

LOADING AND CLOSING THE BOXES

6-5. Load and close the boxes as described below.

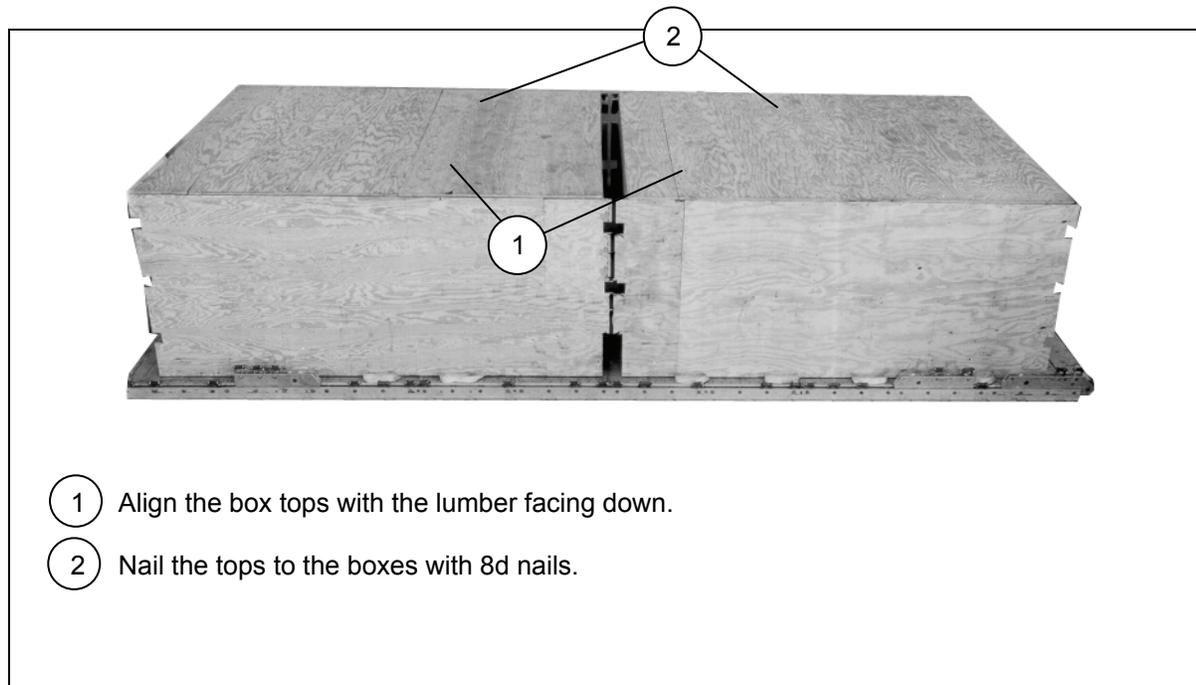
- Use the tiedown rings inside the box to secure the load, if necessary.
- Use honeycomb, if necessary, to cover the platform inside the box or to fill empty space.
- The inside ends of both boxes may be cut out to allow for long items such as lumber or tent poles.
- Assemble and load the second box. Allow 6 inches between the ends of the two boxes.
- Close both boxes as shown in Figure 6-7.

INSTALLING LASHINGS

6-6. Install the lashings and secure pre-positioned lashings as shown in Figures 6-8 through 6-15.

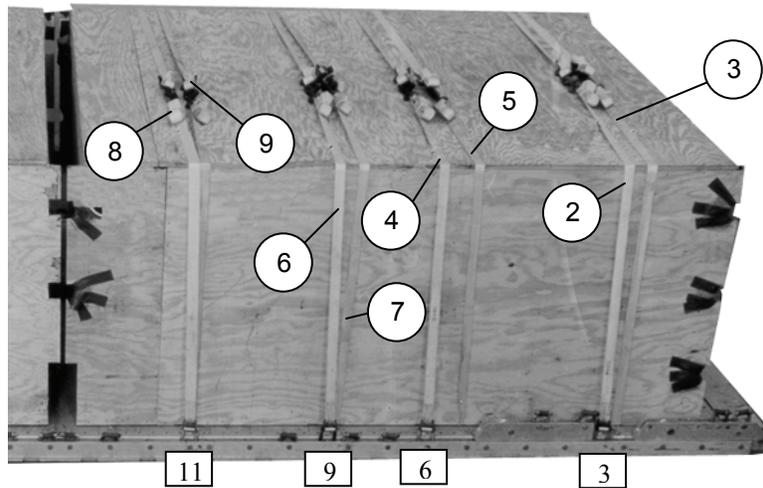
Notes.

1. Pad the cutouts in the box sides with cellulose wadding. Tape the wadding in place.
 2. This load requires lashings over 30 feet in length according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Lashings must be positioned through clevises before sections are joined together.
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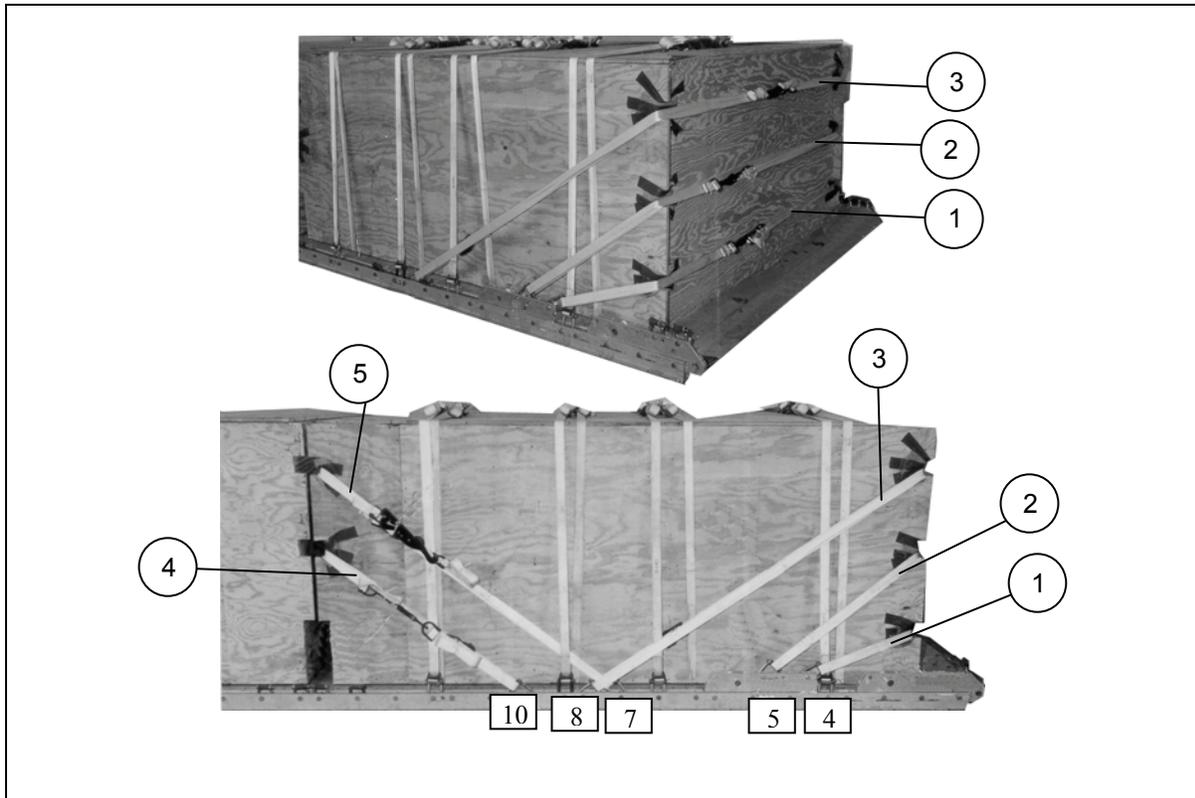
- 1 Align the box tops with the lumber facing down.
- 2 Nail the tops to the boxes with 8d nails.

