

Chapter 4

Rigging TOW Missiles in Boxes on Type V Platform for Low-velocity Airdrop

SECTION I- RIGGING MISSILES IN A-22 CARGO BAGS ON A TYPE V PLATFORM FOR LOW-VELOCITY AIRDROP

DESCRIPTION OF LOAD

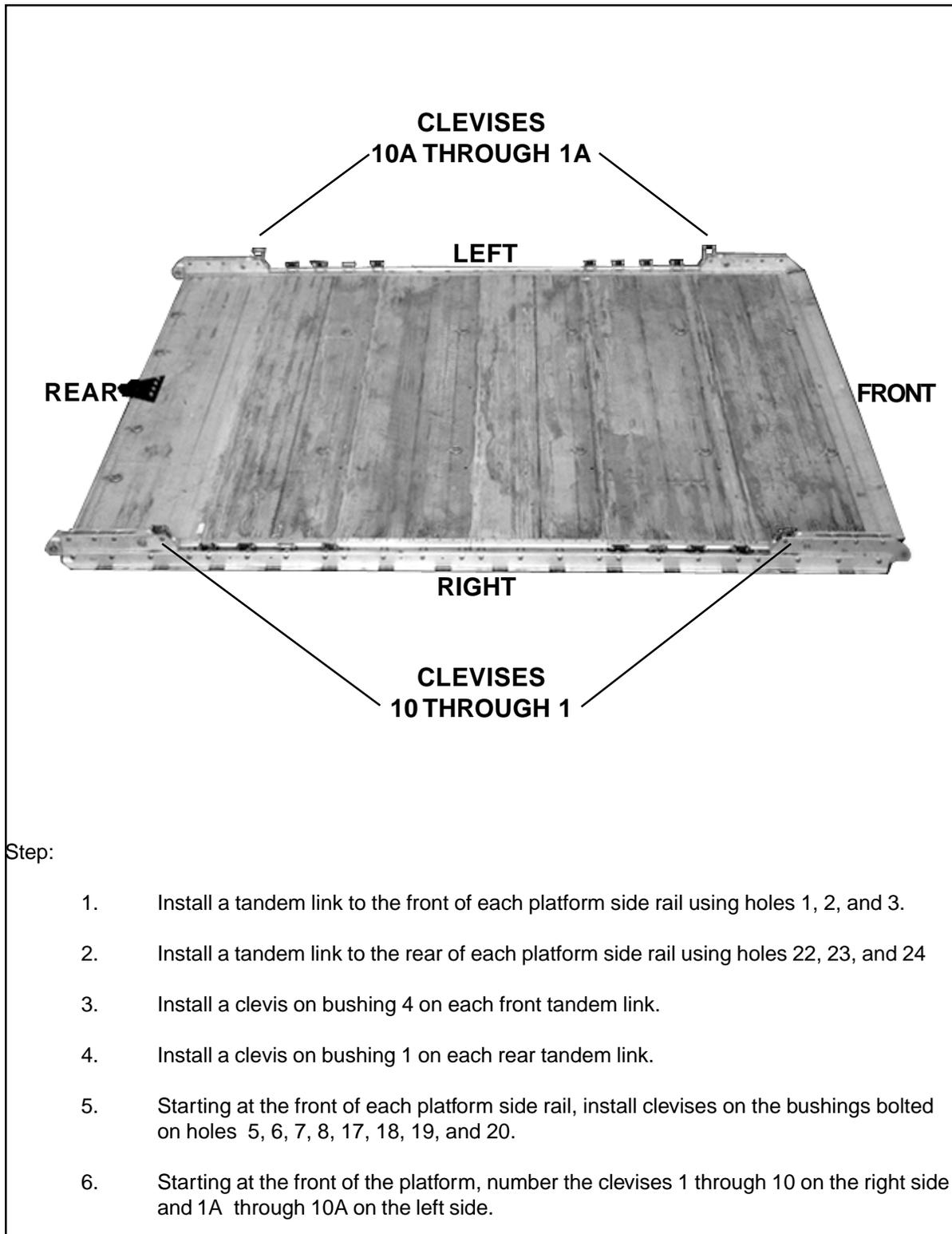
4-1. Forty-eight boxed missiles are rigged twelve each in four A-22 cargo bags on a 12-foot, type V airdrop platform. Each boxed missile weighs 87 pounds and is 57 1/2 inches long, 12 inches high, and 12 inches wide. This load requires two G-11 cargo parachutes.

PREPARING PLATFORM

- 4-2. Prepare a 12-foot, type V airdrop platform as described below.
- Inspecting Platform. Inspect, or, assemble and inspect, the platform according to TM 10-1670-268-20&P/TO 13C7-52-22.
 - Installing Tandem Links. Install tandem links as shown in Figure 4-1.
 - Attaching and Numbering Clevises. Attach and number 20 clevis assemblies as shown in Figure 4-1.

NOTES:

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



Step:

1. Install a tandem link to the front of each platform side rail using holes 1, 2, and 3.
2. Install a tandem link to the rear of each platform side rail using holes 22, 23, and 24
3. Install a clevis on bushing 4 on each front tandem link.
4. Install a clevis on bushing 1 on each rear tandem link.
5. Starting at the front of each platform side rail, install clevises on the bushings bolted on holes 5, 6, 7, 8, 17, 18, 19, and 20.
6. 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.

Figure 4-1. Platform Prepared

BUILDING AND PLACING HONEYCOMB STACKS

4-3. Build the honeycomb stacks and place them on the platform as shown in Figure 4-2.

