

CHAPTER 3

RIGGING M102 HOWITZER ON TYPE V PLATFORM

Section I

**RIGGING HOWITZER WITH 17 BOXES OF AMMUNITION
FOR LOW-VELOCITY
AIRDROP ON TYPE V PLATFORM****3-1. Description of Load**

The M102, 105-millimeter howitzer (line number K57392) mounted on an M31 carriage with an M137E1 cannon tube and roll-over protection structure is rigged on a 16-foot, type V airdrop platform. It may be airdropped with an accompanying load. The gun equipment and 17 boxes of ammunition are shown. This load requires two G-11A or G-11B cargo parachutes.

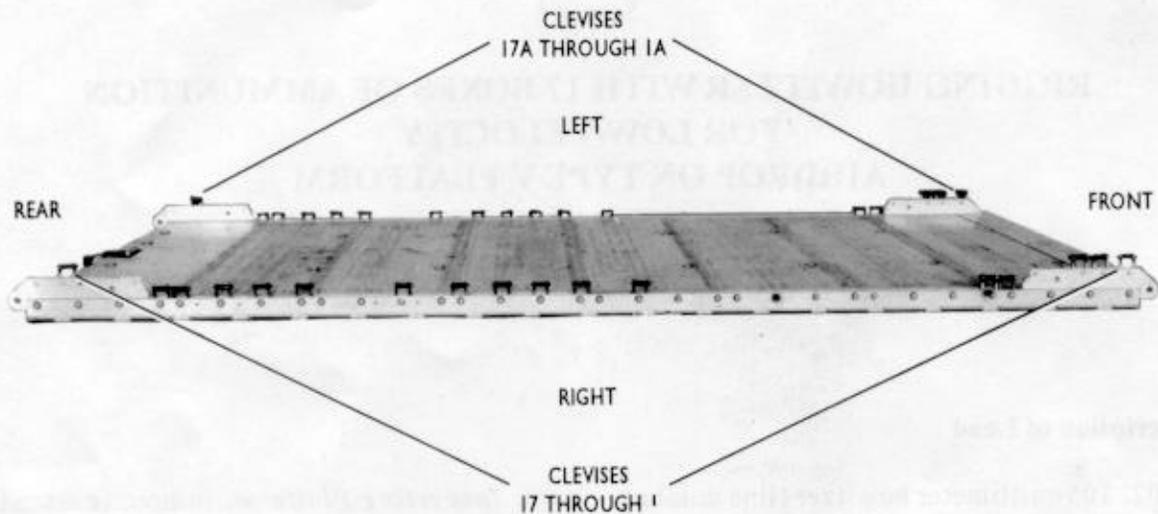
3-2. Preparing Platform

Prepare a 16-foot, type V airdrop platform as described below.

a. Inspecting Platform. Inspect, or assemble and inspect, the platform according to TM 10-1670-268-20&P/TO 13C7-52-22.

b. Installing Tandem Links. Install tandem links to the front and rear of each rail as shown in Figure 3-1.

c. Installing and Numbering Clevises. Bolt and number 34 clevis assemblies as shown in Figure 3-1.



Step:

1. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
2. Install clevises on bushings 1, 2, and 3 on each front tandem link.
3. Install a tandem link on the rear of each platform side rail using holes 30, 31, and 32.
4. Install a clevis on bushing 3 on each rear tandem link.
5. Starting at the front of each platform side rail, install clevises on each platform side rail using the bushings bolted on holes 4, 5, 15, 17, 18, 19, 20, 22, 25, 26, 27, 28, and 29.
6. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 17 and those bolted to the left side from 1A through 17A.
7. Label the tie-down rings according to FM 10-500-2/TO 13C7-1-5.

Figure 3-1. Platform prepared

3-3. Building and Placing Honeycomb Stacks

Build the honeycomb stacks as shown in Figure 3-2. Place the stacks on the platform as shown in Figure 3-3.

Note: All measurements are given in inches.

PLYWOOD
(1/4 X 36 X 12)



STACK
1

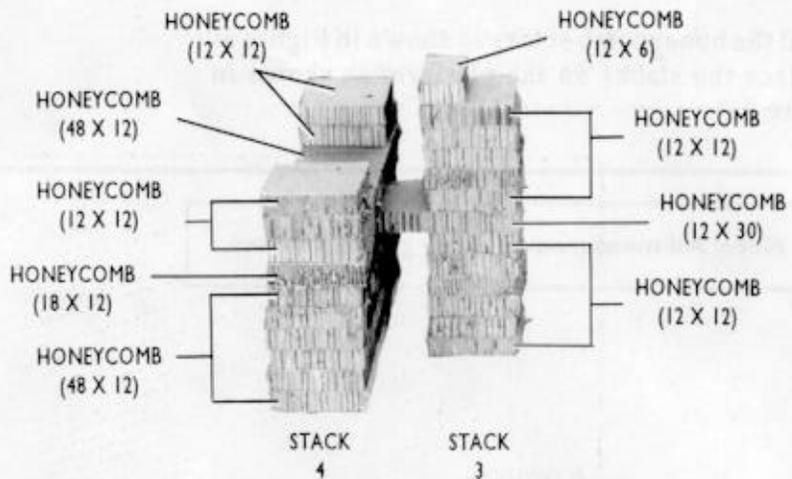


STACK
2

Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	7	36	12	Honeycomb	Form stack.
	1	36	12	3/4-inch plywood	Place plywood flush on honeycomb stack.
2	10	36	12	Honeycomb	Form stack.

Figure 3-2. Honeycomb stacks 1 through 4 prepared

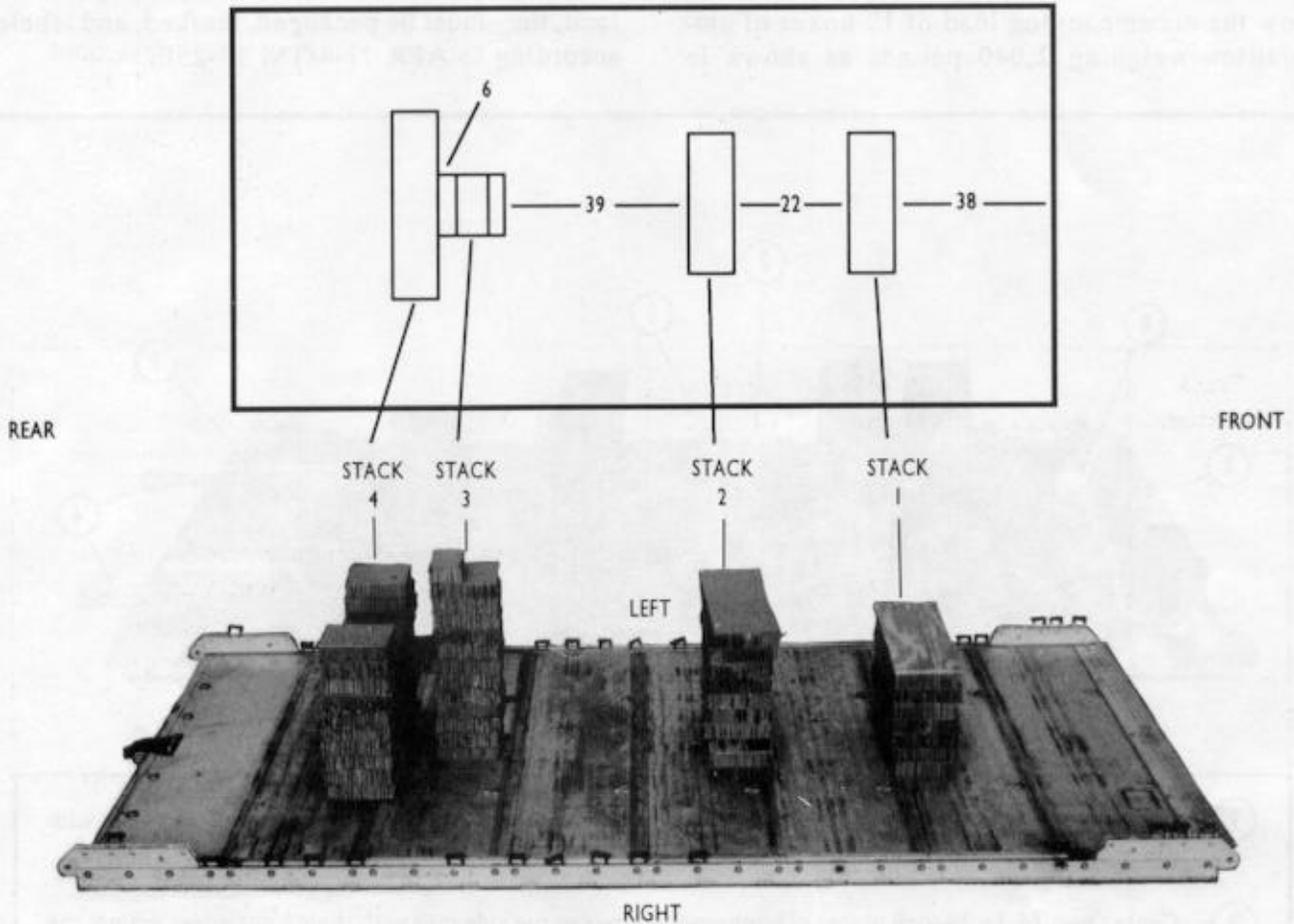
Note: All measurements are given in inches.



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3	6	12	12	Honeycomb	Form stack.
	1	12	30	Honeycomb	Place honeycomb flush on the stack to form a bridge to the rear.
	5	12	12	Honeycomb	Stack honeycomb over bridge, flush with base.
	1	12	6	Honeycomb	Place honeycomb on rear edge of stack.
4	6	48	12	Honeycomb	Form stack. Center honeycomb under the bridge from stack 3.
	2	18	12	Honeycomb	Place honeycomb one on each side of bridge and flush with stack.
	1	48	12	Honeycomb	Place honeycomb flush over bridge and adjacent pieces.
	4	12	12	Honeycomb	Place two pieces flush on each side of the stack.

Figure 3-2. Honeycomb stacks 1 through 4 prepared (continued)

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



Stack Number	Position of Stack on Platform
1	Place stack: Centered 38 inches from front edge of platform.
2	Centered 22 inches from stack 1.
3	Centered 39 inches from stack 2.
4	Centered 6 inches from stack 3.

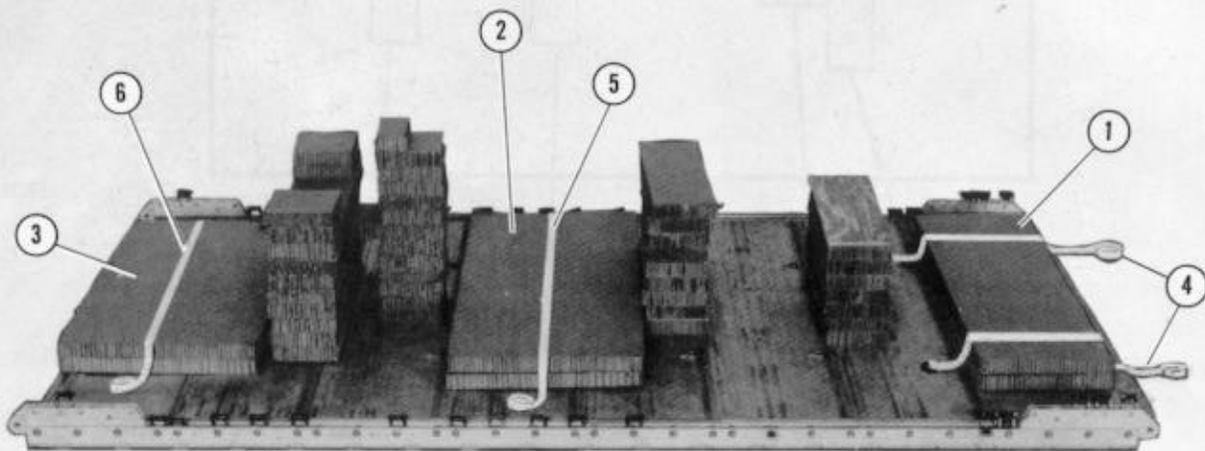
Figure 3-3. Honeycomb stacks placed on platform

3-4. Stowing Accompanying Load

CAUTION: Only ammunition listed in FM 10-553/TO 13C7-18-41 may be airdropped.

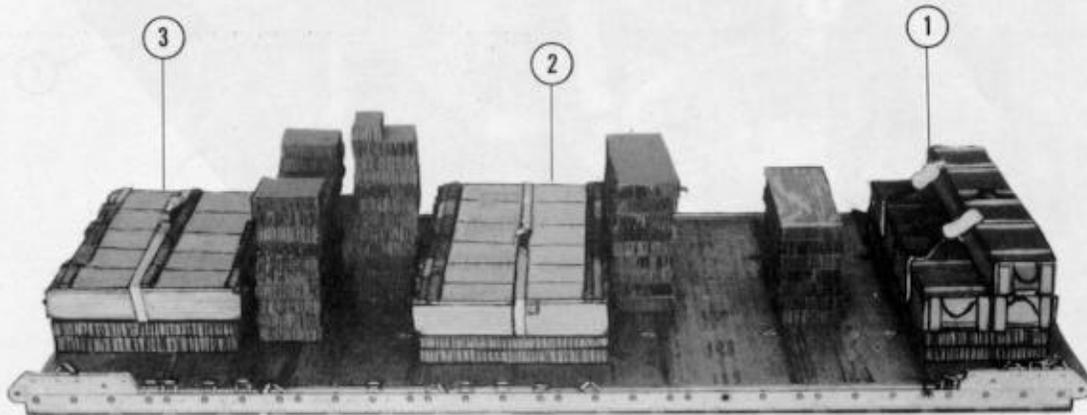
Stow the accompanying load of 17 boxes of ammunition weighing 2,040 pounds as shown in

Figures 3-4 through 3-9. Make sure the accompanying load meets the restrictions and requirements as outlined in FM 10-500-2/TO 13C7-1-5. When hazardous materials are rigged as part of the load, they must be packaged, marked, and labeled according to AFR 71-4/TM 38-250.