Figure 6-7. Boxes Closed



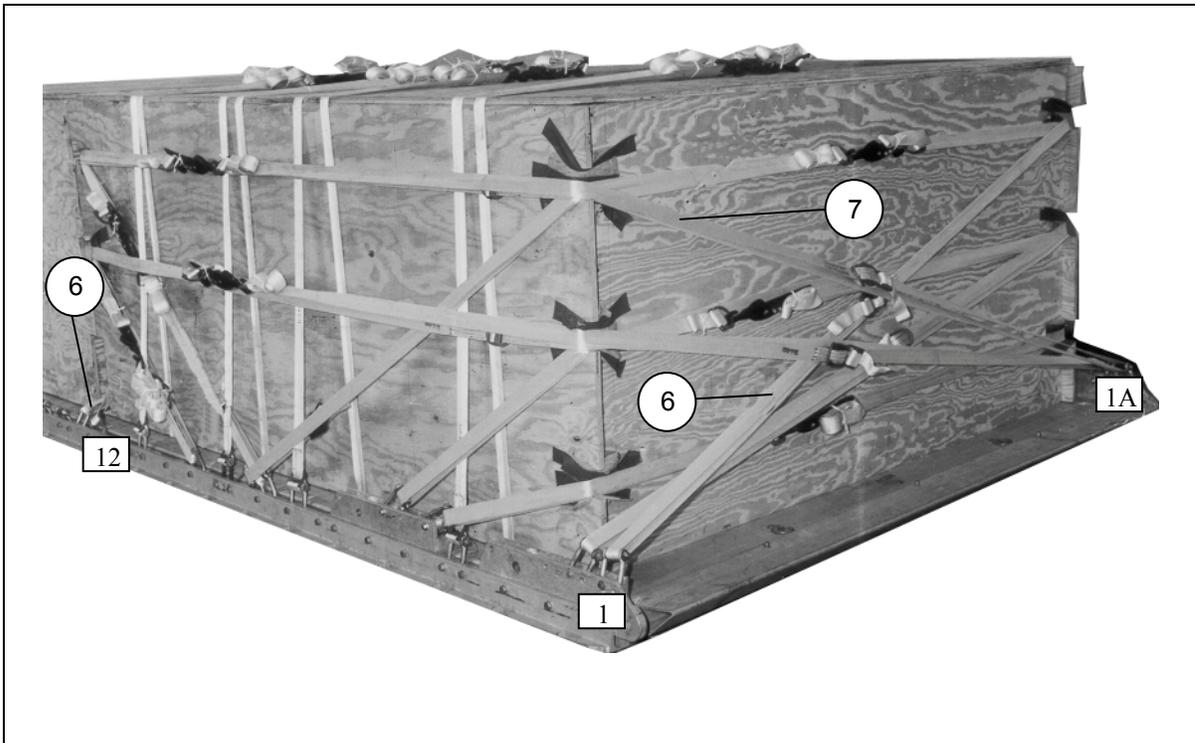
- ① Pass a 15-foot lashing through clevis 3 and through its own D-ring. Do the same for clevises 3A, 6, 6A, 9, 9A, 11, and 11A.
- ② Secure the pre-positioned lashing in tiedown ring B2 to the lashing in clevis 3 on top of the box with two D-rings and a load binder.
- ③ Secure the pre-positioned lashing in tiedown ring A2 to the lashing in clevis 3A on top of the box with two D-rings and a load binder.
- ④ Secure the pre-positioned lashing in tiedown ring B3 to the lashing in clevis 6 on top of the box with two D-rings and a load binder.
- ⑤ Secure the pre-positioned lashing in tiedown ring A3 to the lashing in clevis 6A on top of the box with two D-rings and a load binder.
- ⑥ Secure the pre-positioned lashing in tiedown ring B4 to the lashing in clevis 9 on top of the box with two D-rings and a load binder.
- ⑦ Secure the pre-positioned lashing in tiedown ring A4 to the lashing in clevis 9A on top of the box with two D-rings and a load binder.
- ⑧ Secure the pre-positioned lashing in tiedown ring B5 to the lashing in clevis 11 on top of the box with two D-rings and a load binder.
- ⑨ Secure the pre-positioned lashing in tiedown ring A5 to the lashing in clevis 11A on top of the box with two D-rings and a load binder.

Figure 6-8. Pre-positioned Lashings Secured to Lashings on Platform Rails



Lashing Number	Tiedown Clevis Number	Instructions
1	4 and 4A	Pass a 30-foot lashing through both clevises and through the bottom front cutouts. Secure the lashing in the front with two D-rings and a load binder.
2	5 and 5A	Pass a 30-foot lashing through both clevises and through the middle front cutouts. Secure the lashing in the front with two D-rings and a load binder.
3	8 and 8A	Pass a 45-foot lashing through both clevises and through the top front cutouts. Secure the lashing in the front with two D-rings and a load binder.
4	10 and 10A	Pass a 45-foot lashing through both clevises and through the middle cutouts on the rear side of the first box. Secure the lashing on the side with two D-rings and a load binder.
5	7 and 7A	Pass a 45-foot lashing through both clevises and through the top cutouts on the rear side of the first box. Secure the lashing on the side with two D-rings and a load binder.

Figure 6-9. Lashings 1 Through 5 Installed



<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
6	1 and 12	Pass a 60-foot lashing through clevis 1, through the top cutout in the left side of the first box and around the left side of the box. Pass the lashing through the top left cutout on the rear side of the first box and through clevis 12. Secure the lashing on the left side with two D-rings and a load binder.
7	1A and 12A	Pass a 60-foot lashing through clevis 1A, through the top cutout in the right side of the first box and around the right side of the box. Pass the lashing through the top right cutout on the rear end of the first box and through clevis 12A. Secure the lashing on the right side with two D-rings and a load binder.

Figure 6-10. Lashings 6 and 7 Installed



<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
8	2 and 13	Pass a 60-foot lashing through clevis 2, through the middle left cutout in the left side of the first box, and around the left side of the box. Pass the lashing through the middle left cutout on the rear end of the first box and through clevis 13. Secure the lashing on the left side with two D-rings and a load binder.
9	2A and 13A	Pass a 60-foot lashing through clevis 2A, through the middle right cutout in the right side of the first box and around the right side of the box. Pass the lashing through the middle right cutout on the rear end of the first box and through clevis 13A. Secure the lashing on the right side with two D-rings and a load binder.

