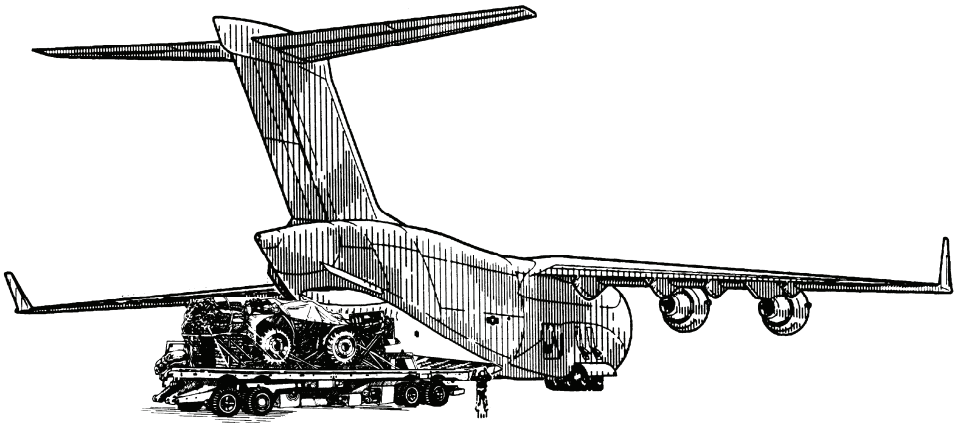
FM 4-20.152 (FM 10-552)
TO 13C7-22-61

Airdrop of Supplies and Equipment: Rigging Dragon and Javelin Missiles

SEPTEMBER 2007



Headquarters, Department of the Army
Department of the Air Force

Field Manual
No. 4-20.152 (10-552)
Technical Order
No. 13C7-22-61

Headquarters
Department of the Army
Department of the Air Force
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AIRDROP OF SUPPLIES AND EQUIPMENT: RIGGING DRAGON AND JAVELIN MISSILES

Contents

***This publication supersedes FM 10-552/TO 13C7-22-61, dated 5 March 1982.**

Preface

SCOPE

This manual tells and shows how to prepare and rig the Dragon and Javelin antitank/assault missiles for low-velocity airdrop from C-130 or C-17 aircraft. This manual is designed for all parachute riggers.

USER INFORMATION

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Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men

Introduction

DESCRIPTION OF ITEMS

The descriptions of the items rigged in this manual are given below:

Dragon or Dragon II Missiles

- Nine one-round containers are rigged in an A-22 cargo bag on a standard skid for a low-velocity airdrop.
- One 15-round container is rigged in an A-22 cargo sling on a standard skid for a low-velocity airdrop.
- Thirty-six one-round containers are rigged on an 8-foot type V platform for a low-velocity airdrop.
- Four 15-round containers are rigged on an 8-foot type V platform for a low-velocity airdrop.
- Four A-22 cargo bags with nine one-round containers in each A-22 cargo bag are rigged on an 8-foot type V platform for low-velocity airdrop.
- Four A-22 cargo slings with four 15-round containers are rigged on an 8-foot type V platform for low-velocity airdrop.

Javelin Missiles

- Rigging Two-Round A-7Adoor bundle for low-velocity airdrop.
- Rigging Four-Round A-7A door bundle for low-velocity airdrop.
- Rigging Nine-Round Container Delivery System (CDS) rigged in an A-22 stretch container for low-velocity airdrop.
- Rigging Javelin Missile Containers (plastic) in an A-22 container cargo bag assembly for low-velocity airdrop.
- Rigging thirty-Six Javelin Rounds as a mass supply load on a 12-foot type V, platform for low-velocity airdrop.
- Rigging Javelin Missile Containers (plastic) on an 8-foot, type V platform for low-velocity airdrop.
- Rigging Javelin Missile Containers on a 16-foot, type V platform for low-velocity airdrop.

SPECIAL CONSIDERATIONS

Special considerations for this manual are given below.

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

CAUTION

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

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

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Chapter 1

Rigging Dragon Missiles in an A-22 Cargo Bag

SECTION I-RIGGING NINE ONE-ROUND CONTAINERS

DESCRIPTION OF LOAD

1-1. Nine one-round containers (Figure 1-1) are rigged in an A-22 cargo bag on a standard skid. Each container is 47 ½ inches long, 16 inches wide, 16 inches high, and weighs 67 pounds. The rigged load uses either one G-12 or three G-14 cargo parachutes for low-velocity airdrop from a C-130 or C-17 aircraft.

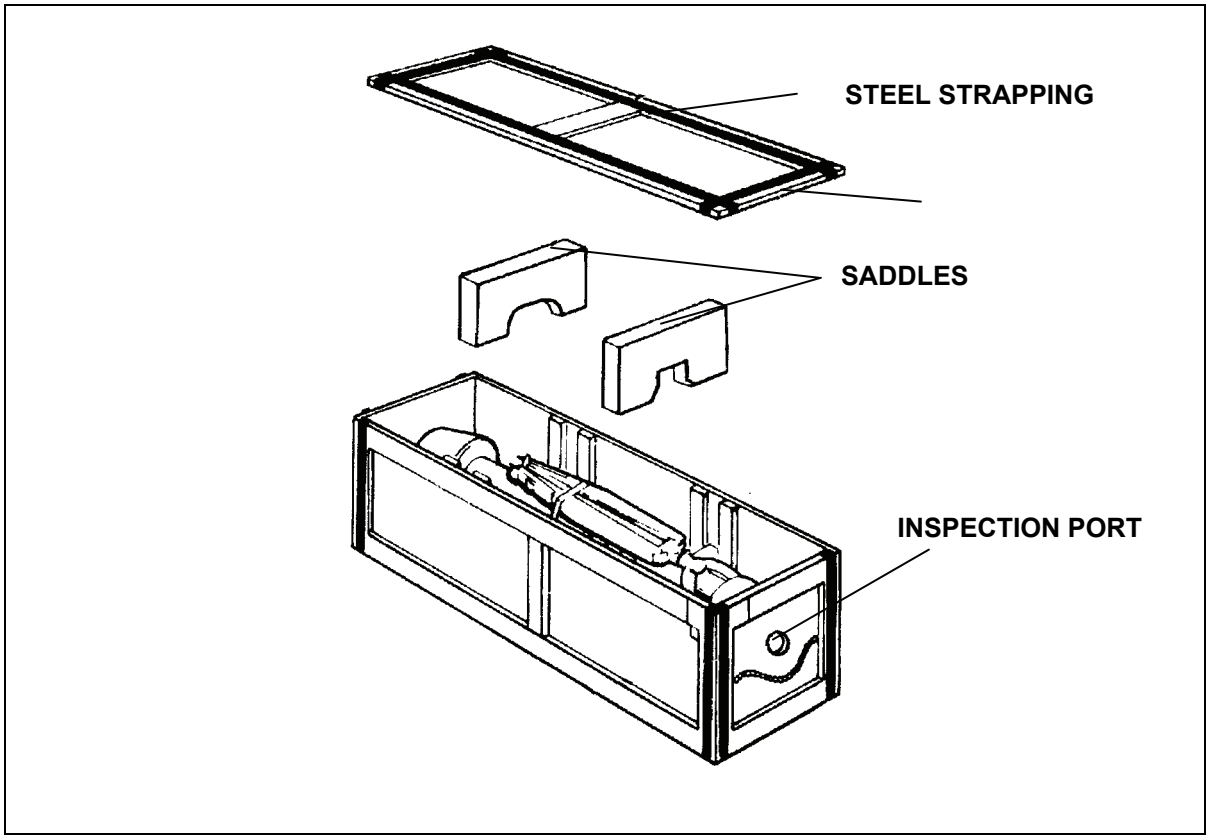
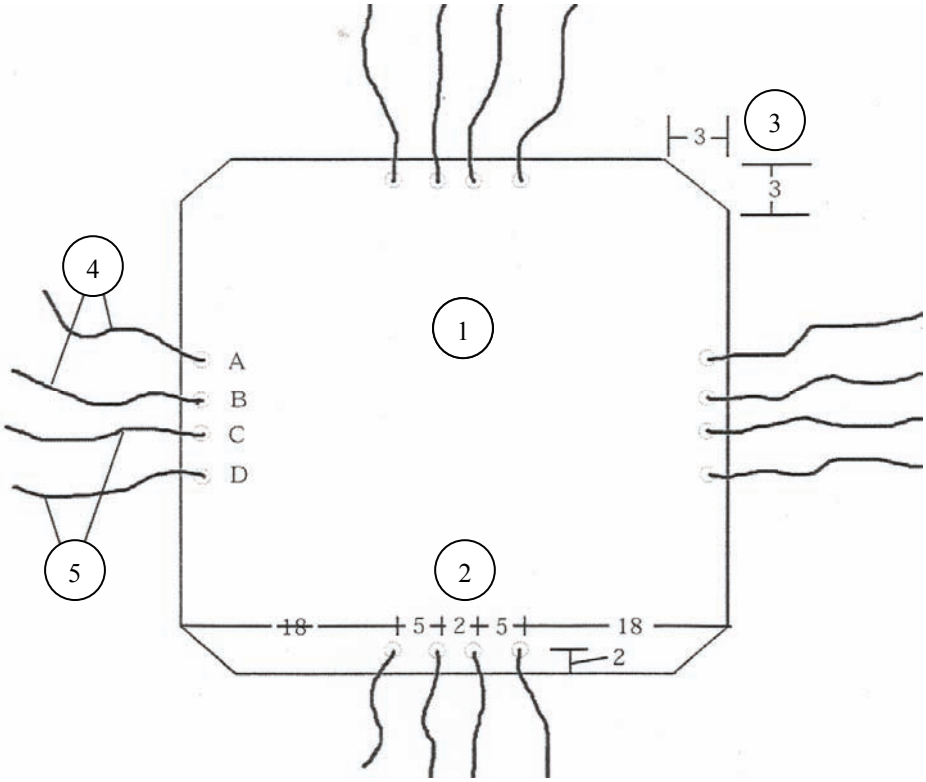


Figure 1-1. Dragon Missile in a One-Round Container

RIGGING LOAD

1-2. Rig nine one-round containers in an A-22 cargo bag according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and as shown in Figures 1-2 through 1-4.

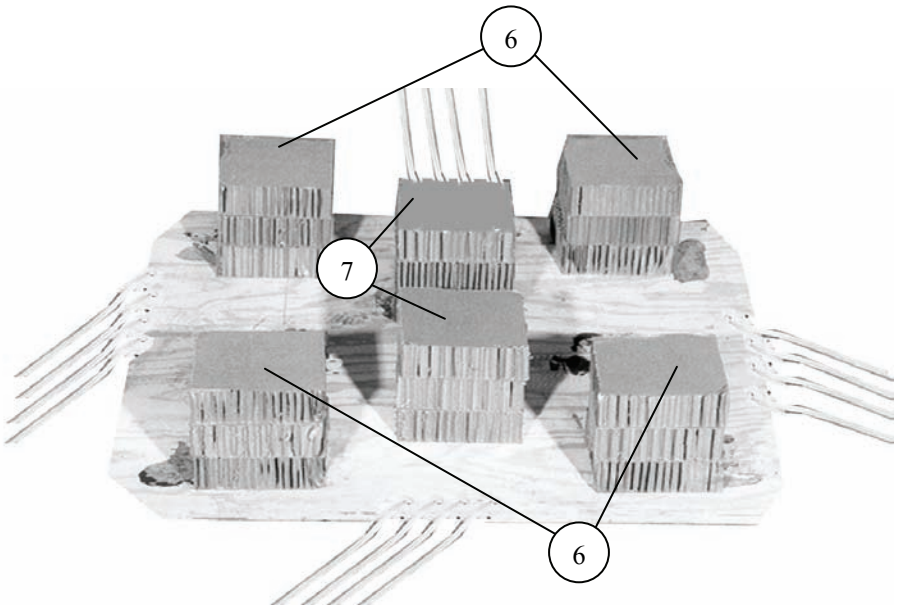
Notes. 1. All dimensions are in inches.
2. This drawing is not drawn to scale.



1. Place a 3/4- or 1- by 48- by 48-inch piece of plywood on a flat surface.
2. Drill four 1/2-inch holes on each side as shown above.
3. Measure 3 inches in from each corner of the skid board and make a diagonal cut.
4. Cut eight 8-foot lengths of 1/2-inch tubular nylon webbing. Route one length through hole A from the bottom and the other end through hole B from the bottom. Even the ends.
5. Repeat step 4 for holes C and D and remaining sides.

Figure 1-2. Skid Prepared and Honeycomb Stacks Positioned

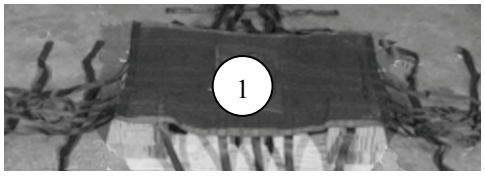
Note. All dimensions are in inches.



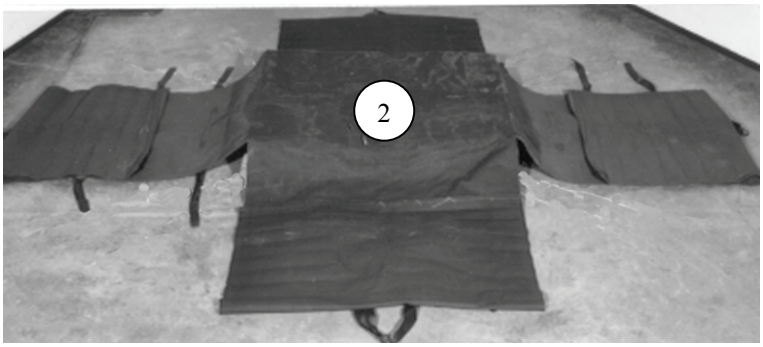
6. Make six honeycomb stacks using three layers of 9- by 9-inch honeycomb, and glue the layers together. Position and glue the corner stacks 3 inches in from the sides of the skid.

7. Position the center stacks 10 inches in from the skid board edges and center between the sides. Glue the stacks in place.

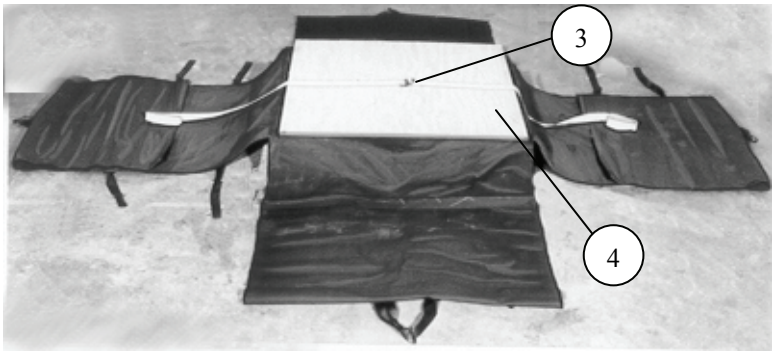
Figure 1-2. Skid Prepared and Honeycomb Stacks Positioned (Continued)



1. Center the A-22 sling assembly on the stacks with the outside of the sling down.



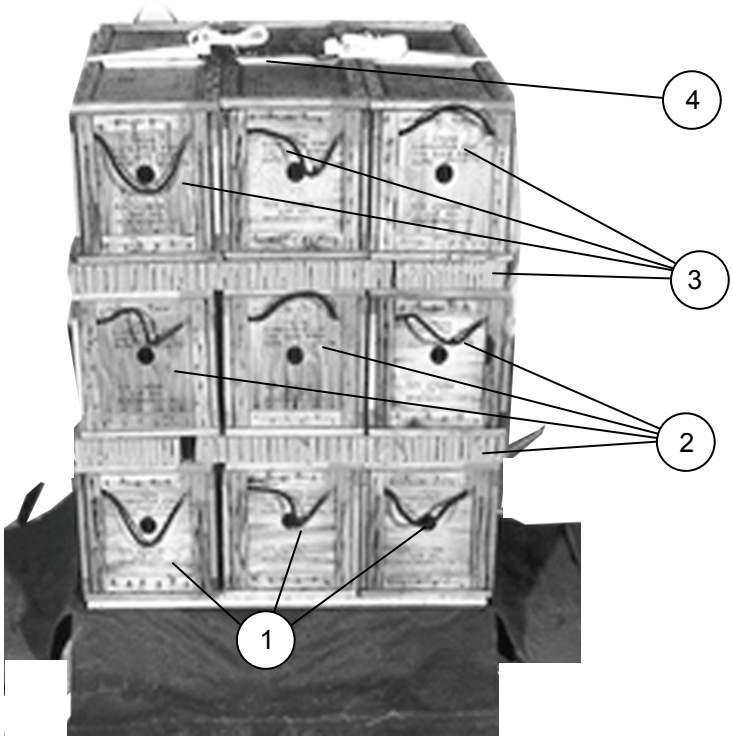
2. Center the A-22 cover on the sling assembly with the outside of the cover down.



3. Center a 3/4- by 48 by 48-inch piece of plywood on the cover.

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 and lay the strap across the center of the plywood from side to side.

Figure 1-3. Cargo Bag, Plywood, and Tiedown Strap Positioned



1. Place three containers on the plywood so that the 47 ½-inch sides of the containers are parallel with the sides of the skid.
2. Place a layer of honeycomb (one piece 36 by 48 inches and one piece 12 by 48 inches) on the containers. Set three more containers on the honeycomb.
3. Place another layer of honeycomb on the containers. Set the last three containers on the honeycomb.
4. Run the ends of the 30-foot tiedown strap over the top of the stacked containers, and bind the ends together with two D-rings and a load binder.

Figure 1-4. Nine One-Round Containers Positioned

CLOSING CARGO BAG

1-3. Close the A-22 cargo bag according to the steps in FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

INSTALLING PARACHUTES

1-4. Prepare and stow one G-12 cargo parachute with a 68-inch pilot parachute or three G-14 cargo parachutes according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

Note. This rigged A-22 cargo bag weighs 863 pounds. It is 81 inches high, 53 ½ inches wide, and 48 inches long.

EQUIPMENT REQUIRED

1-5. The equipment needed to rig nine one-round containers is listed in Table 1-1.

Table 1-1. Equipment Required for Rigging Nine One–Round Containers in an A-22 Cargo Bag for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive, paste 1-gallon	As required
8465-00-587-3421	Bag, cargo, aerial delivery, type A-22	1
4030-00-678-8562	Clevis Assembly, suspension, cargo	1
4020-00-240-2146	Cord, nylon, type III	As required
1670-00-217-2421	Link Assembly, parachute connector, removable, L Bar	3
1670-00-753-3928	Pad, energy-dissipating, honeycomb	2 sheets
1670-00-216-7297	Pilot Chute, cargo type, 68-in diam	1
1670-00-999-2658	Parachute, cargo, 34-foot, G-14	3
1670-01-065-3755	Parachute, cargo, 64-foot, G-12	1
5530-00-128-4981	Plywood, 3/4- by 48- by 48-inch	1 sheet
1670-00-883-1654	Skid, cargo bag, platform	1
1670-00-738-5878	Strap, connector, extraction, 60-inch	3
1670-00-738-5879	Strap, connector, extraction, 120-inch	3
8305-00-082-5752	Tape, adhesive, 2-inch	As required
8305-00-263-3591	Tie-down assembly, 15-foot	2
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon: Tubular, 1/2-inch	As required

SECTION II-RIGGING ONE 15-ROUND CONTAINER

DESCRIPTION OF LOAD

1-6. One 15-round container (Figure 1-5) is rigged in an A-22 cargo sling on a standard skid. The container is 49 inches long, 37 inches wide, 67 inches high, and weighs 695 pounds. The rigged load uses either one G-12, or three G-14 cargo parachutes. The rigged load also uses four extra suspension webs.

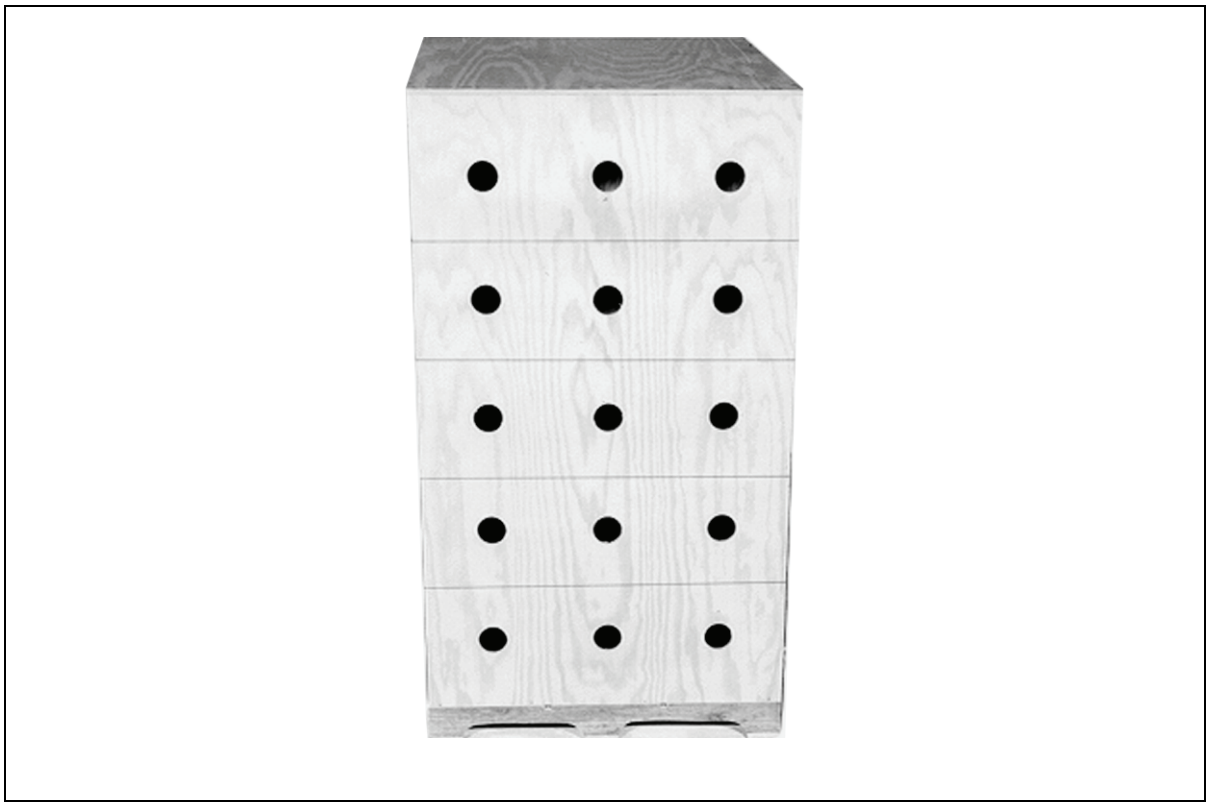
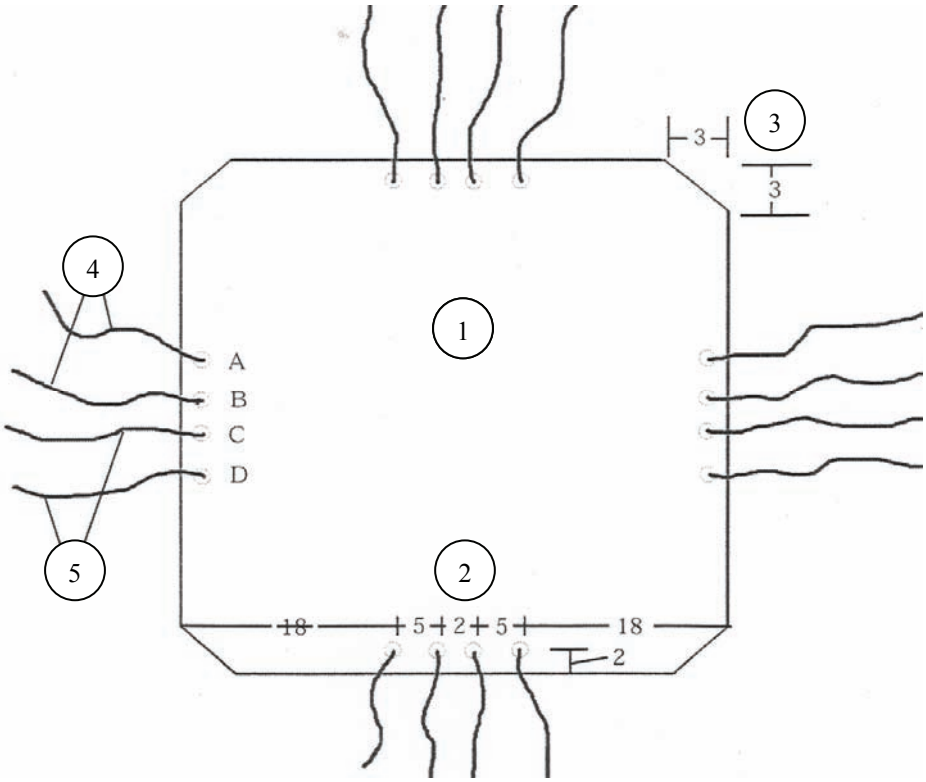


Figure 1-5. One 15-Round Dragon Missile Container

RIGGING LOAD

1-7. Rig one 15-round Dragon missile container in an A-22 cargo sling assembly according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and as shown in Figures 1-6 through 1-8.

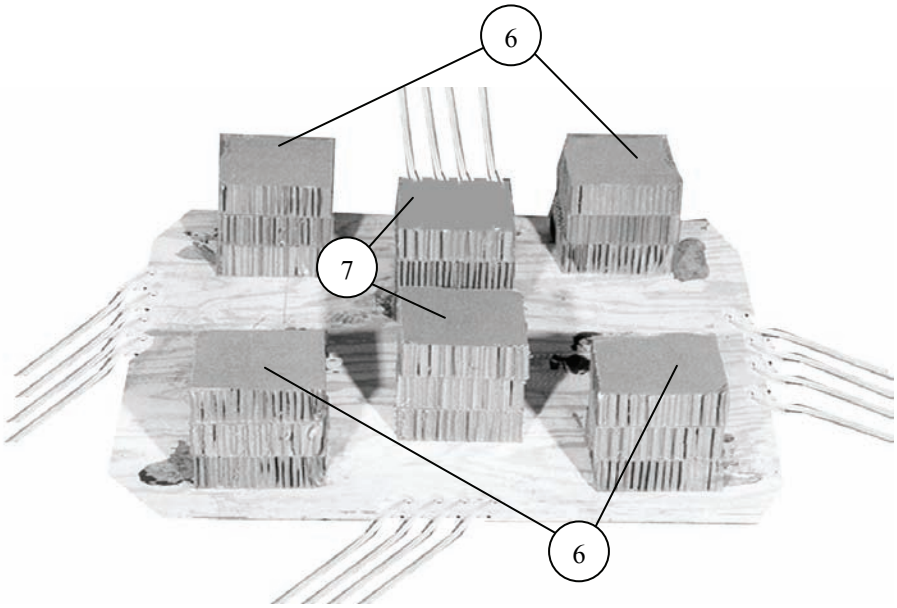
Notes. 1. All dimensions are in inches.
2. This drawing is not drawn to scale.



1. Place a 3/4- or 1- by 48- by 48-inch piece of plywood on a flat surface.
2. Drill four 1/2-inch holes on each side as shown above.
3. Measure 3 inches in from each corner of the skid board and make a diagonal cut.
4. Cut eight 8-foot lengths of 1/2-inch tubular nylon webbing. Route one length through hole A from the bottom and the other end through hole B from the bottom. Even the ends.
5. Repeat step 4 for holes C and D and remaining sides.

Figure 1-6. Skid Prepared and Honeycomb Stacks Positioned

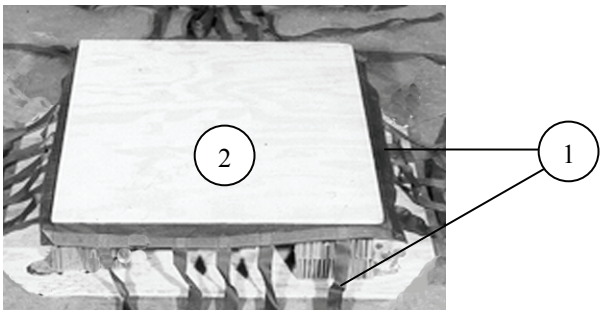
Note. All dimensions are in inches.



6. Make six honeycomb stacks using three layers of 9- by 9-inch honeycomb, and glue the layers together. Position and glue the corner stacks 3 inches in from the sides of the skid.

7. Position the center stacks 10 inches in from the skid board edges and center between the sides. Glue the stacks in place.

Figure 1-6. Skid Prepared and Honeycomb Stacks Positioned (Continued)

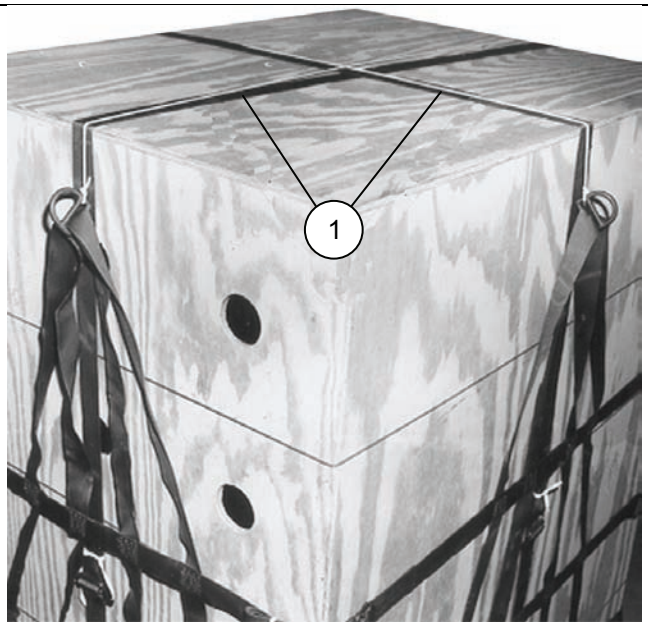


1. Center the A-22 sling assembly on the stacks with the outside of the sling down and the long side of the scuff pad parallel with the side of the skid.

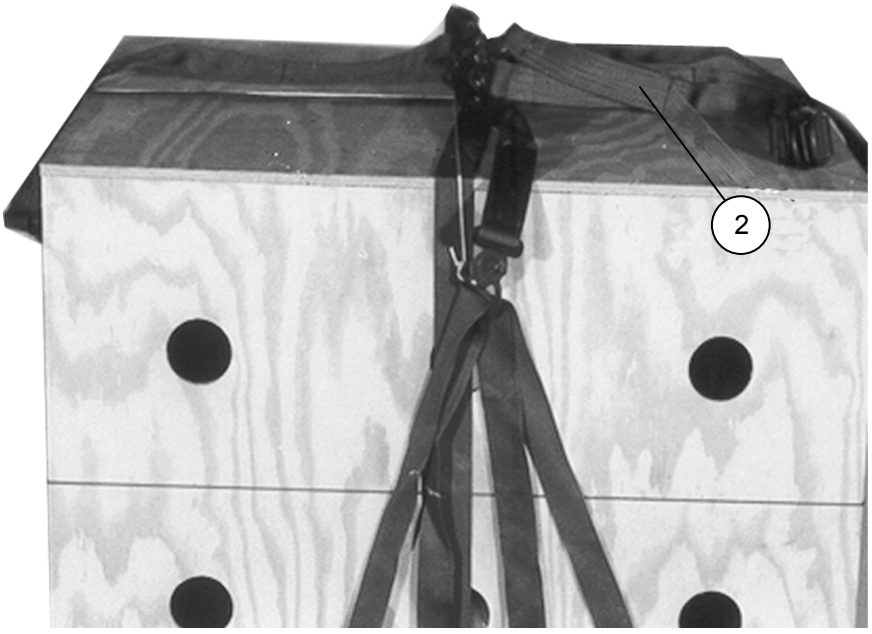
2. Center a 3/4- by 38- by 48-inch piece of plywood on the scuff pad.

Note. Set the container on the plywood. Close the A-22 cargo sling by following the steps in FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

Figure 1-7. A-22 Cargo Sling and Plywood Positioned



1. Tie the D-ring on the front support web to the D-ring on the rear support web with type III nylon cord. Tie the D-rings of the side support webs together using type III nylon cord.



2. Snap another suspension web to each normally rigged suspension web. This gives a two-suspension web length snapped onto the D-rings. Make sure that the open side of the connector snaps face inward. Tape all connector snaps.

Figure 1-8. Container Positioned, and Cargo Sling Closed

CLOSING CARGO BAG

1-8. Close the A-22 cargo bag according to the steps in FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

INSTALLING PARACHUTES

1-9. Prepare and stow one G-12 cargo parachute with a 68-inch pilot parachute or three G-14 cargo parachutes according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

Note. This A-22 cargo sling weighs 925 pounds. It is 95 inches high, 53 ½ inches wide, and 49 inches long.

EQUIPMENT REQUIRED

1-10. The equipment needed to rig one 15-round container is listed in Table 1-2.

Table 1-2. Equipment Required for Rigging One 15-Round Container in an A-22 Cargo Bag for Low-Velocity Airdrop.

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive, paste 1-gal	As required
8465-00-587-3421	Bag, cargo, aerial delivery, type A-22	1
4030-00-678-8562	Clevis Assembly, suspension, cargo	1
4020-00-240-2146	Cord, nylon, type III	As required
1670-00-217-2421	Link Assembly, parachute connector, removable, L Bar	3
1670-00-753-3928	Pad, energy-dissipating, honeycomb	1 sheet
1670-00-216-7297	Pilot Chute, cargo type, 68-in diameter	1
1670-00-999-2658	Parachute, cargo, 34-ft, G-14	3
1670-01-065-3755	Parachute, cargo, 64-ft, G-12	1
5530-00-128-4981	Plywood, 3/4- by 38- by 48-in	1 sheet
1670-00-883-1654	Skid, cargo bag, platform	1
1670-00-738-5878	Strap, connector, extraction, 60-in	3
1670-00-738-5879	Strap, connector, extraction, 120-in	3
1670-00-360-0560	Strap, webbing, suspension, A-22 cargo bag	8
8305-00-082-5752	Tape, adhesive, 2-inch	As required
8305-00-263-3591	Tie-down assembly, 15-foot	2
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon: Tubular, 1/2-inch	As required

Chapter 2

Rigging Dragon or Dragon II Missile Containers on an 8-Foot, Type V Platform for Low-Velocity Airdrop

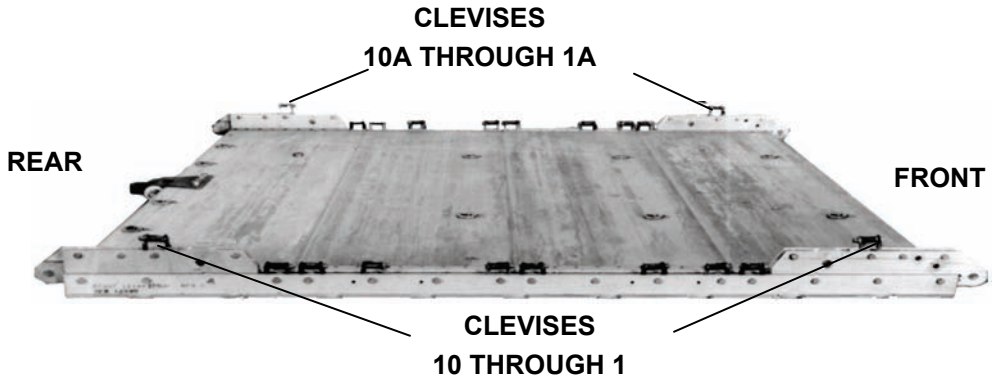
SECTION I-RIGGING 36 ONE-ROUND CONTAINERS

DESCRIPTION OF LOAD

2-1. Thirty-six Dragon II missiles in one-round containers are rigged on an 8-foot, type V platform with one G-11 cargo parachute for low-velocity airdrop (LVAD) from a C-130 or C-17 aircraft. Each container is 47 ½ inches long, 16 inches wide, 16 inches high, and weighs 67 pounds.

PREPARING PLATFORM

2-2. Prepare an 8-foot, type V platform using 4 tandem links and 20 clevises as shown in Figure 2-1.



Step:

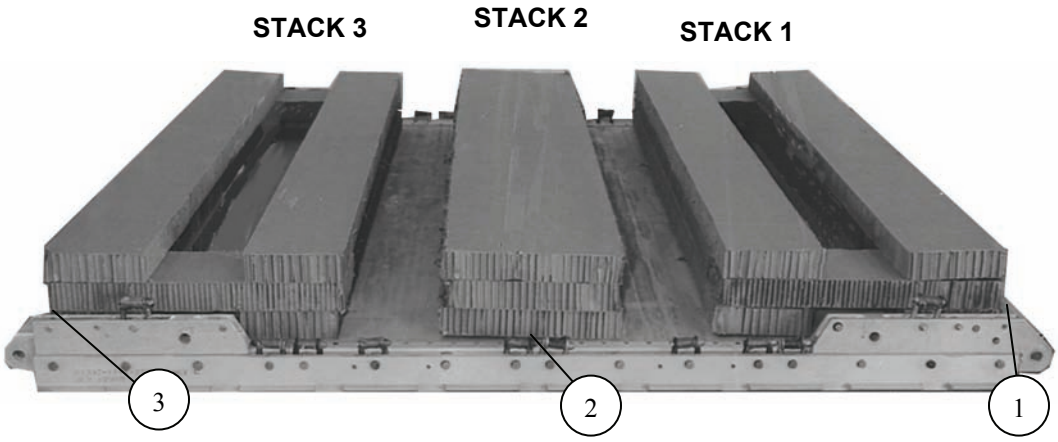
1. Inspect, or assemble and inspect, an 8-foot, type V platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
3. Install a tandem link to the rear of each platform side rail using holes 14, 15, and 16.
4. Install clevises on bushing 3 of each front tandem link.
5. Install clevises on bushing 3 of each rear tandem link.
6. Starting at the front of the right platform side rail, install clevises on the bushings bolted to holes 4, 5, 6, 8, 9, 11, 12, and 13. Repeat for the left side.
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 tiedown rings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 2-1. Platform Prepared

BUILDING AND PLACING HONEYCOMB STACKS

2-3. Prepare and position the honeycomb stacks as shown in Figure 2-2.

Notes.
1. Measurements from the front of the platform are taken from the front edge of the first panel.
2. Measurements from the rear edge of the platform are taken from the rear edge of the last panel.



1. Build the first stack by using the following pieces of honeycomb, and position the honeycomb flush with the front edge of the platform.

4 pieces	10- by 96-inches	(1st and 3rd layers)
2 pieces	10- by 76-inches	(2nd layer)
2 pieces	10- by 29-inches	(2nd layer bridge)

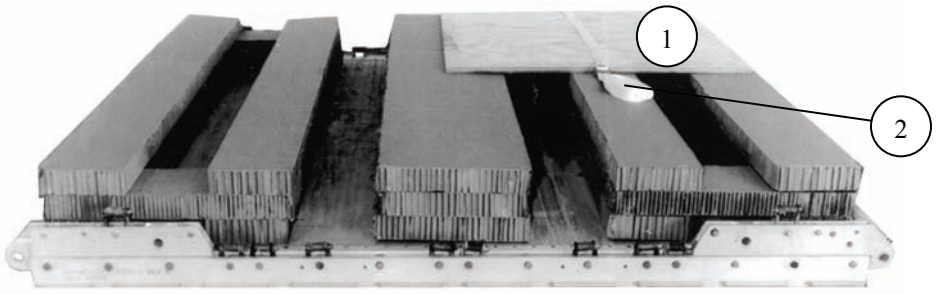
2. Build the second stack by using three pieces of honeycomb (18- by 96-inch). Center the stack over the joint where the second and third panels join together and between the side rails.

3. Build the third stack by repeating step 1 above, and position the honeycomb flush with the rear edge of the platform.

Figure 2-2. Honeycomb Stacks Positioned

POSITIONING AND LASHING MISSILE CONTAINER GROUPS 1 THROUGH 4

2-4. Position and lash the missile container groups 1 through 4 as shown in Figures 2-3 through 2-5.



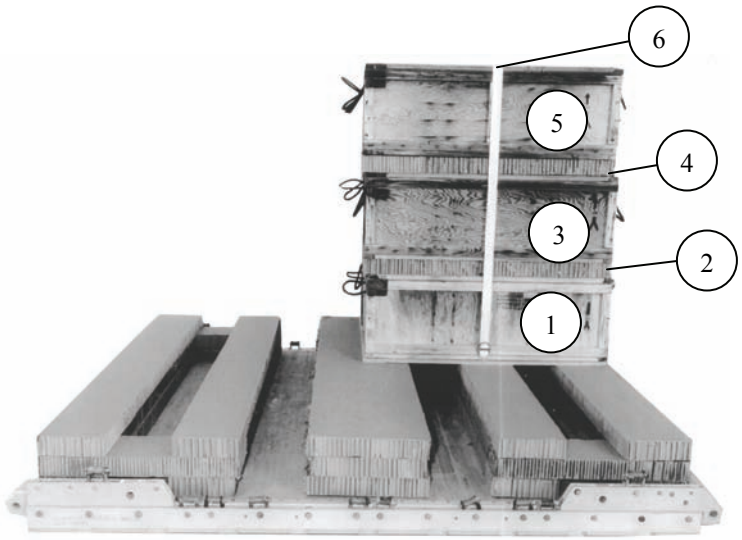
1. Position a piece of 3/4- by 48- by 48-inch plywood on the first stack. Place the plywood so that the outside edges are flush with the outside edges of the first stack.

2. Form a 30-foot lashing as outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Lay the lashing across the center of the plywood.

Figure 2-3. Plywood and Lashing Positioned

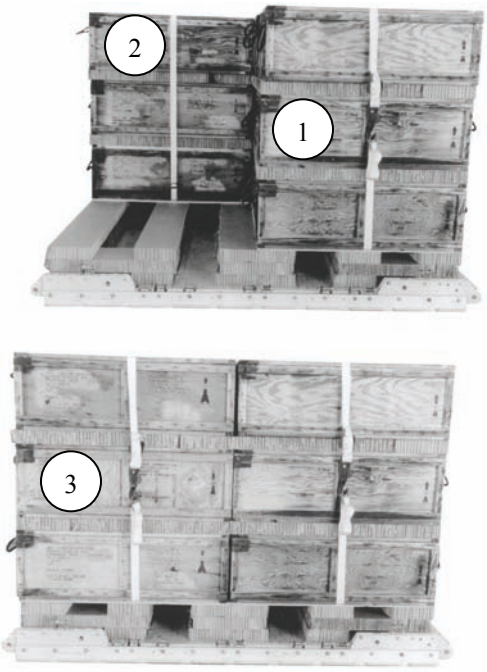
CAUTION

Make sure the inspection port holes in the missile containers face the front and rear of the platform.



1. Set three containers side by side on the plywood and lashing.
2. Position one layer of honeycomb (one piece 36 by 48 inches and one piece 12 by 48 inches) on the containers.
3. Set three more containers on the honeycomb layer.
4. Position another layer of honeycomb (one piece 36 by 48 inches and one piece 12 by 48 inches) on the containers.
5. Set the last three containers on the honeycomb layer.
6. Bind the nine missile containers together with the 30-foot lashing. Secure the lashing on the side of the containers with two D-rings and a load binder.

Figure 2-4. First Missile Container Group Positioned, Stacked, and Lashed



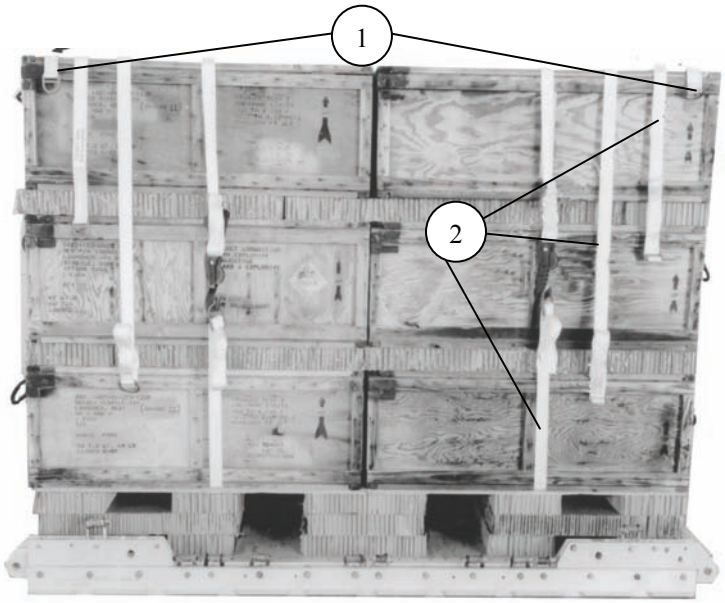
1. Position the second group of containers following the steps in Figures 2-3 and 2-4.
2. Position the third group of containers following the steps in Figures 2-3 and 2-4; however, place the plywood on the center and third stacks and flush with the outside edge of the third stack.
3. Position the fourth group of containers following the steps in Figures 2-3 and 2-4; however, place the plywood on the center and third stacks and flush with the outside edge of the third stack.

Figure 2-5. Missile Container Groups 2 and 3 and Positioned and Lashed

POSITIONING AND LASHING MISSILE CONTAINERS

2-5. Position the lashings as shown in Figure 2-6 and lash the containers to the platform as shown in Figures 2-7 through 2-9. Install and safety the lashings as outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

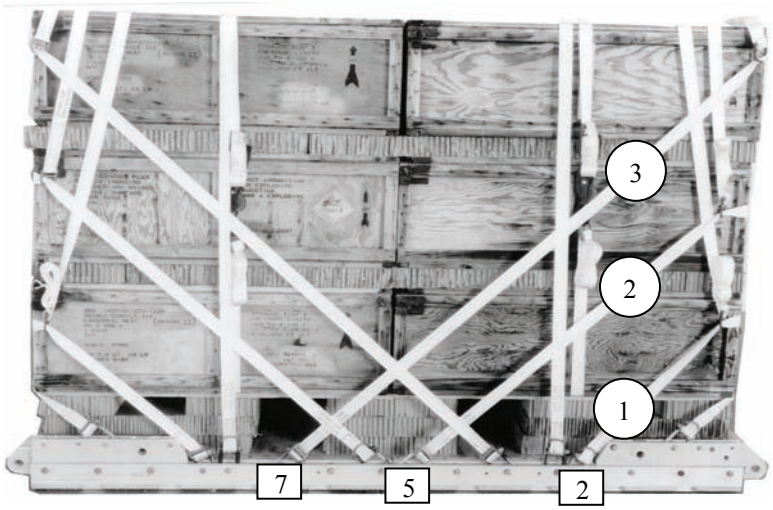
Note. Make sure all corners and sharp edges are padded.



1. Form two 30-foot lashings as outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Lay two 15-foot lashings and one 30-foot lashing across both the front and rear edges of the container groups.

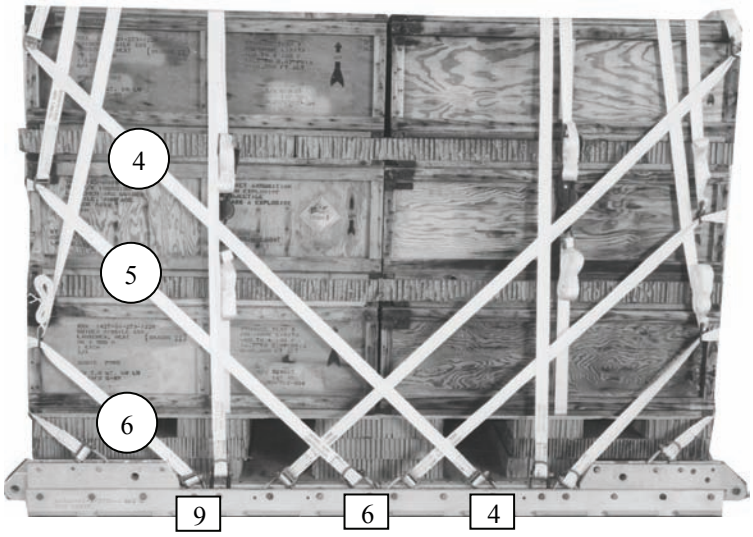
2. Fit a D-ring to each lashing and adjust the length of the straps to center each D-ring with a layer of containers.

Figure 2-6. Lashings Positioned



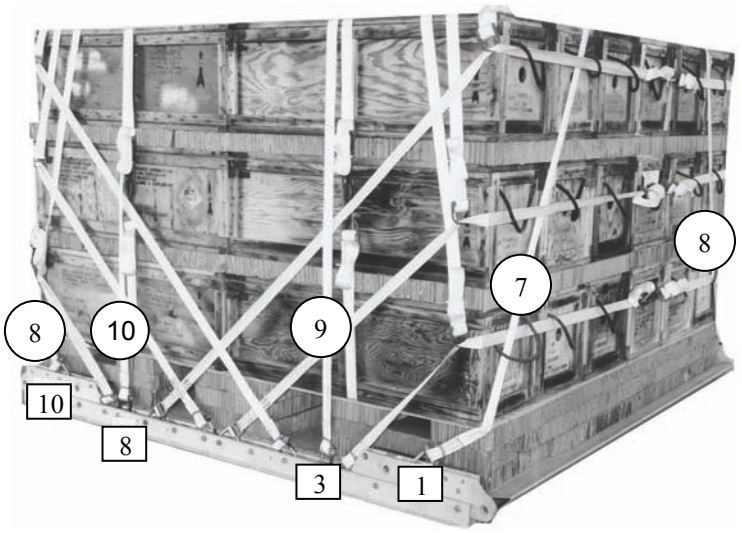
Lashing Number	*Tiedown Clevis Number*	*Instructions*
1	2 and 2A	Run a 15-foot lashing from clevis 2 and a 15-foot lashing from clevis 2A. Pass the lashings through the D-rings and containers carrying handles centered on the bottom container layer. Secure the lashings on the front using two D-rings and a load binder.
2	5 and 5A	Run a 15-foot lashing from clevis 5 and a 15-foot lashing from clevis 5A. Pass the lashings through the D-rings and containers carrying handles centered on the middle container layer. Secure the lashings on the front using two D-rings and a load binder.
3	7 and 7A	Run a 15-foot lashing from clevis 7 and a 15-foot lashing from clevis 7A. Pass the lashings through the D-rings and containers carrying handles centered on the top container layer. Secure the lashings on the front using two D-rings and a load binder.

Figure 2-7. Lashings 1 through 3 Installed



Lashing Number	*Tiedown Clevis Number*	*Instructions*
4	4 and 4A	Run a 15-foot lashing from clevis 4 and a 15-foot lashing from clevis 4A. Pass the lashings through the D-rings and containers carrying handles centered on the top container layer. Secure the lashings on the rear using two D-rings and a load binder.
5	6 and 6A	Run a 15-foot lashing from clevis 6 and a 15-foot lashing from clevis 6A. Pass the lashings through the D-rings and containers carrying handles centered on the middle container layer. Secure the lashings on the rear using two D-rings and a load binder.
6	9 and 9A	Run a 15-foot lashing from clevis 9 and a 15-foot lashing from clevis 9A. Pass the lashings through the D-rings and containers carrying handles centered on the bottom container layer. Secure the lashings on the rear using two D-rings and a load binder.

Figure 2-8. Lashings 4 through 6 Installed

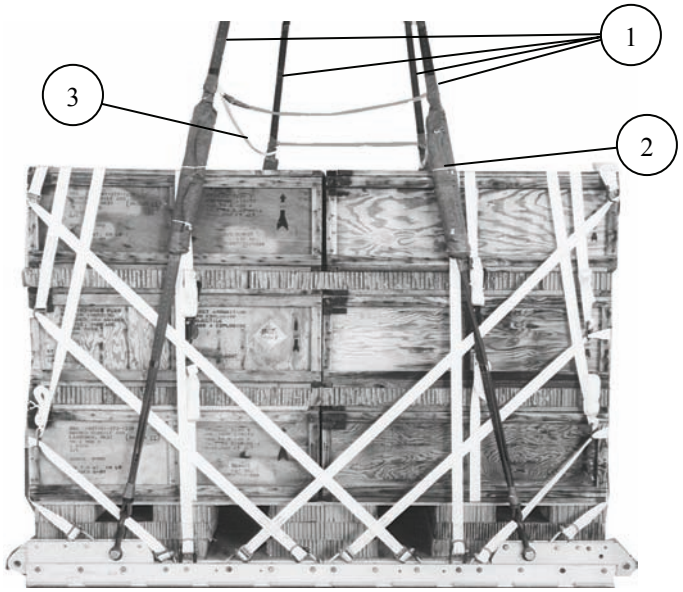


Lashing Number	*Tiedown Clevis Number*	*Instructions*
7	1 and 10A	Run a 15-foot lashing from clevis 1 and a 15-foot lashing from clevis 10A. Pass the lashings around the bottom ends of the containers and through the bottom and top containers carrying handles and up over the load. Secure the lashings on the top using two D-rings and a load binder.
8	1A and 10	Run a 15-foot lashing from clevis 1A and a 15-foot lashing from clevis 10. Pass the lashings around the bottom ends of the containers and through the bottom and top containers carrying handles and up over the load. Secure the lashings on the top using two D-rings and a load binder.
9	3 and 3A	Run a 15-foot lashing from clevis 3 and a 15-foot lashing from clevis 3A. Pass the lashings over the top of the load. Secure the lashings on the top using two D-rings and a load binder.
10	8 and 8A	Run a 15-foot lashing from clevis 8 and a 15-foot lashing from clevis 8A. Pass the lashings over the top of the load. Secure the lashings on the top using two D-rings and a load binder.

Figure 2-9. Lashings 7 through 10 Installed

INSTALLING SUSPENSION SLINGS AND DEADMAN'S TIE

2-6. Install and safety four 16-foot (2-loop), type XXVI nylon slings and four large clevises. Attach each suspension sling to a clevis and attach one clevis to all four tandem links as shown in Figure 2-10.



1. Attach one 16-foot (2-loop), type XXVI nylon suspension sling to a large suspension clevis. Attach the clevis to one of the tandem links. Repeat the same procedure for the other three tandem links.

2. Use four pieces of felt padding (approximately 18 by 6 inches) to pad the slings. Secure the felt to the sling with type III nylon cord and cloth back tape.

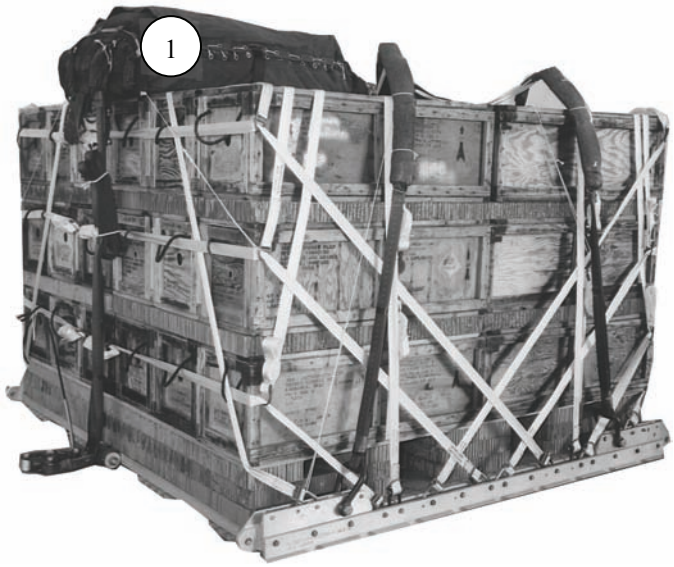
3. Raise the suspension slings above the load, and install a deadman's tie as outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 2-10. Suspension Slings and Deadman's Tie Installed

STOWING CARGO PARACHUTE

2-7. Stow one G-11B cargo parachute as outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-11.

Note. Use a 12-foot (2-loop), type XXVI nylon sling as a deployment line.

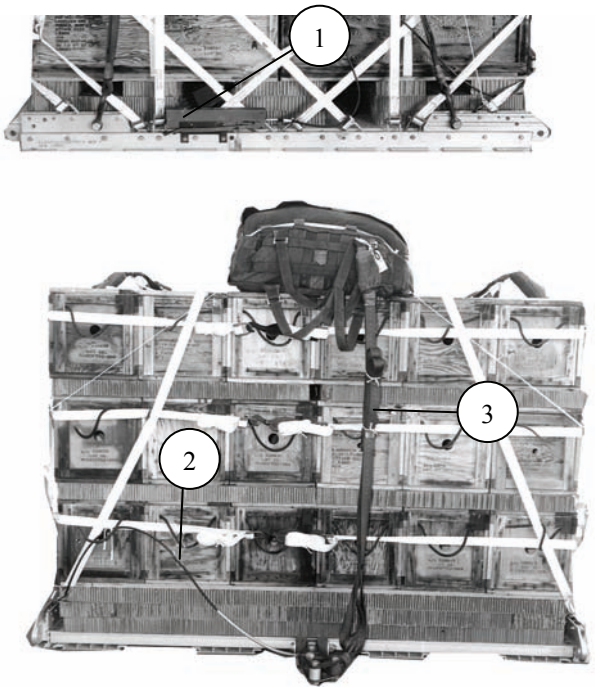


1. Prepare, place, and secure one G-11B cargo parachute according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 2-11. Cargo Parachute Stowed and Secured to Load

INSTALLING EXTRACTION SYSTEM

2-8. Attach the components of the Extraction Force Transfer Coupling (EFTC) according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-12.



1. Install the EFTC mounting brackets to the front mounting holes in the left platform rail. Install the EFTC actuator assembly according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

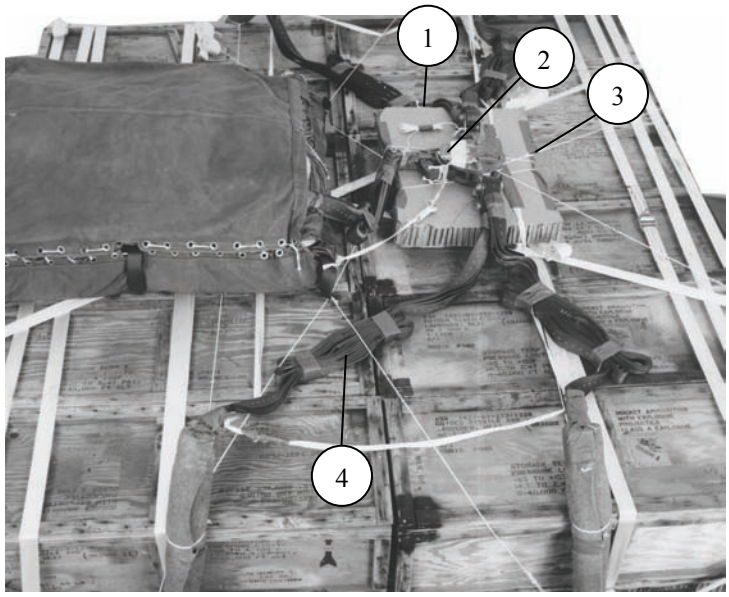
2. Attach a 12-foot cable according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Safety the cable to the lashing with type I, 1/4-inch cotton webbing.

3. Attach a 12-foot (2-loop), type XXVI nylon sling as a deployment line to the load. Bolt it to the latch assembly on the right spacer. S-fold the excess deployment line and secure the folds with type I, 1/4-inch cotton webbing.

