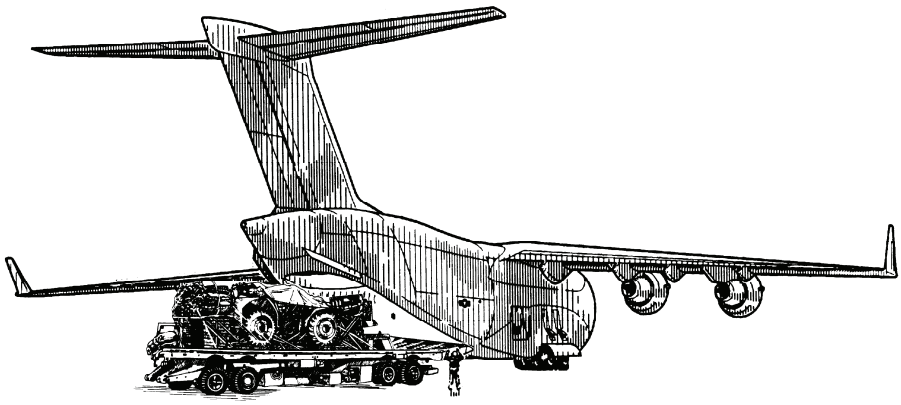
FM 4-20.113
TO 13C7-3-51

(FM 4-20.113, FM 10-532, FM 10-540, FM 10-555, FM 10-569, & FM 10-591)

27 MARCH 2009

Airdrop of Supplies and Equipment: Rigging Trailers



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Field Manual
No. 4-20.113
Technical Order
No. 13C7-3-51

Headquarters
Department of the Army
Department of the Air Force
Washington, DC, 27 March 2009

AIRDROP OF SUPPLIES AND EQUIPMENT: RIGGING TRAILERS

Contents

***This publication supersedes FM 4-20.113/TO 13C7-3-51, 20 JULY 2003, FM 10-532/TO13C7-3-361, 16 APRIL 1979, FM 10-540, 17 NOVEMBER 1978, FM 10-555, 23 MAY 1986, FM 10-569, 27 DECEMBER 1988, & FM 10-591, 17JUNE 1977.**

Preface

SCOPE

This manual tells and shows how to prepare and rig the M101, M101A1,M101A2, M1101 3/4-ton trailer, the 1 ½-ton trailer, the 400 gallon capacity water trailer, the 15-ton tilt bed trailer, the 1 ½-ton ammunition trailer, mine-clearing line charge (MICLIC) on a 2 ½-ton trailer, the Ingersol-Rand model 250 CFM trailer mounted air compressor, and the trailer-mounted engineer electrical tool outfit which are rigged for low-velocity (LV) airdrop from a C-130 and C-17 aircraft.

This publication applies to the Active Army, the Army National Guard (ARNG)/Army National Guard of the United States (ARNGUS), and the United States Army Reserve (USAR) unless otherwise stated.

This manual combines FM 4-20.113, FM 10-532, FM 10-540, FM 10-555, FM 10-569, and FM 10-591 into one manual, as well as, adding the M1101 High Mobility Trailer, Light (HMT-L) ¾-ton trailer.

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Chapter 1

General Information

DESCRIPTION OF ITEMS

The description and unrigged data for the items covered in this manual are described below.

- **M101, M101A1, or M101A2, ¾-Ton Cargo Trailer**. The M101, M101A1, or M101A2, ¾-ton cargo trailer weighs 1,340 pounds. The unrigged trailer is 147 inches long and 71 inches wide The height of the trailer is 82 inches (reducible to 51 inches). An accompanying load, which consists of 22 boxes of 105-millimeter ammunition is also rigged with the load. The ammunition weighs 2,440 pounds.
- **High Mobility Trailer, Light.** The high mobility trailer, light weighs 1,360 pounds. The unrigged trailer is 135 inches long and 87 ½ inches wide The height of the trailer is 99 ½ inches (reducible to 52 ½ inches). An accompanying load is also rigged in the trailer bed. The accompanying load must not exceed 2,040 pounds.
- **1 ½-Ton Cargo Trailer**. The 1 ½-ton cargo trailer weighs 2,650 pounds. The unrigged trailer is 166 ½ inches long and 83 inches wide The height of the trailer is 98 inches (reducible to 55 inches). An accompanying load, which consists of 24 boxes of ammunition is also rigged with the load. The ammunition weighs 2,280 pounds and must not exceed 3,000 pounds.
- **400-Gallon Capacity Water Trailer**. The 400-gallon capacity water trailer (model numbers M107A1, M107A2, M149A1, and M149A2) weighs 2,720 pounds empty and 6,150 when filled. The unrigged trailer is 162 inches long and 81 inches wide The height of the trailer is 79 inches empty and 75 inches filled.
- **1 ½-Ton Ammunition Trailer**. The 1 ½-ton ammunition trailer weighs 2,660 pounds. The unrigged trailer is 148 inches long and 85 inches wide The height of the trailer is 64 inches (reducible to 58 inches). The trailer may be dropped empty or with an accompanying load. The accompanying load may weigh up to a maximum of 3,300 pounds.
- **Mine Clearing Line Charge**. The mine clearing line charge in its container weighs 2,855 pounds. It is mounted on a 2 ½-ton M200A1 trailer. The rocket projectile, in its shipping container, weighs 270 pounds and is rigged on the platform.
- **15-Ton Tilt Bed Trailer**. The 15-ton tilt bed trailer weighs 8,630 pounds. The unrigged trailer is 292 inches, long, however the length may vary by 2 inches, and 96 inches wide. The height of the trailer is 52inches.
- **The Ingersol-Rand Model, 250-CFM, Trailer-Mounted Air Compressor.** The Ingersol-Rand model, 250-CFM, trailer mounted air compressor weighs 7,345 pounds with the fuel tank ½ full. The unrigged trailer is 204 inches, long and 96 inches wide. The height of the trailer is 77 inches.
- **The Trailer-Mounted Engineer Electrical Tool Outfit.** The trailer-mounted engineer electrical tool outfit weighs 2,720 pounds. The unrigged trailer is 147 inches, long and 75 inches wide The height of the trailer is 71 inches. Other trailer-mounted engineer electrical tool outfits may also be rigged for airdrop by adapting these procedures.

SPECIAL INSTRUCTIONS

Special considerations for this manual are given below.

- The loads covered in this manual may include hazardous materials as defined in AFMAN 24-204(I)/TM 38-250/NAVSUP PUB 505/MCO P 4030.19I/DLAI4145.3. If included, the

hazardous materials must be packaged, marked, and labeled as required by AFMAN 24-204(I)/TM 38-250/ NAVSUP PUB 505/MCO P 4030.19I/DLAI4145.3.

- A copy of this manual must be available to the joint airdrop inspectors during the before- and after-loading inspection.
- All mounting bolts holding the compressor unit to the trailer must be the correct size and properly installed

CAUTION

Only ammunition listed in FM4-20.153/MCRP 4-11.3B/TO 13C7-18-41 may be airdropped.

Chapter 2

Rigging the M101, M101A1, or M101A2, ¾-Ton Cargo Trailer for Low-Velocity Airdrop

DESCRIPTION OF LOAD

2-1. The M101, M101A1 or M101A2, 3/4-ton cargo trailer (Figure 2-1) with accompanying loads is rigged on a 12-foot type V platform for low velocity airdrop. The load shown is rigged with an accompanying load consisting of 22 boxes of 105-millimeter ammunition and weighing 2,440 pounds. The 3/4-ton cargo trailer is rigged with one or two G-11B cargo parachutes depending on the rigged weight. The 3/4-ton cargo trailer may also be rigged with an accompanying load weighing a maximum of 1,500 pounds which is stowed in the trailer. Additional accompanying loads may be stowed on the platform as long as the maximum rigged weight does not exceed 8,000 pounds. The unrigged trailer weighs 1,340 pounds. It is 147 inches long and 71 inches wide. The height of the trailer is 82 inches, reducible to 51 inches.

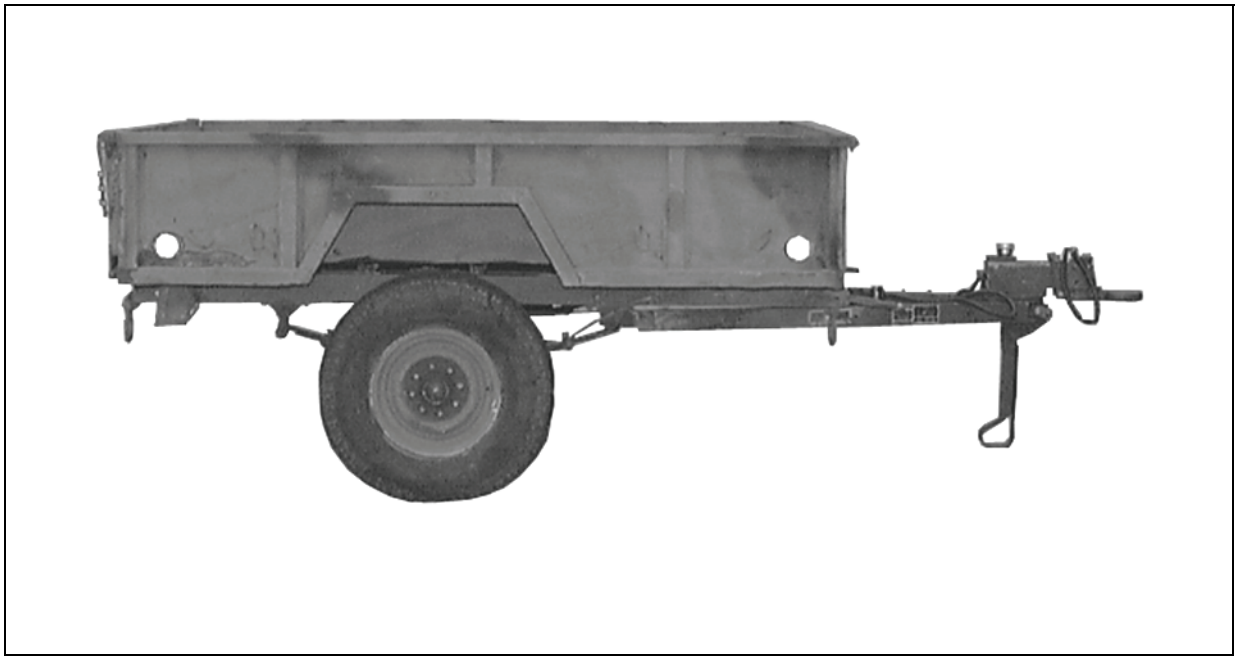
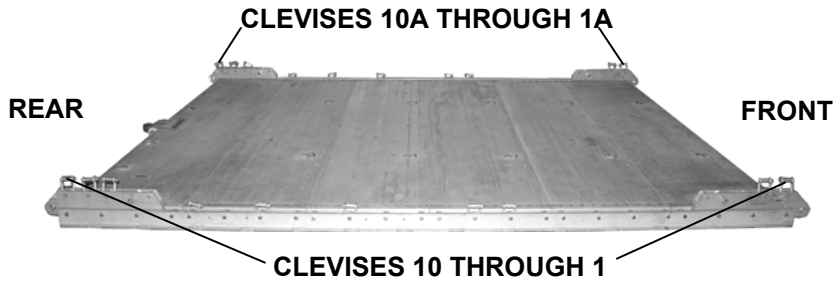


Figure 2-1. M101A2, ¾-Ton Cargo Trailer

PREPARING PLATFORM

2-2. Prepare a 12-foot, type V platform using two tandem links and 20 tie-down clevises as shown in Figure 2-2.



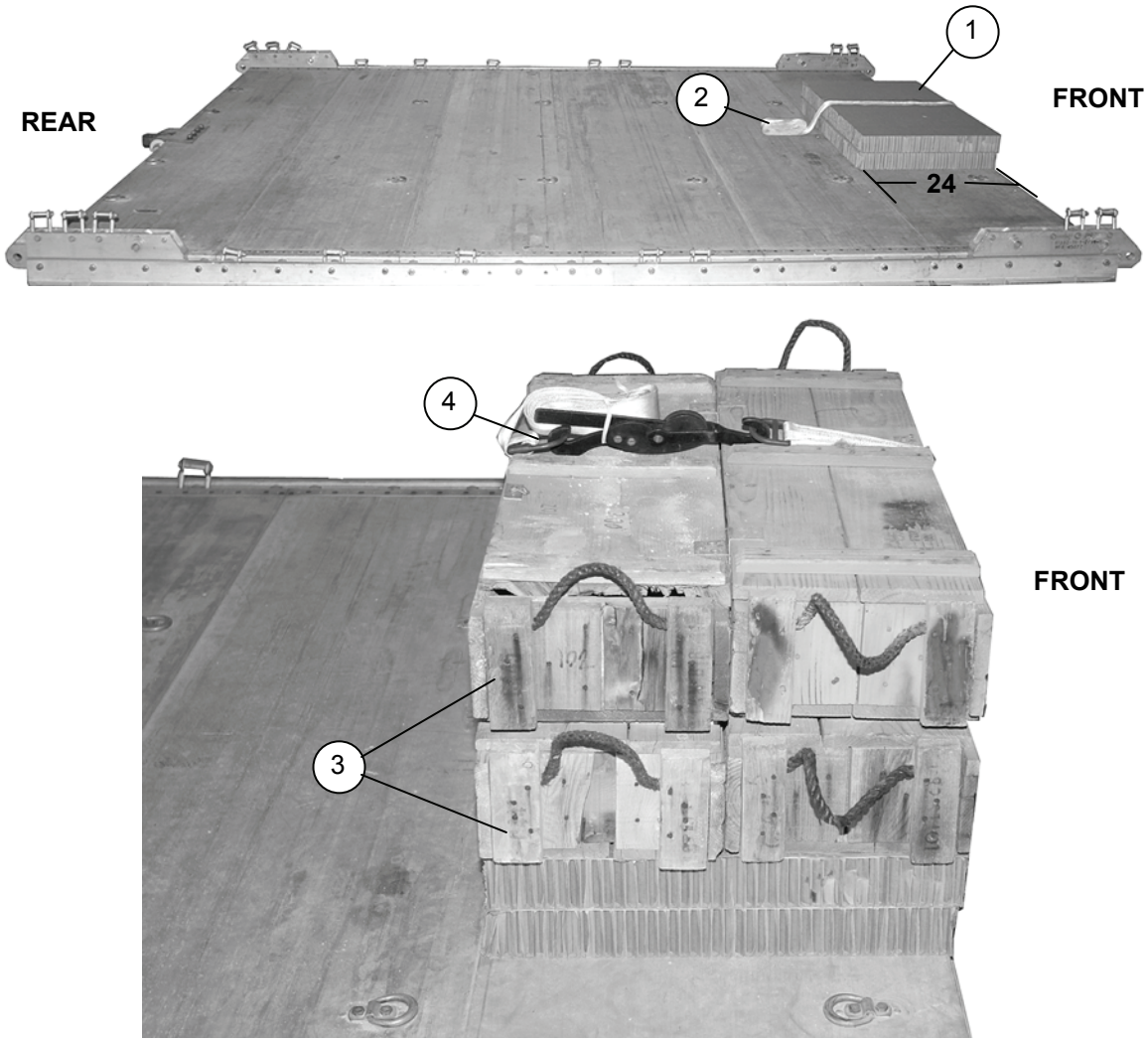
Step:

1. Inspect, or assemble and inspect, a 12-foot, type V platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
3. Install a clevis on bushings 1 and 2 of each front tandem link.
4. Install a tandem link to the rear of each platform side rail using holes 22, 23, and 24.
5. Install a clevis on bushings 2, 3, and 4 of each rear tandem link
6. Starting at the front of each platform side rail, install clevises on the bushings bolted to holes 10, 11, 15, 18, and 20.
7. Starting at the front of the platform, number the clevises 1 through 10 on the right side, and 1A through 10A on the left side
8. 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 2-2. Platform Prepared

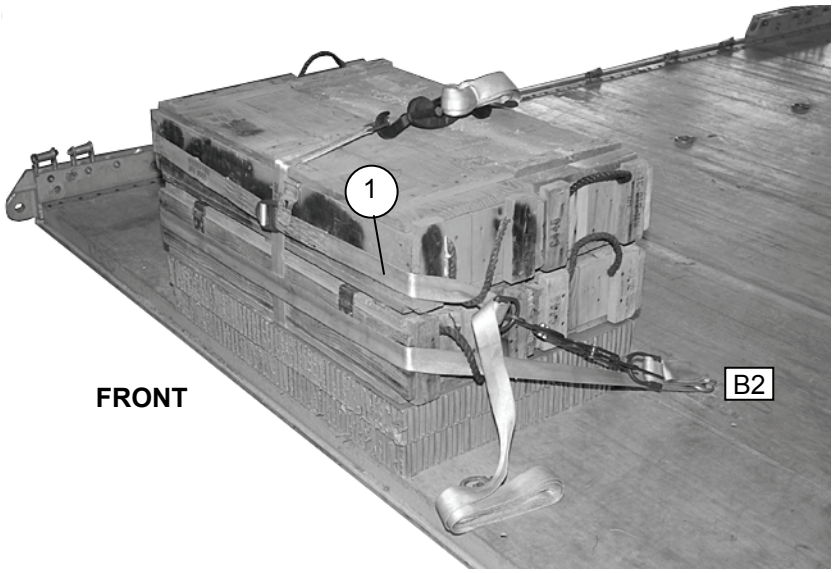
POSITIONING AND LASHING ACCOMPANYING LOADS ON THE PLATFORM

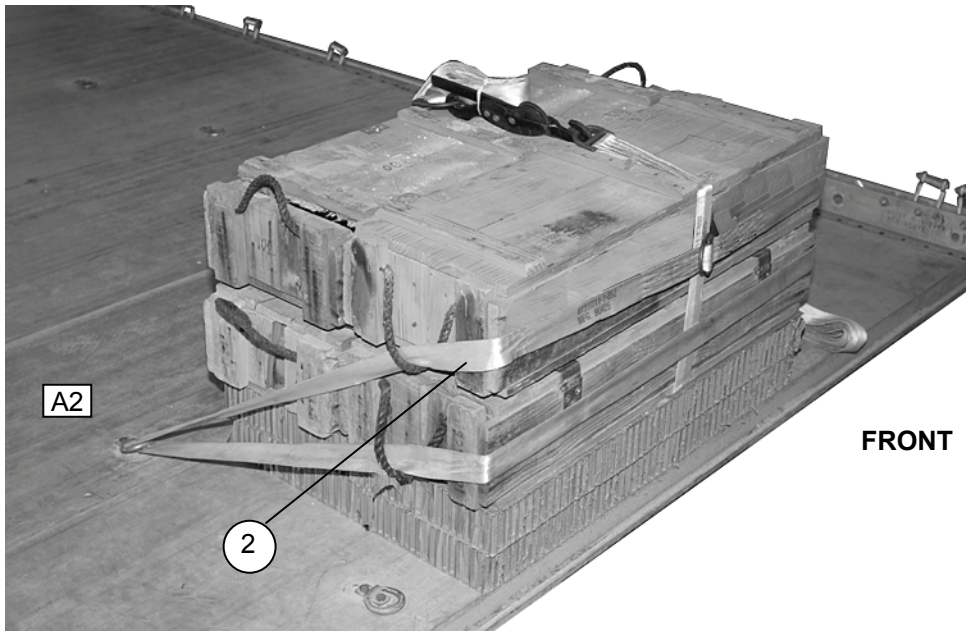
2-3. Position and lash the accompanying loads on the platform as shown in Figures 2-3 through 2-6.



1. Center two 36- by 24-inch pieces of honeycomb on the front edge of the platform.
2. Center a 15-foot lashing from front to rear across the top piece of honeycomb.
3. Place four ammunition boxes in two stacks of two on top of the honeycomb.
4. Bind the boxes together using the pre-positioned lashing, a D-ring, and a load binder.

Figure 2-3. Ammunition Boxes Positioned on the Front of the Platform

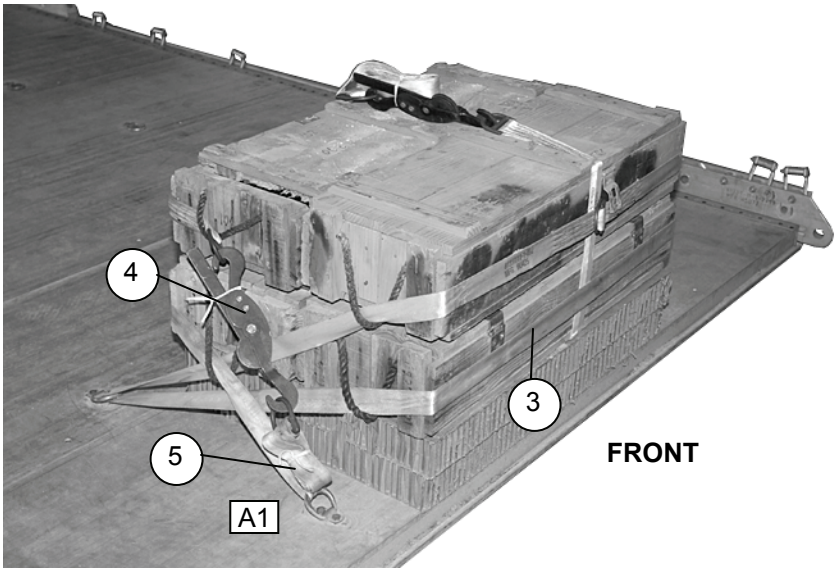


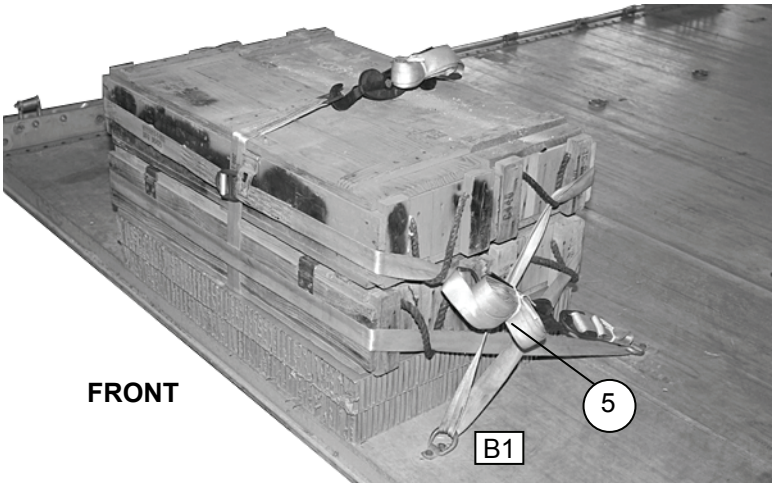


(1) Form a 30-foot lashing according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Starting on the front, pass one end through the carrying handle of the top front box on the left side. Attach a D-ring and a load binder to the end. Do not secure the lashing at this time.

(2) Pass the free end of the lashing through the carrying handle of the top front box on the right side, down through tie-down ring A2, and through the carrying handle of the bottom front box on the right side. Continue to pass the lashing around the front of the bottom box, through the carrying handle of the bottom front box on the left side, through tie-down ring B2. Attach D-ring to the lashing and load binder. Do not secure the lashing at this time.

Figure 2-4. Ammunition Boxes Lashed and Secured on the Front of the Platform



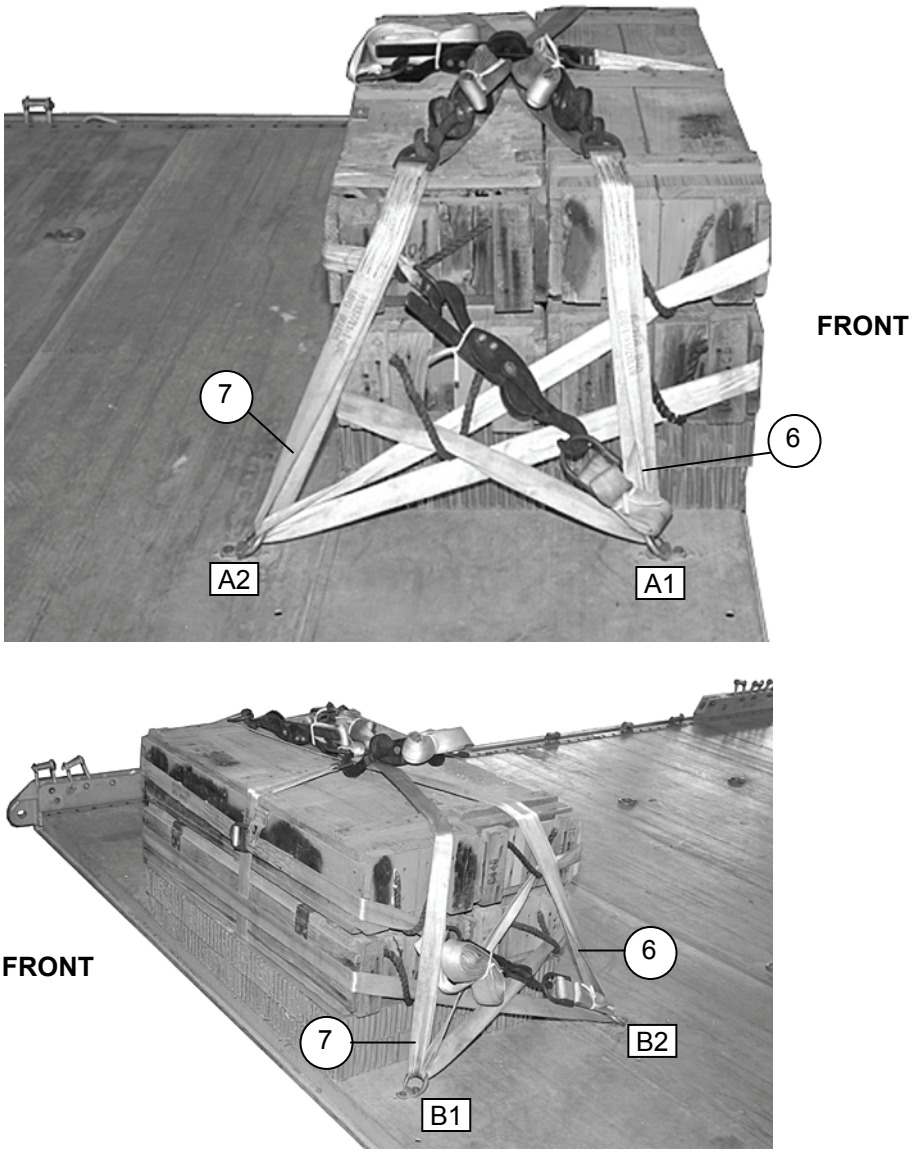


(3) Starting on the right side, pass a 15-foot lashing through the carrying handle of the top rear box, around the rear of the top box, through the carrying handle of the top rear box on the left side, and through tie-down ring B1. Continue to pass the lashing through the carrying handle of the bottom rear box on the left side, around the bottom of the rear box, through the carrying handle of the bottom rear box on the right side, and through tie-down ring A1.

(4) Attach a D-ring and a load binder to the end. Do not secure the lashing at this time.

(5) Secure each front and rear load binder simultaneously.

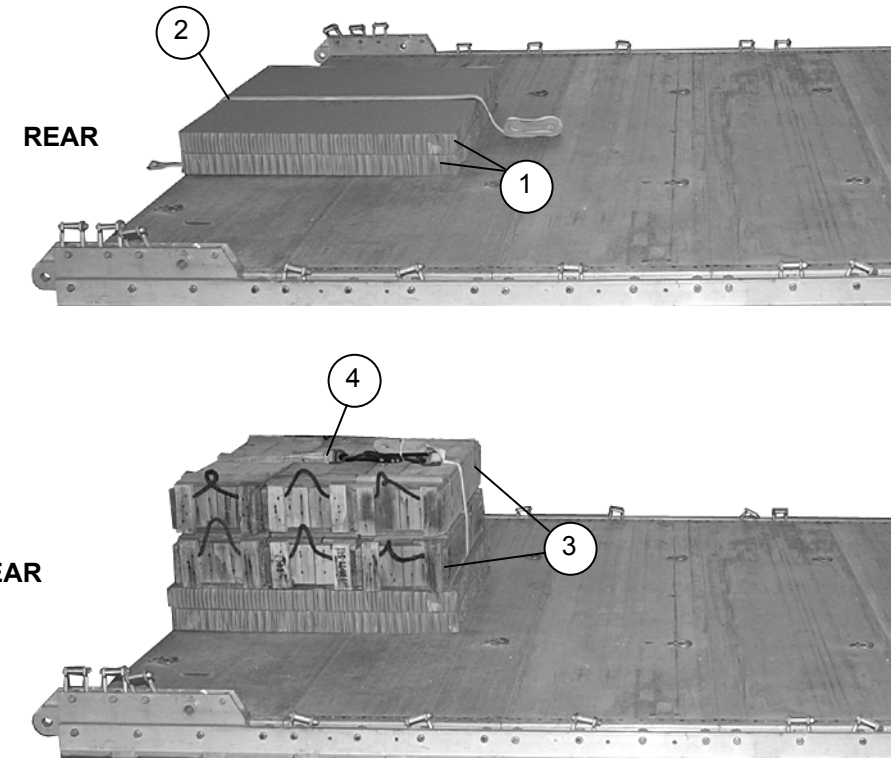
Figure 2-4. Ammunition Boxes Lashed and Secured on the Front of the Platform (Continued)



6 Pass a 15-foot lashing through tie-down ring A1, across the top of the boxes and through tie-down ring B2. Secure the lashing with a D-ring and a load binder. Attach a D-ring and a load binder to the end. Do not secure the lashing at this time.

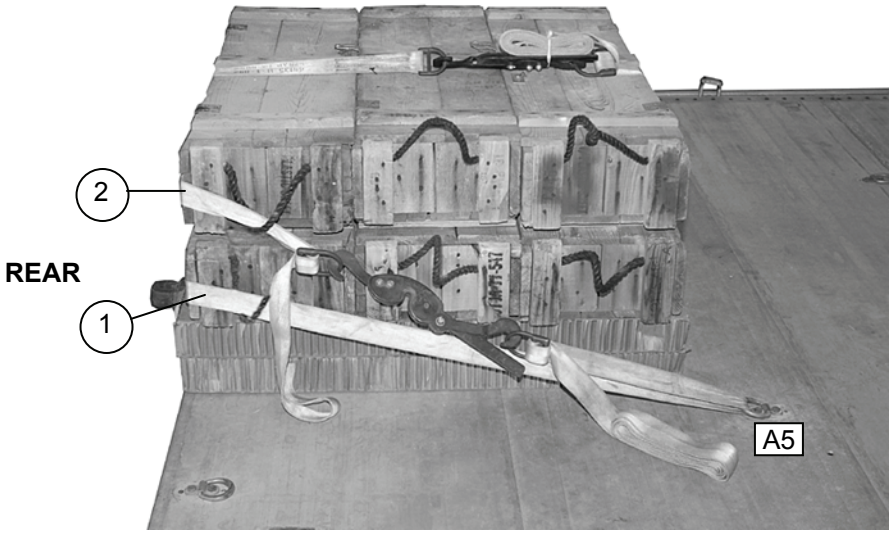
7 Pass another 15-foot lashing through tie-down ring B1, across the top of the boxes, and through tie-down ring A2. Secure the lashing with a D-ring and a load binder.

Figure 2-4. Ammunition Boxes Lashed and Secured on the Front of the Platform (Continued)



1. Center two 36- by 38-inch pieces of honeycomb on the rear edge of the platform.
2. Center a 15-foot lashing from front to rear across the top piece of honeycomb.
3. Place six ammunition boxes in three stacks of two each on top of the honeycomb.
4. Bind the boxes together using the pre-positioned lashing, a D-ring, and a load binder.

Figure 2-5. Ammunition Boxes Positioned on the Rear of the Platform

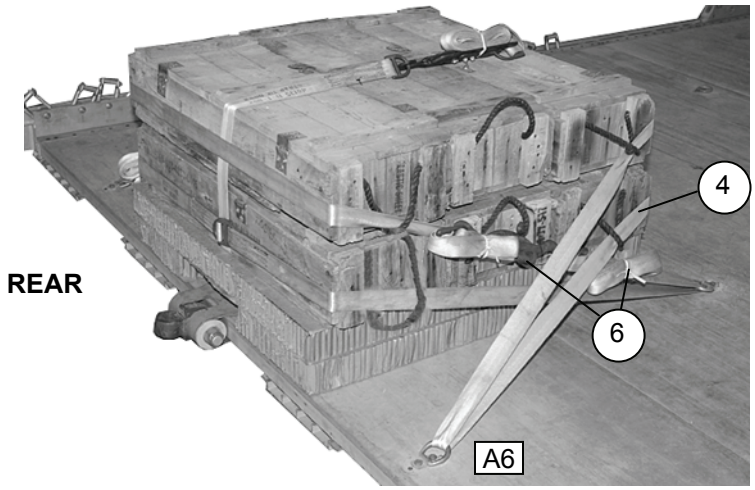


(1) Form a 30-foot lashing according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Starting on the right rear side, run the lashing across the rear of the bottom row of boxes. Pass the free end of the lashing through the carrying handle of the bottom rear box and through tie-down ring A5.

(2) Pass the other free end of the lashing on the left side through the carrying handle of the bottom rear box and through tie-down ring B5. Continue passing the lashing up through the carrying handle of the rear top box on the left side, around the rear of the top rear box and through the carrying handle of the top rear box on the right side. Place six ammunition boxes in three stacks of two each on top of the honeycomb.

(3) Do not secure lashing at this time.

Figure 2-6. Ammunition Boxes Lashed and Secured on the Rear of the Platform

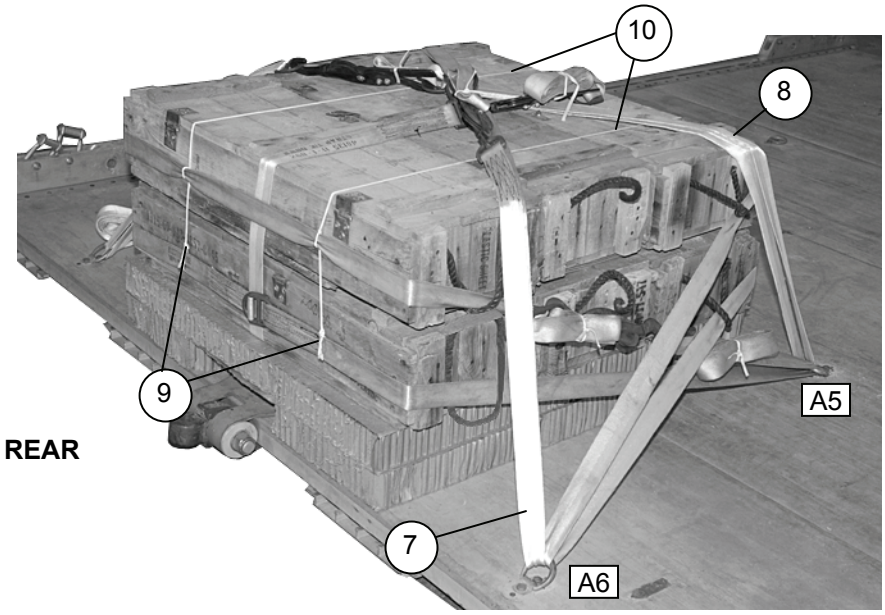


(4) Form a 30-foot lashing according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Starting on the right front side, run the lashing across the bottom row of boxes. Pass the free end of the lashing through the carrying handle of the bottom front box and through tie-down ring A6. Continue passing the lashing up through the carrying handle of the top front box on the right side, around the front of the top box and through the carrying handle of the top front box on the left side.

(5) Pass the other free end of the lashing around the front of the bottom row of boxes and through the carrying handle of the bottom front box on the left side to tie-down ring D6 (not shown).

(6) Secure each side load binder simultaneously.

Figure 2-6. Ammunition Boxes Lashed and Secured on the Rear of the Platform (Continued)



7 Pass a 15-foot lashing from tie-down ring A6 across the top of the boxes to tie-down ring B5. Secure the lashing with a D-ring and load binder.

8 Pass another 15-foot lashing from tie-down ring A5 across the top of the boxes to tie-down ring D6. Secure the lashing with a D-ring and load binder.

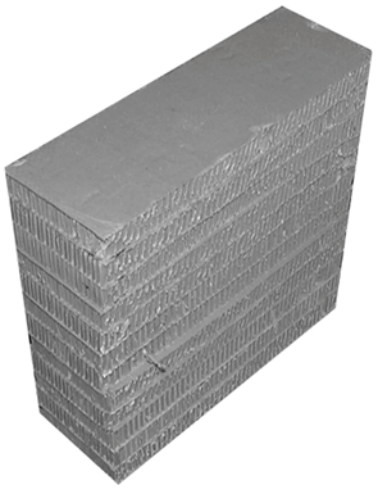
9 Safety tie the lashings in place using two lengths of type III nylon cord. Tie three alternating half hitches around the bottom of the lashing. Pass the cord around the top of the lashing and tie another half hitch.

10 Pass the free end of the cord over the top of the boxes and form a half hitch around the top of the lashing on the other side. Secure the lashing to the bottom lashing using three alternating half hitches and an overhand knot on the running end.

Figure 2-6. Ammunition Boxes Lashed and Secured on the Rear of the Platform (Continued)

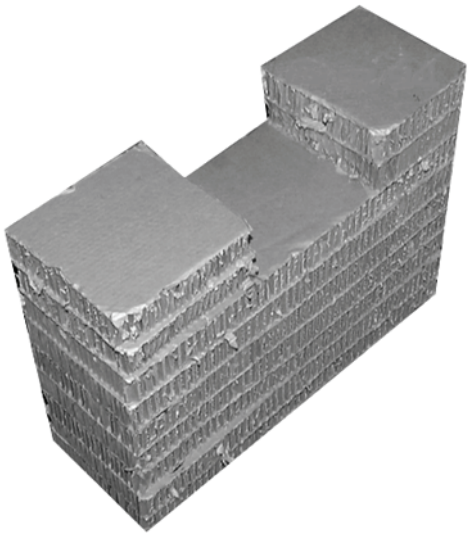
BUILDING AND POSITIONING HONEYCOMB STACKS

2-4. Prepare the honeycomb stacks as shown in Figures 2-7 through 2-9. Position the stacks as shown in Figure 2-10.



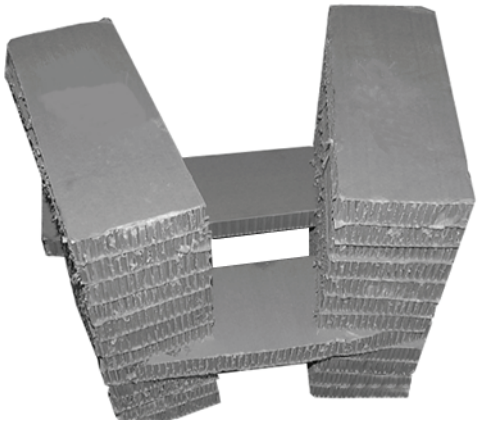
Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
1	12	36	12	Honeycomb	Glue to form base stack.

Figure 2-7. Honeycomb Stack Number I Prepared



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
2	7 4	36 12	12 12	Honeycomb Honeycomb	Glue to form base stack. Glue two pieces flush on each side of the base.

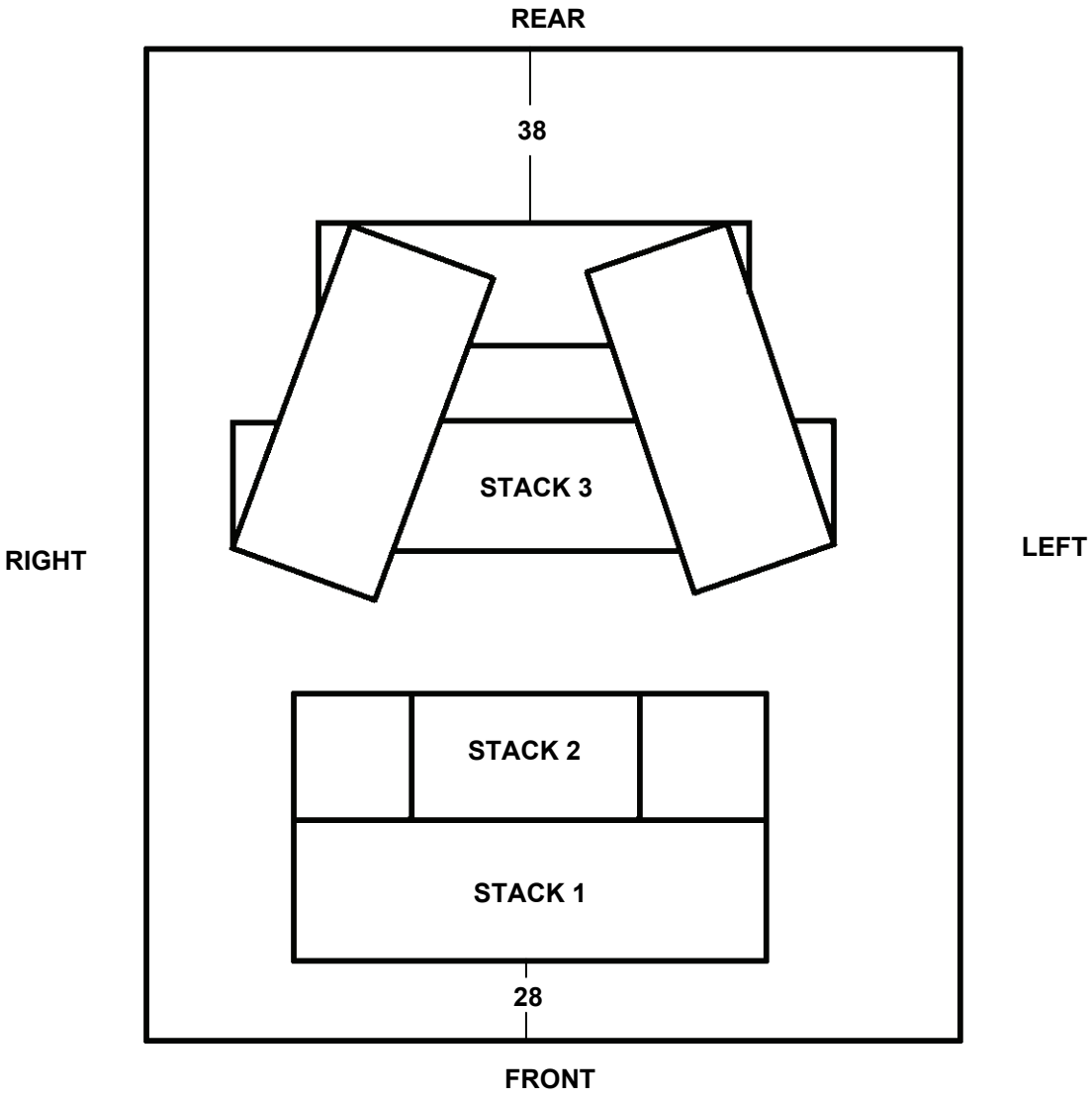
Figure 2-8. Honeycomb Stack 2 Prepared



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
3	8	12	32	Honeycomb	Form two base stacks of four layers each in a “V” shape. Cut a 10- by 6-inch cutout on the front outside of the bottom two layers. Place the stacks 25 inches apart in the front and 11 inches apart in the rear.
	1	36	12	Honeycomb	Place honeycomb over the rear of the base stacks to form a bridge. Place the honeycomb so the rear edge of the bridge is aligned with the rear outside corners of the base stacks.
	1	48	12	Honeycomb	Place honeycomb over the front of the base stacks to form a bridge. Place the honeycomb so the front edge of the bridge is aligned with the front outside corners of the base stacks.
	14	12	32	Honeycomb	Form two stacks of seven layers each. Place each stack on top of the bridge and align it with each base stack.

Figure 2-9. Honeycomb Stack 3 Prepared

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



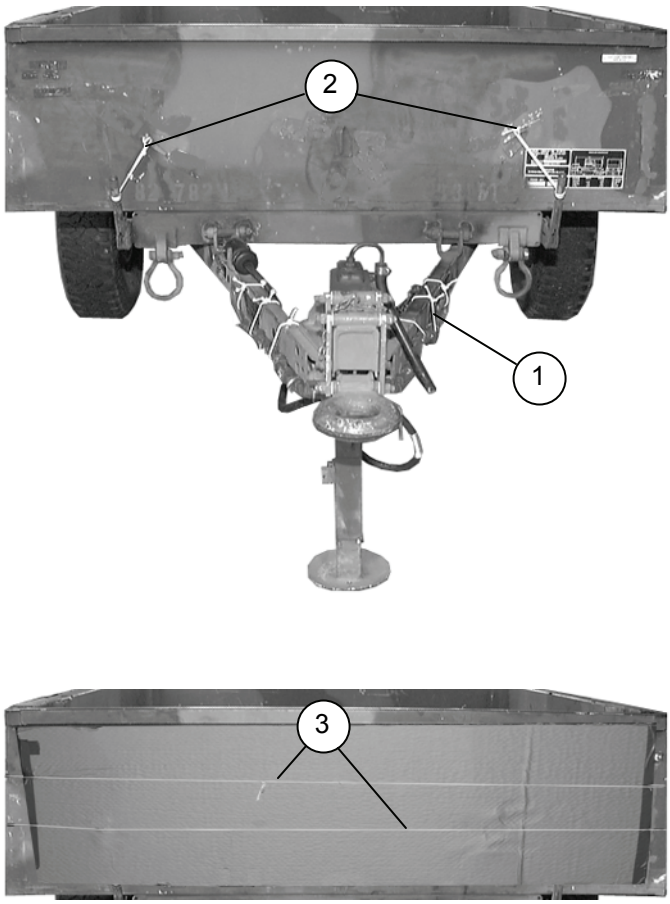
Step:

1. Center the stack one 28 inches from the front edge of the platform.
2. Center stack 2 flush against the rear of stack 1.
3. Center stack three 38 inches from the rear edge of the platform.

Figure 2-10. Honeycomb Stacks Positioned on the Platform

PREPARING THE TRAILER

2-5. Prepare the trailer as shown in Figures 2-11 and 2-12. Remove the tarpaulin, bows, and side racks according to TM 9-2330-202-14&P.

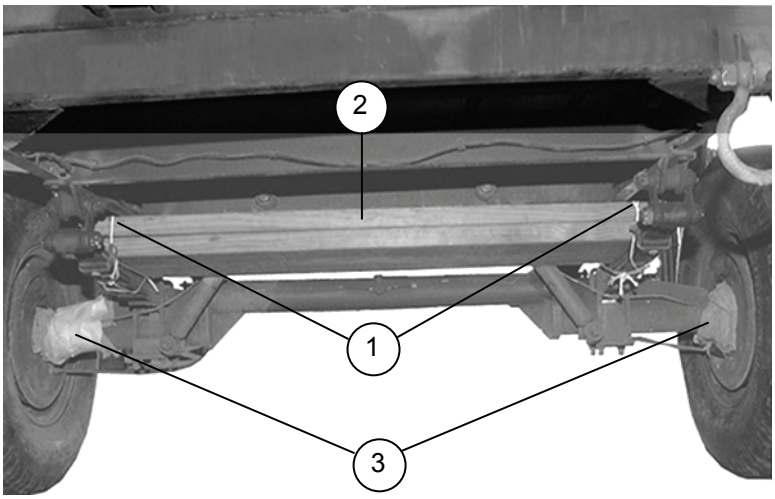


(1) Secure the safety chains and inter-vehicular cable to the drawbar frame with type III nylon cord or tape.

(2) Secure the hand brake in the OFF position with two lengths of type III nylon cord.

(3) Place a 24- by 60-inch piece of honeycomb on the drawbar frame in front of the hand brake. Secure the honeycomb with a length of type III nylon cord.

Figure 2-11 Front of Trailer Prepared

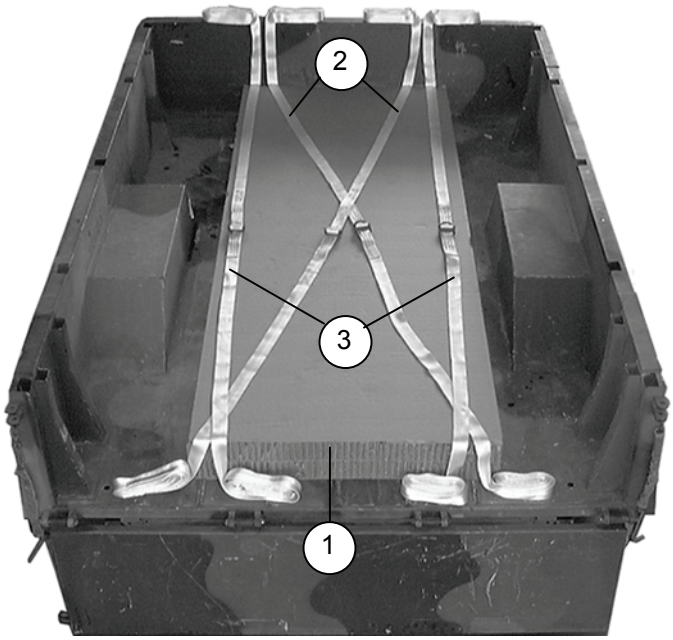


1. Lay a piece of 2- by 8- by 46-inch lumber on top of the leaf springs and the frame.
2. Place a piece of 2- by 12- by 46-inch lumber on top and centered on the 2- by 8- by 46-inch piece of lumber. Secure them with type III nylon cord.
3. Pad axles with cellulose wadding.
4. Tie the rear leg up to the frame with a length of type III nylon cord (not shown).

Figure 2-12. Rear of Trailer Prepared

STOWING ACCOMPANYING LOAD AND TRAILER COMPONENTS IN TRAILER

2-6. Stow the accompanying load of 12 ammunition boxes in the trailer as shown in Figures 2-13 and 2-14. Stow the trailer components as shown in Figure 2-15.



REAR

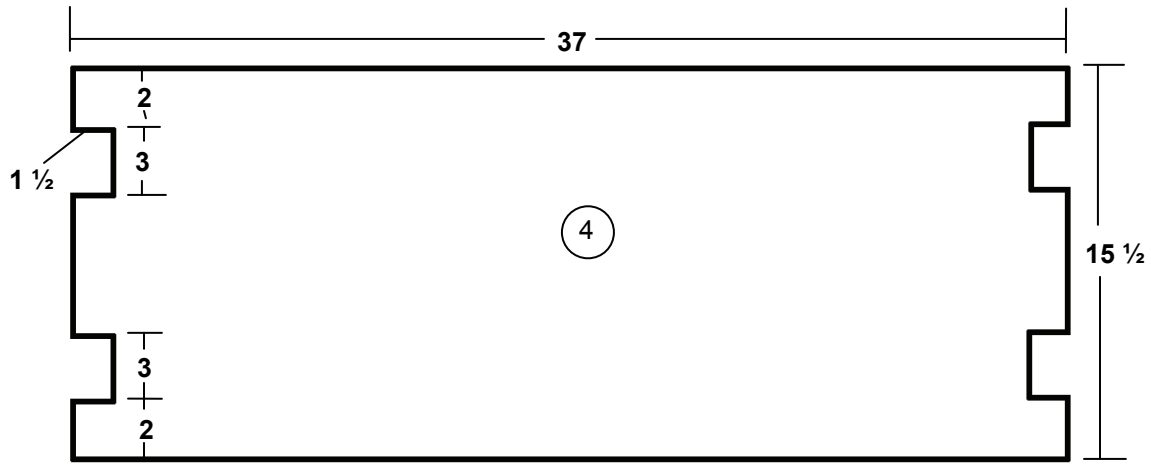
(1) Center two 36- by 92-inch pieces of honeycomb in the trailer bed.

(2) Form six 30-foot lashings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Place two 30-foot lashings on top of the honeycomb from front to rear crossing at the center.

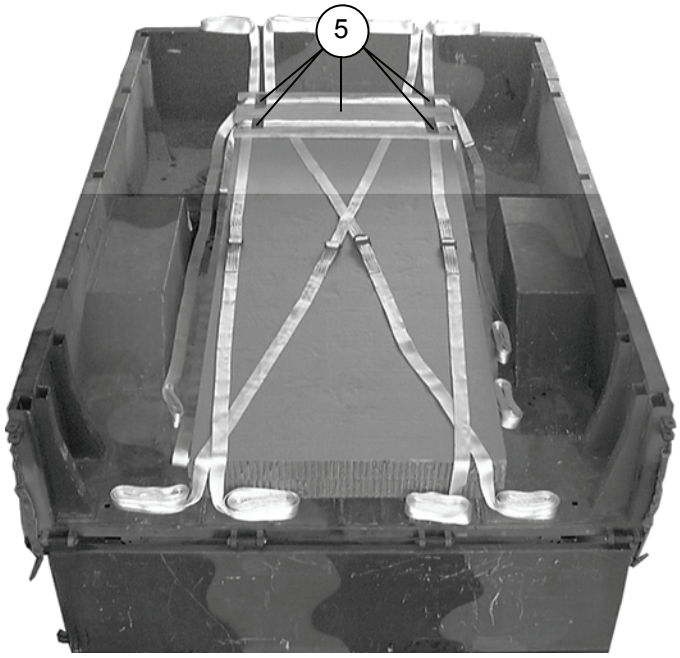
(3) Place two 30-foot lashings on top of the honeycomb from front to rear 22 inches apart.

Figure 2-13. Honeycomb, Lashings, and End Boards Positioned in the Trailer

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

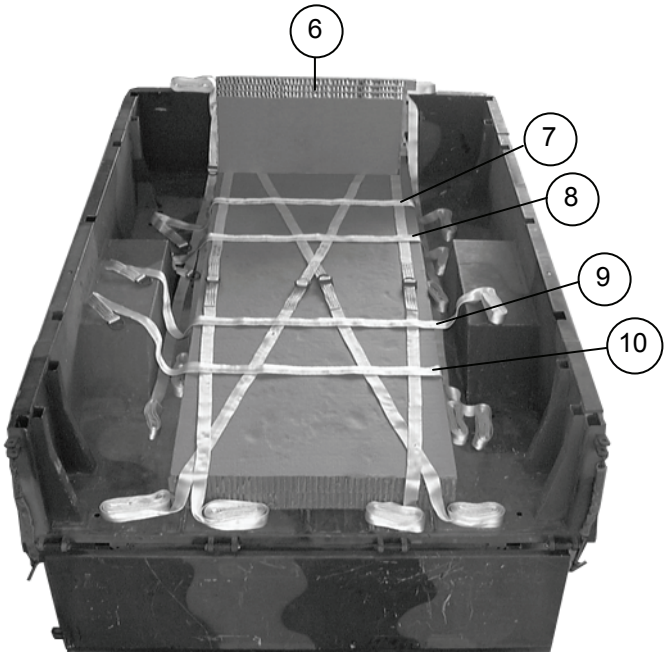


(4) Cut two end boards as shown above using 3/4-inch piece of plywood.



(5) Place end boards in the front of the trailer on top of the honeycomb. Place two 30-foot lashings on the back of the two end boards, and tape the lashings in place.

Figure 2-13. Honeycomb, Lashings, and End Boards Positioned in the Trailer (Continued)



(6) Place the end boards against the front of the trailer bed. Cut and position three 15- by 36-inch pieces of honeycomb against the end board.

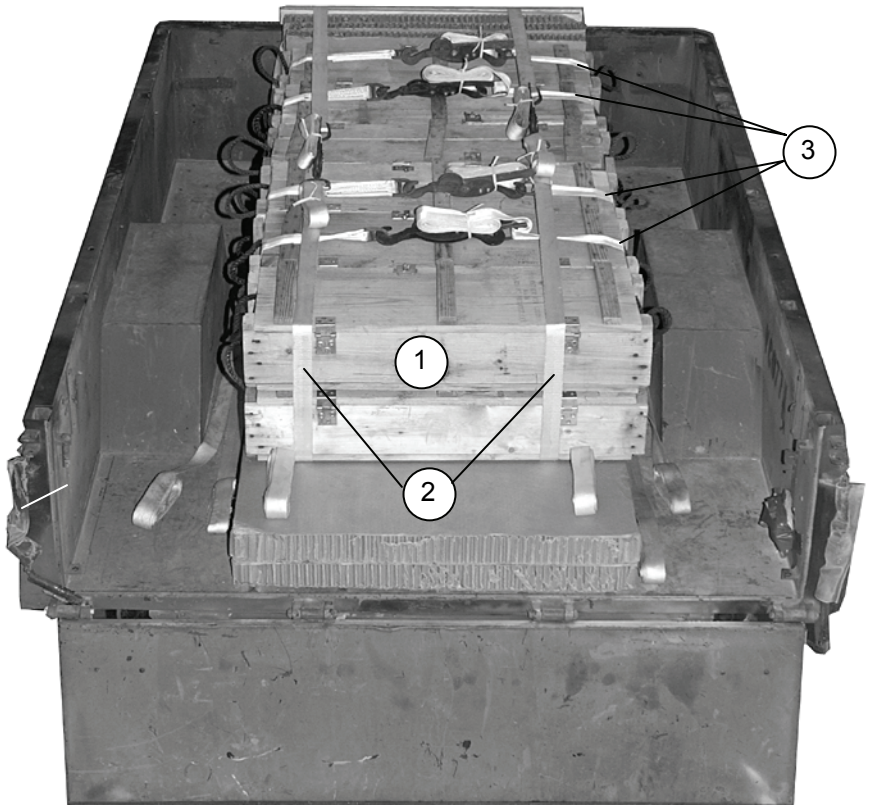
(7) Place one 15-foot lashing on the top of the honeycomb from left to right 16 inches from the front of the trailer.

(8) Place one 15-foot lashing on the top of the honeycomb from left to right 27 inches from the front of the trailer.

(9) Place one 15-foot lashing on the top of the honeycomb from left to right 57 1/2 inches from the front of the trailer.

(10) Place one 15-foot lashing on the top of the honeycomb from left to right 70 inches from the front of the trailer.

Figure 2-13. Honeycomb, Lashings, and End Boards Positioned in the Trailer (Continued)



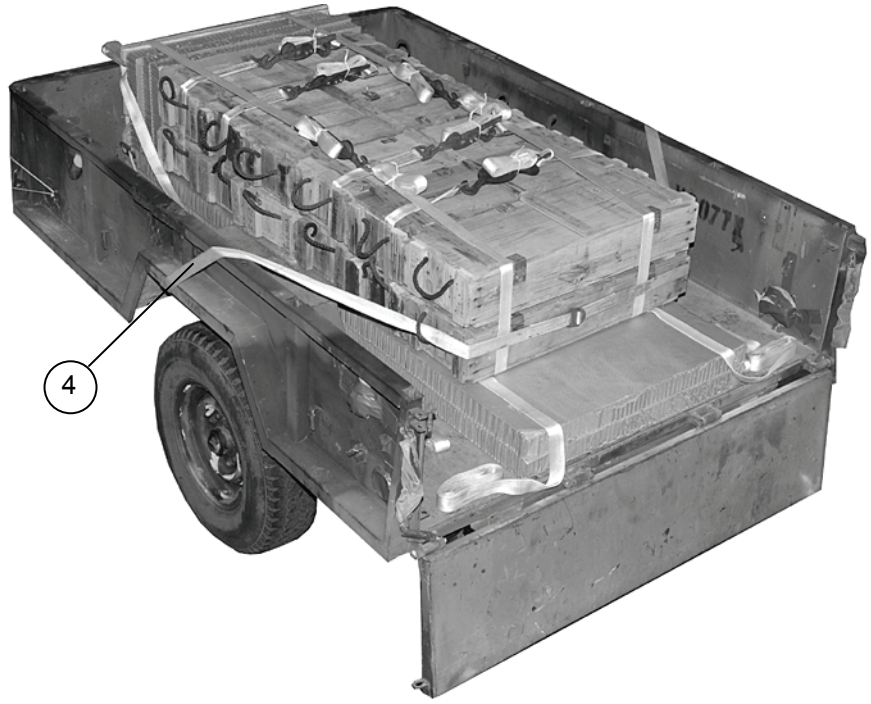
(1) Place 12 ammunition boxes in two layers of six each on top of the honeycomb. Place them flush against the three pieces of honeycomb.

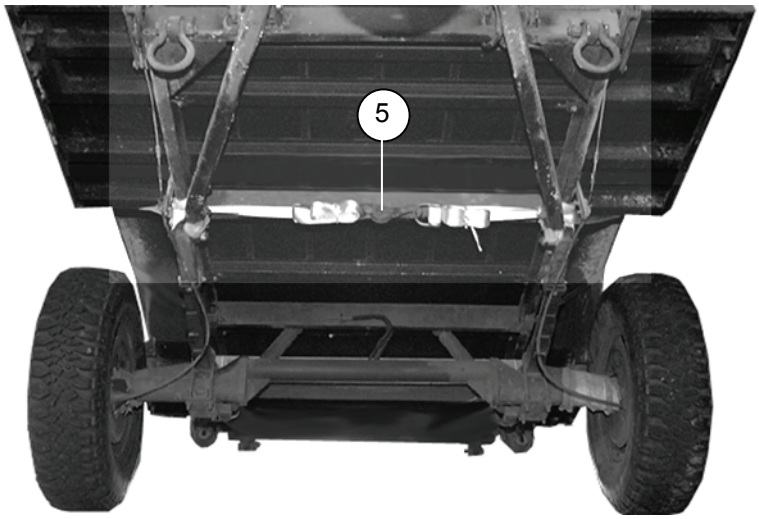
(2) Secure the boxes in place with the two pre-positioned lashings running front to rear.

(3) Secure the boxes in place with the four pre-positioned lashings running left to right.

Note. The lashings may need to be adjusted slightly after the ammunition boxes are set in place.

Figure 2-14. Ammunition Boxes Lashed and Secured in the Trailer

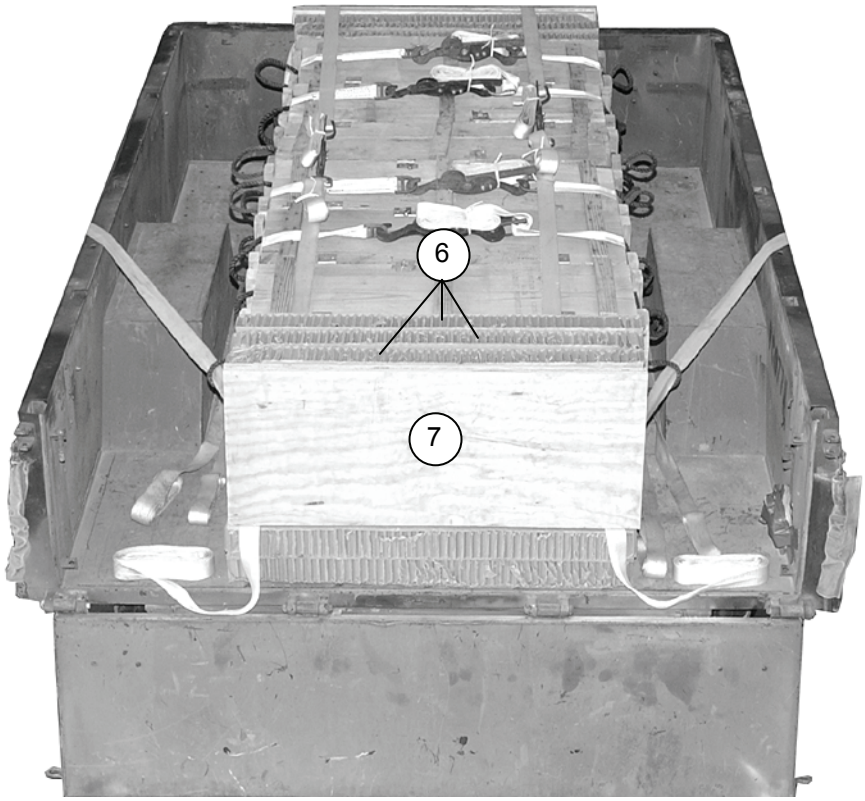




(4) Form a 30-foot lashing according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Run the lashing across the rear bottom box. Pass each free end through the carrying handle of the rear bottom box and over the side panel of the trailer, in front of the wheel well.

(5) Secure the lashing in front of the second cross member of the trailer with two D-rings and a load binder.

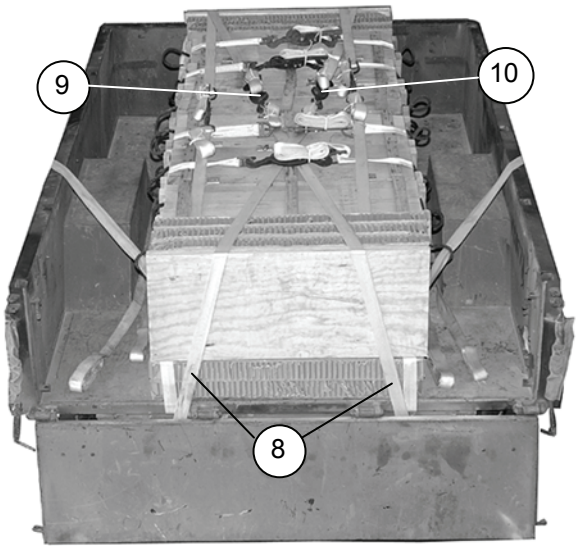
Figure 2-14. Ammunition Boxes Lashed and Secured in the Trailer (Continued)

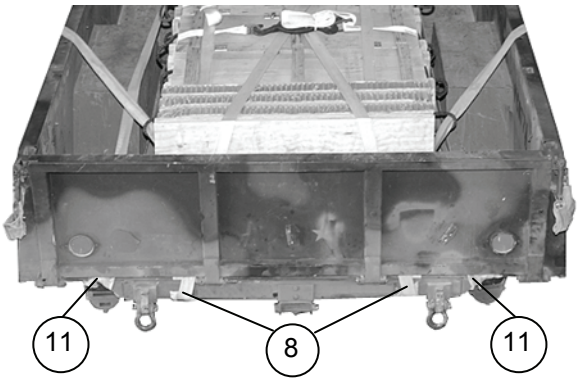


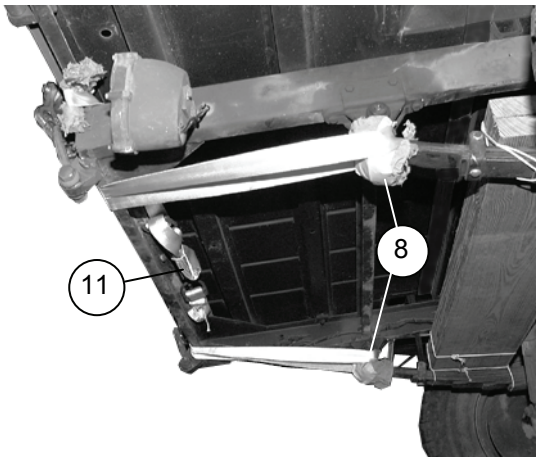
(6) Place three 15- by 36-inch pieces of honeycomb flush against the rear ammunition boxes.

(7) Cut and place two 3/4- by 15- by 36-inch pieces of plywood flush against the honeycomb.

Figure 2-14. Ammunition Boxes Lashed and Secured in the Trailer (Continued)







(8) Pass the free end of each pre-positioned lashing (on the rear of the trailer) between the tailgate and the cargo bed. Pass the ends around the bumper and back up to the top of the load.

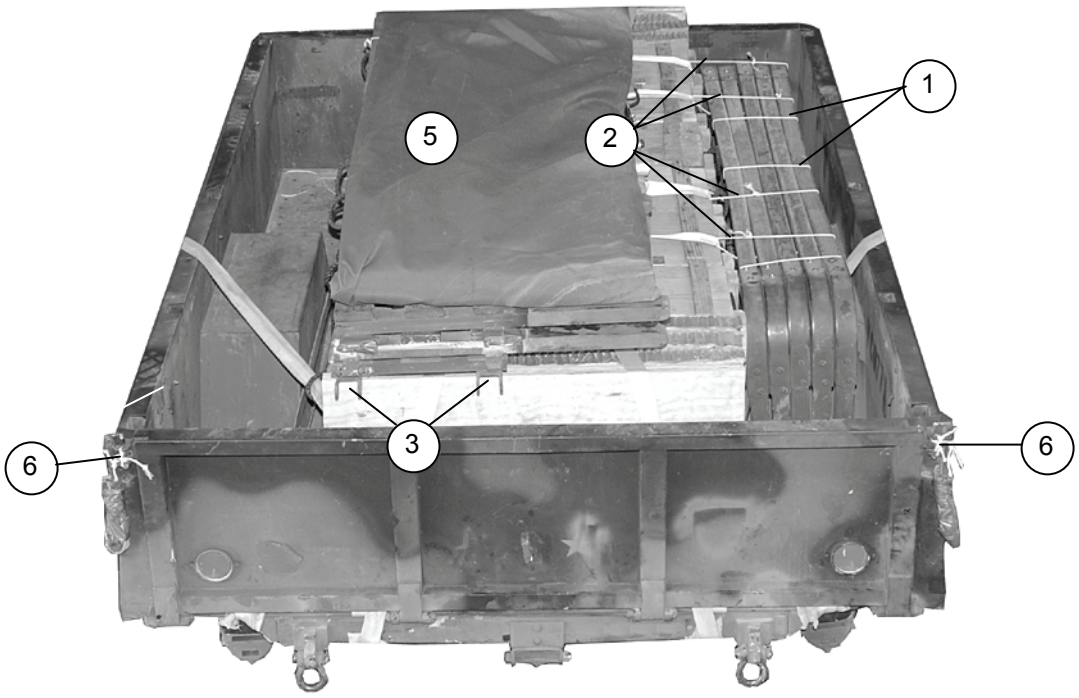
(9) Secure the left rear lashing to the right front lashing with a D-ring and a load binder.

(10) Secure the right rear lashing to the left front lashing with a D-ring and a load binder.

(11) Pass the free end of each pre-positioned 30-foot lashing (attached to the front end board) between the tailgate and the cargo bed. Run each lashing down between the mainframe and under the cargo bed. Secure the lashings with D-rings and load binders.

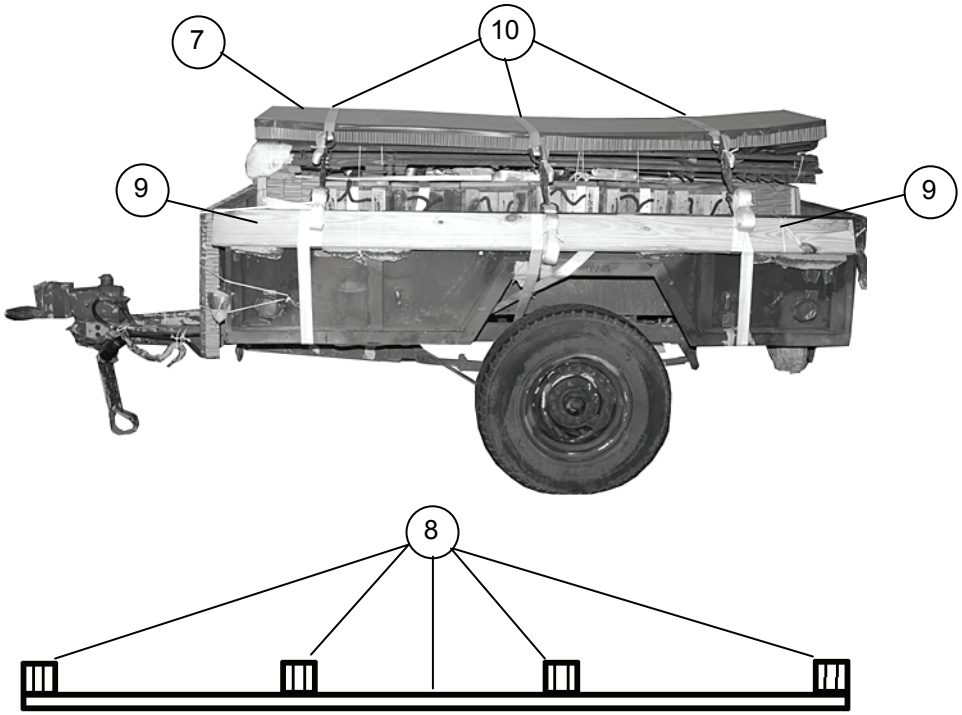
Note: Pad sharp areas that touch lashings to avoid contact.

Figure 2-14. Ammunition Boxes Lashed and Secured in the Trailer (Continued)



1. Tie the bows together with type III nylon cord, and place them inside the trailer on the right side.
2. Tie the bows with type III nylon cord to the lashings which run from left to right across the top of the ammunition boxes.
3. Cover the ends of the side racks with cellulose wadding and tape. Tie the side racks together with type III nylon cord, and place them on top of the ammunition boxes.
4. Tie the side racks with type III nylon cord to the lashings which run from left to right across the top of the ammunition boxes (not shown).
5. Fold the tarpaulin and center it on top of the accompanying load.
6. Close the tailgate, and tie the latches with type III nylon cord.

Figure 2-15. Trailer Components Stowed.



(7) Place a 36- by 96-inch piece of honeycomb on top of the tarpaulin. Tape the edges of the honeycomb where the lashings will touch.

(8) Cut two 2- by 6- by 96-inch pieces of lumber to serve as side boards. Cut eight 6- by 6-inch pieces of honeycomb. Glue four pieces of the honeycomb to each side board.

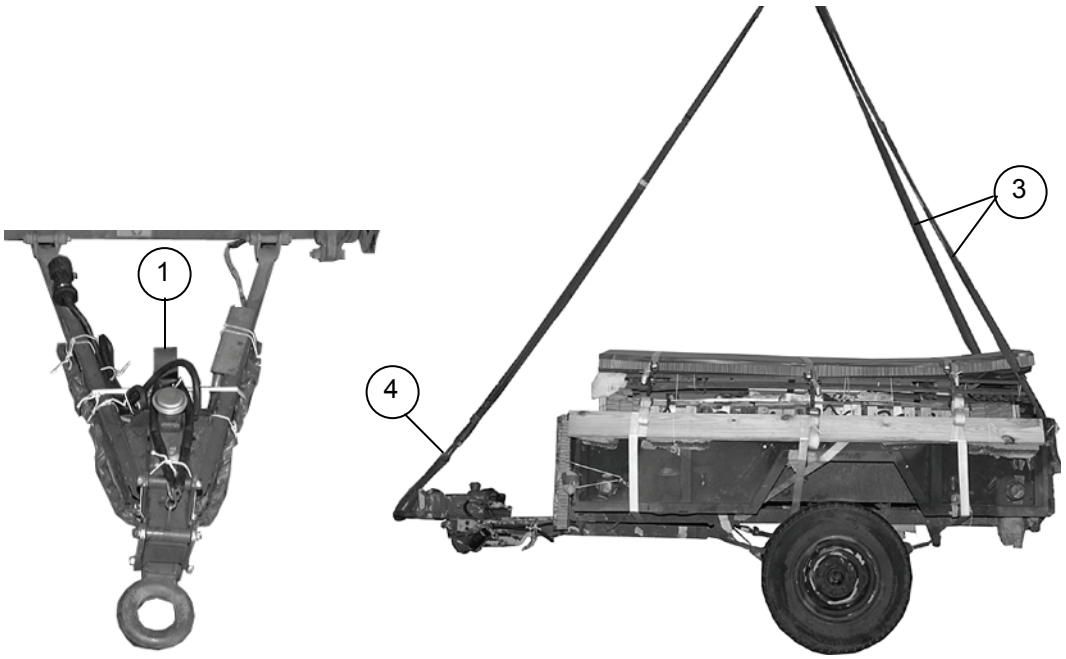
(9) Tie the side boards to the trailer with type III nylon cord.

(10) Form three 30-foot lashings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Secure the load and trailer components by passing each lashing under the trailer body and looped around the side boards. Secure the lashing ends together on the left side of the trailer between the honeycomb and side board.

Figure 2-15. Trailer Components Stowed (Continued)

INSTALLING SUSPENSION SLINGS

2-7. Raise and secure the trailer support stand as shown in Figure 2-16. Use three 12-foot (2-loop), type XXVI nylon webbing slings; one 3-foot (2-loop), type XXVI nylon webbing sling; and three medium suspension clevises to lift the trailer.

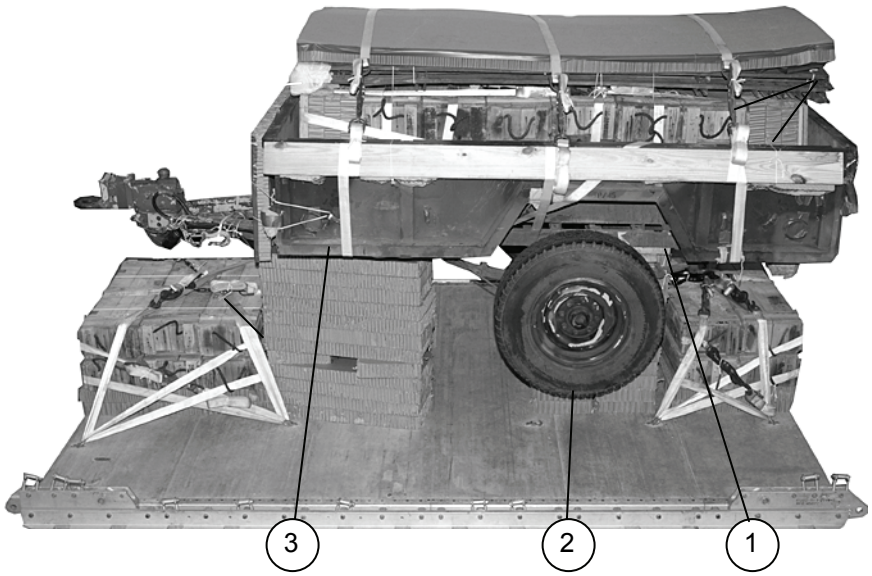


1. Raise the support stand, and tie it with 1/2-inch tubular nylon webbing.
2. Place the bell portion of each clevis in the end loop of each 12-foot sling (not shown).
3. Attach the two rear lifting slings to the tie-down provisions on the rear of the trailer.
4. Pass a 3-foot sling through the lunette on the trailer. Secure both ends of the 3-foot sling to the medium suspension clevis.

Figure 2-16. Lifting Slings Installed

LIFTING AND POSITIONING TRAILER

2-8. Lift the trailer using the slings and position it on the honeycomb stacks as shown in Figure 2-17.



(1) Position the frame support board on stack 1.

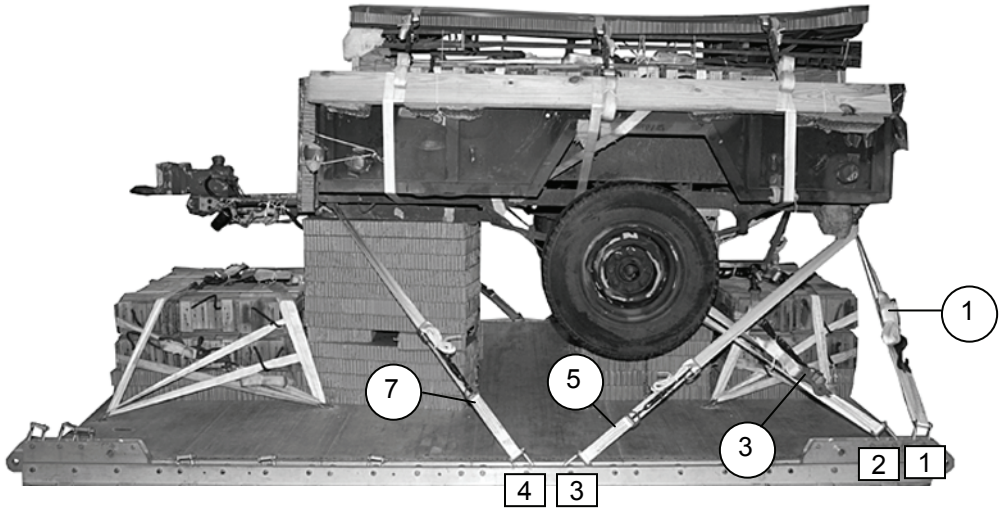
(2) Position the axle on stack 2.

(3) Position the drawbar on stack 3.

Figure 2-17. Trailer Positioned

LASHING TRAILER

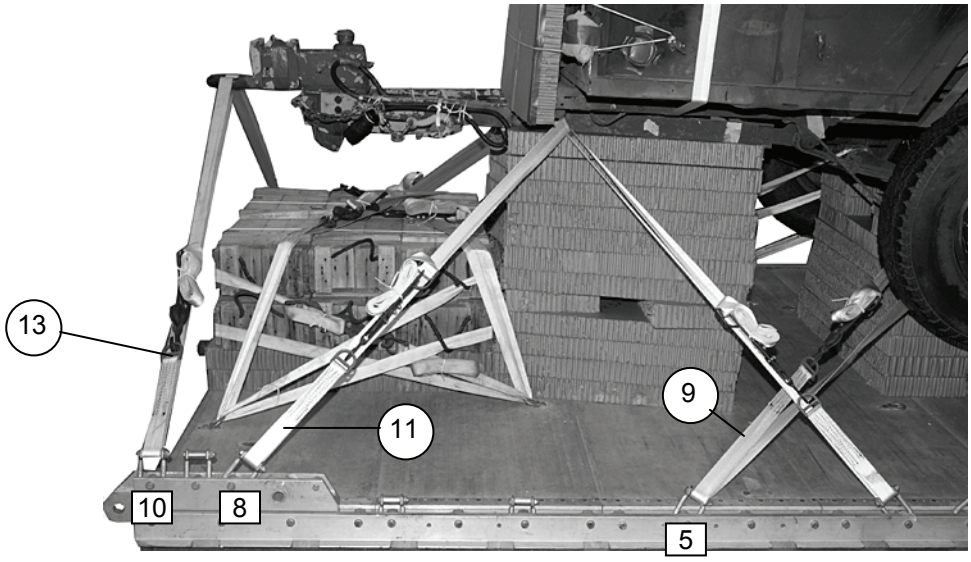
2-9. Lash the trailer to the platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figures 2-18 and 2-19.



Note: Left and right refer to the vehicle not the platform.

Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
1	1	Through the left rear lifting shackle.
2	1A	Through the right rear lifting shackle.
3	2	Around the left side of the axle.
4	2A	Around the right side of the axle.
5	3	Through the left rear lifting shackle.
6	3A	Through the right rear lifting shackle.
7	4	Through the left front lifting shackle.
8	4A	Through the right front lifting shackle.

Figure 2-18. Lashings 1 through 8 Installed



Note: Left and right refer to the vehicle not the platform.

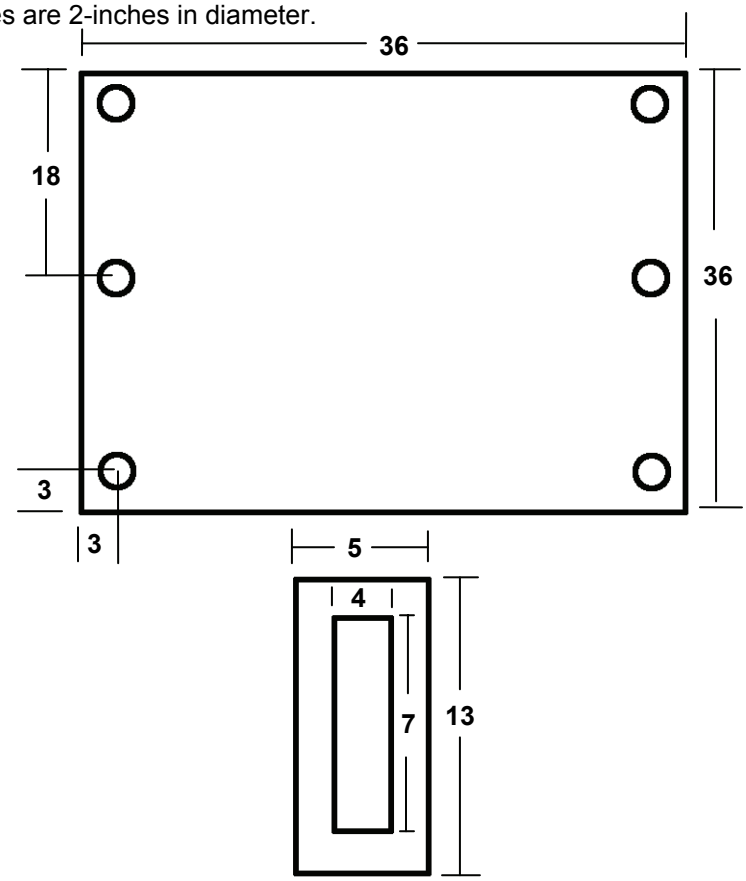
Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
9	5	Around the left side of the axle.
10	5A	Around the right side of the axle.
11	8	Through the left front lifting shackle.
12	8A	Through the right front lifting shackle.
13	10	Through the lunette.
14	10A	Through the lunette.