Figure 6-11. Lashings 8 and 9 Installed

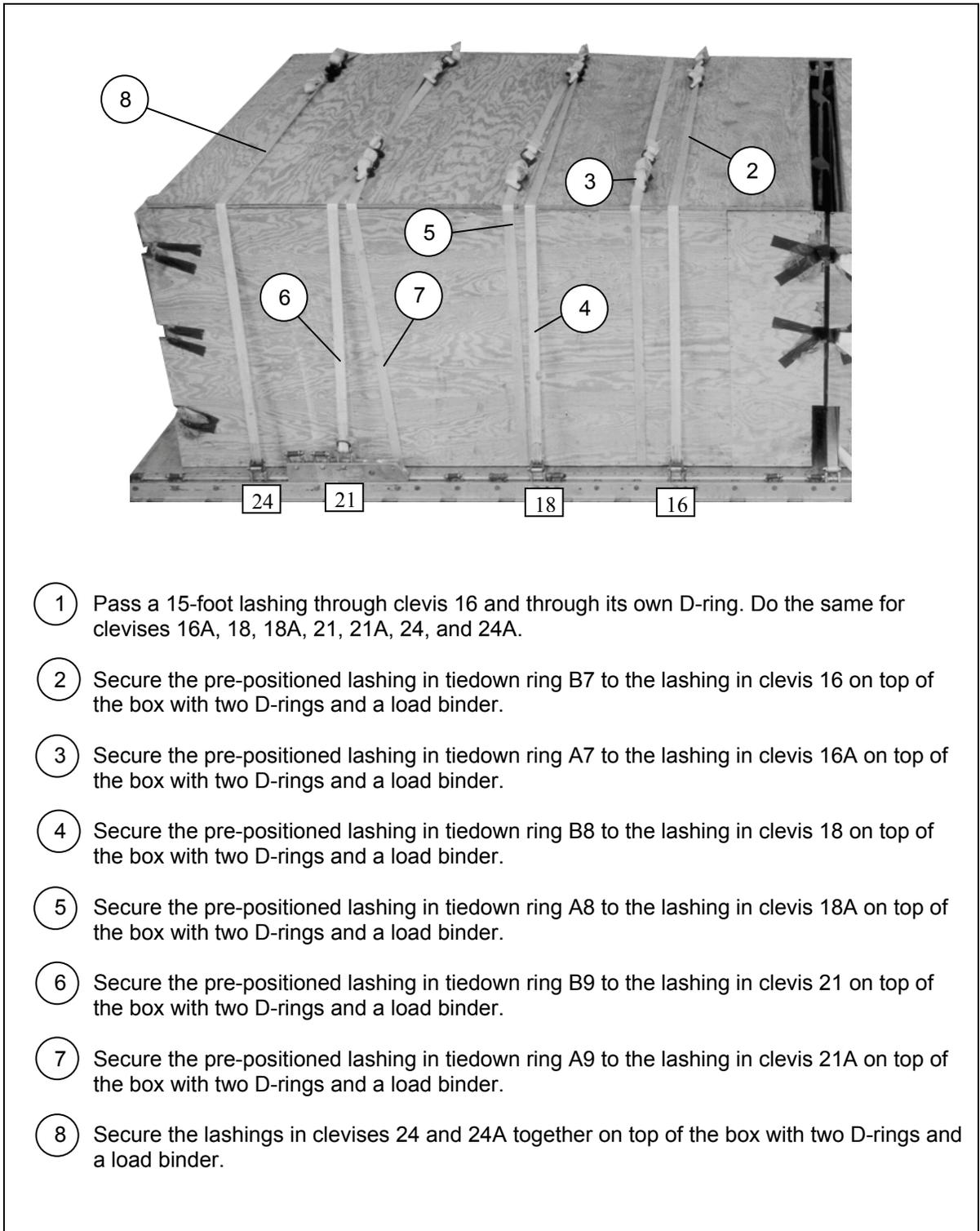
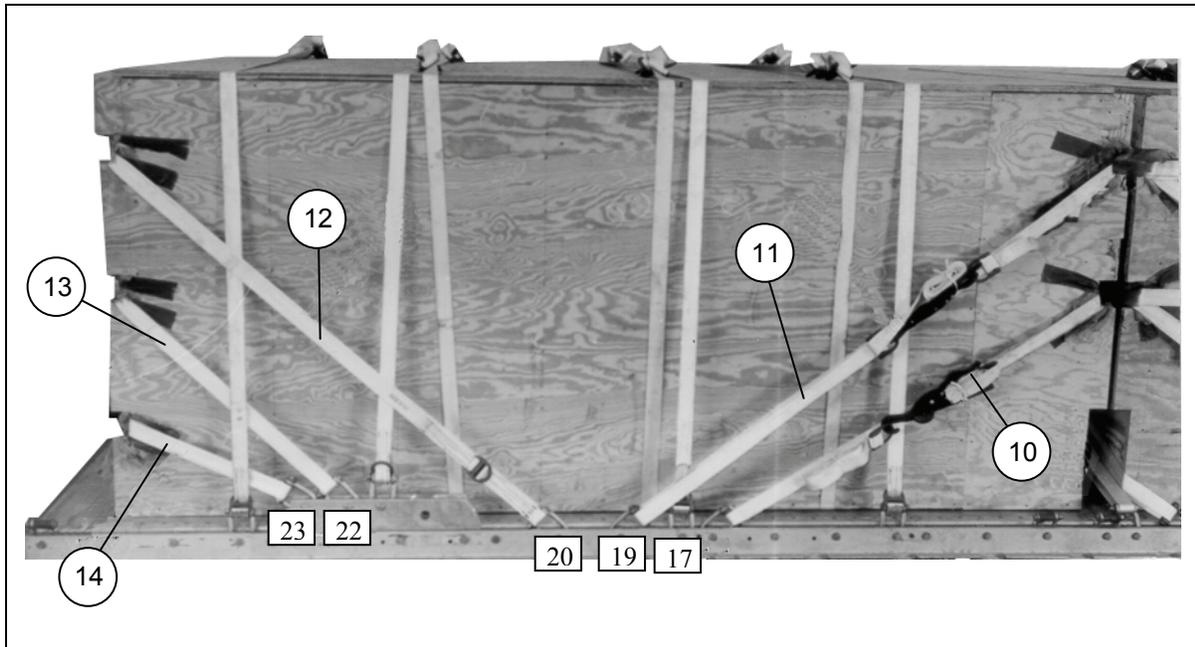
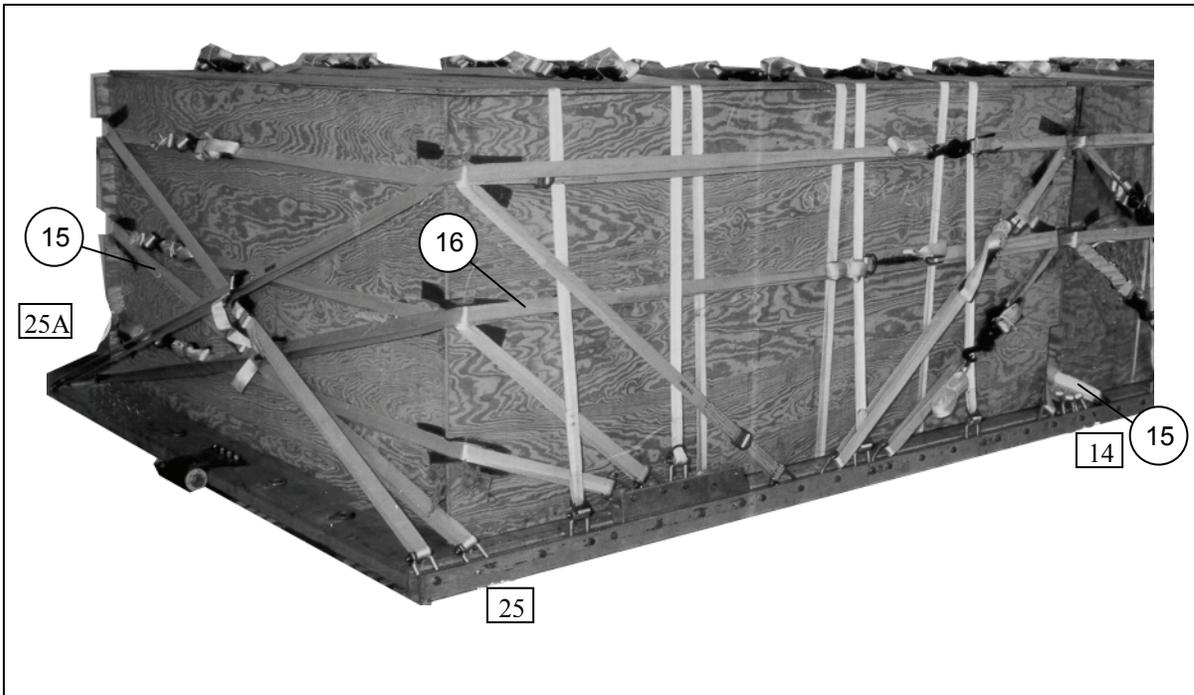


