

CHAPTER 9

RIGGING THE S-318/G SHELTER WITH AN/GRC-122 OR AN/GRC-142 COMMUNICATIONS EQUIPMENT INSTALLED FOR LOW-VELOCITY AIRDROP ON THE TYPE V PLATFORM

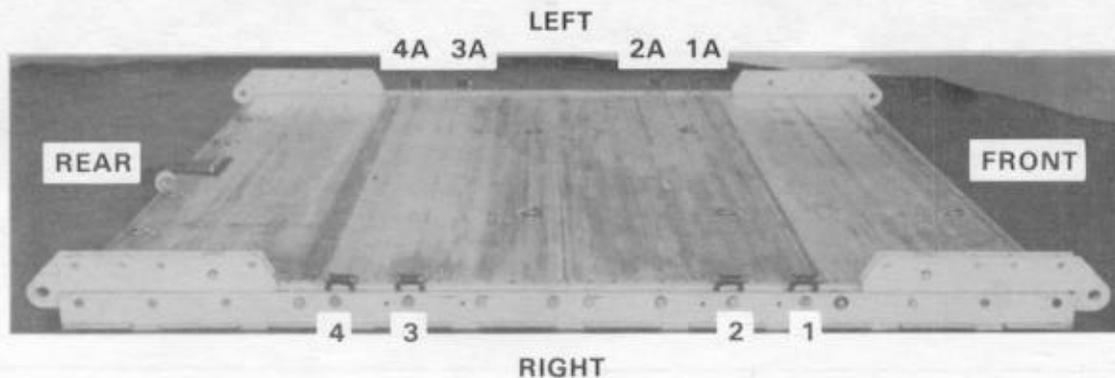
9-1. Description of Load

The S-318/G shelter (line number not available) is rigged on an 8-foot, type V airdrop platform for low-velocity airdrop. The load requires one G-11A or G-11B cargo parachute. The unrigged shelter with AN/GRC-122 communications equipment installed weighs 2,150 pounds. The shelter weighs 2,010 pounds with AN/GRC-142 communications equipment installed. It is 89 inches long, 76 inches high, and 72 inches wide. The length can vary, depending upon the air conditioner and vents installed.

9-2. Preparing Platform

Prepare an 8-foot, type V airdrop platform using four tandem links and eight clevis assemblies as shown in Figure 9-1.

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



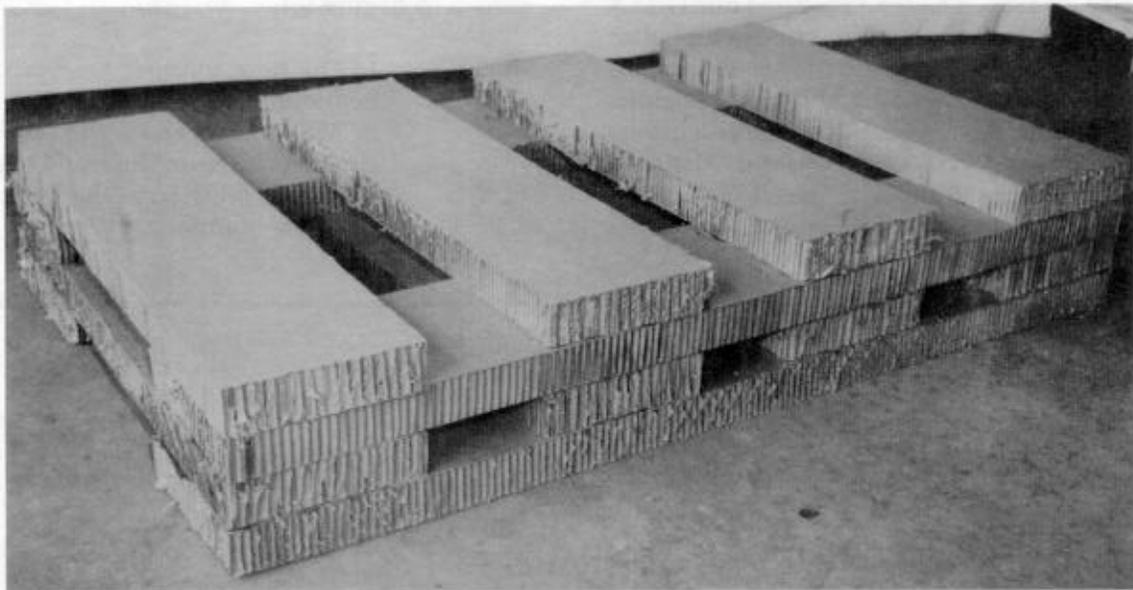
Step:

1. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3 and on the rear of each platform side rail using holes 14, 15, and 16.
3. Starting at the front of each platform side rail, install clevises on each platform side rail using the bushings bolted on holes 5, 6, 11, and 12.
4. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 4 and those bolted to the left side from 1A through 4A.

Figure 9-1. Platform prepared

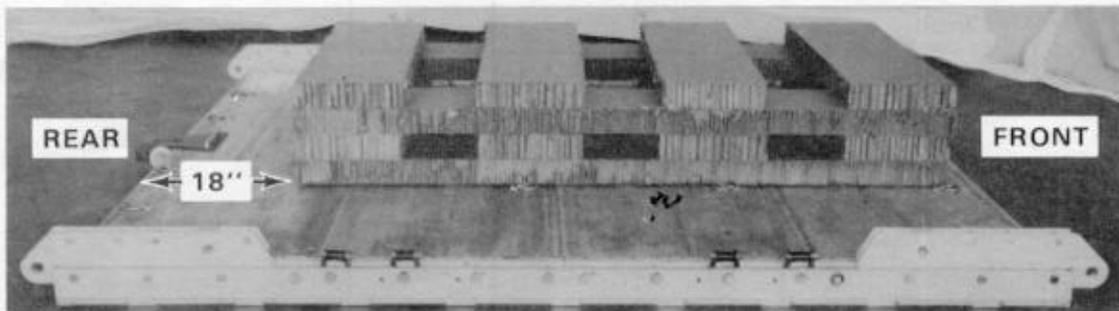
9-3. Preparing and Positioning Honeycomb Stack

Prepare the honeycomb stack as shown in Figure 9-2. Position the stack on the platform as shown in Figure 9-3.



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	2	12	72	Honeycomb	Lay honeycomb parallel and 20 inches apart.
	4	44	12	Honeycomb	Glue a piece of honeycomb perpendicular to the base pieces even with each end. Glue two pieces of honeycomb perpendicular to the base and evenly spaced between the two end pieces.
	2	12	72	Honeycomb	Glue honeycomb flush over the long edges of the stack.
	4	44	12	Honeycomb	Glue honeycomb to the top of the stack, flush with the 44- by 12-inch pieces placed previously.

Figure 9-2. Honeycomb stack prepared



- ① Center the stack on the platform 18 inches from the rear edge of the platform.

Figure 9-3. Honeycomb stack positioned on platform

9-4. Preparing Shelter

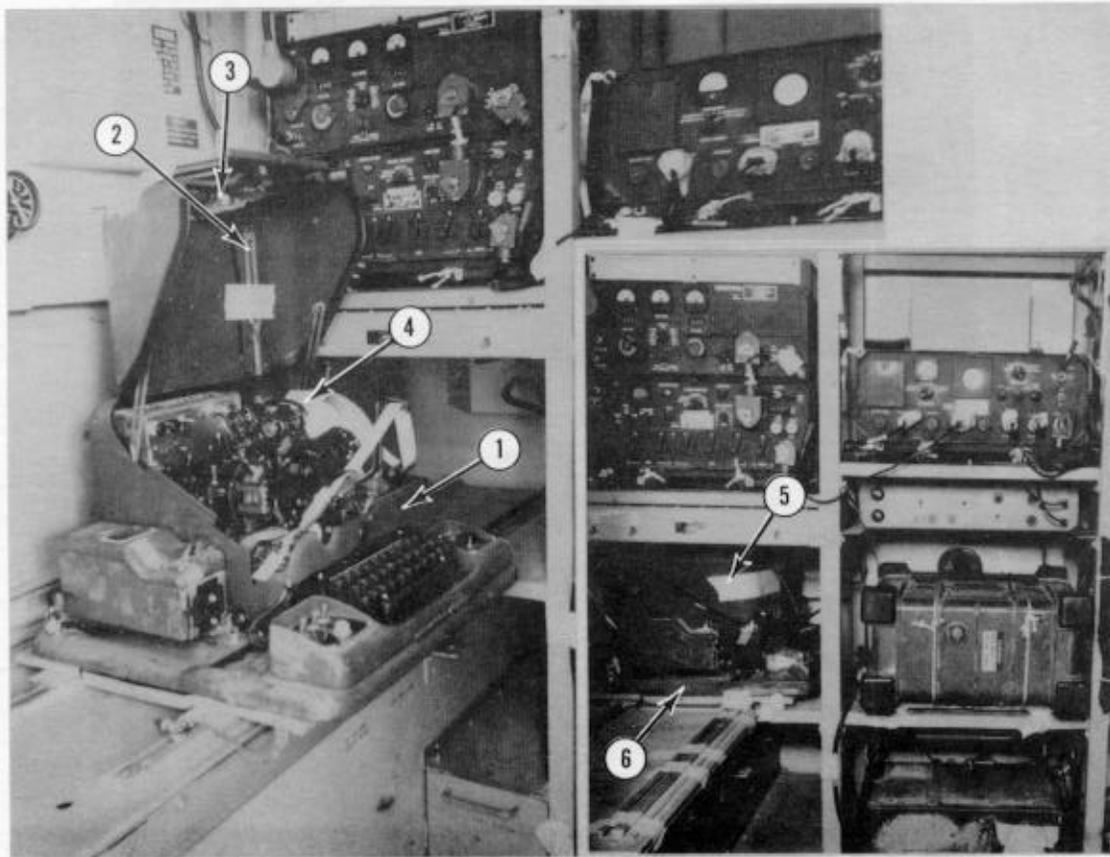
Prepare the shelter as shown in Figures 9-4 through 9-11. Use Figure 9-4 as a guide for locating specific items of communications equipment.

