

CHAPTER 10 RIGGING SPECIFIC SINGLE A-22 LOADS

Section I RIGGING TRAY-PACK RATIONS FOR LOW-VELOCITY AIRDROP

10-1. Description of Load

This load consists of 48 cases of tray-pack rations. Each case contains four rations. The case measures 9 by 13 by 11 inches and weighs about 28 pounds. This load is rigged in an A-22 cargo bag for low-velocity airdrop.

10-2. Preparing Load

Stack 48 cases of rations on a pallet in a square formation.

10-3. Preparing Skid Board

Prepare a 48- by 48-inch skid board as shown in Figure 9-1.

10-4. Positioning Honeycomb

Cut and position the honeycomb as shown in Figure 10-1.

10-5. Rigging Load

Rig the load according to Figures 9-3 through 9-7.

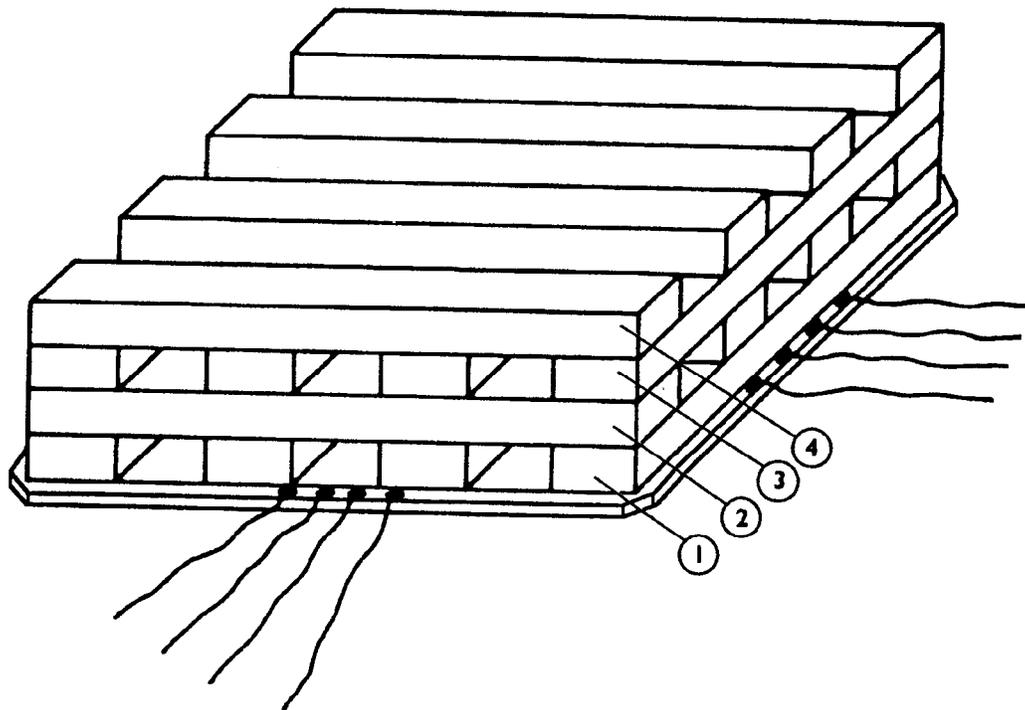
10-6. Installing Parachute

Install a G-12E cargo parachute according to Chapter 8.

10-7. Marking Rigged Load

Mark the rigged load according to Chapter 1 using the data given in Figure 10-2. If the load varies from the one shown in Figure 10-2, recompute the rigged load data.

Note: This drawing is not drawn to scale.



- ① Cut sixteen 6- by 44-inch pieces of honeycomb (not shown).
- ② Evenly space four honeycomb pieces on the platform. Make sure the honeycomb pieces are 2 inches from all sides.
- ③ Repeat step 2 except alternate the honeycomb pieces in the second layer of honeycomb.
- ④ Repeat step 3 for the third layer of honeycomb.
- ⑤ Repeat step 3 for the fourth layer of honeycomb.

Figure 10-1. Honeycomb positioned

10-8. Equipment Required

Use the equipment listed in Table 10-1 to rig the load shown in Figure 10-2.

CAUTION

Make the final inspection required by Chapter 1 before the load leaves the rigging site. If the load includes hazardous material as defined in AFJMAN 24-204/TM 38-250, complete Shipper's Declaration for Dangerous Goods form.



RIGGED LOAD DATA

Weight (with parachute)	1,860 pounds
Height (with parachute)	64 inches
Width	48 inches
Length	48 inches
Parachute	G-12E

Figure 10-2. Forty-eight cases of tray-pack rations rigged in an A-22 container for low-velocity airdrop

Table 10-1. Equipment required for rigging tray-pack rations in an A-22 container 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	1
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in: 6- by 44-in	1 sheet (16)
1670-01-065-3755	Parachute, cargo, G-12E	1
5530-00-914-5118	Plywood, 1- by 48- by 48-in	1 sheet
7510-00-266-6710	Tape, masking, 2-in	As required
8310-00-102-4478	Thread, cotton, ticket number 8/7	As required
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required

Section II
RIGGING COMPANY-LEVEL FIELD FEEDING KITCHEN
FOR LOW-VELOCITY AIRDROP

10-9. Description of Load

The company-level field feeding kitchen and eight boxes of tray packs are rigged in an A-22 cargo bag for low-velocity airdrop. Table 10-2 lists the

components and items that make up the kitchen. The unrigged kitchen weighs 876 pounds. The load requires one G-12E cargo parachute.

Table 10-2. Components and items of the company-level field feeding kitchen

COMPONENTS LIST	BASIC ISSUE ITEMS
<ul style="list-style-type: none"> 1 Heater cabinet 1 M2/M2A burner unit 1 Small beverage transporter 1 Large beverage transporter 2 Remote food transporters 1 Work and serving table 1 Complete pot-cradle assembly 	<ul style="list-style-type: none"> 1 Antiseize compound 3 Water-sterilizing bags 1 Cutting board 1 Wire brush 1 Friction top can 2 5-gallon gasoline cans 1 Hand can opener 1 Tray-pack can opener 2 5-gallon water cans 1 Burner slot cleaner 1 Fire extinguisher 1 First aid kit 1 Preheater generator 1 Drain hose 1 Inflating pump hose 1 Boning knife 1 Bread knife 1 Gasoline lantern 1 Tray-pack lifter 1 Tray-pack serving lifter 1 2-quart liquid measure 1 Gasoline can spout nozzle 1 10-gallon stock pot with cover 1 15-gallon stock pot with cover 1 Inflating pump 1 Flat screwdriver 1 Food serving basting spoon 1 15-inch slotted serving spoon 1 Tool kit 1 Food turner 1 Adjustable crescent wrench 1 Combination wrench

10-10. Preparing Skid Board

Prepare a skid board as shown in Figure 9-1.

10-11. Positioning Honeycomb

Position the honeycomb as shown in Figure 10-3.