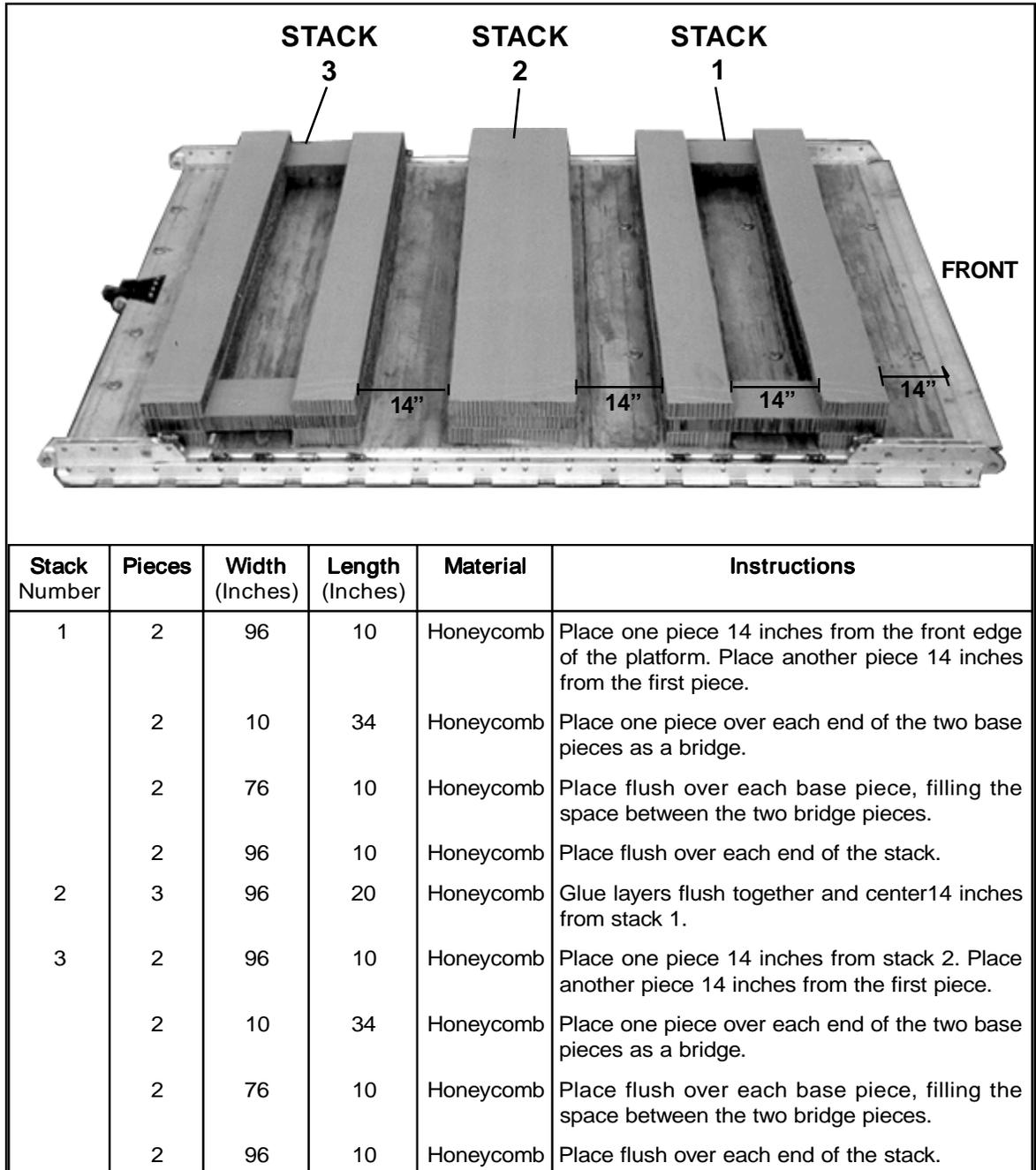


Figure 4-2. Honeycomb Stacks Prepared and Positioned

PLACING MISSILES IN A-22 CARGO BAGS

4-4. Place the missiles in four A-22 cargo bags as shown in Figure 4-3. Close the A-22 cargo bag according to FM 10-500-3/TO 13C7-1-11, and as shown in Figure 4-4.