Figure 2-12. EFTC Installed

INSTALLING PARACHUTE RELEASE

2-9. Prepare, attach, and safety an M-1 cargo parachute release according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-13.



1. Position an 18- by 24-inch piece of honeycomb on top of the load, and secure the honeycomb with type III nylon cord.
2. Place the M-1 release on top of the honeycomb, and attach the suspension slings and the parachute riser extensions.
3. Secure the M-1 release to the load with type III nylon cord.
4. S-fold and tape or tie any excess suspension slings.

Figure 2-13. M-1 Cargo Parachute Release Installed

PLACING EXTRACTION PARACHUTE

2-10. 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

2-11. 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

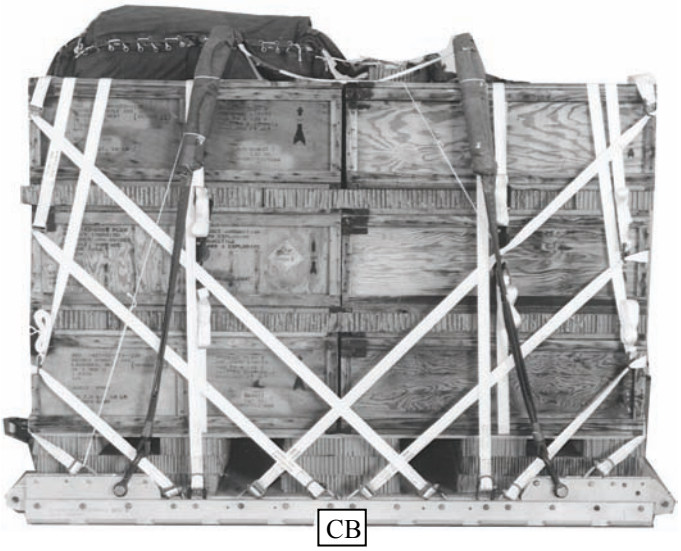
2-12. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 2-14. Complete Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

2-13. 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.



RIGGED LOAD DATA

Weight: Load shown ..... 3,960 pounds

Height ..... 83 inches

Width ..... 108 inches

Overall Length ..... 96 inches

Overhang: Front ..... 0 inches

Rear ..... 0 inches

Center of Balance (from front edge of the platform) ..... 50 inches

Extraction System with 12-foot cable (adds 18 inches to length of platform) ..... EFTC

Figure 2-14. Thirty-Six One-Round Containers Rigged on an 8-Foot, Type V Platform for Low-Velocity Airdrop

Table 2-1. Equipment Required for Rigging 36 One-Round Dragon or Dragon II Missile Containers on an 8-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive, paste, 1-gallon	As required
	Clevis, suspension:	
4030-00-678-8562	3/4-inch (medium) emergency restraint	2
4030-00-090-5354	1-inch (large)	5
4020-00-240-2146	Cord, nylon, type III	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer with 12-foot cable	1
1670-00-360-0328	Cover, clevis, large	1
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-inch thick	As required
1670-01-183-2678	Leaf, extraction line	1
	Line, extraction, type XXVI nylon webbing:	
1670-01-062-6313	60-foot (1-loop)	1
	Or	
1670-01-107-7652	160-foot (1-loop)	1
1670-01-064-4452	60-foot (1-loop), type XXVI for C-17 drogue line	1
	Link assembly, two-point:	
5306-00-435-8994	Bolt, 1-inch diameter, 4-inch long	1
5310-00-232-5165	Nut, 1-inch, hexagonal	1
1670-00-003-1953	Plate, side 3 3/4-inch	1
5365-00-007-3414	Spacer, large	1
1670-00-753-3928	Pad, energy-dissipating, honeycomb	9 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	1
1670-01-063-3715	Cargo, extraction, 15-foot	1
	Platform, airdrop, type V, 8-foot	
1670-01-353-8425	Bracket assembly, EFTC	1
1670-01-162-2376	Bracket assembly, extraction	1
1670-01-162-2372	Clevis assembly	20
1670-01-162-2381	Tandem link	4
5530-00-128-4981	Plywood, 3/4-inch	2 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1

Table 2-1. Equipment Required for Rigging 36 One-Round Dragon or Dragon II Missile Containers on an 8-Foot, Type V Platform for Low-Velocity Airdrop (Continued)

National Stock Number	*Item*	*Quantity*
	Sling, cargo airdrop:	
	For deployment line:	
1670-00-753-3792	12-foot (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6301	3-foot (2-loop), type XXVI nylon webbing	4
	For suspension:	
1670-01-063-7761	16-foot (2-loop), type XXVI nylon webbing	4
1670-00-040-8219	Strap parachute release, multicut	1
7515-00-266-5016	Tape, adhesive, 2-inch	As required
7501-00-266-6710	Tape, masking	As required
1670-00-937-0271	Tie-down assembly, 15-foot	36
1670-01-483-8259	Towplate release mechanism (H-block) (C-17)	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
	Nylon:	
8305-00-082-5752	Tubular, 1/2-inch	As required
8305-00-263-3591	Type VIII webbing	As required

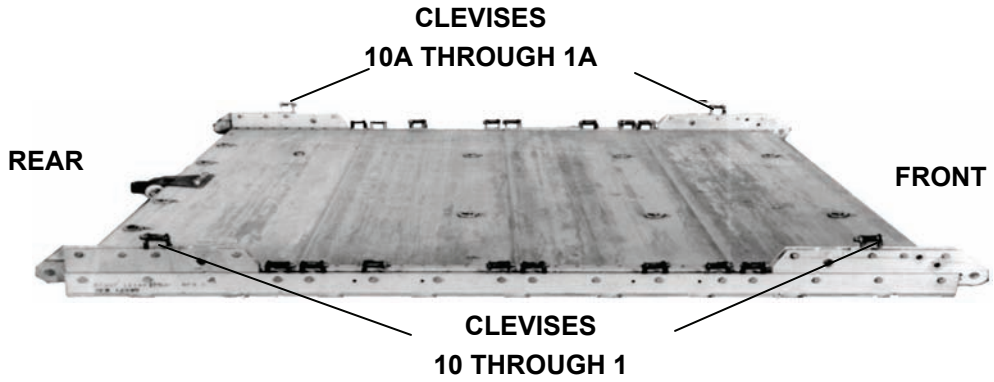
SECTION II-RIGGING FOUR 15-ROUND CONTAINERS

DESCRIPTION OF LOAD

2-14. Four Dragon or Dragon II missiles in 15-round containers are rigged on an 8-foot, type V airdrop platform with one G-11 cargo parachute for low-velocity airdrop (LVAD) from a C-130 or C-17 aircraft. Each container is 49 inches long, 37 inches wide, 67 inches high, and weighs 695 pounds.

PREPARING PLATFORM

2-15. Prepare an 8-foot airdrop platform as shown in Figure 2-15.



Step:

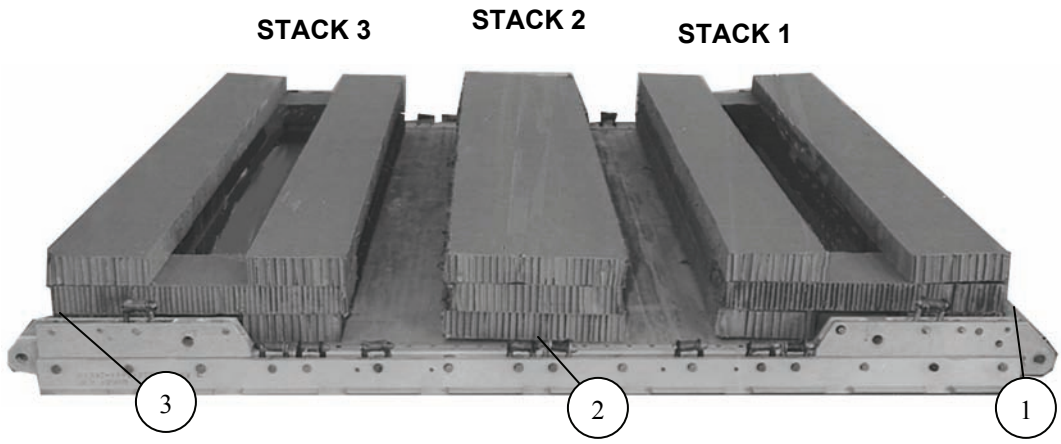
1. Inspect, or assemble and inspect, an 8-foot, type V platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
3. Install a tandem link to the rear of each platform side rail using holes 14, 15, and 16.
4. Install clevises on bushing 3 of each front tandem link.
5. Install clevises on bushing 3 of each rear tandem link.
6. Starting at the front of the right platform side rail, install clevises on the bushings bolted to holes 4, 5, 6, 8, 9, 11, 12, and 13. Repeat for the left side.
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 tiedown rings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 2-15. Platform Prepared

BUILDING AND PLACING HONEYCOMB STACKS

2-16. Prepare and position the honeycomb stacks as shown in Figure 2-16.

Notes.
1. Measurements from the front of the platform are taken from the front edge of the first panel.
2. Measurements from the rear edge of the platform are taken from the rear edge of the last panel.



1. Build the first stack by using the following pieces of honeycomb, and position the honeycomb flush with the front edge of the platform.

4 pieces	10- by 80-inches	(1st and 3rd layers)
2-pieces	10- by 60-inches	(2nd layer)
2 pieces	10- by 29-inches	(2nd layer bridge)

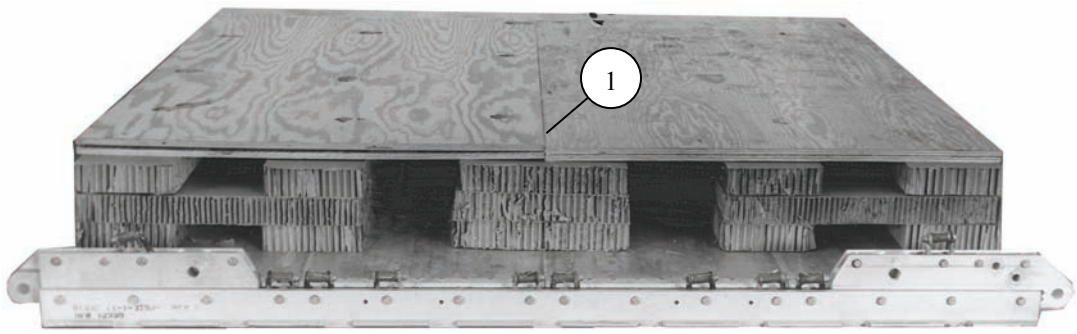
2. Build the second stack by using three pieces of honeycomb (18- by 80-inch). Center the stack over the joint where the second and third panels join together and between the side rails.

3. Build the third stack by repeating step 1 above, and position the honeycomb flush with the rear edge of the platform.

Figure 2-16. Honeycomb Stacks Positioned

POSITIONING THE PLYWOOD

2-17. Position plywood on honeycomb stacks as shown in Figure 2-17.



1. Position four pieces of 3/4- by 48- by 76-inch plywood on the honeycomb stacks. Center the plywood from left to right and front to rear.

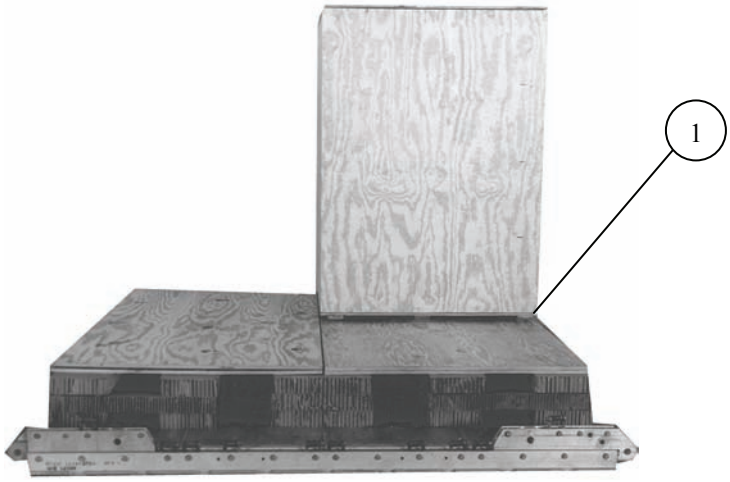
Figure 2-17. Plywood Positioned

POSITIONING MISSILE CONTAINERS

2-18. Place four 15-round containers on the platform as shown in Figures 2-18 and 2-19.

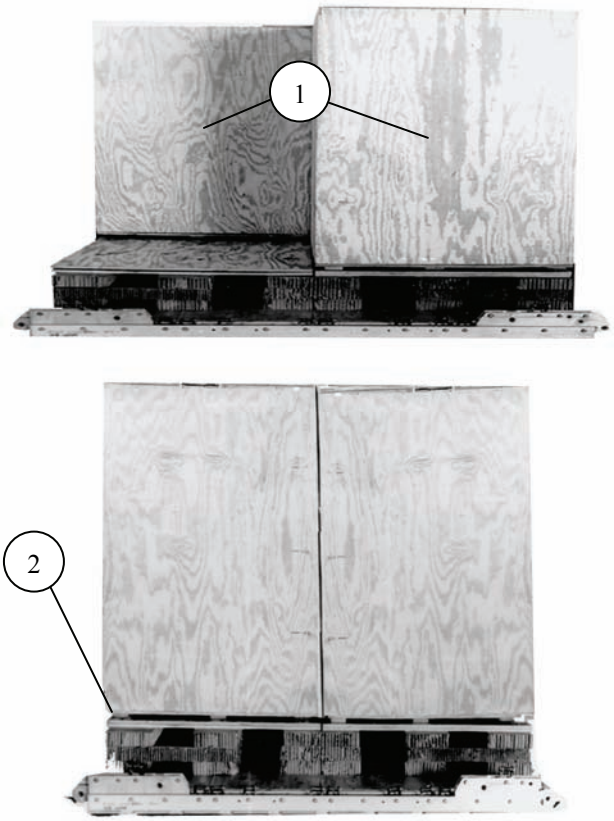
CAUTION

Make sure the inspection port holes in the missile containers face the front and rear of the platform: the inspection port holes face the rear of the platform in the container groups.



1. Place a 15-round missile container on the platform with the container overhanging the front edge of the platform by 1 inch.

Figure 2-18. First Missile Container Positioned



1. Position the second and third containers on the platform with the containers overhanging the front and rear edges of the platform.

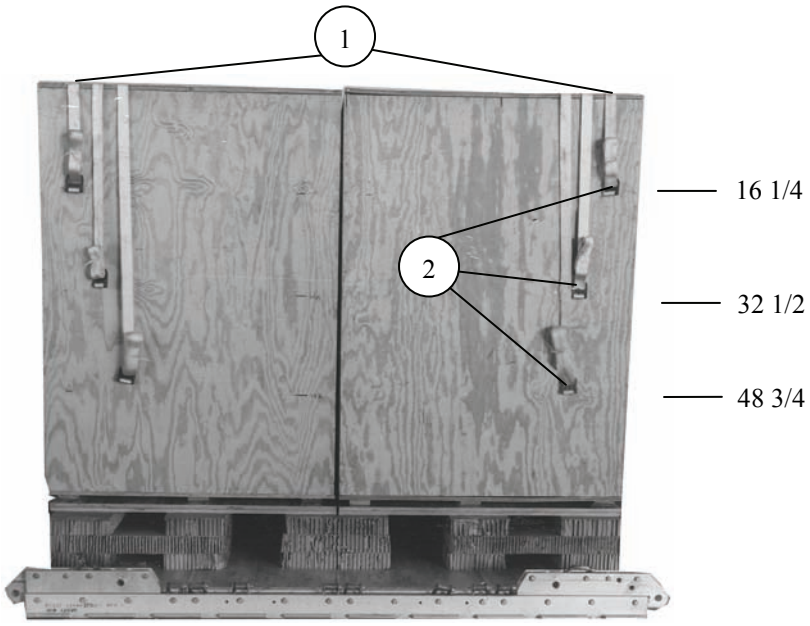
2. Place the fourth container on the platform with the container overhanging the rear edge of the platform by 1 inch.

Figure 2-19. Missile Containers 2, 3, and 4 Positioned

POSITIONING AND LASHING MISSILE CONTAINERS

2-19. Position the lashings as shown in Figure 2-20 and lash the containers to the platform as shown in Figures 2-21 through 2-23. Install and safety the lashings as outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

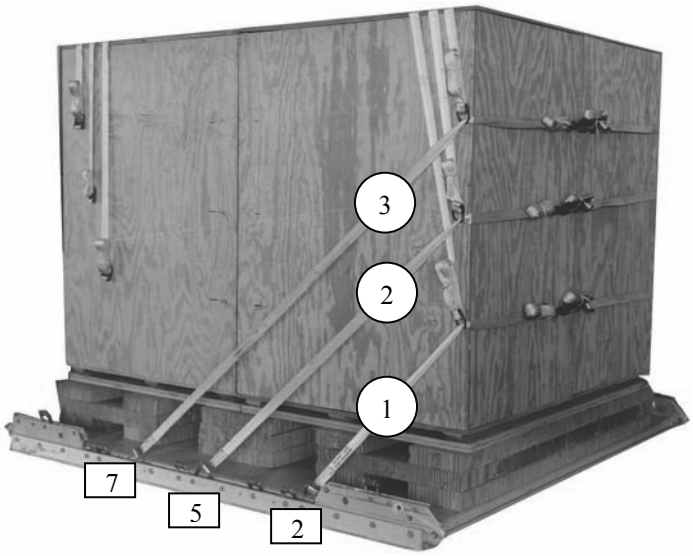
Note: All dimensions are in inches.



1. Form two 30-foot lashings as outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Lay two 15-foot lashings and one 30-foot lashing across both the front and rear edges of the container groups.

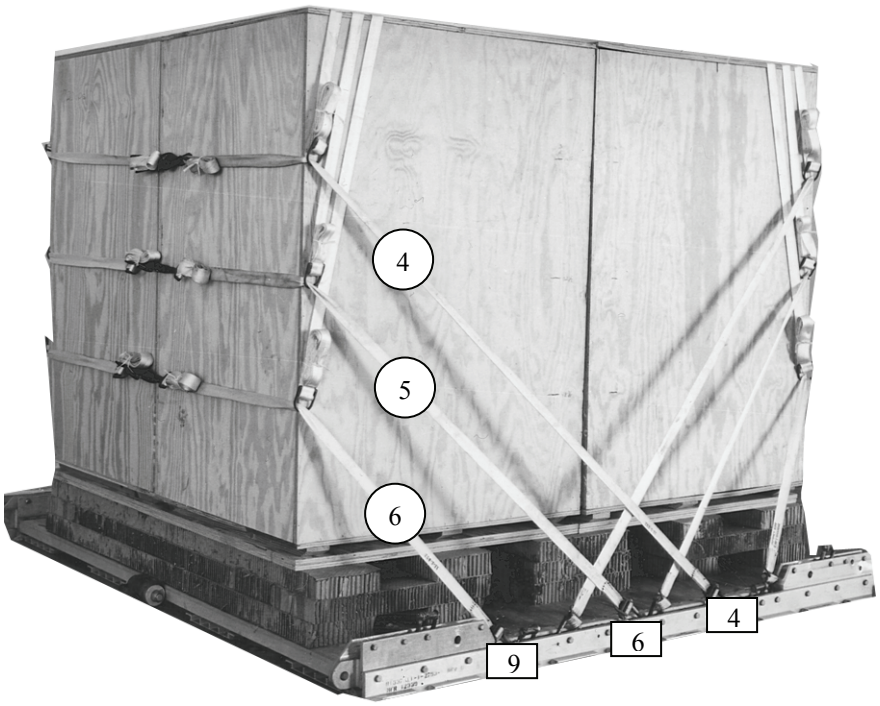
2. Fit a D-ring to each lashing, and adjust the length of the lashings and D-rings at intervals of 16 1/4 inches from the top of containers.

Figure 2-20. Lashings Installed



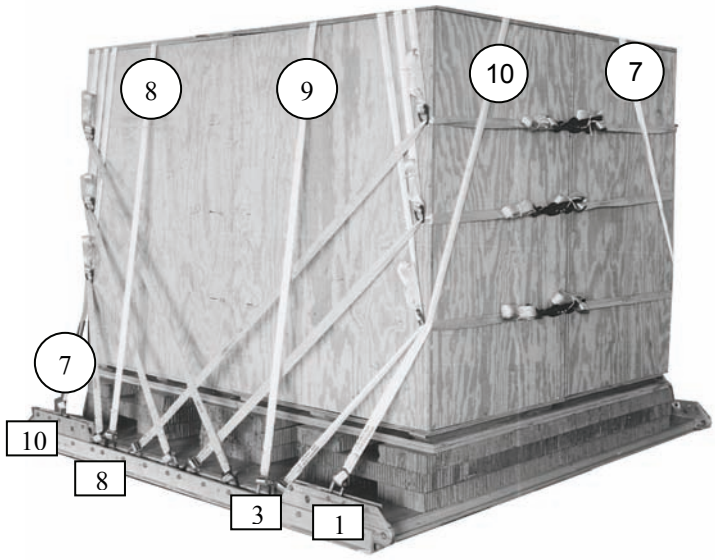
Lashing Number	*Tiedown Clevis Number*	*Instructions*
1	2 and 2A	Route a 15-foot lashing from clevis 2 and a 15-foot lashing from clevis 2A. Pass the lashings through the D-rings. Secure the lashings on the front using two D-rings and a load binder.
2	5 and 5A	Route a 15-foot lashing from clevis 5 and a 15-foot lashing from clevis 5A. Pass the lashings through the D-rings. Secure the lashings on the front using two D-rings and a load binder.
3	7 and 7A	Route a 15-foot lashing from clevis 7 and a 15-foot lashing from clevis 7A. Pass the lashings through the D-rings. Secure the lashings on the front using two D-rings and a load binder.

Figure 2-21. Lashings 1 Through 3 Installed



Lashing Number	*Tiedown Clevis Number*	*Instructions*
4	4 and 4A	Route a 15-foot lashing from clevis 4 and a 15-foot lashing from clevis 4A. Pass the lashings through the D-rings. Secure the lashings on the rear using two D-rings and a load binder.
5	6 and 6A	Route a 15-foot lashing from clevis 6 and a 15-foot lashing from clevis 6A. Pass the lashings through the D-rings. Secure the lashings on the rear using two D-rings and a load binder.
6	9 and 9A	Route a 15-foot lashing from clevis 9 and a 15-foot lashing from clevis 9A. Pass the lashings through the D-rings. Secure the lashings on the rear using two D-rings and a load binder.

Figure 2-22. Lashings 4 Through 6 Installed

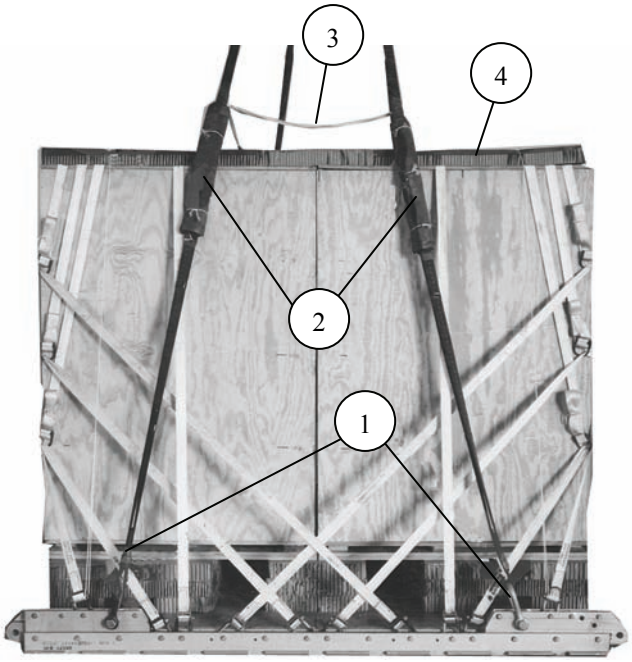


Lashing Number	*Tiedown Clevis Number*	*Instructions*
7	10 and 1A	Run a 15-foot lashing through clevis 10 and a 15-foot lashing from clevis 1A. Pass the lashings around ends of the containers and up over the load. Secure the lashings on the top using two D-rings and a load binder. Safety the lashings to the bottom D-rings with type I, ¼-inch cotton webbing
8	8 and 8A	Run a 15-foot lashing through clevis 8 and a 15-foot lashing from clevis 8A. Pass the lashings over the top of the load. Secure the lashings on the top using two D-rings and a load binder.
9	3 and 3A	Run a 15-foot lashing through clevis 3 and a 15-foot lashing from clevis 3A. Pass the lashings over the top of the load. Secure the lashings on the top using two D-rings and a load binder.
10	1 and 10A	Run a 15-foot lashing through clevis 1 and a 15-foot lashing from clevis 10A. Pass the lashings around ends of the containers and up over the load. Secure the lashings on the top using two D-rings and a load binder. Safety the lashings to the bottom D-rings with type I, ¼-inch cotton webbing.

Figure 2-23. Lashings 7 Through 10 Installed

INSTALLING SUSPENSION SLINGS AND DEADMAN'S TIE

2-20. Install and safety four 16-foot (2-loop), type XXVI nylon slings and four large clevises as shown in Figure 2-24.



1. Attach one 16-foot (2-loop), type XXVI nylon suspension sling to a large suspension clevis. Attach the clevis to one of the tandem links. Repeat the same procedure for the other three tandem links.

2. Use four pieces of felt padding (approximately 18 by 6-inches) to pad the slings. Secure the felt to the sling with type III nylon cord and cloth back adhesive tape.

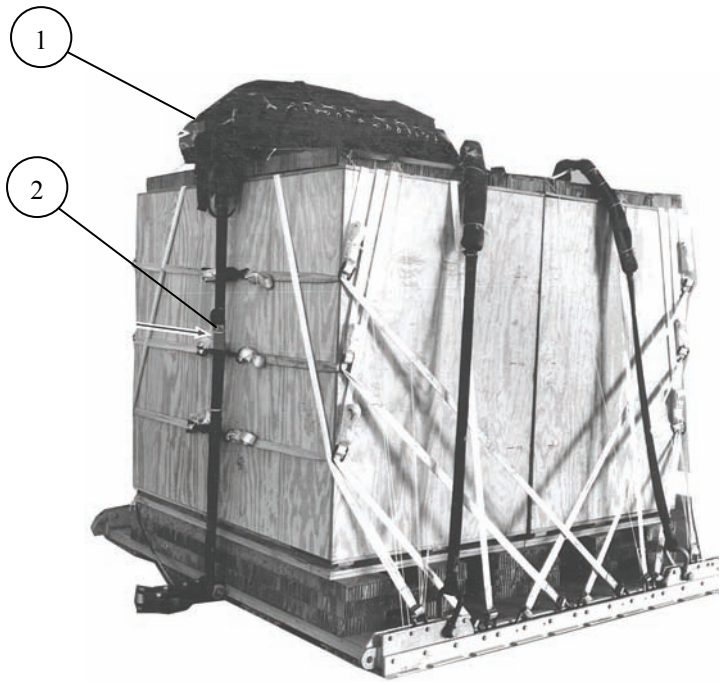
3. Raise the suspension slings above the load, and install a deadman's tie as outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

4. Position two 36- by 96-inch pieces of honeycomb side by side on top of the load. Tape the edges of the honeycomb and secure the honeycomb with type III nylon cord to convenient places on the load.

Figure 2-24. Suspension Slings and Deadman's Tie Installed

STOWING CARGO PARACHUTE

2-21. Stow one G-11B cargo parachute according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-25.



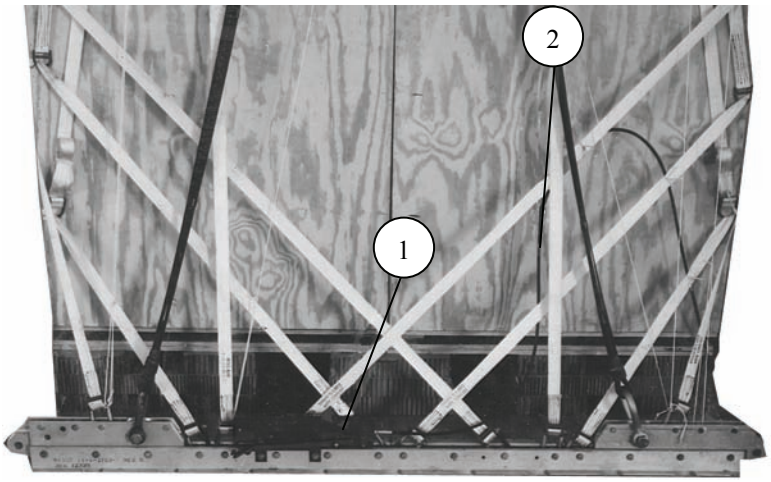
1. Prepare, place, and secure one G-11B cargo parachute according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

2. Use a 12-foot (2-loop), type XXVI nylon sling as a deployment line. Bolt it to the latch assembly on the right spacer. S-fold the slack and tie the folds with type I, 1/4-inch cotton webbing.

Figure 2-25. Cargo Parachute Stowed and Secured to Load

INSTALLING EXTRACTION SYSTEM

2-22. Attach the EFTC 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.



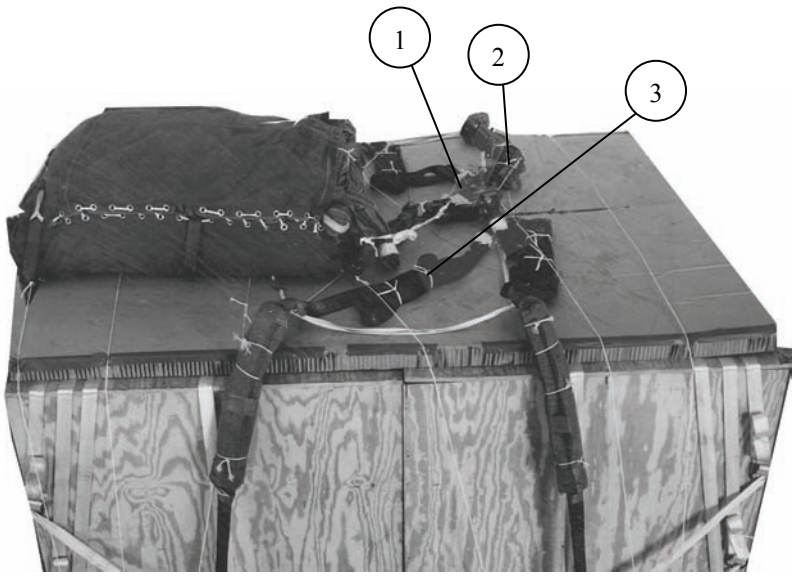
1. Install the EFTC actuator mounting brackets to the front holes in the left platform rail. Install the EFTC actuator assembly to the brackets according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

2. Install a 12-foot cable according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Safety the cable to the lashing with type I, 1/4-inch cotton webbing.

Figure 2-26. EFTC Installed

INSTALLING PARACHUTE RELEASE

2-23. Prepare, attach, and safety an M-1 cargo parachute release according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-27.



1. Prepare and install an M-1 cargo parachute release according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Place the M-1 release on top of the honeycomb, and attach the suspension slings and the parachute riser extensions.
2. Secure the M-1 release to the load with type III nylon cord.
3. S-fold and tie any excess suspension slings. Secure with type I, 1/4-inch cotton webbing.

Figure 2-27. M-1 Cargo Parachute Release Installed

PLACING EXTRACTION PARACHUTE

2-24. 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

2-25. 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

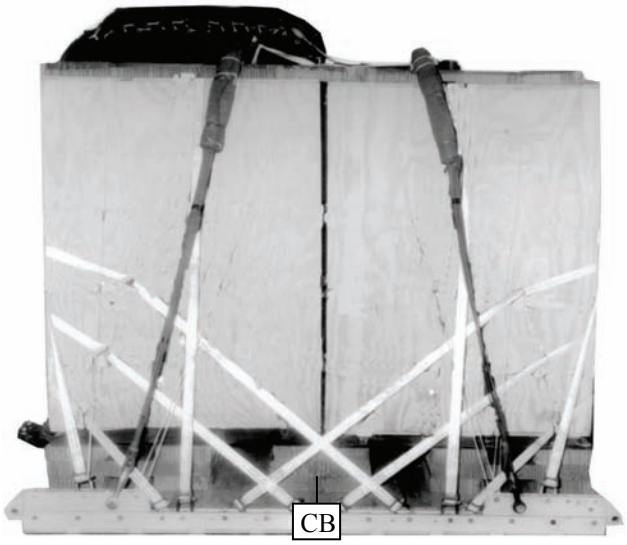
2-26. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 2-28. Complete Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

2-27. Use the equipment listed in Table 2-2 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	4,460 pounds
Height	83 inches
Width	108 inches
Overall Length	98 inches
Overhang: Front	1 inch
Rear	1 inch
Center of Balance (from front edge of the platform)	51 inches
Extraction System with 12-foot cable (adds 18 inches to length of platform)	EFTC

Figure 2-28. Four 15-Round Containers Rigged on an 8-Foot, Type V Platform for Low-Velocity Airdrop

Table 2-2. Equipment Required for Rigging Four 15-Round Dragon or Dragon II Missile Containers on an 8-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive, paste, 1-gallon	As required
	Clevis, suspension:	
4030-00-678-8562	3/4-inch (medium) emergency restraint	2
4030-00-090-5354	1-inch (large)	5
4020-00-240-2146	Cord, nylon, type III	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer with 12-foot cable	1
1670-00-360-0328	Cover, clevis, large	1
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-inch thick	As required
1670-01-183-2678	Leaf, extraction line	2
	Line, extraction, type XXVI nylon webbing:	
1670-01-062-6313	60-foot (1-loop)	1
	Or	
1670-01-107-7652	160-foot (1-loop)	2
1670-01-064-4452	60-foot (1-loop), type XXVI for C-17 drogue line	1
	Link assembly, two-point:	
5306-00-435-8994	Bolt, 1-inch diameter, 4-inch long	1
5310-00-232-5165	Nut, 1-inch, hexagonal	1
1670-00-003-1953	Plate, side 3 3/4-inch	1
5365-00-007-3414	Spacer, large	1
1670-00-753-3928	Pad, energy-dissipating, honeycomb	9 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	1
1670-01-063-3715	Cargo, extraction, 15-foot	1
	Platform, airdrop, type V, 8-foot	
1670-01-353-8425	Bracket assembly, EFTC	1
1670-01-162-2376	Bracket assembly, extraction	1
1670-01-162-2372	Clevis assembly	20
1670-01-162-2381	Tandem link	4
5530-00-128-4981	Plywood, 3/4-inch	4 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1

Table 2-2. Equipment Required for Rigging Four 15-Round Dragon or Dragon II Missile Containers on an 8-Foot, Type V Platform for Low-Velocity Airdrop (Continued)

National Stock Number	*Item*	*Quantity*
	Sling, cargo airdrop:	
	For deployment line:	
1670-00-753-3792	12-foot (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6301	3-foot (2-loop), type XXVI nylon webbing	1
	For suspension:	
1670-01-063-7761	16-foot (2-loop), type XXVI nylon webbing	4
1670-00-040-8219	Strap parachute release, multicut	1
7515-00-266-5016	Tape, adhesive, 2-inch	As required
7501-00-266-6710	Tape, masking	As required
1670-00-937-0271	Tie-down assembly, 15-foot	28
1670-01-483-8259	Towplate release mechanism (H-block) (C-17)	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
	Nylon:	
8305-00-082-5752	Tubular, 1/2-inch	As required
8305-00-263-3591	Type VIII webbing	As required

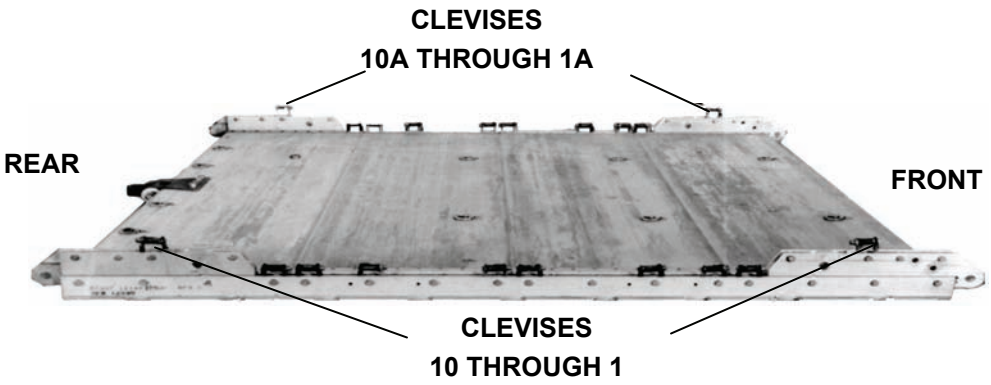
SECTION III-RIGGING FOUR A-22 CARGO BAGS WITH ONE-ROUND CONTAINERS

DESCRIPTION OF LOAD

2-28. Four A-22 cargo bags with Dragon or Dragon II missiles in one-round containers are rigged on an 8-foot, type V airdrop platform with one G-11B cargo parachute for low-velocity airdrop (LVAD) from a C-130 or C-17 aircraft. Each A-22 cargo bag with missile containers is 48 inches long, 48 inches wide, and weighs 693 pounds.

PREPARING PLATFORM

2-29. Prepare an 8-foot, type V airdrop platform as shown in Figure 2-29.



Step:

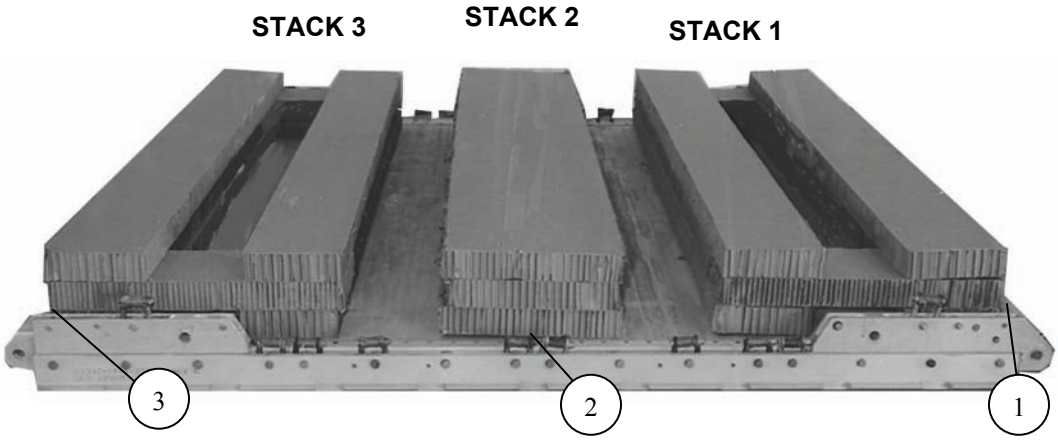
1. Inspect, or assemble and inspect, an 8-foot, type V platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
3. Install a tandem link to the rear of each platform side rail using holes 14, 15, and 16.
4. Install clevises on bushing 3 of each front tandem link.
5. Install clevises on bushing 3 of each rear tandem link.
6. Starting at the front of the right platform side rail, install clevises on the bushings bolted to holes 4, 5, 6, 8, 9, 11, 12, and 13. Repeat for the left side.
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 tiedown rings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 2-29. Platform Prepared

BUILDING AND PLACING HONEYCOMB STACKS

2-30. Prepare and position the honeycomb stacks as shown in Figure 2-30.

Notes.
1. Measurements from the front of the platform are taken from the front edge of the first panel.
2. Measurements from the rear edge of the platform are taken from the rear edge of the last panel.



1. Build the first stack by using the following pieces of honeycomb, and position the honeycomb flush with the front edge of the platform.

4 pieces	10- by 96-inches	(1st and 3rd layers)
2 pieces	10- by 76-inches	(2nd layer)
2 pieces	10- by 29-inches	(2nd layer bridge)

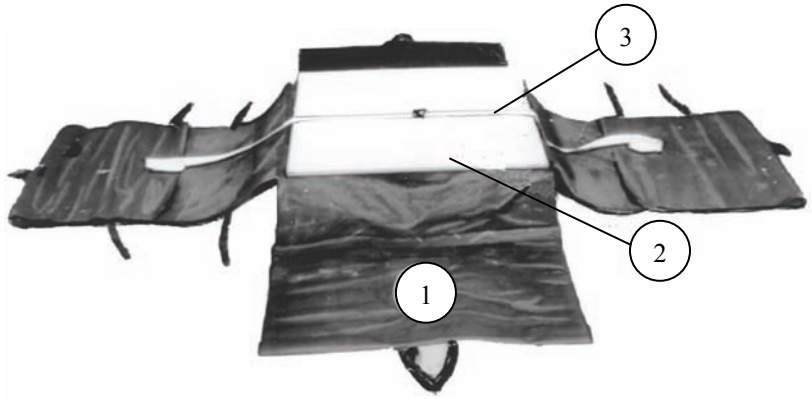
2. Build the second stack by using three pieces of honeycomb (18- by 96-inch). Center the stack over the joint where the second and third panels join together and between the side rails.

3. Build the third stack by repeating step 1 above, and position the honeycomb 1 inch from the rear edge of the platform.

Figure 2-30. Honeycomb Stacks Positioned

PREPARING LOAD

2-31. Prepare four A-22 cargo bags with nine one-round containers as shown in Figures 2-31 and 2-32; however, do not use the skid or skid honeycomb. Close the A-22 cargo bags by following the steps in FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

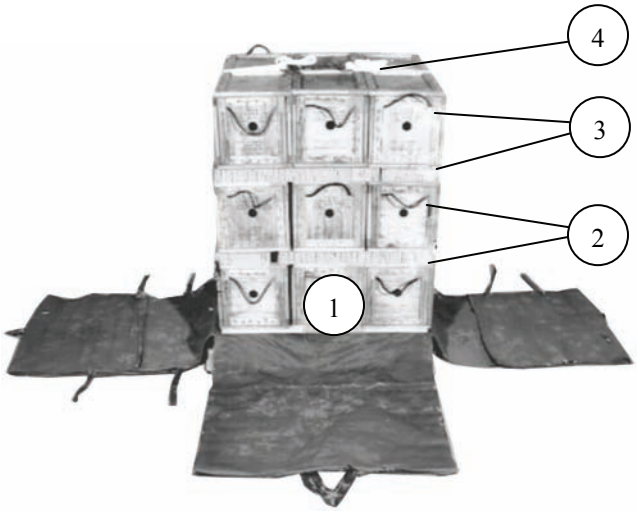


1. Center the A-22 cover on the sling assembly (with the outside of the cover down).
2. Center a 3/4- by 48- by 48-inch piece of plywood on the cover.
3. Form a 30-foot lashing according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and lay the strap across the center of the plywood from side to side.

Figure 2-31. Cargo Bag, Plywood, and Lashing Positioned

CAUTION

Make sure the inspection port holes in the missile containers face the front and rear of the platform.



1. Set three containers on the plywood so that the 47 1/2 inch sides of the containers are parallel with the 3/4- by 48- by 48-inch plywood on the A-22 cover.
2. Place a layer of one piece of 36- by 48-inch honeycomb and one piece of 12- by 48-inch honeycomb on the containers. Set three more containers on the honeycomb.
3. Place another layer of honeycomb on the containers. Set the last three containers on the honeycomb.
4. Run the ends of the 30-foot lashing over the top of the stacked containers, and bind the ends together with two D-rings and a load binder.

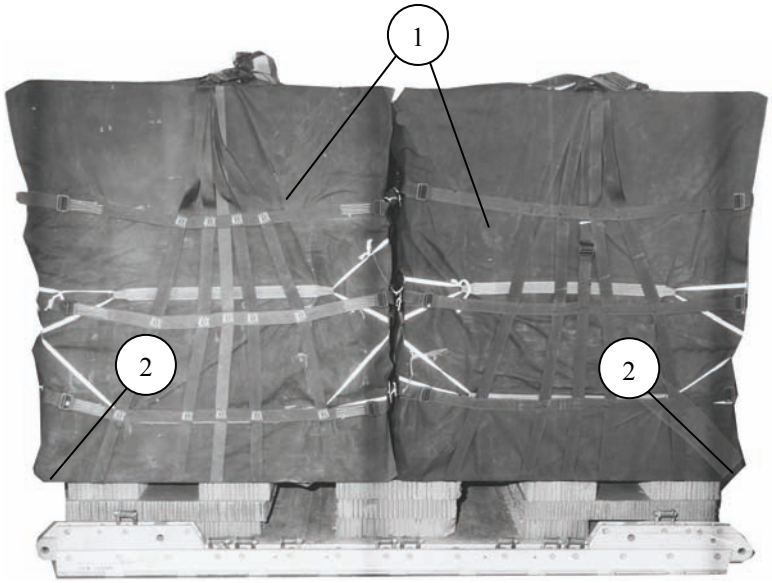
Figure 2-32. Nine One-Round Containers Positioned

POSITIONING THE LOAD

2-32. Place the four A-22 containers on the platform as shown in Figure 2-33.

CAUTION

Make sure the inspection port holes in the missile containers face the front and rear of the platform.



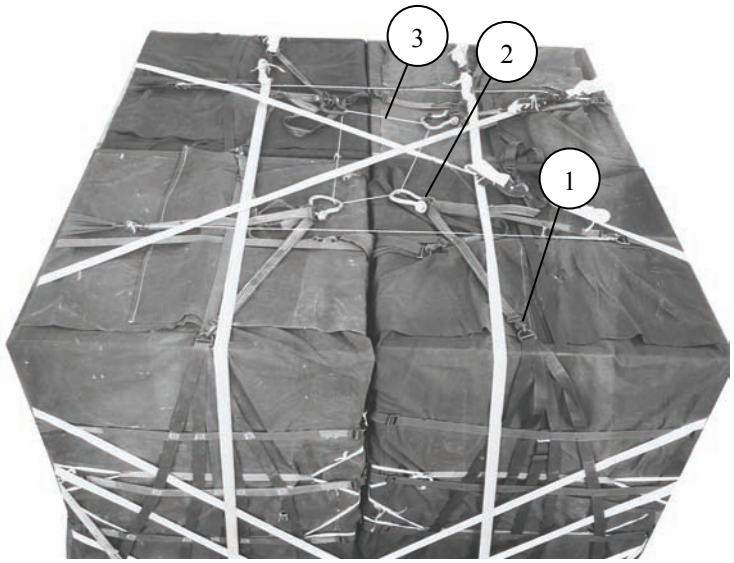
1. Place the four A-22 cargo bags on the honeycomb stacks, centering them from side to side and from front to rear on the honeycomb.

2. The A-22 cargo bags will overhang 1 inch on the front and 1 inch on the rear of the platform.

Figure 2-33. Cargo A-22 Containers Positioned

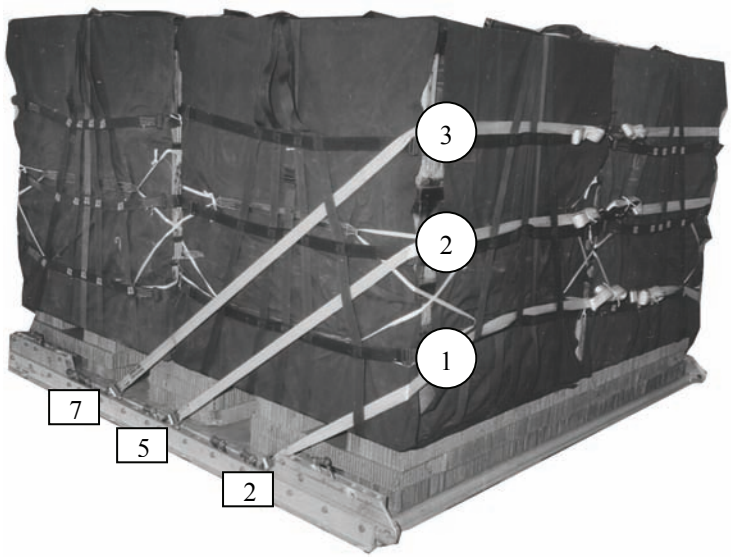
SECURING SUSPENSION WEBS AND LASHING CONTAINERS

2-33. Secure the suspension webs as shown in Figure 2-34. Lash the A-22 cargo bags to the platform as shown in Figures 2-35 through 2-37. Install the lashings as outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.



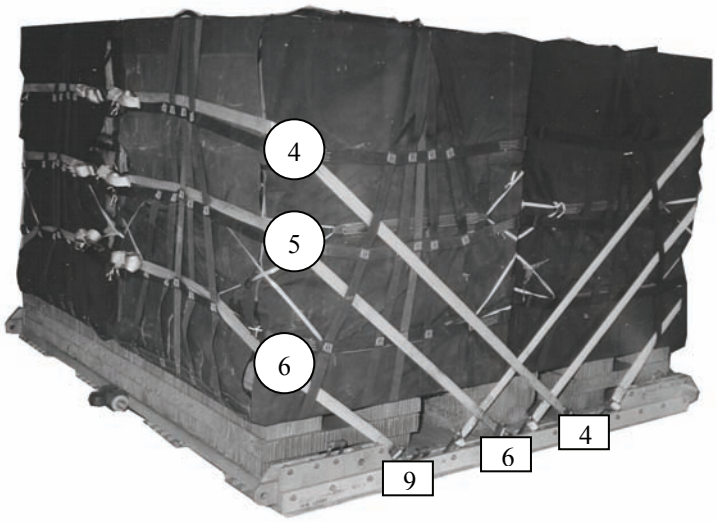
1. Attach all suspension webs as shown. Route the hook on the strap fastener from outside to inside. The gate on the strap fastener must face inside.
2. Place the suspension web D-rings on the bolt of a large suspension clevis.
3. Secure the cargo clevises with type III nylon cord.

Figure 2-34. Lashings Installed



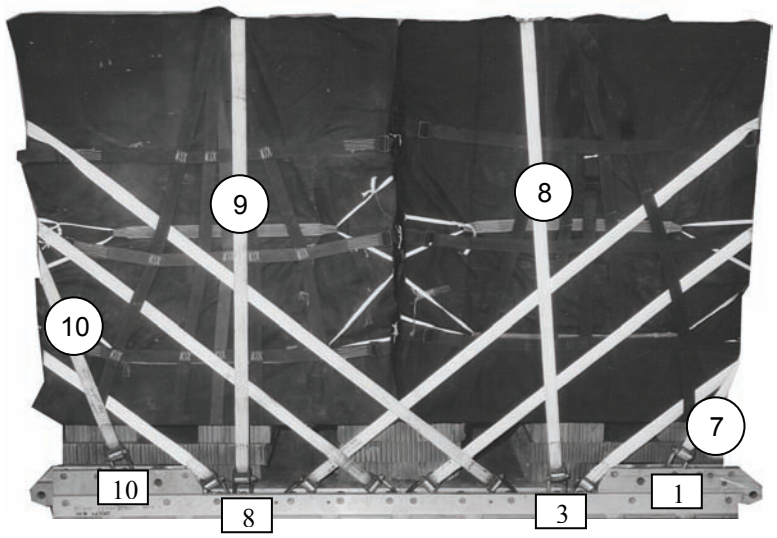
Lashing Number	*Tiedown Clevis Number*	*Instructions*
1	2 and 2A	Route a 15-foot lashing from clevis 2 and a 15-foot lashing from clevis 2A. Pass the lashings underneath the A-22 webbing on the sides and around the front of the load. Secure the lashings on the front using two D-rings and a load binder.
2	5 and 5A	Route a 15-foot lashing from clevis 5 and a 15-foot lashing from clevis 5A. Pass the lashings underneath the A-22 webbing on the sides and around the front of the load. Secure the lashings on the front using two D-rings and a load binder.
3	7 and 7A	Route a 15-foot lashing from clevis 7 and a 15-foot lashing from clevis 7A. Pass the lashings underneath the A-22 webbing on the sides and around the front of the load. Secure the lashings on the front using two D-rings and a load binder.

Figure 2-35. Lashings 1 Through 3 Installed



Lashing Number	*Tiedown Clevis Number*	*Instructions*
4	4 and 4A	Route a 15-foot lashing from clevis 4 and a 15-foot lashing from clevis 4A. Pass the lashings underneath the A-22 webbing on the sides and around the rear of the load. Secure the lashings on the rear using two D-rings and a load binder.
5	6 and 6A	Route a 15-foot lashing from clevis 6 and a 15-foot lashing from clevis 6A. Pass the lashings underneath the A-22 webbing on the sides and around the rear of the load. Secure the lashings on the rear using two D-rings and a load binder.
6	9 and 9A	Route a 15-foot lashing from clevis 9 and a 15-foot lashing from clevis 9A. Pass the lashings underneath the A-22 webbing on the sides and around the rear of the load. Secure the lashings on the rear using two D-rings and a load binder.

Figure 2-36. Lashings 4 Through 6 Installed

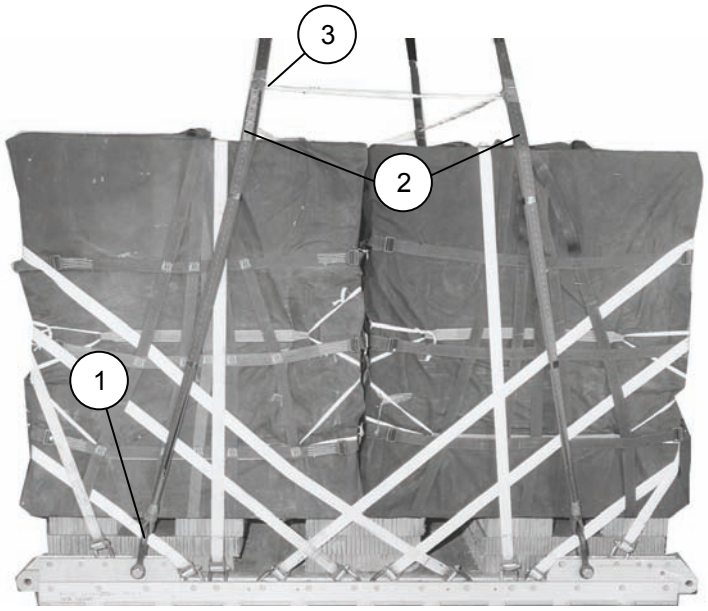


Lashing Number	*Tiedown Clevis Number*	*Instructions*
7	1 and 10A	Route a 15-foot lashing from clevis 1 and a 15-foot lashing from clevis 10A. Pass the lashings around the front and rear of the load and up over the top of the load. Secure the lashings on the top using two D-rings and a load binder.
8	3 and 3A	Route a 15-foot lashing from clevis 3 and a 15-foot lashing from clevis 3A. Pass the lashings over the top of the load. Secure the lashings on the top using two D-rings and a load binder.
9	8 and 8A	Route a 15-foot lashing from clevis 8 and a 15-foot lashing from clevis 8A. Pass the lashings over the top of the load. Secure the lashings on the top using two D-rings and a load binder.
10	10 and 1A	Route a 15-foot lashing from clevis 10 and a 15-foot lashing from clevis 1A. Pass the lashings around the front and rear of the load and up over the top of the load. Secure the lashings on the top using two D-rings and a load binder.

Figure 2-37. Lashings 7 Through 10 Installed

INSTALLING SUSPENSION SLINGS AND DEADMAN'S TIE

2-34. Install and safety four 16-foot (2-loop), type XXVI nylon slings as shown in Figure 2-38.



1. Attach one 16-foot (2-loop), type XXVI nylon suspension sling to a large suspension clevis. Attach the clevis to one of the tandem links. Repeat the same procedure for the other three tandem links.

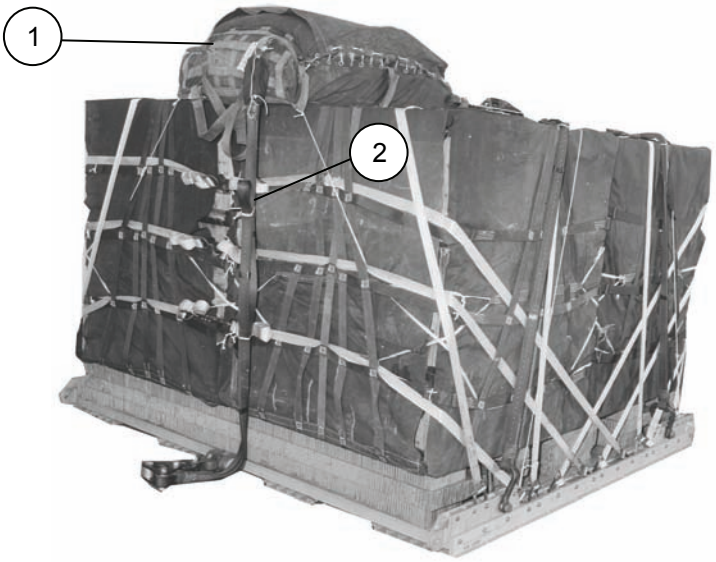
2. Use four pieces of felt padding (approximately 18 by 6-inches) to pad the slings. Secure the felt to the sling with type III nylon cord and cloth back adhesive tape.

3. Raise the four suspension slings above the load, and install a deadman's tie as outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 2-38. Suspension Slings and Deadman's Tie Installed

STOWING CARGO PARACHUTE

2-35. Stow one G-11 cargo parachute according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-39.



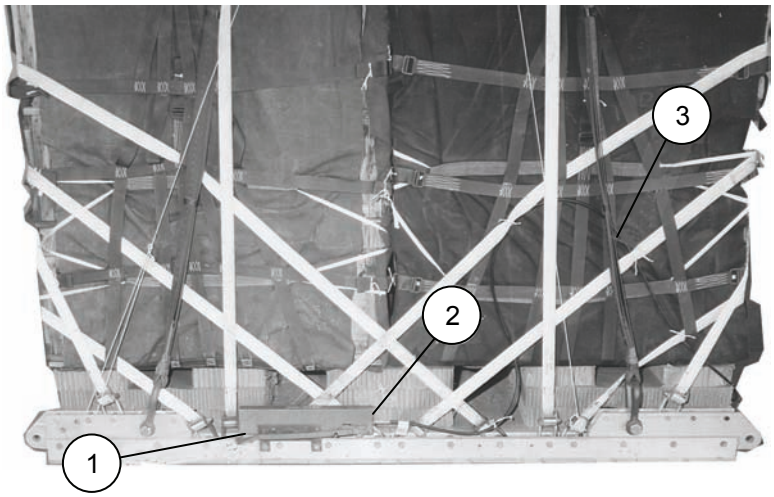
1. Prepare, place, and secure one G-11 cargo parachute according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

2. Use a 12-loop (2-loop), type XXVI nylon sling as a deployment line. Bolt it to the latch assembly on the right spacer. S-fold the slack and tie the folds with type I, 1/4-inch cotton webbing.

Figure 2-39. Cargo Parachute Stowed and Secured to Load

INSTALLING EXTRACTION SYSTEM

2-36. Attach the components of the Extraction Force Transfer Coupling (EFTC) according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-40.