Figure 6-12. Pre-positioned Lashings Secured to Lashings on Platform Rails



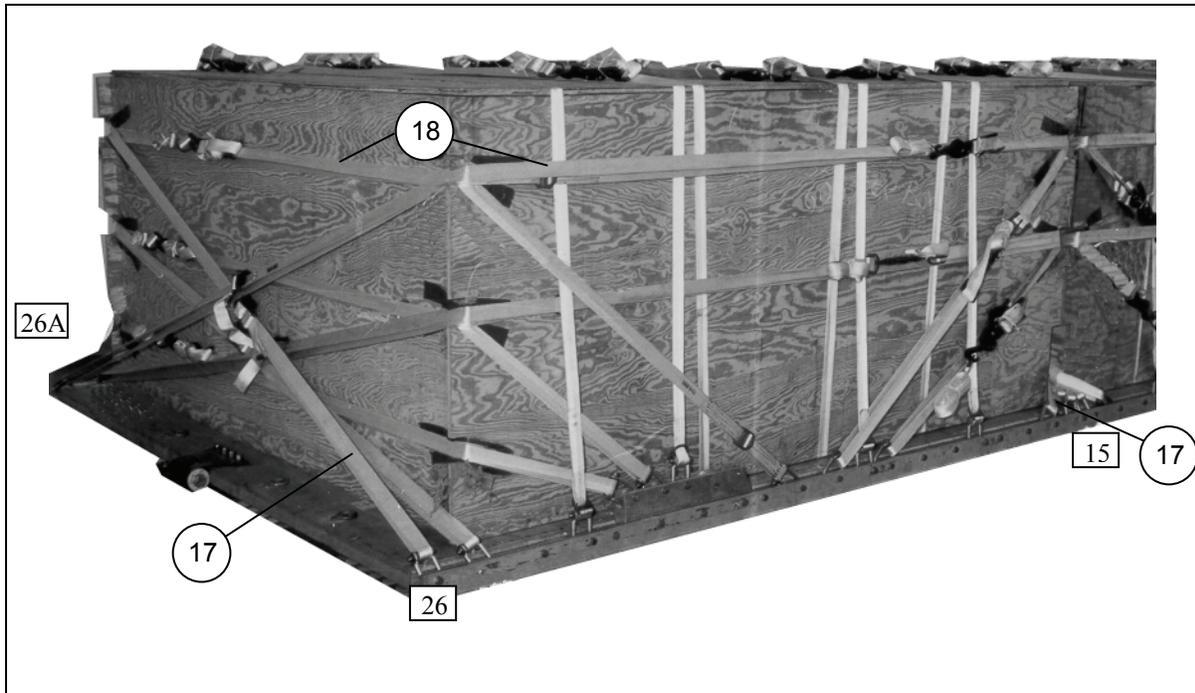
<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
10	17 and 17A	Pass a 30-foot lashing through both clevises and through the middle cutouts in the front end of the second box. Secure the lashing on the side with two D-rings and a load binder.
11	19 and 19A	Pass a 45-foot lashing through both clevises and through the top cutouts in the front end of the second box. Secure the lashing on the side with two D-rings and a load binder.
12	20 and 20A	Pass a 45-foot lashing through both clevises and through the top rear cutouts. Secure the lashing in the rear with two D-rings and a load binder.
13	22 and 22A	Pass a 30-foot lashing through both clevises and through the middle rear cutouts. Secure the lashing in the rear with two D-rings and a load binder.
14	23 and 23A	Pass a 30-foot lashing through both clevises and through the bottom rear cutouts. Secure the lashing in the rear with two D-rings and a load binder.

Figure 6-13. Lashings 10 Through 14 Installed



<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
15	14 and 25	Pass a 60-foot lashing through clevis 14, through the middle cutout in the left side of the second box and around the left side of the box. Pass the lashing through the left middle cutout at the rear and through clevis 25. Secure the lashing in the rear with two D-rings and a load binder.
16	14A and 25A	Pass a 60-foot lashing through clevis 14A, through the middle cutout in the right side of the second box and around the right side of the box. Pass the lashing through the right middle cutout at the rear and through clevis 25A. Secure the lashing on the right side with two D-rings and a load binder.

Figure 6-14. Lashings 15 and 16 Installed

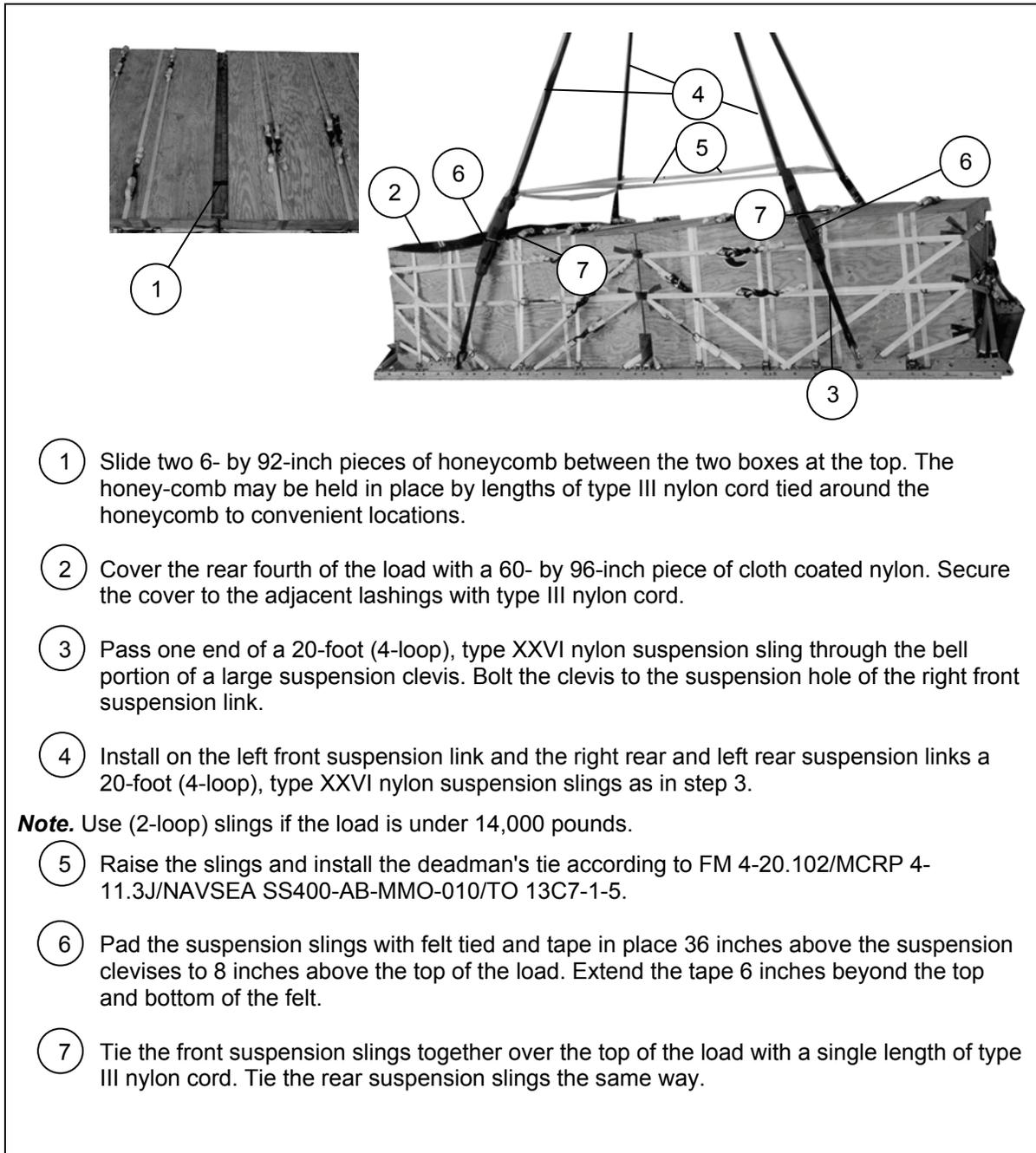


<i>Lashing Number</i>	<i>Tiedown Clevis Number</i>	<i>Instructions</i>
17	15 and 26	Pass a 60-foot lashing through clevis 15, through the top cutouts in the left side of the second box and around the left side of the box. Pass the lashing through the left top cutout at the rear and through clevis 26. Secure the lashing in the rear with two D-rings and a load binder.
18	15A and 26A	Pass a 60-foot lashing through clevis 15A, through the top cutouts in the right side of the second box and around the right side of the box. Pass the lashing through the right top cutout at the rear and through clevis 26A. Secure the lashing on the right side with two D-rings and a load binder.