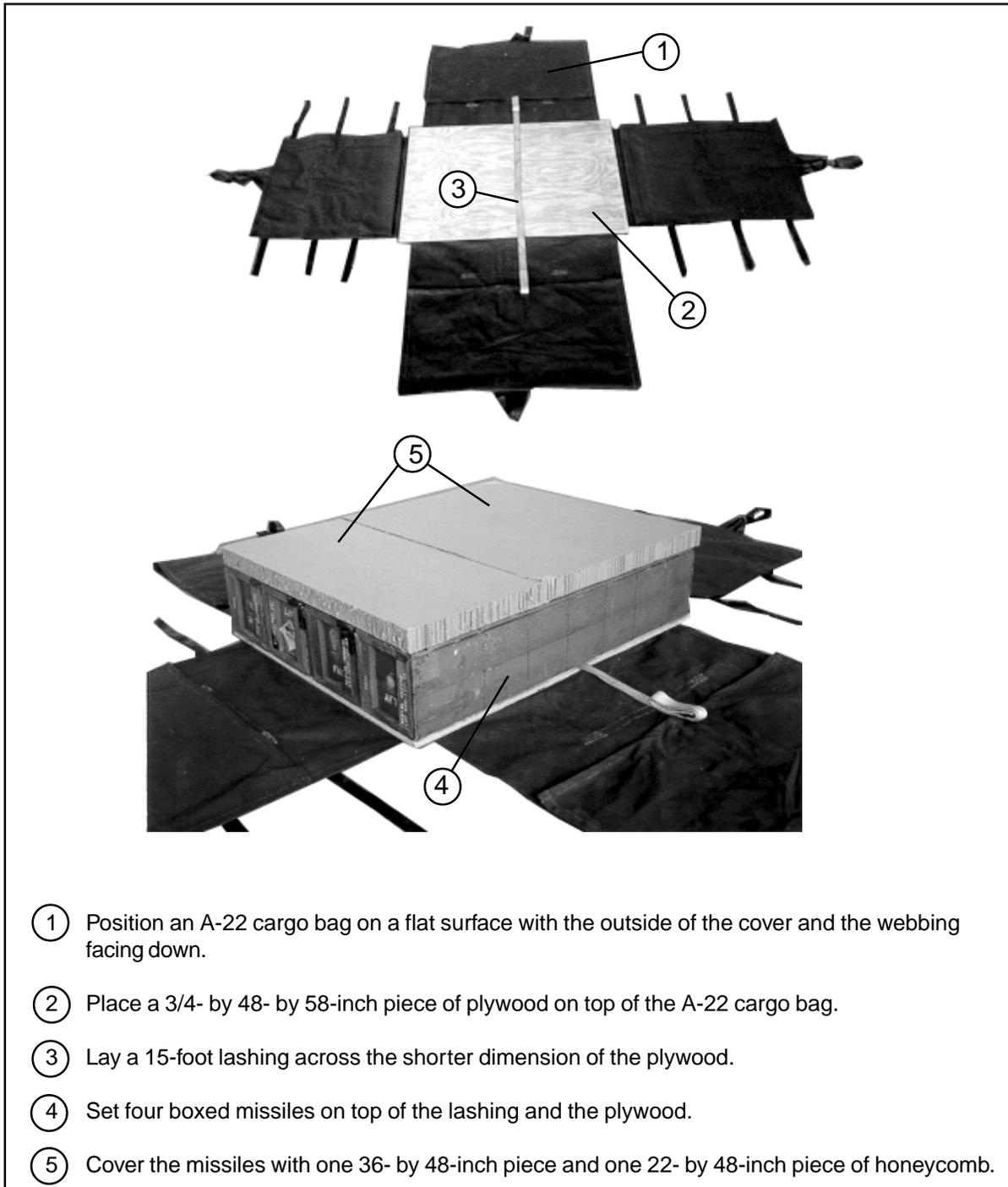
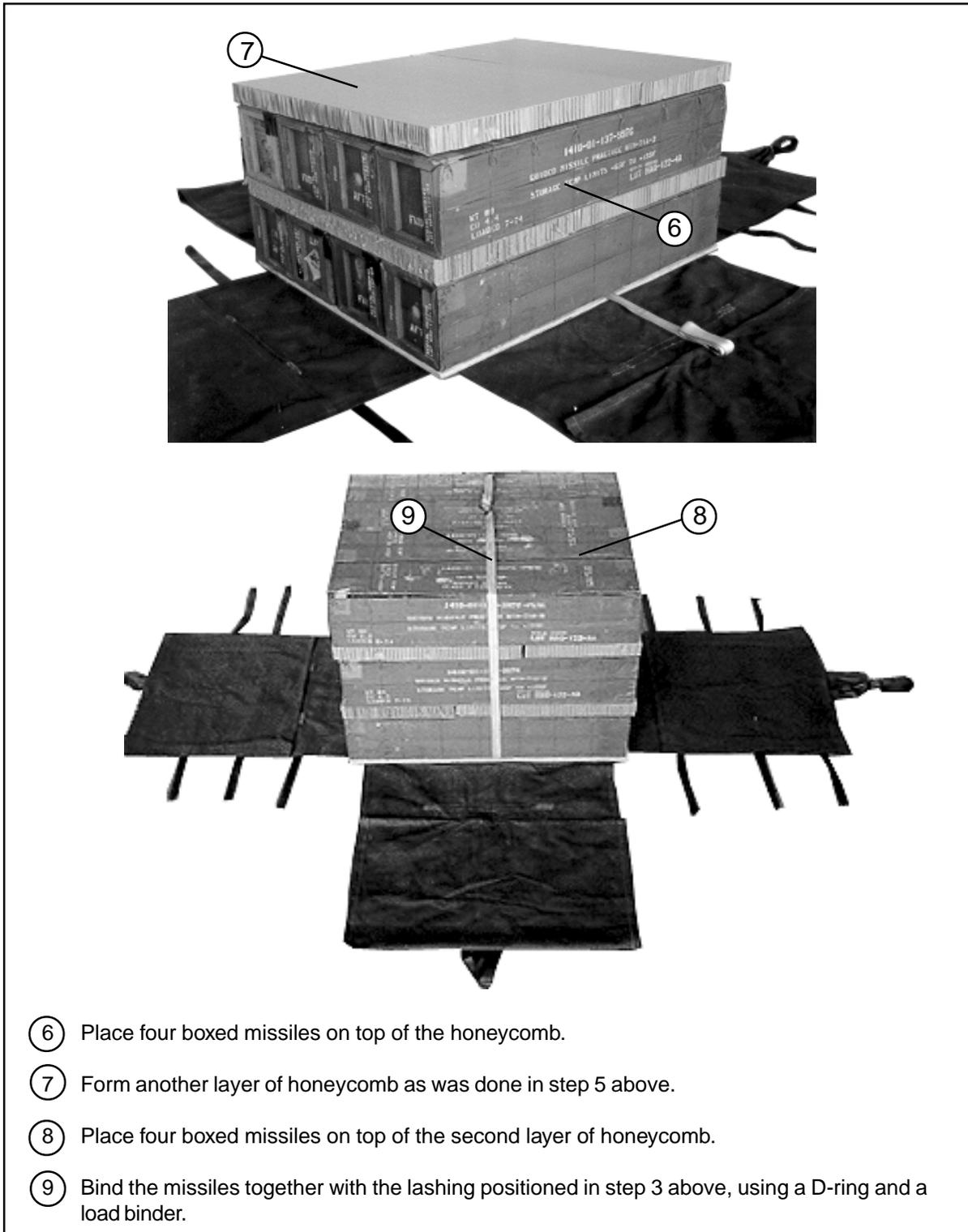
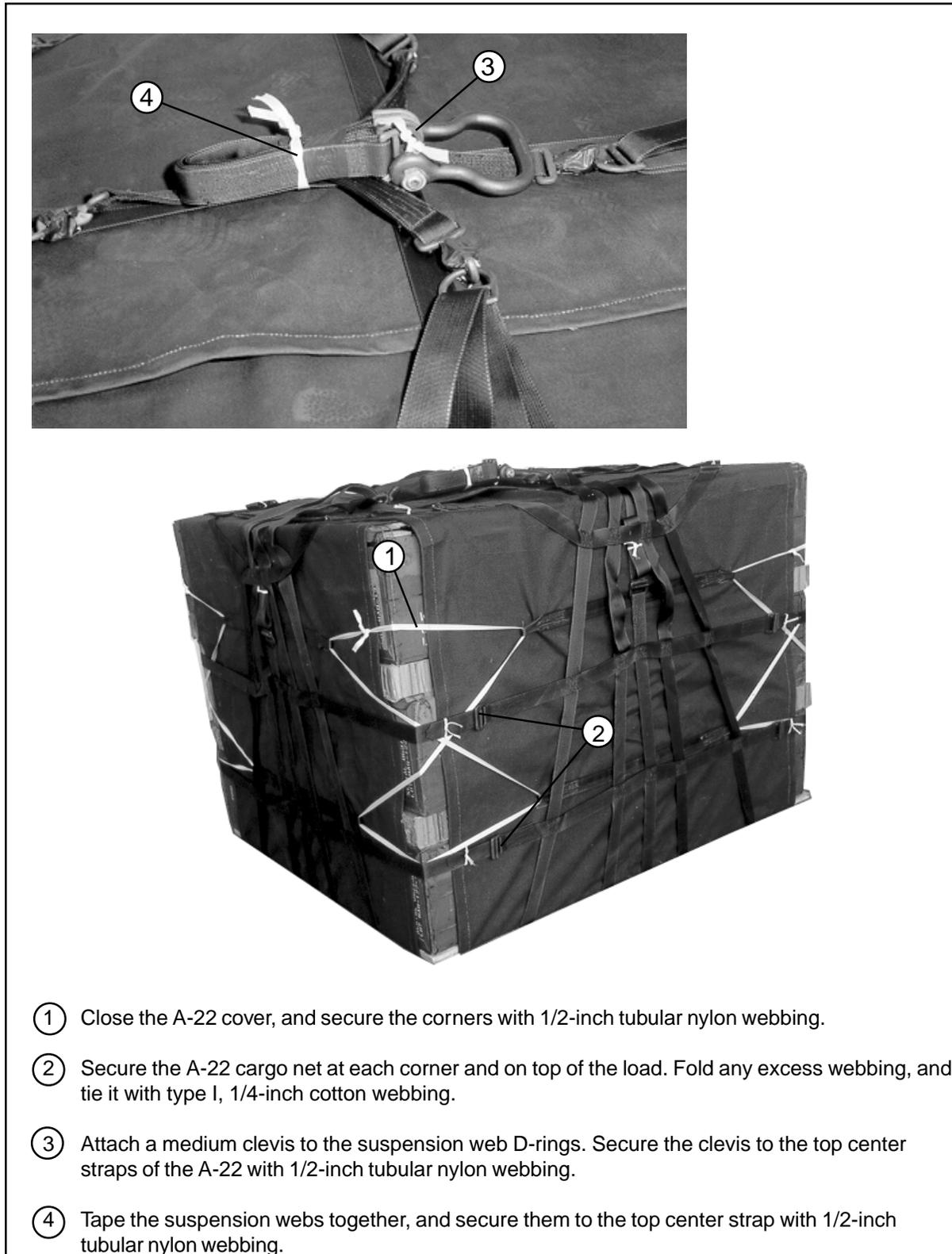


Figure 4-3. Missiles Placed in A-22 Cargo Bag



- ⑥ Place four boxed missiles on top of the honeycomb.
- ⑦ Form another layer of honeycomb as was done in step 5 above.
- ⑧ Place four boxed missiles on top of the second layer of honeycomb.
- ⑨ Bind the missiles together with the lashing positioned in step 3 above, using a D-ring and a load binder.