- ① Center two 74- by 24-inch pieces of honeycomb between the side rails with their front edges flush with the front edge of the platform.
- ② Center two 74- by 36-inch pieces of honeycomb between the side rails with their front edges against the rear edge of stack 2.
- ③ Center two 62- by 36-inch pieces of honeycomb between the side rails with their rear edges flush with the rear edge of the platform.
- ④ Lay two 15-foot lashings from front to rear on the front pieces of honeycomb.
- ⑤ Lay one 15-foot lashing from side to side on the middle pieces of honeycomb.
- ⑥ Lay one 15-foot lashing from side to side on the rear pieces of honeycomb.

Figure 3-4. Honeycomb and lashings placed on platform

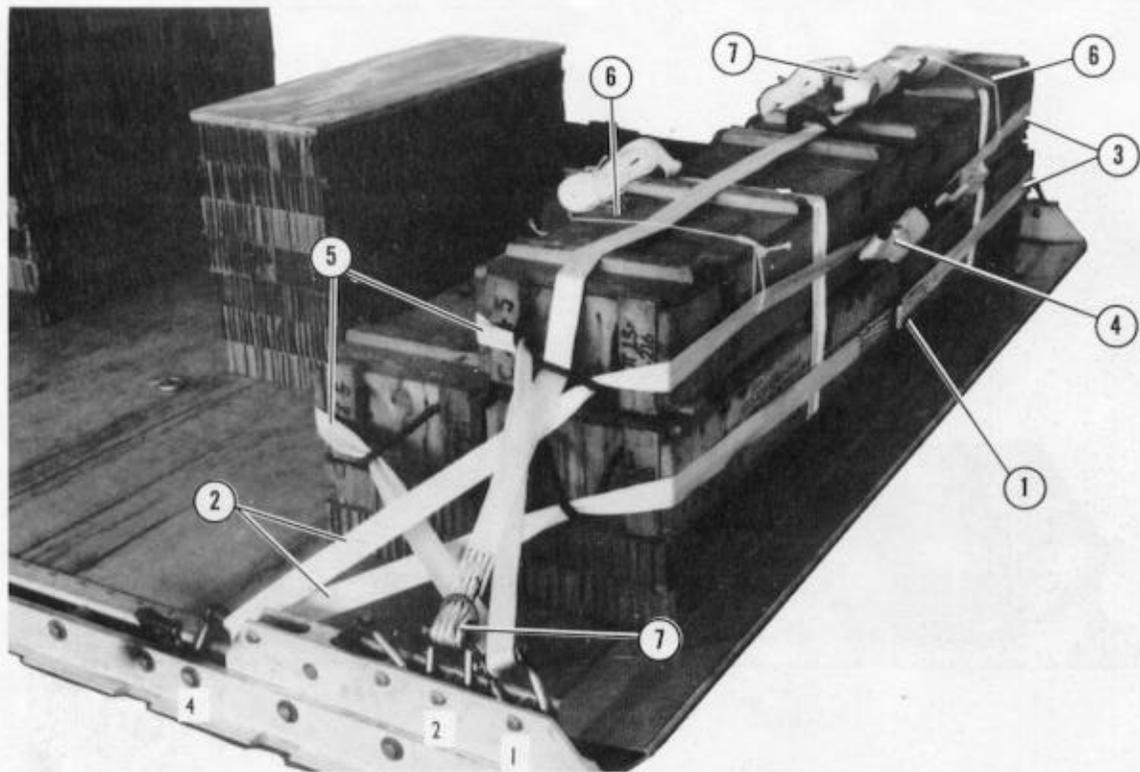


- ① Set four boxes of ammunition on top of the lashings and honeycomb on the front of the platform. Place two more boxes on top with their front edges aligned with the front boxes. Secure each lashing with a D-ring and a load binder.

Note: Two boxes of APERS rounds may be substituted for the two rear boxes of ammunition in this stack. This ammunition will extend past the honeycomb.

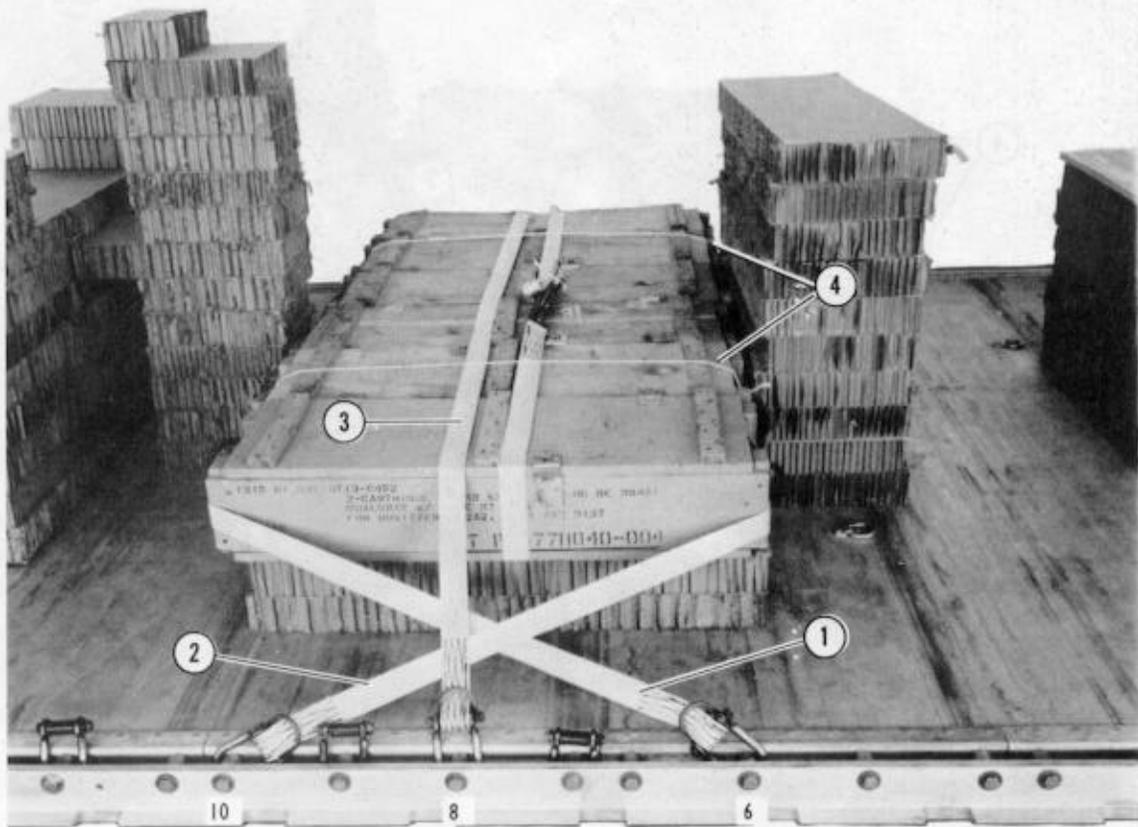
- ② Set six boxes of ammunition on the lashing and honeycomb in the middle of the platform. Secure the lashing with a D-ring and a load binder.
- ③ Set five boxes of ammunition on the lashing and honeycomb on the rear of the platform. Secure the lashing with a D-ring and a load binder.

Figure 3-5. Boxes of ammunition secured with lashings



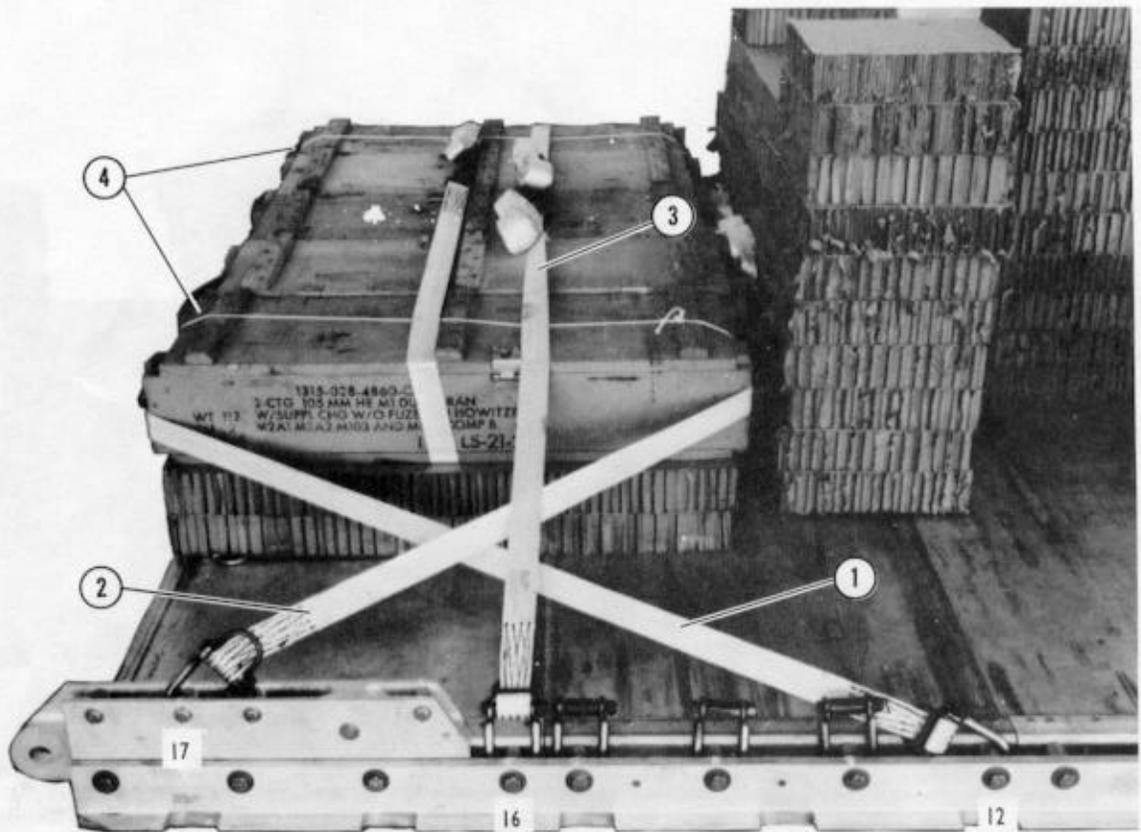
- ① Form a 30-foot lashing according to FM 10-500-2/TO 13C7-1-5. Place the double D-rings at the center of the bottom boxes at the front of the platform.
- ② Pass one end of the lashing through the handle of the bottom box, through clevis 4, up through the handle of the top box, and back to the center of the top boxes.
- ③ Pass the other end of the lashing to the other side of the load as in step 2, but using clevis 4A.
- ④ Secure the lashing with two D-rings and a load binder at the center of the top ammunition boxes.
- ⑤ Repeat steps 1 through 4, running a lashing around the rear of the boxes using clevises 1 and 1A.
- ⑥ Tie the lashings together with two lengths of type III nylon cord on the right and left sides of the load.
- ⑦ Pass the free end of a 15-foot lashing through clevis 2 and through its own D-ring. Pass the free end of a 15-foot lashing through clevis 2A and through its own D-ring. Pass each lashing through the handle of the top box and to the center of the boxes. Secure the lashings on top of the boxes with two D-rings and a load binder.

Figure 3-6. Boxes of ammunition lashed to front of platform



- ① Pass the free end of a 15-foot lashing through clevis 6 and through its own D-ring. Pull the lashing taut, and run it through the rear handles of the boxes. Fit a D-ring to the end of the lashing, and hook the D-ring to clevis 6A with a load binder.
- ② Pass the free end of a 15-foot lashing through clevis 10 and through its own D-ring. Pull the lashing taut, and run it through the front handles of the boxes. Fit a D-ring to the end of the lashing, and hook the D-ring to clevis 10A with a load binder.
- ③ Pass the free end of a 15-foot lashing through clevis 8 and through its own D-ring. Pull the lashing over the tops of the boxes. Fit a D-ring to the end of the lashing, and hook the D-ring to clevis 8A with a load binder.
- ④ Tie two lengths of type III nylon cord between the lashings on the ends of the boxes to keep the lashings in place.

Figure 3-7. Boxes of ammunition lashed to middle of platform



- ① Pass the free end of a 15-foot lashing through clevis 12 and through its own D-ring. Pull the lashing taut, and run it through the rear handles of the boxes. Fit a D-ring to the end of the lashing, and hook the D-ring to clevis 12A with a load binder.
- ② Pass the free end of a 15-foot lashing through clevis 17 and through its own D-ring. Run the free end of a 15-foot lashing through clevis 17A and through its own D-ring. Secure the lashings with two D-rings and a load binder.
- ③ Pass the free end of a 15-foot lashing through clevis 16 and through its own D-ring. Run the free end of a 15-foot lashing through clevis 16A and through its own D-ring. Secure the lashings with two D-rings and a load binder.
- ④ Tie two lengths of type III nylon cord between the lashings on the ends of the boxes to keep the lashings in place.