Note: AN/GRC-122 equipment is shown. AN/GRC-142 communications equipment arrangement is similar.

1	4	7
2	5	8
3	6	9

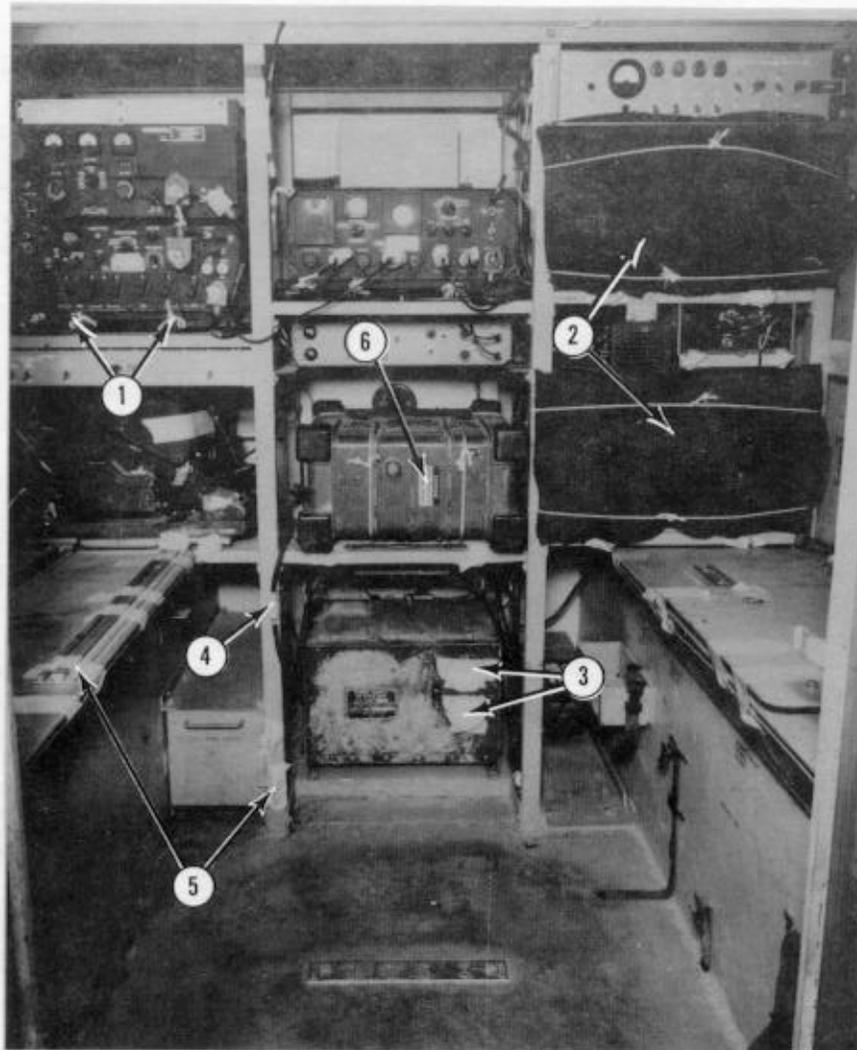
- 1 AN/GRC 106 and RT-662/GRC
- 2 TT-76 Teletypewriter
- 3 Storage Drawer
- 4 RT-662/GRC and MD 522A/GRC
- 5 TT-98 Teletypewriter
- 6 Power Supply
- 7 KW-7 Crypto Device
- 8 KW-7 Crypto Device
- 9 Stowage Space

Figure 9-4. Typical layout of communications equipment in shelter



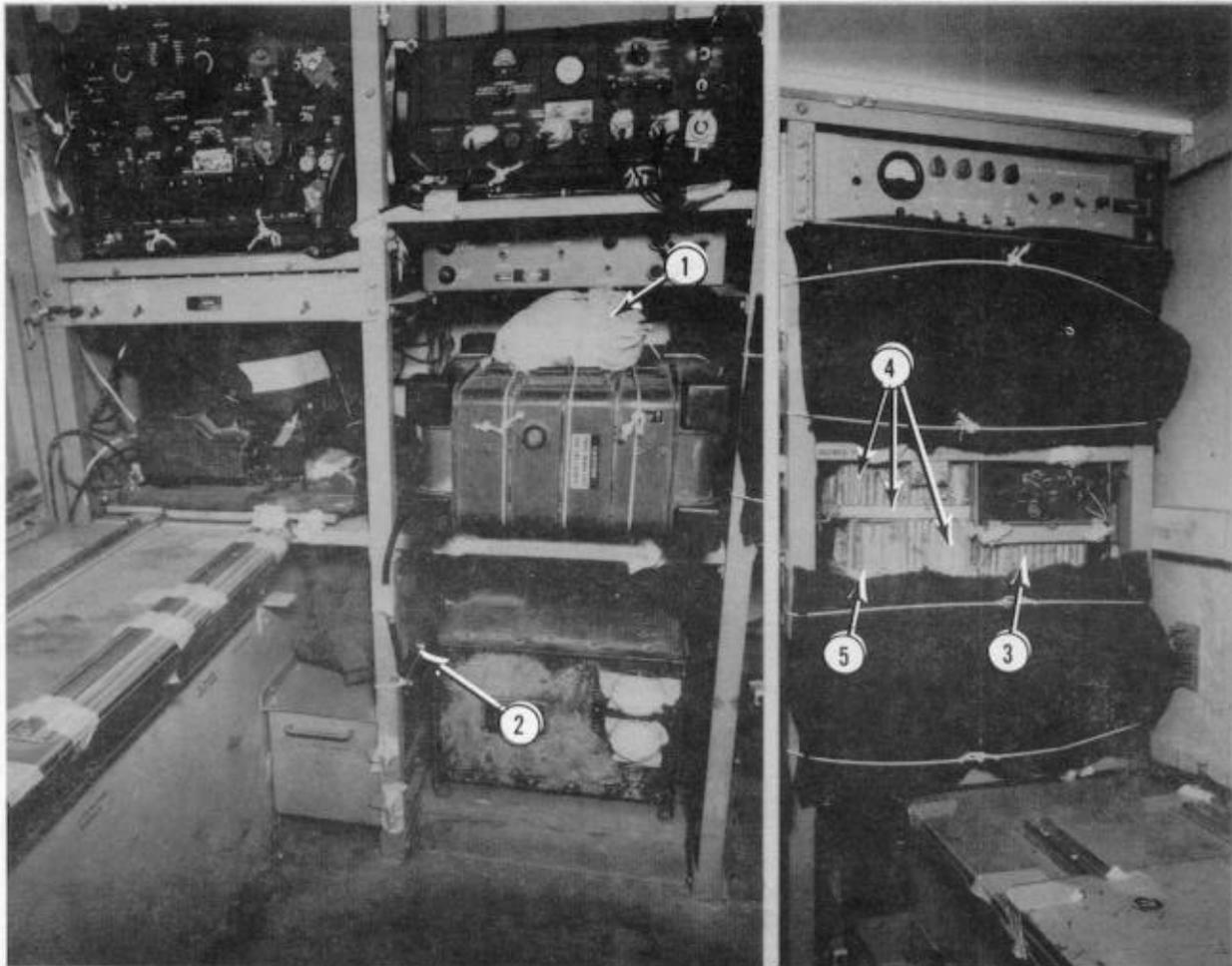
- ① Move the TT-76 teletypewriter out on its slide, and open the cover.
- ② Tape the tuning fork in its rack in the cover.
- ③ Tape the light bulb in the cover.
- ④ Secure the spool in place with tape.
- ⑤ Close and latch the cover. Tape the latch.
- ⑥ Slide the teletypewriter back into its storage area, and secure its locking pins.

Figure 9-5. Teletypewriter prepared



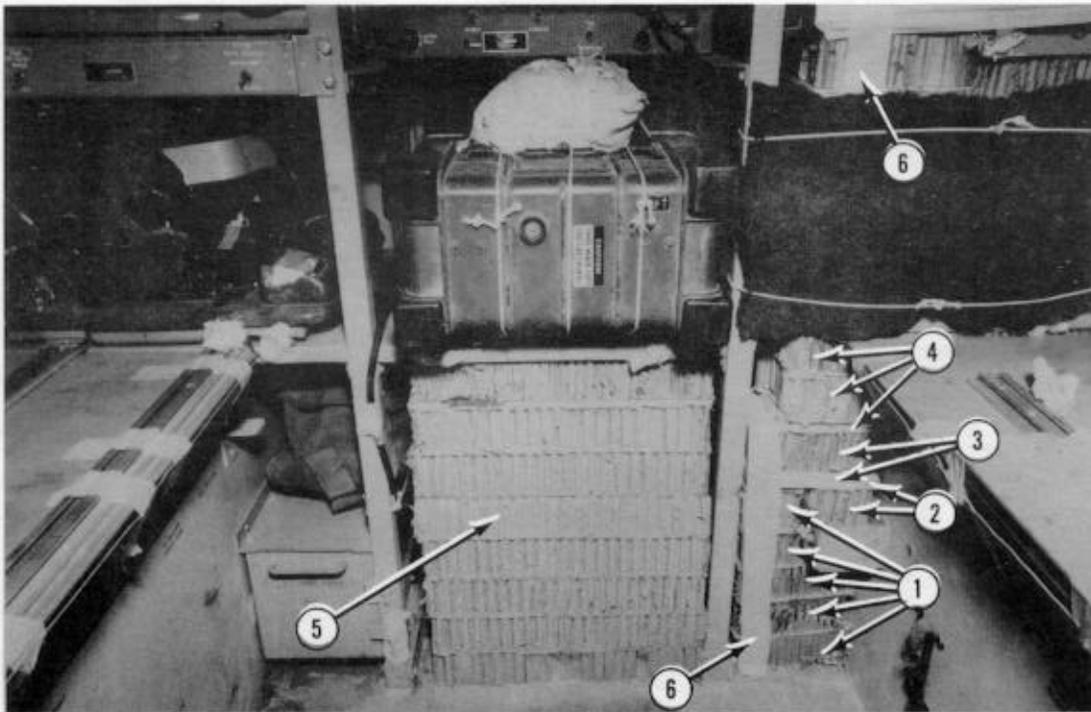
- ① Secure the radio receiving and transmitting equipment (AN/GRC-106, RT-662/GRC, MD-522A/GRC) release handles to the mounting frame bases with type III nylon cord.
- ② Tie felt to the front of the KW-7 crypto devices with type III nylon cord.
- ③ Tape the gages on the power supply. Tape the clock face.
- ④ Tape loose cables to convenient points on the racks.
- ⑤ Close, lock, and tape storage compartments.
- ⑥ Have the operator install the cover on the AN/UGC-74(V)3. Tie the cover in place with type III nylon cord. Prepare the AN/UGC-74(V)3, if present, on the right shelf in the same way.