Figure 2-19. Lashings 9 through 14 Installed

BUILDING AND INSTALLING PARACHUTE STOWAGE PLATFORM

2-10. Build the parachute stowage platform as shown in Figure 2-20. Install the parachute stowage platform using four 15-foot tie-down assemblies as shown in Figure 2-21.

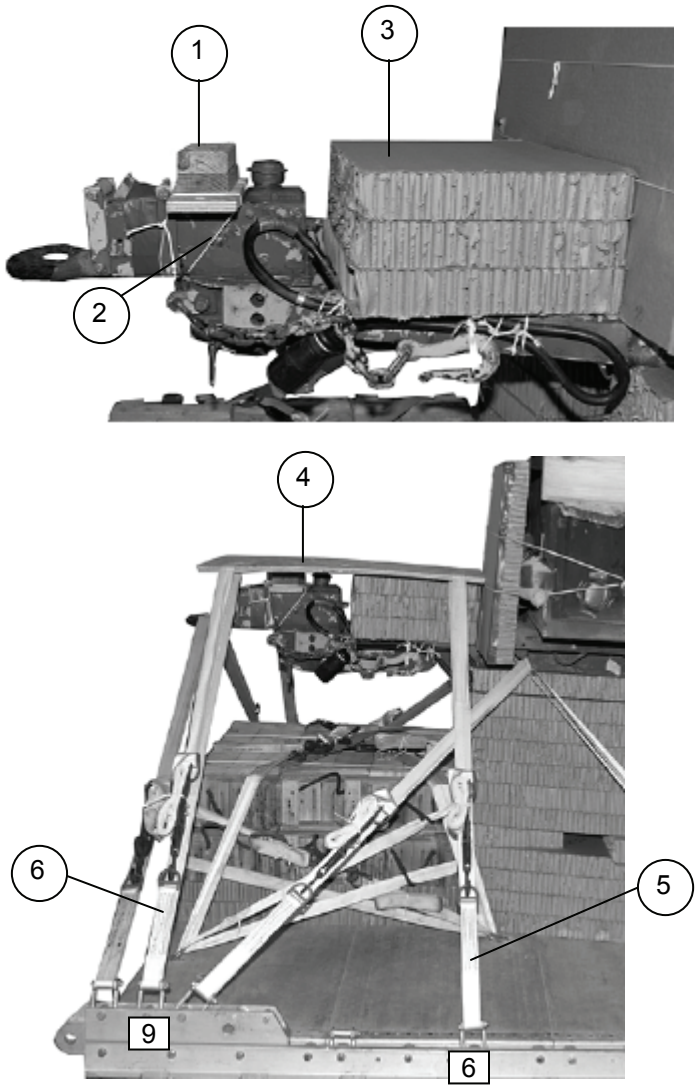
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale.
3. All holes are 2-inches in diameter.



Step:

1. Cut a 3/4- by 36- by 36-inch piece of plywood.
2. Drill a 2-inch hole 3 inches from each corner of the platform.
3. Drill a 2-inch hole 3 inches from the side and center of the left and right side of the platform.
4. Cut a 3/4- by 5- by 13-inch piece of plywood.
5. Cut two 2- by 4- by 7-inch pieces of lumber and nail together using 16d nails.
6. Center the two 2- by 4- by 7-inch pieces of lumber on top of the 3/4- by 5- by 13-inch piece of plywood and nail together using 16d nails.

Figure 2-20. Parachute Stowage Platform Built

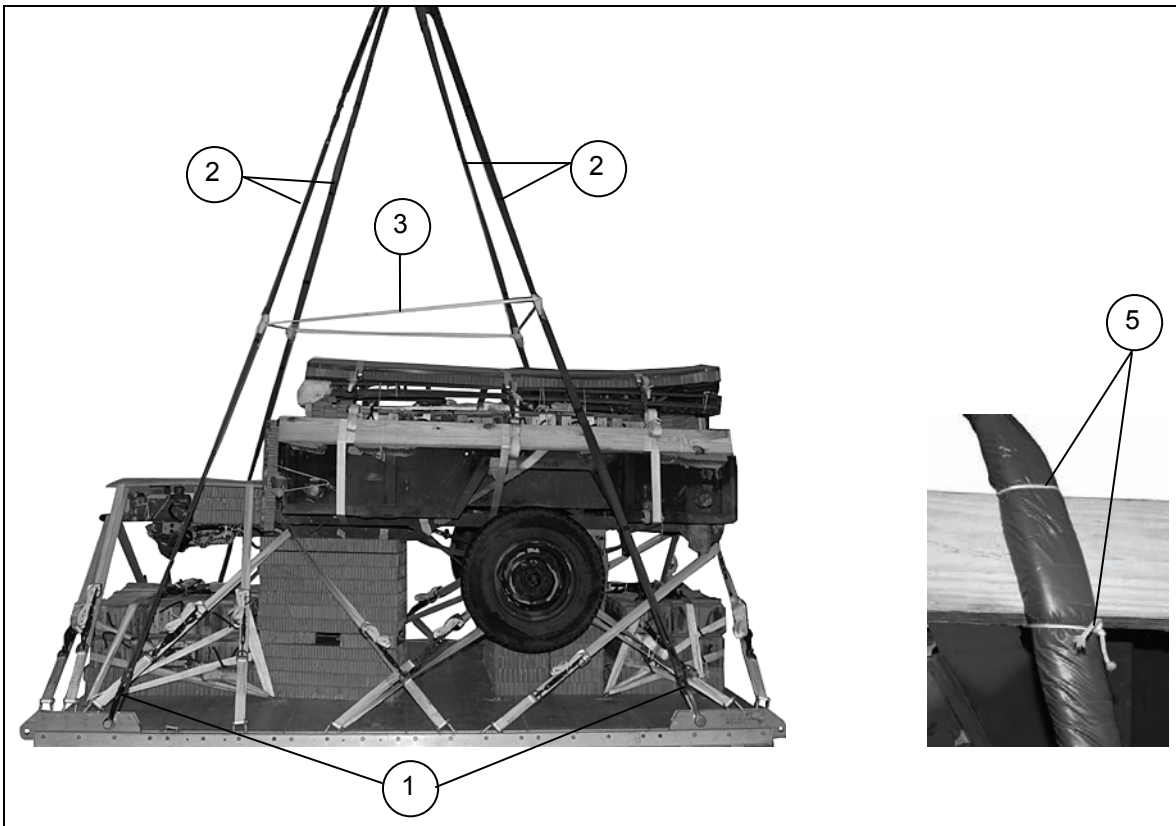


1. Place the wooden support on top of the brake housing.
2. Secure the wooden support down to the brake housing with type III nylon cord.
3. Cut and position three 17- by 22-inch pieces of honeycomb on top of the drawbar flush against the honeycomb on the front of the trailer.
4. Place the parachute stowage platform on top of the honeycomb with the smooth side of plywood facing up.
5. Run the free end of a 15-foot lashing from clevis 6 through the front hole of parachute stowage platform. Secure with D-ring and a load binder. Repeat for clevis 6A.
6. Run the free end of a 15-foot lashing from clevis 9 through the rear hole of parachute stowage platform. Secure with D-ring and a load binder. Repeat for clevis 9A.

Figure 2-21 Parachute Stowage Platform Installed

INSTALLING AND SAFETY TIEING SUSPENSION SLINGS

2-11. Install and safety tie the suspension slings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figures 2-22.

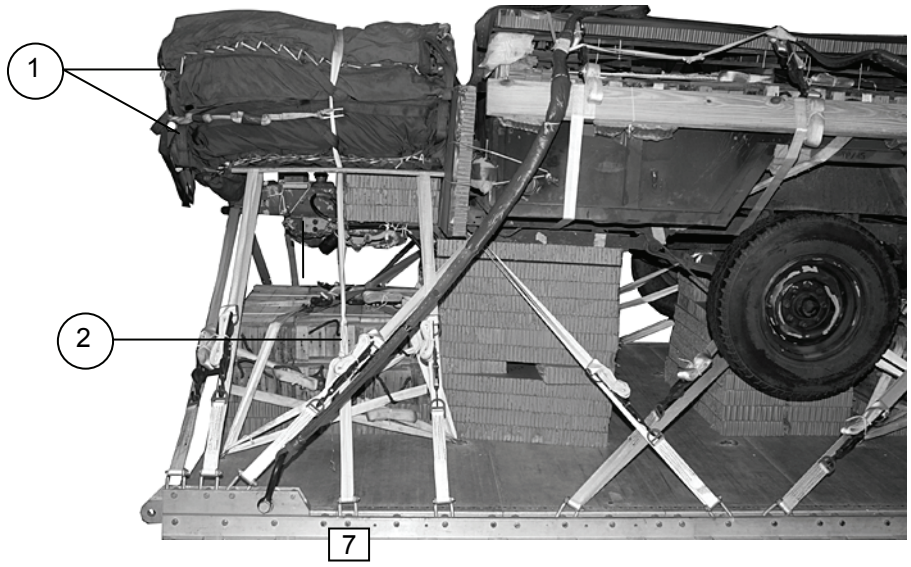


1. Attach a 16-foot (2-loop), type XXVI nylon webbing sling to each tandem link using a large suspension clevis.
2. Raise the suspension slings above the load.
3. Safety the suspension slings with a deadman's tie according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
4. Pad the suspension slings with 12 by 36-inch felt and tape. The front will be 34 inches up from the front suspension clevises. The rear will be 42 inches up from the rear suspension clevises (not shown).
5. Lower the suspension slings and secure them to the side boards using type III nylon cord.

Figure 2-22 Suspension Slings Installed and Safety Tied

STOWING CARGO PARACHUTES

2-12. Stow and restrain two G-11B cargo parachutes according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-23.



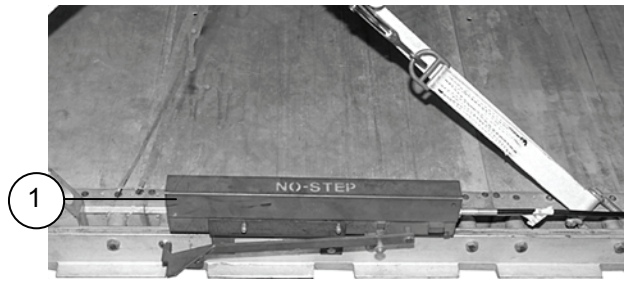
(1) Prepare, position, and stow two G-11B cargo parachutes according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

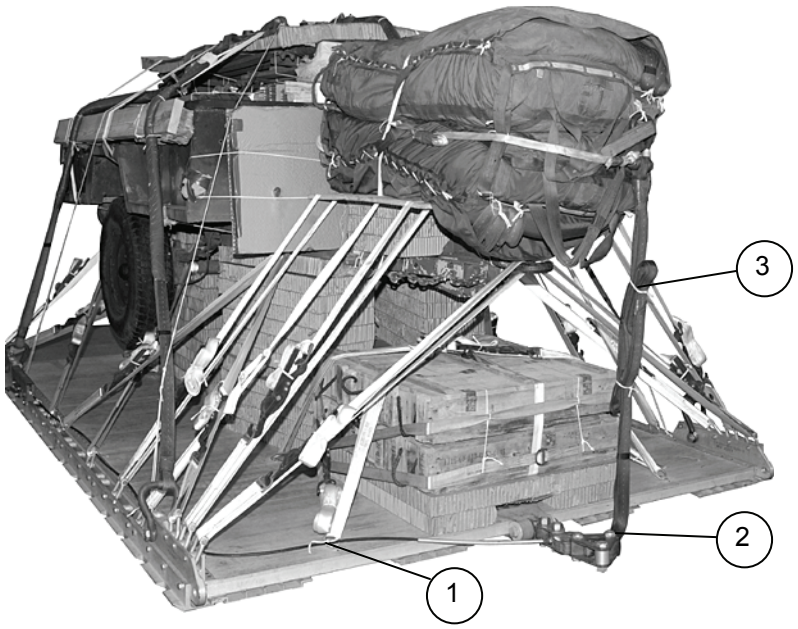
(2) Install type VIII nylon webbing cargo parachute restraint strap according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Use tie-down clevis 7 and 7A.

Figure 2-23. Cargo Parachutes Stowed

INSTALLING THE EXTRACTION SYSTEM

2-13. Install the extraction force transfer coupling (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 2-24.





1. Install the components of the EFTC according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Use the front mounting holes for the EFTC brackets. Install an actuator, with a 12-foot cable, to the EFTC mounting brackets according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.Safety tie the cable to tie-down ring D6 and several other convenient points with type I, ¼-inch cotton webbing.

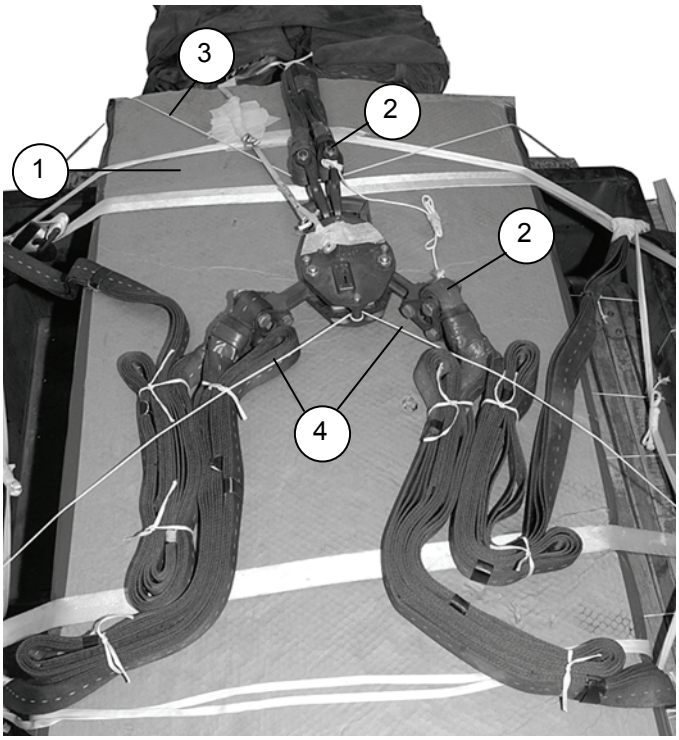
2. Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

3. Fold the excess deployment line, and secure the folds in place according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 2-24. Extraction System Installed

INSTALLING THE RELEASE SYSTEM

2-14. Prepare the M-1 cargo parachute release assembly according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Install the release assembly as shown in Figure 2-25.



1. Place the M-2 cargo parachute release assembly on top of the accompanying load and install it according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
2. Attach the riser extensions to the upper suspension links and the suspension slings to the lower suspension links of the M-1 parachute release assembly.
3. Safety tie the top of the release assembly with type III nylon cord according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
4. Safety tie the bottom of the release assembly with type III nylon cord according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 2-25. M-2 Cargo Parachute Release Assembly Installed

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

2-15. Install the provisions for emergency restraints on the load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

PLACING EXTRACTION PARACHUTE

2-16. 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 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

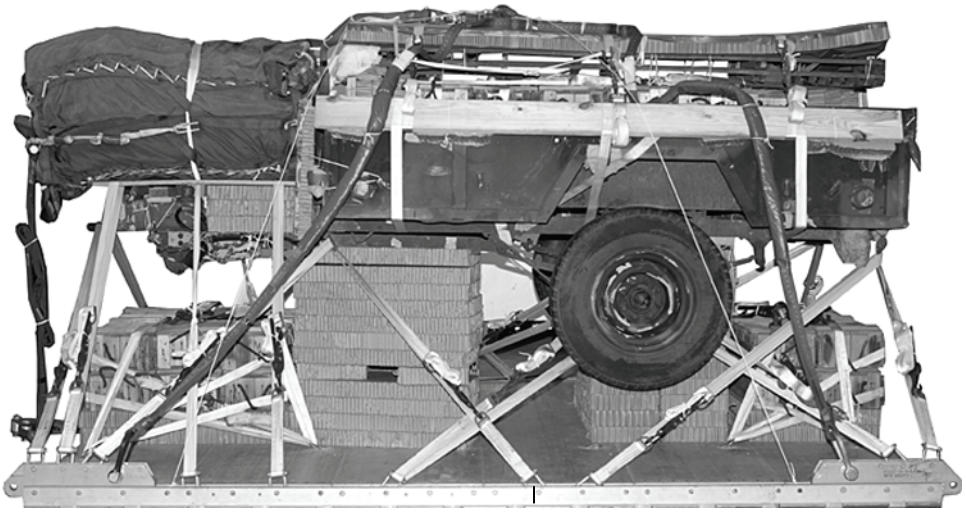
2-17. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-26. Complete Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

2-18. Use the equipment listed in Table 2-1 to rig this load.

CAUTION

Make the final rigger inspection required by AR 59-4 and FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 before the load leaves the rigging site.



C/B

RIGGED LOAD DATA

Weight: Load Shown.....5,920 pounds

Maximum Allowed.....8,000 pounds

Height.....72 inches

Width.....108 inches

Overall Length .....163 inches

Overhang: Front.....0
Rear.....0

Center of Balance (CB) (from front edge of the platform).....70 inches

Extraction System with 12-foot cable (adds 18 inches to the length of the load)

Figure 2-25. M101A2, ¾-Ton Trailer and Accompanying Load on a Type V Platform Rigged for Low-Velocity Airdrop

Table 2-1. Equipment Required for Rigging the M101, M101A1, and M101A2, ¾ Ton Cargo Trailer 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-inch (large)	5
4030-00-678-8562	Clevis, suspension, 3/4-inch (medium)	4
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop extraction force transfer, w/12 ft. cable	1
1670-00-360-0328	Cover, clevis	2
8135-00-664-6958	Cushioning material (Cellulose wadding)	As required
8305-00-958-3685	Felt, 1/2-inch thick	As required
1670-00-003-4391	Knife, miniature, cutter	1
1670-01-183-2678	Leaf, extraction line (line bag) (add 2 for C-17)	2
	Line extraction:	
1670-01-064-4452	60-foot (1-loop), type XXVI (for C-130)	1
1670-01-107-7652	160-foot (1-loop), type XXVI (for C-17)	1
1670-01-064-4452	60-foot (1-loop), type XXVI (for C-17), (drogue line)	1
1670-00-783-5988	Link assembly, type IV (C-17 only)	1
1670-01-493-6418	Link assembly, two-point, small, 3 ¾-inch	1
	Lumber:	
5510-00-220-6146	2- by 4- 96-inch	1
5510-00-220-6148	2- by 6- by 96-inch	3
5510-00-220-6250	2- by 12- by 96-inch	1
5315-00-753-3885	Nail, steel, common, 16D	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	20 sheets
1670-01-016-7841	Parachute, cargo, G-11B	2
	Parachute, cargo, extraction:	
1670-01-063-3715	15-foot (add one for C-17)	1
	Platform, airdrop, type V, 12-foot:	
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-inch	1 sheet

Table 2-1. Equipment Required for Rigging the Type I, D-5B Tractor-Dozer for Low-Velocity Airdrop (Continued)

National Stock Number	*Item*	*Quantity*
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop:	
1670-01-062-6301	3-foot (2-loop), type XXVI	1
1670-01-062-6304	9-foot (2-loop), type XXVI	1
1670-01-062-6303	12-foot (2-loop), type XXVI	3
1670-01-063-7761	16-foot (2-loop), type XXVI	4
1670-01-062-6302	20-foot (2-loop), type XXVI	2
5340-00-040-8219	Strap, parachute, release, multi-knife	2
7501-00-266-5016	Tape, adhesive, 2-inch	As required
1670-00-937-0271	Tie-down assembly, 15-foot	55
1670-01-483-8259	Towplate release mechanism (H-block) (C-17 only)	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-inch	As required
8305-00-263-3591	Nylon, type VIII	As required
8305-00-268-2455	Nylon, tubular, 1-inch, OD 7	As required

Chapter 3

Rigging the M1101 High Mobility Trailer, Light Variant (HMT-L), ¾-Ton Cargo Trailer on a 12-Foot, Type V Platform for Low-Velocity Airdrop

DESCRIPTION OF THE LOAD

3-1. The M1101 HMT-L (Figure 3-1) is rigged on a 12-foot, type V airdrop platform using two G-11-B cargo parachutes. The M1101 HMT-L is 99 ½ inches high (reducible to 52 ½ inches), 87 ½ inches wide, 135 inches long, and weighs 1,360 pounds. The trailer must be rigged with an accompanying load. The accompanying load must not weigh more than 2,040 pounds. The accompanying load shown in this chapter consists of 18 ammunition boxes weighing approximately 1,800 pounds.

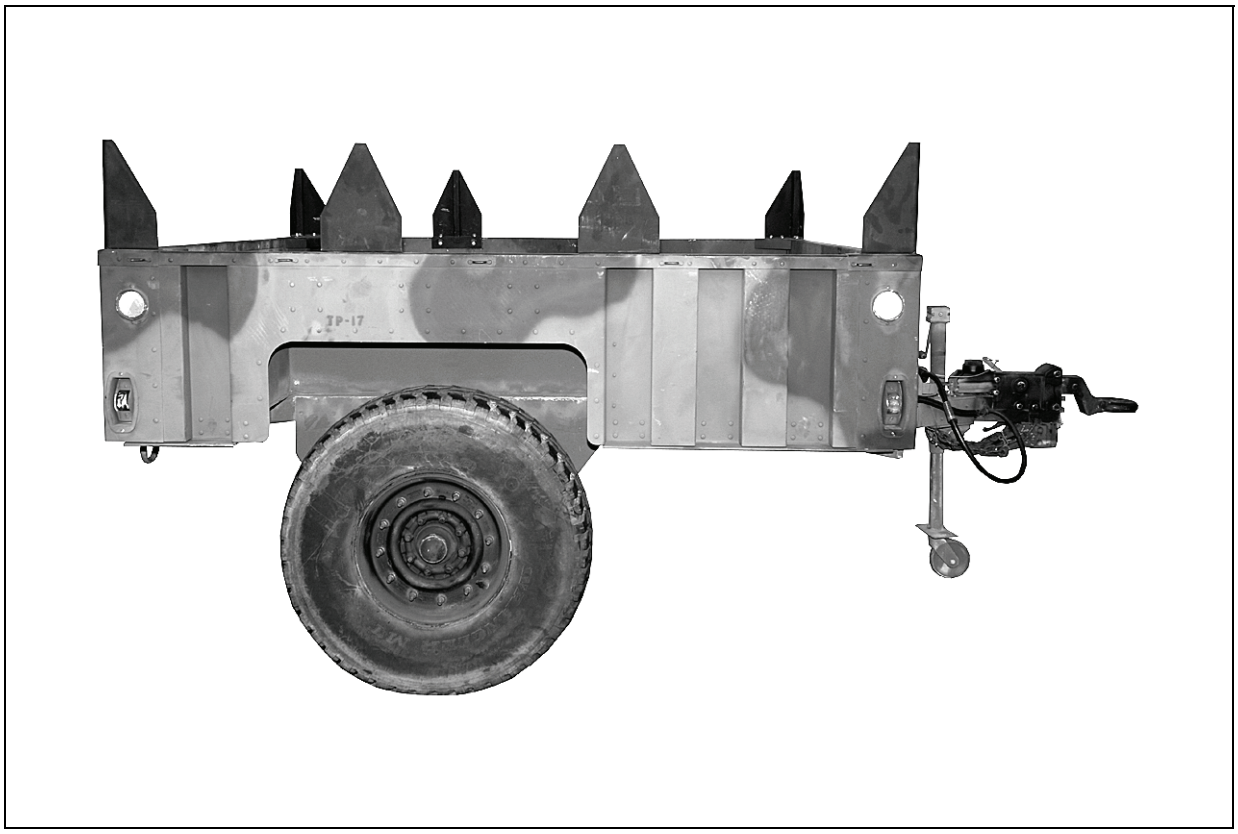
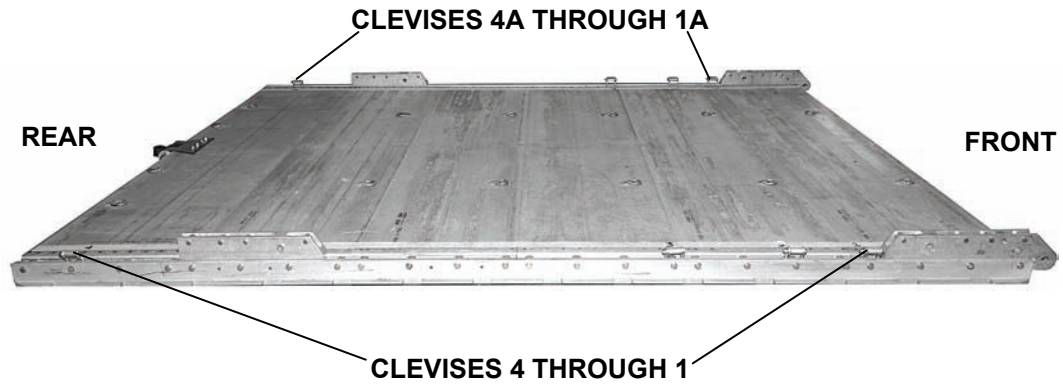


Figure 3-1. M1101 HMT-L ¾-Ton Trailer

PREPARING PLATFORM

3-2. Prepare a 12-foot, type V airdrop platform as shown in Figure 3-2.



Step:

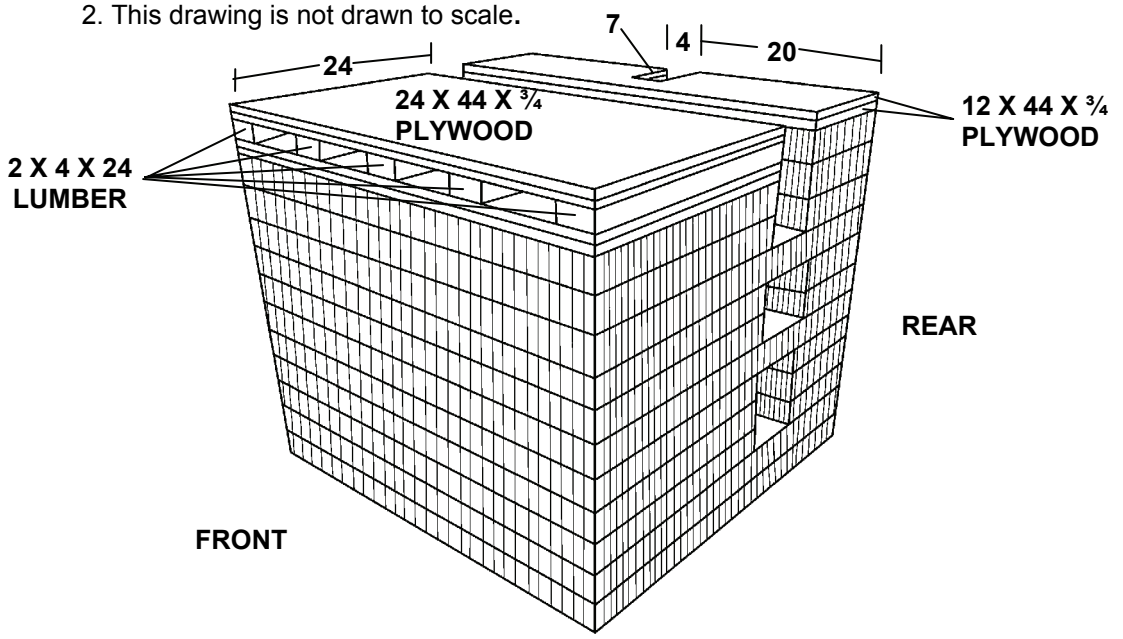
1. Inspect, or assemble and inspect, a 12-foot, type V airdrop platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link to each platform side rail using bushing holes 1, 2, and 3.
3. Install a suspension bracket assembly to each platform side rail using bushing holes 18, 19, and 20.
4. Starting at the front of each platform side rail, install clevises on the bushings bolted to holes 4, 6, 9, and 23.
5. Starting at the front of the platform, number the clevises 1 through 4 on the right side and 1A through 4A on the left side
6. 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 3-2. Platform Prepared

BUILDING AND POSITIONING HONEYCOMB STACKS

3-3. Build the honeycomb stacks as shown in Figures 3-3 and 3-4. Position the stacks as shown in Figure 3-5.

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



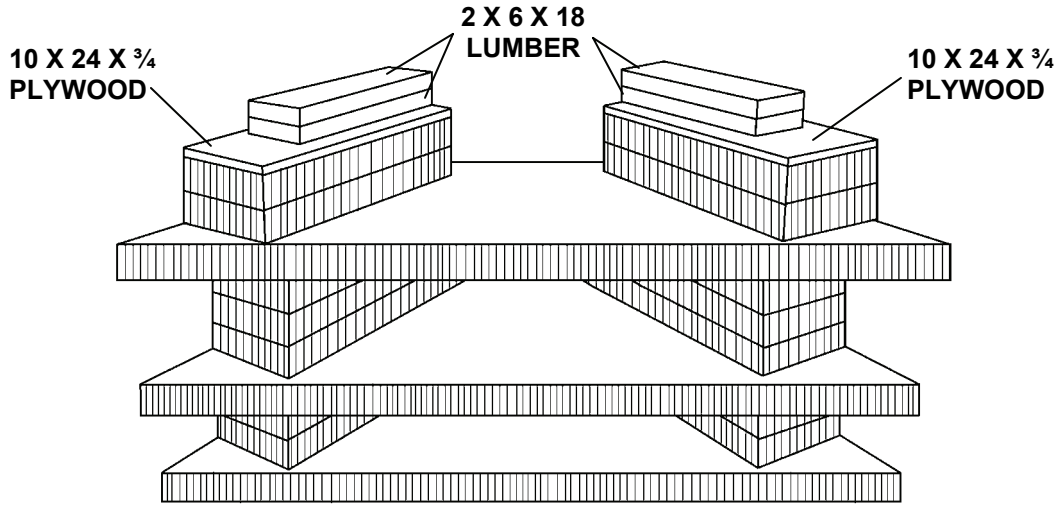
Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
1	4	22	42	Honeycomb	Glue two pieces together to form two stacks of two pieces of honeycomb. Place the stacks flush together along the 42-inch side forming a 42- by 44-inch base.
	3	44	12	Honeycomb	Glue the pieces flush on the rear edge of the stack.
	3	44	24	Honeycomb	Glue the pieces flush on the front edge of the stack.
	2	22	42	Honeycomb	Glue the pieces on top of the stack with the 22-inch sides flush along the 44-inch side of the stack.
	2	44	12	Honeycomb	Glue the pieces flush on the rear edge of the stack.
	2	44	24	Honeycomb	Glue the pieces flush on the front edge of the stack.

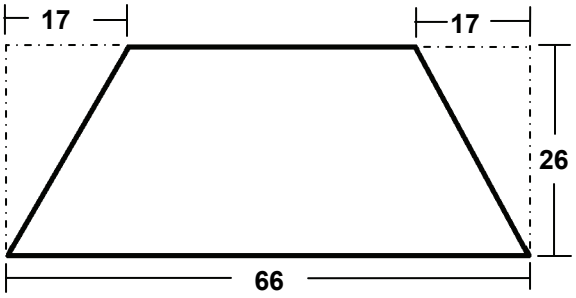
Figure 3-3. Honeycomb Stack 1 Prepared

Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
1	2	22	42	Honeycomb	Glue the pieces on top of the stack with the 22-inch sides flush along the 44-inch side of the stack.
	2	44	12	Honeycomb	Glue the pieces flush on the rear edge of the stack.
	2	44	24	Honeycomb	Glue the pieces flush on the front edge of the stack.
	1	44	12	Honeycomb	Cut a 4- by 7-inch cutout, 20 inches from the end of the honeycomb. Glue the honeycomb flush on the rear of the stack with the cutout toward the rear.
	2	44	12	¾-Inch Plywood	Cut a 4- by 7-inch cutout, 20 inches from the end of the plywood. Glue the plywood flush on the rear of the stack with the cutout toward the rear.
	4	44	24	¾-Inch Plywood	Glue two pieces of 44- by 24- by ¾-inch plywood together flush.
	5		24	2- by 4-Inch Lumber	Nail a 2- by 4- by 24-inch piece of lumber flush along each 24-inch side of the plywood. Nail a third piece of 2-by 4- by 24-inch lumber centered between the outside pieces of lumber. Nail the remaining two pieces of 2- by 4- by 24-inch lumber 11 ½ inches in from each 24 inch side of the plywood.

Figure 3-3 Honeycomb Stack 1 Prepared (Continued)

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



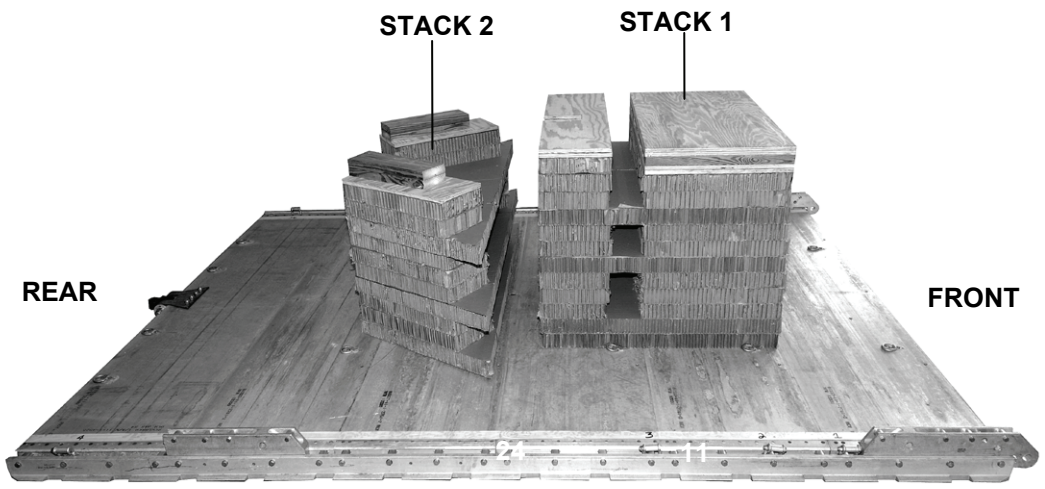


Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
2	3	66	26	Honeycomb	Cut the three pieces as shown above. Use one piece as the base and place the others to the side.
	14	10	24	Honeycomb	Glue four pieces together to form two stacks of two layers. Glue the stacks with the 24-inch side flush along the 26-inch side and back corner of the base. Glue another 26- by 66-inch piece of honeycomb, flush on top of the stack. Glue six pieces together to form two stacks of three layers. Glue the stacks with the 24-inch side flush along the 26-inch side and back corner of the base.

Figure 3-4. Honeycomb Stack 2 Prepared

Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
2					Glue t 26- by 66-inch piece of honeycomb, flush on top of the stack Glue four pieces together to form two stacks of two layers. Glue the stacks with the 24-inch side flush along the 26-inch side and back corner of the base.
	2	10	24	¾-Inch Plywood	
	4		18	2- by 6-Inch Lumber	Center two pieces of lumber, flush, with the 6 inch side of the lumber along the 10 inch side of the plywood. Make two stacks. Glue the lumber stacks on top of the two pieces of honeycomb.

Figure 3-4. Honeycomb Stack 2 Prepared (Continued)



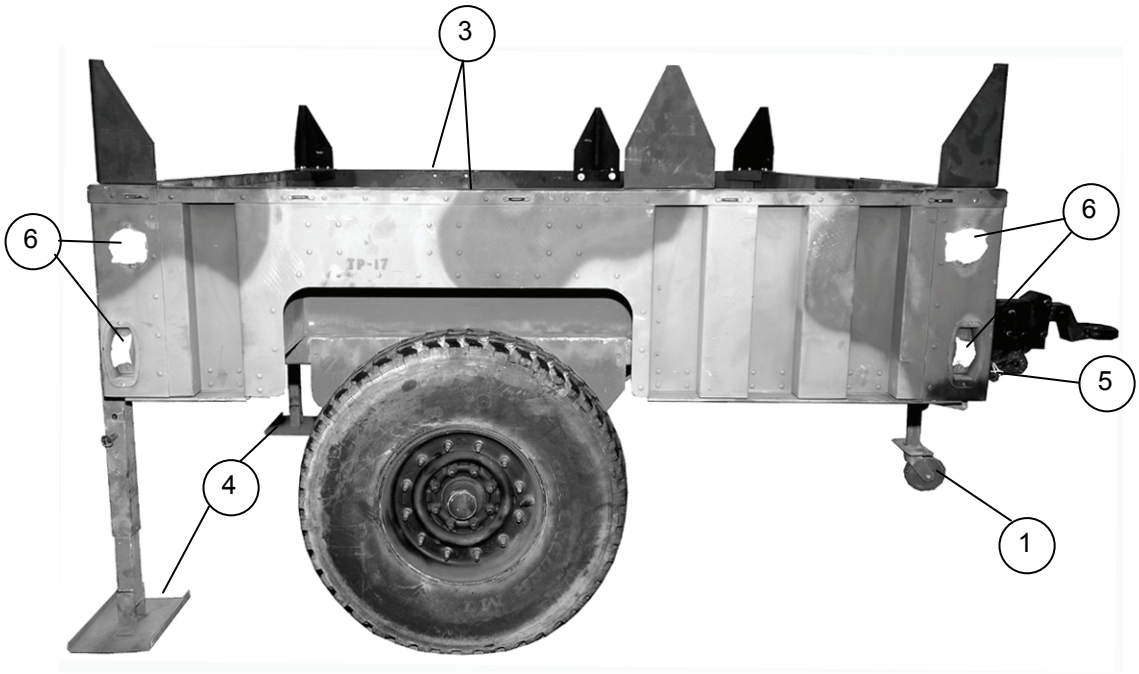
Step:

1. Position stack 1 centered and 24 inches from the front edge of the platform. Ensure the 4- by 7-inch cutout faces the rear of the load.
2. Position stack 2 centered and 7 ½ inches from the rear edge of stack 1.

Figure 3-5. Honeycomb Stacks Positioned on Platform

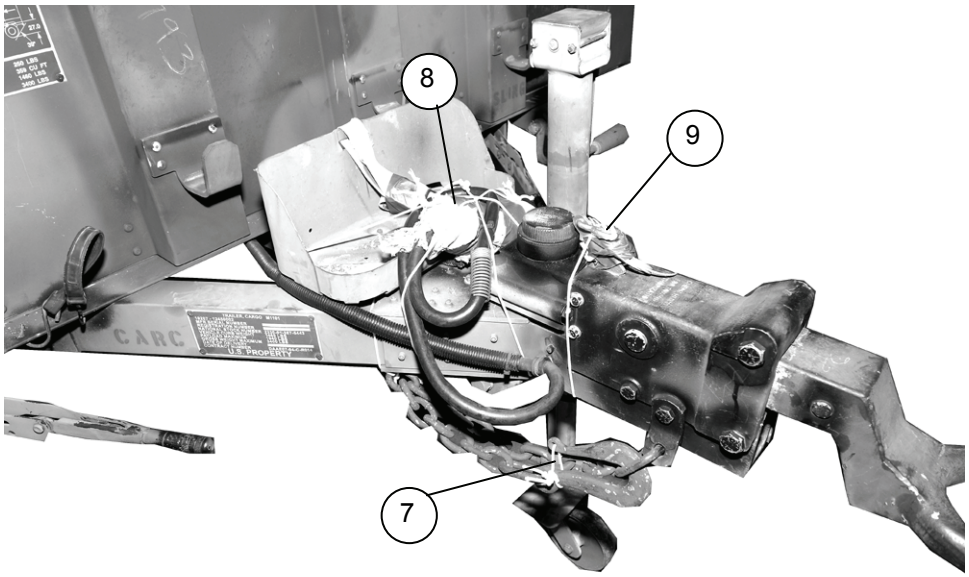
PREPARING THE TRAILER AND ACCOMPANYING LOAD ENDBOARDS

3-4. Prepare the trailer as shown in Figure 3-6. Build and position the accompanying load endboards as shown in Figures 3-7 and 3-8.



1. Lower the front support leg.
2. Remove the tarp and bows and set aside (not shown).
3. Remove the third from the front bow support bracket. Tape the nuts and bolts to the bracket itself and set aside.
4. Install the support legs on the rear of the trailer.
5. Engage the parking brakes.
6. Tape all lights and reflectors.

Figure 3-6. Trailer Prepared



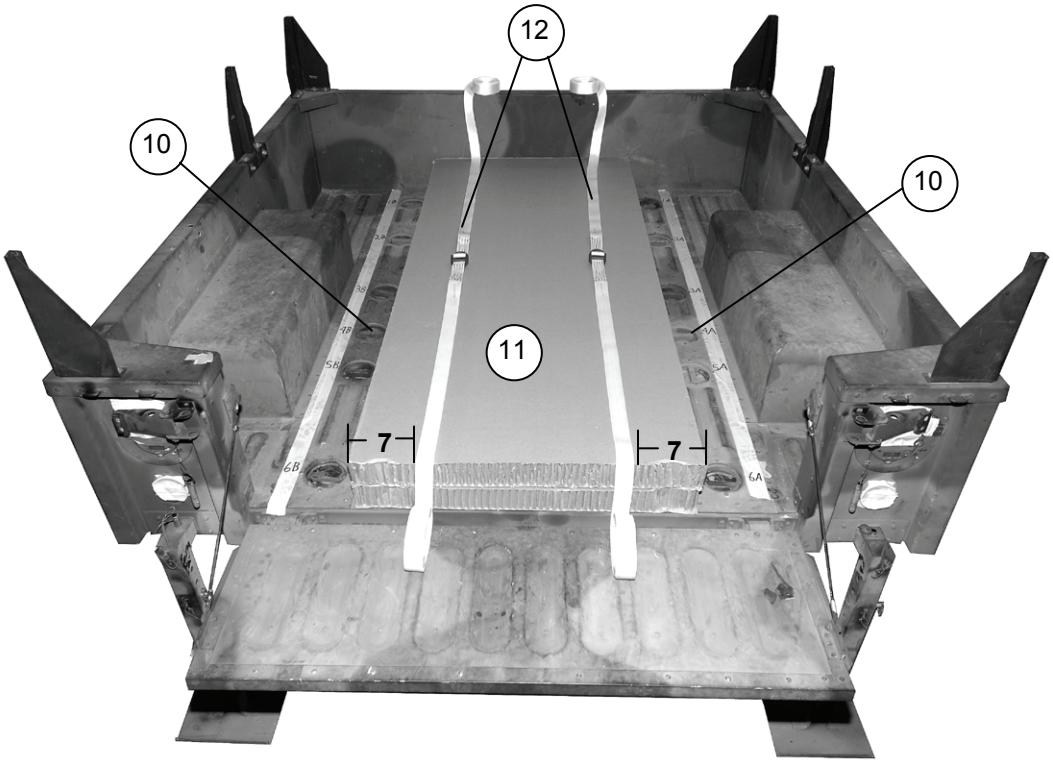
7 Safety-tie the chain hook to themselves using a length of type III, nylon cord. Secure the excess chain to the drawbar with type III nylon cord.

8 Pad the electrical cable coupler with cellulose padding and tape. Secure the coupler to the drawbar with type III, nylon cord.

9 S-fold the break-away cable and secure the excess cloth-backed tape. Secure the cable to the drawbar with type III, nylon cord.

Figure 3-6. Trailer Prepared (Continued)

Note. All measurements are given in inches.



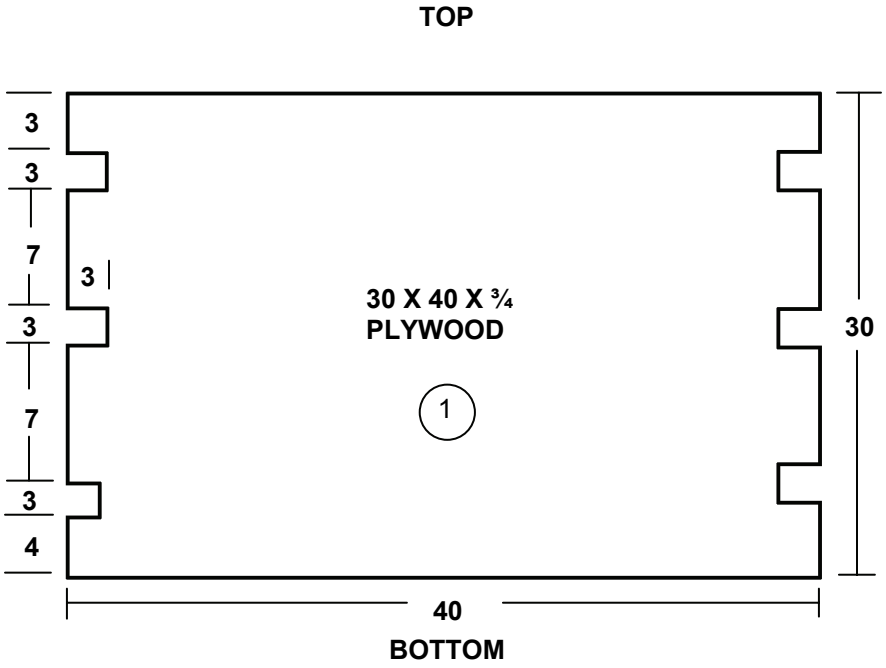
(10) Starting at the front of the trailer, number the tie-down provisions 1A through 6A on the right side of the trailer bed and 1B through 6B on the left side of the trailer.

(11) Place two 36- by 86-inch pieces of honeycomb stacked, centered and flush against the bulkhead (front of the trailer).

(12) Center the 30-foot lashings 7-inches from each 86-inch edge on the honeycomb. Roll the excess lashing and place on top of the bulkhead and tailgate.

Figure 3-6. Trailer Prepared (Continued)

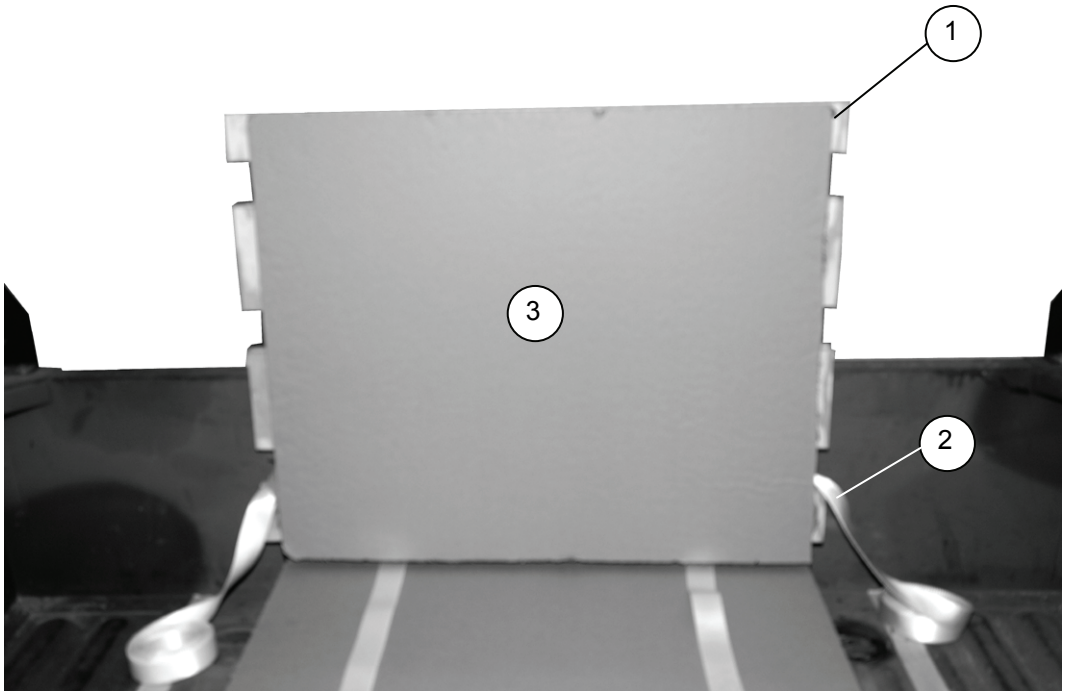
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**
3. Do not nail the plywood pieces together.



(1) Cut four 30- by 40- by ¾-inch plywood endboards as shown.

(2) Pad the cutouts with cellulose padding and tape (not shown).

Figure 3-7. End Boards Built



1. Center two endboards on the base stack of honeycomb and against the front of the trailer.
2. Route a 30-foot lashing through the bottom cutouts of the endboards from front to rear. Tape the lashing to the front of the endboard to temporarily hold it in place.
3. Place a 30- by 36-inch piece of honeycomb centered against the rear of the endboard.

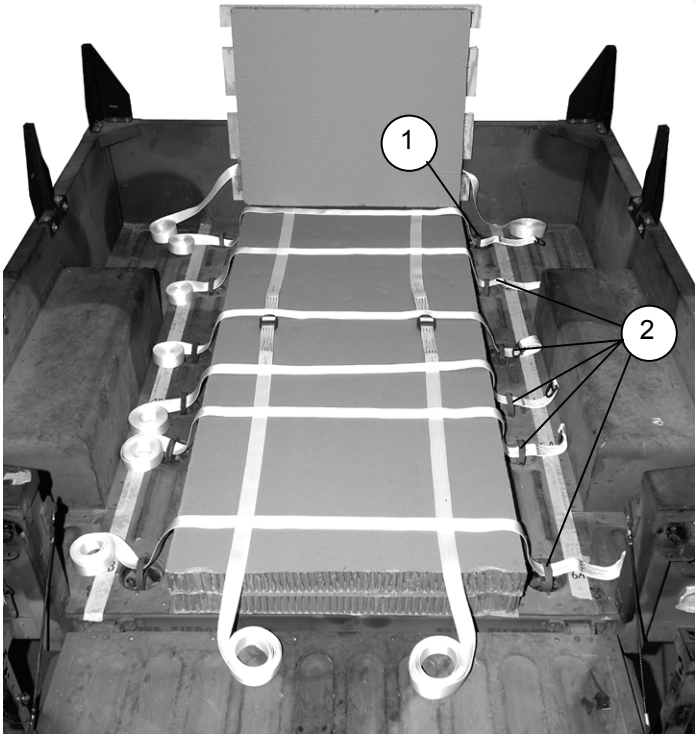
Figure 3-8. Front End Board Positioned

POSITION THE ACCOMPANYING LOAD IN THE TRAILER

3-5. Stow the accompanying load of 24 ammunition boxes in the trailer as shown in Figure 3-9 through 3-11. The accompanying load must not weigh more than 2,040 pounds. If the load includes a hazardous material, it must be packaged, marked, and labeled in compliance with AFMAN 24-204(I)/TM 38-250/NAVSUP PUB 505/MCO P 4030.19I/DLAI4145.3.The load must comply with the restrictions and meet the requirements outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.The accompanying load shown in these procedures are 1,800 pounds of ammunition stowed in the trailer.

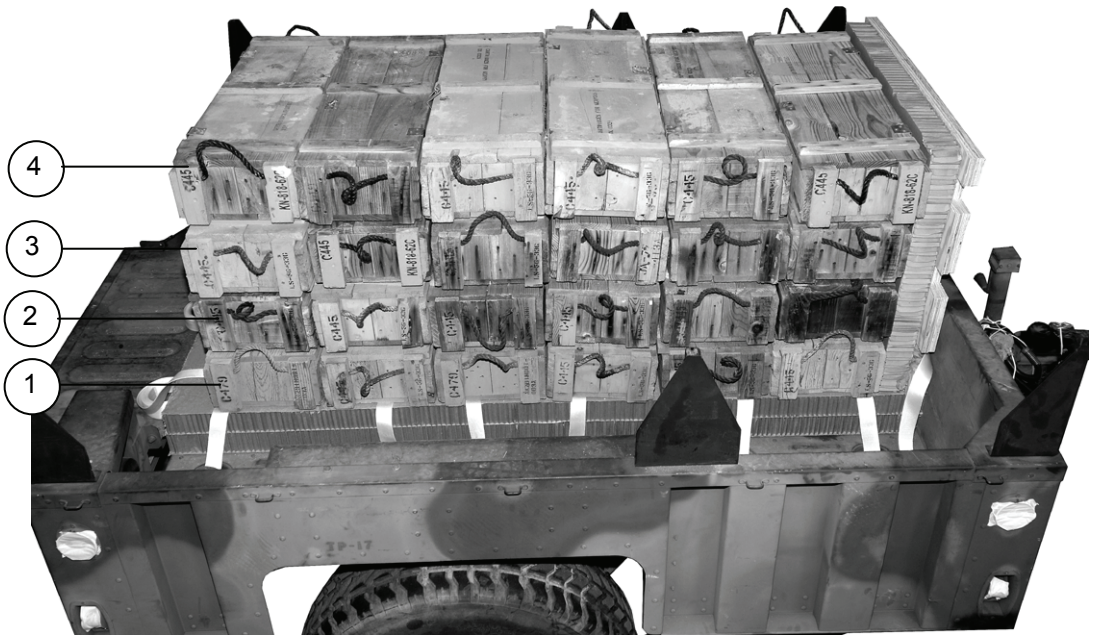
CAUTION

Only ammunition listed in FM4-20.153/MCRP 4-11.3B/TO 13C7-18-41 may be airdropped.



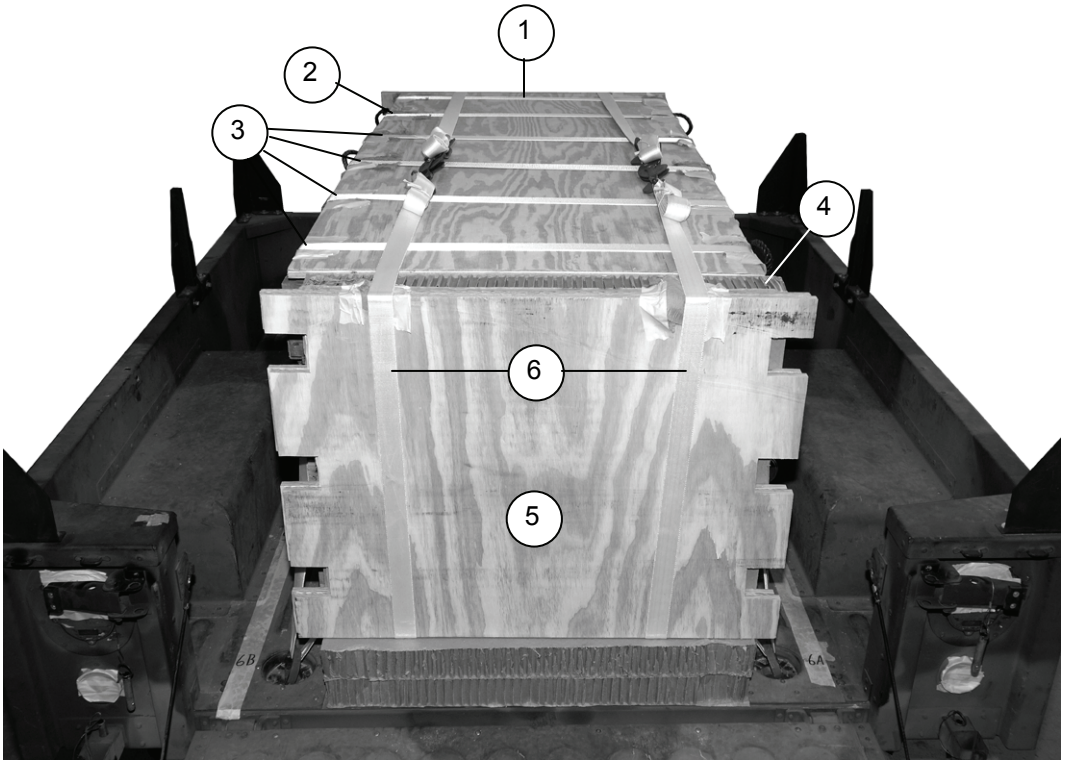
1. Route a 15-foot lashing through trailer tiedown ring 1A to a point 8 inches from the D-ring, over the previously positioned honeycomb, and through trailer tie-down ring 1B.
2. Repeat step one for trailer tiedown rings 2A and 2B, 3A and 3B, 4A and 4B, 5A and 5B, and 6A and 6B.

Figure 3-9. Lashings Pre-Positioned on the Trailer Bed



1. Center six ammunition boxes on top of the honeycomb in the trailer bed and flush against the honeycomb of the front endboards.
2. Center six ammunition boxes on top of the first layer of ammunition boxes.
3. Center six ammunition boxes on top of the second layer of ammunition boxes.
4. Center six ammunition boxes on top of the third layer of ammunition boxes.

Figure 3-10. Accompanying Load Positioned



1. Place a 36- by 74- by ¾-inch piece of plywood lengthwise on top of the ammunition boxes. Pad the plywood with cellulose padding and tape where the lashings cross the plywood.

2. Route the running end of the pre-positioned lashing from trailer tie-down provision 1B up through the carrying handles of the ammunition stack, over the top of the plywood, down through the carrying handles on the opposite side and secure with a D-ring and load binder.

3. Repeat step two for the pre-positioned lashings at 2B to 2A, 3B to 3A, 4B to 4A, 5B to 5A, and 6B to 6A.

4. Place a 30- by 36-inch piece of honeycomb flush against the rear of the ammunition boxes.

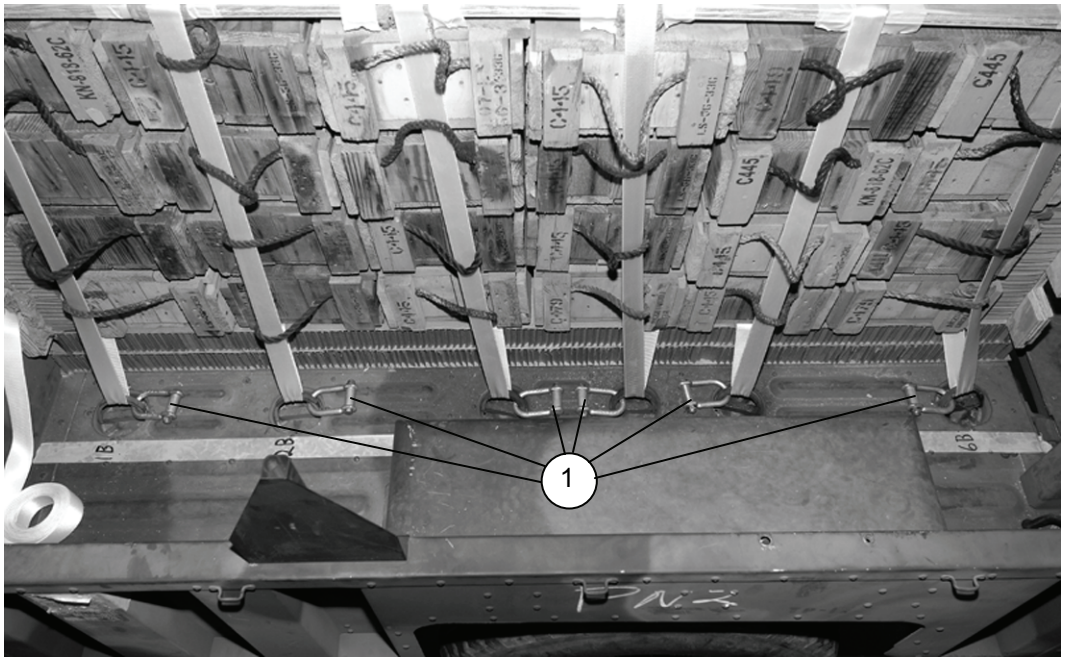
5. Position the two remaining endboards centered and flush against the rear of the honeycomb piece.

6. Route the pre-positioned 30-foot lashing on the right side, beneath the ammunition stack, over the front and rear endboards and secure on top of the load using two D-rings and a load binder. Repeat for the pre-positioned lashing on the left side of the ammunition stack.

Figure 3-11. Accompanying Load Secured

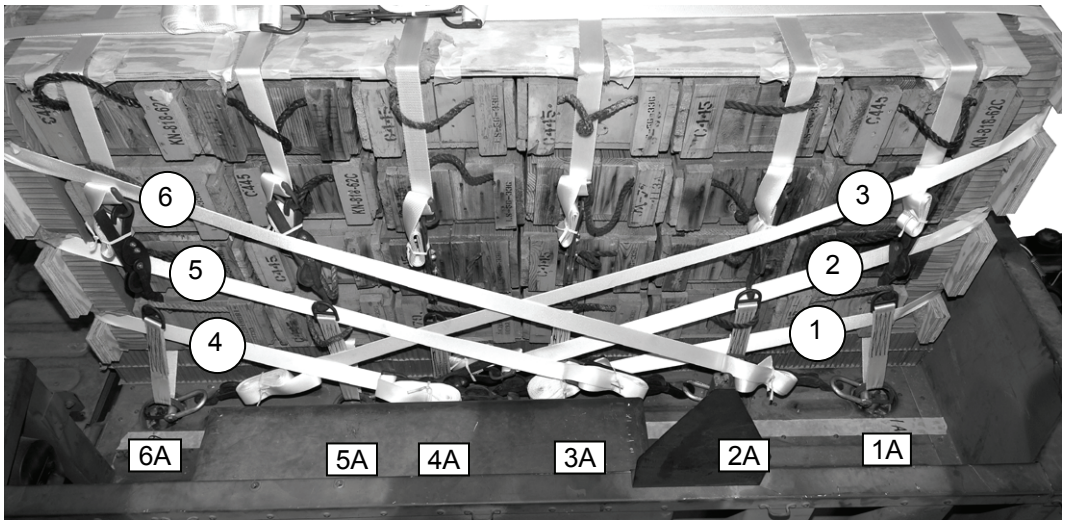
LASH THE AMMUNITION IN THE TRAILER

3-6. Lash the accompanying load of 24 ammunition boxes in the trailer as shown in Figures 3-12 through 3-14.



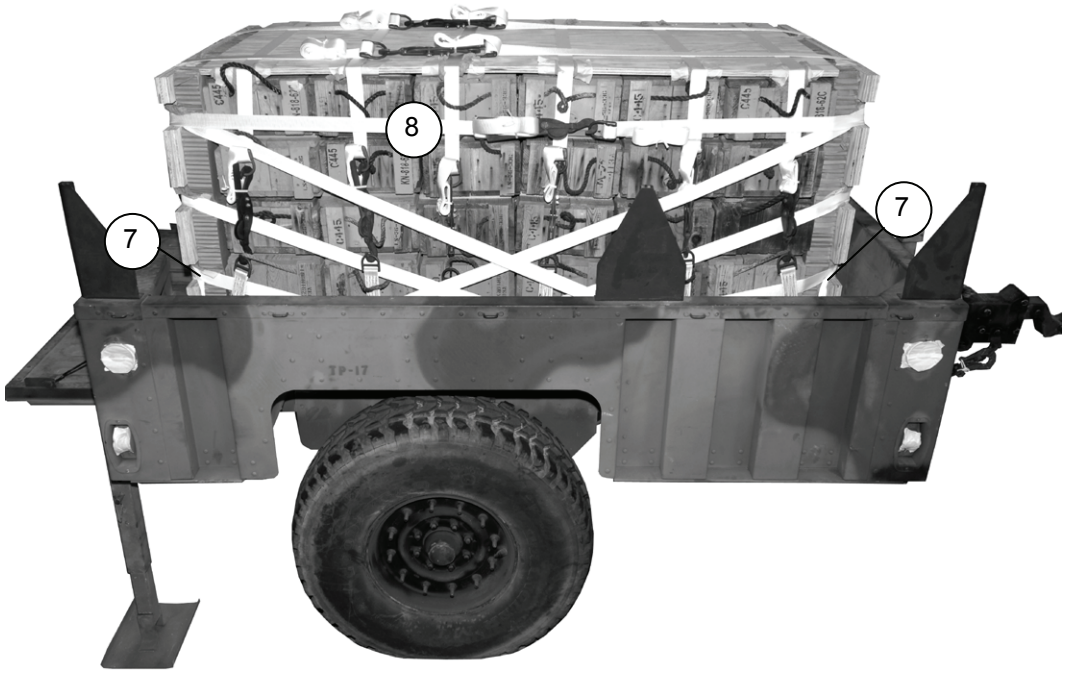
(1) Attach a type V, platform clevis to each trailer tie-down provision. Face the clevises on 1A, 2A, 3A, 1B, 2B and 3B toward the rear of the trailer. Face the clevises on 4A, 5A, 6A, 4B, 5B and 6B toward the front of the trailer.

Figure 3-12. Type V Platform Clevises Installed



Lashing Number	*Trailer Tiedown Ring Number*	*Instructions*
1	4A and 4B	Route the pre-positioned 30-foot lashing from the bottom cutouts of the front endboards to the trailer tiedown rings. Secure the ends to the tie-down rings with a D-ring and loadbinder.
2	5A and 5B	Route a 30-foot lashing from the center cutouts of the front endboards to the trailer tiedown rings. Secure the ends to the tiedown rings with a D-ring and loadbinder.
3	6A and 6B	Route a 30-foot lashing from the center cutouts of the front endboards to the trailer tiedown rings. Secure the ends to the tiedown rings with a D-ring and loadbinder.
4	3A and 3B	Route a 30-foot lashing from the bottom cutouts of the rear endboards to the trailer tiedown rings. Secure the ends to the tiedown rings with a D-ring and loadbinder.
5	2A and 2B	Route a 30-foot lashing from the center cutouts of the rear endboards to the trailer tiedown rings. Secure the ends to the tiedown rings with a D-ring and loadbinder.
6	1A and 1B	Route a 30-foot lashing from the top cutouts of the rear endboards to the trailer tiedown rings. Secure the ends to the tiedown rings with a D-ring and loadbinder.

Figure 3-13. Lashings 1 through 6 Installed on Accompanying Load

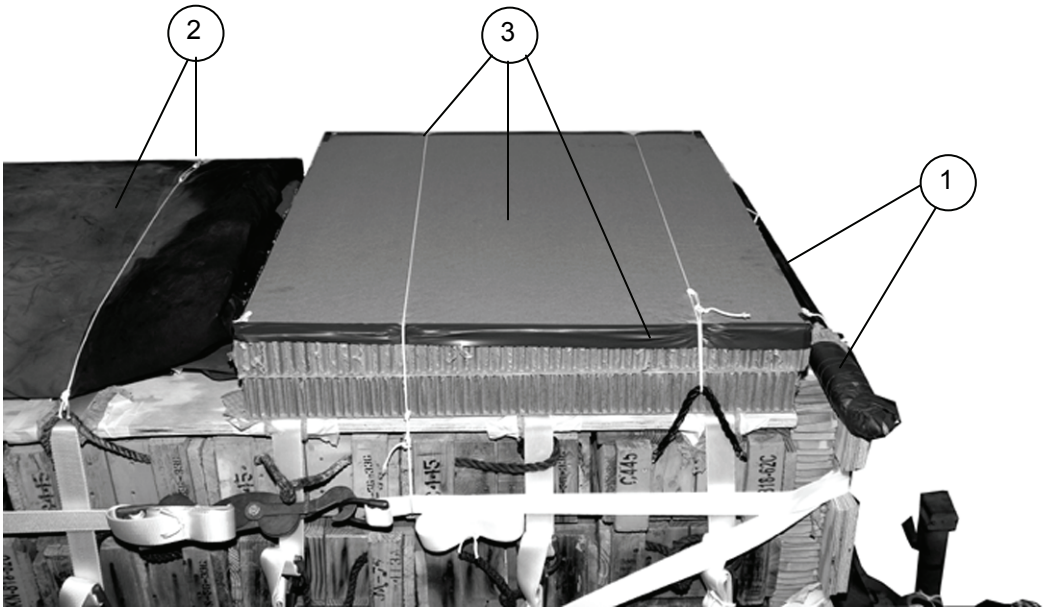


Lashing Number	*Trailer Tiedown Ring Number*	*Instructions*
7	1A and 6A	Pass a 15-foot lashing through trailer tie-down 1A and back through its own D-ring. Route the lashing through the bottom right cutout of the front endboard, across the front endboard, and through the top left cutout of the front endboard. Pass a 15-foot lashing through trailer tie-down 6A and back through its own D-ring. Route the lashing through the bottom right cutout of the rear endboard, across the rear endboard, and through the top left cutout of the rear endboard. Secure the running ends of the lashings centered on the left side using two D-rings and a load binder.
8	1B and 6B	Pass a 15-foot lashing through trailer tie-down 1B and back through its own D-ring. Route the lashing through the bottom left cutout of the front endboard, across the front endboard, and through the top right cutout of the front endboard. Pass a 15-foot lashing through trailer tie-down 6B and back through its own D-ring. Route the lashing through the bottom left cutout of the rear endboard, across the rear endboard, and through the top right cutout of the rear endboard. Secure the running ends of the lashings centered on the right side using two D-rings and a load binder.

Figure 3-14. Lashings 7 and 8 Installed on Accompanying Load

POSITIONING AND SECURING THE BOWS AND TARP AND PREPARING THE TRAILER

3-7. Position and secure the bows and tarp as shown in Figure 3-15. Finish preparing the trailer as shown in Figure 3-16

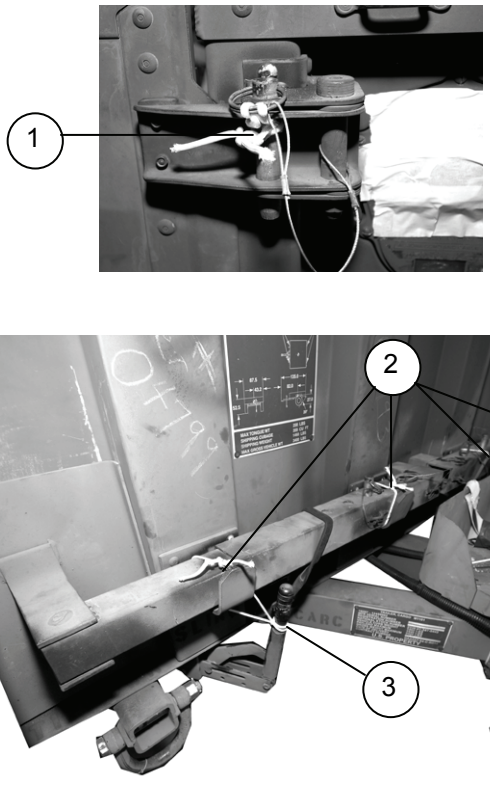


(1) Tie the support bows together with type III, nylon cord. Pad and tape the ends of the bows with cellulose padding and tape. Tie the support bows on top of the load with type III nylon cord.

(2) Fold the tarp to approximately 32-inches wide and 44-inches in long. Place the previously removed bow support brackets inside the tarp. Place the tarp between the support bows on the rear of the stack and secure with type III nylon cord.

(3) Place two 36- by 34-inch pieces of honeycomb between the bows to the front of the tarp. Secure the honeycomb to load with type III, nylon cord. Tape the edges of the honeycomb where the type III nylon cord makes contact.

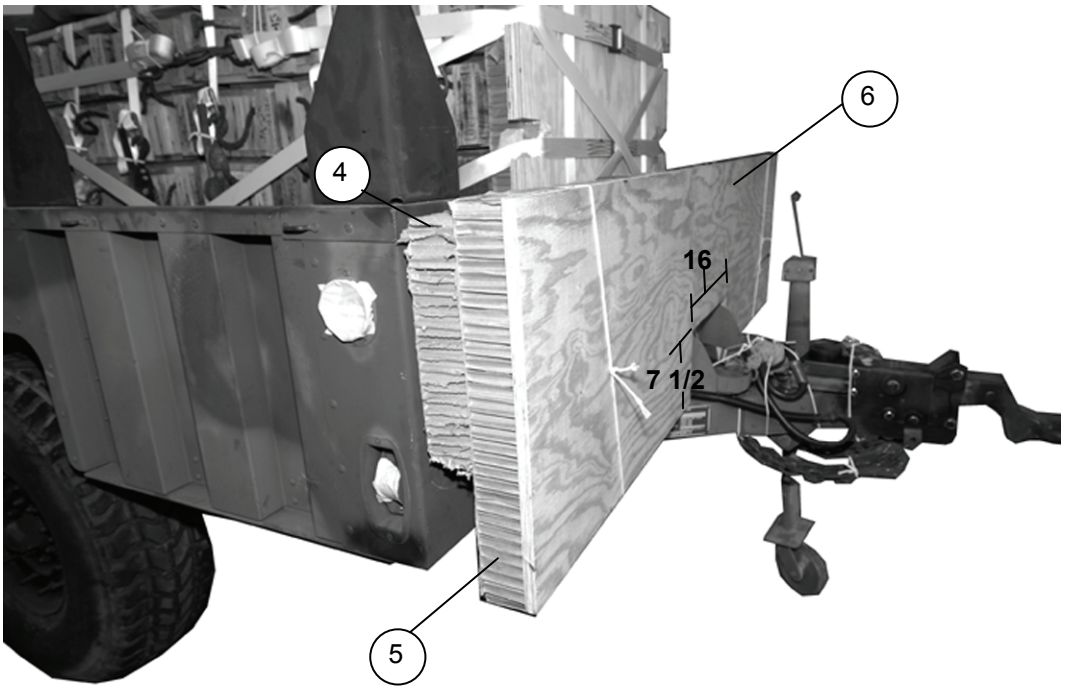
Figure 3-15. Support Bows and Tarp Positioned and Secured



1. Close the tailgate and secure the safety pin to itself by routing type III, nylon cord through the O-ring and back through the safety pin. Ensure the pin does not move once secured.
2. Remove the rear trailer supports and replace them in their stowage racks on the front of the trailer. Secure the rear supports with type III, nylon cord.
3. Disengage the hand brakes to the “OFF” position. Secure the hand brakes in place with type III, nylon cord.

Figure 3-16. Trailer Prepared

Note. All measurements are given in inches.



(4) Place a 14- by 86-inch piece of honeycomb flush with the top of the front of the trailer.

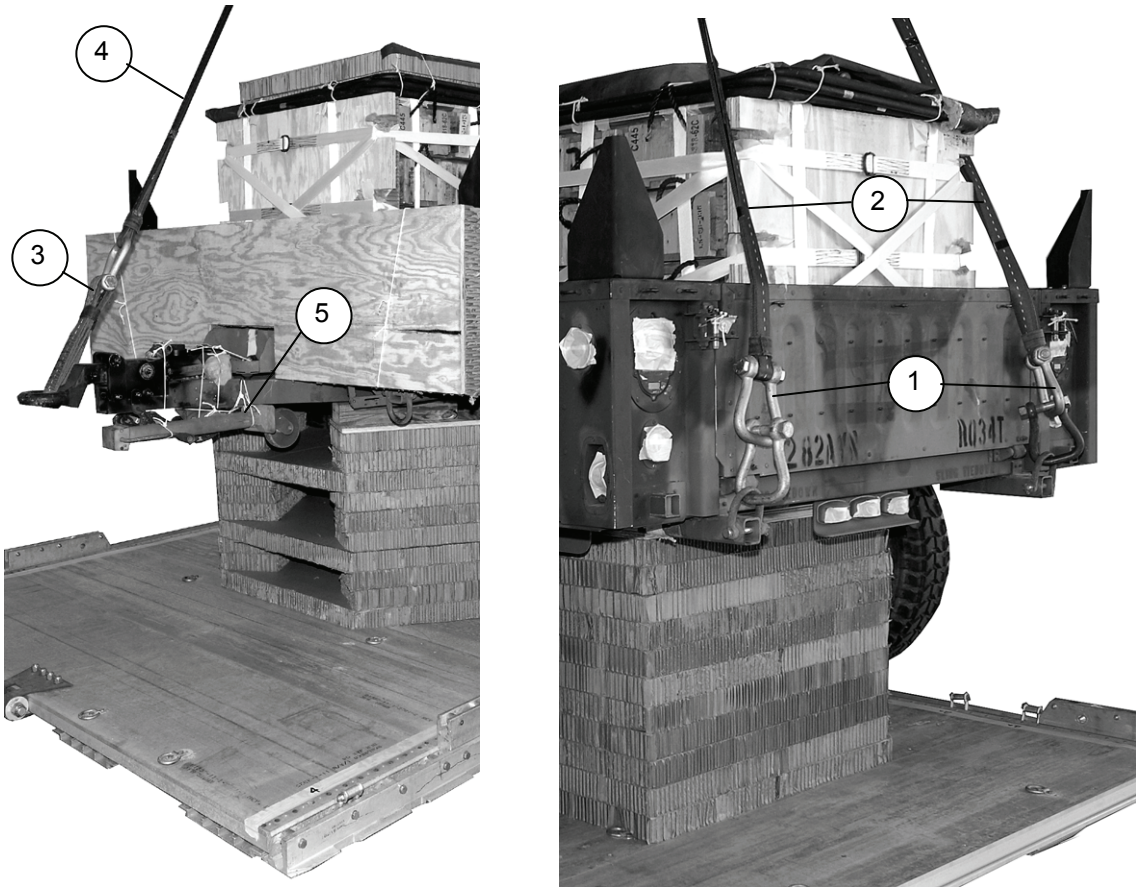
(5) Make a 7 ½- high by 16-inches long cutout, centered on the bottom edge, of a 22 ½- by 86-inch piece of honeycomb. Place the honeycomb flush with the top of the honeycomb in step 4.

(6) Make a 7 ½- high by 16-inches long cutout, centered on the bottom edge, of a 22 ½- by 86- by ¾-inch piece of plywood. Place the plywood flush with the top of the honeycomb in step 5. Secure all the pieces of honeycomb and plywood with several lengths of type III nylon cord to places on the load.

Figure 3-16. Trailer Prepared (Continued)

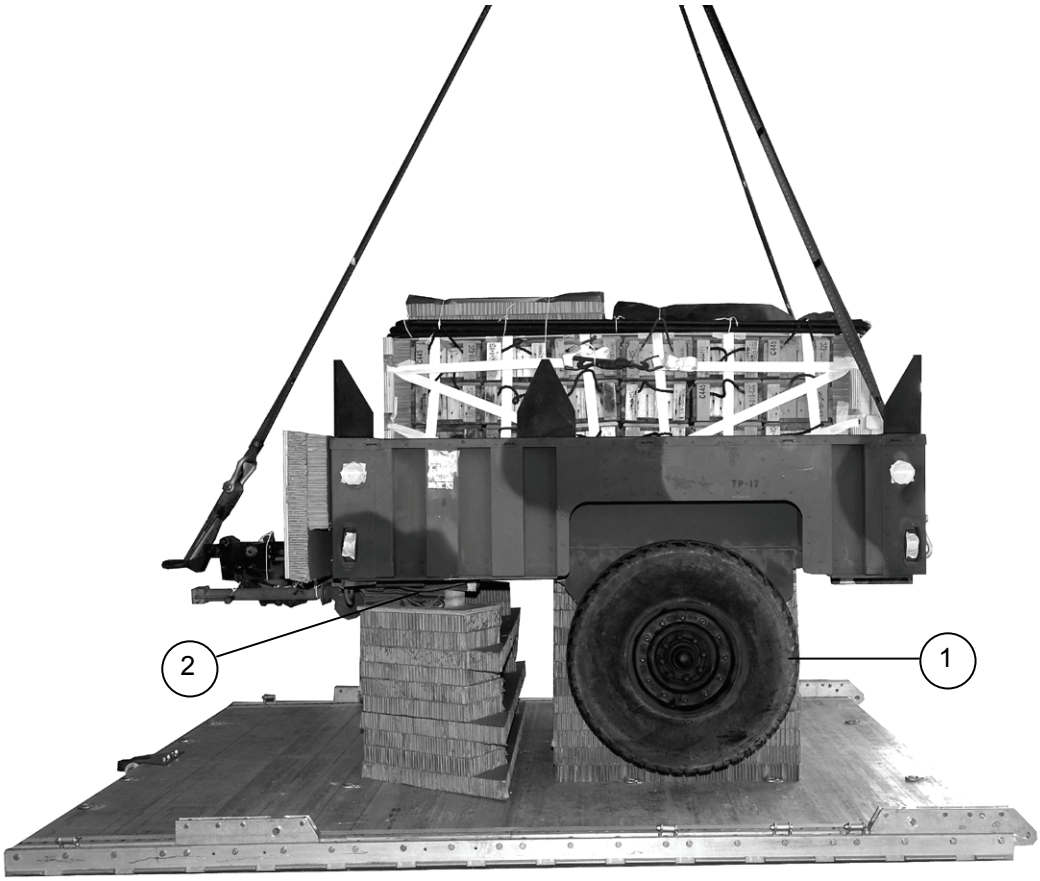
LIFTING AND POSITIONING THE TRAILER

3-8. Install the lifting slings and position the trailer as shown in Figures 3-17 and 3-18.



1. Attach two large suspension clevises to each rear lifting provision.
2. Attach a 12-foot (2-loop), type XXVI nylon webbing sling to each clevis at the rear of the trailer.
3. Pass a 3-foot (2-loop), type XXVI, nylon sling through the lunette of the trailer. Place both ends of the 3-foot sling on a large clevis.
4. Attach a 12-foot (2-loop), type XXVI nylon webbing sling to the large clevis Wrap a 3-foot sling around the left frame at the rear of the trailer (not shown). Attach a large suspension clevis through the ends of the sling (not shown). Repeat step for the right side (not shown).
5. Lift the load and raise the front support leg and secure it to the drawbar in several places with type III nylon cord.

Figure 3-17. Trailer Lifting Slings Installed

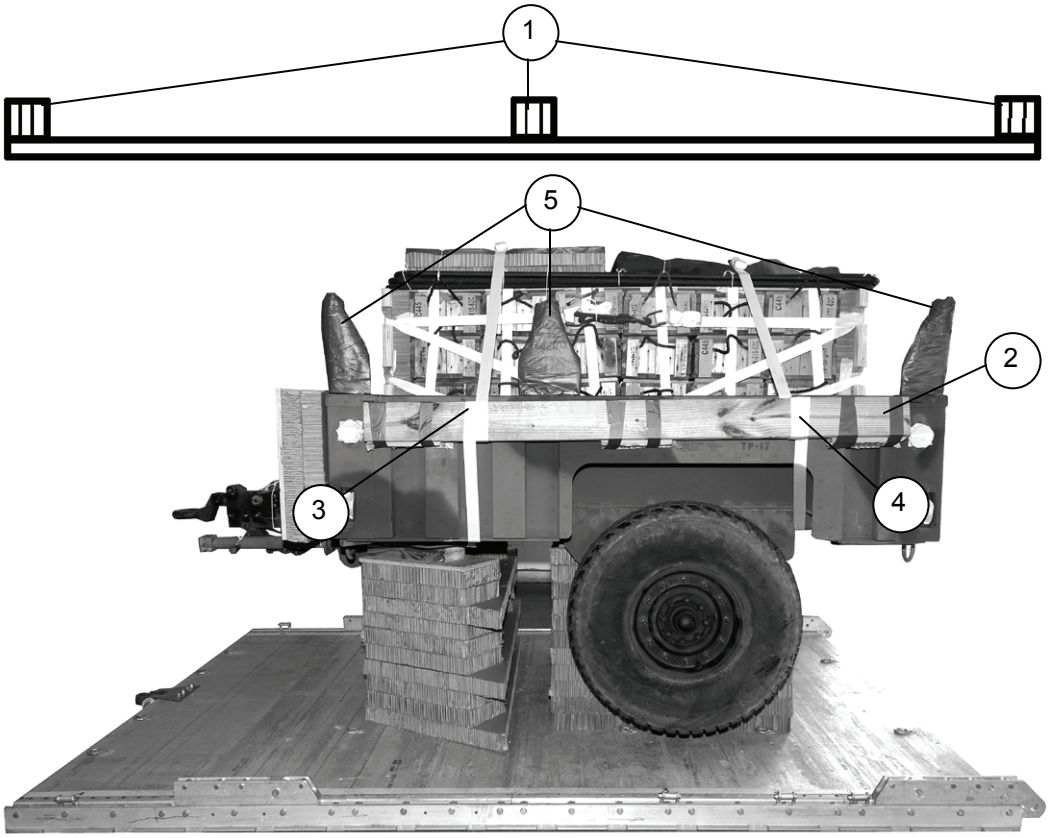


1. Position the trailer centered on the platform from side to side with the axle centered between the 6-inch cutout of honeycomb stack 1.
2. Position the trailer drawbar centered on honeycomb stack 2.
3. Remove the lifting slings and large suspension clevises (not shown).

Figure 3-18. Trailer Positioned

INSTALLING SIDE BOARDS

3-9. Install the side boards as shown in Figure 3-19.



(1) Cut two, 2- by 6- by 77-inches pieces of lumber to be used as side boards. Cut six, 6- by 10-inch pieces of honeycomb. Position two of the honeycomb pieces flush along each end of the lumber piece and secure with tape. Center the third honeycomb piece on each piece of lumber and secure with tape.