Figure 3-8. Boxes of ammunition lashed to rear of platform

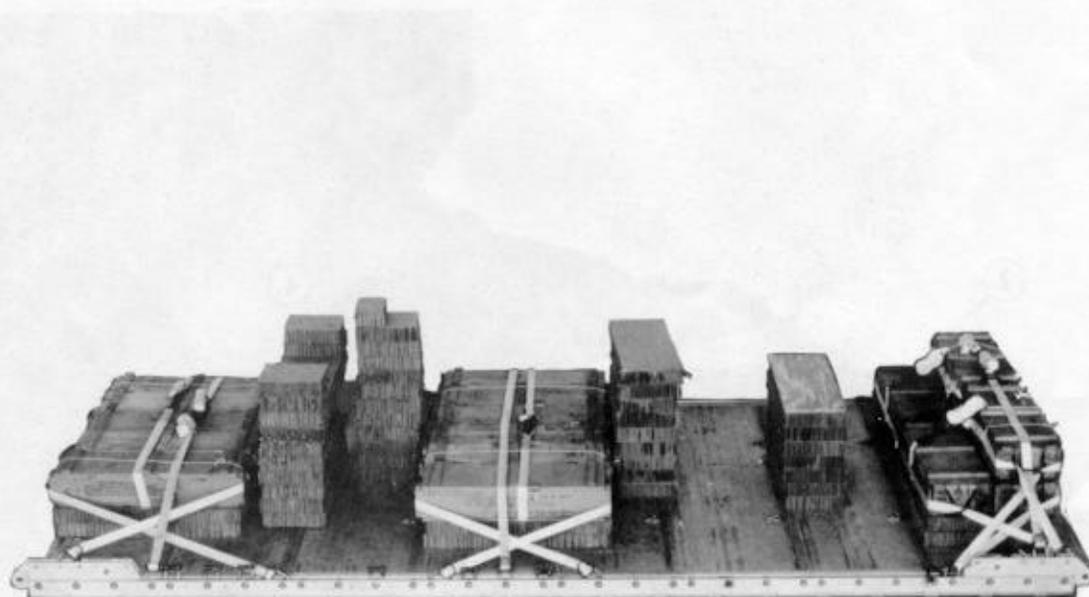


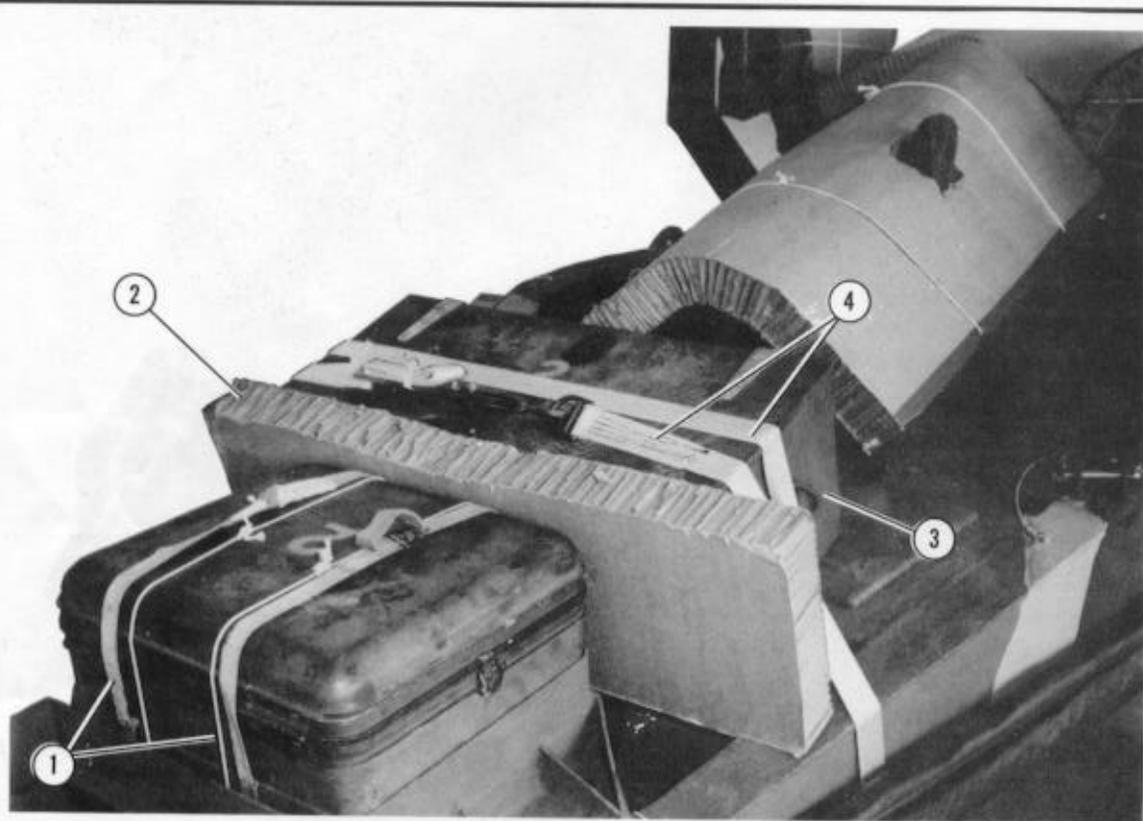
Figure 3-9. Seventeen boxes of ammunition lashed to the platform

3-5. Preparing Howitzer and Equipment

Prepare the howitzer as shown in Figures 3-10 and 3-11 and as described below. Construct the collimator box as shown in Figure 3-12.

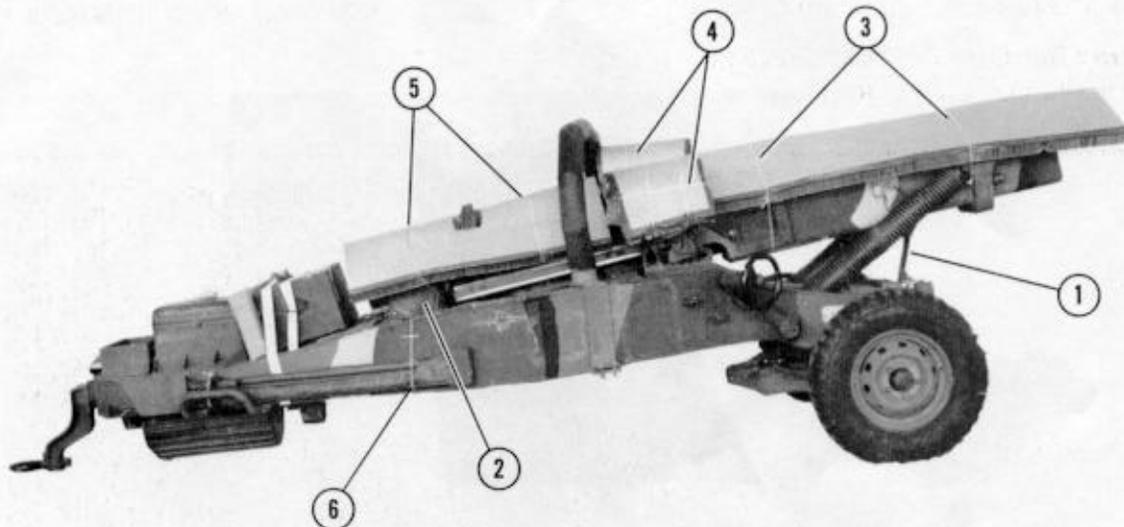
a. Stowing Equipment. Place the section tools and base plate anchoring stakes in the section chest.

b. Securing Rammer Staff. Secure the rammer staff assembly on the left side of the trails with its own securing strap. Safety it with type III nylon cord.



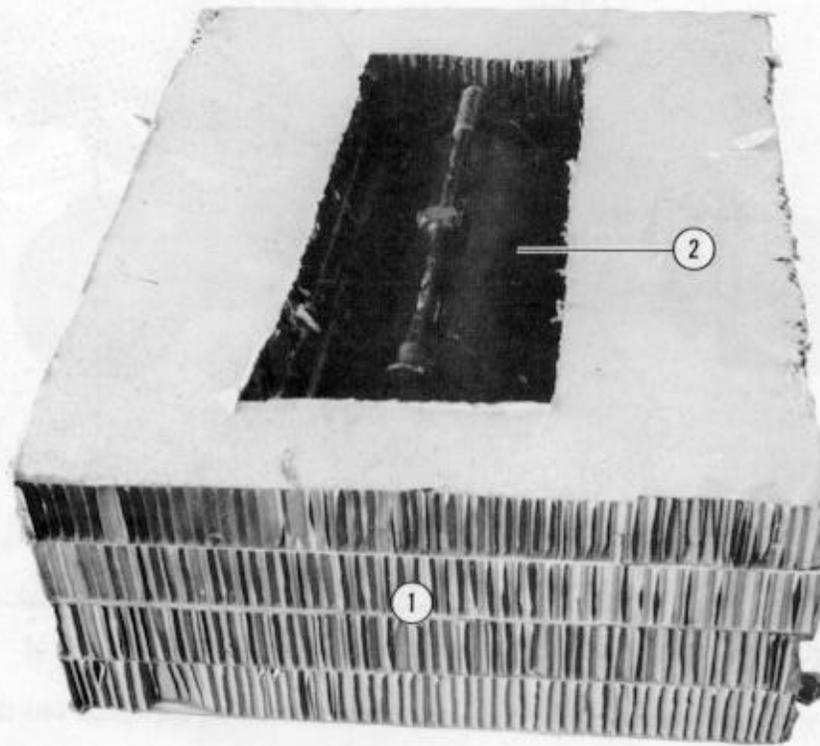
- ① Fasten the straps on the sight case. Tie the case to the howitzer with two lengths of type III nylon cord.
- ② Place a 12- by 36-inch piece of honeycomb in front of the sight case.
- ③ Set the section chest against the padded sight case.
- ④ Pass the ends of a 15-foot lashing down each side of the section chest, through the handles, around the trails, and back up through the handles. Secure the lashing on top of the chest with a D-ring and a load binder.

Figure 3-10. Sight case and section chest secured



- ① Secure the gun in the out-of-battery position and lock the travel lock.
- ② Cover the sights and breechblock with the cloth cover provided. Plug the muzzle with the plug provided.
- ③ Place a 36- by 96-inch sheet of honeycomb over the gun tube. Notch the honeycomb 5 inches deep at both rear corners to clear the sights. Tape the edges of the honeycomb. Use type III nylon cord to tie the honeycomb in place.
- ④ Bend an 18- by 24-inch piece of honeycomb over each sight. Tape the edges of the honeycomb. Tie the honeycomb in place with type III nylon cord.
- ⑤ Place a 36- by 48-inch piece of honeycomb over the breechblock. Make a 5- by 5-inch cutout to allow for the breech operator handle. Tape the edges of the honeycomb. Use two lengths of type III nylon cord to tie the honeycomb in place.
- ⑥ Secure the aiming stakes on the right side of the gun with type III nylon cord.
- ⑦ Pad each wheel support arm with cellulose wadding (not shown).

Figure 3-11. Howitzer prepared

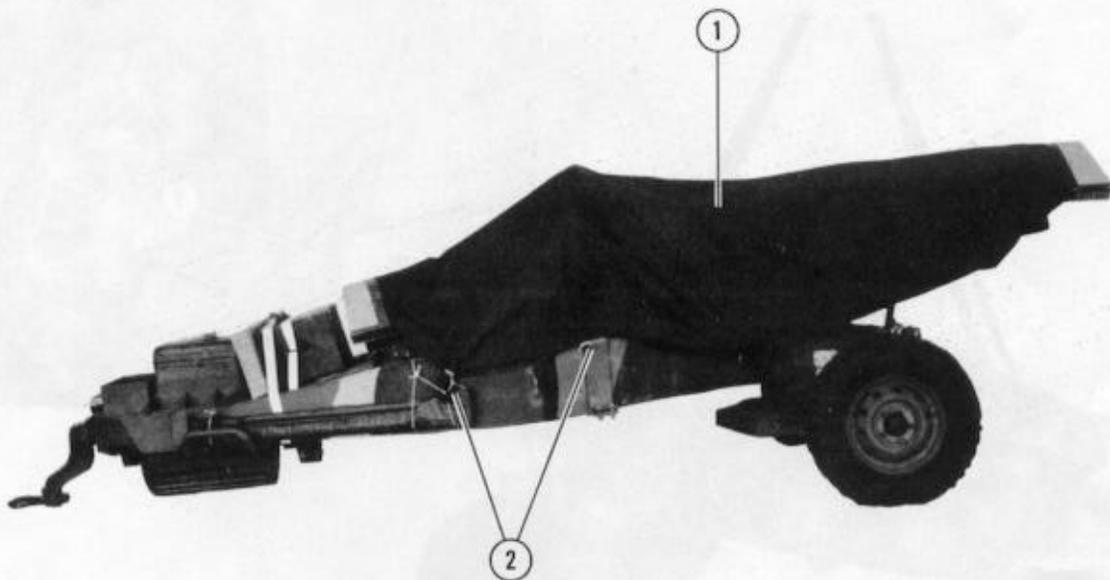


- ① Cut five 27- by 36-inch pieces of honeycomb. Make an 11- by 27-inch cutout in the center of three of the pieces. Glue the three pieces with cutouts flush over a solid piece.
- ② Pad the collimator generously with cellulose wadding, and place it in the honeycomb box.
- ③ Tie the remaining solid piece of honeycomb flush over the box with lengths of 1/2-inch tubular nylon webbing (not shown).