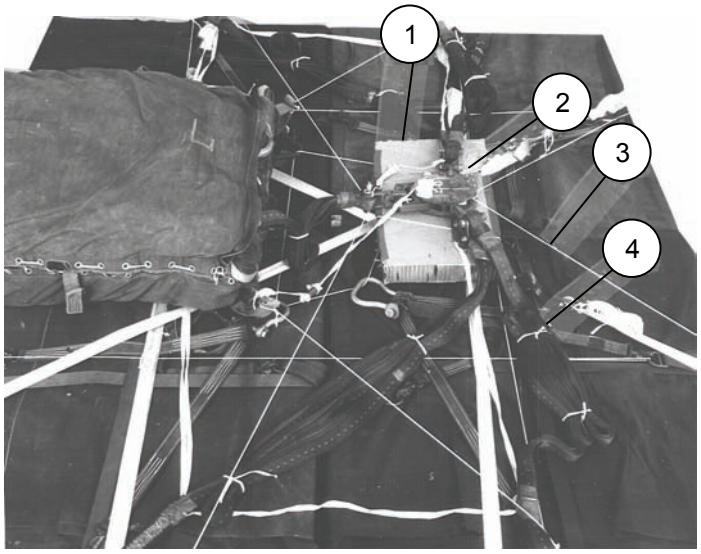


1. Attach the EFTC mounting brackets to the front holes on the left rail.
2. Install the actuator according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
3. Install and safety a 12-foot cable according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 2-40. EFTC Installed

INSTALLING PARACHUTE RELEASE

2-37. Prepare, attach, and safety an M-1 cargo parachute release according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-41.



1. Position an 18- by 24-inch piece of honeycomb on top of the load, and secure the honeycomb with type III nylon cord.
2. Place the M-1 release on top of the honeycomb, and attach the suspension slings and the parachute riser extensions.
3. Secure the M-1 release to convenient points on the load with type III nylon cord.
4. S-fold and tie any excess suspension slings.

Figure 2-41. M-1 Cargo Parachute Release Installed

PLACING EXTRACTION PARACHUTE

2-38. 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

2-39. Select and install the provisions for the emergency aft restraints according to the emergency aft restraint requirements table in FM 4-20.102/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

MARKING RIGGED LOAD

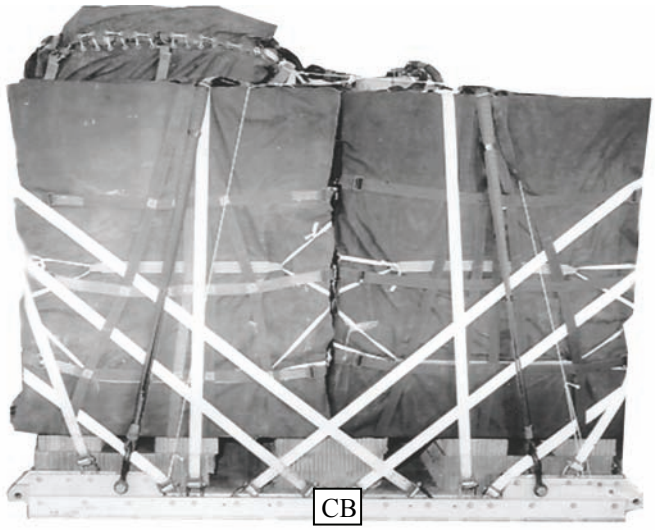
2-40. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 2-42. Complete Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

2-41. Use the equipment listed in Table 2-3 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	4,040 pounds
Height	83 inches
Width	108 inches
Overall Length	98 inches
Overhang: Front	1 inch
Rear	1 inch
Center of Balance (from front edge of the platform)	50 inches
Extraction System with 12-foot cable (adds 18 inches to length of platform)	EFTC

Figure 2-42. One-Round Containers Rigged in Four A-22 Cargo Bags on an 8-Foot, Type V Platform for Low-Velocity Airdrop

Table 2-3. Equipment Required for Rigging One -Round Dragon or Dragon II Missile Containers in Four A-22 Cargo Bags on an 8-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive, paste, 1-gallon	As required
8465-00-587-3421	Bag, cargo, aerial delivery, type A-22	4
	Clevis, suspension:	
4030-00-678-8562	3/4-inch (medium) emergency restraint	2
4030-00-090-5354	1-inch (large)	9
4020-00-240-2146	Cord, nylon, type III	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer with 12-foot cable	1
1670-00-360-0328	Cover, clevis, large	1
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-inch thick	As required
1670-01-183-2678	Leaf, extraction line	2
	Line, extraction, type XXVI nylon webbing:	
1670-01-062-6313	60-foot (1-loop)	1
	Or	
1670-01-107-7652	160-foot (1-loop)	2
1670-01-064-4452	60-foot (1-loop), type XXVI for C-17 drogue line	1
	Link assembly, two-point:	
5306-00-435-8994	Bolt, 1-inch diameter, 4-inch long	1
5310-00-232-5165	Nut, 1-inch, hexagonal	1
1670-00-003-1953	Plate, side 3 3/4-inch	1
5365-00-007-3414	Spacer, large	1
1670-00-753-3928	Pad, energy-dissipating, honeycomb	10 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	1
1670-01-063-3715	Cargo, extraction, 15-foot	1
	Platform, airdrop, type V, 8-foot	
1670-01-353-8425	Bracket assembly, EFTC	1
1670-01-162-2376	Bracket assembly, extraction	1
1670-01-162-2372	Clevis assembly	20
1670-01-162-2381	Tandem link	4
5530-00-128-4981	Plywood, 3/4-inch	2 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1

Table 2-3. Equipment Required for Rigging One -Round Dragon or Dragon II Missile Containers in Four A-22 Cargo Bags on an 8-Foot, Type V Platform for Low-Velocity Airdrop (Continued)

National Stock Number	*Item*	*Quantity*
	Sling, cargo airdrop:	
	For deployment line:	
1670-00-753-3792	12-foot (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6301	3-foot (2-loop), type XXVI nylon webbing	1
	For suspension:	
1670-01-063-7761	16-foot (2-loop), type XXVI nylon webbing	4
1670-00-040-8219	Strap parachute release, multicut	1
7515-00-266-5016	Tape, adhesive, 2-inch	As required
7501-00-266-6710	Tape, masking	As required
1670-01-4838259	Towplate release mechanism (H-block) (C-17)	1
1670-00-937-0271	Tie-down assembly, 15-foot	28
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
	Nylon:	
8305-00-082-5752	Tubular, 1/2-inch	As required
8305-00-263-3591	Type VIII webbing	As required

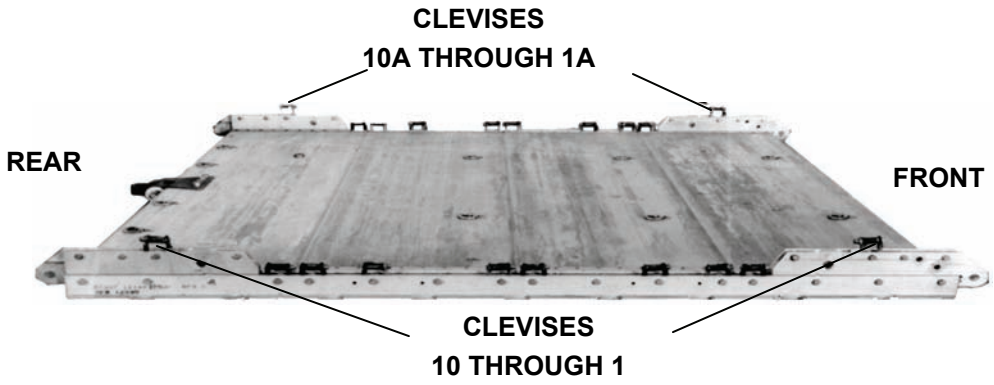
SECTION IV-RIGGING FOUR 15-ROUND CONTAINERS

DESCRIPTION OF LOAD

2-42. Four Dragon or Dragon II missiles in 15-round containers are rigged in four A-22 cargo slings on an 8-foot, type V airdrop platform with one G-11 cargo parachute for low-velocity airdrop (LVAD) from a C-130 or C-17 aircraft. Each container is 49 inches long, 37 inches wide, 67 inches high, and weighs 695 pounds.

PREPRARING PLATFORM

2-43. Prepare an 8-foot airdrop platform as shown in Figure 2-43.



Step:

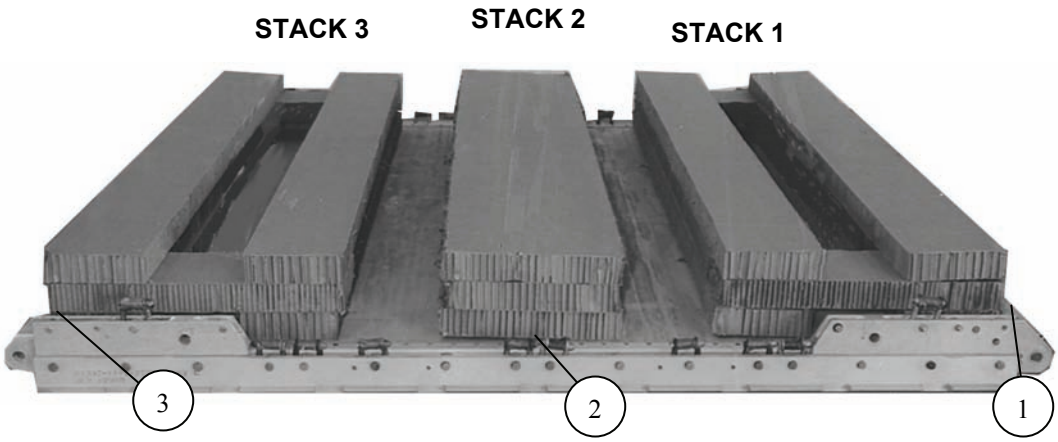
1. Inspect, or assemble and inspect, an 8-foot, type V platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
3. Install a tandem link to the rear of each platform side rail using holes 14, 15, and 16.
4. Install clevises on bushing 3 of each front tandem link.
5. Install clevises on bushing 3 of each rear tandem link.
6. Starting at the front of the right platform side rail, install clevises on the bushings bolted to holes 4, 5, 6, 8, 9, 11, 12, and 13. Repeat for the left side.
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 tiedown rings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 2-43. Platform Prepared

BUILDING AND PLACING HONEYCOMB STACKS

2-44. Prepare and position the honeycomb stacks as shown in Figure 2-44.

Notes.
1. Measurements from the front of the platform are taken from the front edge of the first panel.
2. Measurements from the rear edge of the platform are taken from the rear edge of the last panel.



1. Build the first stack by using the following pieces of honeycomb, and position the honeycomb flush with the front edge of the platform.

4 pieces	10- by 80-inches	(1st and 3rd layers)
2 pieces	10- by 60-inches	(2nd layer)
2 pieces	10- by 29-inches	(2nd layer bridge)

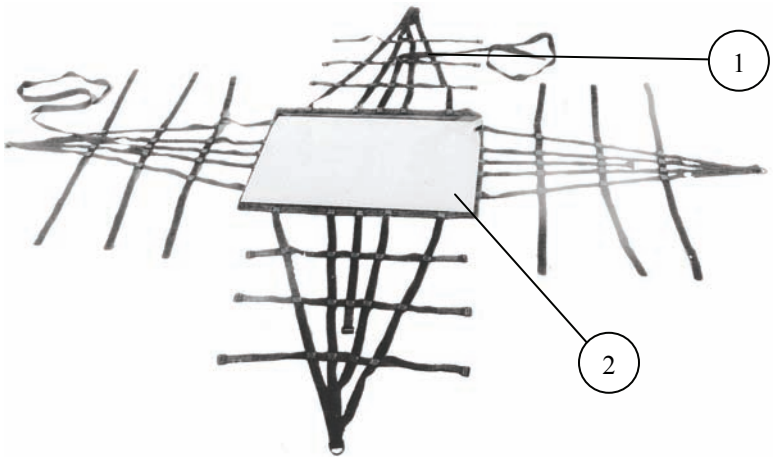
2. Build the second stack by using three pieces of honeycomb (18- by 80-inch). Center the stack over the joint where the second and third panels join together and between the side rails.

3. Build the third stack by repeating step 1 above, and position the honeycomb flush with the rear edge of the platform.

Figure 2-44. Honeycomb Stacks Positioned

PREPARING THE LOAD

2-45. Prepare four A-22 cargo slings with four 15-round containers as shown in Figures 2-45 and 2-46. However, do not use the skid or skid honeycomb. Close the A-22 slings by following steps in FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

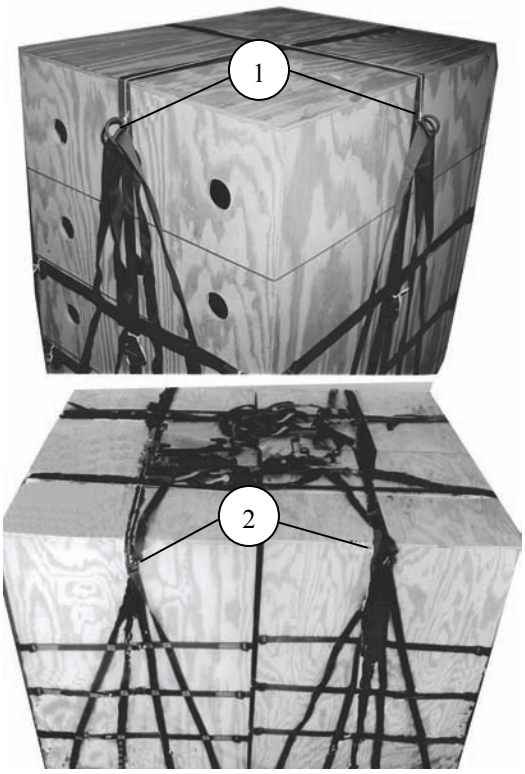


1. Position the A-22 sling assembly by following the procedures outlined in FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

2. Center a 3/4- by 38- by 48-inch piece of plywood on the scuff pad.

Note. Set the container on the plywood. Close the A-22 cargo sling by following the steps in FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

Figure 2-45. Cargo Sling and Plywood Positioned



1. Tie the D-ring on the support web to the front support web with type III nylon cord. Tie the D-rings of the side of the support webs together using type III nylon cord.

2. Snap another suspension web to each normally rigged suspension web. This gives a two-suspension web length snapped onto the D-rings. Be sure the open side of the connector straps faces inward. Tape all connector snaps.

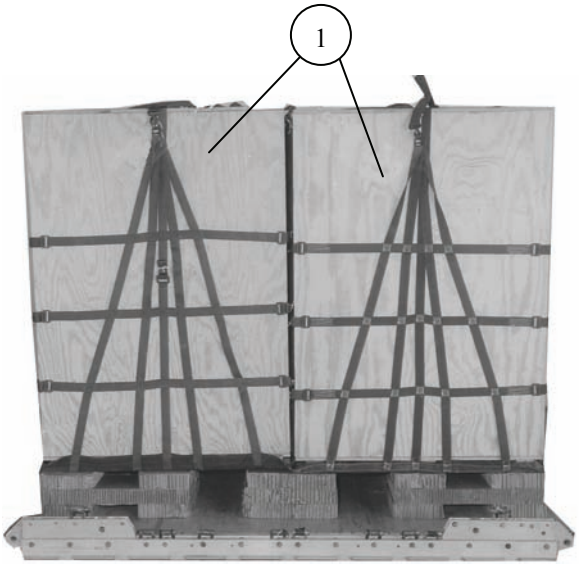
Figure 2-46. Containers Positioned and Cargo Slings Closed

POSITIONING LOAD

2-46. Place the four A-22 cargo slings with four 15-round containers on the honeycomb stacks as shown in Figure 2-47.

CAUTION

Make sure the inspection port holes in the missile containers face the front and rear of the platform: the inspection port holes face the rear of the platform in the container groups.

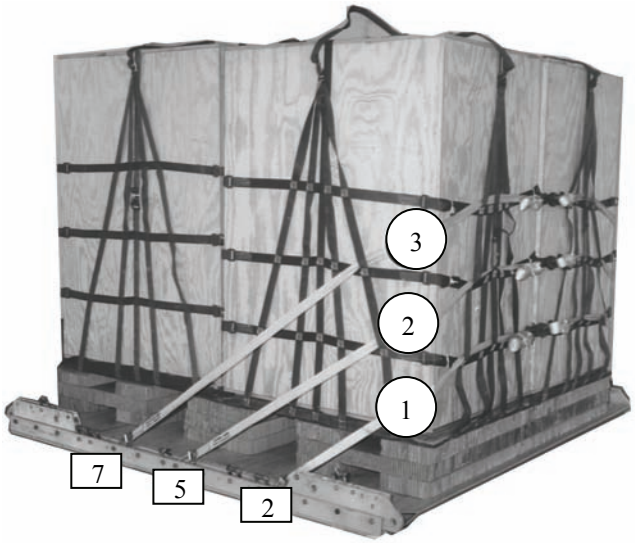


1. Place four A-22 cargo slings on the honeycomb, centering them from side to side and from front to rear on the platform.

Figure 2-47. Missile Containers Positioned

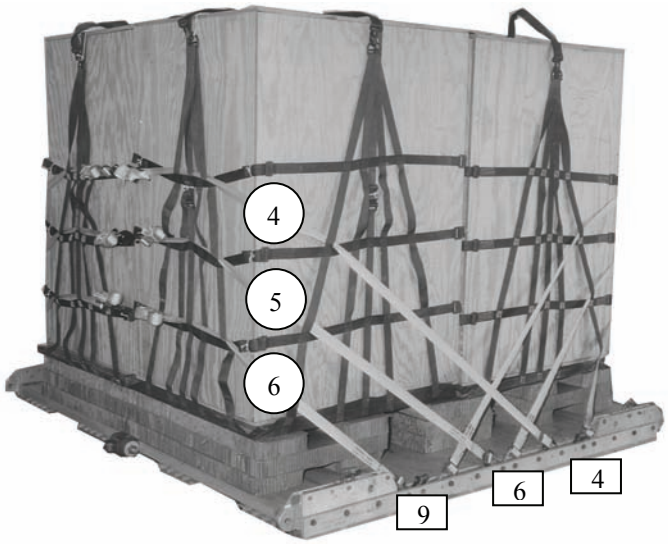
LASHING MISSILE CONTAINERS

2-47. Lash the containers to the platform as shown in Figures 2-48 through 2-50. Install and safety the lashings as outlined in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.



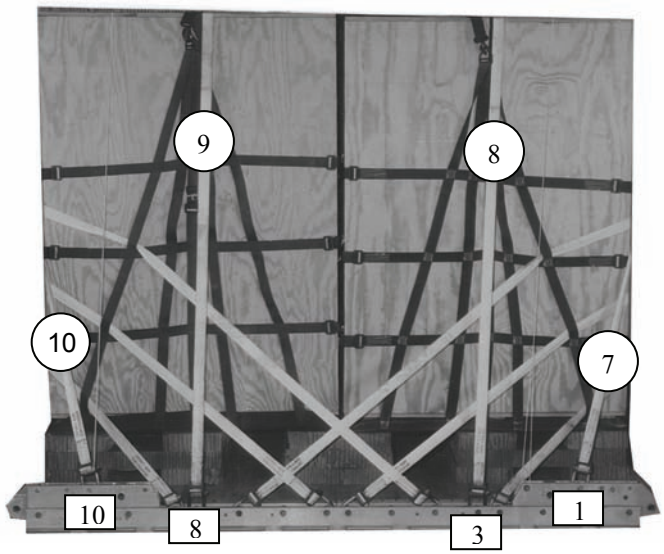
Lashing Number	*Tiedown Clevis Number*	*Instructions*
1	2 and 2A	Route a 15-foot lashing from clevis 2 and a 15-foot lashing from clevis 2A. Pass the lashings underneath the A-22 webbing on the sides and around the front of the load. Secure the lashings on the front using two D-rings and a load binder.
2	5 and 5A	Route a 15-foot lashing from clevis 5 and a 15-foot lashing from clevis 5A. Pass the lashings underneath the A-22 webbing on the sides and around the front of the load. Secure the lashings on the front using two D-rings and a load binder.
3	7 and 7A	Route a 15-foot lashing from clevis 7 and a 15-foot lashing from clevis 7A. Pass the lashings underneath the A-22 webbing on the sides and around the front of the load. Secure the lashings on the front using two D-rings and a load binder.

Figure 2-48. Lashings 1 Through 3 Installed



Lashing Number	*Tiedown Clevis Number*	*Instructions*
4	4 and 4A	Route a 15-foot lashing from clevis 4 and a 15-foot lashing from clevis 4A. Pass the lashings underneath the A-22 webbing on the sides and around the rear of the load. Secure the lashings on the rear using two D-rings and a load binder.
5	6 and 6A	Route a 15-foot lashing from clevis 6 and a 15-foot lashing from clevis 6A. Pass the lashings underneath the A-22 webbing on the sides and around the rear of the load. Secure the lashings on the rear using two D-rings and a load binder.
6	9 and 9A	Route a 15-foot lashing from clevis 9 and a 15-foot lashing from clevis 9A. Pass the lashings underneath the A-22 webbing on the sides and around the rear of the load. Secure the lashings on the rear using two D-rings and a load binder.

Figure 2-49. Lashings 4 Through 6 Installed

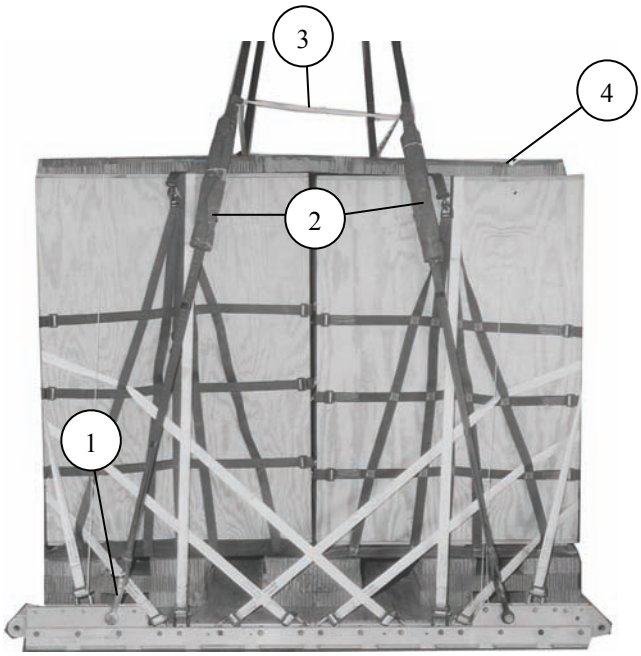


Lashing Number	*Tiedown Clevis Number*	*Instructions*
7	1 and 10A	Route a 15-foot lashing from clevis 1 and a 15-foot lashing from clevis 10A. Pass the lashings around the front and rear of the load and up over the top of the load. Secure the lashings on the top using two D-rings and a load binder.
8	3 and 3A	Route a 15-foot lashing from clevis 3 and a 15-foot lashing from clevis 3A. Pass the lashings over the top of the load. Secure the lashings on the top using two D-rings and a load binder.
9	8 and 8A	Route a 15-foot lashing from clevis 8 and a 15-foot lashing from clevis 8A. Pass the lashings over the top of the load. Secure the lashings on the top using two D-rings and a load binder.
10	10 and 1A	Route a 15-foot lashing from clevis 10 and a 15-foot lashing from clevis 1A. Pass the lashings around the front and rear of the load and up over the top of the load. Secure the lashings on the top using two D-rings and a load binder.

Figure 2-50. Lashings 7 Through 10 Installed

INSTALLING SUSPENSION SLINGS AND DEADMAN'S TIE

2-48. Install and safety four 16-foot (2-loop), type XXVI nylon slings and four large clevises. Attach each sling to a clevis and attach one clevis to each of the four tandem links as shown in Figure 2-51.



1. Attach one 16-foot (2-loop), type XXVI nylon suspension sling to a large suspension clevis. Attach the clevis to one of the tandem links. Repeat the same procedure for the other three tandem links.

2. Use four pieces of felt padding (approximately 18 by 6 inches) to pad the slings. Secure the felt to the sling with type III nylon cord and pressure-sensitive tape.

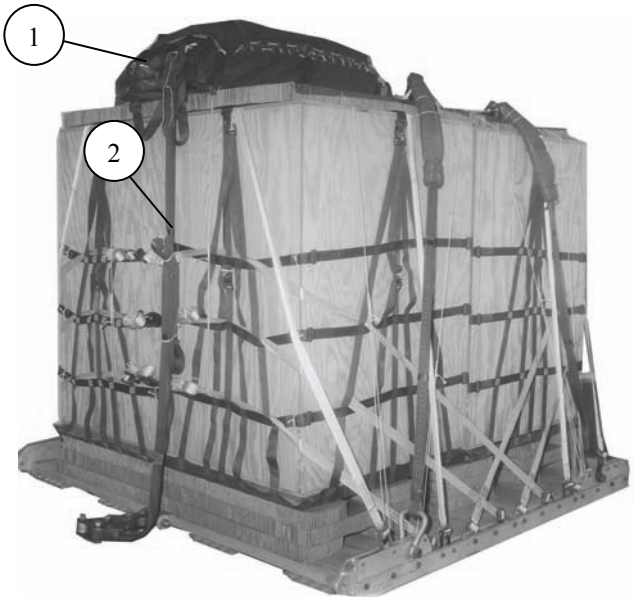
3. Raise the four suspension slings above the load, and install a deadman's tie as outlined in to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

4. Position two 36- by 96-inch pieces of honeycomb side by side on top of the load, tape the edges of the honeycomb and secure the honeycomb with type III nylon cord.

Figure 2-51. Suspension Slings and Deadman's Tie Installed

STOWING CARGO PARACHUTE

2-49. Stow one G-11 cargo parachute according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-52.



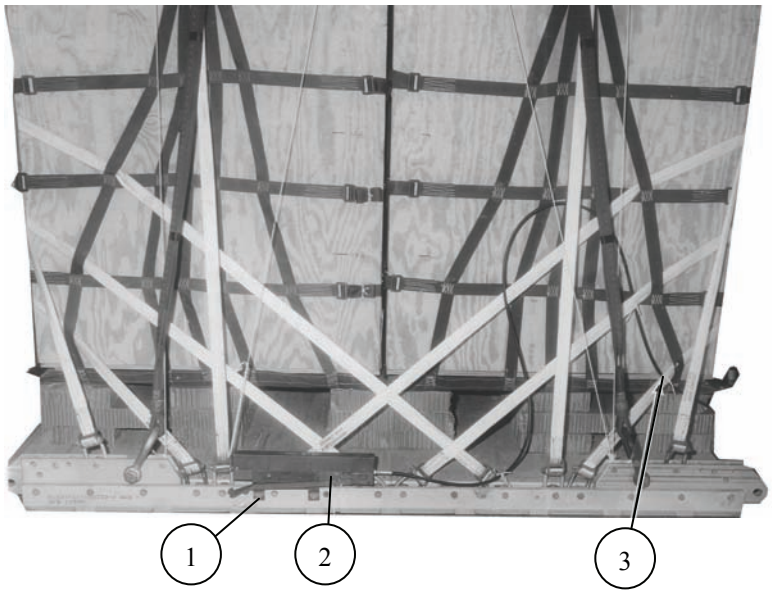
1. Prepare, place, and secure one G-11 cargo parachute according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

2. Use a 12-loop (2-loop), type XXVI nylon sling as a deployment line. Bolt it to the latch assembly on the right spacer. S-fold the slack and tie the folds with type I, 1/4-inch cotton webbing.

Figure 2-52. Cargo Parachute Stowed and Secured to Load

INSTALLING EXTRACTION SYSTEM

2-50. Attach the components of the Extraction Force Transfer Coupling (EFTC) according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-53.

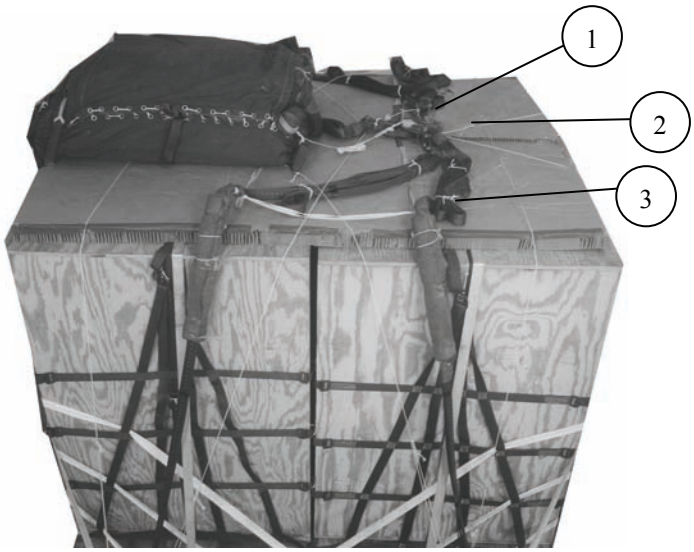


1. Attach the EFTC mounting brackets to the front holes on the left rail.
2. Install the actuator according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
3. Install a 12-foot cable according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Safety the cable to the lashing with type I, 1/4-inch cotton webbing.

Figure 2-53. EFTC Installed

INSTALLING PARACHUTE RELEASE

2-51. Prepare, attach, and safety an M-1 cargo parachute release according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 2-54.



4. Place the M-1 release on top of the honeycomb, and attach the suspension slings and the parachute riser extensions.

5. Secure the M-1 release to the load with type III nylon cord.

6. S-fold and tie any excess suspension slings with type I, 1/4-inch cotton webbing.

Figure 2-54. M-1 Cargo Parachute Release Installed

PLACING EXTRACTION PARACHUTE

2-52. 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

2-53. 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

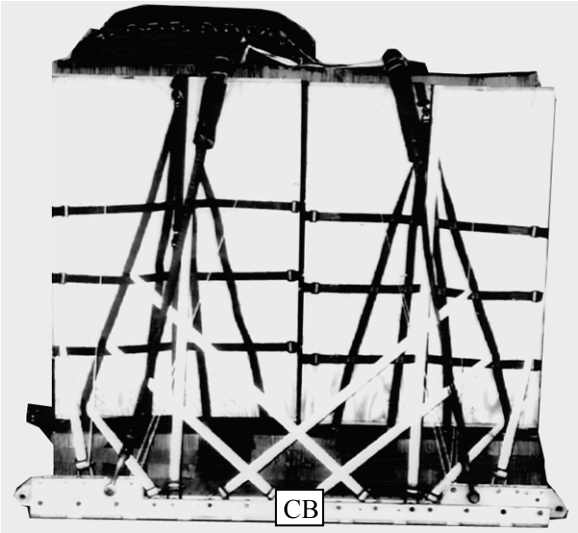
2-54. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 2-55. Complete Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

2-55. Use the equipment listed in Table 2-4 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 ..... 4,440 pounds

Height ..... 83 inches

Width ..... 108 inches

Overall Length ..... 96 inches

Overhang: Front ..... 0 inches

Rear ..... 0 inches

Center of Balance (from front edge of the platform) ..... 51 inches

Extraction System with 12-foot cable (adds 18 inches to length of platform) ..... EFTC

Figure 2-55. Four Fifteen-Round Containers Rigged in A-22 Cargo Slings on Type V Platform for Low-Velocity Airdrop

Table 2-4. Equipment Required for Rigging Four 15 -Round Dragon or Dragon II Missile Containers in Four A-22 Cargo Slings on an 8-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive, paste, 1-gallon	As required
8465-00-587-3421	Bag, cargo, aerial delivery, type A-22	4
	Clevis, suspension:	
4030-00-678-8562	3/4-inch (medium) emergency restraint	2
4030-00-090-5354	1-inch (large)	5
4020-00-240-2146	Cord, nylon, type III	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer with 12-foot cable	1
1670-00-360-0328	Cover, clevis, large	1
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-inch thick	As required
1670-01-183-2678	Leaf, extraction line	2
	Line, extraction, type XXVI nylon webbing:	
1670-01-062-6313	60-foot (1-loop)	1
	Or	
1670-01-107-7652	160-foot (1-loop)	2
1670-01-064-4452	60-foot (1-loop), type XXVI for C-17 drogue line	1
	Link assembly, two-point:	
5306-00-435-8994	Bolt, 1-inch diameter, 4-inch long	1
5310-00-232-5165	Nut, 1-inch, hexagonal	1
1670-00-003-1953	Plate, side 3 3/4-inch	1
5365-00-007-3414	Spacer, large	1
1670-00-753-3928	Pad, energy-dissipating, honeycomb	8 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	1
1670-01-063-3715	Cargo, extraction, 15-foot	1
	Platform, airdrop, type V, 8-foot	
1670-01-353-8425	Bracket assembly, EFTC	1
1670-01-162-2376	Bracket assembly, extraction	1
1670-01-162-2372	Clevis assembly	20
1670-01-162-2381	Tandem link	4
5530-00-128-4981	Plywood, 3/4-inch	2 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1

Table 2-4. Equipment Required for Rigging Four 15 -Round Dragon or Dragon II Missile Containers in Four A-22 Cargo Slings on an 8-Foot, Type V Platform for Low-Velocity Airdrop (Continued)

National Stock Number	*Item*	*Quantity*
	Sling, cargo airdrop:	
	For deployment line:	
1670-00-753-3792	12-foot (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6301	3-foot (2-loop), type XXVI nylon webbing	5
	For suspension:	
1670-01-063-7761	16-foot (2-loop), type XXVI nylon webbing	4
1670-00-040-8219	Strap parachute release, multicut	1
7515-00-266-5016	Tape, adhesive, 2-inch	As required
7501-00-266-6710	Tape, masking	As required
1670-00-937-0271	Tie-down assembly, 15-foot	20
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
	Nylon:	
8305-00-082-5752	Tubular, 1/2-inch	As required
8305-00-263-3591	Type VIII webbing	As required

Chapter 3

Rigging the Advanced Antitank Weapon System-Medium (Javelin) for Low-Velocity Airdrop

SECTION I-RIGGING TWO-ROUND A-7A DOOR BUNDLE

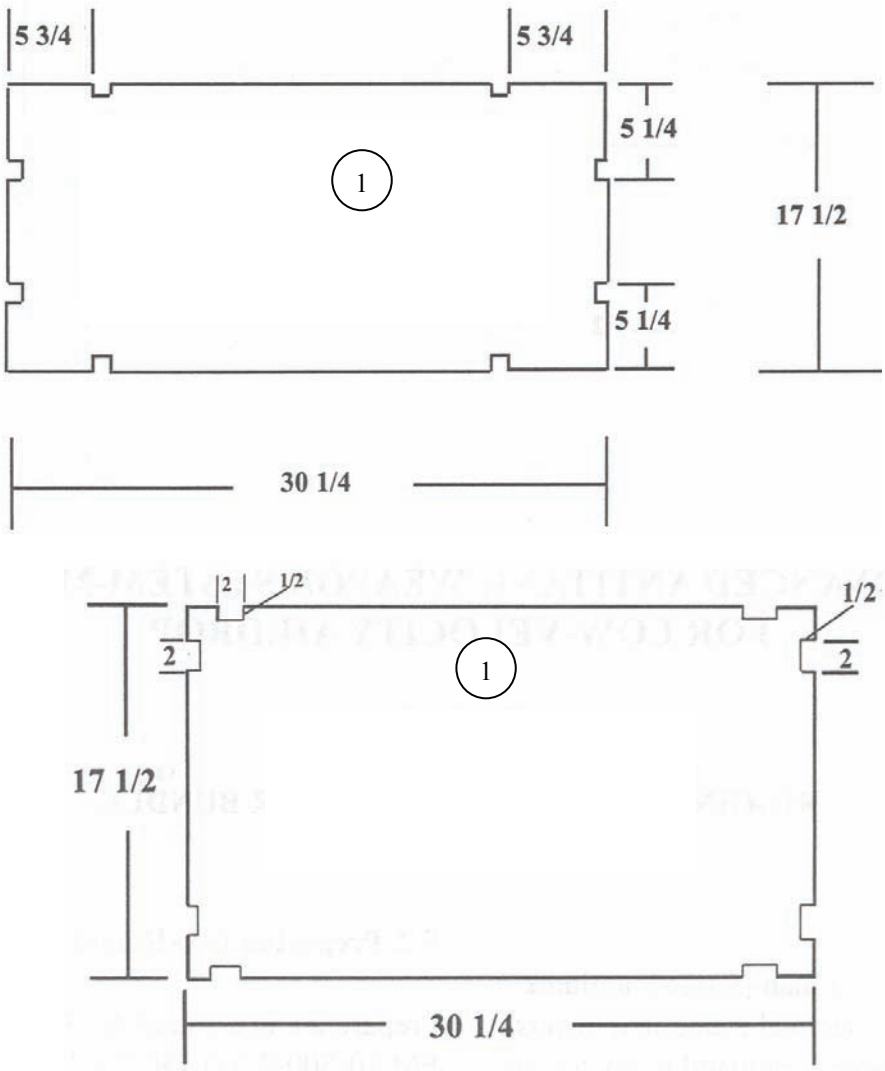
DESCRIPTION OF LOAD

3-1. The Javelin Missile System is a man-portable antitank weapon system made up of a tactical round in a disposable launch tube and a reusable Command Launch Unit (CLU). The CLU is not rigged with the tactical rounds. The Javelin can be airdropped as a door bundle in two-round and four-round configurations. As a door bundle, the Javelin can be dropped only from C-130 and C-17 aircrafts. The Javelin two-round A-7A door bundle has an approximate rigged weight of 146 pounds. It has an approximate height of 65 1/2 inches, a width of 17 1/2 inches and a length of 30 1/4 inches. The two-round bundle uses the T-10 cargo parachute.

PREPARING TWO-ROUND A-7A DOOR BUNDLE

3-2. Prepare the two-round A-7A door bundle according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and as shown in Figure 3-1.

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

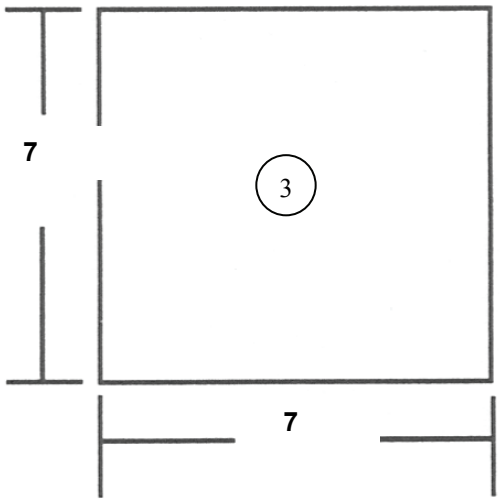


1. Cut two 17 1/2- by 30 1/4-inch pieces of 3/4-inch plywood with eight 1/2-inch by 2-inch cutouts. Pad and tape sharp edges of the cutout.

2. Cut two 17 1/2- by 30 1/4-inch pieces of honeycomb. (Not shown)

Figure 3-1. Two-Round A-7A Door Bundle Prepared

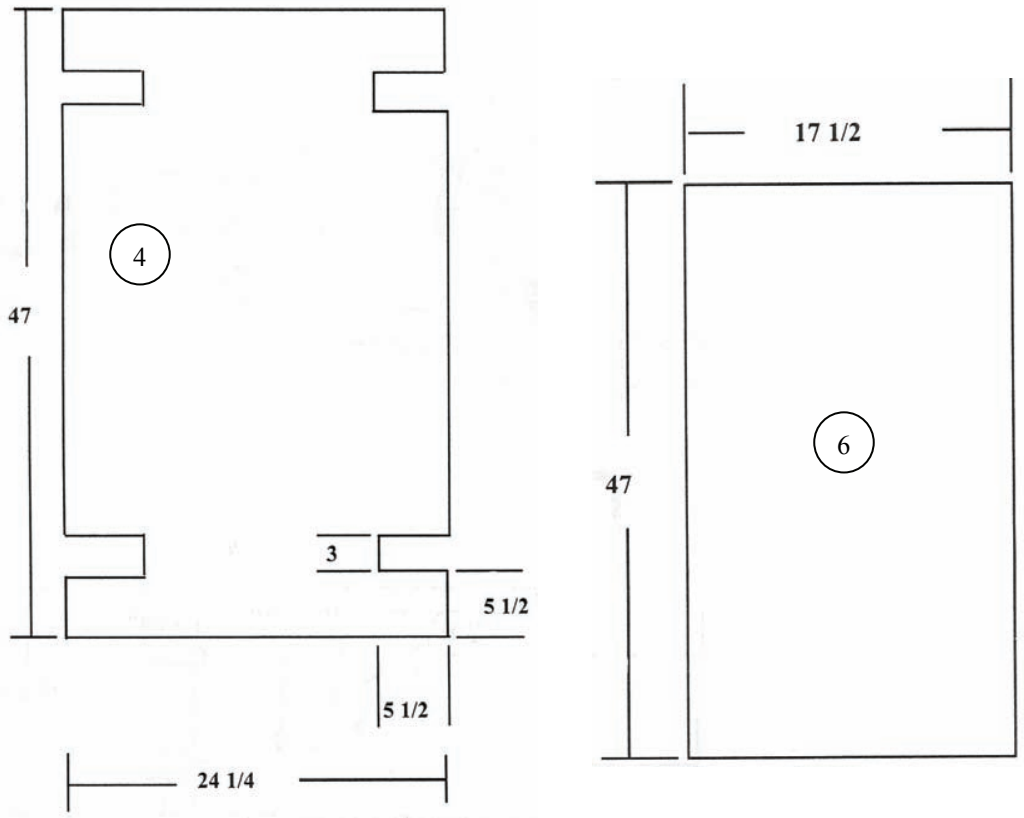
Notes. 1. This drawing is not to scale.
2. All dimensions are in inches.



3. Cut two 7- by 7-inch pieces of honeycomb.

Figure 3-1. Two-Round A-7A Door Bundle Prepared (Continued)

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



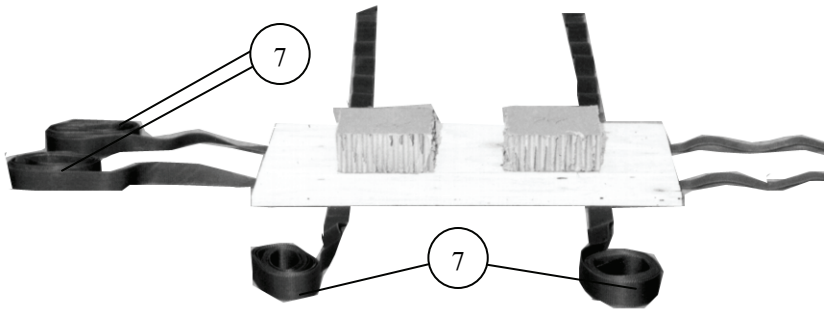
4. Cut two 3/4- by 24 1/4- by 47-inch pieces of plywood with four 3- by 5 1/2-inch cutouts. Pad and tape sharp edges of the cutouts.

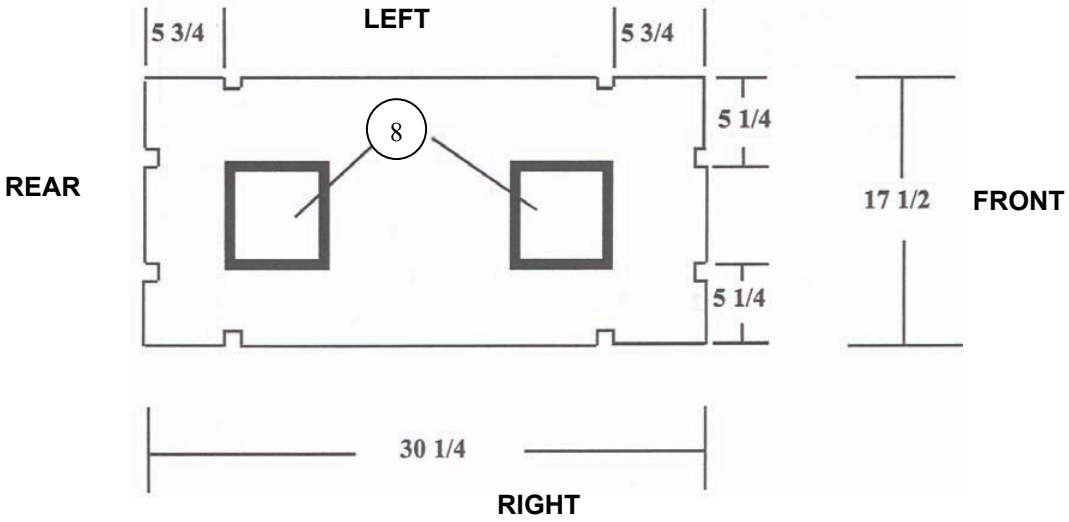
5. Cut two pieces of honeycomb to match step 4. (Not shown)

6. Cut two 17 ½- by 47-inch pieces of honeycomb.

Figure 3-1. Two-Round A-7A Door Bundle Prepared (Continued)

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

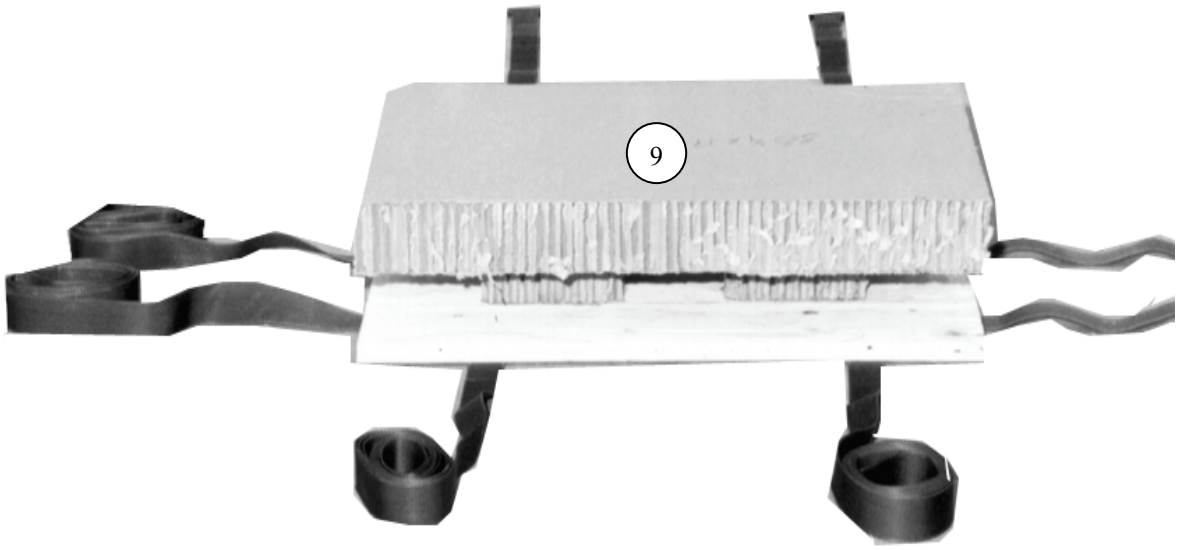




(7.) Position four A-7A straps under one of the 17 1/2- by 30 1/4-inch pieces of plywood. Position each strap about 5 inches from each edge of the platform.

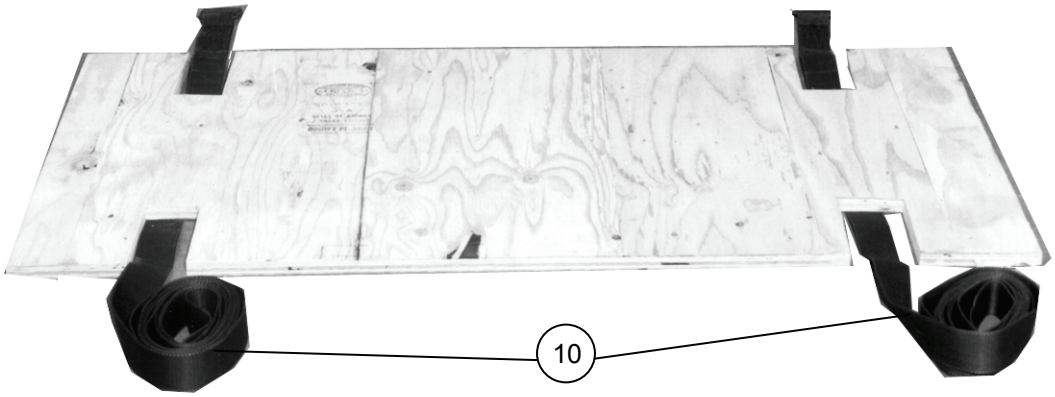
(8.) Position and glue the two 7- by 7-inch pieces of honeycomb on top of the plywood. Each piece should be 5 1/4 inches from the right and left edges of the plywood. Each piece should also be 5 3/4 inches from the forward edge and 5 3/4 inches from the rear edge of the plywood.

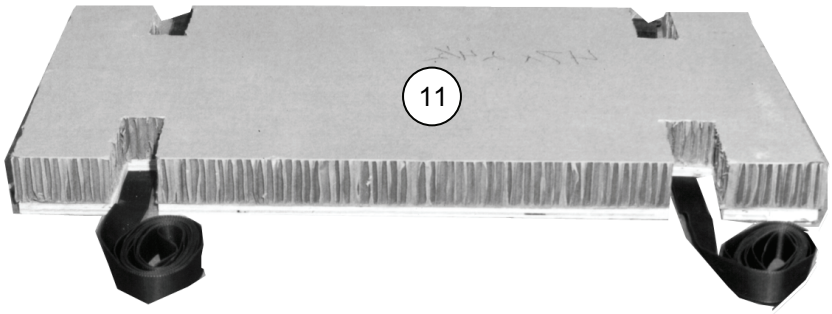
Figure 3-1. Two-Round A-7A Door Bundle Prepared (Continued)



9. Position and glue one of the 17 ½-inch by 30 ¼-inch pieces of honeycomb centered on the plywood in step 8.

Figure 3-1. Two-Round A-7A Door Bundle Prepared (Continued)

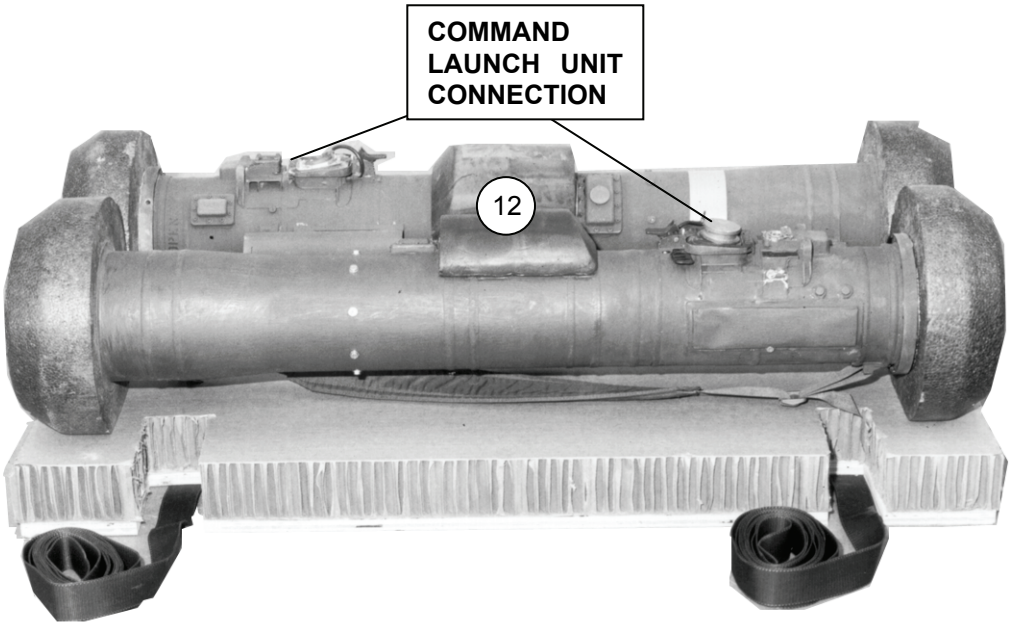




10. Position two A-7A straps, one in each set of cutouts on the 24 ¼-inch by 47-inch piece of plywood.

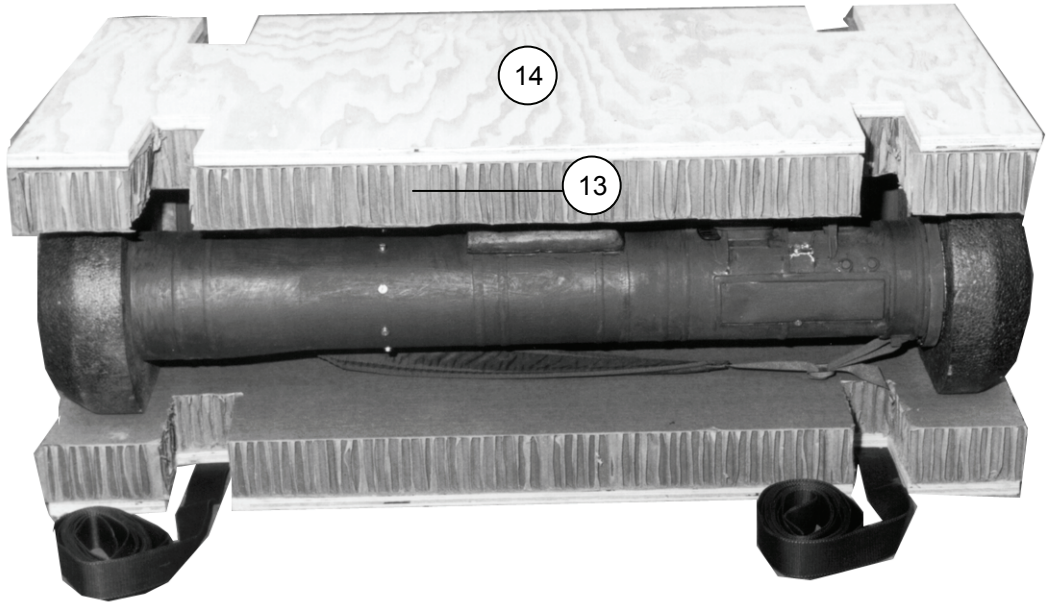
11. Position and glue one of the matching pieces of honeycomb on the top of the plywood in step 10.

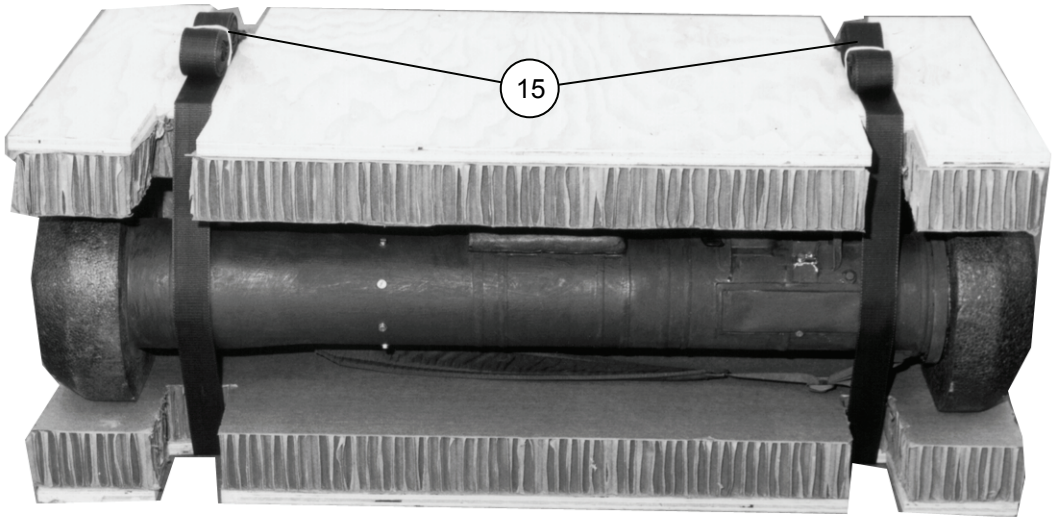
Figure 3-1. Two-Round A-7A Door Bundle Prepared (Continued)



12. With the CLU connectors on opposite ends, position two Javelin rounds on the honeycomb. Lay the rounds with the flat side of the protective foam down making sure the battery coolant units (BCU) face inward.

Figure 3-1. Two-Round A-7A Door Bundle Prepared (Continued)



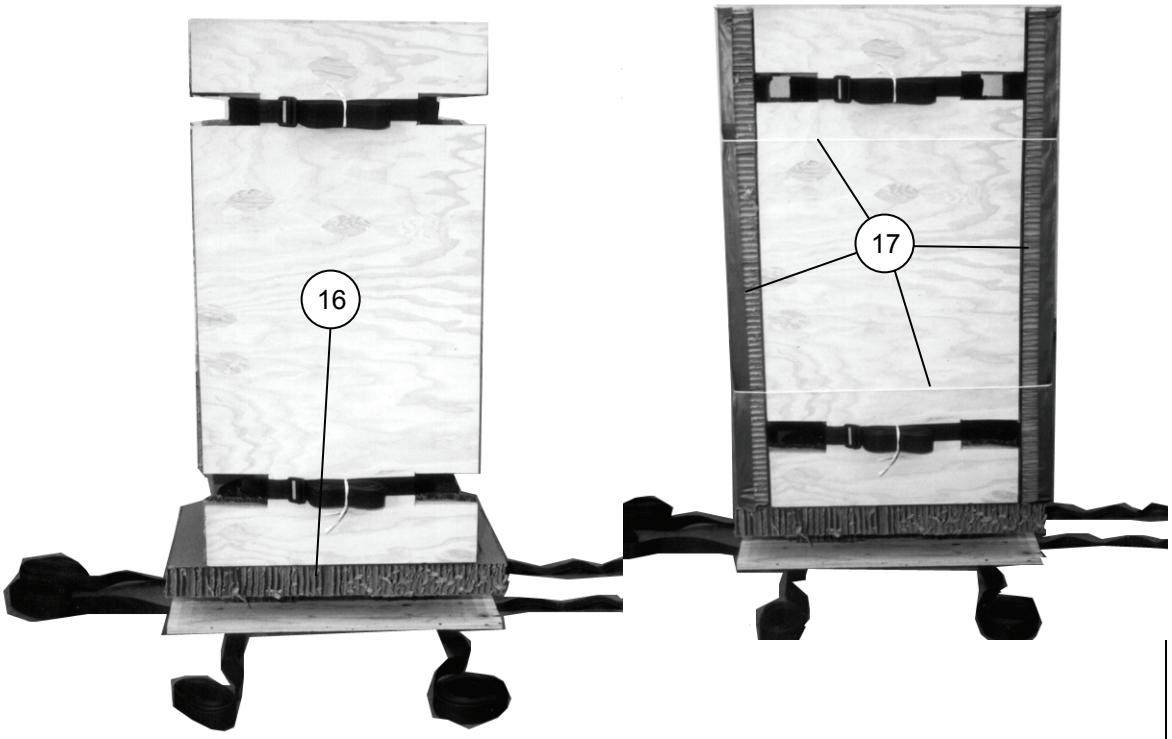


13. Position the other piece of 24 ¼- by 47-inch honeycomb with the cutouts evenly on top of the launch tubes.

14. Position and glue the matching piece of plywood on top of the honeycomb.

15. Secure the A-7A straps. Fold and secure excess straps with one turn single type I, 1/4-inch cotton webbing.

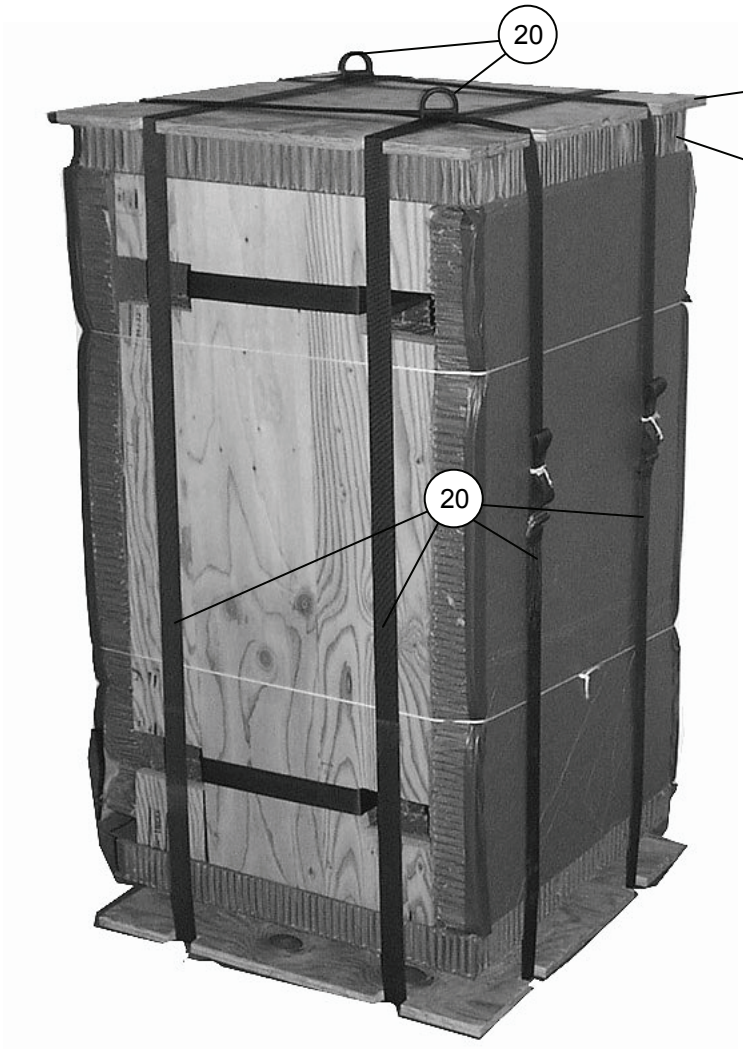
Figure 3-1. Two-Round A-7A Door Bundle Prepared (Continued)



16. Using the materials from steps 7 through 9 as a base, position the materials from steps 10 through 15 on one end centered on the base.

