sufficient length for ties under the stack.
- ⑤ Secure the front-to-rear ties around the cases and honeycomb.
- ⑥ Place a 26- by 16-inch piece of honeycomb against each side of the stack. Tape the outside top and bottom edges of the honeycomb. Secure the honeycomb to the sides of the cases with the remaining lengths of type III nylon cord.

Figure 5-12. GLPS Rigged in M1056 Truck (continued)

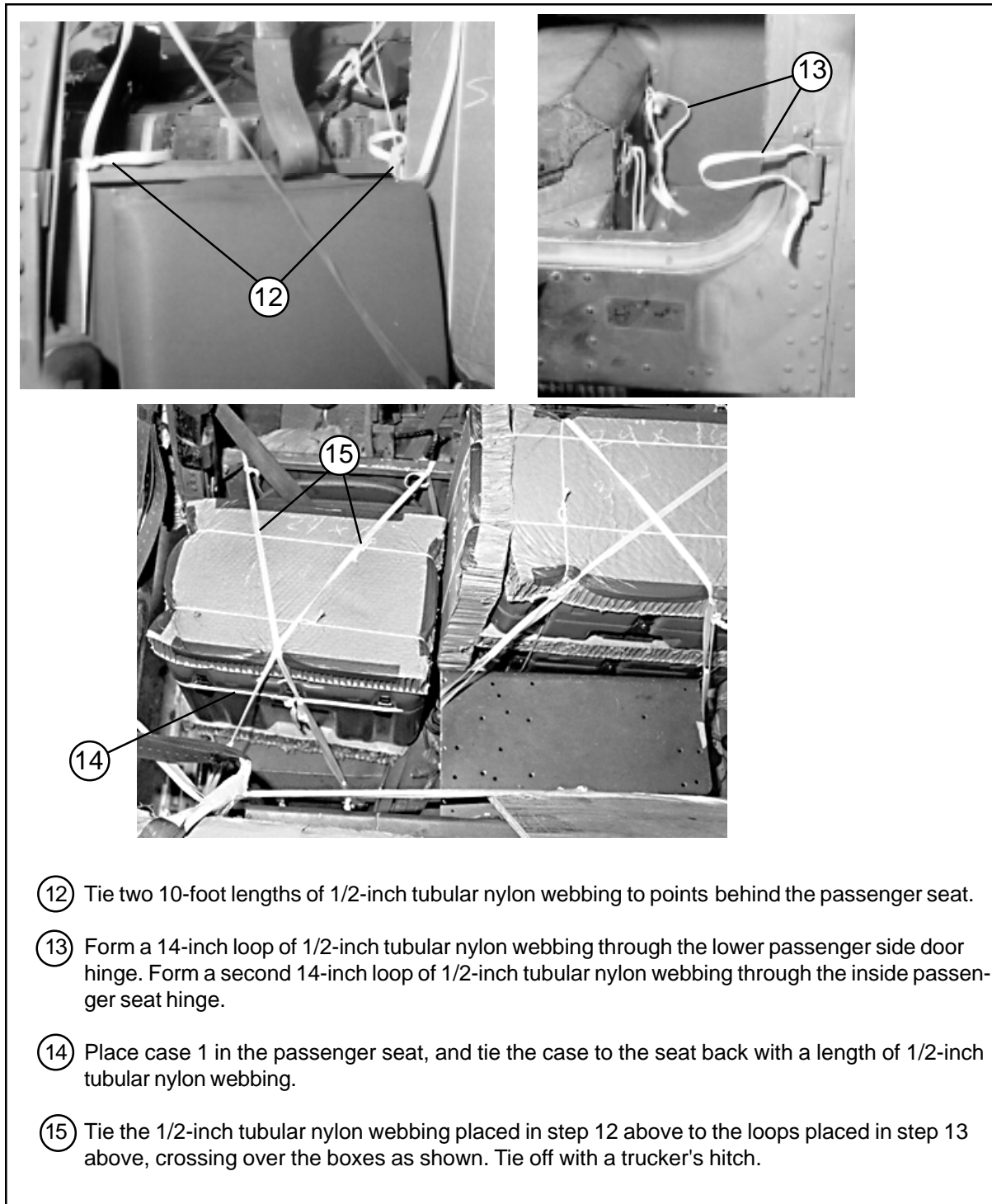


**Figure 5-12. GLPS Rigged in M1056 Truck (continued)**

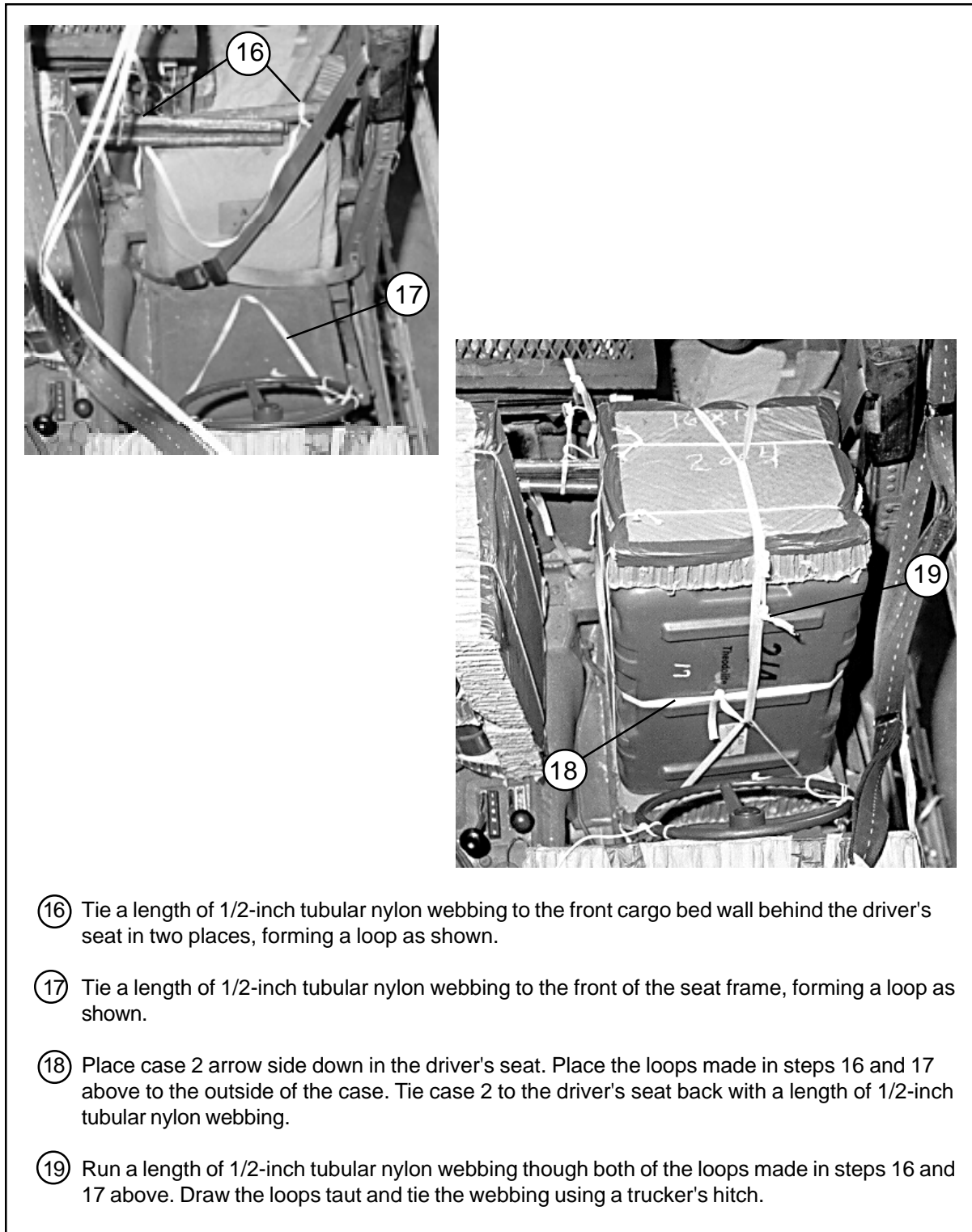


- ⑨ Tie two loops of 14-inch lengths of 1/2-inch tubular nylon webbing to the radio mount supports.
- ⑩ Tie a 10-foot length of 1/2-inch tubular nylon webbing to each of the tie provisions on the front edge of the cargo bed.
- ⑪ Place cases 3 and 4 to the rear of the radio mount. Tie the 1/2-inch tubular nylon webbing placed in step 10 above to the loops placed in step 9 above, crossing over the boxes as shown. Tie off with a trucker's hitch.

Figure 5-12. GLPS Rigged in M1056 Truck (continued)

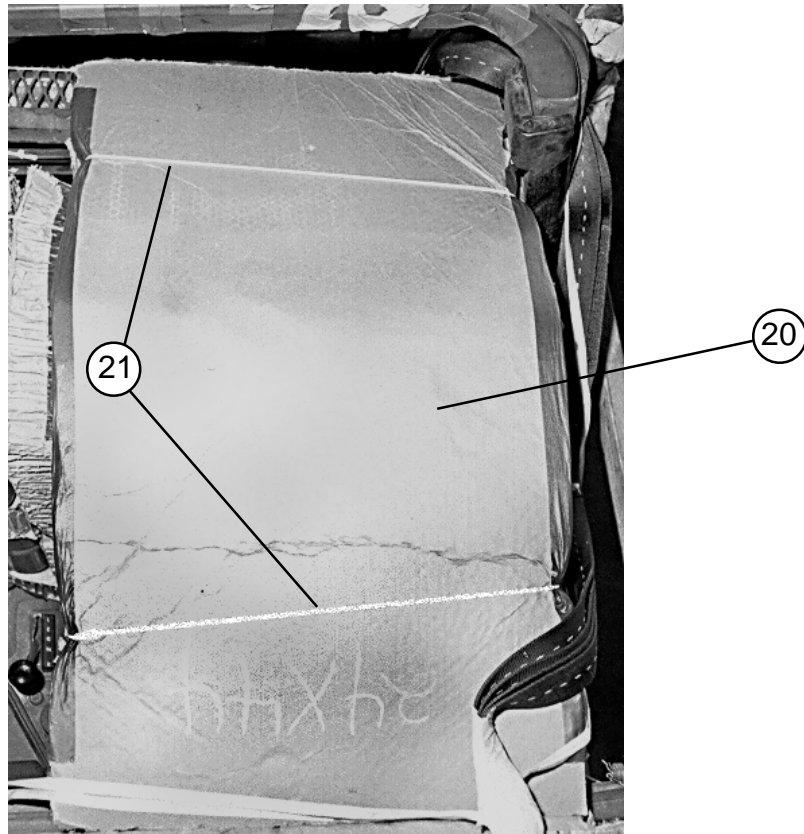


**Figure 5-12. GLPS Rigged in M1056 Truck (continued)**



- ①⑥ Tie a length of 1/2-inch tubular nylon webbing to the front cargo bed wall behind the driver's seat in two places, forming a loop as shown.
- ①⑦ Tie a length of 1/2-inch tubular nylon webbing to the front of the seat frame, forming a loop as shown.
- ①⑧ Place case 2 arrow side down in the driver's seat. Place the loops made in steps 16 and 17 above to the outside of the case. Tie case 2 to the driver's seat back with a length of 1/2-inch tubular nylon webbing.
- ①⑨ Run a length of 1/2-inch tubular nylon webbing through both of the loops made in steps 16 and 17 above. Draw the loops taut and tie the webbing using a trucker's hitch.

Figure 5-12. GLPS Rigged in M1056 Truck (continued)



- ②① Bend a 44- by 24-inch piece of honeycomb over the steering wheel and case 2. Tape the outside edges of the honeycomb.
- ②① Tie the honeycomb to convenient points in the truck with type III nylon cord.

Figure 5-12. GLPS Rigged in M1056 Truck (continued)

### RIGGING MECHANIC SHOP KIT IN M998 TRUCK

5-13. Use the procedures shown in Figure 5-13 to rig the Mechanic Shop Kit in a cargo/troop carrier-configured truck. The load shown weighs 980 pounds.

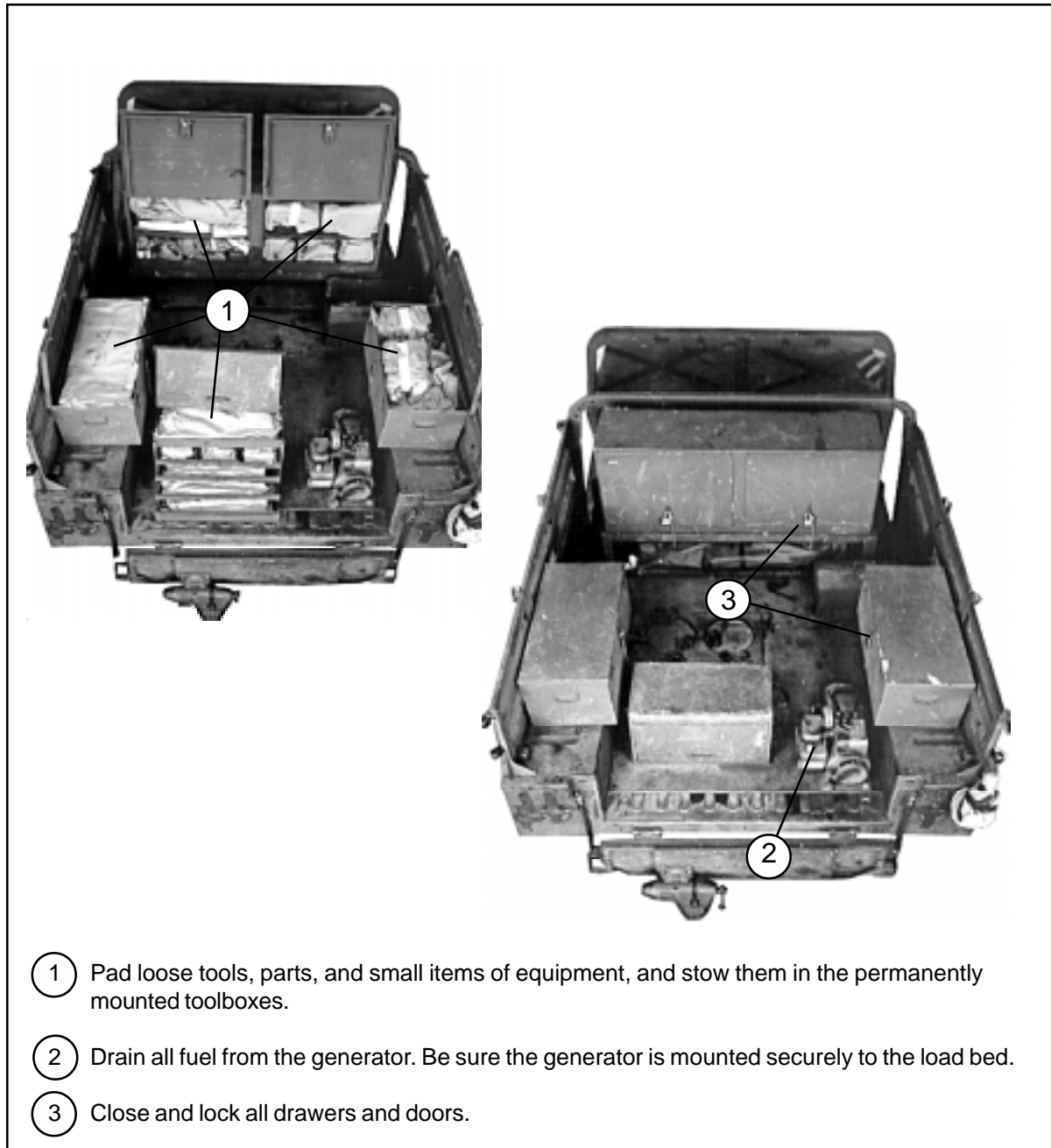
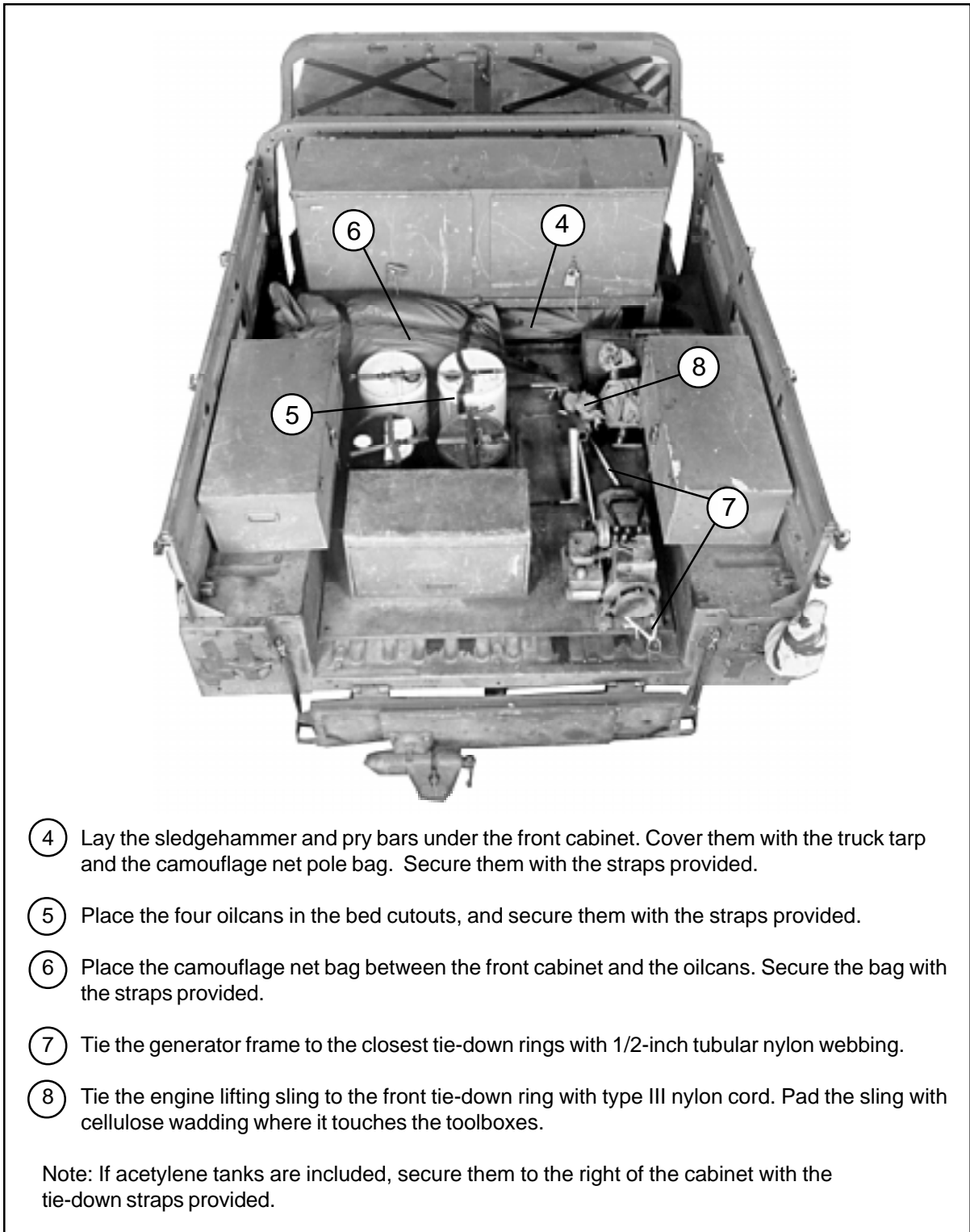
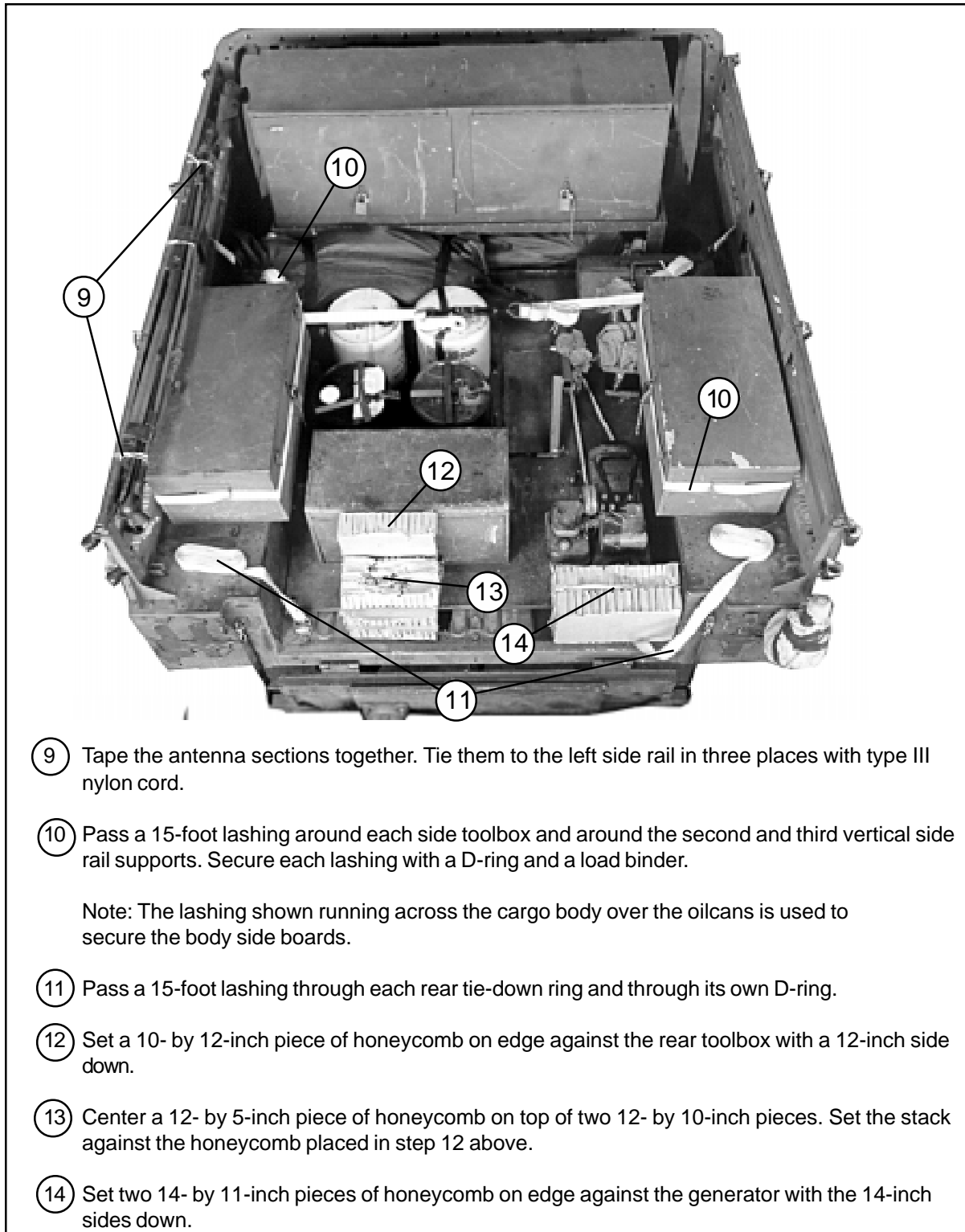


Figure 5-13. Mechanic Shop Kit Rigged in M998 Truck



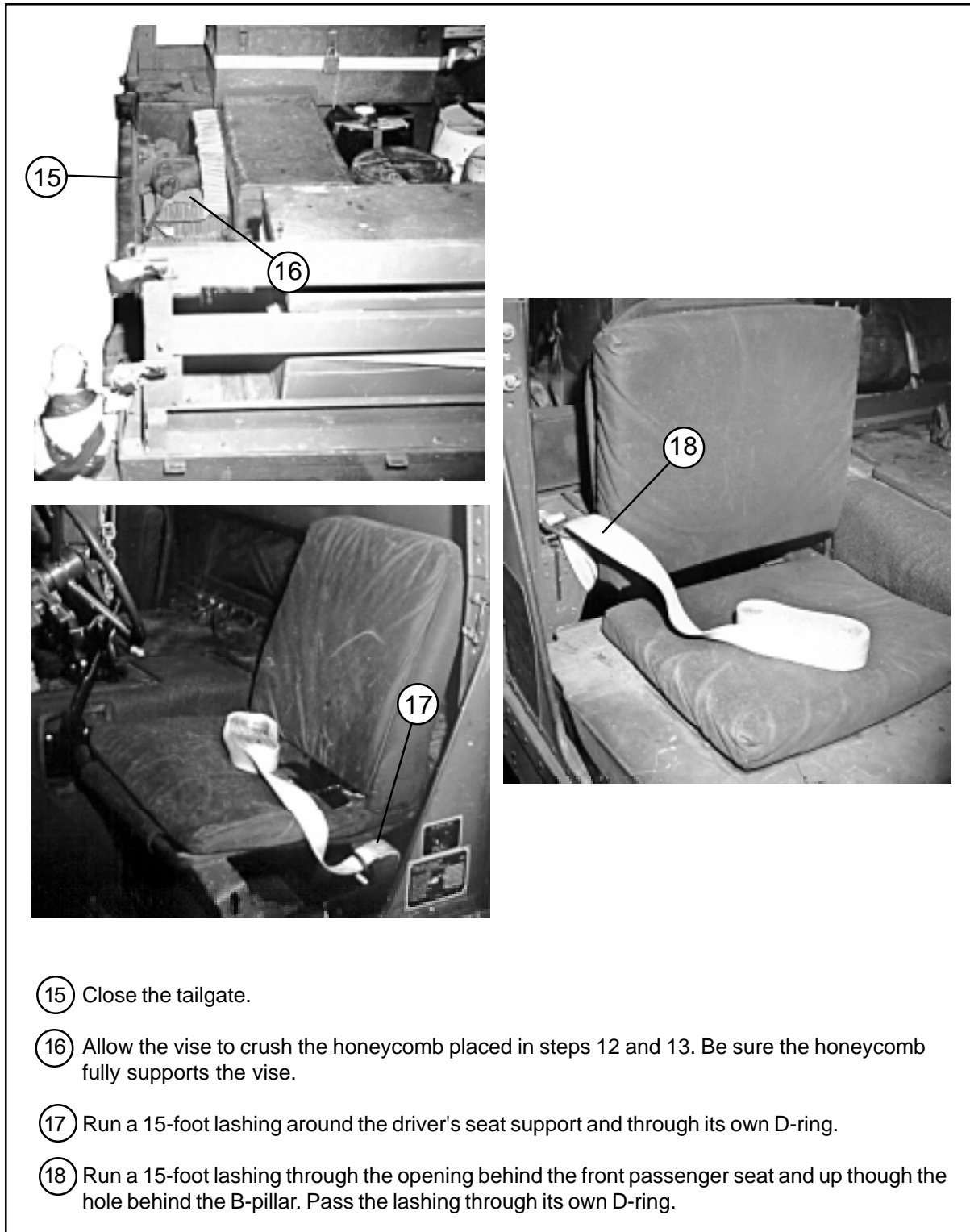


**Figure 5-13. Mechanic Shop Kit Rigged in M998 Truck (continued)**

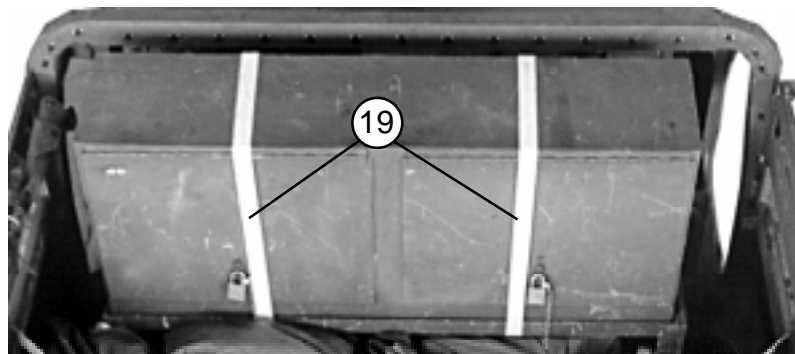


- ⑨ Tape the antenna sections together. Tie them to the left side rail in three places with type III nylon cord.
  - ⑩ Pass a 15-foot lashing around each side toolbox and around the second and third vertical side rail supports. Secure each lashing with a D-ring and a load binder.
- Note: The lashing shown running across the cargo body over the oilcans is used to secure the body side boards.
- ⑪ Pass a 15-foot lashing through each rear tie-down ring and through its own D-ring.
  - ⑫ Set a 10- by 12-inch piece of honeycomb on edge against the rear toolbox with a 12-inch side down.
  - ⑬ Center a 12- by 5-inch piece of honeycomb on top of two 12- by 10-inch pieces. Set the stack against the honeycomb placed in step 12 above.
  - ⑭ Set two 14- by 11-inch pieces of honeycomb on edge against the generator with the 14-inch sides down.

**Figure 5-13. Mechanic Shop Kit Rigged in M998 Truck (continued)**

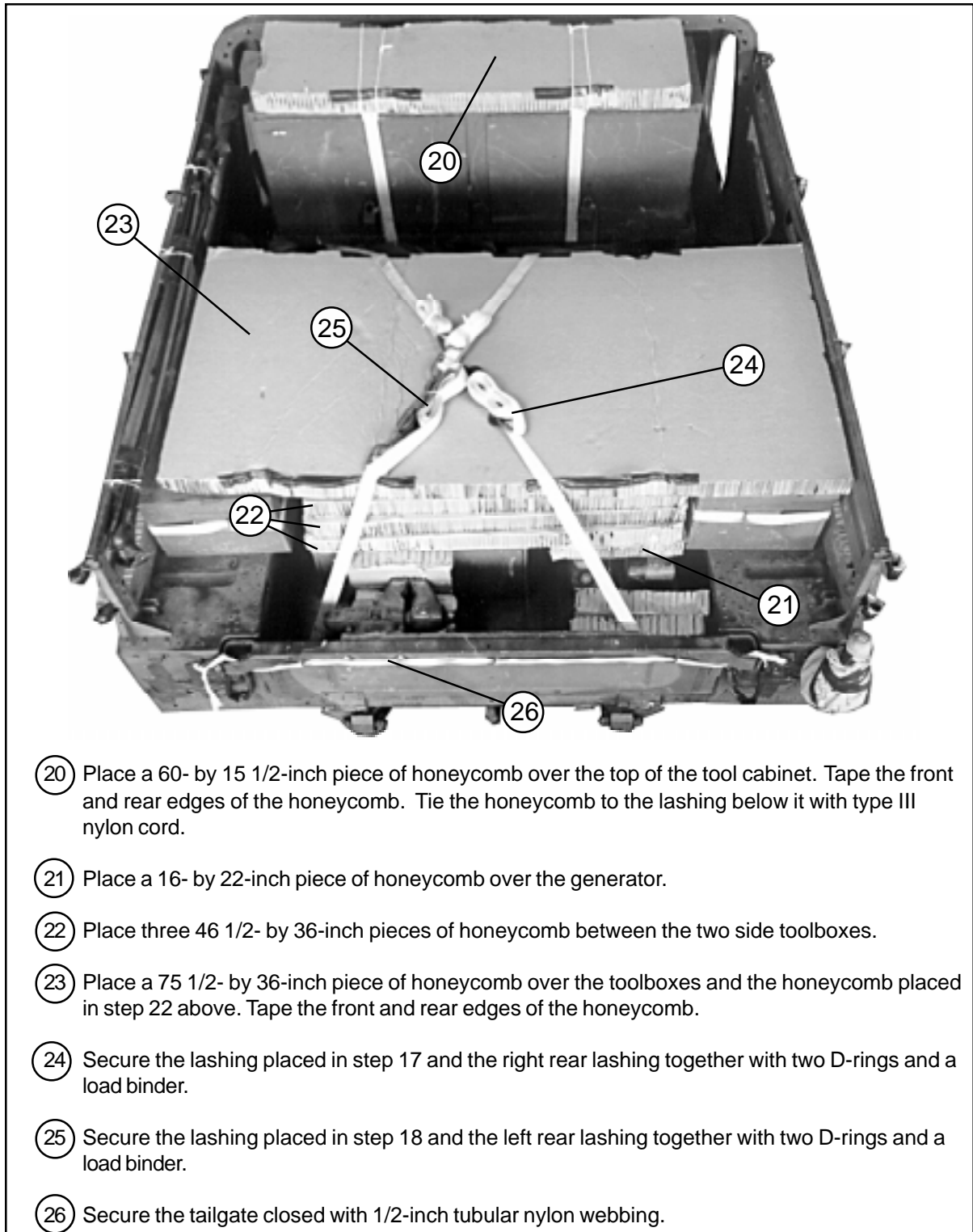


**Figure 5-13. Mechanic Shop Kit Rigged in M998 Truck (continued)**



- 19 Pass a 15-foot lashing through each tie-down ring behind the seats. Bring each lashing over the top of the tool cabinet, over the doors, and under the cabinet. Fasten each lashing with a D-ring and a load binder behind the cabinet.

**Figure 5-13. Mechanic Shop Kit Rigged in M998 Truck (continued)**

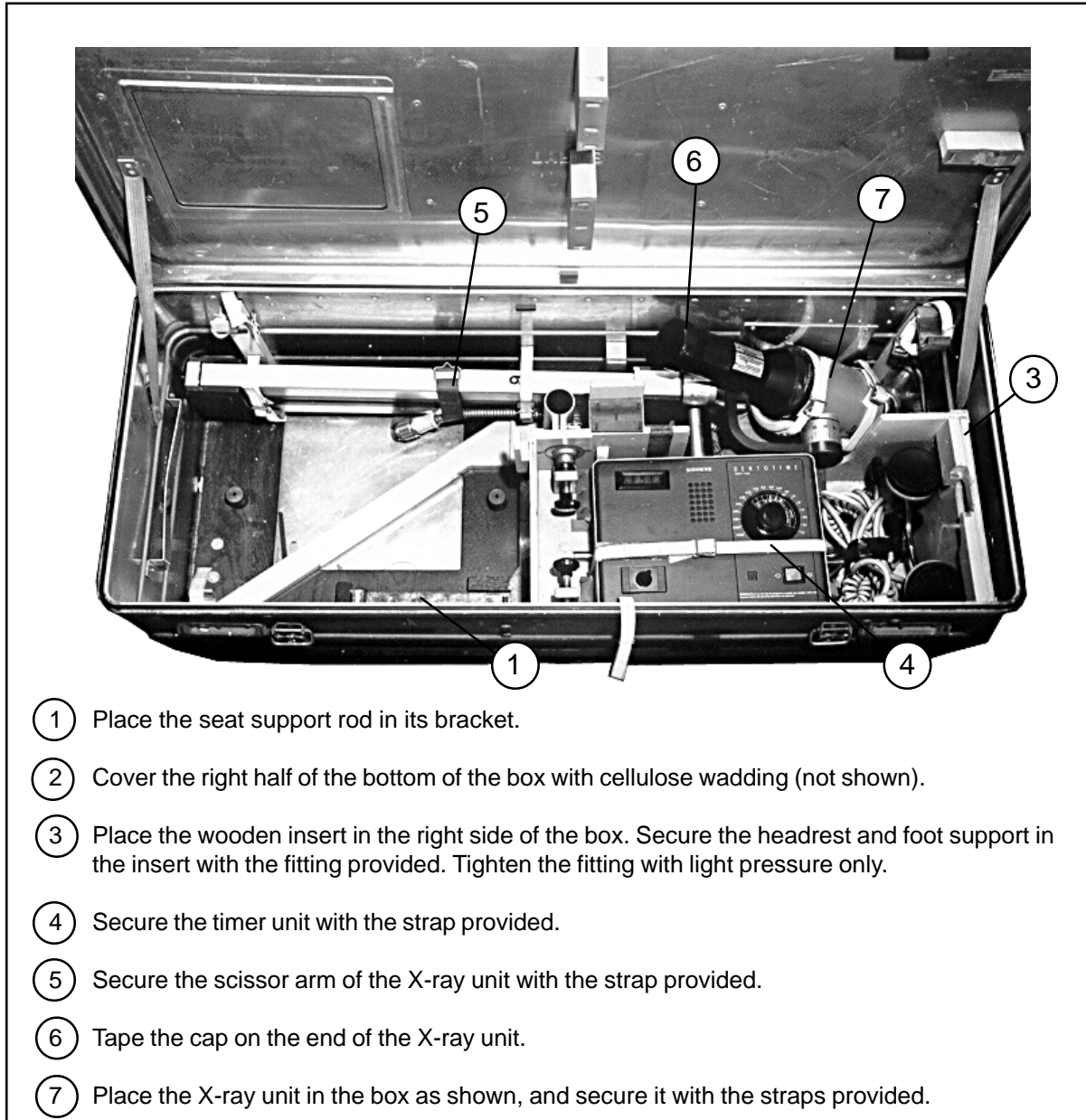


- ②0 Place a 60- by 15 1/2-inch piece of honeycomb over the top of the tool cabinet. Tape the front and rear edges of the honeycomb. Tie the honeycomb to the lashing below it with type III nylon cord.
- ②1 Place a 16- by 22-inch piece of honeycomb over the generator.
- ②2 Place three 46 1/2- by 36-inch pieces of honeycomb between the two side toolboxes.
- ②3 Place a 75 1/2- by 36-inch piece of honeycomb over the toolboxes and the honeycomb placed in step 22 above. Tape the front and rear edges of the honeycomb.
- ②4 Secure the lashing placed in step 17 and the right rear lashing together with two D-rings and a load binder.
- ②5 Secure the lashing placed in step 18 and the left rear lashing together with two D-rings and a load binder.
- ②6 Secure the tailgate closed with 1/2-inch tubular nylon webbing.