Figure 3-12. Collimator box constructed

3-6. Covering Load

Cover the load as shown in Figure 3-13.

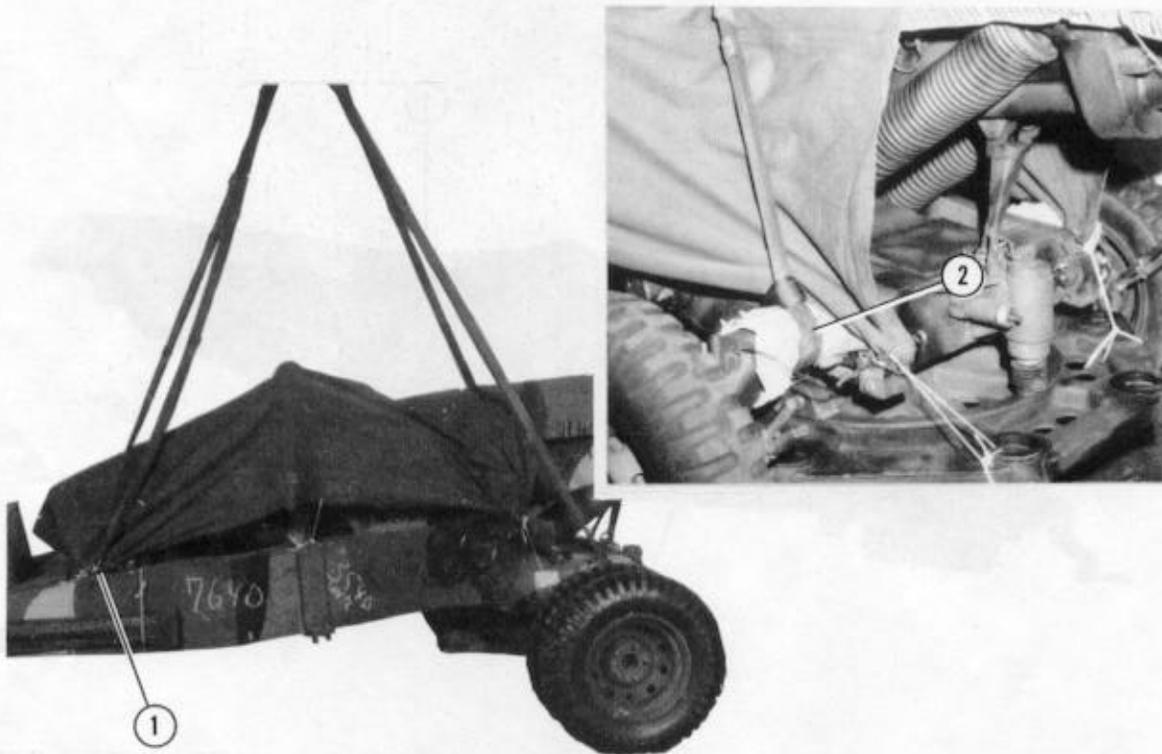


- ① Cover the breech and gun tube with a 10- by 12-foot piece of cotton duck cloth.
- ② Secure it to convenient points on the gun with type III nylon cord.

Figure 3-13. Load covered

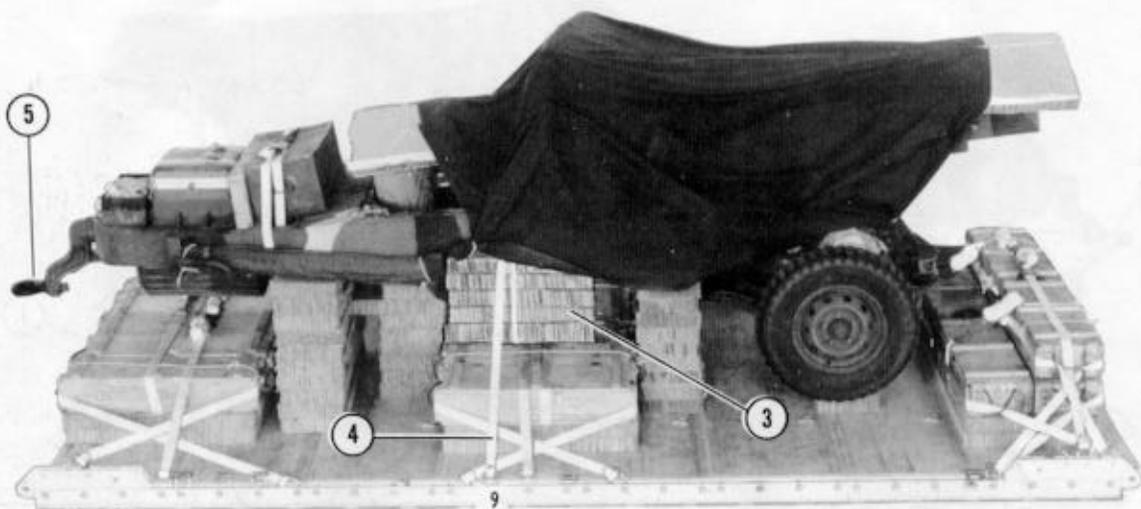
3-7. Stowing Collimator Box and Setting Howitzer on Platform

Stow the collimator box on the load, and set the howitzer on the platform as shown in Figure 3-14.



- ① Attach a 9-foot (2-loop), type XXVI nylon sling to each lifting point on the gun trails. Safety the pin in the lifting point with type III nylon cord. Extend the slings upward to the crane hook.
- ② Run an 11-foot (2-loop), type XXVI nylon sling around each wheel support arm and through its own loop. Extend the slings upward to the crane hook.

Figure 3-14. Collimator box stowed and howitzer set on platform

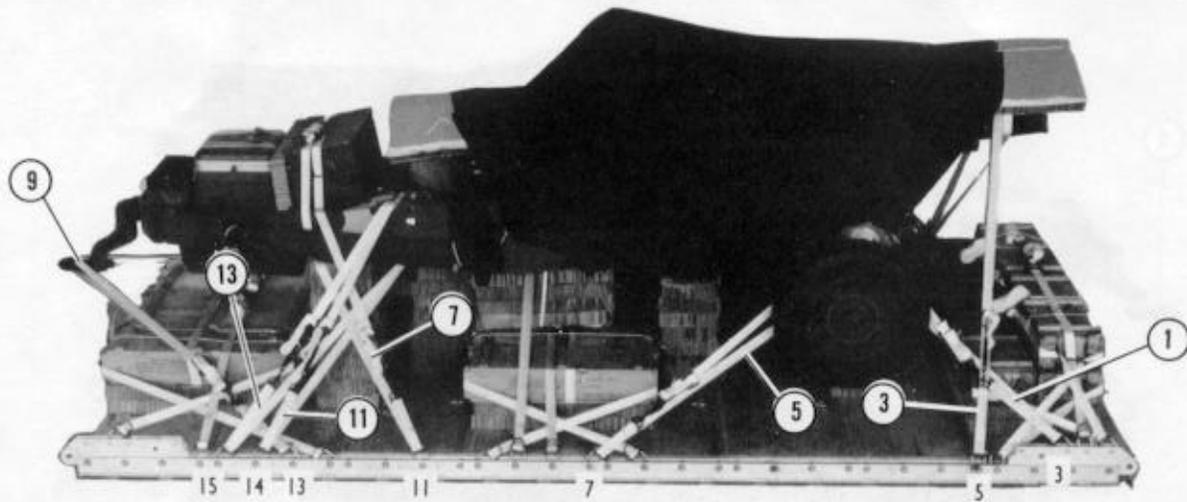


- ③ Center the collimator box lengthwise on the middle stack of ammunition boxes flush against stack 3.
- ④ Pass the free end of a 15-foot lashing through clevis 9 and through its own D-ring. Pull the lashing over the top of the collimator box. Fit a D-ring to the end of the lashing, and hook the D-ring to clevis 9A with a load binder.
- ⑤ Set the howitzer on the honeycomb stacks with the breechblock on stack 3 and the baseplate against stack 2. The lunette must overhang the rear of the platform 16 inches.
- ⑥ Remove the lifting slings (not shown).

Figure 3-14. Collimator box stowed and howitzer set on platform (continued)

3-8. Lashing Howitzer

Lash the howitzer to the platform with fourteen 15-foot lashings as shown in Figure 3-15. Install and safety the lashings according to FM 10-500-2/TO 13C7-1-5.

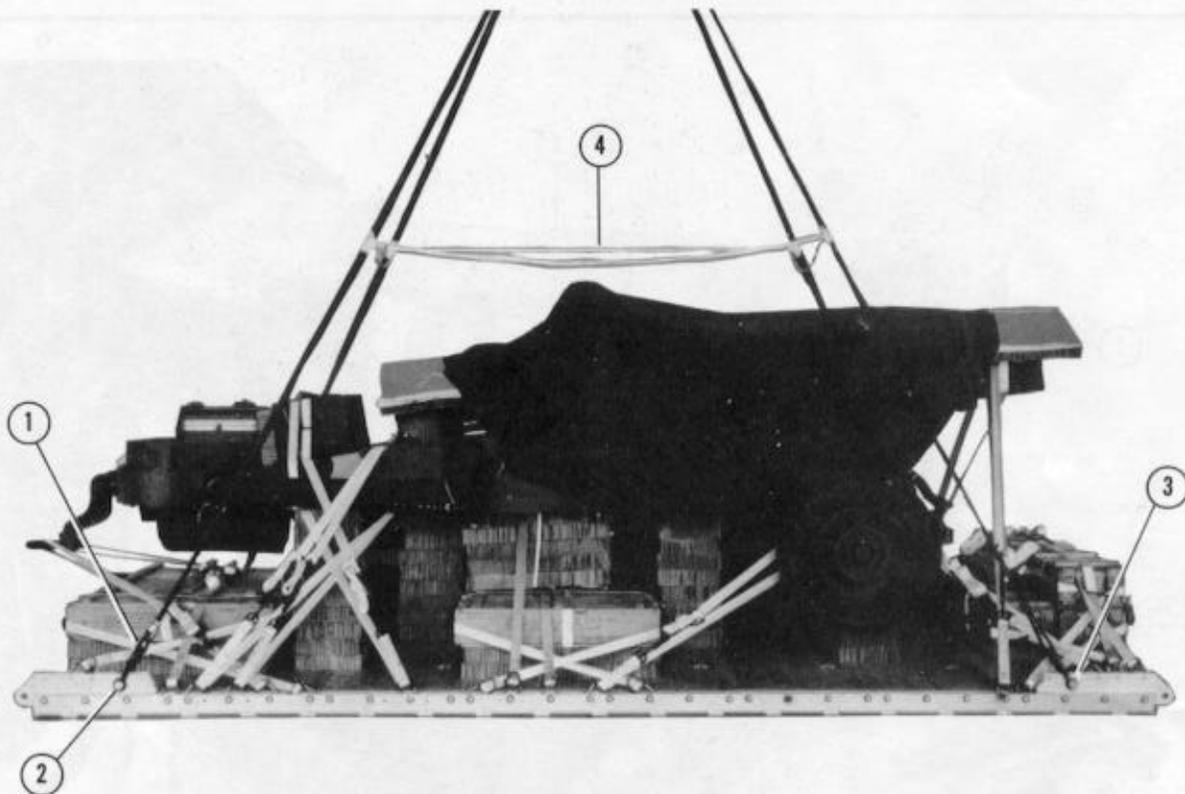


Lashing Number	Tie-Down Clevis Number	Instructions
1	3	Pass lashing: Around right wheel support arm.
2	3A	Around left wheel support arm.
3	5	Under recoil rail assembly and around tube.
4	5A	Under recoil rail assembly and around tube.
5	7	Around right wheel support arm.
6	7A	Around left wheel support arm.
7	11	Around right trail.
8	11A	Around left trail.
9	13	Through lunette.
10	13A	Through lunette.
11	14	Around right trail.
12	14A	Around left trail.
13	15	Around right trail.
14	15A	Around left trail.

Figure 3-15. Lashings installed

3-9. Installing Suspension Slings and Deadman's Tie

Install the suspension slings and deadman's tie according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 3-16.