Figure 4-3. Missiles Placed in A-22 Cargo Bag (continued)



- ① Close the A-22 cover, and secure the corners with 1/2-inch tubular nylon webbing.
- ② Secure the A-22 cargo net at each corner and on top of the load. Fold any excess webbing, and tie it with type I, 1/4-inch cotton webbing.
- ③ Attach a medium clevis to the suspension web D-rings. Secure the clevis to the top center straps of the A-22 with 1/2-inch tubular nylon webbing.
- ④ Tape the suspension webs together, and secure them to the top center strap with 1/2-inch tubular nylon webbing.

Figure 4-4. A-22 cargo bag closed

PLACING MISSILES IN A-22 CARGO BAGS ON PLATFORM

4-5. Place the A-22 cargo bags on the honeycomb stacks as shown in Figure 4-5.

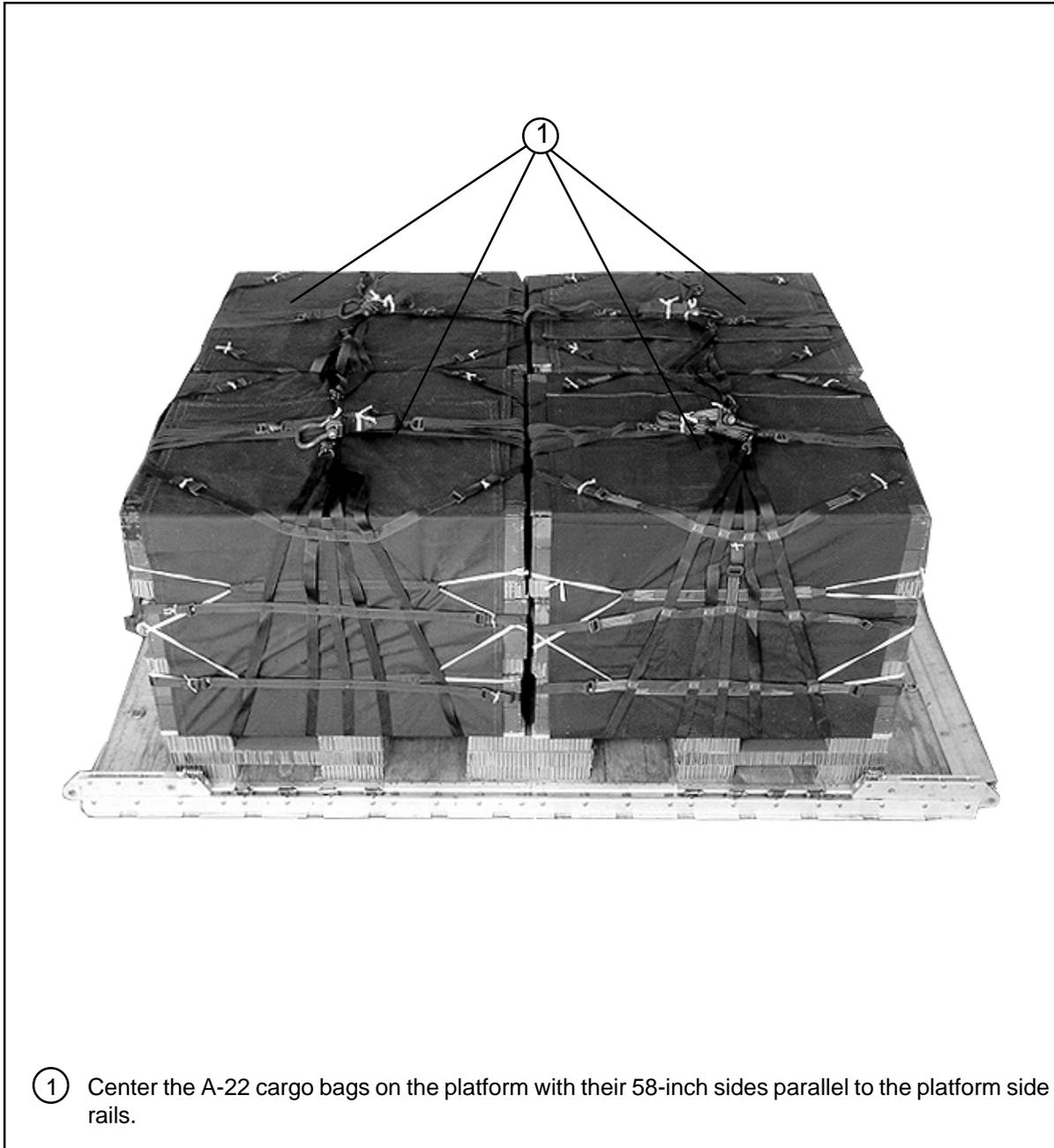
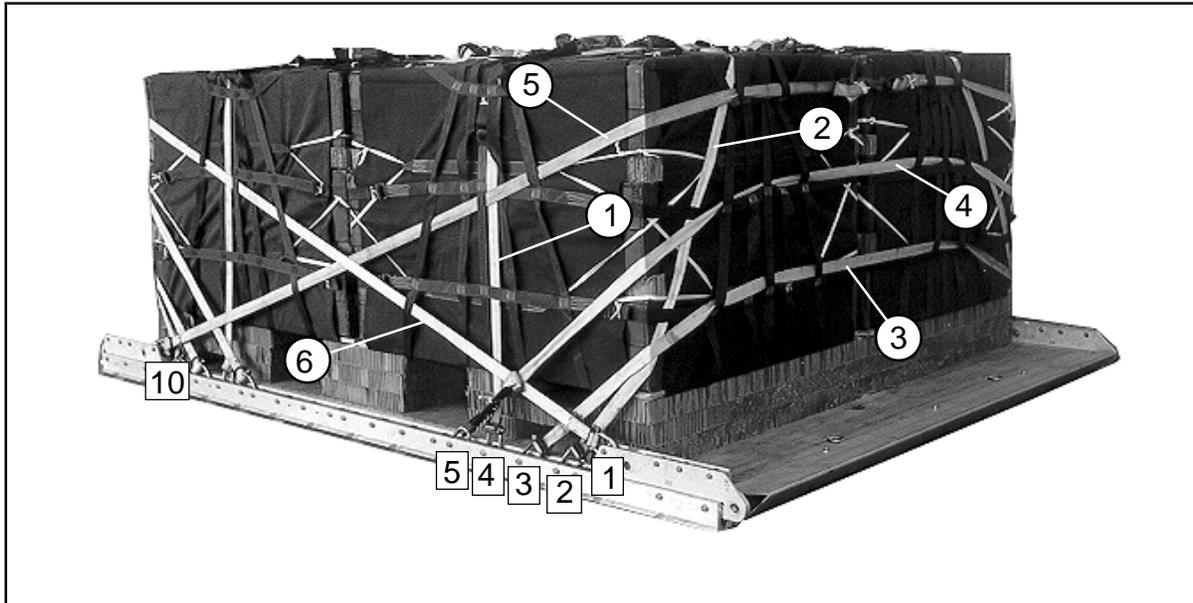