**Figure 5-13. Mechanic Shop Kit Rigged in M998 Truck (continued)**

### RIGGING DENTAL OPERATIVE FIELD SET IN M998 TRUCK

5-14. Use the procedures shown in Figure 5-14 to rig the dental operative field set in a cargo/troop carrier-configured truck. The dental operative field set consists of an X-ray unit, ultrasonic scaler, air compressor, light set, dental equipment cart, and dental chair. Each component fits into its own case. The load shown weighs 834 pounds.



**Figure 5-14. Dental Operative Field Set Rigged in M998 Truck**

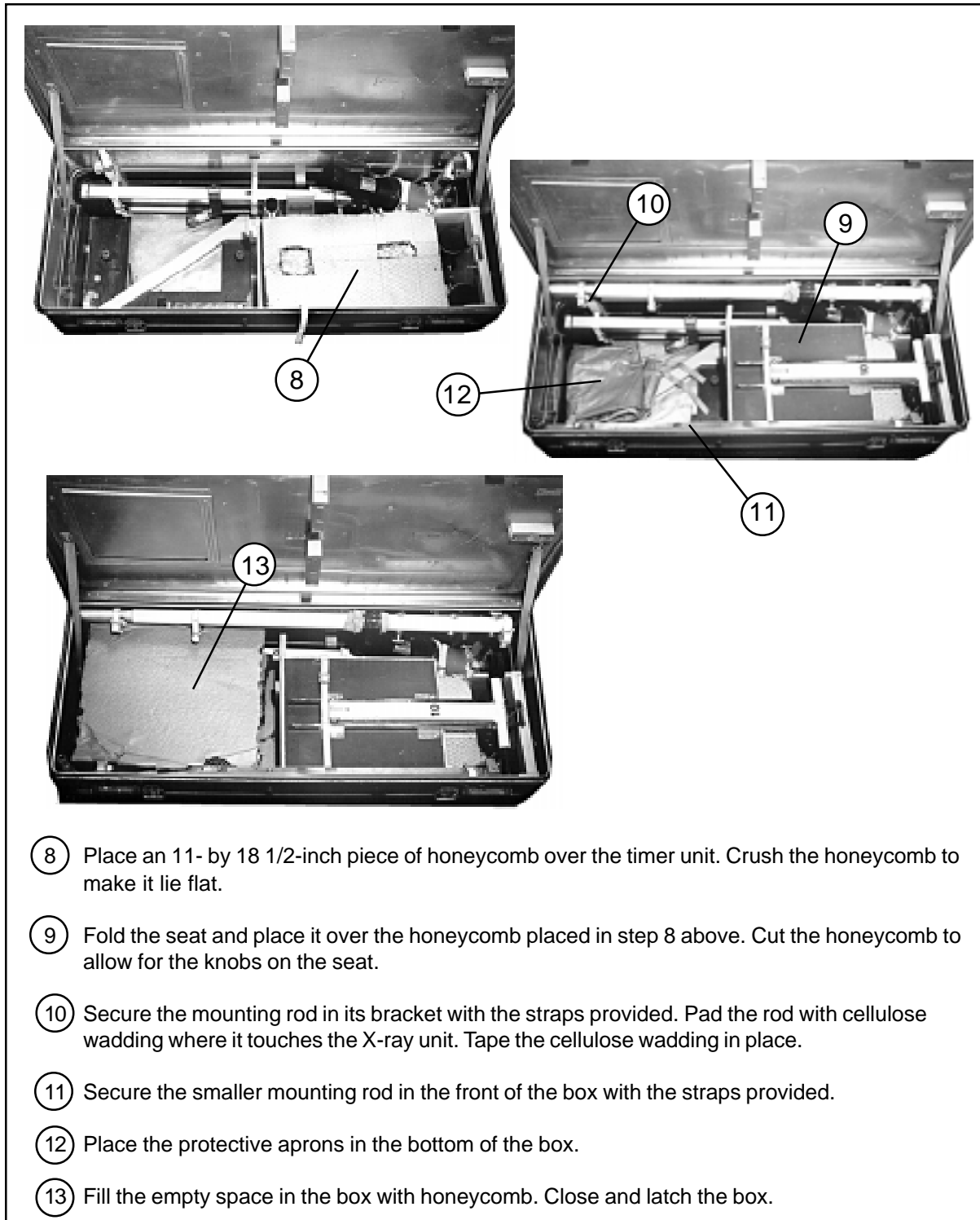


Figure 5-14. Dental Operative Field Set Rigged in M998 Truck (continued)

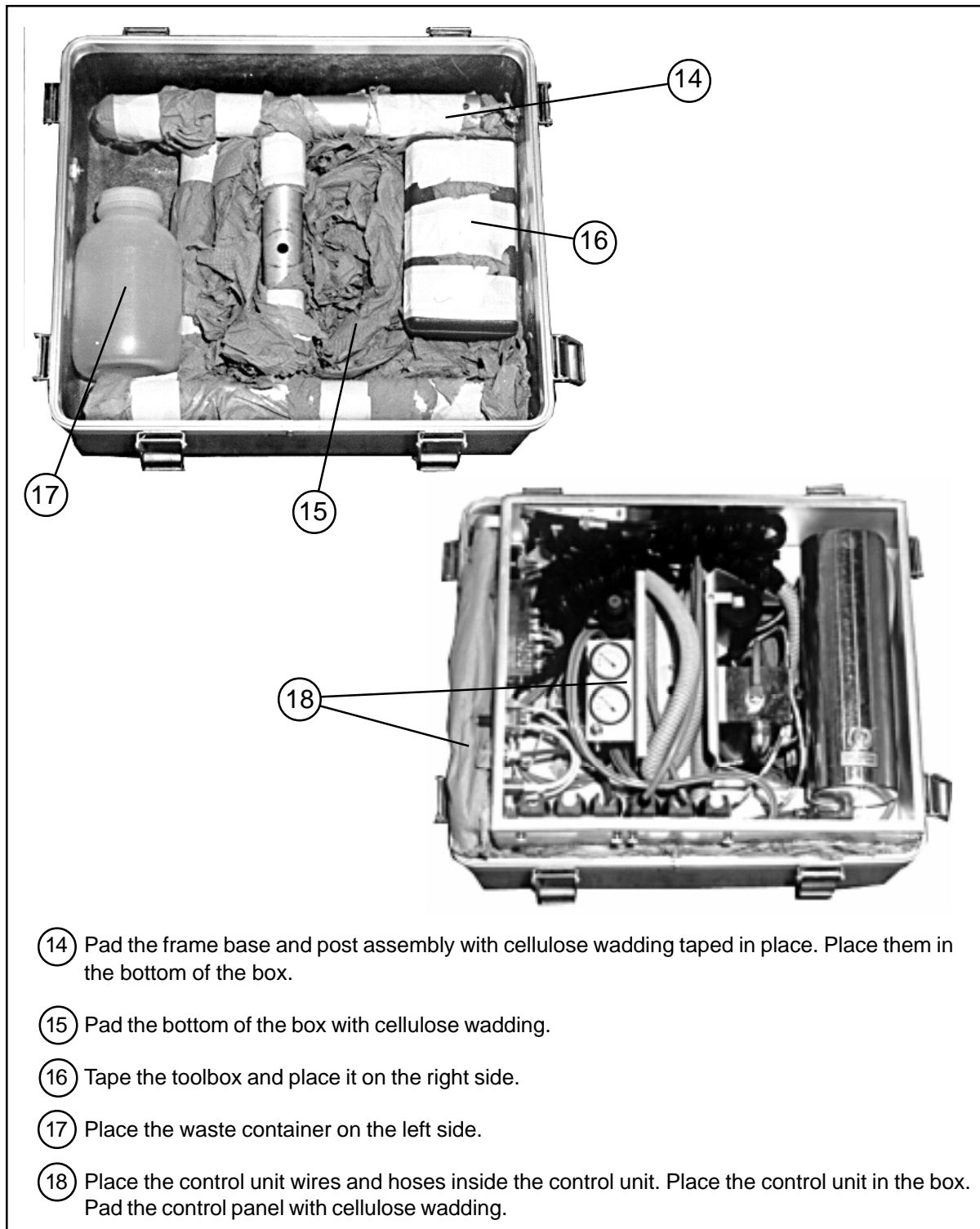


Figure 5-14. Dental Operative Field Set Rigged in M998 Truck (continued)



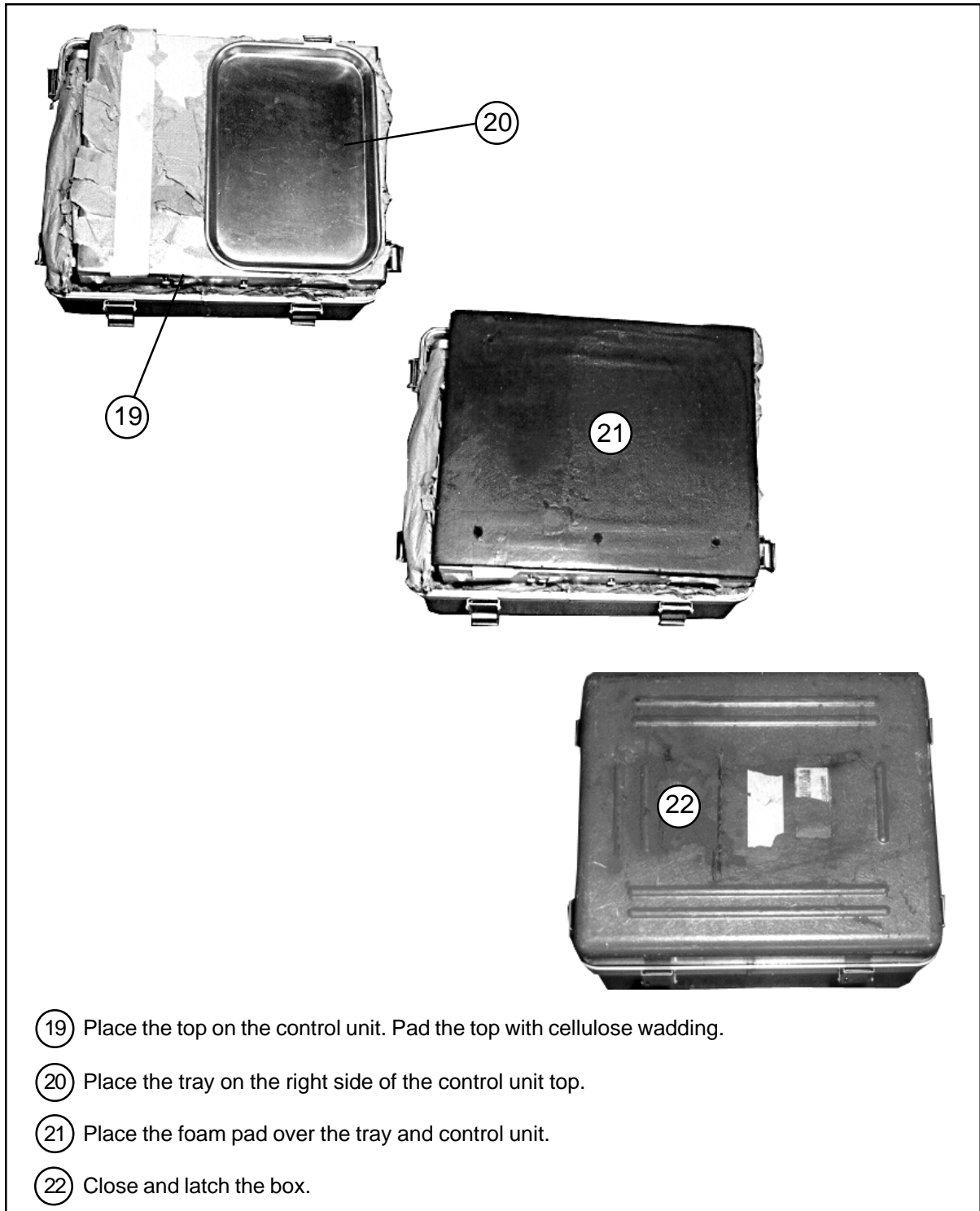


Figure 5-14. Dental Operative Field Set Rigged in M998 Truck (continued)



Figure 5-14. Dental Operative Field Set Rigged in M998 Truck (continued)

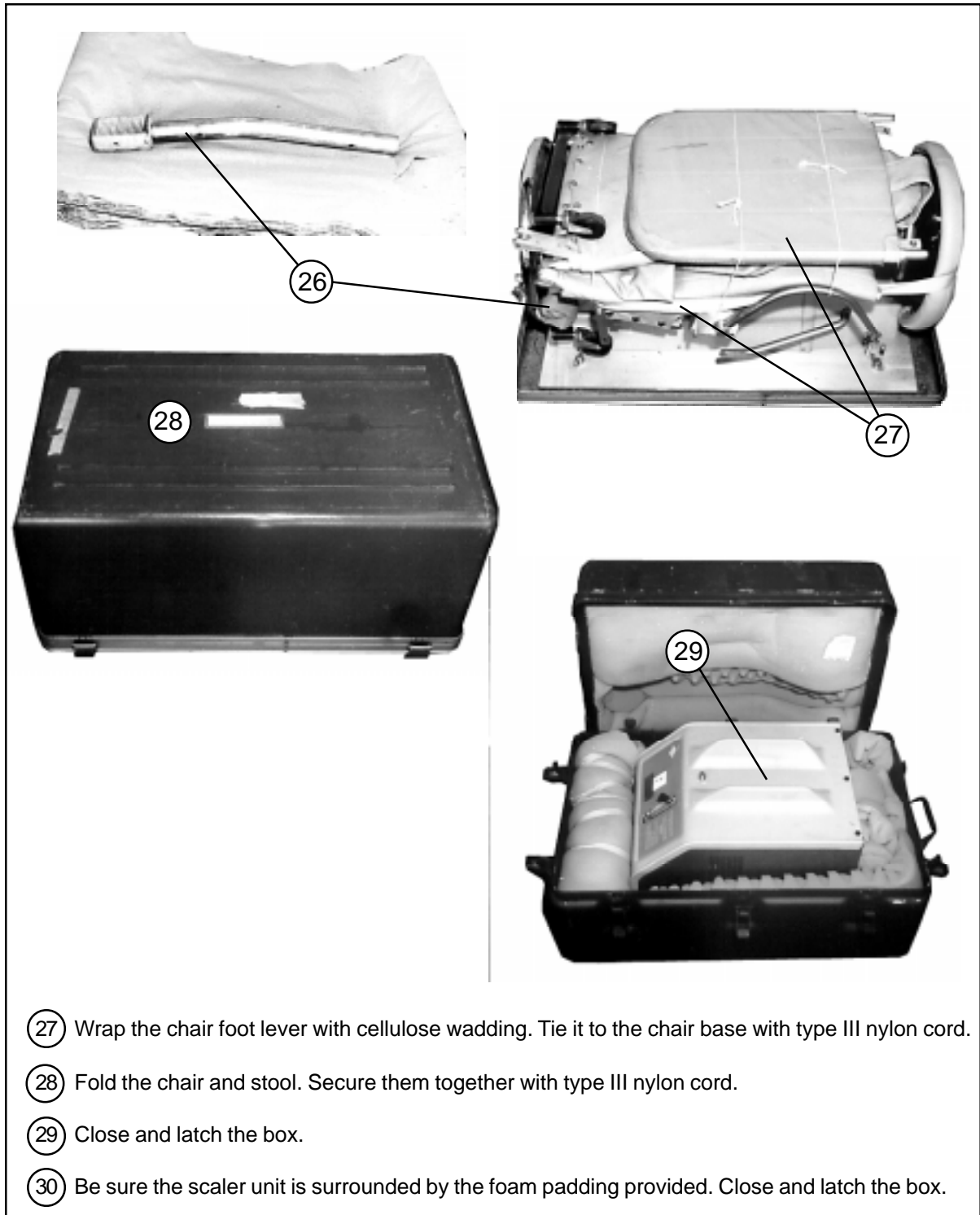


Figure 5-14. Dental Operative Field Set Rigged in M998 Truck (continued)

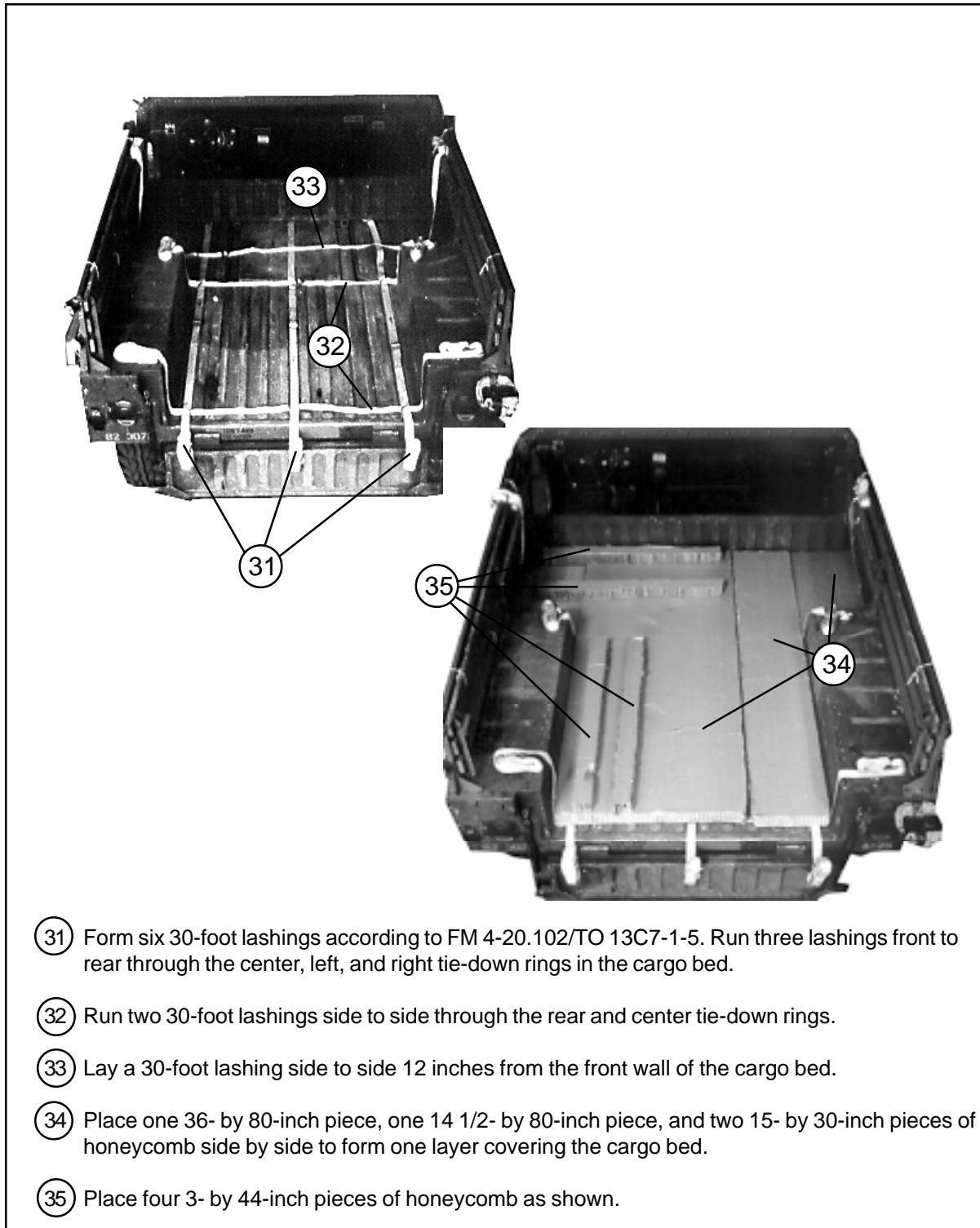
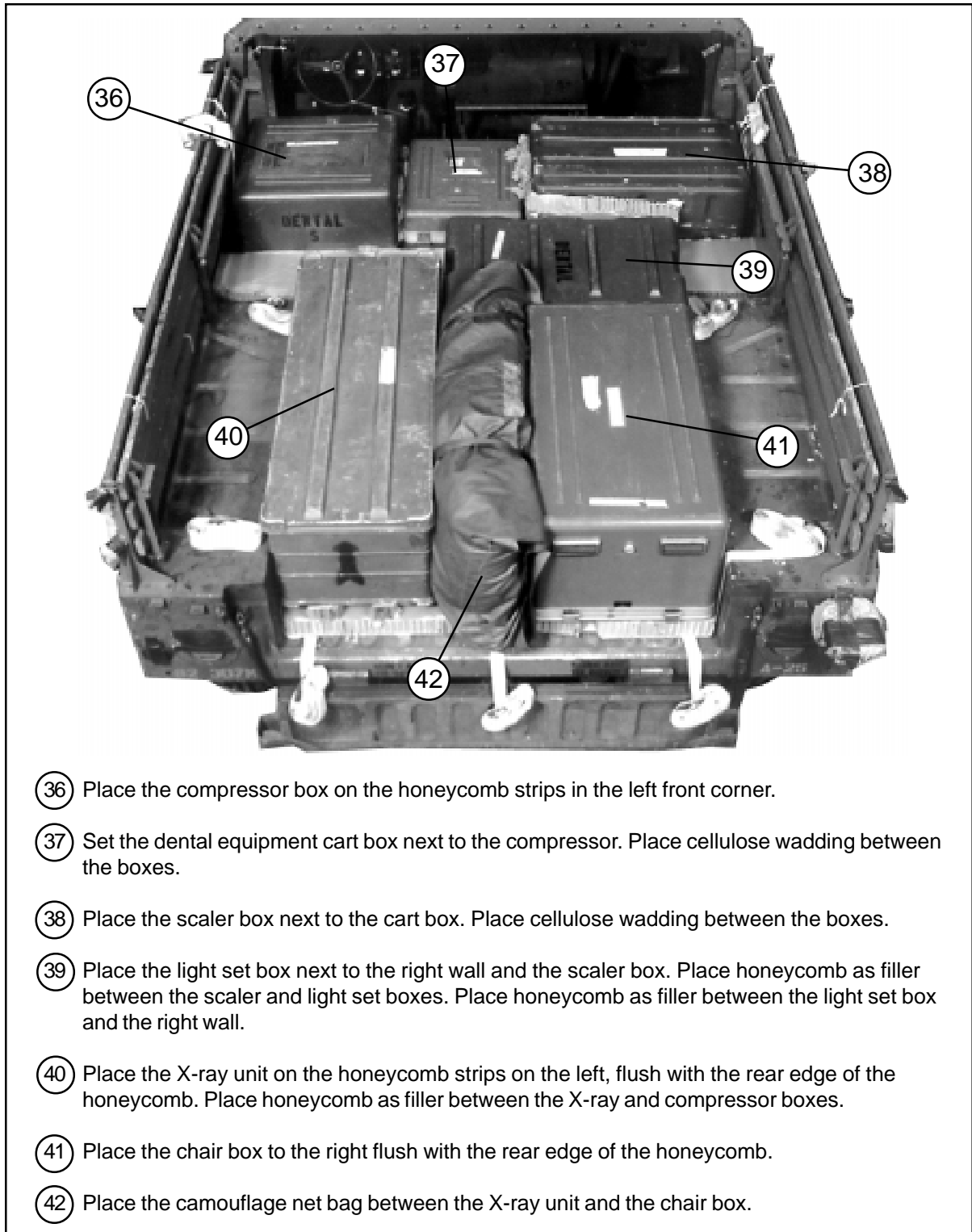


Figure 5-14. Dental Operative Field Set Rigged in M998 Truck (continued)



**Figure 5-14. Dental Operative Field Set Rigged in M998 Truck (continued)**

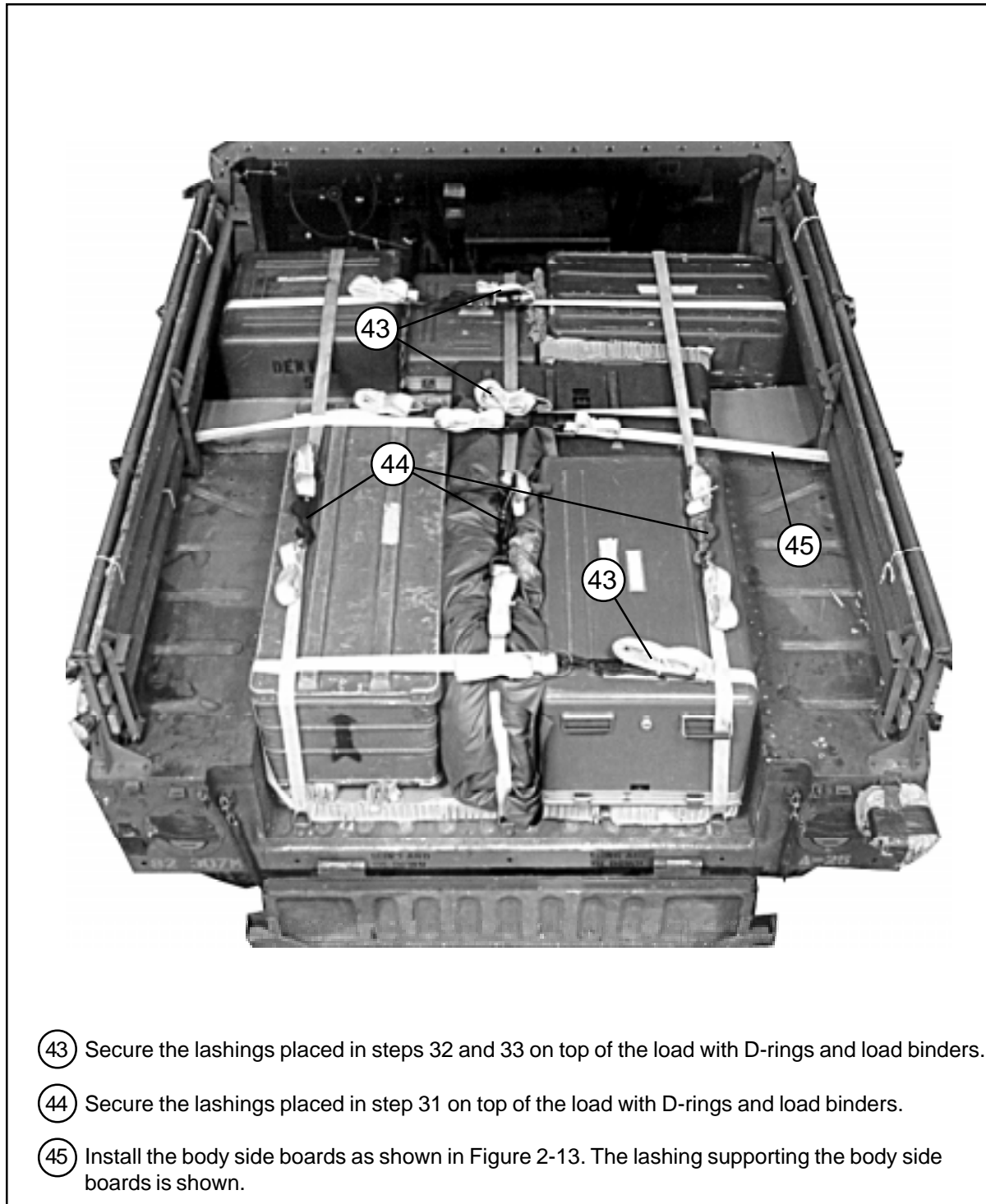
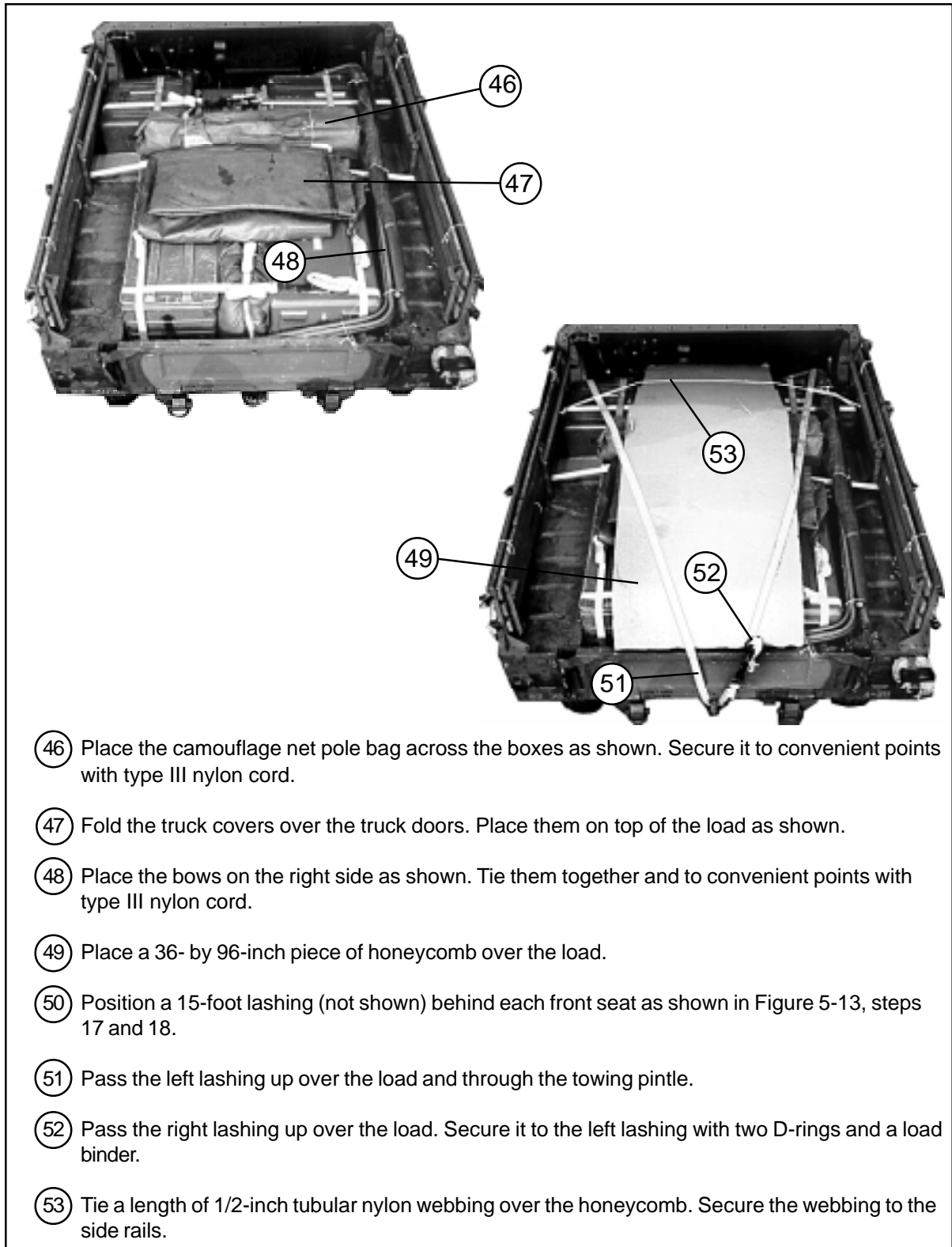


Figure 5-14. Dental Operative Field Set Rigged in M998 Truck (continued)



**Figure 5-14. Dental Operative Field Set Rigged in M998 Truck (continued)**

### RIGGING SOFT TOP INSTALLATION KIT IN M998 TRUCK

5-15. Use the procedures shown in Figure 5-15 to rig the soft top installation kit and accompanying equipment in a cargo/troop carrier-configured truck. An additional 300 pounds must be added to the items shown to meet the minimum weight requirement of 800 pounds for the accompanying load. Three boxes of 105-mm ammunition are shown here, but other items weighing the same or more may be used.