(2) Position each side board flush along the side of the trailer centered below the front and rear tarp eyelets.

(3) Route a 30-foot lashing under the trailer frame at the front of the trailer, double wrap the lashing around the 2- by 6-inch lumber alternating wraps on the left and right, and secure on the right side on top of the load, using two D-rings and a loadbinder.

(4) Route a 30-foot lashing under the trailer frame behind the rear wheel well, double wrap the lashing around the 2- by 6-inch lumber alternating wraps on the left and right, and secure on top of the load, using two D-rings and a loadbinder.

Note. Do not route the lashing over the brake lines or electrical wiring.

(5) Pad the bow support brackets on the left and right side of the trailer with felt and tape.

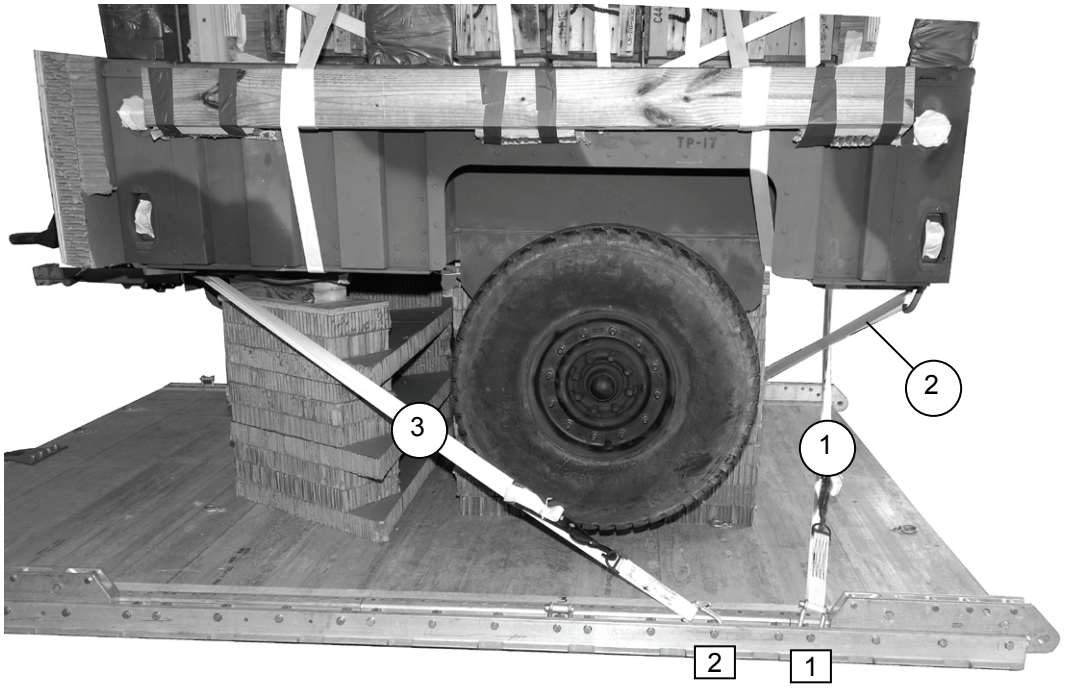
Figure 3-19. Side Boards Installed

LASHING LOAD TO PLATFORM

3-10. Lash trailer to the platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 3-20.

Note. Pad any sharp edges on the load where a lashing may pass. Use cellulose padding and masking tape.

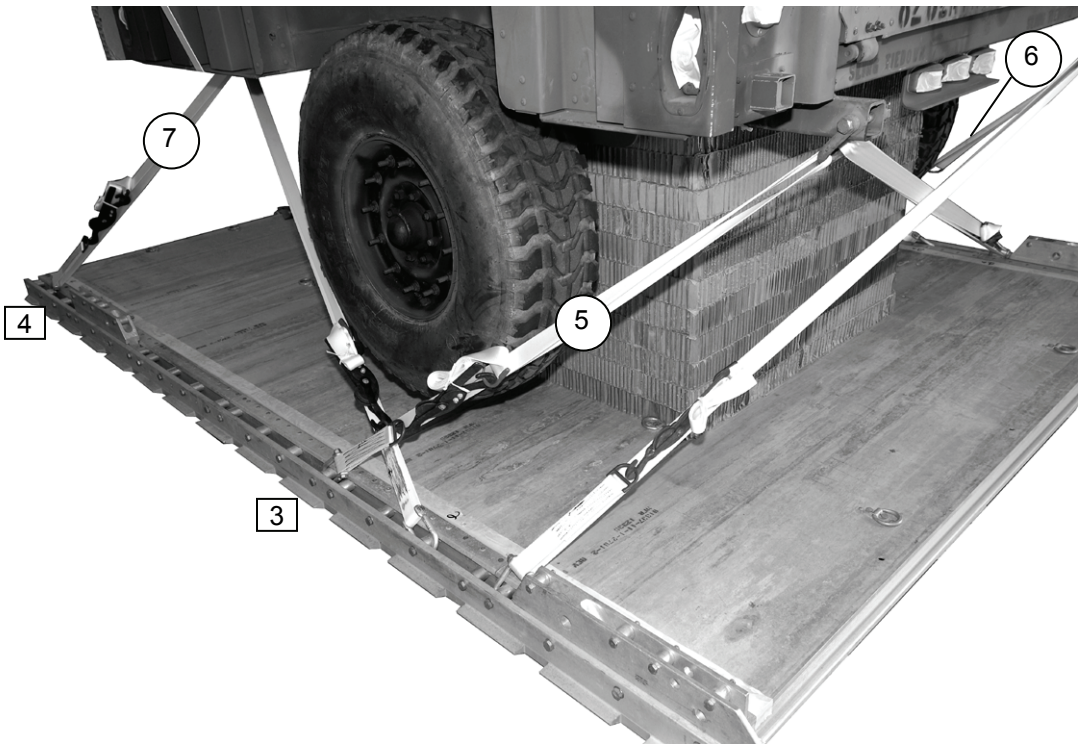
Note. Left, right, front, and rear refer to the trailer, NOT the platform.



Lashing Number	*Clevis Number*	*Instructions*
		Pass lashing:
1	1	Through the trailers right rear shackle.
2	1A	Through the trailers left rear shackle.
3	2	Through the trailers left front shackle.
4	2A	Through the trailers right front shackle.

Figure 3-20. Trailer Lashed to Platform

Note. Left, right, front, and rear refer to the trailer, NOT the platform.



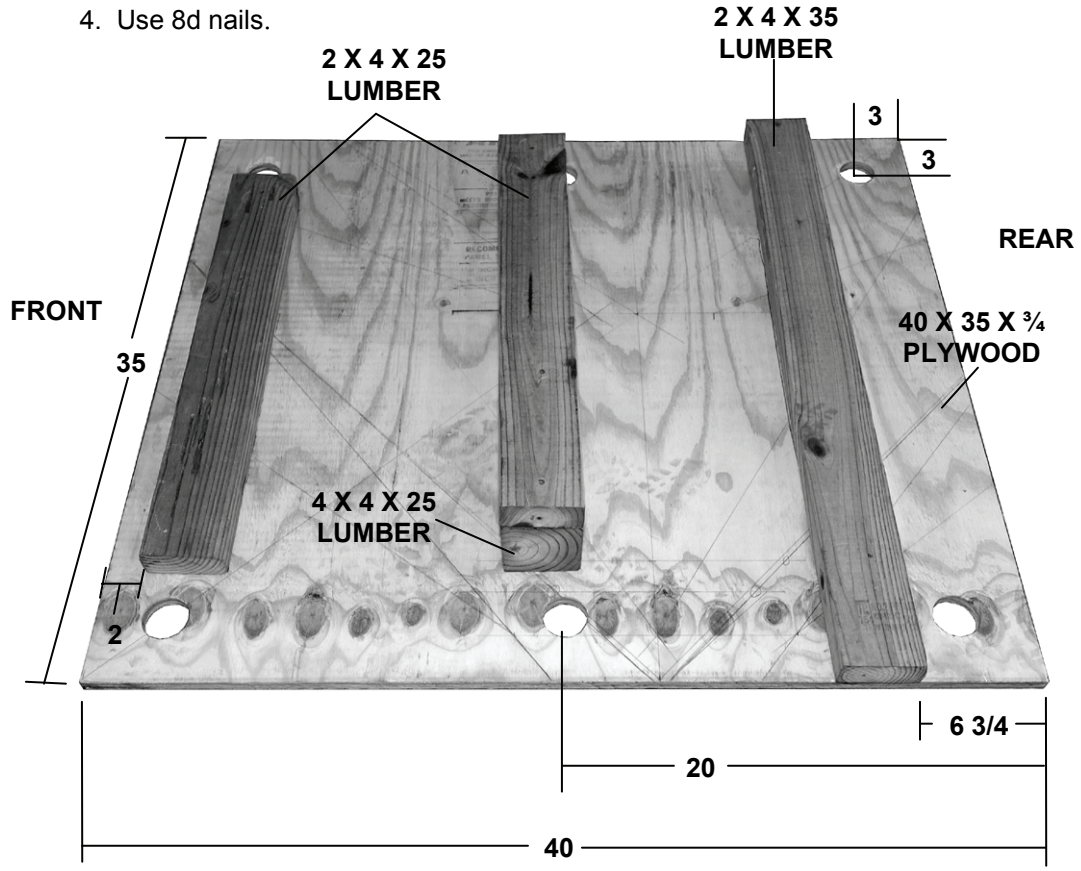
Lashing Number	*Clevis Number*	*Instructions*
		Pass lashing:
5	3	Through the trailers left rear shackle.
6	3A	Through the trailers right rear shackle.
7	4	Through the trailers left front shackle.
8	4A	Through the trailers right front shackle.

Figure 3-20. Trailer Lashed to Platform (Continued)

BUILDING AND INSTALLING THE PARACHUTE STOWAGE PLATFORM

3-11. Build the parachute stowage platform as shown in Figure 3-21. Install the parachute stowage platform as shown in Figure3-22.

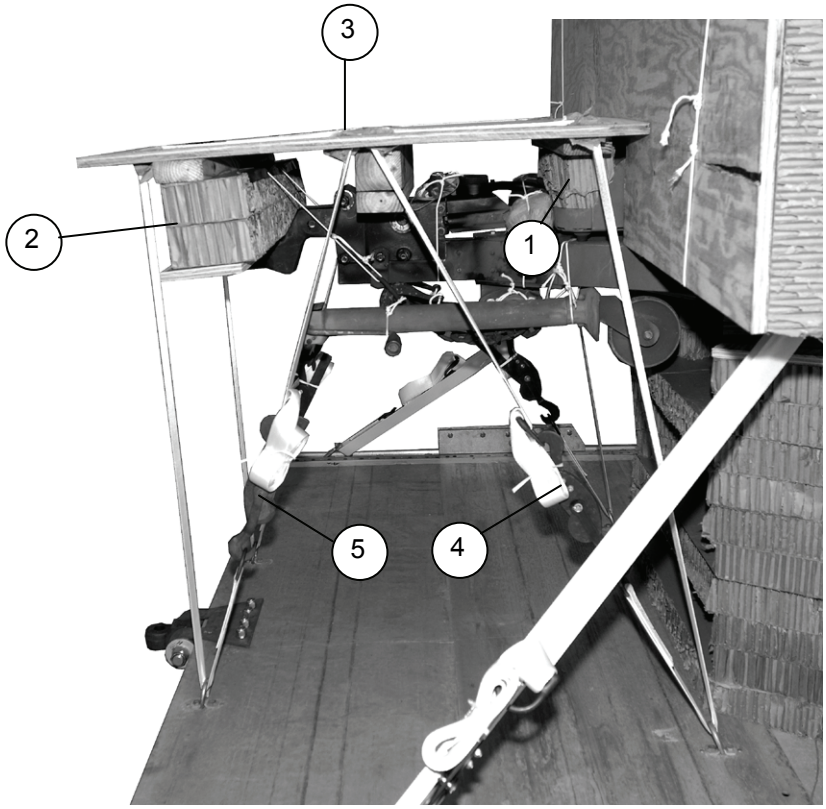
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale.
3. All holes are 2 inches in diameter.
4. Use 8d nails.



Step:

1. Cut a 40- by 35- by ¾- inch piece of plywood. Drill six 2-inch holes as shown.
2. Nail a 2- by 4- by 25-inch piece of lumber two inches from the front edge of the plywood and centered.
3. Nail a 2- by 4- by 35-inch piece of lumber flush and 6 ¾ inches from the rear edge of the plywood.
4. Nail a 4- by 4- by 25-inch piece of lumber centered on the plywood. Nail a 2- by 4- by 25-inch piece of lumber flush on top of the 4- by 4- by 25-inch lumber.

Figure 3-21. Parachute Stowage Platform Built



1. Place a 14- by 4 ½-inch piece of honeycomb inside the fuel can support bracket. Center a 14- by 7-inch piece of honeycomb on top of the first piece of honeycomb.

2. Place a 6- by 35- by ¾-inch piece of plywood centered on top of the lunette. Place two 6- by 35-inch pieces of honeycomb on top of the plywood. Secure the plywood and honeycomb in several places with type III nylon cord. Tape the edges of the honeycomb where the type III nylon cord makes contact.

3. Center the parachute stowage platform on top of the previously positioned pieces, flush against the plywood on the trailer bulkhead. Ensure the 2- by 4-inch lumber on the bottom of the platform is sitting on the honeycomb stacks. Pad the holes in the parachute stowage platform with cellulose padding and tape.

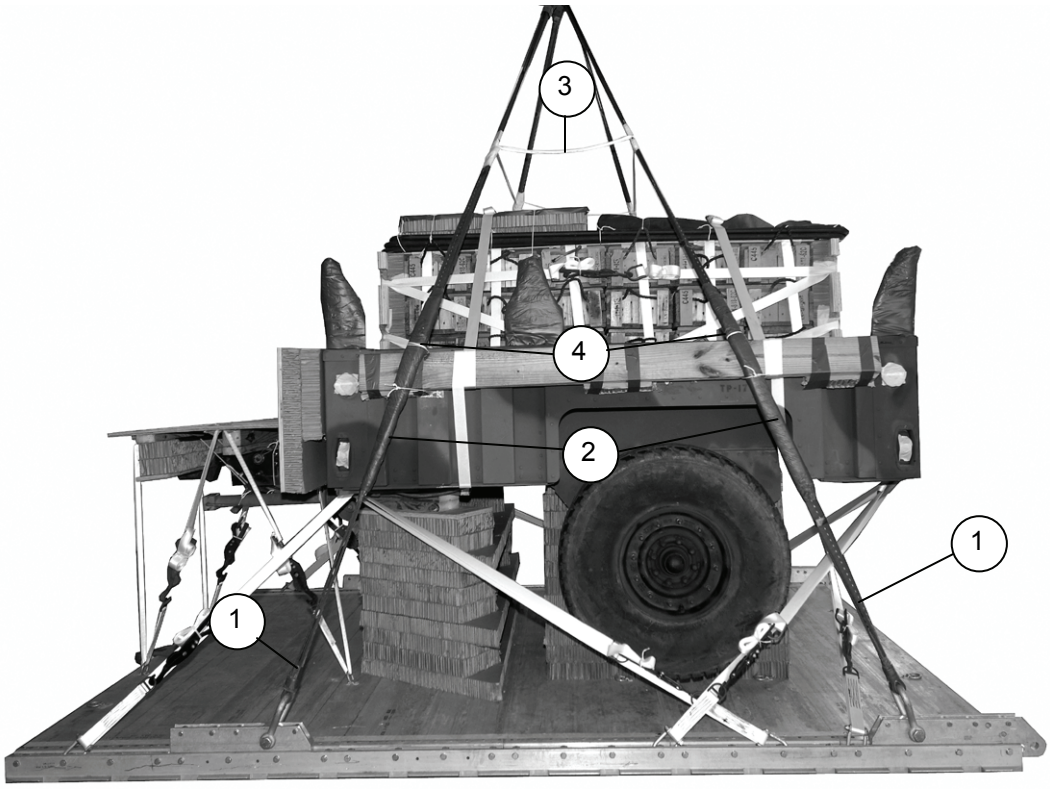
4. Route a 15-foot lashing through platform tiedown ring A5, through the right front hole of the stowage platform, over the top, down through the center hole, and secure to itself using a D-ring and loadbinder. Repeat this step on the left side using tiedown ring B5.

5. Route a 15-foot lashing through platform tiedown ring B6, through the right front hole of the stowage platform, over the top, down through the center hole, and secure to itself using a D-ring and loadbinder. Repeat this step on the left side using tiedown ring C6.

Figure 3-22. Parachute Stowage Platform Secured

INSTALLING AND SAFETY TIEING THE SUSPENSION SLINGS

3-12. Install and safety tie the suspension slings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 3-23.



(1) Attach a 12-foot (2-loop), type XXVI nylon sling to each tandem link and suspension bracket using a large suspension clevis.

(2) Wrap a 12-by 36-inch piece of felt around each sling 28 inches from the large suspension clevis. Tape the padding using pressure sensitive tape the full length of the felt and extend the tape over on the suspension slings 6 inches on each end.

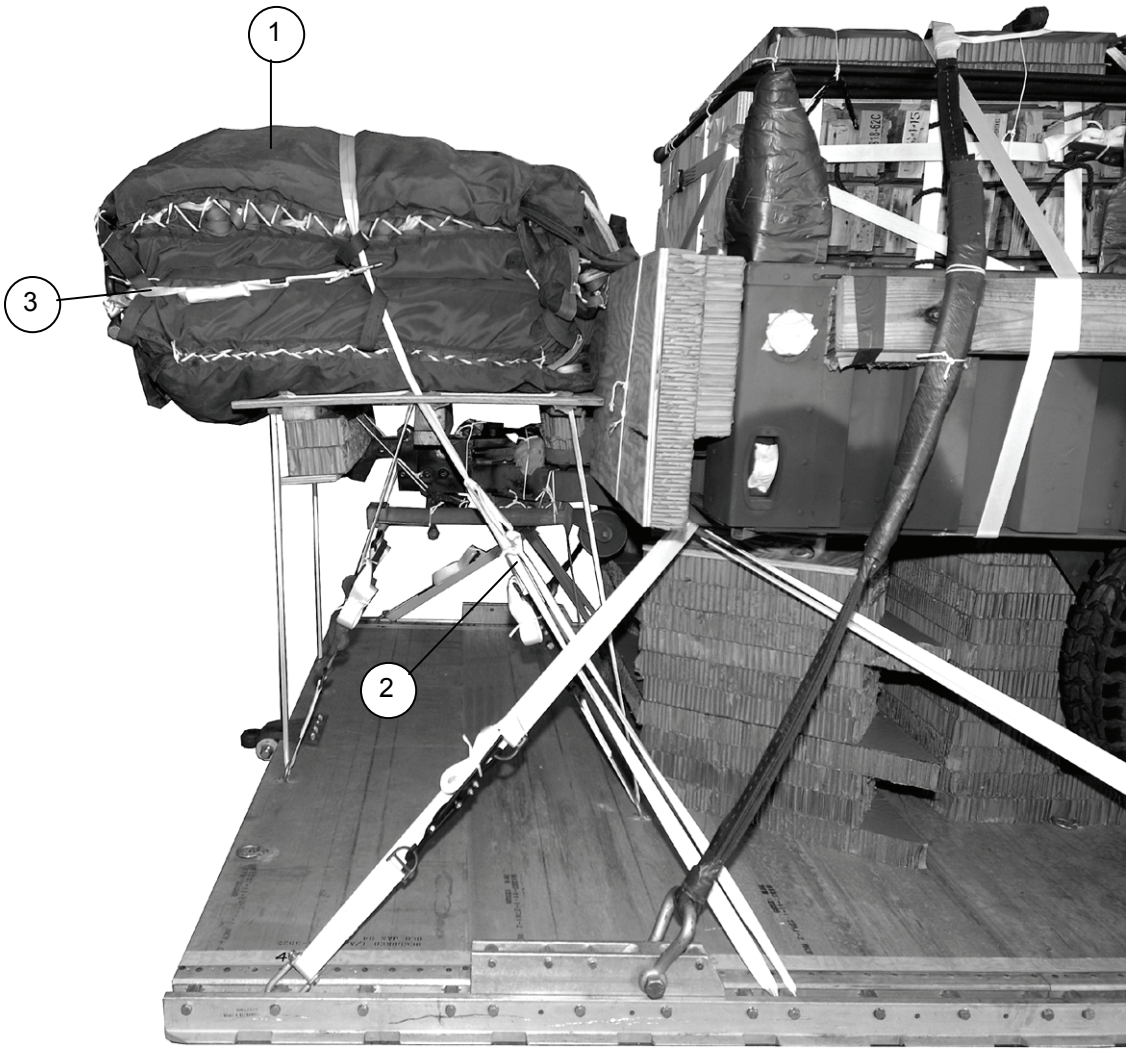
(3) Install the deadman's tie according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

(4) Safety tie the suspension slings to the body protection boards using type III nylon cord.

Figure 3-23. Suspension Slings Installed and Safety Tied

STOWING CARGO PARACHUTES

3-13. Prepare, stow, and restrain two G-11B cargo parachutes according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 3-24.

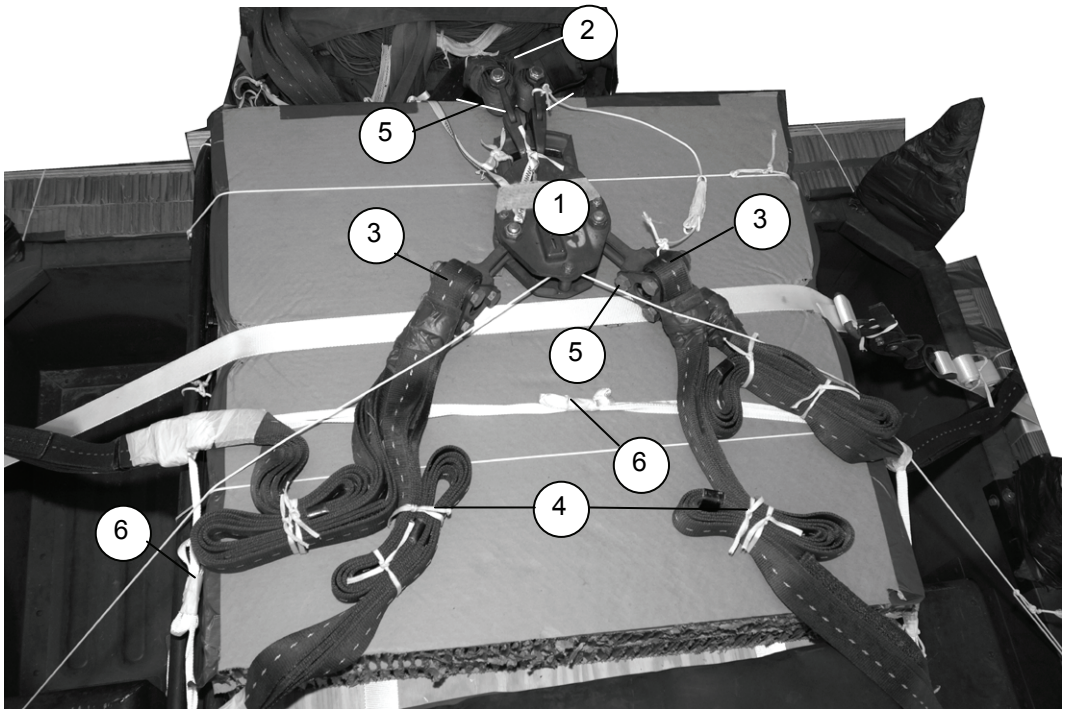


1. Position two G-11B cargo parachutes on the parachute stowage platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
2. Install a parachute restraint strap using type VIII nylon webbing according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 using bushings 16 and 16A.
3. Install a parachute release strap according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 3-24. Cargo Parachutes Positioned and Restrained

INSTALLING PARACHUTE RELEASE SYSTEM

3-14. Prepare and install an M-1 parachute release 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 3-25.

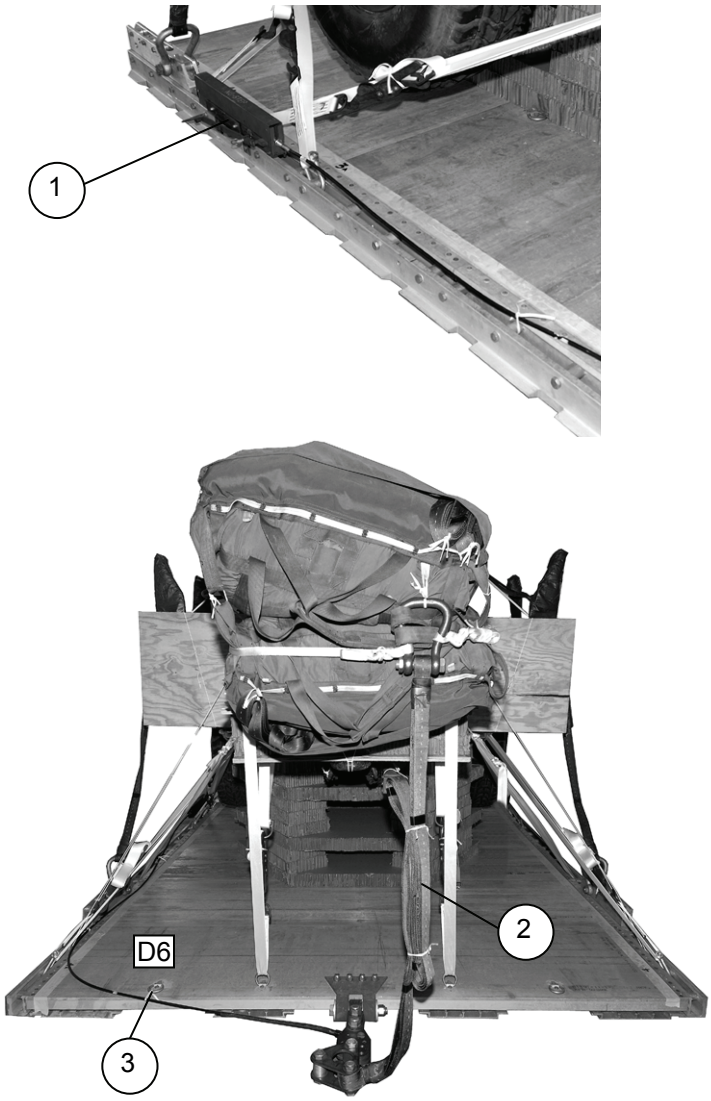


1. Center an M-1 parachute release assembly on top of the honeycomb.
2. Attach the parachute riser extensions to the parachute release connectors.
3. Attach the suspension slings to the lower suspension links.
4. Fold the excess suspension slings and safety tie with type I, ¼-inch cotton webbing.
5. Tie the parachute release safety ties to convenient points on the load.
6. S-fold the slack in the deadman and secure with one turn of masking tape.

Figure 3-25. M-1Parachute Release Installed

INSTALLING EXTRACTION SYSTEM

3-15. Install the extraction system as shown in Figure 3-26.



1. Install the components of the EFTC according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Use the front mounting holes for the EFTC actuator brackets.

2. Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line. S-fold and secure the excess deployment line with two ties of ¼-inch cotton webbing.

3. Use a 12-foot cable and safety tie the cable to tie-down ring D6 on the platform with type I, ¼-inch cotton webbing.

Figure 3-26. Extraction System Installed

PLACING EXTRACTION PARACHUTE

3-16. 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. Place the extraction parachute and line on the load for installation in the aircraft.

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

3-17. Select and install the provisions for the emergency aft restraints according to the emergency aft restraint requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

MARKING RIGGED LOAD

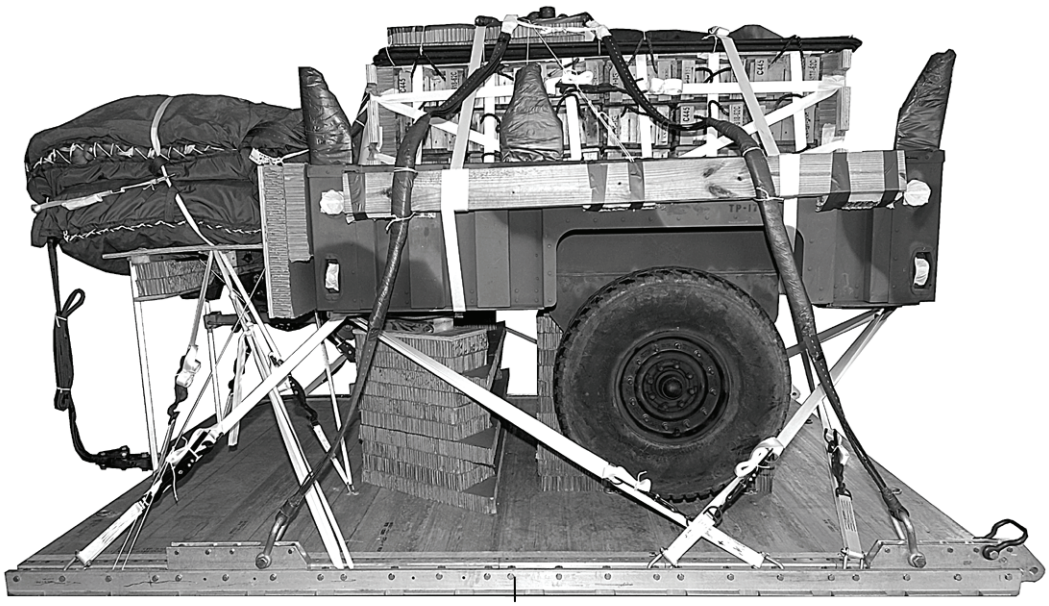
3-18. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 3-27. Complete Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

3-19. Use the equipment listed in Table 3-1 to rig this load.

CAUTION

Make the final rigger inspection required by AR 59-4 and FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 before the load leaves the rigging site.



C/B

RIGGED LOAD DATA

Weight: Load Shown.....5,820 pounds

Max Weight Load .....6,060 pounds

Height.....91 ½ inches

Width.....108 inches

Overall Length .....163 inches

Overhang: Front.....0 inches
Rear (Parachute Stowage Platform) .....19 inches

Center of Balance (CB) (from front edge of the platform).....69 inches

Extraction System with 16-foot cable (adds 0 inches to the length of the load)

Figure 3-27. M1101 HMT-L ¾-Ton Trailer Rigged on a 12-Foot, Type V Platform for Low-Velocity Airdrop

Table 3-1. Equipment Required for Rigging the M1101 HMT-L ¾-Ton Trailer on a 12-Foot, Type V Platform 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-inch (large)	5
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop extraction force transfer, w/12-ft. cable	1
1670-00-360-0328	Cover, clevis	2
8135-00-664-6958	Cushioning material (Cellulose padding)	As required
8305-00-958-3685	Felt, 1/2-inch thick	As required
1670-01-183-2678	Leaf, extraction line (line bag) (add 2 for C-17)	2
	Line extraction:	
1670-01-062-6313	60-foot (3-loop), type XXVI (for C-130)	1
1670-01-107-7651	140-foot (3-loop), type XXVI (for C-17)	1
1670-01-064-4452	60-foot (1-loop), type XXVI (for C-17), (drogue line)	1
1670-00-783-5988	Link assembly, type IV (C-17 only)	1
1670-01-493-6418	Link assembly, two-point, small, 3 ¾-inch	1
	Lumber:	
5510-00-220-6146	2- by 4- by 96-inch	3
5510-00-220-6148	2- by 6- by 96-inch	3
5315-00-010-4659	Nail, steel, common, 6D	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	15 sheets
1670-01-016-7841	Parachute, cargo, G-11B	2
	Parachute, cargo, extraction:	
1670-01-063-3715	15-foot (add one for C-17)	1
	Platform, airdrop, type V, 20-foot:	
1670-01-162-2372	Clevis assembly (type V)	14
1670-01-162-2376	Extraction bracket assembly	1
1670-01-247-2389	Link, suspension bracket, type V	2
1670-01-162-2381	Tandem link assembly (Multipurpose link)	2
5530-00-128-4981	Plywood, 3/4-inch	4 Sheets

Table 3-1. Equipment Required for Rigging the M1101 HMT-L ¾-Ton Trailer on a 12-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop:	
1670-01-062-6301	3-foot (2-loop), type XXVI	1
1670-01-062-6304	9-foot (2-loop), type XXVI	1
1670-01-062-6303	12-foot (2-loop), type XXVI	4
1670-01-062-6302	20-foot (2-loop), type XXVI	2
5340-00-040-8219	Strap, parachute, release, multi-knife	2
7501-00-266-5016	Tape, adhesive, 2-inch	As required
1670-00-937-0271	Tie-down assembly, 15-foot	38
1670-01-483-8259	Link, parachute, connector (H-block) (C-17 only)	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-inch	As required
8305-00-261-8585	Nylon, type VIII	As required

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Chapter 4

Rigging the 1 ½-Ton Trailer on a 12-Foot, Type V Platform for Low-Velocity Airdrop

DESCRIPTION OF THE LOAD

4-1. The 1 ½-ton trailer (Figure 4-1) is rigged on a 12-foot, type V airdrop platform using two G-11 cargo parachutes. The 1 ½-ton trailer is 98 inches high (reducible to 55 inches), 83 inches wide, 166 ½ inches long, and weighs 2.650 pounds. The trailer must be rigged with an accompanying load. The accompanying load must not weigh more than 3,000 pounds. The accompanying load shown in this chapter consists of 24 ammunition boxes weighing approximately 2,280 pounds.

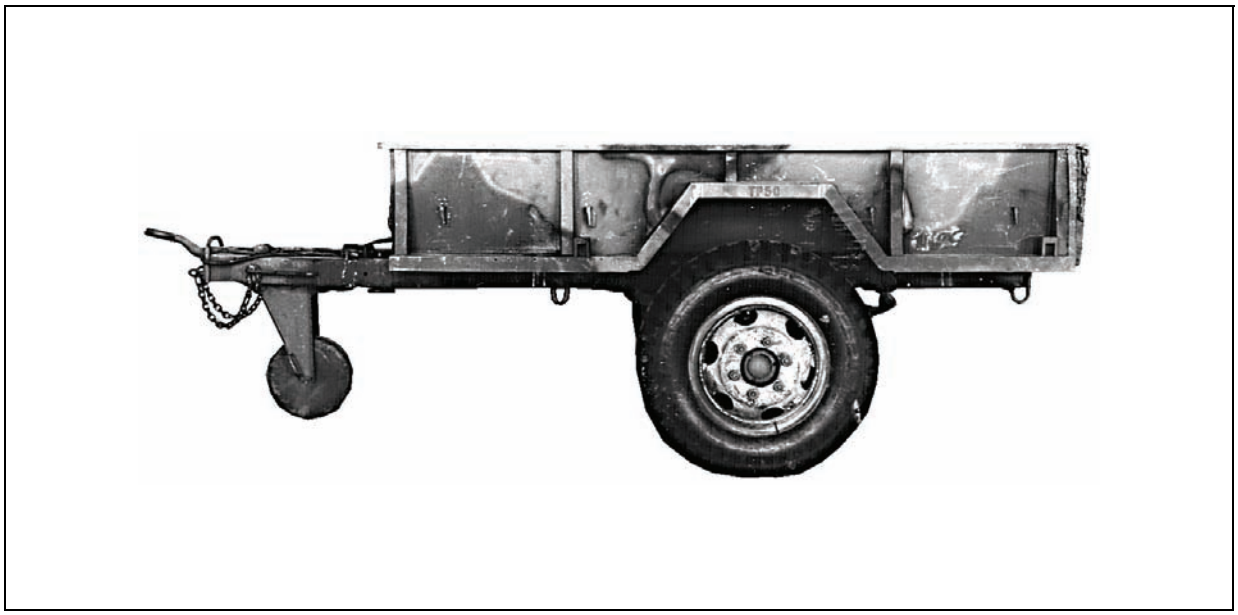
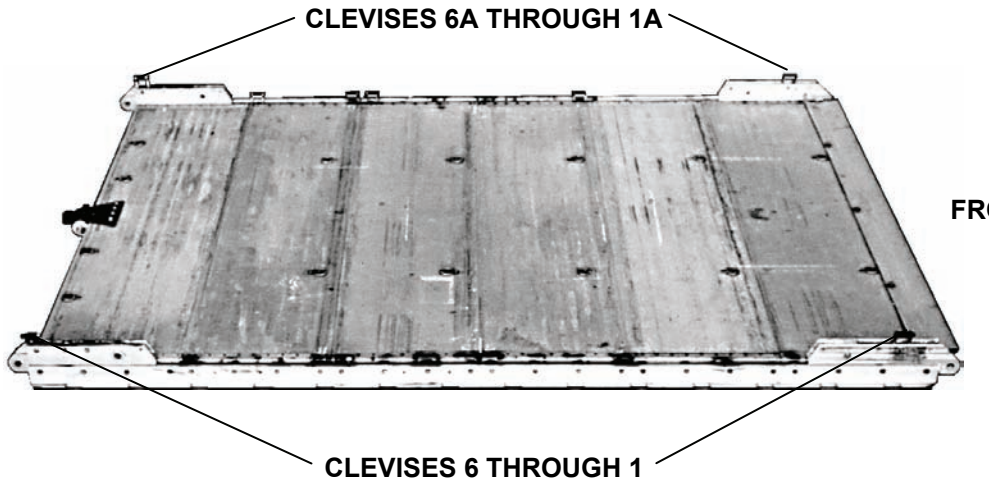


Figure 4-1. 1 ½-Ton Trailer

PREPARING PLATFORM

4-2. Prepare a 12-foot, type V airdrop platform as shown in Figure 4-2.



Step:

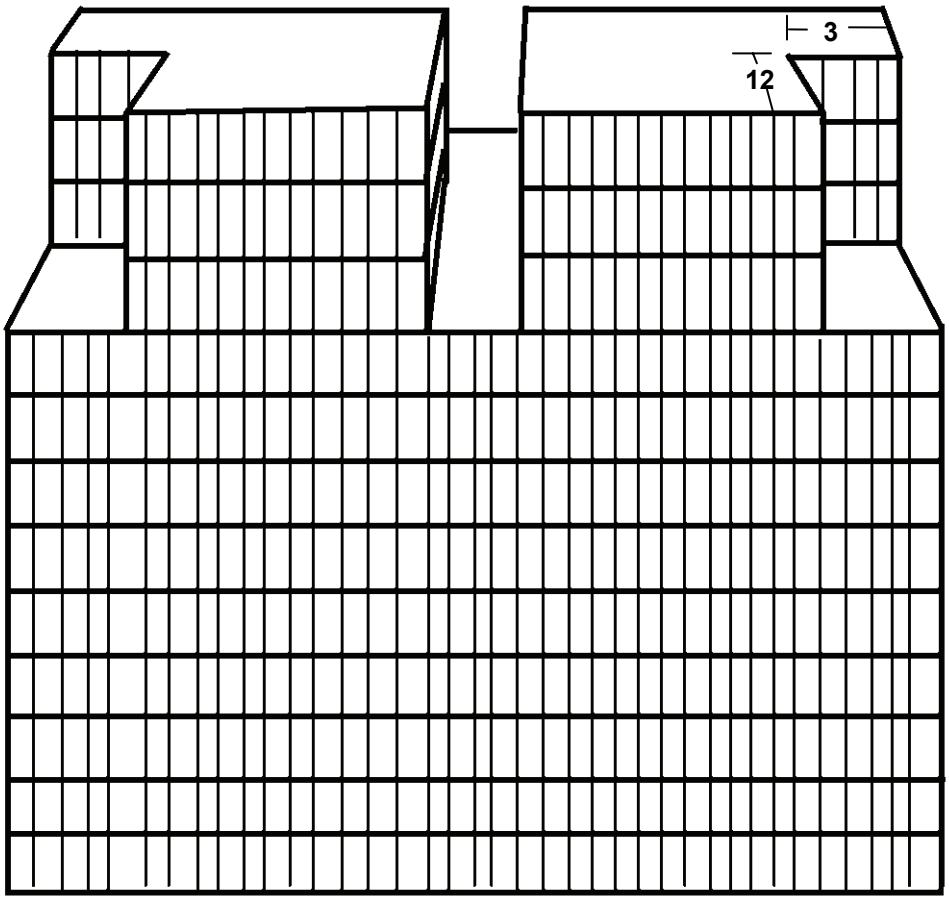
1. Inspect, or assemble and inspect, a 12-foot, type V airdrop platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
3. Install a tandem link to the front of each platform side rail using holes 22, 23, and 24.
4. Install a clevis on bushing 2 of each front tandem link.
5. Install a clevis on bushing 4 of each rear tandem link.
6. Starting at the front of each platform side rail, install clevises on the bushings bolted to holes 9, 16, 17, and 20.
7. Starting at the front of the platform, number the clevises 1 through 6 on the right side and 1A through 6A on the left side
8. 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 4-2. Platform Prepared

BUILDING AND POSITIONING HONEYCOMB STACKS

4-3. Build the honeycomb stacks as shown in Figures 3-3 through 3-5 Position the stacks as shown in Figure 4-6.

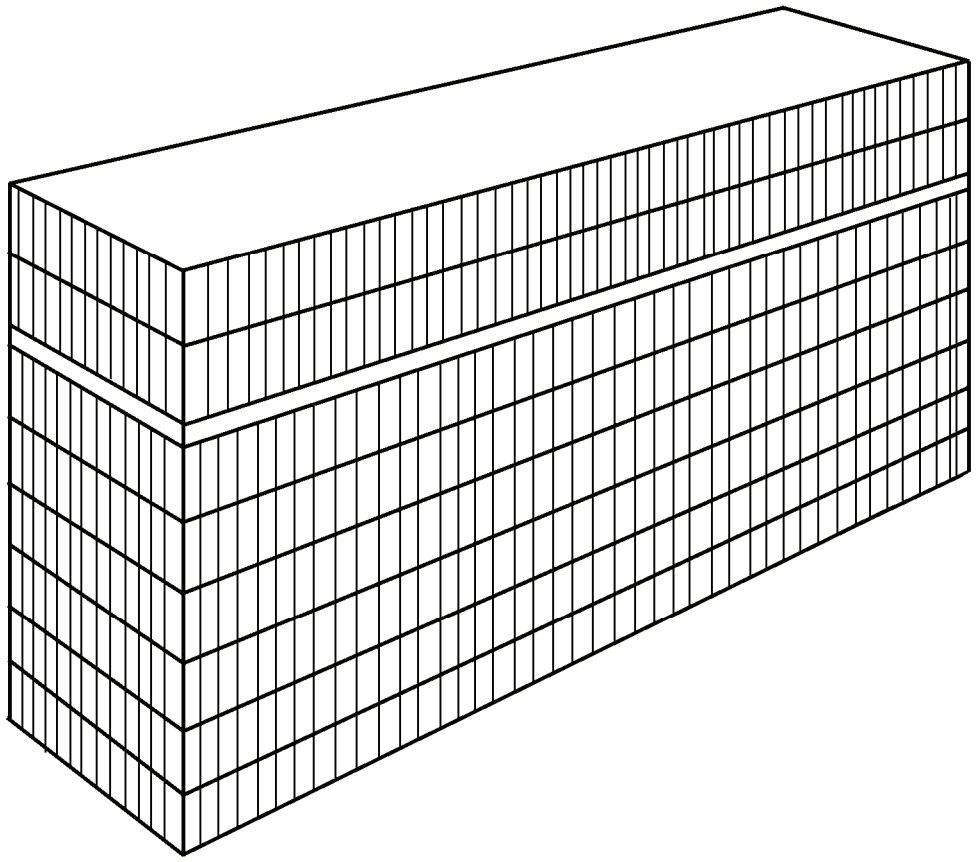
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
1	9 6	36 18	40 24	Honeycomb Honeycomb	Glue pieces together to form a base. Make a 3- by 12-inch cutout on each piece of honeycomb. Place three pieces on each side of the base with the cutout to the front and facing outward on the stack.

Figure 4-3. Honeycomb Stack 1 Prepared

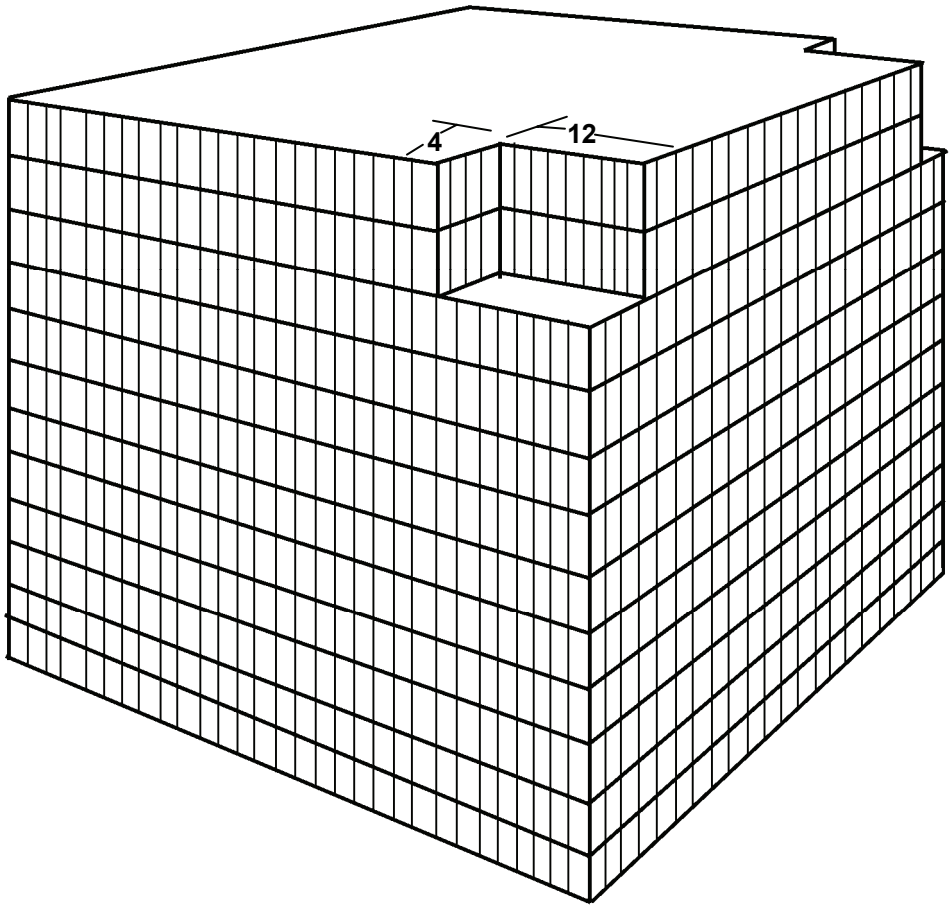
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
2	6	12	48	Honeycomb	Glue 6 pieces of honeycomb together to form a base.
	1	12	48	¾-inch Plywood	Glue flush on top of the base.
	2	12	48	Honeycomb	Glue flush on top of the plywood.

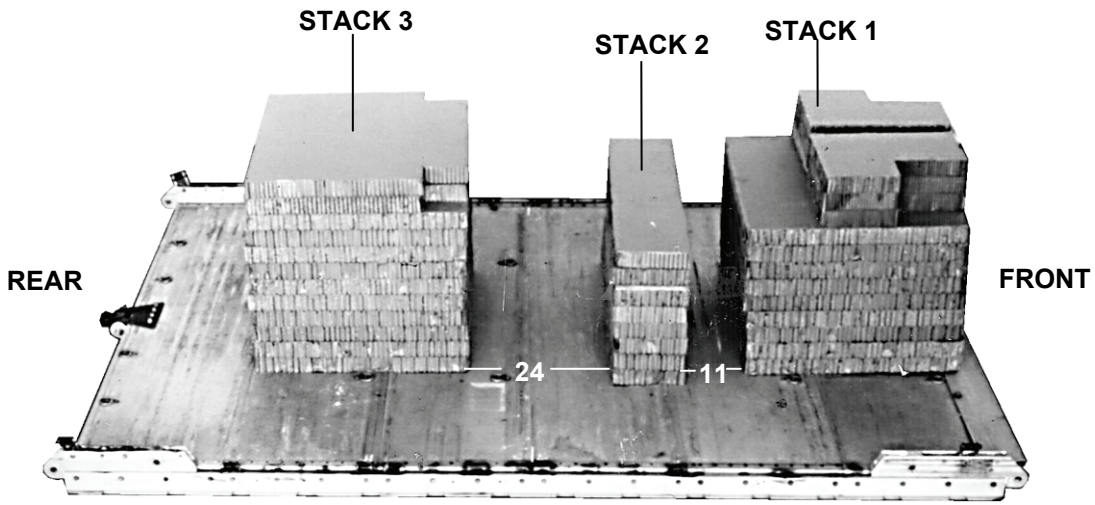
Figure 4-4. Honeycomb Stack 2 Prepared

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



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
3	12	36	40	Honeycomb	Glue together to form a base. Make a 4- by 8-inch cutout on each side to the front of the top two layers

Figure 4-5. Honeycomb Stack 3 Prepared



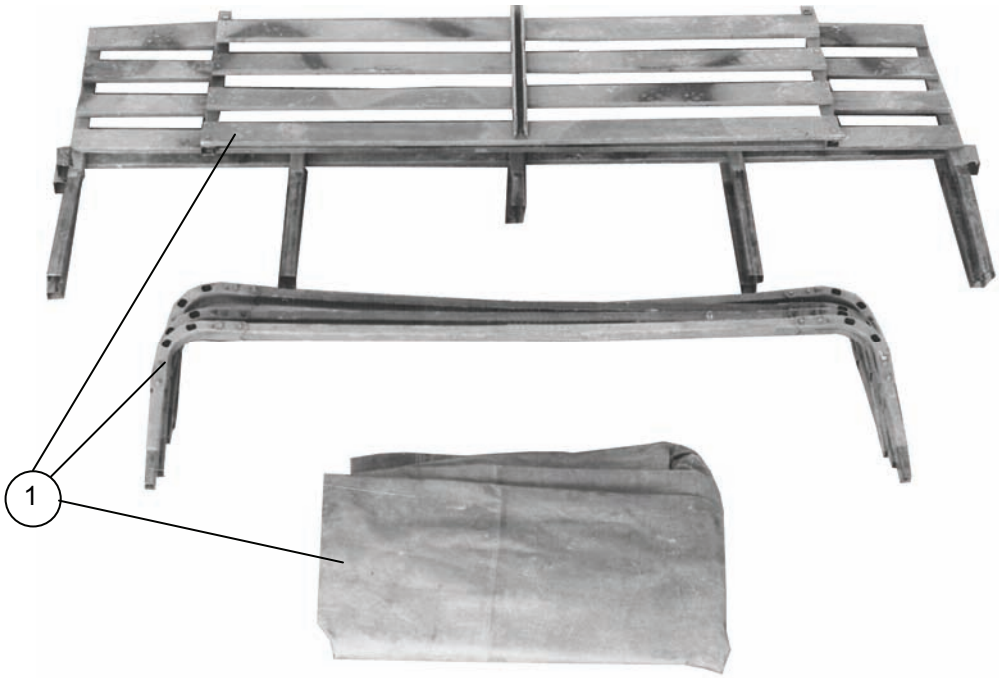
Step:

1. Position stack, 1 centered and flush, with the front edge of the platform.
2. Position stack 2 centered and 11 inches from the rear edge of stack 1.
3. Position stack 3 centered and 24 inches from the rear edge of stack 2.

Figure 4-6. Honeycomb Stacks Positioned on Platform

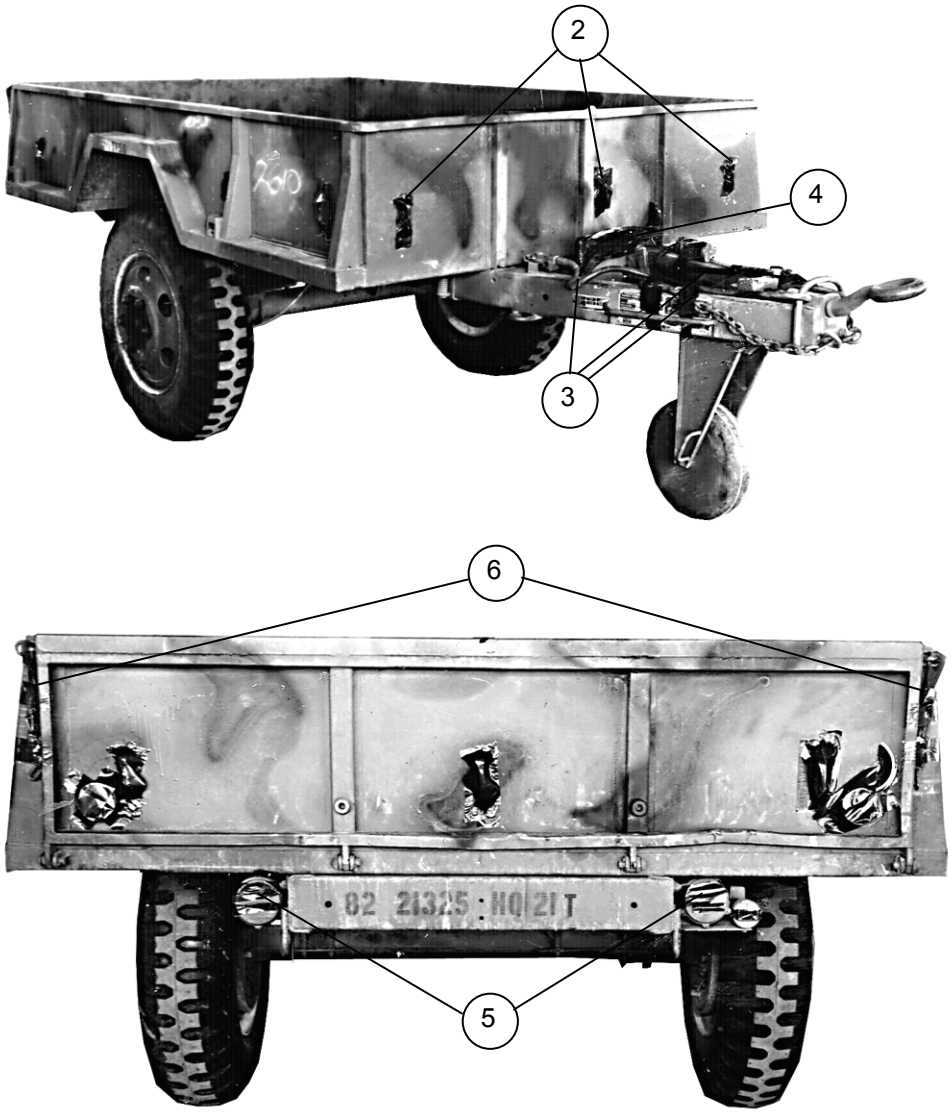
PREPARING THE TRAILER

4-4. Prepare the trailer as shown in Figure 4-7.



(1) Remove the rack assembly, bows, and trailer cover.

Figure 4-7. Trailer Prepared



(2) Tape the trailer cover hooks.

(3) Tape the hose, safety chains, and inter-vehicular cable to the drawbar.

(4) Tape the hand brakes in the locked position using cloth-backed tape.

(5) Tape the taillights and reflectors.

(6) Tape the tailgate chains.

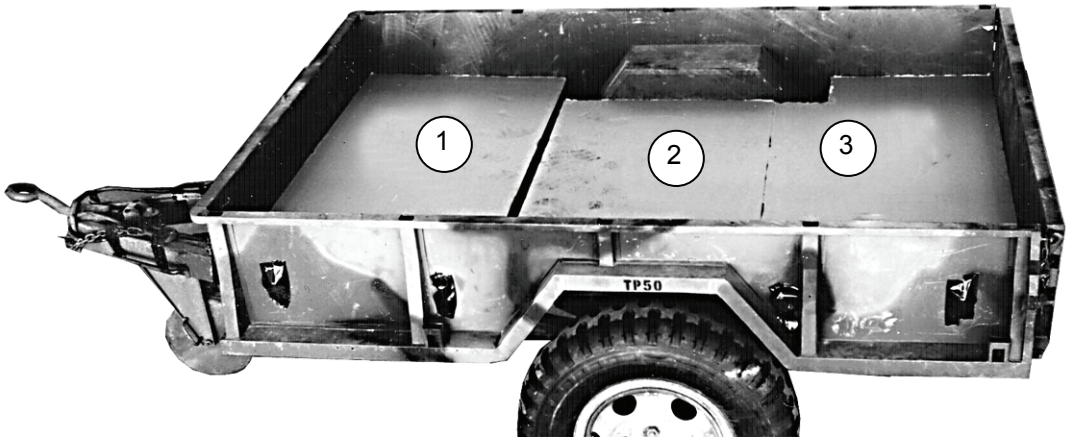
Figure 4-7. Trailer Prepared (Continued)

STOWING THE ACCOMPANYING LOAD AND TRAILER COMPONENTS

4-5. Stow the accompanying load of 24 ammunition boxes in the trailer as shown in Figure 4-8. The accompanying load must not weigh more than 3,000 pounds and must not exceed the height of the trailer body. If the load includes a hazardous material, it must be packaged, marked, and labeled in compliance with AFMAN 24-204(I)/TM 38-250/NAVSUP PUB 505/MCO P 4030.19I/DLAI4145.3.The load must comply with the restrictions and meet the requirements outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.The accompanying load shown in these procedures as 2,280 pounds of 105-millimeter ammunition stowed in the trailer.

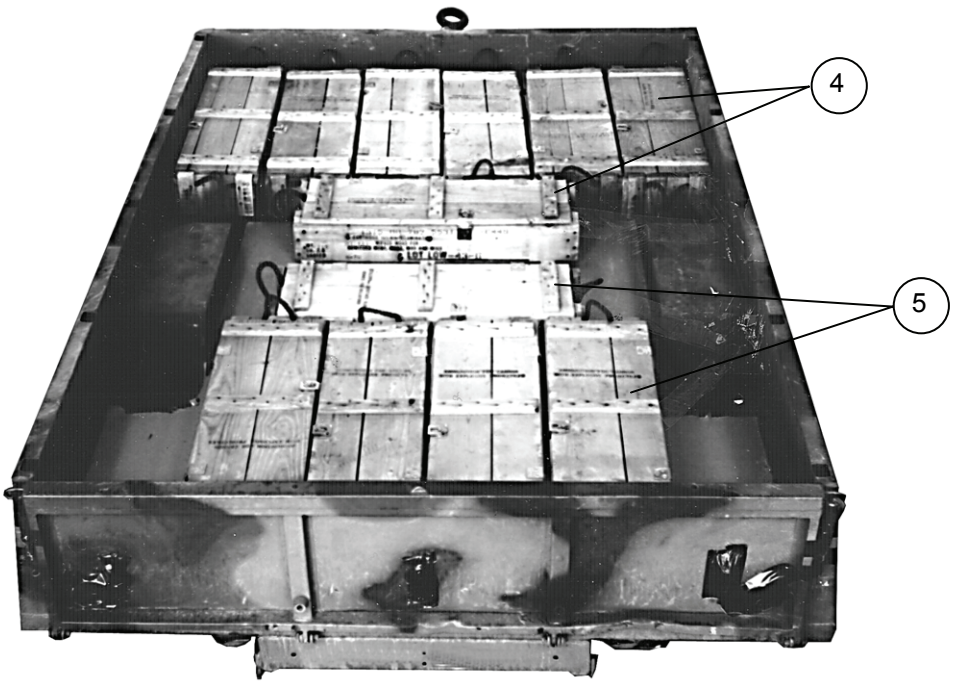
CAUTION

Only ammunition listed in FM4-20.153/MCRP 4-11.3B/TO 13C7-18-41 may be airdropped.



1. Place two 36- by 74-inch pieces of honeycomb in the front of the trailer.
2. Place two 36- by 54-inch pieces of honeycomb in the center of the trailer.
3. Make a 9- by 11-inch cutout on each side of two 36- by 74-inch pieces of honeycomb, with the cutouts facing the front of the trailer, in the rear of the trailer.

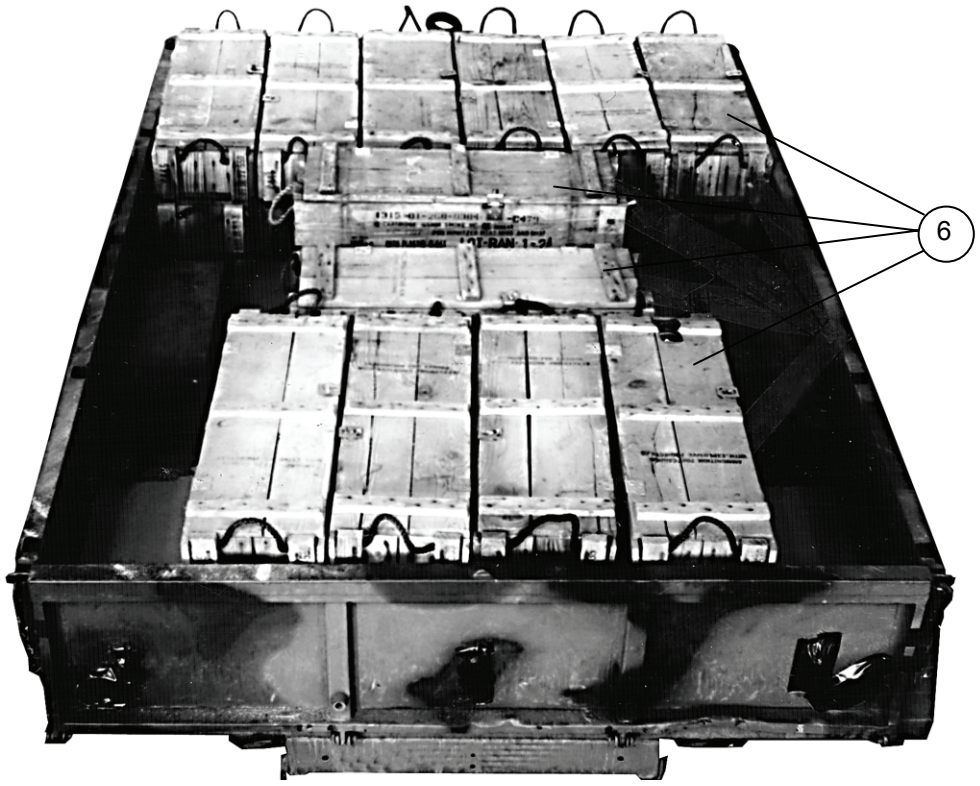
Figure 4-8. Accompanying Load and Trailer Components Stowed



(4) Place six boxes of ammunition against the front wall of the trailer. Center a seventh box of ammunition flush against the six ammunition boxes.

(5) Place four boxes of ammunition against the tailgate of the trailer. Center a fifth box of ammunition flush against the four ammunition boxes.

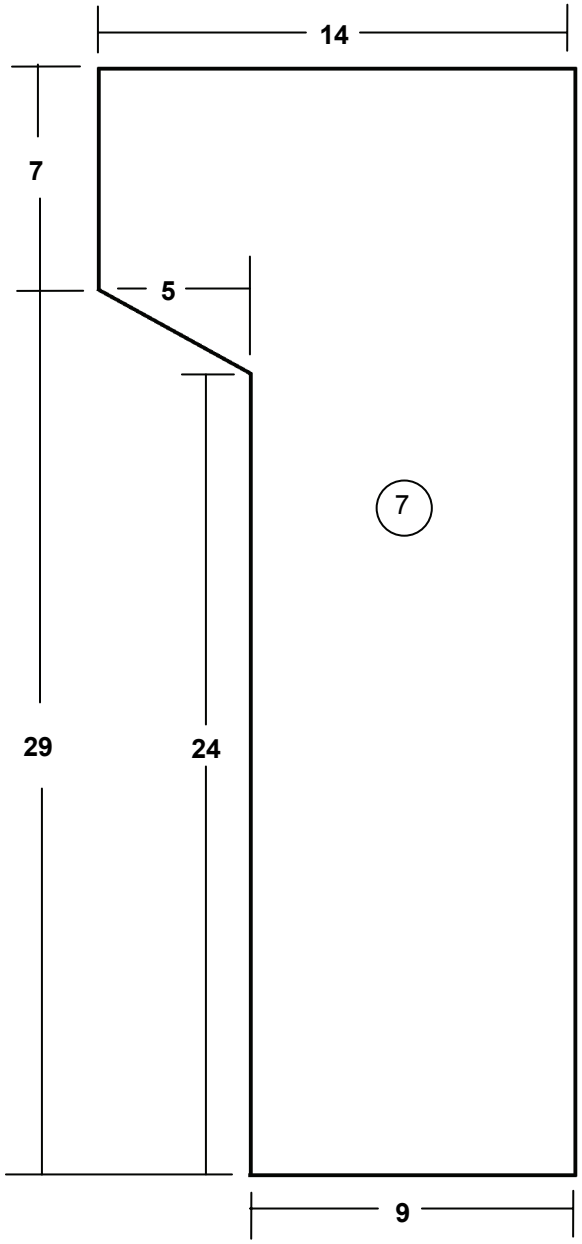
Figure 4-8. Accompanying Load and Trailer Components Stowed (Continued)



(6) Place 12 additional boxes of ammunition on top of the boxes placed in steps 4 and 5.

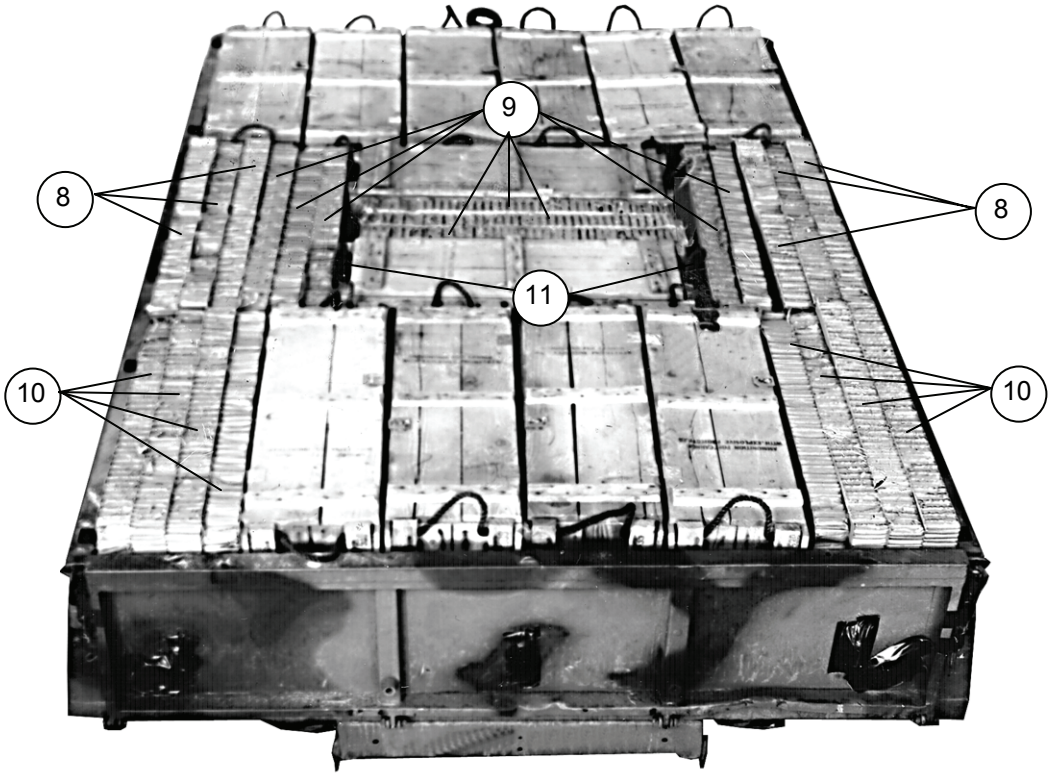
Figure 4-8. Accompanying Load and Trailer Components Stowed (Continued)

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



(7) Make a 5- by 29-inch cutout as shown in six 14- by 36-inch pieces of honeycomb.

Figure 4-8. Accompanying Load and Trailer Components Stowed (Continued)



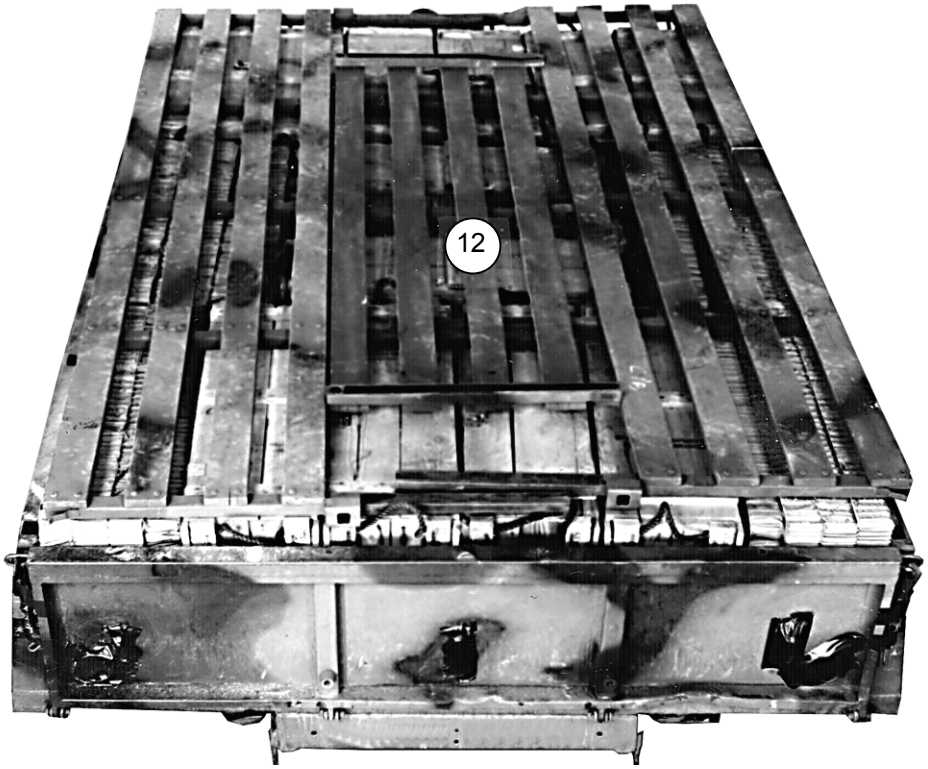
(8) Place three pieces of the honeycomb with the 5- by 29-inch cutouts over each wheel well.

(9) Place eight 36- by 14-inch pieces of honeycomb next to the honeycomb placed in step 8.

(10) Place four 36- by 14-inch pieces of honeycomb on each side of the rear ammunition boxes.

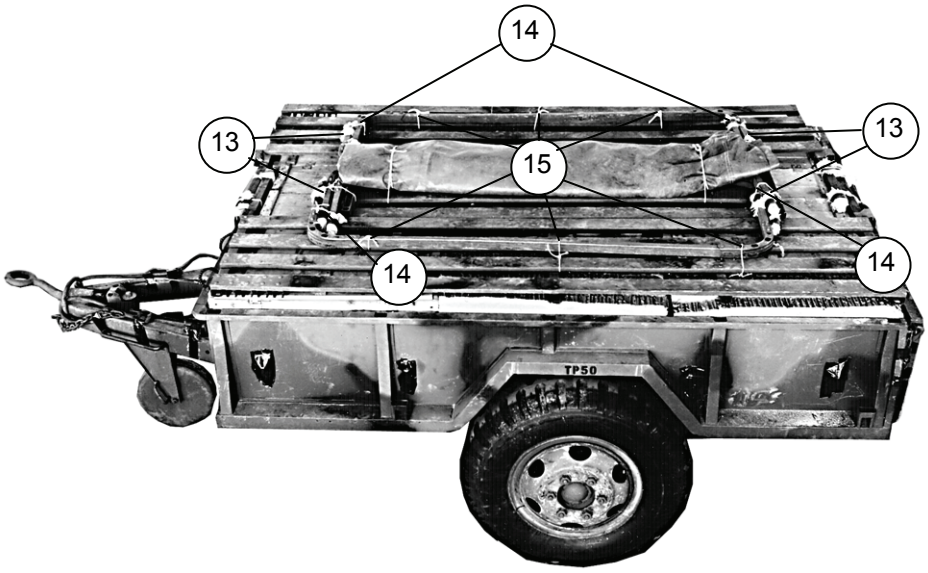
(11) Fill in open areas with filler honeycomb.

Figure 4-8. Accompanying Load and Trailer Components Stowed (Continued)



(12) Place the rack assembly on top of the ammunition boxes.

Figure 4-8. Accompanying Load and Trailer Components Stowed (Continued)



(13) Pad all sharp areas of the rack assembly and bows with cellulose padding and tape.

(14) Tie the bows together with type III nylon cord

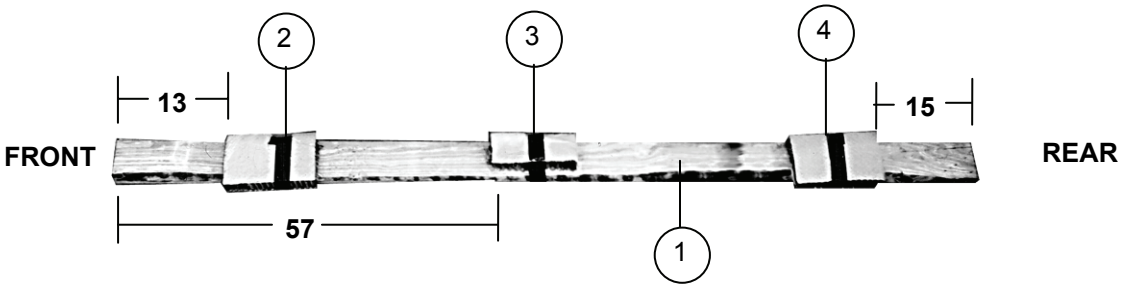
(15) Secure the bows and trailer cover to the rack assembly with type III nylon cord.

Figure 4-8. Accompanying Load and Trailer Components Stowed (Continued)

BUILDING BODY PROTECTION BOARDS

4-6. Build the body protection boards as shown in Figure 4-9.

Note. All measurements are given in inches.

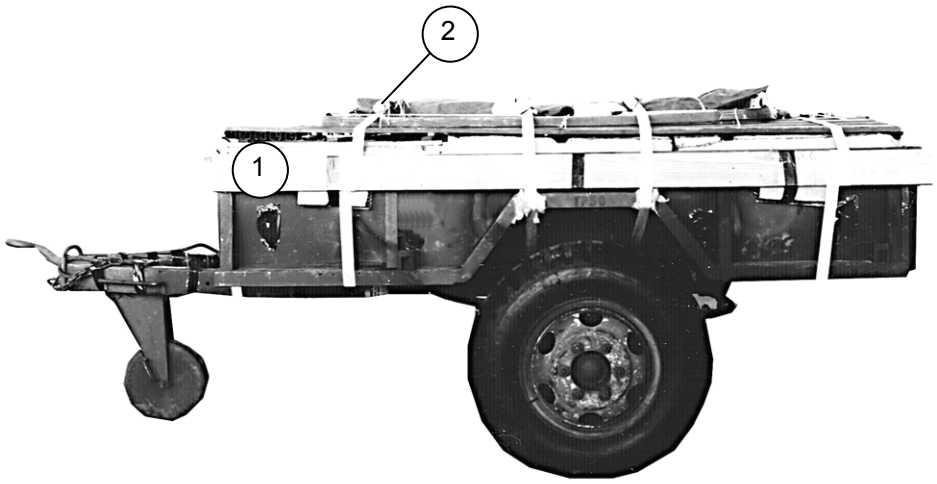


1. Prepare two 2- by 6- by 120-inch pieces of lumber for body protection boards.
2. Tape a 7- by 11-inch piece of honeycomb 13 inches from the front of each board.
3. Tape a 4- by 11-inch piece of honeycomb 57 inches from the front of each board.
4. Tape a 7- by 11-inch piece of honeycomb 15 inches from the rear of each board.

Figure 4-9. Body Protection Boards Built

LASHING BODY PROTECTION BOARDS AND ACCOMPANYING LOAD TO TRAILER

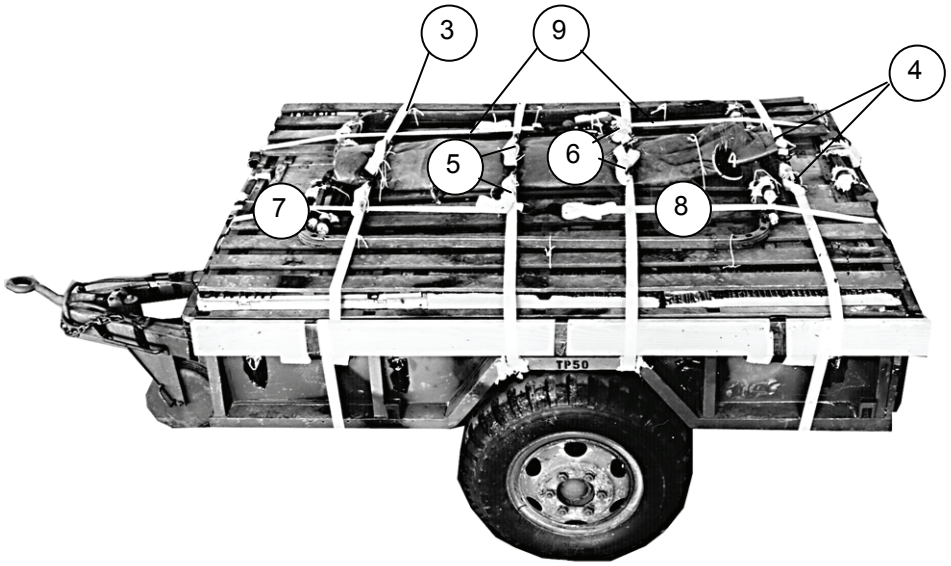
4-7. Lash the body protection boards and accompanying load to the trailer using twelve 15-foot tie-down assemblies according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 4-10.



(1) Place a body protection board on the left side of the trailer.

(2) Pass a 15-foot lashing around the front left frame and through its own D-ring. Pass the free end of the lashing up and around the body protection board once. Pass the free end of the lashing up and over the top of the trailer.

Figure 4-10. Body Protection Boards and Accompanying Load Lashed to Trailer



3 Repeat steps 1 and 2 for the right side of the trailer. Secure the lashings in steps 2 and 3 with two D-rings and a load binder on top of the load.

4 Pass a 15-foot lashing around the rear left frame and through its own D-ring. Pass the free end of the lashing up and around the body protection board once. Pass the free end of the lashing up and over the top of the trailer. Repeat step for the right side. Secure the lashings with two D-rings and a load binder.

5 Repeat step 4 for the front of the wheel well. Do not wrap the lashing around the body protection board.

6 Repeat step 4 for the rear of the wheel well. Do not wrap the lashing around the body protection board.

7 Pass a 15-foot tie-down strap around the left drawbar and through its own D-ring. Pass the free end up and over the top of the trailer.

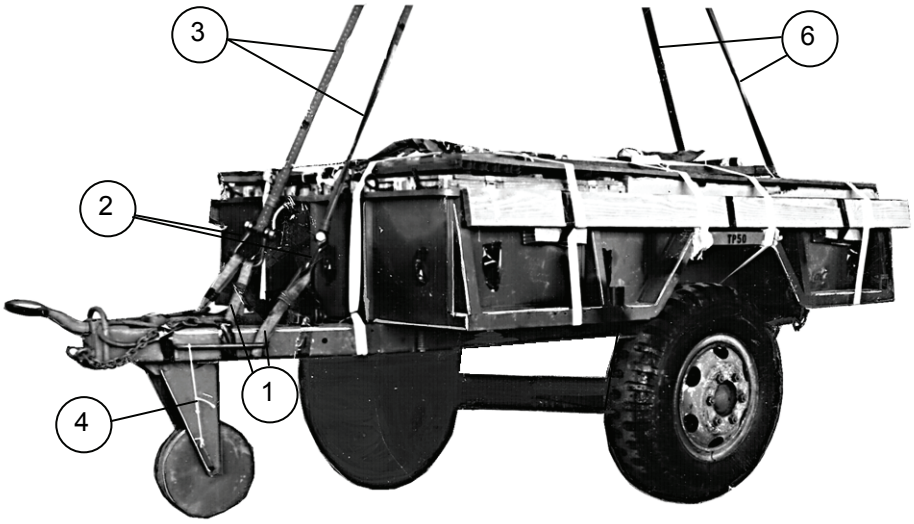
8 Pass a 15-foot tie-down strap through the left rear tie-down provision and through its own D-ring. Pass the free end up and over the top of the trailer. Secure lashings in steps 7 and 8 with two D-rings and a load binder.

9 Repeat steps 7 and 8 for the right side of the trailer.

Figure 4-10. Body Protection Boards and Accompanying Load Lashed to Trailer (Continued)

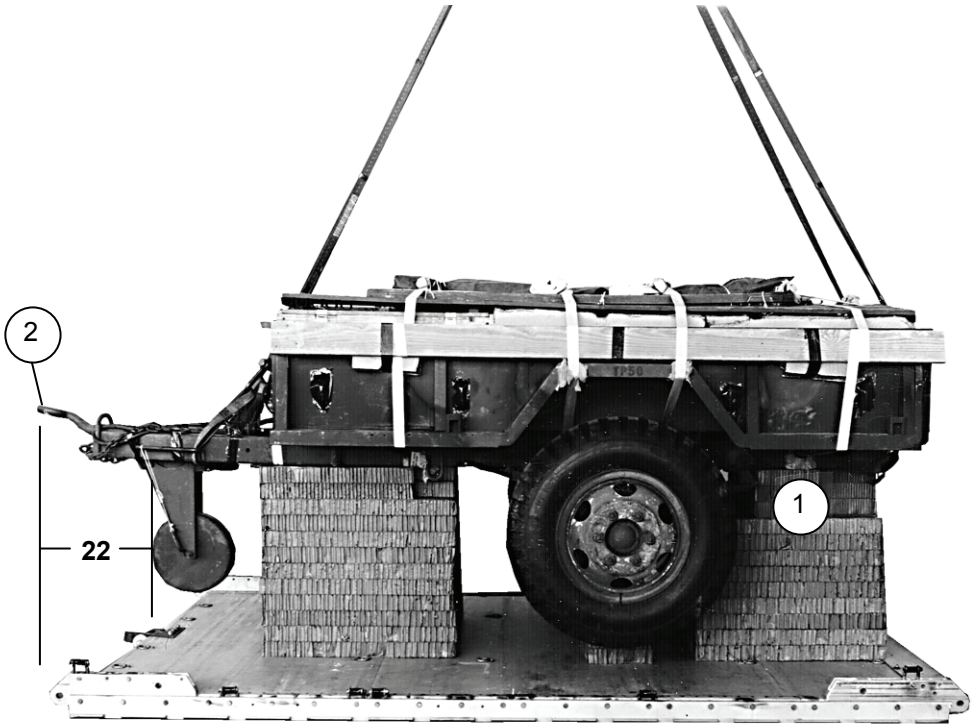
LIFTING AND POSITIONING THE TRAILER

4-8. Install the lifting slings and position the trailer as shown in Figures 4-11 and 4-12.



1. Wrap a 3-foot (2-loop), type XXVI nylon sling around each side of the drawbar. Ensure the slings pass between the drawbar and the lifting handle.
2. Attach a large suspension clevis through the ends of each 3-foot sling.
3. Attach an 11-foot (2-loop), type XXVI nylon sling to each large front suspension clevis.
4. Safety tie the caste wheel to the drawbar lifting handles with type III nylon cord.
5. Wrap a 3-foot sling around the left frame at the rear of the trailer (not shown). Attach a large suspension clevis through the ends of the sling (not shown). Repeat step for the right side (not shown).
6. Attach a 12-foot (2-loop), type XXVI nylon sling to each rear suspension clevis.

Figure 4-11. Trailer Lifting Slings Installed



1. Place the trailer on the honeycomb with the axle centered on honeycomb stack 2 and the rear edge of the trailer flush with the front edge of the platform.
2. Ensure the front edge of the lunette overhangs the rear of the platform by 22 inches.
3. Remove the lifting slings (not shown).