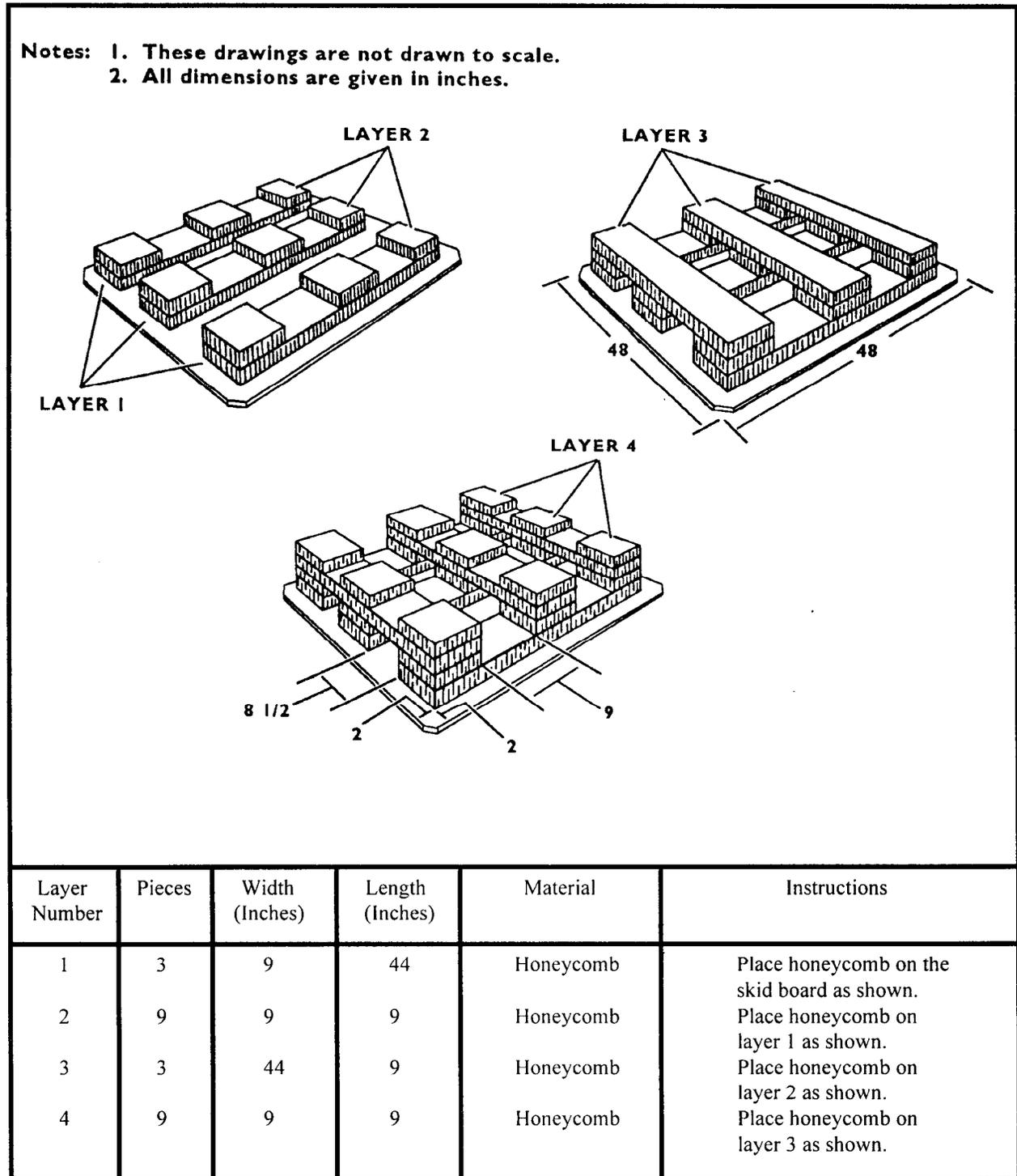


Figure 10-3. Honeycomb layers prepared and positioned

10-12. Positioning Container, Base, and Leg Braces

Center the A-22 sling assembly and cover on the honeycomb. Prepare the base as shown in Figure 10-4.

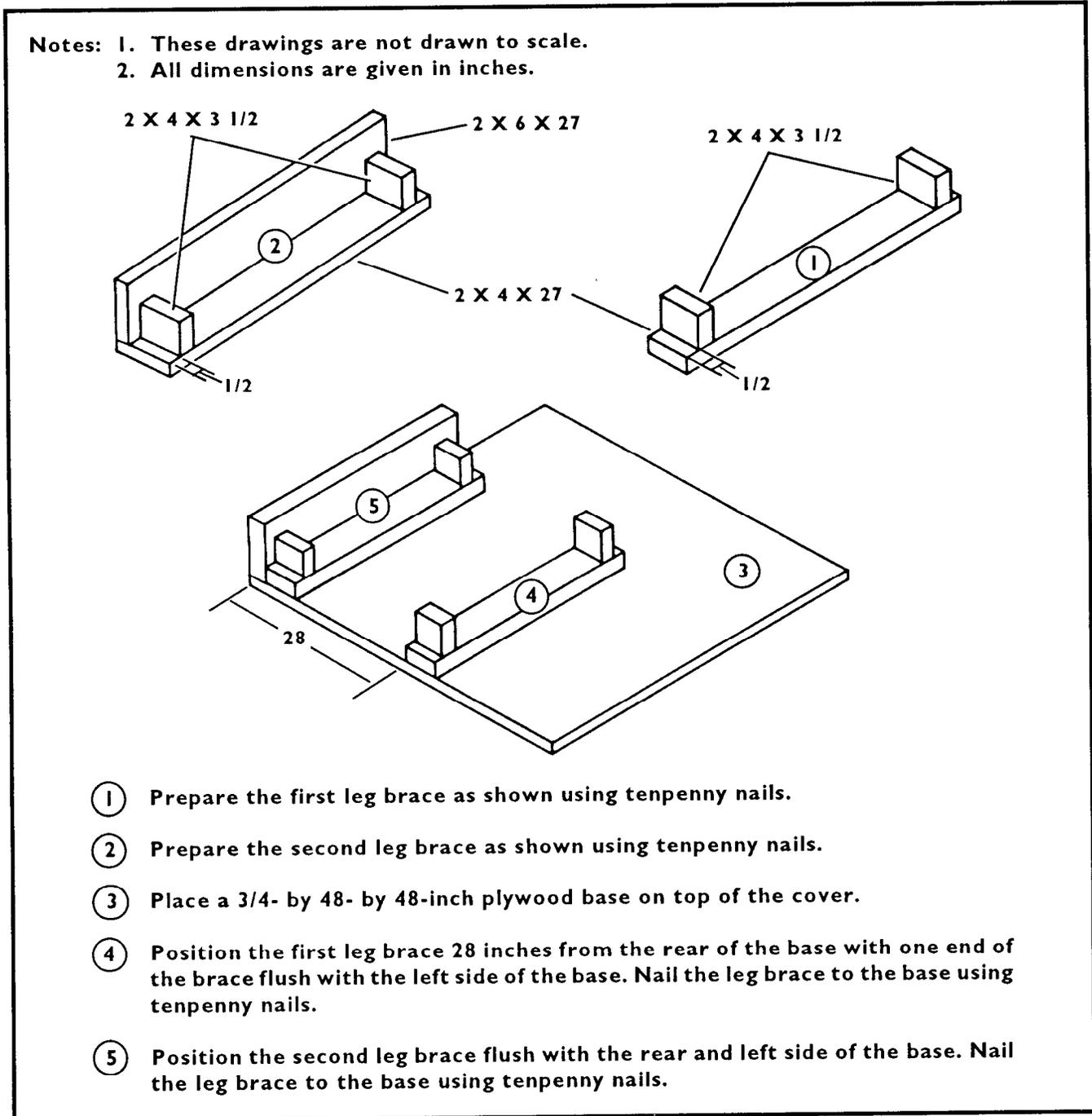
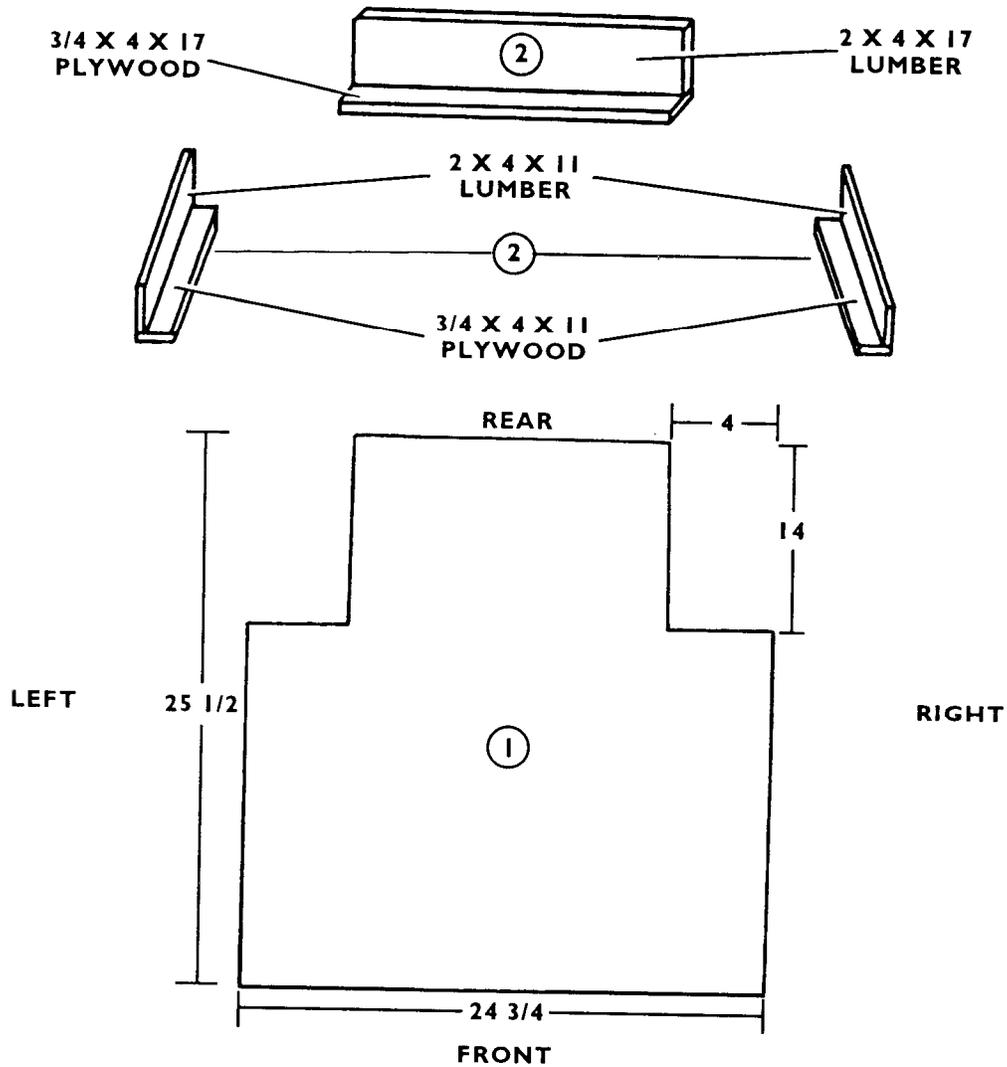