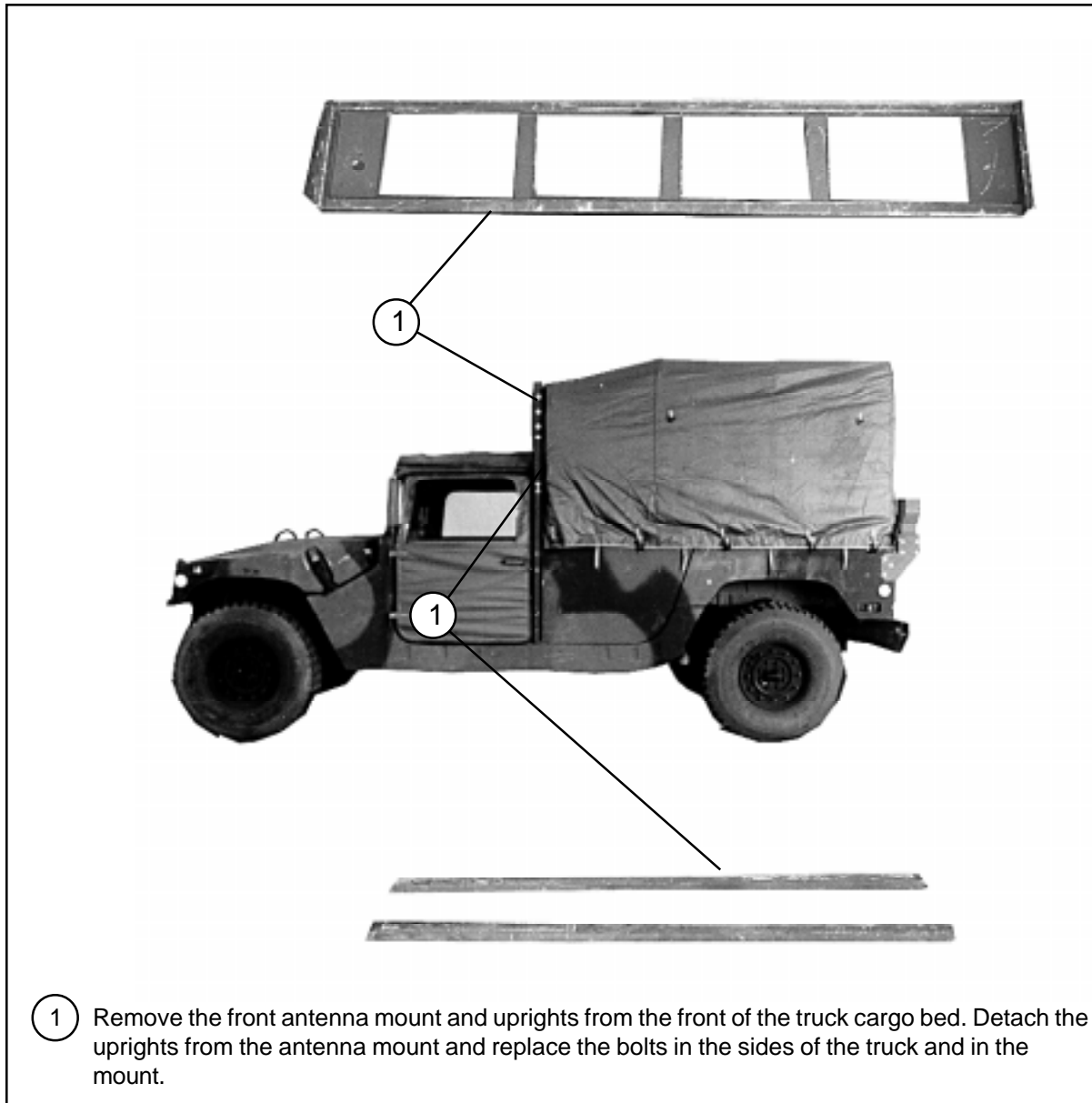
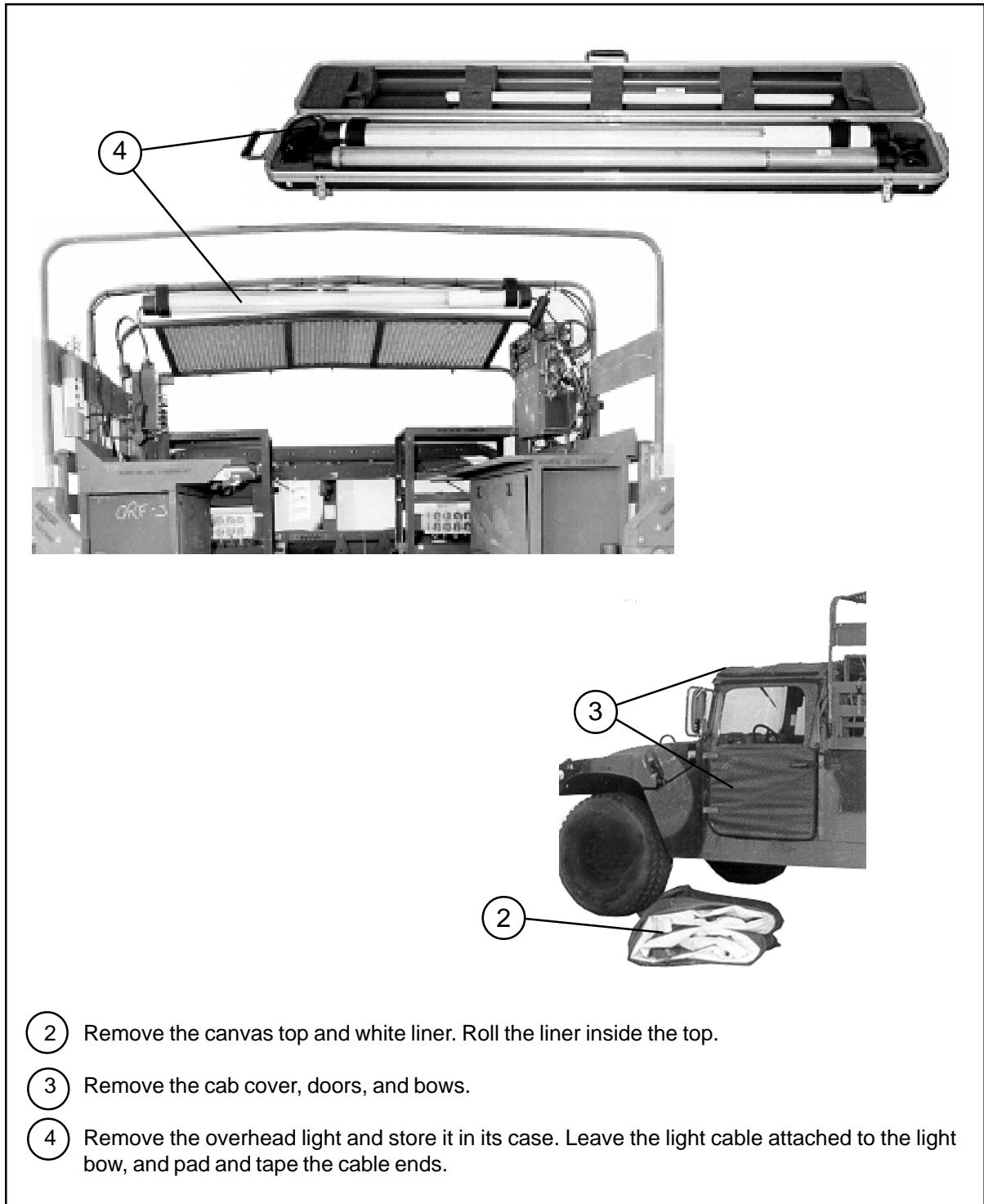
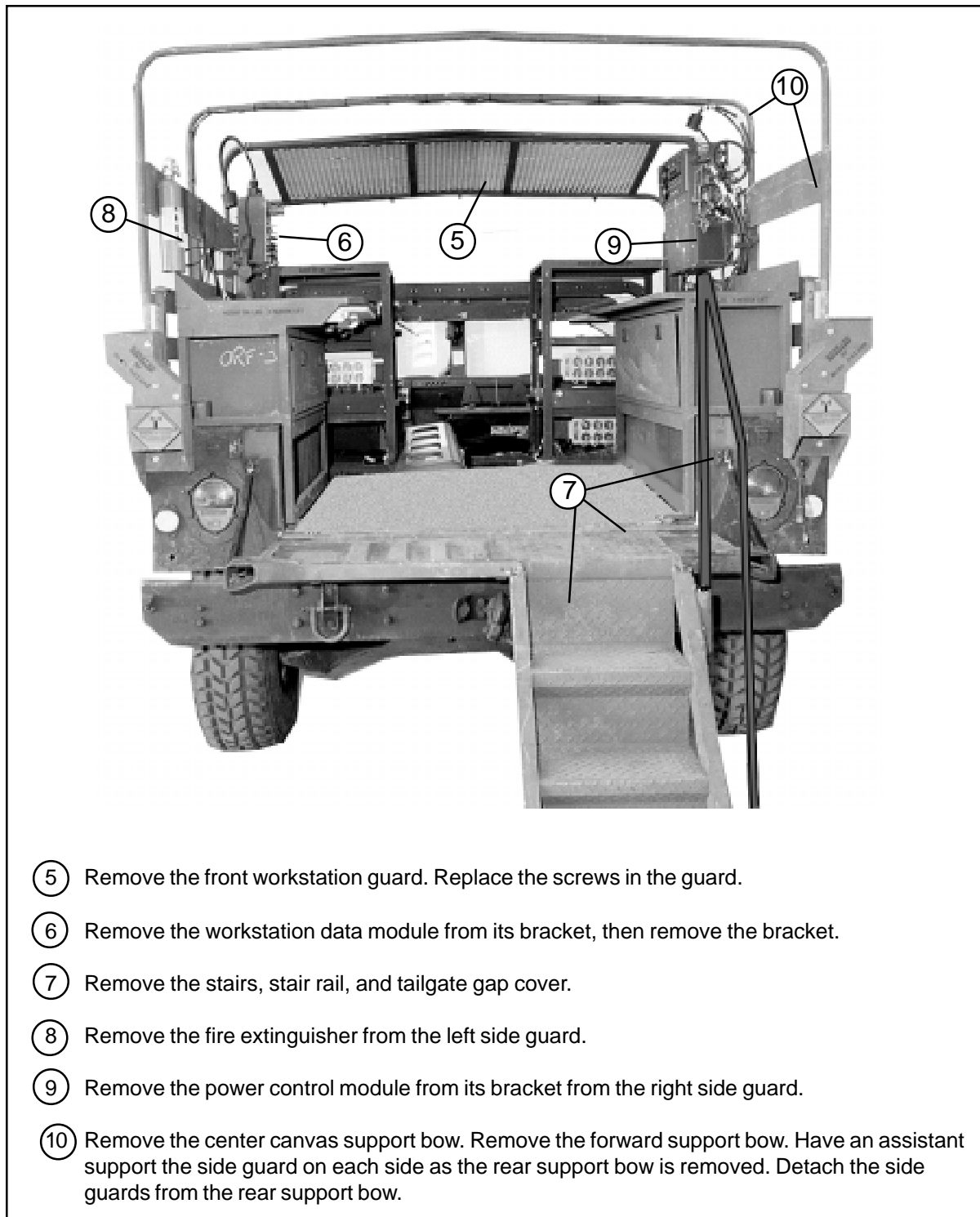


Figure 5-15. Soft Top Installation Kit Rigged in M998 Truck

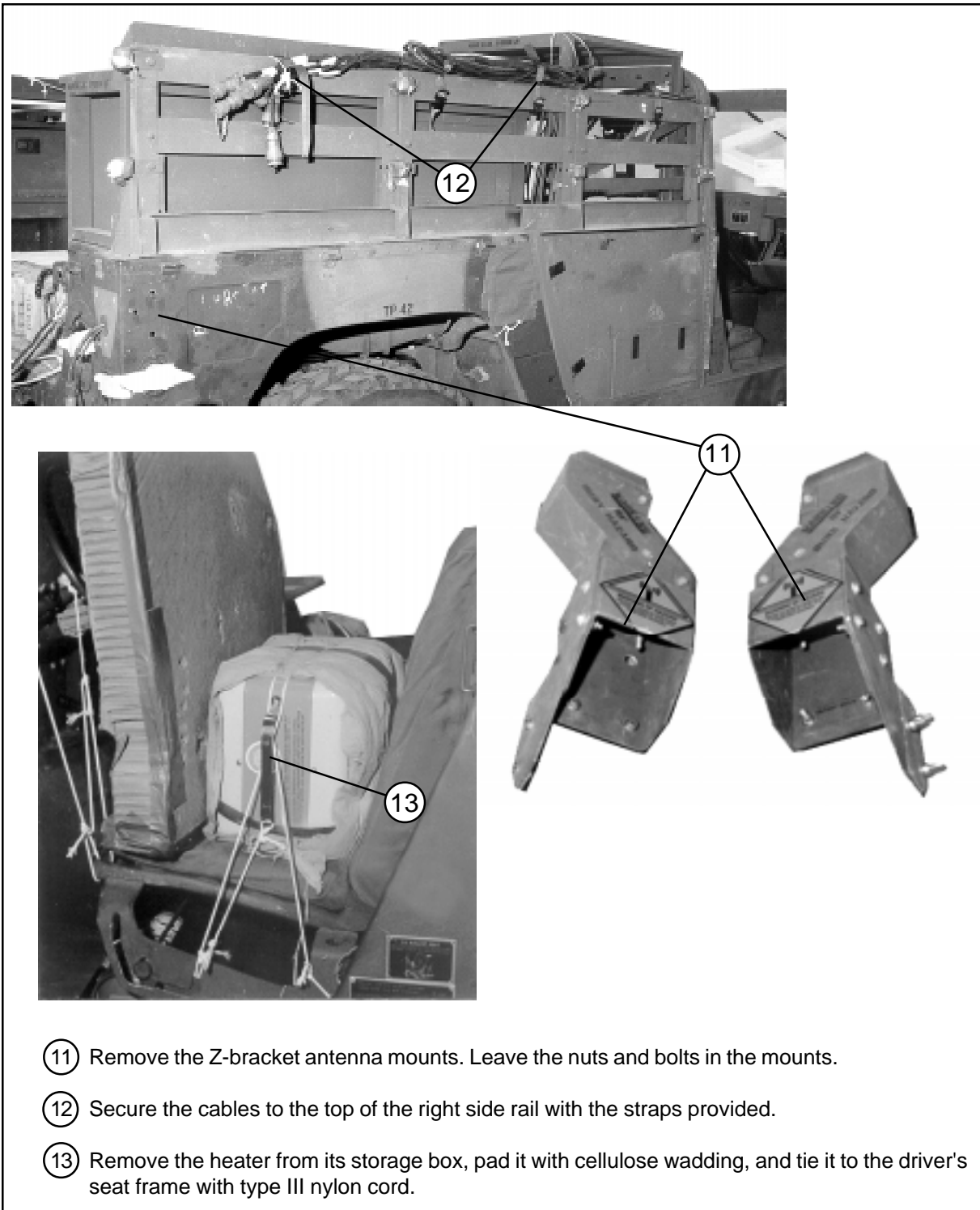




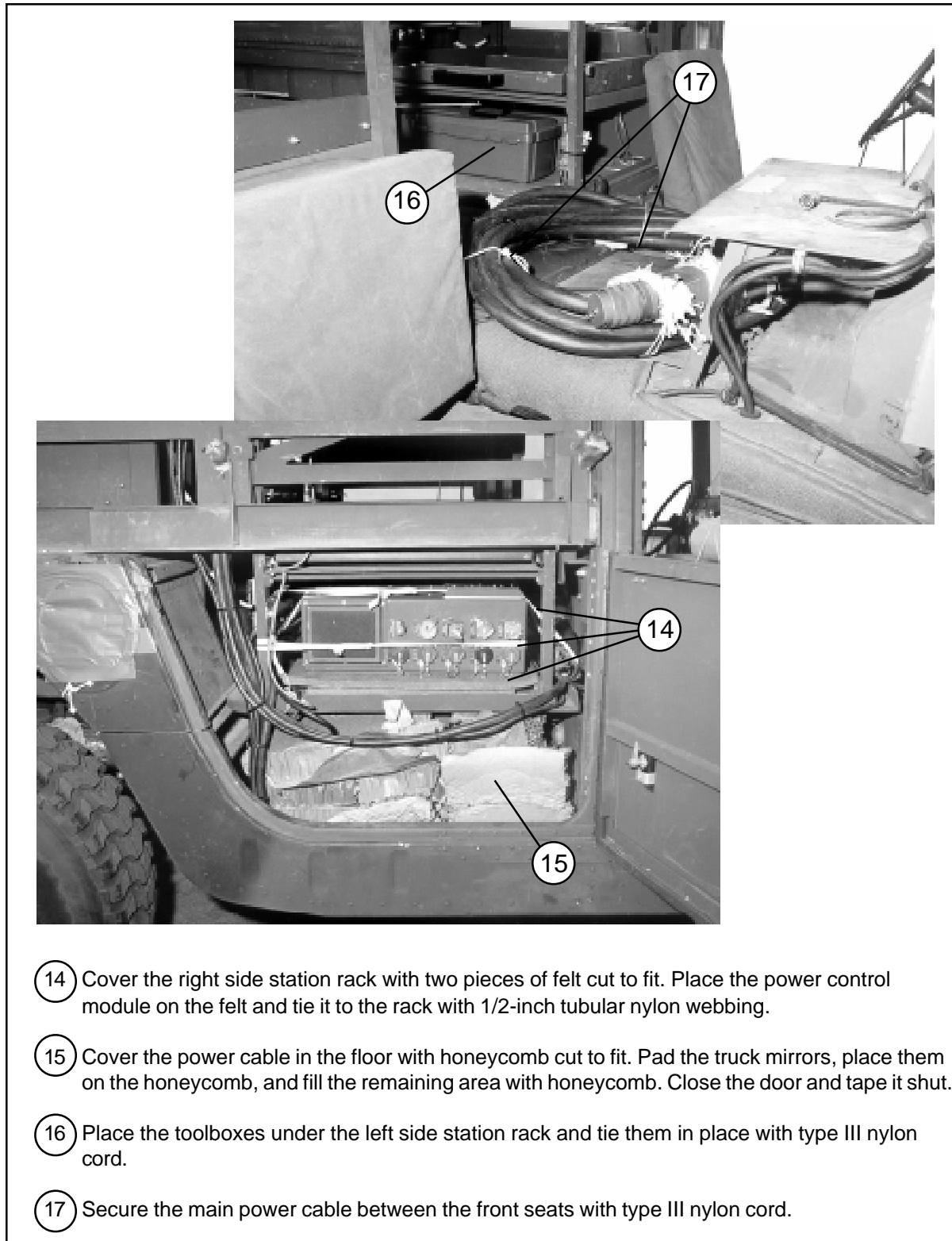
**Figure 5-15. Soft Top Installation Kit Rigged in M998 Truck (continued)**



**Figure 5-15. Soft Top Installation Kit Rigged in M998 Truck (continued)**

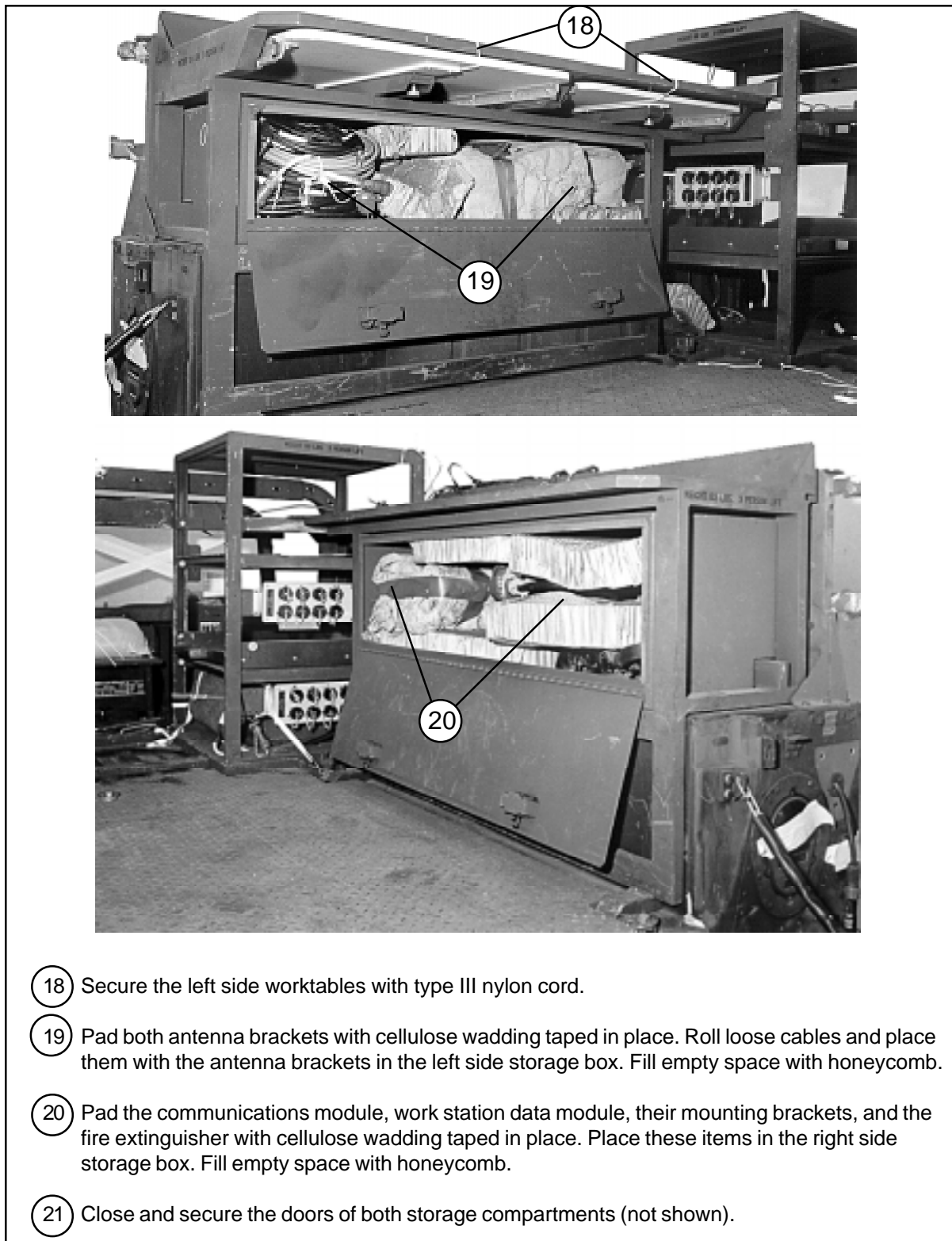


**Figure 5-15. Soft Top Installation Kit Rigged in M998 Truck (continued)**

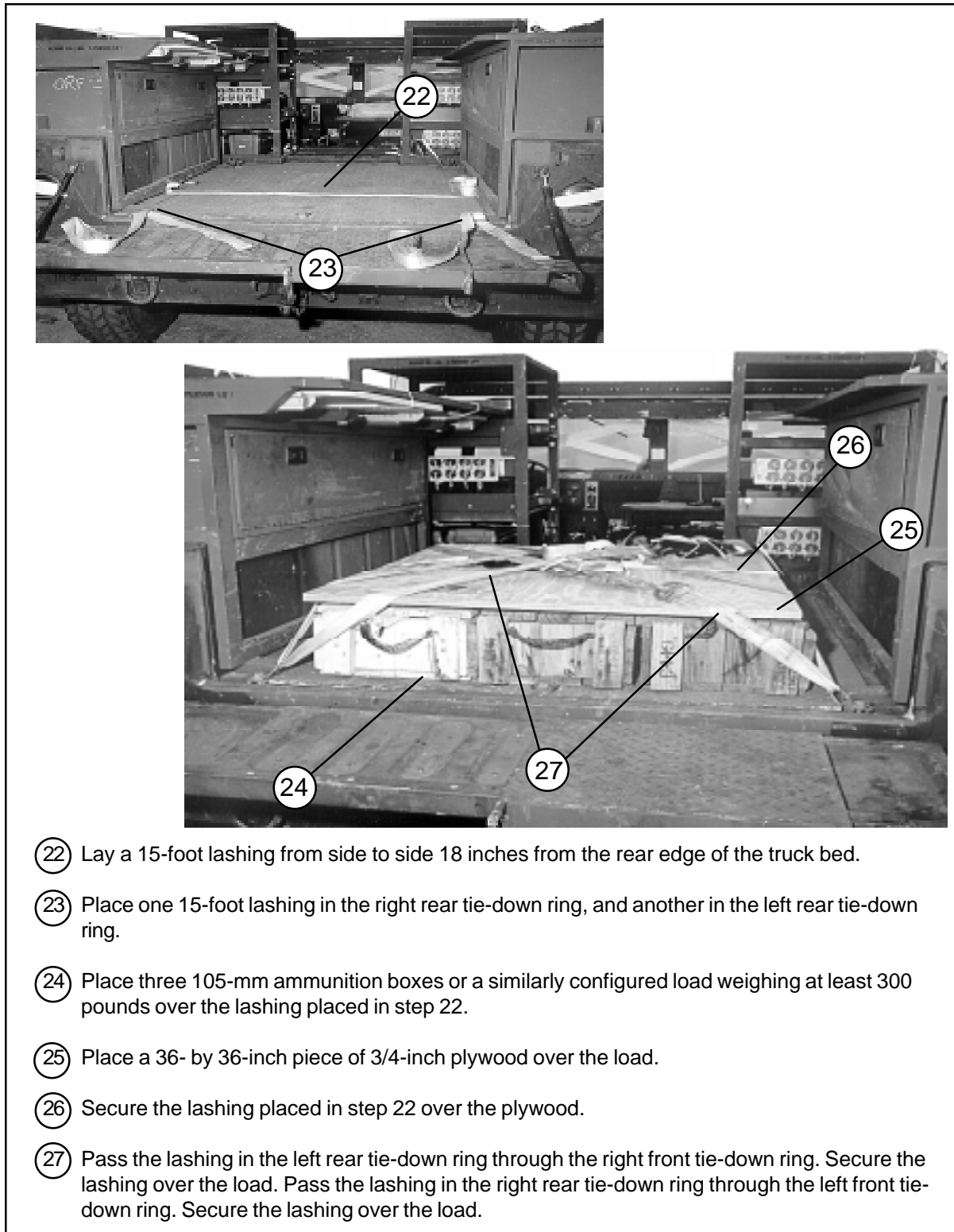


- ⑭ Cover the right side station rack with two pieces of felt cut to fit. Place the power control module on the felt and tie it to the rack with 1/2-inch tubular nylon webbing.
- ⑮ Cover the power cable in the floor with honeycomb cut to fit. Pad the truck mirrors, place them on the honeycomb, and fill the remaining area with honeycomb. Close the door and tape it shut.
- ⑯ Place the toolboxes under the left side station rack and tie them in place with type III nylon cord.
- ⑰ Secure the main power cable between the front seats with type III nylon cord.

**Figure 5-15. Soft Top Installation Kit Rigged in M998 Truck (continued)**

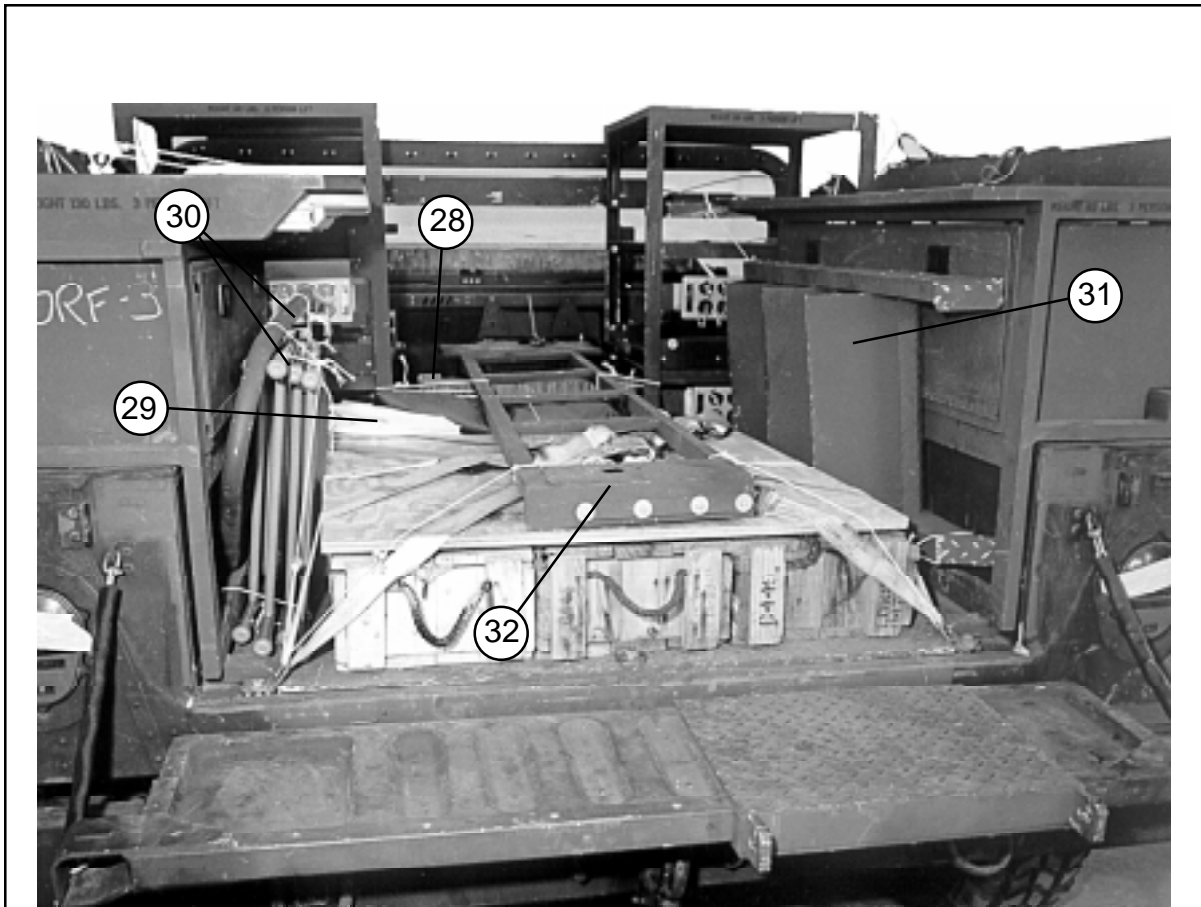


**Figure 5-15. Soft Top Installation Kit Rigged in M998 Truck (continued)**



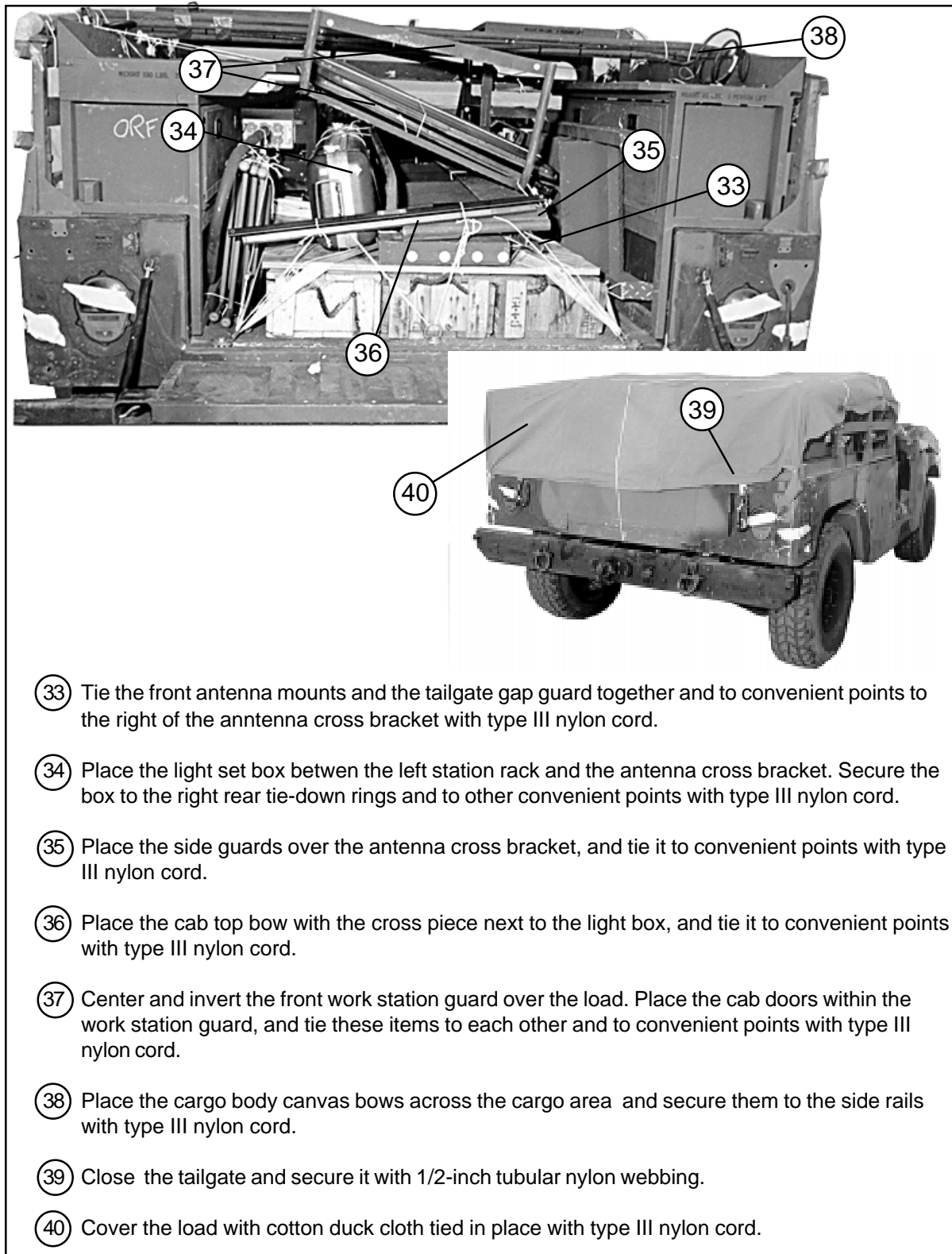
- ② Lay a 15-foot lashing from side to side 18 inches from the rear edge of the truck bed.
- ③ Place one 15-foot lashing in the right rear tie-down ring, and another in the left rear tie-down ring.
- ④ Place three 105-mm ammunition boxes or a similarly configured load weighing at least 300 pounds over the lashing placed in step 22.
- ⑤ Place a 36- by 36-inch piece of 3/4-inch plywood over the load.
- ⑥ Secure the lashing placed in step 22 over the plywood.
- ⑦ Pass the lashing in the left rear tie-down ring through the right front tie-down ring. Secure the lashing over the load. Pass the lashing in the right rear tie-down ring through the left front tie-down ring. Secure the lashing over the load.

**Figure 5-15. Soft Top Installation Kit Rigged in M998 Truck (continued)**



- ②⑧ Place three 24- by 24-inch pieces of honeycomb between the left and right work station racks.
- ②⑨ Lay the folded cab and cargo body covers and the white liner in front of the ammunition boxes and tie them to convenient points with type III nylon cord.
- ③⑩ Place the folding chairs and stair handrail against the left cabinet and tie them to convenient points with type III nylon cord.
- ③⑪ Place the stairs against the right cabinet, and tie them to convenient points with type III nylon cord.
- ③⑫ Center the front antenna mount cross bracket over the honeycomb placed in step 28 and the ammunition boxes. Secure the bracket to tie-down rings and to the racks with type III nylon cord.