Figure 9-6. Radio equipment, gages, clock, cables, and storage compartments secured



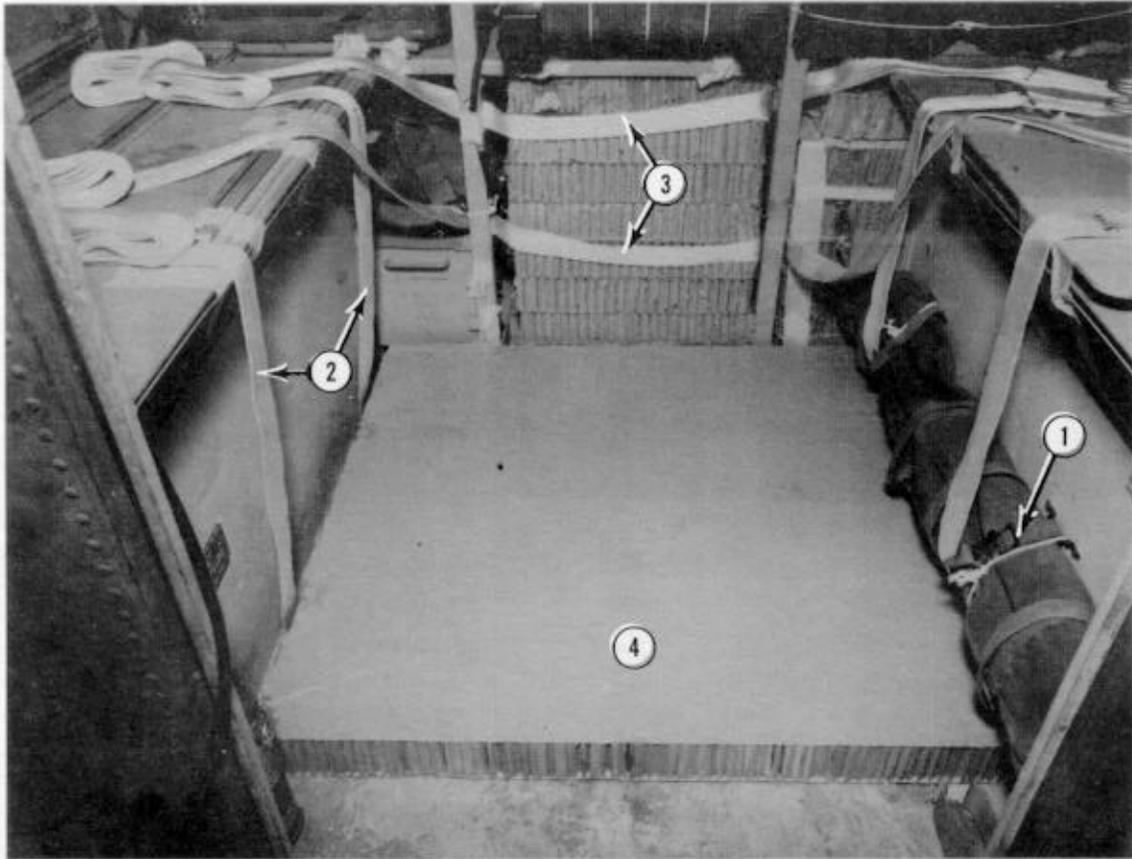
- ① Wrap the speaker with cellulose wadding taped in place. Tie it to the AN/UGC-74(V)3 with type III nylon cord.
- ② Place the GRA-50 bag in the left storage space. Secure it to the frame legs with type III nylon cord.
- ③ Place a 6- by 8-inch piece of honeycomb under the local control C434/GRC.
- ④ Glue a 3/4- by 6- by 8-inch piece of plywood between two 6- by 8-inch pieces of honeycomb. Place the stack under the KW-7 crypto device, to the left of the local control.
- ⑤ Slide a 3/4- by 6- by 6-inch piece of plywood under the honeycomb and plywood placed in step 4 above.

Figure 9-7. GRA-50 bag and speaker stowed and control unit padded



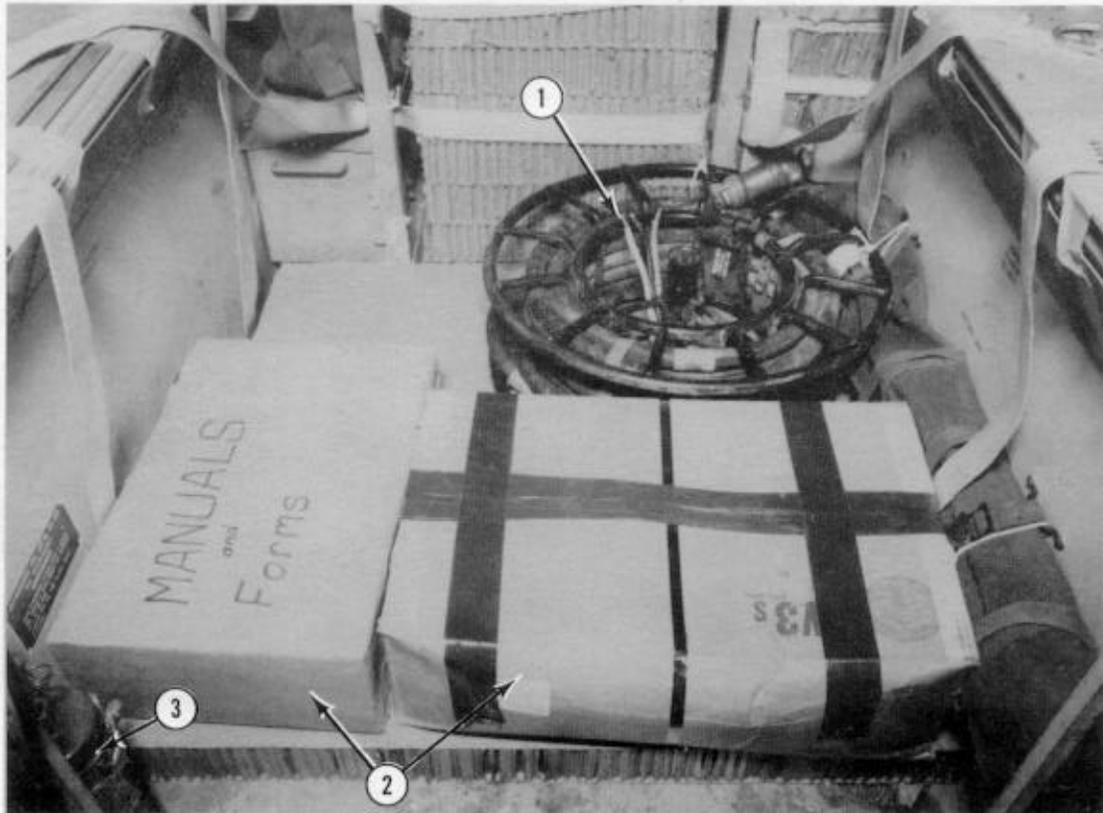
- ① Fill the area under and to the left of the phone box with three 6- by 8-inch pieces of honeycomb and two 4- by 6-inch pieces of honeycomb.
- ② Place cellulose wadding and a 4- by 6-inch piece of honeycomb in the phone box to level the fifth honeycomb layer. Lay a 3/4- by 6- by 8-inch piece of plywood flush on the honeycomb.
- ③ Lay a 6- by 8-inch piece of honeycomb over the plywood placed in step 2 above. Force a 1/4- by 6- by 8-inch piece of plywood over the plywood placed in step 2 above for a snug fit.
- ④ Glue two pieces of 6- by 18-inch honeycomb to a 1/4- by 6- by 18-inch piece of plywood. Place it under the KW-7 shelf with the 6-inch edge to the outside and the plywood facing down. Place a second piece of 1/4- by 6- by 18-inch plywood under these pieces.
- ⑤ Support a 6- by 18-inch piece of honeycomb and a 1/4- by 6- by 18-inch piece of plywood under the center shelf. Fit seven 6- by 18-inch pieces of honeycomb over the front of the power supply between the floor and the plywood.
- ⑥ Tape the edges of the honeycomb placed in Figure 9-7 and the honeycomb under the KW-7.