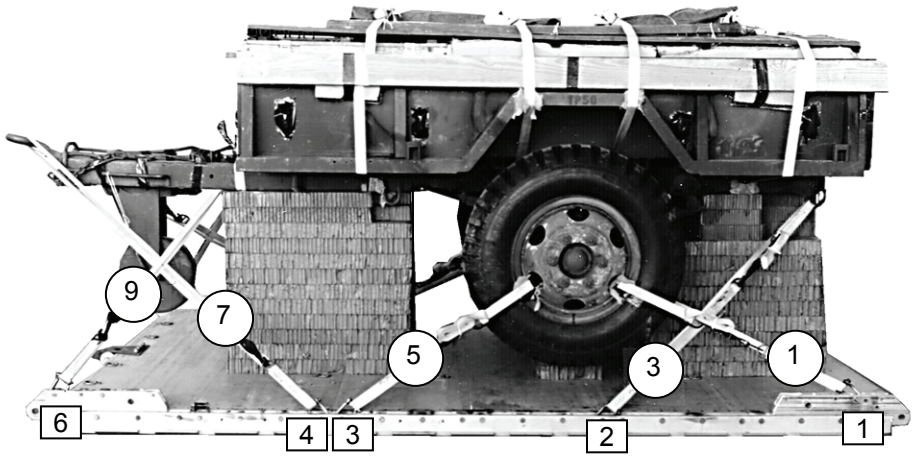
Figure 4-12. Trailer Positioned

LASHING LOAD TO PLATFORM

4-9. Lash trailer to the platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 4-13.

Note. Pad any sharp edges on the load where a lashing may pass. Use cellulose padding and masking tape.

Note. Left, right, front, and rear refer to the trailer, NOT the platform.

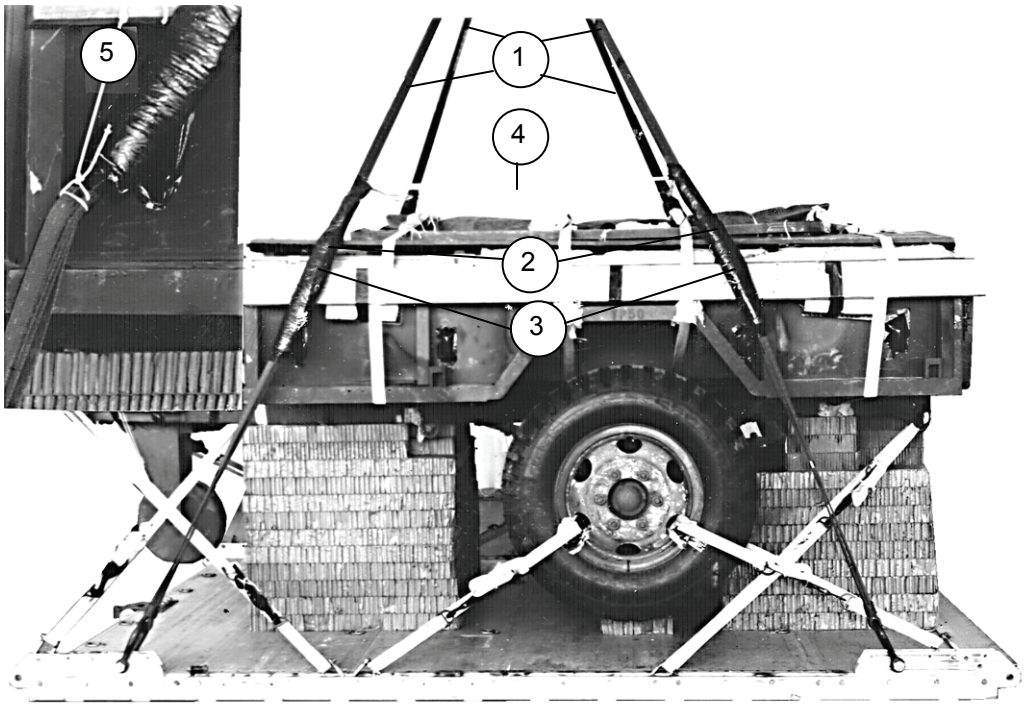


Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
1	1	Through left wheel.
2	1A	Through right wheel.
3	2	Through left rear tie-down provision.
4	2A	Through right rear tie-down provision.
5	3	Through left wheel.
6	3A	Through right wheel.
7	4	Through lunette.
8	4A	Through lunette.
9	6	Through left front tie-down provision.
10	6A	Through right rear tie-down provision.

Figure 4-13. Trailer Lashed to Platform

INSTALLING AND SAFETY TIEING THE SUSPENSION SLINGS

4-10. Install and safety tie the suspension slings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 4-14.



(1) Attach a 12-foot (2-loop), type XXVI nylon sling to each tandem link using a large suspension clevis.

(2) Wrap a 10-by 30-inch piece of felt around each sling where it makes contact with the load. Tie the padding in place using type III nylon cord.

(3) Tape the padding using pressure sensitive tape the full length of the felt and extend the tape over on the suspension slings 6 inches on each end.

(4) Install the deadman's tie according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

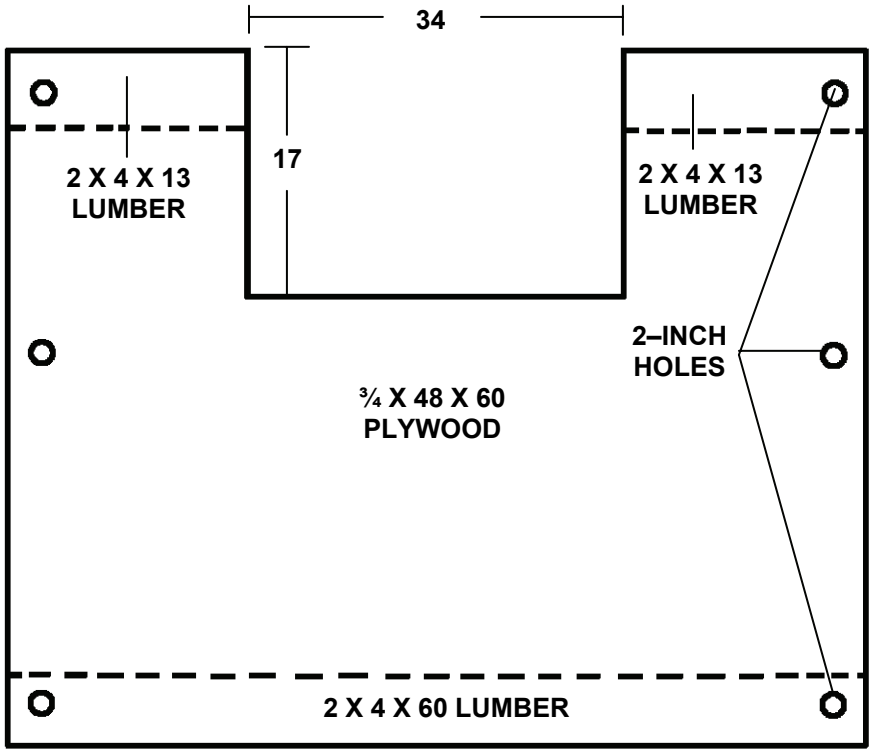
(5) Safety tie the suspension slings to the body protection boards using type III nylon cord.

Figure 4-14. Suspension Slings Installed and Safety Tied

BUILDING AND INSTALLING THE PARACHUTE STOWAGE PLATFORM

4-11. Build the parachute stowage platform as shown in Figure 4-15. Install the parachute stowage platform as shown in Figure 4-16.

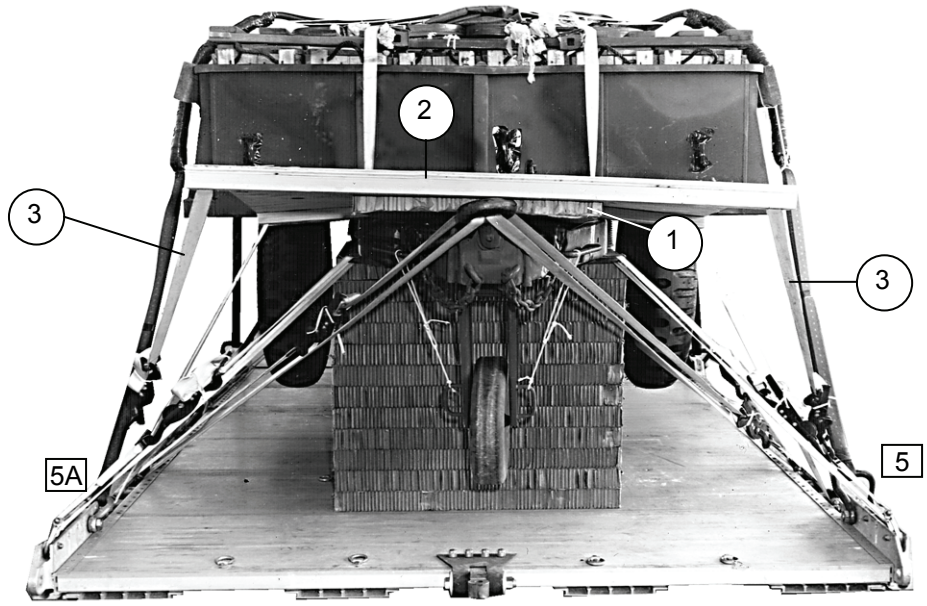
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale.



Step:

1. Cut a ¾- by 48- by 60-nch piece of plywood.
2. Make a 17- by 34-inch cutout in the center of the front of the plywood.
3. Nail a 2- by 4- by 13-inch piece of lumber on each side of the front of the plywood using sixpenny nails. Nail a 2- by 4- by 60-inch piece of lumber on the rear of the plywood using sixpenny nails.
4. Drill six 2-inch holes as shown.

Figure 4-15. Parachute Stowage Platform Built

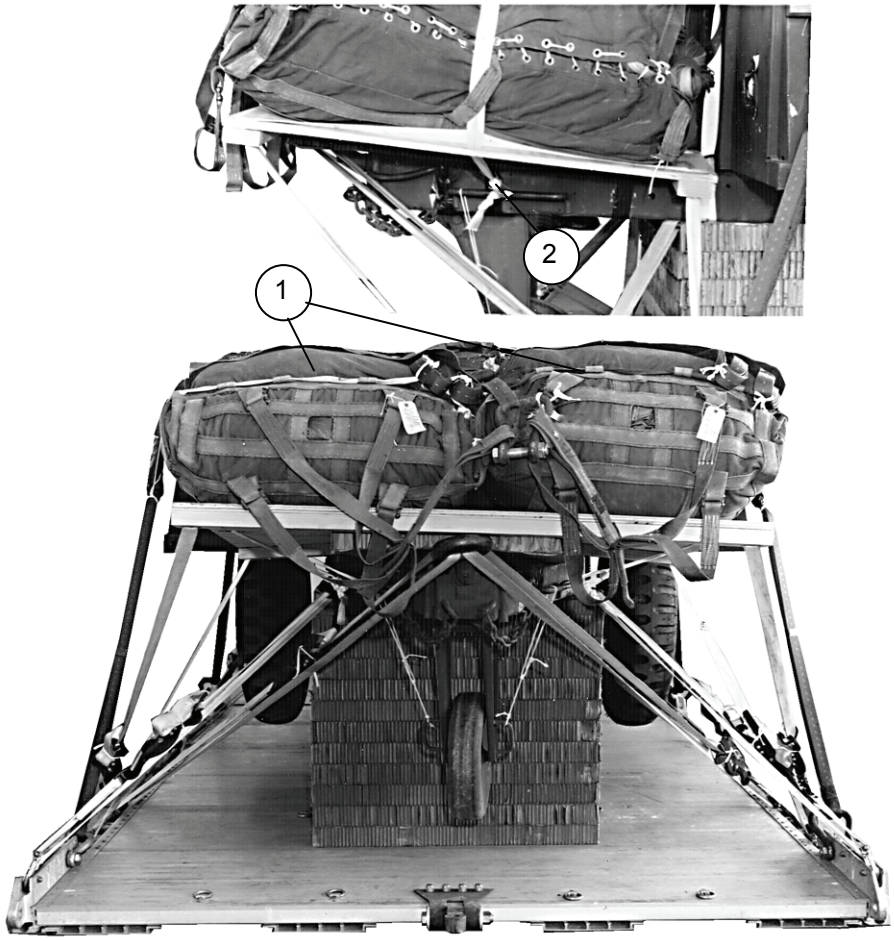


1. Center a 26- by 36-inch piece of honeycomb on the drawbar.
2. Center the parachute stowage platform on top of the honeycomb.
3. Lash the parachute stowage platform to clevises 5 and 5A with two 15-foot tie-downs.

Figure 4-16. Parachute Stowage Platform Installed

STOWING CARGO PARACHUTES

4-12. Prepare, stow, and restrain two G-11B cargo parachutes according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 4-17.



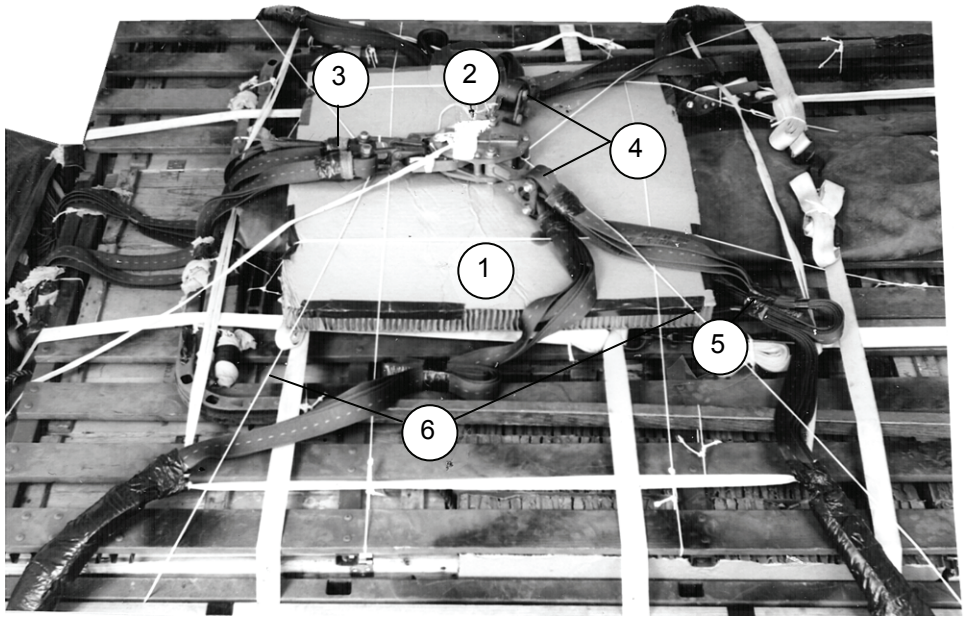
(1) Position two G-11B cargo parachutes on the parachute stowage platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

(2) Install a parachute restraint strap using type VIII nylon webbing on the drawbar lifting handle on each side of the drawbar.

Figure 4-17. Cargo Parachutes Positioned and Restrained

INSTALLING PARACHUTE RELEASE SYSTEM

4-13. Prepare and install an M-1 parachute release 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 4-18.

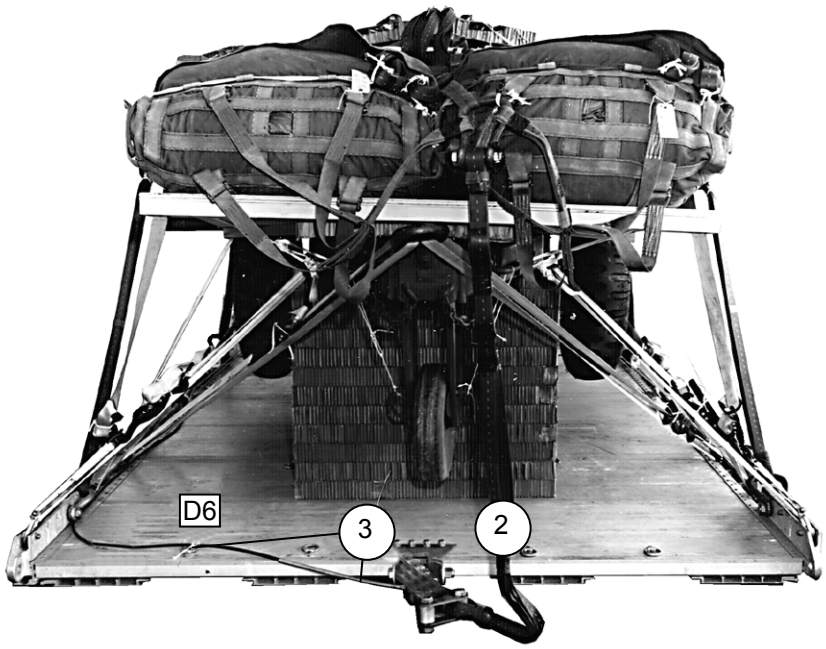


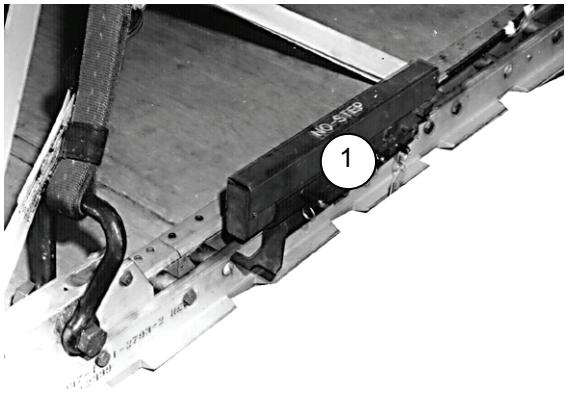
1. Place a 36- by 36-inch piece of honeycomb on top of the load, and secure it with type III nylon cord.
2. Center an M-1 parachute release assembly on top of the honeycomb.
3. Attach the parachute riser extensions to the parachute release connectors.
4. Attach the suspension slings to the lower suspension links.
5. Fold the excess suspension slings and safety tie with type I, ¼-inch cotton webbing.
6. Tie the parachute release safety ties to the trailer cover hooks.

Figure 4-18. M-1 Parachute Release Installed

INSTALLING EXTRACTION SYSTEM

4-14. Install the extraction system as shown in Figure 4-19.





(1) Install the components of the EFTC according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Use the rear mounting holes for the EFTC actuator brackets.

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

(3) Use a 12-foot cable and safety tie the cable to tie-down ring D6 on the platform with type I, ¼-inch cotton webbing.

Figure 4-19. Extraction System Installed

PLACING EXTRACTION PARACHUTE

4-15. 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. Place the extraction parachute and line on the load for installation in the aircraft.

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

4-16. Select and install the provisions for the emergency aft restraints according to the emergency aft restraint requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

MARKING RIGGED LOAD

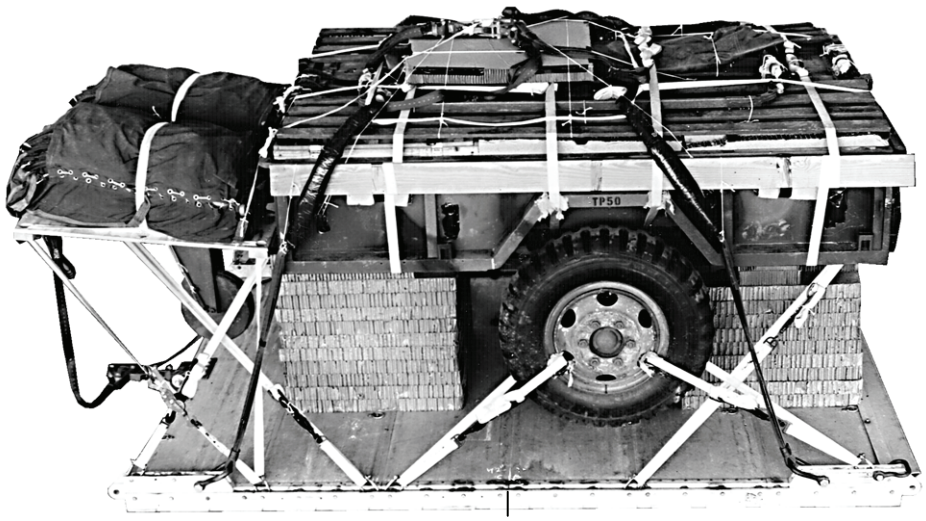
4-17. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 4-20. Complete Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

4-18. Use the equipment listed in Table 4-1 to rig this load.

CAUTION

Make the final rigger inspection required by AR 59-4 and FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 before the load leaves the rigging site.



RIGGED LOAD DATA

Weight: Load Shown.....7,360 pounds

Max Weight Load .....8,080 pounds

Height.....81 inches

Width.....108 inches

Overall Length .....170 ½ inches

Overhang: Front.....0 inches
Rear (Parachute Stowage Platform) .....22 inches

Center of Balance (CB) (from front edge of the platform).....72 inches

Extraction System with 16-foot cable (adds 0 inches to the length of the load)

Figure 4-20. 1 ½-Ton trailer Rigged on a 12-Foot, Type V Platform for Low-Velocity Airdrop

Table 4-1. Equipment Required for Rigging the 1 ½-Ton Trailer on a 12-Foot, Type V Platform 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-inch (large)	10
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop extraction force transfer, w/12-ft. cable	1
1670-00-360-0328	Cover, clevis	2
8135-00-664-6958	Cushioning material (Cellulose padding)	As required
8305-00-958-3685	Felt, 1/2-inch thick	As required
1670-01-183-2678	Leaf, extraction line (line bag) (add 2 for C-17)	2
	Line extraction:	
1670-01-062-6313	60-foot (3-loop), type XXVI (for C-130)	1
1670-01-107-7651	140-foot (3-loop), type XXVI (for C-17)	1
1670-01-064-4452	60-foot (1-loop), type XXVI (for C-17), (drogue line)	1
1670-00-783-5988	Link assembly, type IV (C-17 only)	1
1670-01-493-6418	Link assembly, two-point, small, 3 ¾-inch	1
	Lumber:	
5510-00-220-6146	2- by 4- by 96-inch	1
5510-00-220-6148	2- by 6- by 120-inch	2
5315-00-010-4659	Nail, steel, common, 6D	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	5 sheets
1670-01-016-7841	Parachute, cargo, G-11B	2
	Parachute, cargo, extraction:	
1670-01-063-3715	15-foot (add one for C-17)	1
1670-00-687-5458	22-foot	1
	Platform, airdrop, type V, 20-foot:	
1670-01-162-2372	Clevis assembly (type V)	12
1670-01-162-2376	Extraction bracket assembly	1
1670-01-247-2389	Link, suspension bracket, type V	2
1670-01-162-2381	Tandem link assembly (Multipurpose link)	2
5530-00-128-4981	Plywood, 3/4-inch	1 Sheet

Table 4-1. Equipment Required for Rigging the 1 ½-Ton Trailer on a 12-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop:	
1670-01-062-6301	3-foot (2-loop), type XXVI	4
1670-01-062-6304	9-foot (2-loop), type XXVI	1
1670-01-063-7760	11-foot (2-loop), type XXVI	2
1670-01-062-6303	12-foot (2-loop), type XXVI	4
1670-01-062-6302	20-foot (2-loop), type XXVI	2
5340-00-040-8219	Strap, parachute, release, multi-knife	2
7501-00-266-5016	Tape, adhesive, 2-inch	As required
1670-00-937-0271	Tie-down assembly, 15-foot	24
1670-01-483-8259	Link, parachute, connector (H-block) (C-17 only)	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-inch	As required
8305-00-261-8585	Nylon, type VIII	As required

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Chapter 5

Rigging 400-Gallon Water Trailer on a 12-Foot, Type V Platform for Low-Velocity Airdrop

DESCRIPTION OF THE LOAD

5-1. The 1 ½-ton, 2-wheeled, 400-gallon tank trailer (model numbers M107A1, M107A2, M149A1, and M149A2) (Figure 5-1) is rigged on a 12-foot, type V airdrop platform using two G-11 cargo parachutes. The M149A1 is shown in these procedures. The empty trailer is 75 inches high, 81 inches wide, 162 inches long, and weighs 6,150 pounds when filled.

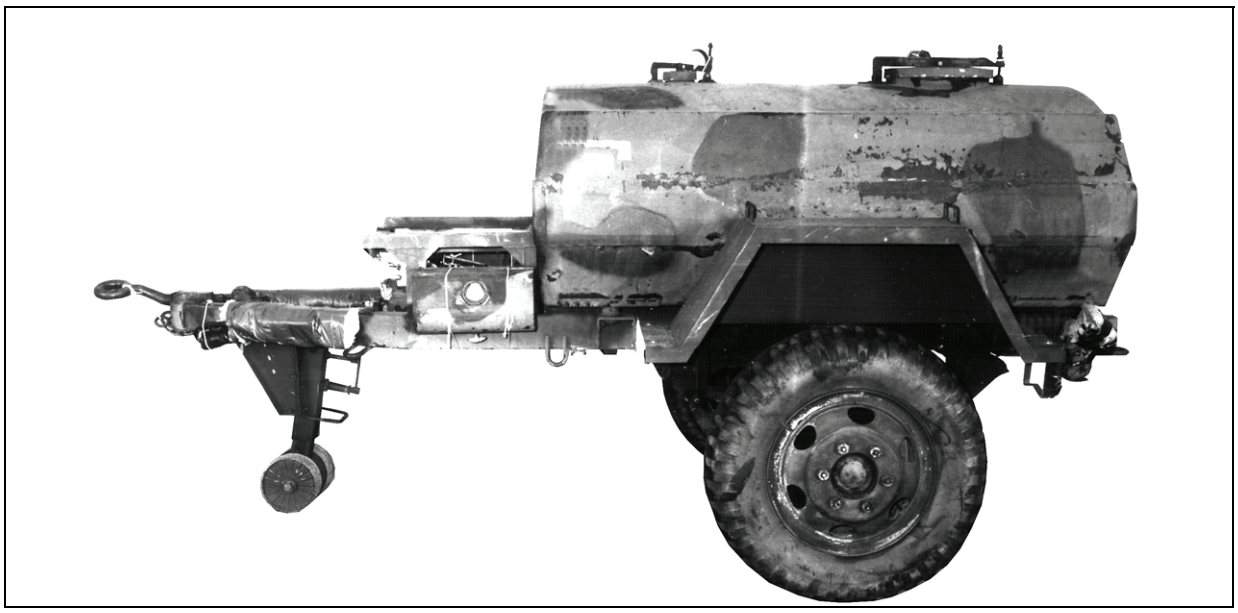
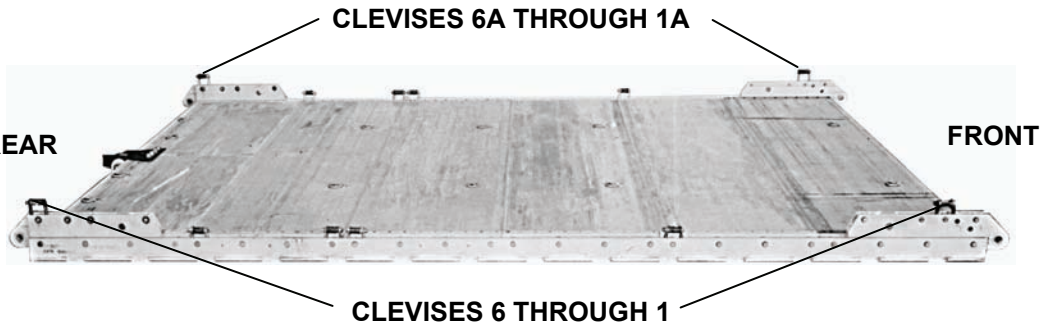


Figure 5-1. M149A1 400-Gallon Water Trailer

PREPARING PLATFORM

5-2. Prepare a 12-foot, type V airdrop platform as shown in Figure 10-2.



Step:

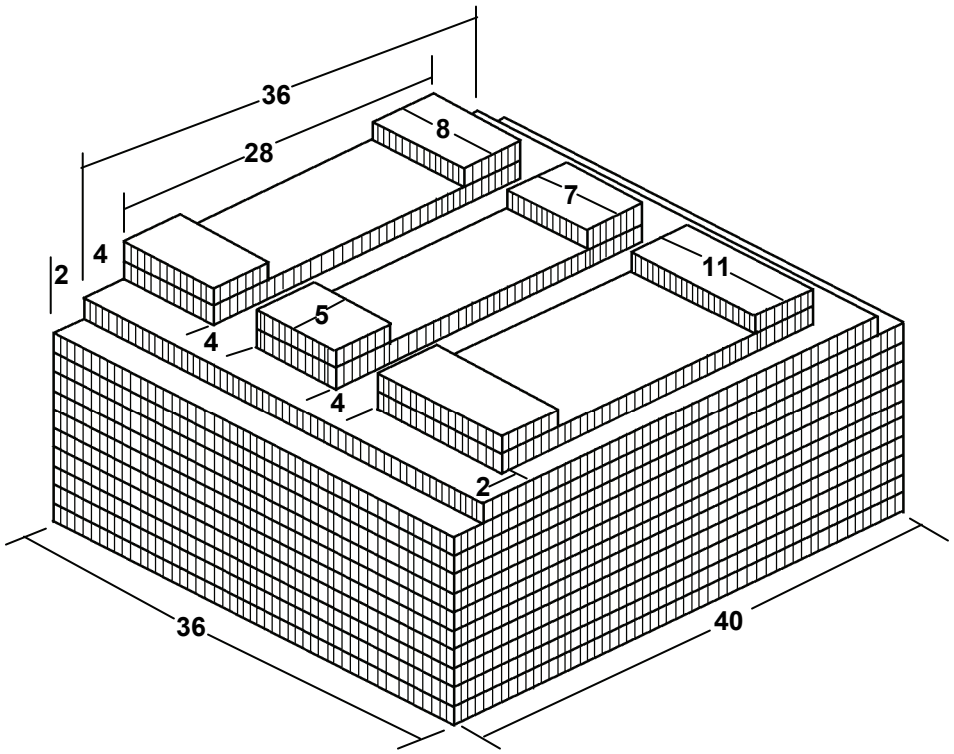
1. Inspect, or assemble and inspect, a 12-foot, type V airdrop platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
3. Install a tandem link to the rear of each platform side rail using holes 22, 23, and 24.
4. Install a clevis on bushing 2 of each front tandem link.
5. Install a clevis on bushing 4 of each rear tandem link.
6. Starting at the front of each platform side rail, install clevises on the bushings bolted to holes 8, 16, 17, and 20.
7. Starting at the front of the platform, number the clevises 1 through 6 on the right side and 1A through 6A on the left side.
8. 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 5-2. Platform Prepared

BUILDING AND POSITIONING HONEYCOMB STACKS

5-3. Build the honeycomb stacks as shown in Figures 5-3 through 5-6. Position the stacks as shown in Figure 5-7.

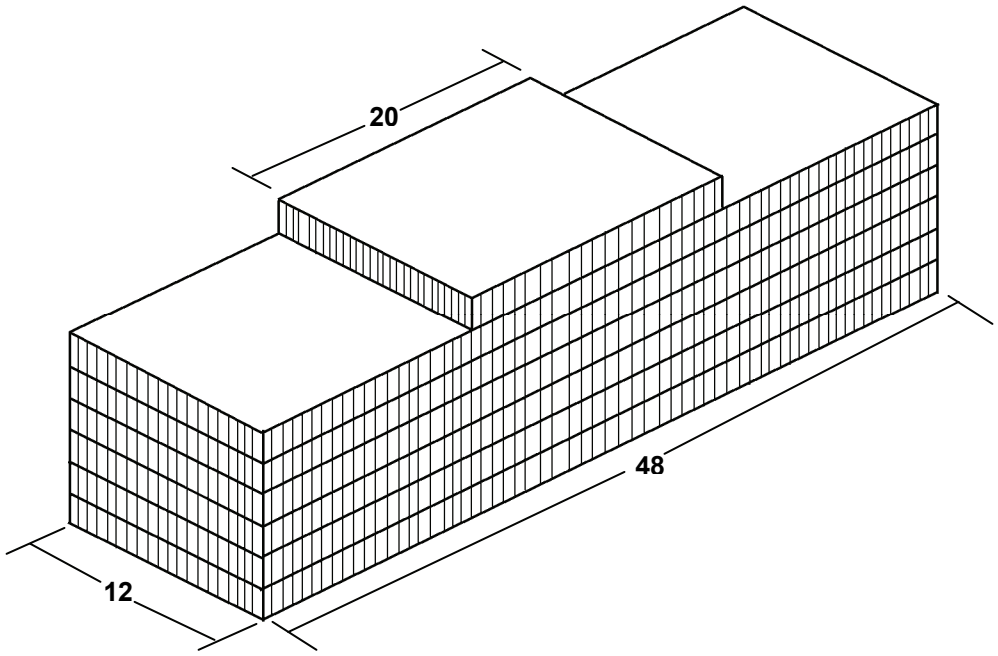
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
1	10	40	36	Honeycomb	Stack and glue pieces flush.
	1	36	36	Honeycomb	Stack flush and center.
	1	28	11	Honeycomb	Place as shown.
	2	5	11	Honeycomb	Place as shown.
	1	28	7	Honeycomb	Place as shown.
	2	5	7	Honeycomb	Place as shown.
	1	28	8	Honeycomb	Place as shown.
	2	5	8	Honeycomb	Place as shown.

Figure 5-3. Honeycomb Stack 1 Prepared

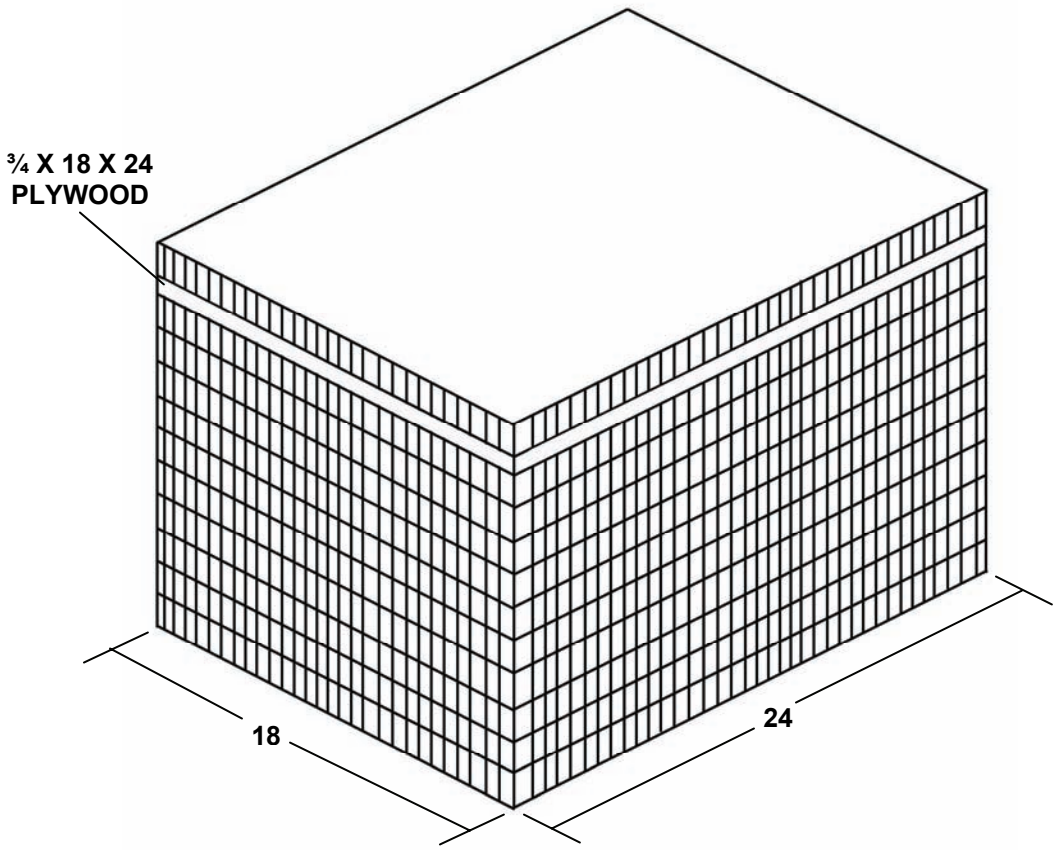
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
2	6	48	12	Honeycomb	Glue flush to form a base.
	1	20	12	Honeycomb	Center and Glue on top of the base.

Figure 5-4. Honeycomb Stack 2 Prepared

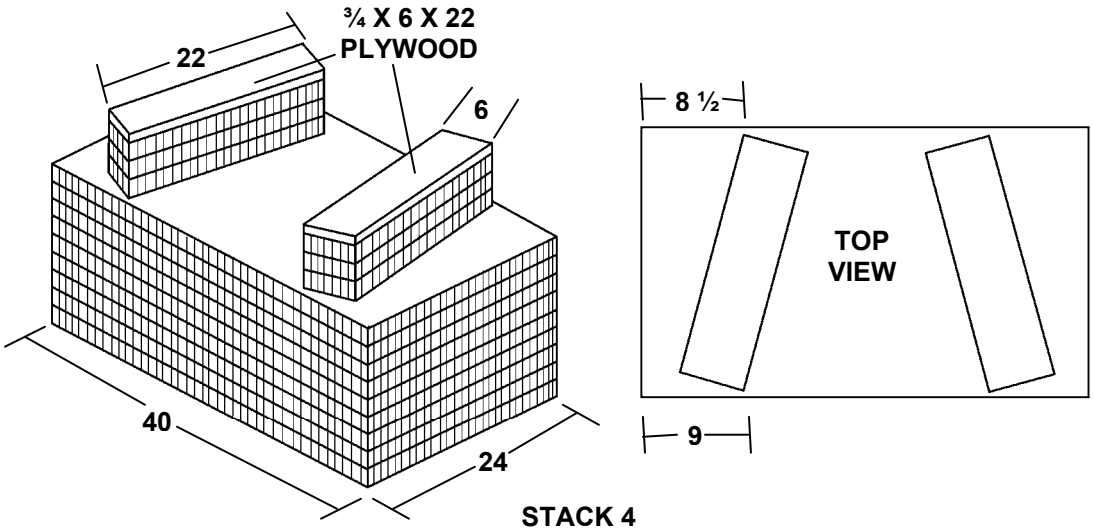
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**



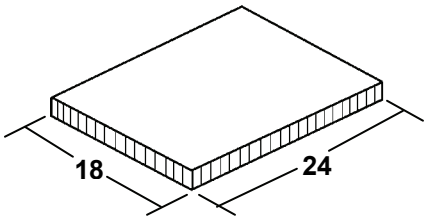
Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
3	10	24	18	Honeycomb	Glue flush to form a base.
	1	24	18	¾ inch Plywood	Glue flush on the base.
	1	24	18	Honeycomb	Glue flush on plywood.

Figure 5-5. Honeycomb Stack 3 Prepared

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



STACK 4



STACKS 5 AND 6

Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
4	9	40	24	Honeycomb	Glue flush to forma base.
	6	6	22	Honeycomb	Glue two stacks of three layers on the base as shown.
	2	6	22	¾ inch Plywood	Place and glue on top of 6- by 22-inch pieces of honeycomb.
5 & 6	1	18	24	Honeycomb	Stacks 5 and 6 consist of one layer.

Figure 5-6. Honeycomb Stacks 4 through 6 Prepared

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

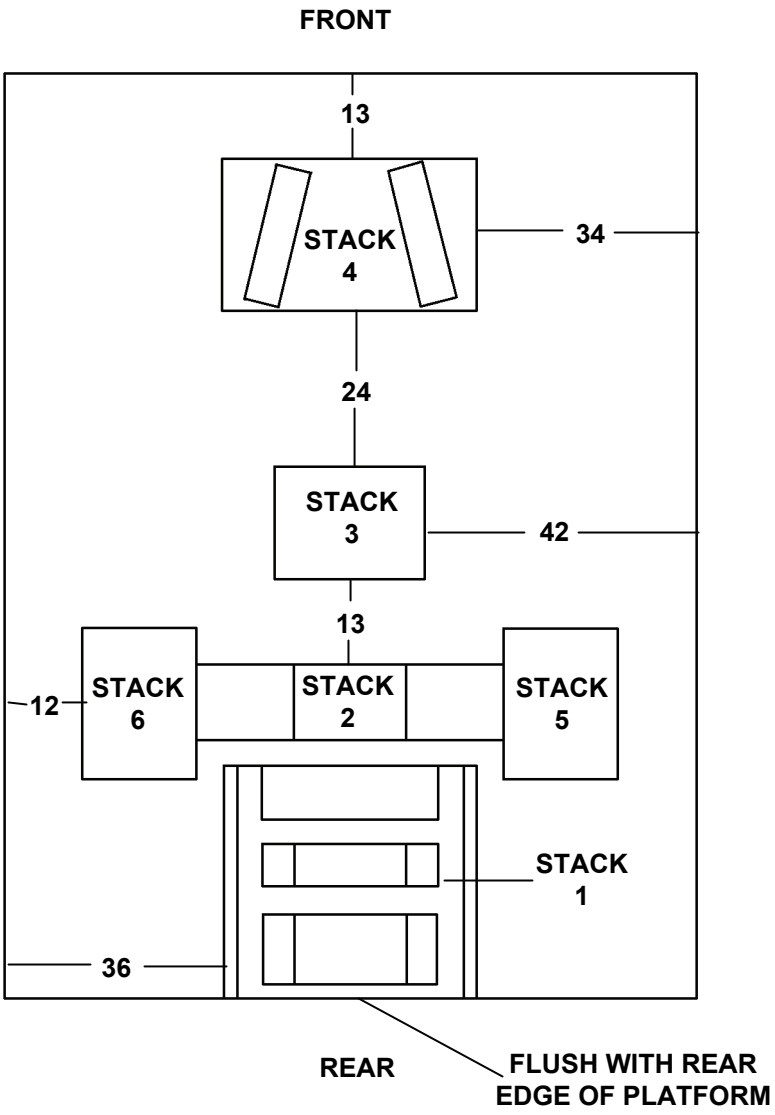
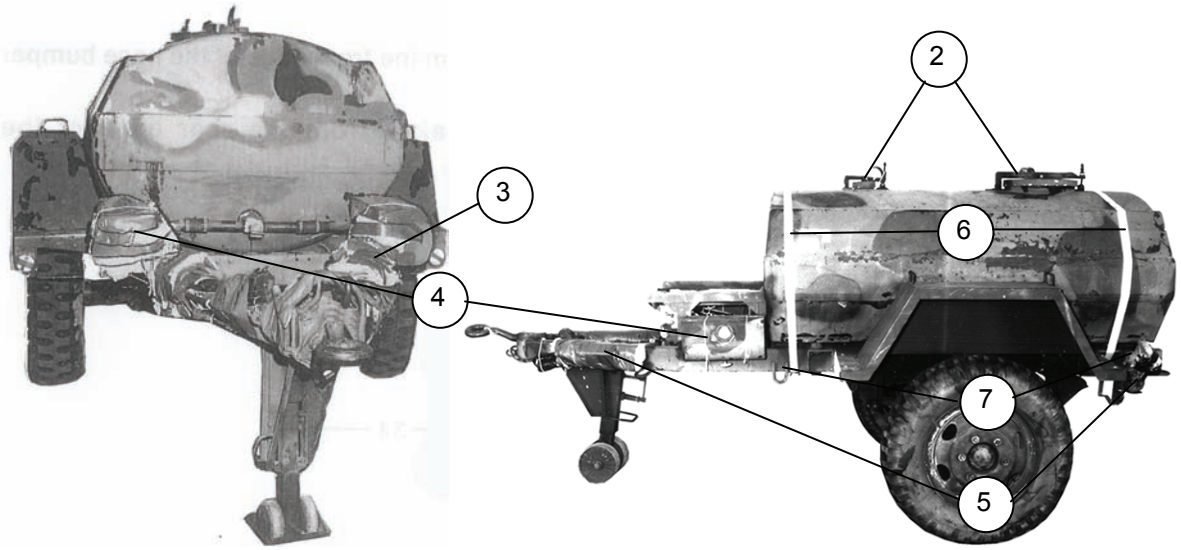


Figure 5-7. Honeycomb Stacks Positioned on Platform

PREPARING THE TRAILER

5-4. Prepare the trailer as explained below.

- Prepare the M149A1 trailer as shown in Figure 5-8.
- Prepare the M149A2 trailer as shown in steps 1, 3, 4, and 5 of Figure 5-8. Further prepare the M149A2 trailer as shown in Figure 5-9.



(1) Fill the trailer with 400 gallons of potable water (not shown).

(2) Secure manhole and filler pipe covers.

(3) Secure intervehicular cable, hose and safety chains, fold them along the drawbar and secure them in place with type III nylon cord and tape.

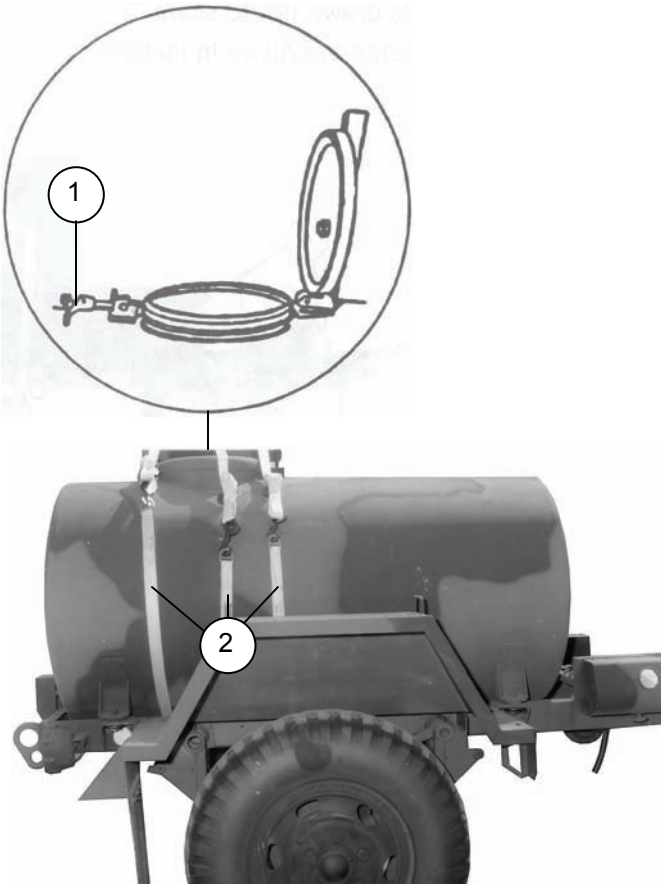
(4) Close and latch the piping box covers, secure them with type III nylon cord. Pad the forward edge of the piping box with cellulose padding and tape.

(5) Pad and tape the drawbar, lights, and reflectors.

(6) Pass a 15-foot lashing around the tank and main frame member at a point forward of the second crossmember and secure with a D-ring and load binder on the underside of the tank. Install a second 15-foot lashing in the same manner at the rear crossmember.

(7) Pass a 15-foot lashing around the left and right main frame members at a point forward of the second crossmember, and secure it with a D-ring and load binder. Install the second lashing in the same manner at the rear crossmember.

Figure 5-8. Trailer Prepared



(1) Secure the manhole cover with the eyebolt and wing nut.

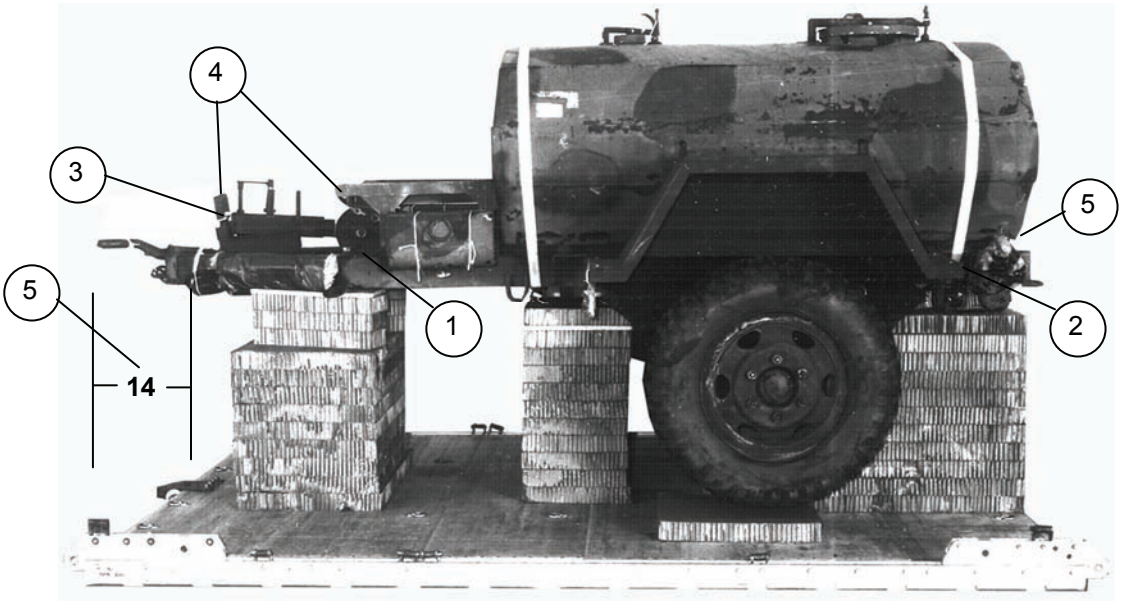
(2) Pass three 15-foot lashings around the tank and over the manhole cover. Secure them with three D-rings and load binders

Figure 5-9. M149A2 Prepared

LIFTING AND POSITIONING THE TRAILER

5-5. Install the lifting slings and position the trailer as shown in Figure 5-10.

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



(1) Pass one end of a 12-foot (2-loop), type XXVI nylon webbing sling around the drawbar frame and through its own loop. Install a second sling to the other side of the drawbar frame in the same manner (not shown).

(2) Pass a 12-foot (2-loop), type XXVI nylon webbing sling around the left rear main frame, up through the left rear lifting provision, and through its own loop. Attach the second sling around the right rear main frame in the same manner (not shown).

(3) Lift the trailer. Raise and lock the caster wheel into the travel position.

(4) Safety tie the caster wheel with type III nylon cord in two places.

(5) Position the trailer on the honeycomb stacks with the rear of the trailer flush with the front edge of the platform and the lunette overhanging the rear of the platform by 14 inches.

(6) Remove the lifting slings (not shown).

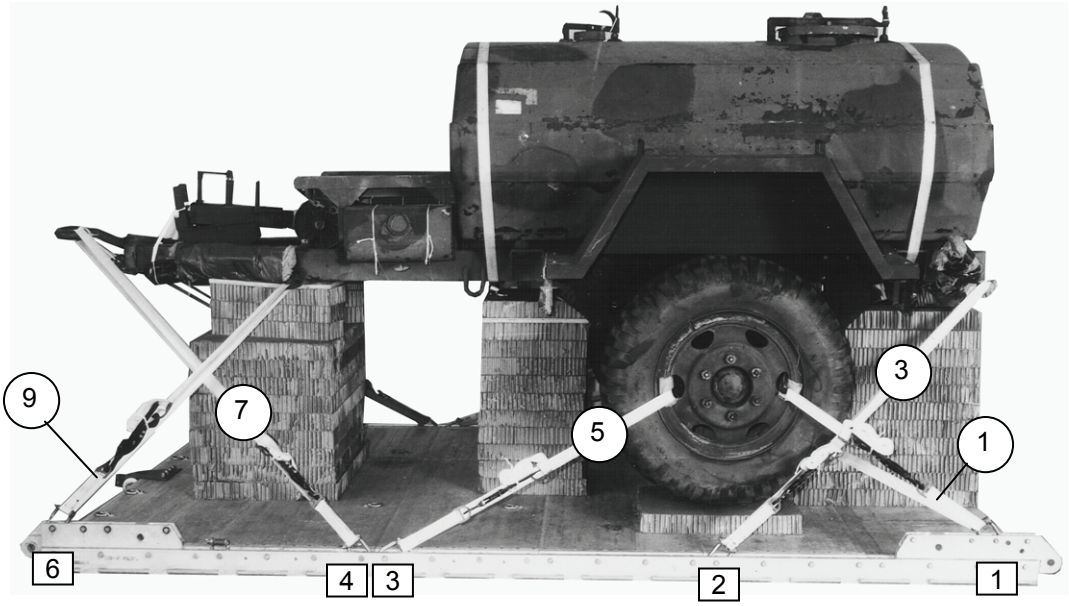
Figure 5-10. Lifting and Positioning the Trailer

LASHING LOAD TO PLATFORM

5-6. Lash the trailer to the platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 5-11.

Note. Pad any sharp edges on the load where a lashing may pass. Use cellulose padding and masking tape.

Note. Left, right, front, and rear refer to the trailer, NOT the platform.



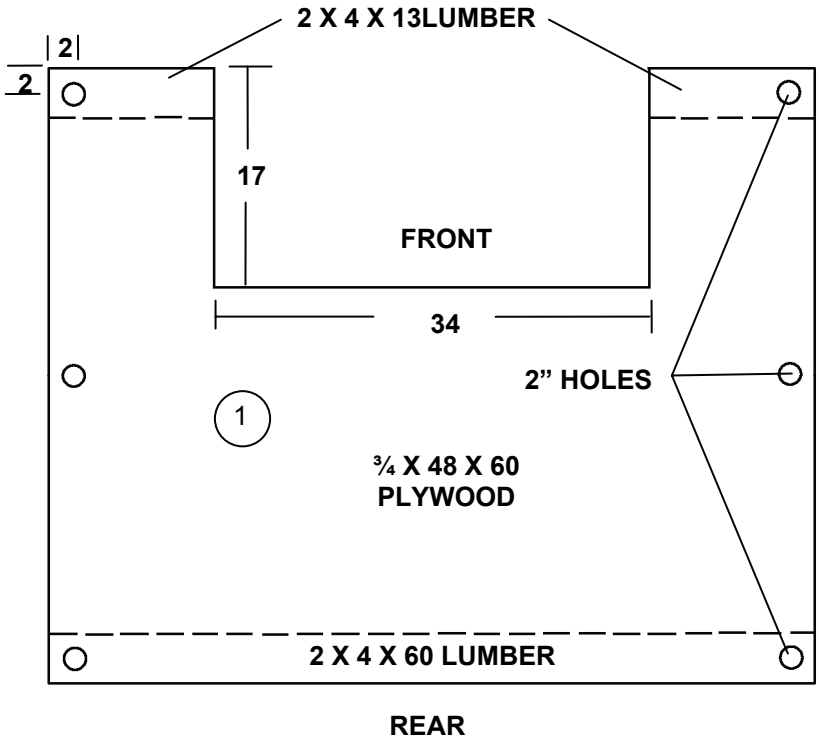
Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
1	1	Through left wheel.
2	1A	Through right wheel.
3	2	Through left rear tiedown provision.
4	2A	Through right rear tiedown provision.
5	3	Through left wheel.
6	3A	Through right wheel.
7	4	Through lunette.
8	4A	Through lunette.
9	6	Through left front tiedown provision.
10	6A	Through right front tiedown provision.

Figure 5-11. Trailer Lashed to Platform

PREPARING AND POSITIONING THE PARACHUTE STOWAGE PLATFORM

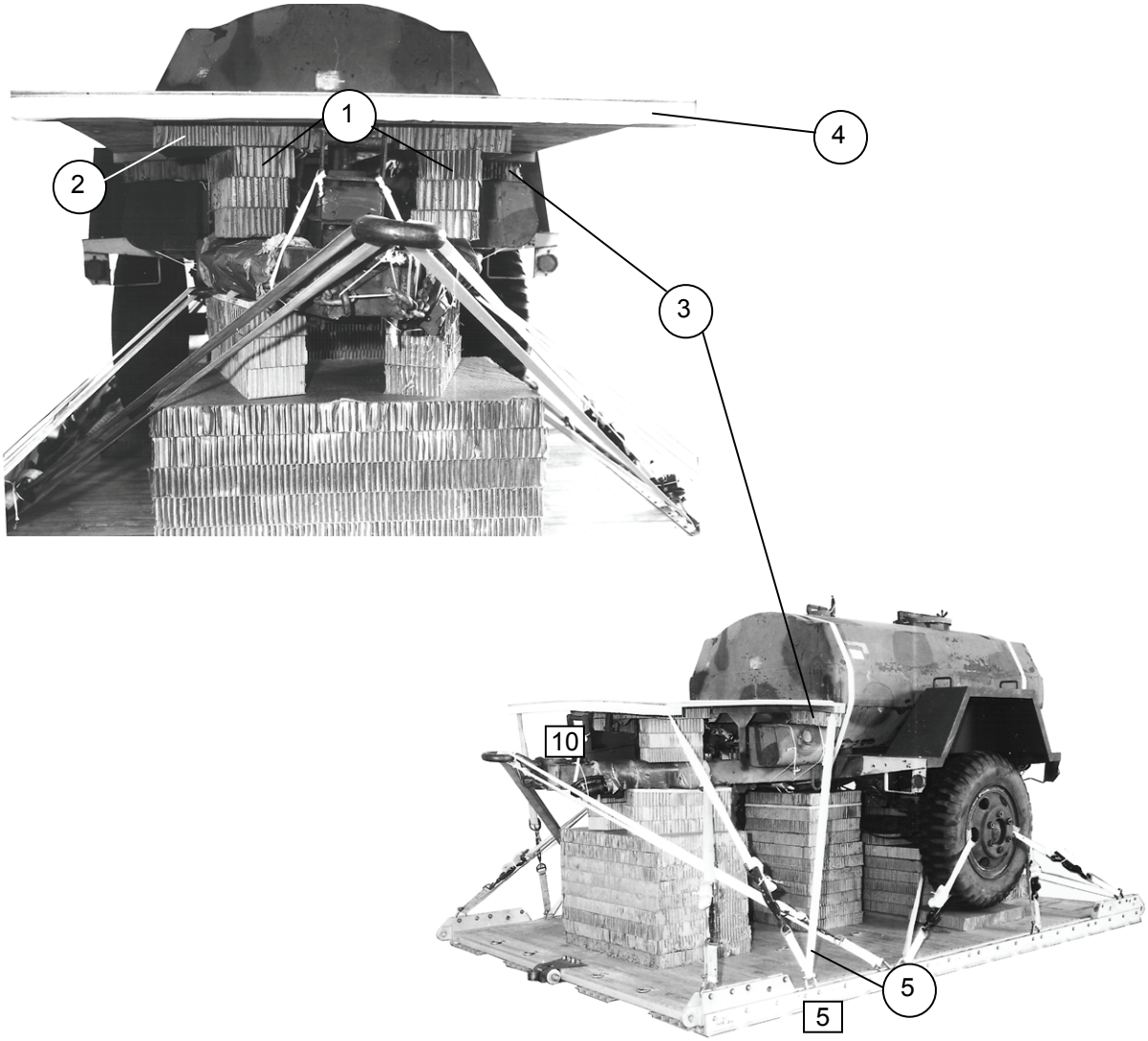
5-7. Construct the parachute stowage platform as shown in Figure 5-12. Install the parachute stowage platform as shown in Figure 5-13.

Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale.
3. All holes are 2-inches in diameter.



(1) Build the parachute stowage platform as shown.

Figure 5-12. Parachute Stowage Platform Built

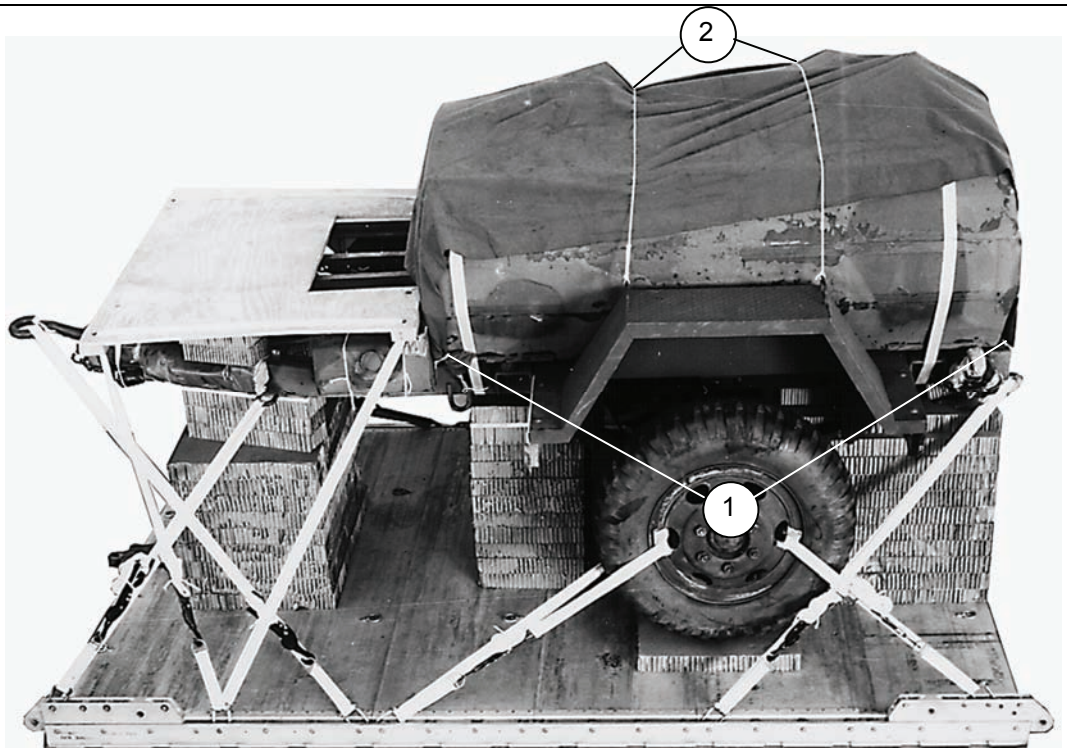


1. Glue three 6- by 12-inch pieces of honeycomb and position on each side of the drawbar frame.
2. Place a 36- by 36-inch piece of honeycomb on top of the two 6- by 12-inch honeycomb stacks.
3. Place a 6- by 12-inch piece of honeycomb on the forward edge of each piping box.
4. Position the stowage platform on the honeycomb stacks.
5. Lash the stowage platform to clevises 5 and 5A through the front and rear holes in the platform using two 15-foot lashings, D-rings, and load binders.

Figure 5-13. Parachute Stowage Platform Installed

INSTALLING LOAD COVER

5-8. Install the load cover as shown in Figure 5-14.



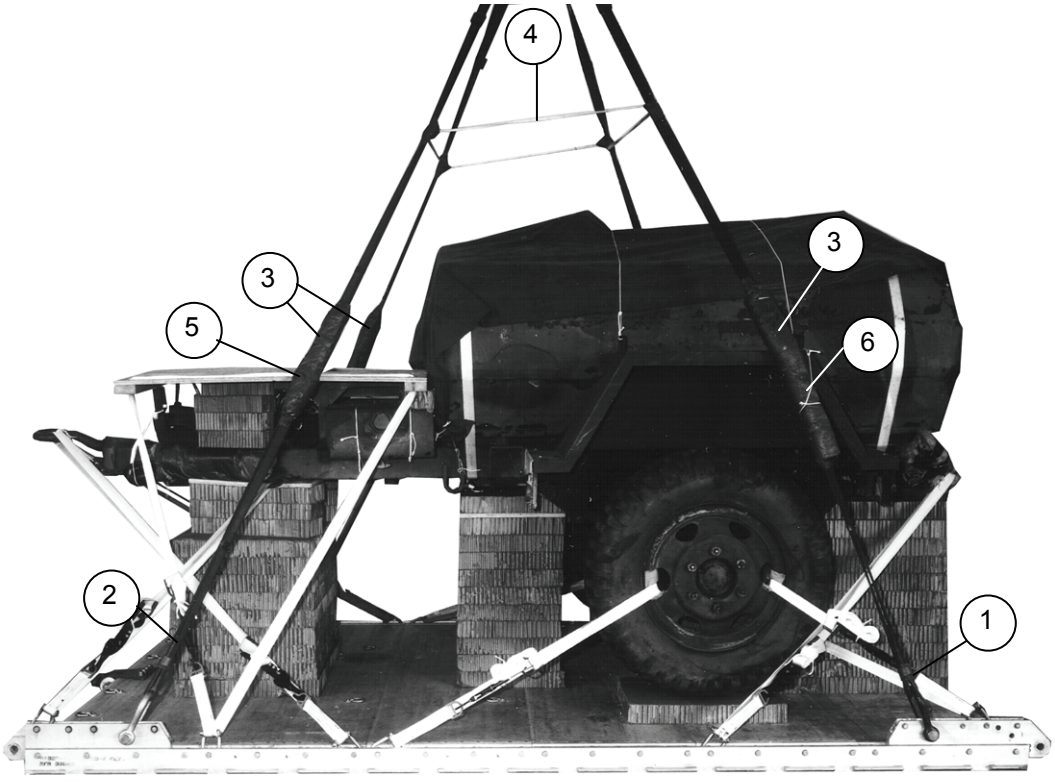
(1) Secure all four corners of a 60- by 144-inch load cover to convenient points on the load with type III nylon cord.

(2) Run two additional lengths of type III nylon cord over the top of the trailer and secure to the handles on the fenders.

Figure 5-14. Load Cover Installed

INSTALLING AND SAFETY TIEING THE SUSPENSION SLINGS

5-9. Install and safety tie the suspension slings as shown in Figure 5-15.

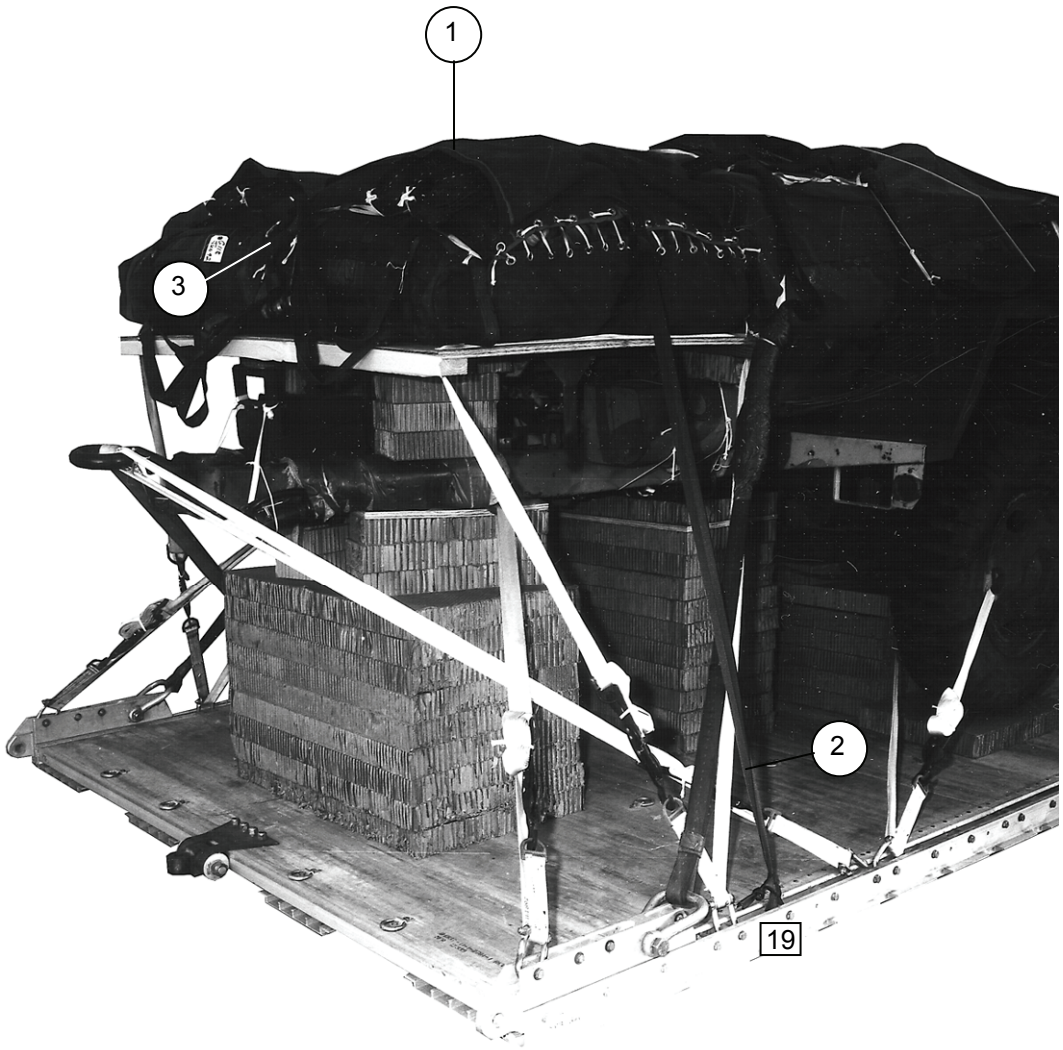


1. Attach a 12-foot (2-loop), type XXVI nylon sling to the bell end of a large clevis. Attach the large clevis to the right front tandem link assembly. Repeat for the opposite side.
2. Attach a 12-foot (2-loop), type XXVI nylon sling to the bell end of a large clevis. Attach the large clevis to the right rear tandem link assembly. Repeat for the opposite side.
3. Wrap a 10- by 30-inch piece of felt around each suspension sling where the slings contact the load. Tape the felt from a point 6 inches below the felt to 6 inches above the felt.
4. Raise the slings and install a deadman's tie on the suspension slings as shown in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
5. Safety tie the rear suspension slings to the middle holes in the stowage platform with type III nylon cord.
6. Safety tie the front suspension slings to the fender handles with type III nylon cord.

Figure 5-15. Suspension Slings Installed and Safety Tied

STOWING CARGO PARACHUTES

5-10. Prepare, stow, and restrain two G-11B cargo parachutes according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 5-16.



(1) Position two G-11B cargo parachutes on the parachute stowage platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

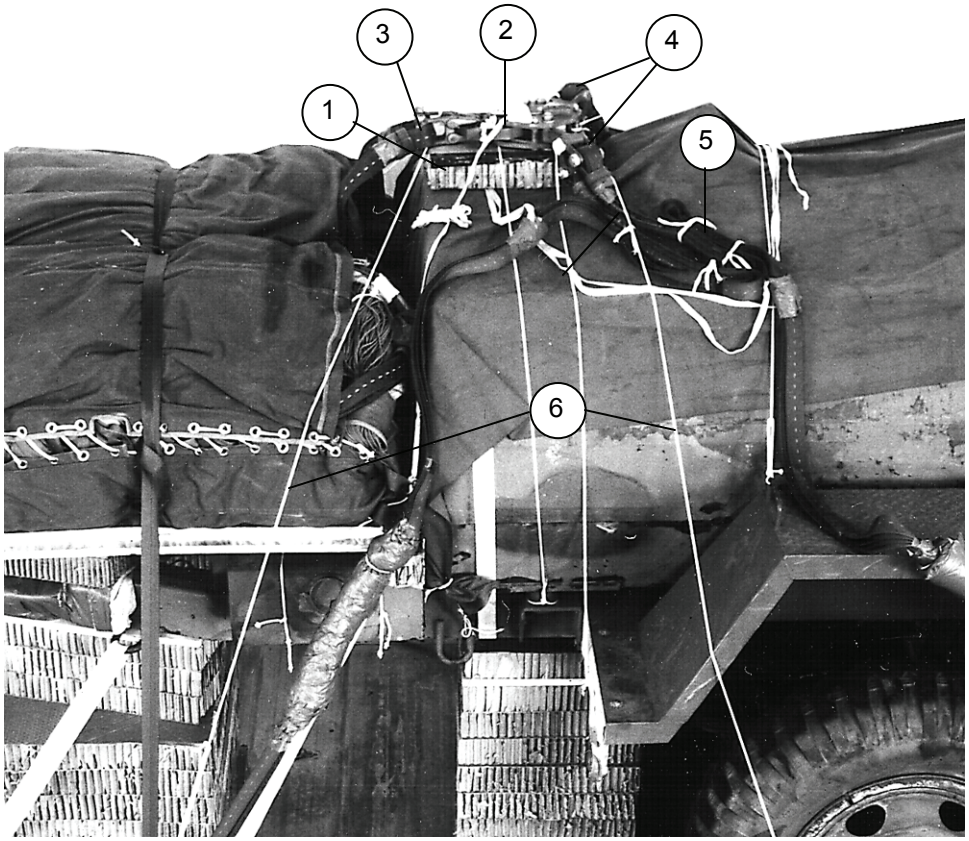
(2) Install the parachute restraint strap using type VIII nylon webbing on bushings 19 and 19A.

(3) Install the parachute release strap according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 5-16. Cargo Parachutes Positioned and Restrained

INSTALLING PARACHUTE RELEASE SYSTEM

5-11. Prepare and install an M-1 parachute release 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 5-17.

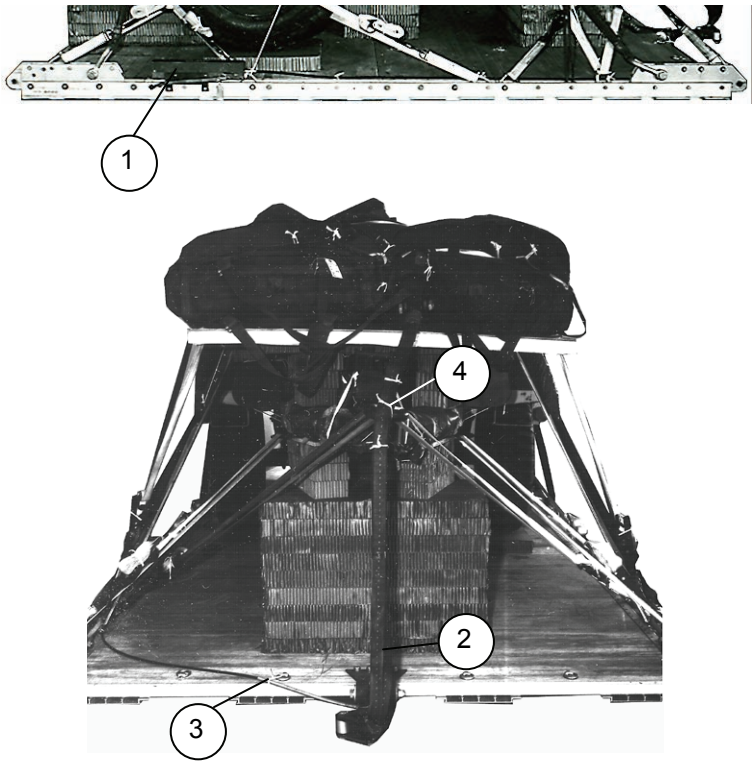


1. Center a 12- by 16-inch piece of honeycomb on the top rear edge of the trailer. Tape the edges and secure with type III nylon cord.
2. Center an M-1 parachute release assembly on top of the honeycomb.
3. Attach the parachute riser extensions to the parachute release connectors.
4. Attach the suspension slings to the lower suspension links.
5. Fold the excess suspension slings and safety tie with type I, ¼-inch cotton webbing.
6. Tie the front and rear M-1 parachute release safety ties to convenient points on the load with Type III nylon cord.

Figure 5-17. M-1 Parachute Release Installed

INSTALLING EXTRACTION SYSTEM

5-12. Install the extraction system as shown in Figure 5-18.



1. Install the components of the EFTC according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Use the forward mounting holes for the EFTC actuator brackets.
2. Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line.
3. Use a 12-foot cable and safety tie the cable to convenient points on the platform with type I, ¼-inch cotton webbing. Tie the cable to tiedown ring D6 with type I, ¼-inch cotton webbing.
4. Secure the excess and safety tie the deployment line and to the lunette with type I, ¼-inch cotton webbing.

Figure 5-18. Extraction System Installed

PLACING EXTRACTION PARACHUTE

5-13. 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. Place the extraction parachute and line on the load for installation in the aircraft.

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

5-14. Select and install the provisions for the emergency aft restraints according to the emergency aft restraint requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

MARKING RIGGED LOAD

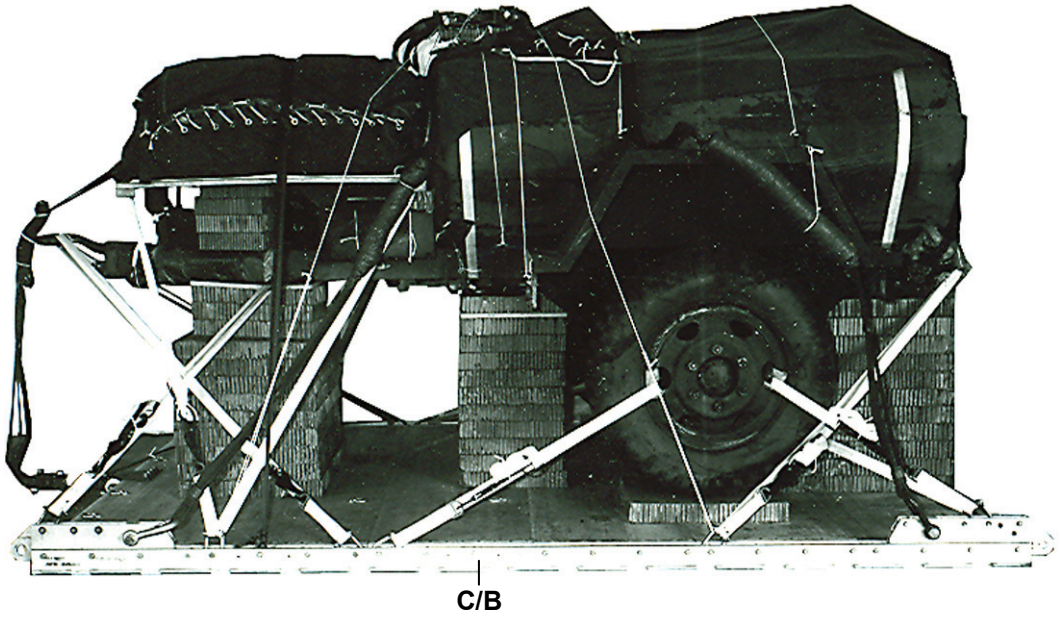
5-15. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 5-19. Complete Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

5-16. Use the equipment listed in Table 5-1 to rig this load.

CAUTION

Make the final rigger inspection required by AR 59-4 and FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 before the load leaves the rigging site.



RIGGED LOAD DATA

Weight: Load Shown.....7,200 pounds

Maximum Weight Load .....10,000 pounds

Height.....86 inches

Width.....108 inches

Overall Length .....158 inches

Overhang: Front.....0
Rear (lunette).....14 inches

Center of Balance (CB) (from front edge of the platform).....88 inches

Extraction System with 12-foot cable (adds 4 inches to the length of the load)

Figure 5-19. M149A1 400-Gallon Water Trailer Rigged on a 12-Foot, Type V Platform for Low-Velocity Airdrop

Table 5-1. Equipment Required for Rigging the M149A1 400-Gallon Water Trailer on a 12-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive paste, 1-gal.	As required
1670-01-035-6054	Bridle, extraction line bag	1
4030-00-090-5354	Clevis, suspension, 1-inch (large)	5
4030-00-678-8562	Clevis, suspension, (medium)	4
8305-00-880-8155	Cloth, coated (nylon, type II, 17.0 oz, green, 60-in)	As required
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop extraction force transfer, w/12-ft. cable	1
1670-00-360-0328	Cover, clevis	2
8135-00-664-6958	Cushioning material (Cellulose padding)	As required
8305-00-958-3685	Felt, 1/2-inch thick	As required
1670-01-183-2678	Leaf, extraction line (line bag) (add 2 for C-17)	2
	Line extraction:	
1670-01-062-6313	60-foot (3-loop), type XXVI (for C-130)	1
1670-01-107-7651	140-foot (3-loop), type XXVI (for C-17)	1
1670-01-064-4452	60-foot (1-loop), type XXVI (for C-17), (drogue line)	1
1670-00-783-5988	Link assembly, type IV (C-17 only)	1
	Link assembly, two-point, small, 3 ¾-inch	1
	Lumber:	
5510-00-220-6146	2- by 4- by 96-inch	1
5315-00-010-4659	Nail, steel, common, 8D	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	13 sheets
1670-01-016-7841	Parachute, cargo, G-11B	2
	Parachute, cargo, extraction:	
1670-01-063-3716	22-foot	1
1670-01-063-3715	15-foot (C-17 only)	1
	Platform, airdrop, type V, 12-foot:	
1670-01-162-2372	Clevis assembly (type V)	12
1670-01-162-2376	Extraction bracket assembly	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-inch	1 sheet

Table 5-1. Equipment Required for Rigging the M149A1 400-Gallon Water Trailer on a 12-Foot, Type V Platform for Low-Velocity Airdrop (Continued)

National Stock Number	*Item*	*Quantity*
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop:	
1670-00-753-3790	9-foot (2-loop), type XXVI	2
1670-01-062-6303	12-foot (2-loop), type XXVI	4
1670-01-062-6302	20-foot (2-loop), type XXVI	2
1670-00-998-0116	Strap, parachute, release	1
7501-00-266-5016	Tape, adhesive, 2-inch	As required
1670-00-937-0271	Tie-down assembly, 15-foot.	19
1670-01-483-8259	Link, Parachute, Connector (H-block) (C-17 only)	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-inch	As required
8305-00-261-8585	Nylon, type VIII	As required

Chapter 6

Rigging Ammunition Trailer on a 12-Foot, Type V Platform for Low-Velocity Airdrop

DESCRIPTION OF THE LOAD

6-1. The 1 ½-ton, 2-wheeled, ammunition trailer (Figure 6-1) is rigged on a 12-foot, type V airdrop platform using two G-11 cargo parachutes. The trailer may be rigged with or without an accompanying load. The accompanying load in the trailer may weigh a maximum of 3,000 pounds. The total weight of the accompanying loads in the trailer and on the platform must not exceed 5,090 pounds. The accompany loads shown in this chapter, 24 rounds of 155-millimeter projectiles, 24 powder canisters, and three boxes of primers and fuses, weigh 3,292 pounds.

CAUTION

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

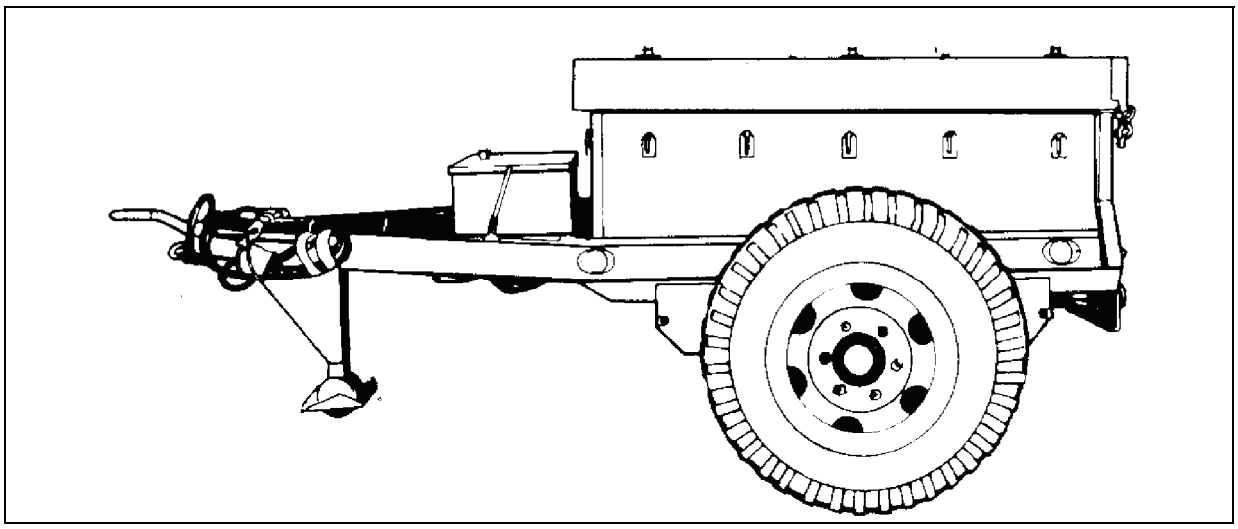
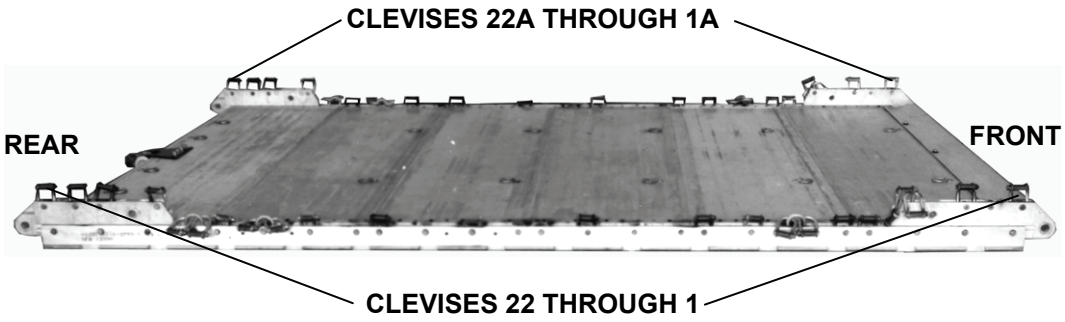


Figure 6-1. 1 ½-Ton Ammunition Trailer

PREPARING PLATFORM

6-2. Prepare a 12-foot, type V airdrop platform as shown in Figure 6-2.