**Figure 5-15. Soft Top Installation Kit Rigged in M998 Truck (continued)**



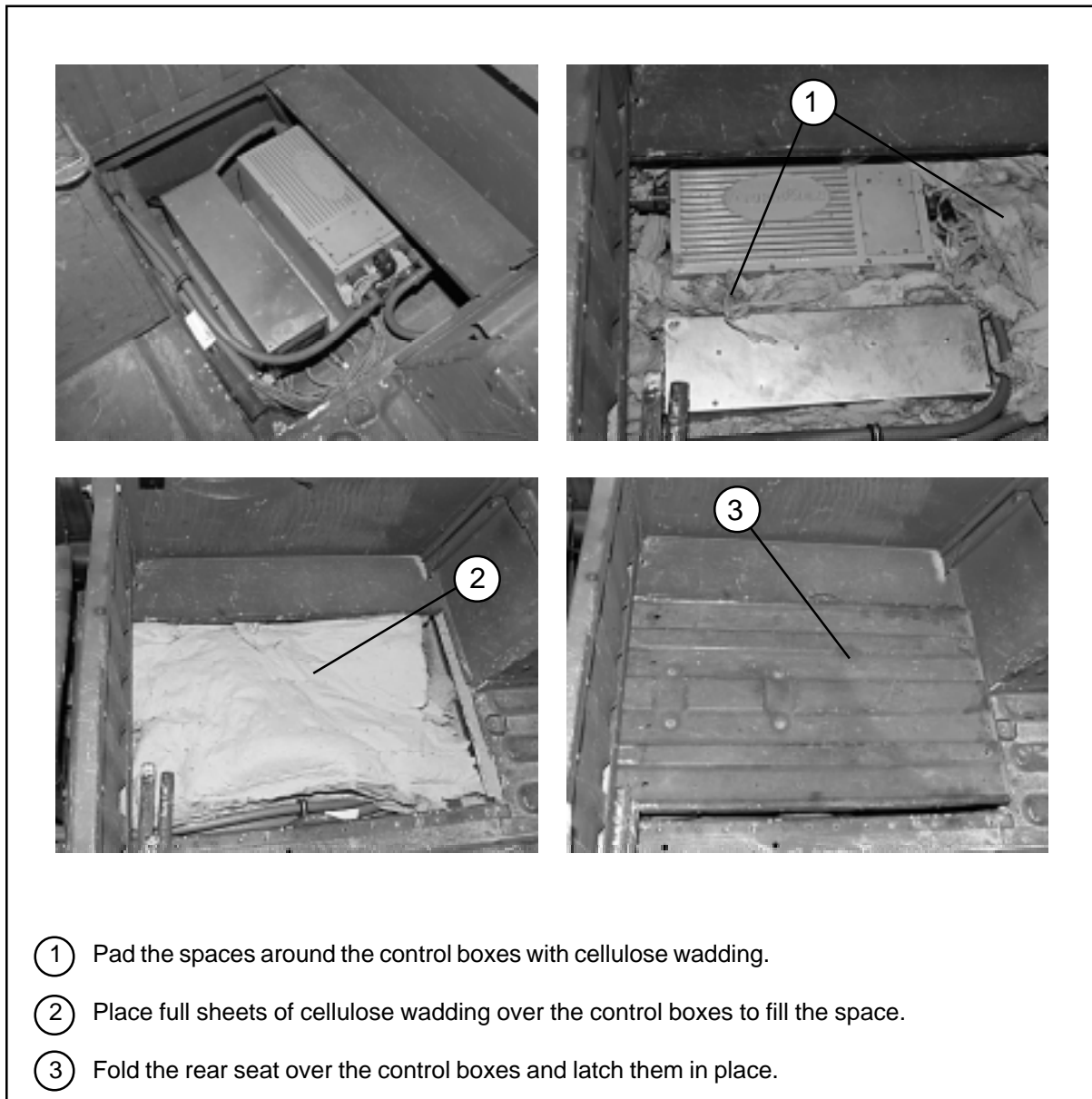
- ③③ Tie the front antenna mounts and the tailgate gap guard together and to convenient points to the right of the antenna cross bracket with type III nylon cord.
- ③④ Place the light set box between the left station rack and the antenna cross bracket. Secure the box to the right rear tie-down rings and to other convenient points with type III nylon cord.
- ③⑤ Place the side guards over the antenna cross bracket, and tie it to convenient points with type III nylon cord.
- ③⑥ Place the cab top bow with the cross piece next to the light box, and tie it to convenient points with type III nylon cord.
- ③⑦ Center and invert the front work station guard over the load. Place the cab doors within the work station guard, and tie these items to each other and to convenient points with type III nylon cord.
- ③⑧ Place the cargo body canvas bows across the cargo area and secure them to the side rails with type III nylon cord.
- ③⑨ Close the tailgate and secure it with 1/2-inch tubular nylon webbing.
- ④① Cover the load with cotton duck cloth tied in place with type III nylon cord.

**Figure 5-15. Soft Top Installation Kit Rigged in M998 Truck (continued)**



**RIGGING VIPER GENERATOR SYSTEM IN HMMWV-SERIES TRUCK**

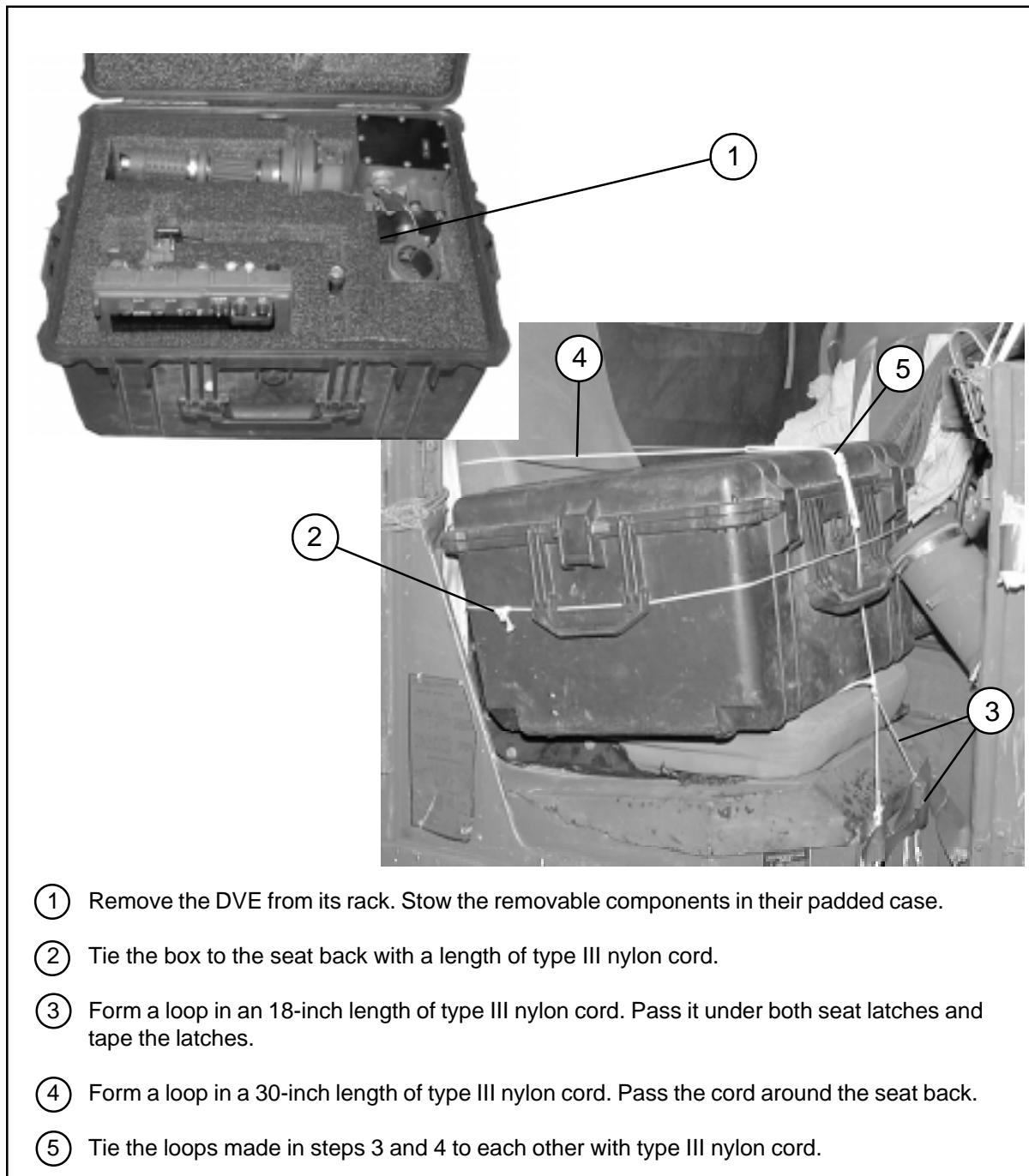
5-16. Use the procedures shown in Figure 5-16 to rig the Viper generator system in HMMWV-series trucks. The Viper consists of an under-the-hood engine-driven generator, control switches on the truck's instrument panel, and control boxes located under the rear seat. The generator and instrument panel switches require no preparation. Prepare the control boxes as shown in Figure 5-16.



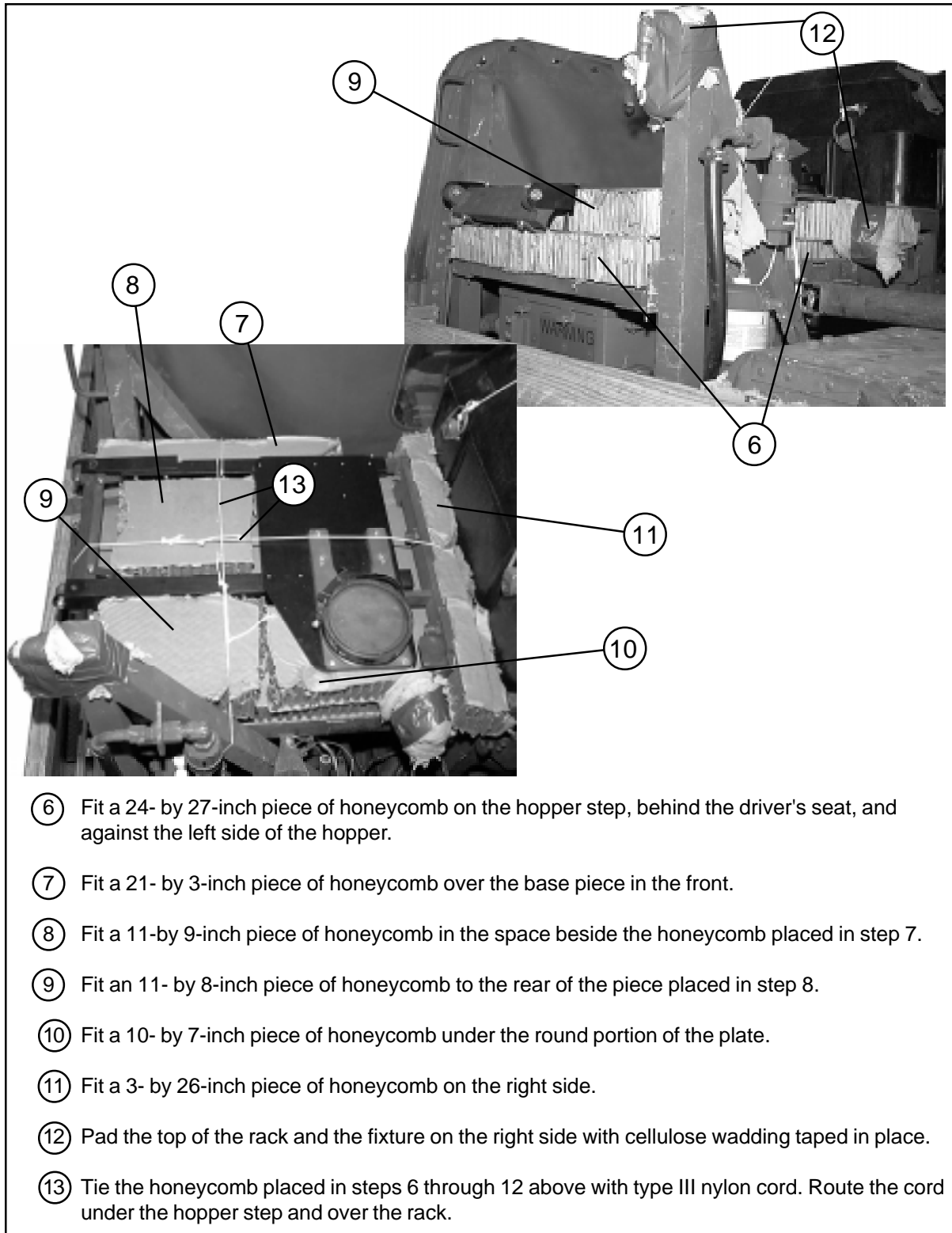
**Figure 5-16. Viper Generator System Control Boxes Prepared**

## RIGGING DRIVER VISION ENHANCER IN HMMWV-SERIES TRUCK

5-17. Use the procedures shown in Figure 5-17 to rig the driver vision enhancer (DVE) in HMMWV-series trucks. The optical components fit into their own padded case. The rest of the system fits into a rack mounted behind the driver's seat.



**Figure 5-17. DVE Rigged in Cargo/Troop Carrier**



**Figure 5-17. DVE Rigged in Cargo/Troop Carrier (continued)**

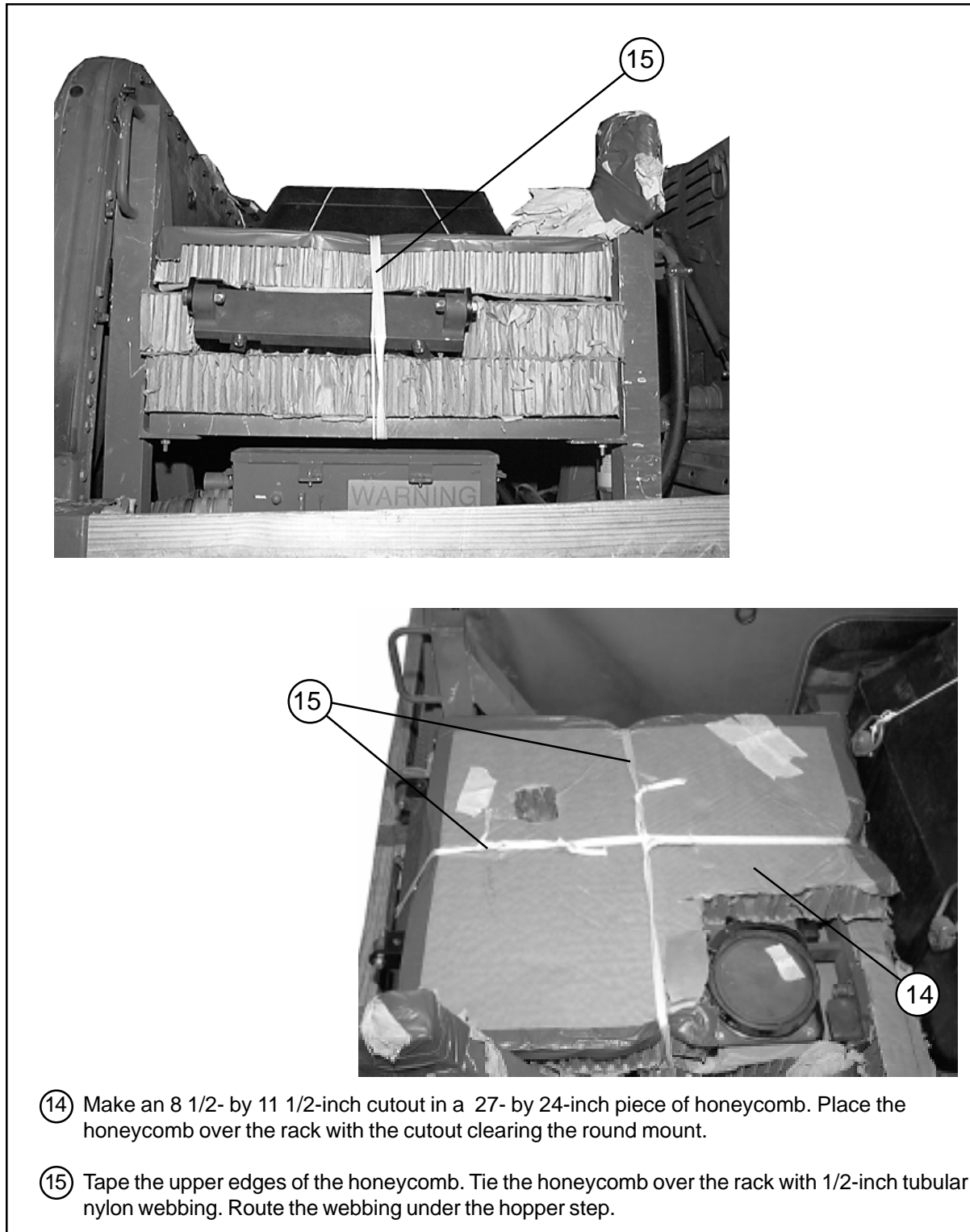


Figure 5-17. DVE Rigged in Cargo/Troop Carrier (continued)

## RIGGING THE AN/VAS-5 DVE MOUNTED ON HMMWV-SERIES TRUCK

5-18. The AN/VAS-5 DVE can be rigged on the following model HMMWV's: M966, M966A1, M1025, M1025A1, M1025A2, M1026, M1026 modified, M1026A1, M1121 and M1151. Use the procedures shown in Figure 5-18 to rig the AN/VAS-5 DVE mounted on HMMWV-series trucks.

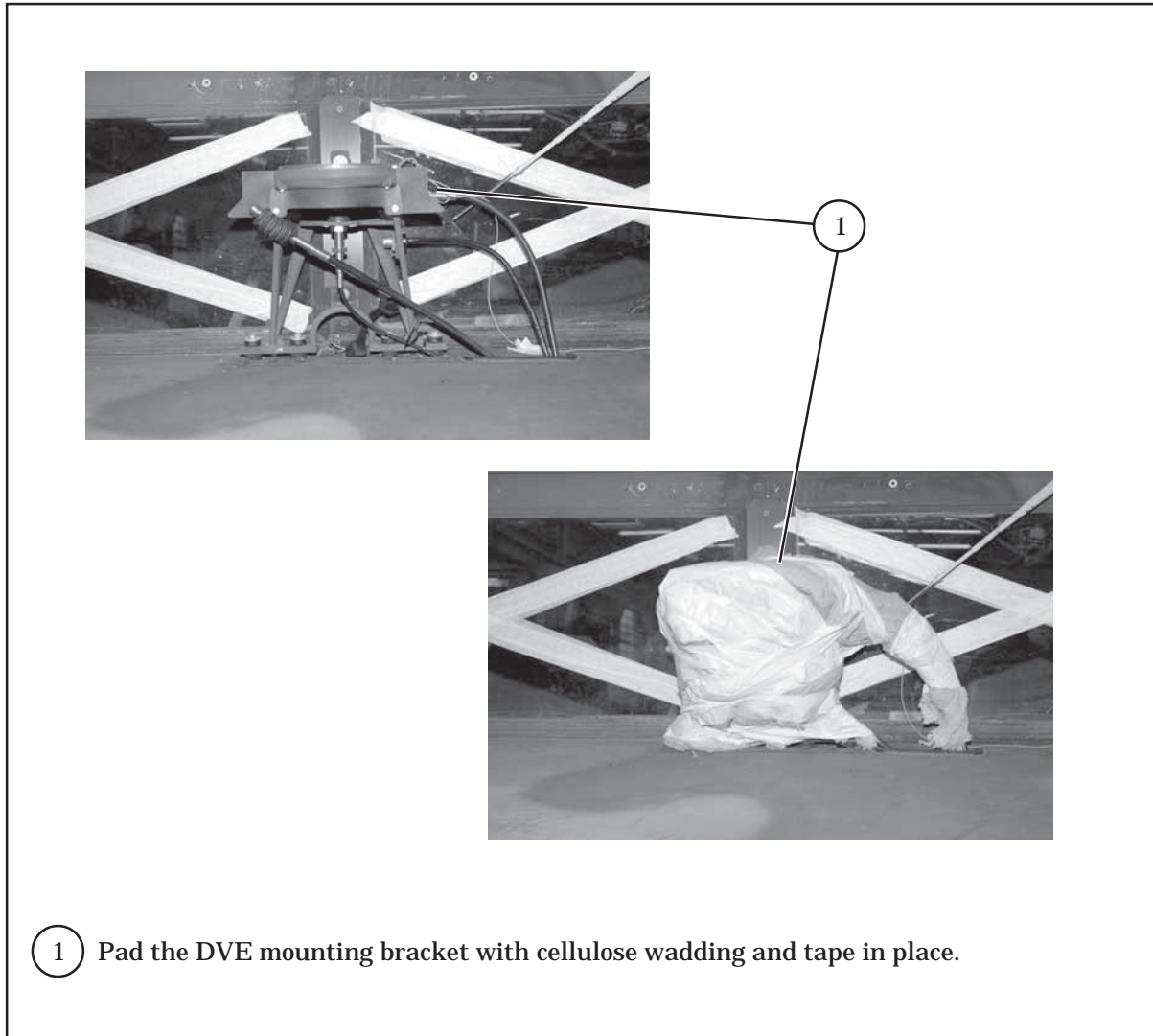
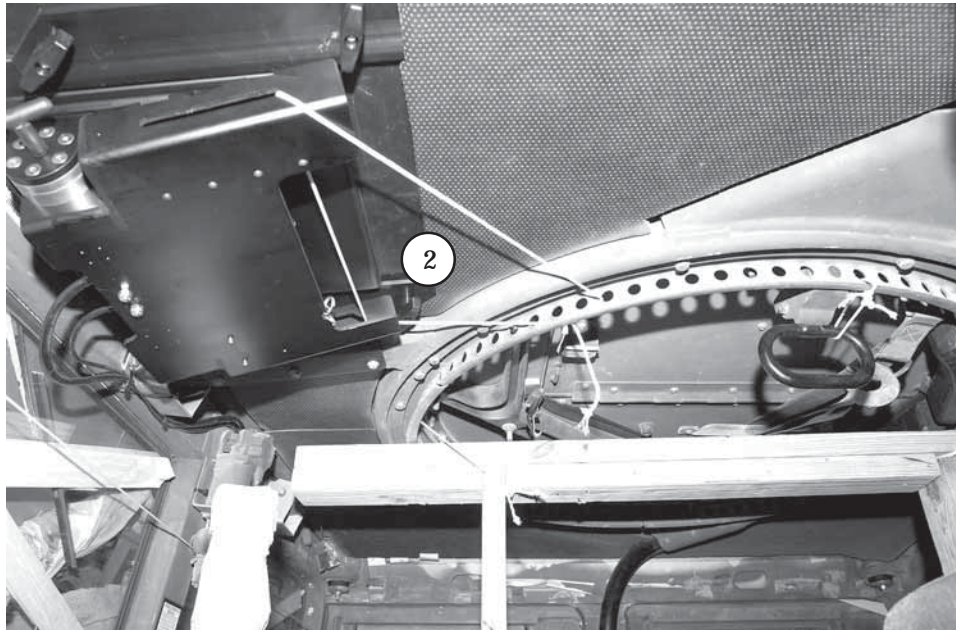


Figure 5-18. DVE Rigged on Hard Top HMMWV



- ② Secure the display control module bracket to the turret ring with type III nylon cord.

**Figure 5-18. DVE Rigged on Hard Top HMMWV (Continued)**



- 3 Pad the pan and tilt module with cellulose wadding and tape in place.

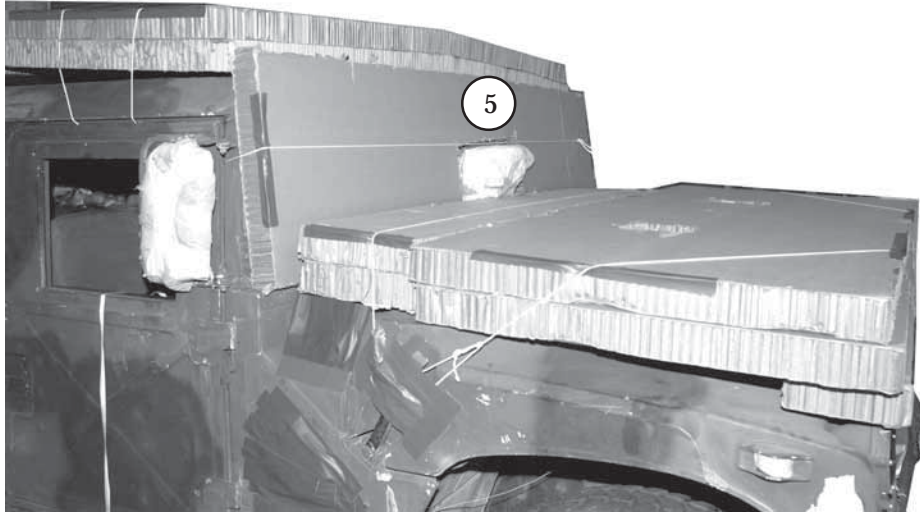
**Figure 5-18. DVE Rigged on Hard Top HMMWV (Continued)**



- 4 Place the transit case in the passenger seat and secure to the seat with 1/2-inch tubular nylon webbing.

**Figure 5-18. DVE Rigged on Hard Top HMMWV (Continued)**





- 5 Make a cut out for the DVE mounting bracket on the honeycomb placed on the windshield.

**Figure 5-18. DVE Rigged on Hard Top HMMWV (Continued)**

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## CHAPTER 6

# RIGGING TWO HMMWV TRUCKS ON A 32-FOOT PLATFORM FOR LOW-VELOCITY AIRDROP

### DESCRIPTION OF LOAD

6-1. The unrigged M998 cargo/troop carriers (Figure 2-1) are described in Chapter 1. Two HMMWV trucks are rigged on a 32-foot type V platform for low-velocity airdrop. An accompanying load is rigged on the platform. The load requires five G-11 cargo parachutes.

The following trucks can be rigged using the procedures given in this chapter:

M998A1

M1038 and M1038A1

M1037 and M1037 modified

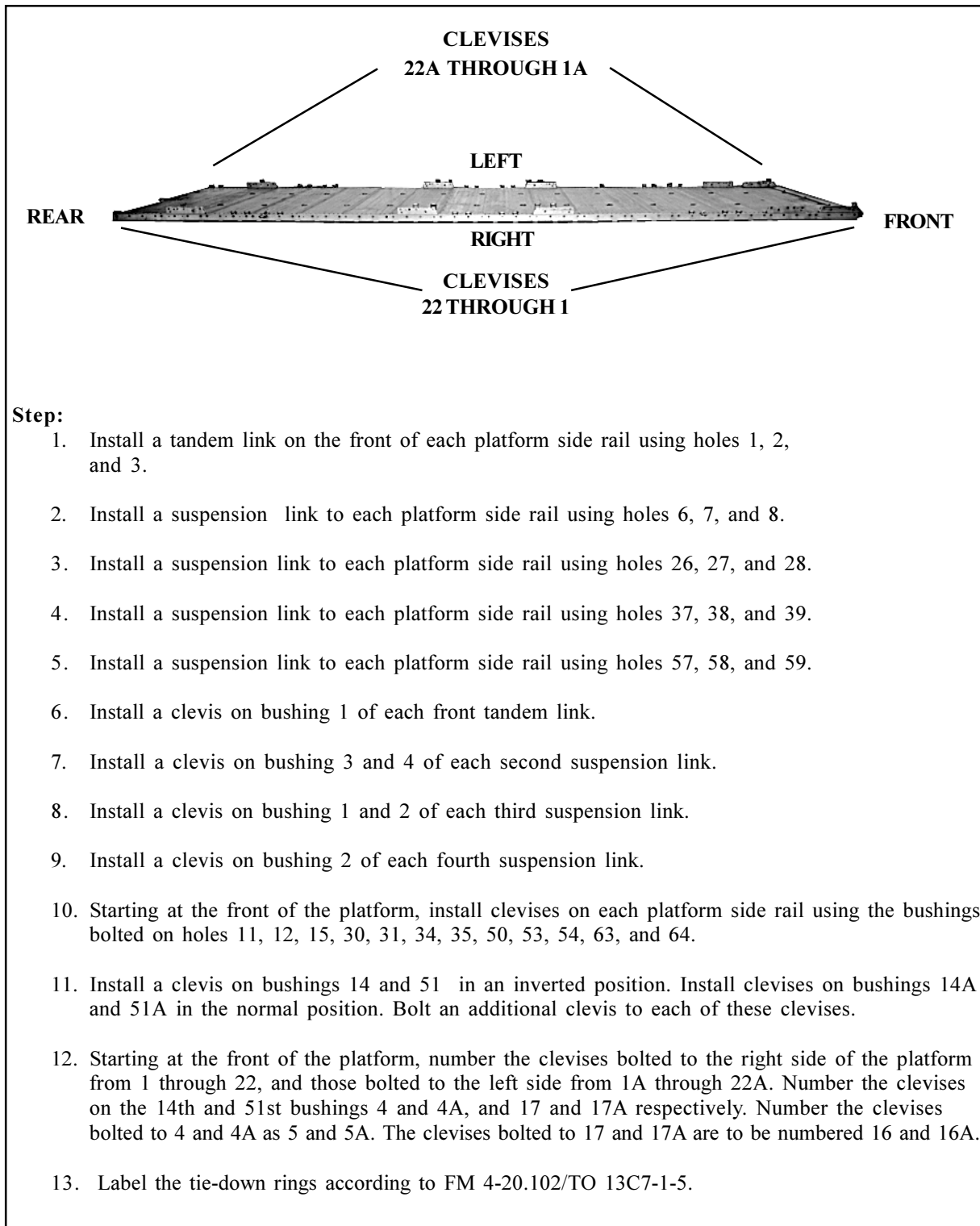
M1042

M1097, M1097A1, and M1097A2

### PREPARING PLATFORM

6-2. Prepare a 32-foot, type V airdrop platform according to TM 10-1670-268-20&P/TO 13C7-52-22. Install two tandem links and eight suspension links to the platform as shown in Figure 6-1. Attach and number 44 clevis assemblies as shown in Figure 6-1.

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

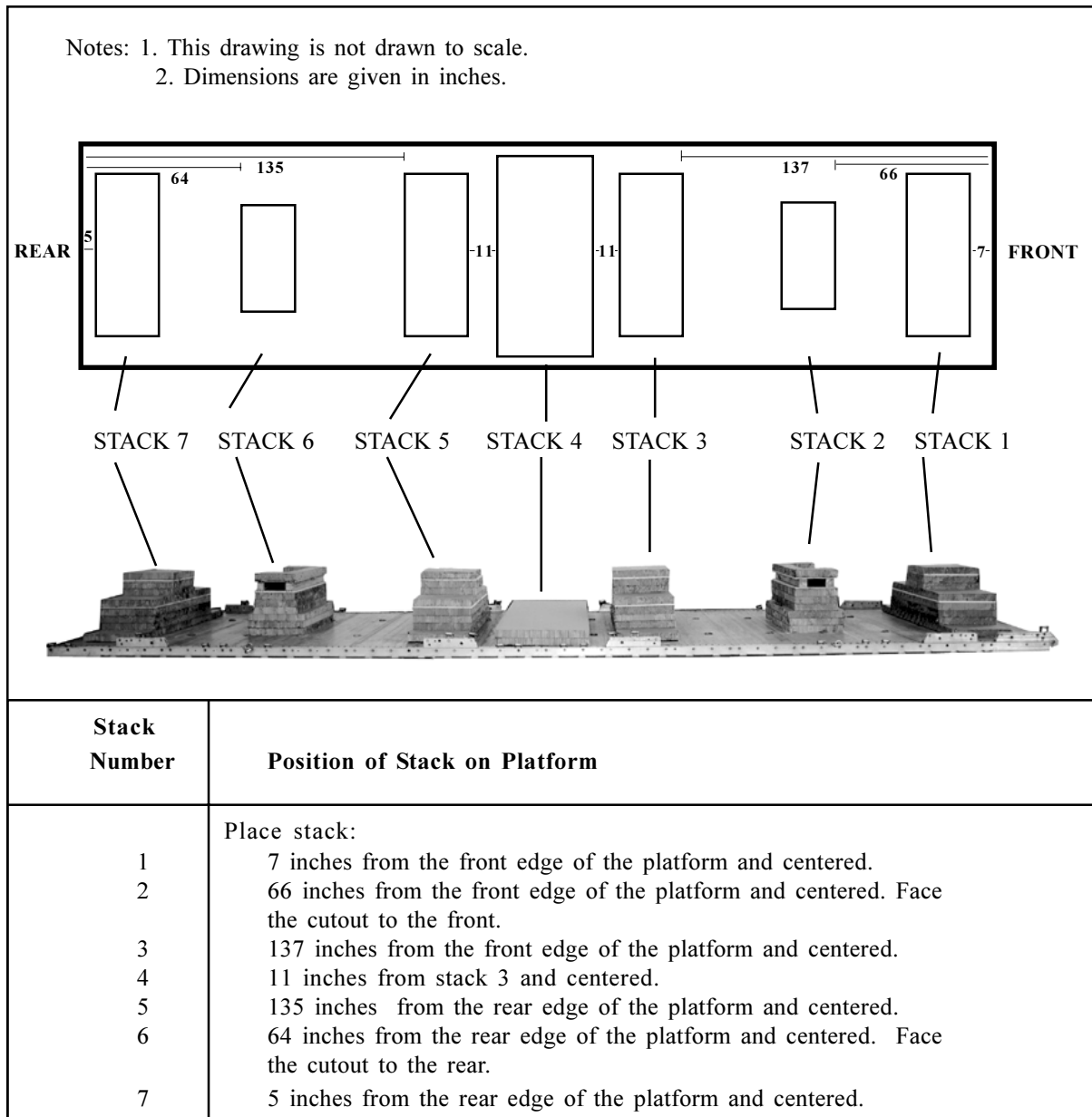


**Figure 6-1. Platform Prepared**

**PREPARING AND POSITIONING HONEYCOMB STACKS**

6.3. Prepare honeycomb stacks 1, 3, 5, and 7 as shown in Figure 2-3. Prepare honeycomb stacks 2 and 6 as shown in Figure 2-4. Position the stacks on the platform as shown in Figure 6-2.

Note: Honeycomb stack 4 consists of 2 full sheets of honeycomb stacked flush.

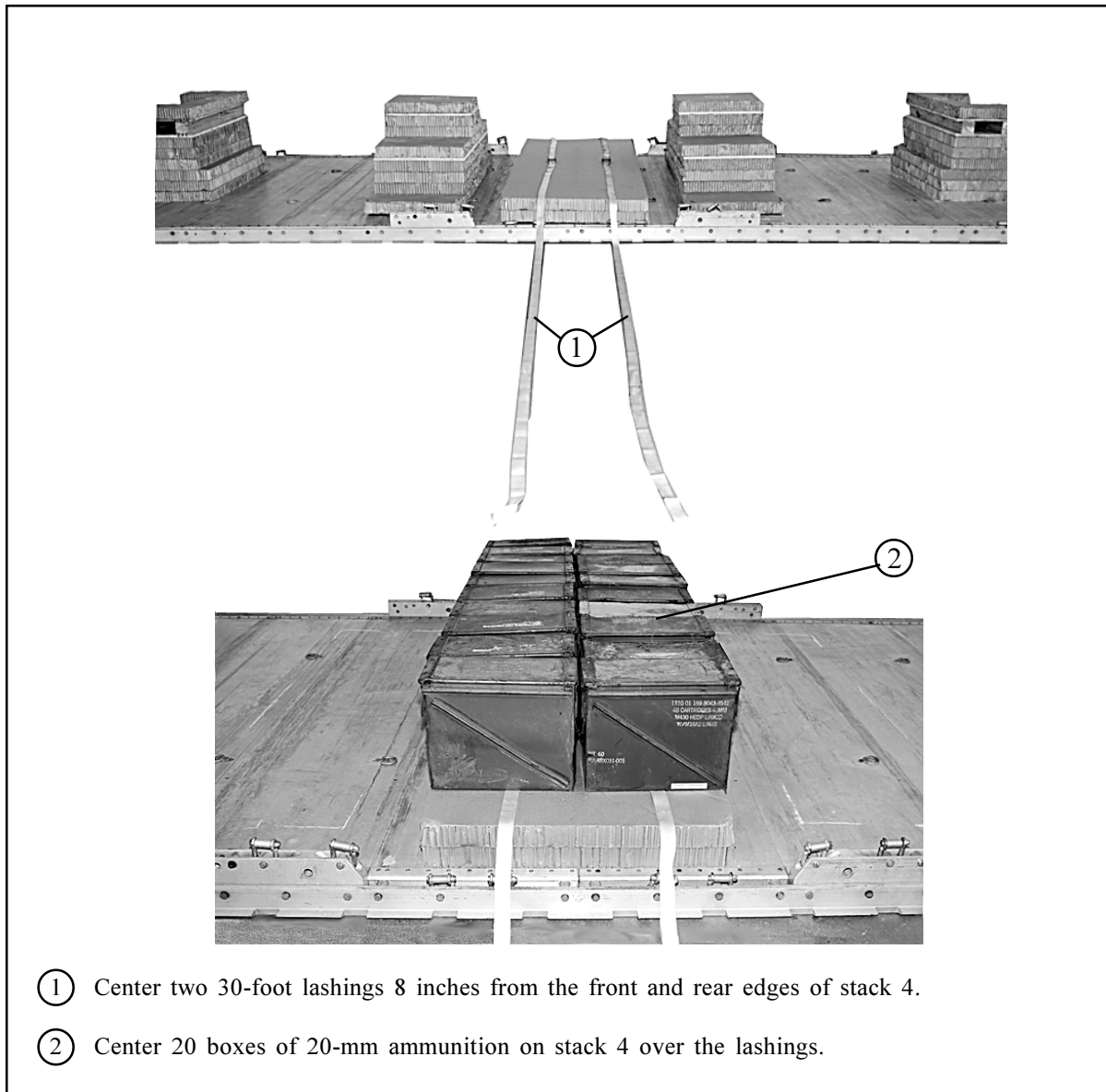


**Figure 6-2. Honeycomb Stacks Positioned On Platform**

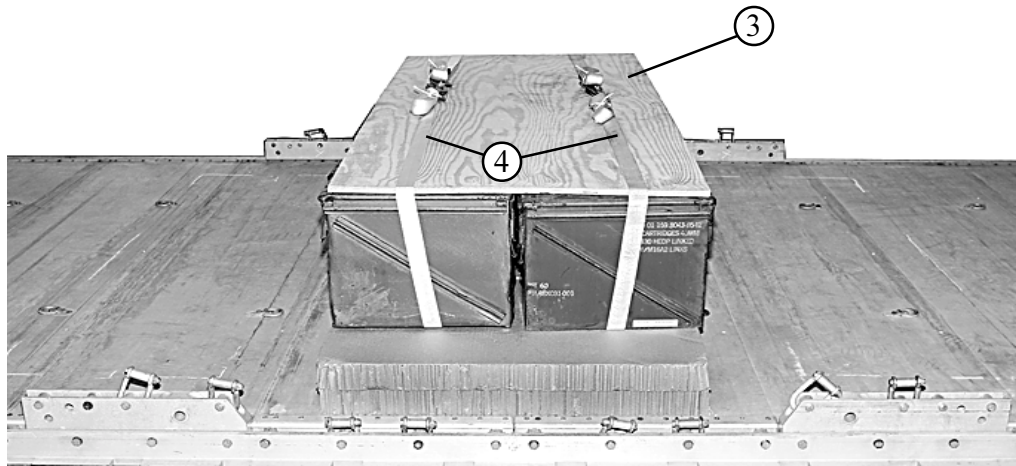
**PLACING AND SECURING ACCOMPANYING LOAD**

6-4. Place the ammunition boxes on stack 4, place a plywood cover, lash the boxes together (step 4), and construct two endboards as shown in Figure 6-3. Lash the accompanying load and endboards to the platform as shown in Figure 6-4.