Figure 4-5. Missiles in A-22 Cargo Bags Positioned on Platform

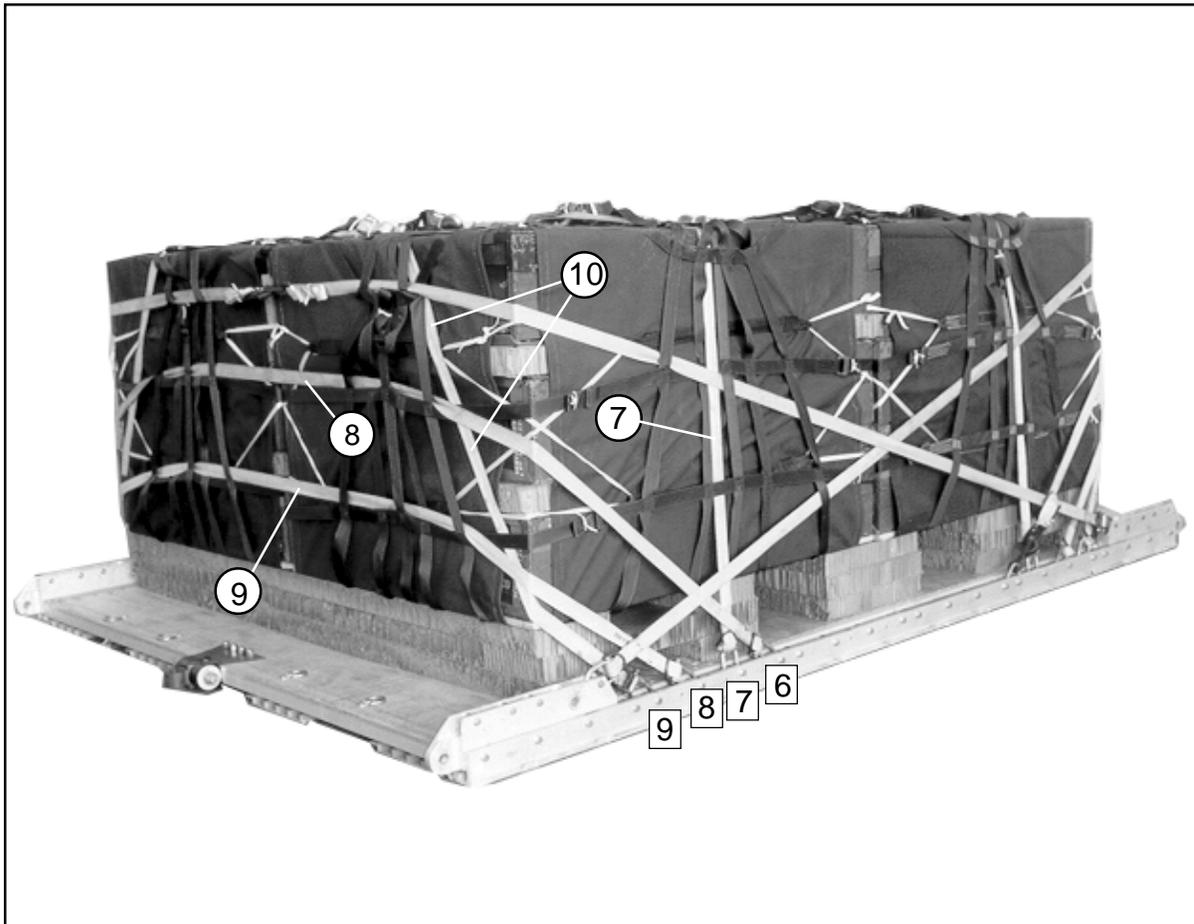
LASHING LOAD

4-6. Lash the A-22 cargo bags to the platform as shown in Figures 4-6 and 4-7.



Lashing Number	Tie-down Clevis Numbers	Instructions
1	4 and 4A	Pass lashing: Through clevis 4 and through its own D-ring. Pass a second lashing through clevis 4A and its own D-ring. Pass the lashings over the top of the load (under the webbing) and through the medium clevis. Secure the lashings with two D-rings and a load binder on top of the load.
2	2 and 9A	Through clevis 2 and through its own D-ring. Pass a second lashing through clevis 9A and its own D-ring. Route the lashings over the load under the webbing. Secure the lashings on top of the load with two D-rings and a load binder.
3	3 and 3A	Through clevis 3 and its own D-ring. Pass the lashing around the front of the load under the webbing. Attach the lashing to clevis 3A with a D-ring and a load binder.
4	5 and 5A	Through clevis 5A and its own D-ring. Pass the lashing around the front of the load under the webbing. Attach the lashing to clevis 5 with a D-ring and a load binder.
5	10 and 10A	Through clevis 10 and through its own D-ring. Pass a second lashing through clevis 10A and its own D-ring. Pass the lashings around the front of the load under the webbing. Secure the lashings with two D-rings and a load binder.
6	1 and 1A	Through clevis 1 and through its own D-ring. Pass a second lashing through clevis 1A and its own D-ring. Pass the lashings around the rear of the load under the webbing. Secure the lashings with two D-rings and a load binder.

Figure 4-6. Lashings 1 Through 6 Installed



Lashing Number	Tie-down Clevis Numbers	Instructions
7	7 and 7A	Pass lashing: Through clevis 7 and its own D-ring. Pass a second lashing through clevis 7A and its own D-ring. Pass the lashings over the top of the load (under the webbing) and through the medium clevis. Secure the lashings with two D-rings and a load binder on top of the load.
8	6 and 6A	Through clevis 6 and its own D-ring. Pass the lashing around the rear of the load under the webbing. Attach the lashing to clevis 6A with a D-ring and a load binder.
9	8 and 8A	Through clevis 8 and its own D-ring. Pass the lashing around the rear of the load under the webbing. Attach the lashing to clevis 8A with a D-ring and a load binder.
10	9 and 2A	Through clevis 9 and its own D-ring. Pass a second lashing through clevis 2A and its own D-ring. Pass the lashings around the end and over the top of the load under the webbing. Secure the lashings with two D-rings and a load binder on top of the load.