Step:

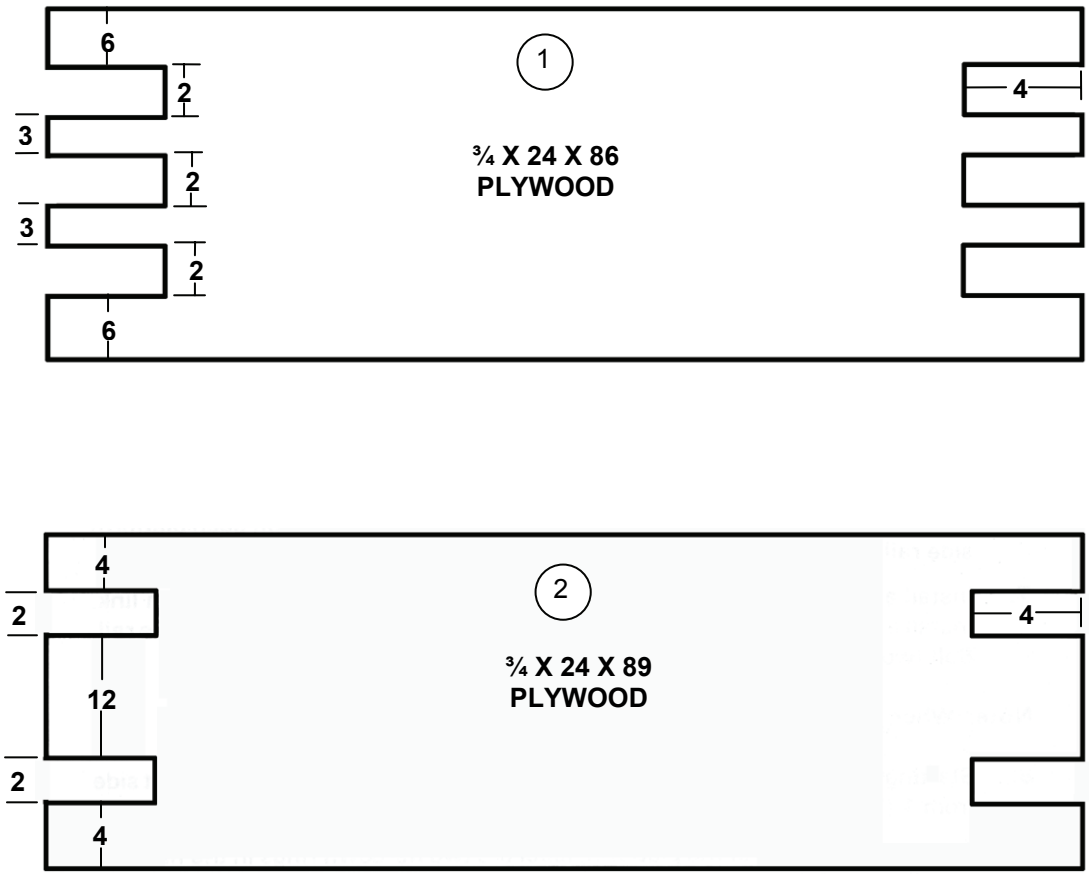
1. Inspect, or assemble and inspect, a 12-foot, type V airdrop platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
3. Install a tandem link to the rear of each platform side rail using holes 22, 23, and 24.
4. Install a clevis on bushings 1, 3 and 4 (triple) of each front tandem link.
5. Install a clevis on bushings 1, 2, 3, and 4 of each rear tandem link.
6. Starting at the front of each platform side rail, install clevises on the bushings bolted to holes 4, 5, 6 (triple), 7, 8, 11, 16, 18, 19 (triple), 20, and 21 (triple).
7. Starting at the front of the platform, number the clevises 1 through 22 on the right side and 1A through 22A on the left side
8. 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 6-2. Platform Prepared

STOWING PLATFORM ACCOMPANYING LOADS

6-3. Construct the endboards for the accompanying loads as shown in Figure 6-3. Prepare, stow, and lash the front accompanying loads as shown in Figures 6-4 and 6-5. Prepare, stow, and lash the rear accompanying loads as shown in Figures 6-6 and 6-7.

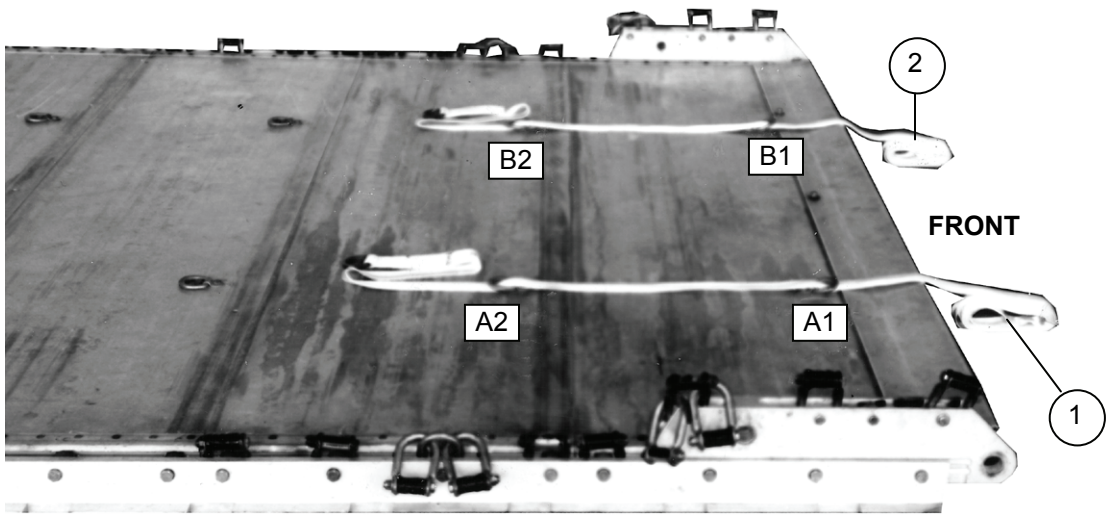
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**



(1) Prepare two endboards for the front accompanying load.

(2) Prepare two endboards for the rear accompanying load.

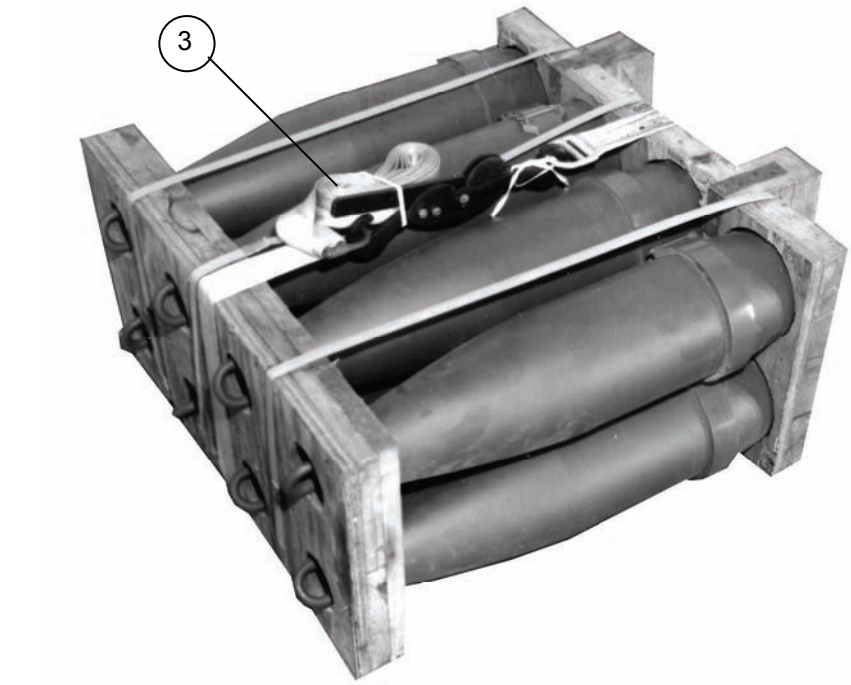
Figure 6-3. Endboards Constructed

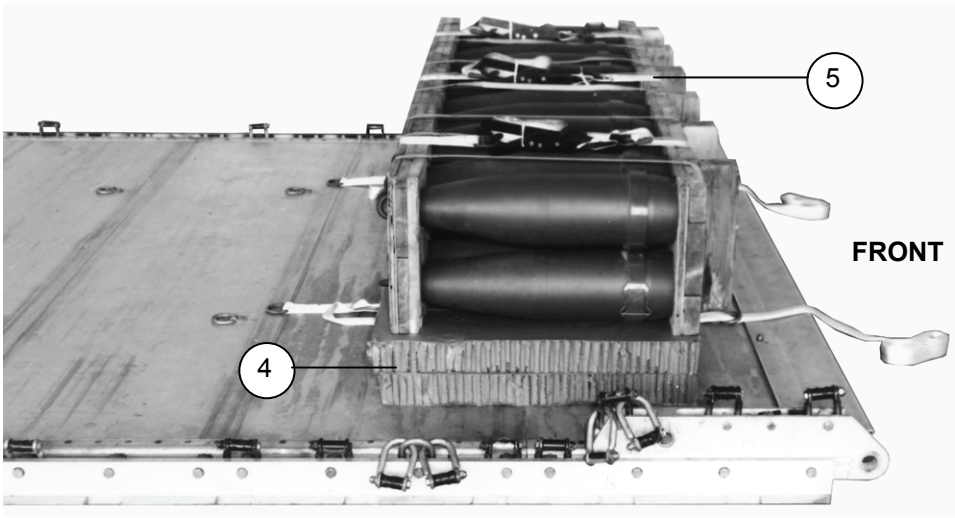


(1) Pass a 15-foot lashing through tiedown rings A2 and A1.

(2) Pass a 15-foot lashing through tiedown rings B2 and B1.

Figure 6-4. Front Accompanying Load Prepared and Stowed on Platform



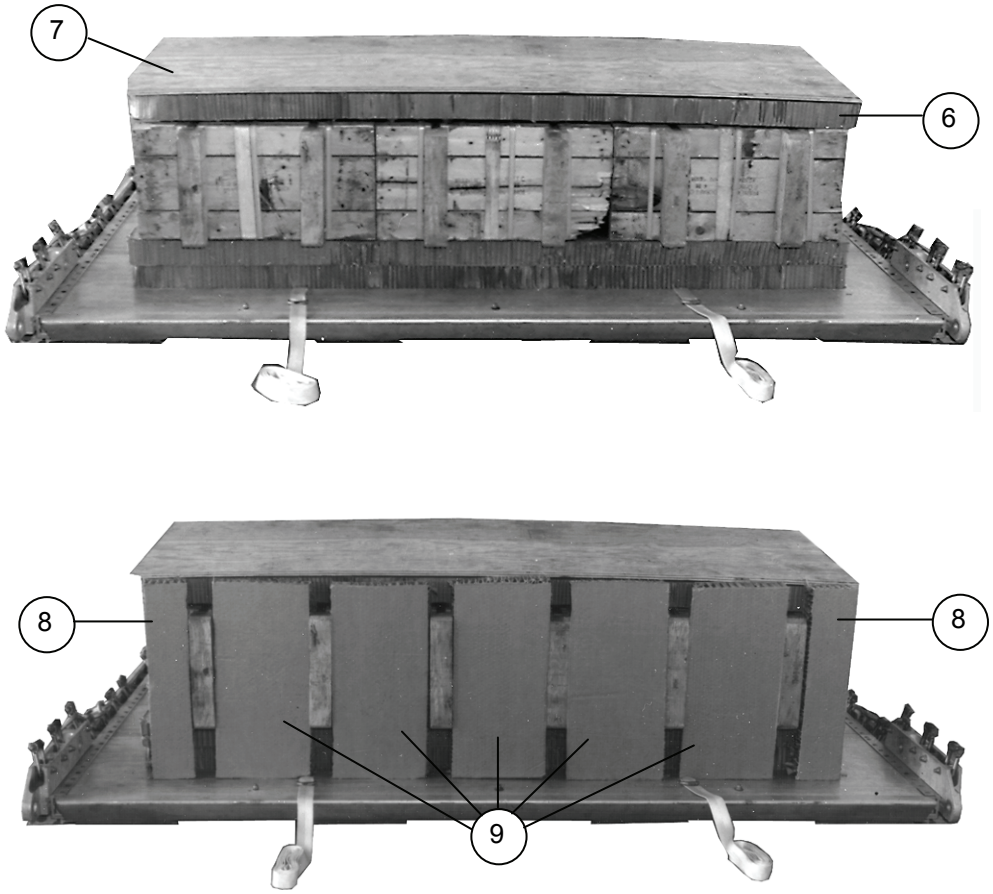


(3) Bind a group (eight rounds) of projectiles with a 15-foot lashing. Bind two more groups.

(4) Center two 84- by 28-inch pieces of honeycomb on the platform 10 inches from the front edge of the platform.

(5) Place the three groups of projectiles on the honeycomb. Place the bases of the projectiles toward the front of the platform.

Figure 6-4. Front Accompanying Load Prepared and Stowed on Platform (Continued)



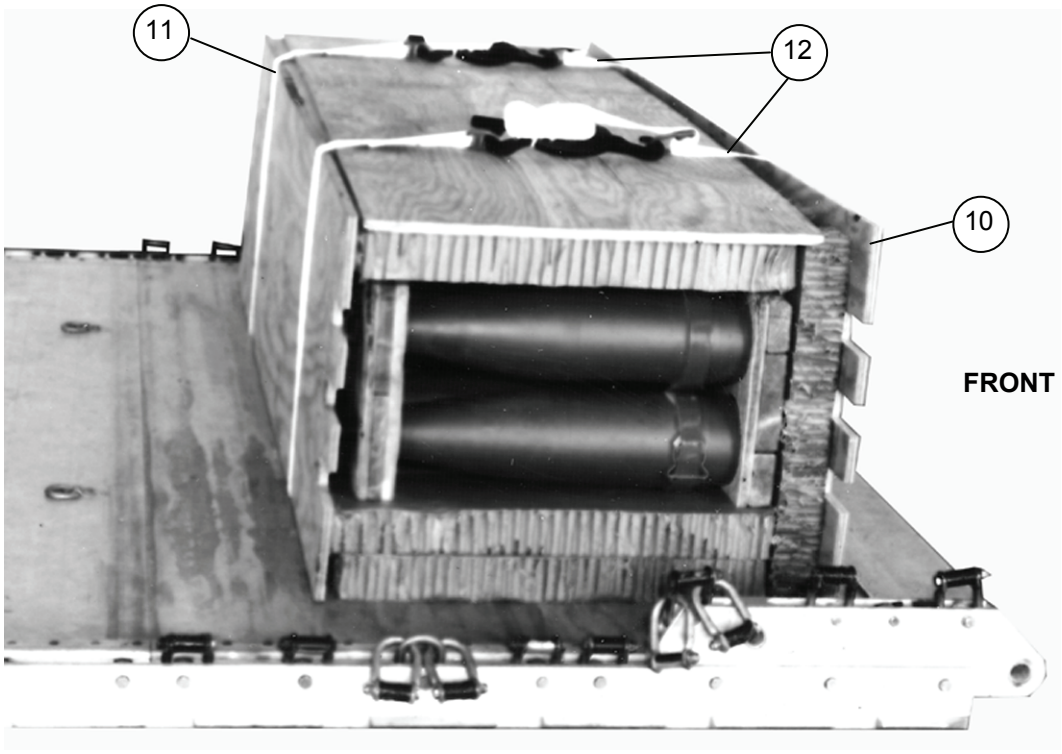
(6) Place an 84- by 28-inch piece of honeycomb on top of the projectiles.

(7) Place a ¾- by 84- by 28-inch piece of plywood on top of the honeycomb.

(8) Place a 5- by 23-inch piece of honeycomb at each end of the projectile bases.

(9) Evenly space five 11- by 23-inch pieces of honeycomb against the bases of the projectiles.

Figure 6-4. Front Accompanying Load Prepared and Stowed on Platform (Continued)

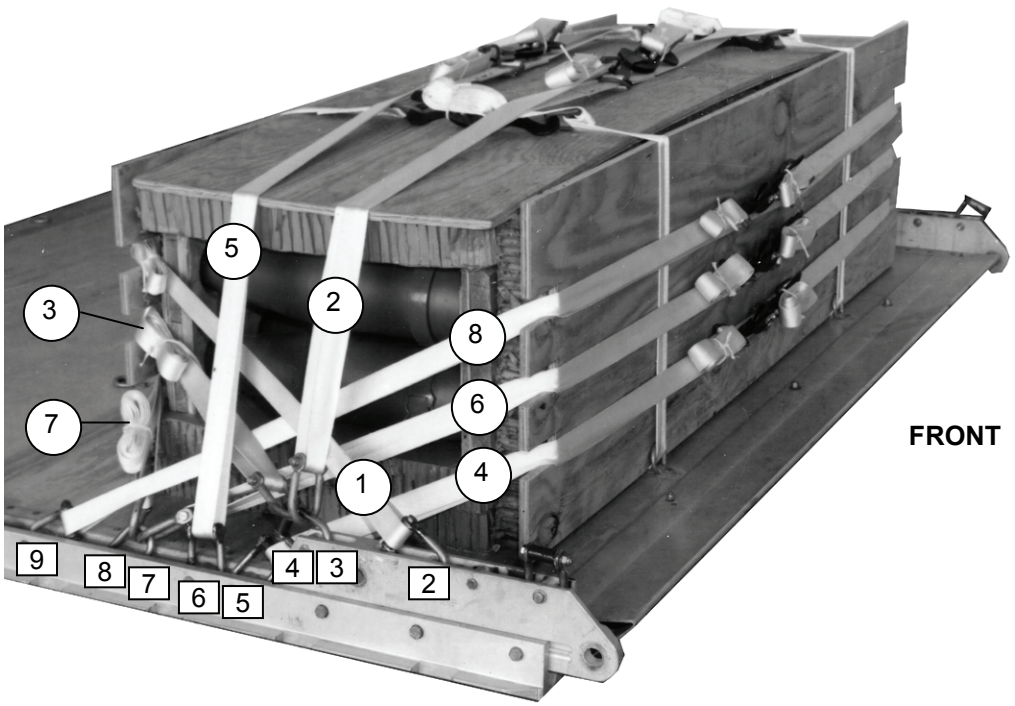


(10) Place one front endboard in front of the projectiles against their bases.

(11) Place on front endboard to the rear of the projectiles against their tops.

(12) Route the pre-positioned lashings over the endboards. Secure the lashings on top of the load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

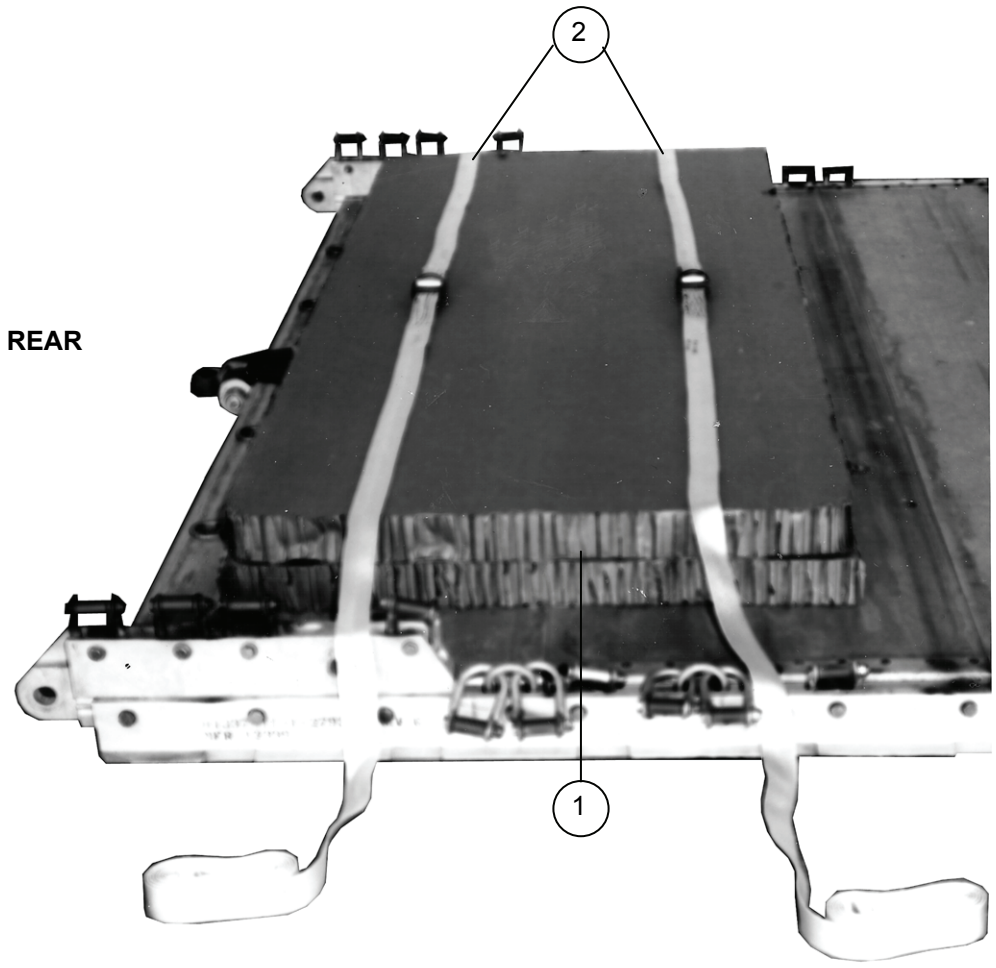
Figure 6-4. Front Accompanying Load Prepared and Stowed on Platform (Continued)



Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
1*	2 and 2A	Through top cutouts of the rear endboard.
2*	3 and 3A	Over the top of the projectiles.
3*	4 and 4A	Through middle cutouts of the rear endboard.
4*	5 and 5A	Through bottom cutouts of the front endboard.
5*	6 and 6A	Over the top of the projectiles.
6*	7 and 7A	Through middle cutouts of the front endboard.
7*	8 and 8A	Through bottom cutouts of the rear endboard.
8*	9 and 9A	Through top cutouts of the front endboard.

* 30-Foot Lashing

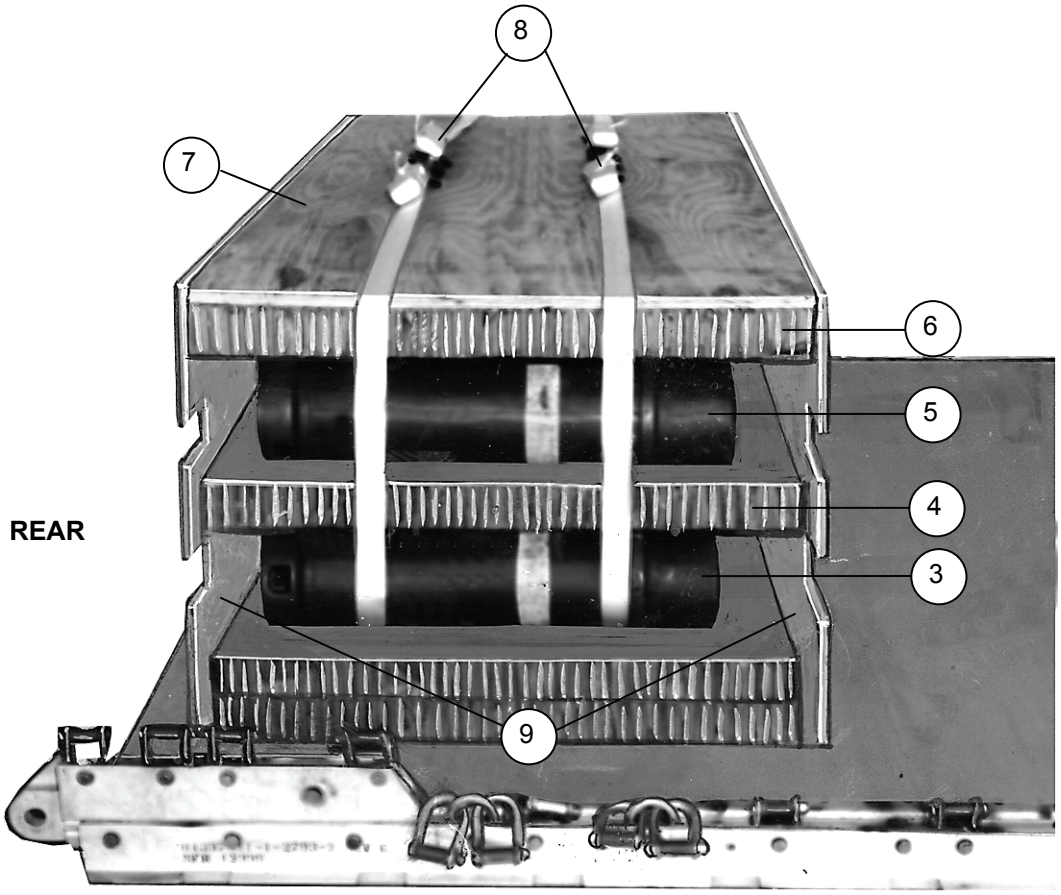
Figure 6-5. Front Accompanying Load Lashings 1 through 8 Installed



(1) Center two 84- by 36-inch pieces of honeycomb 5 inches from the rear of the platform.

(2) Place two 30-foot lashings across the honeycomb.

Figure 6-6. Rear Accompanying Load Prepared and Stowed on Platform



3. Center 12 powder canisters on the honeycomb between the rails. Alternate the ends of the canisters.

4. Place an 8-by 36-inch piece of honeycomb on top of the canisters.

5. Place a second layer of canisters on the honeycomb as in step 3.

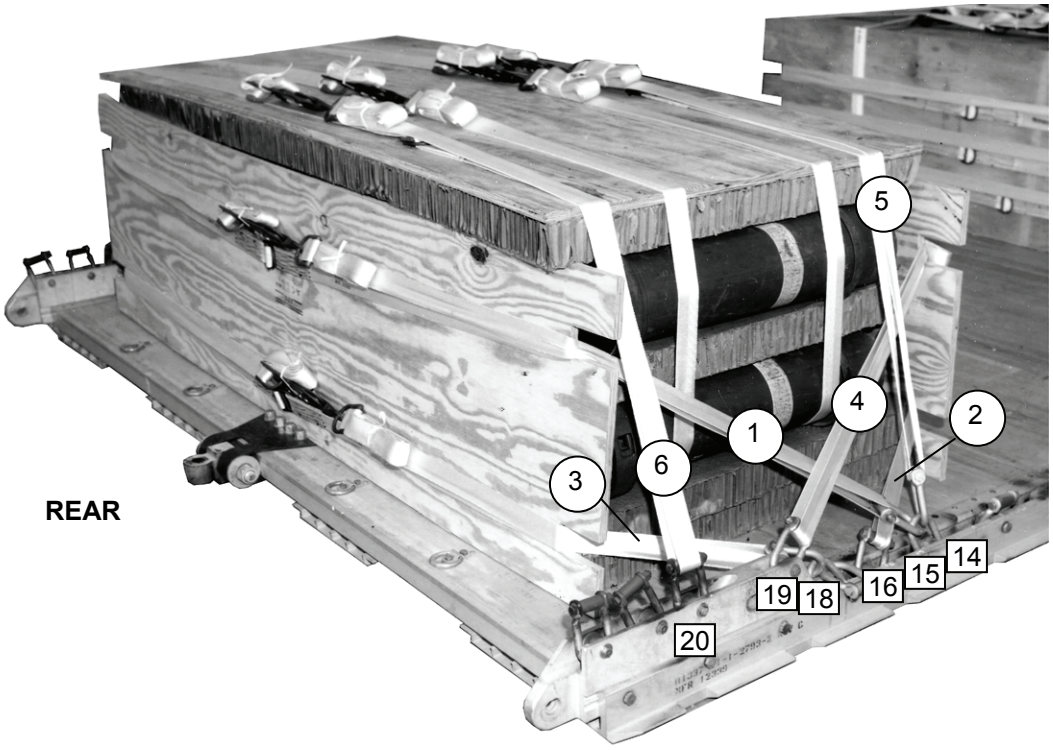
6. Place a second 8-by 36-inch piece of honeycomb on top of the canisters.

7. Place a ¾- by 80- by 36-inch piece of plywood on top of the honeycomb.

8. Secure the canisters, honeycomb, and plywood with the pre-positioned lashing place in step 2. Secure the lashings on top of the load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

9. Place one rear endboard on the front and one on the rear against the canisters.

Figure 6-6 Rear Accompanying Load Prepared and Stowed on Platform (Continued)

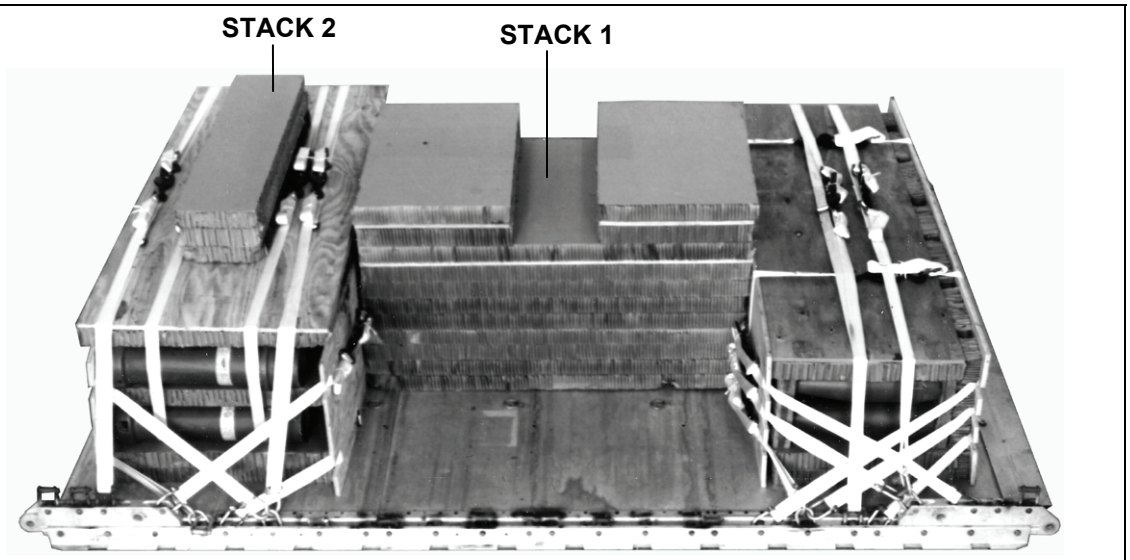


Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
1*	15 and 15A	Through top cutouts of the rear endboard.
2*	16 and 16A	Through bottom cutouts of the front endboard.
3*	18 and 18A	Through bottom cutouts of the rear endboard.
4*	19 and 19A	Through top cutouts of the front endboard.
5*	14 and 14A	Over the top of the projectiles.
6*	20 and 20A	Over the top of the projectiles.
* 30-Foot Lashing		

Figure 6-7. Rear Accompanying Load Lashings 1 through 6 Installed

BUILDING AND POSITIONING HONEYCOMB STACKS

6-4. Build and place the honeycomb stacks as shown in Figure 6-8.

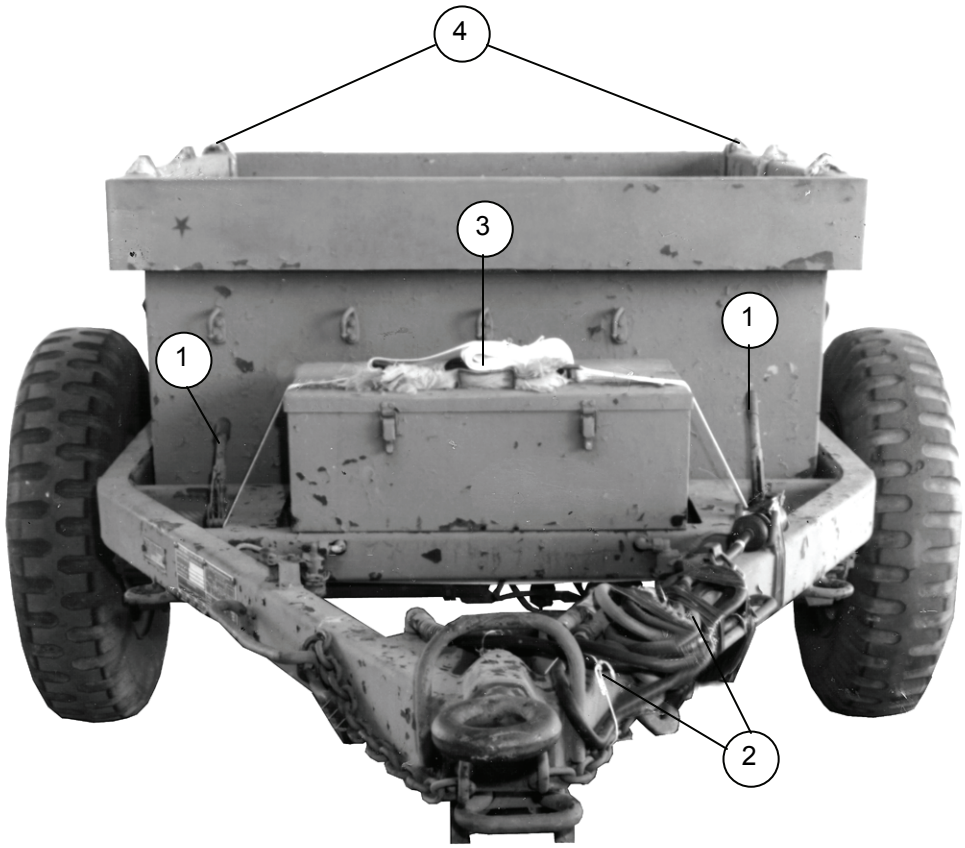


Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
1	8	36	62	Honeycomb	Stack and glue pieces centered between rails and accompanying loads.
	1	36	62	¾-inch Plywood	Glue on top of honeycomb.
	1	36	62	Honeycomb	Glue on top of plywood.
	2	36	24	Honeycomb	Glue one piece flush with the front of the stack and one piece flush with the rear of the stack.
	2	36	24	¾-inch Plywood	Glue one piece of plywood flush on each 36- by 24-inch piece of honeycomb.
	2	36	24	Honeycomb	Glue one piece of honeycomb flush on each piece of plywood.
2	3	48	12	Honeycomb	Glue the pieces together flush and center on top of the rear accompanying load.

Figure 6-8. Honeycomb Stacks 1 and 2 Built and Positioned

PREPARING THE TRAILER

6-5. Prepare the trailer as shown in Figure 6-9.



1. Place the hand brake in the off position.
2. Tie the intervehicular cable, brake hose, and safety chains to the drawbar with type III nylon card. Tape these items to the drawbar.
3. Route a 15-foot lashing around the toolbox and trailer frame and secure with a D-ring and load binder.
4. Pad all sharp edges with cellulose wadding and tape.

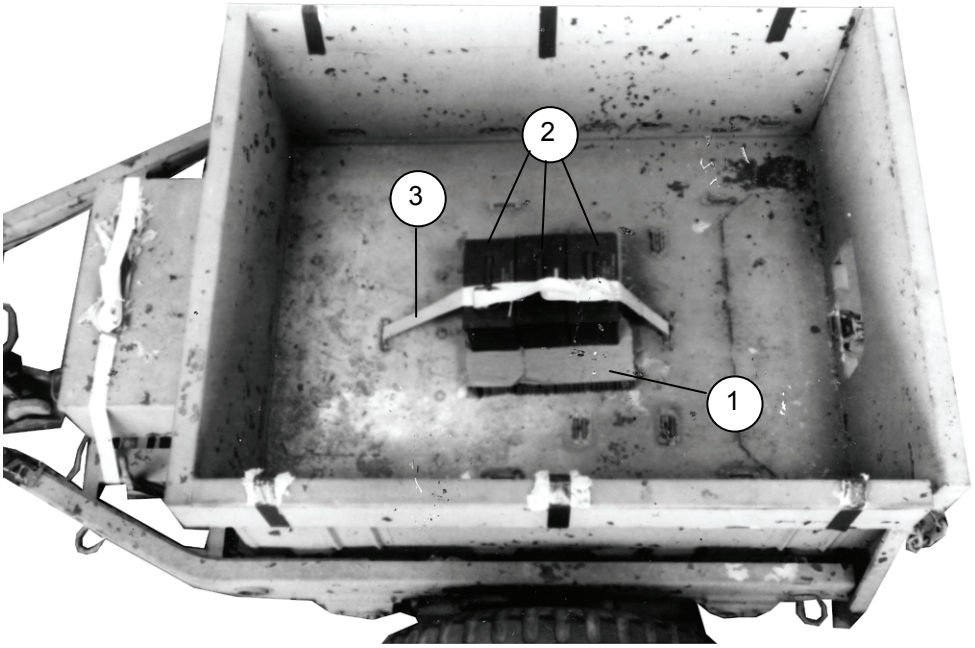
Figure 6-9. Trailer Prepared

STOWING ACCOMPANYING LOAD IN TRAILER

6-6. Stow three boxes of fuses and primers as shown in Figure 6-10. The primers and fuses must be stowed on top of any other items dropped as part of the accompanying load. The trailer cover and bows may be stowed in the trailer.

CAUTION

Only ammunition listed in FM4-20.153/MCRP 4-11.3B/TO 13C7-18-41 may be airdropped.

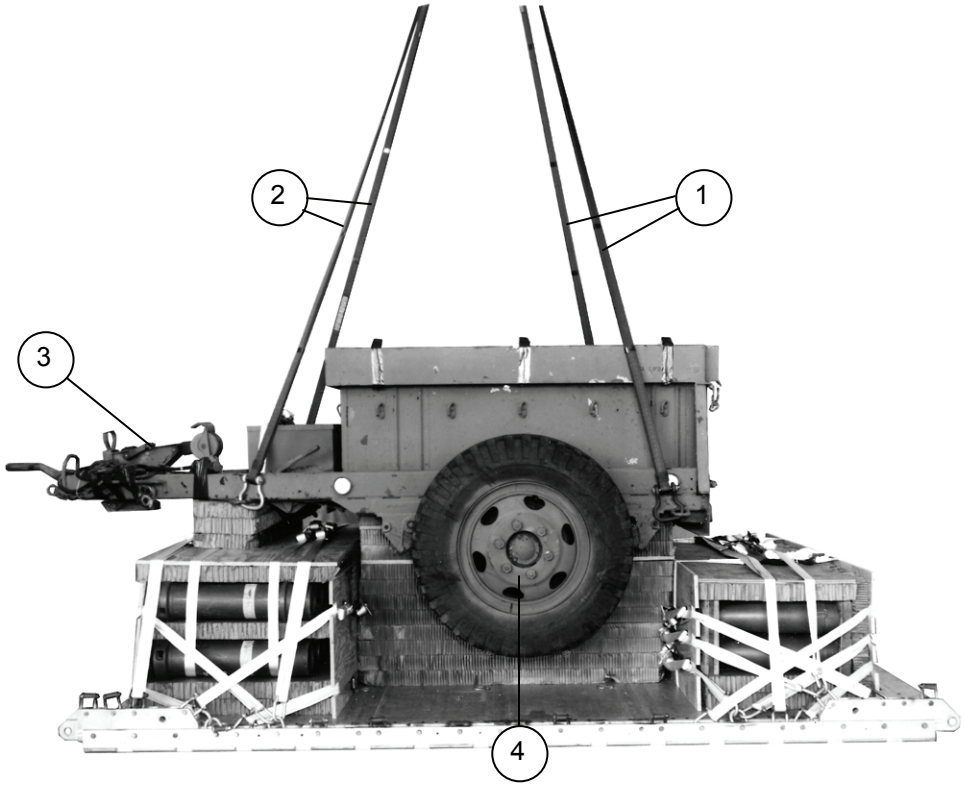


1. Center a 20- by 20-inch piece of honeycomb in the trailer bed.
2. Place three boxes of primers and fuses on the honeycomb.
3. Lash the primers and fuses to the trailer bed with a 15-foot lashing routing the lashing through the box handles. Secure the lashing with a D-ring and load binder.

Figure 6-10. Accompanying Load Stowed in Trailer

LIFTING AND POSITIONING THE TRAILER

6-7. Install the lifting slings and position the trailer as shown in Figure 6-11.



1. Attach a 12-foot (2-loop), type XXVI nylon sling to each rear tiedown bracket with a medium suspension clevis.
2. Attach a 12-foot (2-loop), type XXVI nylon sling to each front tiedown bracket with a medium suspension clevis.
3. Lift the trailer. Raise and lock the trailer tongue wheel into the travel position.
4. Position the trailer on the honeycomb stacks with the axle centered on stack 1 and the lunette overhanging the rear of the platform by 32 inches.
5. Remove the lifting slings (not shown).

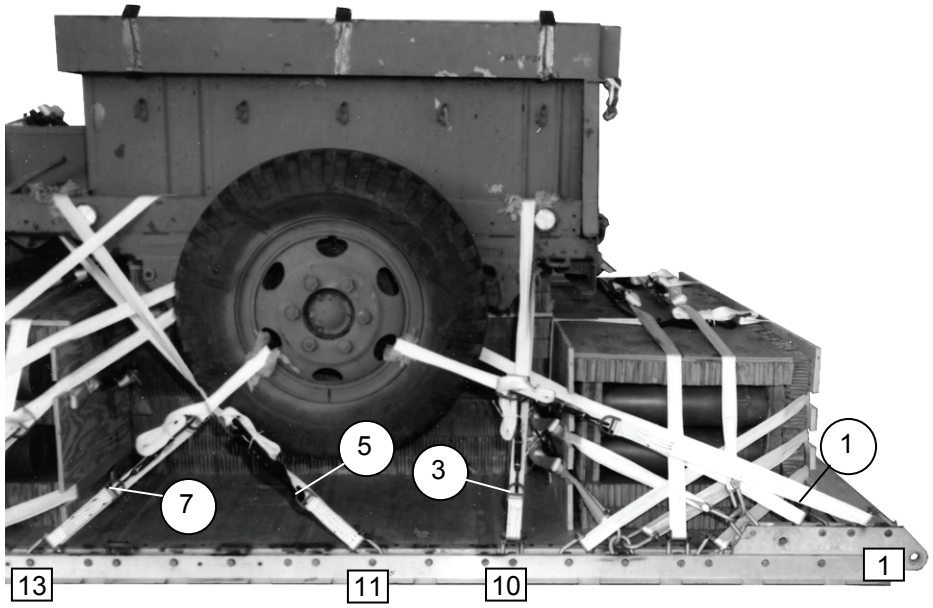
Figure 6-11. Lifting and Positioning the Trailer

LASHING LOAD TO PLATFORM

6-8. Lash the trailer to the platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figures 6-12 and 6-13.

Note. Pad any sharp edges on the load where a lashing may pass. Use cellulose padding and masking tape.

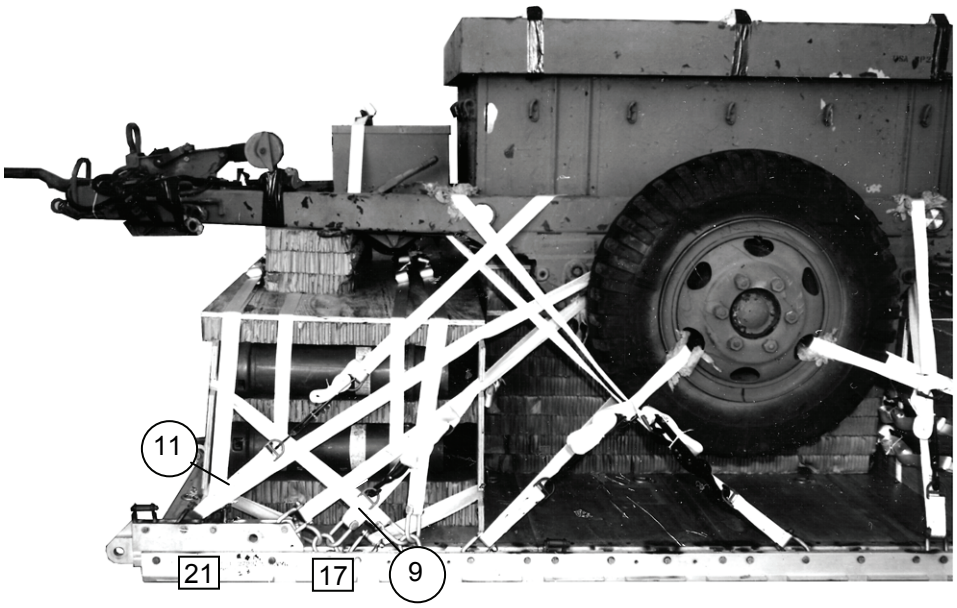
Note. Left, right, front, and rear refer to the trailer, NOT the platform.



Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
1	1	Through left wheel.
2	1A	Through right wheel.
3	10	Around the mainframe rail, to the rear of the spring bracket, left side of the trailer.
4	10A	Around the mainframe rail, to the rear of the spring bracket, right side of the trailer.
5	11	Around the mainframe rail, in front of the second cross member, left side of trailer.
6	11A	Around the mainframe rail, in front of the second cross member, left side of trailer.
7	13	Through left wheel.
8	13A	Through right wheel.

Figure 6-12. Lashing 1 through 8 Installed

Note. Left, right, front, and rear refer to the trailer, NOT the platform.

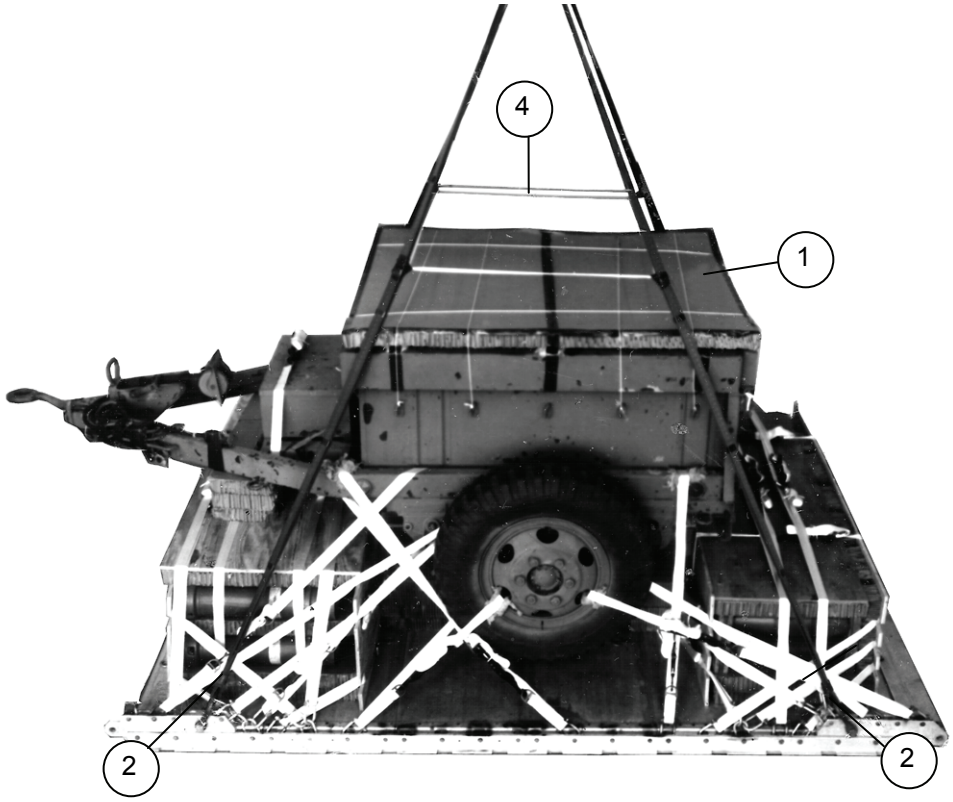


Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
9	17	Through the lower spring bracket, left side of trailer.
10	17A	Through the lower spring bracket, right side of trailer.
11	21	Around the mainframe rail, to the rear of the second cross member, left side of trailer.
12	21A	Around the mainframe rail, to the rear of the second cross member, right side of trailer.

Figure 6-13. Lashing 9 through 12 Installed

INSTALLING AND SAFETY TIEING THE SUSPENSION SLINGS

6-9. Install and safety tie the suspension slings as shown in Figure 6-14.



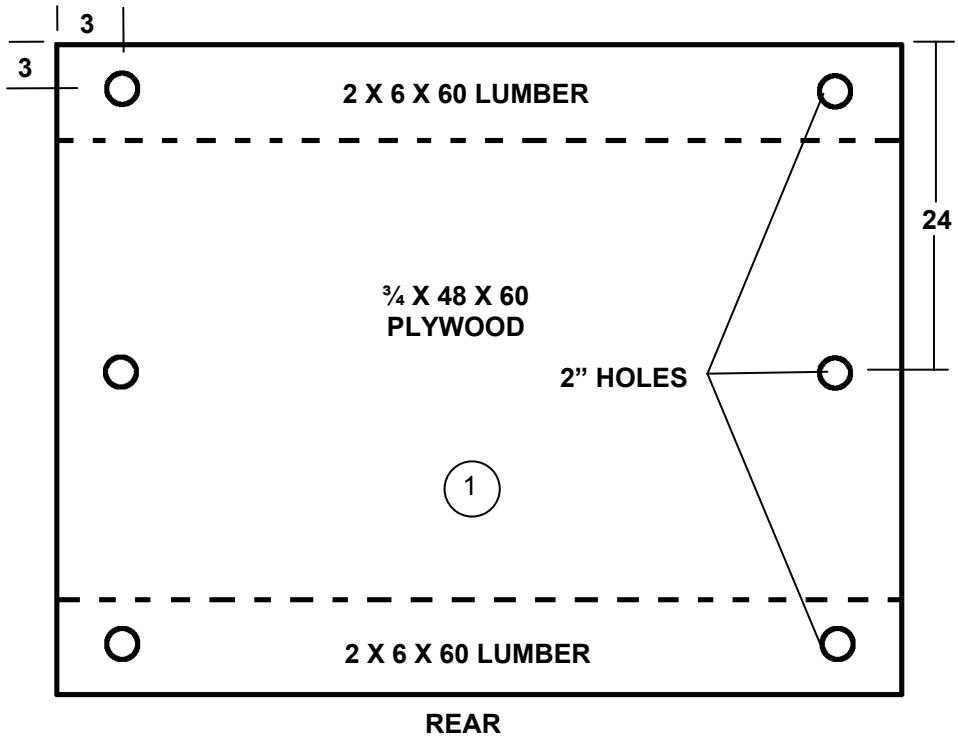
1. Place two 36- by 74-inch pieces of honeycomb side by side on top of the trailer. Tape the edges of the honeycomb. Secure the honeycomb with six lengths of type III nylon cord to convenient points on the load.
2. Attach a 12-foot (2-loop), type XXVI nylon sling to the bell end of a large clevis. Attach the large clevis to the right front tandem link assembly. Repeat for the opposite side.
3. Attach a 12-foot (2-loop), type XXVI nylon sling to the bell end of a large clevis. Attach the large clevis to the right rear tandem link assembly. Repeat for the opposite side.
4. Raise the slings and install a deadman's tie on the suspension slings as shown in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 6-14. Suspension Slings Installed and Safety Tied

PREPARING AND POSITIONING THE PARACHUTE STOWAGE PLATFORM

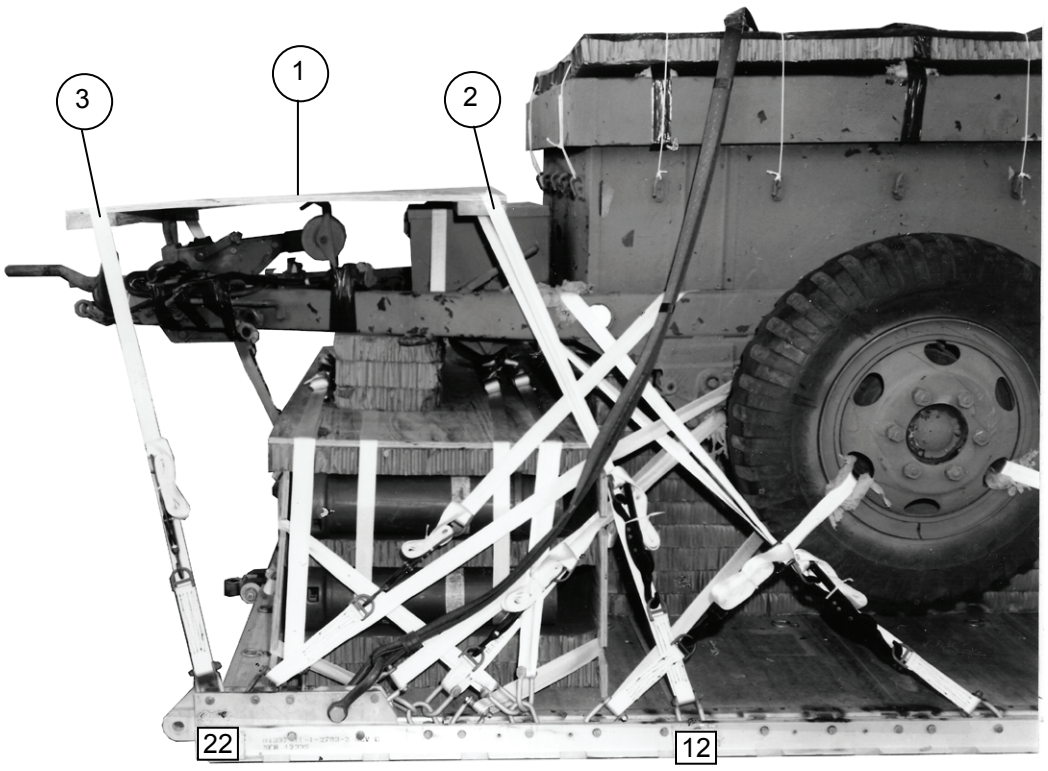
6-10. Construct the parachute stowage platform as shown in Figure 6-15. Install the parachute stowage platform as shown in Figure 6-16.

Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale.
3. All holes are 2-inches in diameter.



(1) Build the parachute stowage platform as shown.

Figure 6-15. Parachute Stowage Platform Built

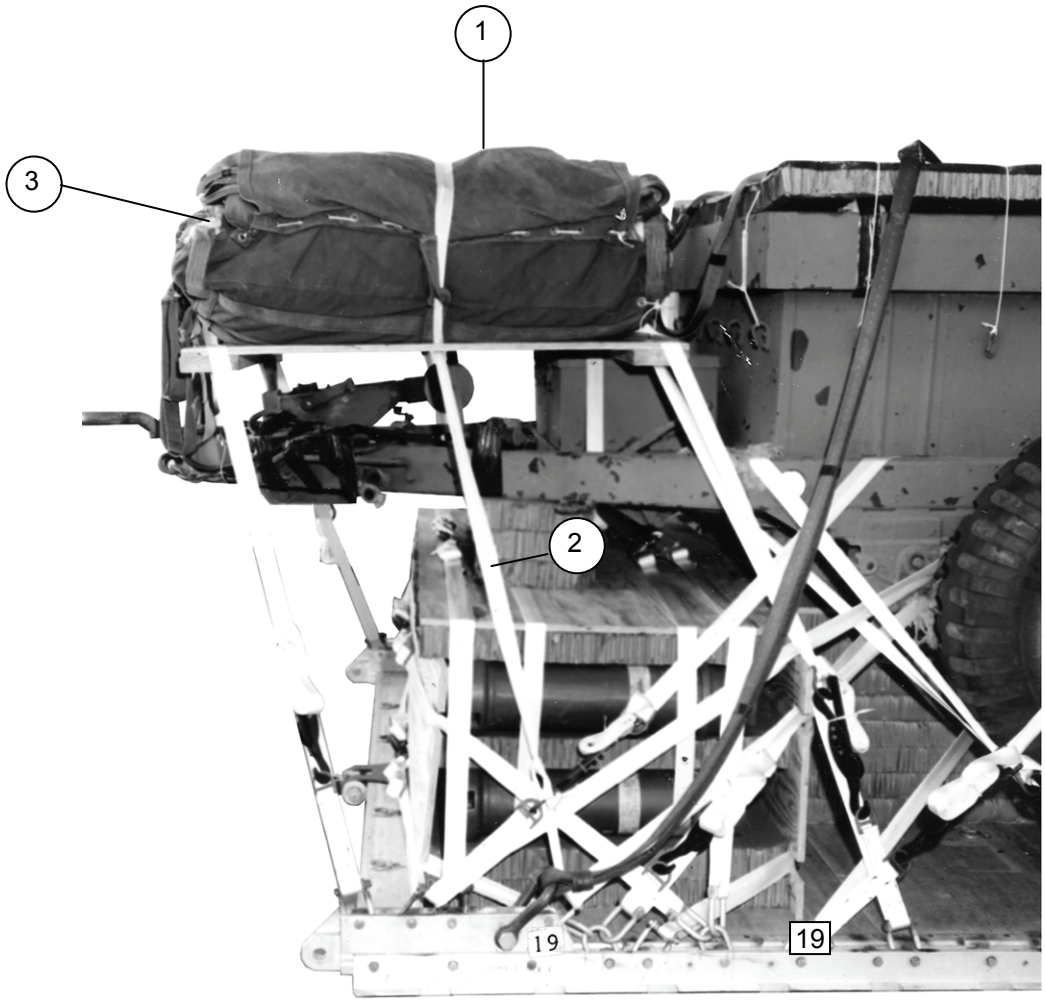


1. Place the parachute stowage platform on the trailer tongue wheel stand and toolbox.
2. Route a 15-foot lashing from clevis 12 through the right front hole in the parachute stowage platform and secure with a D-ring and load binder. Repeat on the left side with clevis 12A.
3. Route a 15-foot lashing from clevis 22 through the right rear hole in the parachute stowage platform and secure with a D-ring and load binder. Repeat on the left side with clevis 22A.

Figure 6-16. Parachute Stowage Platform Installed

STOWING CARGO PARACHUTES

6-11. Prepare, stow, and restrain two G-11B cargo parachutes according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 6-17.

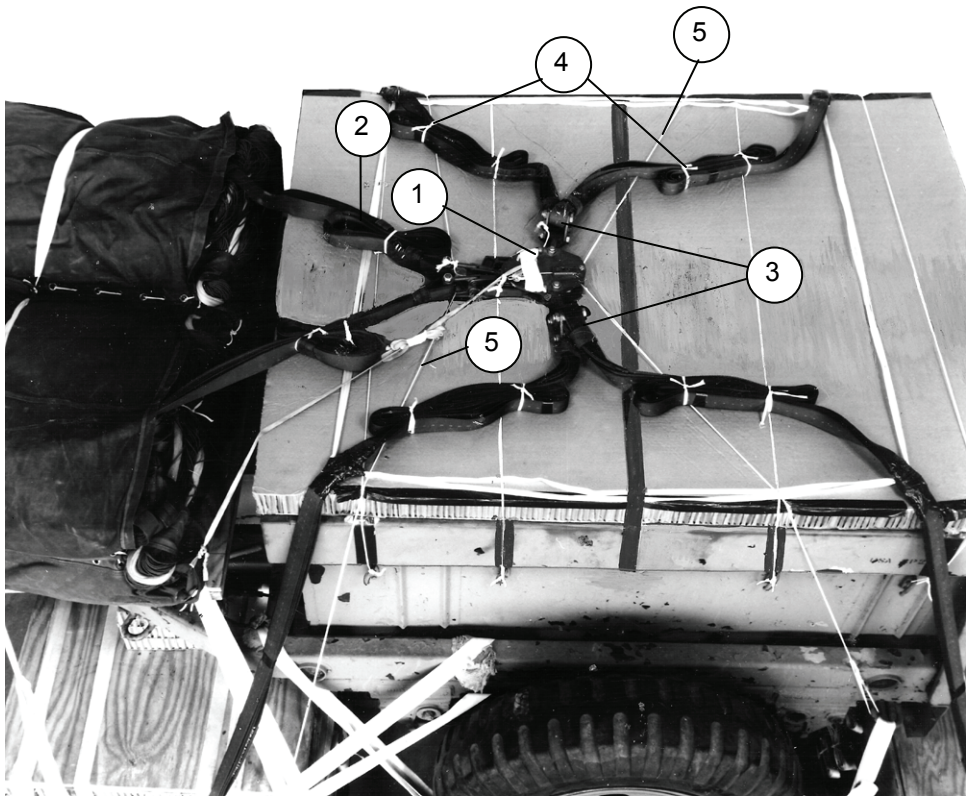


1. Position two G-11B cargo parachutes on the parachute stowage platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
2. Install the parachute restraint strap using type VIII nylon webbing on clevises 19 and 19A.
3. Install the parachute release strap according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 6-17. Cargo Parachutes Positioned and Restrained

INSTALLING PARACHUTE RELEASE SYSTEM

6-12. Prepare and install an M-1 parachute release 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 6-18.



(1) Center an M-1 parachute release assembly on top of the honeycomb.

(2) Attach the parachute riser extensions to the parachute release connectors.

(3) Attach the suspension slings to the lower suspension links.

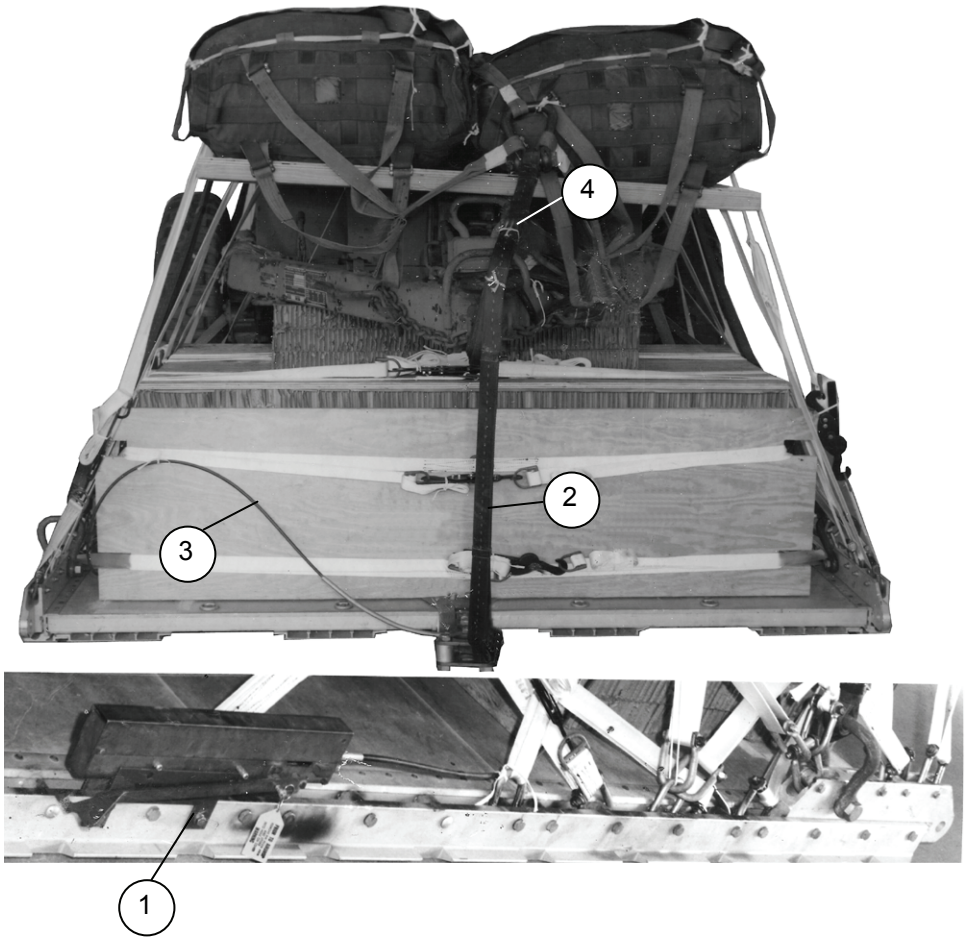
(4) Fold the excess suspension slings and safety tie with type I, ¼-inch cotton webbing.

(5) Tie the front and rear M-1 parachute release safety ties to convenient points on the load with type III nylon cord.

Figure 6-18. M-1 Parachute Release Installed

INSTALLING EXTRACTION SYSTEM

6-13. Install the extraction system as shown in Figure 6-19.



1. Install the components of the EFTC according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Use the rear mounting holes for the EFTC actuator brackets.
2. Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line.
3. Use a 12-foot cable and safety tie the cable to convenient points on the platform with type I, ¼-inch cotton webbing.
4. Secure the excess deployment line with type I, ¼-inch cotton webbing.

Figure 6-19. Extraction System Installed

PLACING EXTRACTION PARACHUTE

6-14. 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. Place the extraction parachute and line on the load for installation in the aircraft.

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

6-15. Select and install the provisions for the emergency aft restraints according to the emergency aft restraint requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

MARKING RIGGED LOAD

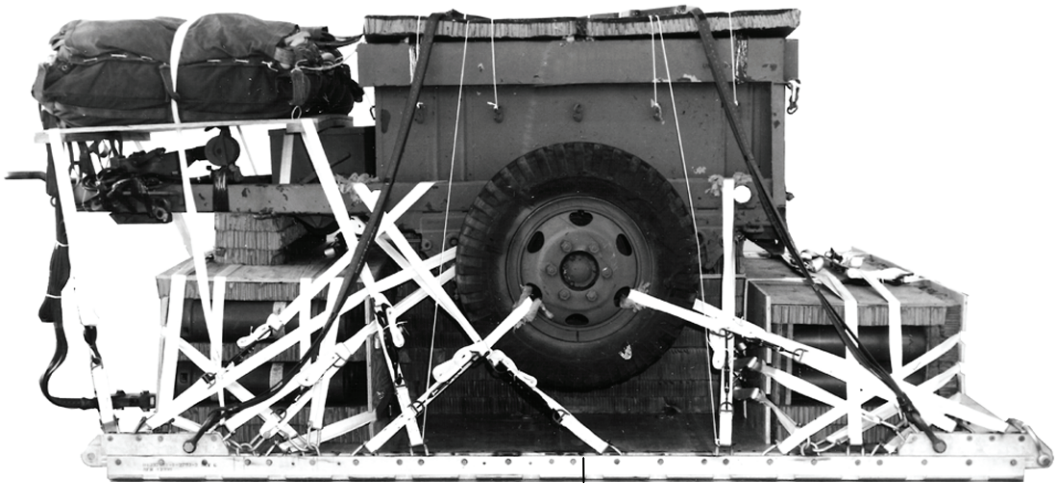
6-16. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 6-20. Complete Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

6-17. Use the equipment listed in Table 6-1 to rig this load.

CAUTION

Make the final rigger inspection required by AR 59-4 and FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 before the load leaves the rigging site.



RIGGED LOAD DATA

Weight: Load Shown.....8,200 pounds

Maximum Weight Load .....10,000 pounds

Height.....81 inches

Width.....108 inches

Overall Length .....181 inches

Overhang: Front.....0
Rear (lunette).....32 inches

Center of Balance (CB) (from front edge of the platform).....71 inches

Extraction System with 12-foot cable (adds 0 inches to the length of the load)

Figure 6-20. 1 ½-Ton Ammunition Trailer Rigged on a 12-Foot, Type V Platform for Low-Velocity Airdrop

Table 6-1. Equipment Required for Rigging the 1 ½-Ton Ammunition Trailer on a 12-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive paste, 1-gal.	As required
1670-01-035-6054	Bridle, extraction line bag	1
4030-00-090-5354	Clevis, suspension, 1-inch (large)	5
4030-00-678-8562	Clevis, suspension, (medium)	6
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop extraction force transfer, w/12-ft. cable	1
8135-00-664-6958	Cushioning material (Cellulose padding)	As required
1670-01-183-2678	Leaf, extraction line (line bag) (add 2 for C-17)	2
	Line extraction:	
1670-01-062-6313	60-foot (3-loop), type XXVI (for C-130)	1
1670-01-107-7651	140-foot (3-loop), type XXVI (for C-17)	1
1670-01-064-4452	60-foot (1-loop), type XXVI (for C-17), (drogue line)	1
1670-00-783-5988	Link assembly, type IV (C-17 only)	1
1670-01-493-6418	Link assembly, two-point, small, 3 ¾-inch:	1
	Lumber:	
5510-00-220-6146	2- by 6- by 96-inch	2
5315-00-010-4659	Nail, steel, common, 8D	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	18 sheets
1670-01-016-7841	Parachute, cargo, G-11B	2
	Parachute, cargo, extraction:	
1670-01-063-3716	22-foot	1
1670-01-063-3715	15-foot (C-17 only)	1
	Platform, airdrop, type V, 12-foot:	
1670-01-162-2372	Clevis assembly (type V)	52
1670-01-162-2376	Extraction bracket assembly	6
1670-01-162-2381	Tandem link assembly (Multipurpose link)	4
5530-00-128-4981	Plywood, 3/4-inch	6 sheets

Table 6-1. Equipment Required for Rigging the 1 ½-Ton Ammunition Trailer on a 12-Foot, Type V Platform for Low-Velocity Airdrop (Continued)

National Stock Number	*Item*	*Quantity*
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop:	
1670-00-753-3790	9-foot (2-loop), type XXVI	1
1670-01-062-6303	12-foot (2-loop), type XXVI	4
1670-01-062-6302	20-foot (2-loop), type XXVI	2
1670-00-998-0116	Strap, parachute, release	1
7501-00-266-5016	Tape, adhesive, 2-inch	As required
1670-00-937-0271	Tie-down assembly, 15-foot.	55
1670-01-483-8259	Link, Parachute, Connector (H-block) (C-17 only)	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-inch	As required
8305-00-261-8585	Nylon, type VIII	As required

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Chapter 7

Rigging Mine Clearing Line Charge, 2 ½-Ton Trailer, on a 12-Foot, Type V Platform for Low-Velocity Airdrop

DESCRIPTION OF THE LOAD

7-1. The Mine Clearing Line Charge (MICLIC), 2 ½-ton trailer (Figure 7-1) is rigged on a 12-foot, type V airdrop platform using two G-11 cargo parachutes. The rocket projectile is rigged on the platform in its shipping container as an accompanying load. The MICLIC and its trailer weigh 2,855 pounds, and the rocket projectile in its container weighs 270 pounds.

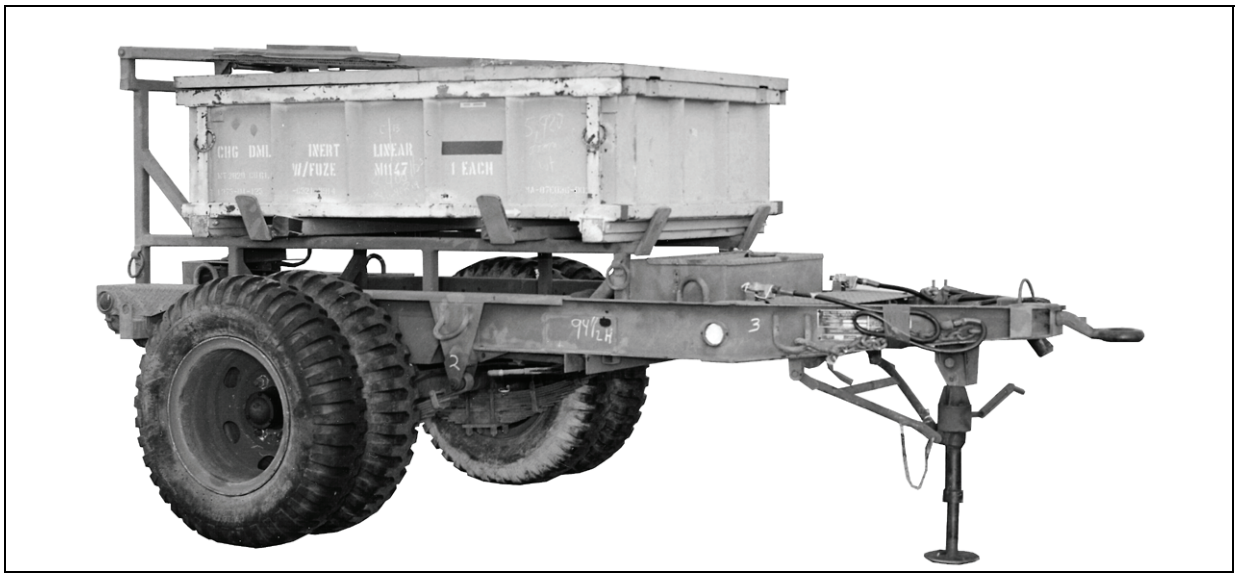
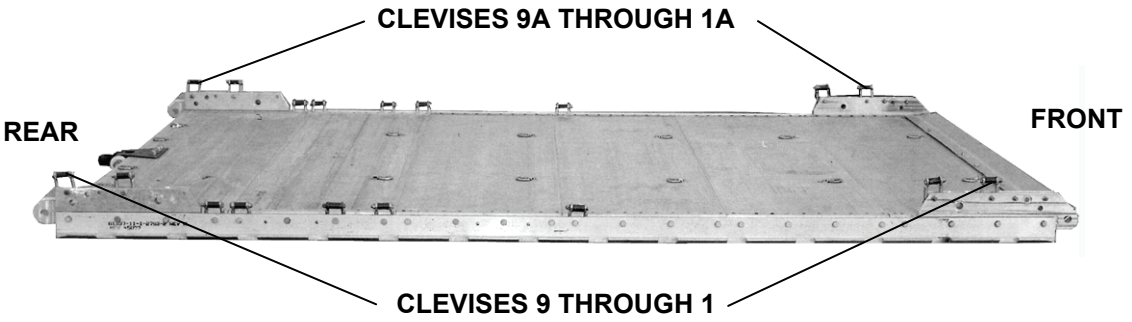


Figure 7-1. MICLIC on 2 ½-Ton Trailer

PREPARING PLATFORM

7-2. Prepare a 12-foot, type V airdrop platform as shown in Figure 6-2.



Step:

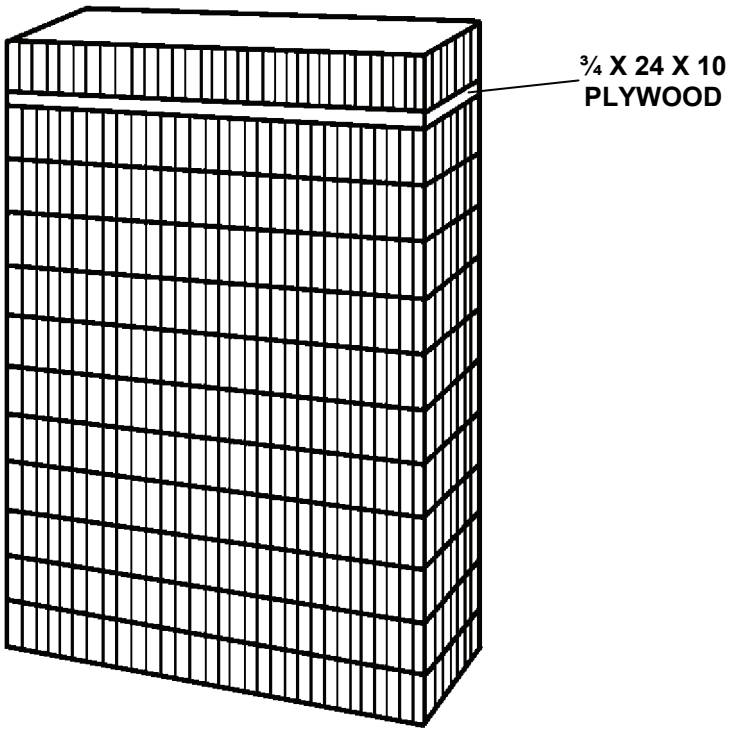
1. Inspect, or assemble and inspect, a 12-foot, type V airdrop platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
3. Install a tandem link to the rear of each platform side rail using holes 22, 23, and 24.
4. Install a clevis on bushings 3 and 4 of each front tandem link.
5. Install a clevis on bushings 2 and 4 of each rear tandem link.
6. Starting at the front of each platform side rail, install clevises on the bushings bolted to holes 12, 17, 18, 20, and 21.
7. Starting at the front of the platform, number the clevises 1 through 9 on the right side and 1A through 9A on the left side.
8. 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 7-2. Platform Prepared

BUILDING AND POSITIONING HONEYCOMB STACKS

7-3. Build the honeycomb stacks as shown in Figures 7-3 through 7-6. Place the honeycomb stacks as shown in Figure 7-7.

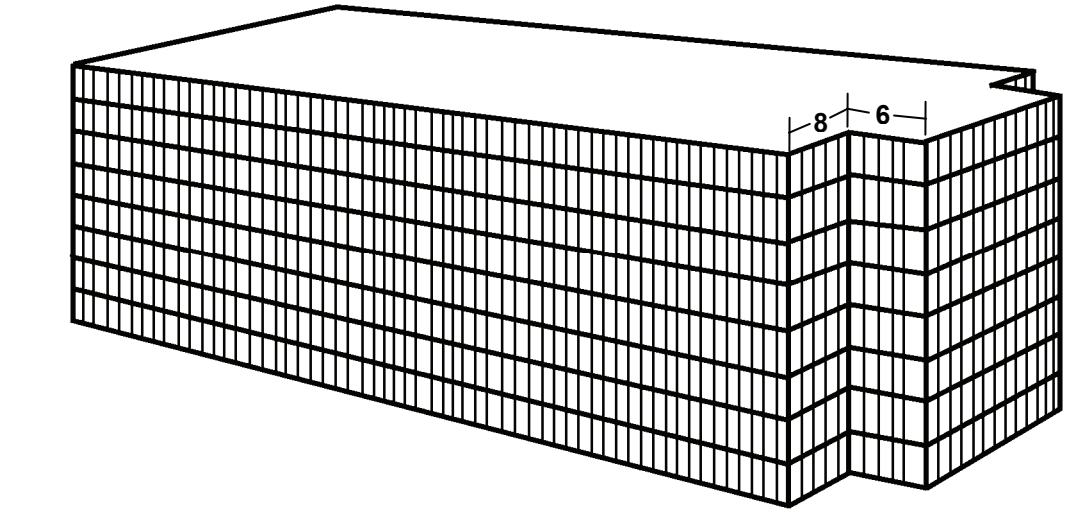
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**



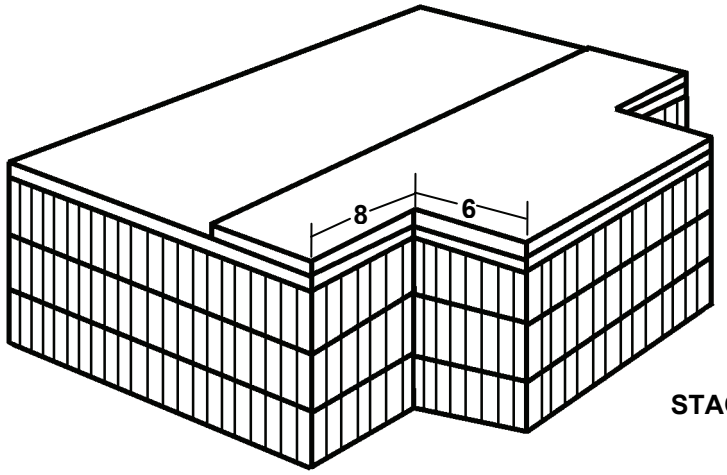
Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
1	11	24	10	Honeycomb	Glue to form a base.
	1	24	10	¾-inch Plywood	Glue flush on top of honeycomb.
	1	24	10	Honeycomb	Glue flush on top of plywood.
2	11	24	10	Honeycomb	Glue to form a base.
	1	24	10	¾-inch Plywood	Glue flush on top of honeycomb.
	1	24	10	Honeycomb	Glue flush on top of plywood.

Figure 7-3. Honeycomb Stacks 1 and 2 Built

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



STACK 3 (BASE)

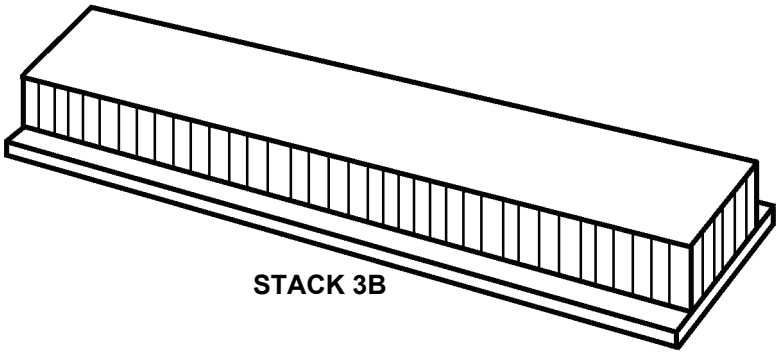


STACK 3A

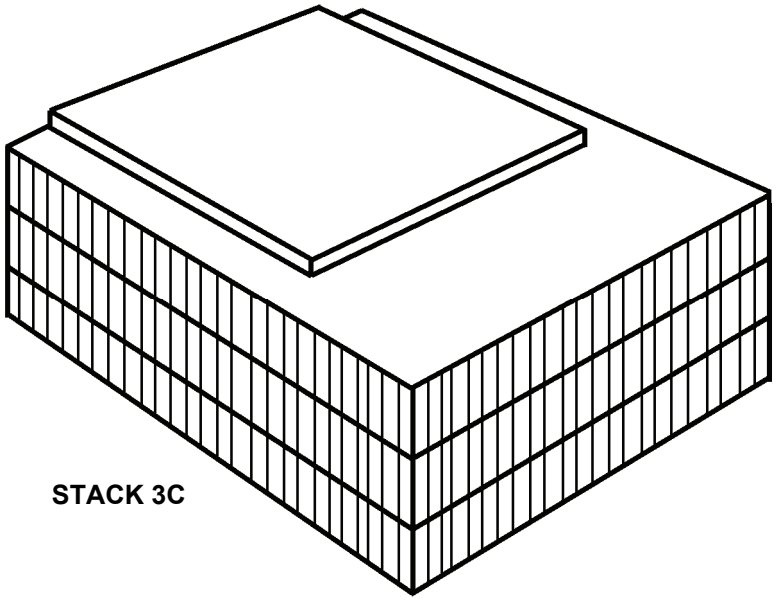
Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
3 (Base)	8	36	84	Honeycomb	Make 8- by 6-inch cutouts in each piece as shown. Glue to form a base.
3A	3	36	25	Honeycomb	Make cutouts as above and glue flush.
	1	36	25	¾-inch Plywood	Make cutouts as above and glue flush on top of honeycomb.
	1	36	12	¾-inch Plywood	Make cutouts as above and glue flush on top of plywood. Set stack 3A aside.

Figure 7-4. Components of Stack 3 Prepared

Note. This drawing is not drawn to scale.



STACK 3B

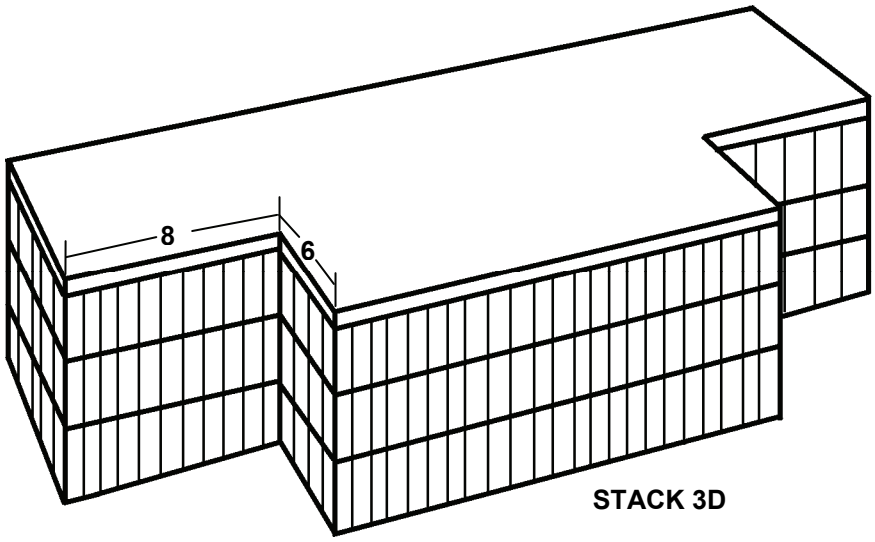


STACK 3C

Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
3B	1	34	6	Honeycomb	
	1	34	8	¾-inch Plywood	Center and glue honeycomb on plywood. Set stack 3B aside.
3C	3	20	24	Honeycomb	Glue flush.
	1	16	15	¾-inch Plywood	Center and glue on top of honeycomb with rear edges aligned. Set stack 3C aside.