17. Position one of the 17 1/2- by 47-inch pieces of honeycomb flush with the front of the load and one flush with the rear of the load. Tape the edges of the honeycomb and secure it in place with two lengths of type III nylon cord.

Figure 3-1. Two-Round A-7A Door Bundle Prepared (Continued)



18. Position one 17 1/2- by 30 1/4-inch piece of honeycomb on top of the load.

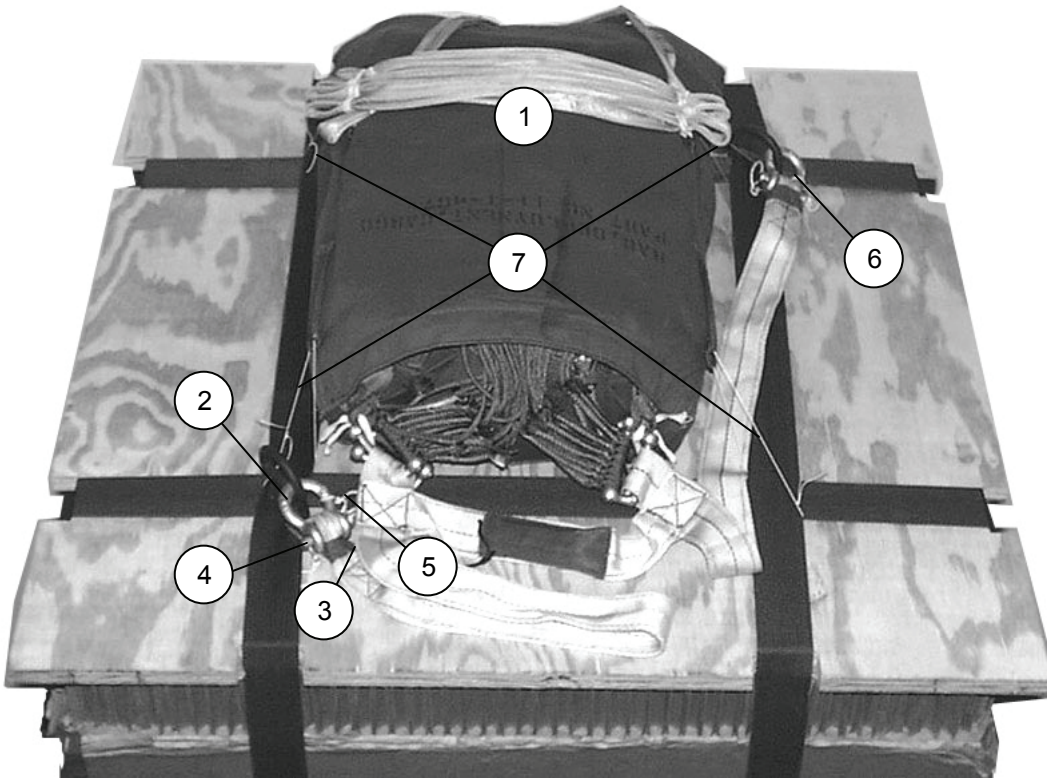
19. Position and glue one 17 1/2- by 30 1/4-inch piece of plywood on the honeycomb.

20. Position two D-rings on top of the load. Place one in the left front corner and the other in the right rear corner of the load. Secure in place by passing the running ends of two of the A-7A straps in those corners through the D-rings. Secure all the A-7A straps.

Figure 3-1. Two-Round A-7A Door Bundle Prepared (Continued)

ATTACHING PARACHUTE TO LOAD

3-3. Attach a T-10 cargo parachute as shown in Figure 3-2.



21. Center the parachute on top of the load between the D-rings.
22. Place the bell portion of a small clevis on one D-ring.
23. Place the loop end of a riser between the clevis arms.
24. Insert the clevis pin through the holes in the clevis arms and the loop of the riser.
25. Install the cotter pin. Spread the ends of the cotter pin to secure it in place.
26. Attach the other riser to the other D-ring as described in steps 1 through 5.
27. Secure the parachute from the retainer straps to the A-7A straps with lengths of ticket number 8/7 cotton thread.

Figure 3-2. Parachute Attached to Load

MARKING RIGGED LOAD

3-4. 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 3-3. Complete Shippers Declaration for Dangerous Goods and affix to load.

EQUIPMENT REQUIRED

3-5. Use the equipment in Table 3-1 to rig this load.

CAUTION

Mark the load “Door Bundle Only, Do Not Drop From ATF Ramp”

RIGGED LOAD DATA

Weight: Load shown.....146 pounds

Height .....65 1/2 inches

Width .....17 1/2 inches

Overall Length.....30 1/4 inches

Parachute .....T-10 Cargo

Figure 3-3. Javelin Two-Round A-7A Door Bundle Rigged

Table 3-1. Equipment Required for Rigging the Javelin Two-Round A-7A Door Bundle for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb	3 sheets
	Parachute:	
No NSN	T-10 cargo with 20-ft USL for C-17	1
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	2 sheets
1670-00-251-1153	Sling, assembly, cargo, airdrop, A-7A	6
8310-01-102-4487	Strap parachute release, multicut	1
7501-00-266-6710	Tape, masking	As required
7515-00-266-5016	Thread, cotton, ticket 8/7	As required
8305-00-268-2411	Webbing, cotton, 1/4-in, 80-lb	As required

SECTION II-RIGGING FOUR-ROUND A-7A DOOR BUNDLE

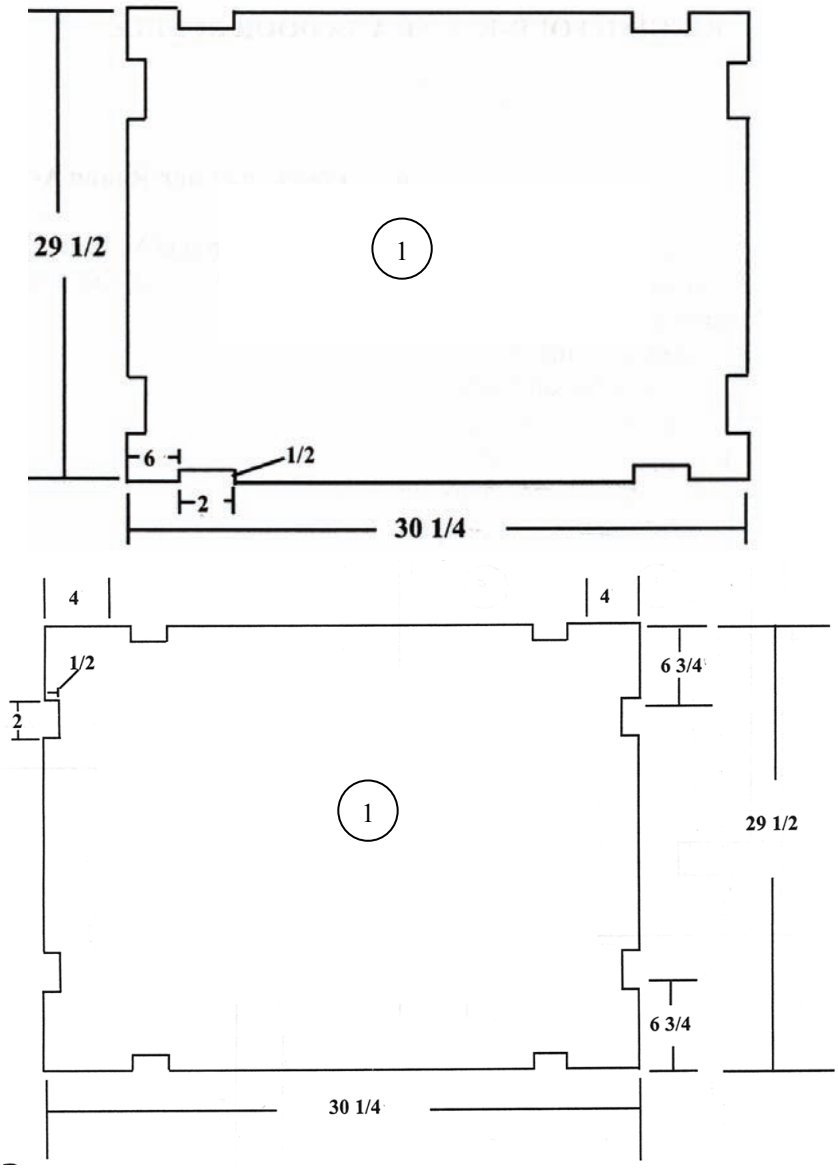
DESCRIPTION OF LOAD

3-6. The Javelin Missile System is a man-portable antitank weapon system made up of a tactical round in a disposable launch tube and a reusable Command Launch Unit (CLU). The CLU is not rigged with the tactical rounds. The Javelin four-round A-7A door bundle has an approximate rigged weight of 271 pounds. It has an approximate height of 57 1/2 inches (G-14) and 65 ½ inches (T-10), a width of 37 1/2 inches and a length of 44 1/4 inches. The four-round bundle uses the G-14 or T-10 cargo parachute.

PREPARING FOUR-ROUND A-7A DOOR BUNDLE

3-7. Prepare the four-round A-7A door bundle according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and as shown in Figure 3-4.

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

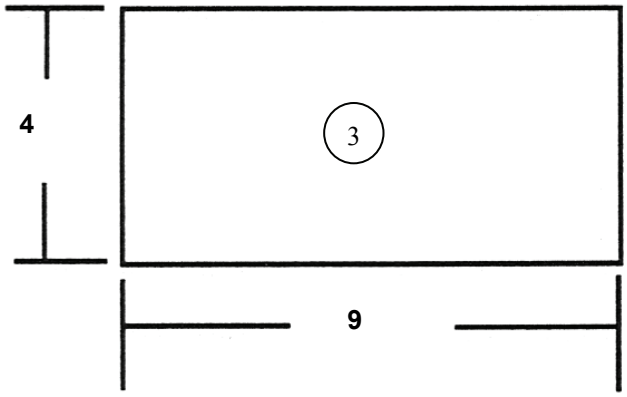


1. Cut two 29 1/2- by 30 1/4-inch pieces of 3/4-inch plywood with eight 2-inch cutouts. Pad and tape sharp edges of the cutout.

2. Cut two 29 1/2- by 30 1/4-inch pieces of honeycomb. (Not shown)

Figure 3-4 Four -Round A-7A Door Bundle Prepared

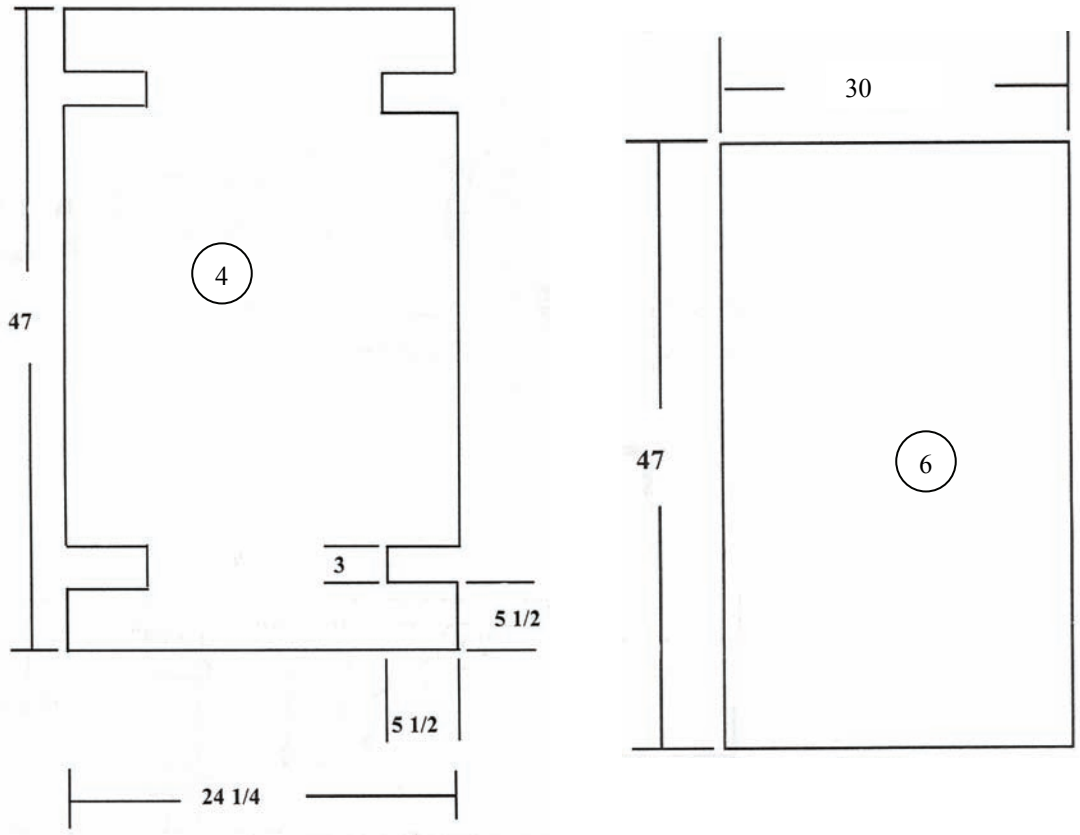
Notes. 1. This drawing is not to scale.
2. All dimensions are in inches.



3. Cut four 4- by 9-inch pieces of honeycomb.

Figure 3-4. Four-Round A-7A Door Bundle Prepared (Continued)

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



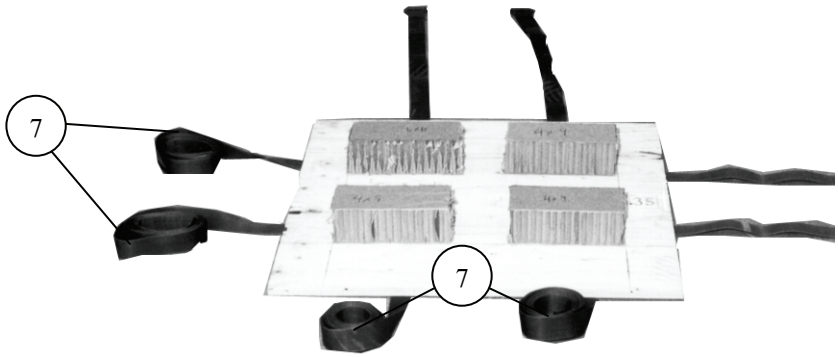
4. Cut three 3/4- by 24 1/4- by 47-inch pieces of plywood with four 3- by 5 1/2-inch cutouts. Pad and tape sharp edges of the cutouts.

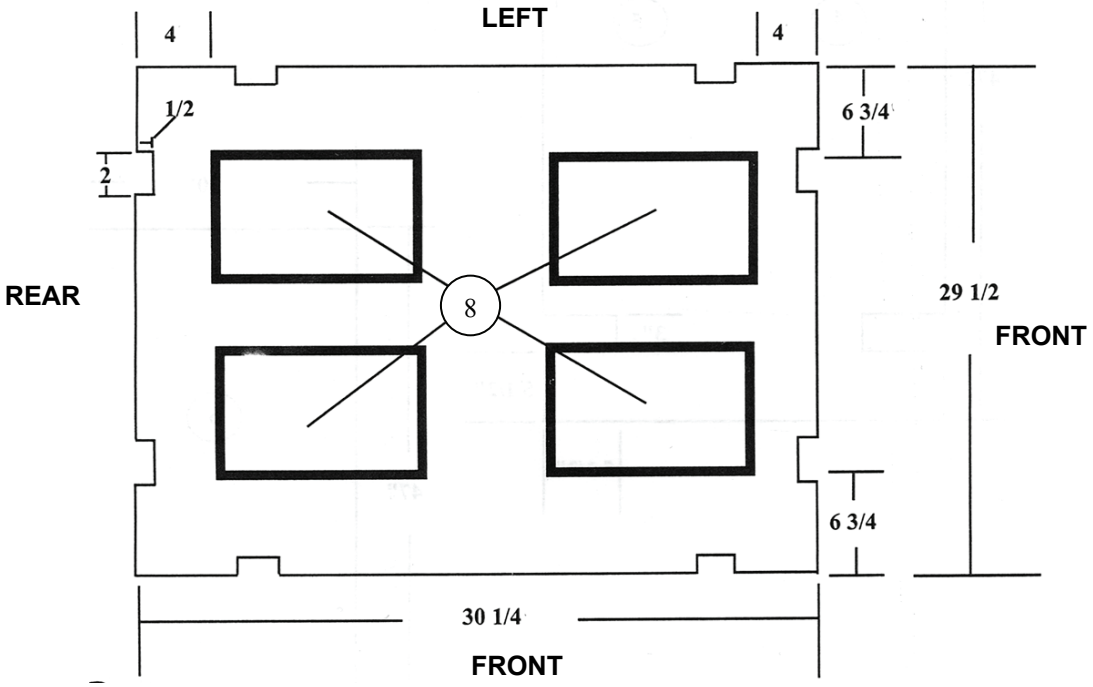
5. Cut two pieces of honeycomb to match those prepared in step 4. (Not shown)

6. Cut two 30- by 47-inch pieces of honeycomb.

Figure 3-4. Four-Round A-7A Door Bundle Prepared (Continued)

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

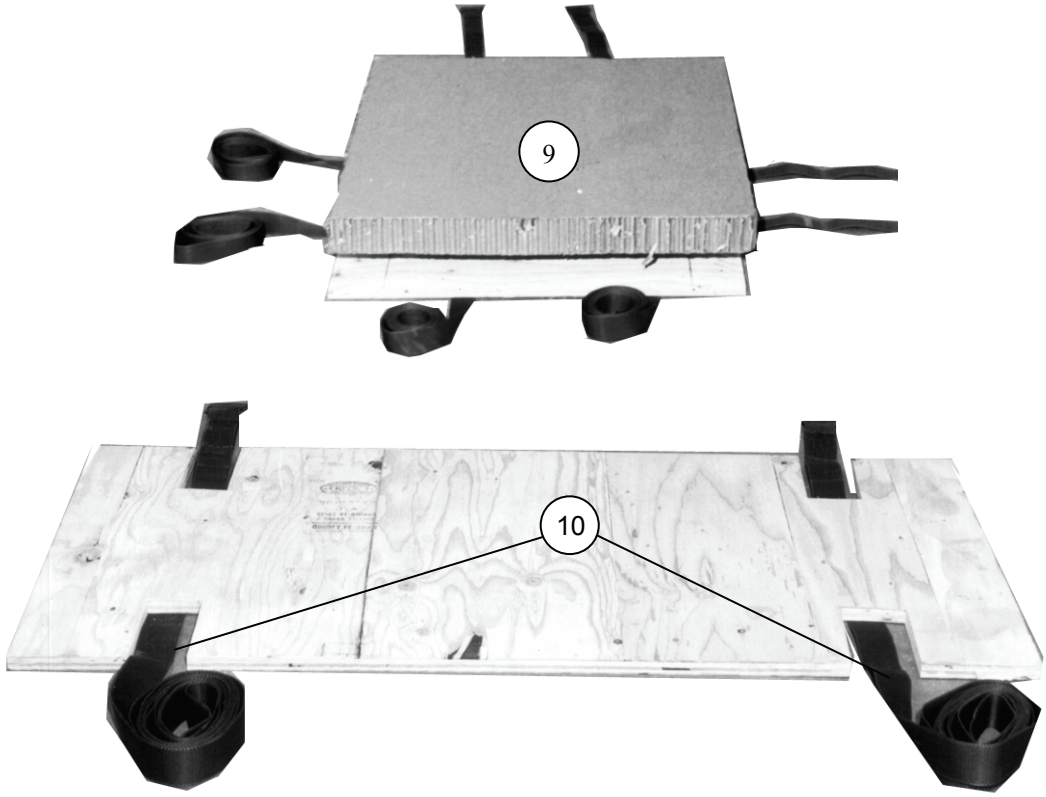




7. Position four A-7A straps under one of the 29 1/2- by 30 1/4-inch pieces of plywood. Position each strap in each set of cutouts of the plywood.

8. Position and glue the four 4- by 9-inch pieces of honeycomb on top of the plywood. The pieces on the left side should be 6 3/4 inches from the left edge of the plywood and the right side pieces should be 6 3/4 inches from the right edge of the plywood. The forward pieces should be 4 inches from the forward edge of the plywood and the rear pieces should be 4 inches from the rear edge of the plywood.

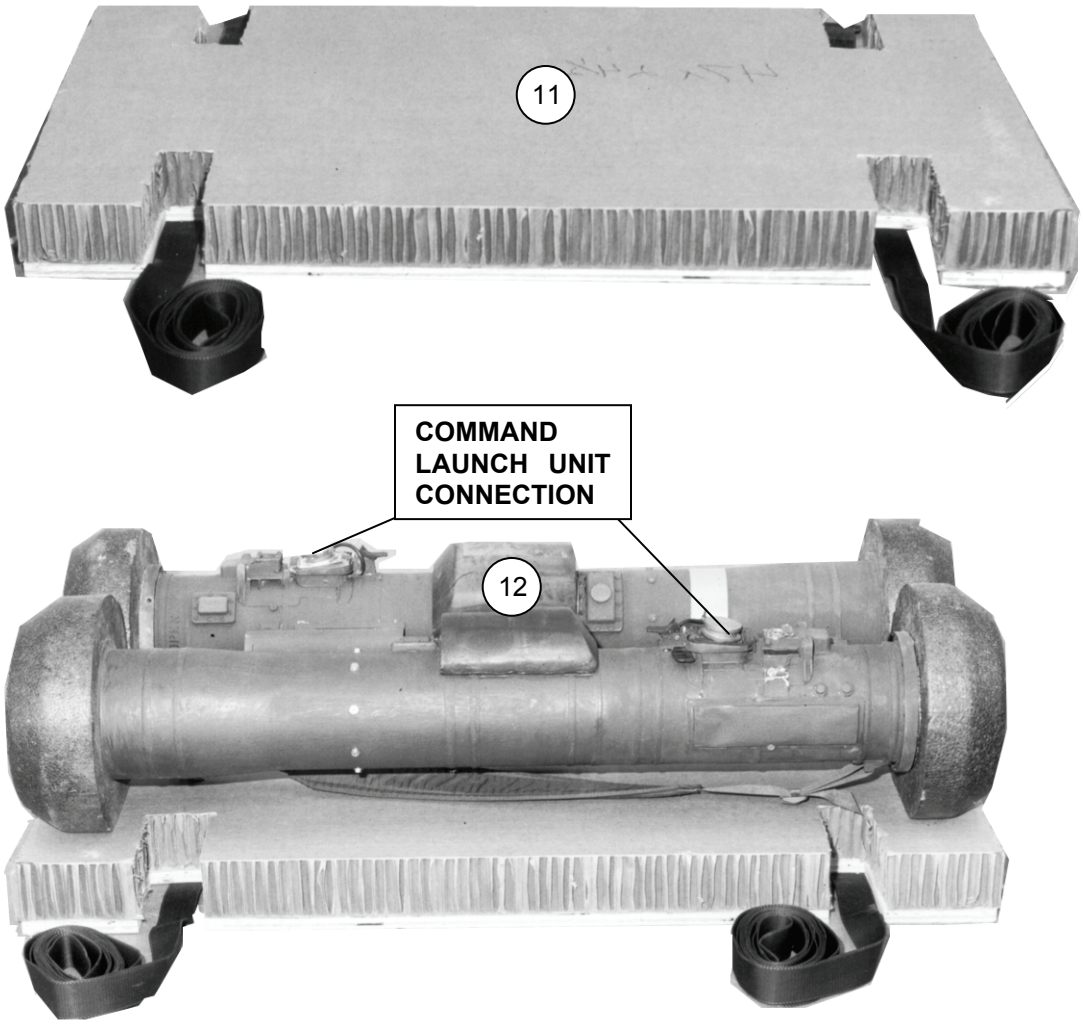
Figure 3-4. Four-Round A-7A Door Bundle Prepared (Continued)



9. Position and glue one of the 29 1/2- by 30 1/4-inch pieces of honeycomb centered on the plywood in step 8.

10. Position two A-7A straps, one in each set of cutouts on the 24 1/4- by 47-inch piece of plywood.

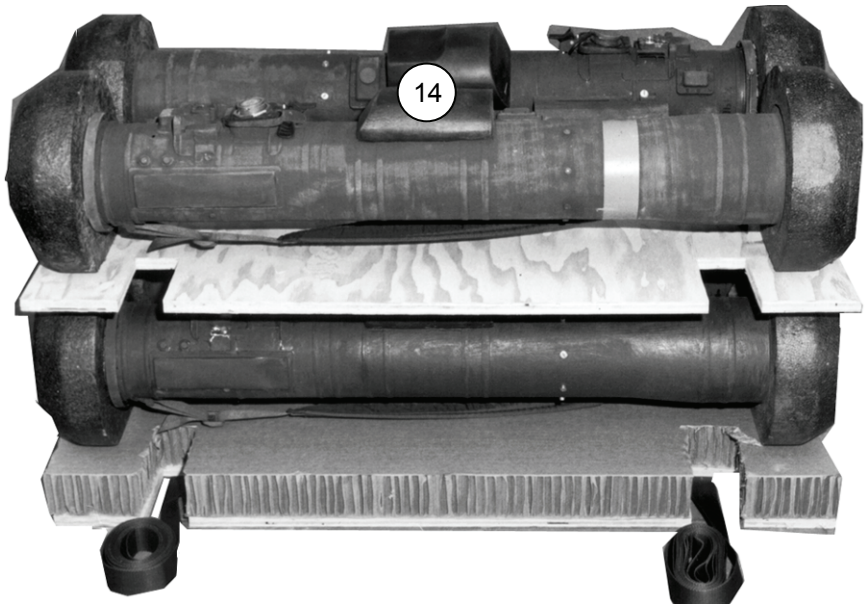
Figure 3-4. Four-Round A-7A Door Bundle Prepared (Continued)



11. Position and glue one of the matching pieces of honeycomb on the top of the plywood in step 10.

12. With the CLU connectors on opposite ends, position two Javelin rounds on the honeycomb. Lay the rounds with the flat side of the protective foam down making sure the BCUs face inward.

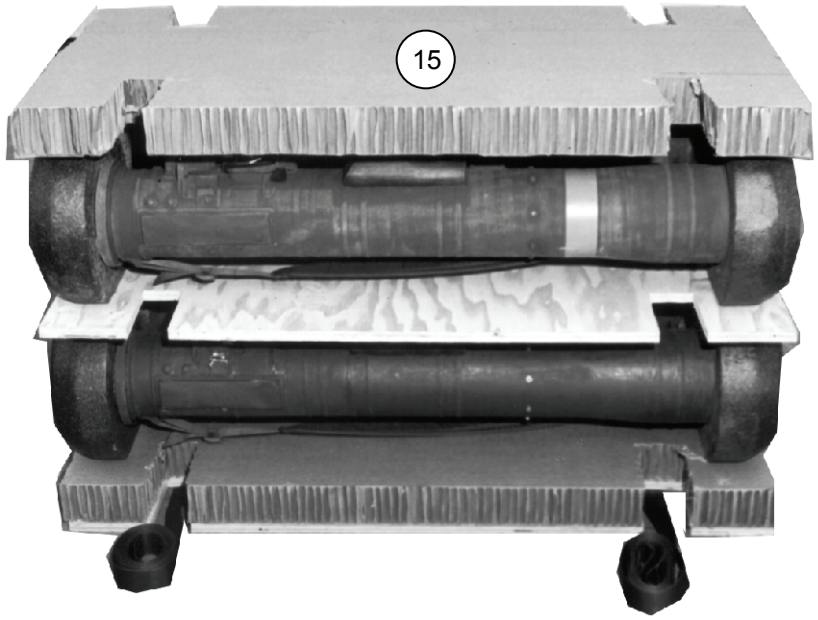
Figure 3-4. Four-Round A-7A Door Bundle Prepared (Continued)

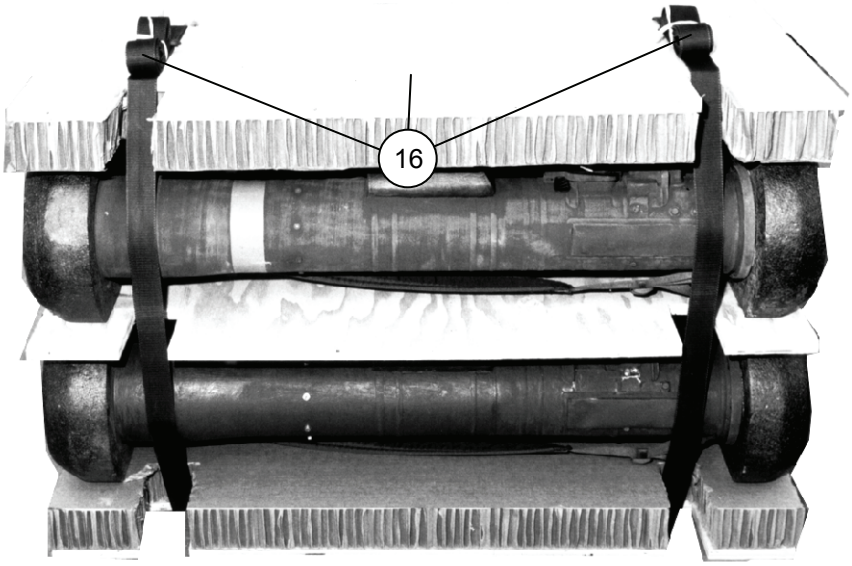


13. Position the other piece of 24 1/4-inch by 47-inch plywood with the cutouts evenly on top of the launch tubes.

14. Position two more rounds on top of the plywood as outlined in step 12.

Figure 3-4. Four-Round A-7A Door Bundle Prepared (Continued)

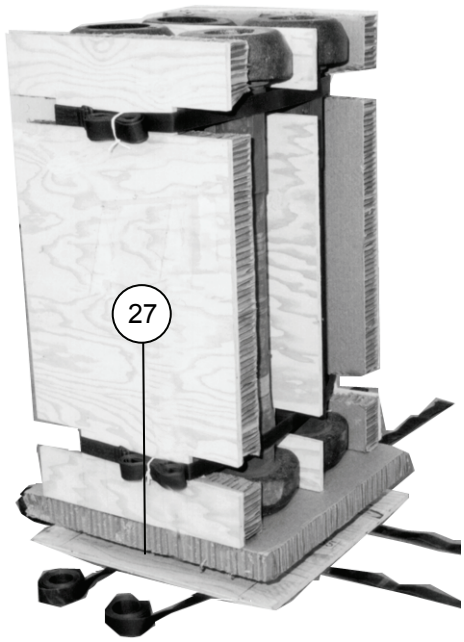


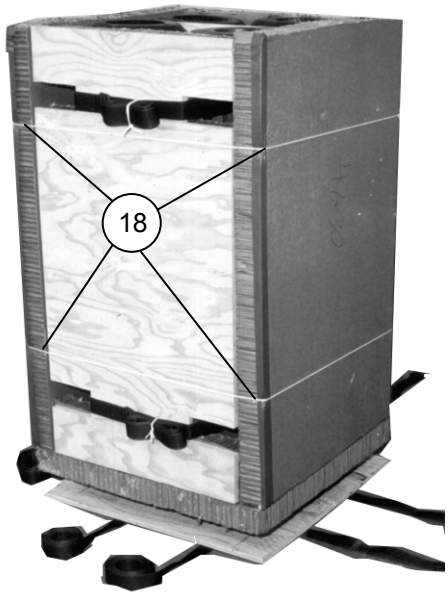


15. Position a piece of 24 1/4- by 47-inch honeycomb with the cutouts evenly on top of the launch top.

16. Position and glue the matching piece of plywood on top of the honeycomb. Secure the A-7A straps.

Figure 3-4. Four-Round A-7A Door Bundle Prepared (Continued)

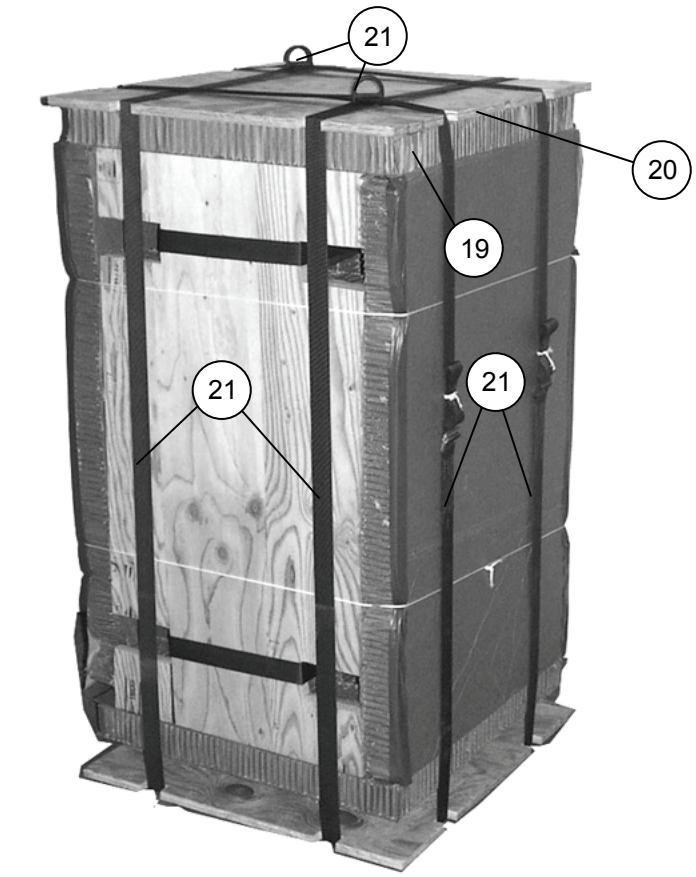




17. Using the materials from steps 7 through 9 as a base, position the materials from steps 10 through 16 on one end centered on the base.

18. Position one of the 30-inch by 47-inch pieces of honeycomb flush with the front of the load and one flush with the rear of the load. Tape the edges of the honeycomb and secure it in place with two lengths of type III nylon cord.

Figure 3-4. Four-Round A-7A Door Bundle Prepared (Continued)



(19) Position one 29 1/2- by 30 1/4-inch piece of honeycomb on top of the load.

(20) Position and glue one 29 1/2- by 30 1/4-inch piece of plywood on the honeycomb.

(21) Position two D-rings on top of the load. Place one in the left front corner and the other in the right rear corner of the load. Secure in place by passing the running ends of two of the A-7A straps in those corners through the D-rings. Secure all the A-7A straps.

Figure 3-4. Four-Round A-7A Door Bundle Prepared (Continued)

ATTACHING PARACHUTE

3-8. Attach a T-10 cargo parachute as shown in paragraph 3-3, Figure 3-2 or a G-14 cargo parachute as shown in Figure 3-5.

1. Attach a G-14 cargo parachute to a plywood side of the container with the tie tapes on the deployment bag. This will be the rear side of the load. Tie the upper tie tapes to the A-7A straps even with the edge of the vertical piece of honeycomb. Tie the lower tie tapes to the same A-7A straps directly under the bag attachment points.

2. Attach each riser clevis of the parachute to a D-ring on an A-22 suspension web. Attach the clips on the suspension webs to the D-rings on the A-7A straps, and tape the clips.

Figure 3-5. Parachute Attached to Load

MARKING RIGGED LOAD

3-9. 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 3-6. Complete Shippers Declaration for Dangerous Goods and affix to load.

EQUIPMENT REQUIRED

3-10. Use the equipment in Table 3-2 to rig this load.

CAUTION

Mark the load “Door Bundle Only, Do Not Drop From ATF Ramp”

RIGGED LOAD DATA

Weight: Load shown ..... 271 pounds

Height ..... 57 1/2 inches (G-14)

..... 65 1/2 inches (T-10)

Width ..... 37 1/2 inches

Overall Length ..... 44 1/2 inches (Plus the length of a G-14)

Parachute ..... T-10 or G-14

Figure 3-6. Javelin Four-Round A-7A Door Bundle Rigged (G-14)

Table 3-2. Equipment Required for Rigging the Javelin Four-Round A-7A Door Bundle for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb	3 sheets
	Parachute:	
No NSN	T-10 cargo with 20-ft USL for C-17	1
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	2 sheets
1670-00-251-1153	Sling, assembly, cargo, airdrop, A-7A	6
8310-01-102-4487	Strap parachute release, multicut	2
7501-00-266-6710	Tape, masking	As required
7515-00-266-5016	Thread, cotton, ticket 8/7	As required
8305-00-268-2411	Webbing, cotton, 1/4-in, 80-lb	As required

SECTION III-RIGGING NINE-ROUND CONTAINER DELIVERY SYSTEM (CDS) RIGGED IN AN A-22 CONTAINER

DESCRIPTION OF LOAD

3-11. The Javelin Missile System is a man-portable antitank weapon system made up of a tactical round in a disposable launch tube and a reusable Command Launch Unit (CLU). The CLU is not rigged with the tactical rounds. The Javelin missile system rigged in an A-22 container has an approximate rigged weight of 810 pounds. It has an approximate height of 65 1/2 inches, a width of 48 inches and a length of 60 inches. The nine-round Javelin missile system rigged in an A-22 stretch container uses the G-12E cargo parachute.

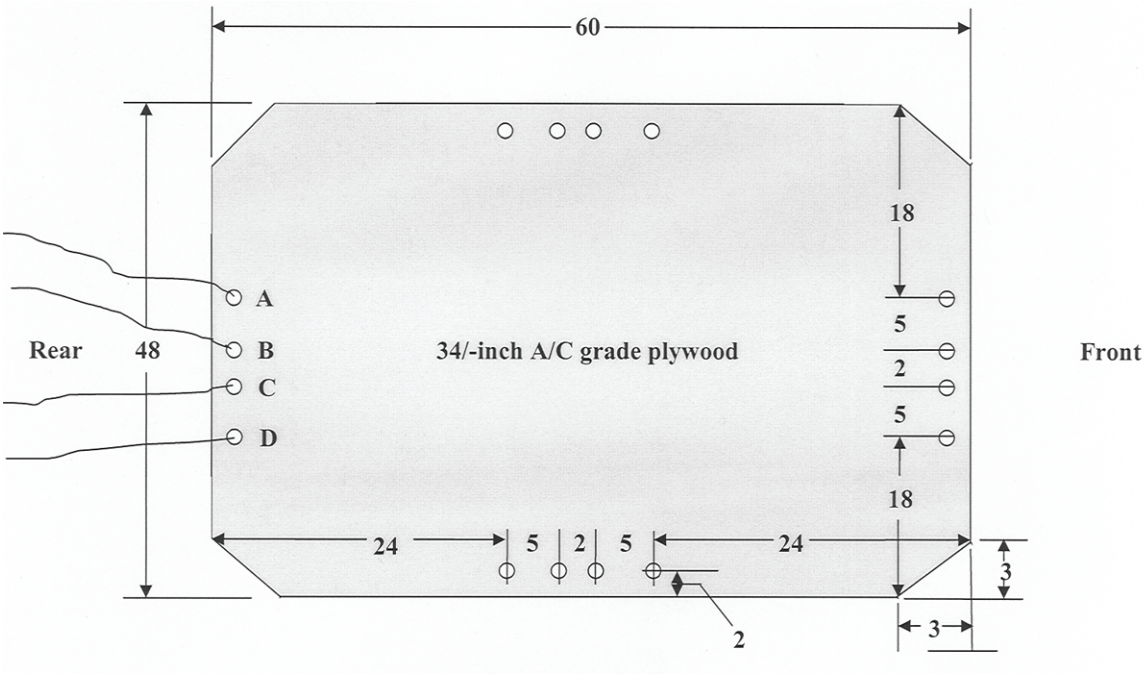
PREPARING SKID BOARD AND TIES

3-12. Construct and prepare the skid board, and ties according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and as shown in Figure 3-7. Use the measurements in this manual if they should differ from FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

Note. These dimensions and instructions are load specific.

Notes.

1. Drawing not to scale.
2. All dimensions are given in inches.
3. Always use A/C grade plywood.



Step:

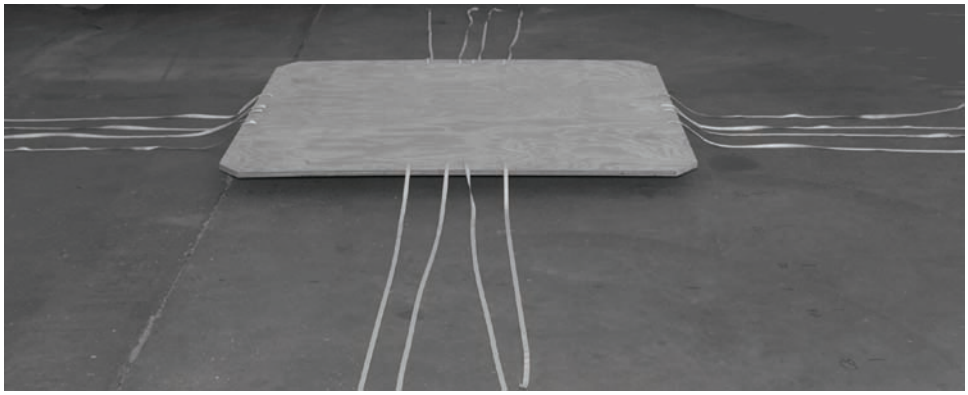
1. Construct and prepare a skid board as shown above.

Note. These instructions are load specific.

Figure 3-7. Skid Board and Ties Prepared

Notes.

1. Drawing not to scale.
2. All dimensions are given in inches.
3. Always use A/C grade plywood.



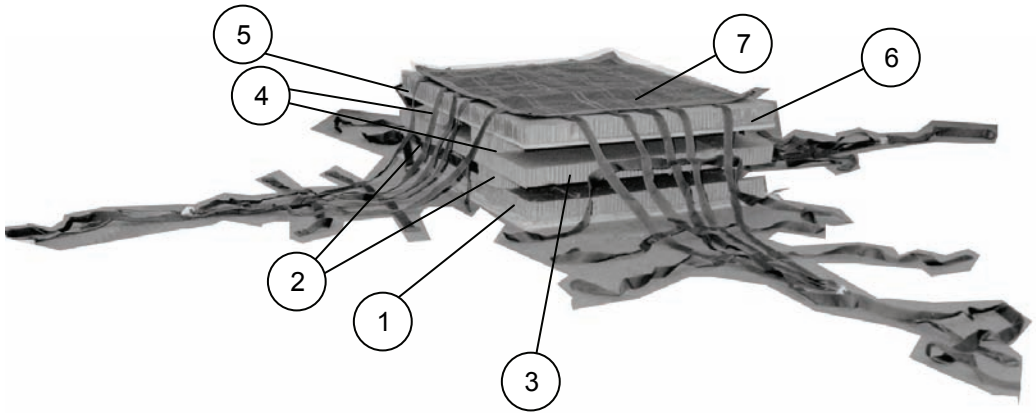
Step:

2. Cut and place a ¾- by 48- by 60-inch piece of A/C grade plywood on a flat surface.
3. Drill sixteen ½-inch holes as shown.
4. Measure 3 inches in from each corner of the skid board and make a diagonal cut.
5. Prepare and route the skid board ties according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-11 and as described below.
6. Cut sixteen, 10-foot lengths of ½-inch tubular, nylon webbing. Route one length through hole A from the bottom and the other through hole B from the bottom. Even the ends.
7. Repeat step 6 for holes C and D and the remaining sides.

Figure 3-7. Skid Board and Ties Prepared (Continued)

PREPARING AND POSITIONING HONEYCOMB AND A-22 SLING ASSEMBLIES

3-13. Prepare and position honeycomb and position two A-22 sling assemblies on the load according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and as shown in Figure 3-8.

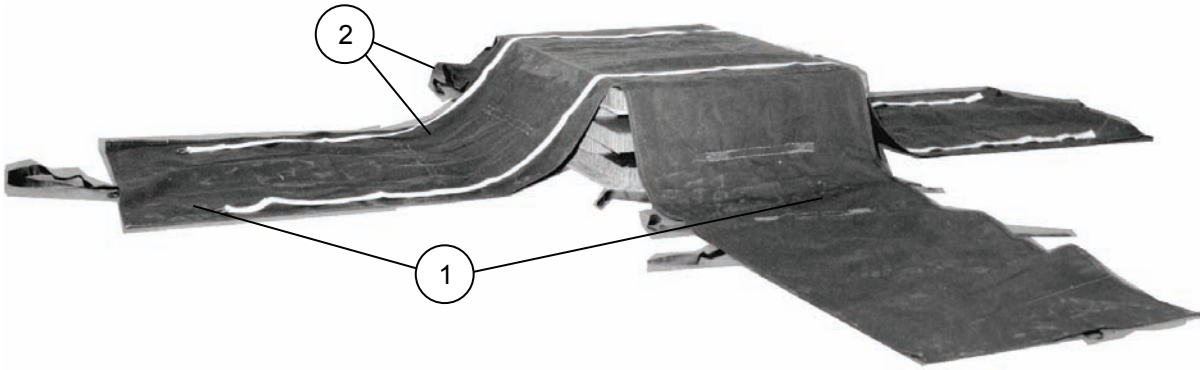


1. Cut a 44- by 56-inch piece of honeycomb and center it on the plywood.
2. Cut two 5- by 56-inch pieces of honeycomb and place each piece on top of the honeycomb 12 inches from each edge.
3. Cut a 44- by 56-inch piece of honeycomb and place it on top of the two previous pieces centered.
4. Repeat step 2.
5. Cut a 3/4- by 44- by 56-inch piece of plywood and place it on top of the two previous pieces centered.
6. Repeat step 1 and place the honeycomb on top of the plywood.
7. Position the sling assemblies and make the appropriate ties according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

Figure 3-8. Honeycomb and A-22 Sling Assemblies Positioned

POSITIONING COVERS AND A-7A STRAPS

3-14. Position two covers and two A-7A straps on top of the sling assemblies as shown in Figure 3-9.



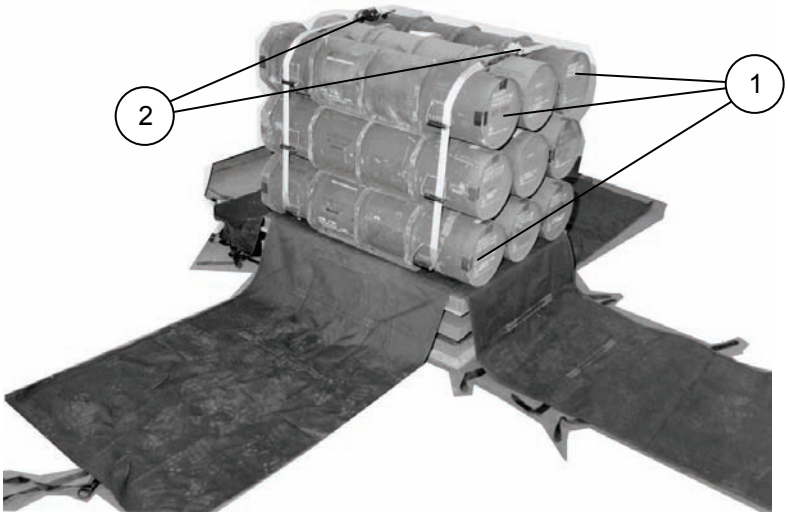
8. Position one cover to the front and the other cover to the rear of the load.

9. Place two tiedown lashings approximately 10 inches from each edge of the 59 inch side.

Figure 3-9. Covers and A-7A Straps Positioned

POSITIONING AND SECURING JAVELIN MISSILES

3-15. Position nine Javelin missiles and secure them as shown in Figure 3-10.



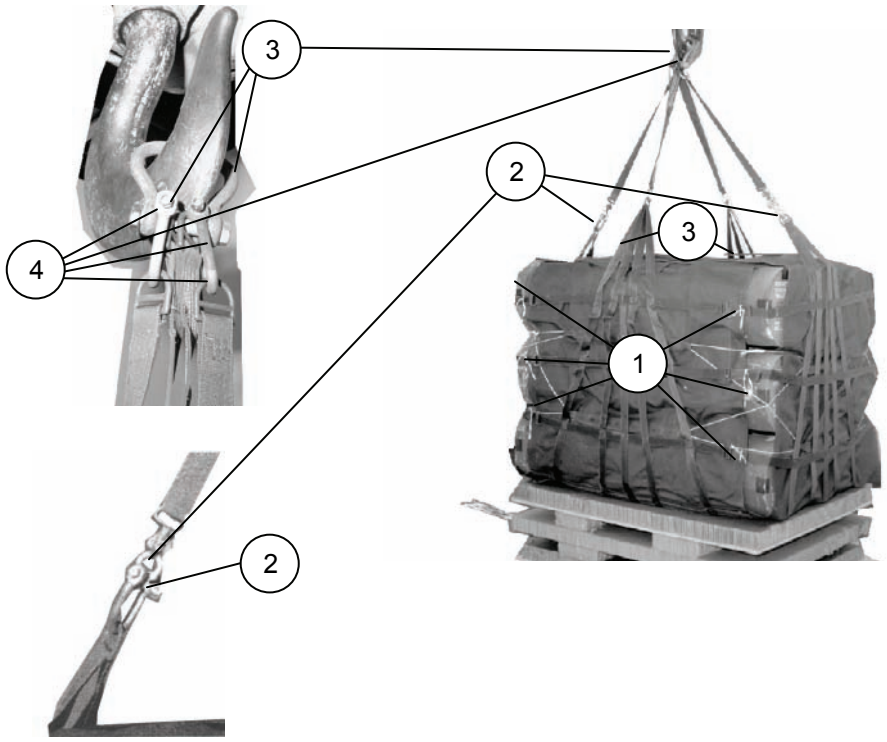
10. Place nine Javelin missiles on the load as shown above.

11. Run the pre-positioned tiedown lashings through the handles of the missiles and secure them on top with a D-ring and loadbinder.

Figure 3-10. Javelin Missiles Positioned and Secured

SECURING THE LATERAL STRAPS AND INSTALLING SUSPENSION SLINGS

3-16. Secure the lateral straps according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and install the suspension slings as shown in Figure 3-11.



1. Secure the lateral straps according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

Note. Due to the unequal length of this load and in order to balance the slings evenly, it is necessary to use two different sizes of clevises.

2. Attach a type V platform clevis and a G-13 clevis to each D-ring of the A-22 suspension point on the 60-inch side of the load.

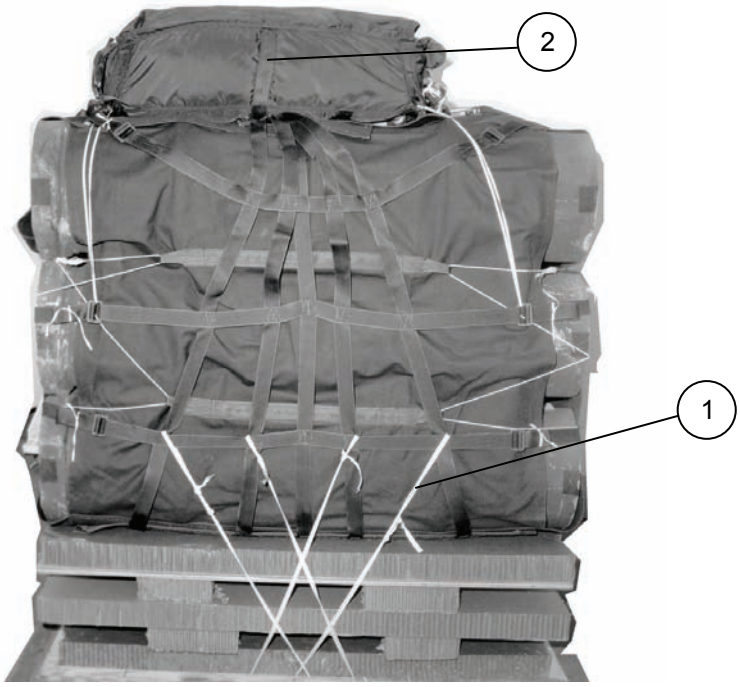
3. On the other connector straps attach a medium clevis.

4. On the other ends of the slings in step 2, attach another type V platform clevis and attach each platform clevis to the medium clevis to keep the slings balanced.

Figure 3-11. Lateral Straps Secured and Suspension Slings Installed

SECURING SKID BOARD TIES AND INSTALLING PARACHUTE

3-17. Secure the skid board ties according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11. Install a G-12E cargo parachute as shown in Figure 3-12.



1. Secure the skid board ties according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.
2. Install one G-12E cargo parachute according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

Figure 3-12. Skid Board Ties Secured and Parachute Installed

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 3-13. Complete Shippers Declaration for Dangerous Goods and affix to load.

EQUIPMENT REQUIRED

3-19. Use the equipment in Table 3-3 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.....810 pounds

Height .....65 1/2 inches

Width .....48 inches

Overall Length.....60 inches

Parachute G-12E

Figure 3-13. Javelin Nine-Round CDS in an A-22 Container Rigged

Table 3-3. Equipment Required for Rigging the Javelin Nine-Round CDS on an A-22 Container for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-678-8562	Clevis, suspension, 3/4-in (medium)	2
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb	3 sheets
	Parachute:	
1670-01-065-3755	G-12 cargo	1
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	2 sheets
1670-00-937-0271	Tie-down, assembly 15-ft	2
1670-01-062-6301	Sling, cargo, airdrop, 3-ft (2-loop)	2
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in	As required
	Nylon:	
8305-00-082-5752	Tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

SECTION IV-RIGGING JAVELIN MISSILE CONTAINERS (PLASTIC / LC-RSSC) IN AN A-22 CONTAINER CARGO BAG ASSEMBLY FOR LOW-VELOCITY AIRDROP

DESCRIPTION OF LOAD

3-20. The Javelin Missile System (Plastic Containers / LC-RSSC) is a man-portable surface to surface anti-tank missile made up of a tactical round in a disposable launch tube. The Javelin nine-round missile system is rigged in an A-22 cargo bag for low-velocity airdrop on a ¾- by 48- by 55 ½ -inch skid board. The load uses one G-12E cargo parachute with a 68-inch pilot parachute only. Each missile is 20 inches in diameter, 55 ½ inches in length and weighs approximately 96 pounds. The load has an approximate suspended weight of 1061 pounds. It has a total height of 85 inches, a width of 48 inches and a length of 55 ½ inches. The load has a total rigged weight of 1189 pounds.

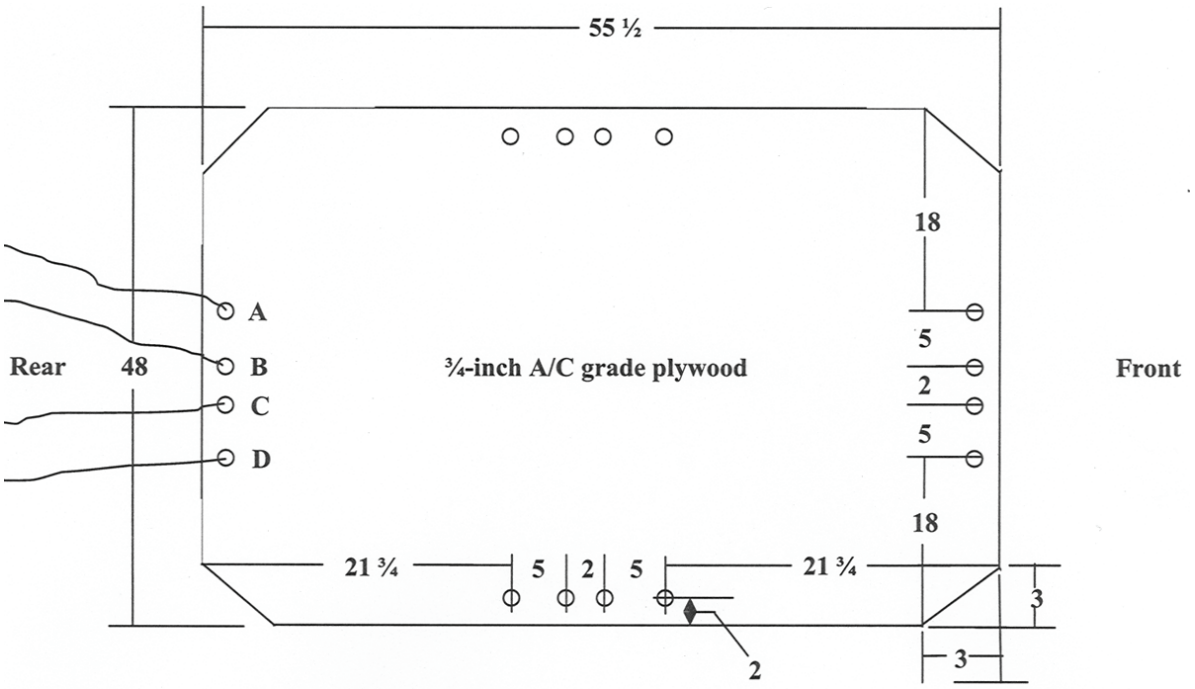
PREPARING SKID BOARD AND TIES

3-21. Construct and prepare a skid board, and ties according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and as shown in Figure 3-14. Use the measurements in this manual if they should differ from FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

Note. These dimensions and instructions are load specific.

Notes.