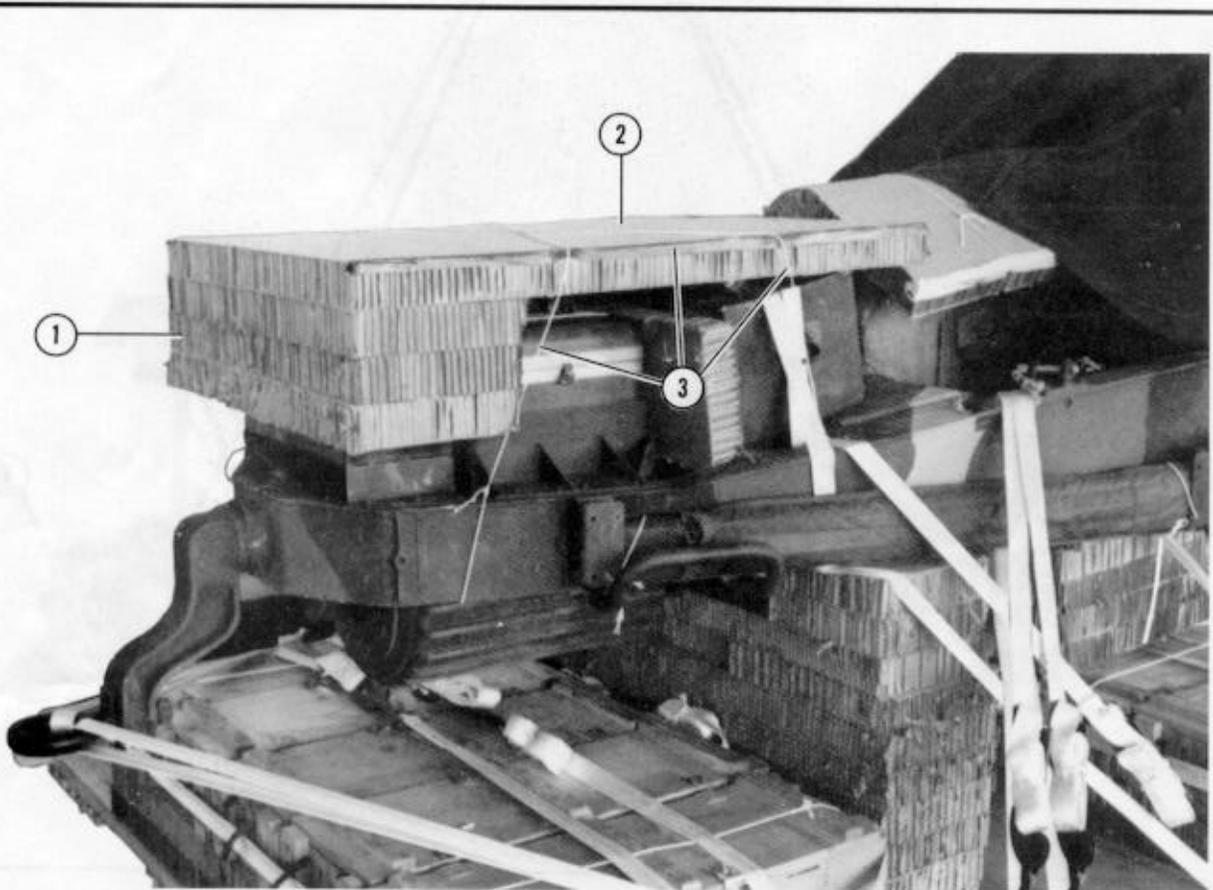
- ① Place the bell portion of a large clevis onto the end loop of a 16-foot (2-loop), type XXVI suspension sling.
- ② Bolt the clevis to a tandem link using the 1-inch hole in the top of the link.
- ③ Repeat steps 1 and 2 for the other three tandem links.
- ④ Extend the slings to a crane hook or other stationary point. Install the deadman's tie as outlined in FM 10-500-2/TO 13C7-1-5.

Figure 3-16. Suspension slings and deadman's tie installed

3-10. Preparing Stowage Platform and Stowing Cargo Parachutes

Prepare the stowage platform and stow the cargo parachutes as described below.

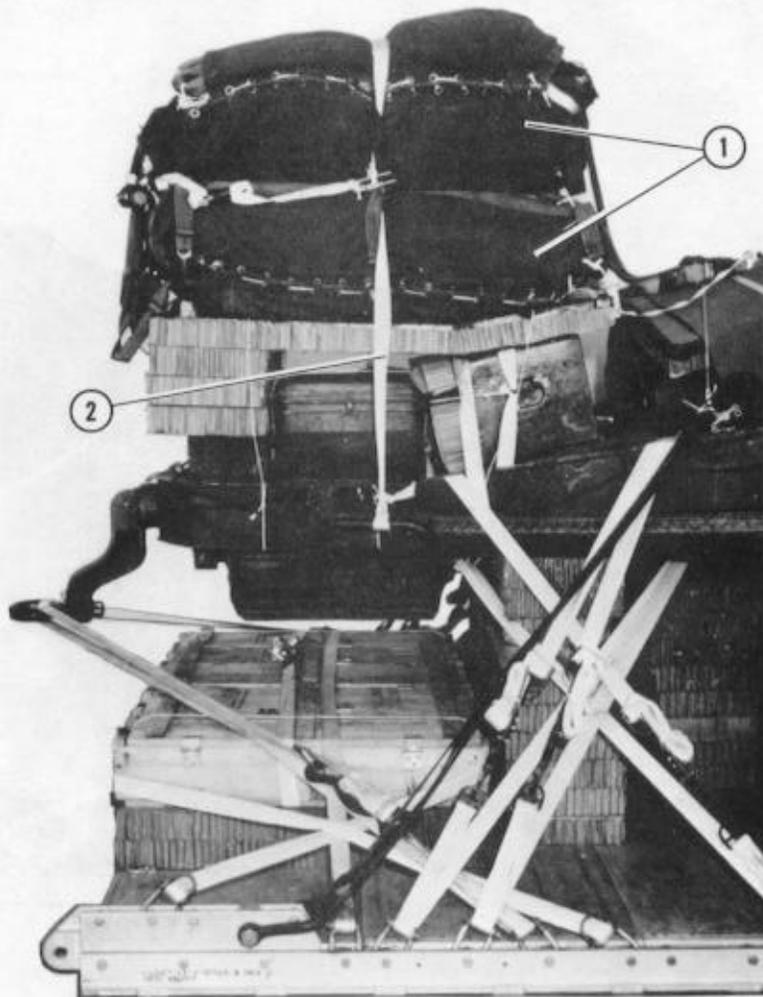
a. Preparing Stowage Platform. Prepare the cargo parachute stowage platform as shown in Figure 3-17.



- ① Glue three 12- by 36-inch pieces of honeycomb flush with one 36-inch end of a 36- by 48-inch piece of honeycomb.
- ② Center the stack on the rear of the trails with the long piece of honeycomb facing the front.
- ③ Tape the top 48-inch edges of the stack. Tie the stack to the trails with two lengths of type III nylon cord.

Figure 3-17. Stowage platform prepared and stowed

b. Stowing Parachutes. Prepare and stow two G-11A or G-11B cargo parachutes according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 3-18.

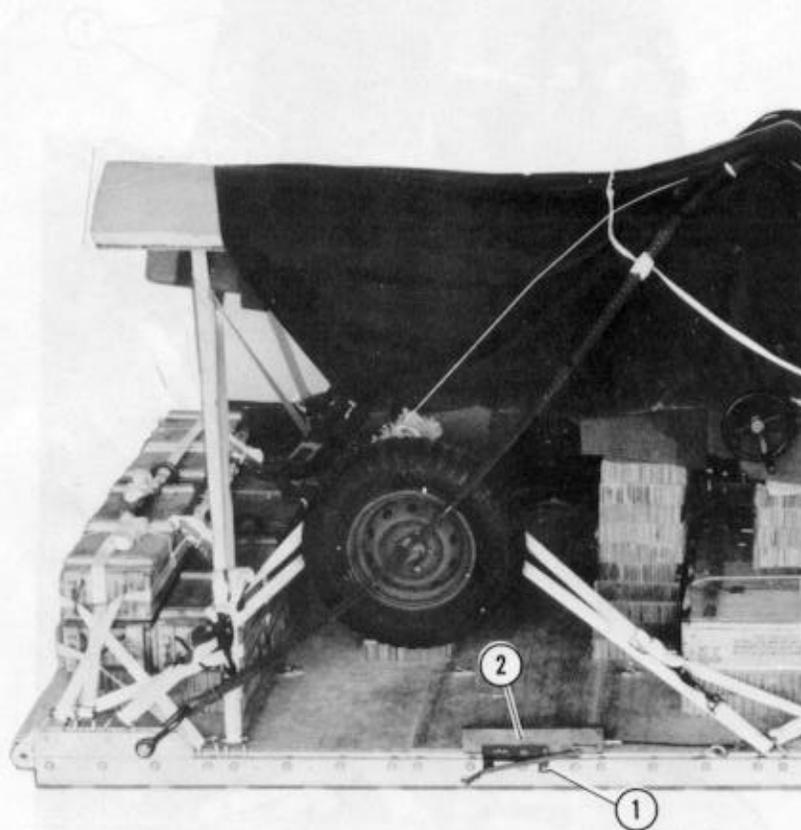


- ① Stack two G-11A or G-11B cargo parachutes on the stowage platform. Install them on the load according to FM 10-500-2/TO 13C7-1-5.
- ② Tie the restraint strap to the lifting handles on the trails.

Figure 3-18. Cargo parachutes stowed

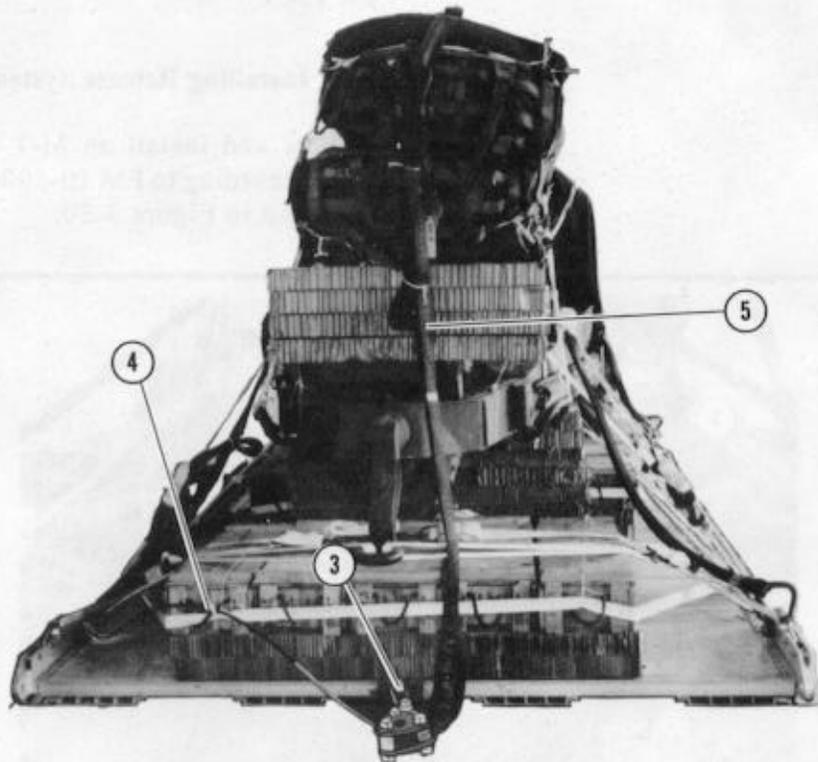
3-11. Installing Extraction System

Install the components of the EFTC system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 3-19.



- ① Install the EFTC mounting brackets to the rear set of holes on the left platform side rail.
- ② Install the actuator according to FM 10-500-2/TO 13C7-1-5.

Figure 3-19. EFTC installed



- ③ Install the latch assembly and latch assembly adapter to the extraction bracket according to FM 10-500-2/TO 13C7-1-5.
- ④ Install a 16-foot cable according to FM 10-500-2/TO 13C7-1-5. Tie it to the carrying handle on the first ammunition box at the rear of the load with 1/4-inch, type I cotton webbing.
- ⑤ Install a 16-foot deployment sling on the load. Bolt it to the latch assembly. S-fold the slack, and tie the folds with 1/4-inch, type I cotton webbing.

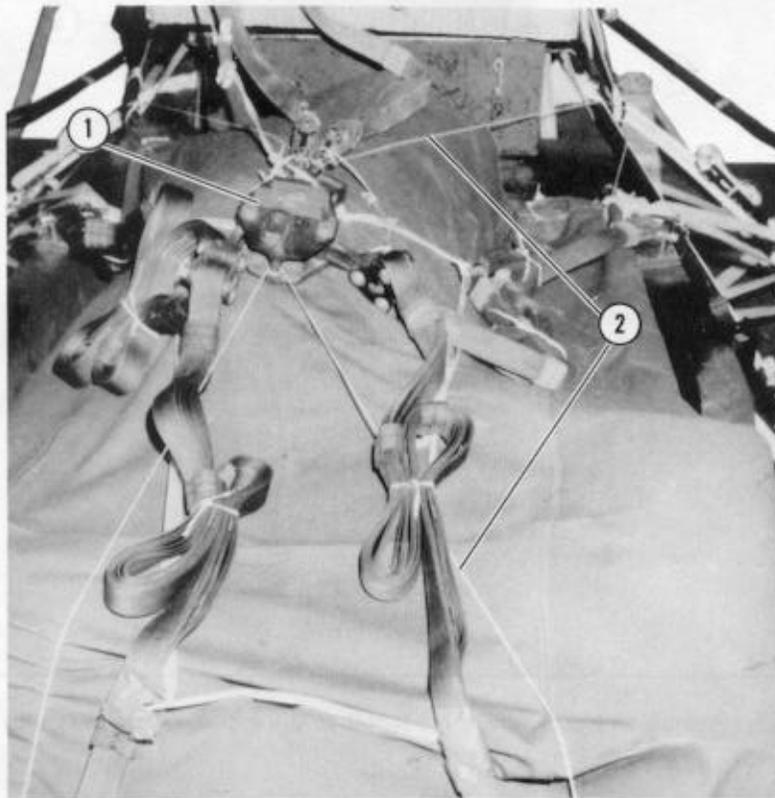
Figure 3-19. EFTC installed (continued)

3-12. Installing Provisions for Emergency Restraints

Install provisions for emergency restraints on the front of the platform according to FM 10-500-2/TO 13C7-1-5.