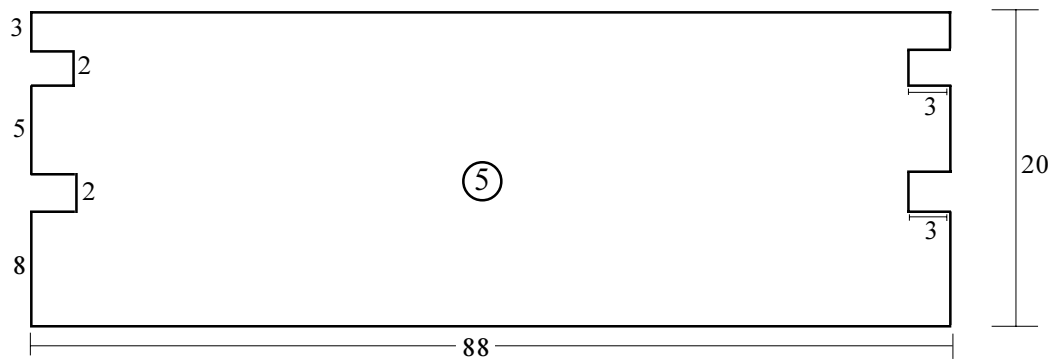
Note: Adapt these procedures to accommodate other accompanying loads.



**Figure 6-3. Ammunition Boxes Placed and Secured**

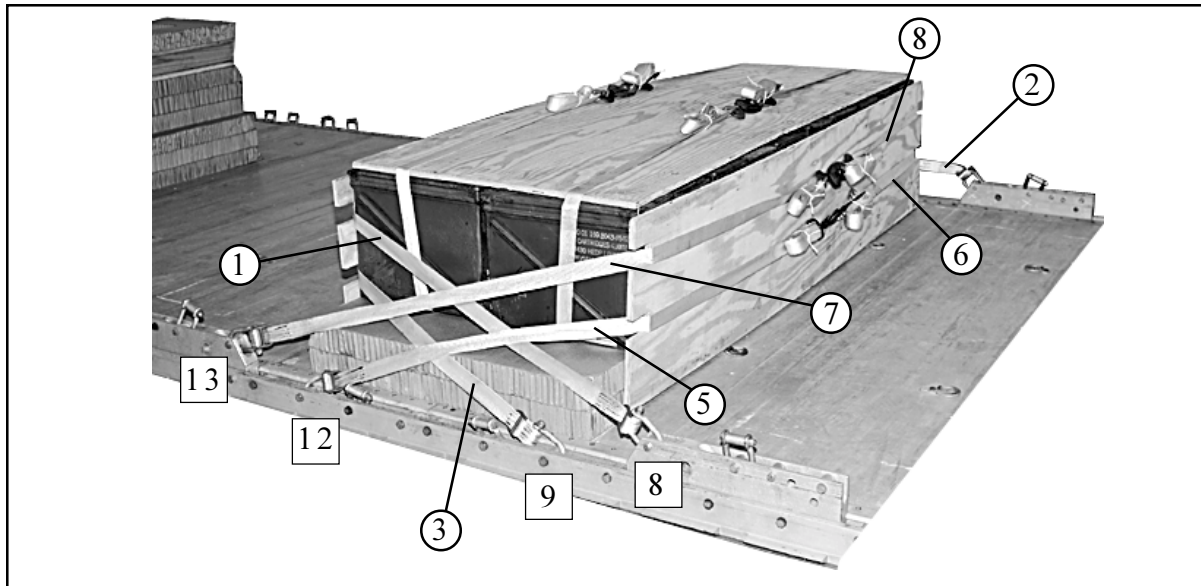


- Notes 1. This drawing is not drawn to scale  
 2. All dimensions are in inches.



- ③ Place a 3/4- by 36-by 82-inch piece of plywood flush over the ammunition boxes.
- ④ Secure the 30-foot lashings placed in step 1 over the ammunition boxes.
- ⑤ Construct two endboards from 3/4- by 20- by 88-inch plywood. Place an endboard at each end of the stack of boxes (shown in Figure 6-4).

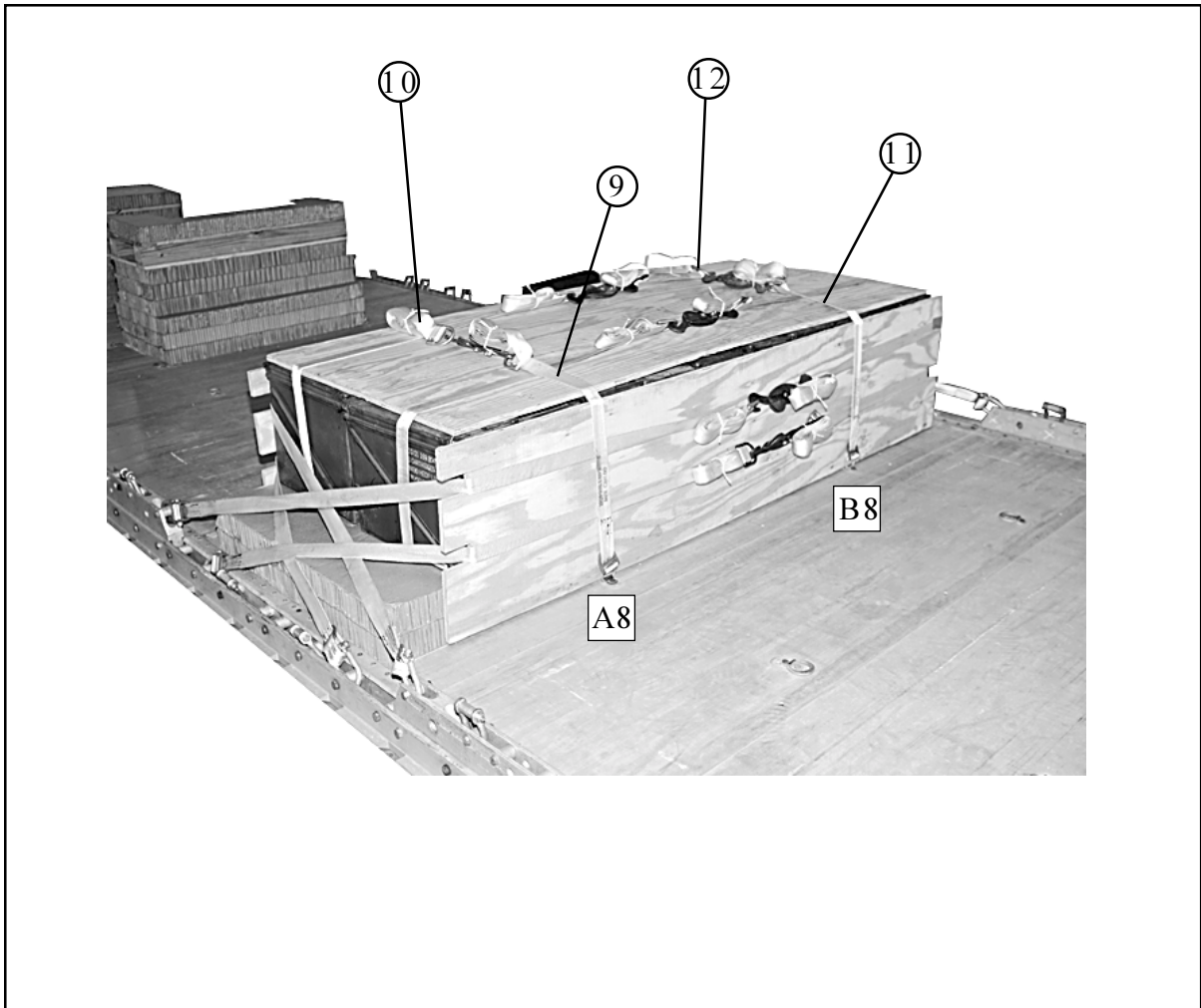
**Figure 6-3. Ammunition Boxes Placed and Secured (continued)**



Lashing Number	Tie-down Clevis Number	Instructions
1	8	Pass lashing: Through clevis 8, through its own D-ring, and through the upper slot in the rear endboard.
2	8A	Through clevis 8A, through its own D-ring, and through the upper slot in the rear endboard. Secure lashings 1 and 2 together at the rear with two D-rings and a load binder.
3	9	Through clevis 9, through its own D-ring, and through the lower slot in the rear endboard.
4	9A	Through clevis 9A, through its own D-ring, and through the lower slot in the rear endboard. Secure lashings 3 and 4 together at the rear with two D-rings and a load binder.
5	13	Through clevis 13, through its own D-ring, and through the upper slot in the front endboard.
6	13A	Through clevis 13A, through its own D-ring, and through the upper slot in the front endboard. Secure lashings 5 and 6 together at the front with two D-rings and a load binder.
7	12	Through clevis 12, through its own D-ring, and through the lower slot in the front endboard.
8	12A	Through clevis 12A, through its own D-ring, and through the lower slot in the front endboard. Secure lashings 7 and 8 together at the front with two D-rings and a load binder.

Figure 6-4. Ammunition and Endboards Lashed to Platform



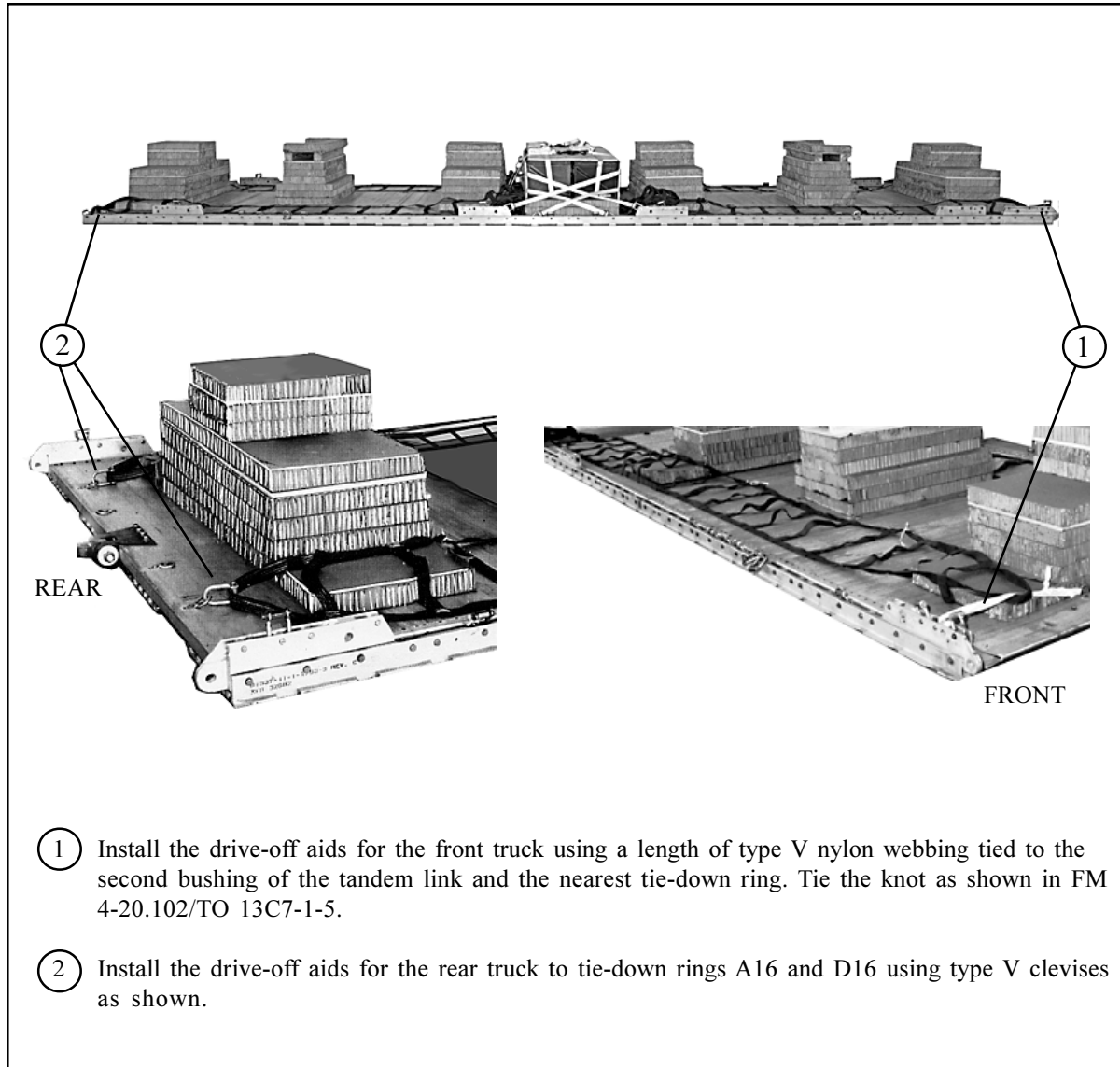


Lashing Number	Tie-down Ring Number	Instructions
9	A8	Pass lashing:
10	A10	Through deck tie-down ring A8 and through its own D-ring. Through deck tie-down ring A10 and through its own D-ring. Secure lashings 9 and 10 together on top of the boxes with two D-rings and a load binder.
11	B8	Through deck tie-down ring B8 and through its own D-ring.
12	B10	Through deck tie-down ring B10 and through its own D-ring. Secure lashings 11 and 12 together on top of the boxes with two D-rings and a load binder.

Figure 6-4. Ammunition and Endboards Lashed to Platform (continued)

### INSTALLING OPTIONAL DRIVE-OFF AIDS ON PLATFORM

6-5. Install the optional drive-off aids in the direction in which the truck is to be driven off the platform as shown in Figure 6-5, and according to FM 4-20.102/TO 13C7-1-5.

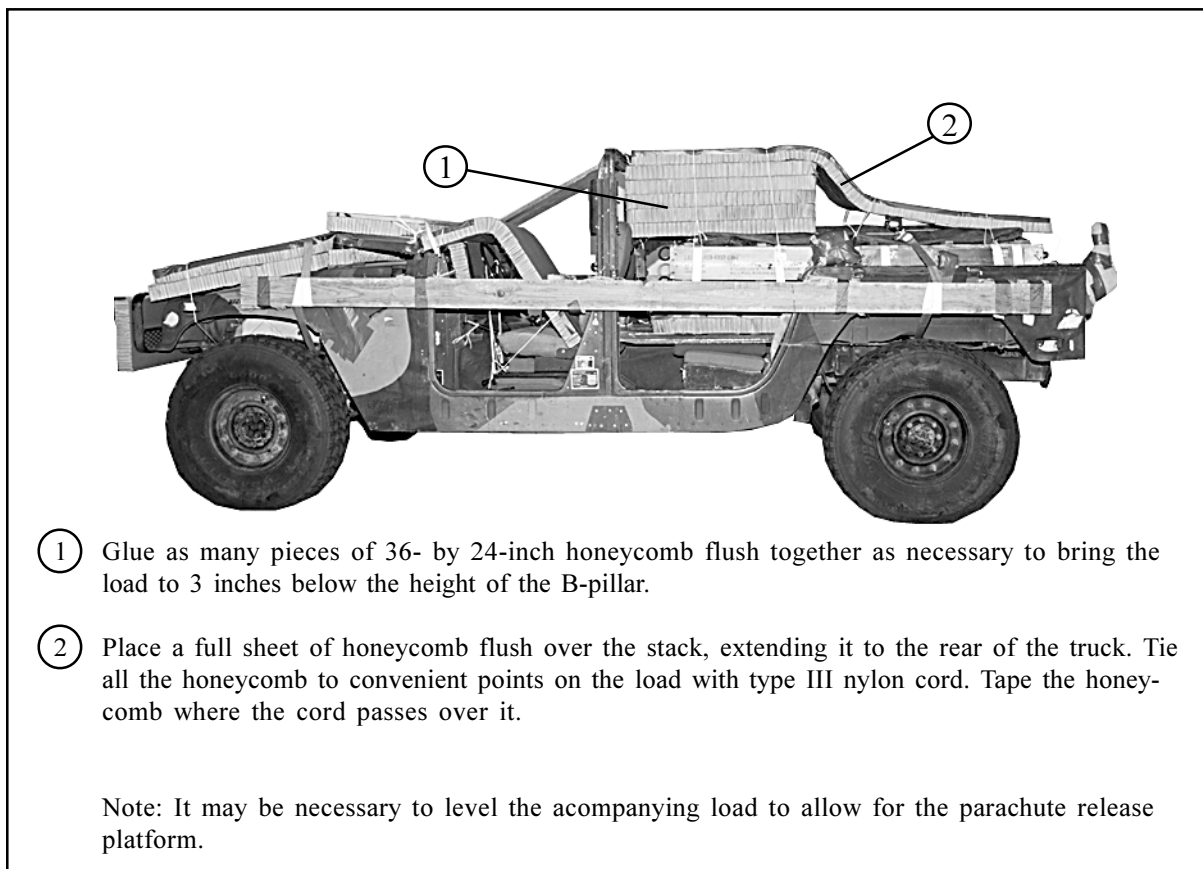


**Figure 6-5. Drive-off Aids Installed on Platform**

## PREPARING AND LOADING TRUCKS

6-6. Prepare and load the trucks as described below.

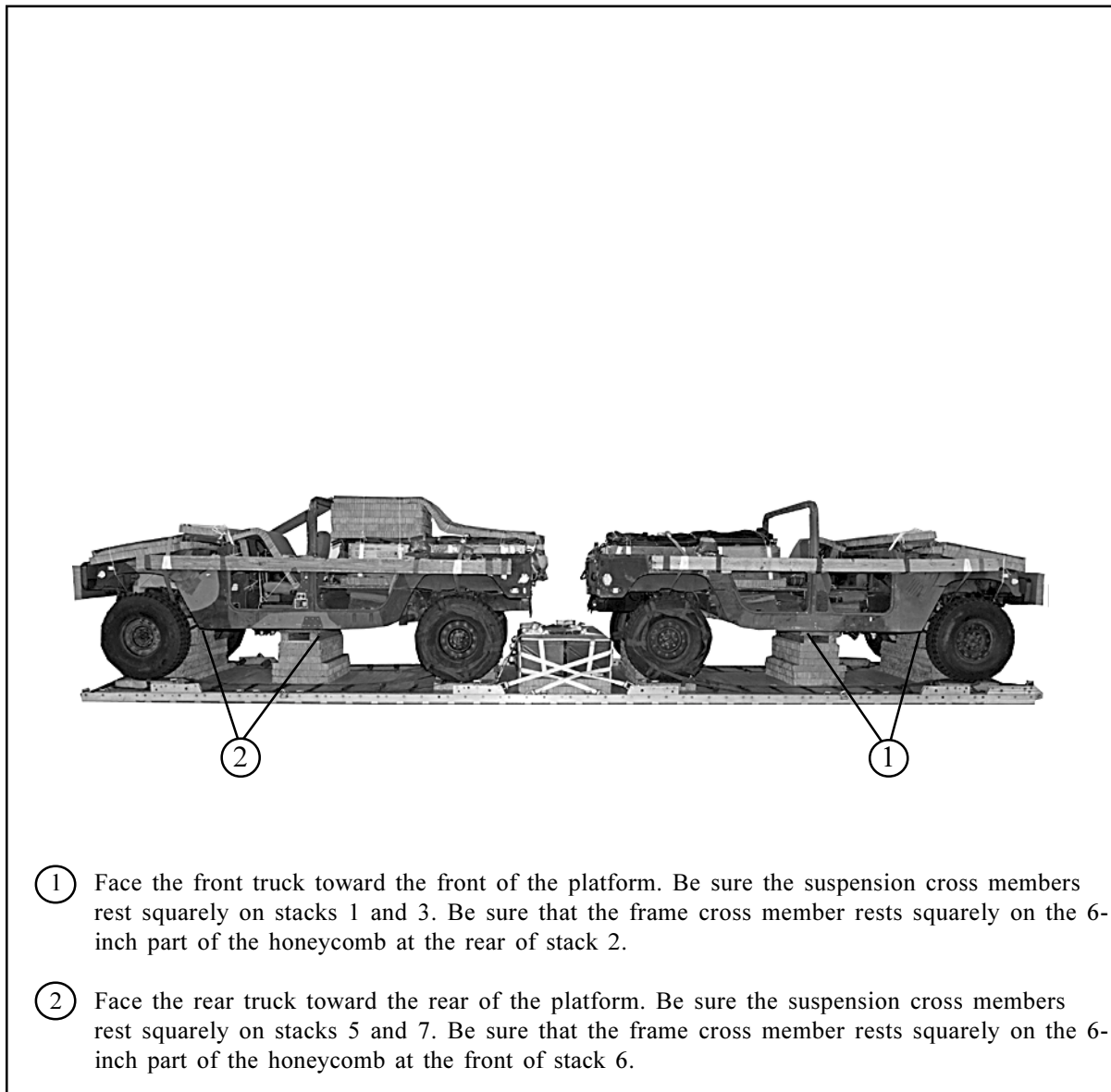
- a.* Prepare both trucks according to the preparation procedures in Chapter 2 of this manual.
- b.* Omit Step 6, Figure 2-10 for both trucks.
- c.* Omit the parachute release platform for the front truck (Figure 2-13, step 1).
- d.* Prepare the parachute release platform and place it on the rear truck as shown in Figure 6-6.
- e.* Use or adapt the procedures in Figure 2-14 of this manual to rig loads in the trucks. For this load, the trucks may be left empty.



**Figure 6-6. Parachute Release Platform Installed on Rear Truck**

**LIFTING AND POSITIONING TRUCK AND INSTALLING OPTIONAL DRIVE-OFF AIDS**

6-7. Install the lifting slings as shown in Figure 2-16 of this manual. Position the trucks on the platform as shown in Figure 6-7 below. Attach the optional drive-off aids to the wheels of the trucks according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 2-17 of this manual.



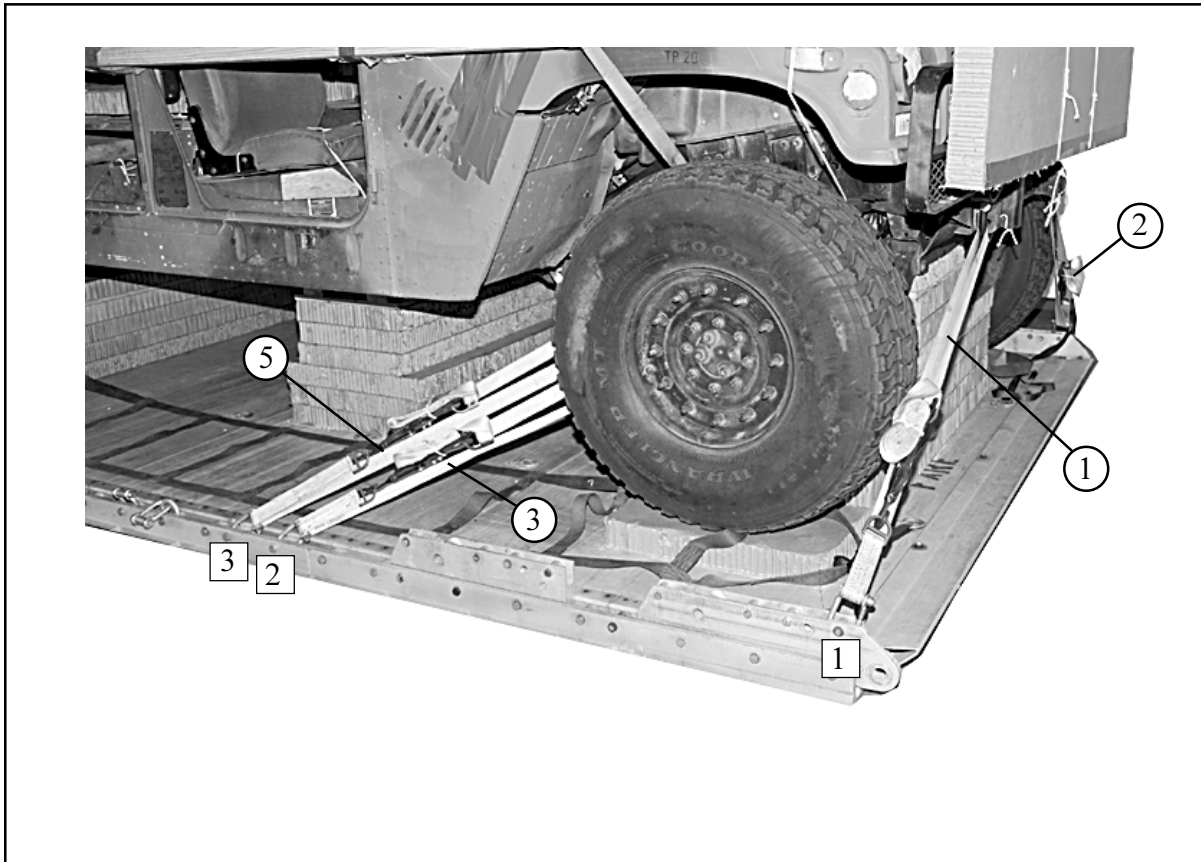
- ① Face the front truck toward the front of the platform. Be sure the suspension cross members rest squarely on stacks 1 and 3. Be sure that the frame cross member rests squarely on the 6-inch part of the honeycomb at the rear of stack 2.
- ② Face the rear truck toward the rear of the platform. Be sure the suspension cross members rest squarely on stacks 5 and 7. Be sure that the frame cross member rests squarely on the 6-inch part of the honeycomb at the front of stack 6.

**Figure 6-7. Lifting Slings Installed and Trucks Positioned**

**LASHING TRUCKS**

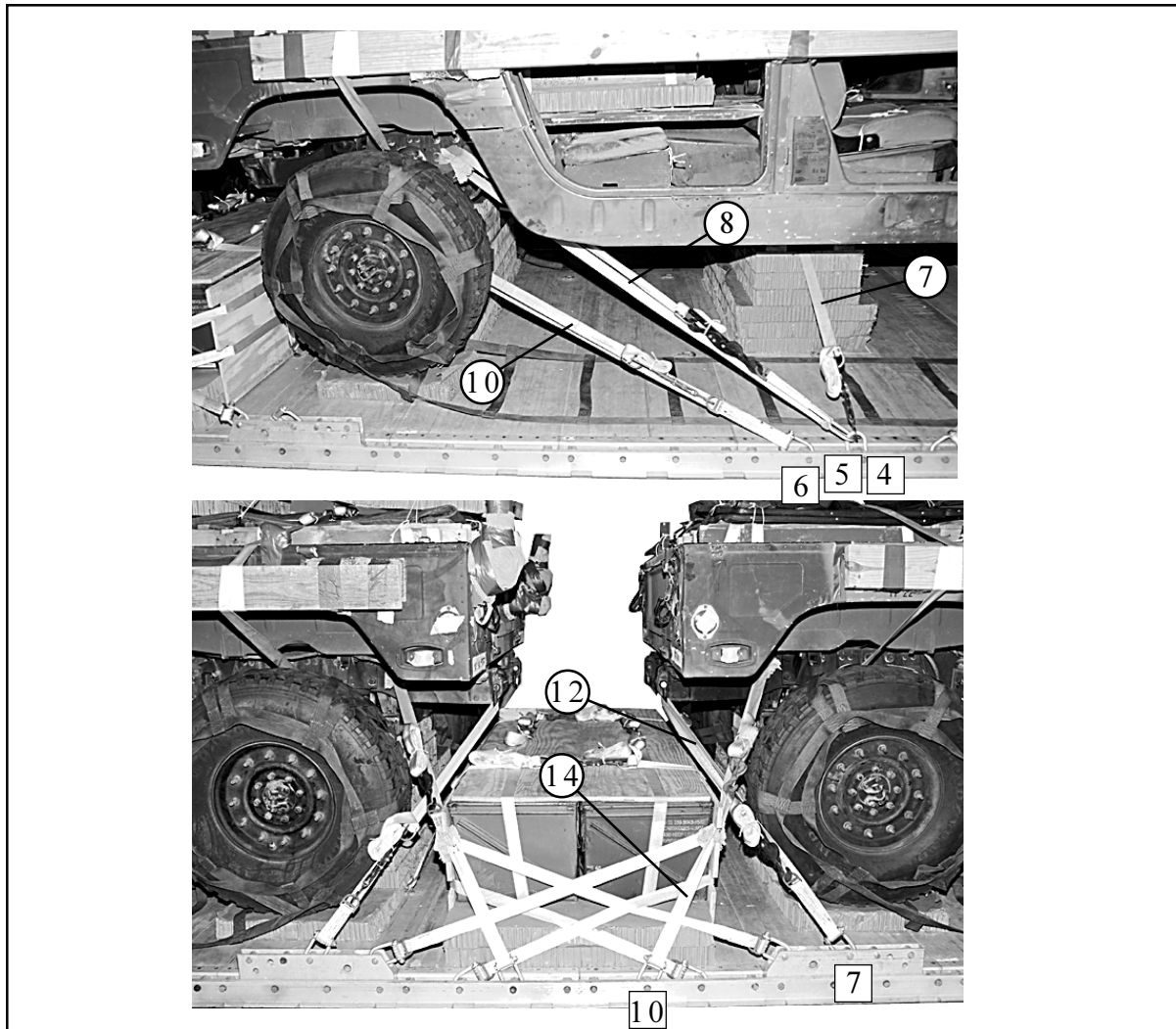
6-8. Lash the trucks to the platform as shown in Figures 6-8 through 6-11, and according to FM 4-20.102/TO 13C7-1-5.

Note: Right and left in this figure refer to the right and left sides of the trucks.



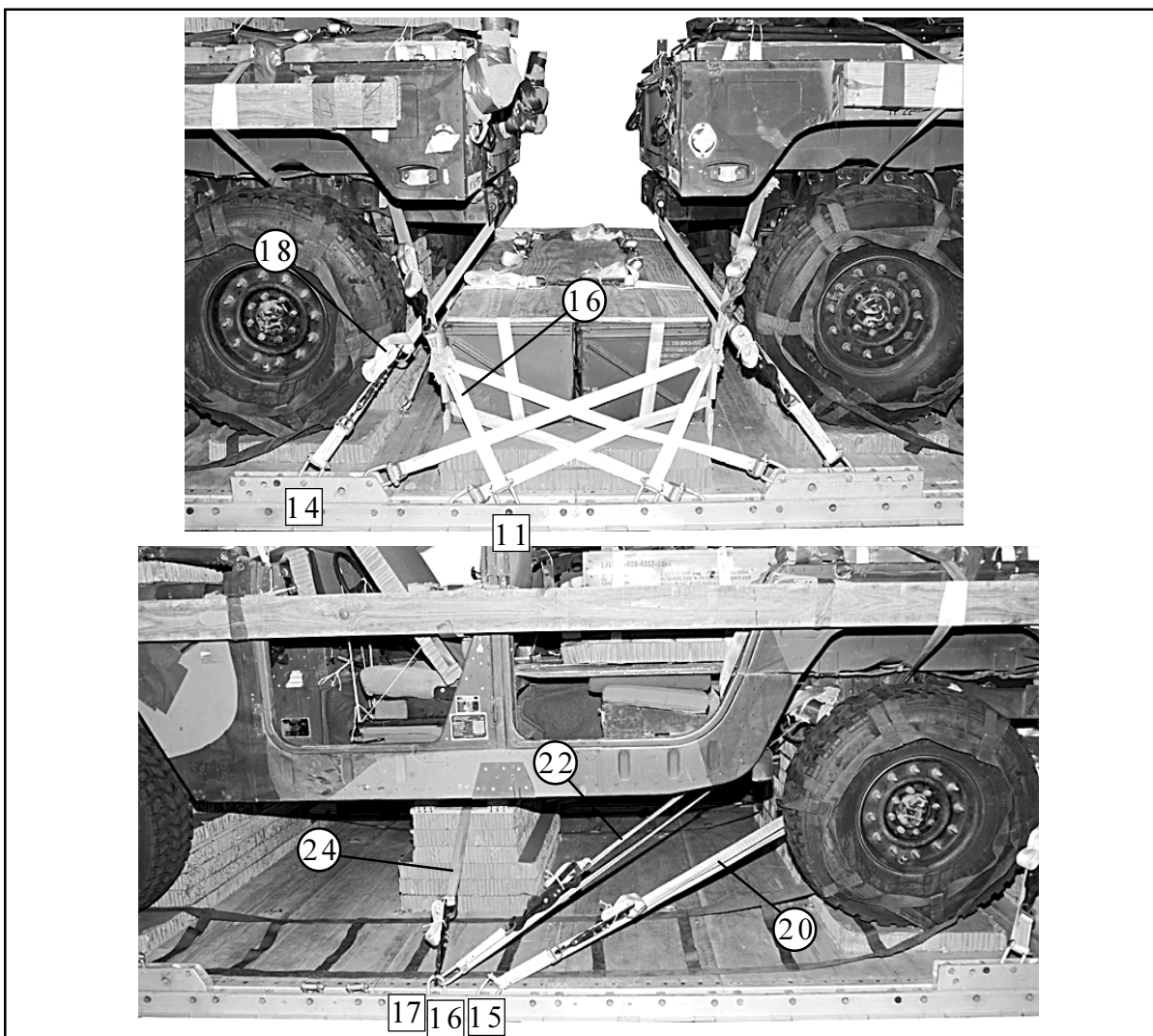
Lashing Number	Tie-down Clevis Number	Instructions
1	1	Pass lashing: Through right lifting shackle on front bumper.
2	1A	Through left lifting shackle on front bumper.
3	2	Around right front lower control arm.
4	2A	Around left front lower control arm.
5	3	Through tie-down bracket behind right front coil spring.
6	3A	Through tie-down bracket behind left front coil spring.