1. Drawing not to scale.
2. All dimensions are given in inches.
3. Always use A/C grade plywood.



Step:

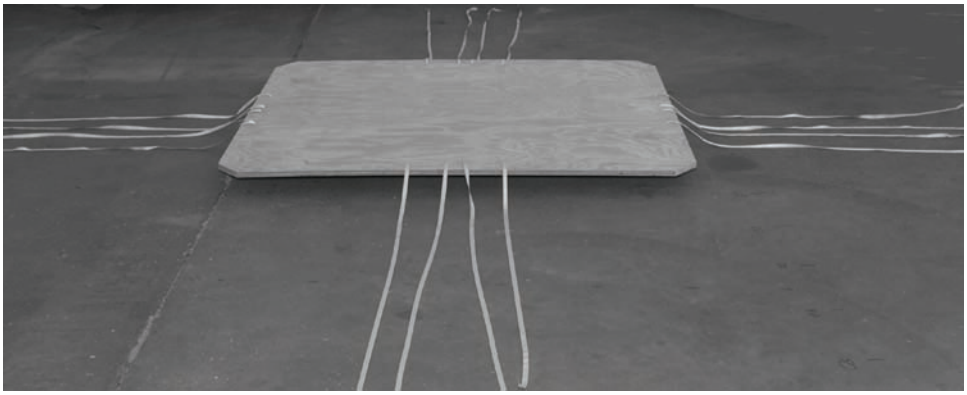
1. Construct and prepare a skid board as shown above.

Note. These instructions are load specific.

Figure 3-14. Skid Board and Ties Prepared

Notes.

1. Drawing not to scale.
2. All dimensions are given in inches.
3. Always use A/C grade plywood.



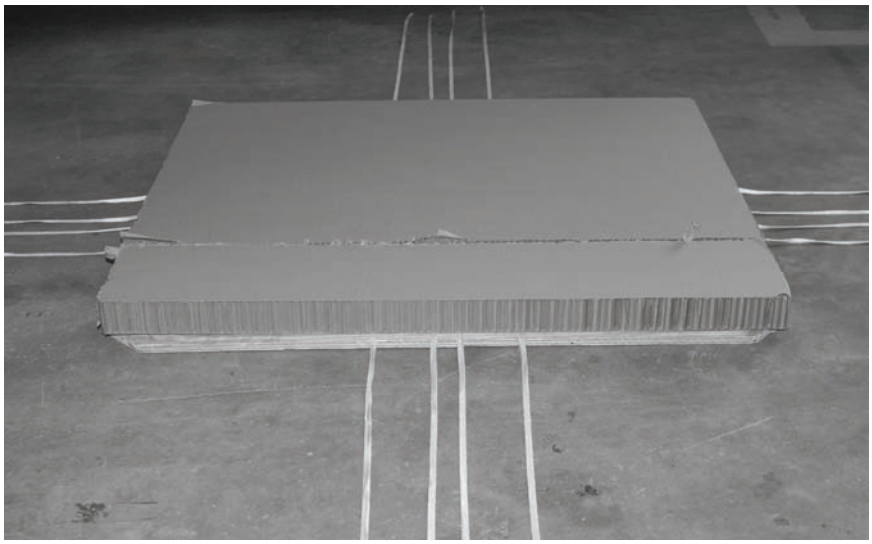
Step:

2. Cut and place a ¾- by 48- by 55 1/2-inch piece of A/C grade plywood on a flat surface.
3. Drill sixteen ½-inch holes.
4. Measure 3 inches in from each corner of the skid board and make a diagonal cut.
5. Prepare and route the skid board ties according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and as described below.
6. Cut eight each, 10-foot lengths of ½-inch tubular, nylon webbing. Route one length through hole A from the bottom and the other through hole B from the bottom. Even the ends.
7. Repeat step 6 for holes C and D and the remaining sides.

Figure 3-14. Skid Board and Ties Prepared (Continued)

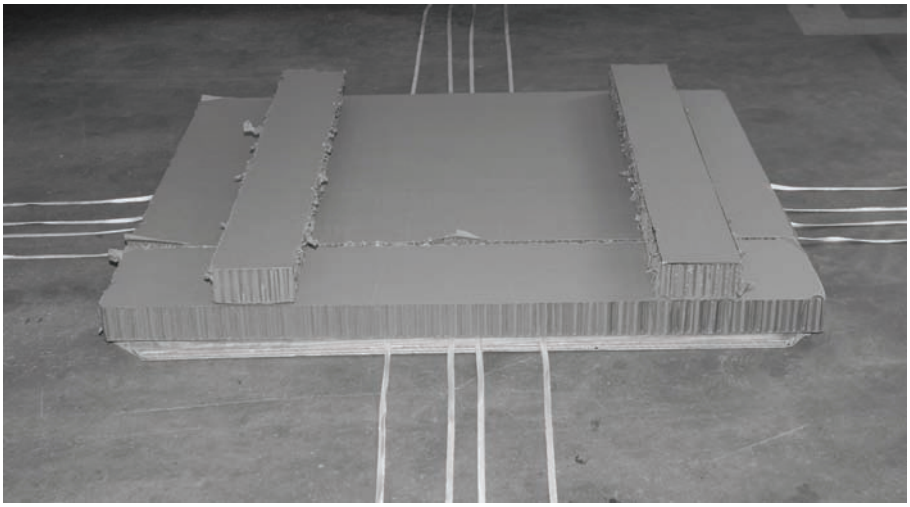
PREPARING AND POSITIONING HONEYCOMB STACK

3-22. Prepare the honeycomb and position the honeycomb stack as shown in Figure 3-15. Cut two pieces of honeycomb 36 by- 55 ½-inches, two pieces of honeycomb 8- by 55 ½-inches, six pieces of honeycomb 6 by- 44-inches, two pieces of 40 ½ by- 44 by- ¾-inch A/C grade plywood, and one 44 by- 55 ½-inch by- ¾- A/C grade plywood.



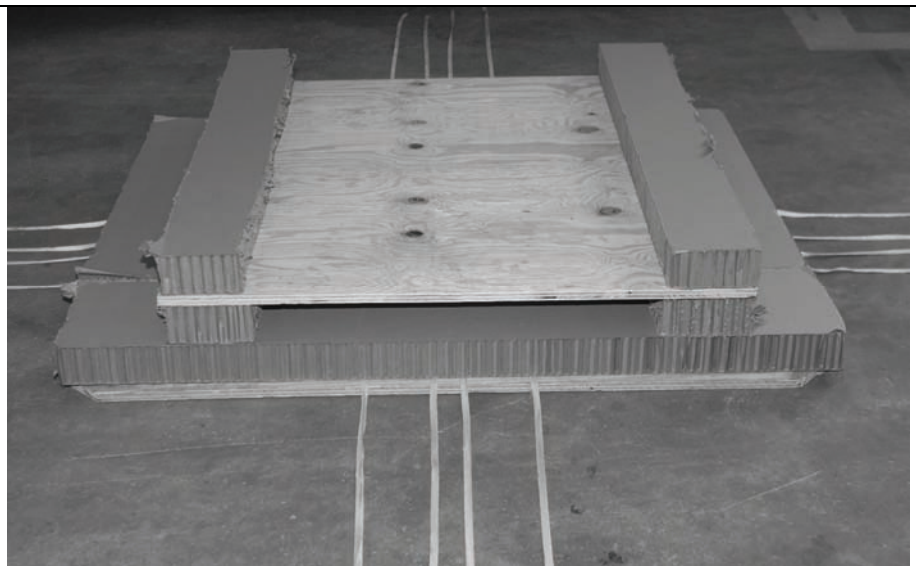
Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
1	1	36	55 ½	Honeycomb	Form a base stack 44- by 55 ½. Center and glue the pieces on the skid board. Ensure the 55 ½ -inch edges of the honeycomb pieces are flush and facing the 55 ½ -inch edge of the skid board.
	1	8	55 ½	Honeycomb	Used to form the base stack in the previous step.

Figure 3-15. Honeycomb Stack Prepared and Positioned



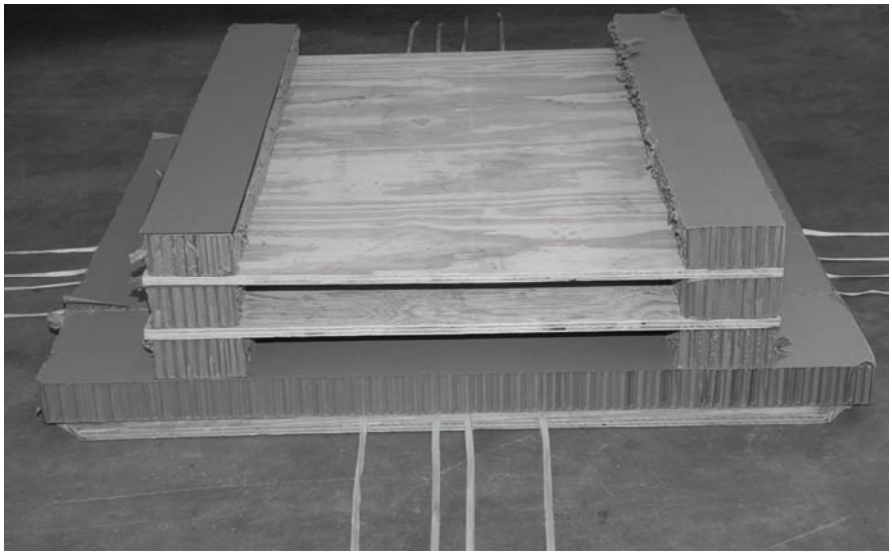
Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
	2	44	6	Honeycomb	Position and glue one the pieces 6-inches from one of the 44-inch edges of the base stack. Position and glue the second piece 9-inches from the opposite edge of the base stack. Ensure the 6-inch edges are flush along the 55 ½-inch edges.

Figure 3-15. Honeycomb Stack Prepared and Positioned (Continued)



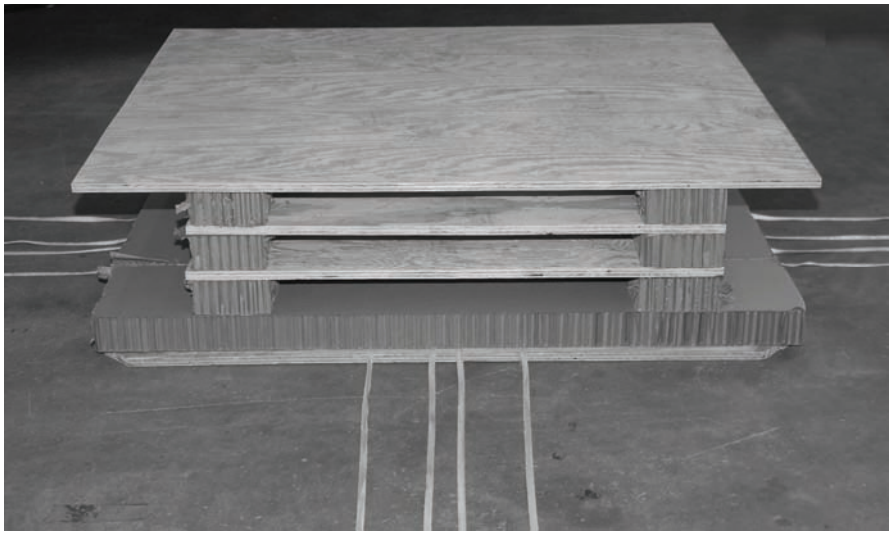
Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
	1	44	40 ½	¾-inch Plywood	Center and glue the plywood piece on top of the previously positioned honeycomb pieces. Ensure the 44-inch edges are flush.
	2	44	6	Honeycomb	Position and glue each piece flush along the 44-inch edge of the previously positioned plywood piece. Ensure the 6-inch edges are flush along the 40 ½-inch edges.

Figure 3-15. Honeycomb Stack Prepared and Positioned (Continued)



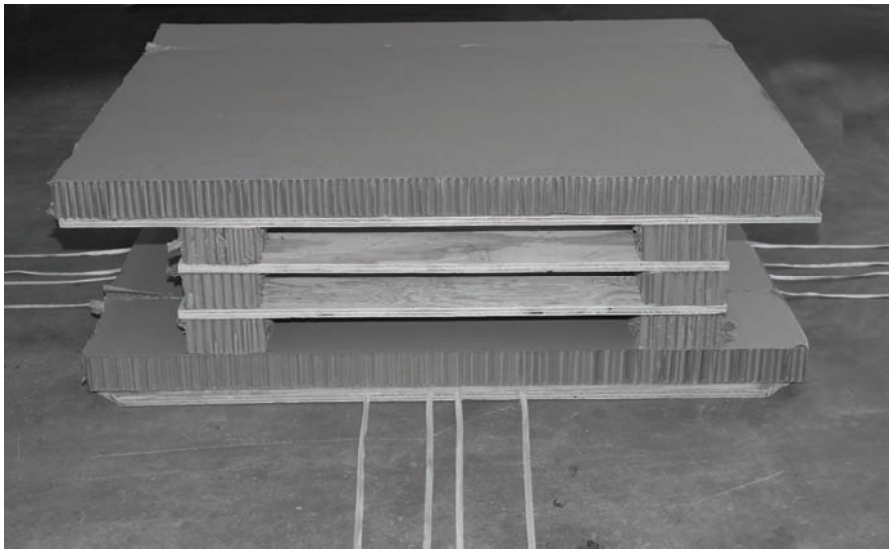
Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
	1	44	40 ½	¾-inch Plywood	Center and glue the plywood piece on top of the previously positioned honeycomb pieces. Ensure the 44-inch edges are flush.
	2	44	6	Honeycomb	Position and glue each piece flush along the 44-inch edge of the previously positioned plywood piece. Ensure the 6-inch edges are flush along the 40 ½-inch edges.

Figure 3-15. Honeycomb Stack Prepared and Positioned (Continued)



Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
	1	44	55 ½	¾-inch Plywood	Center and glue the plywood piece on top of the previously positioned honeycomb pieces. Ensure the piece is aligned with the honeycomb base stack.

Figure 3-15. Honeycomb Stack Prepared and Positioned (Continued)

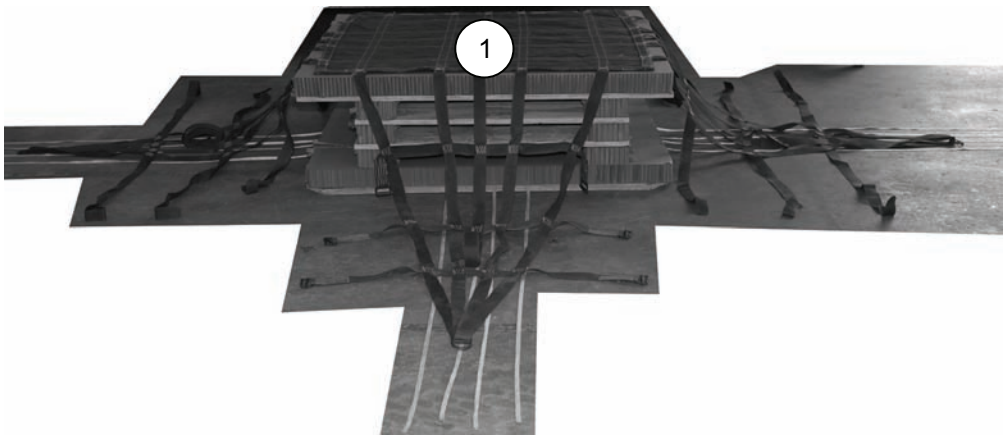


Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
	1	36	55 ½	Honeycomb	Form a top stack 44- by 55 ½. Center and glue the pieces on top of the previous positioned plywood piece. Ensure the 55 ½ -inch edges of the honeycomb pieces are flush and facing the 55 ½ -inch edge of the plywood.
	1	8	55 ½	Honeycomb	Used to form the top stack in the previous step.

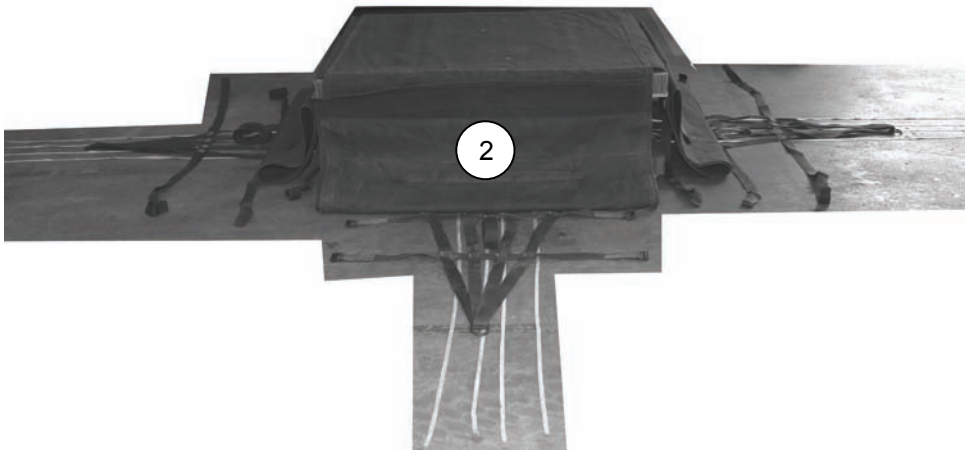
Figure 3-15. Honeycomb Stack Prepared and Positioned (Continued)

POSITIONING A-22 CARGO BAG SLING, COVER AND LOAD

3-23. Position and prepare the A-22 cargo bag sling and cover according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and as shown in Figure 3-16.

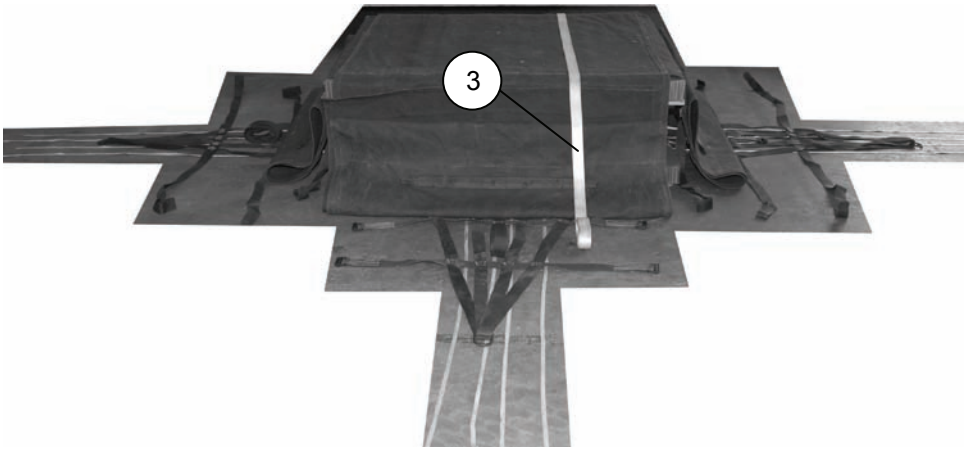


1. Center the A-22 cargo bag sling facing down on the honeycomb. When the webbing is laid facing down, the webbing sewn to the scuff pad will be on the bottom.



2. Center the A-22 cargo bag cover on the sling assembly (required).

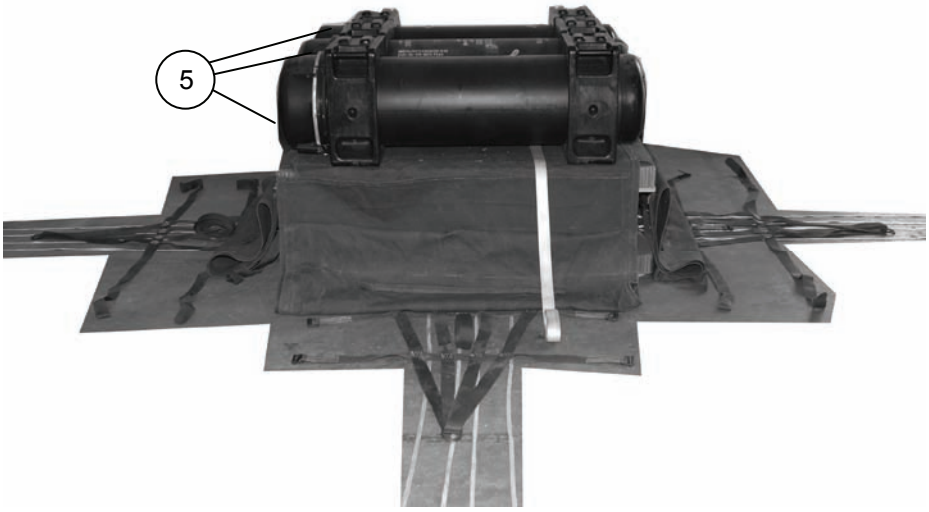
Figure 3-16. A-22 Cargo Bag Sling, Cover and Load Positioned



3. Position a 15-foot Dacron lashing 6-inches to the left or right of the center of the honeycomb stack. Ensure the lashing is positioned parallel along the 44-inch edge of the honeycomb stack (used to secure Javelin stack 1 and stack 2 after placement).

4. When positioning the Javelin missiles, ensure the direction of flight arrow is facing toward the front of the skid board along the 44-inch edge of the honeycomb stack.

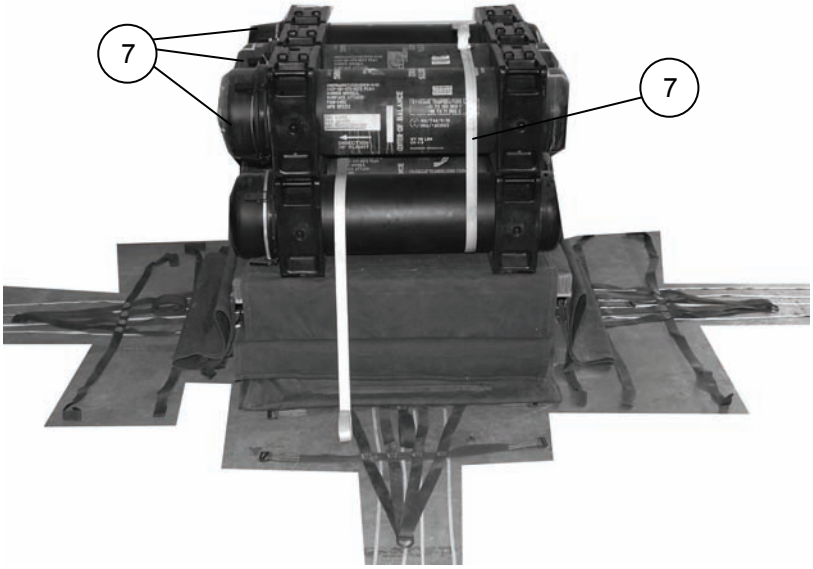
Figure 3-16. A-22 Cargo Bag Sling, Cover and Load Positioned (Continued)



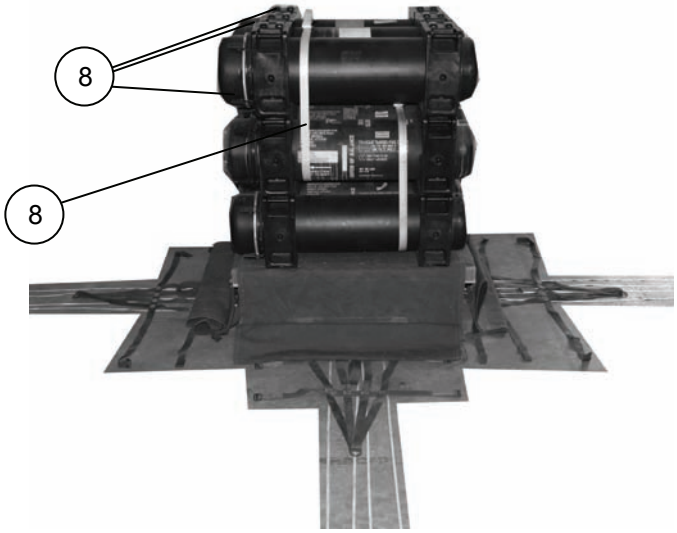
5. Center and position three Javelin missiles on the load so that the stacking lugs of the missile cases are aligned over the 44- by 6-inch honeycomb blowouts.

6. Position a second 15-foot Dacron lashing across the top of the first row of Javelin missiles approximately 6-inches from center and to the opposite side of the first Dacron lashing that was used to secure Javelin stack 2 and 3 after placement.

Figure 3-16. A-22 Cargo Bag Sling, Cover and Load Positioned (Continued)



7. Center and position three more Javelin missiles on top of the first three containers (aligning the stacking lugs) to form a second row. Secure the first (bottom) lashing around the containers and secure on top using a D-ring and loadbinder.

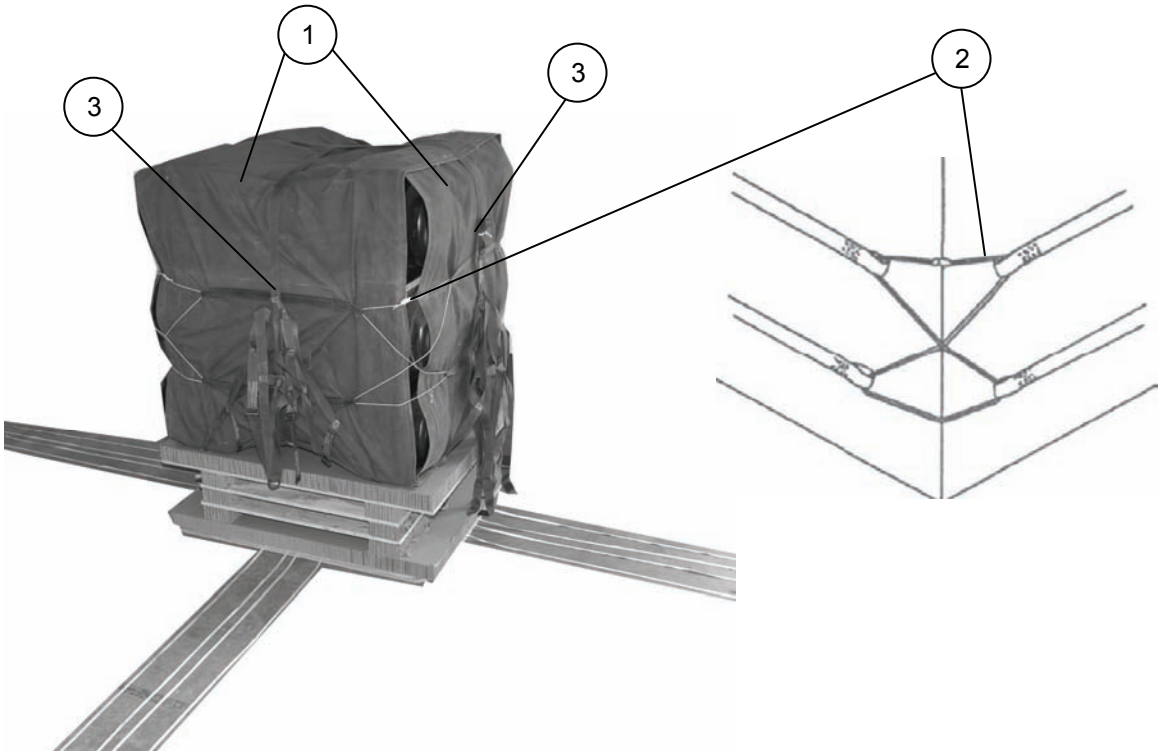


8. Center and position three more Javelin missiles on top of the second row of containers (aligning the stacking lugs) to form a third row. Secure the second (top) lashing around the second and third row of containers and secure on top using a D-ring and loadbinder.

Figure 3-16. A-22 Cargo Bag Sling, Cover and Load Positioned (Continued)

SECURING THE A-22 BAG COVER AND SLING ASSEMBLY

3-24. Secure the A-22 cargo bag sling and cover according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and as shown in Figure 3-17.



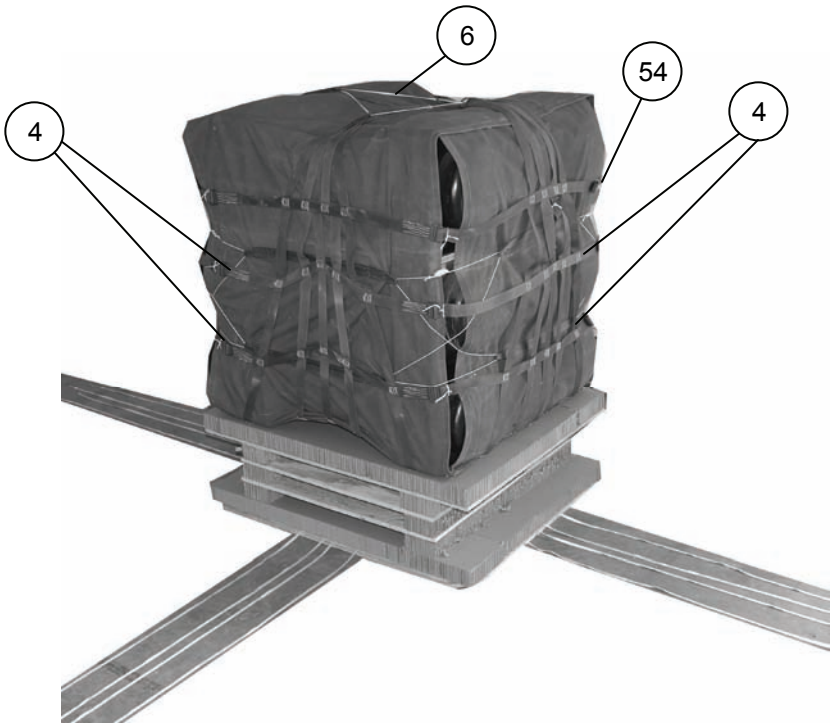
1. Bring up sides to cover the load. Fold under any side that will obstruct the bag cover securing ties.

2. Using a length of type III nylon cord, route the cord as shown above. Pull it tight and make a surgeon's knot and bow knot. Secure the knot and excess with masking tape. Make sure one running end is exposed.

Note. The middle support web should remain vertical.

3. Bring the short tie-down strap over the load and route it through the friction adapter. Route the long tie-down strap the same way. Apply tension to the friction adapter and fold the excess webbing. Secure the excess using ¼-inch cotton webbing.

Figure 3-17. A-22 Bag Cover and Sling Assembly Secured



Note. The friction adapters cannot be on the corners.

4. Route the two lower lateral straps through the friction adapter. Apply uniform tension and secure the excess using ¼-inch cotton webbing.

5. Route the top lateral strap around the load sides. Apply uniform tension and secure the excess using ¼-inch cotton webbing.

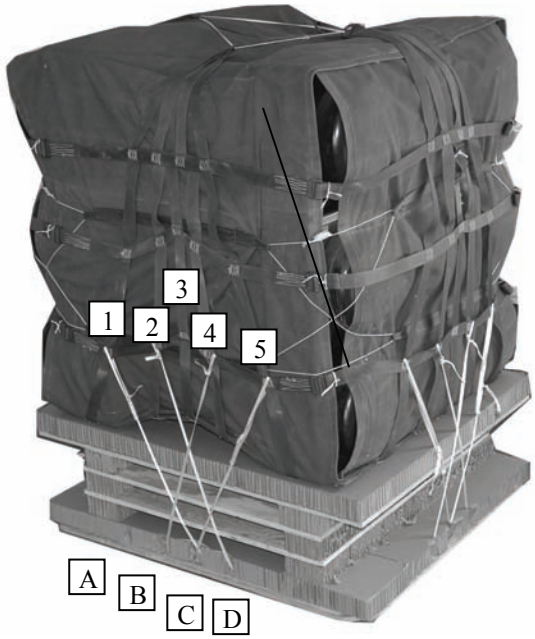
6. Pass a length of type I, 1/4-inch cotton webbing through each rectangle portion of the suspension web D-rings and tie the ends together with a surgeon's knot and locking knot.

Figure 3-17. A-22 Bag Cover and Sling Assembly Secured (Continued)

SECURING THE SKID BOARD TO A-22 CARGO BAG

3-25. Secure the skid board ties to the A-22 cargo bag according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and as shown in Figure 3-18.

Note. When tightening skid board tie, make sure excess tension is not applied causing the sewn portion at the intersection of lateral straps and support web to separate.



Step:

1. Starting at the left side take tie-down A and diagonally tie it around the intersection of lower lateral strap and fourth support web. Use three half-hitch knots and an overhand knot in the running end according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.
2. Route tie-down B around the fifth support web and lower lateral strap intersection diagonally. Pull the excess slack out and tie it with a trucker's hitch knot and an overhand knot in the running end. Cut excess webbing, leaving end approximately 6 inches long according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.
3. Repeat step 1 for skid board tie D and secure it to the second intersection on the lower lateral strap according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.
4. Repeat step 2 for skid board tie C, and secure it to the first intersection on the lower lateral strap according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.
5. Repeat steps 1 through 4 for the other skid board ties according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

Figure 3-18. Skid Board Secured to the A-22 Cargo Bag

ATTACHING THE SUSPENSION WEBS

3-26. Attach the suspension webs to the A-22 cargo bag sling according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and as described below.

- Attach a suspension web to each D-ring of the cargo sling. Route the snap fasteners from outside to inside. Wrap masking tape around the snap fastener.

Note. Prior to securing the suspension webs with masking tape ensure the webs are not twisted.

- Tape all suspension webs together near the free end using masking tape.
- Tape all suspension webs together 2 inches above the snap fasteners using masking tape.

ATTACHING AND SECURING THE G-12E CARGO PARACHUTE

3-27. Attach and secure the cargo parachute to the load according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11 and as shown in Figure 3-19.

Note. Any overhang must be placed to the front or rear of the container; overhang to the left or right will not fit in the Centerline Vertical Restraint System (CVRS) or logistic rails.

Step:

1. Place a G-12E cargo parachute on the load. When the front and rear have been designated, the parachute sides should run parallel to the front and rear.
2. Place the four D-rings of the suspension webs on the clevis bolt. Replace the nut.
3. Secure the parachute to the load using one turn single of type I, 1/4-inch cotton webbing.

Note. Ensure that a 68-inch pilot parachute is attached and secured to the G-12E cargo parachute according to TM 10-1670-281-23&P/TO 13C5-32-2/NAVAIR 13-1-32.

Figure 3-19. G-12E Cargo Parachute Attached and Secured

MARKING RIGGED LOAD

3-28. 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 3-20. Complete Shippers Declaration for Dangerous Goods and affix to load.

EQUIPMENT REQUIRED

3-29. Use the equipment in Table 3-4 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	1,189 pounds
Suspended Weight	1,061 pounds
Height	85 inches
Width	48 inches
Overall Length	55 1/2 inches
Parachute	G-12E only with a 68-inch pilot parachute

Figure 3-20. Javelin Missile Containers (Plastic) in an A-22 Stretch Container Cargo Bag Rigged for Low-Velocity Airdrop

Table 3-4. Equipment Required for Rigging the Javelin Missile Containers (Plastic) in an A-22 Stretch Container Cargo Bag for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-678-8562	Clevis, suspension, 3/4-in (medium)	1
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb	4 sheets
	Parachute:	
1670-01-065-3755	G-12E cargo	1
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	2 sheets
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in	As required
	Nylon:	
8305-00-082-5752	Tubular, 1/2-in	As required

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Chapter 4

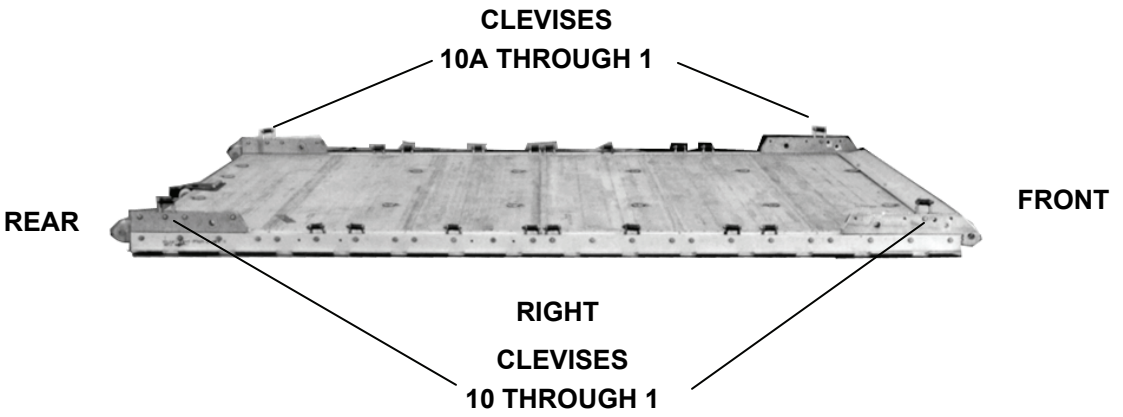
Rigging Thirty-Six Javelin Rounds as a Mass Supply Load on a 12-Foot, Type V Airdrop Platform for Low-Velocity Airdrop

DESCRIPTION OF LOAD

4-1. The Javelin mass supply load consists of 36 Javelin rounds in shipping containers rigged on a 12-foot, type V platform. Each round in its container weighs approximately 77 pounds and has a length of 59 inches and diameter of 15 1/4 inches. The load rigged has a total rigged weight of 5,976 pounds, a length of 166 inches with a 5-inch front overhang and a 17-inch rear overhang. The width is 108 inches and the height is 86 inches. The center of balance is 76 inches from the front end of the platform and is rigged using two G-11B cargo parachutes.

PREPARING PLATFORM

4-2. Prepare a 12-foot, type V platform as shown in Figure 4-1.



Step:

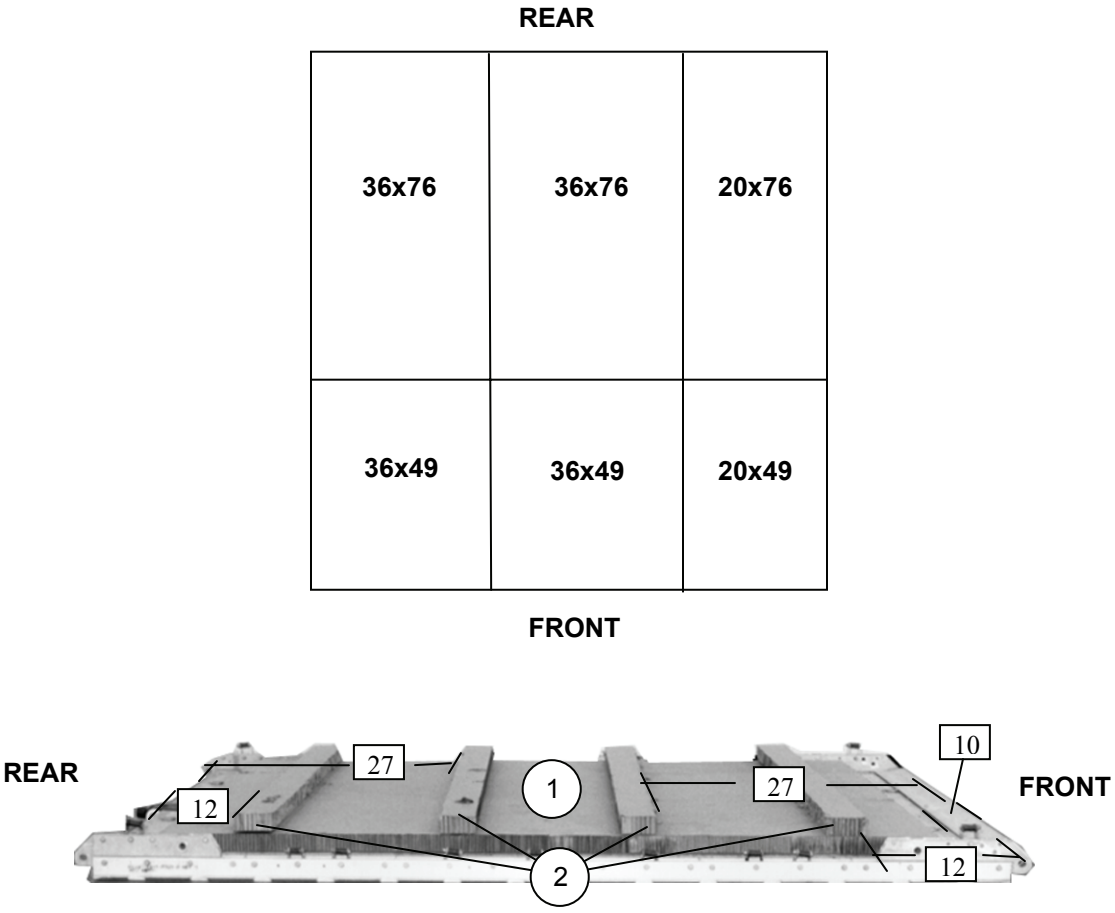
1. Inspect, or assemble and inspect, a 12-foot, type V platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
3. Install a tandem link to the rear of each platform side rail using holes 22, 23, and 24.
4. Install clevises on bushing 2 of each front tandem link.
5. Install clevises on bushing 3 of each rear tandem link.
6. Starting at the front of the right platform side rail, install clevises on the bushings bolted to holes 6, 7, 10, 12, 13, 15, 18, and 19. Repeat for the left side.
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 tiedown rings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 4-1. Platform Prepared

BUILDING AND POSITIONING HONEYCOMB STACKS

4-3. Build and position the honeycomb stacks as shown in Figure 4-2.

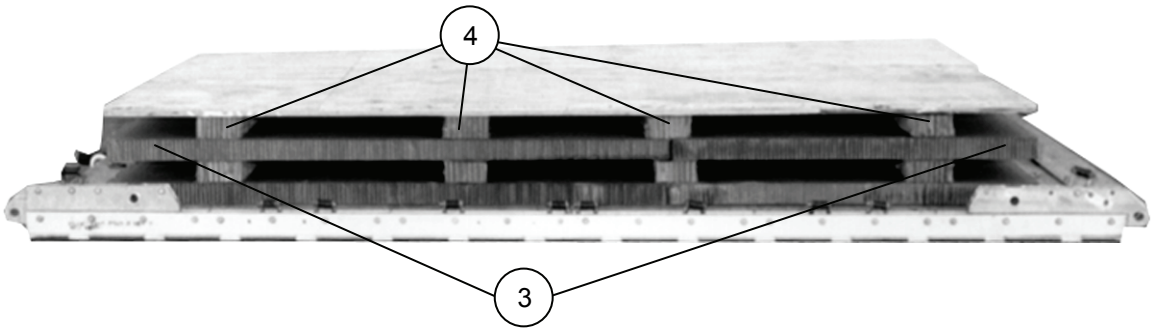
Notes. 1. This drawing is not to scale.
2. All dimensions are in inches.



1. Cut six pieces of honeycomb as shown in the diagram above and position the honeycomb on the platform centered and 10 inches from the front edge of the platform.

2. Cut four 6- by 92-inch pieces of honeycomb. Position and glue the first piece 12 inches from the front edge of the honeycomb stack in step 1. Position and glue the second piece 27 inches from the front edge. Position and glue the third piece 27 inches from the rear edge and the fourth piece 12 inches from the rear edge.

Figure 4-2. Honeycomb Stacks Built and Positioned

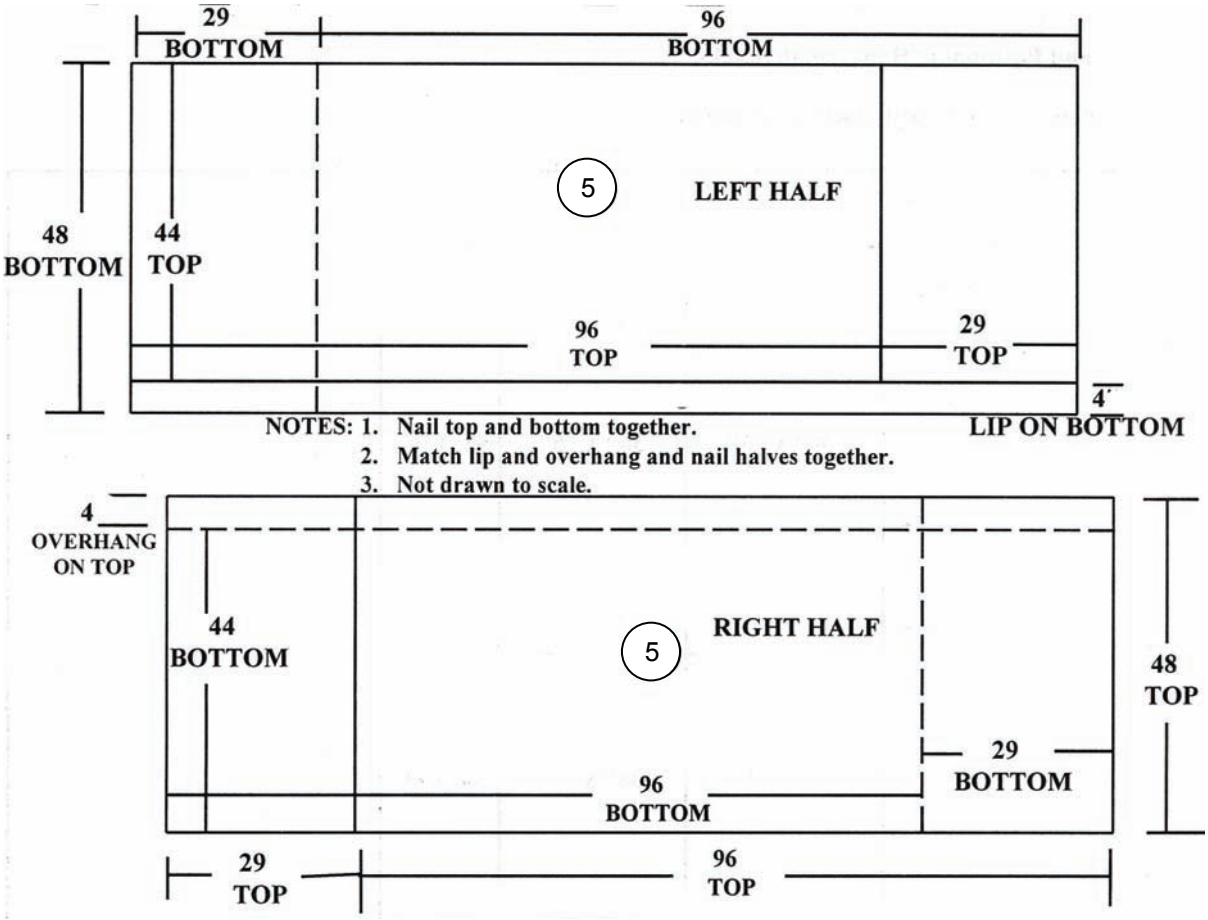


3. Cut, glue and position a third layer of honeycomb as described in step 1.

4. Cut, glue and position a fourth layer of honeycomb as described in step 2 on top of the third layer.

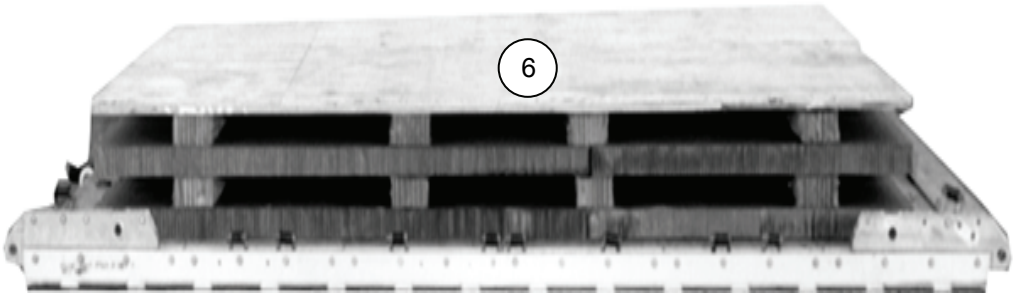
Figure 4-2. Honeycomb Stacks Built and Positioned (Continued)

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



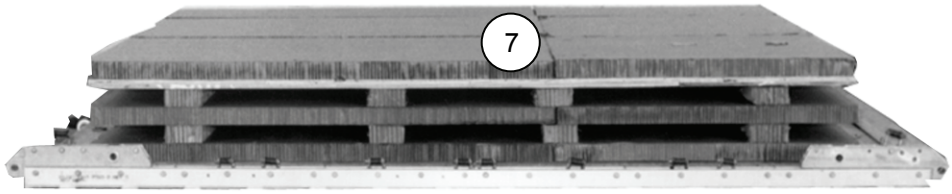
5. The fifth layer is constructed of doubled 3/4-inch plywood. Using two 48- by 96-inch pieces of 3/4-inch plywood, cut two 48- by 29-inch pieces, two 44- by 49-inch pieces and two 44- by 96-inch pieces. Nail the plywood together as shown in the above diagrams. Position one 48- by 96-inch piece of plywood and one 48- by 29-inch piece of plywood end to end forming one layer 125-inches in length. Position one 44- by 96-inch piece of plywood and one 44- by 29-inch piece of plywood end to end on top of the first layer even with one of the long sides of the section. There should be a 4 inch lip when the plywood is in place. Nail the plywood together. Position one 44- by 96-inch piece of plywood and one 44- by 29-inch piece of plywood end to end and even with the lip. Position one 48- by 96-inch piece of plywood and one 48- by 29-inch piece of plywood end to end and even on top of the last pieces and nail all the plywood together.

Figure 4-2. Honeycomb Stacks Built and Positioned (Continued)



6. Glue and position the plywood centered on top of the honeycomb.

Figure 4-2. Honeycomb Stacks Built and Positioned (Continued)

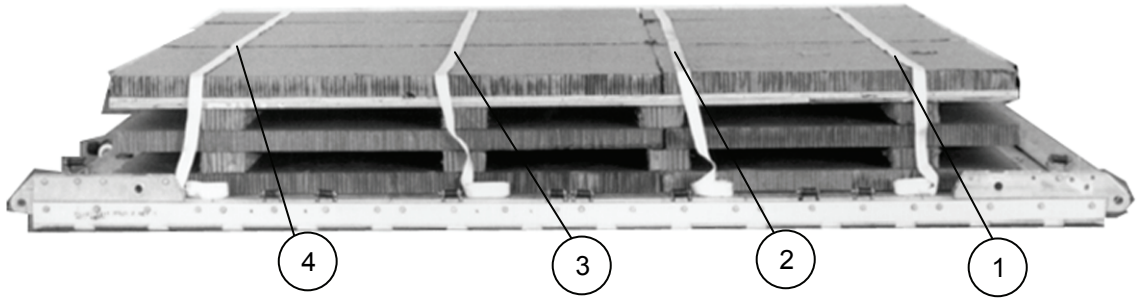


7. Form another layer of honeycomb on top of the plywood as described in step 1.

Figure 4-2. Honeycomb Stacks Built and Positioned (Continued)

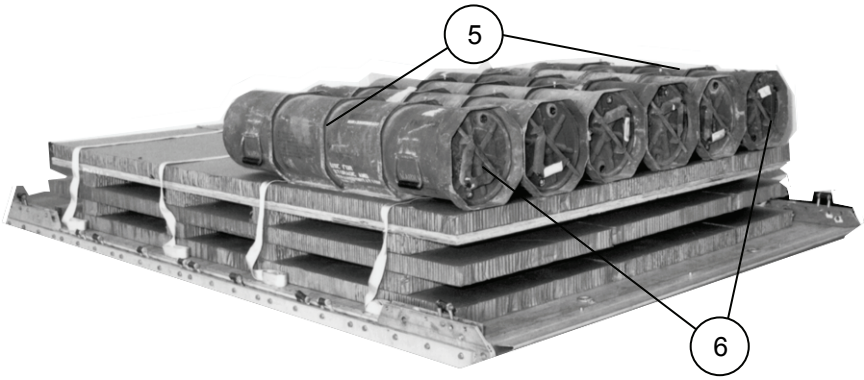
POSITIONING AND SECURING JAVELIN ROUNDS

4-4. Position and secure 36 Javelin rounds as shown in Figure 4-3.



1. Preposition the first 30-foot lashing 13 inches from the front edge of the platform.
2. Preposition the second 30-foot lashing 45 inches from the front edge of the platform.
3. Preposition the third 30-foot lashing 45 inches from the rear edge of the platform.
4. Preposition the fourth 30-foot lashing 13 inches from the rear edge of the platform.

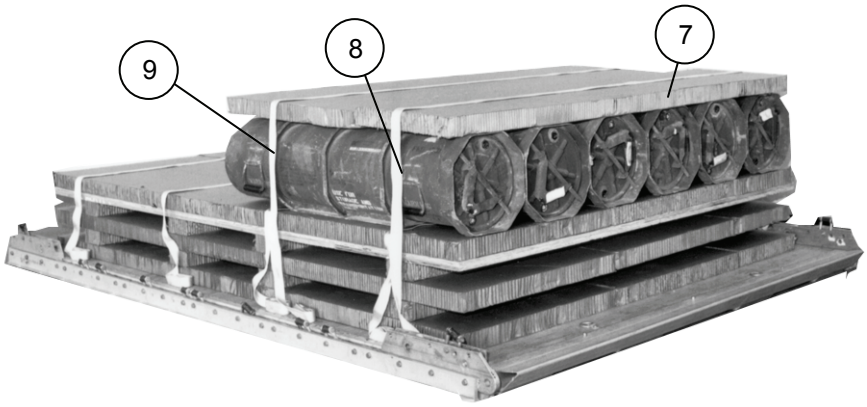
Figure 4-3. Javelin Rounds Positioned and Secured



5. Position six Javelin containers on the front section of the honeycomb centered and even with the front edge of the honeycomb.

6. Position the container opening ends to the front of the platform.

Figure 4-3. Javelin Rounds Positioned and Secured (Continued)

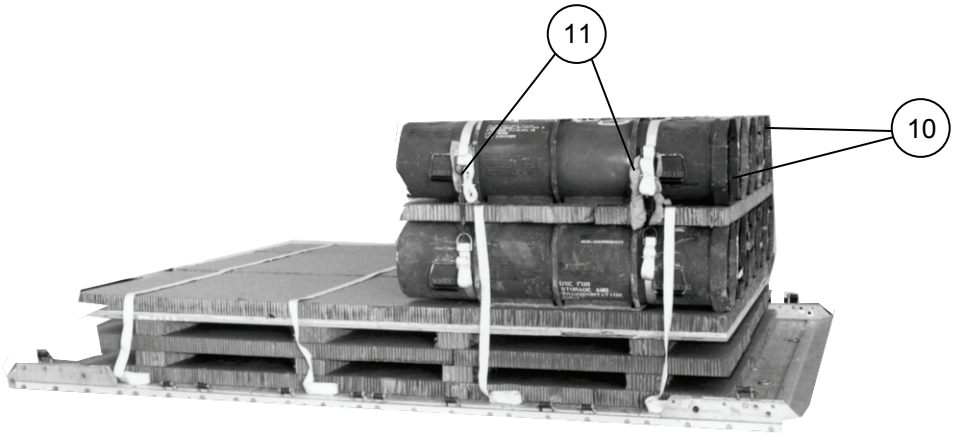


7. Cut and position a 59- by 92-inch piece of honeycomb centered on top of the containers.

8. Pre-position one 30-foot lashing 16 inches from the front edge of the honeycomb.

9. Pre-position a second 30-foot lashing 40 inches from the front of the honeycomb.

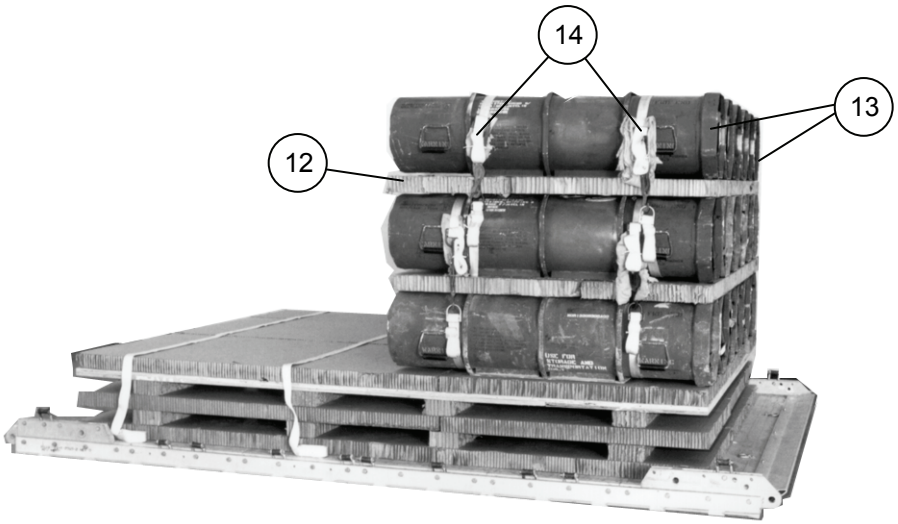
Figure 4-3. Javelin Rounds Positioned and Secured (Continued)



10. Position six more containers as described in step 5.

11. Secure all twelve containers with the front two pre-positioned lashings from steps 1 and 2.

Figure 4-3. Javelin Rounds Positioned and Secured (Continued)

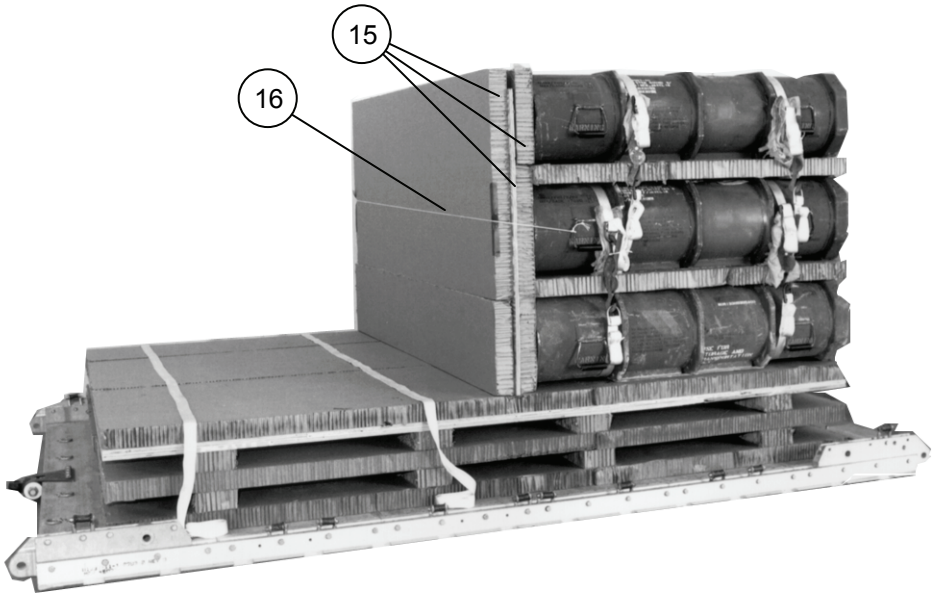


12. Cut and position another 59- by 92-inch piece of honeycomb on top of the first 12 containers.

13. Position six more containers on top of the honeycomb.

14. Secure the top 12 containers with the lashings from steps 8 and 9.

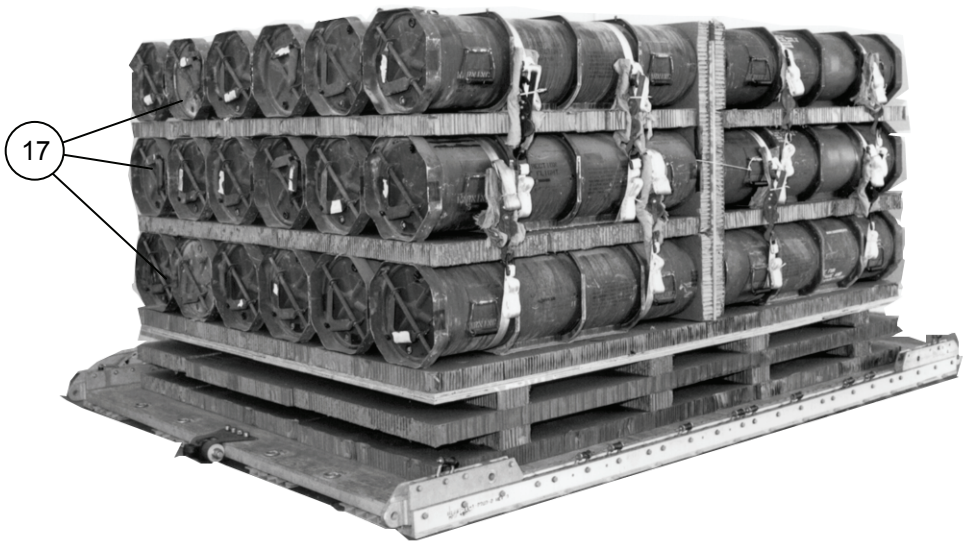
Figure 4-3. Javelin Rounds Positioned and Secured (Continued)



15. Position two layers of 51- by 92-inch honeycomb with a 3/4- by 48- by 92-inch pieces of plywood between the honeycomb, centered and flush with the rear of the sixteen containers.