3-13. Installing Release System

Prepare and install an M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 3-20.



- ① Prepare and install an M-1 cargo parachute release as described in FM 10-500-2/TO 13C7-1-5. Set the release on the load cover directly above the breechblock.
- ② Tie the release to convenient points on the load with two lengths of type III nylon cord.

Figure 3-20. M-1 release installed

3-14. Placing Extraction Parachute

Place the extraction parachute as described below.

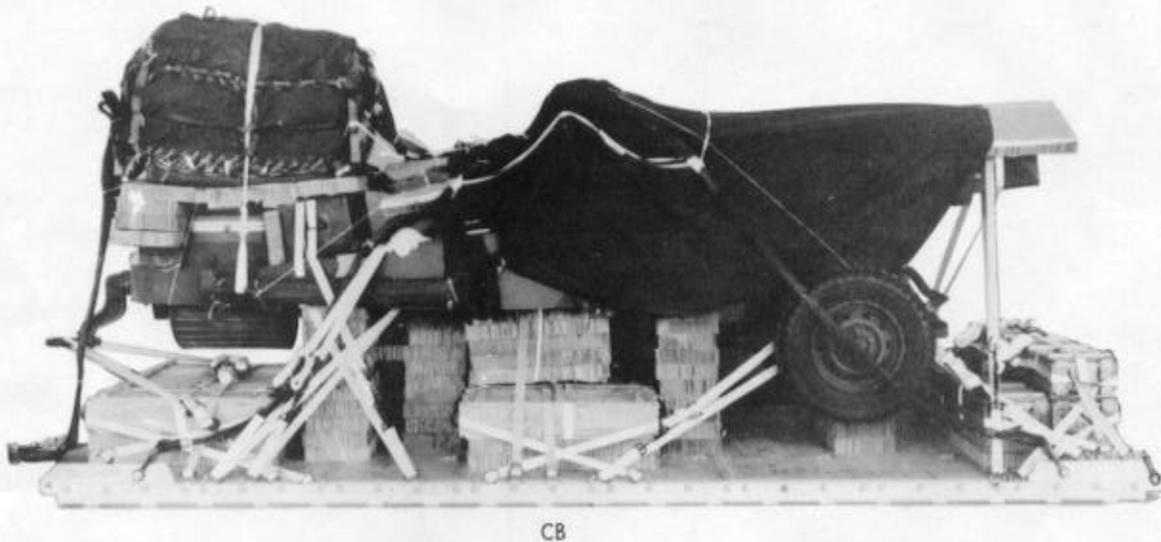
a. C-130 Aircraft. Place a 22-foot cargo extraction parachute and a 60-foot (3-loop), type XXVI nylon extraction line on the load for installation in the aircraft.

b. C-141 Aircraft. Place an unreefed 15-foot cargo extraction parachute on the load for installation in the aircraft. Place a continuous 160-foot (1-loop), type XXVI nylon extraction line on this load for installation in the aircraft.

3-15. Marking Rigged Load

Mark the rigged load as described in FM 10-500-2/TO 13C7-1-5 and as shown in Figure 3-21. If the accompanying load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

CAUTION: 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	8,060 pounds
	Maximum load allowed	9,000 pounds
Height	.....	90 1/2 inches
Width	.....	108 inches
Length	.....	216 inches
Overhang:	Front (nose bumper)	5 1/2 inches
	Rear (parachute)	19 inches
CB (from front edge of platform)	.....	98 inches
Extraction system	.....	EFTC

Figure 3-21. M102 howitzer rigged for low-velocity airdrop on a type V platform

3-16. Equipment Required

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

Table 3-1. Equipment required for rigging the M102 howitzer for low-velocity airdrop on a type V platform

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
	Clevis, suspension:	
4030-00-678-8562	3/4-in (medium) (emergency restraint)	4
4030-00-090-5354	1-in (large)	6
8305-00-242-3593	Cloth, cotton duck, 60-in	8 yd
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5785	Coupling, airdrop, extraction force transfer w 16-ft cable	1
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-ft (3-loop) <u>or</u>	1
1670-01-107-7652	160-ft (1-loop)	1
1670-00-783-5988	Link assembly, type IV	1
1670-00-753-3928	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in:	10 sheets
	12- by 6-in	(1)
	12- by 12-in	(15)
	12- by 30-in	(1)
	12- by 48-in	(7)
	18- by 12-in	(2)
	18- by 24-in	(1)
	27- by 36-in	(5)
	36- by 12-in	(21)
	36- by 48-in	(2)
	36- by 96-in	(1)
	62- by 36-in	(2)
	74- by 24-in	(2)
	74- by 36-in	(2)
	Parachute:	
	Cargo:	
1670-00-269-1107	G-1 | A <u>or</u>	2
1670-01-016-7841	G-1 | B	2

Table 3-1. Equipment required for rigging the M102 howitzer for low-velocity airdrop on a type V platform (continued)

National Stock Number	Item	Quantity
	Cargo extraction:	
1670-00-052-1548	15-ft (for C-141) <u>or</u>	1
1670-01-063-3715	15-ft (for C-141)	1
1670-01-063-3716	22-ft (for C-130)	1
	Platform, AD, type V, 16-ft:	1
	Bracket:	
1670-01-162-2375	Inside EFTA	(1)
1670-01-162-2374	Outside EFTA	(1)
1670-01-162-2372	Clevis assembly	34
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link	(4)
5530-00-128-4981	Plywood, 3/4-in:	
	12- by 36-in	1 sheet
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo airdrop:	
	For deployment line:	
1670-00-823-5042	16-ft (3-loop), type X nylon webbing <u>or</u>	1
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	1
	For lifting:	
1670-00-753-3631	9-ft (3-loop), type X nylon webbing <u>or</u>	2
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	2
1670-00-823-5040	11-ft (3-loop), type X nylon webbing <u>or</u>	2
1670-01-063-7760	11-ft (2-loop), type XXVI nylon webbing	2
	For riser extension:	
1670-00-753-3794	20-ft (2-loop), type X nylon webbing <u>or</u>	2
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	2
	For suspension:	
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	4
1670-00-040-8219	Strap parachute release, multicut comes w 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-ft	34
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
	Nylon:	
	Tubular:	
8305-00-082-5752	1/2-in	As required
8305-00-263-3591	Type VIII	As required

Section II

**RIGGING HOWITZER WITH 23 BOXES OF AMMUNITION
FOR LOW-VELOCITY
AIRDROP ON TYPE V PLATFORM**

3-17. Description of Load

This load is rigged the same as the M102 howitzer in Section I, except for the addition of six ammunition boxes, the placement of the collimator, and the placement of the EFTC actuator bracket. This load requires two G-11B cargo parachutes.

3-18. Preparing Platform

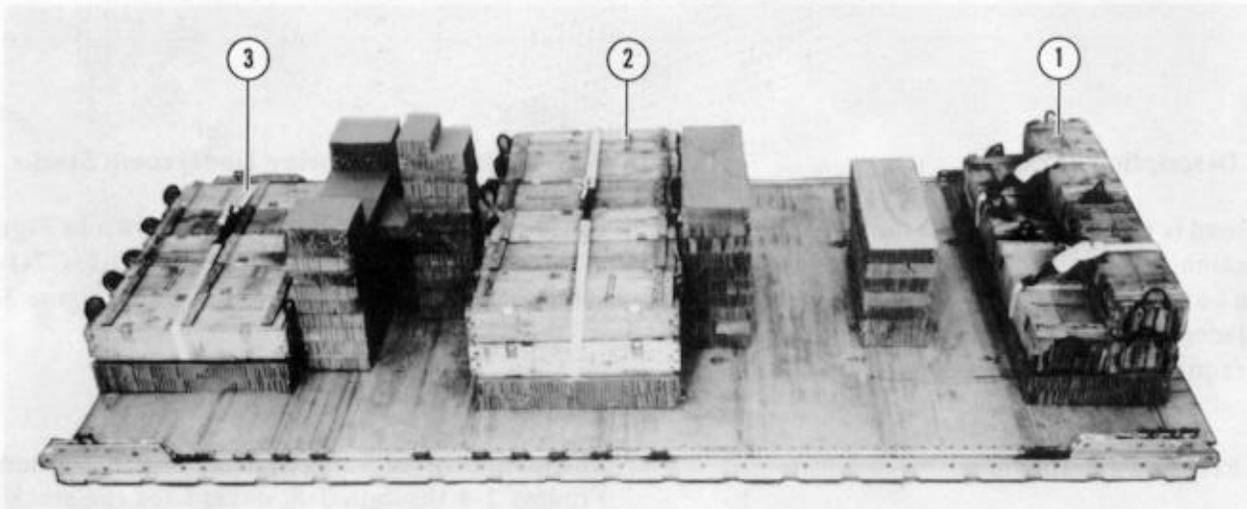
Prepare the platform as described in paragraph 3-2 and as shown in Figure 3-1.

3-19. Building and Placing Honeycomb Stacks

Build four honeycomb stacks as shown in Figure 3-2 and according to FM 10-500-2/TO 13C7-1-5. Place them on the platform as shown in Figure 3-3.

3-20. Stowing Accompanying Load

The ammunition is rigged as shown in Section I, Figures 3-4 through 3-8, except for the stack of ammunition in the middle of the platform. Stow the accompanying load of 23 boxes of ammunition weighing 2,760 pounds as shown in Figures 3-4, 3-6, 3-8, 3-22, 3-23, and 3-24.

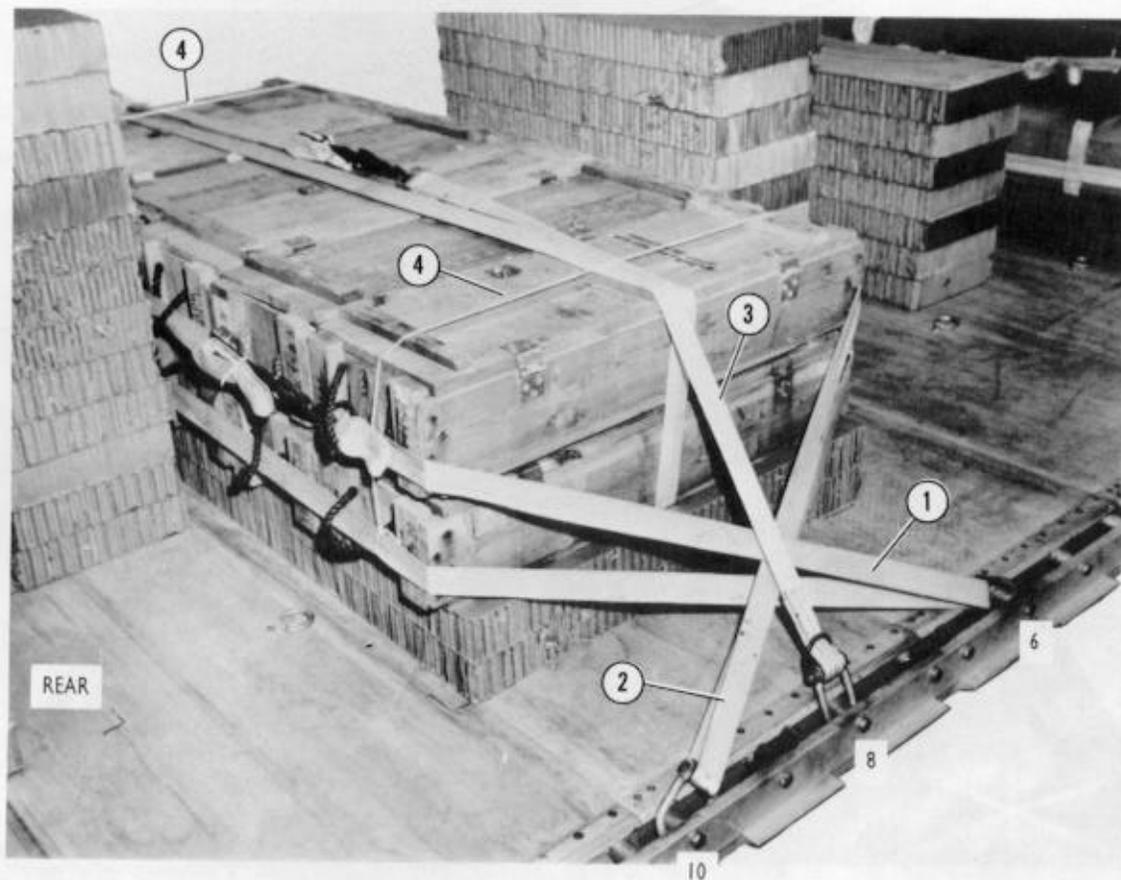


- ① Set four boxes of ammunition on top of the lashings and honeycomb on the front of the platform. Place two more boxes on top with their front edges aligned with the front boxes. Secure each lashing with a D-ring and a load binder.

Note: Two boxes of APERS or HERAP rounds may be substituted for the two rear boxes of ammunition in this stack. This ammunition will extend past the honeycomb.

- ② Set 12 boxes of ammunition on the lashing and honeycomb in the middle of the platform. Secure the lashing with a D-ring and a load binder.
- ③ Set five boxes of ammunition on the lashing and honeycomb on the rear of the platform. Secure the lashing with a D-ring and a load binder.