Figure 10-4. Base positioned and leg braces positioned and secured

10-13. Preparing Heater Cabinet

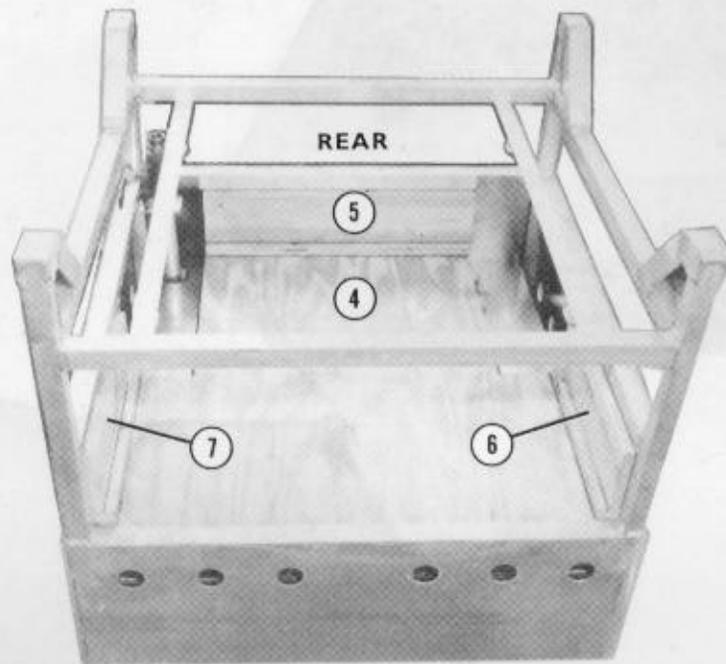
Prepare the heater cabinet as shown in Figure 10-5.

- Notes: 1. These drawings are not drawn to scale.
 2. All dimensions are given in inches.



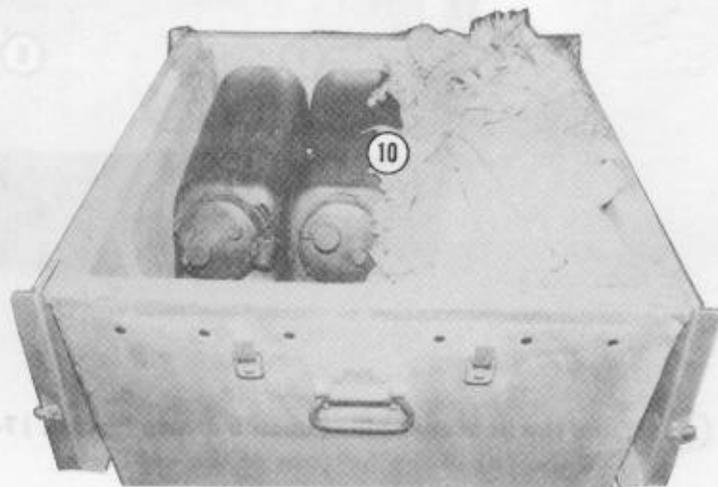
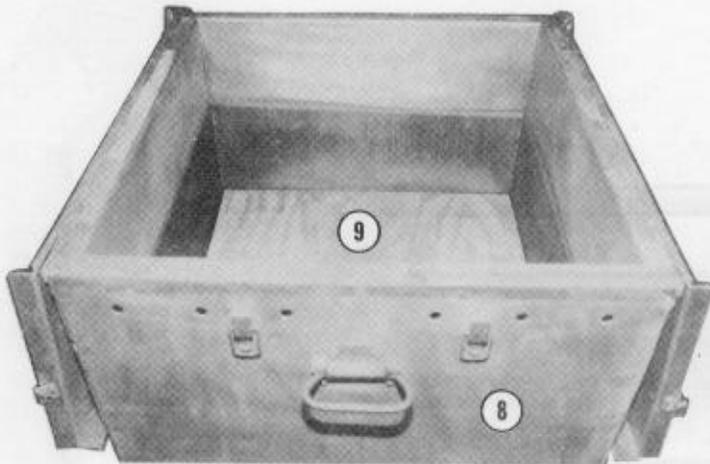
- ① Make a 4- by 14-inch cutout in each rear corner of a 3/4- by 24 3/4- by 25 1/2-inch piece of plywood. This plywood will be placed in step 4.
- ② Build three woodblocks as shown. Nail the lumber and plywood together using sixpenny nails. The woodblocks will be placed in steps 5, 6, and 7.

Figure 10-5. Heater cabinet prepared



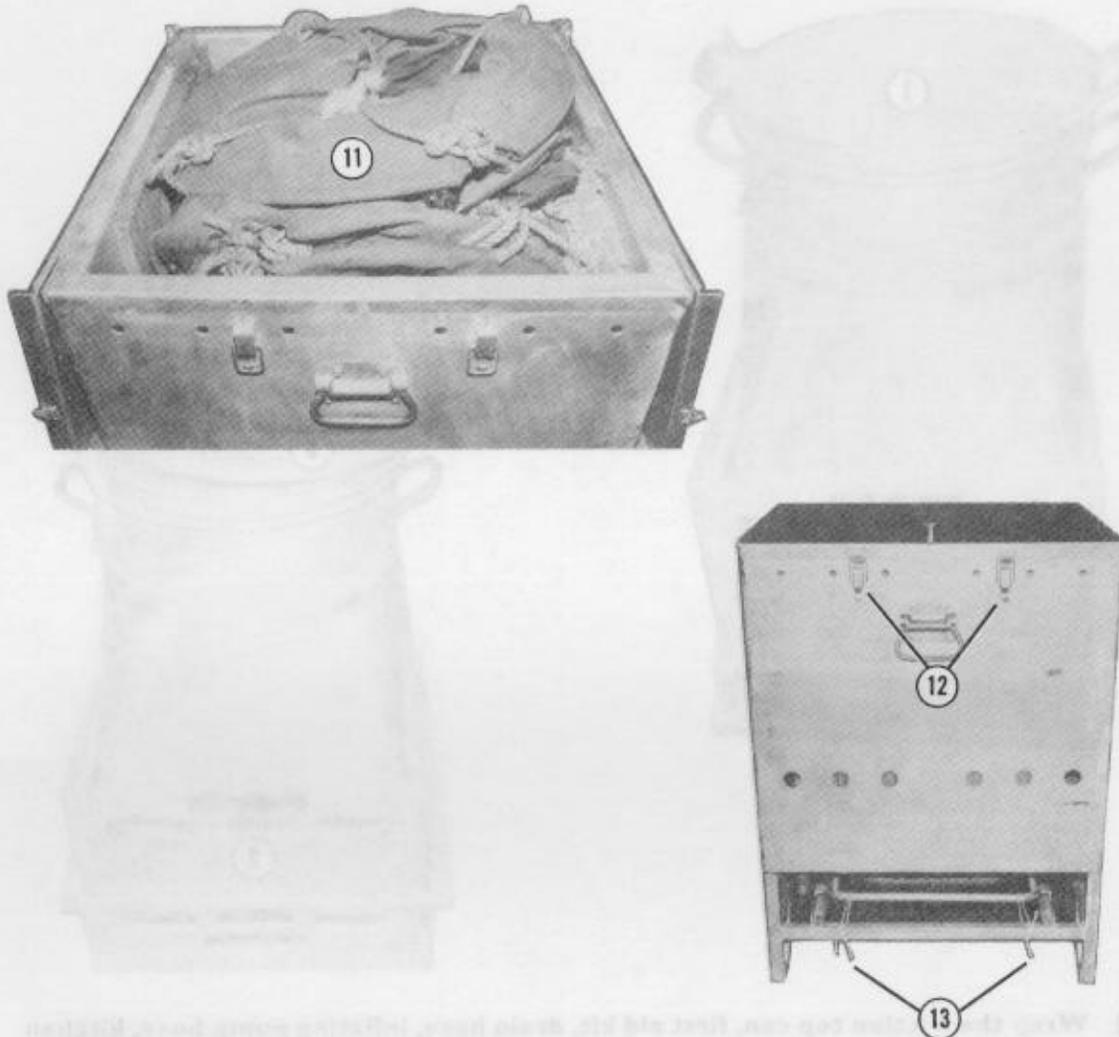
- ③ Turn the heater cabinet upside down. Place a 17- by 25-inch piece of honeycomb (not shown) in the bottom of the cabinet.
- ④ Place the 3/4- by 24 3/4- by 25 1/2-inch piece of plywood in the bottom of the heater cabinet with the cutouts to the rear.
- ⑤ Wedge the 4- by 17-inch woodblock between the rear rail and the plywood in the bottom of the heater cabinet.
- ⑥ Wedge one 4- by 11-inch woodblock between the left side rail and the plywood in the bottom of the heater cabinet.
- ⑦ Wedge the other 4- by 11-inch woodblock between the right side rail and the plywood in the bottom of the heater cabinet.