Figure 9-8. Honeycomb and plywood supports placed under shelves



- ① Stow the sledgehammer in its rack near the floor on the right (not shown). Secure the antenna bag with the straps provided and with type III nylon cord.
- ② Lay two 15-foot lashings across the floor from side to side.
- ③ Pass two 15-foot lashings behind the shelf supports and in front of the honeycomb stack.
- ④ Place a 36- by 38-inch piece of honeycomb on the floor and on top of the lashings.

Figure 9-9. Floor of shelter prepared



- ① Place the power cable reel in the right front corner. Secure it to convenient points with type III nylon cord.
- ② Place the boxes of manuals and spare parts along the rear edge of the honeycomb.
- ③ Tie the fire extinguisher in its bracket with type III nylon cord.

Figure 9-10. Shelter equipment placed on floor



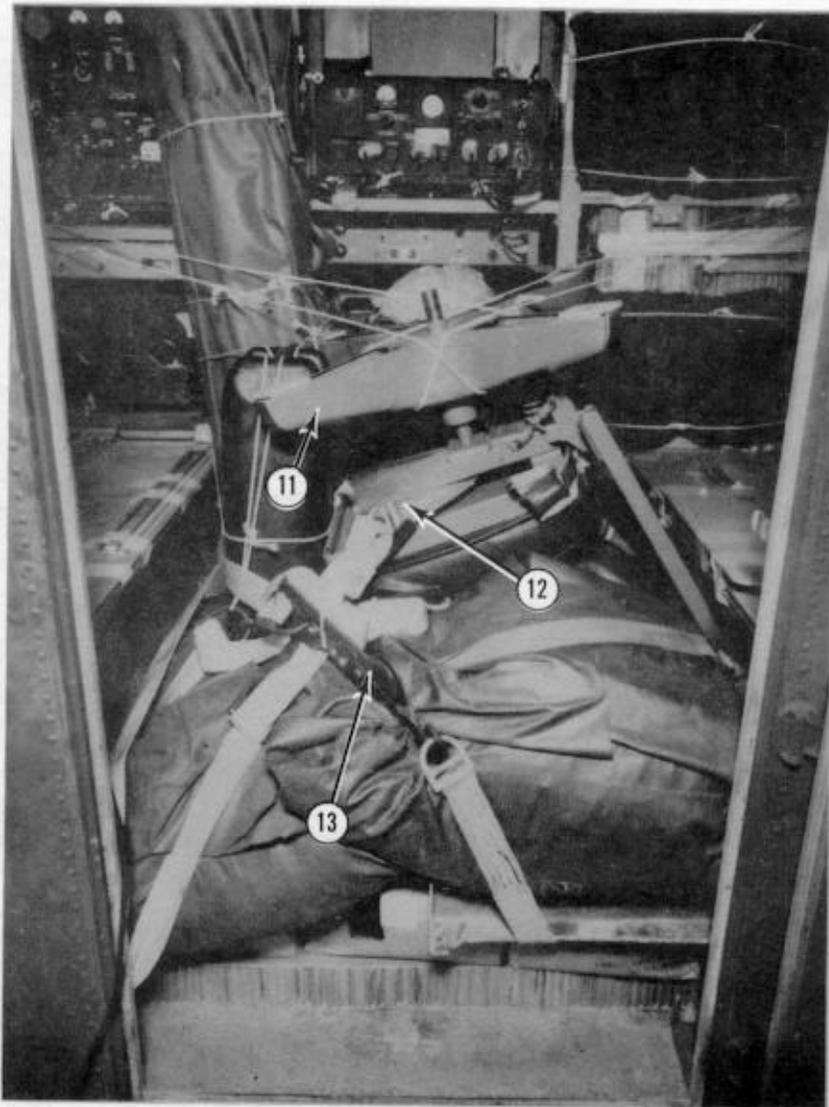
- ④ Place a camouflage net bag over the box on the left side.
- ⑤ Place the ladder over the cable reel and the box on the right side. Secure it to convenient points with type III nylon cord.
- ⑥ Route the lower lashing placed in step 3 of Figure 9-9 under the top and bottom rungs and over the middle rungs of the ladder.
- ⑦ Stand the camouflage net pole bag upright in the left corner. Secure it to the equipment rack with type III nylon cord.

Figure 9-10. Shelter equipment placed on floor (continued)



- ⑧ Place the second camouflage net bag over the ladder.
- ⑨ Secure the two lashings placed in step 2 of Figure 9-9 over both camouflage net bags with D-rings and load binders.
- ⑩ Place a water can in front of the camouflage net pole bag. Secure it to the camouflage net pole bag and to the D-ring of the front lashing with type III nylon cord.

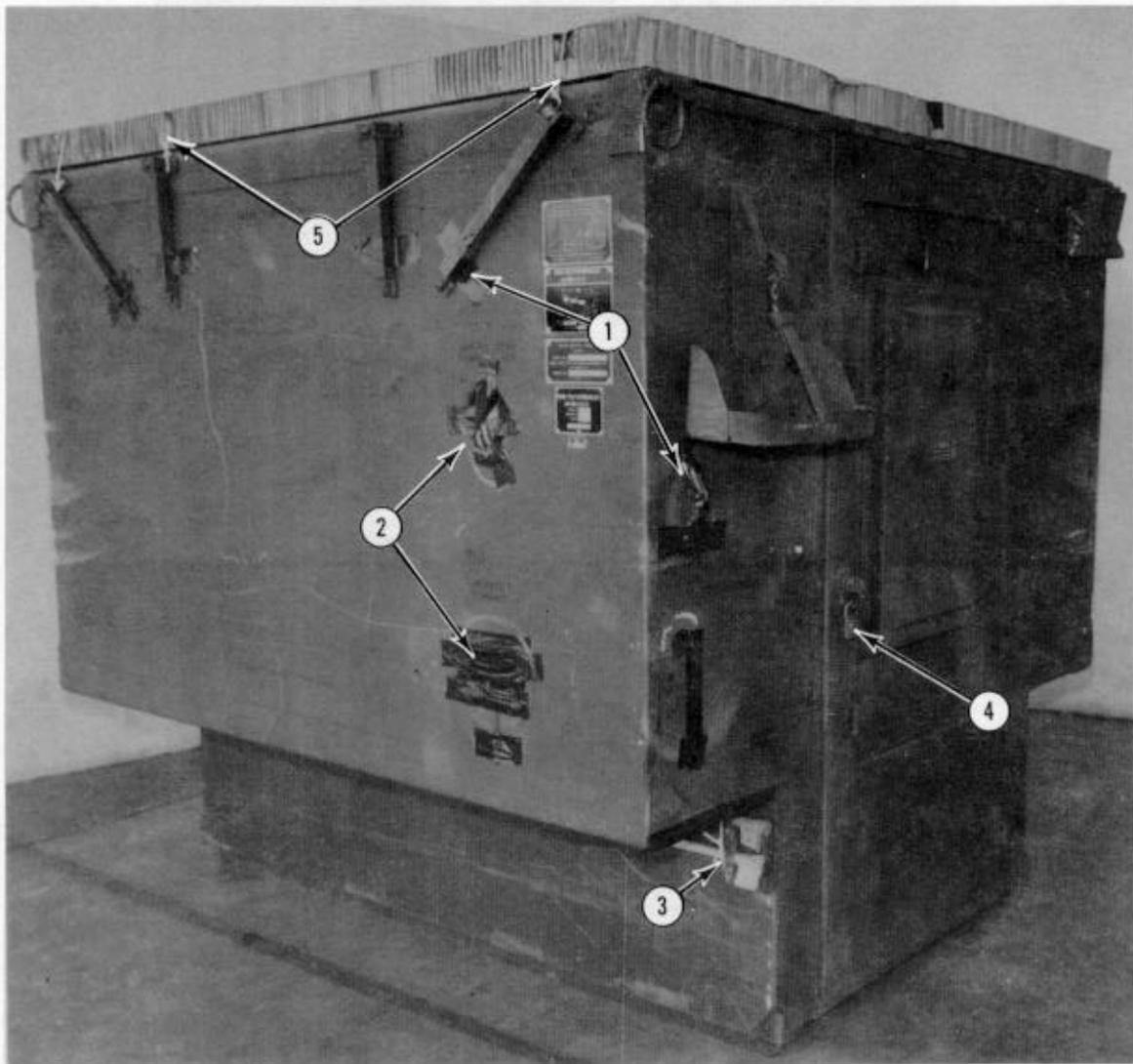
Figure 9-10. Shelter equipment placed on floor (continued)



- ⑪ Place the chair with its back down against the right shelf. Tie the chair to convenient points with type III nylon cord.
- ⑫ Route the upper lashing placed in step 3 of Figure 9-9 between the chair seat and frame. Pass it through the lower door latch and fasten it on top of the equipment with a D-ring and a load binder.
- ⑬ Route the lower lashing placed in step 3 of Figure 9-9 around the pole bag and water can. Bring the end of the lashing up from the ladder and fasten the lashing on top of the net bag with a D-ring and a load binder.

Note: Adapt these procedures for shelters with AN/GRC-122 equipment to allow for the teletypewriter on the right shelf.