Figure 4-7. Lashings 7 Through 10 Installed

INSTALLING SUSPENSION SLINGS

4-7. Install four 12-foot (2-loop), type XXVI nylon webbing slings as suspension slings. Install and safety the slings according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 4-8.

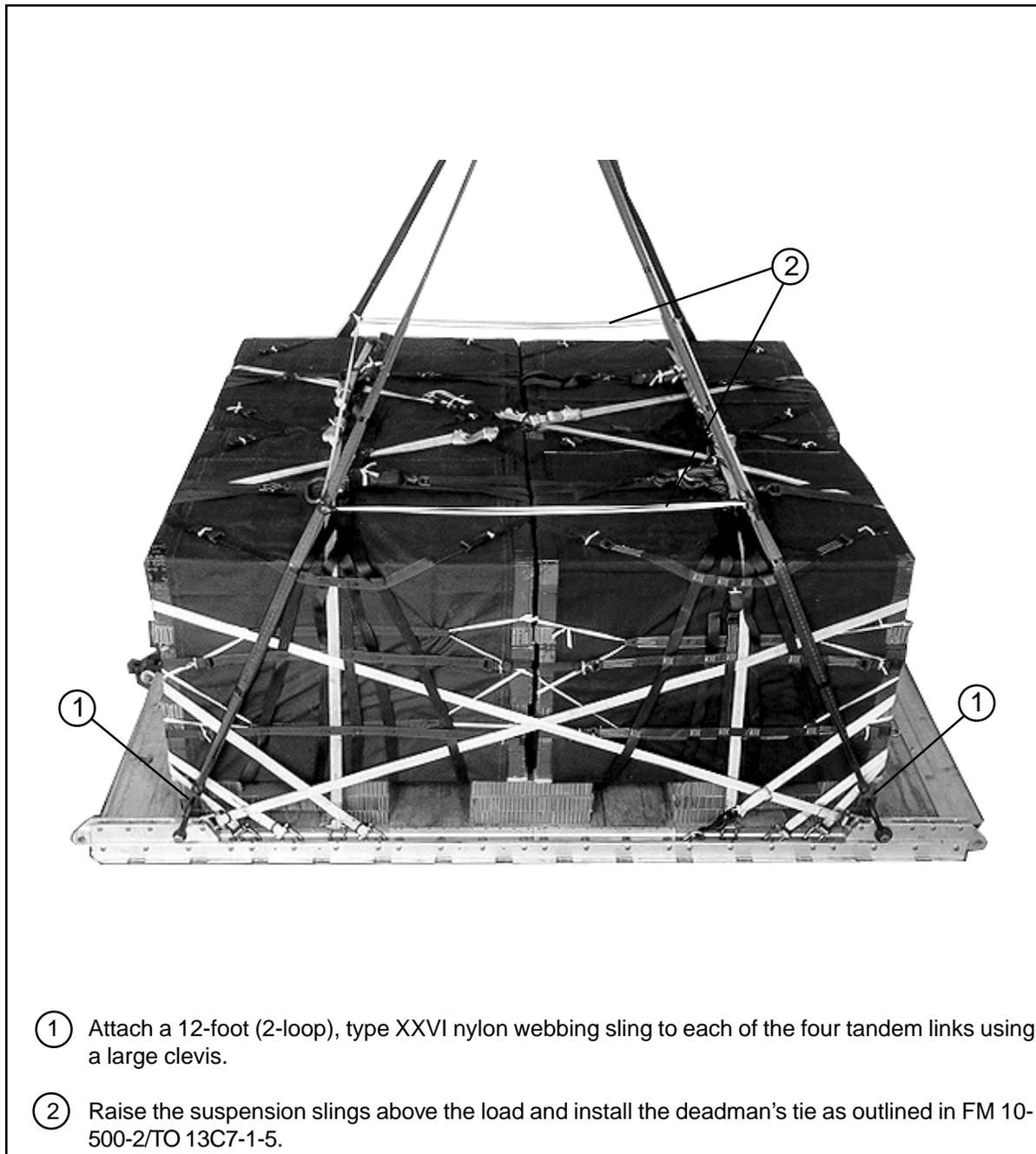


Figure 4-8. Suspension Slings Installed

INSTALLING CARGO PARACHUTES

4-8. Install two G-11 cargo parachutes according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 4-9.