Figure 10-5. Heater cabinet prepared (continued)



- ⑧ Turn the heater cabinet over so that the top side is up.
- ⑨ Place a 3/4- by 23 3/4- by 23 3/4-inch piece of plywood inside the cabinet.
- ⑩ Wedge the tool kit, the cutting board, two filled water cans, the tray-pack can opener, the hand can opener, and the antiseize compound inside the heater cabinet. Pad them with cellulose wadding.

Figure 10-5. Heater cabinet prepared (continued)

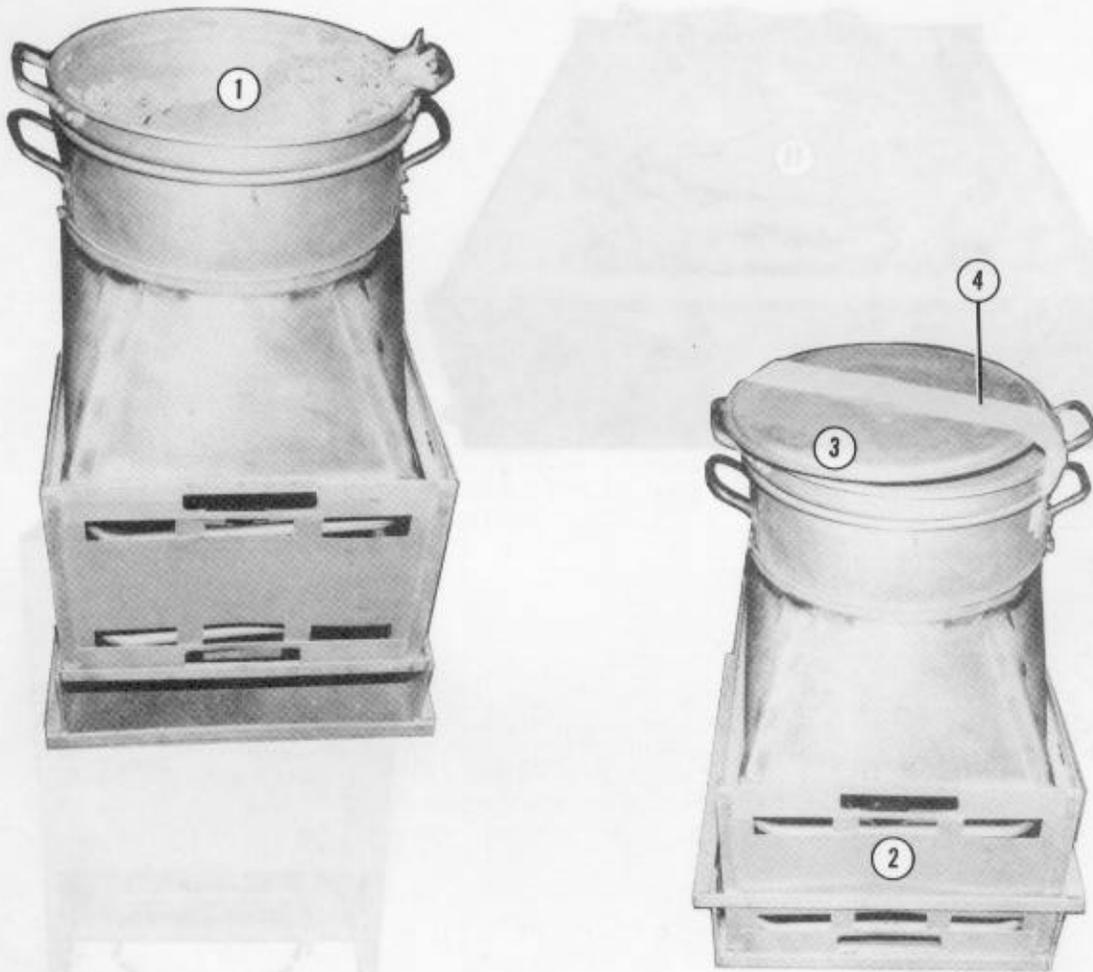


- ⑪ Place the water-sterilizing bags on top of the items.
- ⑫ Close and latch the cover.
- ⑬ Place the burner unit on the shelf and place the second cover on top of the burner unit. Tie the burner unit in place with type III nylon cord.

Figure 10-5. Heater cabinet prepared (continued)

10-14. Preparing Pot Assembly

Prepare the pot assembly as shown in Figure 10-6.

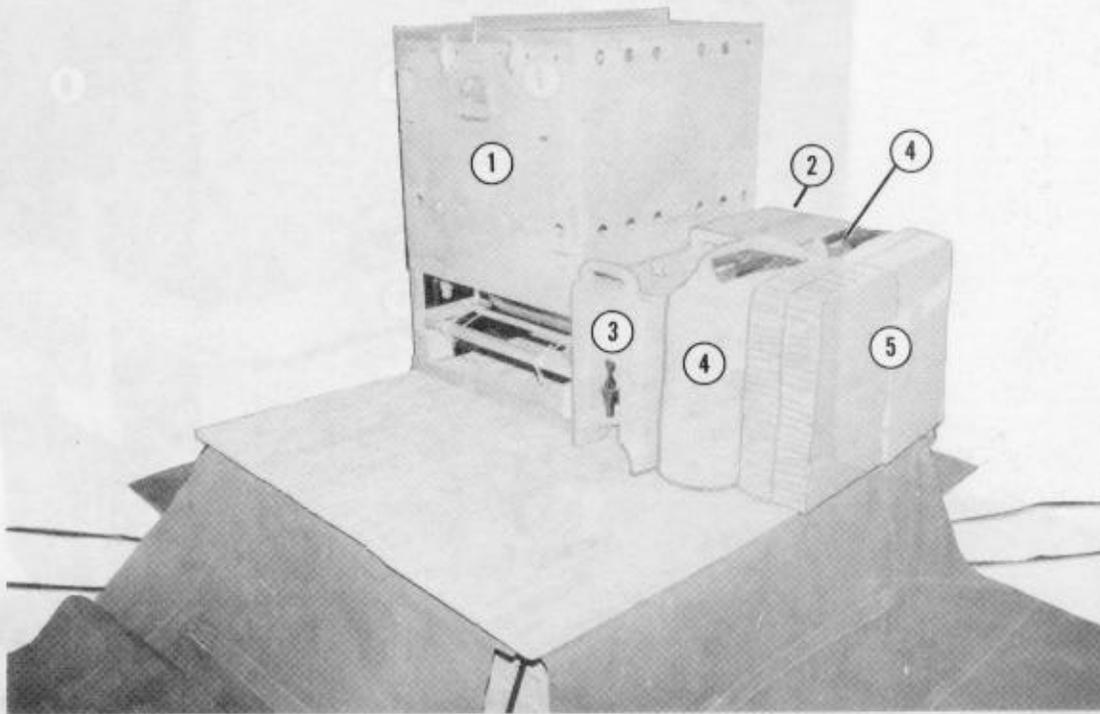


- ① Wrap the friction top can, first aid kit, drain hose, inflating pump hose, kitchen utensils, tray-pack lifter, tray-pack serving lifter, liquid measure, and inflating pump with cellulose wadding. Place these items inside the pot assembly.
- ② Remove the pot assembly from the base, turn the base upside down, and replace the pot assembly on the base.
- ③ Place the cover on the pot, and place the second cover on top of the first.
- ④ Tape the covers to the pot assembly.

Figure 10-6. Pot assembly prepared

10-15. Positioning Load

Position the load as shown in Figure 10-7.