**Figure 6-8. Lashings 1 Through 6 Installed**



Lashing Number	Tie-down Clevis Number	Instructions
7	4 and 4A	Pass lashing: Pass a 15-foot lashing through clevis 4A and through its own D-ring. Pass the lashing through the hole in stack 2. Attach the lashing to clevis 4 with a load binder.
8	5	Around the right upper control arm.
9	5A	Around the left upper control arm.
10	6	Around the right lower control arm.
11	6A	Around the left lower control arm.
12	7	Through the right rear tie-down shackle.
13	7A	Through the left rear tie-down shackle.
14	10	Through the tie-down bracket behind the right rear coil spring.
15	10A	Through the tie-down bracket behind the left rear coil spring.

Figure 6-9. Lashings 7 through 15 Installed



Lashing Number	Tie-down Clevis Number	Instructions
16	11	Pass lashing:
17	11A	Through tie-down bracket behind left rear coil spring.
18	14	Through tie-down bracket behind right rear coil spring.
19	14A	Through left lifting shackle on rear bumper.
20	15	Through right lifting shackle on rear bumper.
21	15A	Around left lower control arm.
22	16	Around right lower control arm.
23	16A	Around left upper control arm.
24	17 and 17A	Around right upper control arm. Pass a 15-foot lashing through clevis 17A and through its own D-ring. Pass the lashing through the hole in stack 6. Attach the lashing to clevis 17 with a load binder.

Figure 6-10. Lashings 16 Through 24 Installed

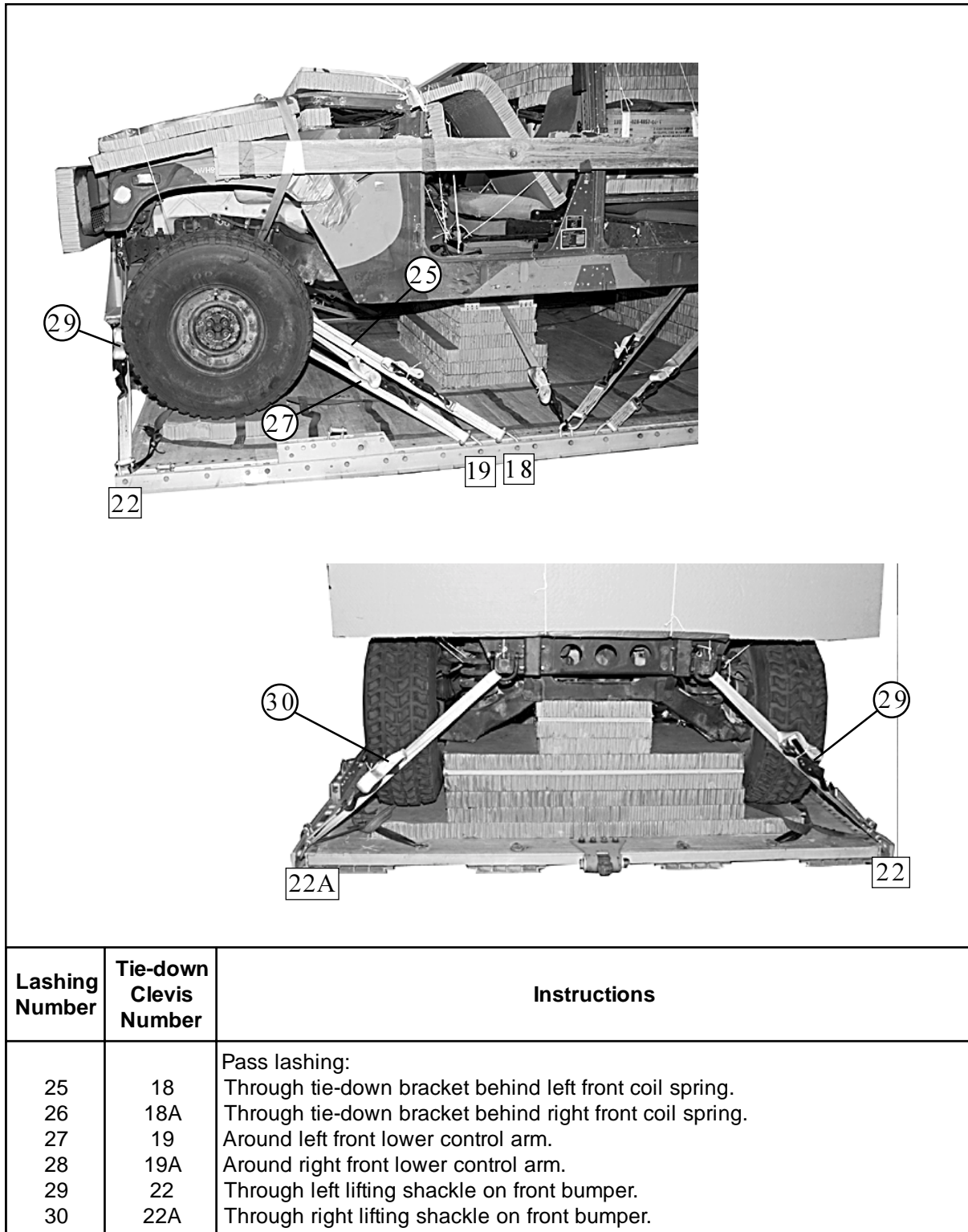
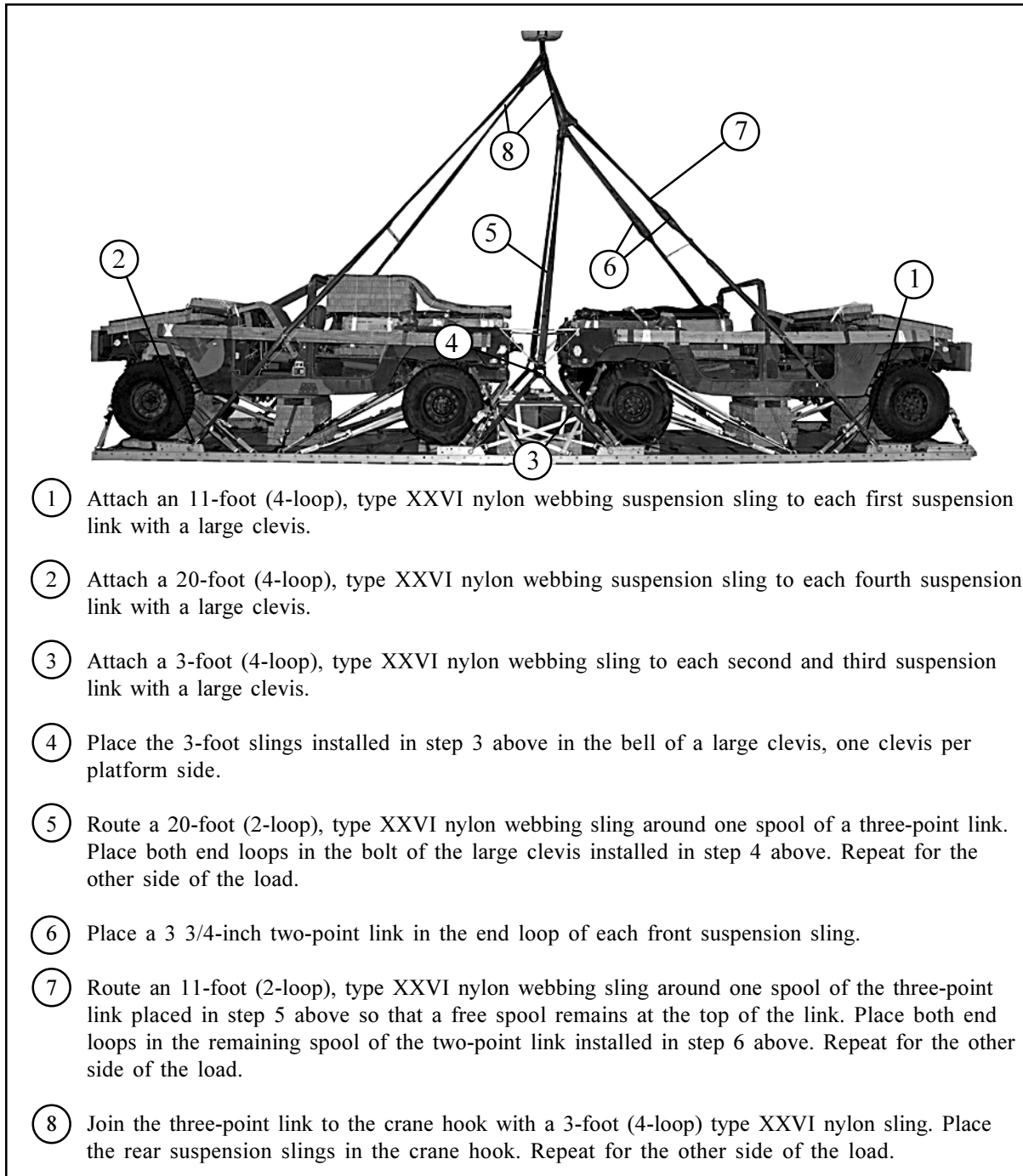


Figure 6-11. Lashings 25 through 30 Installed



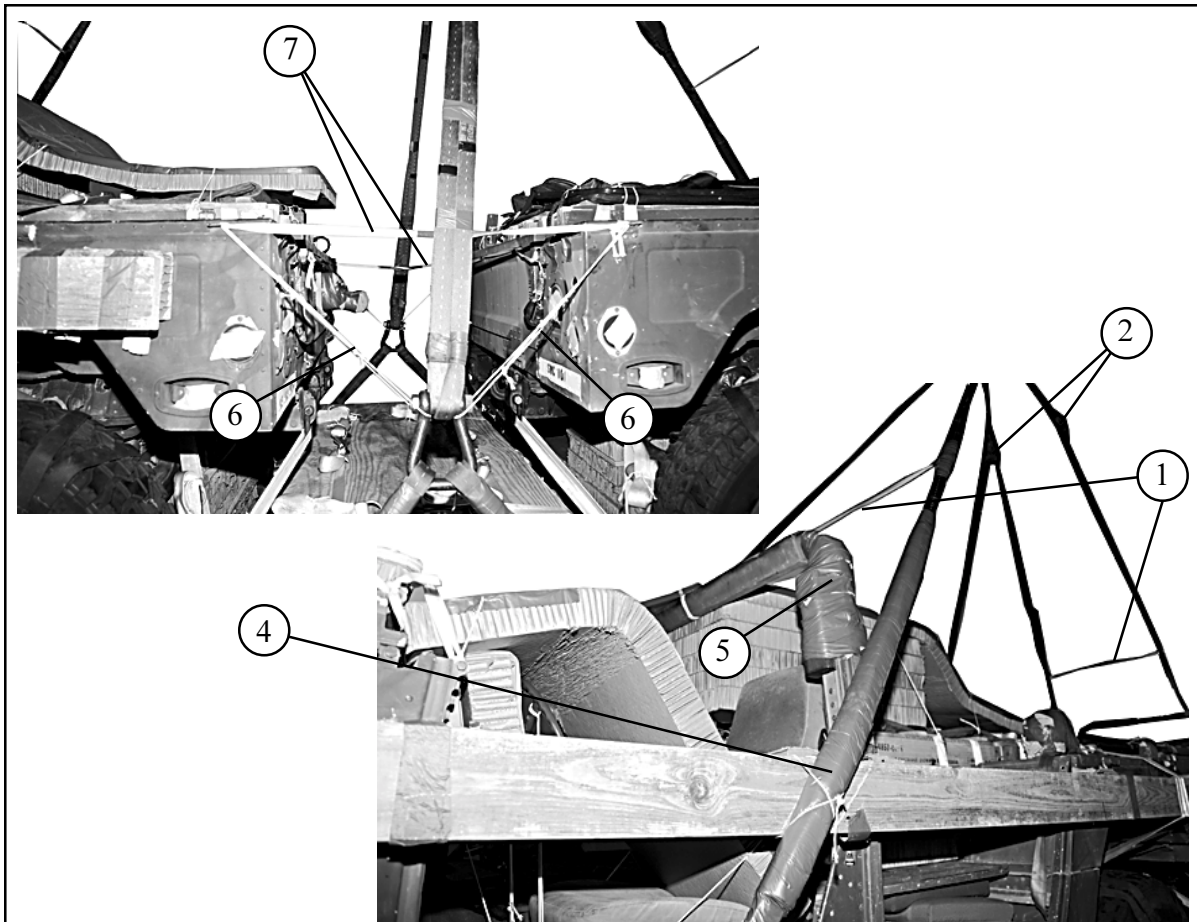
## INSTALLING AND SAFETY TYING SUSPENSION SLINGS

6-9. Install the suspension slings according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 6-12. Pad and safety tie the suspension slings as shown in Figure 6-13.



- ① Attach an 11-foot (4-loop), type XXVI nylon webbing suspension sling to each first suspension link with a large clevis.
- ② Attach a 20-foot (4-loop), type XXVI nylon webbing suspension sling to each fourth suspension link with a large clevis.
- ③ Attach a 3-foot (4-loop), type XXVI nylon webbing sling to each second and third suspension link with a large clevis.
- ④ Place the 3-foot slings installed in step 3 above in the bell of a large clevis, one clevis per platform side.
- ⑤ Route a 20-foot (2-loop), type XXVI nylon webbing sling around one spool of a three-point link. Place both end loops in the bolt of the large clevis installed in step 4 above. Repeat for the other side of the load.
- ⑥ Place a 3 3/4-inch two-point link in the end loop of each front suspension sling.
- ⑦ Route an 11-foot (2-loop), type XXVI nylon webbing sling around one spool of the three-point link placed in step 5 above so that a free spool remains at the top of the link. Place both end loops in the remaining spool of the two-point link installed in step 6 above. Repeat for the other side of the load.
- ⑧ Join the three-point link to the crane hook with a 3-foot (4-loop) type XXVI nylon sling. Place the rear suspension slings in the crane hook. Repeat for the other side of the load.

**Figure 6-12. Suspension Slings Installed**



- ① Make anti-tumble ties on the front and rear suspension slings using the instructions for the deadman's tie in FM 4-20.102/TO 13C7-1-5.
- ② Wrap all links with felt taped in place.
- ③ Wrap the front suspension slings between 50 and 104 inches along the slings with felt taped in place. Secure the slings to the truck sideboards with type III nylon cord (not shown).
- ④ Wrap the rear suspension slings between 47 and 97 inches along the slings with felt taped in place. Secure the slings to the truck sideboards with type III nylon cord.
- ⑤ Pad both truck B-pillars with cellulose wadding and tape in place.
- ⑥ Support the large clevises on both center suspension slings with 1/2-inch tubular nylon webbing tied to convenient points on the trucks.
- ⑦ Tie an additional length of 1/2-inch tubular nylon webbing between convenient points on the two trucks to safety tie the suspension slings to the outside.

**Figure 6-13. Suspension Slings Padded and Safety Tied**

## BUILDING AND INSTALLING PARACHUTE STOWAGE PLATFORM

6-10. Build and install the parachute stowage platform as shown in Figure 6-14.

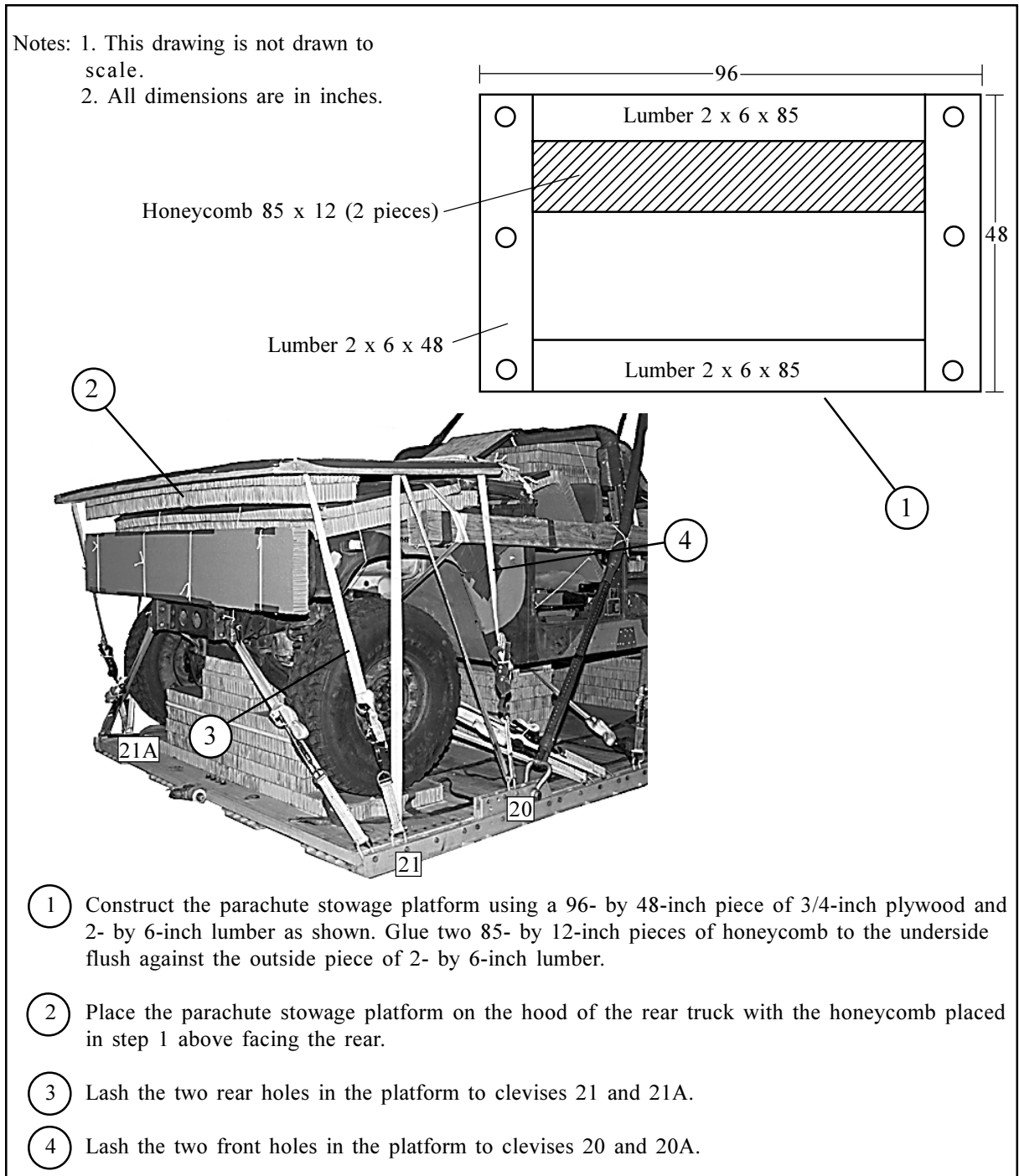
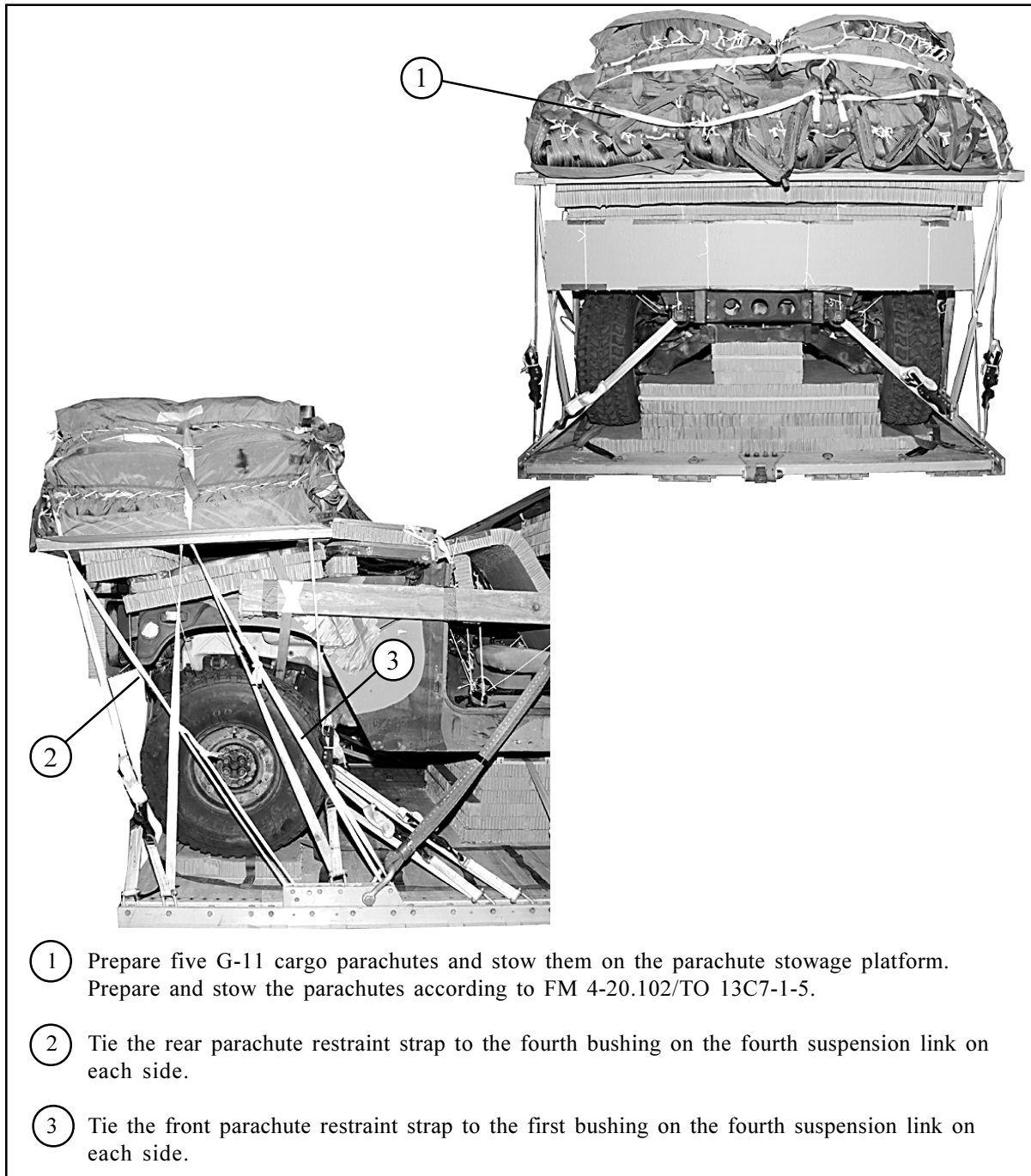


Figure 6-14. Parachute Stowage Platform Constructed and Installed

## STOWING CARGO PARACHUTES

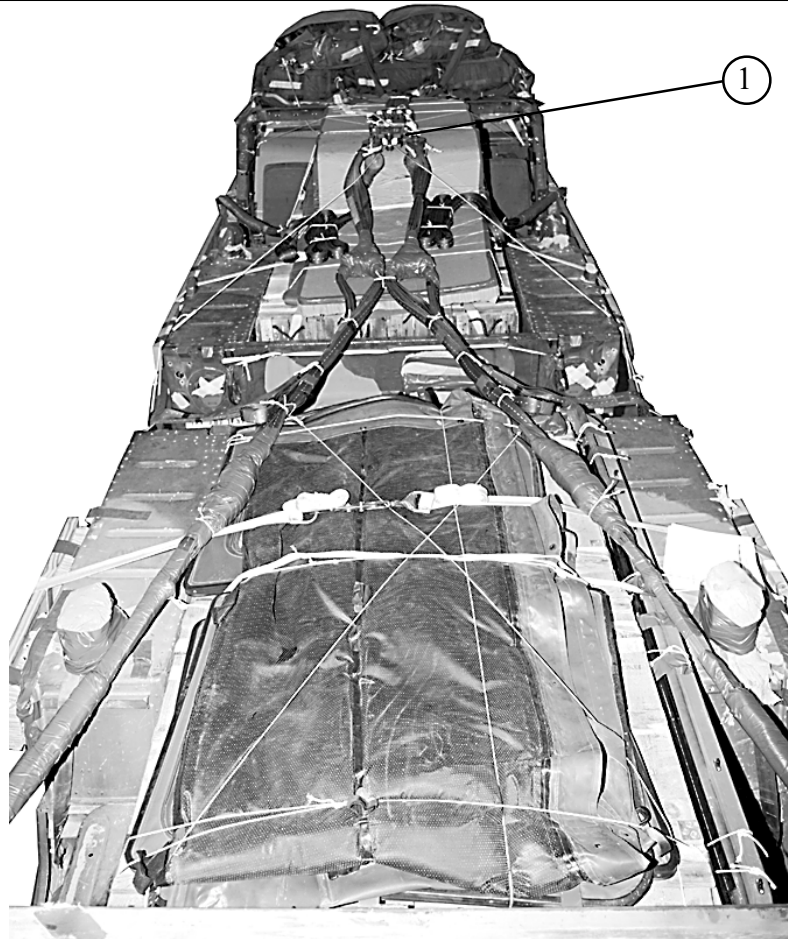
6-11. Use five G-11 cargo parachutes on this load. Prepare and stow the cargo parachutes as shown in Figure 6-15.



**Figure 6-15. G-11 Cargo Parachutes Stowed**

**INSTALLING PARACHUTE RELEASE**

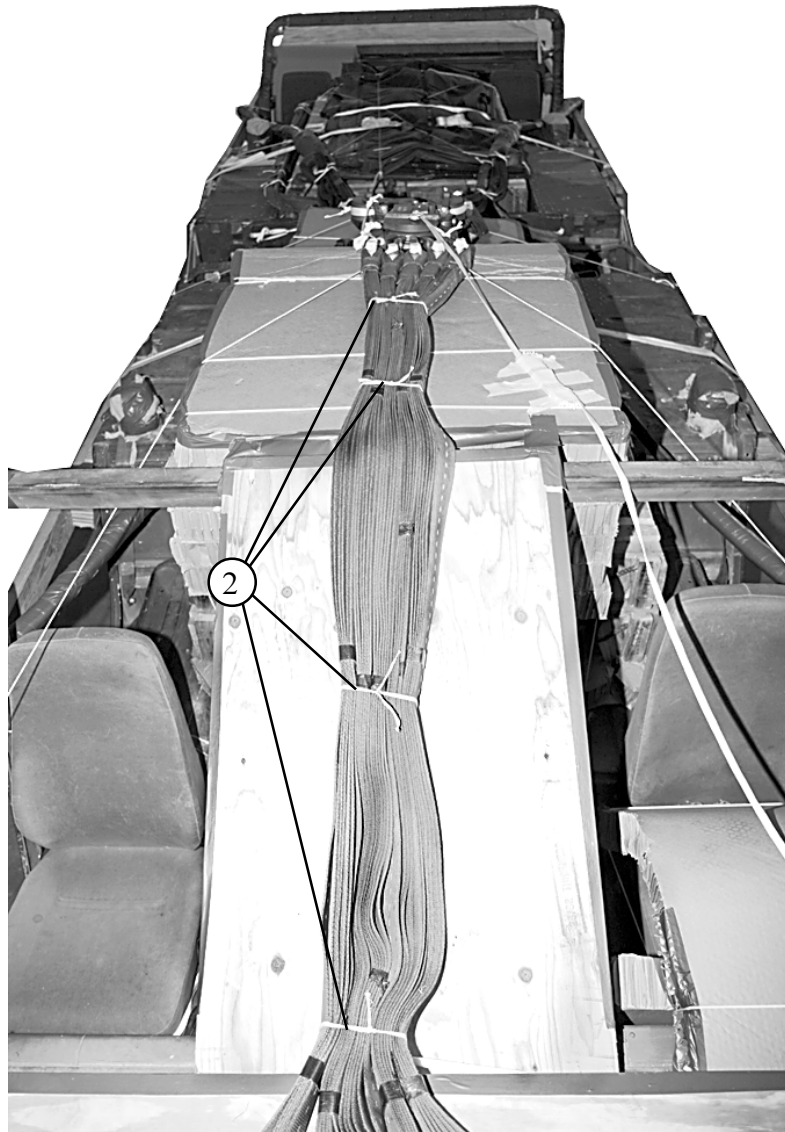
6-12. Prepare and install an M-2 cargo -parachute release according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 6-16.



View from front of load

- ① Place the M-2 release on the parachute release platform. Tie it to convenient points on the load with type III nylon cord.

**Figure 6-16. M-2 Cargo Parachute Release Installed**



View from rear of load

- ② Tie the riser extensions in four places, equally spaced, with type I, 1/4-inch cotton webbing.

Figure 6-16. M-2 Cargo Parachute Release Installed (continued)

## INSTALLING EXTRACTION SYSTEM

6-13. Install the EFTC according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 6-17.

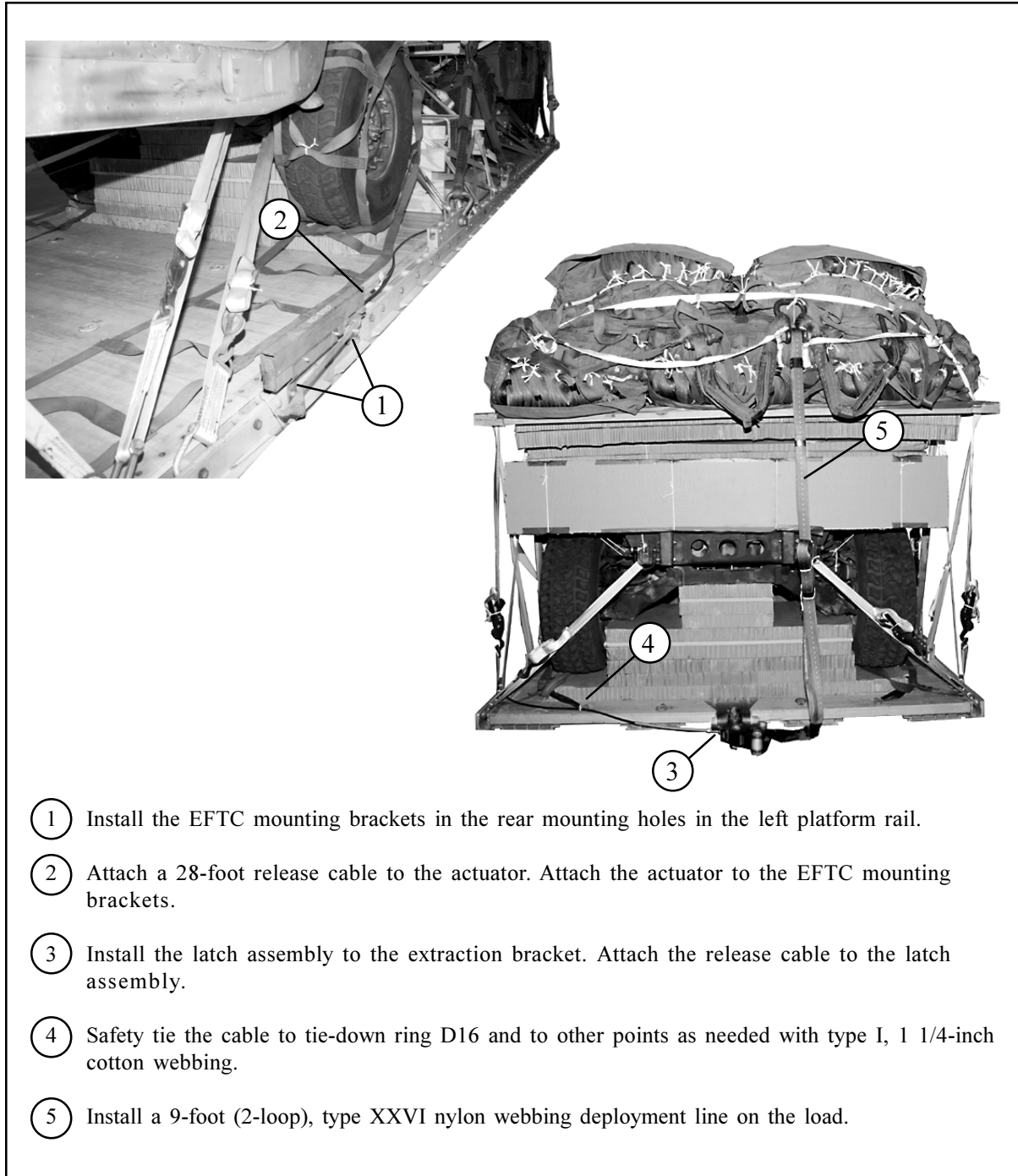


Figure 6-17. EFTC Installed

## **INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS**

6-14. Select and install provisions for emergency restraint according to the emergency aft restraint requirements table in FM 4-20.102/TO 13C7-1-5.

## **PLACING EXTRACTION PARACHUTE**

6-15. Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 4-20.102/TO13C7-1-5. Rig the extraction line in an extraction line bag according to TM 10-1670-286-20/TO 13C5-2-41. Place the extraction parachute and extraction line on the load for installation in the aircraft.

## **MARKING RIGGED LOAD**

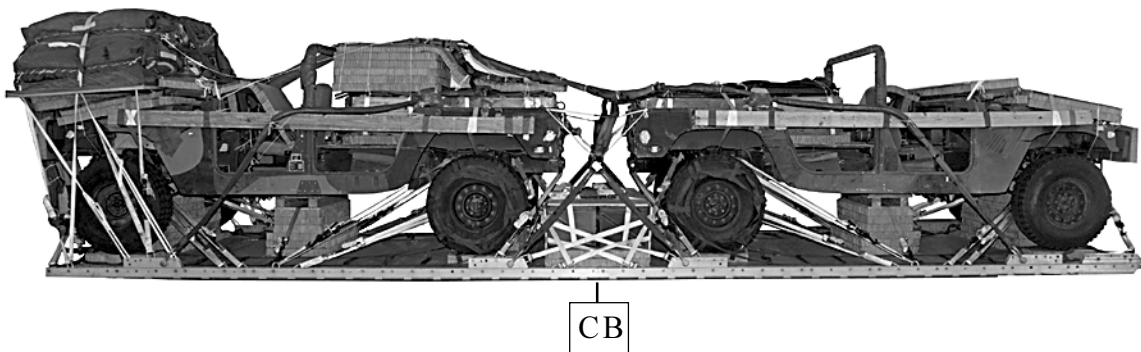
6-16. Mark the rigged load according to FM 4-20.102/TO 13C7-1-5 and as shown in Figure 6-18. Complete Shipper's Declaration for Dangerous Goods according to AFJMAN 24-204/TM 38-250. If the load varies from the one shown, the weight, height, CB, tip-off curve, and parachute requirements must be recomputed.

## **EQUIPMENT REQUIRED**

6-17. Use the equipment listed in Table 6-1 to rig this load. The equipment for rigging an accompanying load in the trucks is NOT given in Table 6-1.



**CAUTION**  
 Make the final rigger inspection required by FM 4-20.102/TO 13C7-1-5  
 before the load leaves the rigging site.