Figure 3-22. Boxes of ammunition secured with lashings



- ① Form a 30-foot lashing according to FM 10-500-2/TO 13C7-1-5. Pass the ends of the lashing through the rear handles of the lower row of boxes, through clevises 6 and 6A, and through the rear handles of the upper row of boxes. Secure the lashing at the rear of the boxes with two D-rings and a load binder.
- ② Form a 30-foot lashing according to FM 10-500-2/TO 13C7-1-5. Pass the ends of the lashing through the front handles of the lower row of boxes, through clevises 10 and 10A, and through the front handles of the upper row of boxes. Secure the lashing at the front of the boxes with two D-rings and a load binder.
- ③ Pass a 15-foot lashing through clevis 8 and through its own D-ring. Pull the lashing over the tops of the boxes. Fit a D-ring to the end of the lashing and secure the lashing to clevis 8A with a load binder.
- ④ Tie two lengths of type III nylon cord between the lashings on the ends of the boxes to keep the lashings in place.

Figure 3-23. Boxes of ammunition lashed to middle of platform

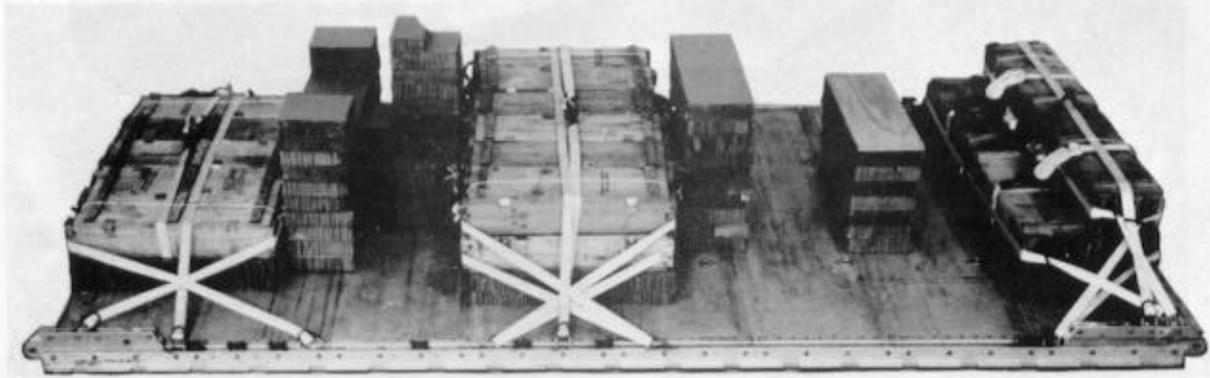
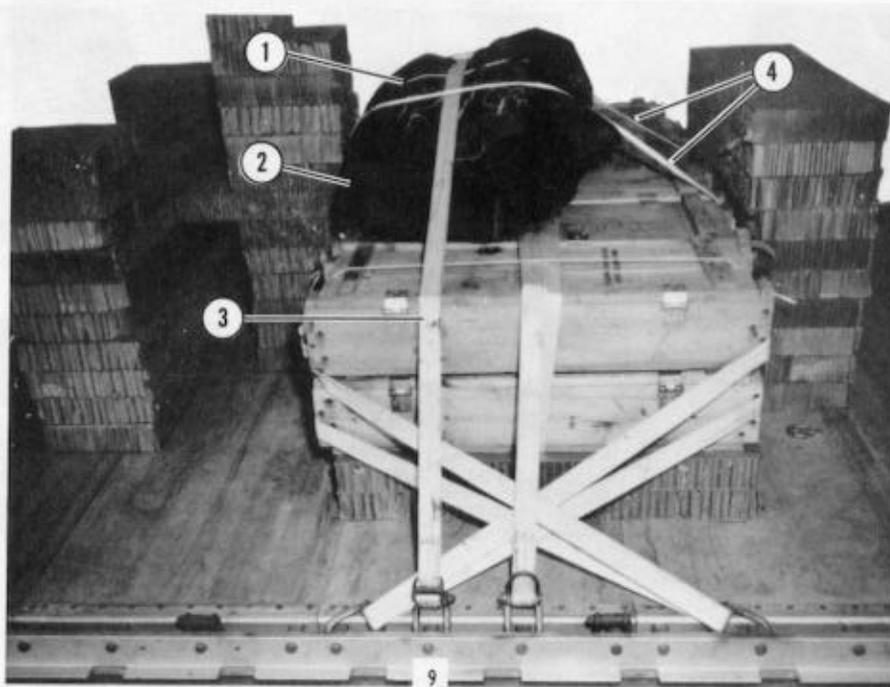


Figure 3-24. Twenty-three boxes of ammunition lashed to the platform

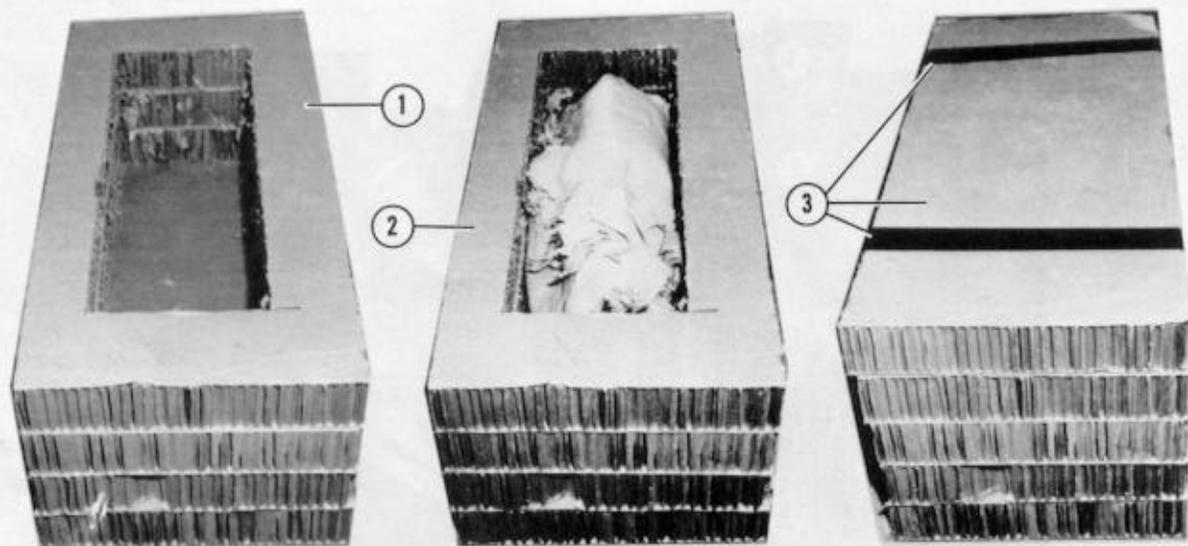
3-21. Preparing Howitzer and Equipment

Prepare the howitzer as described in paragraph 3-5 and as shown in Figures 3-10 and 3-11. Stow the external air transport slings as shown in Figure 3-25. Prepare the collimator as shown in Figure 3-26.



- ① Wrap the external air transport slings in an A-22 cargo bag assembly.
- ② Center the bag on the middle ammunition stack flush with the rear edge of the stack.
- ③ Pass a 15-foot lashing through clevis 9 and through its own D-ring. Pull the lashing over the sling bag. Fit a D-ring to the end of the lashing and secure the lashing to clevis 9A with a load binder.
- ④ Tie the bag to the lashings placed in Figure 3-23, steps 1 and 2, in two places with 1/2-inch tubular nylon webbing.

Figure 3-25. External air transport slings stowed



- ① Cut five 16- by 36-inch pieces of honeycomb. Make a 9- by 26-inch cutout in the center of three of the pieces. Glue the three pieces with cutouts flush over a solid piece.
- ② Pad the collimator generously with cellulose wadding and place it in the collimator box.
- ③ Place the remaining solid piece of honeycomb flush over the box, and tape the box shut with 2-inch cloth-backed tape.

Figure 3-26. Collimator prepared

3-22. Covering Load

Cover the load as shown in Figure 3-13.

3-23. Stowing Collimator Box and Setting Howitzer on Platform

Stow the collimator box on the load and set the howitzer on the platform as shown in Figure 3-27. Lift the howitzer as shown in Figure 3-14, steps 1 and 2.

3-24. Lashing Howitzer

Lash the howitzer to the platform with fourteen 15-foot lashings as shown in Figure 3-15. Install and safety the lashings according to FM 10-500-2/TO 13C7-1-5.

3-25. Installing Suspension Slings and Deadman's Tie

Install four 16-foot (2-loop), type XXVI nylon suspension slings as shown in Figure 3-16. Safety

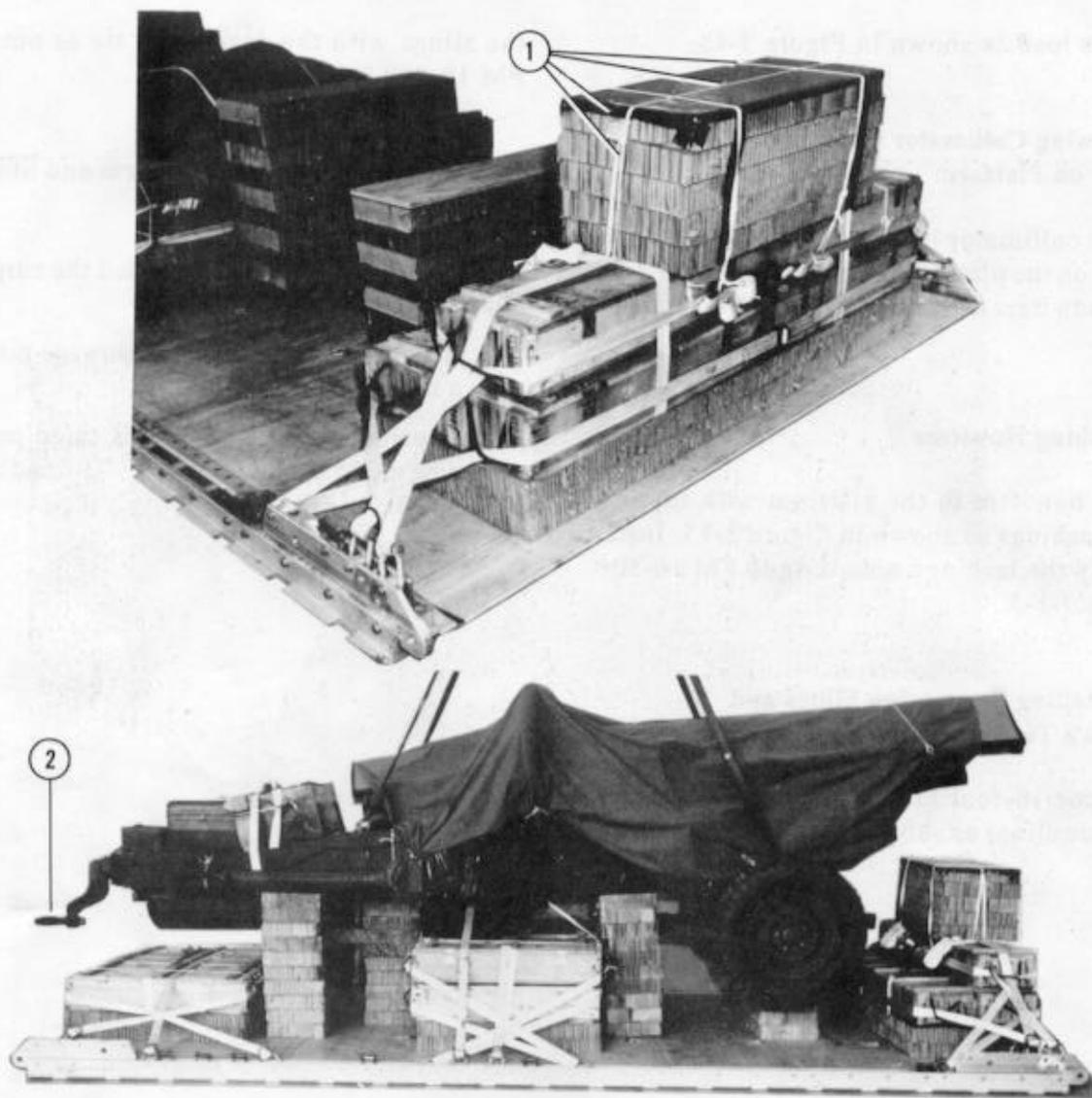
the slings with the deadman's tie as outlined in FM 10-500-2/TO 13C7-1-5.

3-26. Preparing Stowage Platform and Stowing Cargo Parachutes

Prepare the stowage platform and the cargo parachutes as described below.

a. Prepare the cargo parachute stowage platform as shown in Figure 3-17.

b. Prepare and stow two G-11B cargo parachutes according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 3-18.