Figure 9-10. Shelter equipment placed on floor (continued)

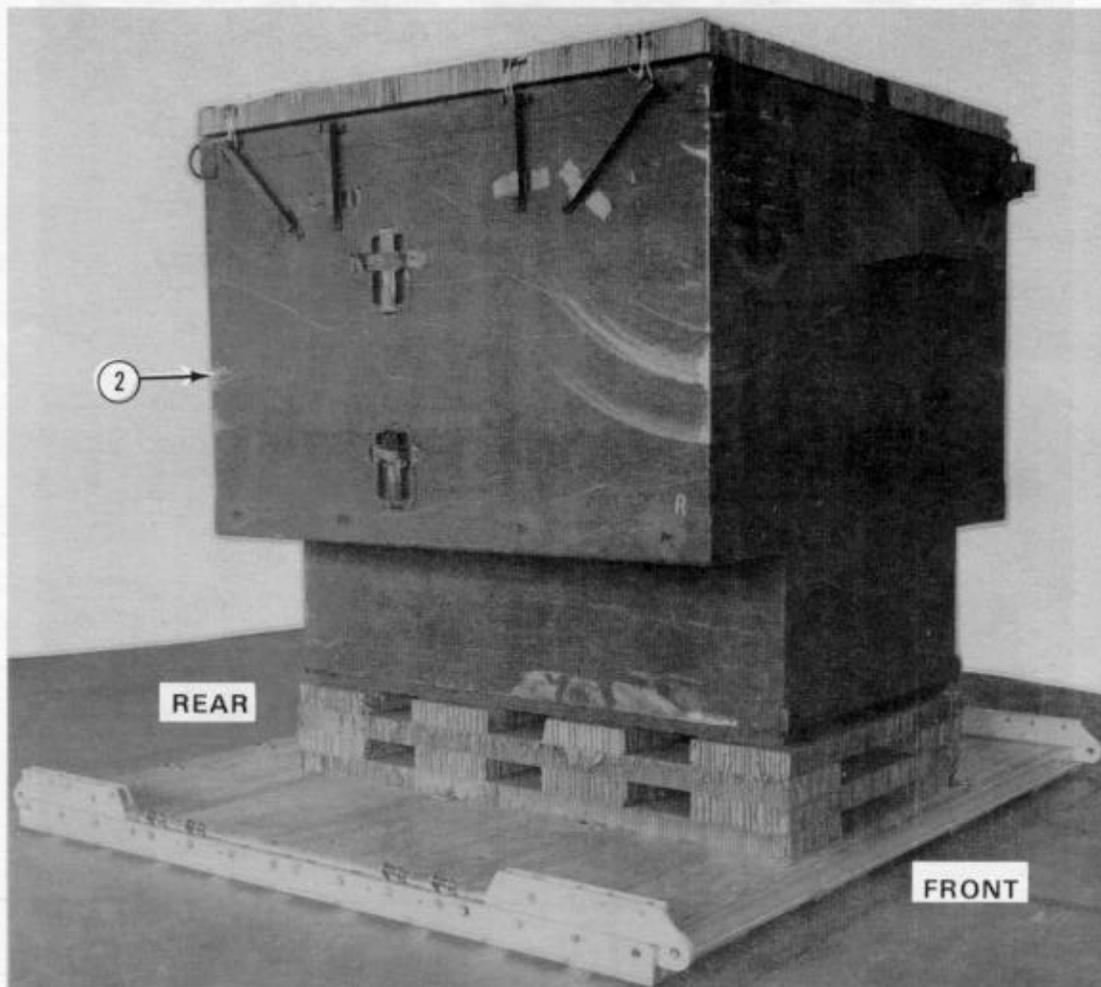


- ① Tape the shade tarp supports, fold-out steps, and any other loose or sharp items.
- ② Tape the antenna port and heater exhaust port. Pad the power connector port with cellulose wadding and tape it in place.
- ③ Secure the ground rods in their holders with type III nylon cord.
- ④ Close and lock the door.
- ⑤ Place two 36- by 73-inch pieces of honeycomb side by side on the roof of the shelter. Tie the honeycomb to the tarp supports using type III nylon cord. Tape the honeycomb under the ties.

Figure 9-11. Outside of shelter prepared

9-5. Positioning Shelter

Position the shelter on the platform as shown in Figure 9-12.

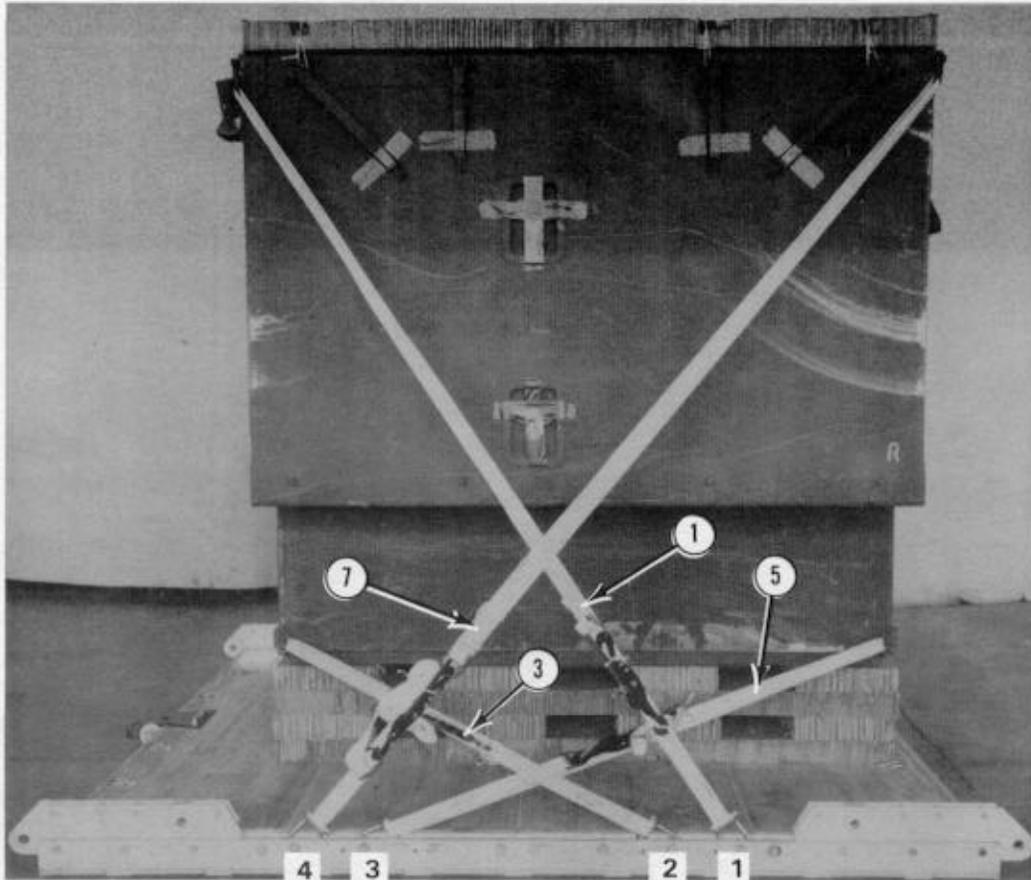


- ① Lift the shelter using the lifting cables provided and the lifting provisions at the top covers (not shown).
- ② Set the shelter flush on the honeycomb stack with the door facing the rear of the platform.

Figure 9-12. Shelter positioned on platform

9-6. Lashing Shelter

Lash the shelter to the platform as shown in Figure 9-13.