Position the components of the field kitchen on the cargo bag in the exact sequence shown in this figure. Pad various components as shown with wadding or honeycomb. Position the components in the following order:

- ① Heater cabinet (positioned on the previously placed leg supports)
- ② Two boxes of tray packs (T-rations)
- ③ Small beverage transporter
- ④ Two 5-gallon cans of gasoline wrapped in cellulose wadding
- ⑤ Three 12- by 18-inch pieces of honeycomb

Figure 10-7. Load positioned

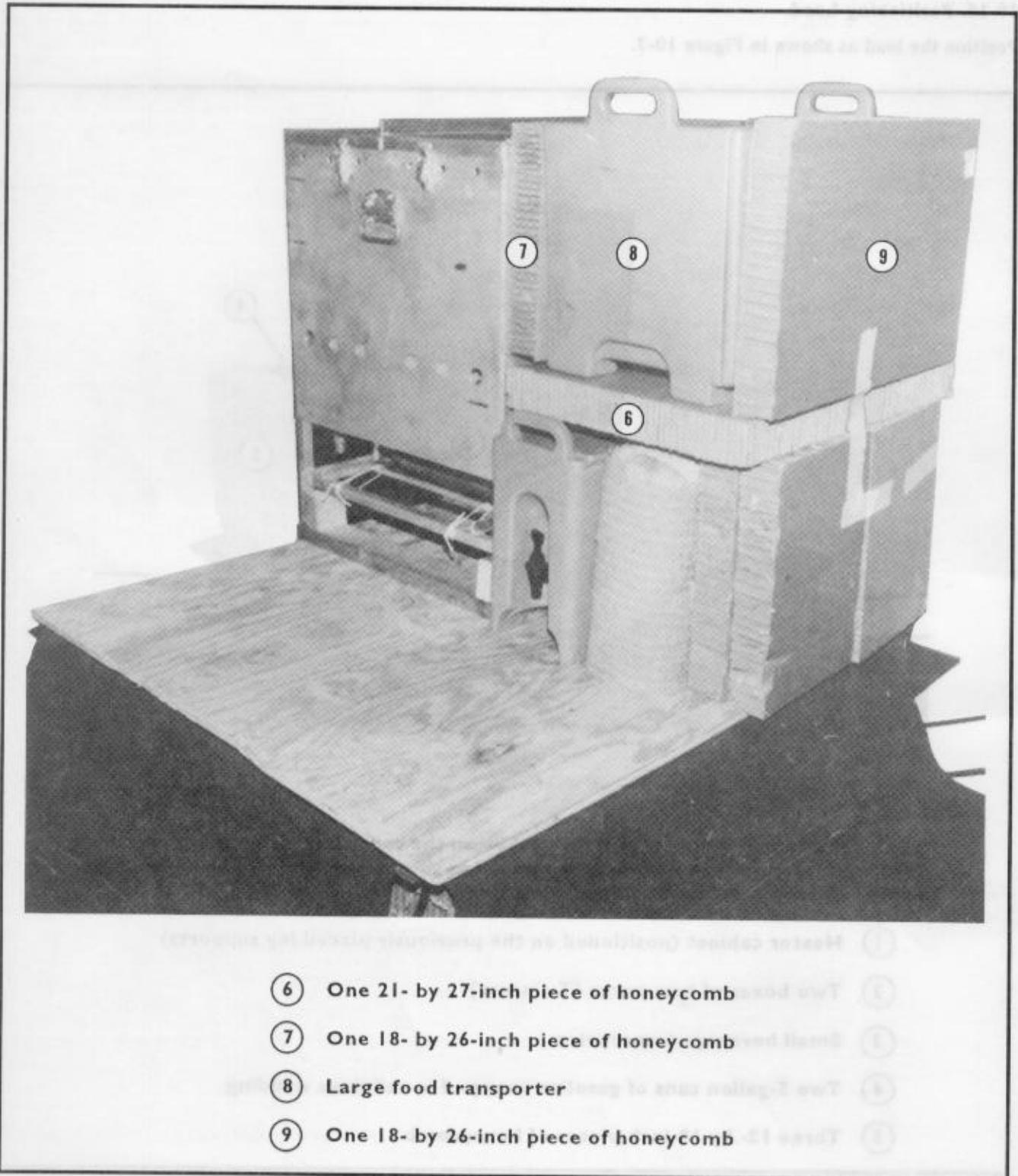
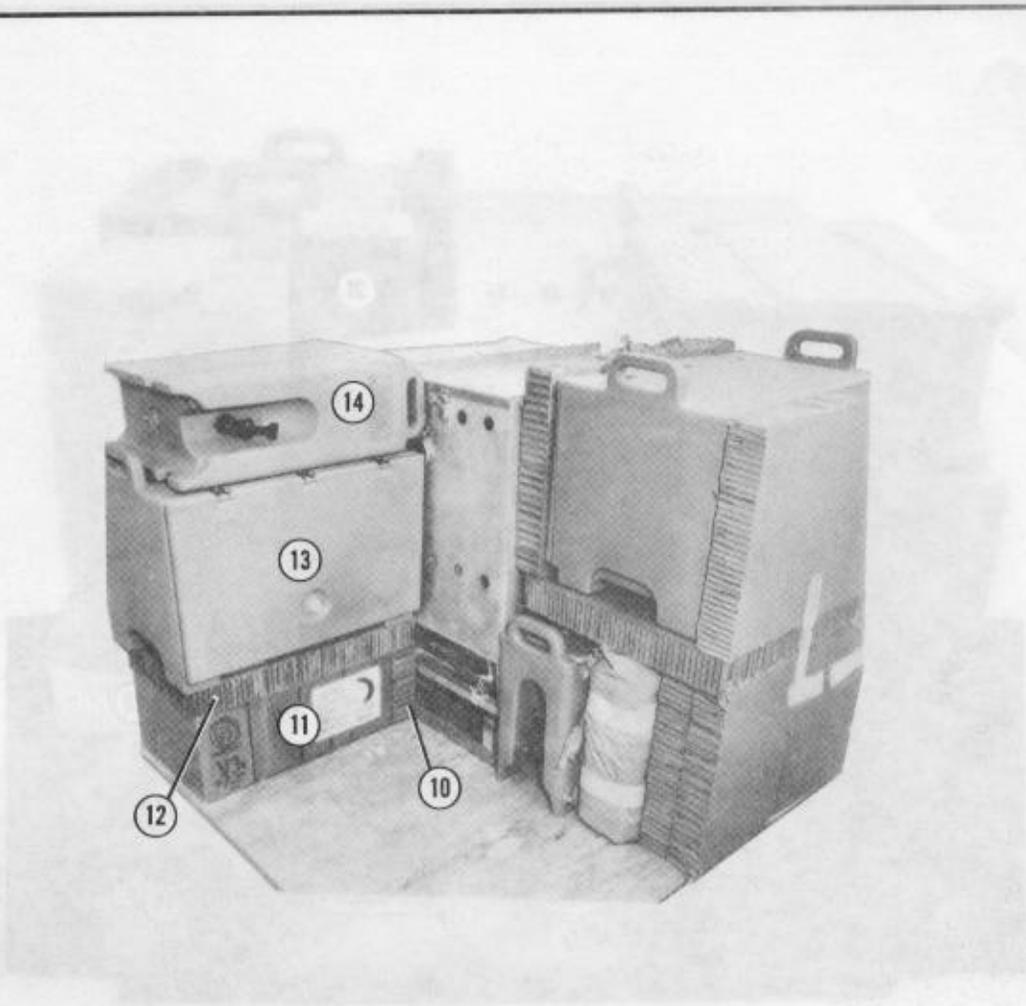


Figure 10-7. Load positioned (continued)