**RIGGED LOAD DATA**

Weight: Load shown .....	21,200 pounds
Maximum load allowed .....	26,250 pounds
Height (with five G-11 parachutes) .....	96 inches
Width .....	108 inches
Length (overall) .....	409 inches
Overhang: Front .....	0 inches
Rear (EFTC).....	18 inches
CB (from front edge of platform) .....	207 inches

**Figure 6-18. Two M998 Trucks and Ammunition Rigged on a 32-Foot Type V Platform**

**Table 6-1. Equipment Required for Rigging Two M998 Trucks and Ammunition for Low-Velocity Airdrop**

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	18
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-01-326-7309	Coupling assembly, airdrop, extraction force transfer with cable, 28-ft	1
1670-00-360-0328	Cover: Clevis, large	5
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 (line bag)	2
1670-01-062-6313	Line, drogue (for C-17) 60-ft (3-loop), type XXVI	1
1670-01-062-6313	Line, extraction: For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
1670-01-062-6313	For C-5: 60-ft, (3-loop), type XXVI and	1
1670-01-107-7651	140-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
5306-00-435-8994	Link Assembly: Two-point: Bolt, 1-in diam, 4-in long	3 (6)
5310-00-232-5165	Nut, 1-in, hexagonal	(6)
1670-00-003-1953	Plate, side, 3 3/4-in	(6)
5365-00-007-3414	Spacer, large	(6)
5510-00-220-6448	Lumber: 2- by 6-in	As required
5510-00-220-6274	4- by 4-in	As required
5315-00-010-4659	Nail, steel wire, 8d	As required

**Table 6-1. Equipment Required for Rigging Two M998 Trucks and Ammunition for Low-Velocity Airdrop (continued)**

<b>National Stock Number</b>	<b>Item</b>	<b>Quantity</b>
1670-00-753-3928	Pad, energy-dissipating (honeycomb) 3- by 36- by 96-in	28 sheets
1670-01-016-7841	Parachute: Cargo: G-11B	5
1670-00-040-8135	Cargo extraction: 28-ft (Add H-block for use with C-17 aircraft)	1
1670-01-063-3715	Drogue (for C-17) 15-ft	1
1670-01-353-8425	Platform, airdrop, type V, 32-ft Bracket assembly, EFTC	(1)
1670-01-162-2372	Clevis assembly, type V	(46)
1670-01-162-2376	Bracket assembly, extraction	(1)
1670-01-247-2389	Link, suspension bracket, type V	(8)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(2)
5530-00-128-4981	Plywood, 3/4-in	7 sheets
1670-01-097-8817	Release, cargo parachute, M-2	1
1670-01-062-6306	Sling, cargo, airdrop For suspension: 3-ft (4-loop), type XXVI nylon webbing	6
1670-01-063-7760	11-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6310	11-ft (4-loop), type XXVI nylon webbing	2
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	2
1670-01-064-4453	20-ft (4-loop), type XXVI nylon webbing	2
1670-01-062-6304	For lifting: 9-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6304	For deployment: 9-ft (2-loop), type XXVI nylon webbing	1
1670-01-062-6311	For riser extension: 120-ft (2-loop), type XXVI nylon webbing	5
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	58
1670-01-344-0825	Vehicle drive-off aid	2
8305-00-268-2411	Webbing: Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
No NSN	Type V	As required
8305-00-263-3591	Type VIII	As required

## CHAPTER 7

# RIGGING GROUND MOBILITY VEHICLE ON A 16-FOOT PLATFORM FOR LOW-VELOCITY AIRDROP

### DESCRIPTION OF LOAD

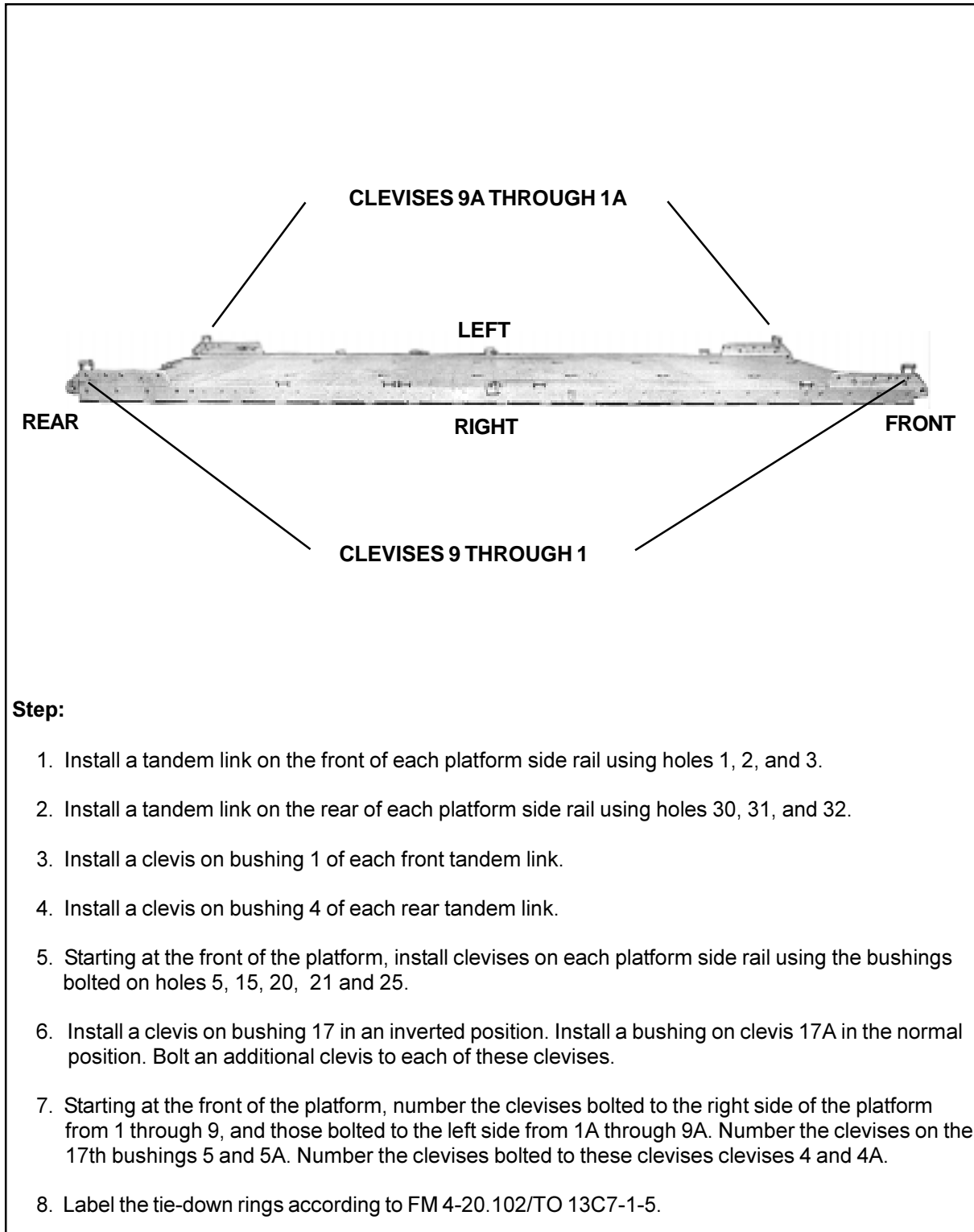
7-1. The Ground Mobility Vehicle is a modified M1025 HMMWV-series truck. It has a winch, a rigid roof, and a turret to support weapons. It is rigged the same as the M998 truck except as noted. The truck is rigged on a 16-foot, type V airdrop platform for low-velocity airdrop. The truck is configured to carry a special operations load. The accompanying load shown weighs 2,140 pounds. The load shown requires three G-11 cargo parachutes.

### PREPARING PLATFORM

7-2. Prepare a 16-foot, type V airdrop platform according to TM 10-1670-268-20&P/TO 13C7-52-22. Install four tandem links and 18 load tie-down clevises according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 7-1.

#### NOTES:

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



**Step:**

1. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
2. Install a tandem link on the rear of each platform side rail using holes 30, 31, and 32.
3. Install a clevis on bushing 1 of each front tandem link.
4. Install a clevis on bushing 4 of each rear tandem link.
5. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 5, 15, 20, 21 and 25.
6. Install a clevis on bushing 17 in an inverted position. Install a bushing on clevis 17A in the normal position. Bolt an additional clevis to each of these clevises.
7. Starting at the front of the platform, number the clevises bolted to the right side of the platform from 1 through 9, and those bolted to the left side from 1A through 9A. Number the clevises on the 17th bushings 5 and 5A. Number the clevises bolted to these clevises clevises 4 and 4A.
8. Label the tie-down rings according to FM 4-20.102/TO 13C7-1-5.

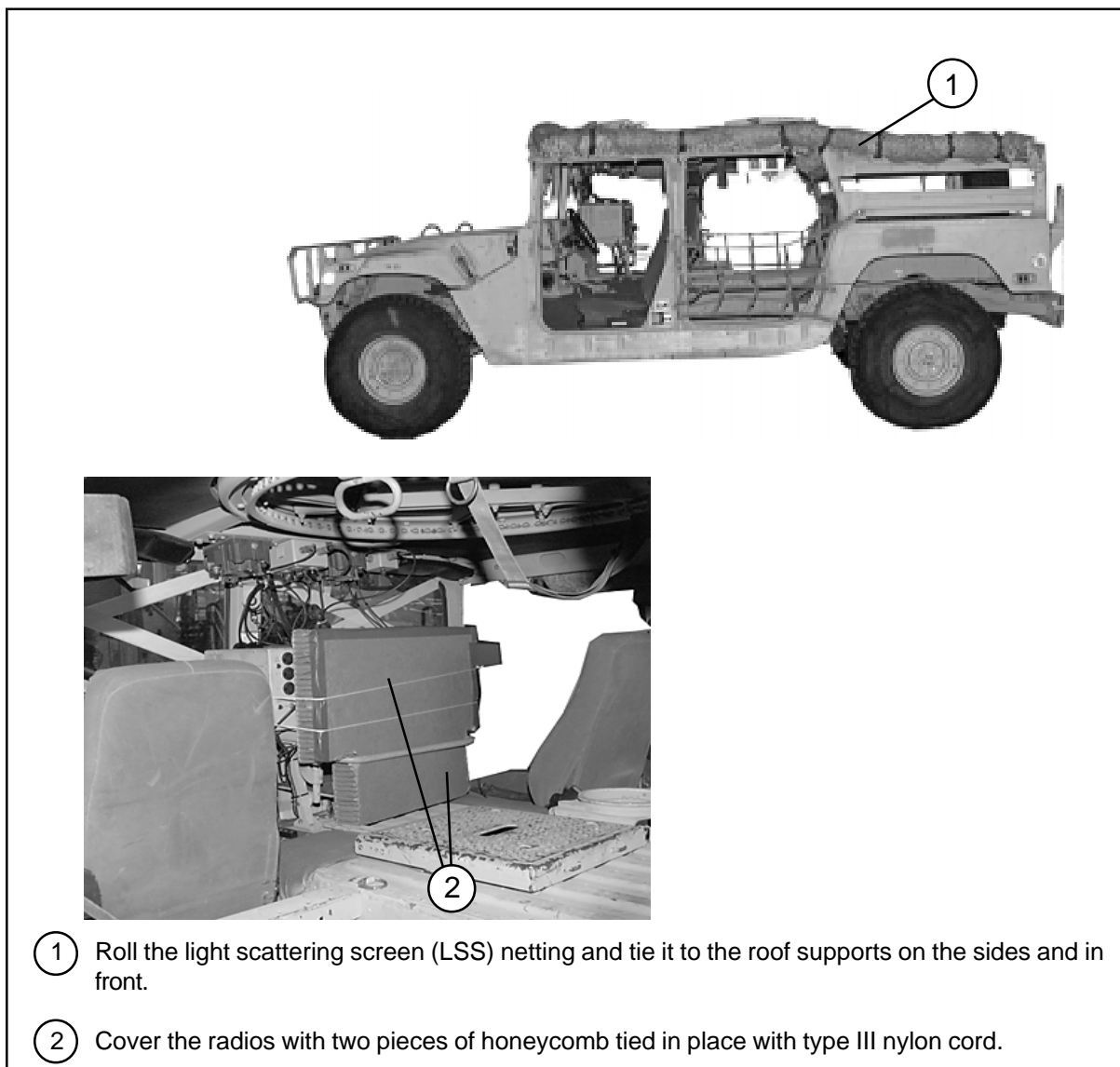
**Figure 7-1. Platform Prepared**

## PREPARING AND POSITIONING HONEYCOMB STACKS

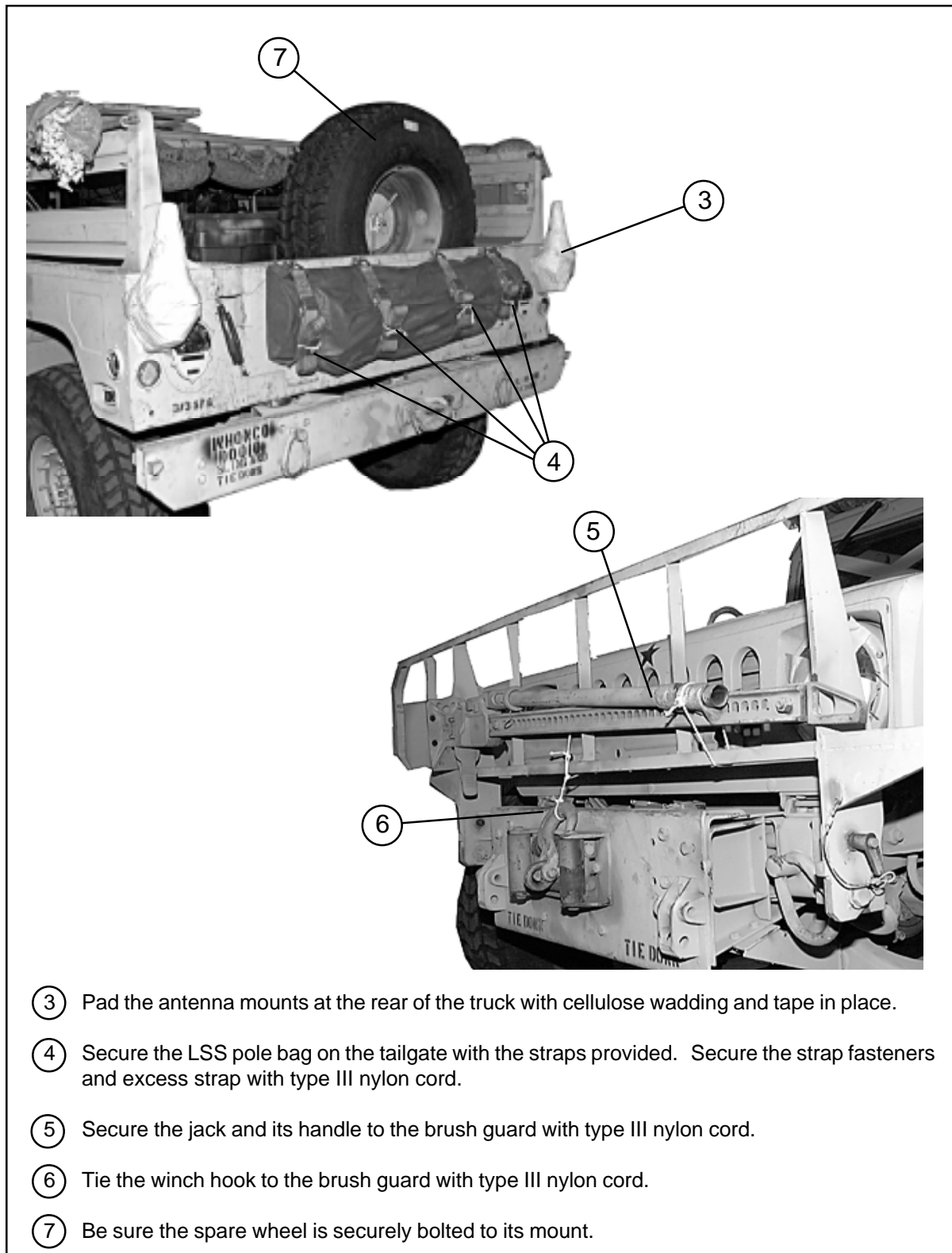
7-3. Prepare three honeycomb stacks as shown in Figures 2-3 and 2-4. Position the stacks on the platform as shown in Figure 2-5, and according to FM 4-20.102/TO 13C7-1-5.

## PREPARING TRUCK AND STOWING LOAD

7-4. Prepare the truck as described in paragraphs 2-4a through d, g, and h, and as shown in Figures 2-6 and 2-7, 2-8 (omit step 1), 2-11, and 2-12. Use the procedures in Figures 7-2 through 7-9 to rig the specialized load and to further prepare the truck.



**Figure 7-2. Truck Prepared**



- ③ Pad the antenna mounts at the rear of the truck with cellulose wadding and tape in place.
- ④ Secure the LSS pole bag on the tailgate with the straps provided. Secure the strap fasteners and excess strap with type III nylon cord.
- ⑤ Secure the jack and its handle to the brush guard with type III nylon cord.
- ⑥ Tie the winch hook to the brush guard with type III nylon cord.
- ⑦ Be sure the spare wheel is securely bolted to its mount.

**Figure 7-2. Truck Prepared (continued)**

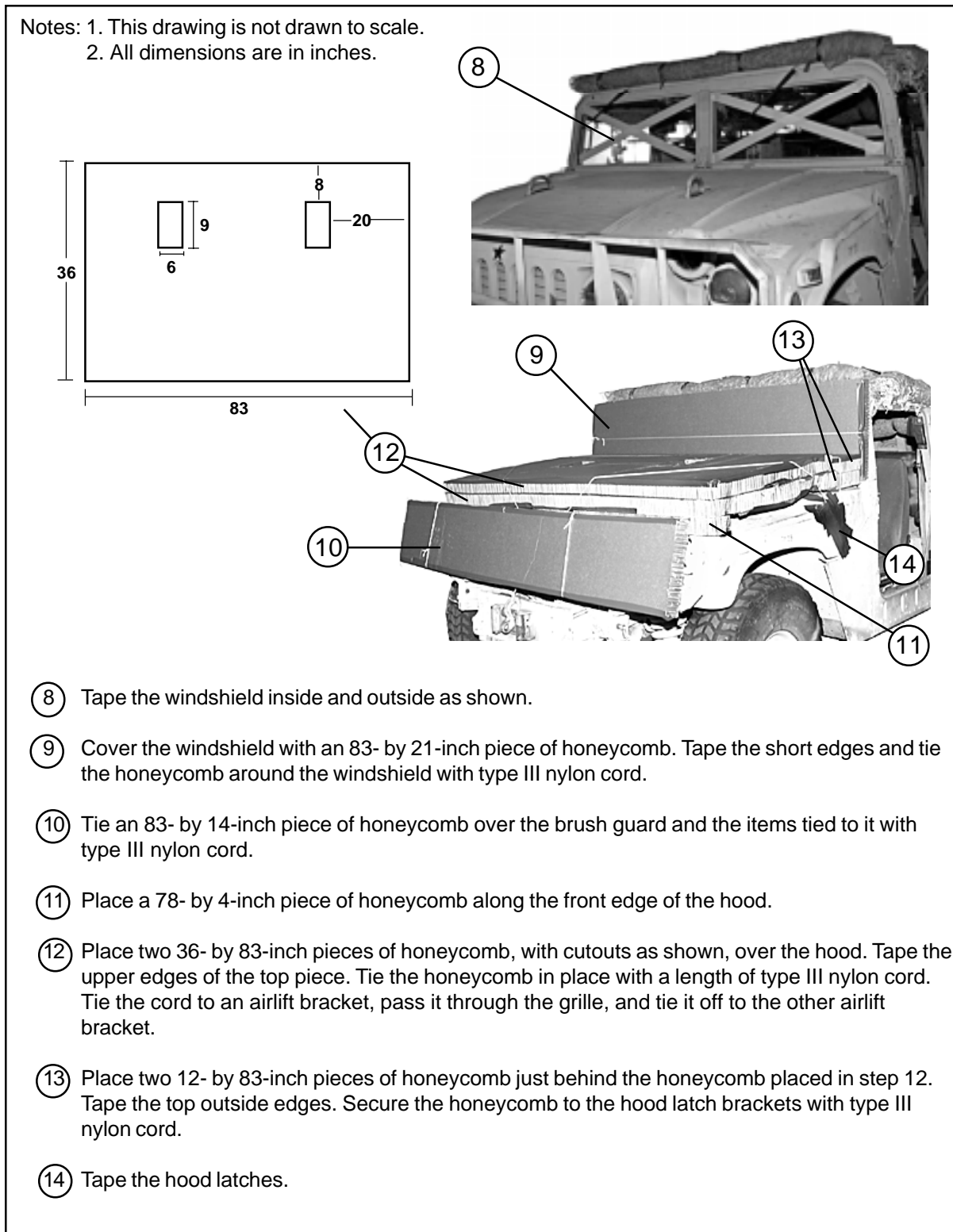
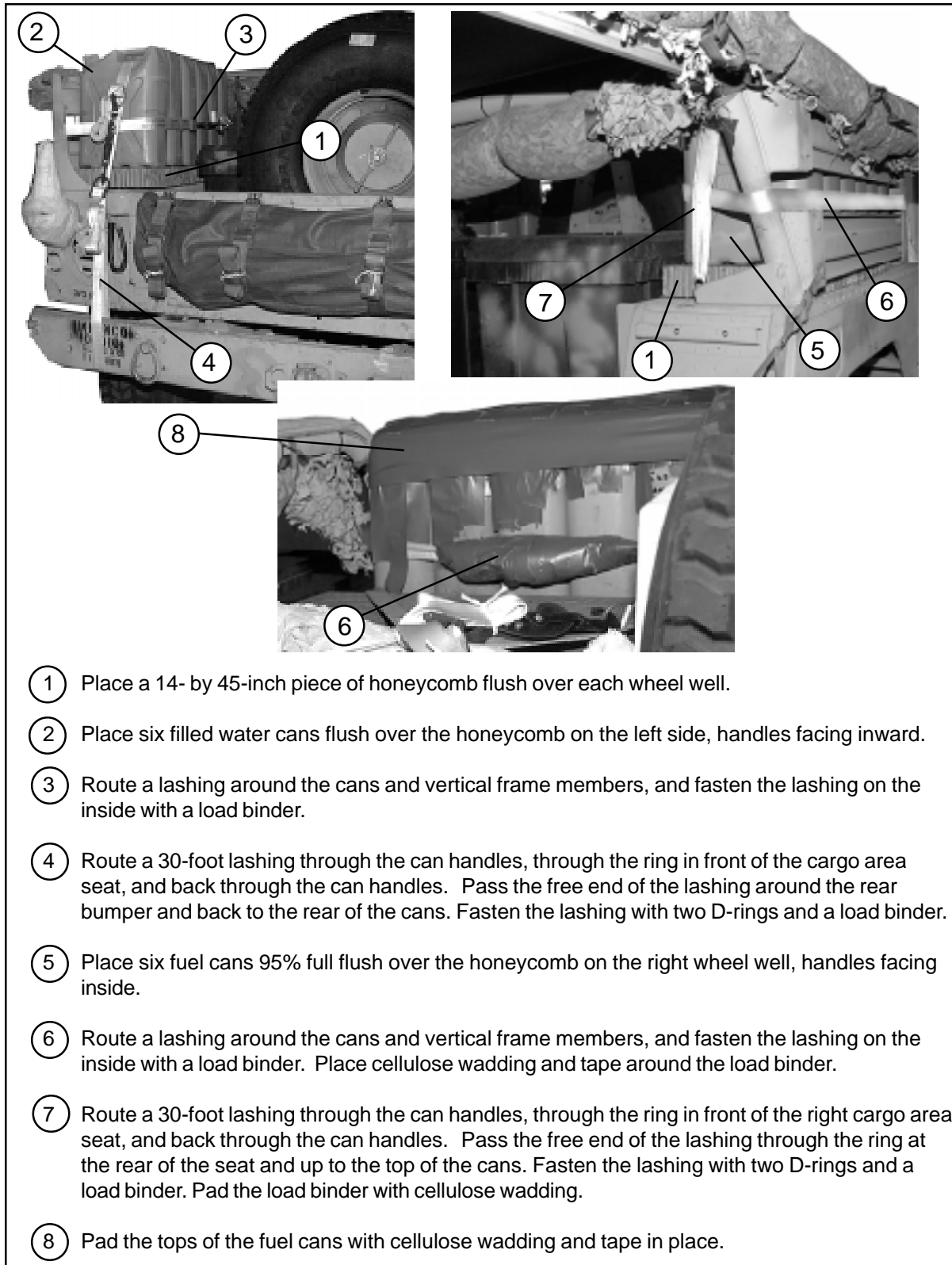


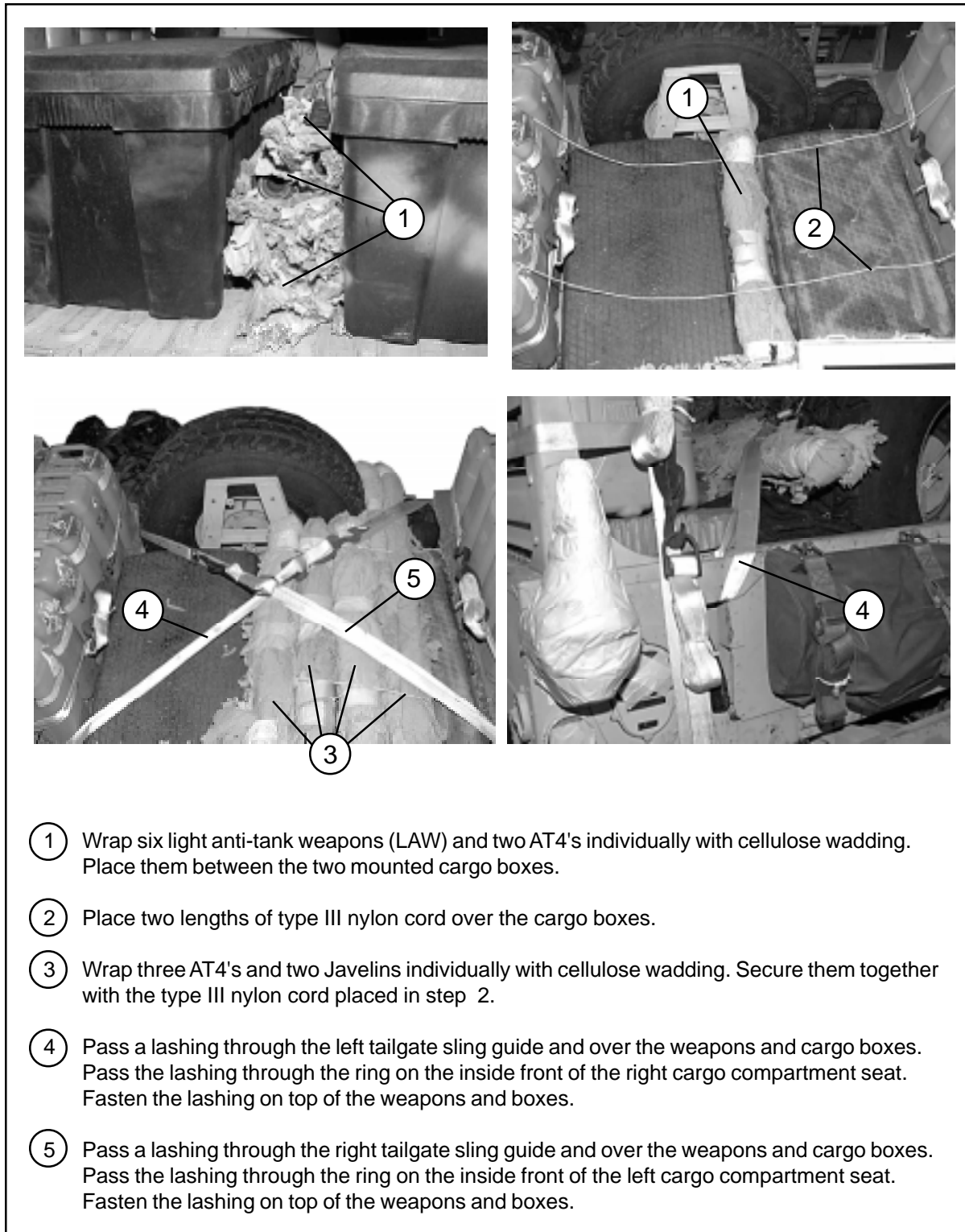
Figure 7-2. Truck Prepared (continued)



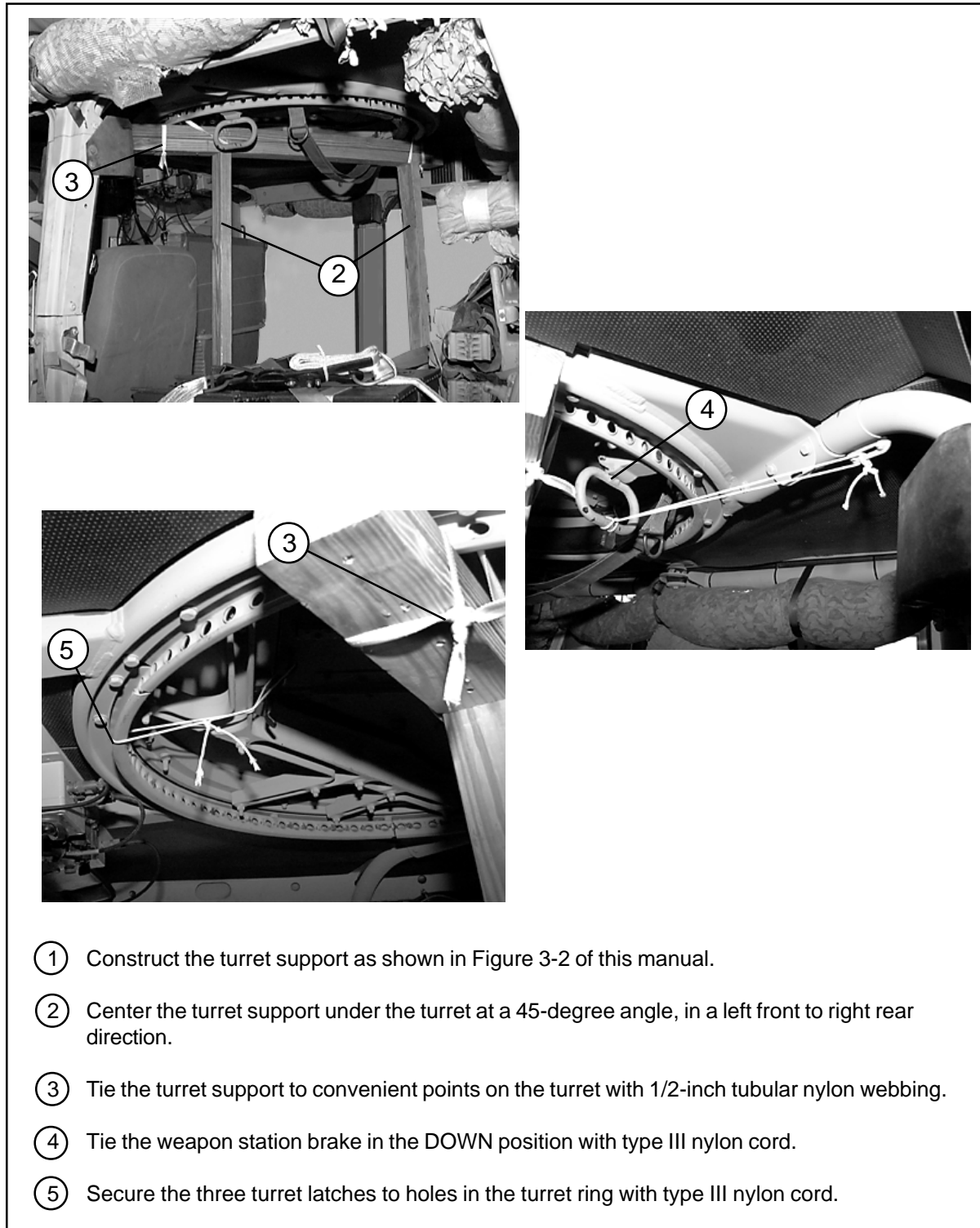


- ① Place a 14- by 45-inch piece of honeycomb flush over each wheel well.
- ② Place six filled water cans flush over the honeycomb on the left side, handles facing inward.
- ③ Route a lashing around the cans and vertical frame members, and fasten the lashing on the inside with a load binder.
- ④ Route a 30-foot lashing through the can handles, through the ring in front of the cargo area seat, and back through the can handles. Pass the free end of the lashing around the rear bumper and back to the rear of the cans. Fasten the lashing with two D-rings and a load binder.
- ⑤ Place six fuel cans 95% full flush over the honeycomb on the right wheel well, handles facing inside.
- ⑥ Route a lashing around the cans and vertical frame members, and fasten the lashing on the inside with a load binder. Place cellulose wadding and tape around the load binder.
- ⑦ Route a 30-foot lashing through the can handles, through the ring in front of the right cargo area seat, and back through the can handles. Pass the free end of the lashing through the ring at the rear of the seat and up to the top of the cans. Fasten the lashing with two D-rings and a load binder. Pad the load binder with cellulose wadding.
- ⑧ Pad the tops of the fuel cans with cellulose wadding and tape in place.