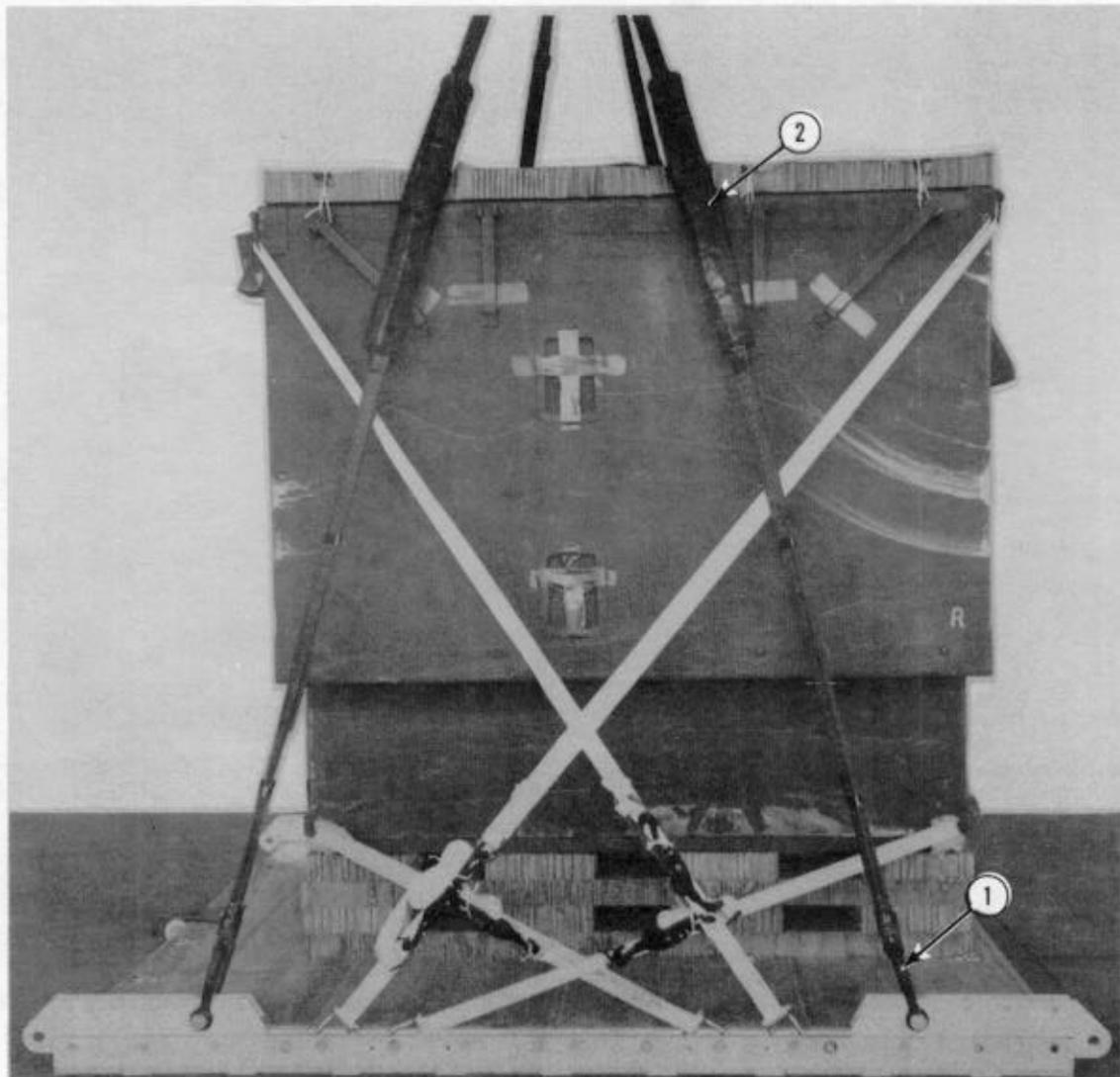


Lashing Number	Tiedown Clevis Number	Instructions
1	1	<p>Pass lashing: To top rear tiedown ring. To top rear tiedown ring. To bottom rear tiedown ring. To bottom rear tiedown ring. To bottom front tiedown ring. To bottom front tiedown ring. To top front tiedown ring. To top front tiedown ring.</p>
2	1A	
3	2	
4	2A	
5	3	
6	3A	
7	4	
8	4A	
<p>Notes: 1. Pad the bottom tiedown rings. 2. Lashings 7 and 8 are 30-foot lashings.</p>		

Figure 9-13. Lashings installed

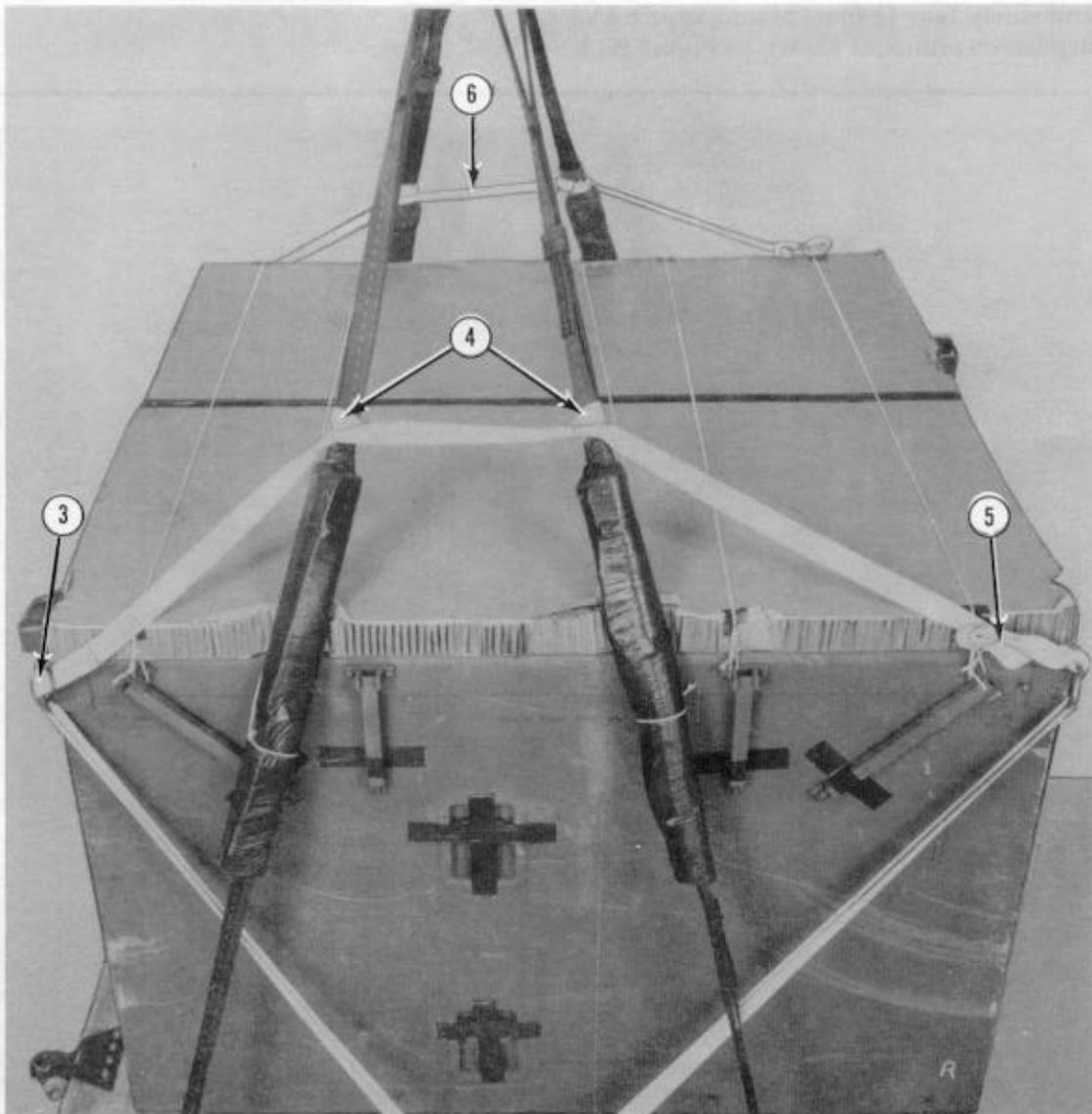
9-7. Installing and Safetying Suspension Slings

Install and safety four 11-foot (2-loop), type XXVI nylon suspension slings as shown in Figure 9-14.



- ① Attach a suspension sling to each tandem link with a large clevis.
- ② Wrap each sling where it touches the top of the shelter with a 12- by 30-inch piece of felt. Tape the felt in place.

Figure 9-14. Suspension slings installed and safetied

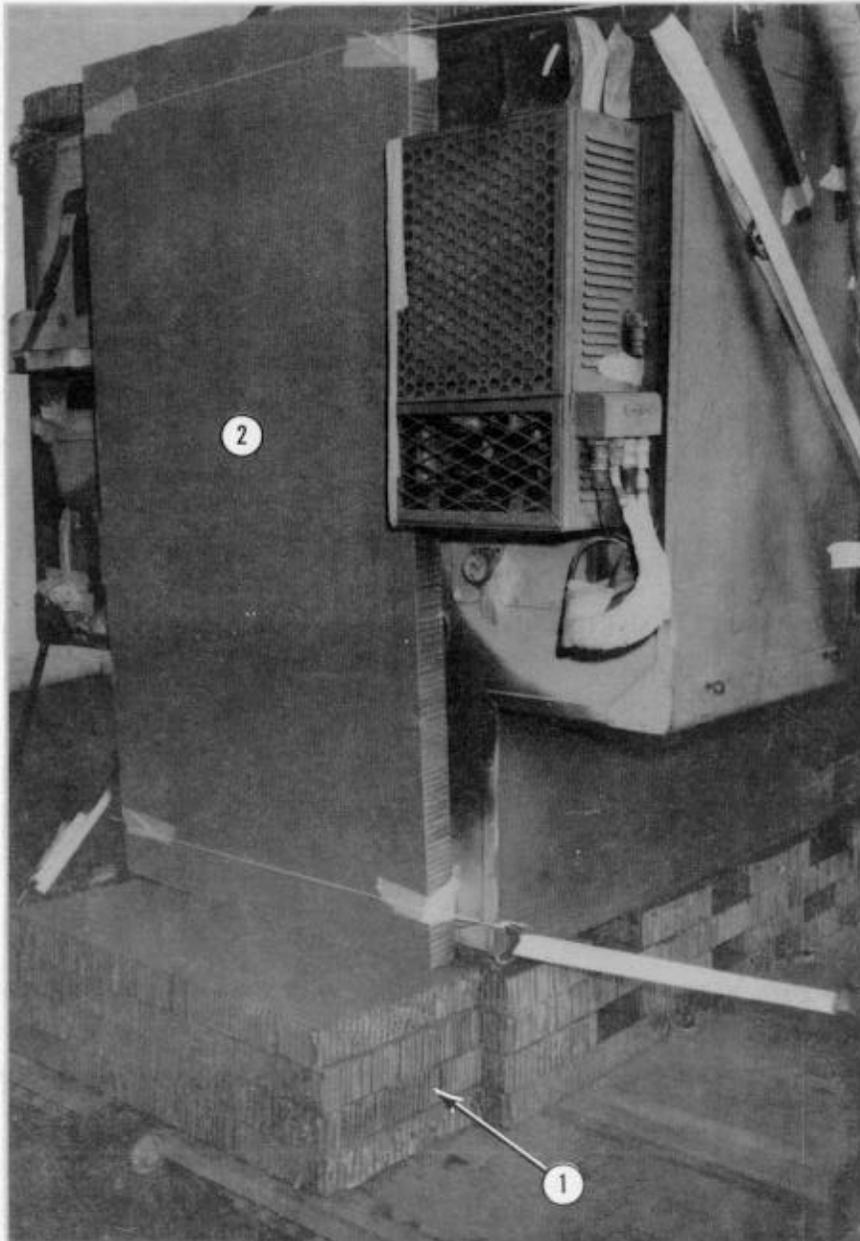


- ③ Pass a 15-foot tiedown strap through the right rear upper tiedown ring and through its own D-ring.
- ④ Wrap the free end one turn around the right rear suspension sling and secure it with one half-hitch. Wrap the free end one turn around the right front suspension sling and secure it with one half-hitch.
- ⑤ Tie the free end to the right front tiedown ring with two half-hitches. Roll the remainder of the strap, and tie it with type I, 1/4-inch cotton webbing.
- ⑥ Adapt steps 3, 4, and 5 above for the suspension slings on the left side.