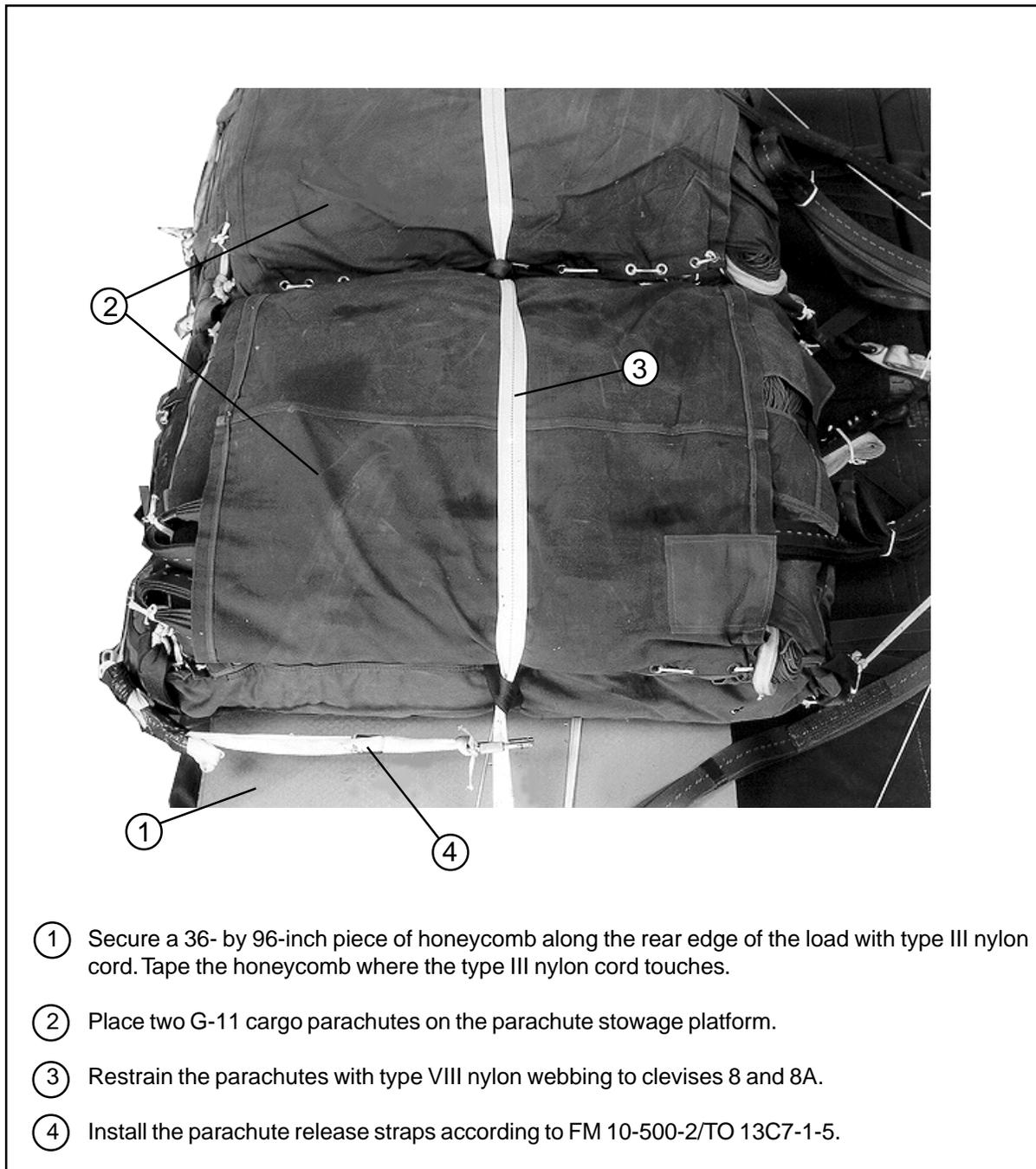
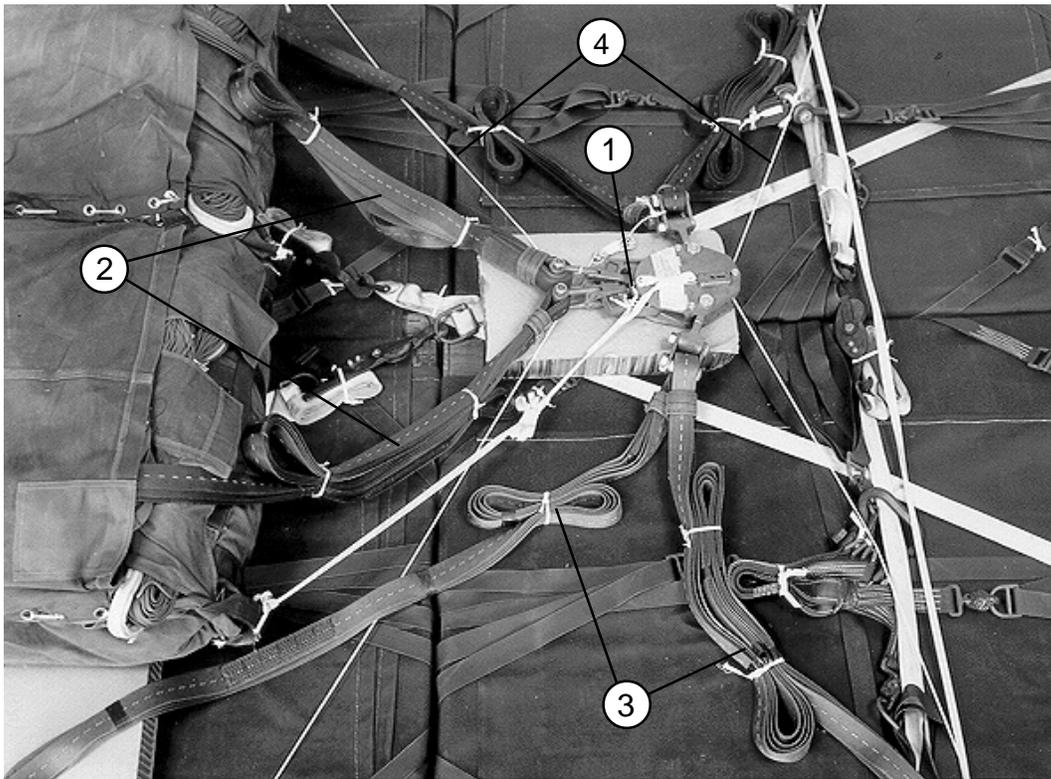


Figure 4-9. G-11 Cargo Parachutes Installed

Installing Release System

4-9. Install the M-1 cargo parachute release assembly according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 4-10.



- ① Center a piece of honeycomb on top of the load, and place an M-1 cargo parachute release on the honeycomb. Attach the parachute riser extension and suspension slings.
- ② Fold any excess parachute riser, and tie the folds with type I, 1/4-inch cotton webbing.
- ③ Fold any excess suspension sling, and tie the folds with type I, 1/4-inch cotton webbing.
- ④ Safety the release to the load with type III nylon cord.

Figure 4-10. M-1 Cargo Parachute Release Installed

Installing Extraction System

4-10. Install the EFTC extraction system according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 4-11.