Figure 6-15. Lashings 17 and 18 Installed

INSTALLING LOAD COVER, SUSPENSION SLINGS AND DEADMAN'S TIE

6-7. Install the load cover, honeycomb buffers, suspension slings and deadman's tie as shown in Figure 6-16.



- 1 Slide two 6- by 92-inch pieces of honeycomb between the two boxes at the top. The honey-comb may be held in place by lengths of type III nylon cord tied around the honeycomb to convenient locations.
- 2 Cover the rear fourth of the load with a 60- by 96-inch piece of cloth coated nylon. Secure the cover to the adjacent lashings with type III nylon cord.
- 3 Pass one end of a 20-foot (4-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 suspension link.
- 4 Install on the left front suspension link and the right rear and left rear suspension links a 20-foot (4-loop), type XXVI nylon suspension slings as in step 3.

Note. Use (2-loop) slings if the load is under 14,000 pounds.

- 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.
- 6 Pad the suspension slings with felt tied and tape in place 36 inches above the suspension clevises to 8 inches above the top of the load. Extend the tape 6 inches beyond the top and bottom of the felt.
- 7 Tie the front suspension slings together over the top of the load with a single length of type III nylon cord. Tie the rear suspension slings the same way.

Figure 6-16. Load Cover, Suspension Slings, and Deadman's Tie Installed

INSTALLING PARACHUTES

6-8. Compute the parachute requirements for the load being rigged according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Prepare and install the cargo parachutes according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 6-17.

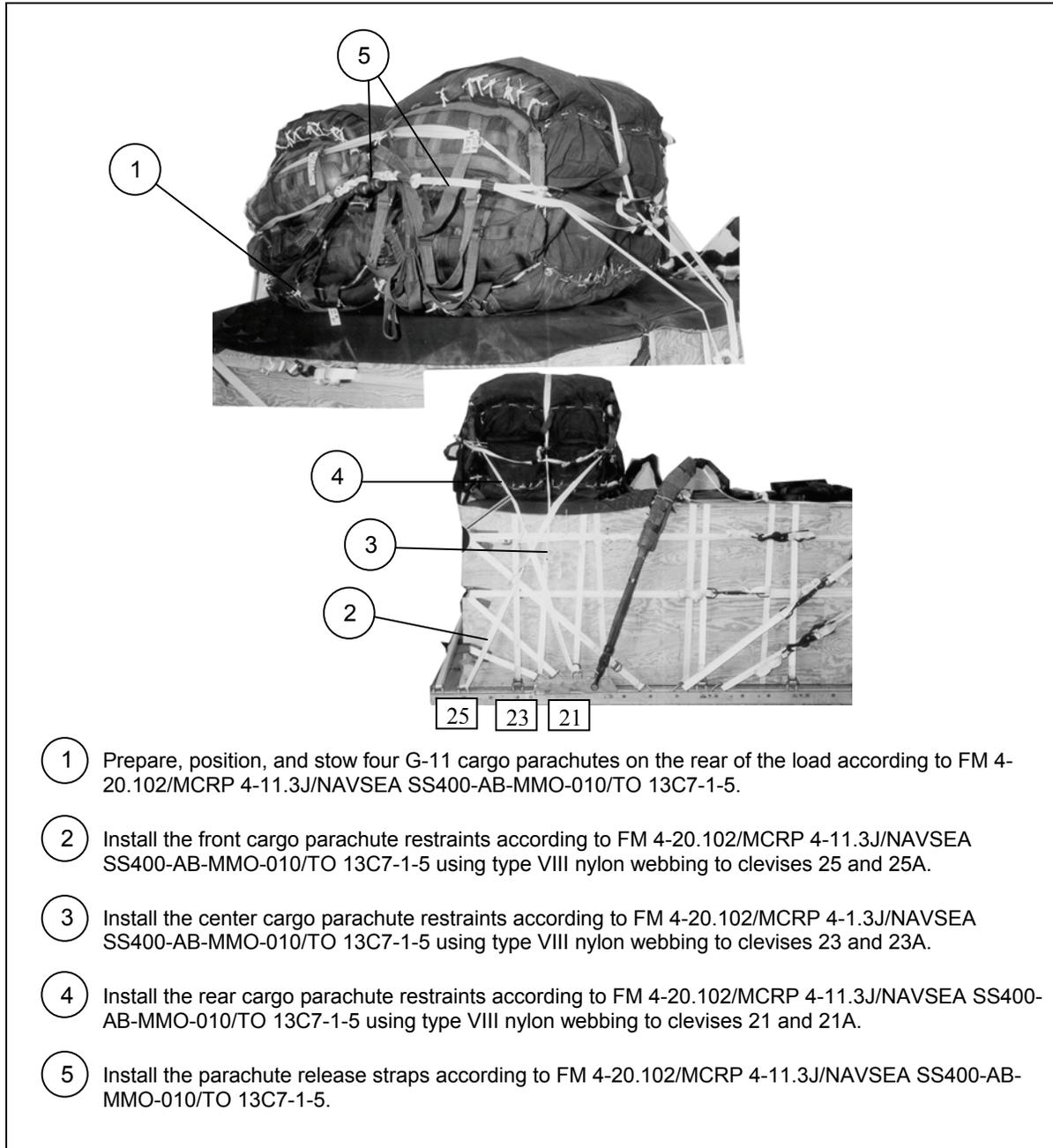


Figure 6-17. Cargo Parachutes Installed

INSTALLING THE RELEASE SYSTEM

6-9. Prepare, attach, and safety an M-2 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 6-18.