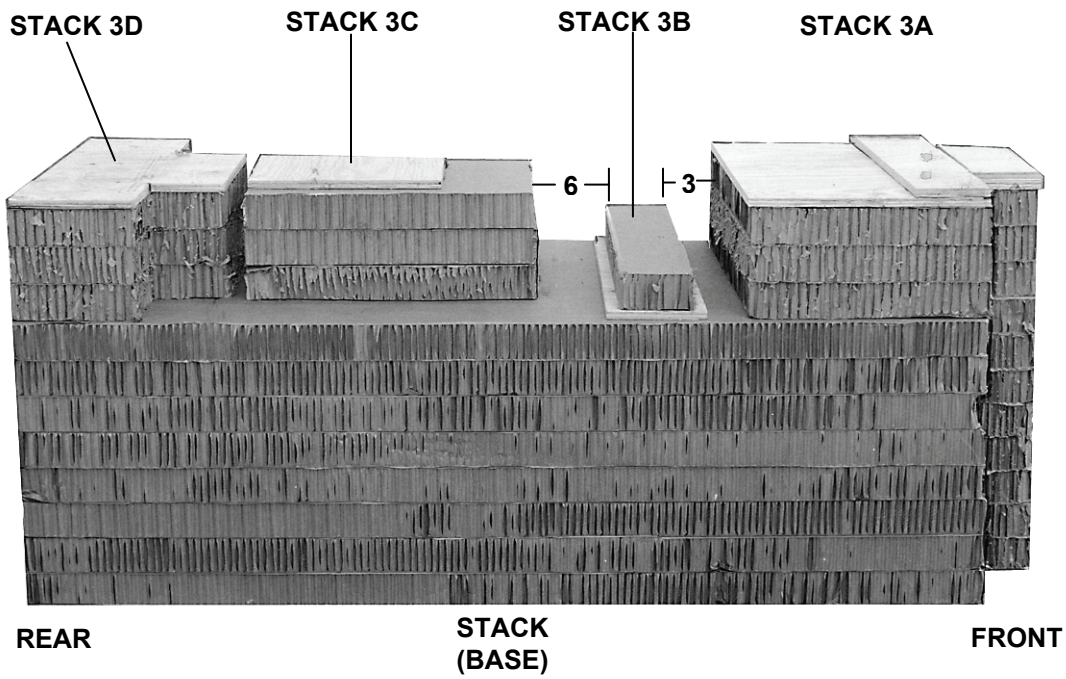
Figure 7-4. Components of Stack 3 Prepared (Continued)

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



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
3D	3	36	16	Honeycomb	Make cutouts as above and glue flush.
	1	36	16	¾-inch Plywood	Center and glue honeycomb on plywood. Set stack 3B aside.

Figure 7-4. Components of Stack 3 Prepared (Continued)

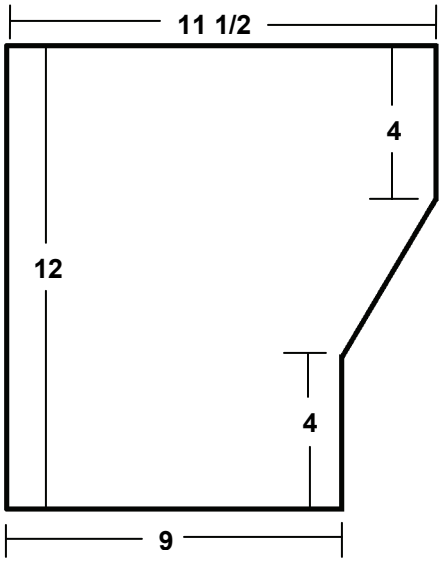


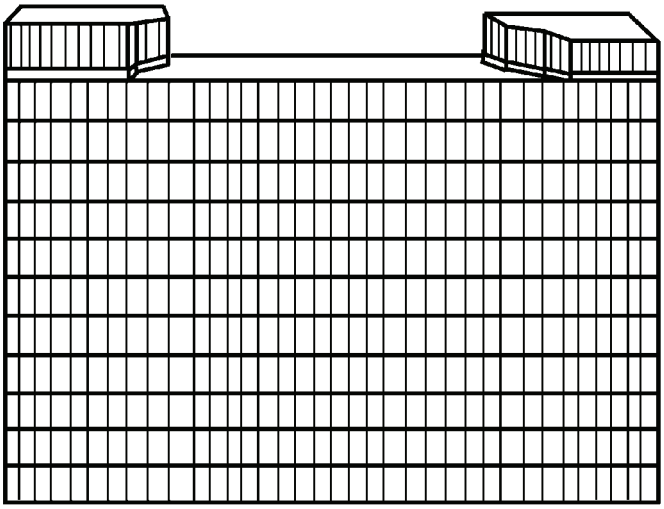
1. Align the cutouts of stack 3A with the base and glue in place.
2. Glue stack 3B on the base 3 inches to the rear of stack 3A.
3. Center stack 3C on the base 6 inches to the rear of stack 3B.
4. Glue stack 3D flush on the rear end of base with the cutouts to the front.

Figure 7-5. Stack 3 Assembled

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

STACK 4

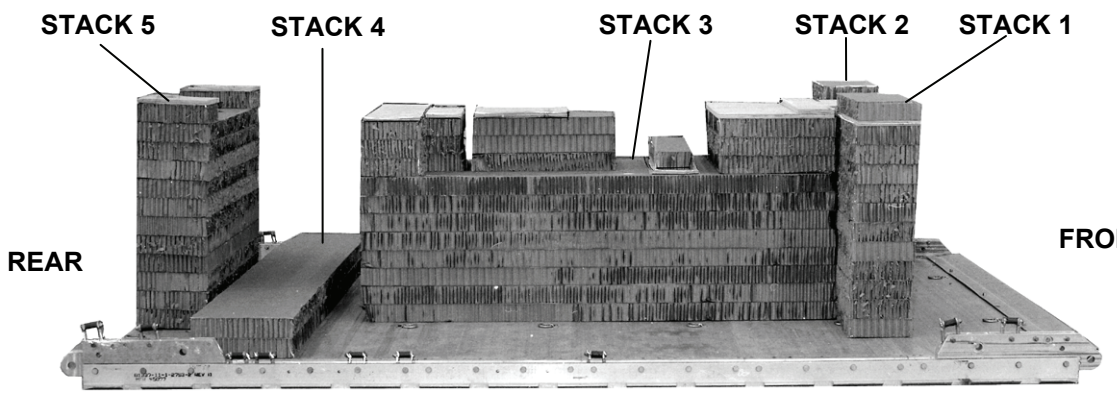




STACK 5

Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
4	2	96	15	Honeycomb	Glue flush together.
5	11	48	12	Honeycomb	Glue flush together.
	2	11 ½	12	¾-inch Plywood	Make cutouts as shown and glue flush over sides of stack facing in the same direction.
	2	11 ½	12	Honeycomb	Make cutouts as above and glue flush over plywood.

Figure 7-6. Stacks 4 and 5 Prepared



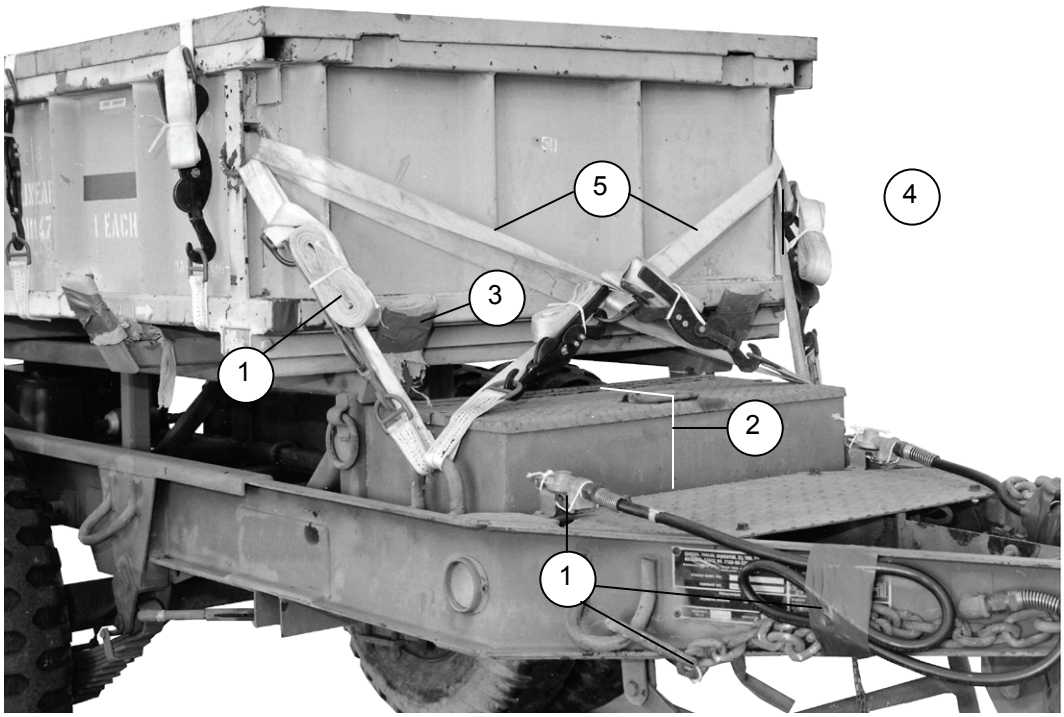
Step:

1. Center stack three 24 inches from the front edge of the platform.
2. Place stack one in the right cutout of stack three, 20 inches from the front edge of the platform.
3. Place stack two in the left cutout of stack three, 20 inches from the front edge of the platform.
4. Center stack four 14 inches from the rear edge of the platform.
5. Place stack five centered and flush on the rear edge of the platform.

Figure 7-7. Honeycomb Stacks Positioned on Platform

PREPARING MICLIC AND TRAILER

7-4. Prepare the MICLIC as shown in Figure 7-8.



(1) Secure tow chains and electrical and brake lines to the trailer tongue with type III nylon cord and tape.

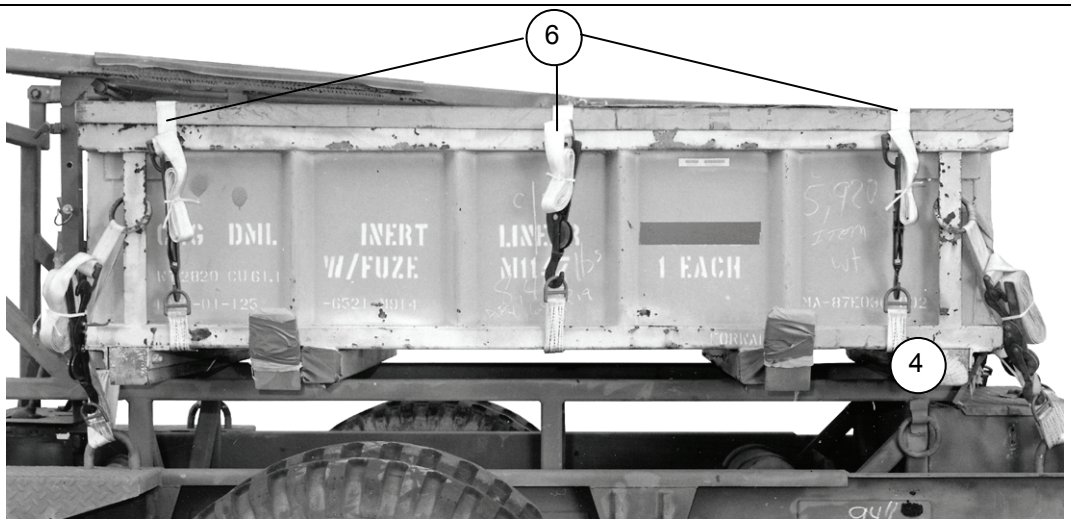
(2) Secure the tool box lid with type III nylon cord.

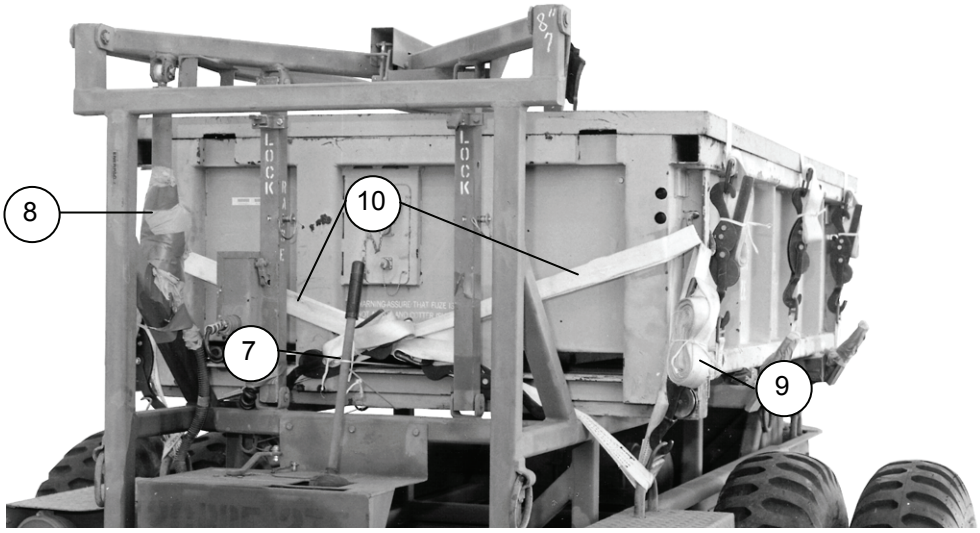
(3) Pad sharp edges with cellulose wadding and tape.

(4) Lash the right front tiedown ring on the MICLIC box to the right front tiedown point on the trailer frame. Repeat on the left side.

(5) Lash the right front tiedown ring on the MICLIC box to the left front tiedown point on the trailer frame. Lash the left front tiedown ring on the MICLIC box to the right front tiedown point on the trailer frame.

Figure 7-8. MICLIC Prepared





(6) Secure the MICLIC lid with three evenly spaced lashings. Pass the lashings over the box ONLY, not the launcher arm. Fasten the lashings on the side with a D-ring and load binder.

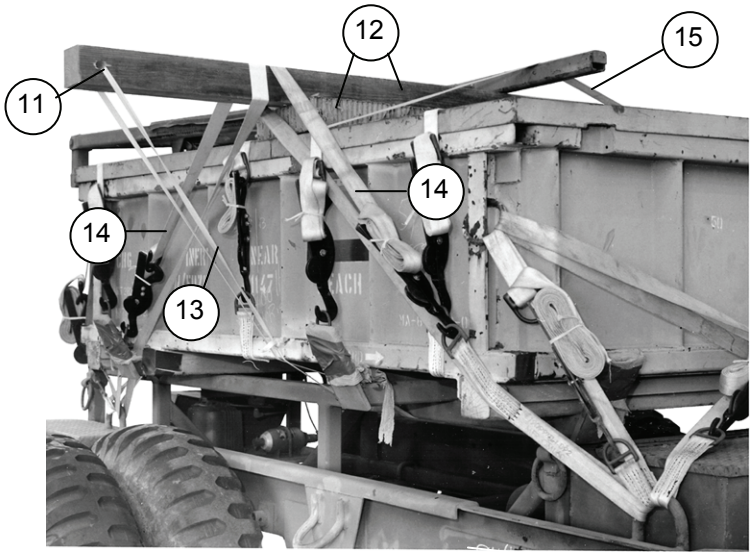
(7) Secure the hydraulics control lever in the forward position with type III nylon cord to the box frame.

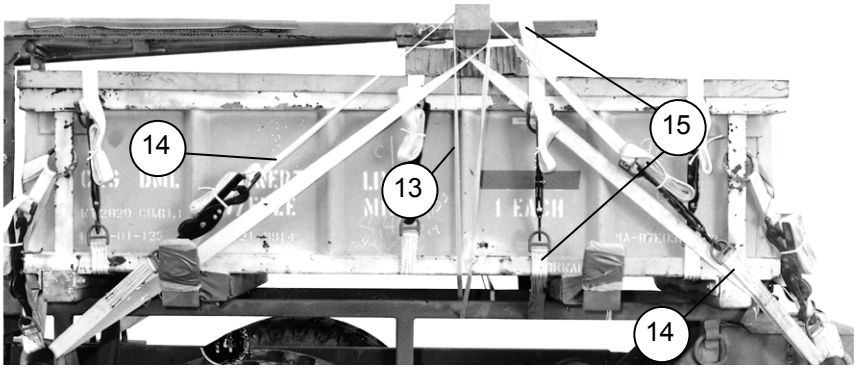
(8) Pad the hydraulic cylinder with cellulose wadding and tape.

(9) Lash the right rear tiedown ring on the MICLIC box to the right rear tiedown point on the trailer frame. Repeat on the left side.

(10) Lash the right rear tiedown ring on the MICLIC box to the left rear tiedown point on the trailer frame. Lash the left rear tiedown ring on the MICLIC box to the right rear tiedown point on the trailer frame.

Figure 7-8. MICLIC Prepared (Continued)





(11) Drill a ½-inch hole 2 inches from each end of a 96-inch piece of 4- by 4-inch lumber.

(12) Center the lumber over a 54- by 12-inch piece of honeycomb. Place the lumber and honeycomb under the launcher arm and over the MICLIC box so the edge of the lumber is 32 inches from the front edge of the MICLIC box.

(13) Ensure the lumber stays in place and tie it to the trailer frame through the drilled holes on each side with 1/3-inc tubular nylon webbing.

(14) Lash the lumber to the tiedown points on each side used previously.

Note. Ensure the lumber remains properly aligned when securing the lashings.

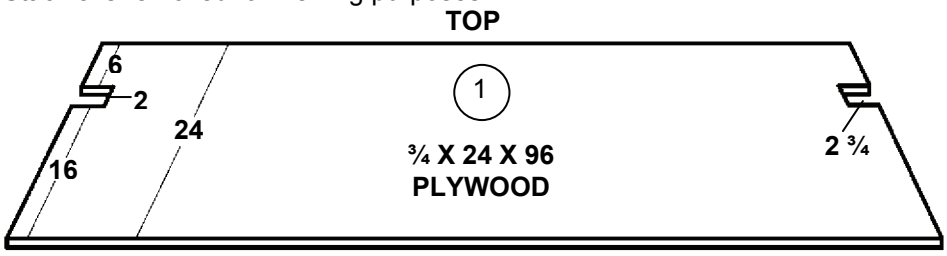
(15) Pass a 15-foot lashing around the trailer frame and the launcher arm immediately in front of the lumber and honeycomb placed in step 12.

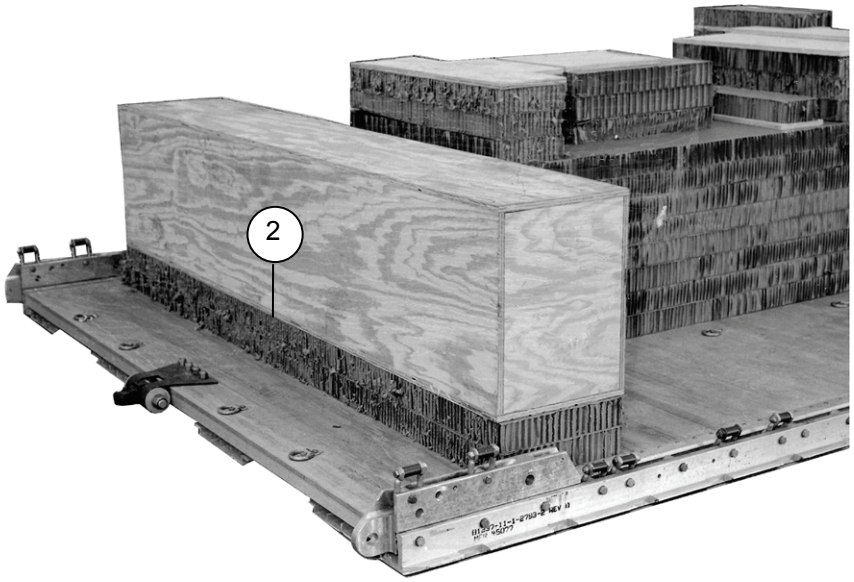
Figure 7-8. MICLIC Prepared (Continued)

STOWING ACCOMPANYING LOAD ON PLATFORM

7-5. Stow the rocket container on the platform as shown in Figure 7-9. Construct the endboards for the accompanying load as shown in Figure 7-9.

Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale.
3. Stack 5 is removed for viewing purposes.



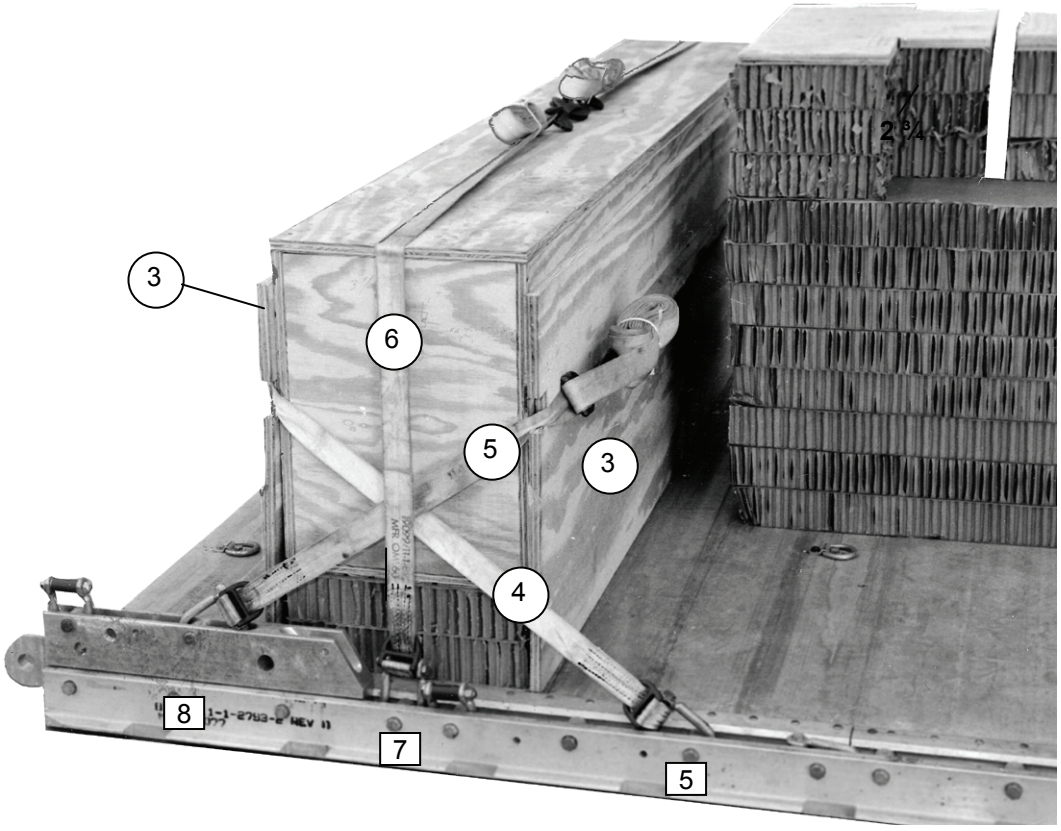


(1) Build two endboards as shown with ¾- by 24- by 96-inch plywood.

(2) Place the rocket container flush on stack 4.

Figure 7-9. Rocket Container Stowed on Platform

Note. Stack 5 is removed for viewing purposes.



(3) Place one endboard on the front and rear of the rocket container.

(4) Pass a 15-foot lashing through clevis 5 and through its own D-ring. Pass a 15-foot lashing through clevis 5A and through its own D-ring. Pass the lashings through the slots in the rear endboard and secure on the rear endboard with D-rings and a load binder.

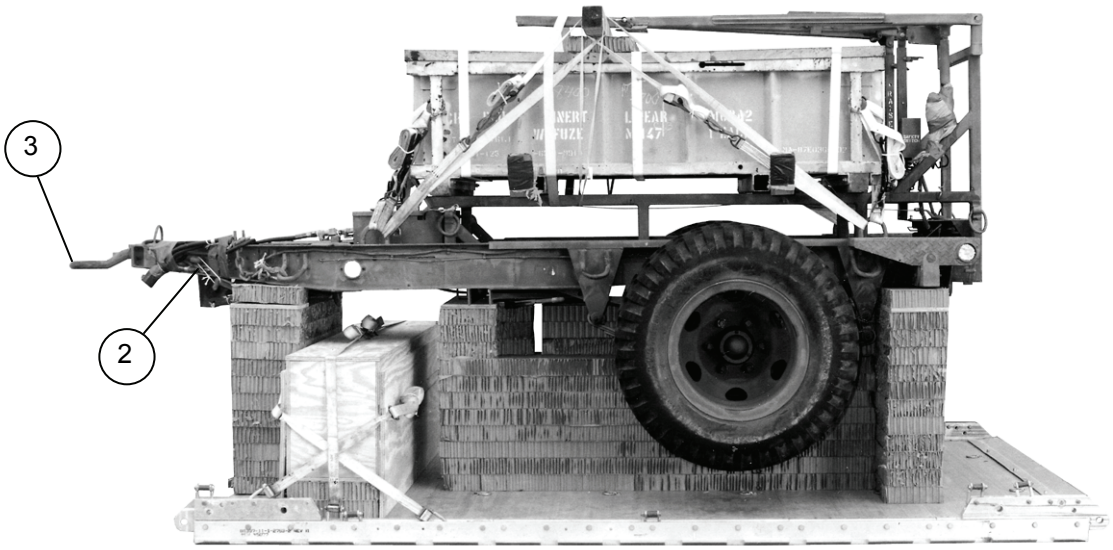
(5) Pass a 15-foot lashing through clevis 8 and through its own D-ring. Pass a 15-foot lashing through clevis 8A and through its own D-ring. Pass the lashings through the slots in the front endboard and secure on the front endboard with D-rings and a load binder.

(6) Pass a 15-foot lashing through clevis 7 and through its own D-ring. Pass a 15-foot lashing through clevis 7A and through its own D-ring. Pass the lashings over the top of the rocket container and secure the lashings on top of the rocket container with D-rings and a load binder.

Figure 7-9. Rocket Container Stowed on Platform (Continued)

LIFTING AND POSITIONING THE MICLIC

7-6. Install the lifting slings and position the MICLIC as shown in Figure 7-10.



(1) Attach a 12-foot (2-loop), type XXVI nylon sling to each of the four lifting points with a medium suspension clevis (not shown).

(2) Lift the trailer. Raise and lock the trailer support leg and A-frame. Tie them and the hand crank to the trailer frame with type III nylon cord.

(3) Position the trailer on the honeycomb stacks so the lunette overhangs the rear of the platform by 34 inches.

(4) Remove the lifting slings.

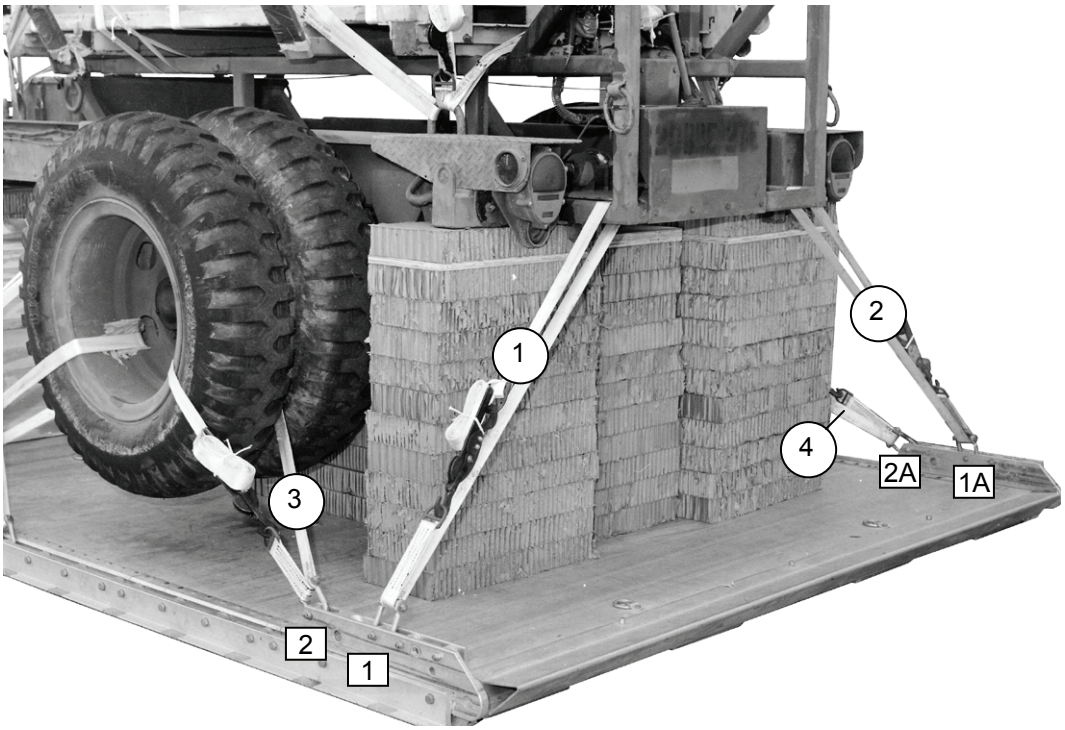
Figure 7-10. MICLIC Trailer Lifted and Positioned on Platform

LASHING LOAD TO PLATFORM

7-7. Lash the MICLIC to the platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figures 7-11 and 7-12.

Note. Pad any sharp edges on the load where a lashing may pass. Pad the wheel openings. Use cellulose padding and masking tape.

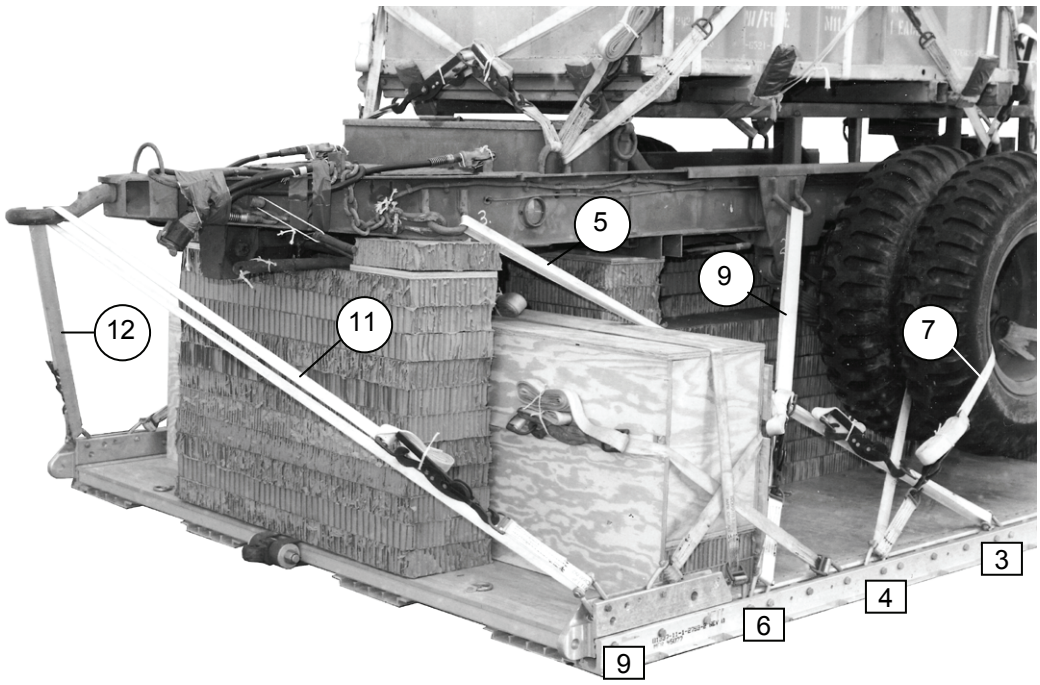
Note. Left, right, front, and rear refer to the trailer, NOT the platform.



Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
1	1	Around trailer frame, left side.
2	1A	Around trailer frame, right side
3	2	Around outside wheel, right side.
4	2A	Around outside wheel, left side.

Figure 7-11. Lashing 1 through 4 Installed

Note. Left, right, front, and rear refer to the trailer, NOT the platform.

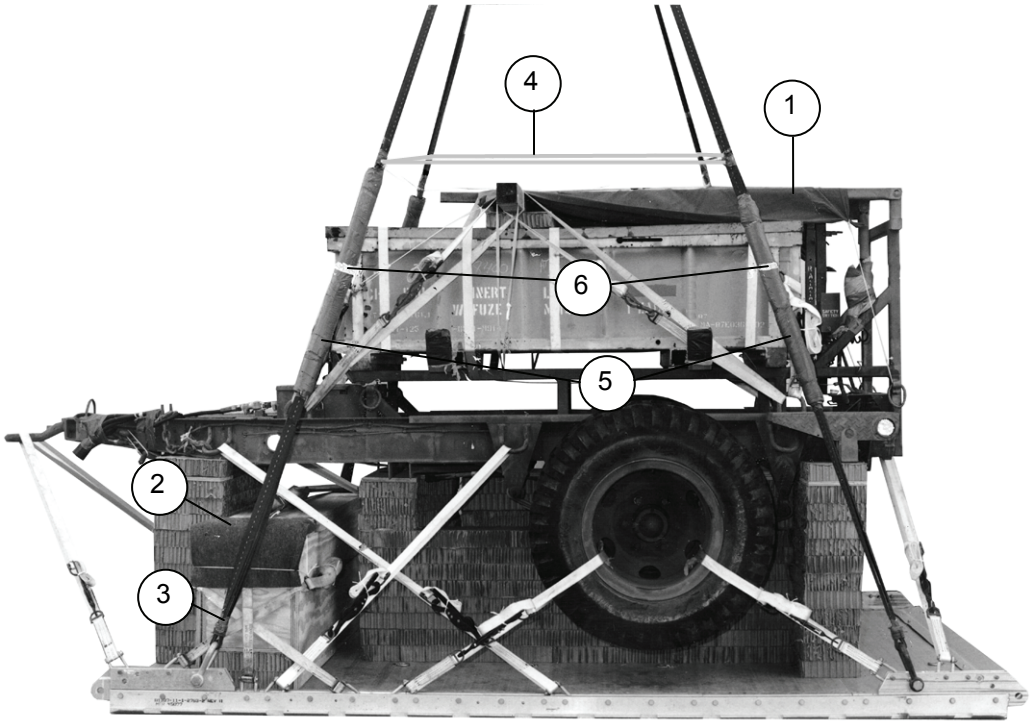


Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
5	3	Through front tiedown point, left side.
6	3A	Through front tiedown point, right side.
7	4	Around outside wheel, left side.
8	4A	Around outside wheel, right side.
9	6	Through center tiedown point, left side.
10	6A	Through center tiedown point, right side.
11	9	Through lunette.
12	9A	Through lunette.

Figure 7-12. Lashing 5 through 12 Installed

INSTALLING AND SAFETY TIEING THE SUSPENSION SLINGS

7-8. Install and safety tie the suspension slings as shown in Figure 7-13.

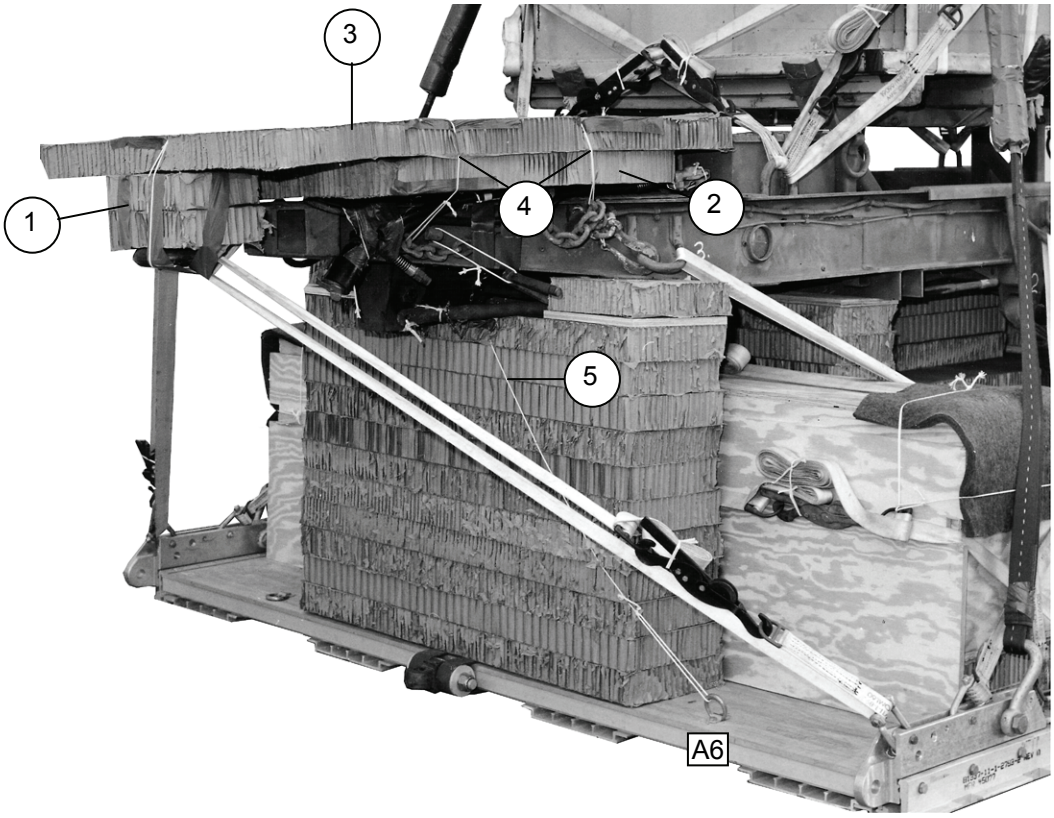


1. Place a 60- by 72-inch piece of canvas over the launcher arm and the lumber on top of the MICLIC. Tie the corners with lengths of type III nylon cord to convenient points on the load.
2. Tie a 36- by 18-inch piece of felt over each corner of the rocket box with type III nylon cord.
3. Attach a 16-foot (2-loop), type XXVI nylon sling to each tandem link with a large suspension clevis.
4. Raise the slings and install a deadman's tie on the suspension slings as shown in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
5. Pad each suspension sling where it makes contact with the MICLIC box with felt and tape.
6. Tie each suspension sling to the nearest tiedown ring with type III nylon cord.

Figure 7-13. Suspension Slings Installed and Safety Tied

PREPARING THE PARACHUTE STOWAGE PLATFORM

7-9. Construct and secure the parachute stowage platform as shown in Figure 7-14.

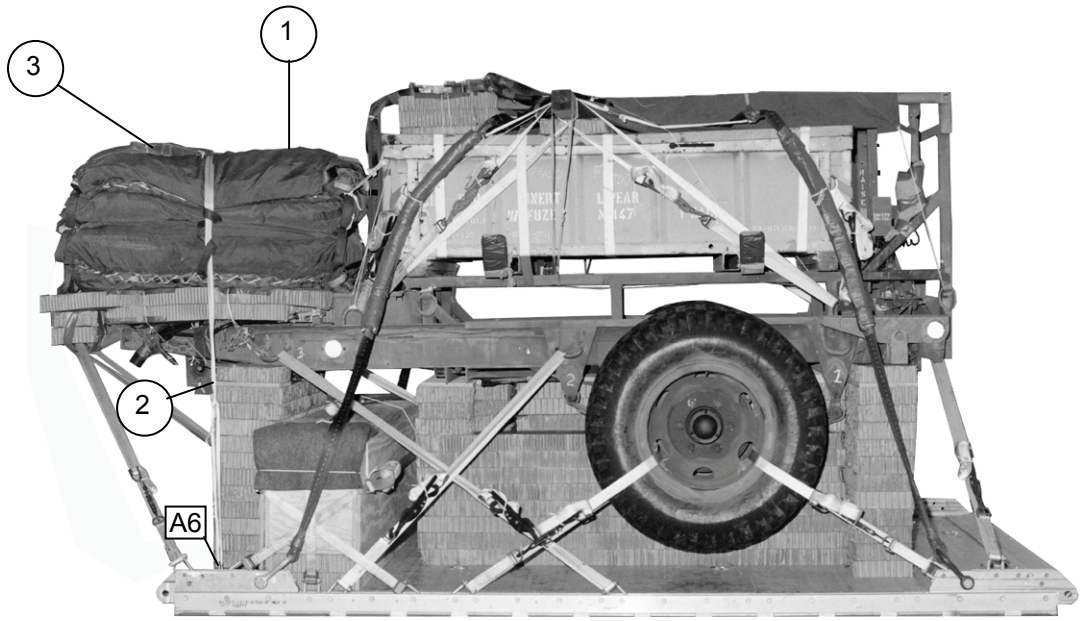


1. Place two 6- by 12-inch pieces of honeycomb on the lunette and secure with tape.
2. Place a 36- by 42-inch piece of honeycomb over the trailer frame immediately in front of the pieces placed in step 1 above. Make 8- by 8-inch cutouts in the corners of this piece to allow for the air brake hoses.
3. Place a 36- by 54-inch piece of honeycomb over the pieces placed in steps 1 and 2.
4. Tie the honeycomb to the trailer frame in a side-to-side direction with two lengths of type III nylon cord. Tie the honeycomb to the trailer frame in a front-to-rear direction with a length of type III nylon cord.
5. Secure honeycomb stack 5 in place with a length of type III nylon cord tied between the upper lashing on the rocket box and tiedown ring A6.

Figure 7-14. Parachute Stowage Platform Built and Secured

STOWING CARGO PARACHUTES

7-10. Prepare, stow, and restrain two G-11B cargo parachutes according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 7-19.

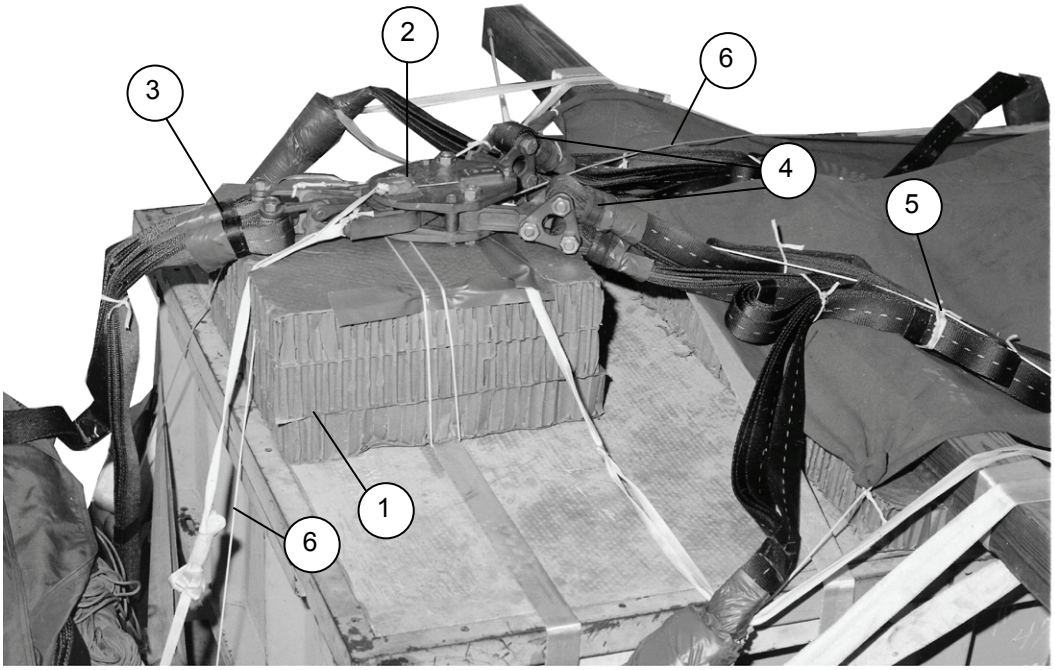


1. Position two G-11B cargo parachutes on the parachute stowage platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
2. Install the parachute restraint strap using type VIII nylon webbing on tiedown rings A6 and D6.
3. Install the parachute release strap according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 7-15. Cargo Parachutes Positioned and Restrained

INSTALLING PARACHUTE RELEASE SYSTEM

7-11. Prepare and install an M-1 parachute release 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 7-16.



(1) Center a stack of three 18- by 18-inch pieces of honeycomb over the rear lashing on top of the MICLIC box. Tape the rear section of the deadman's tie to the honeycomb. Tie the honeycomb to the lashing with type III nylon cord.

(2) Center an M-1 parachute release assembly on top of the honeycomb.

(3) Attach the parachute riser extensions to the parachute release connectors.

(4) Attach the suspension slings to the lower suspension links.

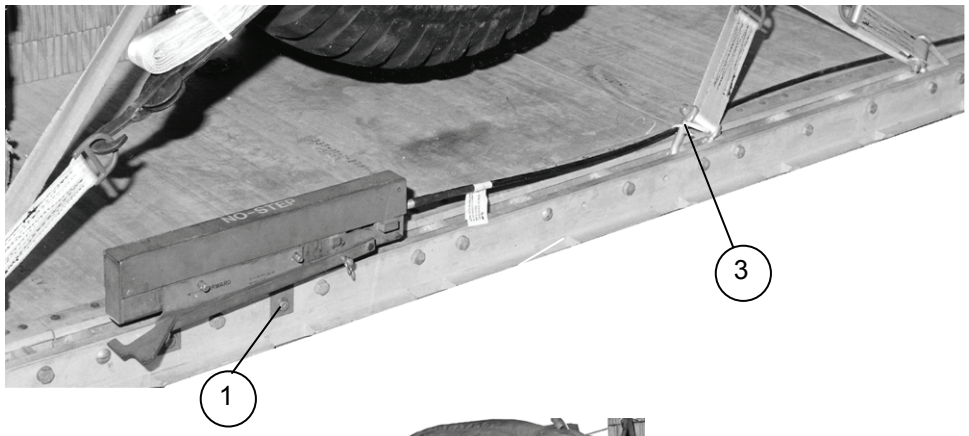
(5) Fold the excess suspension slings and safety tie with type I, ¼-inch cotton webbing.

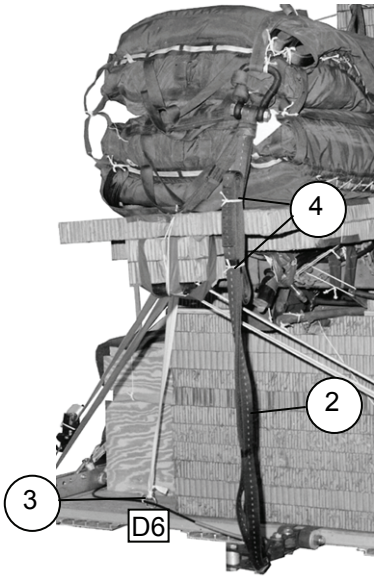
(6) Tie the front and rear M-1 parachute release safety ties to convenient points on the load with type III nylon cord.

Figure 7-16. M-1 Parachute Release Installed

INSTALLING EXTRACTION SYSTEM

7-12. Install the extraction system as shown in Figure 7-17.





1. Install the components of the EFTC according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Use the rear mounting holes for the EFTC actuator brackets.
2. Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line.
3. Use a 12-foot cable and safety tie the cable to the platform clevises and tiedown ring D6 on the platform with type I, ¼-inch cotton webbing.
4. Secure the excess deployment line with type I, ¼-inch cotton webbing.

Figure 7-17. Extraction System Installed

PLACING EXTRACTION PARACHUTE

7-13. 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. Place the extraction parachute and line on the load for installation in the aircraft.

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

7-14. Select and install the provisions for the emergency aft restraints according to the emergency aft restraint requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

MARKING RIGGED LOAD

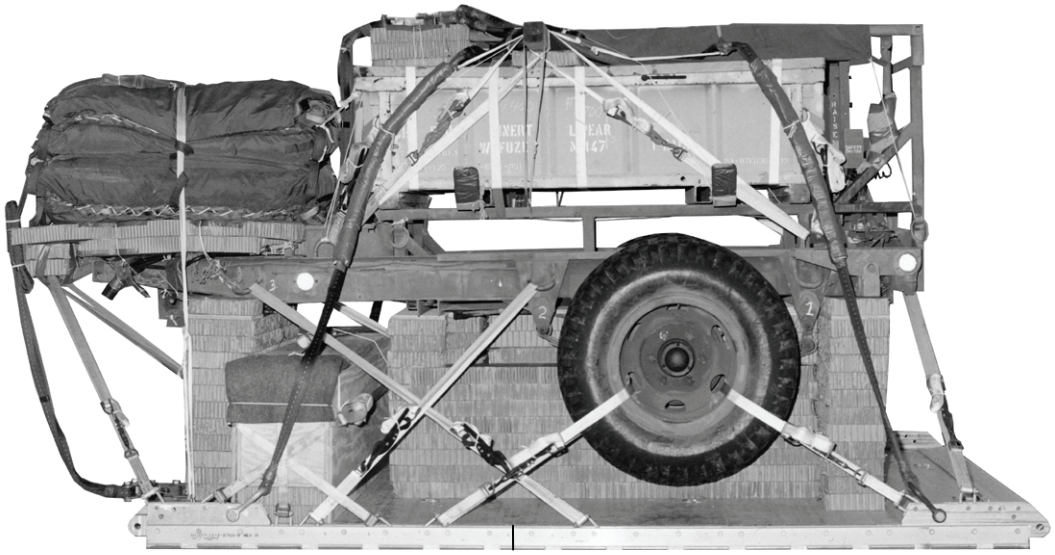
7-15. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 7-18. Complete Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

7-16. Use the equipment listed in Table 7-1 to rig this load.

CAUTION

Make the final rigger inspection required by AR 59-4 and FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 before the load leaves the rigging site.



RIGGED LOAD DATA

Weight: Load Shown.....8,400 pounds

Maximum Weight Load .....8,600 pounds

Height.....94 ½ inches

Width.....108 inches

Overall Length .....178 inches

Overhang: Front.....0
Rear (lunette).....34 inches

Center of Balance (CB) (from front edge of the platform).....77 inches

Extraction System with 12-foot cable (adds 0 inches to the length of the load)

Figure 7-18. MICLIC on 2 ½-Ton Trailer Rigged on a 12-Foot, Type V Platform for Low-Velocity Airdrop

Table 7-1. Equipment Required for Rigging the MICLIC on 2 ½-Ton Trailer on a 12-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive paste, 1-gal.	As required
1670-01-035-6054	Bridle, extraction line bag	1
4030-00-090-5354	Clevis, suspension, 1-inch (large)	5
4030-00-678-8562	Clevis, suspension, ¾-inch (medium)	4
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop extraction force transfer, w/12-ft. cable	1
8135-00-664-6958	Cushioning material (Cellulose padding)	As required
8305-00-958-3685	Felt, ½-inch	As required
1670-01-183-2678	Leaf, extraction line (line bag) (add 2 for C-17)	2
	Line extraction:	
1670-01-062-6313	60-foot (3-loop), type XXVI (for C-130)	1
1670-01-107-7651	140-foot (3-loop), type XXVI (for C-17)	1
1670-01-064-4452	60-foot (1-loop), type XXVI (for C-17), (drogue line)	1
1670-00-783-5988	Link assembly, type IV (C-17 only)	1
1670-01-493-6418	Link assembly, two-point, small, 3 ¾-inch:	1
	Lumber:	
5510-00-220-6274	4- by 4- by 96-inch	2
5315-00-010-4659	Nail, steel, common, 8D	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	16 sheets
1670-01-016-7841	Parachute, cargo, G-11B	2
	Parachute, cargo, extraction:	
1670-01-063-3716	22-foot	1
1670-01-063-3715	15-foot (C-17 only)	1
	Platform, airdrop, type V, 12-foot:	
1670-01-162-2372	Clevis assembly (type V)	18
1670-01-162-2376	Extraction bracket assembly	6
1670-01-162-2381	Tandem link assembly (Multipurpose link)	4
5530-00-128-4981	Plywood, 3/4-inch	3 sheets

Table 7-1. Equipment Required for Rigging the MICLIC on 2 ½-Ton Trailer on a 12-Foot, Type V Platform for Low-Velocity Airdrop (Continued)

National Stock Number	*Item*	*Quantity*
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop:	
1670-00-753-3790	9-foot (2-loop), type XXVI	1
1670-01-062-6303	12-foot (2-loop), type XXVI	4
1670-01-063-7761	16-foot (2 loop), type XXVI	4
1670-01-062-6302	20-foot (2-loop), type XXVI	2
1670-00-998-0116	Strap, parachute, release	1
7501-00-266-5016	Tape, adhesive, 2-inch	As required
1670-00-937-0271	Tie-down assembly, 15-foot.	32
1670-01-483-8259	Link, Parachute, Connector (H-block) (C-17 only)	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-inch	As required
8305-00-261-8585	Nylon, type VIII	As required

Chapter 8

Rigging 15-Ton Tilt Bed Trailer, on a 24-Foot, Type V Platform for Low-Velocity Airdrop

DESCRIPTION OF THE LOAD

8-1. The 15-ton tilt bed trailer (Figure 8-1) is rigged on a 24-foot, type V airdrop platform using three G-11 cargo parachutes. The unrigged trailer weighs 8,630 pounds. It is 292 inches long; however the length may vary by 2 inches. The trailer is 96 inches wide and 52 inches high.

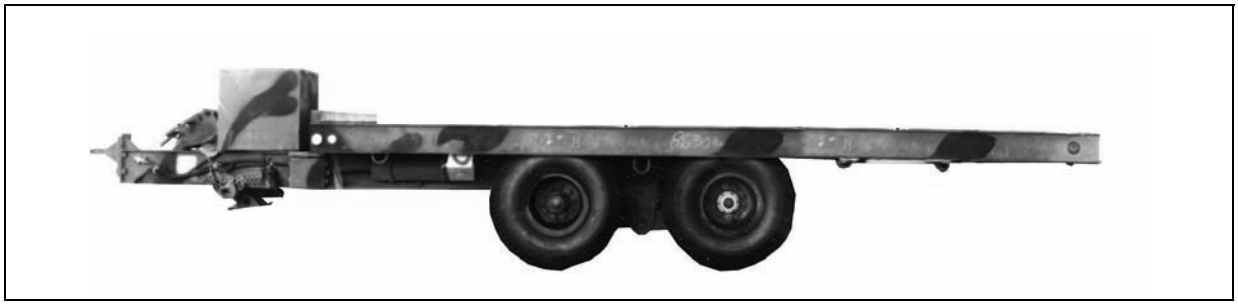
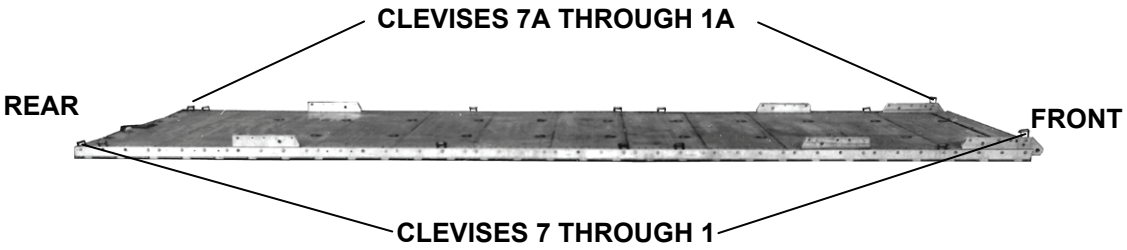


Figure 8-1. 15-Ton Tilt Bed Trailer

PREPARING PLATFORM

8-2. Prepare a 24-foot, type V airdrop platform as shown in Figure 8-2.



Step:

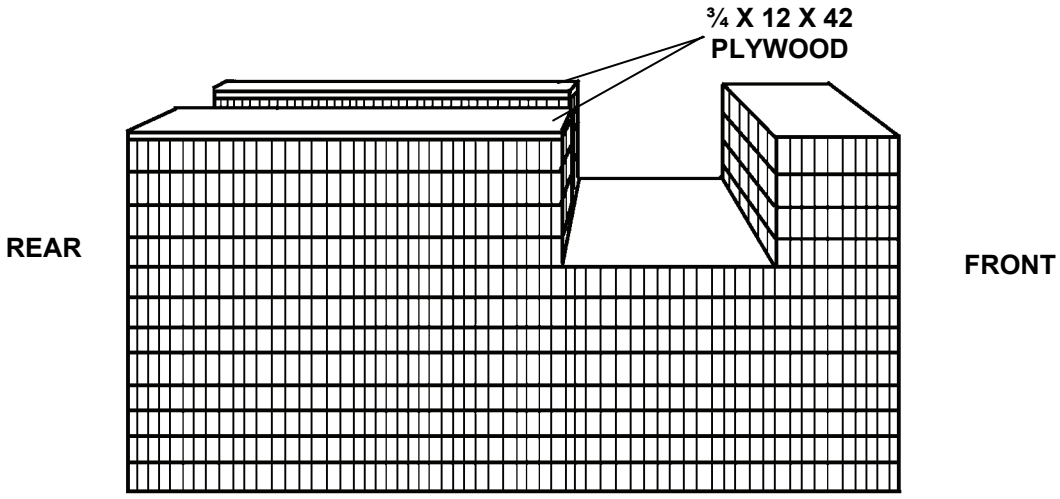
1. Inspect, or assemble and inspect, a 24-foot, type V airdrop platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a suspension bracket assembly on each platform side rail using holes 9, 10, and 11.
3. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
4. Install a suspension bracket assembly on each platform side rail using holes 38, 39, and 40.
5. Install a clevis on bushings 1 of each tandem link.
6. Starting at the front of each platform side rail, install clevises on the bushings bolted to holes 5, 18, 21, 30, 47 and 48.
7. Starting at the front of the platform, number the clevises 1 through 7 on the right side and 1A through 7A on the left side.
8. 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 8-2. Platform Prepared

BUILDING AND POSITIONING HONEYCOMB STACKS

8-3. Build the honeycomb stacks as shown in Figures 8-3 through 8-6. Place the honeycomb stacks as shown in Figure 8-7.

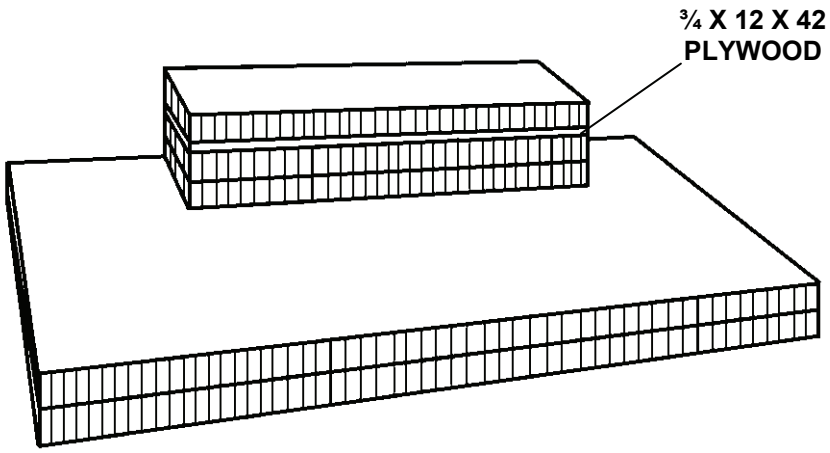
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
1	8	36	72	Honeycomb	Glue to form a base.
	4	36	12	Honeycomb	Glue flush with the front edge on top of honeycomb.
	8	12	42	Honeycomb	Form two stacks of four layers each. Place one stack on the right rear and the other stack on the left rear flush with the rear edge of the base.
	2	12	42	¾-inch Plywood	Glue flush on top of each stack of 12- by 42-inch honeycomb.

Figure 8-3. Honeycomb Stack 1 Built

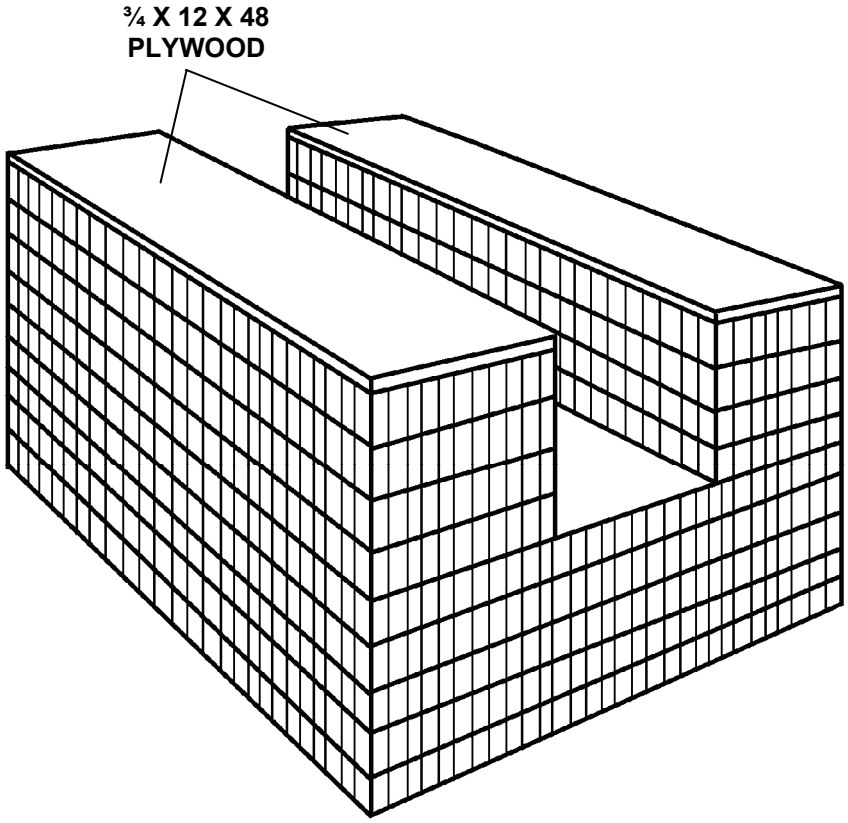
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale.



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
2	2	36	72	Honeycomb	Glue to form a base.
	3	12	42	Honeycomb	Center and glue honeycomb on top of the base flush with the left edge of the base stack.
	1	12	42	¾-inch Plywood	Glue plywood between the second and third 12- by 42- inch piece of honeycomb.
3	2	36	72	Honeycomb	Glue to form a base.
	3	12	42	Honeycomb	Center and glue honeycomb on top of the base flush with the right edge of the base stack.
	1	12	42	¾-inch Plywood	Glue plywood between the second and third 12- by 42- inch piece of honeycomb.

Figure 8-4. Honeycomb Stacks 2 and 3 Built

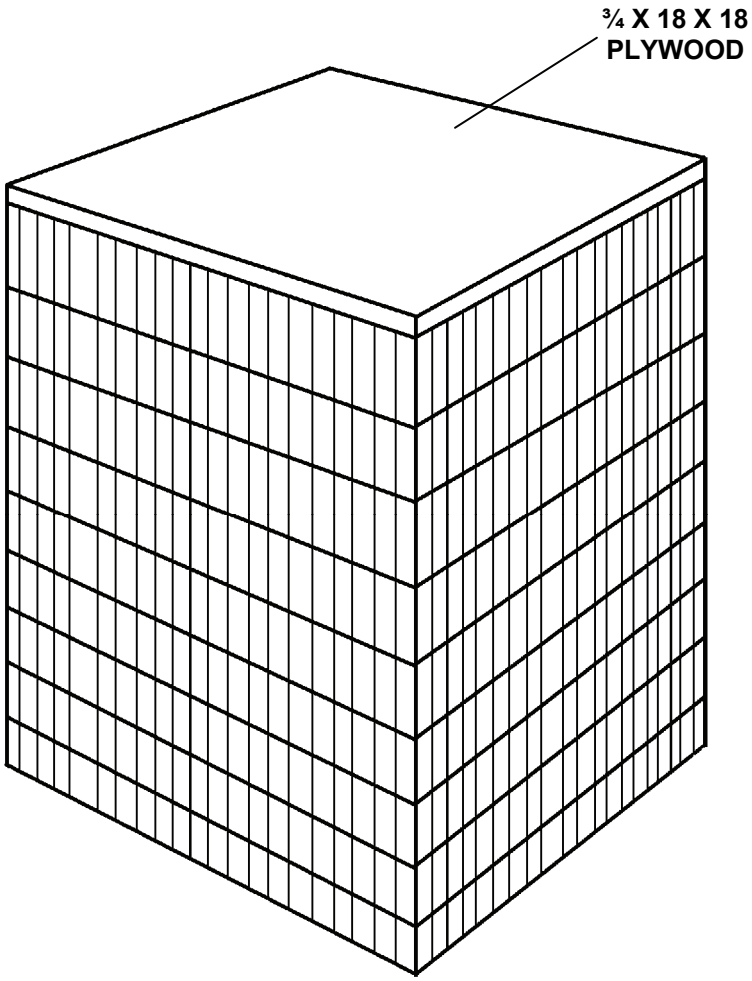
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
4	5	36	48	Honeycomb	Glue to form base.
	8	12	48	Honeycomb	Form two stacks of four layers each. Place one stack on the right side and the other stack on the left side flush with the side edge of the base.
	1	12	48	¾-inch Plywood	Glue flush on top of each stack of 12- by 48-inch honeycomb.

Figure 8-5. Stack 4 Built

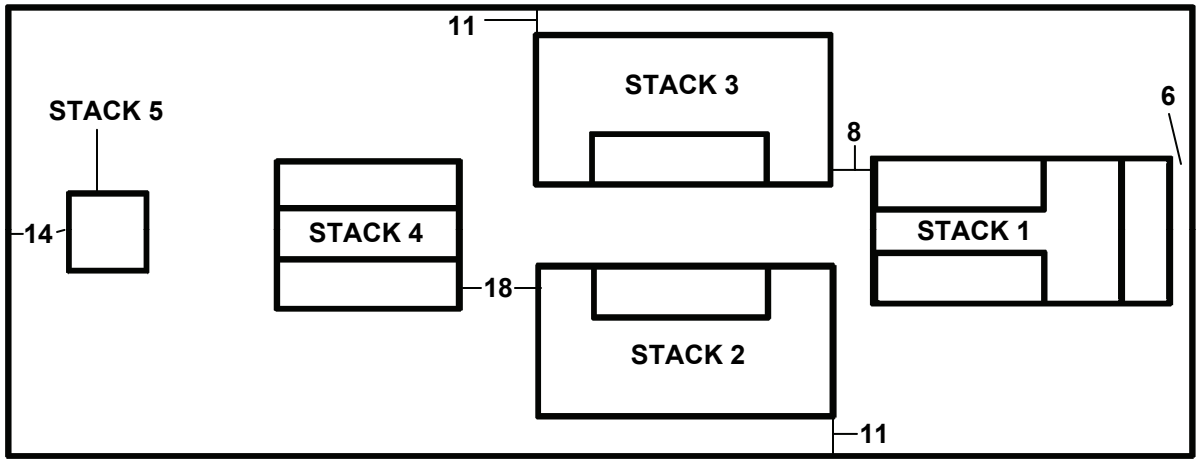
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale.

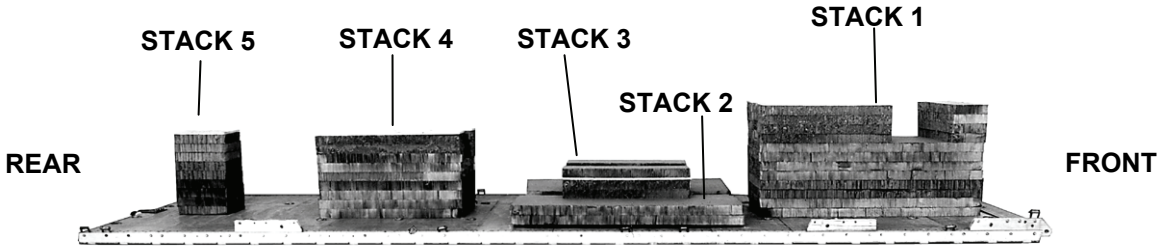


Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
5	9	18	18	Honeycomb	Glue to form base.
	1	18	18	¾-inch Plywood	Glue flush on honeycomb base.

Figure 8-6. Stack 5 Built

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





Step:

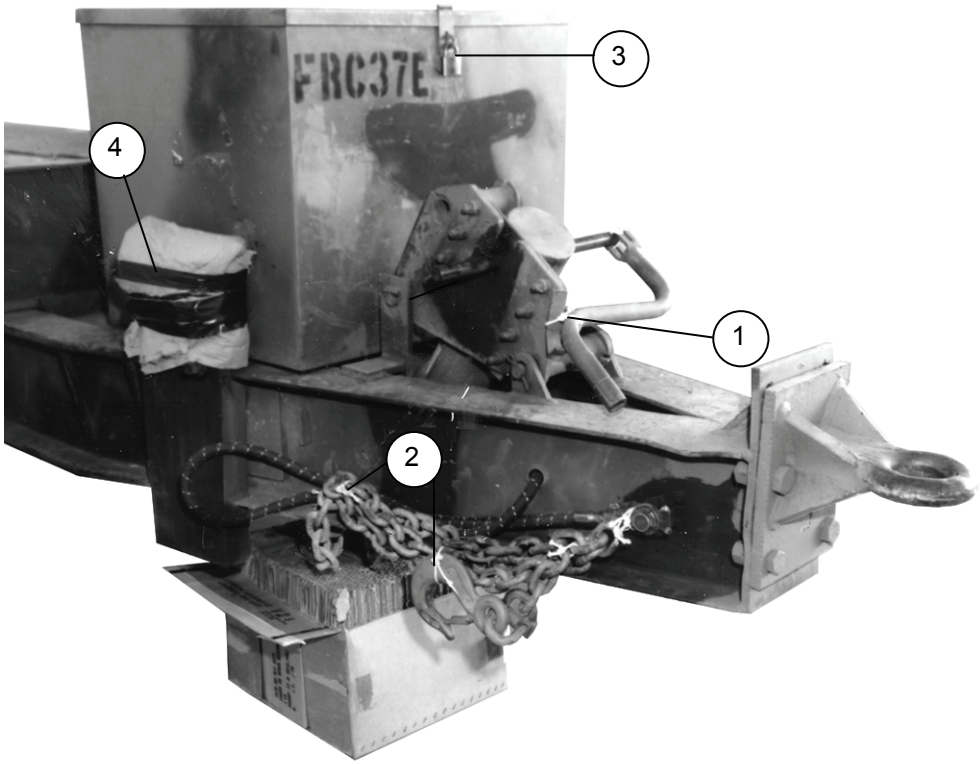
1. Center stack one 6 inches from the front edge of the platform.
2. Place stack two 8 inches from the rear of stack 1 and 11 inches from the right side rail.
3. Place stack three 8 inches from the rear of stack 1 and 11 inches from the left side rail.
4. Center stack four 18 inches from the rear edge of stacks 2 and 3.
5. Center stack five 14 inches from the rear edge of the platform.

Figure 8-7. Honeycomb Stacks Positioned on Platform

PREPARING TRAILER

8-4. Prepare the trailer as shown in Figures 8-8 through 8-12.

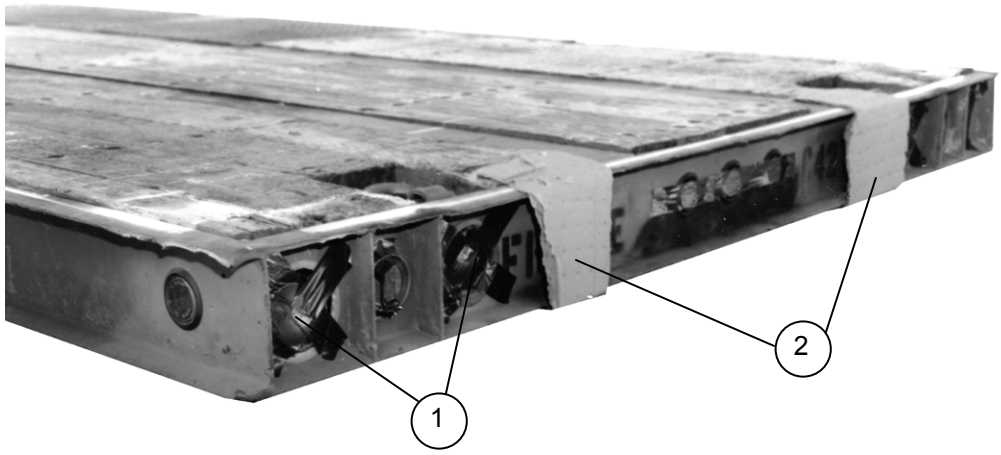
Note. Place a support device under the front of the trailer before raising the front landing gear.

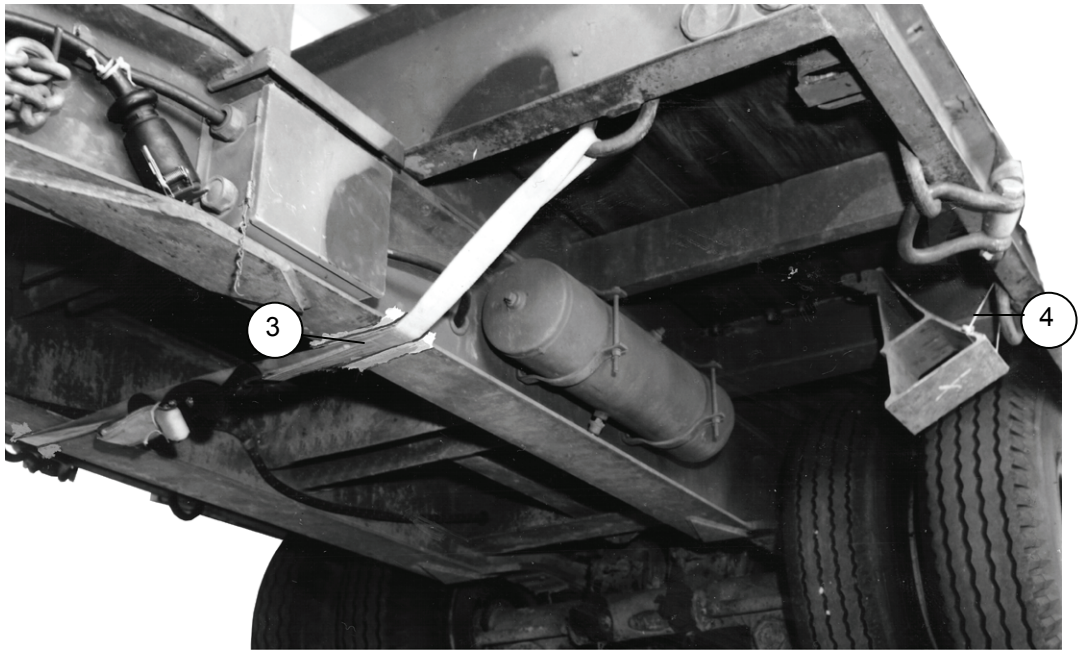


1. Raise the front landing gear. Tie the landing gear handle in the stowed position using type III nylon cord.
2. Fold the air hoses, cables, and chains along the drawbar. Tie them in place with type III nylon cord.
3. Fill the toolbox with honeycomb. Close the toolbox lid and secure the lid with a lock or type III nylon cord.
4. Wrap the spare tire wheel stowage bracket with cellulose wadding and tape.

Figure 8-8. Trailer Components Secured

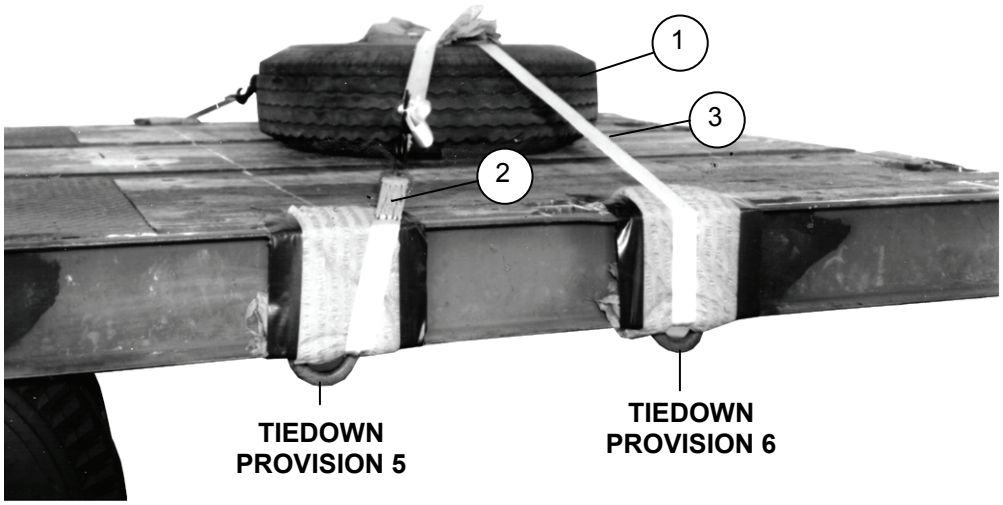
Note. Pad all sharp areas of the trailer where contact is made with the lashing.





1. Tape the rear lights and reflectors on the trailer.
2. Pad the rear bumper with cellulose wadding and tape.
3. Route a 15-foot lashing through the left front tiedown provision, under the drawbar, and through the right front tiedown provision and secure with a D-ring and load binder.
4. Tie the chocks in place with type III nylon cord.

Figure 8-9. Rear of Trailer Prepared



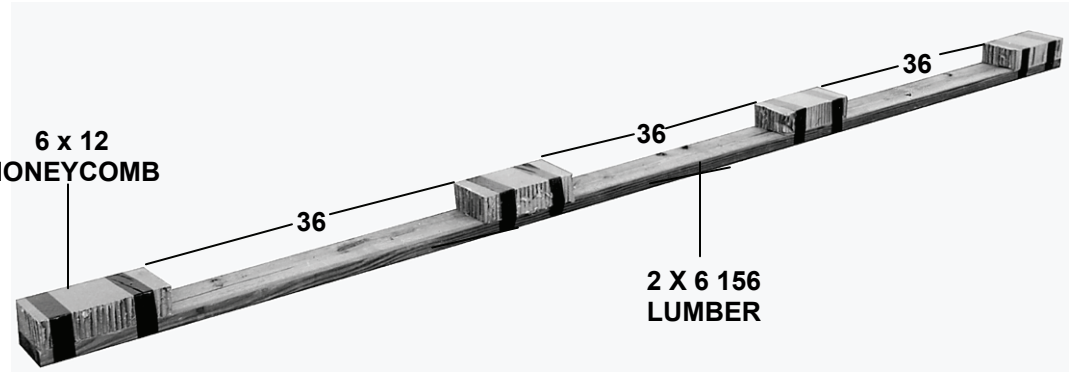
(1) Center the spare tire on the rear of the trailer deck between tiedown provisions 5 and 6.

(2) Pass a 15-foot lashing through the left tiedown provisions 5 and 6 and through the wheel. Place cellulose wadding under each tiedown lashing where it touches the trailer and the center of the tire. Secure the lashing with a D-ring and load binder.

(3) Repeat step two for the right side of the trailer.

Figure 8-10. Spare Tire Stowed

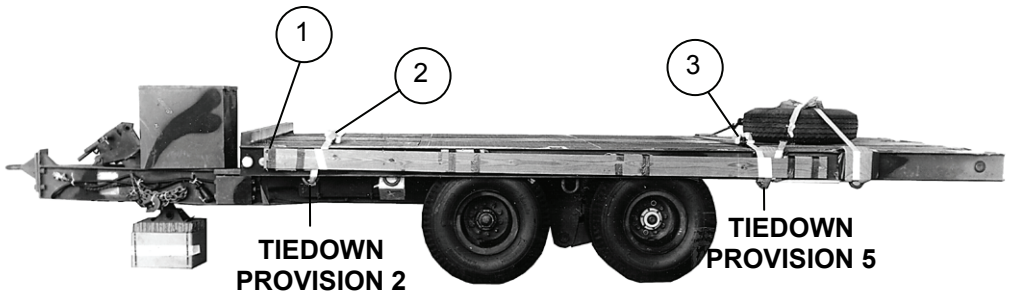
Note. All measurements are given in inches.



Step:

1. Cut one 2- by 6- by 156-inch piece of lumber.
2. Cut four 6- by 12-inch pieces of honeycomb. Position the first piece of 6- by 12-inch honeycomb on top of the 2- by 6- 156-inch piece of lumber flush with the front edge of the lumber.
3. Position the second piece of 6- by 12-inch honeycomb on top of the lumber 36 inches from the rear edge of the first piece of honeycomb.
4. Position the third piece of 6- by 12-inch honeycomb on top of the lumber 36 inches from the rear edge of the second piece of honeycomb.
5. Position the fourth piece of 6- by 12-inch honeycomb on top of the lumber flush with the rear edge of the lumber.
6. Tape each piece of honeycomb to the lumber in two places.
7. Repeat steps 1 through 6 to prepare the second body protection board.

Figure 8-11. Body Protection Boards Prepared

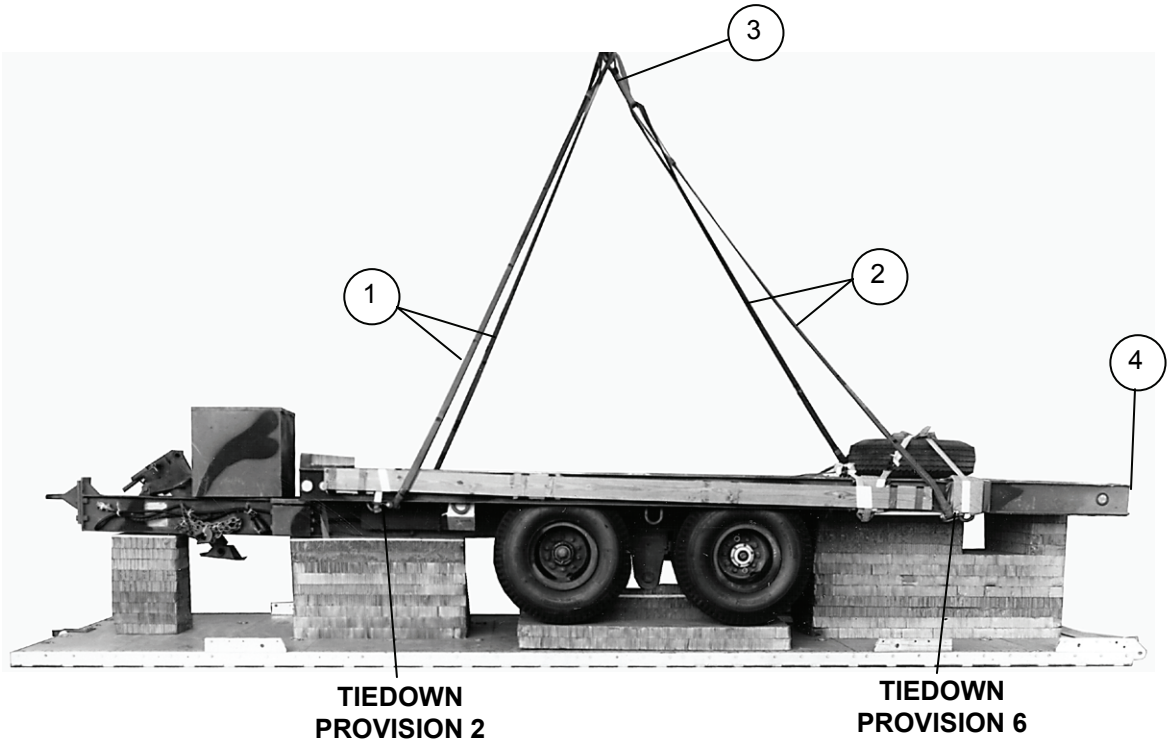


1. Position a body protection board 8 inched from the front edge of the trailer on each side.
2. Pass a 15-foot lashing through the left tiedown provision 25 and through its own D-ring. Repeat the procedure for the other side of the trailer. Secure the lashings with D-ring and a load binder.
3. Repeat step two using tiedown provision 5.

Figure 8-12. Body Protection Boards Secured

LIFTING AND POSITIONING THE TRAILER

8-5. Install the lifting slings and position the trailer as shown in Figure 8-13.



(1) Attach a 12-foot (2-loop), type XXVI nylon sling to tiedown provision 2 on each side of the trailer with a large suspension clevis.

(2) Attach a 12-foot (2-loop), type XXVI nylon sling to tiedown provision 6 on each side of the trailer with a large suspension clevis.

(3) Pass a 3-foot (2-loop), type XXVI nylon sling through the end loops of the slings installed in step 2. Join the ends of the 3-foot sling with a 2-point link.

(4) Position the trailer on the honeycomb stacks so the rear of the trailer is flush with the front of the platform and the front of the trailer overhangs the rear of the platform 4 to 6 inches.

(5) Remove the lifting slings (not shown).