16. Secure the honeycomb and plywood to the containers with type III nylon cord.

Figure 4-3. Javelin Rounds Positioned and Secured (Continued)



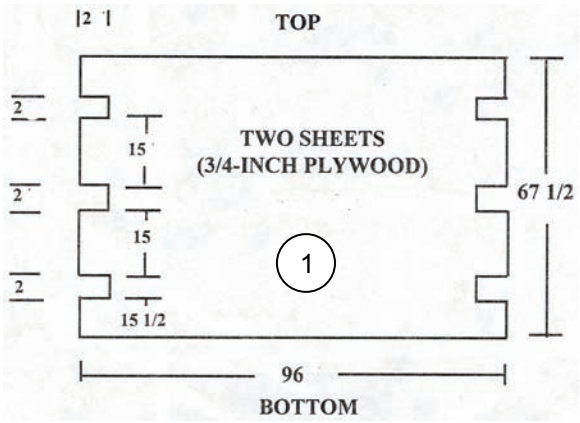
17. Position and secure 18 more containers on the platform following steps 5 through 14. Place the containers with the open ends to the rear of the platform and make the measurements from the rear edge of the platform honeycomb.

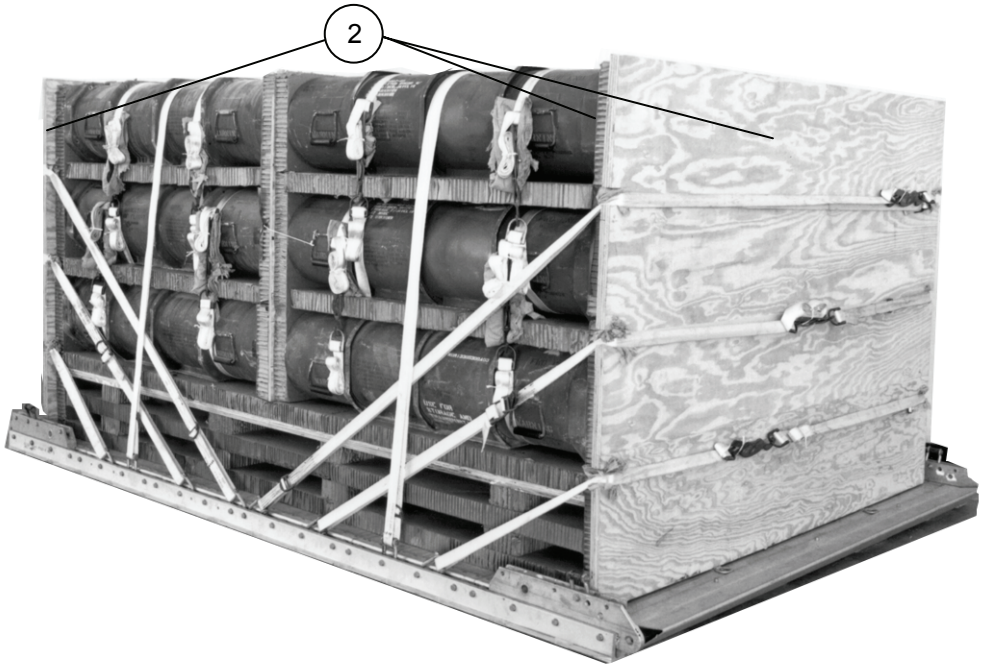
Figure 4-3. Javelin Rounds Positioned and Secured (Continued)

LASHING LOAD TO PLATFORM

4-5. Lash the load to the platform as shown in Figure 4-4.

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

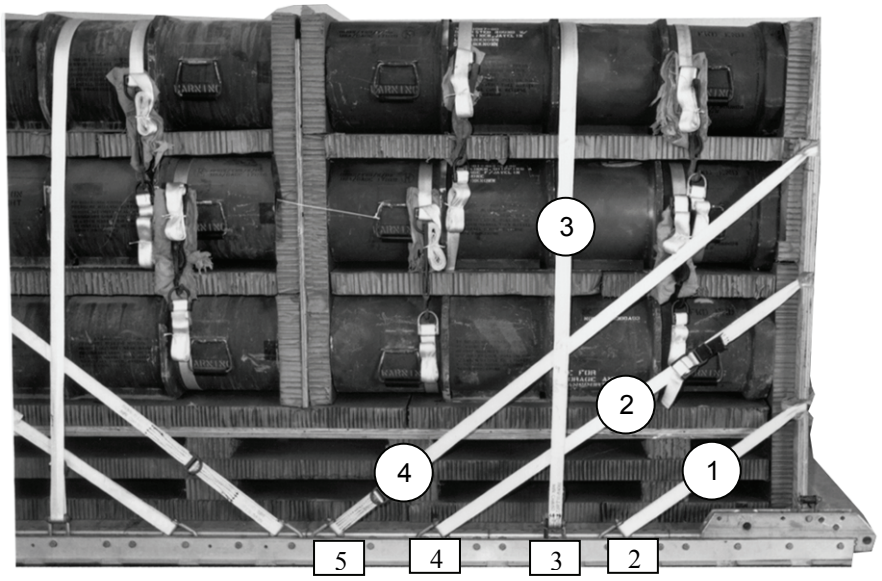




1. Cut two endboards as shown in the diagram above.

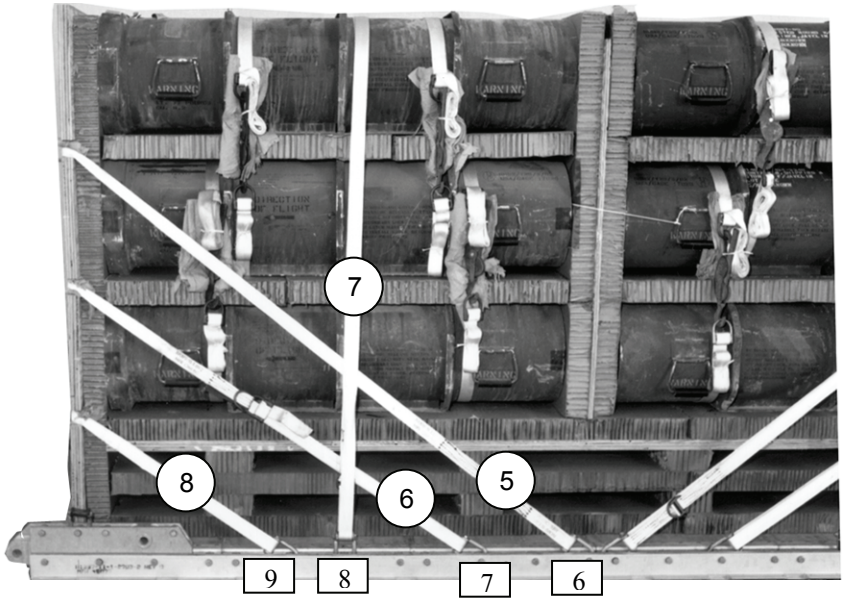
2. Cut two pieces of 36- by 92-inch honeycomb and two pieces of 31 1/2- by 96-inch honeycomb and place one piece of each size on each end of the load with one endboard.

Figure 4-4. Load Lashed to Platform



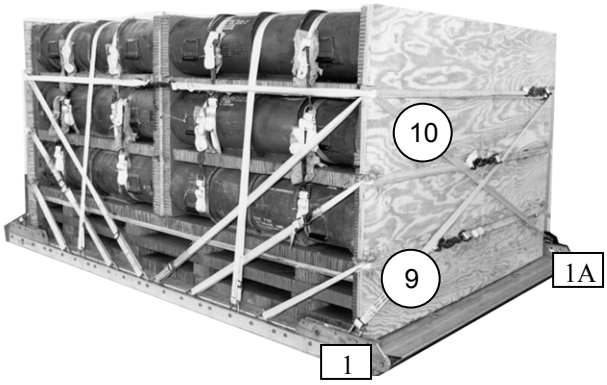
Lashing Number	*Tiedown Clevis Number*	*Instructions*
1	2 and 2A	Run a 15-foot lashing from clevis 2 and a 15-foot lashing from clevis 2A. Pass the lashings through the bottom notch of the front end board. Secure the lashings on the front using two D-rings and a load binder.
2	4 and 4A	Run a 15-foot lashing from clevis 4 and a 15-foot lashing from clevis 4A. Pass the lashings over the top of the load. Secure the lashings on top using another 15-foot lashing and two D-rings and a load binder.
3	3 and 3A	Run a 15-foot lashing from clevis 3 and a 15-foot lashing from clevis 3A. Pass the lashings through the middle notch of the front end board. Secure the lashings on the front using another 15-foot lashing and two D-rings and a load binder.
4	5 and 5A	Run a 15-foot lashing from clevis 5 and a 15-foot lashing from clevis 5A. Pass the lashings through the top notch of the front end board. Secure the lashings on the front using another 15-foot lashing and two D-rings and a load binder.

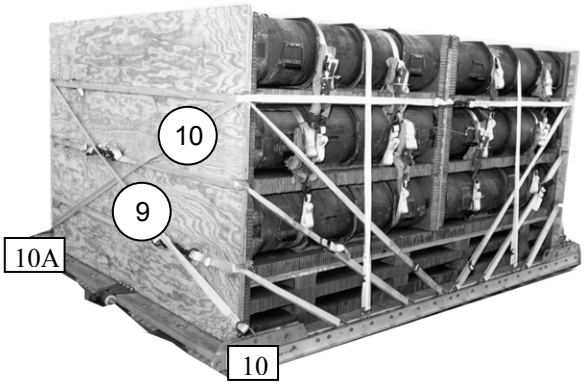
Figure 4-4. Load Lashed to Platform (Continued)



Lashing Number	*Tiedown Clevis Number*	*Instructions*
5	6 and 6A	Run a 15-foot lashing from clevis 6 and a 15-foot lashing from clevis 6A. Pass the lashings through the top notch of the rear end board. Secure the lashings on the rear using another 15-foot lashing and two D-rings and a load binder.
6	7 and 7A	Run a 15-foot lashing from clevis 7 and a 15-foot lashing from clevis 7A. Pass the lashings through the middle notch of the rear end board. Secure the lashings on the rear using another 15-foot lashing and two D-rings and a load binder.
7	8 and 8A	Run a 15-foot lashing from clevis 8 and a 15-foot lashing from clevis 8A. Pass the lashings over the top of the load. Secure the lashings on top using another 15-foot lashing and two D-rings and a load binder.
8	9 and 9A	Run a 15-foot lashing from clevis 9 and a 15-foot lashing from clevis 9A. Pass the lashings through the bottom notch of the rear end board. Secure the lashings on the rear using two D-rings and a load binder.

Figure 4-4. Load Lashed to Platform (Continued)



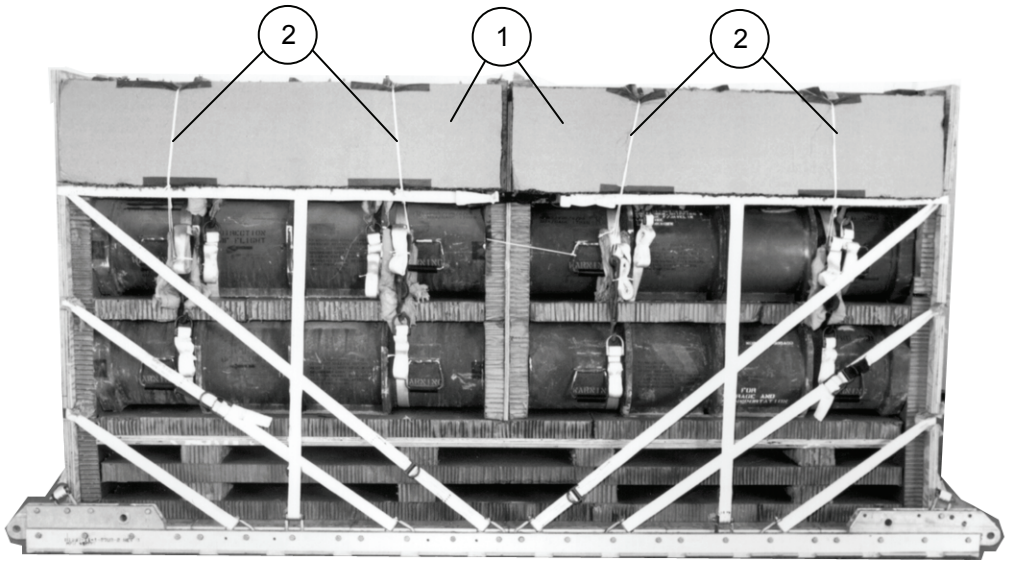


Lashing Number	*Tiedown Clevis Number*	*Instructions*
9	1 and 10	Run a 15-foot lashing through clevis 1 and its own D-ring. Pass the running end up through the top left side notch of the front end board. Run another 15-foot lashing through clevis 10 and its own D-ring. Pass the running end up through the top left side notch of the rear end board. Secure the lashings together on the left side of the load using another 15-foot lashing and two D-rings and a load binder.
10	1A and 10A	Run a 15-foot lashing through clevis 1A and its own D-ring. Pass the running end up through the top right side notch of the front end board. Run another 15-foot lashing through clevis 10A and its own D-ring. Pass the running end up through the top right side notch of the rear end board. Secure the lashings together on the right side of the load using another 15-foot lashing and two D-rings and a load binder.

Figure 4-4. Load Lashed to Platform (Continued)

COVERING LOAD, INSTALLING SUSPENSION SLINGS AND DEADMAN'S TIE

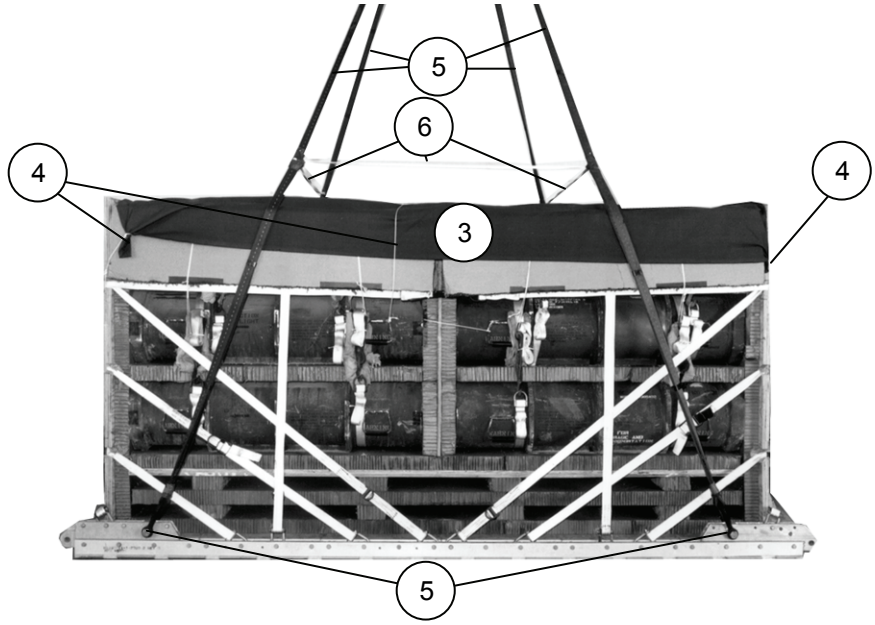
4-6. Cover the load and install the suspension slings as shown in Figure 4-5.



1. Cut four 18- by 64-inch pieces of honeycomb and position two pieces on each side of the load.

2. Secure the pieces to the load with type III nylon cord.

Figure 4-5. Load Covered and Suspension Slings and Deadman's Tie Installed



3. Position a 120-inch by 125-inch load cover on top of the load.

4. Secure the cover in place with type III nylon cord.

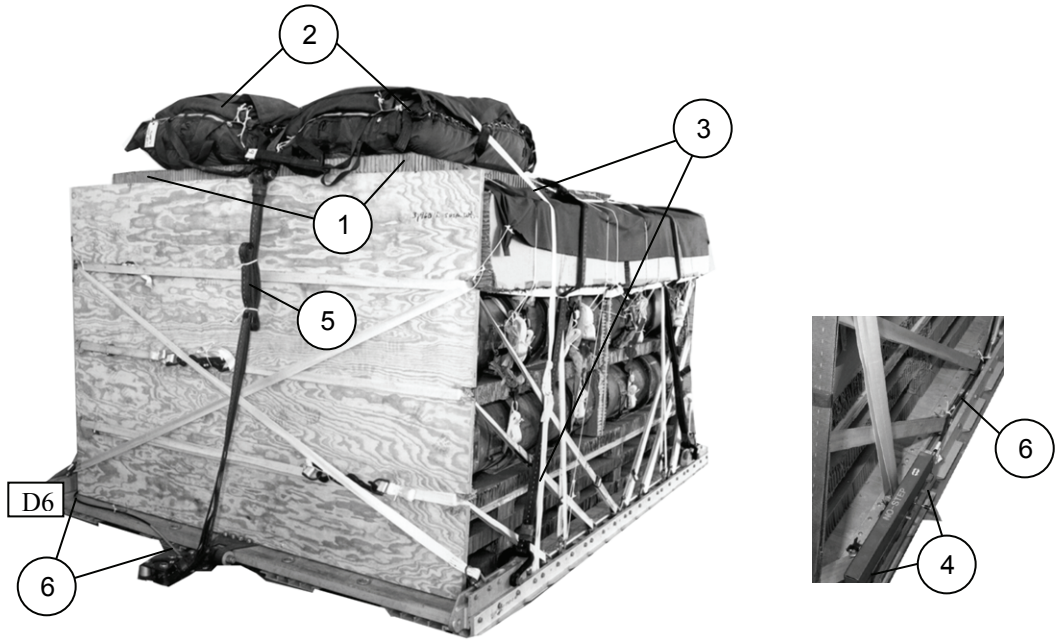
5. Attach a large clevis to each of four 16-foot (2-loop), type XXVI nylon suspension slings and attach each large clevis to each of the four tandem links.

6. Raise the slings and install the deadman's tie according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 4-5. Load Covered and Suspension Slings and Deadman's Tie Installed (Continued)

STOWING CARGO PARACHUTES AND INSTALLING EXTRACTION SYSTEM

4-7. Stow two G-11 cargo parachutes and install the EFTC according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

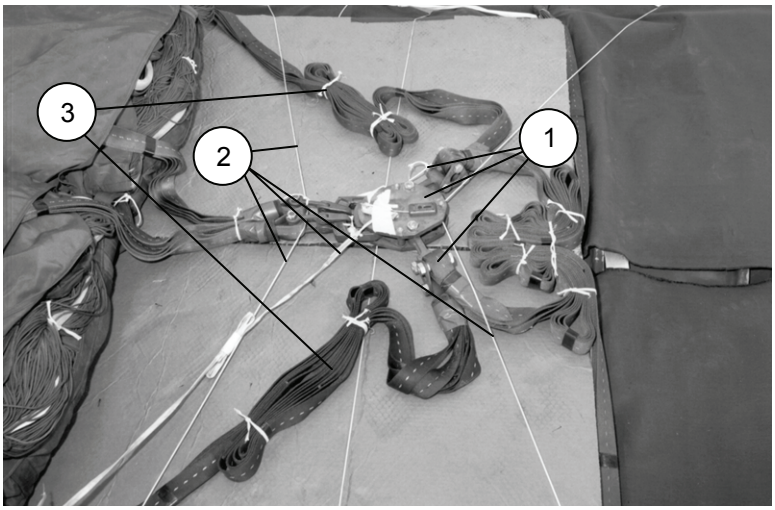


1. Place two full sheets of honeycomb on top of the load side by side with the ends of the sheets flush with the rear end board and secure in place with type III nylon cord.
2. Stow two G-11 cargo parachutes on the load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
3. Run one length of type VIII nylon webbing from bushing 20 on the left side of the platform, through the center carrying handles of the parachutes and bushing 20 on the right side of the platform and secure.
4. Using the aft mounting holes for the EFTC bracket, 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.
5. Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line.
6. Install a 16-foot EFTC cable and safety the cable to tiedown ring D6 and along the left side rail using one turn of type I, 1/4-inch cotton webbing.

Figure 4-6. Cargo Parachutes Stowed and Extraction System Installed

INSTALLING PARACHUTE RELEASE

4-8. Prepare, attach, and safety an M-1 release according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 4-7.



1. Place the M-1 release on top of the previous placed honeycomb located on top of the load and attach the suspension slings and parachute riser extensions.
2. Secure the M-1 release to convenient points on the load with type III nylon cord.
3. S-fold and tie any excess suspension slings.

Figure 4-7. M-1 Cargo Parachute Installed

PLACING EXTRACTION PARACHUTE

4-9. 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

4-10. 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

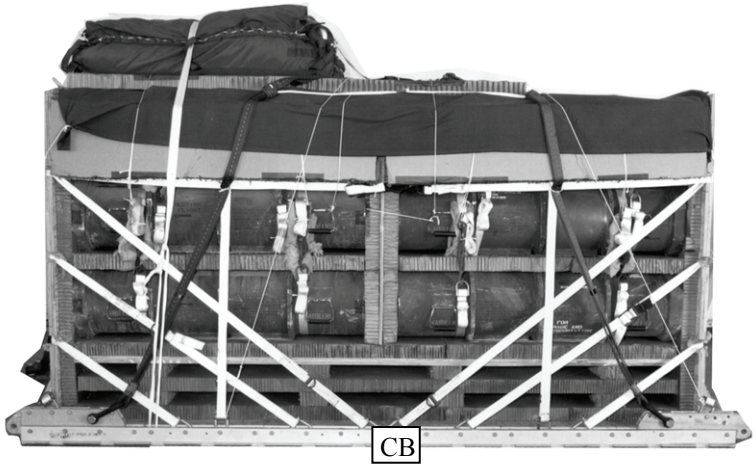
4-11. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 4-8 complete Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

4-12. 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	5,976 pounds
Height	86 inches
Width	108 inches
Overall Length	166 inches
Overhang: Front	0 inches
Rear	0 inches
Center of Balance (from front edge of the platform)	94 inches
Extraction System with 16-foot cable (adds 18 inches to length of platform)	EFTC

Figure 4-8. Thirty-Six Javelin Rounds in Containers Rigged on a 12-Foot, Type V Platform for Low-Velocity Airdrop

Table 4-1. Equipment Required for Rigging 36 Javelin Rounds in Containers on a 12-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive, paste, 1-gallon	As required
	Clevis, suspension:	
4030-00-678-8562	3/4-inch (medium) emergency restraint	2
4030-00-090-5354	1-inch (large)	4
4020-00-240-2146	Cord, nylon, type III	As required
1670-00-434-5785	Coupling, airdrop, extraction force transfer with 16-foot cable	1
1670-00-360-0328	Cover, clevis, large	5
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
1670-01-183-2678	Leaf, extraction line	2
	Line, extraction, type XXVI nylon webbing:	
1670-01-064-4452	60-foot (1-loop)	1
1670-01-107-7651	160-foot (1-loop)	1
1670-01-064-4452	60-foot (1-loop), type XXVI for C-17 drogue line	1
	Link assembly, two-point:	
5306-00-435-8994	Bolt, 1-inch diameter, 4-inch long	1
5310-00-232-5165	Nut, 1-inch, hexagonal	1
1670-00-003-1953	Plate, side 3 3/4-inch	1
5365-00-007-3414	Spacer, large	1
1670-00-753-3928	Pad, energy-dissipating, honeycomb	9 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	1
1670-01-063-3716	Cargo, extraction, 22-foot	1
	Platform, airdrop, type V, 12-foot	
1670-01-353-8425	Bracket assembly, EFTC	1
1670-01-162-2372	Bracket assembly, extraction	1
1670-01-162-2376	Clevis assembly	20
1670-01-162-2381	Tandem link	4
5530-00-128-4981	Plywood, 3/4-inch	9 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1

Table 4-1. Equipment Required for Rigging 36 Javelin Rounds in Containers on a 12-Foot, Type V Platform for Low-Velocity Airdrop (Continued)

National Stock Number	*Item*	*Quantity*
	Sling, cargo airdrop:	
	For deployment line:	
1670-00-753-3792	9-foot (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6301	3-foot (2-loop), type XXVI nylon webbing	2
	For suspension:	
1670-01-063-7761	16-foot (2-loop), type XXVI nylon webbing	4
1670-00-040-8219	Strap parachute release, multicut	1
7515-00-266-5016	Tape, adhesive, 2-inch	As required
7501-00-266-6710	Tape, masking	As required
1670-00-937-0271	Tie-down assembly, 15-foot	28
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
	Nylon:	
8305-00-082-5752	Tubular, 1/2-inch	As required
8305-00-263-3591	Type VIII webbing	As required

Chapter 5

Rigging Javelin Missile Containers

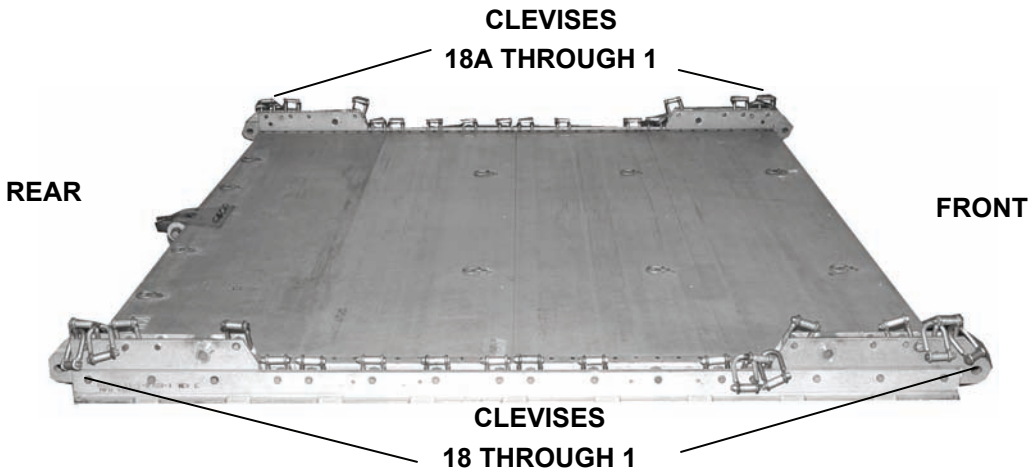
SECTION I-RIGGING JAVELIN MISSILE CONTAINERS (PLASTIC) ON AN 8-FOOT, TYPE V PLATFORM

DESCRIPTION OF LOAD

5-1. The guided missile, surface, attack Javelin (plastic) container mass supply load is rigged on an 8-foot type V platform. The rigged weight is 6,620 pounds. Each individual missile container weighs approximately 96 pounds. The load is rigged with 36 Javelin containers. The height of the load is 94 inches, length is 125 inches and the width is 108 inches. The accompanying load has a weight of 6,336 pounds. The load is rigged with two G-11 cargo parachutes.

PREPARING PLATFORM

5-2. Prepare an 8-foot, type V platform as shown in Figure 5-1.



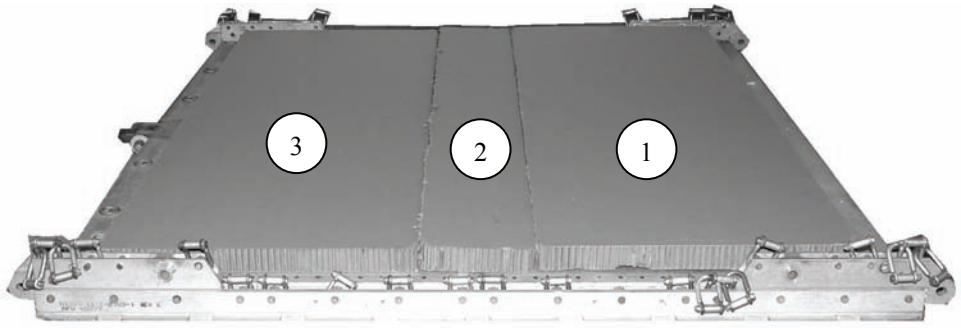
Step:

1. Inspect, or assemble and inspect, an 8-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 tandem link to the rear of each platform side rail using holes 14, 15, and 16.
4. Install clevises on bushings 1 (triple) 2, and 4 of each front tandem link.
5. Install clevises on bushings 1, 3, and 4 (triple) of each rear tandem link.
6. Starting at the front of the right platform side rail, install clevises on the bushings bolted to holes 4 (triple), 5, 7, 8, 9, 10, 11, 12, and 13. Repeat on the left side.
7. Starting at the front of the platform, number the clevises 1 through 18 on the right side, and 1A through 18A on the left side.
8. Label the tiedown rings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 5-1. Platform Prepared

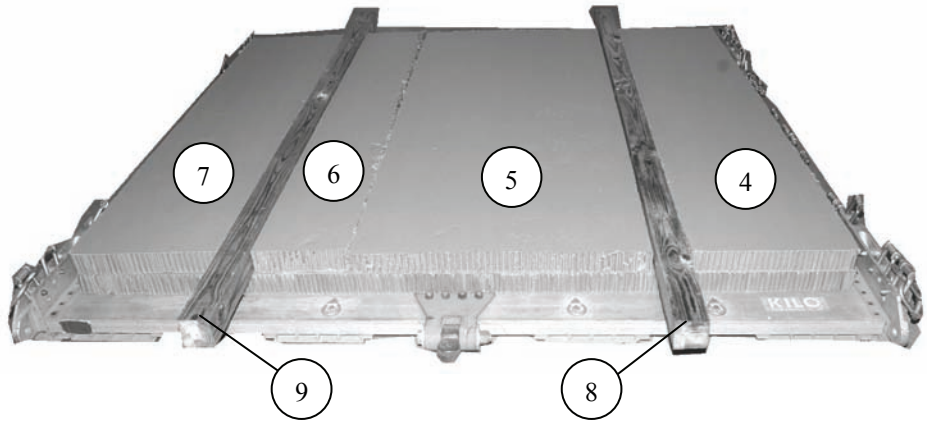
PREPARING AND PLACING HONEYCOMB ON PLATFORM

5-3. Prepare and place honeycomb on the platform as shown in Figure 5-2.



1. Cut a 36- by 96-inch piece of honeycomb. Center and position the honeycomb widthwise 5 1/2 inches from the front edge of the platform.
2. Cut a 13- by 96-inch piece of honeycomb. Center and position the honeycomb flush with the honeycomb previously positioned in step 1.
3. Cut a 36- by 96-inch piece of honeycomb. Center and position the honeycomb flush with the honeycomb previously positioned in step 2.

Figure 5-2. Honeycomb Prepared and Placed on Platform



4. Cut a 20- by 85-inch piece of honeycomb. Position the piece lengthwise with the 85-inch edge flush with the honeycomb previously positioned in steps 1, 2, and 3 to the right side of the load.

5. Cut a 36- by 85-inch piece of honeycomb. Position the piece lengthwise and flush with both 36- by 96-inch pieces placed in steps 1 and 3. Leave a 4 inch space between pieces.

6. Cut a 12- by 85-inch piece of honeycomb. Position the piece lengthwise and flush with the 36- by 85-inch piece and both 36- by 96-inch pieces placed in steps 1 and 3.

7. Cut a 20- by 85-inch piece of honeycomb. Position the piece lengthwise with the 85-inch edge flush with the honeycomb previously positioned in steps 1, 2, and 3 to the left side of the load. Leave a 4 inch space between pieces.

8. Cut 4- by 4- by 115-inch piece of lumber. Position the lumber between the honeycomb pieces placed in steps 4 and 5. Ensure the lumber is centered evenly on the load from front to rear.

9. Prepare a second piece of lumber the same as in step 8 and position between the honeycomb pieces prepared in steps 6 and 7.

Figure 5-2. Honeycomb Prepared and Placed on Platform (Continued)

PREPARING HONEYCOMB STACKS

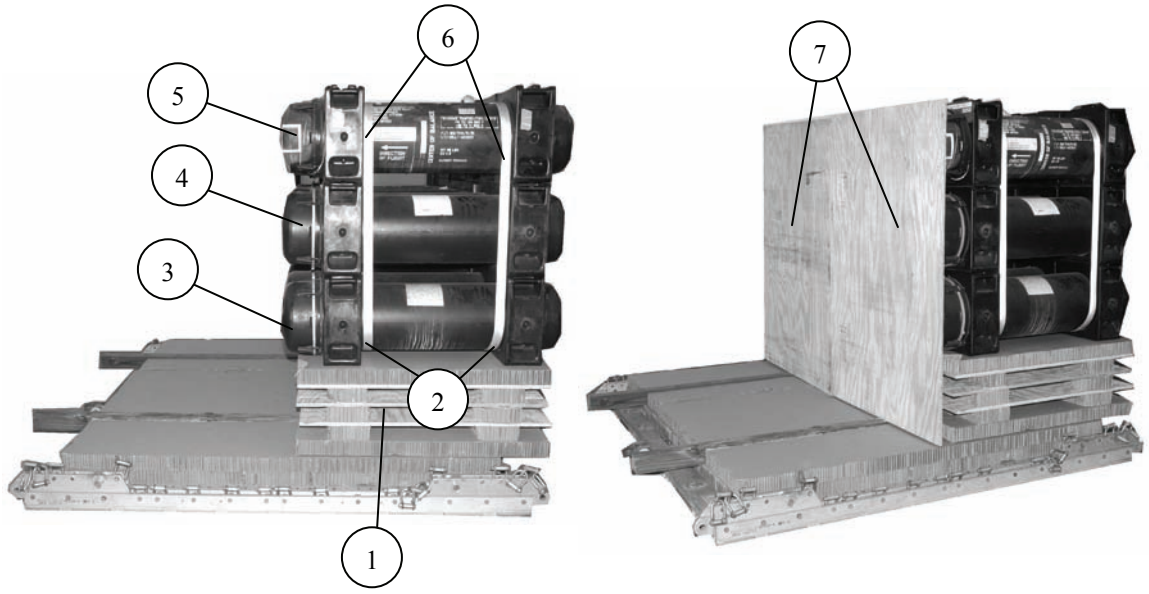
5-4. Prepare honeycomb stacks 1 and 2 as shown in Figure 5-3.

Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
1 and 2	1	24	48	Honeycomb	Cut a piece to start to form the base.
	2	36	48	Honeycomb	Cut the pieces and position to the outside of the 48- by 24-inch piece of honeycomb.
	2	8	96	Honeycomb	Cut pieces and glue 6 inches from the front and rear on top of the previous step.
	1	96	48	3/4-inch plywood	Glue the plywood on top of the 8- by 96-inch pieces of honeycomb.
	2	8	96	Honeycomb	Cut pieces and glue 6 inches from the front and the rear on top of the plywood.
	1	96	48	3/4-inch plywood	Glue the plywood on top of the 8- by 96-inch pieces of honeycomb.
	2	8	96	Honeycomb	Cut pieces and glue 6 inches from the front and the rear on top of the plywood.
	1	96	48	3/4-inch plywood	Glue the plywood on top of the 8- by 96-inch pieces of honeycomb
	1	24	48	Honeycomb	Glue centered on top of the 96- by 48-inch plywood.
	2	36	48	Honeycomb	Cut the pieces and position to the outside of the 48- by 24-inch piece of honeycomb.

Figure 5-3. Honeycomb Stacks 1 and 2 Prepared

POSITIONING AND SECURING JAVELINS ON STACK 1

5-5. Position and secure the Javelins on stack 1 as shown in Figure 5-4.

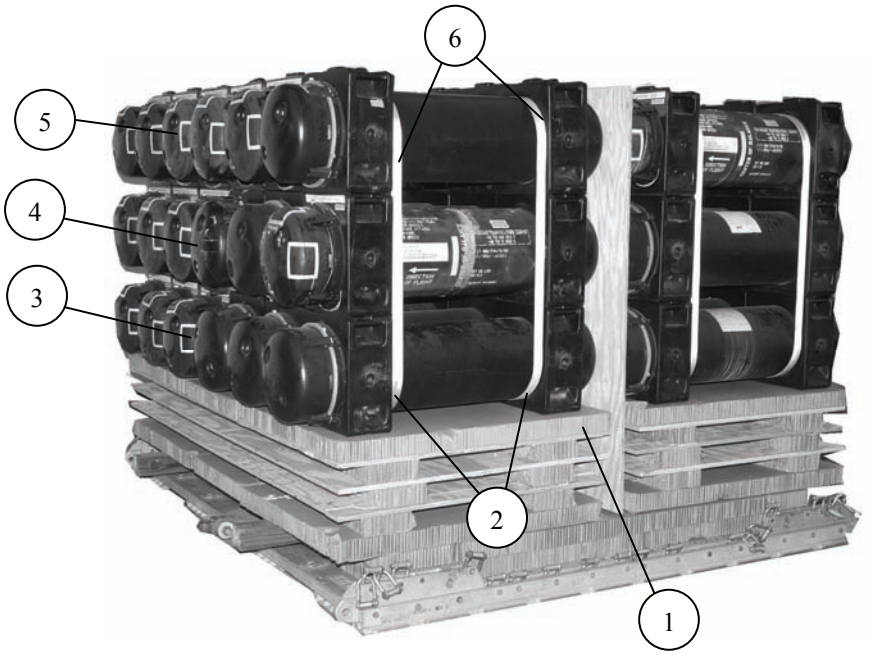


1. Position honeycomb stack 1, 4 1/2 inches and centered from the forward end of the 4- by 4- by 115-inch piece of lumber.
2. Pre-position two 30-foot lashings on top of stack 1, 10 inches from the front and rear edge.
3. Position six Javelin containers centered on top of stack 1.
4. Position six Javelin containers on top of the Javelin containers from step 3.
5. Position six Javelin containers on top of the Javelin containers from step 4.
6. Secure the two pre-positioned 30-foot lashings around the Javelin containers and load bind on top of the cell using two D-rings and a load binder.
7. Position two 3/4- by 48- by 68- plywood pieces side-by-side to the rear of stack 1. Ensure the 68-inch sides of each piece of plywood are flush.

Figure 5-4. Javelins Positioned and Secured on Stack 1

POSITIONING AND SECURING JAVELINS ON STACK 2

5-6. Position and secure the Javelins on stack 2 as shown in Figure 5-5.



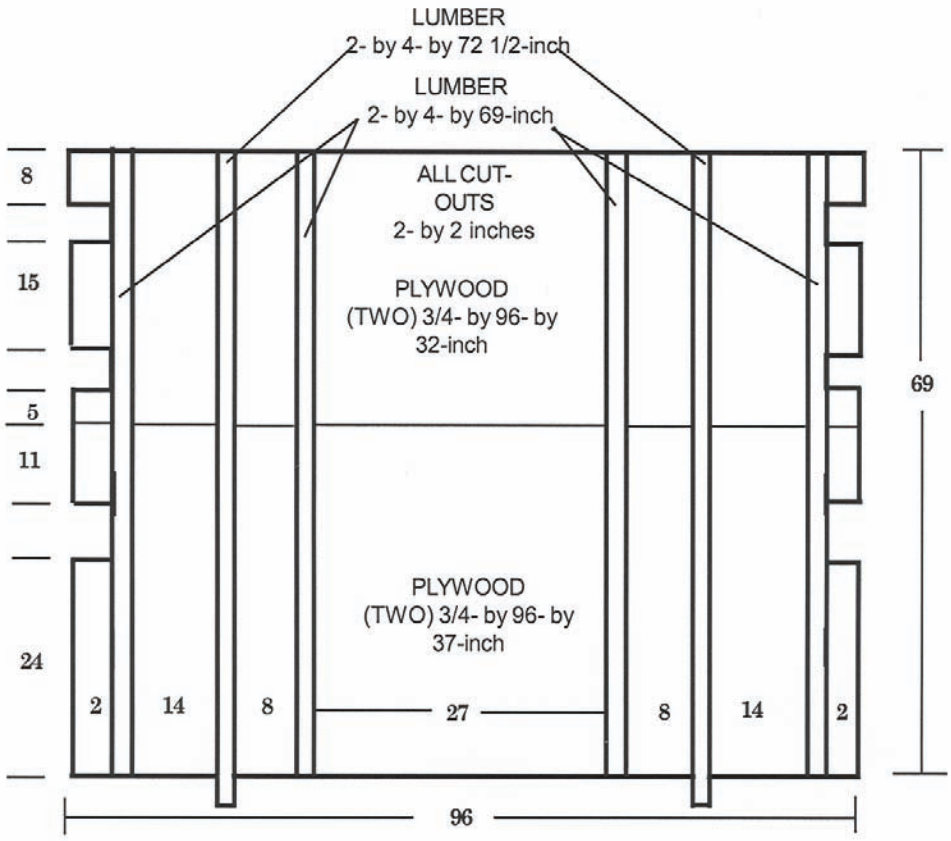
1. Position honeycomb stack 2, 6 inches and centered from the rear of honeycomb stack 1.
2. Pre-position two 30-foot lashings on top of stack 2, 10 inches from the front and rear edge.
3. Position six Javelin containers centered on top of stack 2.
4. Position six Javelin containers on top of the Javelin containers from step 3.
5. Position six Javelin containers on top of the Javelin containers from step 4.
6. Secure the two pre-positioned 30-foot lashings around the Javelin containers and load bind on top of the cell using two D-rings and a load binder.

Figure 5-5. Javelins Positioned and Secured on Stack 2

CONSTRUCTING FRONT ENDBOARD

5-7. Construct the front endboard as shown in Figure 5-6.

Notes. 1. This drawing is not to scale.
2. All dimensions are in inches.
3. Use 8d nails.



Step:

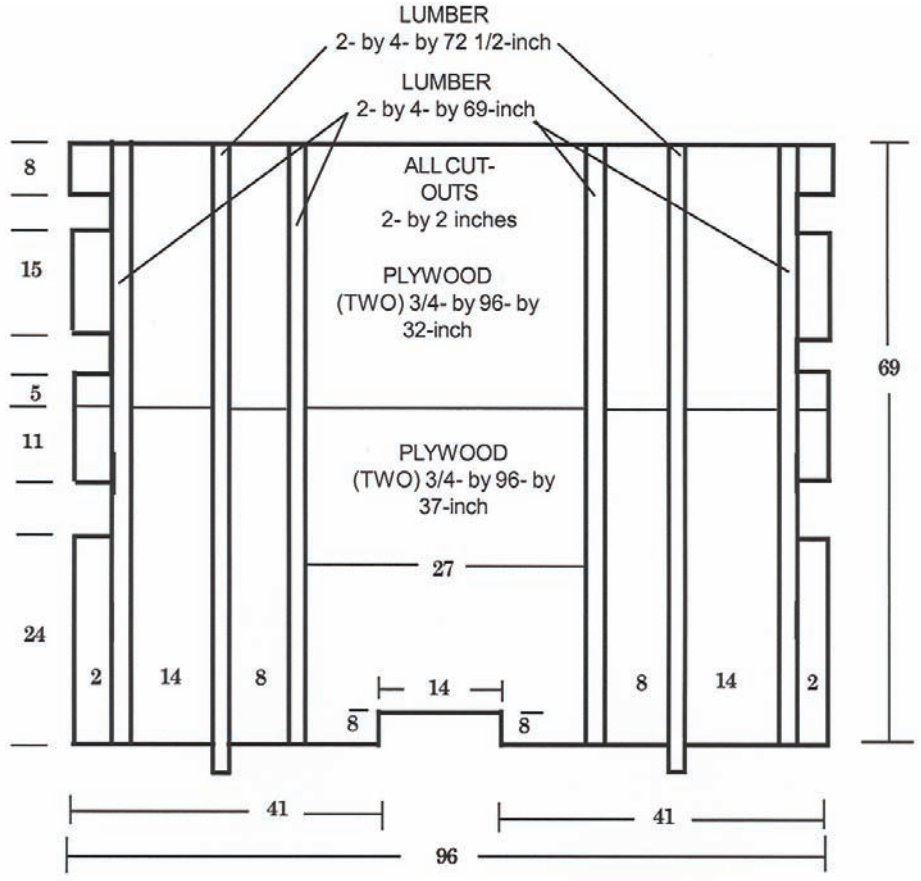
1. Cut two 3/4- by 96- by 32-inch pieces of plywood.
2. Cut two 3/4- by 96- by 37-inch pieces of plywood.
3. Cut six 2- by 2-inch cutouts on each of the four pieces of plywood.
4. Cut four 2- by 4- by 69-inch pieces of lumber.
5. Cut two 2- by 4- by 72 1/2-inch pieces of lumber.
6. Nail two pieces of plywood flush together using the six 2- by 4-inch pieces of lumber with 8d nails as shown above to make an endboard. Repeat this step to make two endboards.

Figure 5-6. Front Endboard Constructed

CONSTRUCTING REAR ENDBOARD

5-8. Construct the front endboard as shown in Figure 5-7.

Notes. 1. This drawing is not to scale.
2. All dimensions are in inches.
3. Use 8d nails.



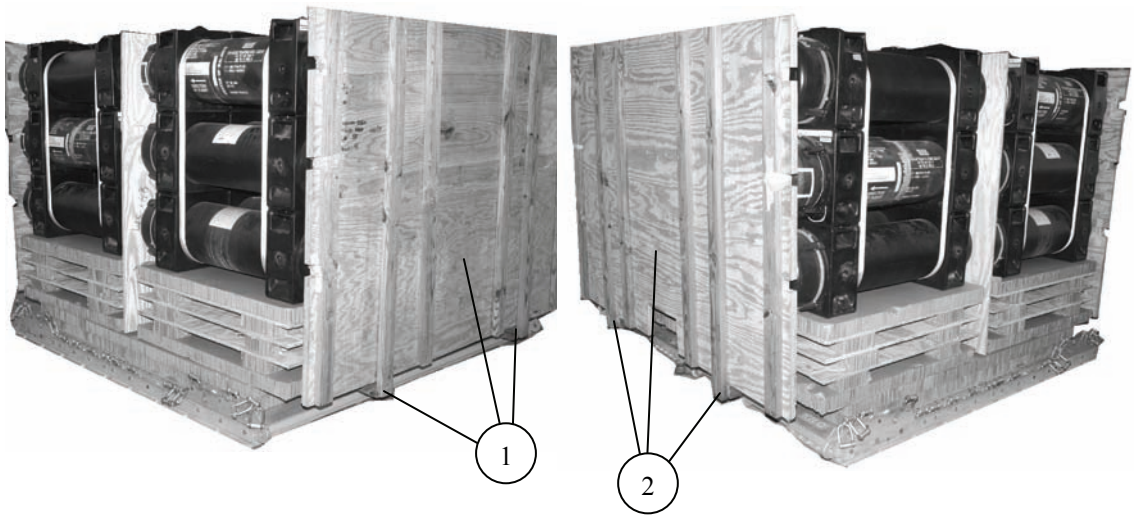
Step:

1. Cut two 3/4- by 96- by 32-inch pieces of plywood.
2. Cut two 3/4- by 96- by 37-inch pieces of plywood.
3. Cut an 8- by 14-inch cutout on the two 3/4- by 96- by 37-inch pieces of plywood.
4. Cut six 2- by 2-inch cutouts on each of the four pieces of plywood.
5. Cut four 2- by 4- by 69-inch pieces of lumber.
6. Cut two 2- by 4- by 72 1/2-inch pieces of lumber.
7. Nail two pieces of plywood flush together using the six 2- by 4-inch pieces of lumber with 8d nails as shown above to make an endboard. Repeat this step to make two endboards.

Figure 5-7. Front Endboard Constructed

POSITIONING FRONT AND REAR ENDBOARDS

5-9. Position the front and rear endboards as shown in Figure 5-8.



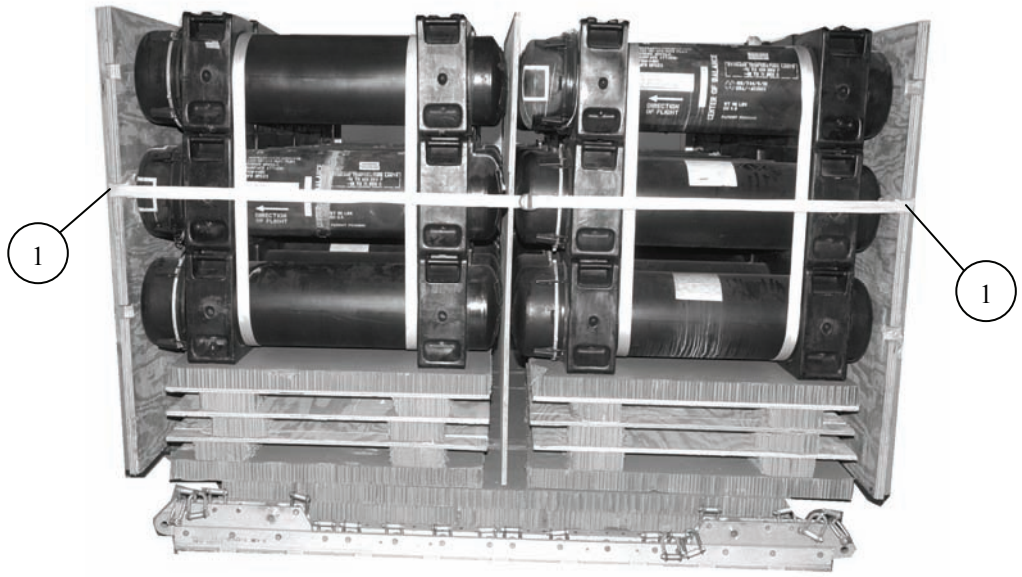
1. Position the front endboard to the front of stack 1. Nail the 2- by 4- by 72 1/2 -inch pieces of lumber to the 4- by 4- by 115-inch pieces of lumber using 16d cement coated nails.

2. Position the rear endboard to the rear of stack 2. Nail the 2- by 4- by 72 1/2-inch pieces of lumber to the 4- by 4- by 115-inch pieces of lumber using 16d cement coated nails.

Figure 5-8. Front and Rear Endboard Positioned

FRONT AND REAR ENDBOARDS SECURED WITH LASHING

5-10. Secure the front and rear endboards as shown in Figure 5-9.



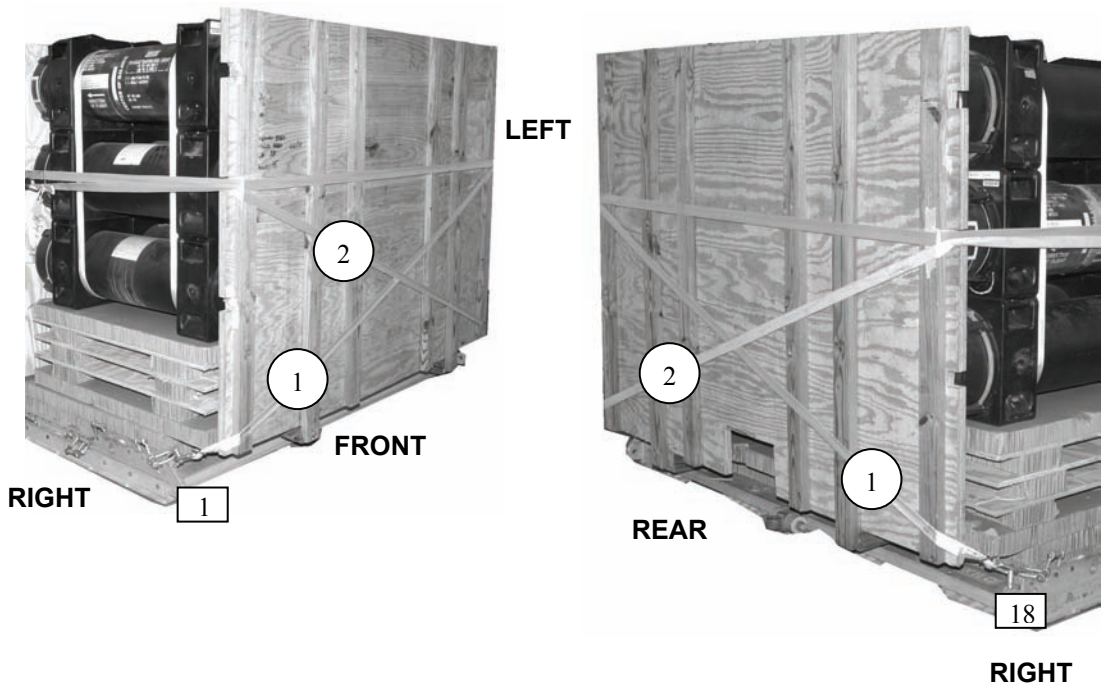
1. Assemble a 45-foot lashing according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Route the lashing around the load through the middle cutouts of the front and rear end boards and secure on the front left side of the load using two D-rings and a load binder.

Figure 5-9. Front and Rear Endboards Secured

LASHING LOAD TO PLATFORM

5-11. Lash the load to the platform as shown in Figure 5-10.

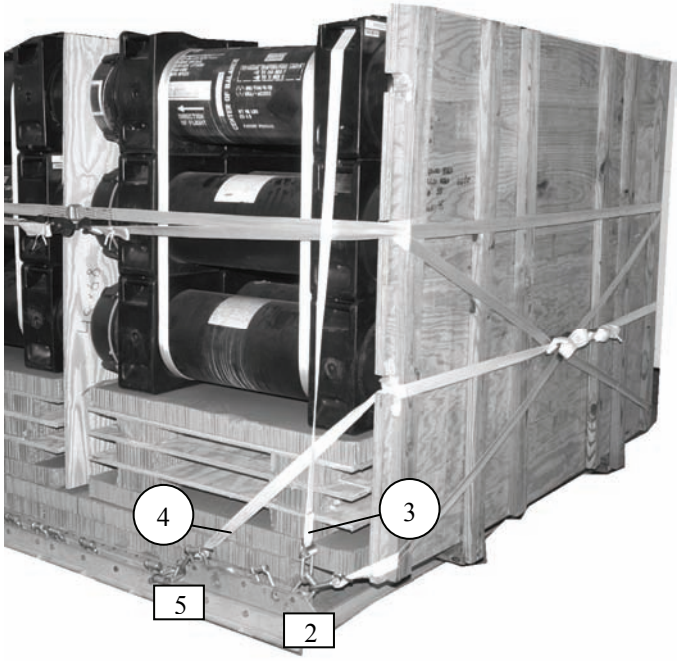
Note. Pad all cutouts with cellulose wadding where the lashings make contact.



Lashing Number	*Tiedown Clevis Number*	*Instructions*
1	1 and 18	Route a 15-foot lashing through clevis 1 and through its own D-ring. Route a 15-foot lashing through clevis 18 and through its own D-ring. Run the free end from clevis 1 around the right bottom corner of the front endboard to the center left cutout of the front endboard. Run the free end from clevis 18 around the right bottom corner of the rear endboard to the left center cutout of the rear endboard. Secure the free ends to the lashings with two D-rings and a load binder centered on the left side of the load.
2	1A and 18A	Route a 15-foot lashing through clevis 1A and through its own D-ring. Route a 15-foot lashing through clevis 18A and through its own D-ring. Run the free end from clevis 1A around the left bottom corner of the front endboard to the center right cutout of the front endboard. Run the free end from clevis 18A around the left bottom corner of the rear endboard to the center right cutout of the rear endboard. Secure the free ends with two D-rings and a load binder centered on the right side of the load.

Figure 5-10. Load Lashed to Platform

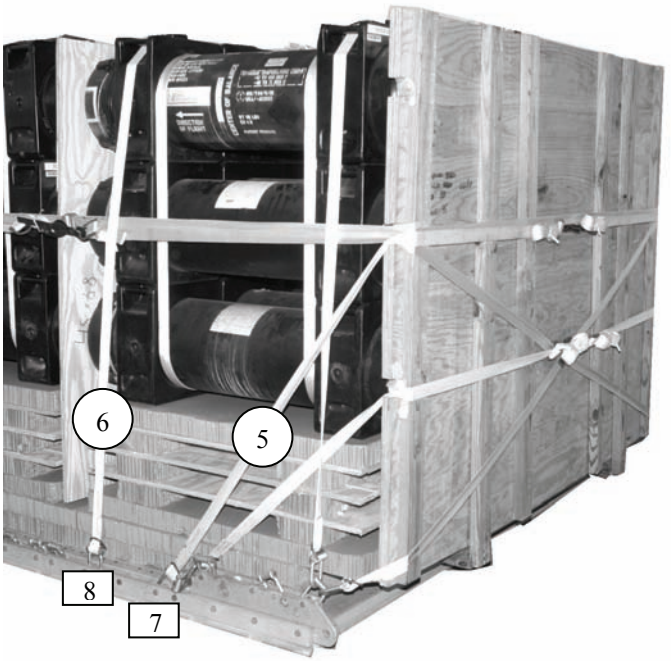
Note. Pad all cutouts with cellulose wadding where the lashings make contact.



Lashing Number	*Tiedown Clevis Number*	*Instructions*
3	2 and 2A	Route a 15-foot lashing through clevis 2 and through its own D-ring. Route a 15-foot lashing through clevis 2A and through its own D-ring. Run the free end of the lashing from clevis 2 through the right top carrying handle of the Javelin container on the front right side of stack 1. Run the free end of the lashing from clevis 2A through the left top carrying handle of the Javelin container on the front left side of stack 1. Secure the free ends with two D-rings and a load binder centered on the top of the load.
4	5 and 5A	Route a 15-foot lashing through clevis 5 and through its own D-ring. Route a 15-foot lashing through clevis 5A and through its own D-ring. Run the free end from clevis 5 around the bottom right cutout of the front endboard. Run the free end from clevis 5A around the bottom left cutout of the front endboard. Secure the free ends with two D-rings and a load binder centered on the front endboard.

Figure 5-10. Load Lashed to Platform (Continued)

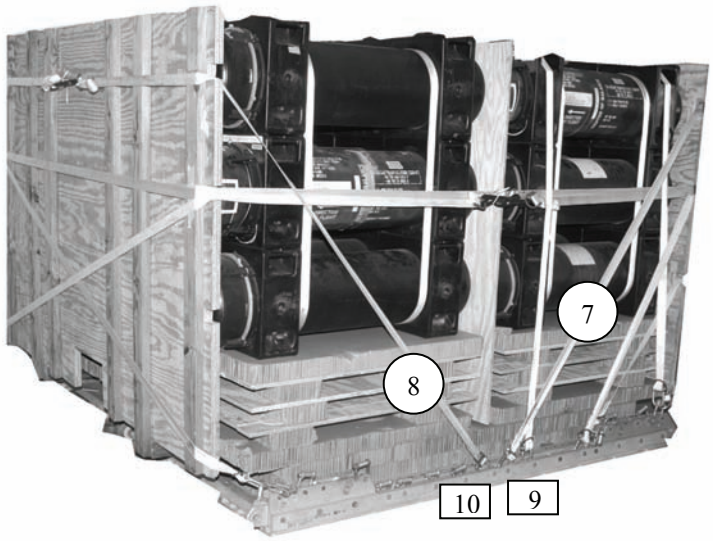
Note. Pad all cutouts with cellulose wadding where the lashings make contact.