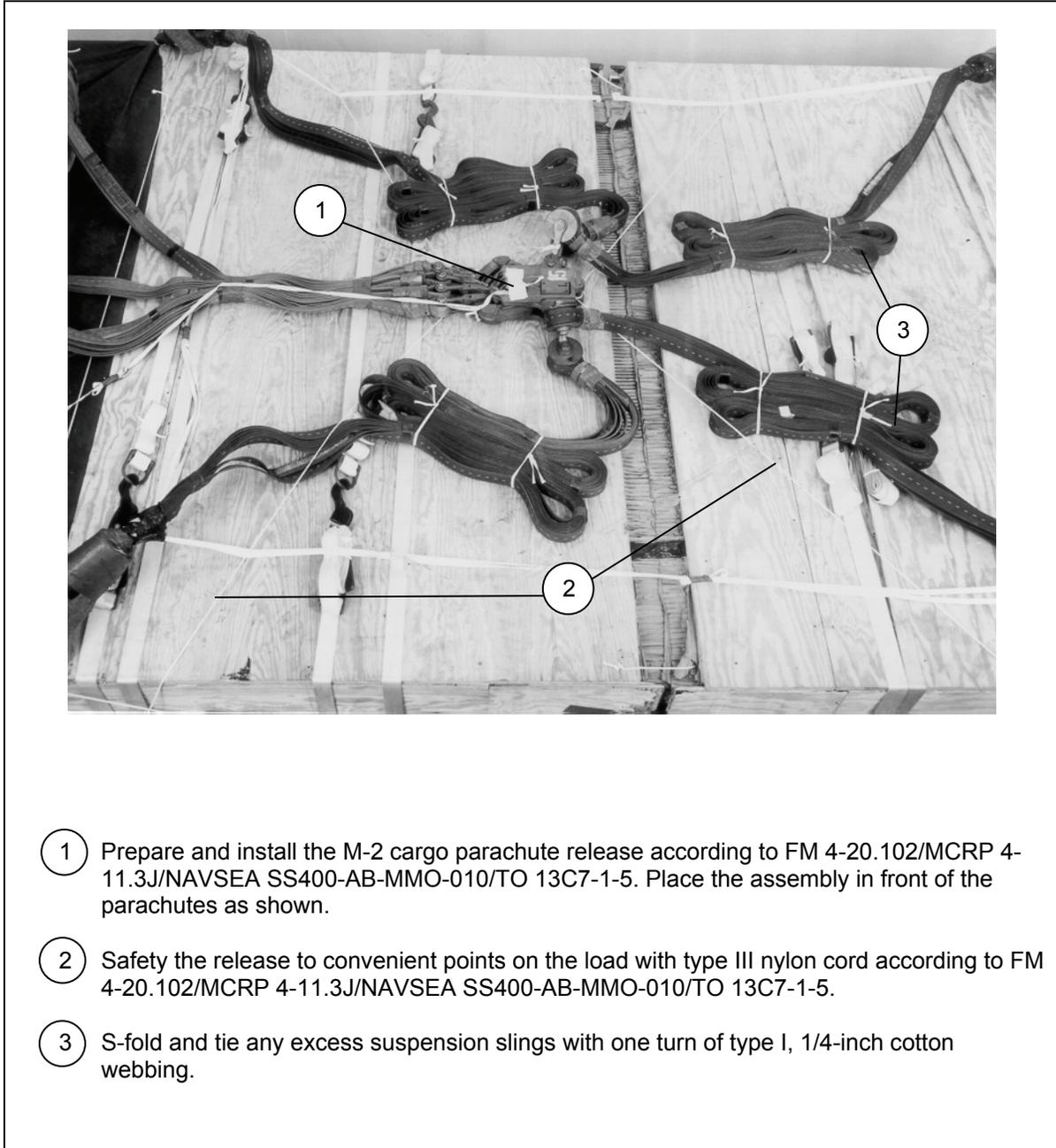


Figure 6-18. Release System Installed

INSTALLING THE EXTRACTION SYSTEM

6-10. Install the extraction system according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 and as shown in Figure 6-19.

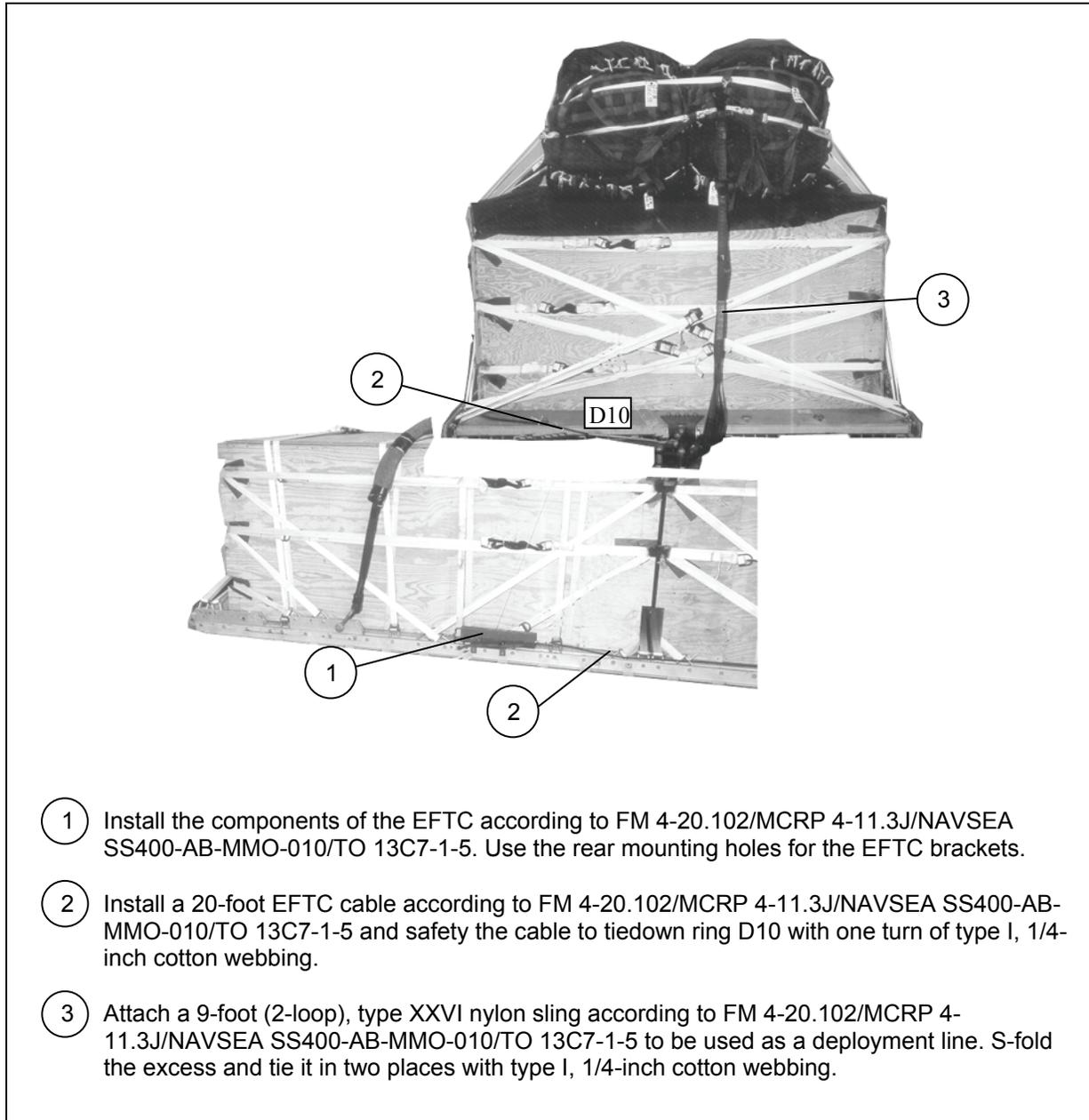


Figure 6-19. Extraction System Installed

PLACING EXTRACTION PARACHUTE

6-11. Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5. Place the extraction parachute and line on the load for installation in the aircraft.

INSTALLING PROVISIONS FOR EMERGENCY RESTRAINTS

6-12. Select and install the provisions for the emergency aft restraints according to the emergency aft restraint requirements table in FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5.