Figure 9-14. Suspension slings installed and safetied (continued)

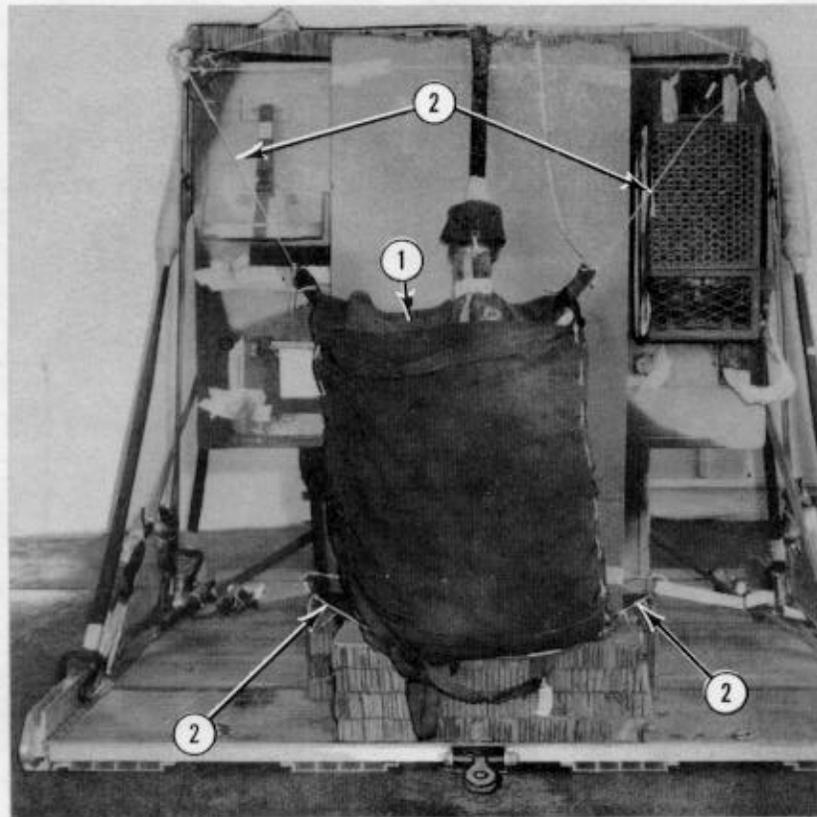
9-8. Stowing Cargo Parachute

Place honeycomb for stowing the cargo parachute as shown in Figure 9-15. Stow a G-11A or G-11B cargo parachute as shown in Figure 9-16.



- ① Glue four 18- by 36-inch pieces of honeycomb together. Place the honeycomb against the rear of the load.
- ② Stand a 36- by 62-inch piece of honeycomb on end against the shelter. Tie it to the tiedown rings on the shelter with type III nylon cord. Tape the honeycomb under the ties.

Figure 9-15. Honeycomb placed for parachute

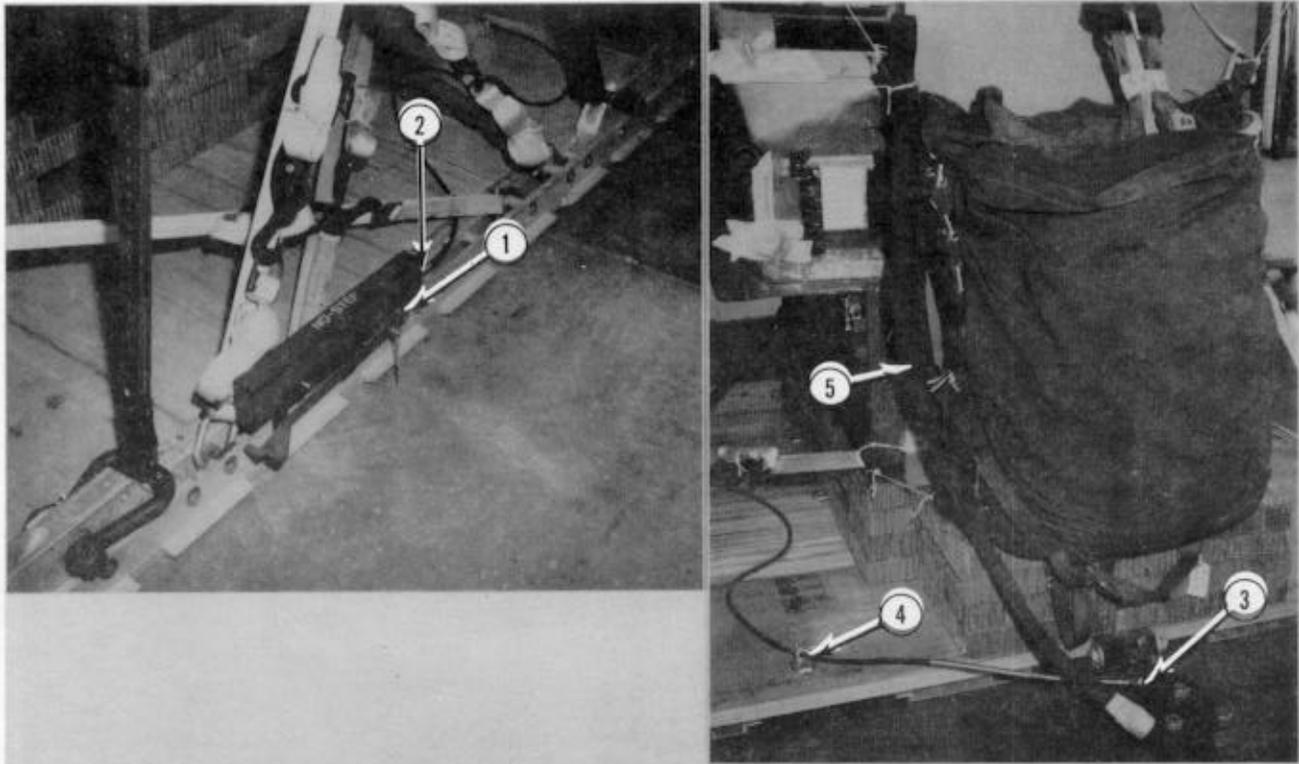


- ① Place the parachute on the honeycomb stack with the bridle loop assembly facing down and the riser compartment facing out.
- ② Secure the parachute to the top and bottom tiedown rings with type III nylon cord.

Figure 9-16. Parachute stowed

9-9. Installing Extraction System

Install the EFTC according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 9-17.

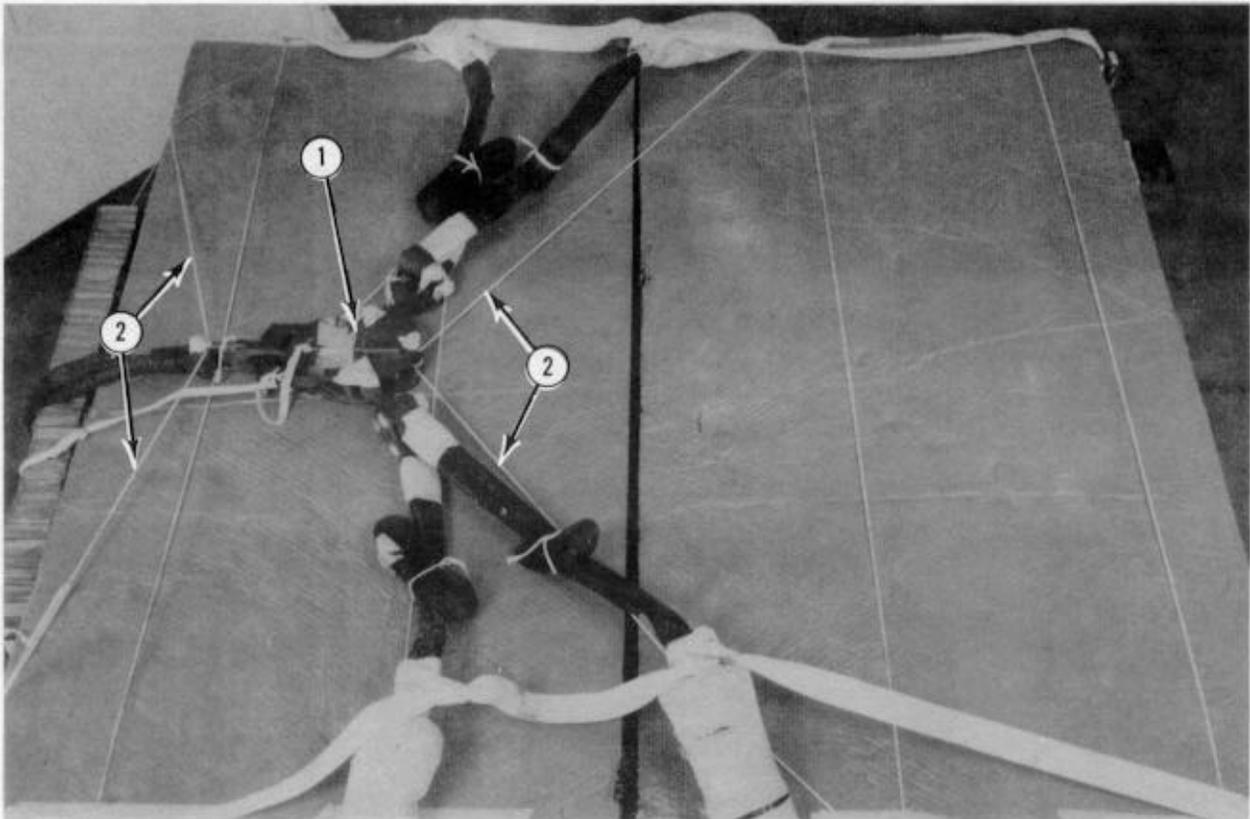


- ① Install the EFTC mounting brackets in the front mounting holes on the left platform rail.
- ② Attach a 12-foot cable to the actuator. Install the actuator to the EFTC mounting brackets.
- ③ Install the latch assembly and attach the cable.
- ④ Tie the cable to the left tiedown ring on the rear platform panel with type I, 1/4-inch cotton webbing.
- ⑤ Install a 9-foot (2-loop), type XXVI nylon deployment line on the load. S-fold the deployment line, and secure it to the left parachute bag carrying handles with 1/4-inch cotton webbing.