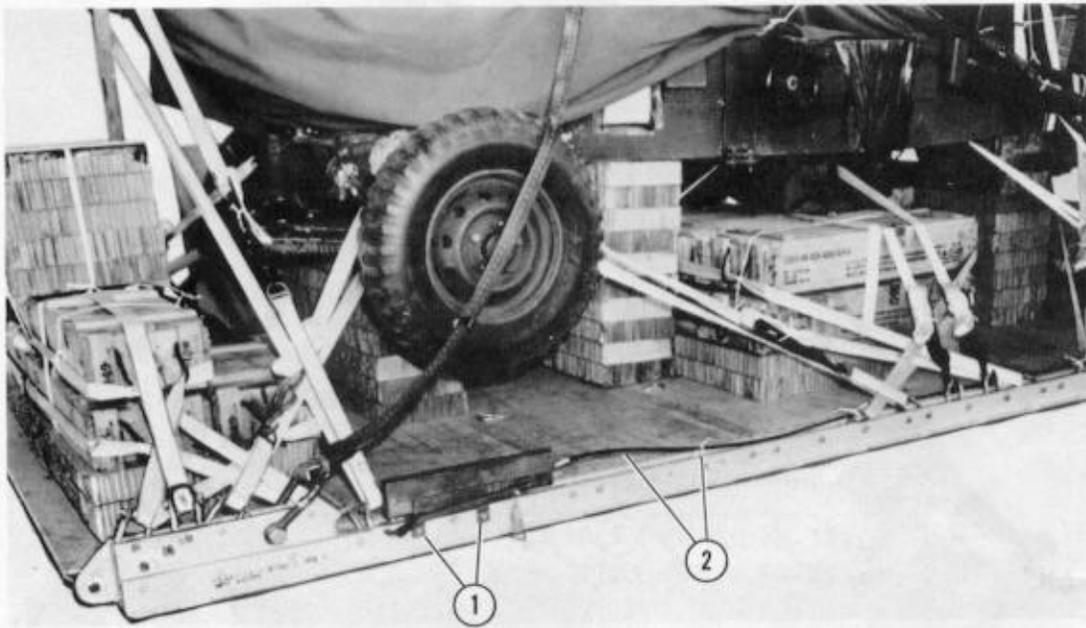


- ① Tape the top edges of the collimator box. Center the collimator box on the front stack of boxes. Tie the box to the lashings using three lengths of 1/2-inch tubular nylon webbing.
- ② Set the howitzer on the honeycomb stacks with the breechblock on stack 3 and the base plate against stack 2. The lunette must overhang the rear of the platform 16 inches.
- ③ Remove the lifting slings (not shown).

Figure 3-27. Collimator box stowed and howitzer set on platform

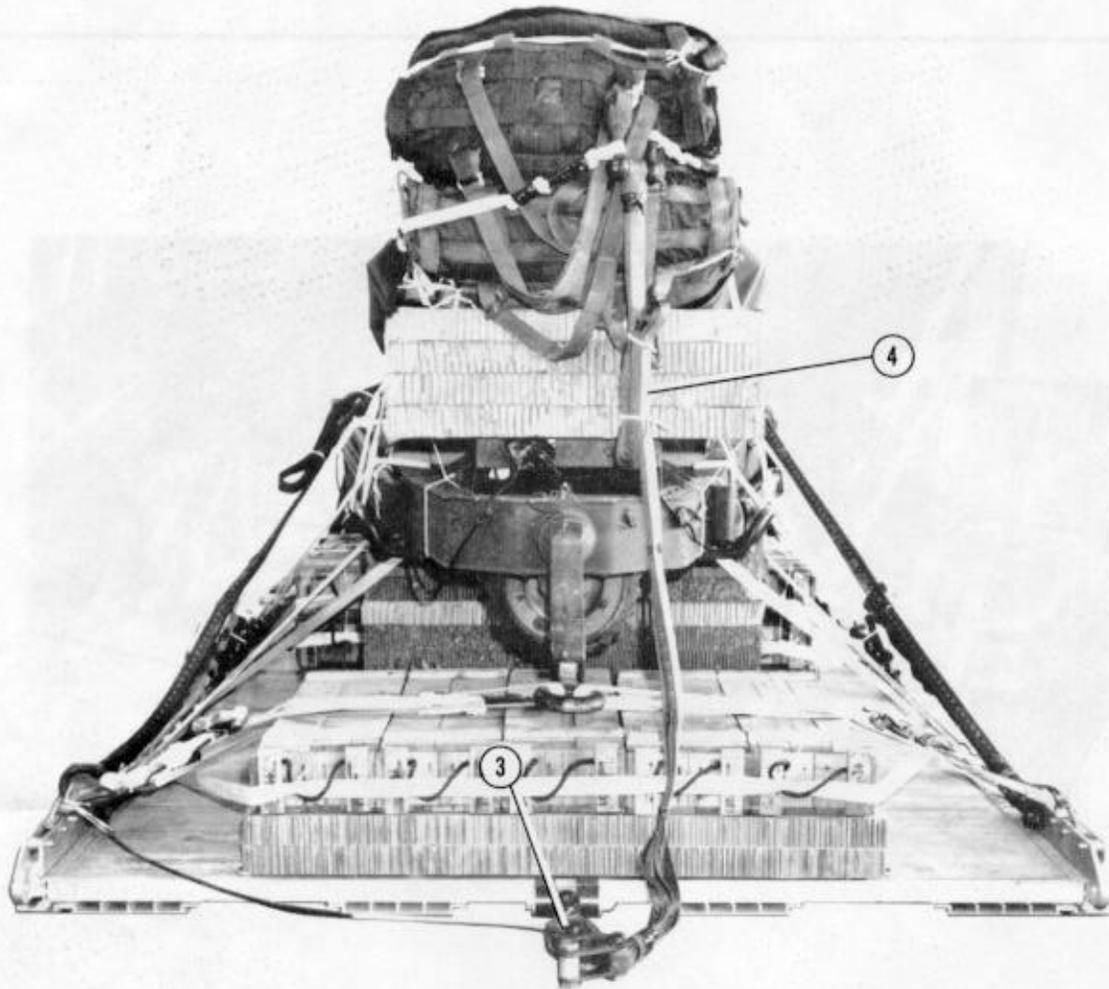
3-27. Installing Extraction System

Install the components of the EFTC system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 3-28.



- ① Install the EFTC mounting brackets to the front set of holes on the left platform side rail.
- ② Attach a 16-foot release cable to the actuator. Install the actuator to the EFTC mounting brackets. Run the cable to the rear of the load. Safety the cable to convenient points along the left rail as shown with 1/4-inch cotton webbing.

Figure 3-28. EFTC installed

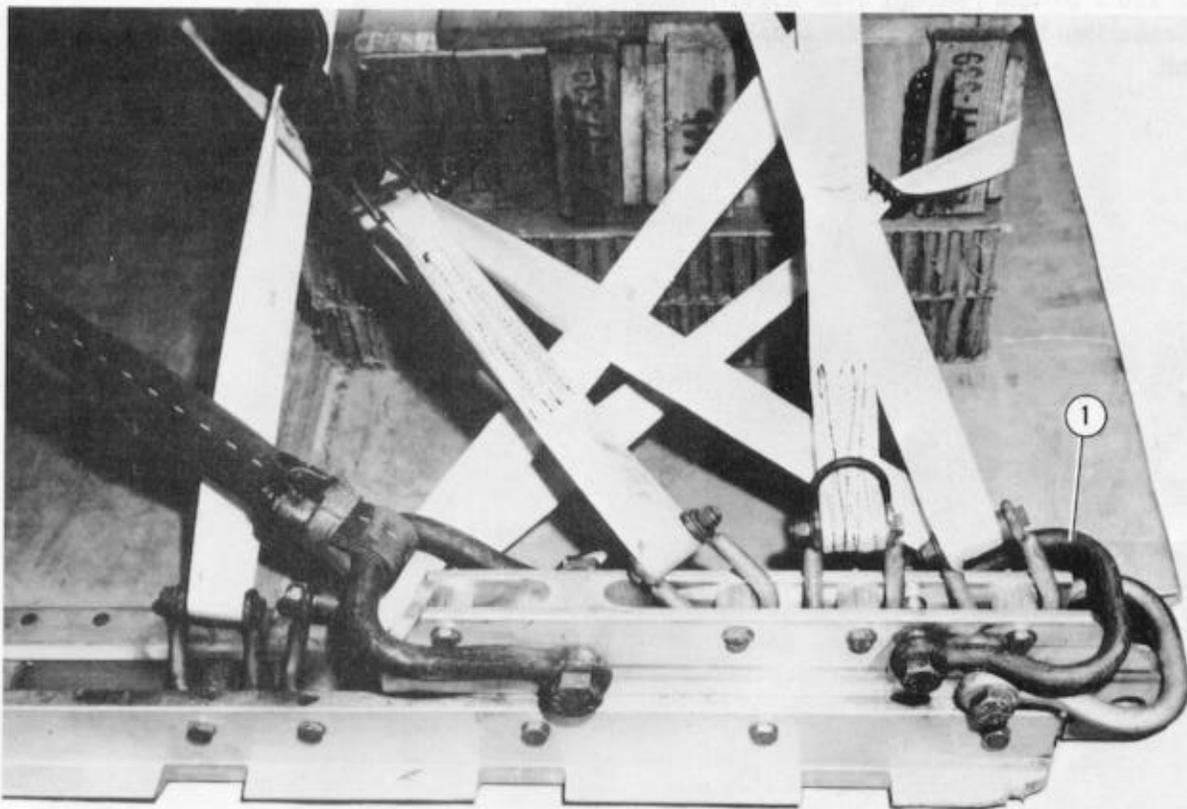


- ③ Install the latch assembly to the extraction bracket. Attach the release cable to the latch assembly.
- ④ Install a 16-foot (2-loop) nylon webbing sling as the deployment line.

Figure 3-28. EFTC installed (continued)

3-28. Installing Provisions for Emergency Restraints

Install provisions for emergency restraints according to FM 10-500-2/TO 13C7-1-5. Figure 3-29 shows restraint provisions for the C-130 aircraft.



- ① Attach two medium suspension clevises to each of the top two emergency restraint provision holes of each front tandem link.

Figure 3-29. Provisions for emergency restraints installed for C-130 aircraft

3-29. Installing Release System

Prepare and install an M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 3-20.

3-30. Placing Extraction Parachute

Place the extraction parachute as described below.

a. C-130 Aircraft. Place a 22-foot cargo extraction parachute and a 60-foot (3-loop), type XXVI nylon webbing extraction line on the load for installation in the aircraft.

b. C-141 Aircraft. Place a 22-foot cargo extraction parachute and a 140-foot (3-loop), type XXVI nylon webbing extraction line on the load for installation in the aircraft.

3-31. Marking Rigged Load

Mark the rigged load as described in FM 10-500-2/TO 13C7-1-5 and as shown in Figure 3-30. If the accompanying load varies from the one shown in Figure 3-30, the weight, height, CB, and parachute requirements must be recomputed.

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



CB

RIGGED LOAD DATA

Weight:	Load shown	8,800 pounds
	Maximum load allowed	9,000 pounds
Height	.....	90 1/2 inches
Width	.....	108 inches
Length	.....	216 1/2 inches
Overhang:	Front	5 1/2 inches
	Rear	19 inches
CB (from front edge of platform)	.....	98 inches
Extraction system	.....	EFTC

Figure 3-30. M102 howitzer rigged with 23 boxes of ammunition for low-velocity airdrop on a type V platform

3-32. Equipment Required

Use the equipment listed in Table 3-2 to rig this load. The equipment required for rigging the accompanying load is also included.

Table 3-2. Equipment required for rigging the M102 howitzer with 23 boxes of ammunition for a low-velocity airdrop on a type V platform

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
1670-00-587-3421	Bag, Cargo, A-22	1
	Clevis, suspension:	
4030-00-678-8562	3/4-in (medium) (emergency restraint)	4
4030-00-090-5354	1-in (large)	6
8305-00-242-3593	Cloth, cotton duck, 60-in	8 yd
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5785	Coupling, airdrop, extraction force transfer w 16-ft cable	1
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:	
1670-01-062-6313	60-ft (3-loop), type XXVI nylon webbing (for C-130)	1
1670-01-107-7651	140-ft (3-loop), type XXVI nylon webbing (for C-141)	1
	Link assembly, two-point, 3 3/4-inch	1
5306-00-435-8994	Bolt, 1-in diam, 4-in	(2)
5310-00-232-5165	Nut, 1-in	(2)
1670-00-003-1953	Plate, side, 3 3/4-in	(2)
5365-00-007-3414	Spacer, large	(2)
1670-00-753-3928	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in:	10 sheets
	12- by 6-in	(1)
	12- by 12-in	(15)
	12- by 30-in	(1)
	12- by 48-in	(7)
	16- by 36-in	(5)
	18- by 12-in	(2)
	18- by 24-in	(1)
	36- by 12-in	(20)
	36- by 48-in	(2)
	36- by 96-in	(1)
	62- by 36-in	(2)

Table 3-2. Equipment required for rigging the M102 howitzer with 23 boxes of ammunition for a low-velocity airdrop on a type V platform (continued)

National Stock Number	Item	Quantity
	74- by 24-in	(2)
	74- by 36-in	(2)
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11B	2
	Cargo extraction:	
1670-00-063-3716	22-ft	1
	Platform, AD, type V, 16-ft:	1
	Bracket:	
1670-01-162-2375	Inside EFTA	(1)
1670-01-162-2374	Outside EFTA	(1)
1670-01-162-2372	Clevis assembly	(34)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link	(4)
5530-00-128-4981	Plywood, 3/4- by 12- by 36-in	1
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo airdrop:	
	For deployment line:	
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	1
	For lifting:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	2
1670-01-063-7760	11-ft (2-loop), type XXVI nylon webbing	2
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	2
	For suspension:	
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	4
1670-00-040-8219	Strap, parachute release, multicut comes w 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-ft	36
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
	Nylon:	
	Tubular:	
8305-00-082-5752	1/2-in	As required
8305-00-263-3591	Type VIII (parachute restraint strap)	7 yd