MARKING RIGGED LOAD

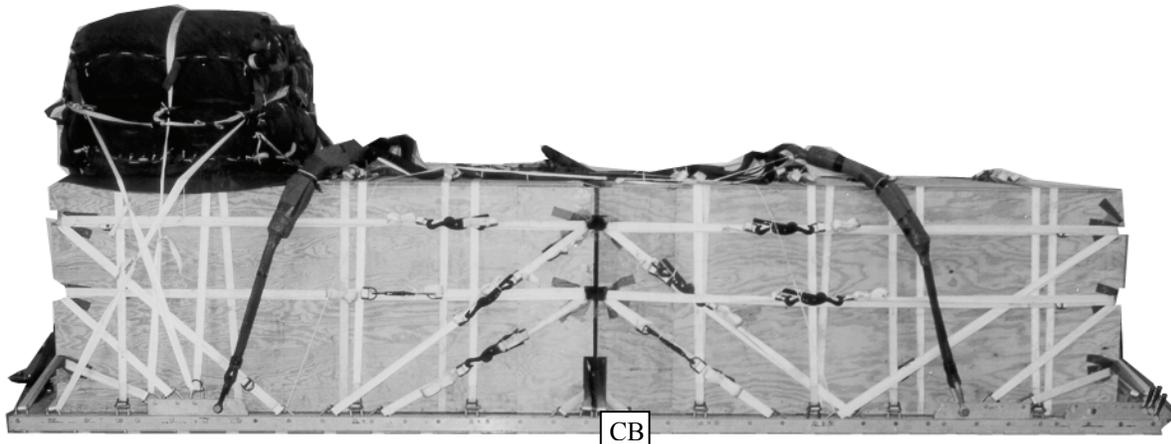
6-13. Mark the rigged load according to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5, and as shown in Figure 6-20. Complete Shipper's Declaration for Dangerous Goods. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

EQUIPMENT REQUIRED

6-14. Use the equipment listed in Table 6-1 to rig this load.

CAUTION

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



RIGGED LOAD DATA

Minimum Weight:	6,300 pounds
Maximum Suspended Weight.....	20,000 pounds
Height	88 inches
Width.....	108 inches
Overall Length	240 inches
Overhang: Front	0 inches
Rear	0 inches
Center of Balance (from front edge of the platform).....	126 inches
Extraction System with 16-foot cable (adds 18 inches to length of platform)	EFTC

Note. Refer to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 (Table 2-2) when adding additional parachutes for heavier loads for the suspension/tandem link positioning.

Figure 6-20. Mass Supply Boxes Rigged on a 20-Foot, Type V Platform for Low-Velocity Airdrop

Table 6-1. Equipment Required for Rigging Mass Supply Boxes on a 20-Foot, Type V Platform for Low-Velocity Airdrop

<i>National Stock Number</i>	<i>Item</i>	<i>Quantity</i>
8040-00-273-8713	Adhesive, paste, 1-gallon	As required
	Clevis, suspension:	
4030-00-090-5354	1-inch (large)	5
8305-00-880-8155	Cloth, coated (nylon, type II, green, 60-in)	As required
4020-00-240-2146	Cord, nylon, type III	As required
1670-00-434-5787	Coupling, airdrop, extraction force transfer with 20-foot cable	1
1670-00-360-0328	Cover, clevis, large	4
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-191-1101	Felt, ½-inch thick	As required
1670-01-183-2678	Leaf, extraction line (line bag) (add 2 for C-17)	2
	Line, extraction, type XXVI nylon webbing:	
1670-01-062-6313	60-foot (3-loop), type XXVI	1
1670-01-107-7651	140-foot (3-loop), type XXVI	1
1670-01-062-6313	60-foot (3-loop), type XXVI for C-17 drogue line	1
1670-01-493-6418	Link assembly, two-point:	1
5510-00-220-6146	Lumber, 2- by 4-in	
	45-in	
	85-in	
	106 ½-in	
5351-00-010-4659	Nail, steel wire, common 8d	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb	2 sheet
	Parachute:	
1670-01-016-7841	Cargo, G-11	4
1670-00-040-8135	Cargo, extraction, 28-foot	1
1670-01-063-3715	Cargo, extraction, 15-foot for C-17	1
	Platform, airdrop, type V, 20-foot	
1670-00-128-4981	Plywood, ¾- by 48- by 96-inches	12 sheets
1670-01-353-8425	Bracket assembly, EFTC	1
1670-01-162-2372	Bracket assembly, extraction	1
1670-01-162-2376	Clevis assembly	52
1670-01-247-2389	Suspension bracket link, type V	4
1670-01-162-2381	Tandem link	2
1670-01-097-8817	Release, cargo parachute, M-2	1

Table 6-1. Equipment Required for Rigging Mass Supply Boxes on a 20-Foot, Type V Platform for Low-Velocity Airdrop (Continued)

<i>National Stock Number</i>	<i>Item</i>	<i>Quantity</i>
	Sling, cargo airdrop:	
1670-01-062-6304	9-foot (2-loop), type XXVI nylon webbing	1
1670-01-064-4453	20-foot (4-loop), type XXVI nylon webbing	4
1670-01-062-6313	60-foot (3-loop), type XXVI nylon webbing	4
5340-00-040-8219	Strap parachute release, multicut	2
7501-00-266-5016	Tape, adhesive, 2-inch	As required
7501-00-266-6710	Tape, masking	As required
1670-00-937-0271	Tie-down assembly, 15-foot	93
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

Chapter 7

Rigging Palletized Load System (PLS) on a 24-Foot, Type V Platform for Low-Velocity Airdrop

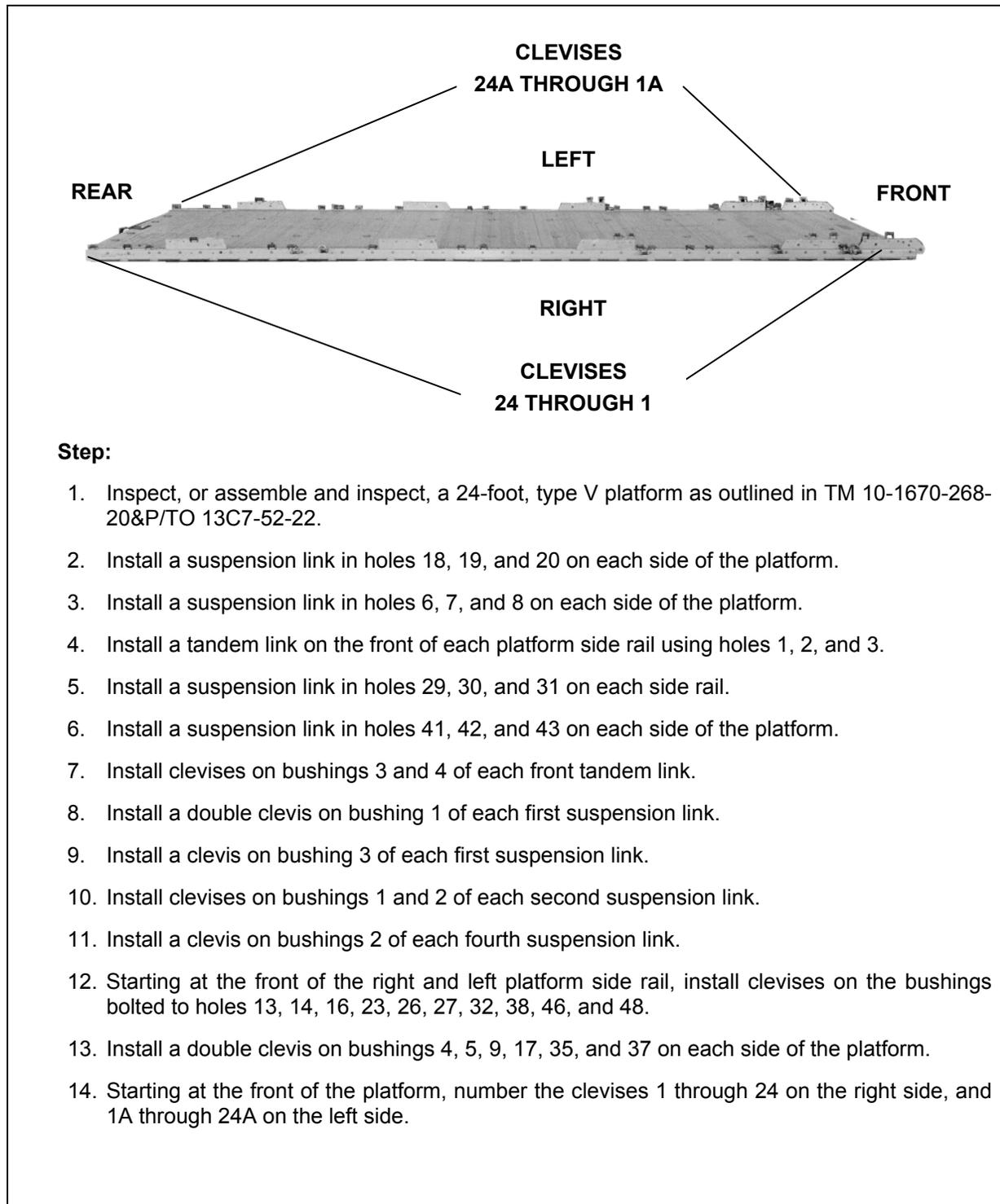
SECTION I-RIGGING 105-MILLIMETER (MM) AMMUNITION