Lashing Number	*Tiedown Clevis Number*	*Instructions*
5	7 and 7A	Route a 15-foot lashing through clevis 7 and through its own D-ring. Route a 15-foot lashing through clevis 7A and through its own D-ring. Run the free end from clevis 7 around the center right cutout of the front endboard. Run the free end from clevis 7A around the center left cutout of the front endboard. Secure the free ends with two D-rings and a load binder centered on the front endboard.
6	8 and 8A	Route a 15-foot lashing through clevis 8 and through its own D-ring. Route a 15-foot lashing through clevis 8A and through its own D-ring. Run the free end of the lashing from clevis 8 through the right top carrying handle of the Javelin container on the rear right side of stack 1. Run the free end of the lashing from clevis 8A through the left top carrying handle of the Javelin container on the rear left side of stack 1. Secure the free ends with two D-rings and a load binder centered on the top of the load.

Figure 5-10. Load Lashed to Platform (Continued)

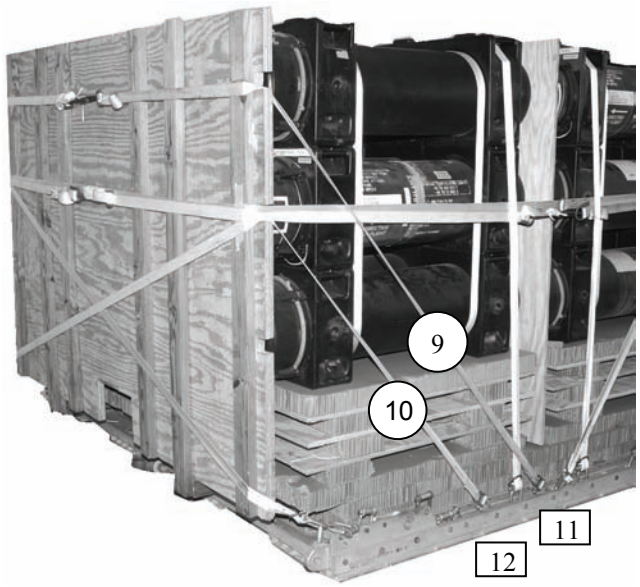
Note. Pad all cutouts with cellulose wadding where the lashings make contact.



Lashing Number	*Tiedown Clevis Number*	*Instructions*
7	9 and 9A	Route a 15-foot lashing through clevis 9 and through its own D-ring. Route a 15-foot lashing through clevis 9A and through its own D-ring. Run the free end from clevis 9 around the top right cutout of the front endboard. Run the free end from clevis 9A around the top left cutout of the front endboard. Secure the free ends with two D-rings and a load binder centered on the front endboard.
8	10 and 10A	Route a 15-foot lashing through clevis 10 and through its own D-ring. Route a 15-foot lashing through clevis 10A and through its own D-ring. Run the free end from clevis 10 around the top right cutout of the rear endboard. Run the free end from clevis 10A around the top left cutout of the rear endboard. Secure the free ends with two D-rings and a load binder centered on the rear endboard.

Figure 5-10. Load Lashed to Platform (Continued)

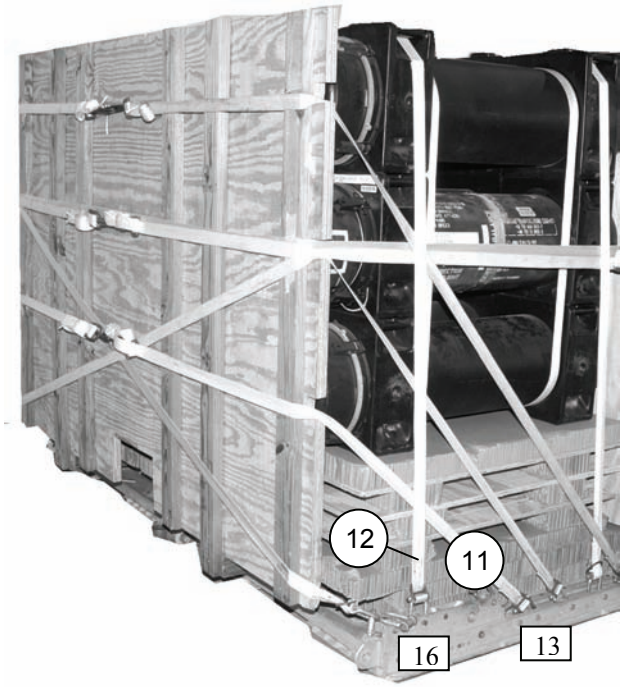
Note. Pad all cutouts with cellulose wadding where the lashings make contact.



Lashing Number	*Tiedown Clevis Number*	*Instructions*
9	11 and 11A	Route a 15-foot lashing through clevis 11 and through its own D-ring. Route a 15-foot lashing through clevis 11A and through its own D-ring. Run the free end of the lashing from clevis 11 through the right top carrying handle of the Javelin container on the front right side of stack 2. Run the free end of the lashing from clevis 11A through the left top carrying handle of the Javelin container on the front left side of stack 2. Secure the free ends with two D-rings and a load binder centered on the top of the load.
10	12 and 12A	Route a 15-foot lashing through clevis 12 and through its own D-ring. Route a 15-foot lashing through clevis 12A and through its own D-ring. Run the free end from clevis 12 around the center right cutout of the rear endboard. Run the free end from clevis 12A around the center left cutout of the rear endboard. Secure the free ends with two D-rings and a load binder centered on the rear endboard.

Figure 5-10. Load Lashed to Platform (Continued)

Note. Pad all cutouts with cellulose wadding where the lashings make contact.

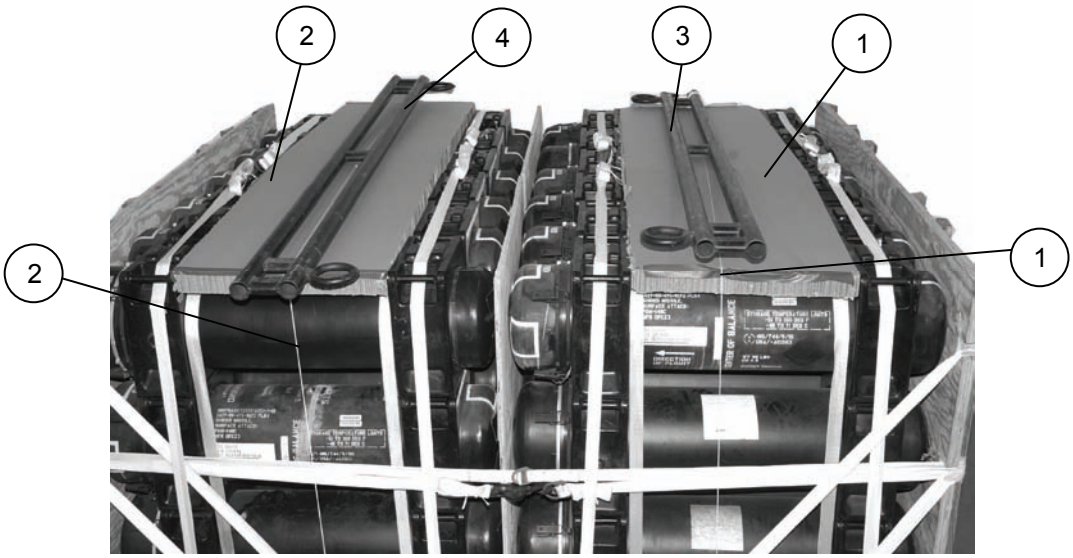


Lashing Number	*Tiedown Clevis Number*	*Instructions*
11	13 and 13A	Route a 15-foot lashing through clevis 13 and through its own D-ring. Route a 15-foot lashing through clevis 13A and through its own D-ring. Run the free end from clevis 13 around the bottom right cutout of the rear endboard. Run the free end from clevis 13A around the bottom left cutout of the rear endboard. Secure the free ends with two D-rings and a load binder centered on the rear endboard.
12	16 and 16A	Route a 15-foot lashing through clevis 16 and through its own D-ring. Route a 15-foot lashing through clevis 16A and through its own D-ring. Run the free end of the lashing from clevis 16 through the right top carrying handle of the Javelin container on the rear right side of stack 2. Run the free end of the lashing from clevis 16A through the left top carrying handle of the Javelin container on the rear left side of stack 2. Secure the free ends with two D-rings and a load binder centered on the top of the load.

Figure 5-10. Load Lashed to Platform (Continued)

POSITIONING THE FRONT AND REAR ATTITUDE CONTROL BAR (ACB)

5-12. Position the front and rear ACB as shown in Figure 5-11.



1. Position a 27- by 91-inch piece of honeycomb between the carrying handles of the Javelin containers of stack 1. Secure in place to a convenient point on the load using type III nylon cord.

2. Position a second 27- by 91-inch piece of honeycomb between the carrying handles of the Javelin containers of stack 2. Secure in place to a convenient point on the load using type III nylon cord.

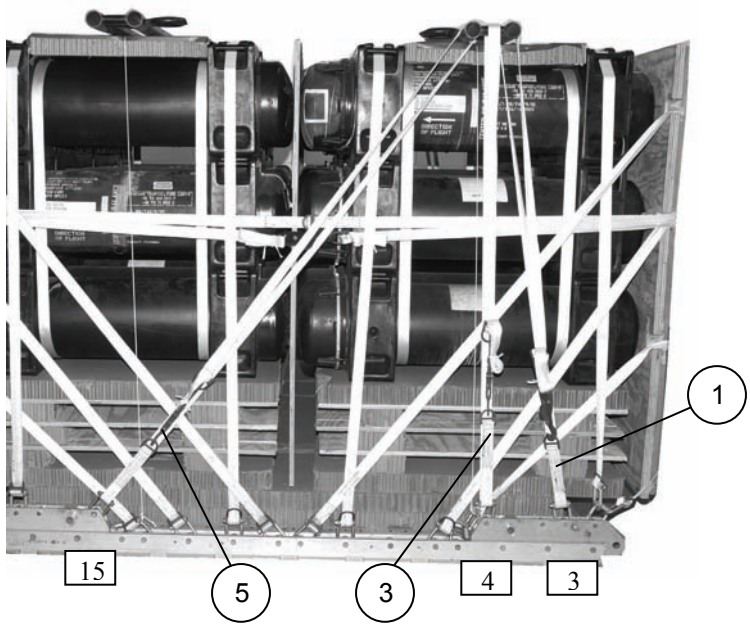
3. Position an ACB centered on top of the honeycomb on stack 1 with the rings of the ACB facing towards the rear of the load.

4. Position an ACB centered on top of the honeycomb on stack 2 with the rings of the ACB facing towards the front of the load.

Figure 5-11. Front and Rear ACB Positioned

LASHING THE FRONT ACB TO HONEYCOMB STACK 1

5-13. Lash the front ACB to stack 1 as shown in Figure 5-12.

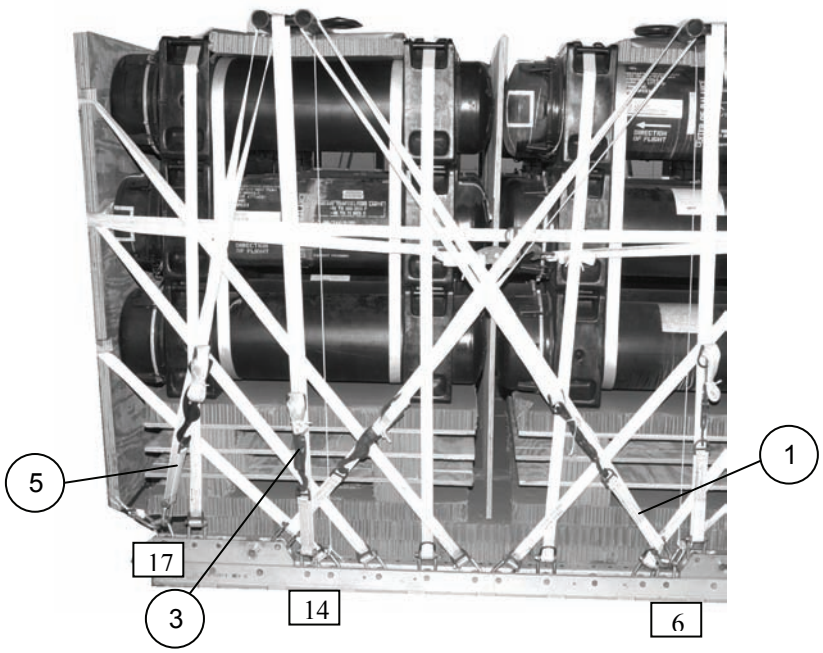


Lashing Number	*Tiedown Clevis Number*	*Instructions*
1	3	Route a 15-foot lashing through clevis 3, upward through the front bar of the front ACB, and back to clevis 3. Attach a D-ring and load binder. DO NOT TIGHTEN at this time.
2	3A	Route a 15-foot lashing through clevis 3A, upward through the front bar of the front ACB, and back to clevis 3A. Attach a D-ring and load binder. DO NOT TIGHTEN at this time.
3	4	Route a 15-foot lashing through clevis 4, upward through the middle portion of the front ACB, and back to clevis 4. Attach a D-ring and load binder. DO NOT TIGHTEN at this time.
4	4A	Route a 15-foot lashing through clevis 4A, upward through the middle portion of the front ACB, and back to clevis 4A. Attach a D-ring and load binder. DO NOT TIGHTEN at this time.
5	15	Route a 15-foot lashing through clevis 15, upward through the rear bar of front ACB, and back to clevis 15. Attach a D-ring and load binder. DO NOT TIGHTEN at this time.
6	15A	Route a 15-foot lashing through clevis 15A, upward through the rear bar of front ACB, and back to clevis 15A. Attach a D-ring and load binder. TIGHTEN all lashings at this time.

Figure 5-12. Front ACB Lashed to Honeycomb Stack 1

LASHING THE REAR ACB TO HONEYCOMB STACK 2

5-14. Lash the rear ACB to stack 2 as shown in Figure 5-13.

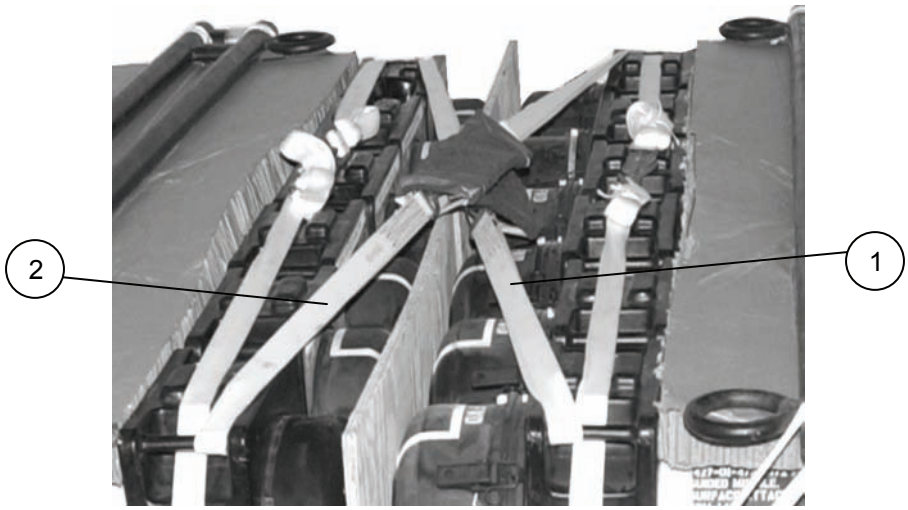


Lashing Number	*Tiedown Clevis Number*	*Instructions*
1	6	Route a 15-foot lashing through clevis 6, upward through the front bar of the rear ACB, and back to clevis 6. Attach a D-ring and load binder. DO NOT TIGHTEN at this time.
2	6A	Route a 15-foot lashing through clevis 6A, upward through the front bar of the rear ACB, and back to clevis 6A. Attach a D-ring and load binder. DO NOT TIGHTEN at this time.
3	14	Route a 15-foot lashing through clevis 14, upward through the middle portion of the rear ACB, and back to clevis 14. Attach a D-ring and load binder. DO NOT TIGHTEN at this time.
4	14A	Route a 15-foot lashing through clevis 14A, upward through the middle portion of the rear ACB, and back to clevis 14A. Attach a D-ring and load binder. DO NOT TIGHTEN at this time.
5	17	Route a 15-foot lashing through clevis 17, upward through the rear bar of the rear ACB, and back to clevis 17. Attach a D-ring and load binder. DO NOT TIGHTEN at this time.
6	17A	Route a 15-foot lashing through clevis 17A, upward through the rear bar of the rear ACB, and back to clevis 17A. Attach a D-ring and load binder. TIGHTEN all lashings at this time.

Figure 5-13. Rear ACB Lashed to Honeycomb Stack 2.

SECURING PLYWOOD BETWEEN STACK 1 AND STACK 2

5-15. Secure the plywood between stacks 1 and 2 as shown in Figure 5-14.



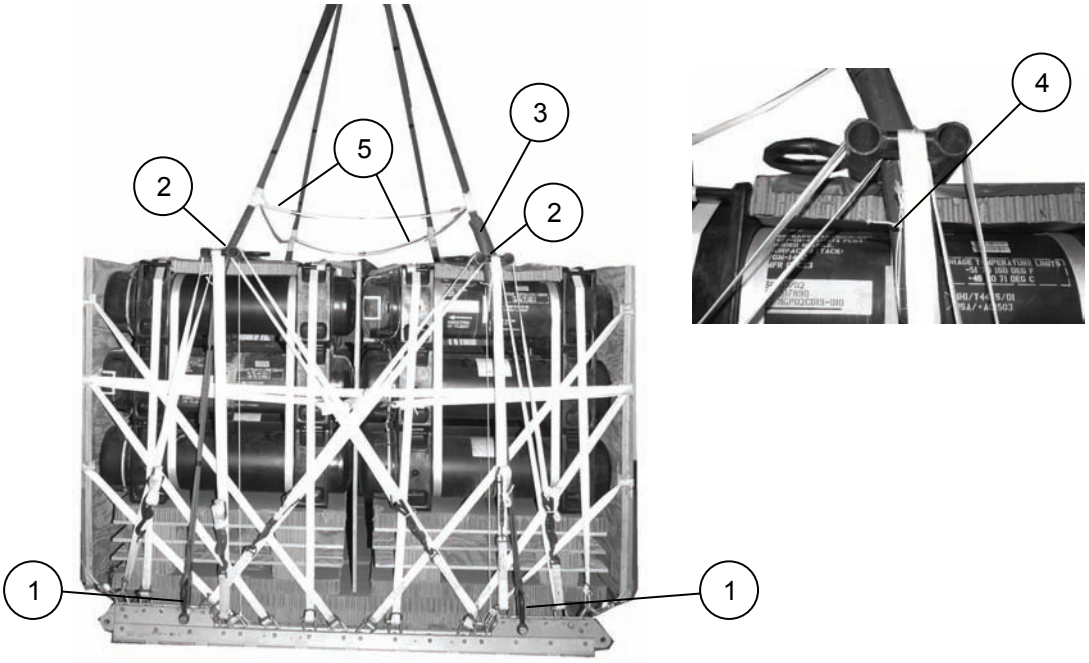
1. Route a 15-foot lashing through the carrying handle of the rear right Javelin container of stack 1. Continue to route the lashing over the top of the 3/4- by 48- by 68-inch piece of plywood to the left side of the platform. Route the free end of the 15-foot lashing through carrying handle of the front left Javelin container of stack 2. Secure the lashing with a D-ring and load binder in the center of the load. Pad the load binder handle with felt and secure in place using type III, nylon cord or 2-inch cloth-back adhesive tape.

2. Route a 15-foot lashing through the carrying handle of the front right Javelin container of stack 2. Continue to route the lashing over the top of the 3/4- by 48- by 68-inch piece of plywood to the left side of the platform. Route the free end of the 15-foot lashing through carrying handle of the rear left Javelin container of stack 1. Secure the lashing with a D-ring and load binder in the center of the load. Pad the load binder handle with felt and secure in place using type III, nylon cord or 2-inch cloth-back adhesive tape.

Figure 5-14. Plywood Between Stack 1 and 2 Secured

INSTALLING SUSPENSION SLINGS

5-16. Install the suspension slings and deadman's tie as shown in Figure 5-15.

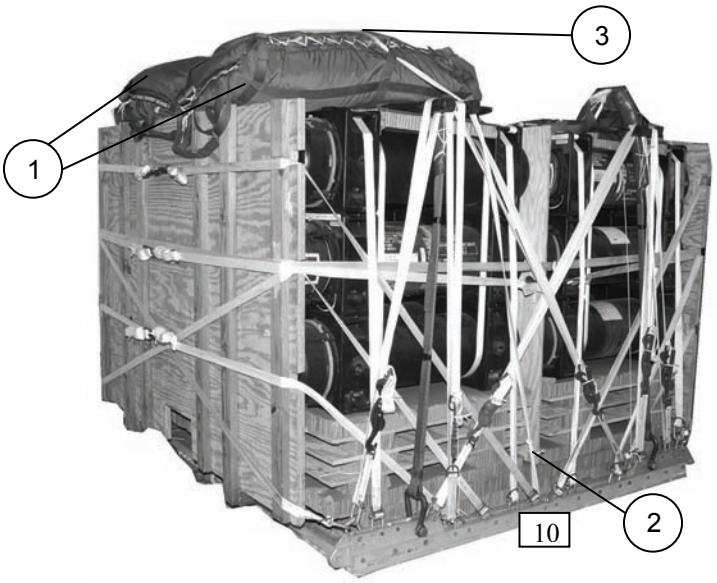


1. Attach a 16-foot (2-loop), type XXVI nylon webbing sling to each tandem link with a large clevis.
2. Route the free ends of each sling up through their corresponding ACB holes.
3. Pad the slings with felt where the sling makes contact with the load and ACB. Tape the felt with 2-inch adhesive tape 12 inches above and 12 inches below the ACB.
4. Secure the bottom portion of the padded sling to the ACB with a length of type III nylon cord.
5. Raise the slings and install the deadman's tie according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 5-15. Suspension Slings and Deadman's Tie Installed

PREPARING AND STOWING CARGO PARACHUTES

5-17. Prepare and stow the cargo parachutes as shown in Figure 5-16.



1. Prepare, position, and stow two G-11 cargo parachutes on top of the parachute platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

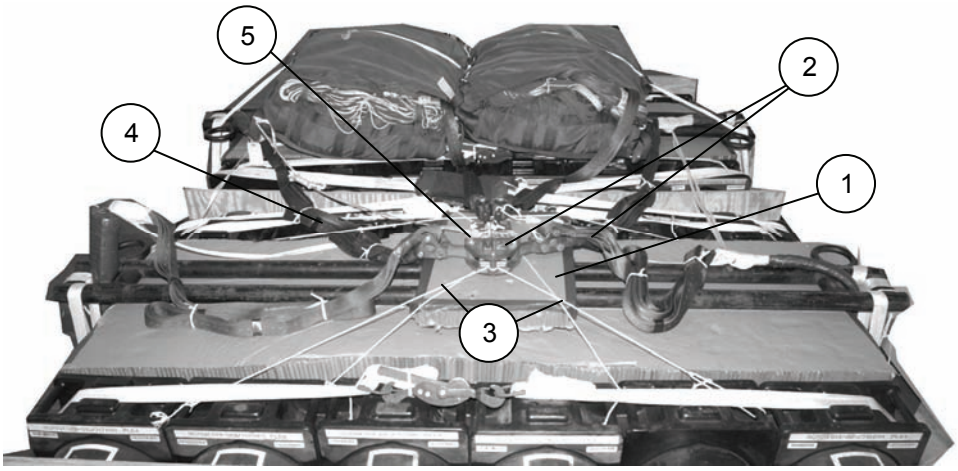
2. Install the restraint using type VIII nylon webbing on clevises 10 and 10A according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

3. Install the guillotine knife multi-cut parachute release straps according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 5-16. Cargo Parachutes Prepared and Stowed

INSTALLING THE RELEASE SYSTEM

5-18. Prepare, attach, and safety an M-1 cargo parachute release according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 5-17.

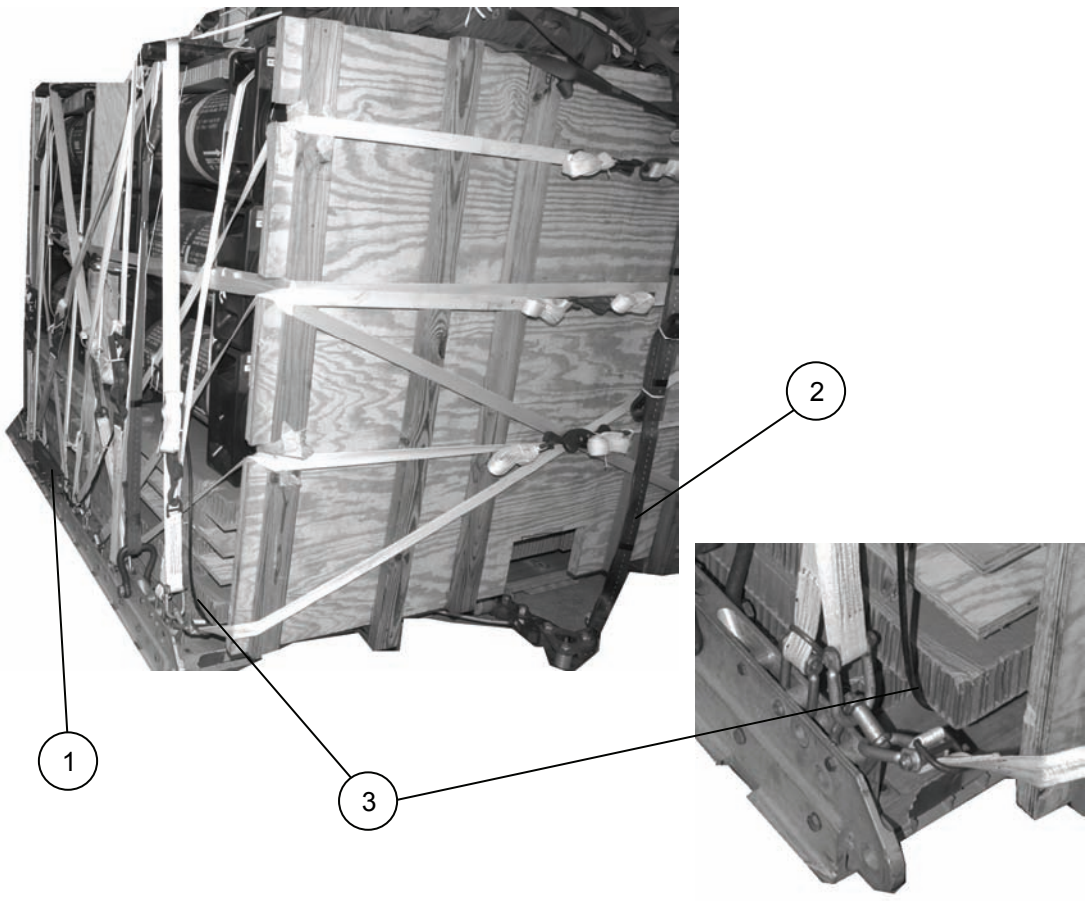


1. Position an 18- by 24-inch piece of honeycomb centered on top of the front ACB to be used as a release platform. Tape the edges and secure the honeycomb using type III, nylon cord to a convenient point on the load.
2. Prepare and install the M-1 cargo parachute release on top of the platform release on stack 1. Attach the suspension slings and riser extensions according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
3. Safety the top and bottom of the release to convenient places on the load 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. S-fold and tie any excess suspension slings with one turn of type I, 1/4-inch cotton webbing.
5. Tie the arming wire lanyard to the parachute carrying handles and fold and tape the excess.

Figure 5-17. Cargo Parachute Release Installed

INSTALLING THE EXTRACTION SYSTEM

5-19. 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 rear mounting holes for the EFTC brackets.

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

Note. Ensure the cable is routed below honeycomb stack 2.

3. Use a 12-foot EFTC cable and safety the cable in several convenient places on the platform with one turn of type I, 1/4-inch cotton webbing.

Figure 5-18. Extraction System Installed

PLACING EXTRACTION PARACHUTE

5-20. 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

5-21. 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

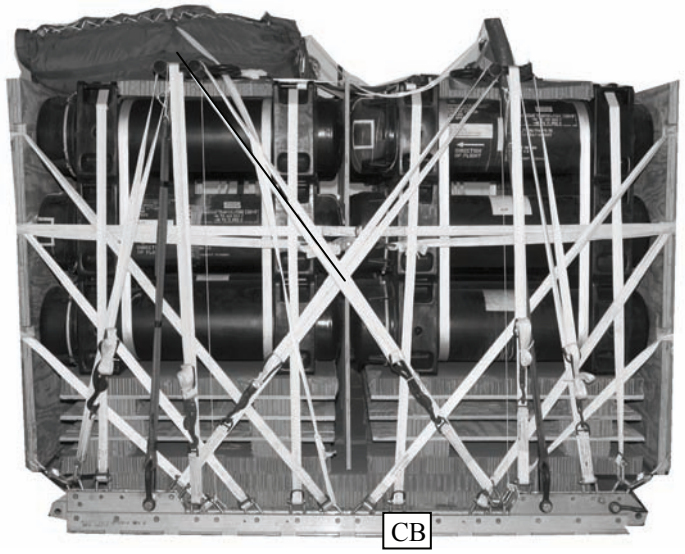
5-22. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 5-19. Complete Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

5-23. 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	6,620 pounds
Height	94 inches
Width	108 inches
Overall Length	125 inches
Overhang: Front	11 inches
Rear	18 inches
Center of Balance (from front edge of the platform)	54 inches
Extraction System with 12-foot cable (adds 18 inches to length of platform)	EFTC

Figure 5-19. Javelin Missile Containers (Plastic) Rigged on an 8-Foot, Type V Platform for Low-Velocity Airdrop

Table 5-1. Equipment Required for Rigging Javelin Missile Containers (Plastic) on an 8-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive, paste, 1-gallon	As required
1670-00-003-4389	Bar, attitude control	2
	Clevis, suspension:	
4030-00-678-8562	3/4-inch (medium) emergency restraint	4
4030-00-090-5354	1-inch (large)	5
4020-00-240-2146	Cord, nylon, type III	As required
1670-00-434-5797	Coupling, airdrop, extraction force transfer with 12-foot cable	1
1670-00-360-0328	Cover, clevis, large	2
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
1670-01-183-2678	Leaf, extraction line	2
	Line, extraction, type XXVI nylon webbing:	
1670-01-062-6313	60-foot (3-loop)	1
	Or	
1670-01-107-7651	140-foot (3-loop)	2
1670-01-064-4452	60-foot (1-loop), type XXVI for C-17 drogue line	1
	Link assembly, two-point:	
5306-00-435-8994	Bolt, 1-inch diameter, 4-inch long	1
5310-00-232-5165	Nut, 1-inch, hexagonal	1
1670-00-003-3454	Plate, side 3 3/4-inch	1
5365-00-007-3414	Spacer, large	1
510-00-220-6146	Lumber, 2-by 4- by 96	As required
	Nail	
5315-00-010-4657	6d	As required
5315-00-753-3883	16d	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb	17 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	2
1670-01-063-3716	Cargo, extraction, 22-foot	1
	Platform, airdrop, type V, 8-foot	
1670-01-353-8425	Bracket assembly, EFTC	1
1670-01-162-2372	Bracket assembly, extraction	1
1670-01-162-2376	Clevis assembly	36
1670-01-162-2381	Tandem link	4
5530-00-128-4981	Plywood, 3/4-inch	16 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1

Table 5-1. Equipment Required for Rigging Javelin Missile Containers (Plastic) on an 8-Foot, Type V Platform for Low-Velocity Airdrop (Continued)

National Stock Number	*Item*	*Quantity*
	Sling, cargo airdrop:	
	For deployment line:	
1670-01-062-6304	9-foot (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6302	3-foot (2-loop), type XXVI nylon webbing	4
	For suspension:	
1670-01-063-7761	16-foot (2-loop), type XXVI nylon webbing	4
1670-00-040-8219	Strap parachute release, multicut	2
7515-00-266-5016	Tape, adhesive, 2-inch	As required
7501-00-266-6710	Tape, masking	As required
1670-00-937-0271	Tie-down assembly, 15-foot	48
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
	Nylon:	
8305-00-082-5752	Tubular, 1/2-inch	As required
8305-00-263-3591	Type VIII webbing	As required

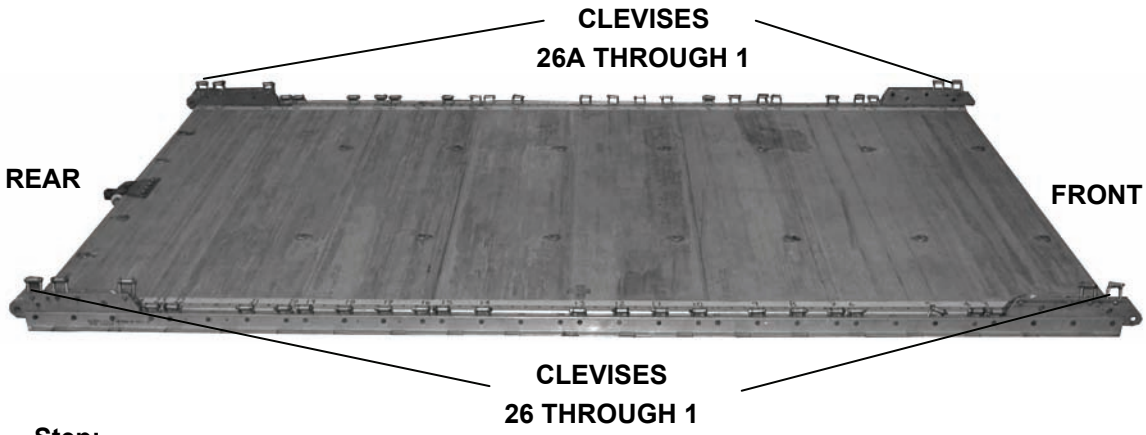
SECTION II-RIGGING JAVELIN MISSILE CONTAINERS ON A 16-FOOT, TYPE V PLATFORM

DESCRIPTION OF LOAD

5-24. The guided missile, surface, attack Javelin (plastic) container mass supply load is rigged on a 16-foot, type V platform. The rigged weight is 10,380 pounds. Each individual missile container weighs approximately 96 pounds. The load is rigged with 66 Javelin containers. The height of the load is 94 inches, length is 192 inches and the width is 108 inches. The accompanying load has a weight of 6,336 pounds. The load is rigged with two G-11 cargo parachutes.

PREPARING PLATFORM

5-25. Prepare a 16-foot, type V platform as shown in Figure 5-20.



Step:

1. Inspect, or assemble and inspect, a 16-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 tandem link to the rear of each platform side rail using holes 30, 31, and 32.
4. Install clevises on bushings 1 and 2 of each front tandem link.
5. Install clevises on bushings 1, 3, and 4 of each rear tandem link.
6. Starting at the front of each platform side rail, install clevises on bushings bolted to holes 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 16, 19, 20, 21, 22, 23, 24, 25, 26, 28, and 29.
7. Starting at the front of the platform, number the clevises 1 through 26 on the right side, and 1A through 26A on the left side.
8. Label the tiedown rings according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 5-20. Platform Prepared

PREPARING HONEYCOMB STACKS

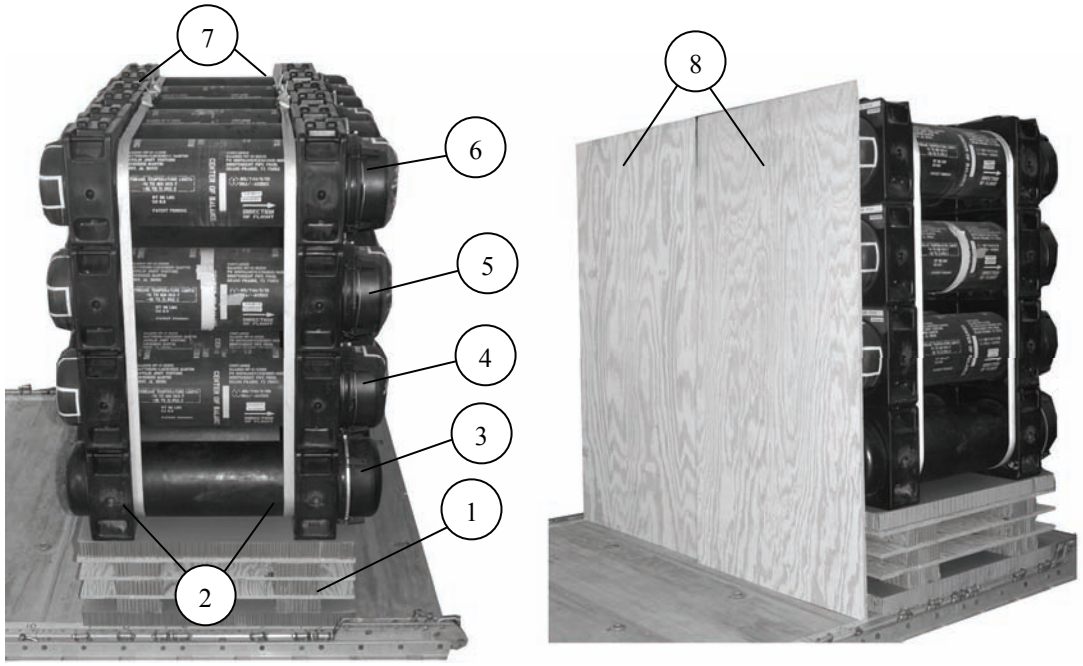
5-26. Prepare honeycomb stacks 1, 2, and 3 as shown in Figure 5-21.

Stack Number	*Pieces*	*Width (Inches)*	*Length (Inches)*	*Material*	*Instructions*
1,2,and 3	1	24	48	Honeycomb	Cut a piece to start to form the base.
	2	36	48	Honeycomb	Cut the pieces and position to the outside of the 48- by 24-inch piece of honeycomb.
	2	8	92	Honeycomb	Cut pieces and glue 6 inches from the front and rear on top of the previous step.
	1	96	48	3/4-inch plywood	Glue the plywood on top of the 8- by 92-inch pieces of honeycomb.
	2	8	96	Honeycomb	Cut pieces and glue 6 inches from the front and the rear on top of the plywood.
	1	96	48	3/4-inch plywood	Glue the plywood on top of the 8- by 92-inch pieces of honeycomb.
	2	8	96	Honeycomb	Cut pieces and glue 6 inches from the front and the rear on top of the plywood.
	1	96	48	3/4-inch plywood	Glue the plywood on top of the 8- by 92-inch pieces of honeycomb.
	1	24	48	Honeycomb	Glue centered on top of the 92- by 48-inch plywood.
	2	36	48	Honeycomb	Cut the pieces and position to the outside of the 48- by 24-inch piece of honeycomb.

Figure 5-21. Honeycomb Stacks 1, 2, and 3 Prepared

POSITIONING AND SECURING JAVELINS ON STACK 1

5-27. Position and secure the Javelins on stack 1 as shown in Figure 5-22.



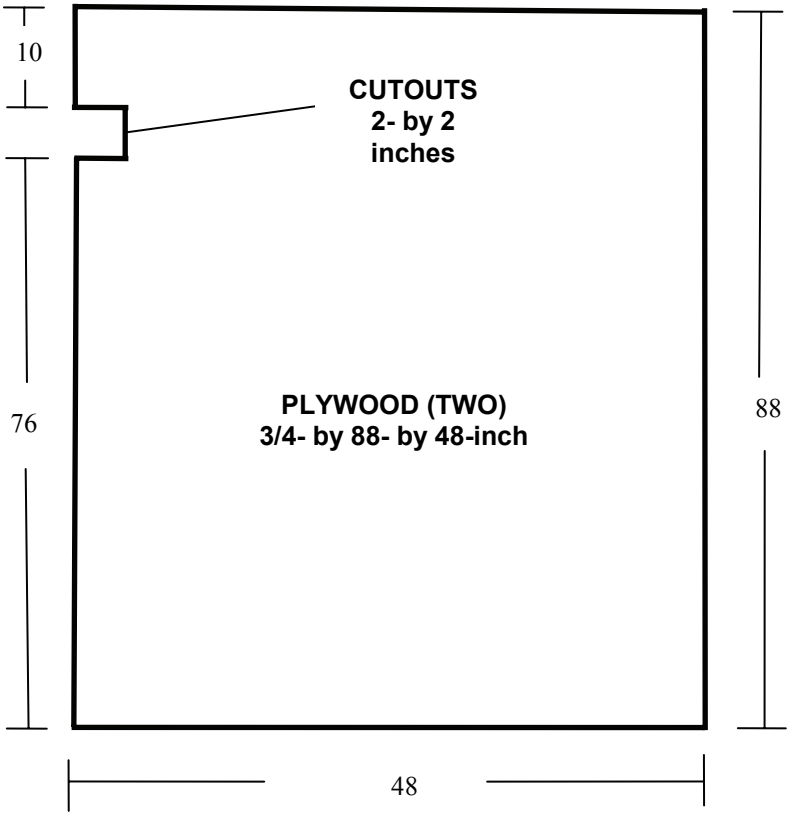
1. Position stack 1, 16 inches and centered from the front edge of the platform.
2. Pre-position two 30-foot lashings, 10 inches from each end of stack 1.
3. Position six Javelin containers on top of the stack 1.
4. Position six Javelin containers on top of the Javelins from step 3.
5. Position six Javelin containers on top of the Javelins from step 4.
6. Position six Javelin containers on top of the Javelins from step 5.
7. Secure the two pre-positioned lashings around the stack and secure the stack with two D-rings and a load binder on top of the Javelin containers.
8. Position two 3/4- by 48- by 88-inch pieces of plywood side-by-side to the rear of stack 1.

Figure 5-22. Javelins Positioned and Secured on Stack 1

CONSTRUCTING ENDBOARD FOR STACK 2

5-28. Construct an endboard for the rear of stack 2 as shown in Figure 5-23.

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



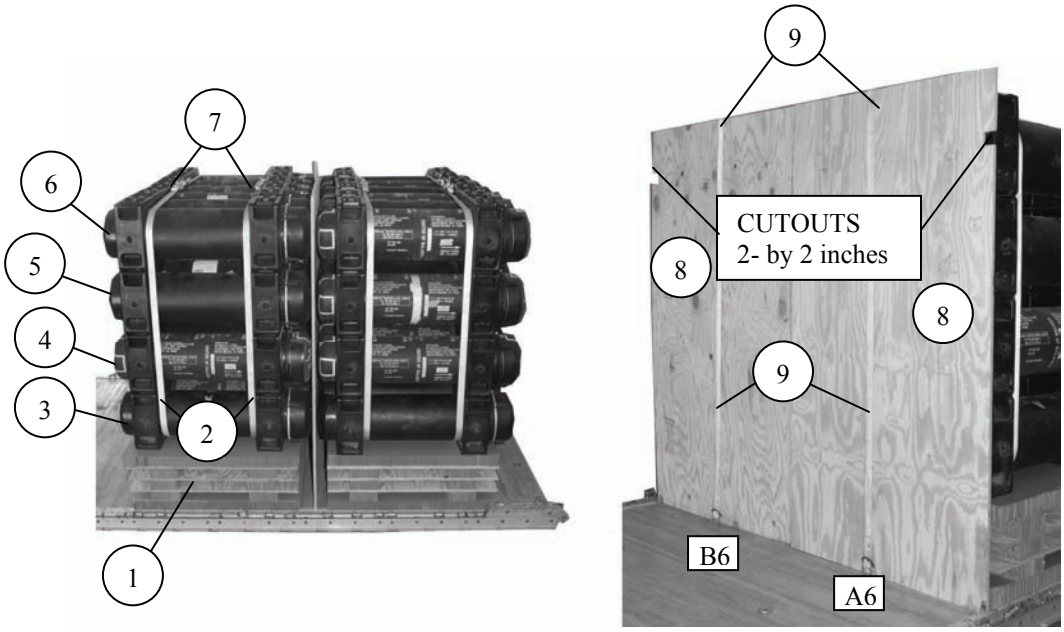
Step:

1. Cut two 3/4- by 48- by 88-inch pieces of plywood.
2. Make one 2- by 2-inch cutout on each endboard as shown.

Figure 5-23. Endboard Constructed for Stack 2

POSITIONING AND SECURING JAVELINS AND PLACING ENDBOARDS ON STACK 2

5-29. Position and secure the Javelins on stack 2 as shown in Figure 5-24.

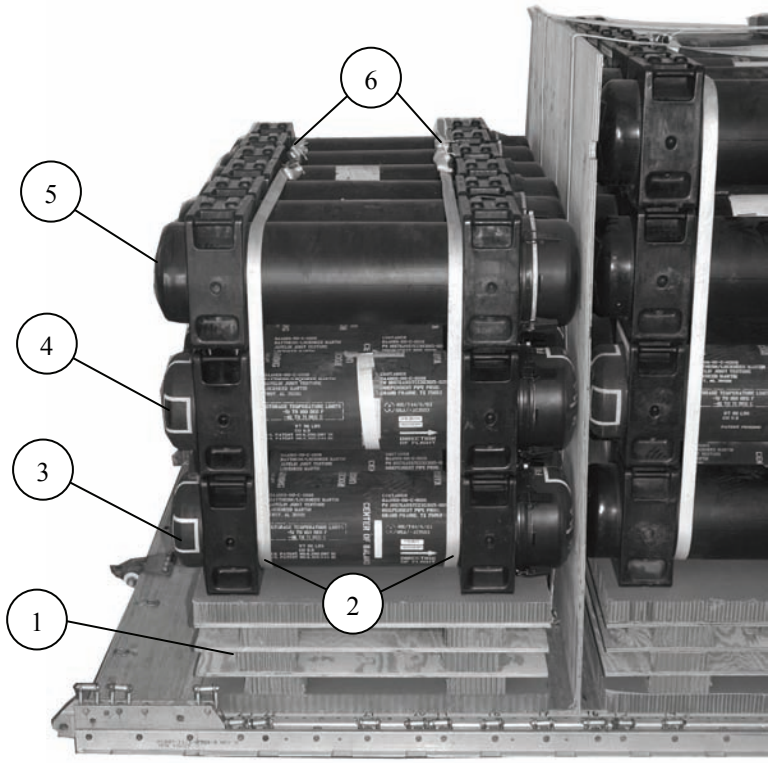


1. Position stack 2, 8 inches and centered from the rear of stack 1.
2. Pre-position two 30-foot lashings, 10 inches from each end of stack 2.
3. Position six Javelin containers on top of stack 2.
4. Position six Javelin containers on top of the Javelins from step 3.
5. Position six Javelin containers on top of the Javelins from step 4.
6. Position six Javelin containers on top of the Javelins from step 5.
7. Secure the two pre-positioned lashings around the stack and secure the stack with two D-rings and a load binder on top of the Javelin containers.
8. Place the endboards against the rear of stack 2 with the cutouts facing the right and left sides of the platform.
9. Route a 15-foot lashing through platform tie-down rings A6 and B6 and through their own D-rings. Route the lashings up and over the endboards to be secured later.

Figure 5-24. Javelins Positioned and Secured and Endboards Placed on Stack 2

POSITIONING AND SECURING JAVELINS ON STACK 3

5-30. Position and secure the Javelins on stack 3 as shown in Figure 5-25.



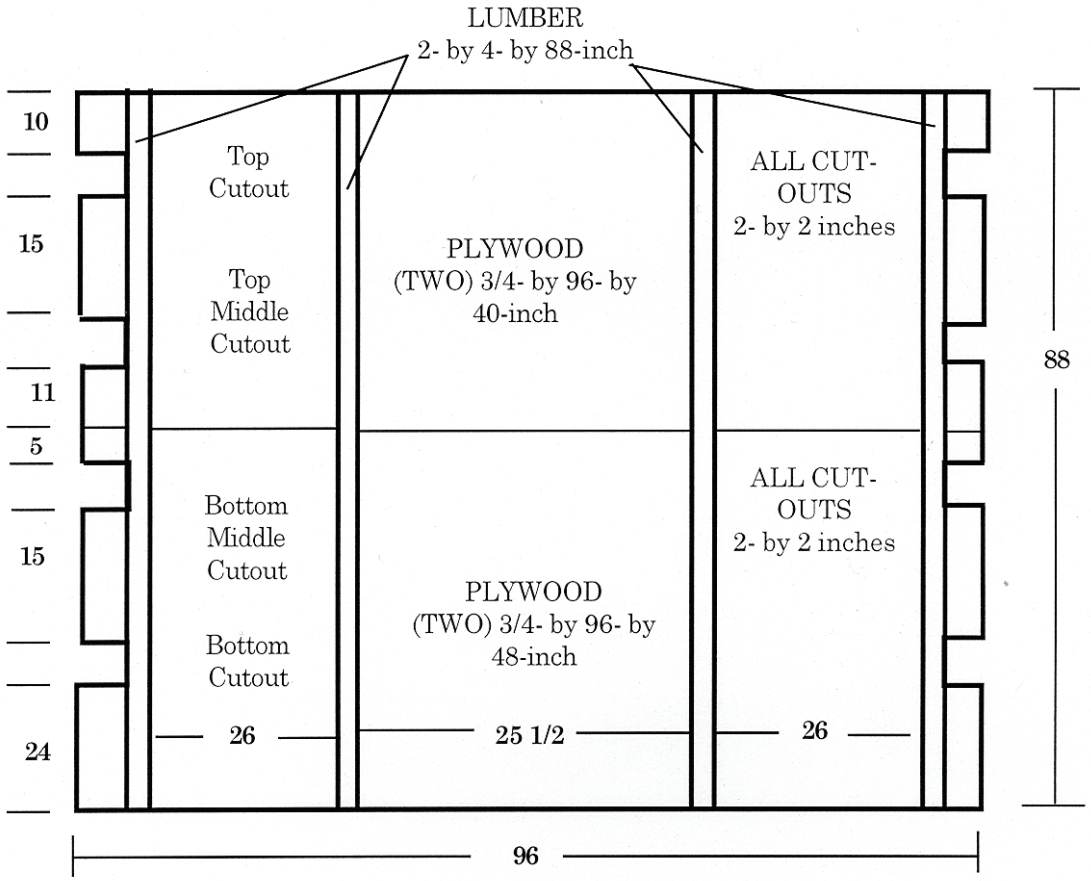
1. Position stack 3, eight inches and centered from the rear of stack 2.
2. Pre-position two 30-foot lashings, 10 inches from each end of stack 3.
3. Position six Javelin containers on top of stack 3.
4. Position six Javelin containers on top of the Javelins from step 3.
5. Position six Javelin containers on top of the Javelins from step 4.
6. Secure the two pre-positioned lashings around the stack and secure the stack with two D-rings and a load binder on top of the Javelin containers.

Figure 5-25. Javelins Positioned and Secured on Stack 3

CONSTRUCTING FRONT ENDBOARD

5-31. Construct the front endboard as shown in Figure 5-26.

Notes. 1. This drawing is not to scale.
2. All dimensions are in inches.
3. Use 8d nails.



Step:

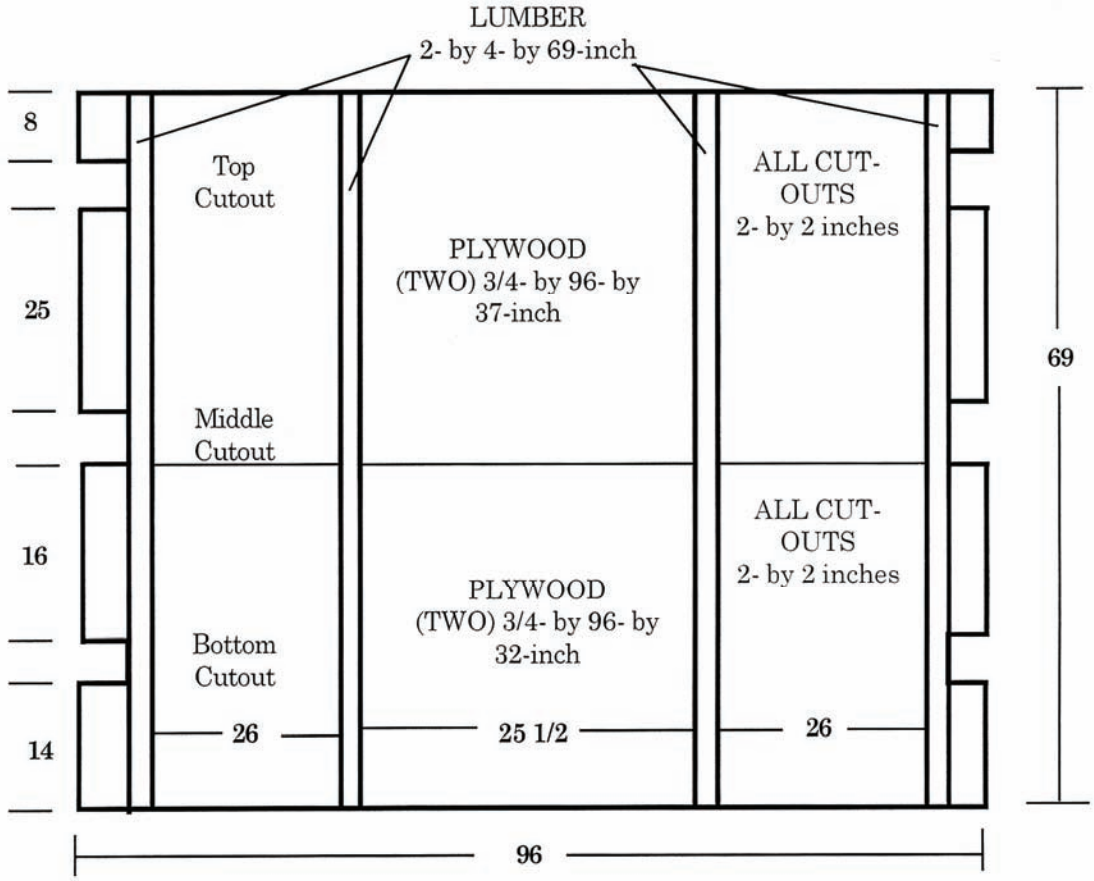
1. Cut two 3/4- by 96- by 40-inch pieces of plywood.
2. Cut two 3/4- by 96- by 48-inch pieces of plywood.
3. Cut four 2- by 2-inch cutouts on each of the four pieces of plywood.
4. Cut eight 2- by 4- by 88-inch pieces of lumber.
5. Nail four pieces of plywood flush together using four 2- by 4- by 88-inch pieces of lumber with 8d nails as shown above to make an endboard. Repeat this step to make two endboards.

Figure 5-26. Front Endboard Constructed

CONSTRUCTING REAR ENDBOARD

5-32. Construct the rear endboard as shown in Figure 5-27.

Notes. 1. This drawing is not to scale.
2. All dimensions are in inches.
3. Use 8d nails.



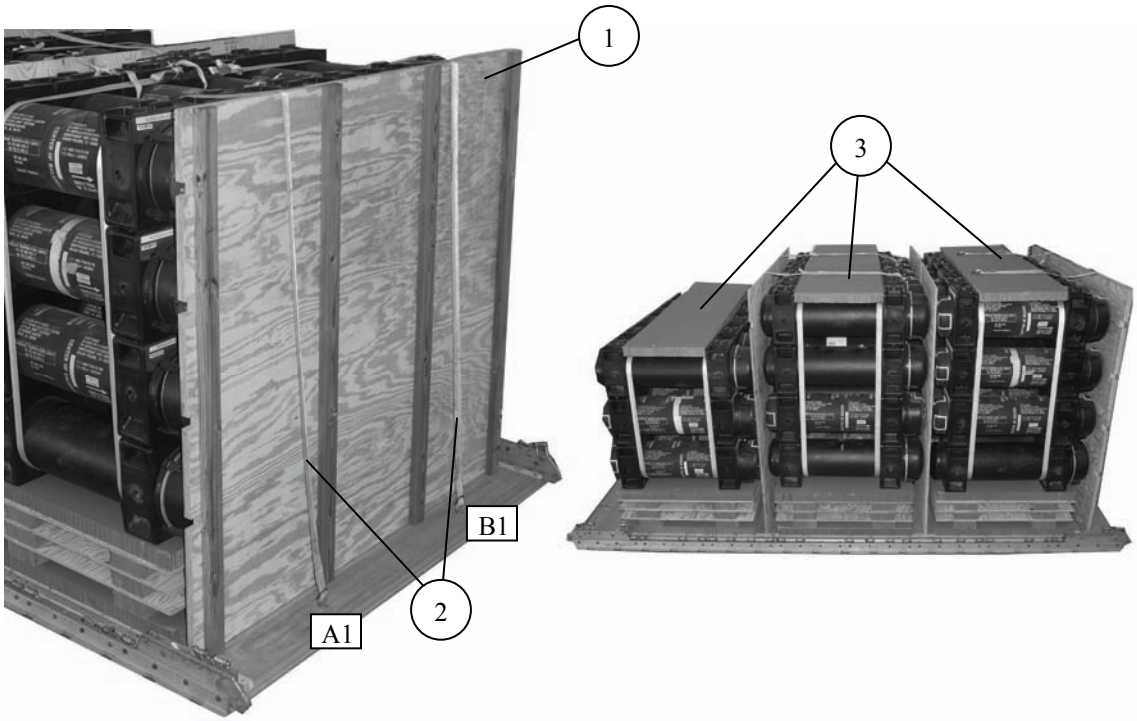
Step:

1. Cut two 3/4- by 96- by 37-inch pieces of plywood.
2. Cut two 3/4- by 96- by 32-inch pieces of plywood.
3. Cut 2- by 2-inch cutouts on each of the four pieces of plywood as shown above.
4. Cut four 2- by 4- by 69-inch pieces of lumber.
5. Nail two pieces of plywood flush together using four 2- by 4- by 69-inch pieces of lumber with 8d nails as shown above to make an endboard. Repeat this step to make two endboards.

Figure 5-27. Rear Endboard Constructed

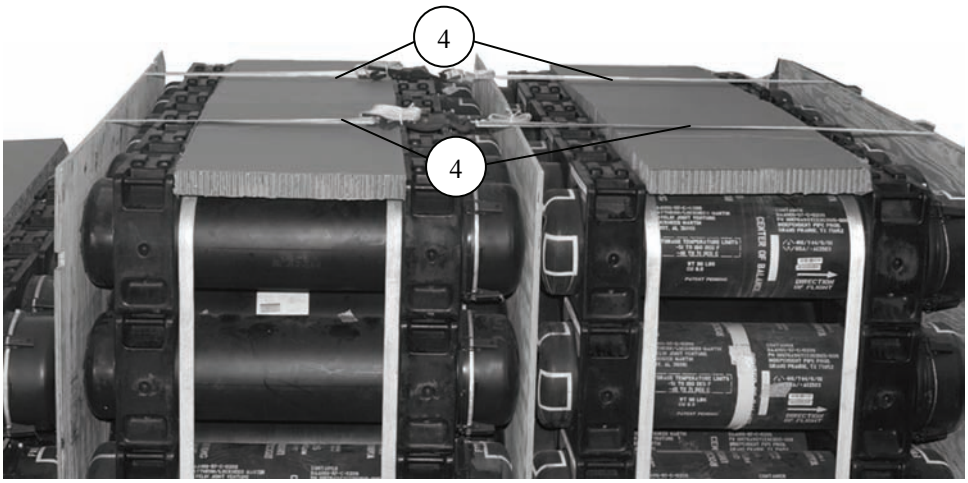
POSITIONING AND SECURING FRONT ENDBOARD AND POSITIONING REAR ENDBOARD

5-33. Position and secure the front endboard and position the rear endboard as shown in Figure 5-28.