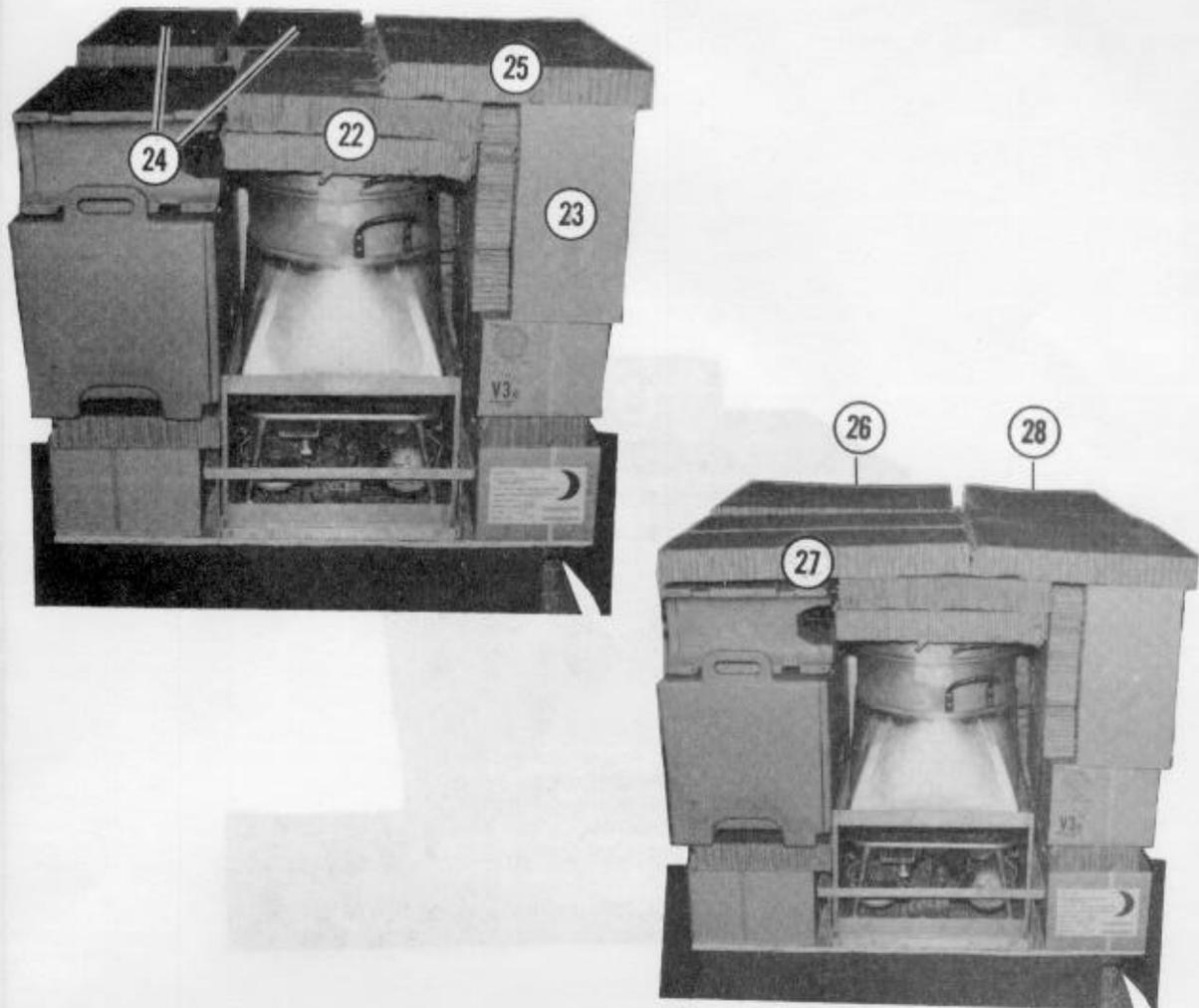
- ⑩ One 9- by 13-inch piece of honeycomb
- ⑪ Two boxes of tray packs
- ⑫ One 14- by 25-inch piece of honeycomb
- ⑬ Large food transporter
- ⑭ Large beverage transporter

Figure 10-7. Load positioned (continued)



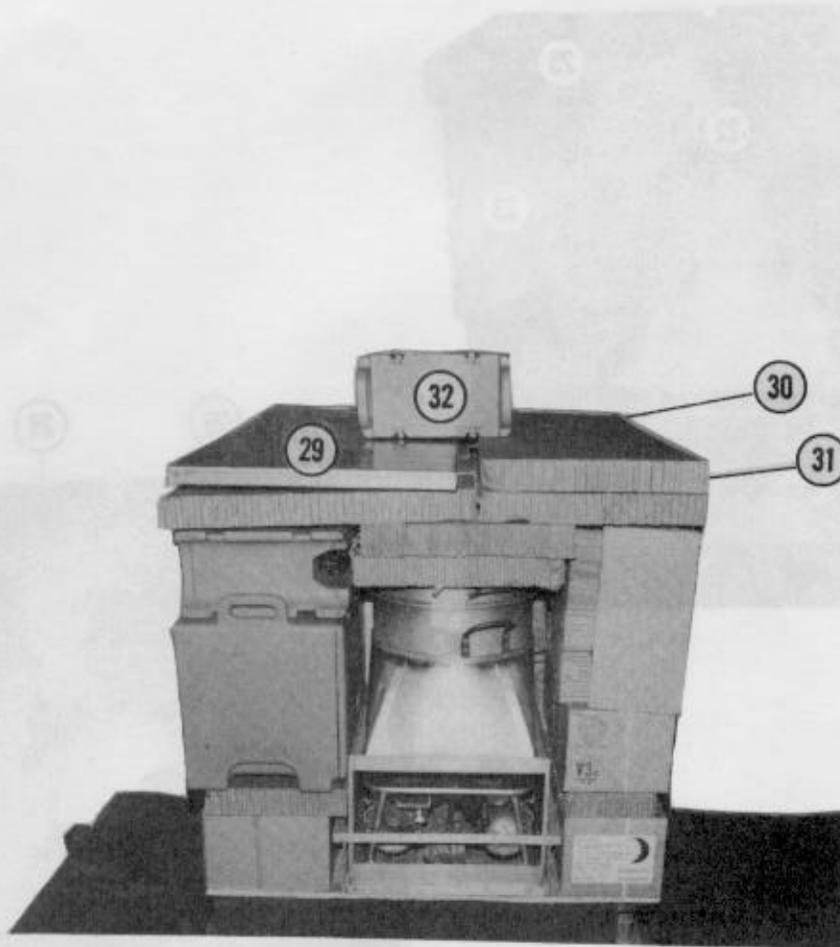
- ⑮ Pot assembly and burner unit
- ⑯ Two boxes of tray packs
- ⑰ One 9- by 25-inch piece of honeycomb
- ⑱ Two boxes of tray packs
- ⑲ Two 8- by 18-inch pieces of honeycomb
- ⑳ Large beverage transporter
- ㉑ Gasoline lantern

Figure 10-7. Load positioned (continued)



- ②② Two 20- by 24-inch pieces of honeycomb
- ②③ One 9- by 18-inch piece of honeycomb
- ②④ Two 13- by 27-inch pieces of honeycomb
- ②⑤ One 21- by 30-inch piece of honeycomb
- ②⑥ One 26- by 37-inch piece of honeycomb
- ②⑦ One 17- by 25-inch piece of honeycomb
- ②⑧ One 7- by 25-inch piece of honeycomb

Figure 10-7. Load positioned (continued)



- ②9 Work and serving table
- ③0 One 19- by 21-inch piece of honeycomb
- ③1 One 21- by 36-inch piece of honeycomb
- ③2 Small beverage transporter

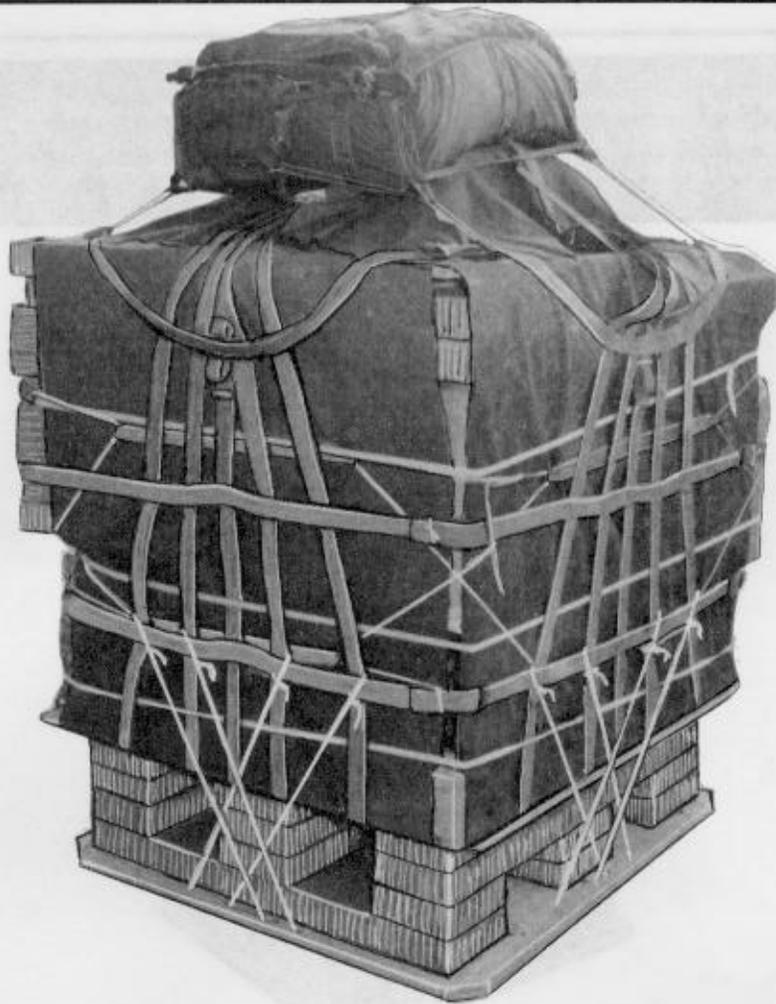
Figure 10-7. Load positioned (continued)

10-16. Closing Container

Close the container according to Figures 9-3 through 9-7.