DESCRIPTION OF LOAD

7-1. The palletized load system (PLS) can be moved from the drop zone and transported on a specially designed truck. Bulk supplies are lashed to the pallet, giving the load integrity for transport. The pallet has swivel rings along the sides for lashing the load. The pallet and load are lashed to the airdrop platform for low-velocity airdrop. The load shown consists of 245 boxes of 105-millimeter ammunition. Adapt these procedures to rig other items of bulk supplies. Ammunition listed in FM 4-20.153/MCRP 4-11.3B/TO 13C7-18-41, as certified for low-velocity airdrop, may be rigged using these procedures. The rigged load may not be more than 100 inches high. Refer to FM 4-20.102/MCRP 4-11.3J/NAVSEA SS400-AB-MMO-010/TO 13C7-1-5 for the weight limitations and for the number of parachutes to be used.

PREPARING PLATFORM

7-2. Prepare a 24-foot, type V platform as shown in Figure 7-1.



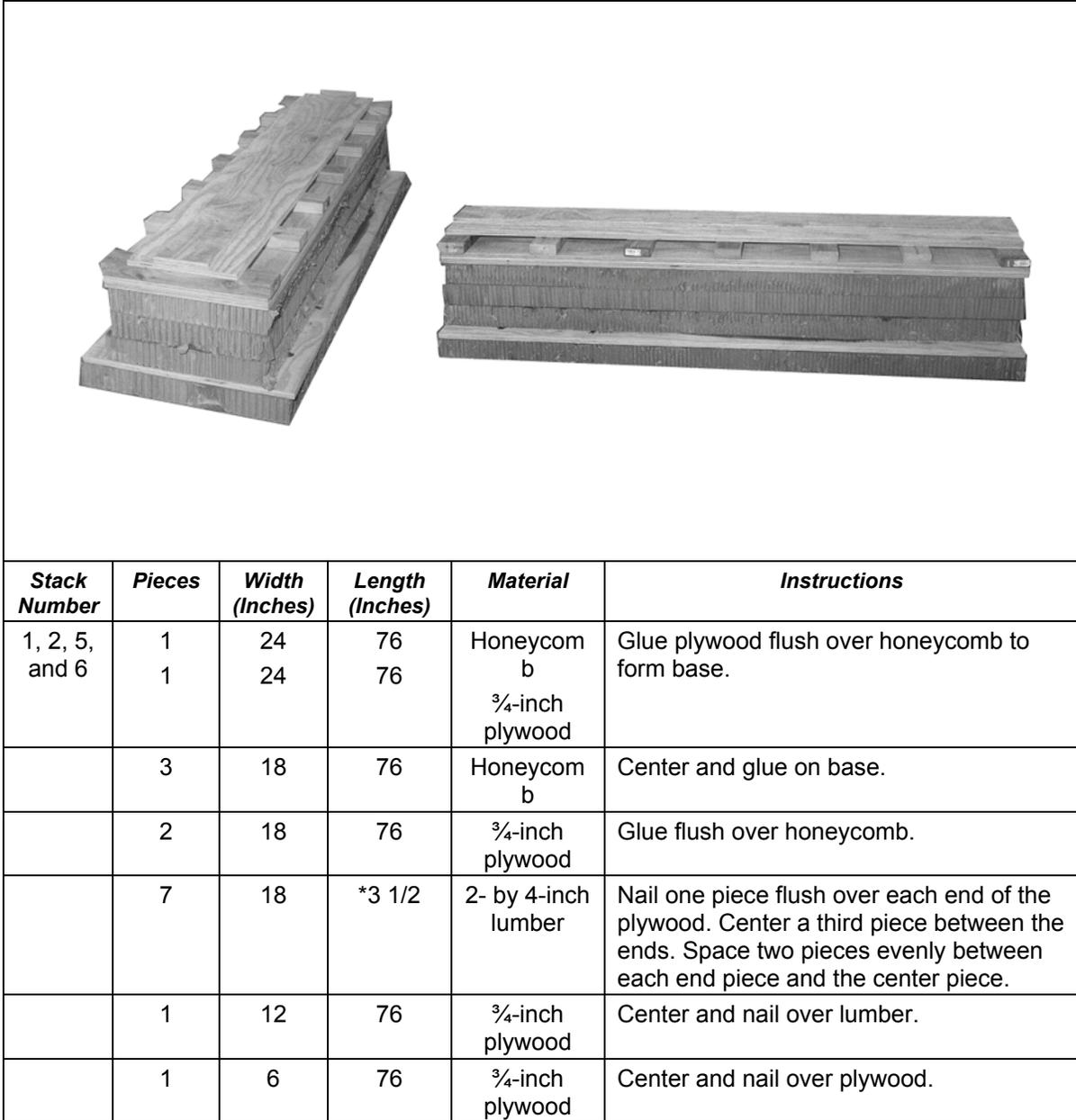
Step:

1. Inspect, or assemble and inspect, a 24-foot, type V platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a suspension link in holes 18, 19, and 20 on each side of the platform.
3. Install a suspension link in holes 6, 7, and 8 on each side of the platform.
4. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
5. Install a suspension link in holes 29, 30, and 31 on each side rail.
6. Install a suspension link in holes 41, 42, and 43 on each side of the platform.
7. Install clevises on bushings 3 and 4 of each front tandem link.
8. Install a double clevis on bushing 1 of each first suspension link.
9. Install a clevis on bushing 3 of each first suspension link.
10. Install clevises on bushings 1 and 2 of each second suspension link.
11. Install a clevis on bushings 2 of each fourth suspension link.
12. Starting at the front of the right and left platform side rail, install clevises on the bushings bolted to holes 13, 14, 16, 23, 26, 27, 32, 38, 46, and 48.
13. Install a double clevis on bushings 4, 5, 9, 17, 35, and 37 on each side of the platform.
14. Starting at the front of the platform, number the clevises 1 through 24 on the right side, and 1A through 24A on the left side.

Figure 7-1. Platform Prepared

PREPARING AND POSITIONING HONEYCOMB

7-3. Prepare ten honeycomb stacks as shown in Figures 7-2 through 7-4. Position the stacks on the platform as shown in Figure 7-5.



* Two- by four-inch lumber is actually 3 1/2 inches wide.

Figure 7-2. Stacks 1, 2, 5 and 6 Prepared



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3 and 4	4 2	24 24	96 96	Honeycomb b 3/4-inch plywood	Glue plywood flush over honeycomb to form base.
	9	24	*3 1/2	2- by 4-inch lumber	Nail one piece flush over each end of the plywood. Center a third piece between the ends. Space three pieces evenly between each end piece and the center piece
	1	24	96	3/4-inch plywood	Center and nail over lumber.
	1	12	96	3/4-inch plywood	Center and nail over plywood.
	1	6	96	3/4-inch plywood	Center and nail over plywood.

* Two- by four-inch lumber is actually 3 1/2 inches wide.

Figure 7-3. Stacks 3 and 4 Prepared