Figure 9-17. EFTC installed

9-10. Installing Parachute Release

Prepare and install an M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 9-18.

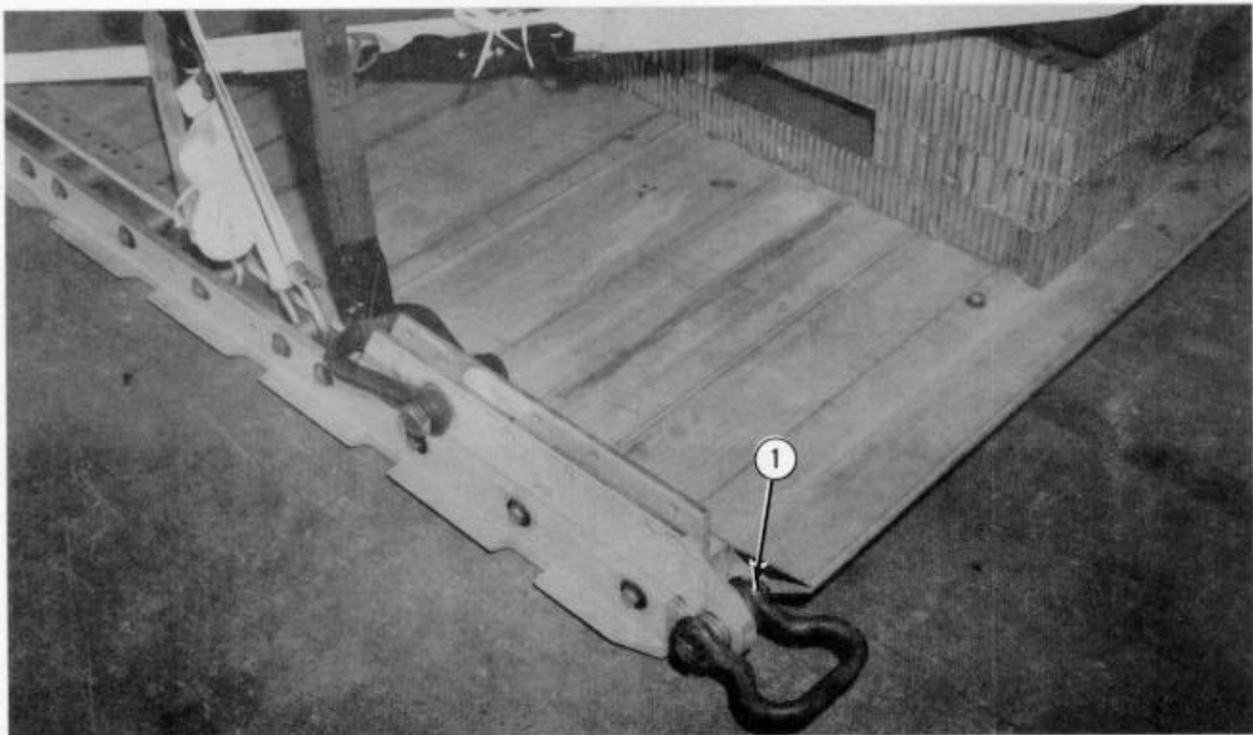


- ① Prepare, install, and safety the M-1 release. Place it on top of the shelter as shown.
- ② Secure the release to the upper tiedown rings with type III nylon cord.

Figure 9-18. M-1 cargo parachute release installed

9-11. Installing Provisions for Emergency Restraints

Install a medium clevis in the end hole of each front tandem link as shown in Figure 9-19.



- ① Bolt a medium clevis to each front tandem link. Place spacers or washers on the clevis bolt on either side of the tandem link.
- ② Place the clevises in an upright position, and tie them to the nearest hole in the tandem link with type I, 1/4-inch cotton webbing (not shown).

Figure 9-19. Emergency restraint provisions installed

9-12. Placing Extraction Parachute

Place the extraction parachute as described below.

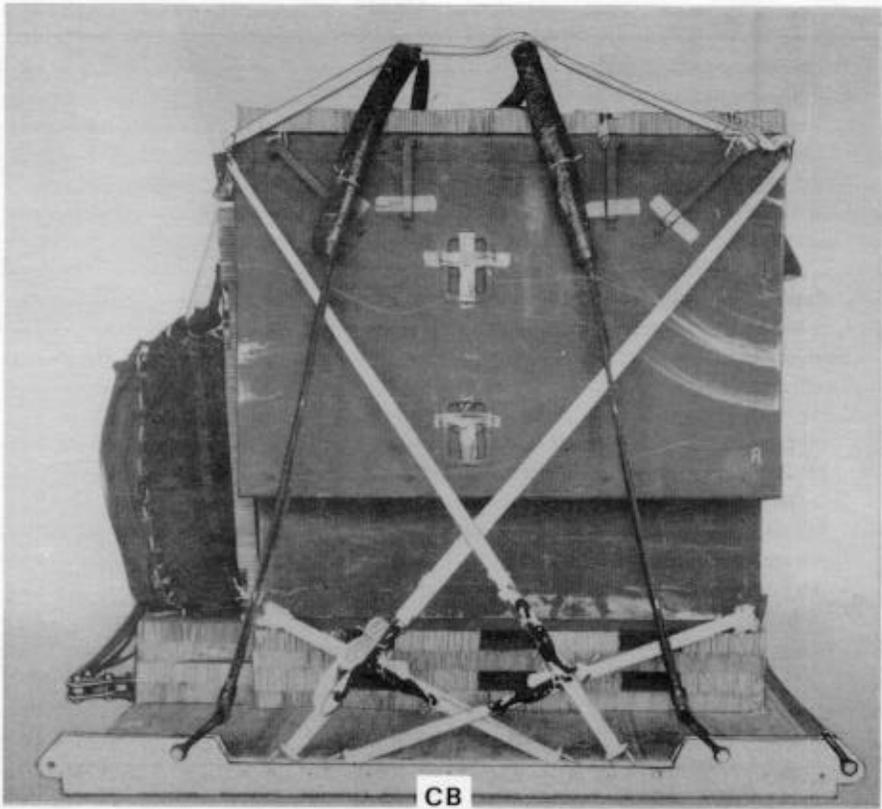
a. C-130 Aircraft. Place a 15-foot cargo extraction parachute and a 60-foot (1-loop), type XXVI nylon extraction line on the load for installation in the aircraft.

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

9-13. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 9-20. Complete DD Form 1387-2 (Special Handling Data/Certification), and securely attach it to the load. If the 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	3,630 pounds
	Maximum load allowed	4,500 pounds
Height		95 1/2 inches
Width		108 inches
Length		120 1/2 inches
Overhang:	Front	5 1/2 inches
	Rear	19 inches
CB (from front edge of platform)		49 inches

Figure 9-20. S-318/G shelter with AN/GRC-122 communications equipment rigged for low-velocity airdrop on the type V platform

9-14. Equipment Required

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

Table 9-1. Equipment required for rigging the S-318/G shelter with AN/GRC-122 or AN/GRC-142 communications equipment for low-velocity airdrop on the 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)	2
4030-00-090-5354	1-in (large)	5
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer w 12-ft cable	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link assembly (type IV)	1
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-01-183-2678	Leaf, extraction line	2
	Line, extraction:	
1670-01-064-4452	60-ft (1-loop), type XXVI nylon webbing <u>or</u>	1
1670-00-856-0265	60-ft (1-loop), type X nylon webbing (use w 15-ft parachute)	1
1670-01-107-7652	160-ft (1-loop), type XXVI nylon webbing	1
1670-00-783-5988	Link assembly, type IV	1
1670-00-753-3928	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in	6 sheets
	4- by 6-in	(3)
	6- by 8-in	(7)
	6- by 18-in	(9)
	12- by 72-in	(4)
	18- by 36-in	(4)
	36- by 38-in	(1)
	36- by 62-in	(1)
	36- by 73-in	(2)
	44- by 12-in	(8)
	Parachute:	
	Cargo:	
1670-00-269-1107	G-11A <u>or</u>	1
1670-01-016-7841	G-11B	1
	Cargo extraction:	
1670-00-052-1548	15-ft <u>or</u>	1
1670-01-063-3715	15-ft	1
	Platform, AD, type V, 8-ft:	1
	Bracket:	
1670-01-162-2375	Inside EFTA	(1)
1670-01-162-2374	Outside EFTA	(1)
1670-01-162-2372	Clevis assembly	(8)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link	(4)
	Plywood:	
5530-00-129-7721	1/4-in:	
	6- by 8-in	1
	6- by 18-in	3

Table 9-1. Equipment required for rigging the S-318/G shelter with AN/GRC-122 or AN/GRC-142 communications equipment for low-velocity airdrop on the type V platform (continued)

National Stock Number	Item	Quantity
5530-00-128-4981	3/4-in:	
	6- by 6-in	1
	6- by 8-in	2
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo airdrop:	
	For deployment line:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For suspension slings:	
1670-01-063-7760	11-ft (2-loop), type XXVI nylon webbing	4
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tiedown assembly, 15-ft	18
8305-00-268-2411	Webbing, cotton, type I, 1/4-in	As required