10-17. Completing Rigged Load and Installing Parachute

Complete the rigging of the load and install a G-12E cargo parachute as shown in Figure 10-8.



- 1 Pass a length of 1/2-inch tubular nylon webbing around the A-22 cargo bag. Run the webbing under the vertical straps between the upper and middle horizontal straps. Pull the ends of the webbing tight, and tie the ends together.
- 2 Run two lengths of 1/2-inch tubular nylon webbing around the A-22 cargo bag and through the vertical straps. Run one length below the second horizontal strap and one below the third. Pull the ends of the webbing tight, and tie the ends together.
- 3 Secure the skid board ties to the load as shown in Figure 9-6.
- 4 Install a G-12E cargo parachute according to Chapter 8.

Figure 10-8. Rigged load completed and G-12E cargo parachute installed

10-18. Marking Rigged Load

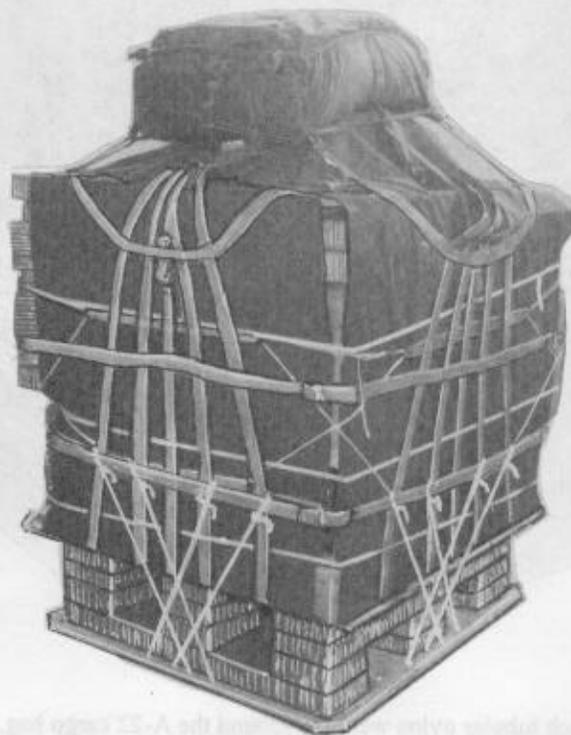
Mark the rigged load according to Chapter 1 using the data given in Figure 10-9. If the load varies from the one shown in Figure 10-9, recompute the rigged load data.

10-19. Equipment Required

Use the equipment listed in Table 10-3 to rig the load shown in Figure 10-9.

CAUTION

Make the final inspection required by Chapter 1 before the load leaves the rigging site. If the load includes hazardous material as defined in AFJMAN 24-204/TM 38-250, complete Shipper's Declaration for Dangerous Goods form.



RIGGED LOAD DATA

Weight (with parachute)	1,270 pounds
Height (with parachute)	85 inches
Width	48 inches
Length	48 inches
Parachute	G-12E

Figure 10-9. Company-level field feeding kitchen rigged in an A-22 container for low-velocity airdrop

Table 10-3. Equipment required for rigging the company-level field feeding kitchen in an A-22 container for low-velocity airdrop

National Stock Number	Item	Quantity
1670-00-587-3421	Bag, cargo, A-22	1
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
5510-00-220-6446	Lumber:	
	2- by 4-in:	
	3 1/2-in	4
	11-in	2
	17-in	1
	27-in	2
5510-00-220-6448	2- by 6- by 27-in	1
5315-00-010-4657	Nail, steel wire, common:	As required
5315-00-010-4661	6d	As required
1670-00-753-3928	10d	As required
	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in:	5 sheets
	7- by 25-in	(1)
	8- by 18-in	(2)
	9- by 9-in	(18)
	9- by 13-in	(1)
	9- by 18-in	(1)
	9- by 25-in	(1)
	9- by 44-in	(6)
	12- by 18-in	(3)
	13- by 27-in	(2)
	14- by 25-in	(1)
	17- by 25-in	(2)
	18- by 26-in	(2)
	19- by 21-in	(1)
	20- by 24-in	(2)
	21- by 27-in	(1)
	21- by 30-in	(1)
	21- by 36-in	(1)
	26- by 37-in	(1)
	Parachute:	
1670-01-065-3755	Cargo, G-12E	1
1670-00-216-7297	Pilot, 68-in diam	1
5530-00-128-4981	Plywood, 3/4-in:	3 sheets
	4- by 11-in	(2)
	4- by 17-in	(1)
	23 3/4- by 23 3/4-in	(1)
	24 3/4- by 25 1/2-in	(1)
	48- by 48-in	(1)

Table 10-3. Equipment required for rigging the company-level field feeding kitchen in an A-22 container for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
1670-00-883-1654	Skid, cargo bag, platform, plywood (CDS)	1
7510-00-266-6710	Tape, masking, 2-in	As required
8310-00-102-4478	Thread, cotton, ticket number 8/7	As required
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required

Section III RIGGING PETROLEUM PRODUCTS

CAUTION

Make sure all petroleum products are packaged in POP standard drums and cans.

10-20. Description of Load

This section tells and shows how to rig sample loads of petroleum products. They will be rigged in an A-22 cargo bag. This section will show how to position the load only. The container is rigged as a typical A-22 load and the parachute is installed by normal procedures.

10-21. Preparing Skid Board and Positioning Honeycomb

Prepare the skid board and position the honeycomb according to Chapter 9.

10-22. Positioning Container

Center the sling assembly on the honeycomb stack. If desired, a cover may be used.

10-23. Positioning Load

Position the load as follows:

- a. Use Figure 10-10 to position cases of oil.
- b. Use Figure 10-11 to position 5-gallon drums.
- c. Use Figure 10-12 to position 5-gallon fuel cans.

d. Use Figure 10-13 to position 30-gallon grease drums and cases of oil.

e. Use Figure 10-14 to position 55-gallon drums.

NOTES: 1. These procedures can be used to rig similar loads.
2. The load may consist of drums of oil, grease, fuel, or a combination.

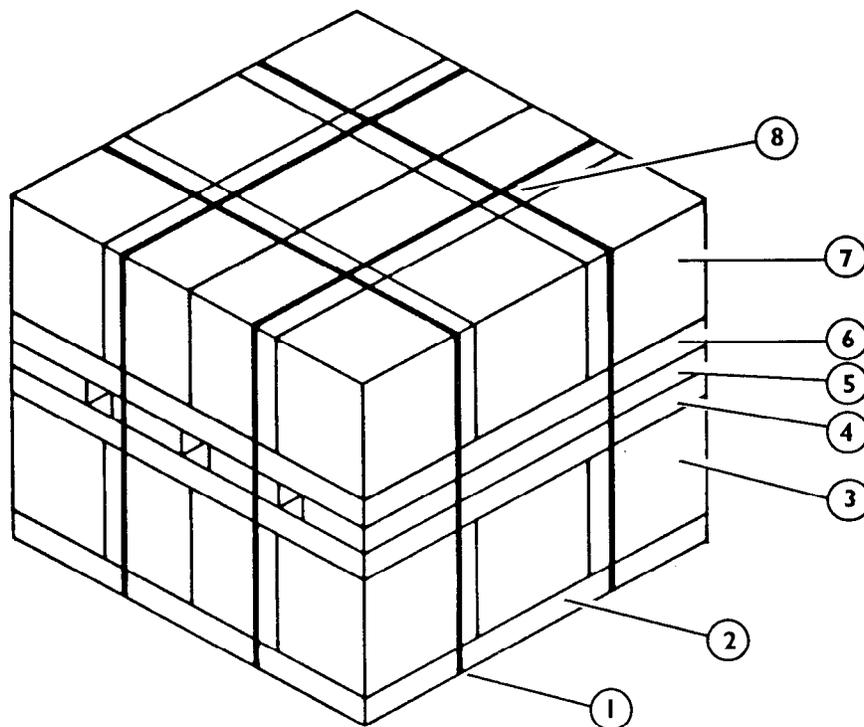
10-24. Securing Container and Installing Parachute

Secure the container according to Figures 9-4 through 9-7. Install a G-12E cargo parachute according to Chapter 8.

10-25. Equipment Required

Use the equipment listed in Table 10-4 to rig the petroleum products. However, the equipment will vary from load to load.