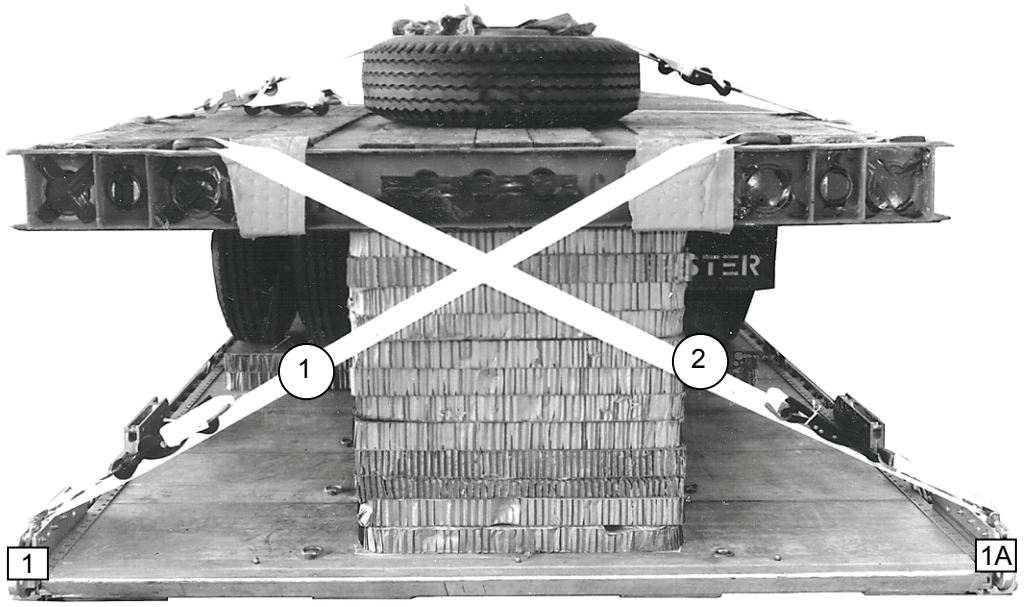
Figure 8-13. Trailer Lifted and Positioned on Platform

LASHING TRAILER TO PLATFORM

8-6. Lash the trailer to the platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figures 8-14 through 8-16.

Note. Pad any sharp edges on the load where a lashing may pass.

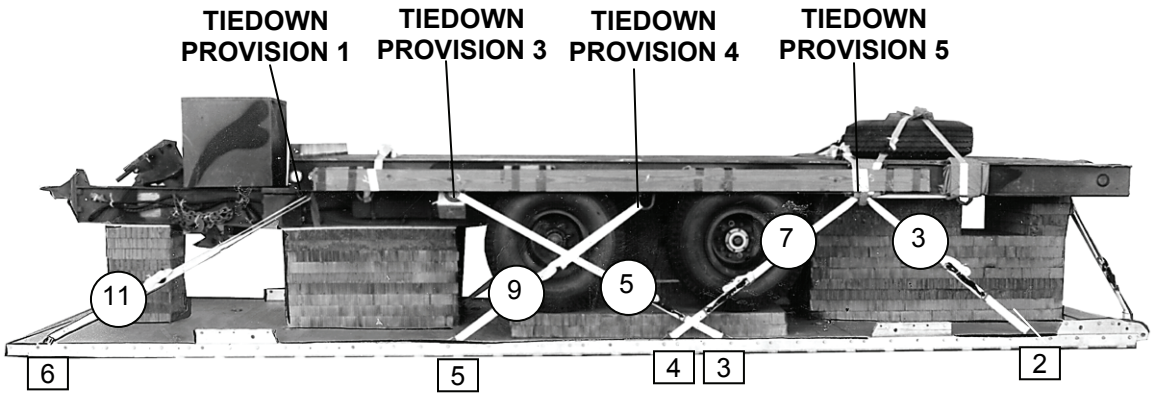
Note. Left, right, front, and rear refer to the trailer, NOT the platform.



Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
1	1	Through the right top lifting provision at the rear of the trailer.
2	1A	Through the left top lifting provision at the rear of the trailer

Figure 8-14. Lashings 1 and 2 Installed

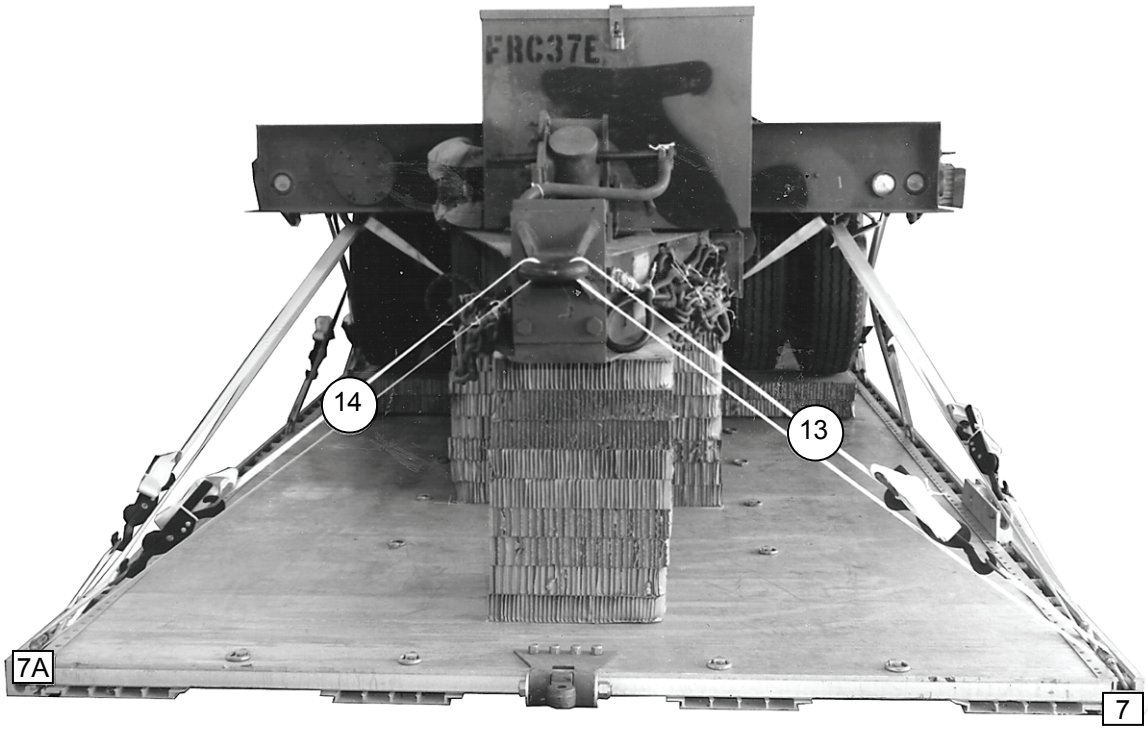
Note. Left, right, front, and rear refer to the trailer, NOT the platform.



Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
3	2	Through left tiedown provision 5.
4	2A	Through right tiedown provision 5.
5	3	Through left tiedown provision 3.
6	3A	Through right tiedown provision 3.
7	4	Through left tiedown provision 5.
8	4A	Through right tiedown provision 5.
9	5	Through left tiedown provision 4.
10	5A	Through right tiedown provision 4.
11	6	Through left tiedown provision 1.
12	6A	Through right tiedown provision 1.

Figure 8-15. Lashings 3 through 12 Installed

Note. Left, right, front, and rear refer to the trailer, NOT the platform.

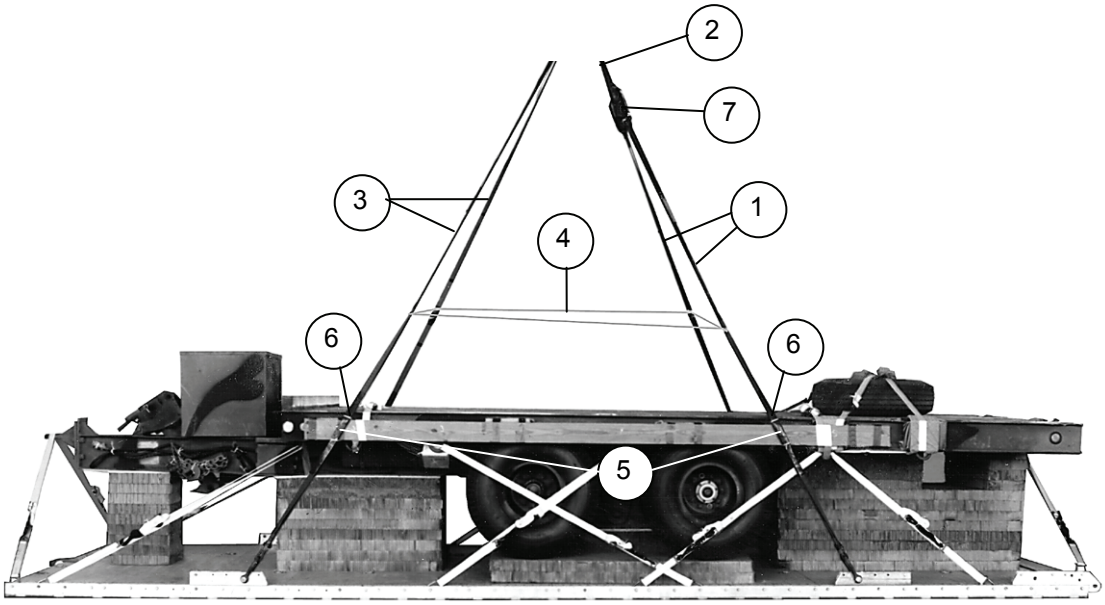


Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
13	7	Through lunette.
14	7A	Through lunette.

Figure 8-16. Lashings 13 and 14 Installed

INSTALLING AND SAFETY TIEING THE SUSPENSION SLINGS

8-7. Install and safety tie the suspension slings as shown in Figure 8-17.



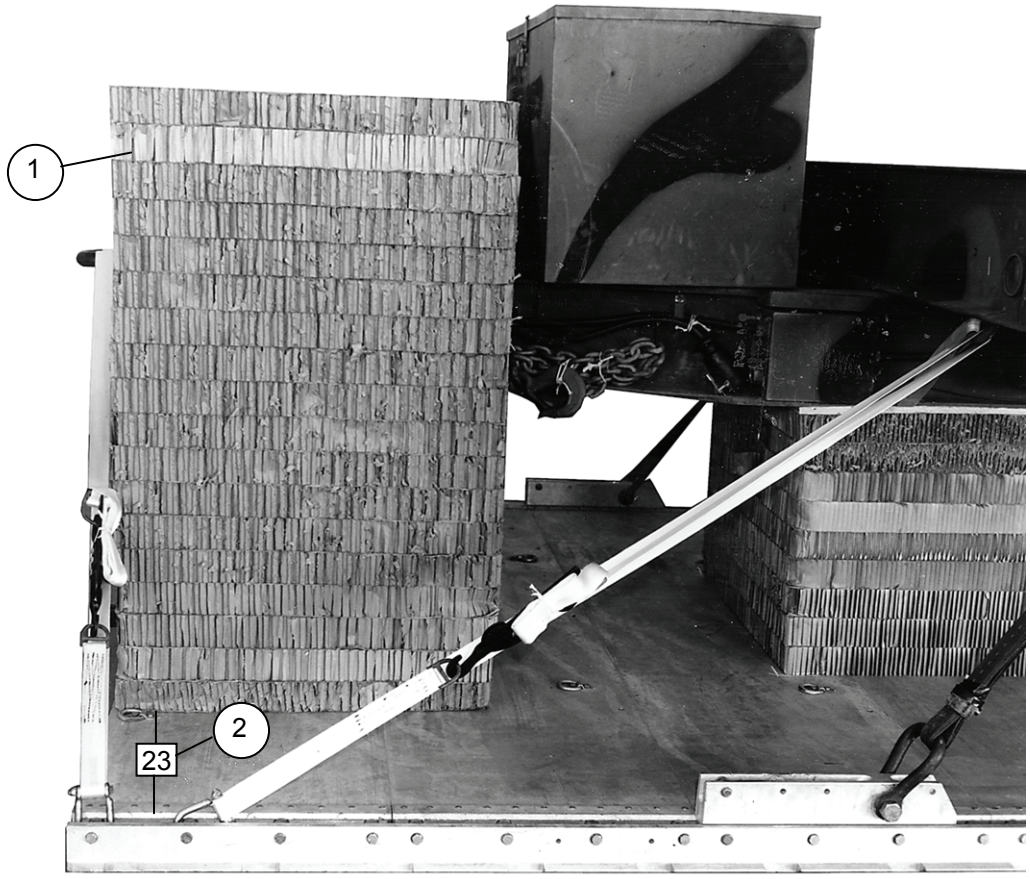
1. Attach a 12-foot (2-loop), type XXVI nylon sling to each front suspension bracket with a large suspension clevis.
2. Connect a 3-foot (3-loop), type XXVI nylon sling to each 12-foot sling with a 3 ¾-inch two-point link.
3. Attach a 16-foot (2-loop), type XXVI nylon sling to each rear suspension bracket with a large suspension clevis.
4. Raise the slings and install a deadman's tie on the suspension slings as shown in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
5. Pad each suspension sling where it makes contact with the load box with felt and tape.
6. Secure all suspension slings to the body protection boards with type III nylon cord.
7. Pad each 3 ¾-inch two-point link with a 10- by 8-inch piece of felt and tape.

Figure 8-17. Suspension Slings Installed and Safety Tied

PREPARING THE PARACHUTE STOWAGE PLATFORM

8-8. Prepare the honeycomb support stacks for the parachute stowage platform as shown in Figure 8-18. Construct the parachute stowage platform as shown in Figure 8-19. Secure the parachute stowage platform as shown in Figure 8-20.

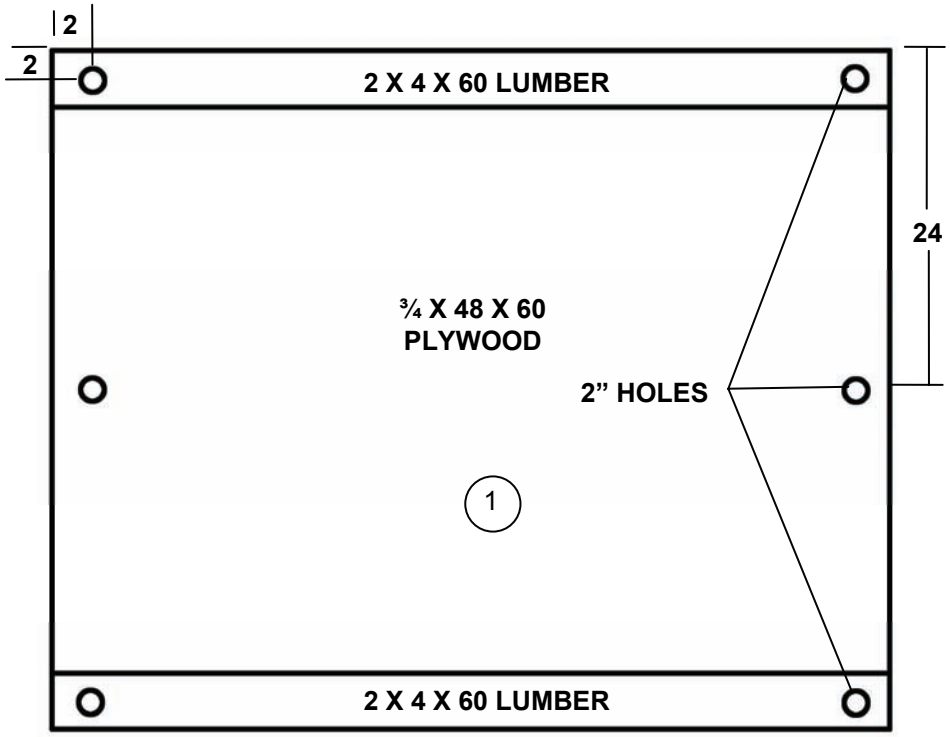
Note. All measurements are given in inches.



1. Form two support stacks with eighteen 12- by 32-inch pieces of honeycomb in each stack.
2. Position each support stack flush with the rear edge of the platform and 23 inches from each side rail.

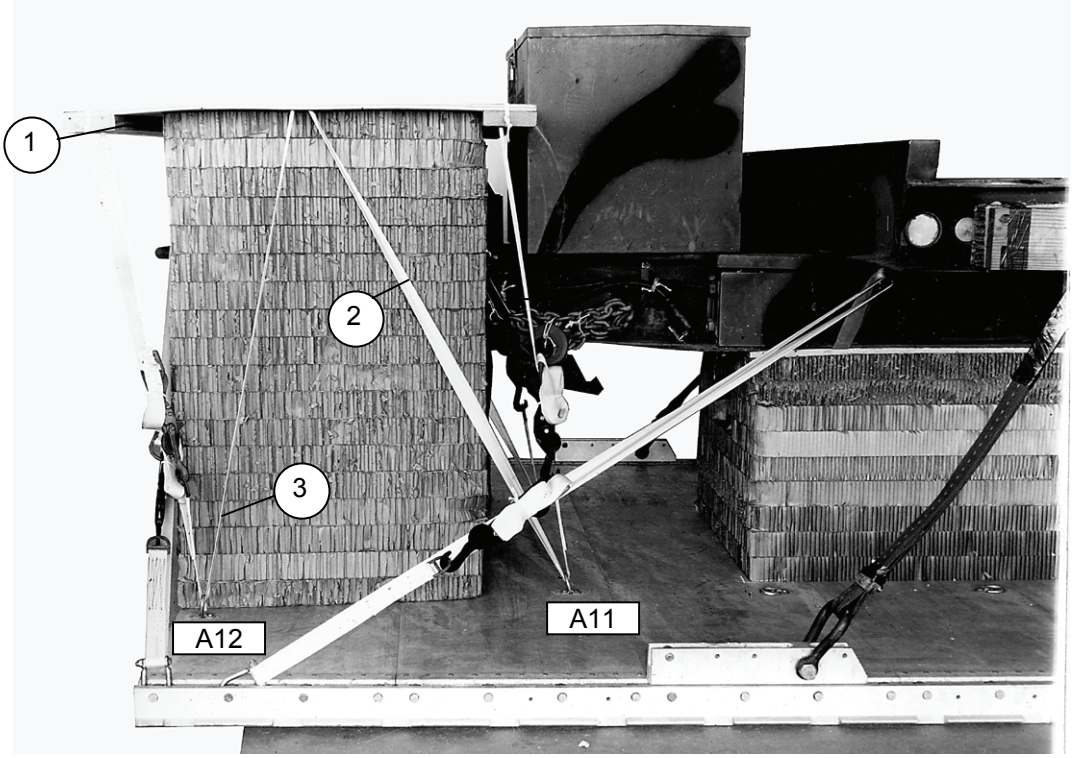
Figure 8-18. Parachute Stowage Platform Support Stacks Prepared

Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale.
3. All holes are 2-inches in diameter.



(1) Build the parachute stowage platform as shown.

Figure 8-19. Parachute Stowage Platform Built



1. Place the parachute stowage platform on the honeycomb supports with the 2- by 4- by 60-inch pieces of lumber facing down and parallel to the front of the load.

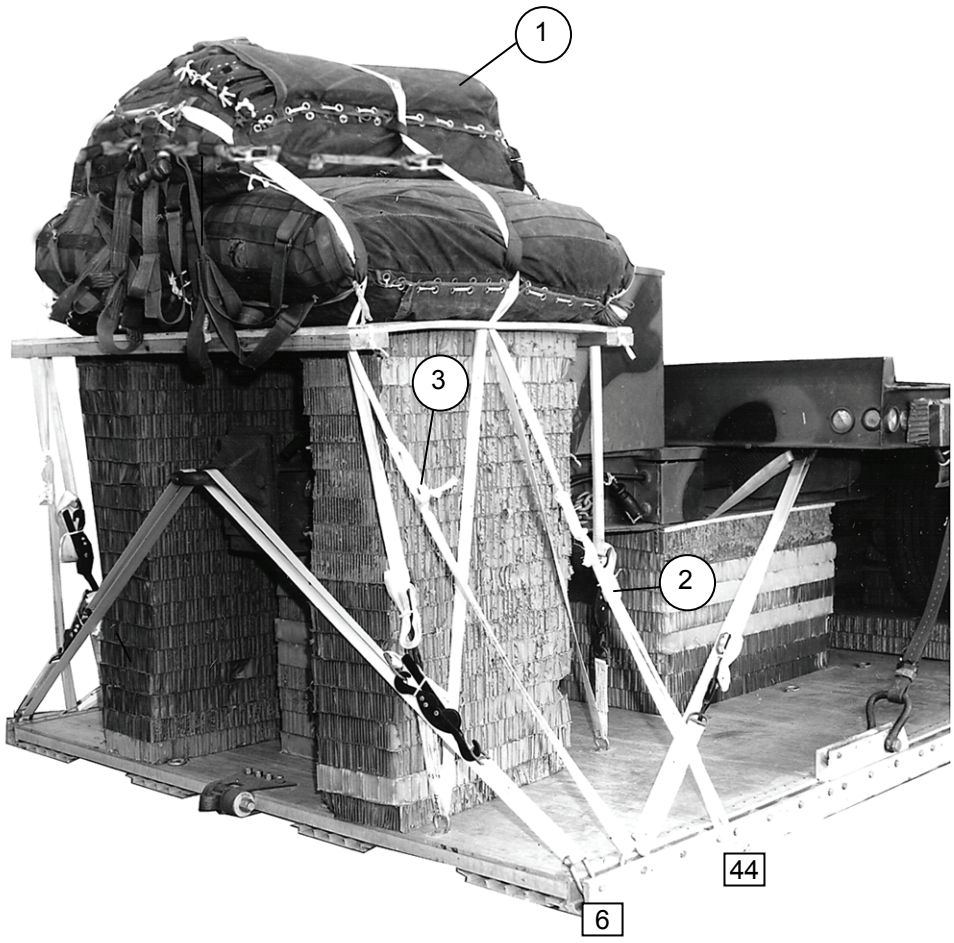
2. Route a 15-foot lashing through the front and center holes of the parachute stowage platform and through tiedown ring A11. Secure the lashing with a D-ring and load binder. Repeat the procedure on the left side using tiedown ring B11.

3. Route a 15-foot lashing through the rear and center holes of the parachute stowage platform and through tiedown ring A12. Secure the lashing with a D-ring and load binder. Repeat the procedure on the left side using tiedown ring D12.

Figure 8-20. Parachute Stowage Platform Installed

STOWING CARGO PARACHUTES

8-9. Prepare, stow, and restrain three G-11B cargo parachutes according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 8-21.

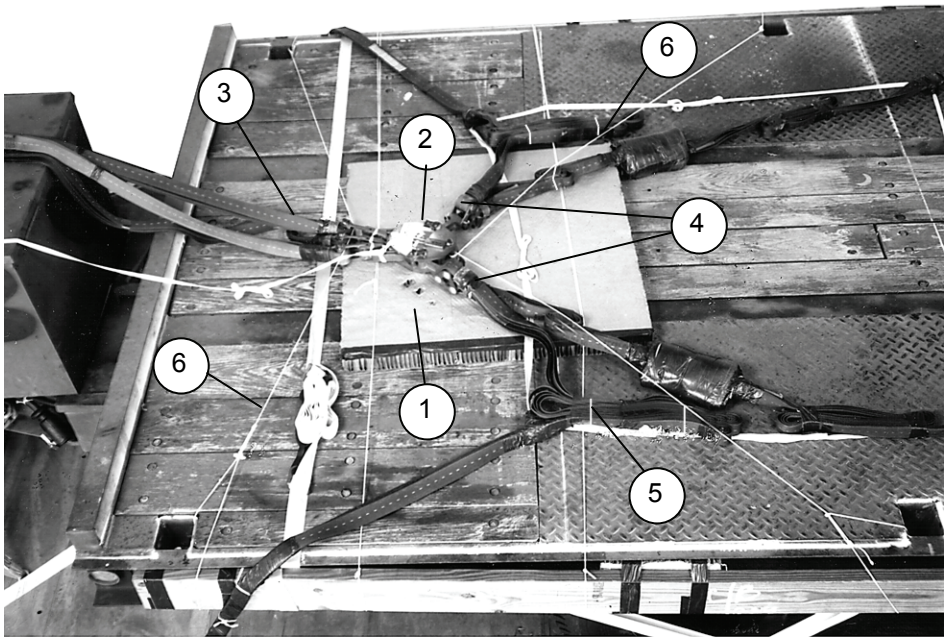


1. Position three G-11B cargo parachutes on the parachute stowage platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
2. Install the front parachute restraint strap using type VIII nylon webbing on bushings 44 and 44A.
3. Install the rear parachute restraint strap using type VIII nylon webbing on clevis 6 and 6A.
4. Install the parachute release strap according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 8-21. Cargo Parachutes Positioned and Restrained

INSTALLING PARACHUTE RELEASE SYSTEM

8-10. Prepare and install an M-1 parachute release 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 8-22.



(1) Center a 36- by 36-inch pieces of honeycomb 24 inches from the front edge of the trailer bed. Tape the edges of the honeycomb and secure the honeycomb in place with type III nylon cord.

(2) Center an M-1 parachute release assembly on top of the honeycomb.

(3) Attach the parachute riser extensions to the parachute release connectors.

(4) Attach the suspension slings to the lower suspension links.

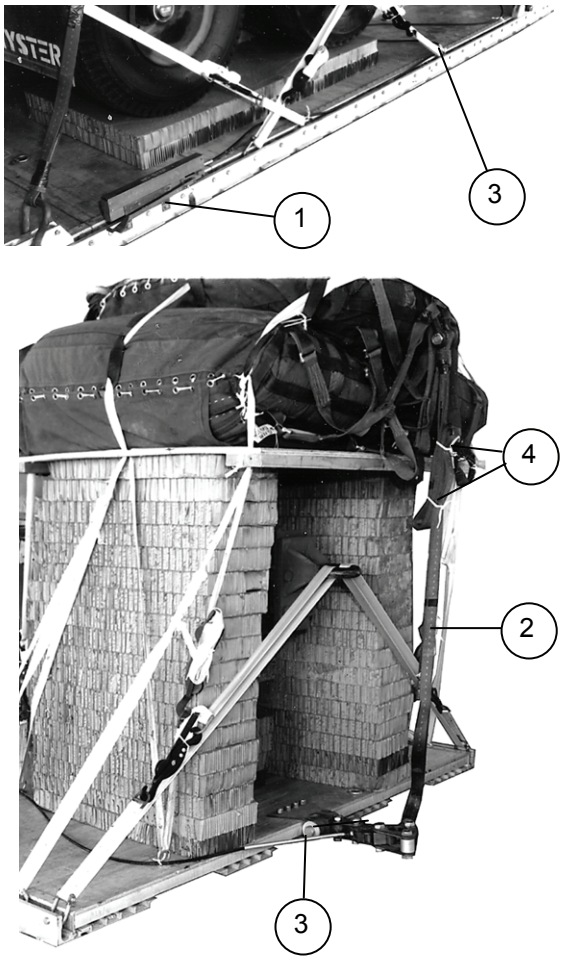
(5) Fold the excess suspension slings and safety tie with type I, ¼-inch cotton webbing.

(6) Tie the front and rear M-1 parachute release safety ties to convenient points on the load with type III nylon cord.

Figure 8-22. M-1 Parachute Release Installed

INSTALLING EXTRACTION SYSTEM

8-11. Install the extraction system as shown in Figure 8-23.



1. Install the components of the EFTC according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Use the front mounting holes for the EFTC actuator brackets.
2. Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line.
3. Use a 24-foot cable and safety tie the cable to the platform clevises with type I, ¼-inch cotton webbing.
4. Secure the excess deployment line with type I, ¼-inch cotton webbing.

Figure 8-23. Extraction System Installed

PLACING EXTRACTION PARACHUTE

8-12. 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. Place the extraction parachute and line on the load for installation in the aircraft.

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

8-13. Select and install the provisions for the emergency aft restraints according to the emergency aft restraint requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

MARKING RIGGED LOAD

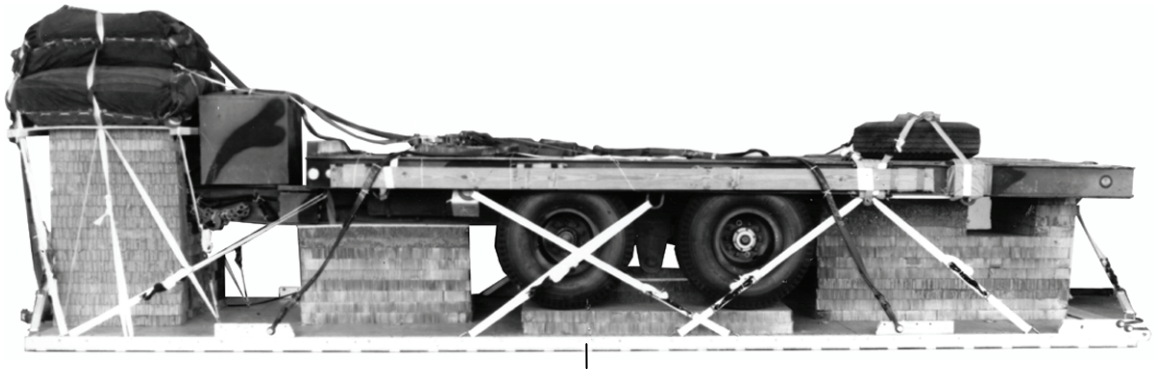
8-14. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 8-24. Complete Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

8-15. Use the equipment listed in Table 8-1 to rig this load.

CAUTION

Make the final rigger inspection required by AR 59-4 and FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 before the load leaves the rigging site.



RIGGED LOAD DATA

Weight: Load Shown.....12,350 pounds

Maximum Weight Load .....15,750 pounds

Height.....90 inches

Width.....108 inches

Overall Length .....306 inches

Overhang: Front.....0
Rear .....0 inches

Center of Balance (CB) (from front edge of the platform).....146 inches

Extraction System with 24-foot cable (adds 18 inches to the length of the load)

Figure 8-24. 15-Ton Trailer Rigged on a 24-Foot, Type V Platform for Low-Velocity Airdrop

Table 8-1. Equipment Required for Rigging the 15-Ton Trailer on a 24-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive paste, 1-gal.	As required
1670-01-035-6054	Bridle, extraction line bag	1
4030-00-090-5354	Clevis, suspension, 1-inch (large)	8
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5782	Coupling, airdrop extraction force transfer, w/24-ft. cable	1
8135-00-664-6958	Cushioning material (Cellulose padding)	As required
8305-00-958-3685	Felt, ½-inch	As required
1670-01-183-2678	Leaf, extraction line (line bag) (add 2 for C-17)	2
	Line extraction:	
1670-01-062-6313	60-foot (3-loop), type XXVI (for C-130)	1
1670-01-107-7651	140-foot (3-loop), type XXVI (for C-17)	1
1670-01-064-4452	60-foot (1-loop), type XXVI (for C-17), (drogue line)	1
1670-00-783-5988	Link assembly, type IV (C-17 only)	1
	Link assembly, two-point, small, 3 ¾-inch:	
	Lumber:	
5510-00-220-6274	2- by 4- by 96-inch	2
5510-00-220-6148	2- by 4- by 168-inch	2
5315-00-010-4659	Nail, steel, common, 8D	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	21 sheets
1670-01-016-7841	Parachute, cargo, G-11B	3
	Parachute, cargo, extraction:	
1670-01-063-3716	22-foot	1
1670-01-063-3715	15-foot (C-17 only)	1
	Platform, airdrop, type V, 24-foot:	
1670-01-162-2372	Clevis assembly (type V)	14
1670-01-162-2376	Extraction bracket assembly	4
1670-01-162-2381	Tandem link assembly (Multipurpose link)	2
5530-00-128-4981	Plywood, 3/4-inch	2 sheets

Table 8-1. Equipment Required for Rigging the 15-Ton Trailer on a 24-Foot, Type V Platform for Low-Velocity Airdrop (Continued)

National Stock Number	*Item*	*Quantity*
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop:	
1670-01-062-6301	3-foot (2 loop), type XXVI	2
1670-00-753-3790	9-foot (2-loop), type XXVI	1
1670-01-062-6303	12-foot (2-loop), type XXVI	4
1670-01-063-7761	16-foot (2 loop), type XXVI	2
1670-01-062-6313	60-foot (3-loop), type XXVI	3
1670-00-040-8219	Strap, parachute, release, multi-cut	2
7501-00-266-5016	Tape, adhesive, 2-inch	As required
1670-00-937-0271	Tie-down assembly, 15-foot.	23
1670-01-483-8259	Link, Parachute, Connector (H-block) (C-17 only)	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-inch	As required
8305-00-261-8585	Nylon, type VIII	As required

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Chapter 9

Rigging the Ingersol-Rand Model, 250-CFM, Trailer-Mounted Air Compressor on a 16-Foot, Type V Platform for Low-Velocity Airdrop

DESCRIPTION OF THE LOAD

9-1. The Ingersol-Rand model, 250-CFM, trailer-mounted air compressor (Figure 9-1) is rigged on a 16-foot, type V airdrop platform using two G-11 cargo parachutes. The unrigged trailer weighs 7,345 pounds with the fuel tank ½ full. The trailer is 204inches long, 77 inches high, and 96 inches wide.

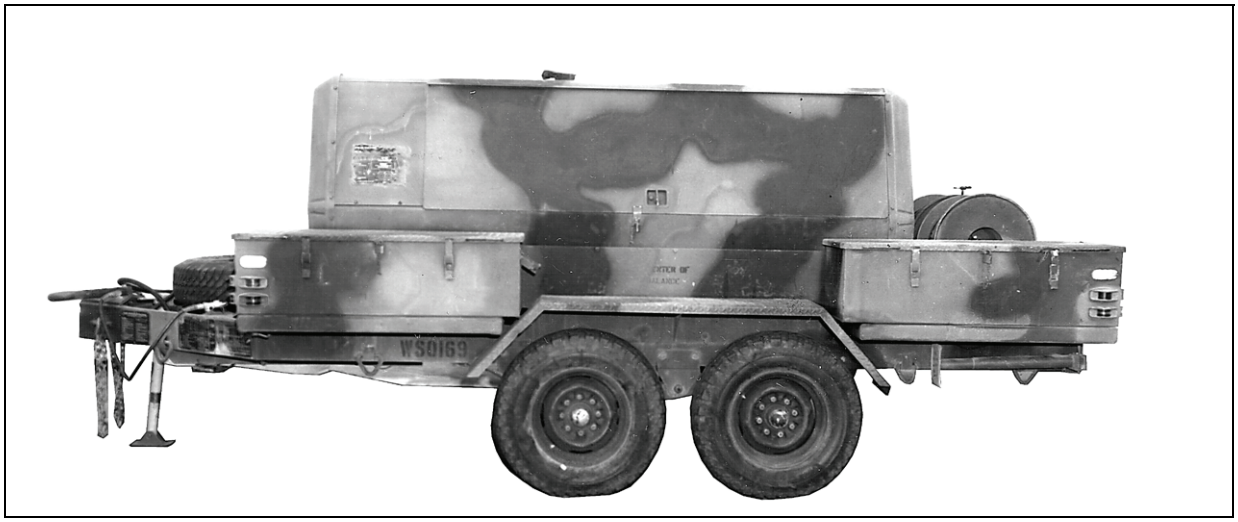
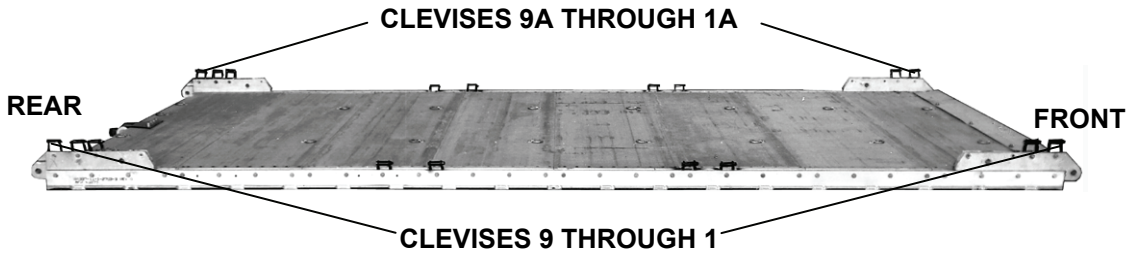


Figure 9-1. Ingersol-Rand Model, 250-CFM, Trailer-Mounted Air Compressor

PREPARING PLATFORM

9-2. Prepare a 16-foot, type V airdrop platform as shown in Figure 9-2.



Step:

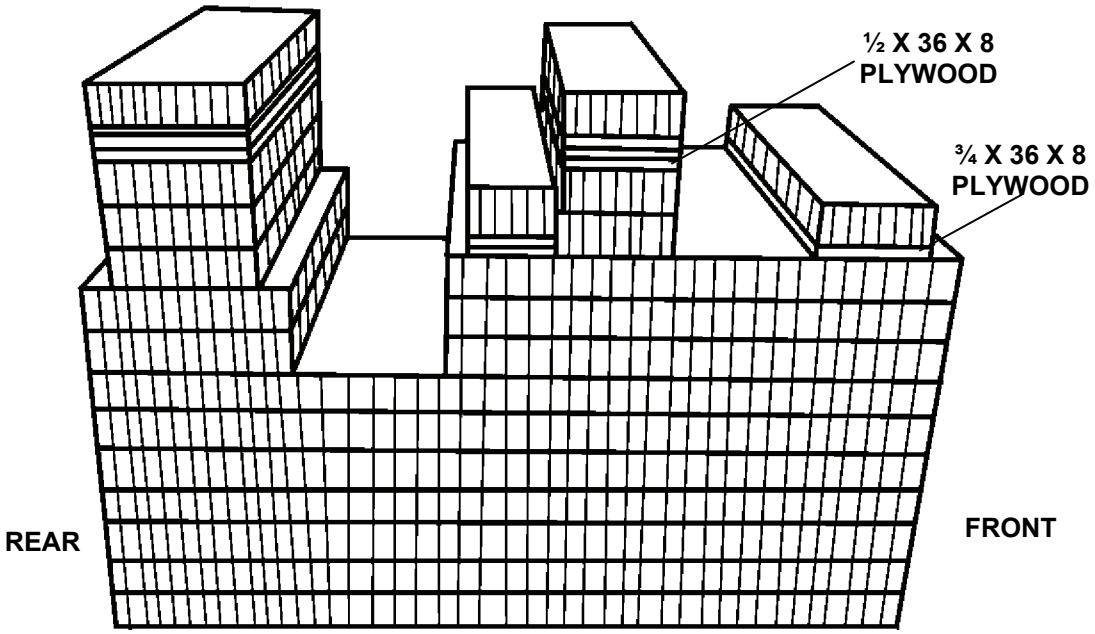
1. Inspect, or assemble and inspect, a 16-foot, type V airdrop platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
3. Install a clevis on bushings 1 and 2 of each front tandem link.
4. Install a tandem link to the rear of each platform side rail using holes 30, 31, and 32.
5. Install a clevis on bushings 2, 3, and 4 of each rear tandem link.
6. Starting at the front of each platform side rail, install clevises on the bushings bolted to holes 11, 12, 20, and 22.
7. Starting at the front of the platform, number the clevises 1 through 9 on the right side and 1A through 9A on the left side.
8. 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 9-2. Platform Prepared

BUILDING AND POSITIONING HONEYCOMB STACKS

9-3. Build the honeycomb stacks as shown in Figures 9-3 through 9-6. Place the honeycomb stacks as shown in Figure 9-7.

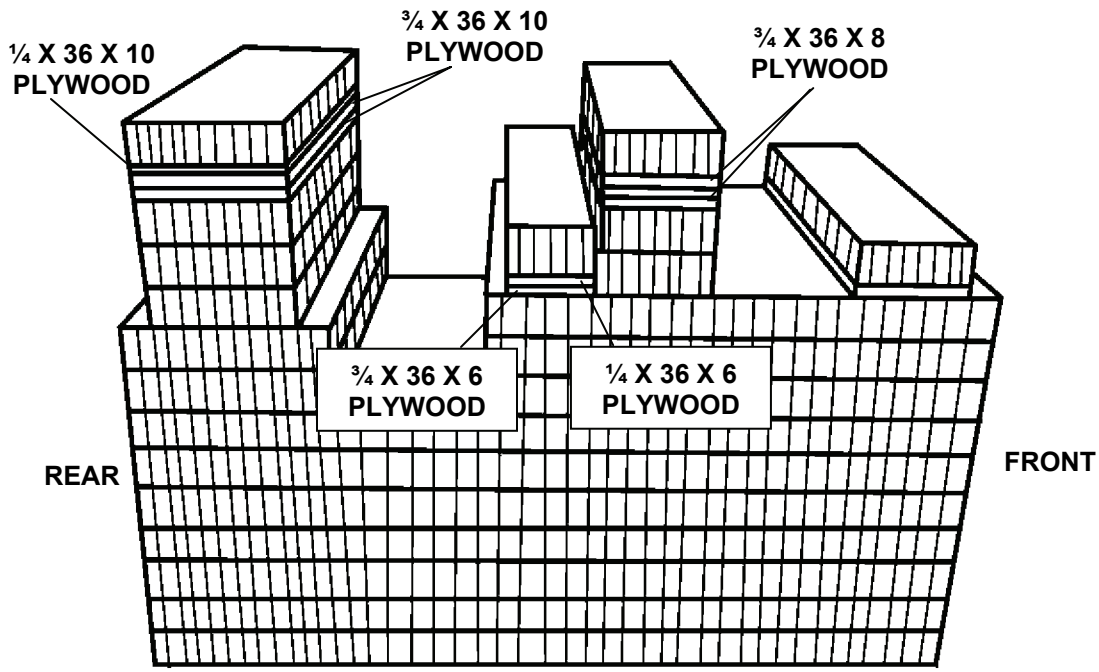
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
1	7	36	60	Honeycomb	Glue to form a base.
	3	36	36	Honeycomb	Glue flush with the front edge on top of base.
	1	36	8	¾-inch Plywood	Place plywood on top of the 36- by 36-inch honeycomb 2 inches from the front edge of the stack.
	1	36	8	Honeycomb	Glue honeycomb flush on top of the36- by 8-inch plywood.
	2	36	8	Honeycomb	Glue plywood on top of the 36- by 36-inch honeycomb 21 inches from the front edge of the stack.
	1	36	8	½-inch Plywood	Glue plywood on top of the 36- by 8-inch honeycomb 21 inches from the front edge of the stack.

Figure 9-3. Honeycomb Stack 1 Built

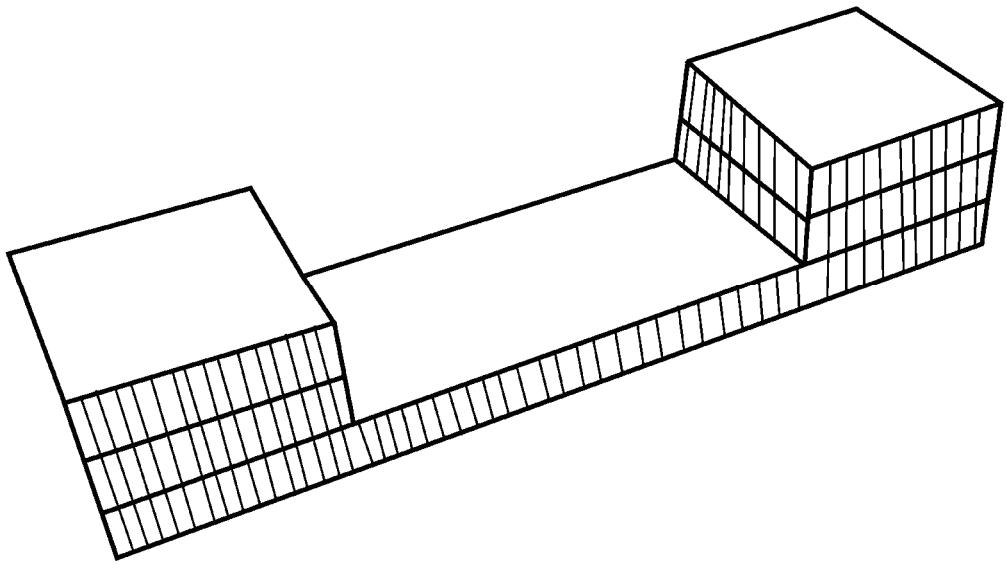
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale.



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
	2	36	8	¾-inch Plywood	Glue plywood on top of the ½- by 36- by 8-inch plywood 21 inches from the front edge of the stack.
	1	36	8	Honeycomb	Glue honeycomb flush on top of the36- by 8-inch plywood 21 inches from the front edge of the stack.
	2	36	6	¾-inch Plywood	Glue plywood on top of the 36- by 36-inch honeycomb flush against the 36- by 8-inch honeycomb.
	1	36	6	¼-inch Plywood	Glue plywood on top of the ¾- by 36- by 6-inch plywood.
	1	36	6	Honeycomb	Glue honeycomb on top of the ¼- by 36- by 6-inch plywood.
	2	36	14	Honeycomb	Glue honeycomb on top of the base flush with the rear edge of the stack.
	3	36	10	Honeycomb	Glue honeycomb on top of the 36- by 14-inch honeycomb 2 inches from the rear edge.
	2	36	10	¾-inch Plywood	Glue plywood on top of the 36- by 10-inch honeycomb.
	1	36	10	¼-inch Plywood	Glue plywood on top of the ¾- by 36- by 10-inch plywood.
	1	36	10		Glue honeycomb on top of the ¼- by 36- by 10-inch plywood.

Figure 9-3. Honeycomb Stack 1 Built (Continued)

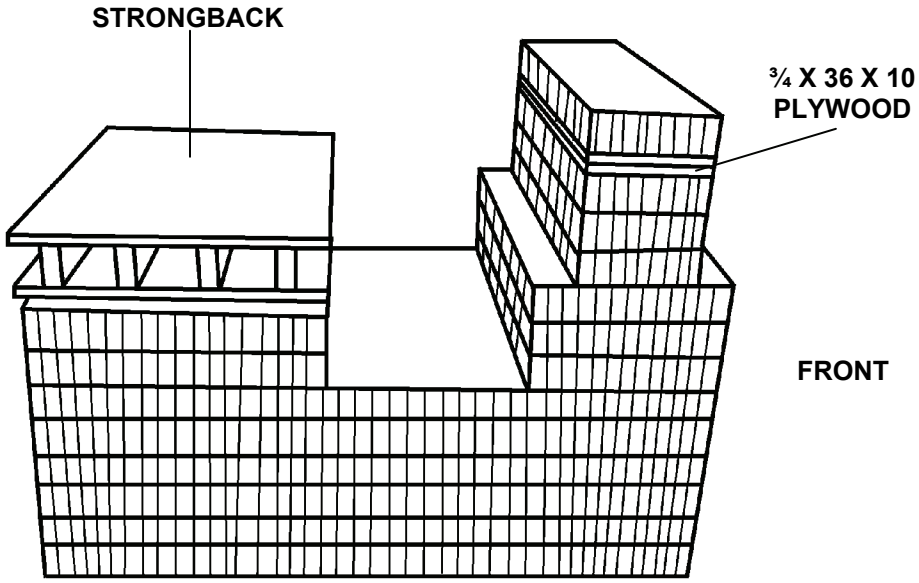
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
2	1	12	48	Honeycomb	Form base.
	4	12	12	Honeycomb	Glue two pieces of honeycomb on each end of the base flush with each edge.
3	1	12	48	Honeycomb	Form base.
	4	12	12	Honeycomb	Glue two pieces of honeycomb on each end of the base flush with each edge.

Figure 9-4. Stacks 2 and 3 Built

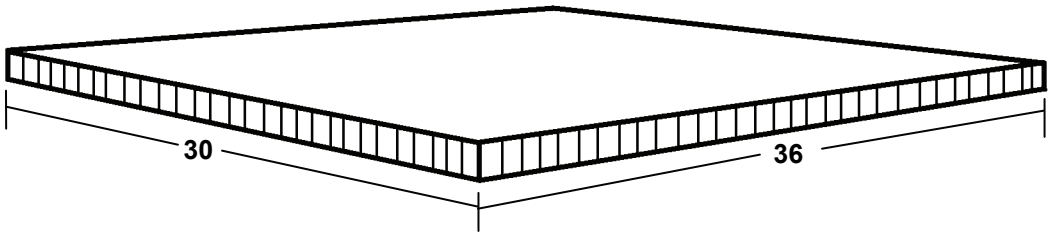
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
4	6	36`	58	Honeycomb	Glue to form base.
	3	36	16	Honeycomb	Glue flush on the front edge of the honeycomb base.
	3	36	10	Honeycomb	Center and glue honeycomb on top of the 36- by 16-inch honeycomb.
	2	36	10	¾-inch Plywood	Glue plywood on top of the 36- by 16-inch honeycomb.
	1	36	10	Honeycomb	Glue honeycomb on top of the ¾- by 36- by 16-inch plywood.
	2	36	24	Honeycomb	Glue flush on the rear edge of the honeycomb base.
	2	3 ½	24	2 X 4 Lumber	Glue lumber on top of the 36- by 24-inch honeycomb lengthwise, 3inches from each side.
Strong-back	1	36	24	¾-inch Plywood	Place plywood to form base of the strongback.
	4	36	3 ½	2 X 4 Lumber	Evenly space lumber side-to-side on top of the ¾- by 36- by 24-inch plywood.
	1	36	24	¾-inch Plywood	Place plywood on top of the 2- by 4- by 36-inch lumber. Use sixpenny nails to nail the strongback together.

Figure 9-5. Stack 4 Built

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

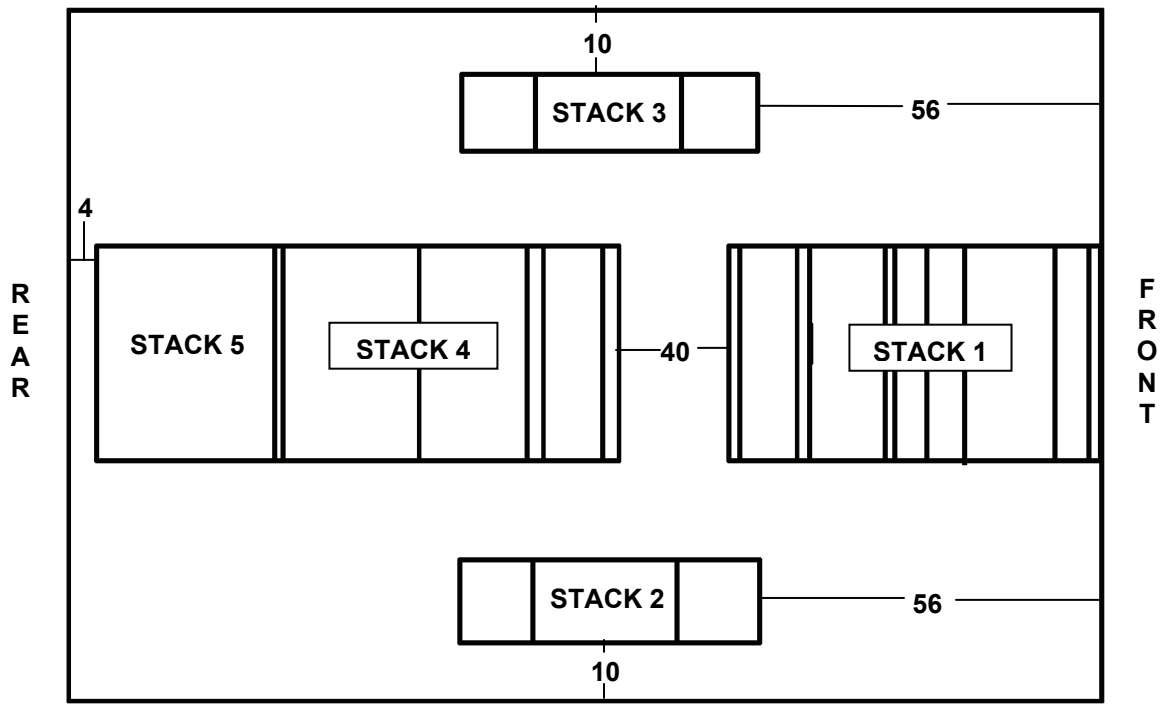


FRONT

Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
5	1	30	36	Honeycomb	Form base.

Figure 9-6. Stack 5 Built

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



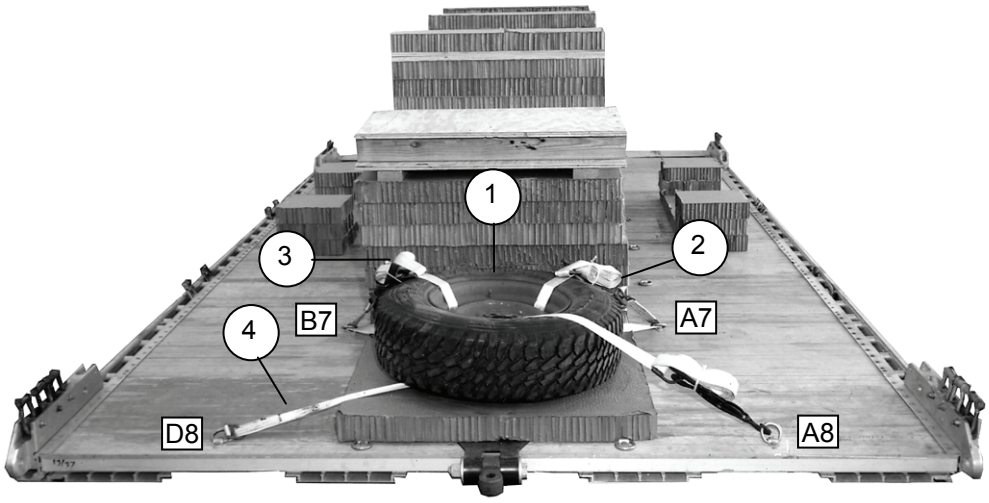
Step:

1. Center stack one flush with the front edge of the platform.
2. Place stack two 56 inches from the front edge of the platform and 10 inches from the right side rail.
3. Place stack three 56 inches from the front edge of the platform and 10 inches from the left side rail.
4. Center stack four 40 inches from the rear edge of stack 1.
5. Center stack five 4 inches from the rear edge of the platform.

Figure 9-7. Honeycomb Stacks Positioned on Platform

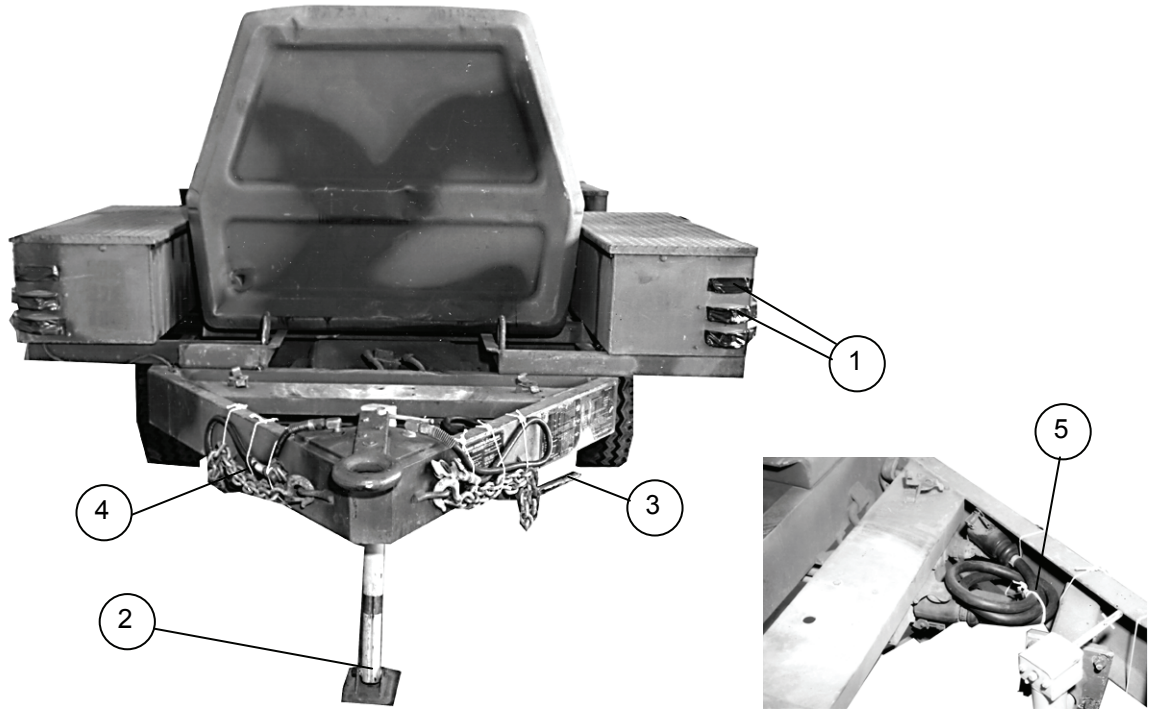
PREPARING TRAILER

9-4. Prepare the trailer as shown in Figures 9-8 through 9-16.



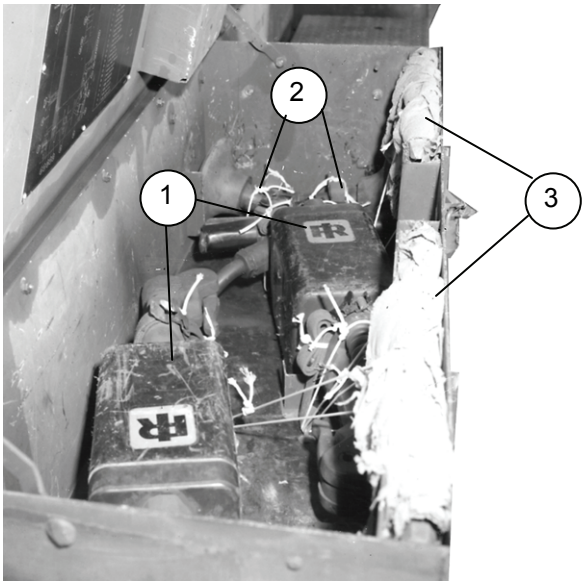
1. Remove the spare tire from the drawbar and center it on honeycomb stack 5.
2. Route a 15-foot lashing through tiedown ring A7and around the tie. Secure the lashing with a D-ring and load binder.
3. Route a 15-foot lashing through tiedown ring B7and around the tie. Secure the lashing with a D-ring and load binder.
4. Route a 15-foot lashing through tiedown ring D8, through its own D-ring, over and under the tire, to tiedown ring A8. Secure the lashing to tiedown ring A8 with a D-ring and load binder.

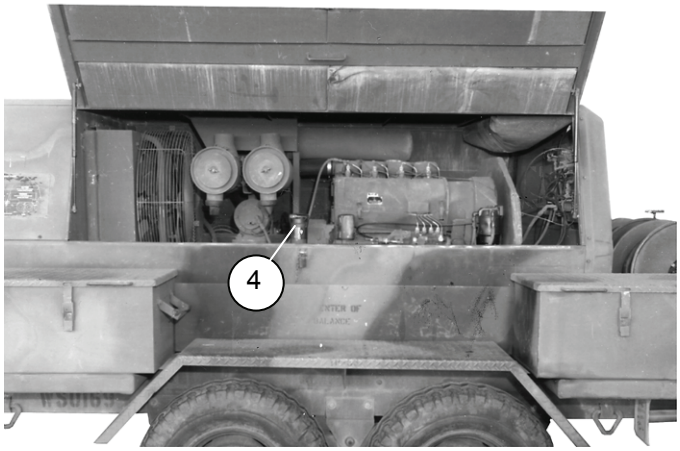
Figure 9-8. Spare Tire Lashed to Platform



1. Tape all lights and reflectors on the trailer.
2. Lower the front jack stand and lock it in place.
3. Place the hand brakes in the released position.
4. Tie the chains and air hoses to the trailer tongue with type III nylon cord.
5. Tie the intervehicular cable to the trailer tongue with type III nylon cord.

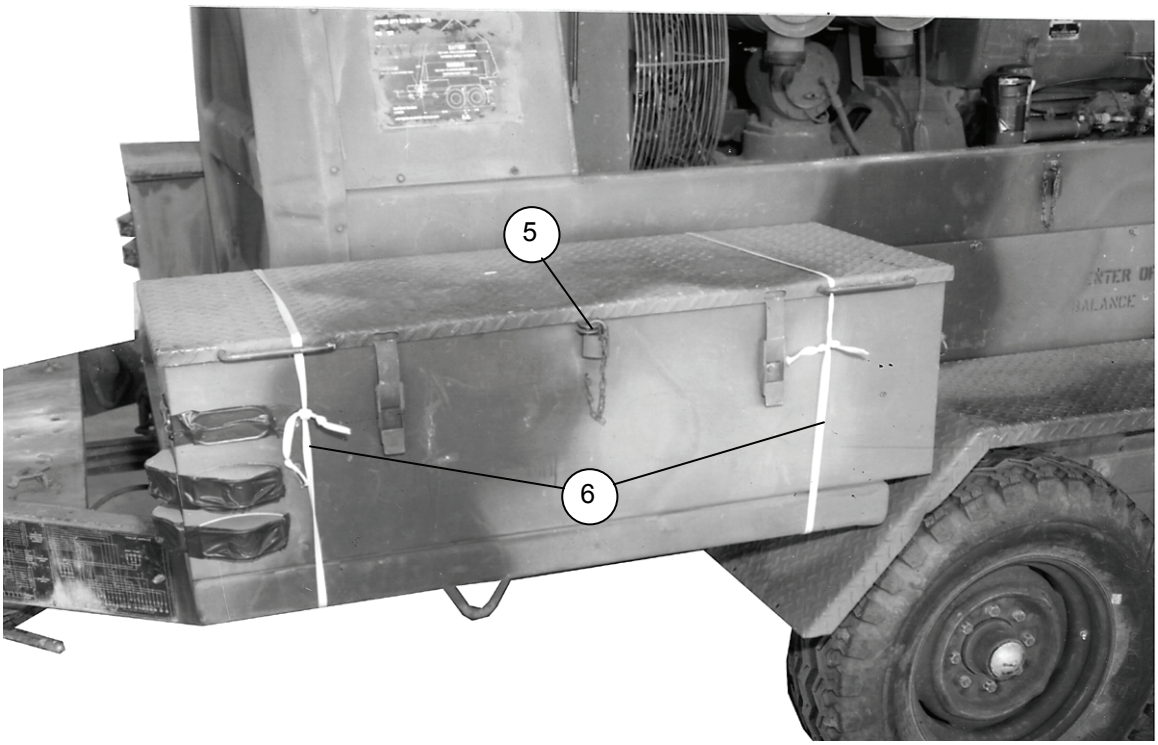
Figure 9-9. Front of Trailer Prepared





1. Tie the two eighty pound breakers in place with type III nylon cord.
2. Tie the two tamping feet with type III nylon cord.
3. Tie the six chisels together with type III nylon cord. Pad the chisels with cellulose wadding and tape.
4. Tape the fuel nozzle in place in the left engine compartment.

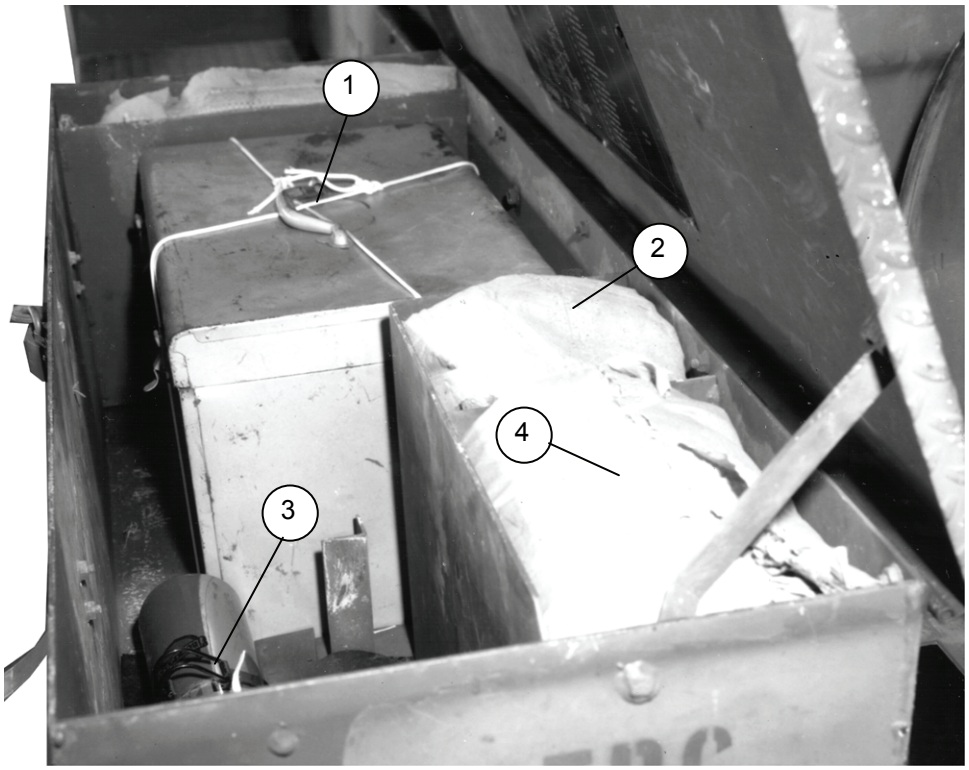
Figure 9-10. Left Engine Compartment and Storage Box 1 Prepared



(5) Close and lock the storage box lid. If a lock is not available, tie the lock rings with type III nylon cord.

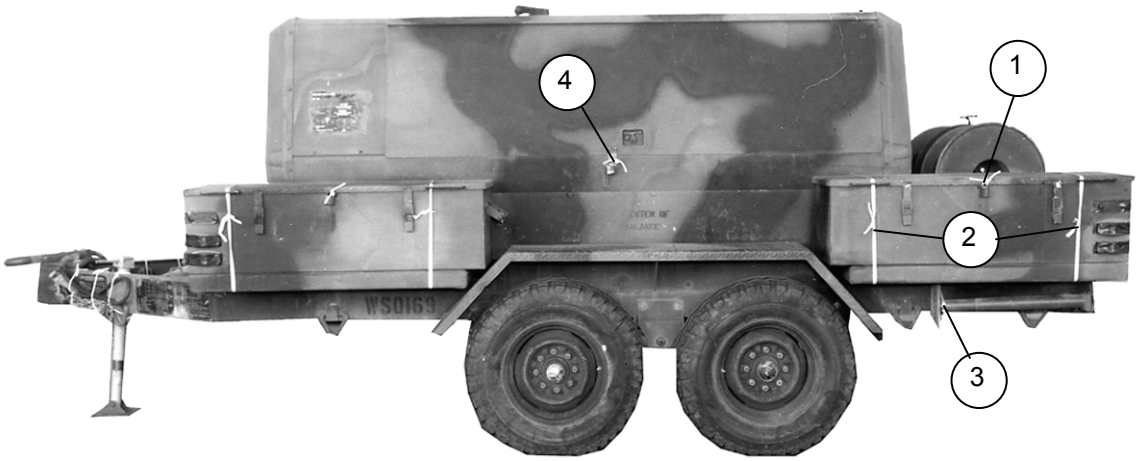
(6) Safety tie the storage box with ½-inch tubular nylon webbing around each end.

Figure 9-10. Left Engine Compartment and Storage Box 1 Prepared (Continued)



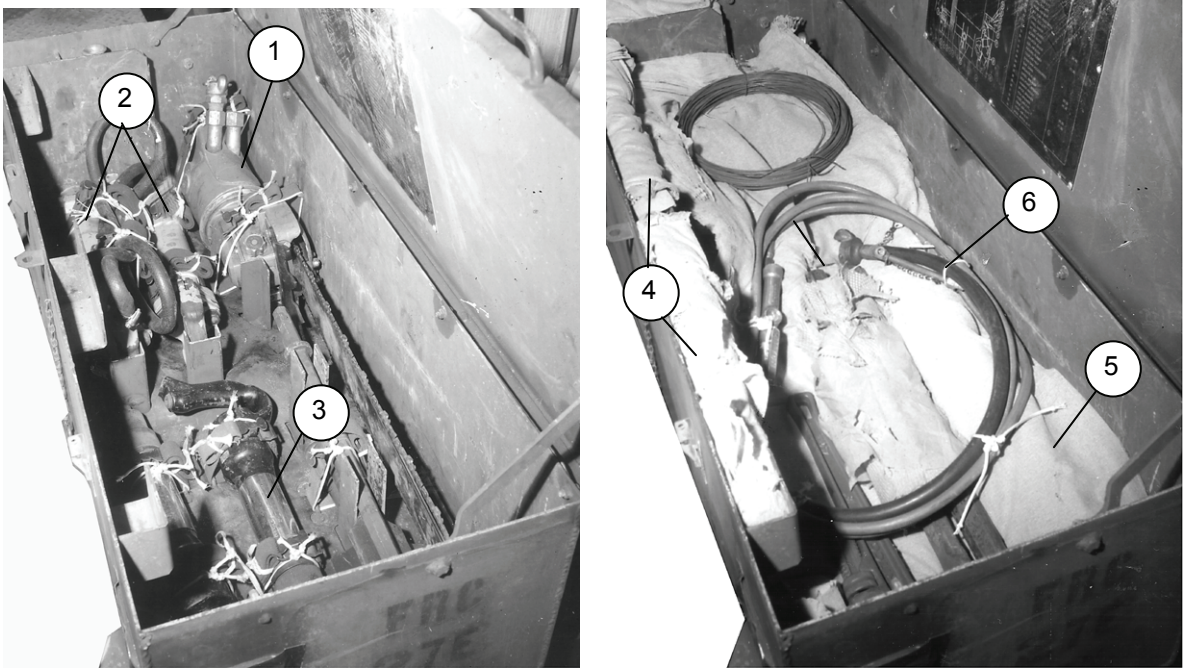
1. Secure the toolbox in place with type III nylon cord wrapped around the toolbox and through the hole in the bottom of the storage box.
2. Place the goggles and protective gear in the storage box compartment and pad with cellulose wadding.
3. Safety tie the fire extinguisher in place with type III nylon cord.
4. Pad the goggles, protective gear, and miscellaneous parts with cellulose wadding.

Figure 9-11. Storage Box 2 Prepared



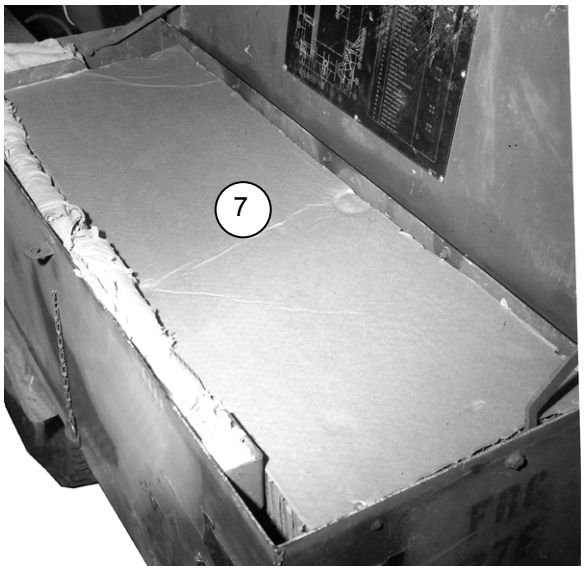
1. Close and lock the storage box lid. If a lock is not available, tie the lock rings with type III nylon cord.
2. Safety tie the storage box with ½-inch tubular nylon webbing around each end Safety tie the fire extinguisher in place with type III nylon cord.
3. Adjust the jack stand to the shortest position. Raise and tie it in place with ½-inch tubular nylon webbing.
4. Close the left engine compartment cover and safety tie it with type III nylon cord.

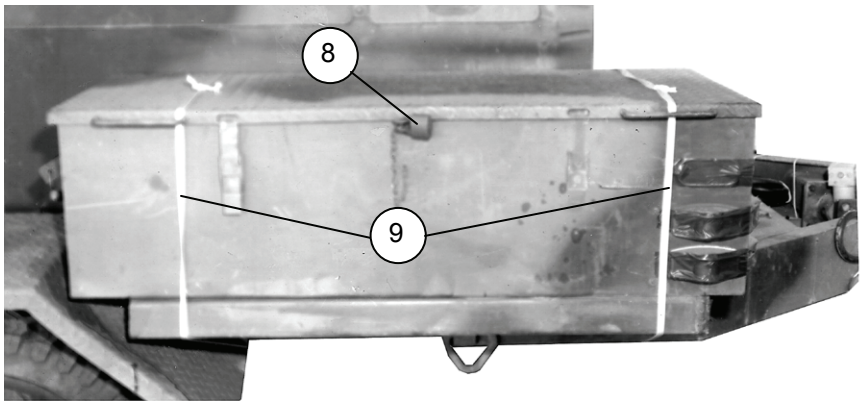
Figure 9-12. Storage Box 2, Jack Stand, and Left Engine Compartment Secured



1. Tie the chain saw in place with type III nylon cord in storage box 3.
2. Tie the two jackhammers in place with type III nylon cord.
3. Tie the hammer-nailer in place with type III nylon cord.
4. Pad the chisels with cellulose wadding place them in the rack.
5. Place a layer of cellulose wadding over the chain saw, jackhammers, and hammer-nailer.
6. Place the miscellaneous hoses and cables on top of the cellulose wadding and tie with type III nylon cord.

Figure 9-13. Storage Box 3 Prepared



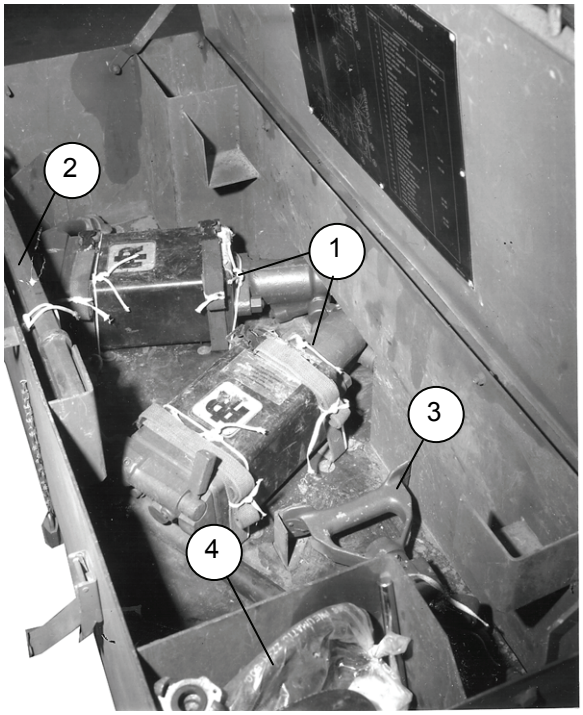


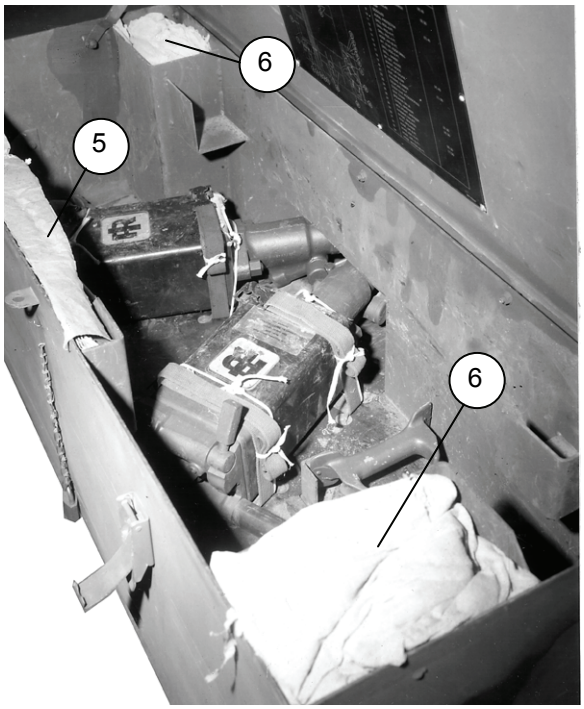
(7) Place a 16- by 45-inch piece of honeycomb on top of the hoses and cables.

(8) Close and lock the storage box lid. If a lock is not available, tie the lock rings with type III nylon cord.

(9) Safety tie the storage box with ½-inch tubular nylon webbing around each end Safety tie the fire extinguisher in place with type III nylon cord.

Figure 9-13. Storage Box 3 Prepared and Secured (Continued)





(1) Tie the two drill sinkers in place with type III nylon cord in storage box 4.

(2) Tie the 2-foot drill rods in place with type III nylon cord.

(3) Tie the wood borer in place with type III nylon cord.

(4) Tie the accessories in place with type III nylon cord.

(5) Fit a piece of honeycomb on top of the drill rods.

(6) Fill the two accessory boxes with cellulose wadding.

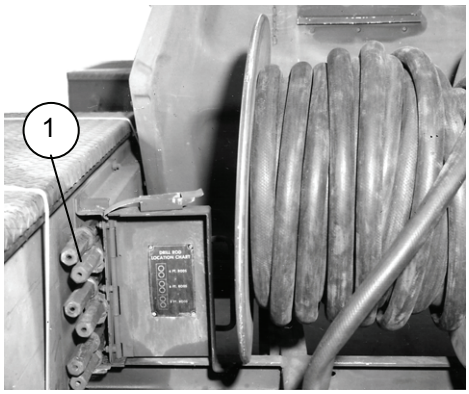
(7) Place a 16- by 45-inch piece of honeycomb on top of the items (not shown).

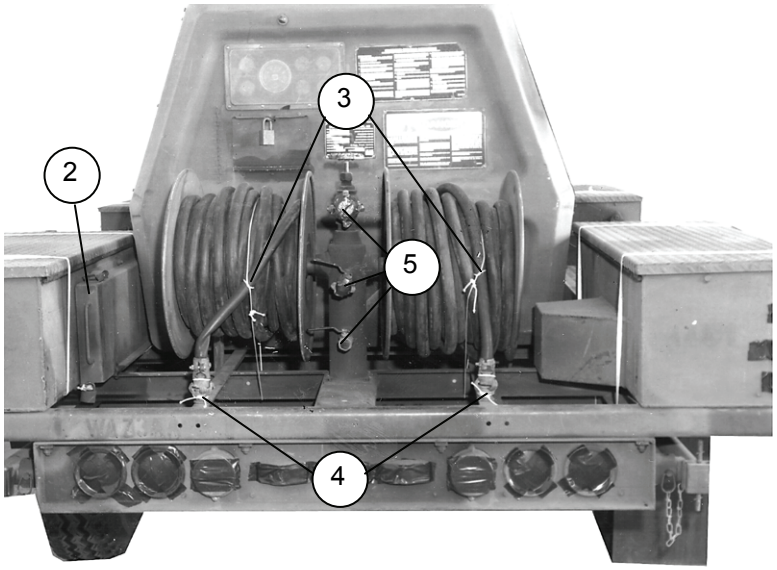
(8) Close and lock the storage box lid. If a lock is not available, tie the lock rings with type III nylon cord (not shown).

(9) Safety tie the storage box with ½-inch tubular nylon webbing around each end Safety tie the fire extinguisher in place with type III nylon cord (not shown).

(10) Adjust the jack stand to the shortest position. Raise and tie it in place with ½-inch tubular nylon webbing (not shown).

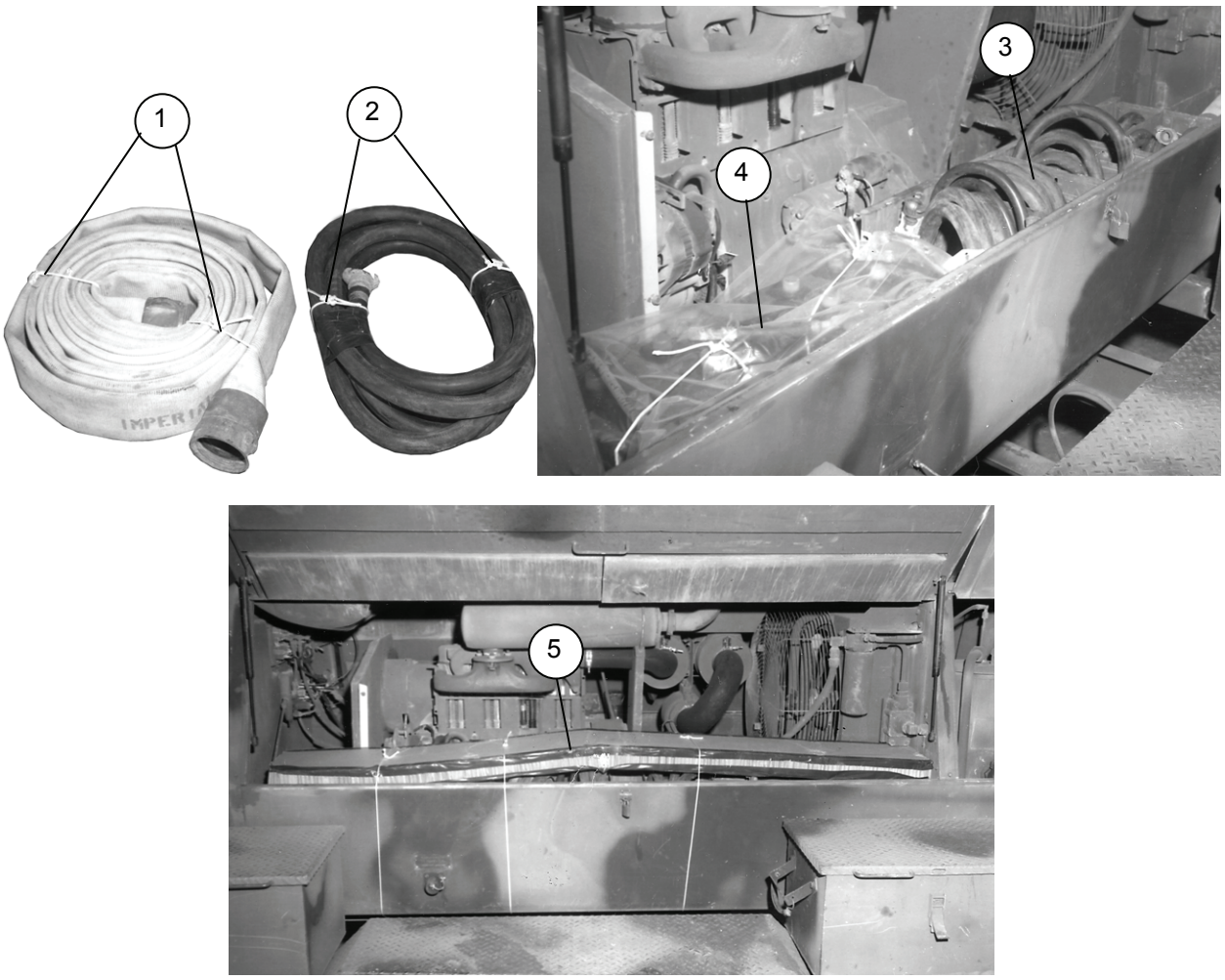
Figure 9-14. Storage Box 4 and Jack Stand Prepared and Secured





1. Place the 4-foot, 6-foot, and 8-foot in the container located on the left rear of the trailer.
2. Close the lid of the container and secure the latch.
3. Tie the air hoses in place with type III nylon cord.
4. Tie the air hose adapters in place with type III nylon cord.
5. Tape the nozzle openings.