1. Position the front endboard on the front of stack 1.
2. Route a 15-foot lashing through platform tie-down rings A1 and B1 and through their own D-rings. Route the lashings up and over the endboards to be secured later.
3. Cut three 27- by 92-inch pieces of honeycomb. Position one piece on top of each stack between the handles.

Figure 5-28. Front Endboard Positioned and Secured and Rear Endboard Positioned



4. Secure the pre-routed lashing of clevis A1 to A6 and clevis B1 to B6 on the top of the front of stack two with two D-rings and load binder.

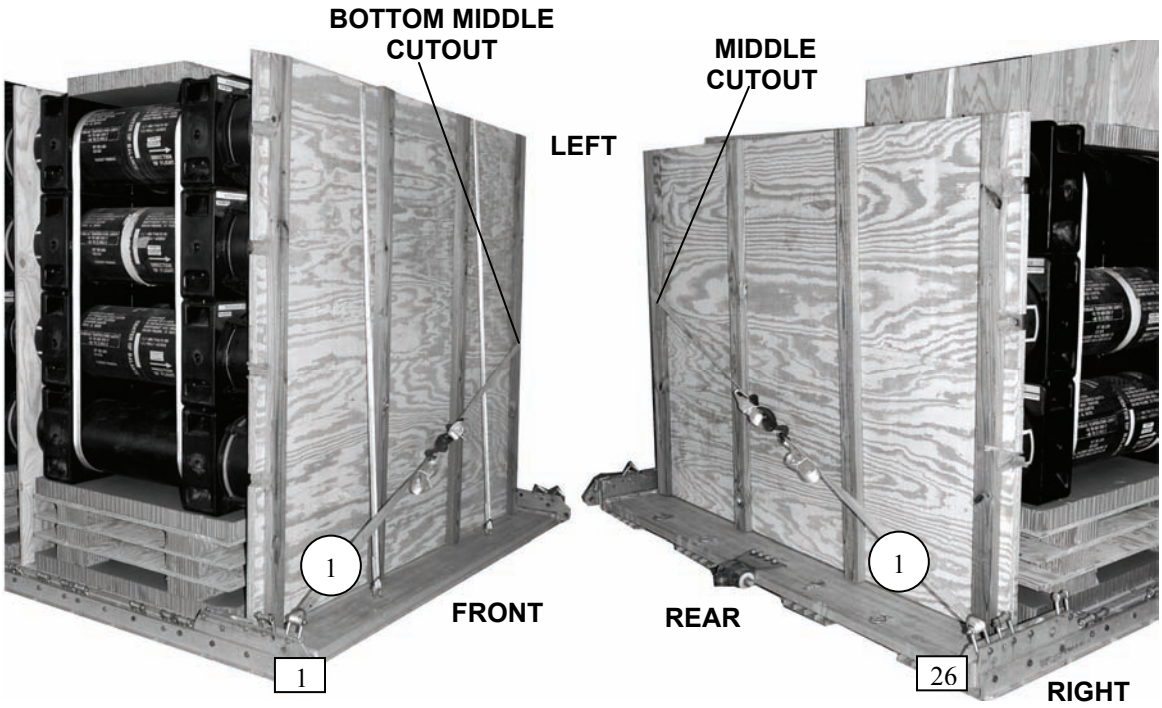
5. Position the rear endboard to the rear of stack 3 with the 2- by 4-inch piece of lumber side to the outside rear of the load.

Figure 5-28. Front Endboard Positioned and Secured and Rear Endboard Positioned (Continued)

LASHING LOAD TO PLATFORM

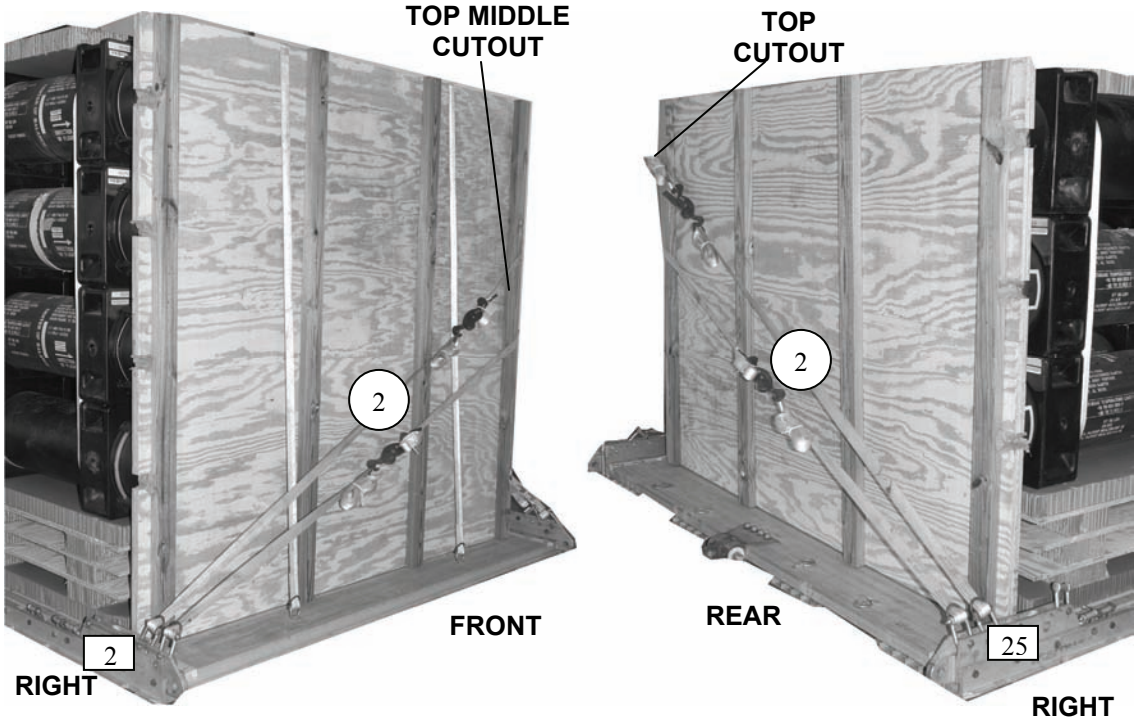
5-34. Lash the load to the platform as shown in Figure 5-29.

Note. Pad all cutouts with cellulose wadding where the lashings make contact.



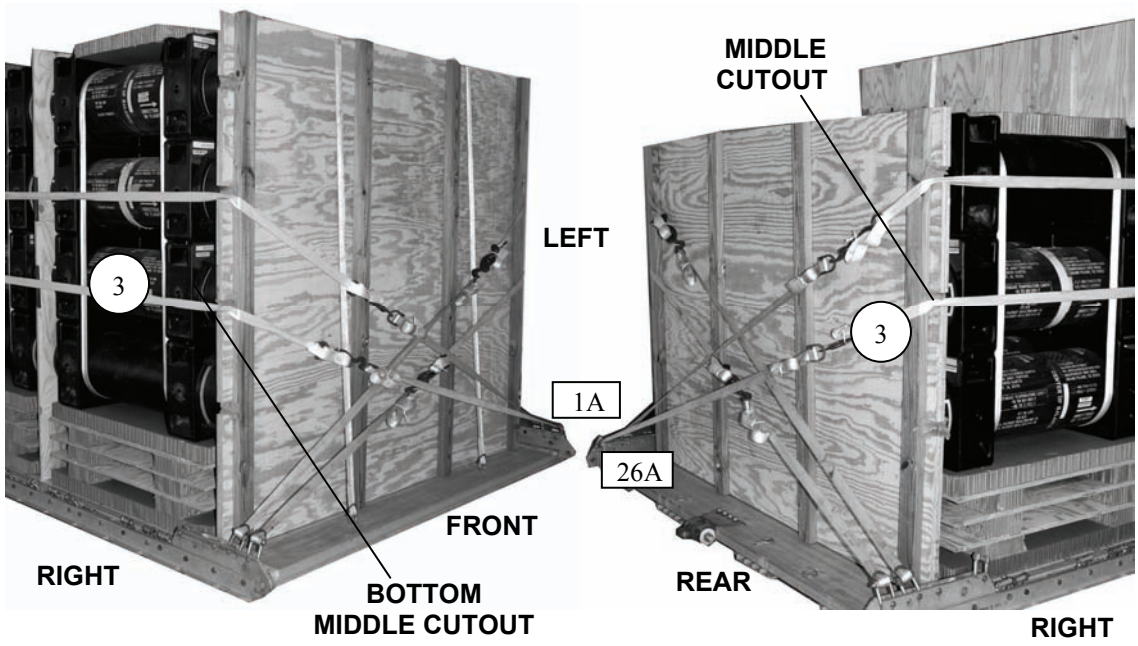
Lashing Number	*Tiedown Clevis Number*	*Instructions*
1	1 and 26	Route a 15-foot lashing through clevis 1 and through its own D-ring. Route a 15-foot lashing through clevis 26 and through its own D-ring. Form a 30-foot lashing on the left side of the platform. Run the free end to the bottom middle cutout of the front endboard and the other free end to the left middle cutout of the rear endboard. Secure the free ends to the lashings from 1 and 26. Position the load binder in the center of the endboards temporarily until lashing 19 when the load binder will be repositioned.

Figure 5-29. Load Lashed to Platform



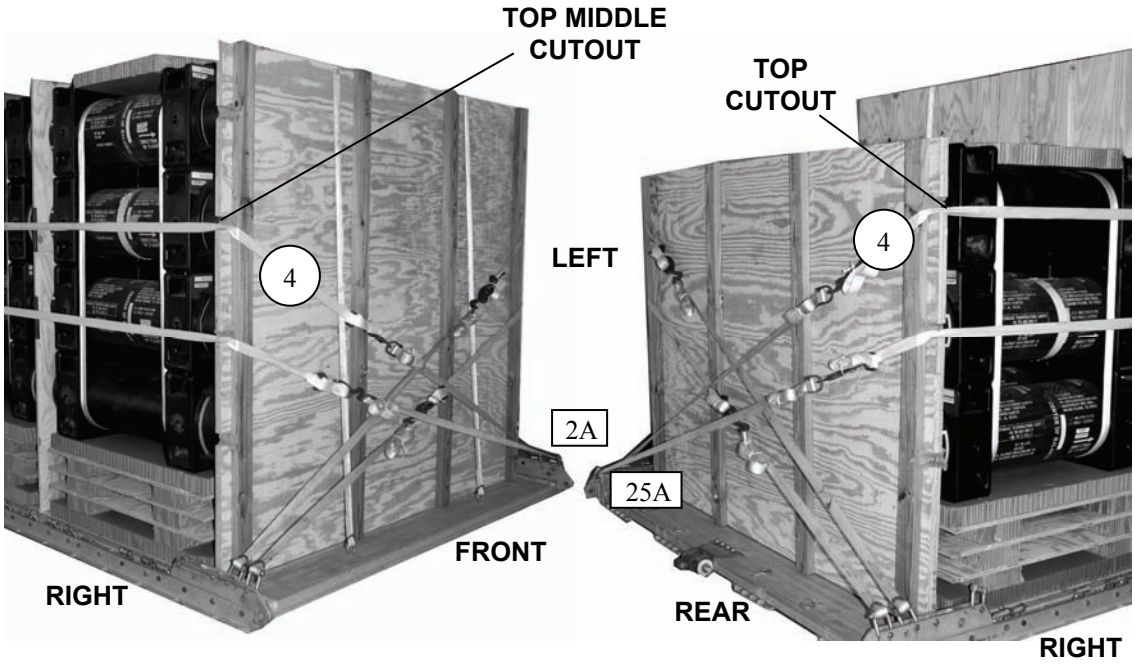
Lashing Number	*Tiedown Clevis Number*	*Instructions*
2	2 and 25	Route a 15-foot lashing through clevis 2 and through its own D-ring. Route a 15-foot lashing through clevis 25 and through its own D-ring. Form a 30-foot lashing on the left side of the platform. Run the free end to the top middle cutout of the front endboard and the other free end to the left top cutout of the rear endboard. Secure the free ends to the lashings from 2 and 25. Position the load binders to the upper left side of the endboards.

Figure 5-27. Load Lashed to Platform (Continued)



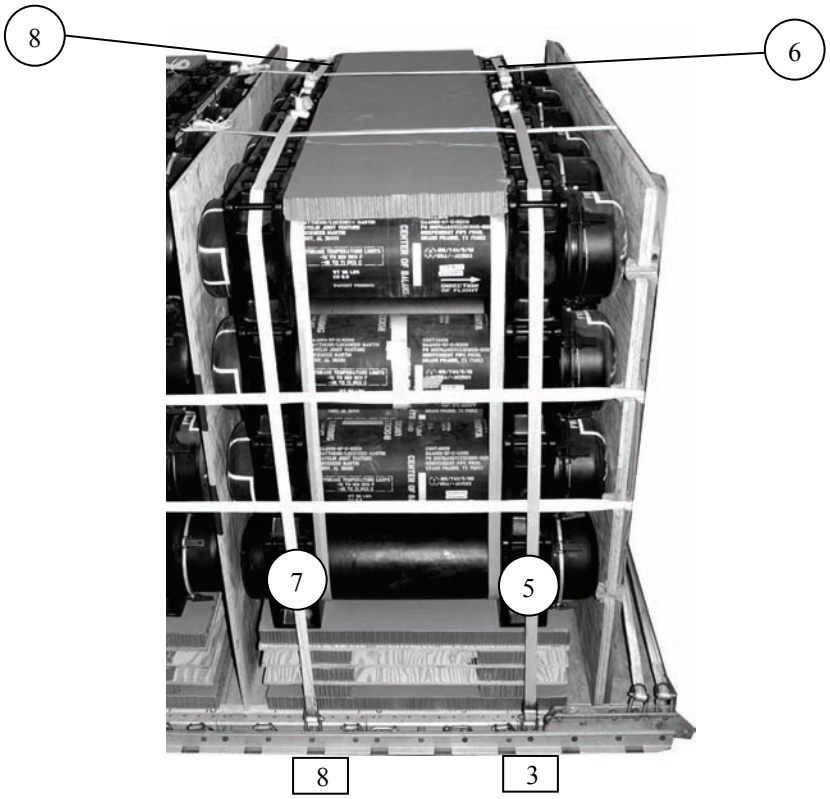
Lashing Number	*Tiedown Clevis Number*	*Instructions*
3	1A and 26A	Route a 15-foot lashing through clevis 1A and through its own D-ring. Route a 15-foot lashing through clevis 26A and through its own D-ring. Form a 30-foot lashing on the right side of the platform. Run the free end to the bottom middle cutout of the front endboard and the other free end to the right middle cutout of the rear endboard. Secure the free ends to the lashings from 1A and 26A. Position the load binders to the right side of the endboards.

Figure 5-29. Load Lashed to Platform (Continued)



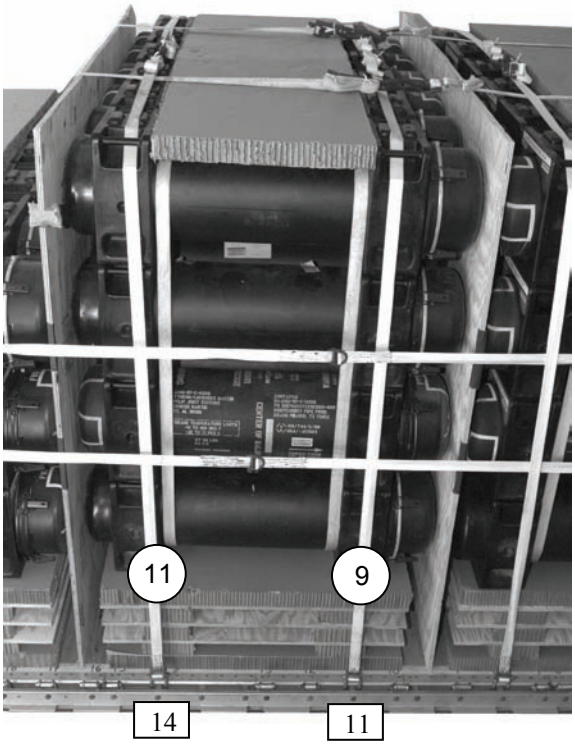
Lashing Number	*Tiedown Clevis Number*	*Instructions*
4	2A and 25A	Route a 15-foot lashing through clevis 2A and through its own D-ring. Route a 15-foot lashing through clevis 25A and through its own D-ring. Form a 30-foot lashing on the right side of the platform. Run the free end to the top middle cutout of the front endboard and the other free end to the right top cutout of the rear endboard. Secure the free ends to the lashings from 2A and 25A. Position the load binders to the right side of the endboards.

Figure 5-29. Load Lashed to Platform (Continued)



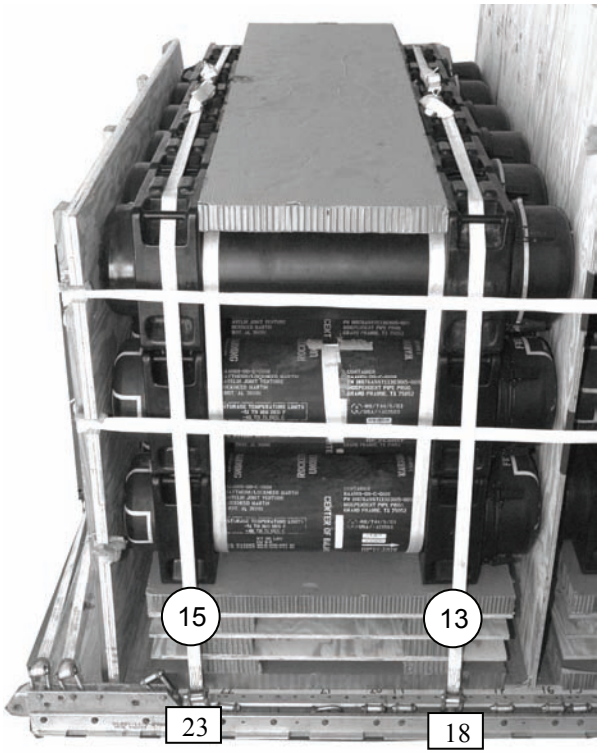
Lashing Number	*Tiedown Clevis Number*	*Instructions*
5	3	Route a 15-foot lashing through clevis 3 and through its own D-ring. Route the lashing upward through the top right front outside carrying handles of stack 1.
6	3A	Route a 15-foot lashing through clevis 3A and through its own D-ring. Route the lashing upward through the top left front outside carrying handles of stack 1. Secure the lashing to lashing 5 on the top front center of stack 1 with two D-rings and a load binder.
7	8	Route a 15-foot lashing through clevis 8 and through its own D-ring. Route the lashing upward through the top right rear outside carrying handles of stack 1.
8	8A	Route a 15-foot lashing through clevis 8A and through its own D-ring. Route the lashing upward through the top left rear outside carrying handles of stack 1. Secure the lashing to lashing 7 on the top rear center of stack 1 with two D-rings and a load binder.

Figure 5-29. Load Lashed to Platform (Continued)



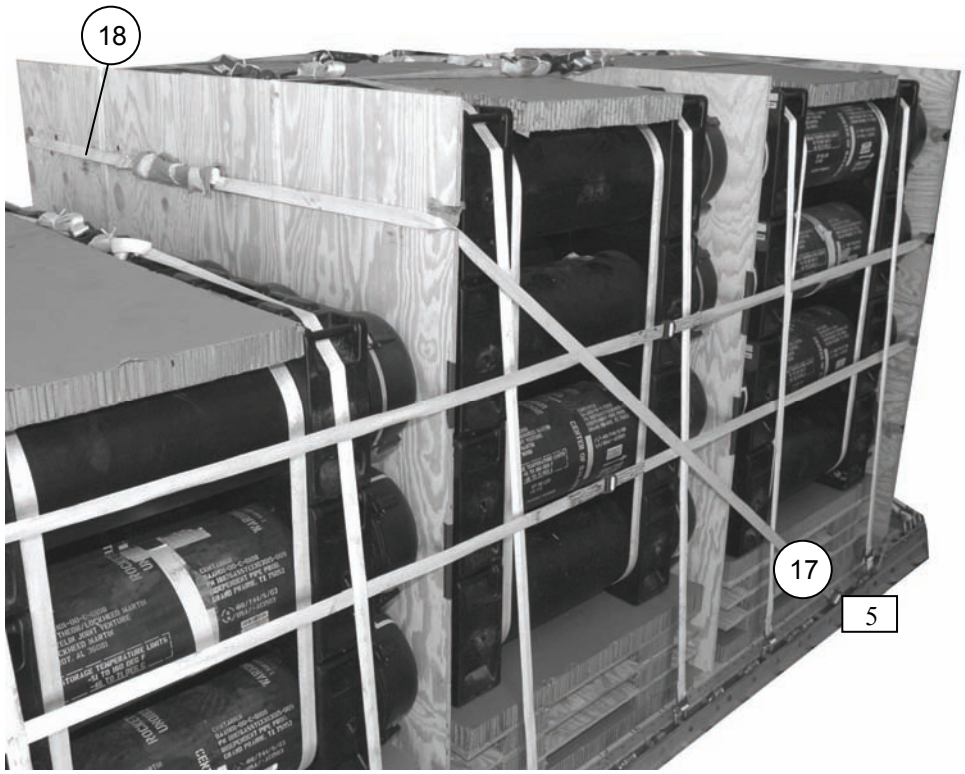
Lashing Number	*Tiedown Clevis Number*	*Instructions*
9	11	Route a 15-foot lashing through clevis 11 and through its own D-ring. Route the lashing upward through the top right front outside carrying handles of stack 2.
10	11A	Route a 15-foot lashing through clevis 11A and through its own D-ring. Route the lashing upward through the top left front outside carrying handles of stack 2. Secure the lashing to lashing 9 on the top front center of stack 2 with two D-rings and a load binder.
11	14	Route a 15-foot lashing through clevis 14 and through its own D-ring. Route the lashing upward through the top right rear outside carrying handles of stack 2.
12	14A	Route a 15-foot lashing through clevis 14A and through its own D-ring. Route the lashing upward through the top left rear outside carrying handles of stack 2. Secure the lashing to lashing 11 on the top rear center of stack 2 with two D-rings and a load binder.

Figure 5-29. Load Lashed to Platform (Continued)



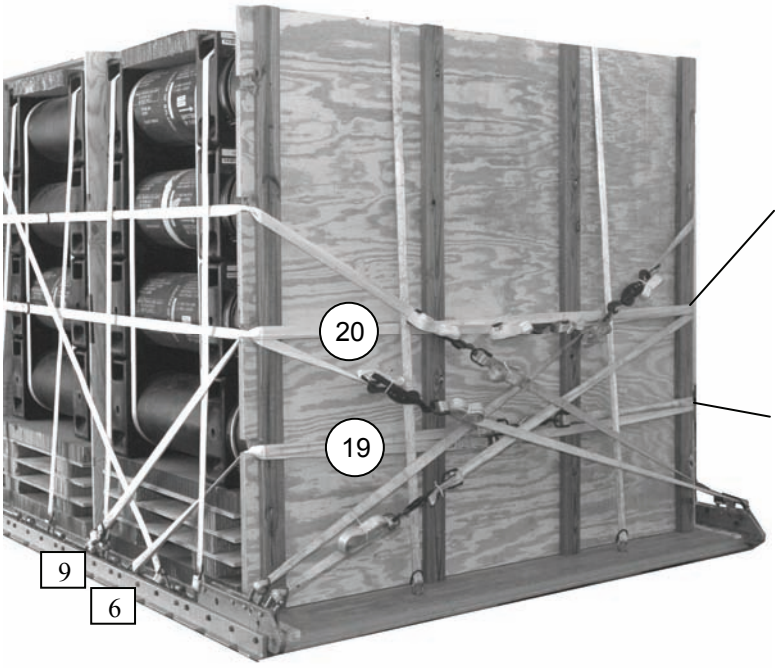
Lashing Number	*Tiedown Clevis Number*	*Instructions*
13	18	Route a 15-foot lashing through clevis 18 and through its own D-ring. Route the lashing upward through the top right front outside carrying handles of stack 3.
14	18A	Route a 15-foot lashing through clevis 18A and through its own D-ring. Route the lashing upward through the top left front outside carrying handles of stack32. Secure the lashing to lashing 13 on the top front center of stack 3 with two D-rings and a load binder.
15	23	Route a 15-foot lashing through clevis 23 and through its own D-ring. Route the lashing upward through the top right rear outside carrying handles of stack 3.
16	23A	Route a 15-foot lashing through clevis 23A and through its own D-ring. Route the lashing upward through the top left rear outside carrying handles of stack 2. Secure the lashing to lashing 15 on the top rear center of stack 3 with two D-rings and a load binder.

Figure 5-29. Load Lashed to Platform (Continued)



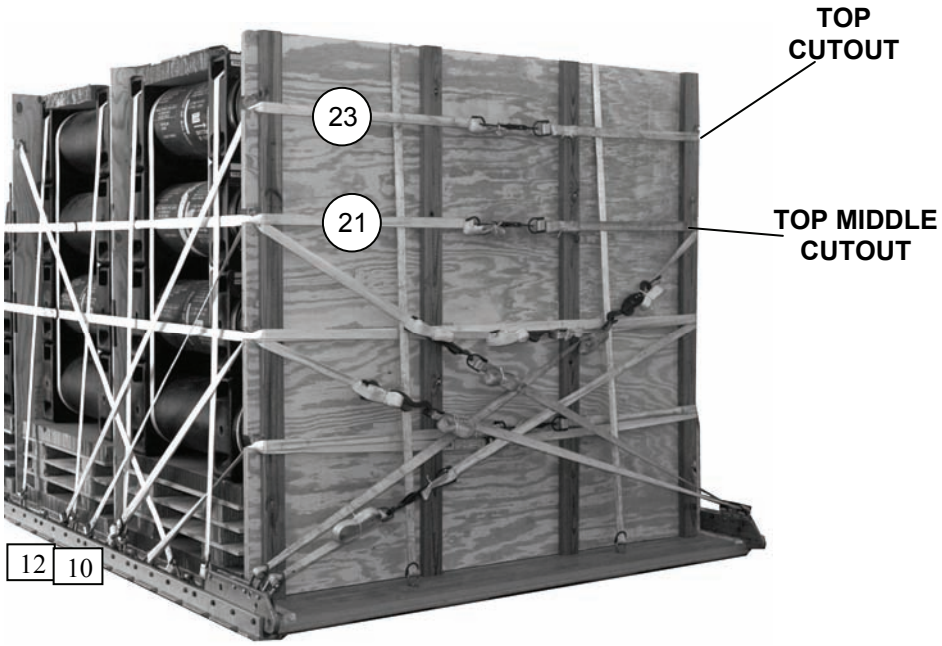
Lashing Number	*Tiedown Clevis Number*	*Instructions*
17	5	Route a 15-foot lashing through clevis 5 and through its own D-ring. Route the lashing through the cutout on the right side of the endboard to the rear of stack 2.
18	5A	Route a 15-foot lashing through clevis 5A and through its own D-ring. Route the lashing through the cutout on the left side of the endboard to the rear of stack 2. Secure the lashing to lashing 17 in the center of the endboard behind stack 2 with two D-rings and a load binder. Pad the load binder with cellulose wadding and tape.

Figure 5-29. Load Lashed to Platform (Continued)



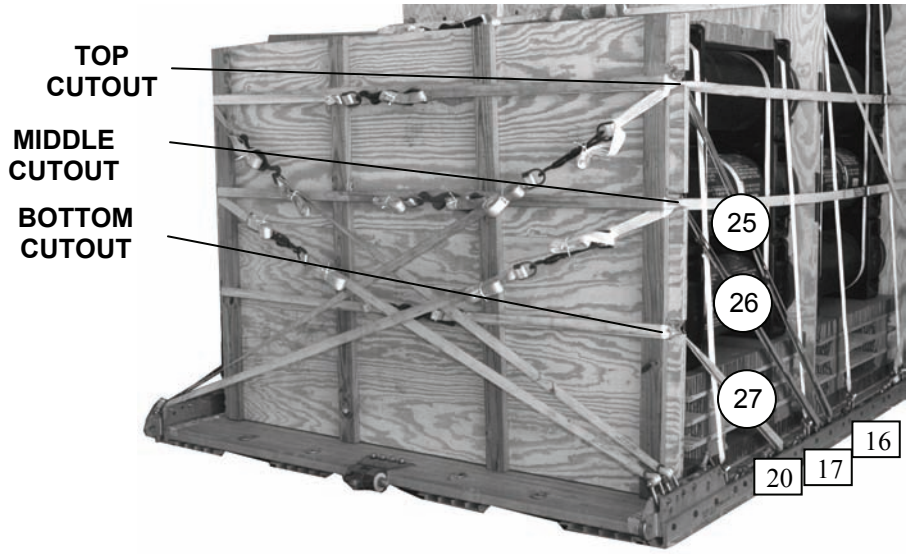
Lashing Number	*Tiedown Clevis Number*	*Instructions*
19	6 and 6A	Form a 30-foot lashing. Route a free end through clevis 6, through the right bottom cutout of the front endboard, across the front of the endboard, through the left bottom cutout of the front endboard, through clevis 6A, back to the left bottom cutout of the front endboard. Secure the free ends of the lashing with two D-rings and a load binder in the center of the front endboard. **Reposition load binders on lashing 1 from the front side of the load to the lower right side and from the rear side of the load to the upper left side.**
20	9 and 9A	Form a 45-foot lashing. Route a free end through clevis 9, through the bottom middle cutout of the front endboard, across the front of the endboard, through the left bottom middle cutout of the front endboard, through clevis 9A, back through the bottom middle cutout of the front end board. Secure the free ends of the lashing with two D-rings and a load binder to the center of the front endboard.

Figure 5-29. Load Lashed to Platform (Continued)



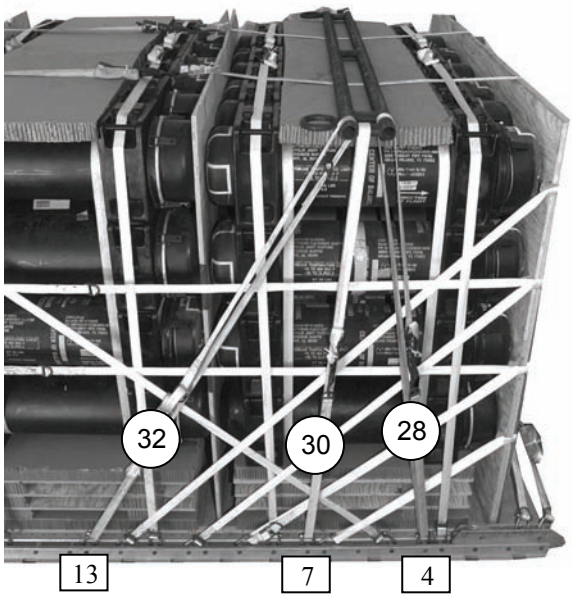
Lashing Number	*Tiedown Clevis Number*	*Instructions*
21	10	Route a 15-foot lashing through clevis 10 and through its own D-ring. Route the lashing upward through the right top middle cutout of the front endboard.
22	10A	Route a 15-foot lashing through clevis 10A and through its own D-ring. Route the lashing to the left top middle cutout of the front endboard. Secure the lashing to lashing 21 in the center of the front endboard with two D-rings and a load binder.
23	12	Route a 15-foot lashing through clevis 12 and through its own D-ring. Route the lashing upward through the right top cutout of the front endboard.
24	12A	Route a 15-foot lashing through clevis 12A and through its own D-ring. Route the lashing to the left top cutout of the front endboard. Secure the lashing to lashing 23 in the center of the front endboard with two D-rings and a load binder.

Figure 5-29. Load Lashed to Platform (Continued)



Lashing Number	*Tiedown Clevis Number*	*Instructions*
25	16 and 16A	Form a 45-foot lashing. Route a free end through clevis 16, through the right top cutout of the rear endboard, across the rear of the endboard, through the left top cutout of the rear endboard , through clevis 16A, back to the left top cutout of the rear endboard. Secure the free ends of the lashing with two D-rings and a load binder in the center of the rear endboard.
26	17 and 17A	Form a 45-foot lashing. Route a free end through clevis 17, through the right middle cutout of the rear endboard, across the rear of the endboard, through the left middle cutout of the rear endboard, through clevis 17A, back to the left middle cutout of the rear endboard. Secure the free ends of the lashing with two D-rings and a load binder in the center of the rear endboard.
27	20 and 20A	Form a 45-foot lashing. Route a free end through clevis 20, through the right bottom cutout of the rear endboard, across the rear of the endboard, through the left bottom cutout of the rear endboard, through clevis 20A, back to the left bottom cutout of the rear endboard. Secure the free ends of the lashing with two D-rings and a load binder in the center of the rear endboard.

Figure 5-29. Load Lashed to Platform (Continued)

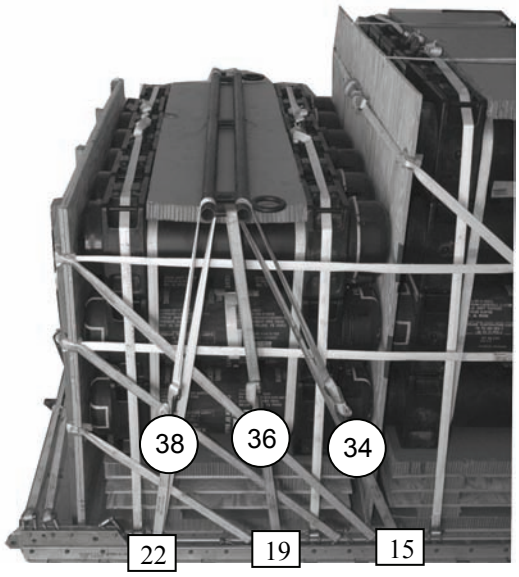


Step:

1. Position the ACB on top of the honeycomb on stack 1 with the rings of the ACB facing toward the rear of the load.

Lashing Number	*Tiedown Clevis Number*	*Instructions*
28	4	Route a 15-foot lashing through clevis 4, upward through the front bar of the front ACB, and back to clevis 4. Attach a D-ring and a load binder. DO NOT TIGHTEN at this time.
29	4A	Route a 15-foot lashing through clevis 4A, upward through the front bar of the front ACB, and back to clevis 4A. Attach a D-ring and a load binder. DO NOT TIGHTEN at this time.
30	7	Route a 15-foot lashing through clevis 7, upward through the middle portion of the front ACB, and back to clevis 7. Attach a D-ring and a load binder. DO NOT TIGHTEN at this time.
31	7A	Route a 15-foot lashing through clevis 7A, upward through the middle portion of the front ACB, and back to clevis 7A. Attach a D-ring and a load binder. DO NOT TIGHTEN at this time.
32	13	Form a 30-foot lashing. Route a 30-foot lashing through clevis 13, upward through the rear bar of the front ACB, and back to clevis 13. Attach a D-ring and load binder. DO NOT TIGHTEN at this time.
33	13A	Form a 30-foot lashing. Route a 30-foot lashing through clevis 13A, upward through the rear bar of the front ACB, and back to clevis 13A. Attach a D-ring and load binder. TIGHTEN all lashings at this time.

Figure 5-29. Load Lashed to Platform (Continued)



Step:

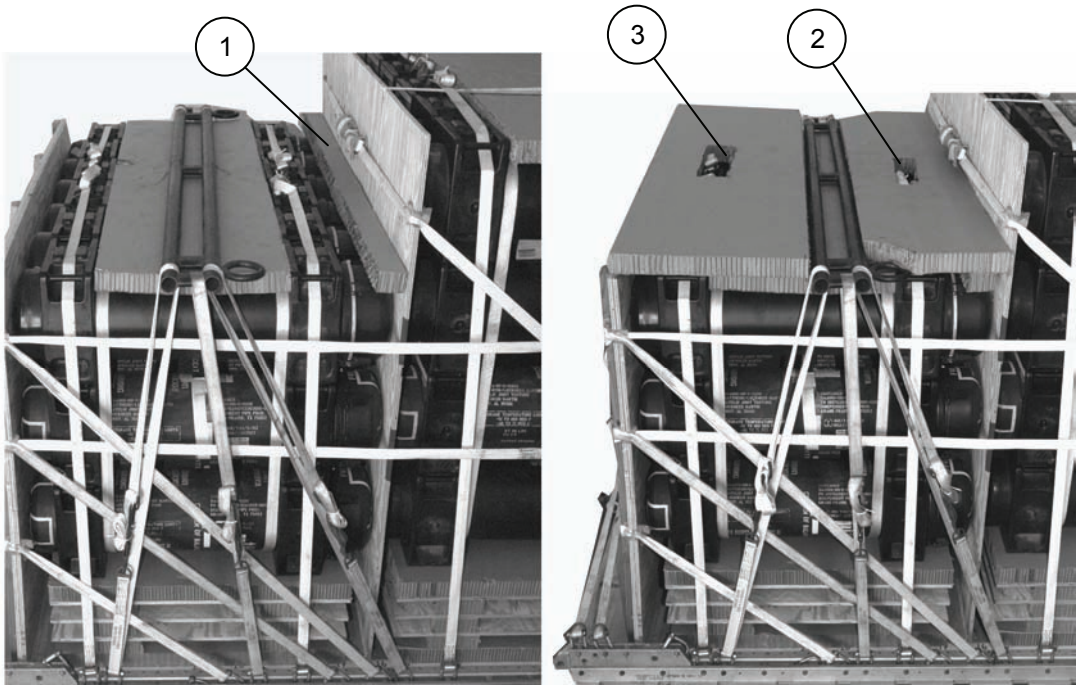
2. Position the ACB centered on top of the honeycomb on stack 3 with the rings of the ACB facing toward the front of the load.

Lashing Number	*Tiedown Clevis Number*	*Instructions*
34	15	Route a 15-foot lashing through clevis 15, upward through the front bar of the rear ACB, and back to clevis 15. Attach a D-ring and a load binder. DO NOT TIGHTEN at this time.
35	15A	Route a 15-foot lashing through clevis 15A, upward through the front bar of the rear ACB, and back to clevis 15A. Attach a D-ring and a load binder. DO NOT TIGHTEN at this time.
36	19	Route a 15-foot lashing through clevis 19, upward through the middle portion of the rear ACB, and back to clevis 19. Attach a D-ring and a load binder. DO NOT TIGHTEN at this time.
37	19A	Route a 15-foot lashing through clevis 19A, upward through the middle portion of the rear ACB, and back to clevis 19A. Attach a D-ring and a load binder. DO NOT TIGHTEN at this time.
38	22	Route a 15-foot lashing through clevis 22, upward through the rear bar of the rear ACB, and back to clevis 22. Attach a D-ring and load binder. DO NOT TIGHTEN at this time.
39	22A	Route a 15-foot lashing through clevis 22A, upward through the rear bar of the rear ACB, and back to clevis 22A. Attach a D-ring and load binder. TIGHTEN all lashings at this time.

Figure 5-29. Load Lashed to Platform (Continued)

BUILDING AND LASHING PARACHUTE PLATFORM TO LOAD

5-35. Build and lash the parachute platform to the load as shown in Figure 5-30.

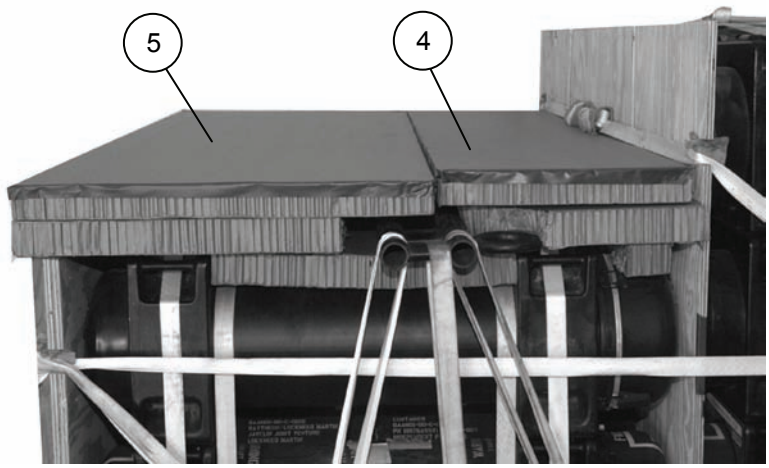


1. Cut a 4- by 96-inch piece of honeycomb. Position it flush against the rear of the endboard behind stack 2.

2. Cut a 20- by 96-inch piece of honeycomb. Position the piece flush against the rear endboard of stack 2. Cut away the outside edges of the honeycomb to expose the rings of the ACB. Make a cutout for the lashing underneath the honeycomb.

3. Cut a 28- by 96-inch piece of honeycomb. Position the piece flush with the rear of the ACB. Make a cutout for the lashing underneath the honeycomb.

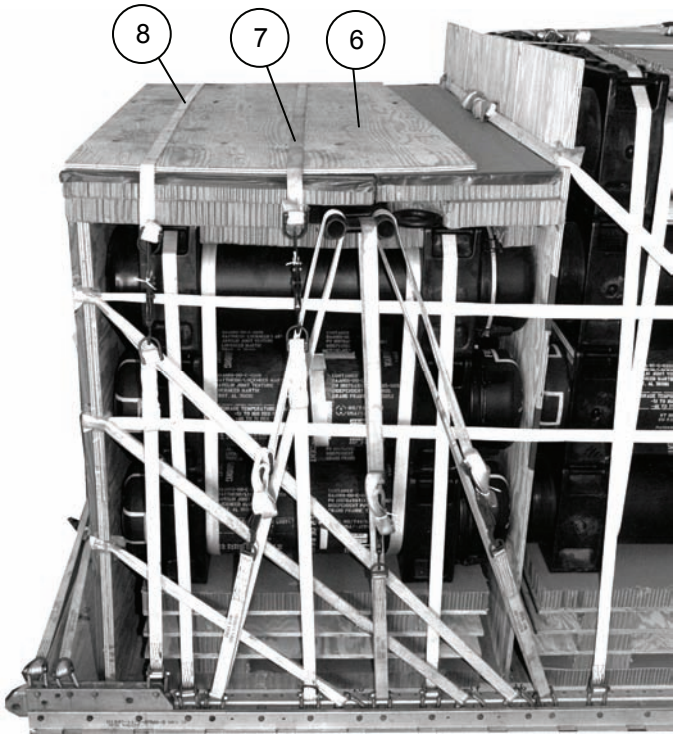
Figure 5-30. Parachute Platform Built and Lashed to Load



4. Cut a 22- by 96-inch piece of honeycomb. Tape the outside edge with 2-inch adhesive tape. Position it flush against the rear endboard of stack 2.

5. Place a 36- by 96-inch piece of honeycomb flush against the 22- by 96-inch piece of honeycomb after taping the outside edge with 2-inch adhesive tape.

Figure 5-30. Parachute Platform Built and Lashed to Load (Continued)



6. Position a 3/4- by 48- by 96-inch piece of plywood on top of the honeycomb installed. Make sure that the rear edge of the plywood is flush with the rear edge of the rear endboard.

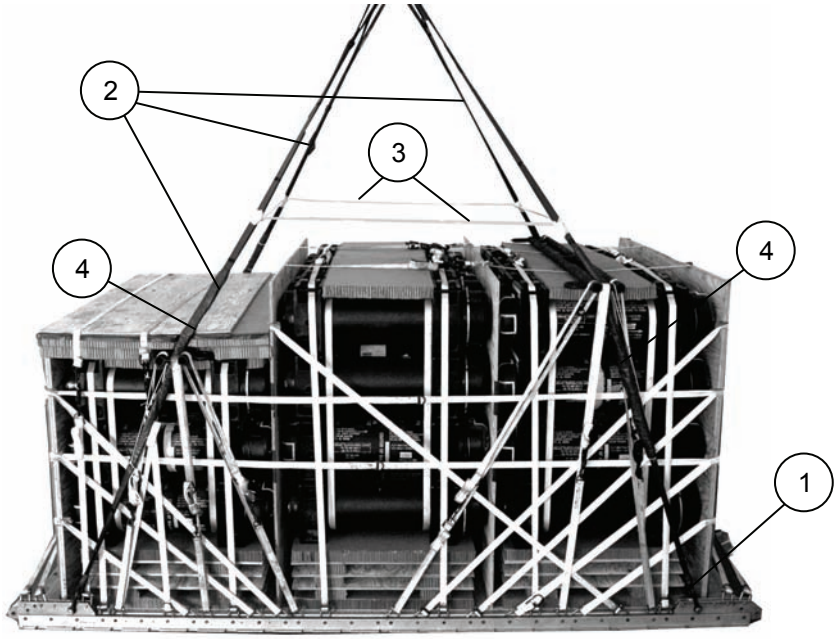
7. Route a 15-foot lashing through clevis 21A and through its own D-ring. Continue to route the lashing over the top of the 48- by 96-inch piece of plywood to the right side of the platform. Route a 15-foot lashing through clevis 21 and through its own D-ring. Attach the lashing from clevis 21 and 21A together on the right side of the load with two D-rings and a load binder.

8. Route a 15-foot lashing through clevis 24A and through its own D-ring. Continue to route the lashing over the top of the 48- by 96-inch piece of plywood to the right side of the platform. Route a 15-foot lashing through clevis 24 and through its own D-ring. Attach the lashing from clevis 24 and 24A together on the right side of the load with two D-rings and a load binder.

Figure 5-30. Parachute Platform Built and Lashed to Load (Continued)

INSTALLING SUSPENSION SLINGS AND DEADMAN'S TIE

5-36. Install the suspension slings and deadman's tie as shown in Figure 5-31.



1. Pass one end of a 16-foot (2-loop), type XXVI nylon suspension sling through the bell portion of a large suspension clevis. Bolt the clevis to the suspension hole of the right front tandem link.

2. Install on the left front tandem link and the right rear and left rear tandem links a 16-foot (2-loop), type XXVI nylon suspension sling as in step 1.

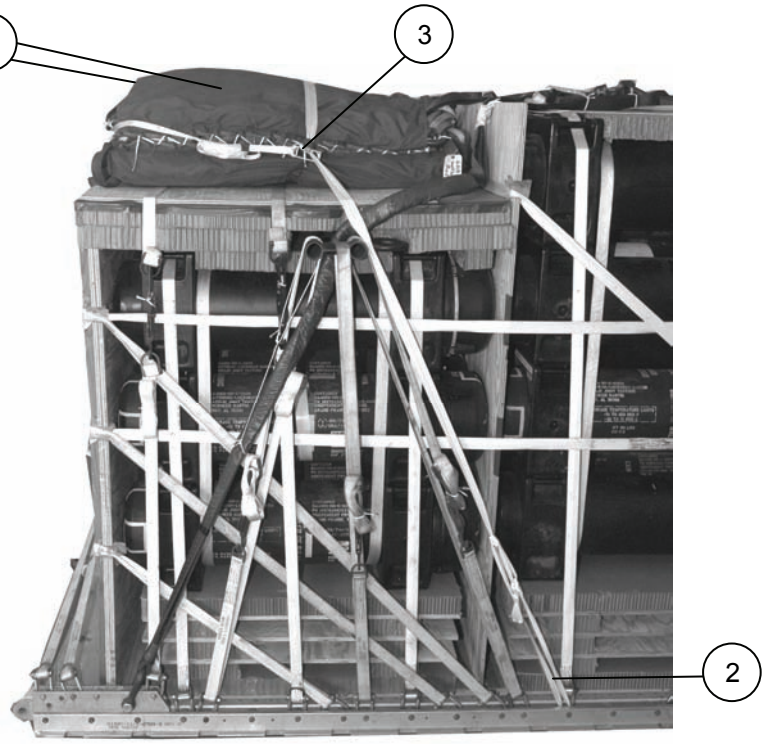
3. Raise the slings and install the deadman's tie according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

4. Use four pieces of felt padding (approximately 18 by 6-inches) to pad the slings. Secure the felt to the sling with type III nylon cord and cloth back adhesive tape.

Figure 5-31. Suspension Slings and Deadman's Tie Installed

PREPARING AND STOWING CARGO PARACHUTES

5-37. Prepare and stow the cargo parachutes as shown in Figure 5-32.



1. Prepare, position, and stow two G-11 cargo parachutes on top of the parachute platform according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

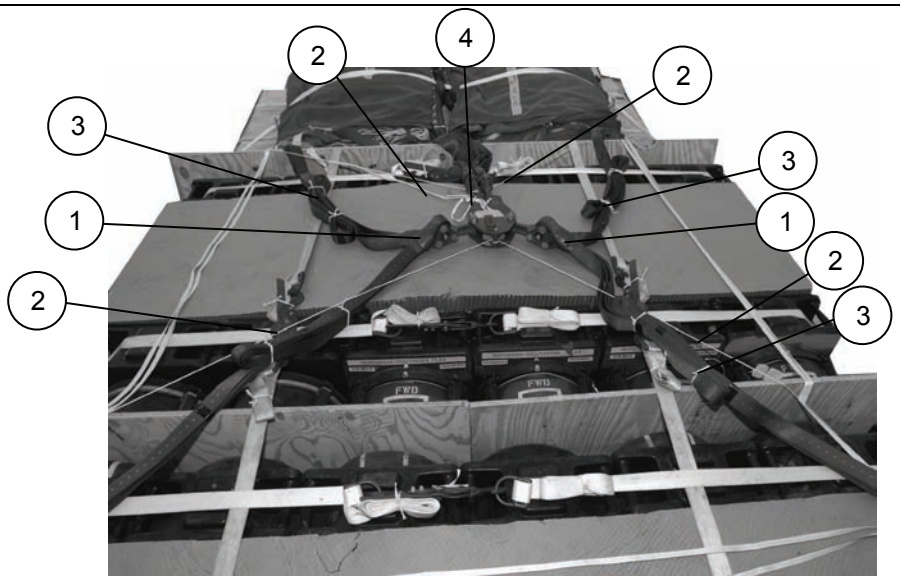
2. Install the restraint using type VIII nylon webbing on bushings 23 and 23A according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

3. Install the guillotine knife multi-cut parachute release straps according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

Figure 5-32. Cargo Parachutes Prepared and Stowed

INSTALLING THE RELEASE SYSTEM

5-38. Prepare, attach, and safety an M-1 cargo parachute release according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 5-33.

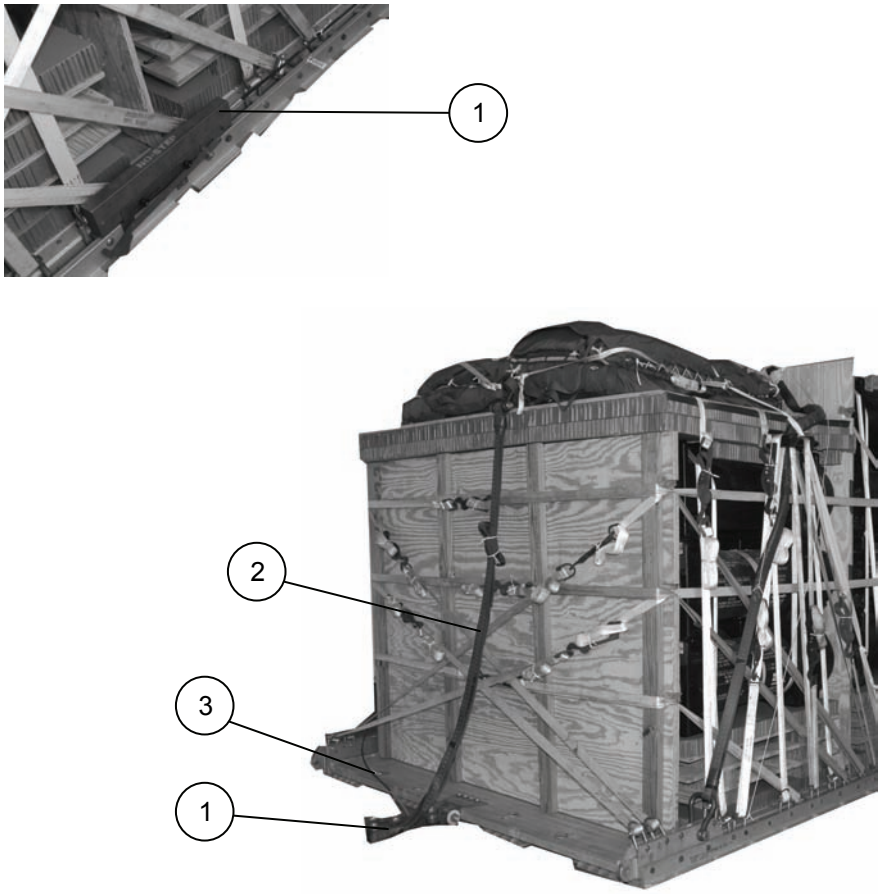


1. Prepare and install the M-1 cargo parachute release on top of the honeycomb on stack 2. Attach the suspension slings and riser extensions according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
2. Safety the top and bottom of the release to convenient places on the load with type III nylon cord according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.
3. S-fold and tie any excess suspension slings with one turn of type I, 1/4-inch cotton webbing.
4. Tie the arming wire lanyard to the parachute carrying handles and fold and tape the excess.

Figure 5-33. Cargo Parachute Release Installed

INSTALLING THE EXTRACTION SYSTEM

5-39. Install the extraction system as shown in Figure 5-34.



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 brackets.
2. Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line.
3. Use a 16-foot EFTC cable and safety the cable in several convenient places on the platform with one turn of type I, 1/4-inch cotton webbing.

Figure 5-34. Extraction System Installed

PLACING EXTRACTION PARACHUTE

5-40. 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

5-41. 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

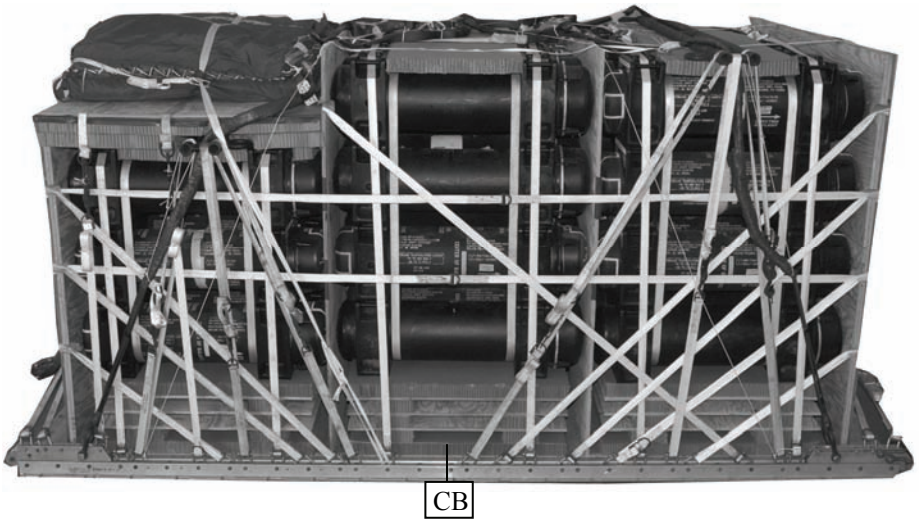
5-42. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 5-35. Complete Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

5-43. Use the equipment listed in Table 5-2 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 ..... 10,380 pounds

Height ..... 94 inches

Width ..... 108 inches

Overall Length ..... 192 inches

Overhang: Front ..... 0 inches

Rear ..... 0 inches

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

Extraction System with 16-foot cable (adds 18 inches to length of platform) ..... EFTC

Figure 5-35. Javelin Missile Containers (Plastic) Rigged on a 16-Foot, Type V Platform for Low-Velocity Airdrop

Table 5-2. Equipment Required for Rigging Javelin Missile Containers on a 16-Foot, Type V Platform for Low-Velocity Airdrop

National Stock Number	*Item*	*Quantity*
8040-00-273-8713	Adhesive, paste, 1-gallon	As required
1670-00-003-4389	Bar, attitude control	2
	Clevis, suspension:	
4030-00-678-8562	3/4-inch (medium) emergency restraint	4
4030-00-090-5354	1-inch (large)	6
4020-00-240-2146	Cord, nylon, type III	As required
1670-00-434-5785	Coupling, airdrop, extraction force transfer with 16-foot cable	1
1670-00-360-0328	Cover, clevis, large	2
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
1670-01-183-2678	Leaf, extraction line	2
	Line, extraction, type XXVI nylon webbing:	
1670-01-062-6313	60-foot (3-loop)	1
	Or	
1670-01-107-7651	140-foot (3-loop)	2
1670-01-064-4452	60-foot (1-loop), type XXVI for C-17 drogue line	1
	Link assembly, two-point:	
5306-00-435-8994	Bolt, 1-inch diameter, 4-inch long	1
5310-00-232-5165	Nut, 1-inch, hexagonal	1
1670-00-003-3454	Plate, side 3 3/4-inch	1
5365-00-007-3414	Spacer, large	1
1670-00-753-3928	Pad, energy-dissipating, honeycomb	10 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	2
1670-01-063-3716	Cargo, extraction, 22-foot	1
	Platform, airdrop, type V, 16-foot	
1670-01-353-8425	Bracket assembly, EFTC	1
1670-01-162-2372	Bracket assembly, extraction	1
1670-01-162-2376	Clevis assembly	34
1670-01-162-2381	Tandem link	4
5530-00-128-4981	Plywood, 3/4-inch	10 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1

Table 5-2. Equipment Required for Rigging Javelin Missile Containers on a 16-Foot, Type V Platform for Low-Velocity Airdrop (Continued)

National Stock Number	*Item*	*Quantity*
	Sling, cargo airdrop:	
	For deployment line:	
1670-01-063-7761	16-foot (3-loop), type XXVI nylon webbing	1
1670-01-062-6304	For lifting:	
1670-01-063-7760	9-foot (2-loop), type XXVI nylon webbing	2
	11-foot (2-loop), type XXVI nylon webbing	2
1670-01-062-6302	For riser extension:	
	20-foot (2-loop), type XXVI nylon webbing	2
1670-01-063-7761	For suspension:	
1670-00-040-8219	16-foot (2-loop), type XXVI nylon webbing	4
7515-00-266-5016	Strap parachute release, multicut	2
1670-00-937-0271	Tape, adhesive, 2-inch	As required
7501-00-266-6710	Tape, masking	As required
	Tie-down assembly, 15-foot	34
8305-00-268-2411	Webbing:	
	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon:	
8305-00-263-3591	Tubular, 1/2-inch	As required
	Type VIII webbing	As required

Glossary

ACB	Attitude control bar
AD	Airdrop
AFB	Air Force Base
AFMAN	Air Force manual
AFR	Air Force Regulation
AFTO	Air Force technical order
AR	Army Regulation
attn	attention
BCU	battery coolant unit
CB	center of balance
cap	capacity
CDS	Container delivery system
chap	chapter
CVRS	Centerline Vertical Restraint System
d	penny
DA	Department of the Army
DC	District of Columbia
DD	Department of Defense
diam	diameter
EFTC	extraction force transfer coupling
FM	field manual
HQ	headquarters
IAW	in accordance with
in	inch
lb	pound
LVAD	low-velocity airdrop
MCRP	Marine Corps Reference Publication
mm	millimeter
NAVSEA	Naval Sea Systems Command
no	number
NSN	national stock number
sec	second
TM	technical manual
TO	technical order
TRADOC	United States Army Training and Doctrine Command
w	with
yd	yard

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References

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By order of the Secretary of the Army and the Air Force:

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