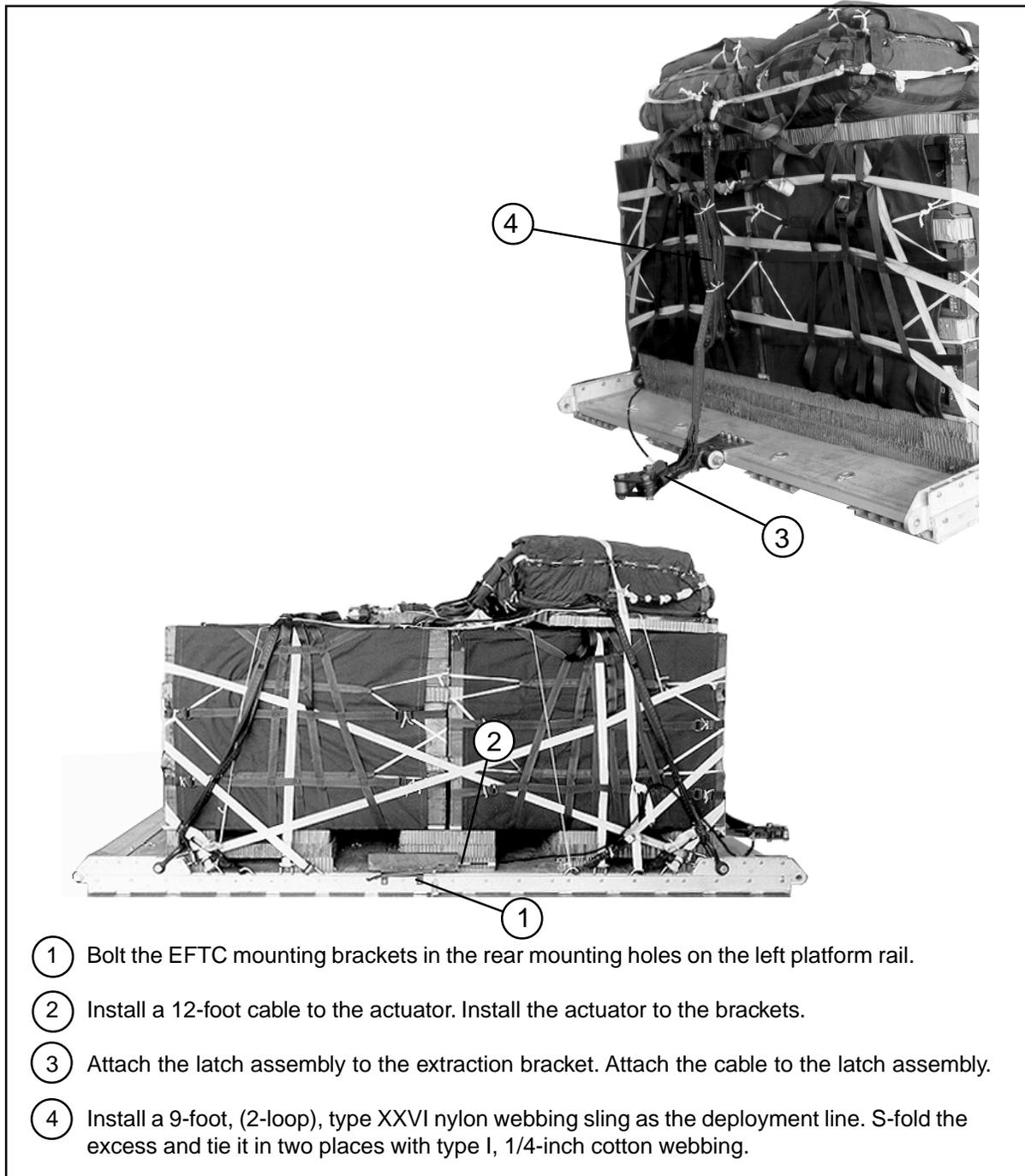


Figure 4-11. EFTC Installed

Installing Extraction Parachute

4-11. Select the extraction line and extraction parachute needed using the extraction line requirements table in FM 10-500-2/TO 13C7-1-5. Place the extraction parachute and extraction line on the load for installation in the aircraft.

Installing Provisions for Emergency Restraints

4-12. Select and install provisions for emergency restraints according to the emergency aft restraints requirements table in FM 10-500-2/TO 13C7-1-5.

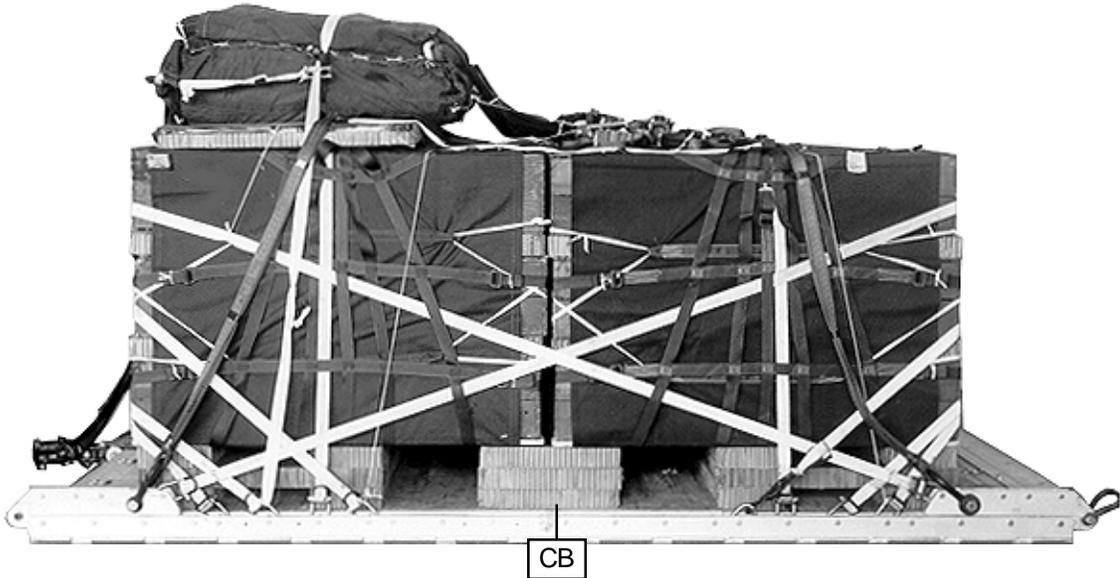
Marking Rigged Load

4-13. Mark the rigged load according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 4-12. Complete the Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, tip-off curve, CB, and parachute requirements must be recomputed.

Equipment Required

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

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



Rigged Load Data

Weight: Load shown	6,600 pounds
Maximum	7,100 pounds
Height	75 inches
Width	108 inches
Length	165 inches
Overhang: Front	0 inches
Rear	18 inches
CB (from front edge of platform)	77 inches
Extraction System (adds 18 inches to length of platform)	EFTC

Figure 4-12. TOW Missiles Rigged in A-22 Cargo Bags on a 12-foot Type V Platform for Low-velocity Airdrop

Table 4-1. Equipment Required for Rigging TOW Missiles in A-22 Cargo Bags on a 12-foot Type V Platform for Low-velocity Airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive paste, 1-gal	As required
1670-00-587-3421	Bag, cargo, A-22	4
4030-00-090-5354	Clevis, suspension, 1-in (large)	7
4030-00-678-8562	3/4-in, medium	6
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer with cable, 12-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	3
1670-01-183-2678	Leaf, extraction line (line bag)	3
	Line, drogue (for C-17) 60-ft (1-loop), type XXVI	1
	Line, extraction	
1670-01-064-4452	For C-130: 60-ft (1-loop), type XXVI	1
1670-01-107-7652	For C-141: 160-ft (1-loop), type XXVI	1
	For C-5:	
1670-01-107-7652	160-ft (1-loop), type XXVI	1
1670-01-107-7652	For C-17: 160-ft (1-loop), type XXVI	1
	Link assembly:	
1670-00-783-5988	Type IV	3
	Two-point, 3 3/4-in (for C-17)	1
5306-00-435-8994	Bolt, 1-in diam, 4 in long	(2)
5310-00-232-5165	Nut, 1-in, hexagonal	(2)
1670-00-003-1953	Plate, side, 3 3/4-in	(2)
5365-00-007-3414	Spacer, large	(2)

Table 4-1. Equipment Required for Rigging TOW Missiles in A-22 Cargo Bags on a 12-foot Type V Platform for Low-velocity Airdrop (continued)

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in	16 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B	2
1670-01-063-3715	Cargo extraction, 15-ft	1
1670-01-063-3715	Drogue, 15-ft (for C-17)	1
	Platform, airdrop, type V, 12-ft	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(20)
1670-01-354-8424	Extraction bracket assembly	(1)
1670-01-162-2381	Link, tandem, suspension link assembly	(4)
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo airdrop	
	For suspension:	
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	4
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	2
1670-00-998-0116	Strap, parachute release, single or	1
5340-00-040-8219	Strap, parachute release, multicut	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-ft	21
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-261-8585	Type VIII	As required