Figure 9-15. Rear of the Trailer Prepared

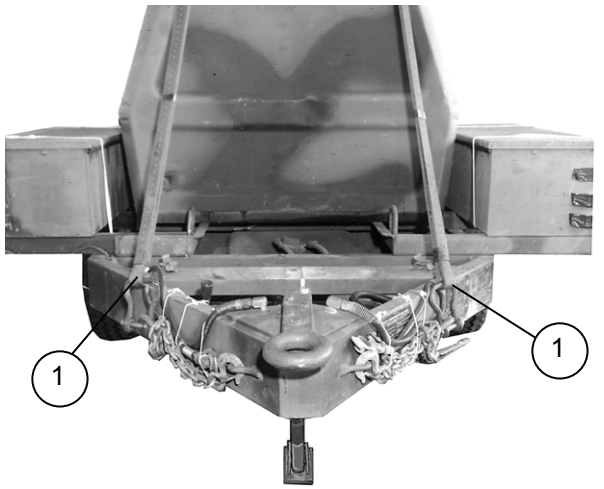


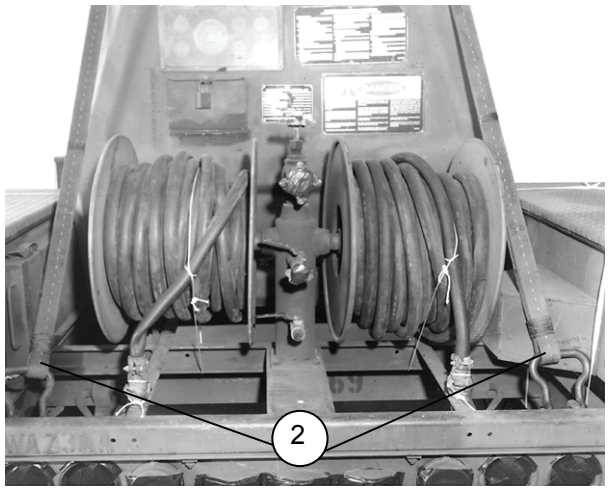
1. Roll the canvas water hose and tie it with type III nylon cord.
2. Roll the air hoses, tape the connector ends and tie the hoses with type III nylon cord.
3. Place the air hoses and the canvas water hose in the slots provided in the right engine compartment.
4. Cover the batteries with plastic and tie them in place with type III nylon cord.
5. Place and 11- by 83-inch piece of honeycomb on top of the batteries and hoses. Tie the honeycomb in place with type III nylon cord.
6. Close the right engine compartment cover and safety tie it with type III nylon cord (not shown).

Figure 9-16. Right Engine Compartment Prepared and Secured

LIFTING AND POSITIONING THE TRAILER

9-5. Install the lifting slings as shown in Figure 9-17 and position the trailer as shown in Figure 9-18.





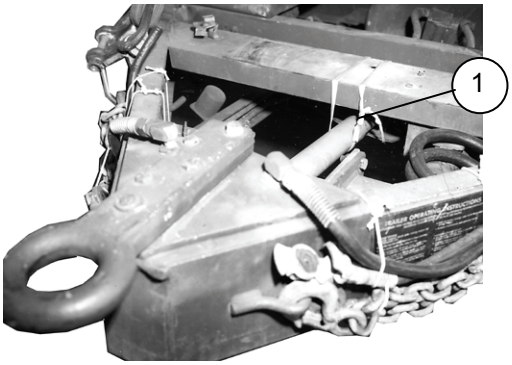
CAUTION

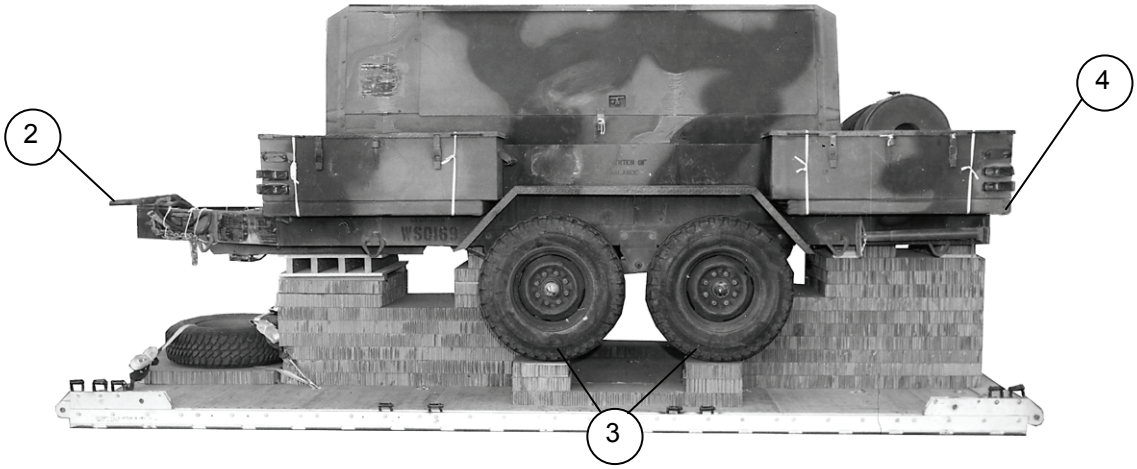
Ensure the rear lift slings clear the hose reels as any pressure on these reels will result in damage.

(1) Attach a 16-foot (4-loop), type XXVI nylon sling to the front outside tiedown provision on each side of the trailer with a medium suspension clevis.

(2) Attach a 16-foot (4-loop), type XXVI nylon sling on the rear inner frame section on each side of the trailer with a medium suspension clevis.

Figure 9-17. Trailer Lift Slings Installed





CAUTION

Ensure the brake pressure relief valve does not touch the strongback on honeycomb stack 4.

1. Raise the front jack stand and tie it in place with ½-inch tubular nylon webbing.
2. Place the trailer on the platform with the lunette overhanging the rear of the platform 10 inches.
3. Center the tires on stacks 2 and 3.
4. Center the rear edge of the trailer flush with the front edge of the platform.

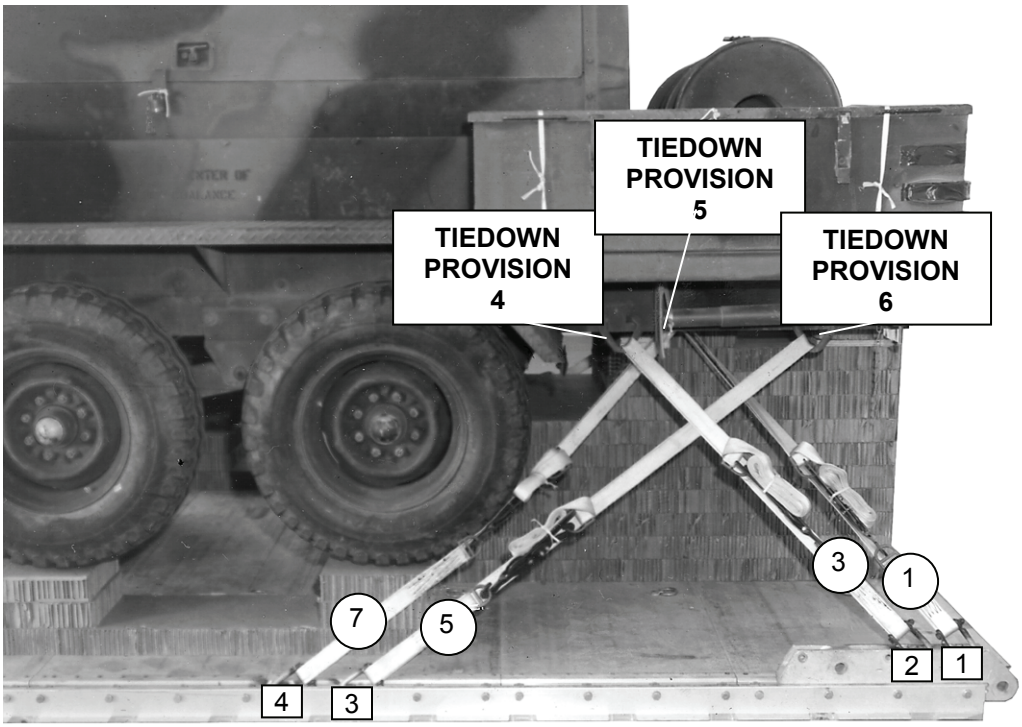
Figure 9-18. Trailer Positioned on Platform

LASHING TRAILER TO PLATFORM

9-6. Lash the trailer to the platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figures 9-19 and 9-20.

Note. Pad any sharp edges on the load where a lashing may pass.

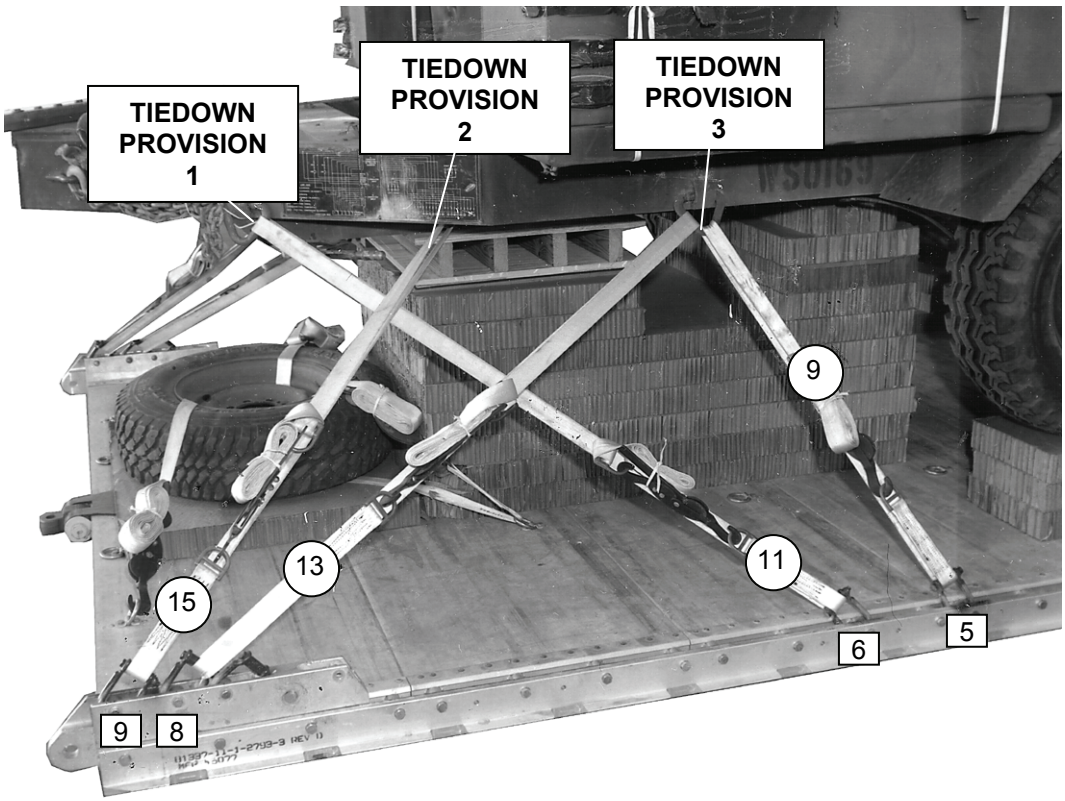
Note. Left, right, front, and rear refer to the trailer, NOT the platform.



Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
1	1	Through tiedown provision 5, left side.
2	1A	Through tiedown provision 5, right side.
3	2	Through tiedown provision 4, left side.
4	2A	Through tiedown provision 4, right side.
5	3	Through tiedown provision 6, left side.
6	3A	Through tiedown provision 6, right side.
7	4	Through tiedown provision 5, left side.
8	4A	Through tiedown provision 5, right side.

Figure 9-19. Lashings 1 through 8 Installed

Note. Left, right, front, and rear refer to the trailer, NOT the platform.

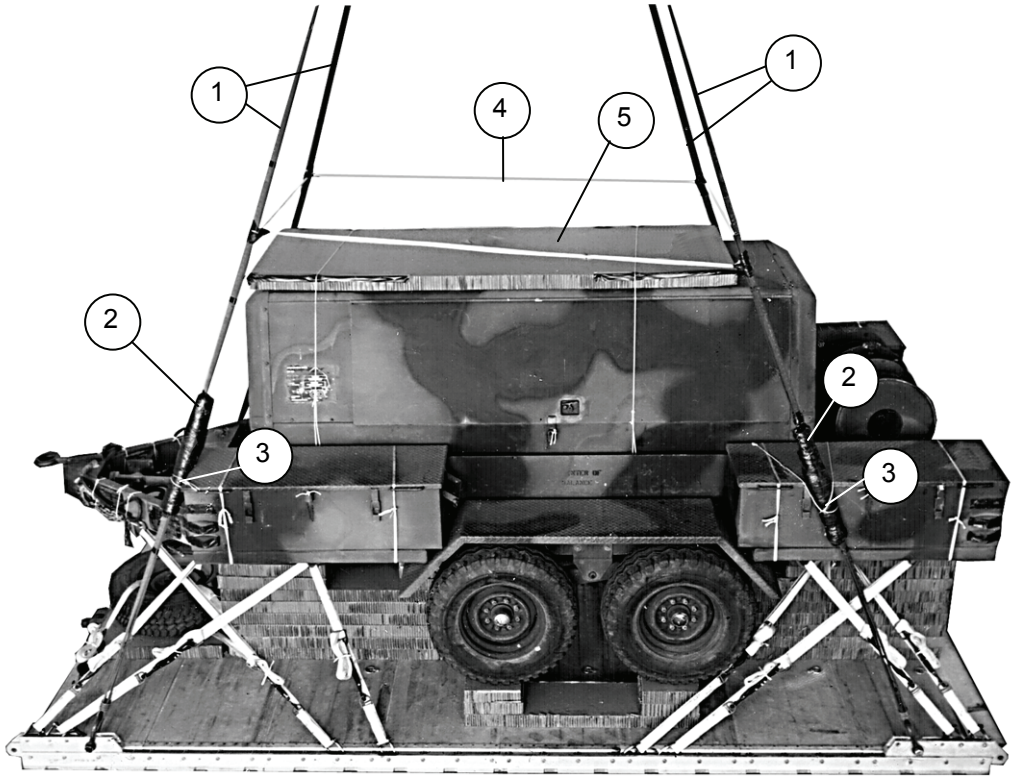


Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
9	5	Through tiedown provision 3, left side.
10	5A	Through tiedown provision 3, right side.
11	6	Through tiedown provision 1 left side.
12	6A	Through tiedown provision 1, right side.
13	8	Through tiedown provision 3 left side.
14	8A	Through tiedown provision 3, right side.
15	9	Through tiedown provision 2, left side.
16	9A	Through tiedown provision 2, right side.

Figure 9-20. Lashings 9 through 16 Installed

INSTALLING AND SAFETY TIEING THE SUSPENSION SLINGS

9-7. Install and safety tie the suspension slings as shown in Figure 9-21.



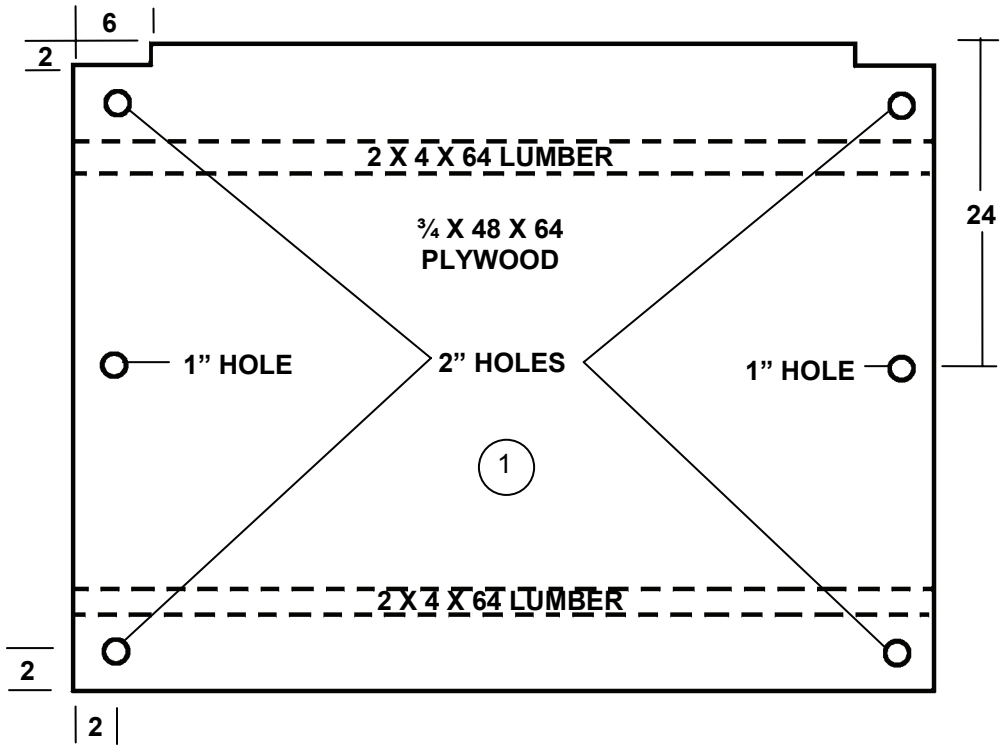
1. Attach a 20-foot (2-loop), type XXVI nylon sling to each tandem link with a large suspension clevis.
2. Pad each suspension sling with a 9- by 18-inch piece of felt, 48 inches from each clevis. Secure the felt with tape.
3. Secure the suspension slings to the front and rear cross members with type III nylon cord.
4. Raise the slings and install a deadman's tie on the suspension slings as shown in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
5. Place a 36- by 96-inch piece of honeycomb on top of the compressor and secure the honeycomb to convenient places on the load with type III nylon cord.

Figure 9-21. Suspension Slings Installed and Safety Tied

PREPARING THE PARACHUTE STOWAGE PLATFORM

9-8. Prepare the parachute stowage platform as shown in Figure 9-22. Secure the parachute stowage platform as shown in Figure 9-23.

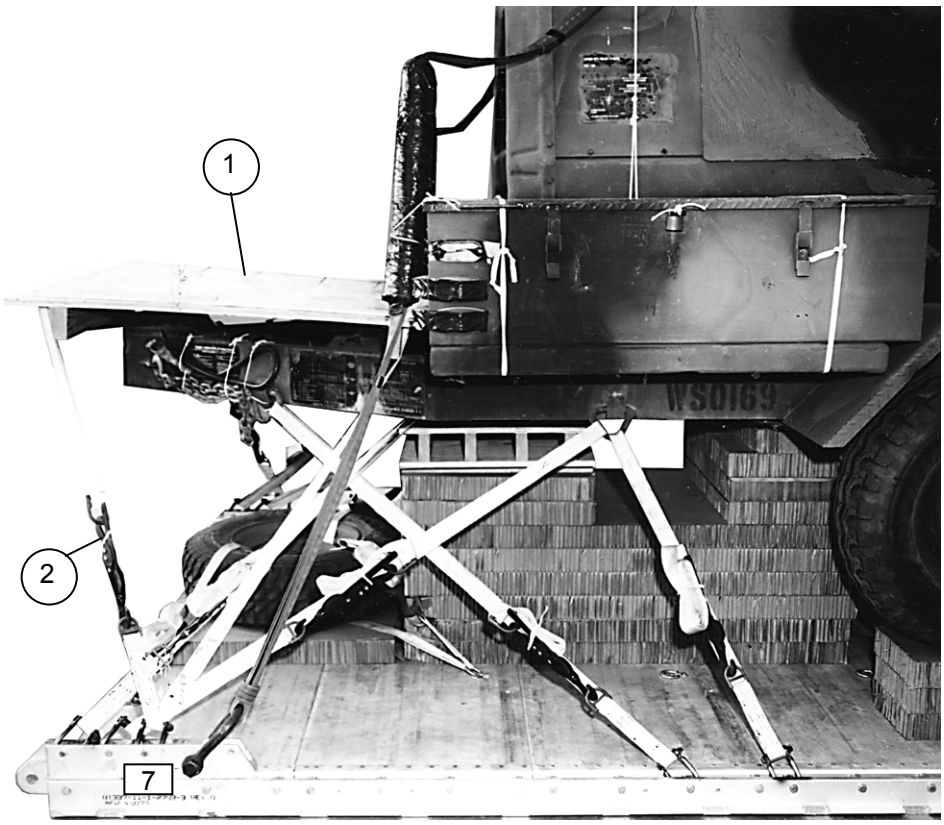
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale.
3. All holes are 2-inches in diameter.



(1) Build the parachute stowage platform as shown.

Figure 9-22. Parachute Stowage Platform Built

Note. All measurements are given in inches.



(1) Place the parachute stowage platform on the drawbar frame with the 2- by 6-inch cutouts facing the load and the 2- by 4- by 64-inch pieces of lumber facing down and parallel to the front of the load.

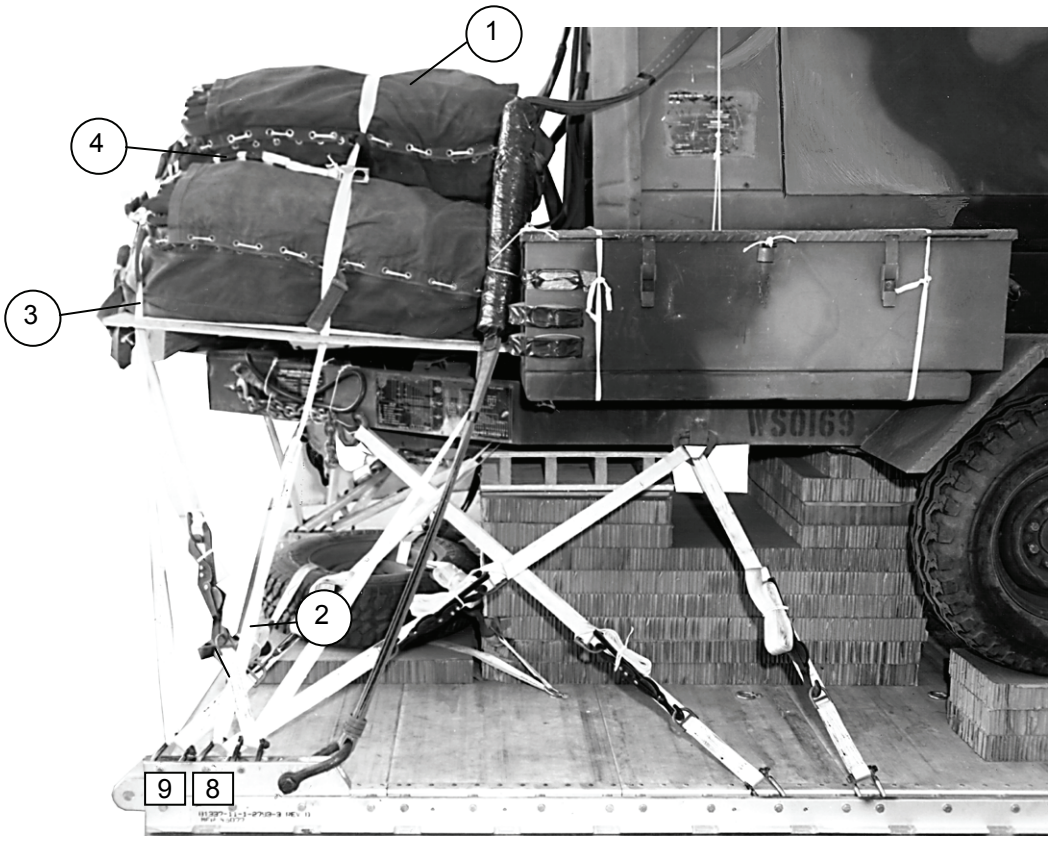
(2) Route a 15-foot lashing through clevis 7, through the front corner hole on the right side of the stowage platform, over the platform, and through the rear corner hole. Secure the lashing with a D-ring and load binder.

(3) Repeat the procedure on the left side using clevis 7A (not shown).

Figure 9-23. Parachute Stowage Platform Installed

STOWING CARGO PARACHUTES

9-9. Prepare, stow, and restrain three G-11B cargo parachutes according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 9-24.

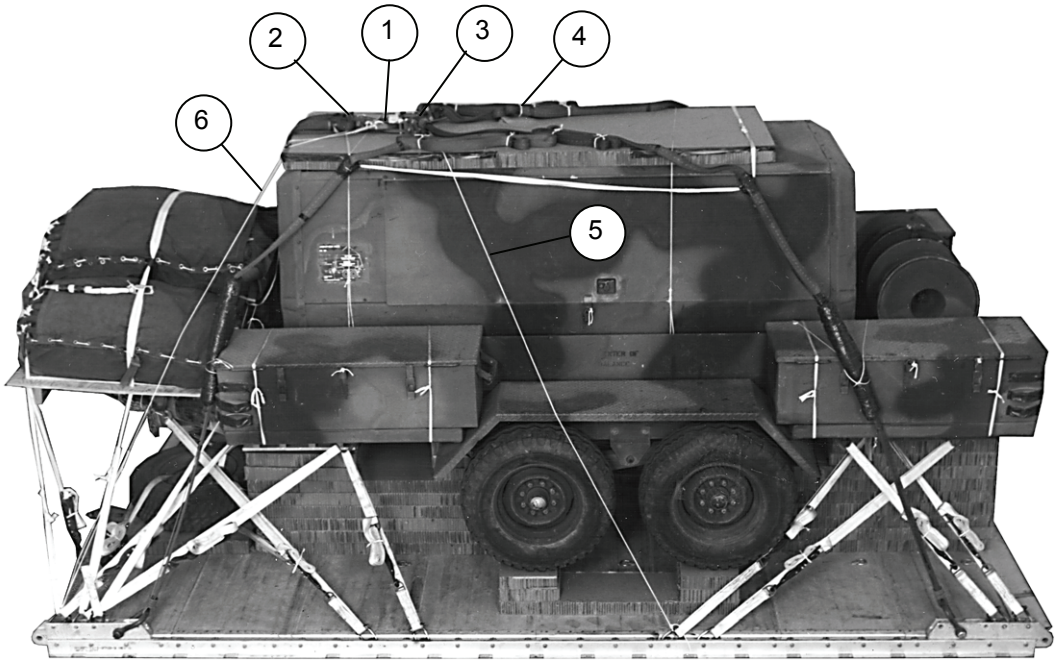


1. Position three G-11B cargo parachutes on the parachute stowage platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
2. Install the front parachute restraint strap using type VIII nylon webbing through the center hole of the parachute stowage platform and clevises 8 and 8A.
3. Install the rear parachute restraint strap using type VIII nylon webbing through the rear hole of the parachute stowage platform and clevises 9 and 9A.
4. Install the parachute release strap according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 9-24. Cargo Parachutes Positioned and Restrained

INSTALLING PARACHUTE RELEASE SYSTEM

9-10. Prepare and install an M-1 parachute release 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 9-25.

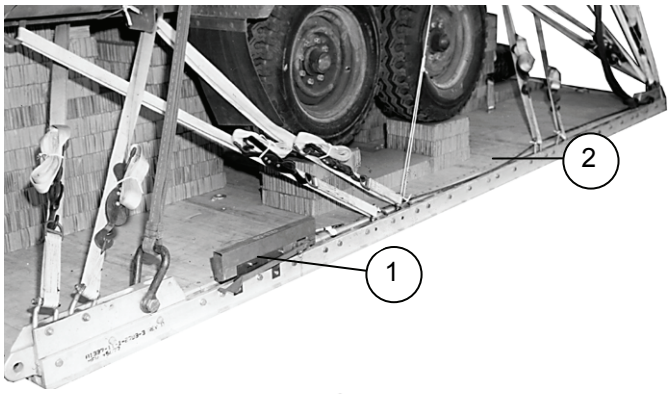


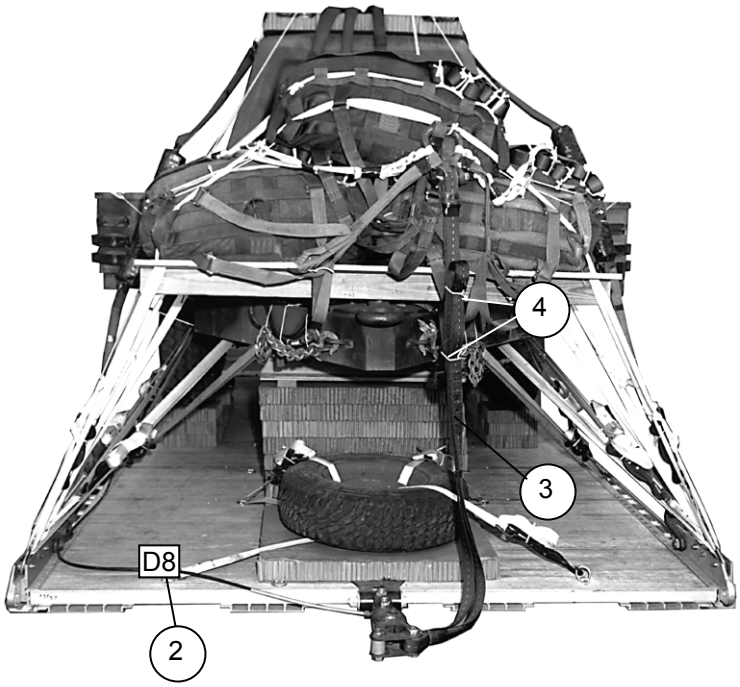
1. Center an M-1 parachute release assembly on top of the honeycomb.
2. Attach the parachute riser extensions to the parachute release connectors.
3. Attach the suspension slings to the lower suspension links.
4. Fold the excess suspension slings and safety tie with type I, ¼-inch cotton webbing.
5. Tie the front M-1 parachute release safety tie to clevises 4 and 4A with type III nylon cord.
6. Tie the rear M-1 parachute release safety tie to clevises 9 and 9A with type III nylon cord.

Figure 9-25. M-1 Parachute Release Installed

INSTALLING EXTRACTION SYSTEM

9-11. Install the extraction system as shown in Figure 9-26.





1. Install the components of the EFTC according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Use the front mounting holes for the EFTC actuator brackets.
2. Use a 16-foot cable and safety tie the cable to the platform clevises and tiedown ring D8 with type I, ¼-inch cotton webbing.
3. Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line.
4. Secure the excess deployment line with type I, ¼-inch cotton webbing.

Figure 9-26. Extraction System Installed

PLACING EXTRACTION PARACHUTE

9-12. 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. Place the extraction parachute and line on the load for installation in the aircraft.

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

9-13. Select and install the provisions for the emergency aft restraints according to the emergency aft restraint requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

MARKING RIGGED LOAD

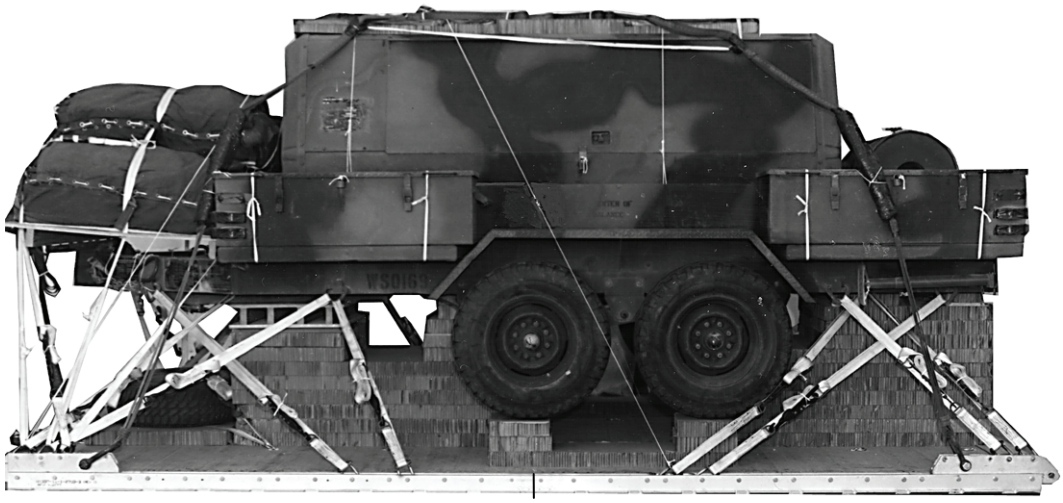
9-14. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 9-26. Complete Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

9-15. Use the equipment listed in Table 9-1 to rig this load.

CAUTION

Make the final rigger inspection required by AR 59-4 and FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 before the load leaves the rigging site.



RIGGED LOAD DATA

Weight: Load Shown.....10,100 pounds

Maximum Weight Load .....10,500 pounds

Height.....96 inches

Width.....108 inches

Overall Length .....214 ½ inches

Overhang: Front.....0
Rear (Lunette).....0 inches

Center of Balance (CB) (from front edge of the platform).....94 ½ inches

Extraction System with 16-foot cable (adds 18 inches to the length of the load)

Figure 9-27. Ingersol-Rand Model, 250-CFM, Trailer-Mounted Air Compressor Rigged on a 16-Foot, Type V Platform for Low-Velocity Airdrop

Table 9-1. Equipment Required for Rigging the Ingersol-Rand Model, 250-CFM, Trailer-Mounted Air Compressor on a 16-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive paste, 1-gal.	As required
1670-01-035-6054	Bridle, extraction line bag	1
4030-00-678-8562	Clevis, suspension, ¾-inch (medium)	6
4030-00-090-5354	Clevis, suspension, 1-inch (large)	8
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5785	Coupling, airdrop extraction force transfer, w/16-ft. cable	1
8135-00-664-6958	Cushioning material (Cellulose padding)	As required
8305-00-958-3685	Felt, ½-inch	As required
1670-01-183-2678	Leaf, extraction line (line bag) (add 2 for C-17)	2
	Line extraction:	
1670-01-062-6313	60-foot (3-loop), type XXVI (for C-130)	1
1670-01-107-7651	140-foot (3-loop), type XXVI (for C-17)	1
1670-01-064-4452	60-foot (1-loop), type XXVI (for C-17), (drogue line)	1
1670-00-783-5988	Link assembly, type IV (C-17 only)	1
1670-01-493-6418	Link assembly, small (3 ¾-inch):	2
	Lumber:	
5510-00-220-6274	2- by 4- by 96-inch	4
5315-00-010-4659	Nail, steel, common, 8D	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	18 sheets
1670-01-016-7841	Parachute, cargo, G-11B	3
	Parachute, cargo, extraction:	
1670-01-063-3716	22-foot	1
1670-01-063-3715	15-foot (C-17 only)	1
	Platform, airdrop, type V, 16-foot:	
1670-01-162-2372	Clevis assembly (type V)	14
1670-01-162-2376	Extraction bracket assembly	4
1670-01-162-2381	Tandem link assembly (Multipurpose link)	2
5530-00-129-7721	Plywood, 1/4-inch	1 sheet
5530-00-128-4981	Plywood, 1/2-inch	1 sheet
5530-00-128-4981	Plywood, 3/4-inch	3 sheets

Table 9-1. Equipment Required for Rigging the Ingersol-Rand Model, 250-CFM, Trailer-Mounted Air Compressor on a 16-Foot, Type V Platform for Low-Velocity Airdrop (Continued)

National Stock Number	*Item*	*Quantity*
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop:	
1670-00-753-3790	9-foot (2-loop), type XXVI	1
1670-01-063-6308	16-foot (4 loop), type XXVI	4
1670-01-062-6313	60-foot (3-loop), type XXVI	3
1670-00-040-8219	Strap, parachute, release, multi-cut	2
7501-00-266-5016	Tape, adhesive, 2-inch	As required
1670-00-937-0271	Tie-down assembly, 15-foot.	20
1670-01-483-8259	Link, Parachute, Connector (H-block) (C-17 only)	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-inch	As required
8305-00-261-8585	Nylon, type VIII	As required

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Chapter 10

Rigging the Trailer-Mounted Engineer Electrical Tool Outfit on a 12-Foot, Type V Platform for Low-Velocity Airdrop

DESCRIPTION OF THE LOAD

10-1. The trailer-mounted engineer electrical tool outfit (NSN 5180-00-289-95690) (Figure 10-1) is rigged on a 12-foot, type V airdrop platform with one G-11 cargo parachute. The unrigged trailer weighs 2,720 pounds The trailer is 147 inches long, 75 inches high, and 71 inches wide. Other trailer-mounted engineer electrical tool outfits may also be rigged for airdrop by adapting these procedures.

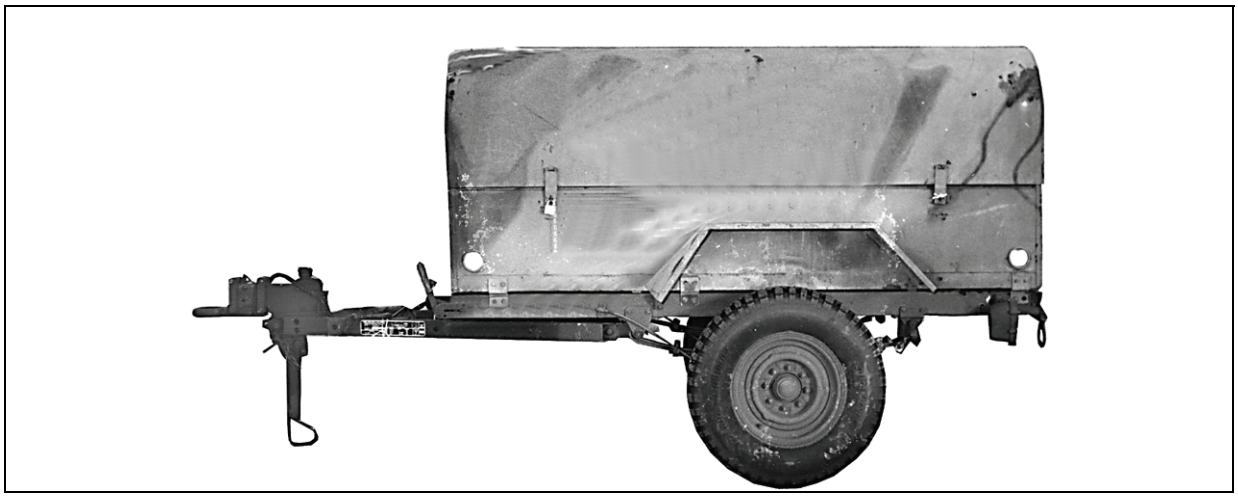
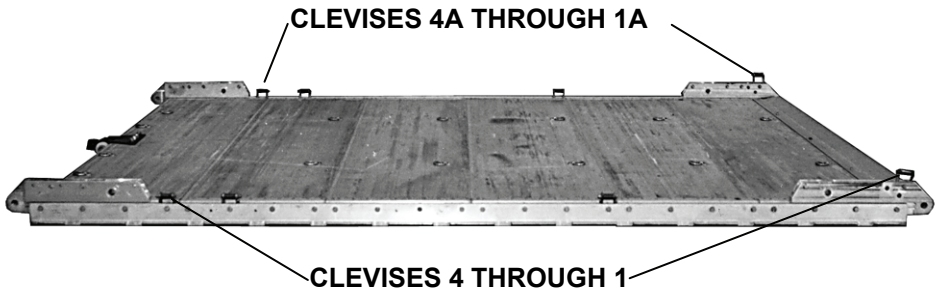


Figure 10-1. Trailer-Mounted Engineer Electrical Tool Outfit

PREPARING PLATFORM

10-2. Prepare a 12-foot, type V airdrop platform as shown in Figure 10-2.



Step:

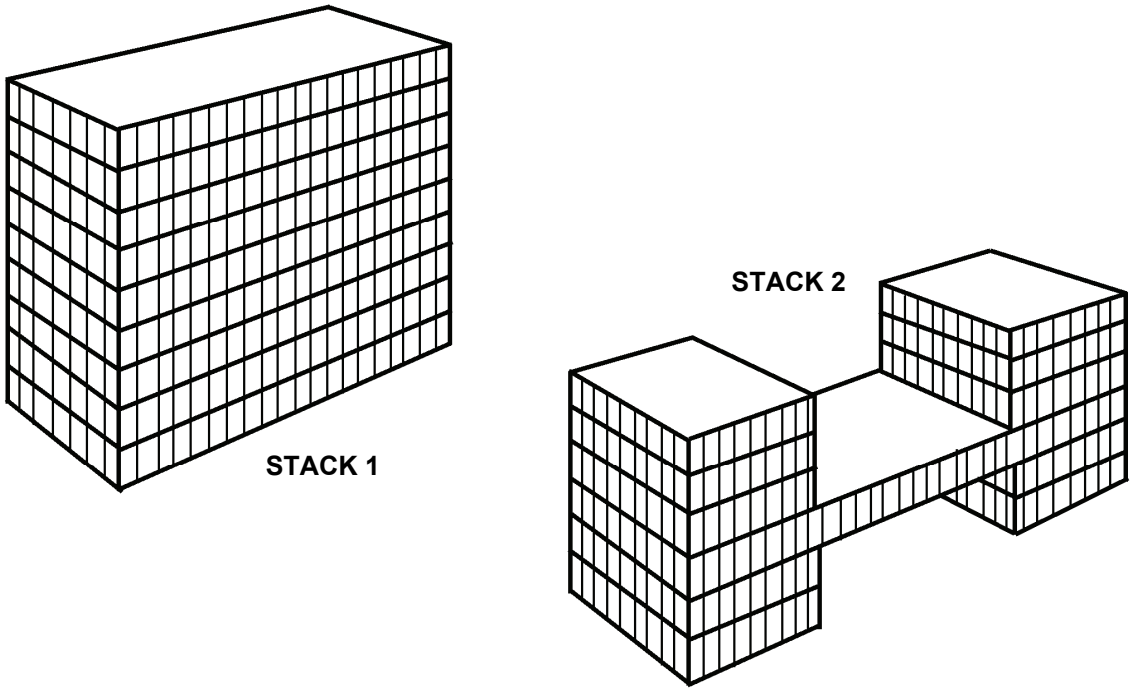
1. Inspect, or assemble and inspect, a 12-foot, type V airdrop platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
3. Install a clevis on bushings 1 of each front tandem link.
4. Install a tandem link to the rear of each platform side rail using holes 30, 31, and 32.
5. Starting at the front of each platform side rail, install clevises on the bushings bolted to holes 9, 19, and 21.
6. Starting at the front of the platform, number the clevises 1 through 4 on the right side and 1A through 4A on the left side.
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 10-2. Platform Prepared

BUILDING AND POSITIONING HONEYCOMB STACKS

10-3. Build the honeycomb stacks as shown in Figures 10-3 and 10-4. Place the honeycomb stacks as shown in Figure 10-5.

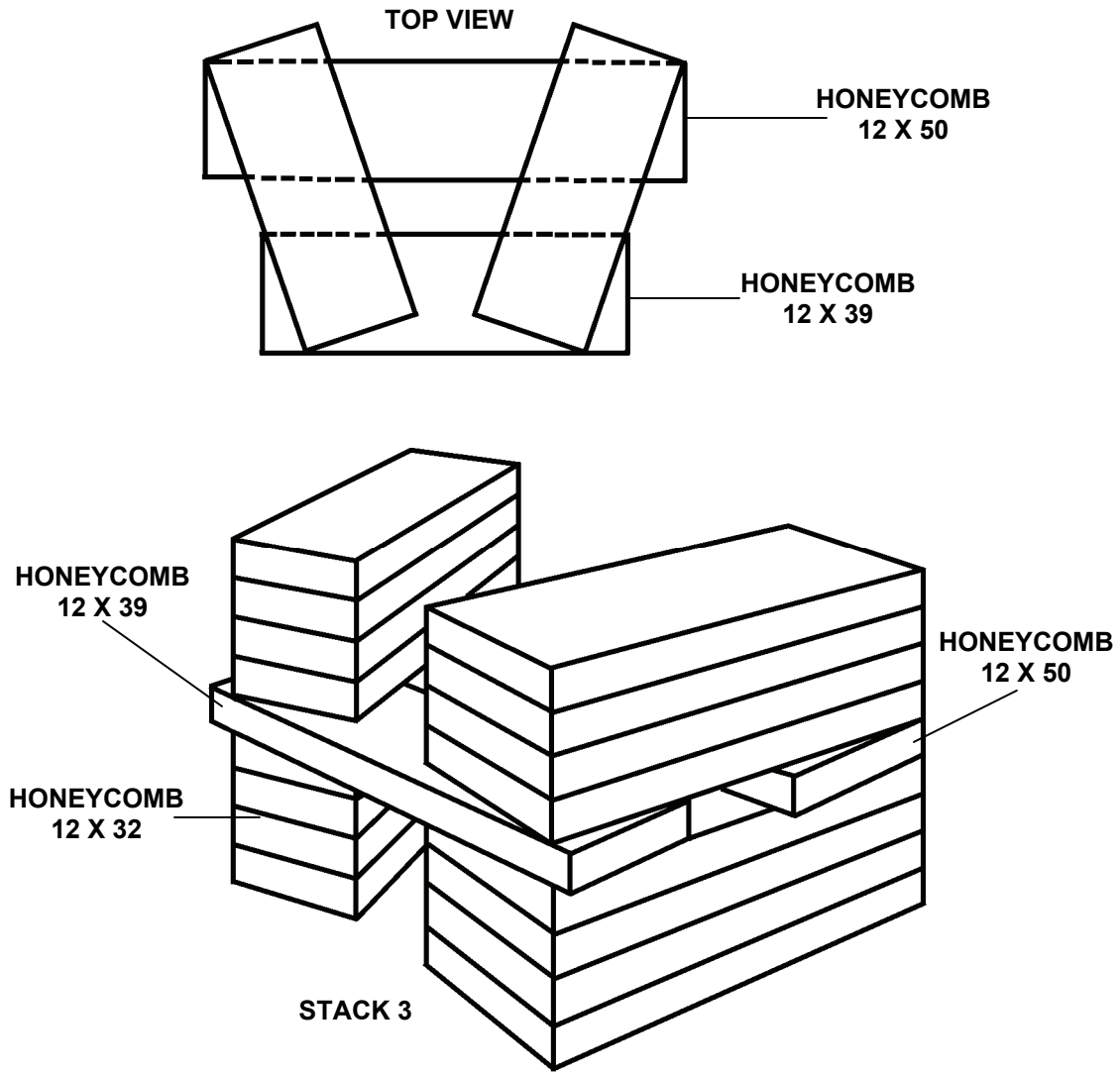
Note. This drawing is not drawn to scale.



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
1	9	12	36	Honeycomb	Glue to form a stack.
2	10	12	12	Honeycomb	Glue honeycomb flush.
	1	12	49	Honeycomb	Bridge the two stacks between the second and third layers as shown.

Figure 10-3. Honeycomb Stack 1 and 2 Built

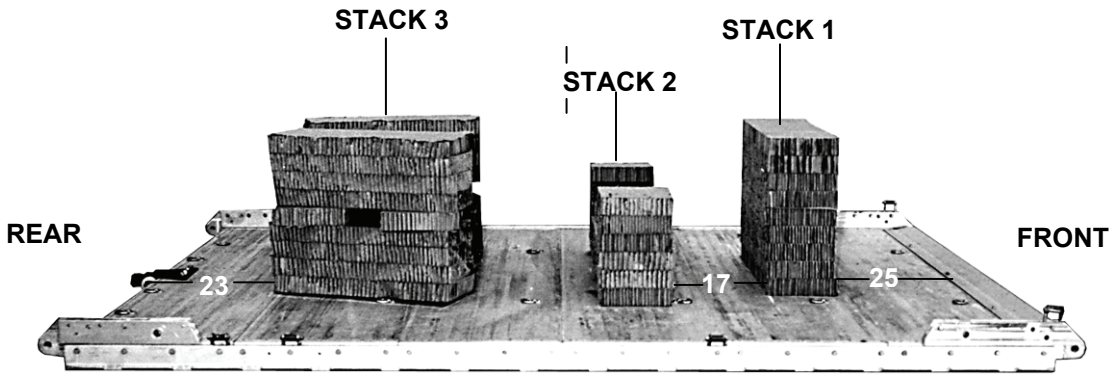
Notes. 1. All measurements are given in inches.
2. This drawing is not drawn to scale**.**



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
3	16	12	32	Honeycomb	Glue four stacks of four layers each. Place them at an angle as shown.
	1	12	39	Honeycomb	Bridge the two stacks between the fourth and fifth layers of honeycomb as shown.
	1	12	50	Honeycomb	Bridge the two stacks between the fourth and fifth layers of honeycomb as shown.

Figure 10-4. Honeycomb Stack 3 Built

Note. All measurements are given in inches.



Step:

1. Center stack one 25 inches from the front edge of the platform.
2. Center stack two 17 inches from the rear edge of stack one.
3. Center stack three 23 inches from the rear edge of the platform and the narrow part of the V facing the rear of the platform.

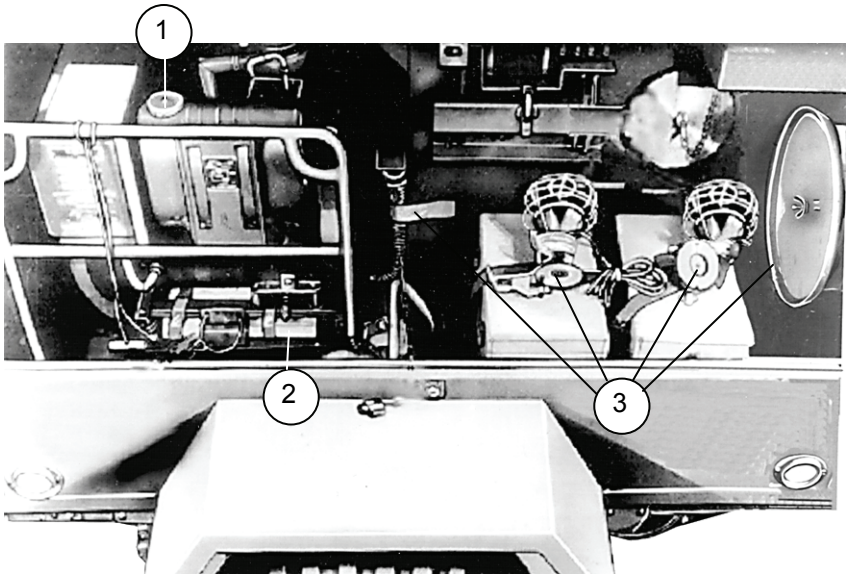
Figure 10-5. Honeycomb Stacks Positioned on Platform

PREPARING TRAILER

10-4. Prepare the trailer as shown in Figures 10-6 through 10-8.

CAUTION

Package, mark, and label gasoline according to AFMAN 24-204 (I)/TM 38-250/NAVSUP PUB 505.MCOP4030.191/DLAI 4145.3



Note: Ensure the generator is bolted to the floor of the trailer. If the generator cannot be secured in this way, route a 15-foot lashing through each front tiedown ring and through its own D-ring. Route the lashing through each side of the generator frame. Secure the lashings with a D-ring and load binder. These lashings are shown in later pictures.

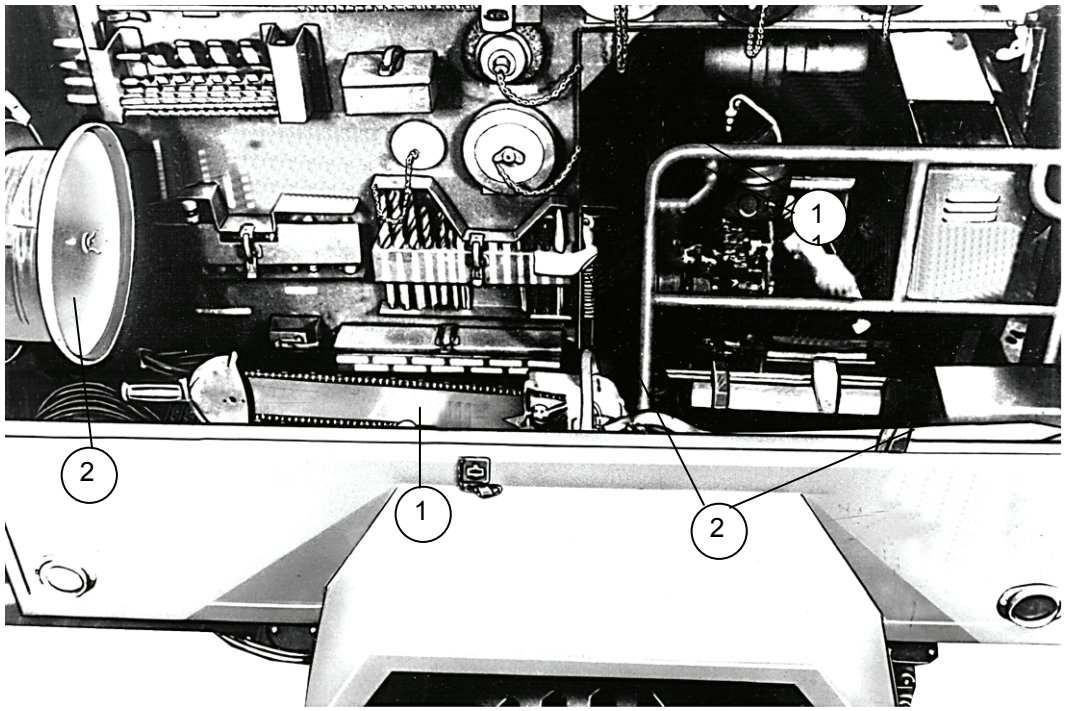
(1) Ensure the generator fuel tank is no more than three-fourths full.

(2) Position and tape two 2- by 4- by 15-inch pieces of lumber under the generator frame on the right and left sides.

(3) Tape the nozzle, extension cables, and floodlights.

(4) Tie the ground rods together with type III nylon cord, and place them in the storage area provided for long drill bits (not shown).

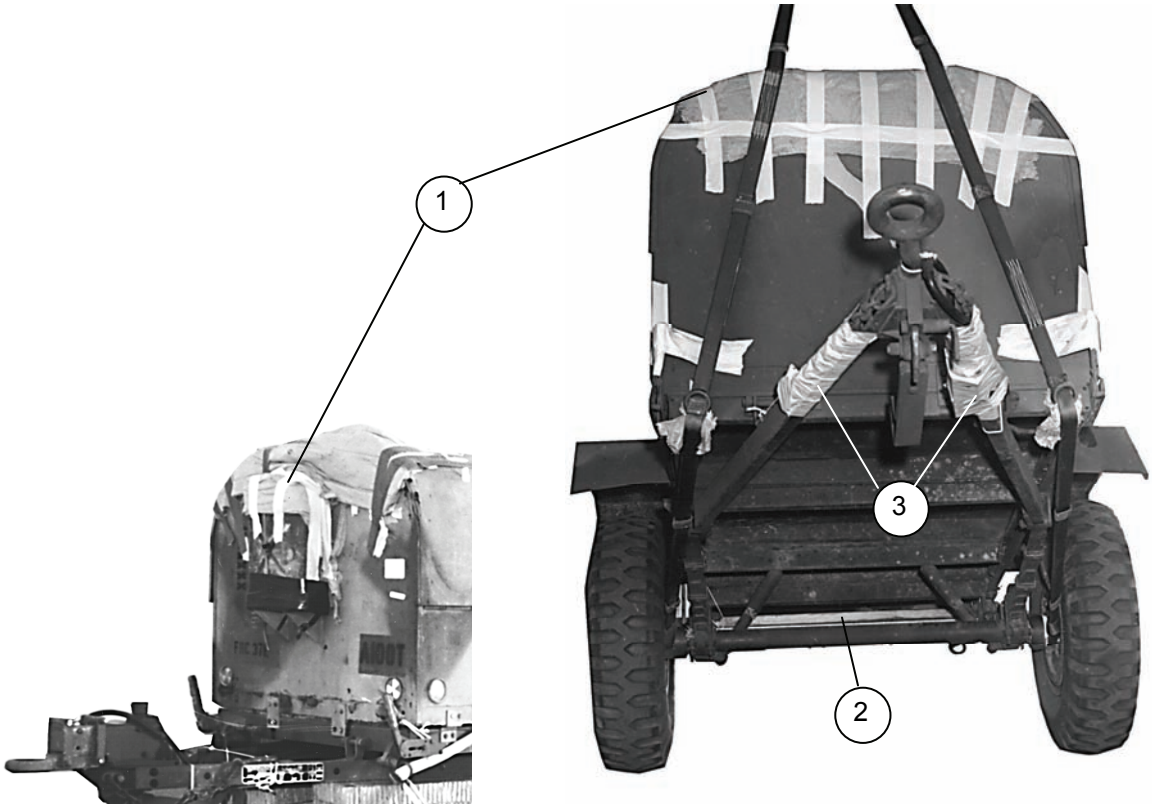
Figure 10-6. Right Side of Trailer Prepared



(1) Place the multipurpose saw on top of the circular saw. Secure it with a tiedown strap around the lower frame of the generator and through the handle of the circular saw.

(2) Tape the nozzle, extension cable, and survey stick.

Figure 10-7 Left Side of Trailer Prepared



1. Pad the top edge of the trailer. Ensure the gasoline can is filled to a level 1 inch below the bottom of the filler neck threads when the can is in a level position. Stow the can in the bracket provided. Pad the top of the can. If the straps are missing, secure the gasoline can with ½-inch tubular nylon webbing.

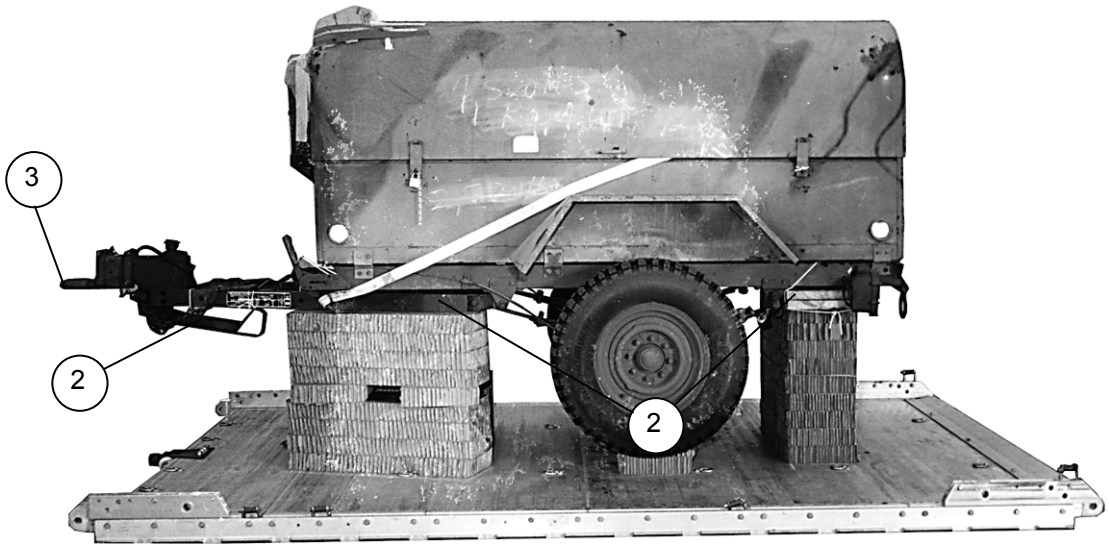
2. Position two 2- by 12- 47-inch pieces of lumber under the trailer frame to the rear of the spring shackles. Tie the lumber in place with type III nylon cord.

3. Secure the intervehicular cable and chains to the drawbar with type III nylon cord and tape. Close and lock the metal canopy and compartments. If the lock is missing secure the tool compartment with type III nylon card.

Figure 10-8. Outside of Trailer Prepared

LIFTING AND POSITIONING THE TRAILER

10-5. Install the lifting slings and position the trailer as shown in Figure 10-9.



(1) Attach a 12-foot (2-loop), type XXVI nylon sling to each tiedown ring on each side of the trailer with a medium suspension clevis (not shown).

(2) Raise the front jack stand and place the trailer on the honeycomb stacks so the lumber pieces rest squarely on stack 1 and the drawbars rest squarely on stack 3.

(3) The lunette should overhang the rear of the platform by 20 inches.

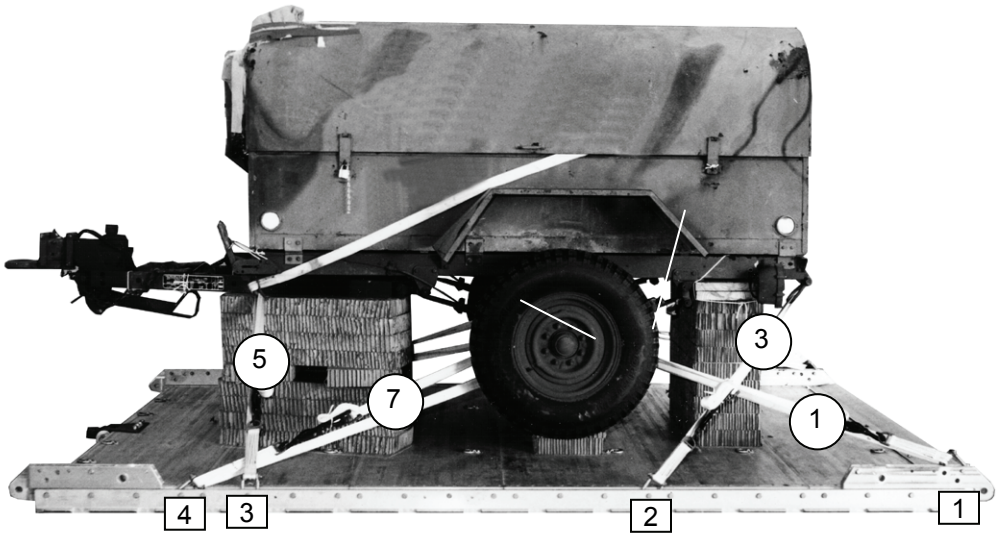
Figure 10-9. Trailer Lift Slings Installed

LASHING TRAILER TO PLATFORM

10-6. Lash the trailer to the platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figures 10-10.

Note. Pad any sharp edges on the load where a lashing may pass.

Note. Left, right, front, and rear refer to the trailer, NOT the platform.

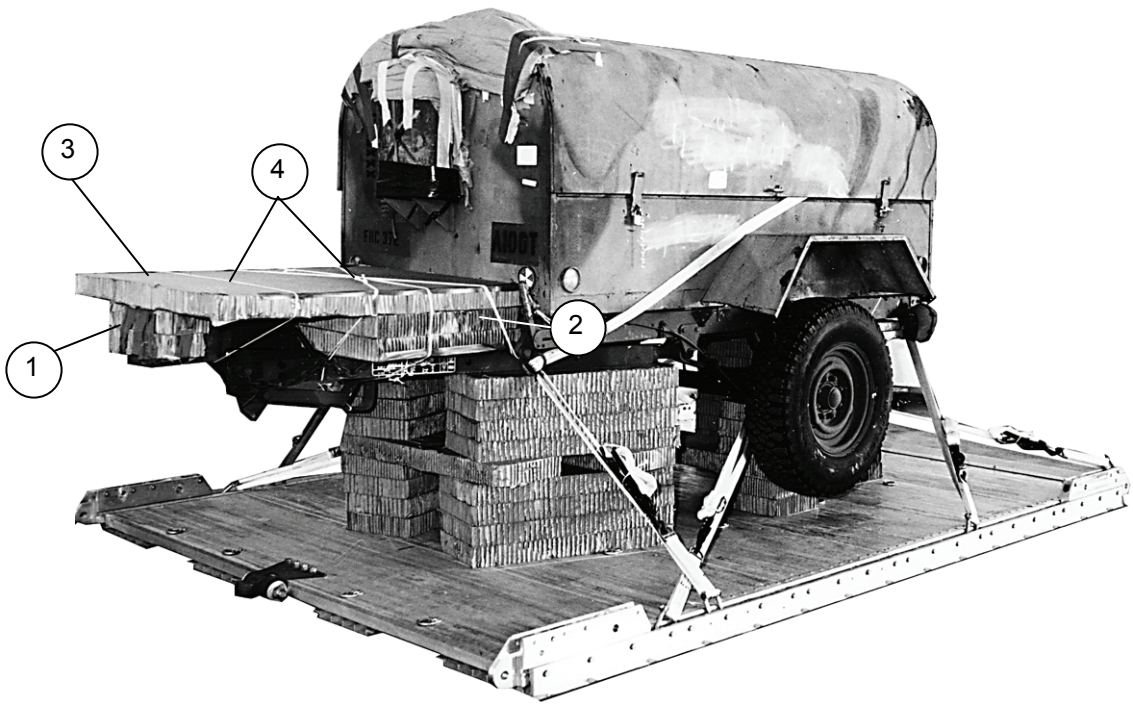


Lashing Number	*Tie-down Clevis Number*	*Instructions*
		Pass lashing:
1	1	Around axle between shock absorber and spring, left side.
2	1A	Around axle between shock absorber and spring, right side.
3	2	Through left rear tiedown provision.
4	2A	Through right rear tiedown provision.
5	3	Through left front tiedown provision.
6	3A	Through right front tiedown provision.
7	4	Around axle to right of shock absorber.
8	4A	Around axle to left of shock absorber.

Figure 10-10. Lashings 1 through 8 Installed

PREPARING THE PARACHUTE STOWAGE PLATFORM

10-7. Prepare and secure the parachute stowage platform as shown in Figure 10-11.

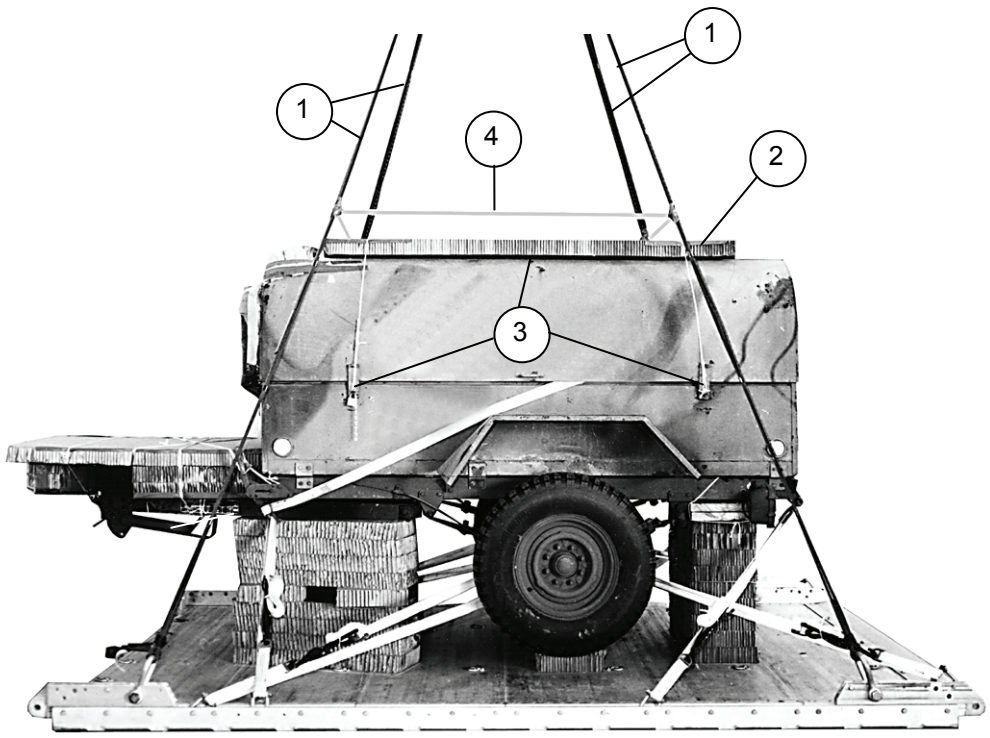


1. Tape to 12- by 6-inch pieces of honeycomb to the lunette.
2. Position two 24- by 36-inch pieces of honeycomb on the trailer drawbar. Tape the bottom left and right edges of the honeycomb.
3. Glue a 36- by 48-inch piece of honeycomb on top of the honeycomb placed in steps 1 and 2. Tape the right and left top edges of the honeycomb.
4. Secure the honeycomb with type III nylon cord.

Figure 10-11. Parachute Stowage Platform Prepared and Positioned

INSTALLING AND SAFETY TIEING THE SUSPENSION SLINGS

10-8. Install and safety tie the suspension slings as shown in Figure 10-12.



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

(2) Place a 36- by 96-inch piece of honeycomb on top of the trailer. Tape the right and left top edges and secure the honeycomb to convenient places on the load with type III nylon cord.

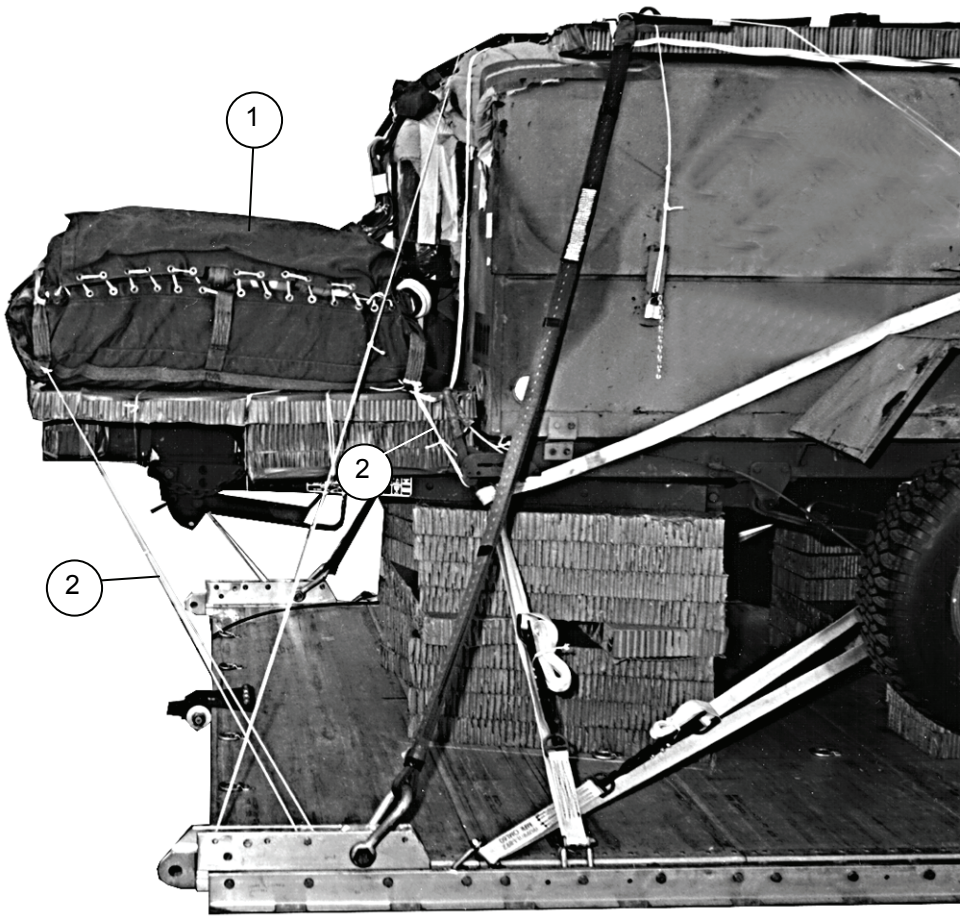
(3) Pad and tape the cover latches.

(4) Raise the slings and install a deadman's tie on the suspension slings as shown in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 10-12. Suspension Slings Installed and Safety Tied

STOWING CARGO PARACHUTES

10-9. Prepare, stow, and restrain one G-11B cargo parachutes according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 10-13.



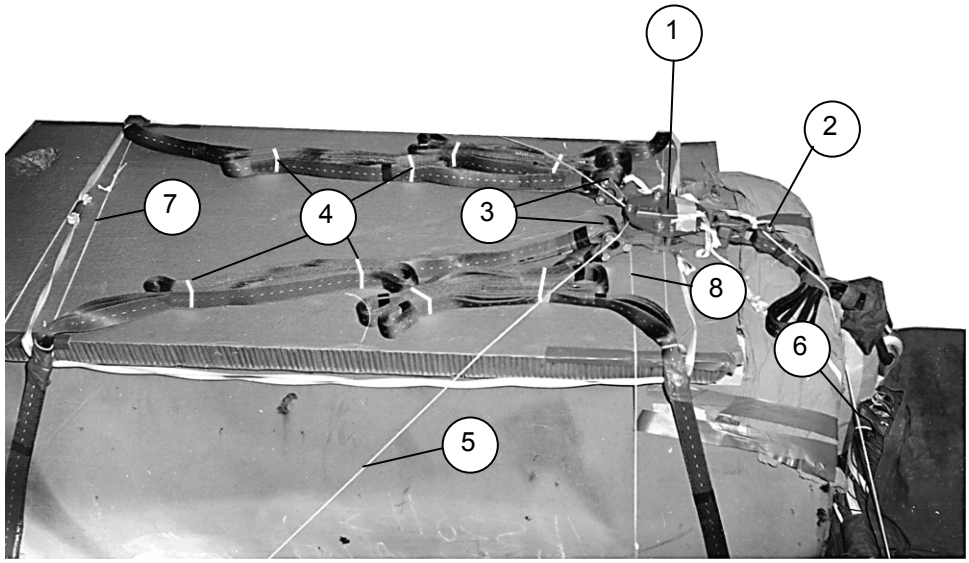
(1) Position a G-11B cargo parachutes on the parachute stowage platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

(2) Secure the parachute with type III nylon cord from the front and rear carrying handles to a convenient place on the load.

Figure 10-13. Cargo Parachute Positioned and Restrained

INSTALLING PARACHUTE RELEASE SYSTEM

10-10. Prepare and install an M-1 parachute release 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 10-14.

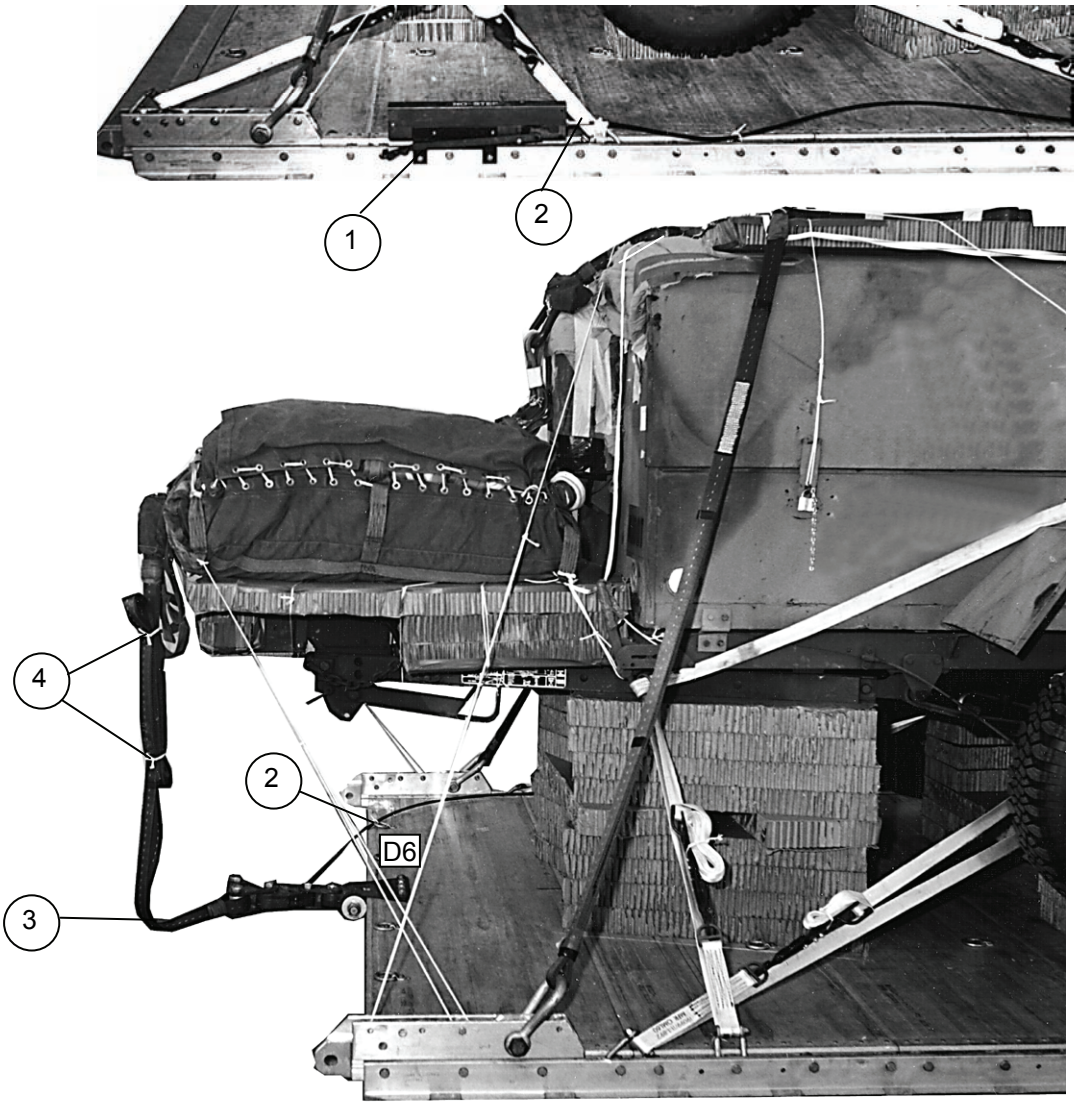


1. Center an M-1 parachute release assembly on the top rear of the honeycomb.
2. Attach the parachute riser extension to the parachute release connector.
3. Attach the suspension slings to the lower suspension links.
4. Fold the excess suspension slings and safety tie with type I, ¼-inch cotton webbing.
5. Tie the front M-1 parachute release safety tie to convenient points on the load with type III nylon cord.
6. Tie the rear M-1 parachute release safety tie to convenient points on the load with type III nylon cord.
7. Safety tie the front set of slings together just above the deadman's tie with type III nylon cord.
8. Safety tie the rear set of slings together just above the deadman's tie with type III nylon cord.

Figure 10-14. M-1 Parachute Release Installed

INSTALLING EXTRACTION SYSTEM

10-11. Install the extraction system as shown in Figure 10-15.



1. Install the components of the EFTC according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Use the front mounting holes for the EFTC actuator brackets.
2. Use a 12-foot cable and safety tie the cable to the platform clevises and tiedown ring D6 with type I, ¼-inch cotton webbing.
3. Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line.
4. Secure the excess deployment line with type I, ¼-inch cotton webbing.

Figure 10-15. Extraction System Installed

PLACING EXTRACTION PARACHUTE

10-12. 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. Place the extraction parachute and line on the load for installation in the aircraft.

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

10-13. Select and install the provisions for the emergency aft restraints according to the emergency aft restraint requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

MARKING RIGGED LOAD

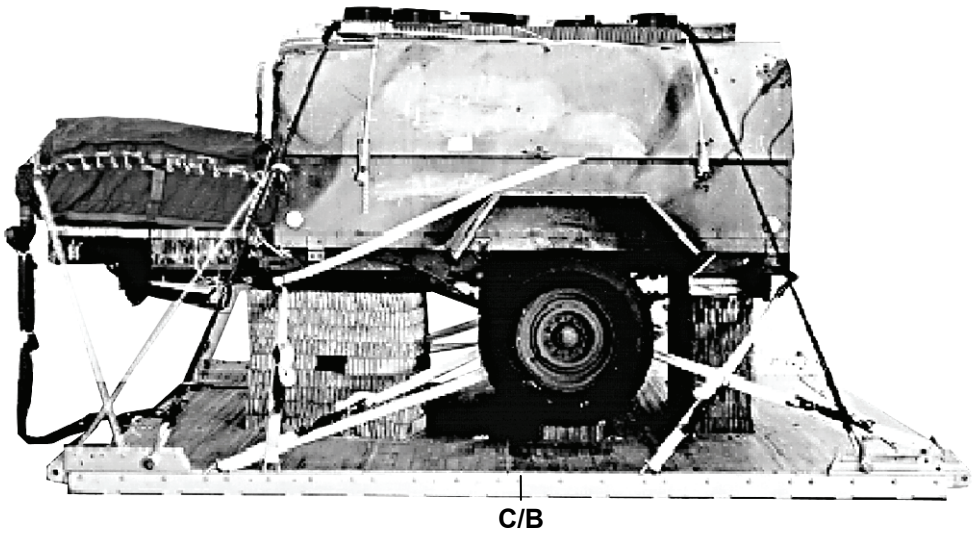
10-14. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 10-16. Complete Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

10-15. Use the equipment listed in Table 10-1 to rig this load.

CAUTION

Make the final rigger inspection required by AR 59-4 and FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 before the load leaves the rigging site.



RIGGED LOAD DATA

Weight: Load Shown.....4,520 pounds

Maximum Weight Load .....5,000 pounds

Height.....82 inches

Width.....108 inches

Overall Length .....164 inches

Overhang: Front.....0
Rear (Lunette).....20 inches

Center of Balance (CB) (from front edge of the platform).....72 inches

Extraction System with 12-foot cable (adds 0 inches to the length of the load)

Figure 10-16. Trailer-Mounted Engineer Electrical Tool Outfit Rigged on a 12-Foot, Type V Platform for Low-Velocity Airdrop

Table 10-1. Equipment Required for Rigging the Trailer-Mounted Engineer Electrical Tool Outfit on a 12-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive paste, 1-gal.	As required
1670-01-035-6054	Bridle, extraction line bag	1
4030-00-678-8562	Clevis, suspension, ¾-inch (medium)	4
4030-00-090-5354	Clevis, suspension, 1-inch (large)	5
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop extraction force transfer, w/12-ft. cable	1
8135-00-664-6958	Cushioning material (Cellulose padding)	As required
1670-01-183-2678	Leaf, extraction line (line bag) (add 2 for C-17)	2
	Line extraction:	
1670-01-062-6313	60-foot (3-loop), type XXVI (for C-130)	1
1670-01-107-7651	140-foot (3-loop), type XXVI (for C-17)	1
1670-01-064-4452	60-foot (1-loop), type XXVI (for C-17), (drogue line)	1
1670-00-783-5988	Link assembly, type IV (C-17 only)	1
1670-01-493-6418	Link assembly, small (3 ¾-inch):	1
	Lumber:	
5510-00-220-6274	2- by 4- by 96-inch	1
5510-00-220-6250	2- by 12- by 96-inch	1
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	7 sheets
1670-01-016-7841	Parachute, cargo, G-11B	1
	Parachute, cargo, extraction:	
1670-01-063-3715	15-foot (add one for C-17 only)	1
	Platform, airdrop, type V, 12-foot:	
1670-01-162-2372	Clevis assembly (type V)	8
1670-01-162-2376	Extraction bracket assembly	1
1670-01-162-2381	Tandem link assembly (Multipurpose link)	4
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop:	
1670-00-753-3790	9-foot (2-loop), type XXVI	1
1670-01-063-6308	16-foot (4 loop), type XXVI	4
1670-00-998-0116	Strap, parachute, release	1
7501-00-266-5016	Tape, adhesive, 2-inch	As required
1670-00-937-0271	Tie-down assembly, 15-foot.	10
1670-01-483-8259	Link, Parachute, Connector (H-block) (C-17 only)	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-inch	As required

Glossary

AFB	Air Force Base
AFMAN	Air Force Manual
AFR	Air Force regulation
AFTO	Air Force Technical Order
AFSOC	Air Force Special Operations Command
attn	attention
ALC	Airlift Logistics Center
AMC	Air Mobility Command
CB	center of balance
DA	Department of the Army
DC	District of Columbia
diam	diameter
eftc	extraction force transfer coupler
FM	field manual
ft	foot/feet
HQ	headquarters
in	inch
lb	pound
MICLIC	mine-clearing line charge
NO	number
NSN	national stock number
TM	technical manual
TO	technical order
TRADOC	United States Army Training and Doctrine Command
US	United States (of America)
USAR	United States Army Reserve
VA	Virginia
w	with

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References

AR 59-4/OPNAVINST 4630.24C/AFJ 13-210(I)/MCO 13480.1B, *Joint Airdrop Inspection Records, Malfunction/Incident Investigations and Activity Reporting*. 8 April 2008.

AFMAN 24-204 (I)/TM 38-250/NAVSUP PUB 505.MCOP4030.1.91/DLAI 4145.3, *Preparing Hazardous Materials for Military Air Shipments*. 15 April 2007.

FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, *Airdrop of Supplies and Equipment: Rigging Airdrop Platforms*. 8 June 2006.

FM 4-20.153/MCRP 4-11.3B/TO 13C7-18-41, *Airdrop of Supplies and Equipment: Rigging Ammunition*. 23 October 2006.

TM 10-1670-268-20&P/TO 13C7-52-22, *Organizational Maintenance Manual Including Repair Parts and Special Tools List for Type V Airdrop Platform and Dual Row Airdrop Platform*, 15 September 2002.

TM 10-1670-278-23&P/TO 13C5-26-2/TM 01109C-23&P1/NAVAIR 13-1-27. *Unit and Intermediate Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Cargo Type: 15-Foot Diameter, Cargo Extraction Parachute (NSN 1670-01-063-3715) and (1670-00-052-1548)*. 31 December 2004.

TM l0-1670-279-23&P/TO 13C5-27-2/NAVAIR 13-1-28. *Unit and Intermediate Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Cargo Type: 22-Foot Diameter, Cargo Extraction Parachute (NSN 1670-01-063-3716) and (1670-00-687-5458)*. 30 August 1989.

TM 10-1670-280-23&P/ TO 13C5-32-2/ NAVAIR 13-1-32. *Unit and Intermediate Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Cargo Type: 100-Foot Diameter, Model G-11B, G-11C, and G-11D*. 15 September 2002.

AFTO Form 22, *Technical Order Publication Improvement Report*

DA Form 2028, *Recommended Changes to Publication and Blank Forms*.

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FM 4-20.113
TO 13C7-3-51
27 March 2009

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