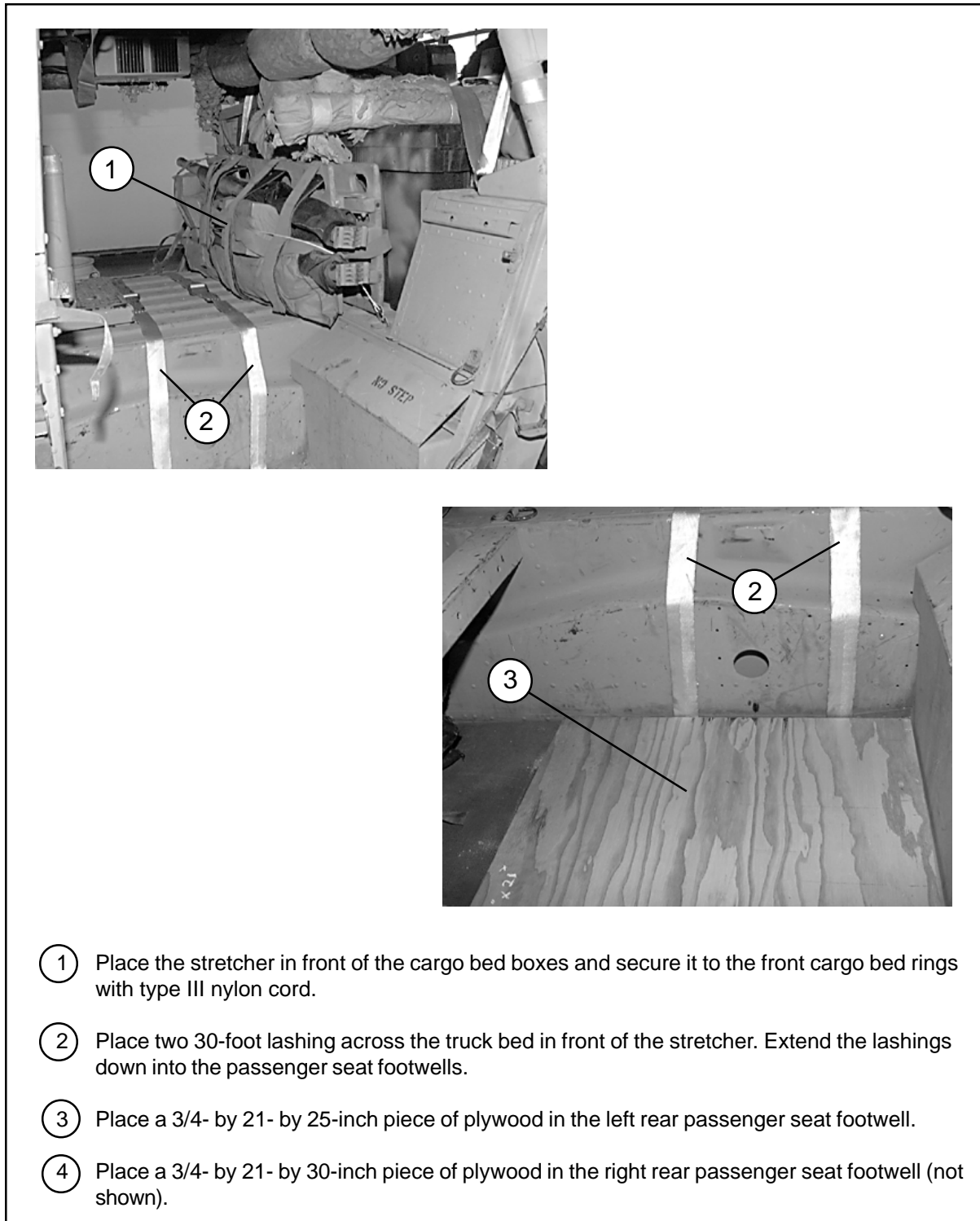
**Figure 7-3. Water and Fuel Cans Stowed and Secured**



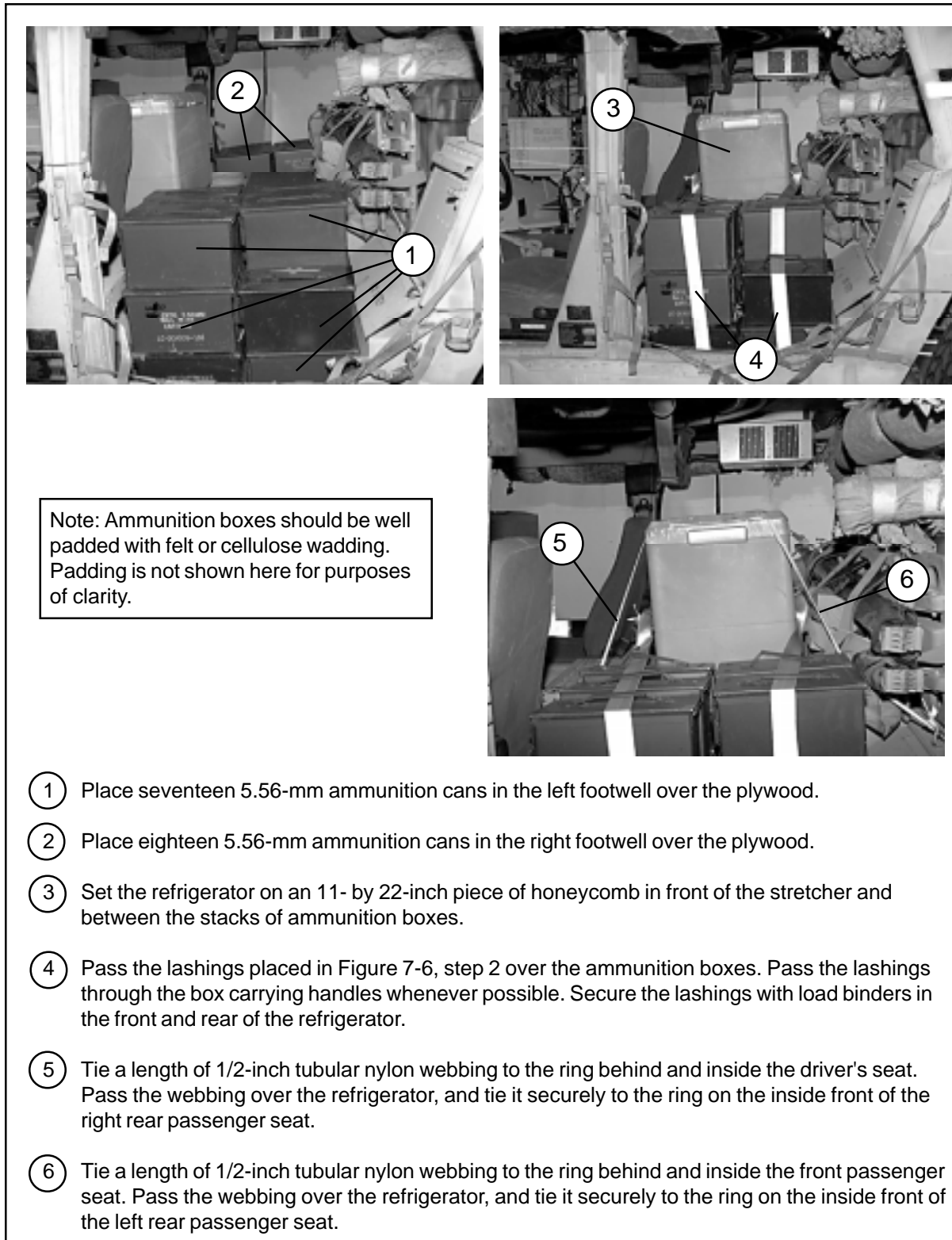
**Figure 7-4. Stowing Weapons Between and Over Cargo Boxes**



**Figure 7-5. Turret Support Placed and Secured**

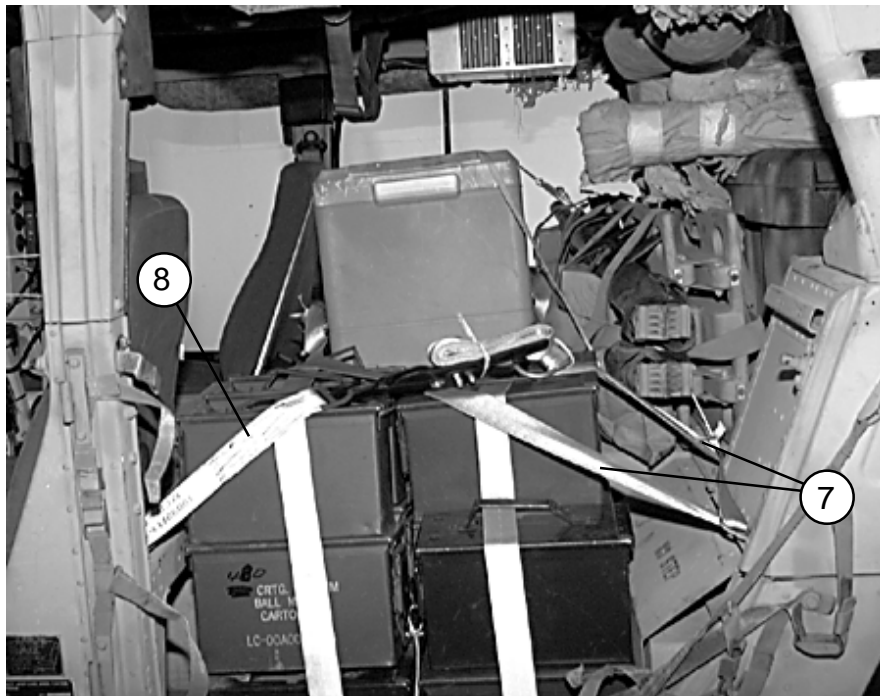


**Figure 7-6. Ammunition and Refrigerator Area Prepared**



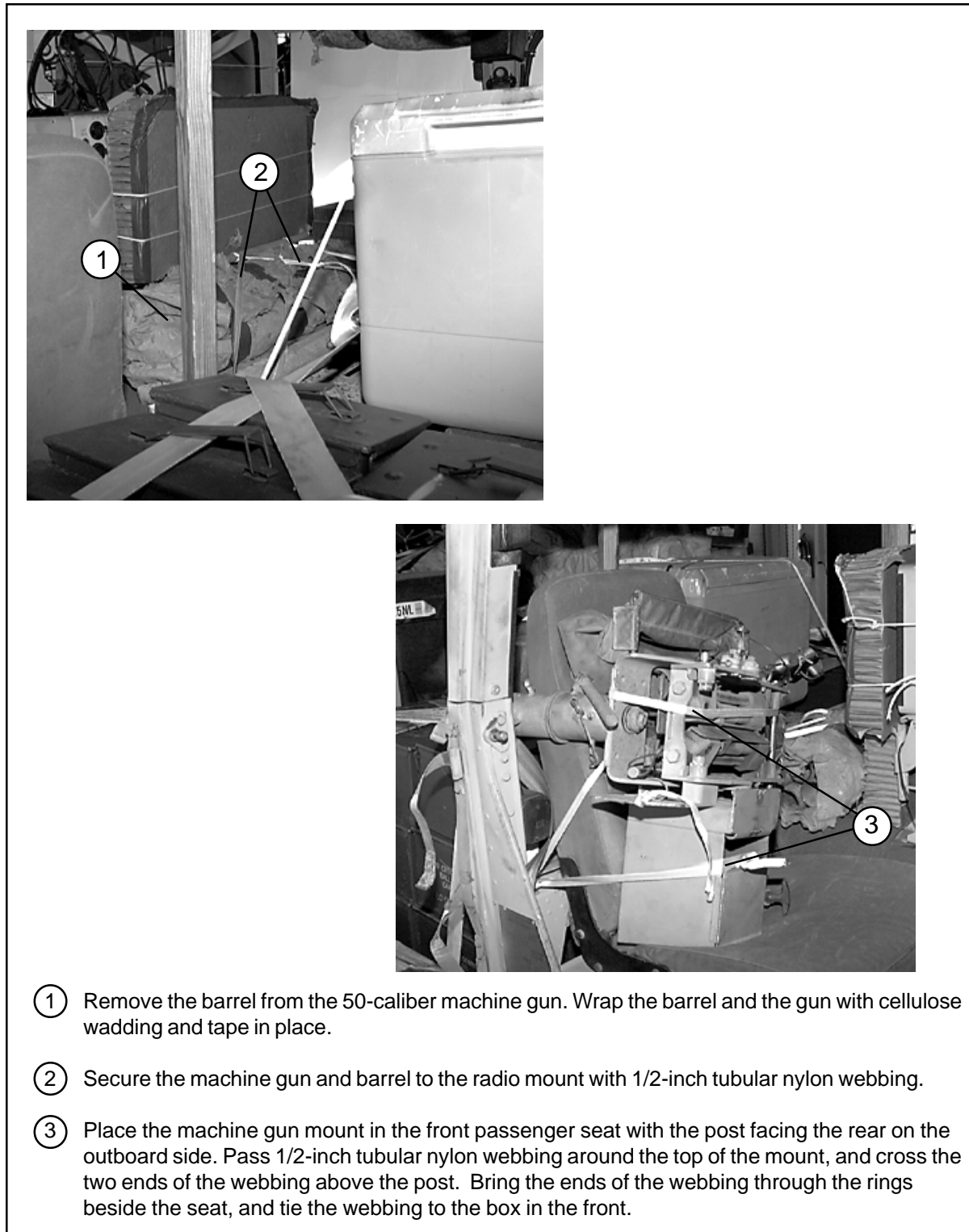
- ① Place seventeen 5.56-mm ammunition cans in the left footwell over the plywood.
- ② Place eighteen 5.56-mm ammunition cans in the right footwell over the plywood.
- ③ Set the refrigerator on an 11- by 22-inch piece of honeycomb in front of the stretcher and between the stacks of ammunition boxes.
- ④ Pass the lashings placed in Figure 7-6, step 2 over the ammunition boxes. Pass the lashings through the box carrying handles whenever possible. Secure the lashings with load binders in the front and rear of the refrigerator.
- ⑤ Tie a length of 1/2-inch tubular nylon webbing to the ring behind and inside the driver's seat. Pass the webbing over the refrigerator, and tie it securely to the ring on the inside front of the right rear passenger seat.
- ⑥ Tie a length of 1/2-inch tubular nylon webbing to the ring behind and inside the front passenger seat. Pass the webbing over the refrigerator, and tie it securely to the ring on the inside front of the left rear passenger seat.

**Figure 7-7. Ammunition and Refrigerator Stowed**

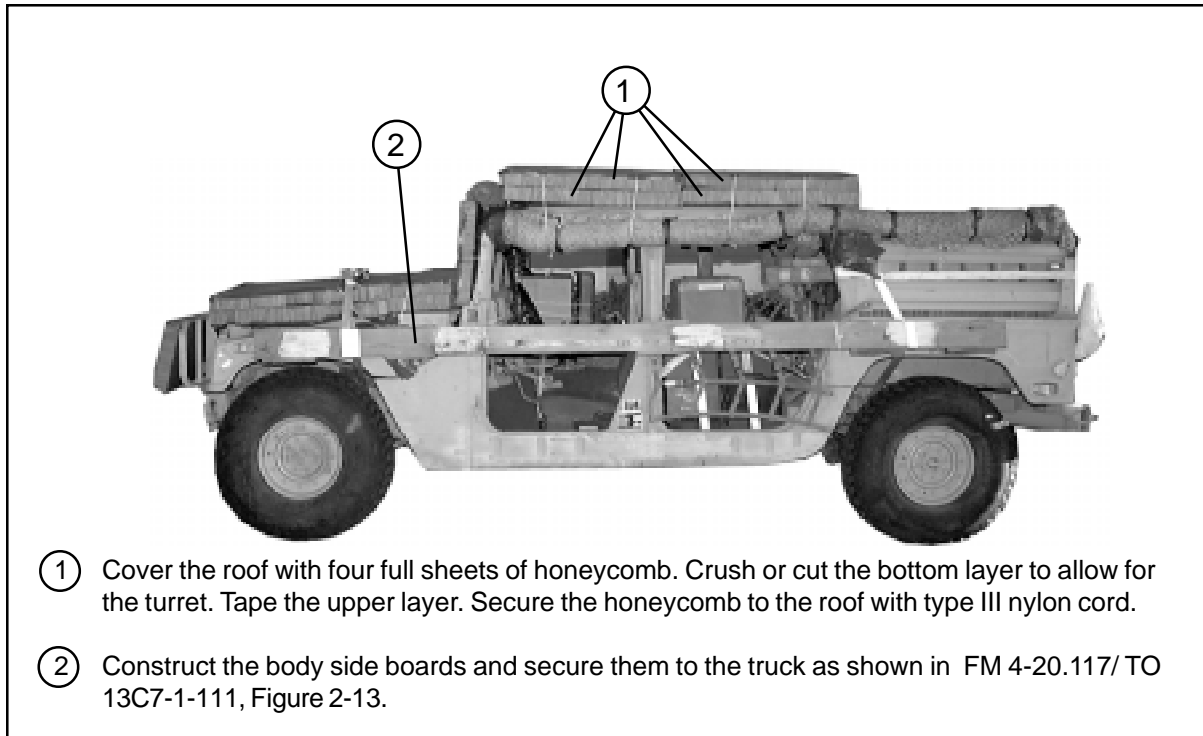


- ⑦ Pass a lashing through both rings behind the right passenger seat, up over the ammunition boxes, and through both rings behind the left rear passenger seat. Secure the lashing with a load binder on top of the boxes.
- ⑧ Pass a lashing through both rings behind the driver's seat, up over the ammunition boxes, and through both rings behind the right rear passenger seat. Secure the lashing with a load binder on top of the boxes.

**Figure 7-7. Ammunition and Refrigerator Stowed (continued)**



**Figure 7-8. Machine Gun and Mount Stowed and Secured**



- ① Cover the roof with four full sheets of honeycomb. Crush or cut the bottom layer to allow for the turret. Tape the upper layer. Secure the honeycomb to the roof with type III nylon cord.
- ② Construct the body side boards and secure them to the truck as shown in FM 4-20.117/ TO 13C7-1-111, Figure 2-13.

**Figure 7-9. Honeycomb Roof Cover and Body Sideboards Installed**

#### **LIFTING AND POSITIONING TRUCK AND INSTALLING OPTIONAL DRIVE-OFF AIDS**

7-5. Install the optional drive-off aids on the platform as shown in Figure 2-15. Install lifting slings on the truck and position the truck on the platform as shown in Figure 2-16. Attach the drive-off aids to the wheels as shown in Figure 2-17.

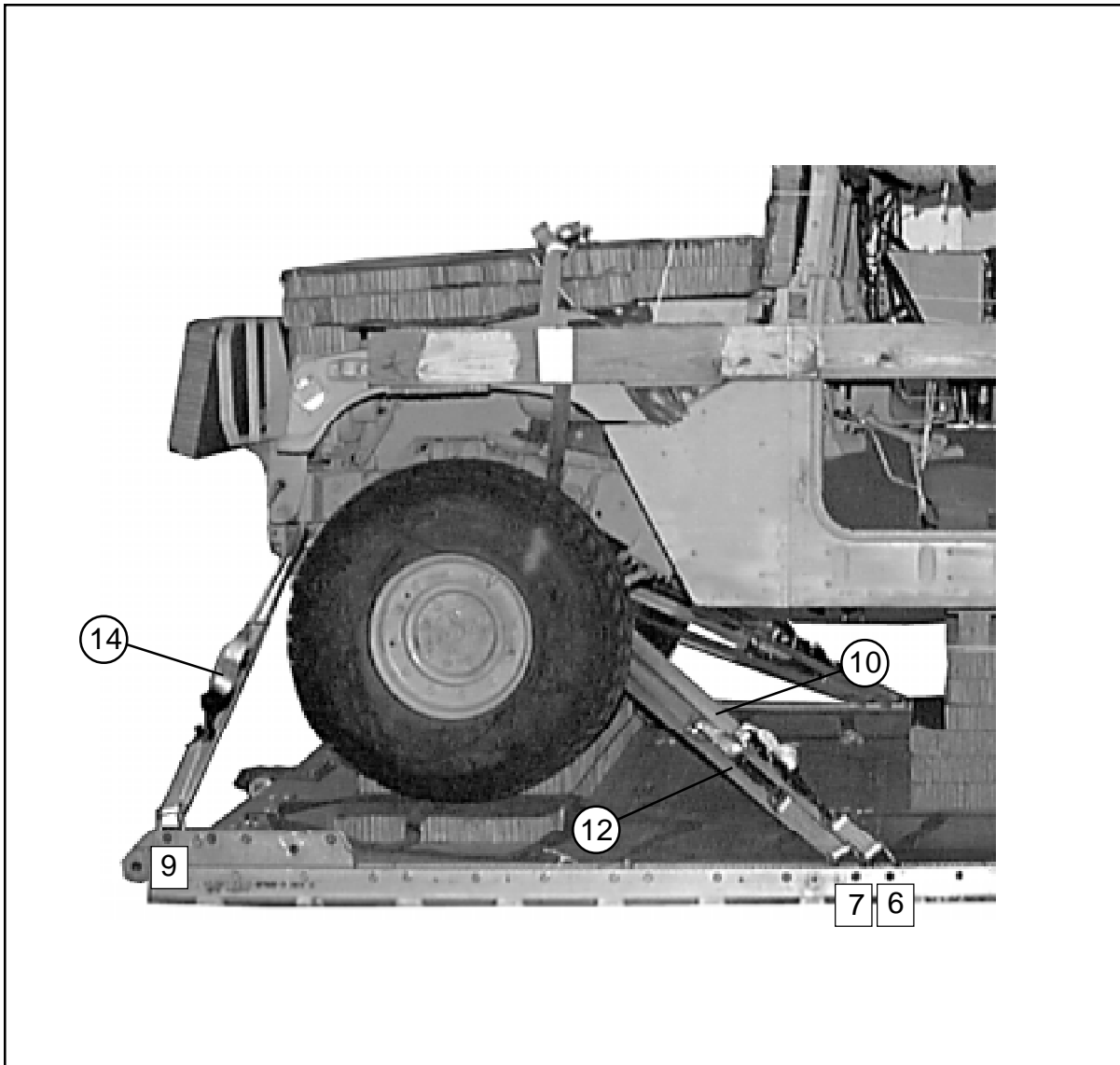
#### **LASHING TRUCK**

7-6. Lash the truck to the platform with fifteen 15-foot tie-down assemblies. Install the lashings according to FM 4-20.102/TO 13C7-1-5, and as shown in Figures 7-10 and 7-11.



Lashing Number	Tie-down Clevis Number	Instructions
1	1	Pass lashing: Through tie-down bracket behind left rear coil spring.
2	1A	Through tie-down bracket behind right rear coil spring.
3	2	Through left rear lifting shackle.
4	2A	Through right rear lifting shackle.
5	3	Around left rear lower control arm.
6	3A	Around right rear lower control arm.
7	4	Through tie-down bracket in front of left rear coil spring.
8	4A	Through tie-down bracket in front of right rear coil spring.
9	5 and 5A	Pass a 15-foot lashing through clevis 5A and through its own D-ring. Pass the lashing through the hole in stack 2. Attach the lashing to clevis 5 with a load binder.

Figure 7-10. Lashings 1 Through 9 Installed



Lashing Number	Tie-down Clevis Number	Instructions
10	6	Pass lashing:
11	6A	Through tie-down bracket behind left front coil spring.
12	7	Through tie-down bracket behind right front coil spring.
13	7A	Around left lower control arm.
14	9	Around right lower control arm.
15	9A	Through tie-down bracket on end of left frame rail.

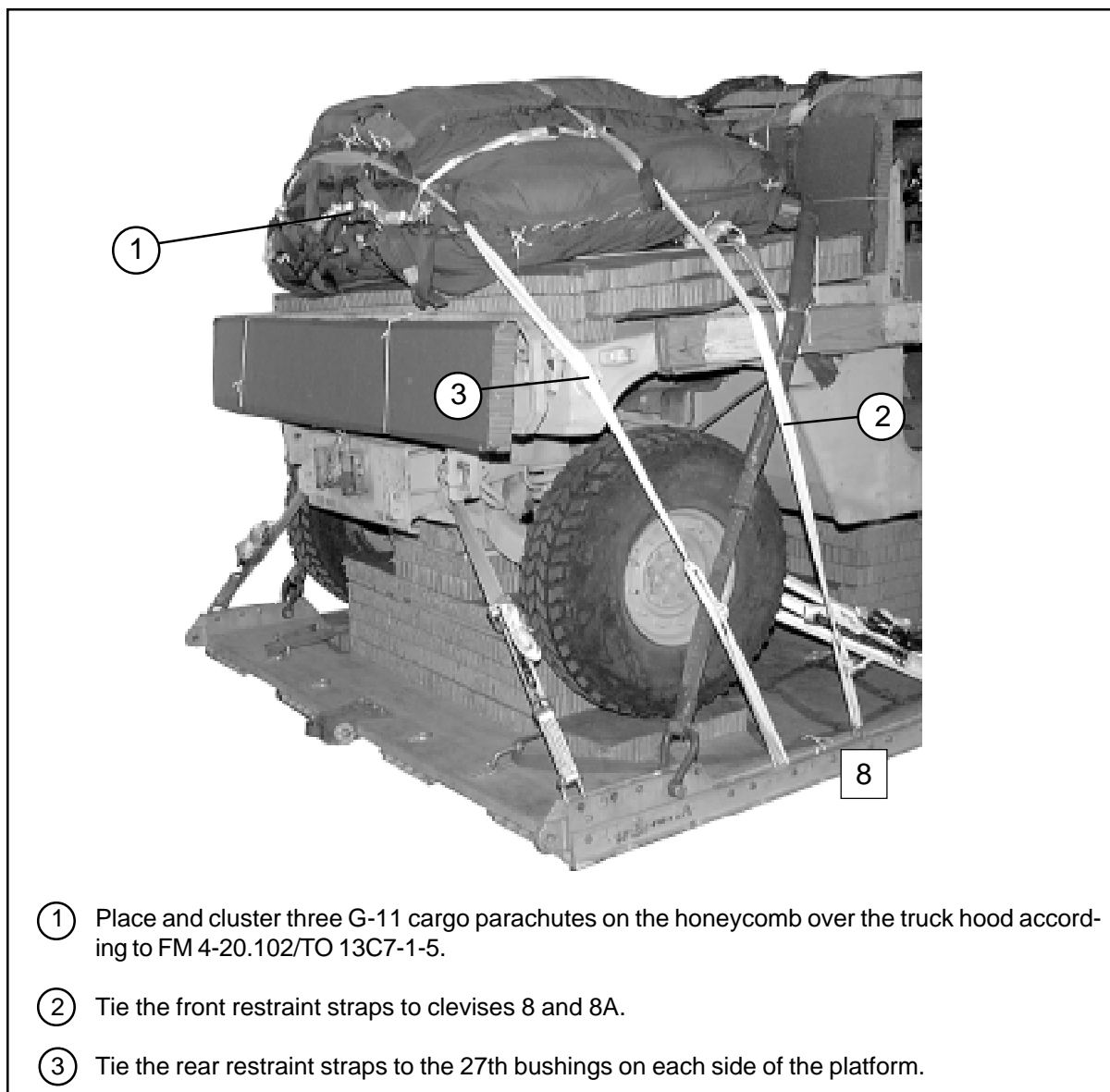
Figure 7-10. Lashing 10 Through 11 Installed

## INSTALLING AND SAFETY TYING SUSPENSION SLINGS

7-7. Install and safety tie four 16-foot (2-loop), type XXVI nylon suspension slings according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 2-20.

## STOWING CARGO PARACHUTES

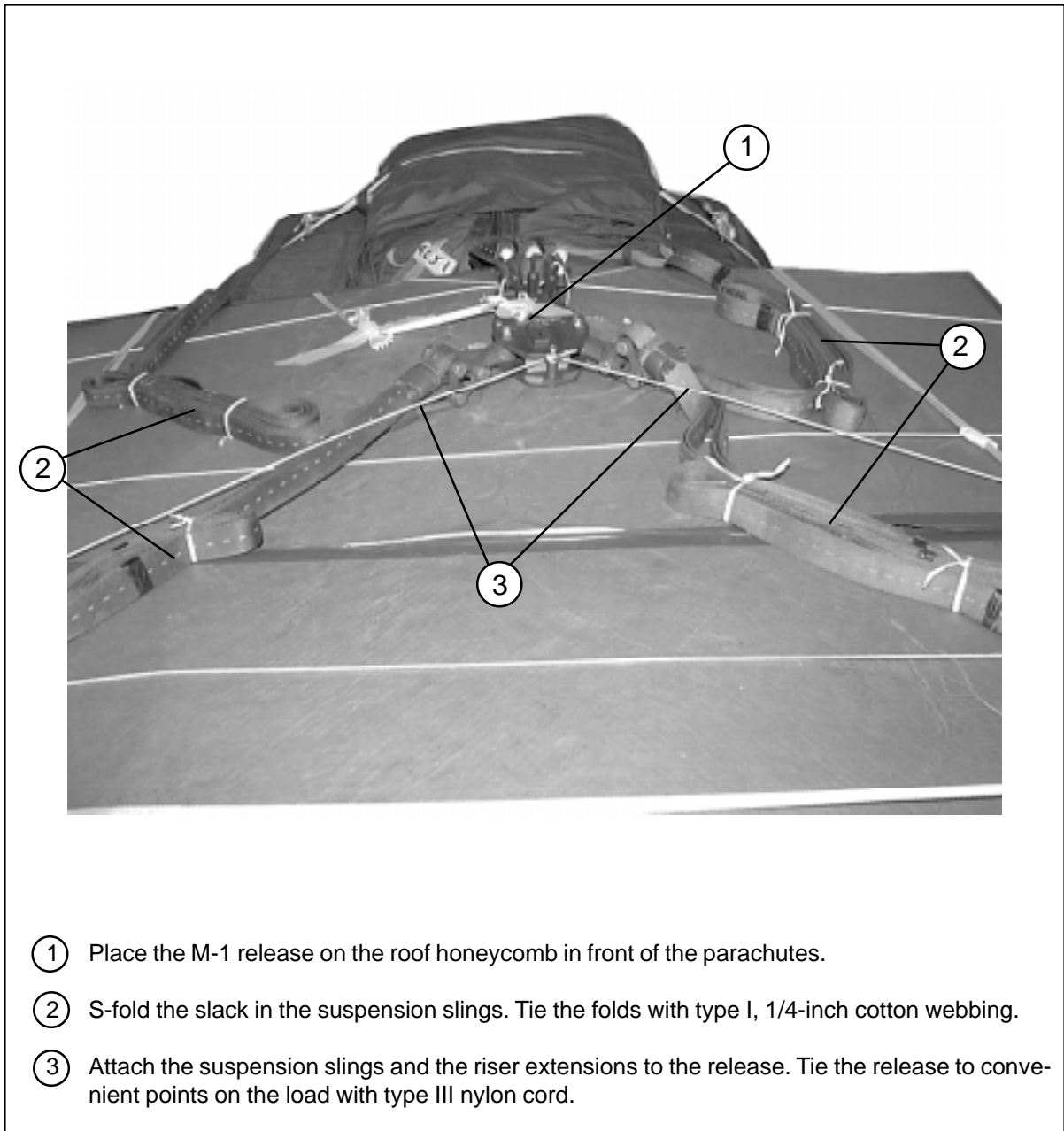
7-8. Use three G-11 cargo parachutes on this load. Stow the cargo parachutes according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 7-12.



**Figure 7-12. Cargo Parachutes Installed**

## INSTALLING PARACHUTE RELEASE

7-9. Prepare and install an M-1 cargo parachute release according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 7-13.



**Figure 7-13. M-1 Cargo Parachute Release Installed**

### **INSTALLING EXTRACTION SYSTEM**

7-10. Install the EFTC extraction system with a 16-foot release cable according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 2-23.

### **INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS**

7-11. Install the provisions for emergency restraints on the load according to FM 4-20.102/TO 13C7-1-5.

### **PLACING EXTRACTION PARACHUTE**

7-12. Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 4-20.102/TO 13C7-1-5. Rig the extraction line in an extraction line bag according to TM 10-1670-286-20/TO 13C5-2-41. Place the extraction parachute and extraction line on the load for installation in the aircraft.

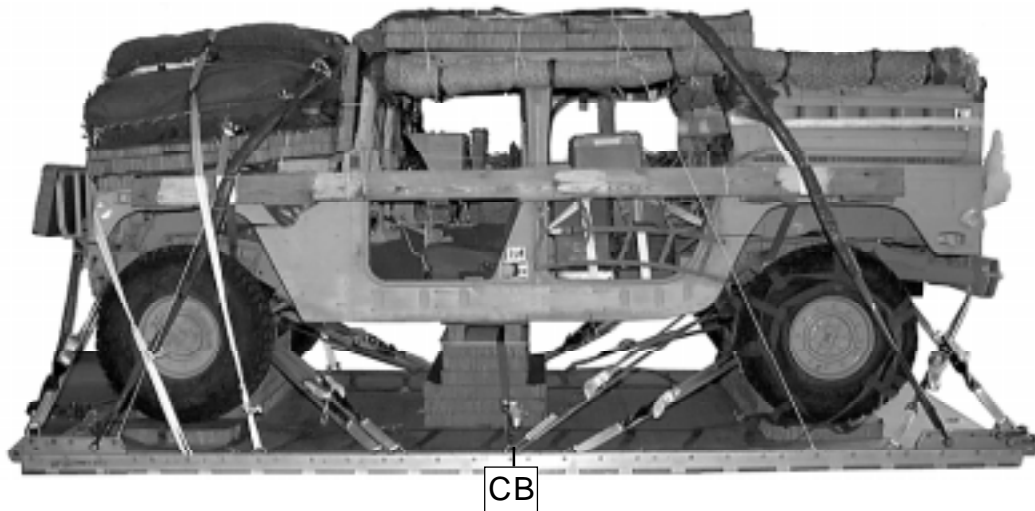
### **MARKING RIGGED LOAD**

7-13. Mark the rigged load according to FM 4-20.102/TO 13C7-1-5, and as shown in Figure 7-14. Complete Shipper's Declaration for Dangerous Goods according to AFJMAN 24-204/TM 38-250. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

### **EQUIPMENT REQUIRED**

7-14. Use the equipment listed in Table 7-1 to rig this load.

**CAUTION**  
 Make the final rigger inspection required by FM 4-20.102/TO 13C7-1-5  
 before the load leaves the rigging site.



Weight: Load shown .....	12,420 pounds
Maximum load allowed .....	14,750 pounds
Height (with three G-11 parachutes) .....	94 inches
Width.....	108 inches
Length (overall) .....	210 inches
Overhang: Front .....	0 inches
Rear (EFTC).....	18 inches
CB (from front edge of platform) .....	96 inches

**Figure 7-14. Ground Mobility Vehicle Rigged for Low-Velocity Airdrop**

**Table 7-1. Equipment Required for Rigging Ground Mobility Vehicle for Low-Velocity Airdrop**

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5785	Coupling assembly, airdrop, extraction force transfer with cable, 16-ft	1
1670-00-360-0328	Cover: Clevis, large	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 (line bag)	2
1670-01-064-4452	Line, drogue (for C-17) 60-ft (1-loop), type XXVI	1
1670-01-062-6313	Line, extraction: For C-130: 60-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-141: 140-ft (3-loop), type XXVI	1
1670-01-062-6313	For C-5: 60-ft, (3-loop), type XXVI and	1
1670-01-107-7651	140-ft (3-loop), type XXVI	1
1670-01-107-7651	For C-17: 140-ft (3-loop), type XXVI	1
5306-00-435-8994	Link Assembly: Two-point:	4
5310-00-232-5165	Bolt, 1-in diam, 4-in long	(8)
1670-00-003-1953	Nut, 1-in, hexagonal	(8)
5365-00-007-3414	Plate, side, 3 3/4-in Spacer, large	(8)
5510-00-220-6146	Lumber: 2- by 4-in	As required
5510-00-220-6448	2- by 6-in	As required
5510-00-220-6274	4- by 4-in	As required
5315-00-010-4659	Nail, steel wire, 8d	As required

**Table 7-1. Equipment Required for Rigging Ground Mobility Vehicle for Low-Velocity Airdrop (continued)**

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating (honeycomb) 3- by 36- by 96-in	13 sheets
1670-01-016-7841	Parachute: Cargo: G-11B	2
1670-01-063-3716	Cargo extraction: 22-ft (Add H-block for use with C-17.)	1
1670-01-063-3715	Drogue (for C-17) 15-ft	1
1670-01-353-8425	Platform, airdrop, type V, 16-ft Bracket assembly, EFTC	(1)
1670-01-162-2372	Clevis assembly, type V	(20)
1670-01-162-2376	Bracket assembly, extraction	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(4)
5530-00-128-4981	Plywood, 3/4-in	3 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1
1670-01-063-7761	Sling, cargo, airdrop For suspension: 16-ft (2-loop), type XXVI nylon webbing	4
1670-01-062-6304	For lifting: 9-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6304	For deployment: 9-ft (2-loop), type XXVI nylon webbing	1
1670-01-062-6302	For riser extension: 20-ft (2-loop), type XXVI nylon webbing	6
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	28
1670-01-344-0825	Vehicle drive-off aid	1
8305-00-268-2411	Webbing: Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required



## GLOSSARY

ACB	attitude control bar
AD	airdrop
AFB	Air Force base
AFJMAN	Air Force Joint Manual
AFR	Air Force regulation
AFTO	Air Force technical order
ALC	Airlift Logistics Center
attn	attention
BCS	battery computer system
C	change
cap	capacity
CB	center of balance
CDU	computer display unit
chap	chapter
d	penny
DA	Department of the Army
DC	District of Columbia
DD	Department of Defense
diam	diameter
DSVT	digital subscriber voice terminal
DVE	driver vision enhancer
EFTC	extraction force transfer coupling
EPW	enemy prisoner-of-war
fig	figure
FM	field manual
ft	foot/feet
gal	gallon
GLPS	gun laying positioning system
GPS	global positioning system
G/VLLD	ground/vehicle laser locator designator
HQ	headquarters
HMMWV	high-mobility, multipurpose, wheeled vehicle
IFSAS	initial fire support automated system
in	inch
JAI	joint airdrop inspector
LAW	light anti-tank weapon
lb	pound
LSS	light-scattering screen
LD/R	laser designator/rangefinder
LTACFIRE	lightweight tactical fire direction system

LV	low-velocity
LVOSS	light vehicle obscuration smoke system
MCRP	Marine Corps Reference Publication
mm	millimeter
MOPP	mission oriented protective posture
MRE	meal, ready-to-eat
NSN	national stock number
PADS	position and azimuth determining system
PDB	power distribution box
PLU	program load unit
OVE	on-vehicular equipment
SMS	semi-automatic meteorological sensor
STIK	soft-top installation kit
TACCS	tactical army combat service support computer system
TM	technical manual
TO	technical order
TRADOC	US Army Training and Doctrine Command
US	United States
w	with
yd	yard

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AFTO Form 22      Technical Order Publication Improvement Report

DA Form 2028      Recommended Changes to Publication and Blank Forms.

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*General, United States Army*  
*Chief of Staff*

Official:



JOEL B. HUDSON  
*Administrative Assistant to the*  
*Secretary of the Army*  
0127102

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