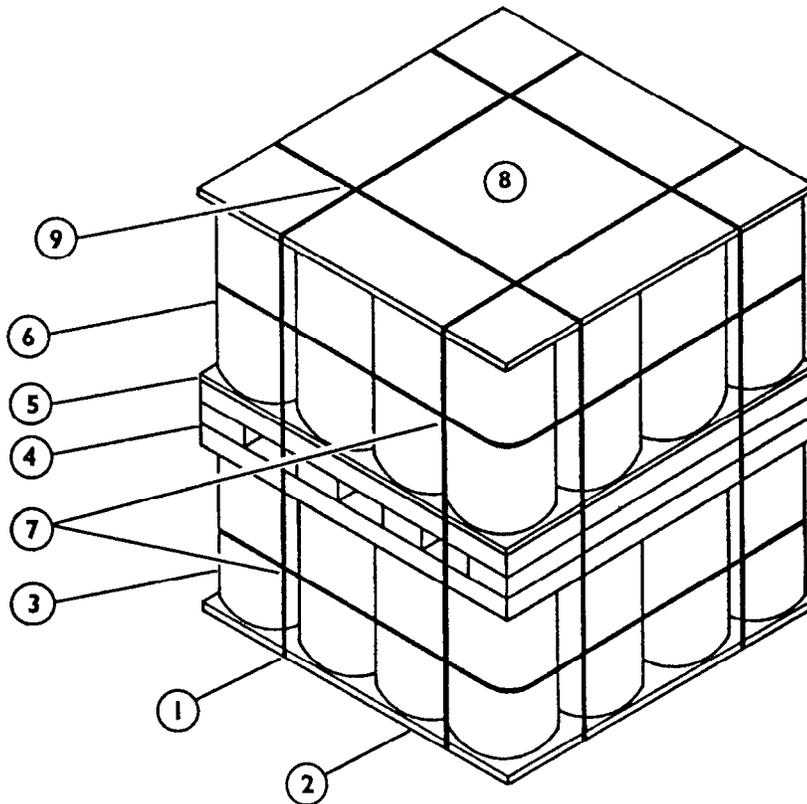
Note: This drawing is not drawn to scale.



- ① Use four 20-foot lengths of steel strapping. Lay two lengths side to side on top of the container. Lay the other two lengths front to rear on top of the container. Adjust each length so that it is 8 inches from the edge.
- ② Center a 36- by 48-inch and a 12- by 48-inch piece of honeycomb side by side on top of the container.
- ③ Place 12 cases of oil on top of the honeycomb.
- ④ Form the second layer of honeycomb as described in step 2 except alternate the pieces of honeycomb.
- ⑤ Evenly space four 8- by 48-inch pieces of honeycomb on top of the second layer of honeycomb.
- ⑥ Form the fourth layer of honeycomb as described in step 2 except alternate the pieces of honeycomb.
- ⑦ Position 12 cases of oil on top of the honeycomb.
- ⑧ Bind the steel strapping over the top of the load. Use four seals to secure each piece of steel strapping. Cut off excess if necessary.

Figure 10-10. Cases of oil rigged

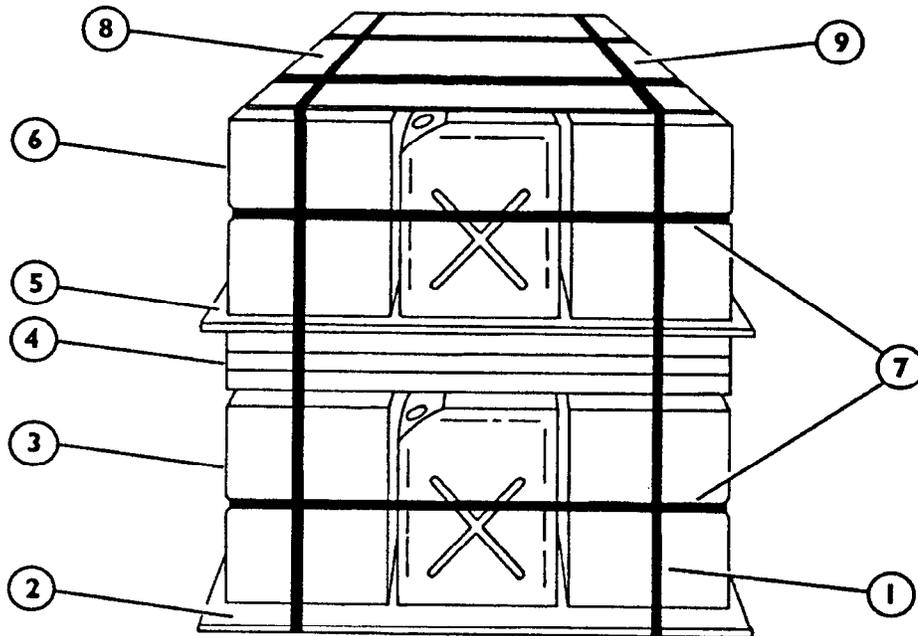
Note: This drawing is not drawn to scale.



- ① Repeat step 1 of Figure 10-10.
- ② Center a 3/4- by 48- by 48-inch piece of plywood on top of the container.
- ③ Place sixteen 5-gallon drums on top of the plywood.
- ④ Repeat steps 4 through 6 of Figure 10-10 to form three layers of honeycomb.
- ⑤ Place a 3/4- by 48- by 48-inch piece of plywood on top of the honeycomb.
- ⑥ Position sixteen 5-gallon drums on top of the plywood.
- ⑦ Wrap a length of steel strapping around each layer of drums. Bind the strapping in place.
- ⑧ Place a 3/4- by 45- by 45-inch piece of plywood on top of the load.
- ⑨ Bind the steel strapping over the top of the load. Use four seals to secure each piece of steel strapping. Cut off excess if necessary. Pad the 5-gallon drums as necessary.

Figure 10-11. Five-gallon drums rigged

Note: This drawing is not drawn to scale.



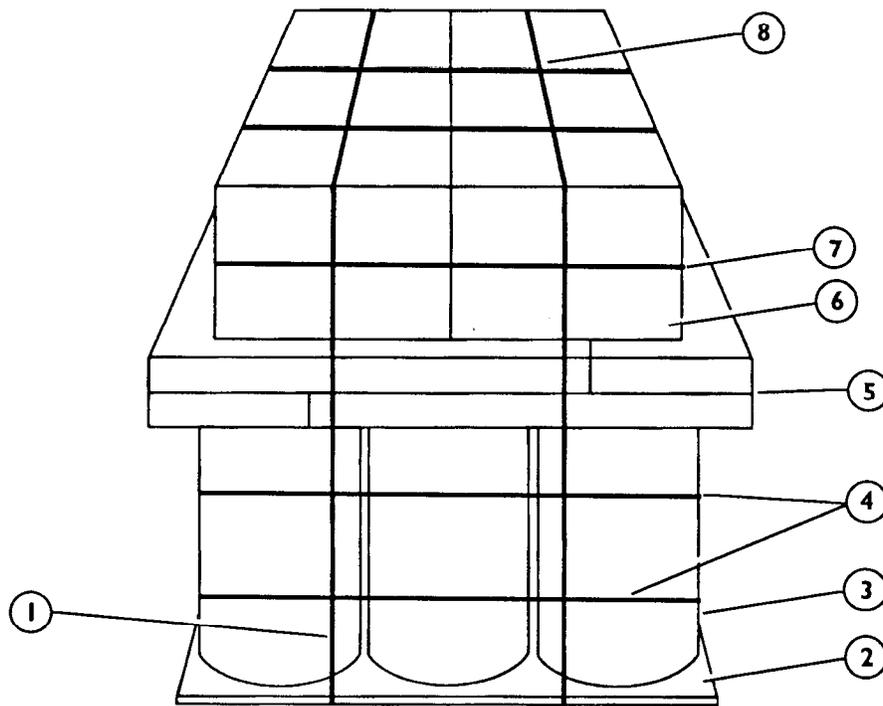
- ① Repeat step 1 of Figure 10-10.
- ② Center a 3/4- by 48- by 48-inch piece of plywood on top of the container.
- ③ Position 21 cans on top of the plywood (three rows wide and seven in each row). Wrap every other can with cellulose wadding or cardboard sheets.

Note: Make sure the 5-gallon cans are not more than 3/4 full.

- ④ Position three layers of honeycomb. Use a 36- by 48-inch and a 12- by 48-inch piece of honeycomb in each layer. Alternate the pieces of honeycomb in each layer.
- ⑤ Lay a 3/4- by 48- by 48-inch piece of plywood on top of the honeycomb layers.
- ⑥ Repeat step 3.
- ⑦ Wrap a length of steel strapping around each layer of cans. Bind the strapping in place.
- ⑧ Place a 3/4- by 44- by 44-inch piece of plywood on top of the load.
- ⑨ Bind the steel strapping over the top of the load. Use four seals to secure each piece of steel strapping. Cut off excess if necessary. Pad the 5-gallon cans as necessary.

Figure 10-12. Five-gallon fuel cans rigged

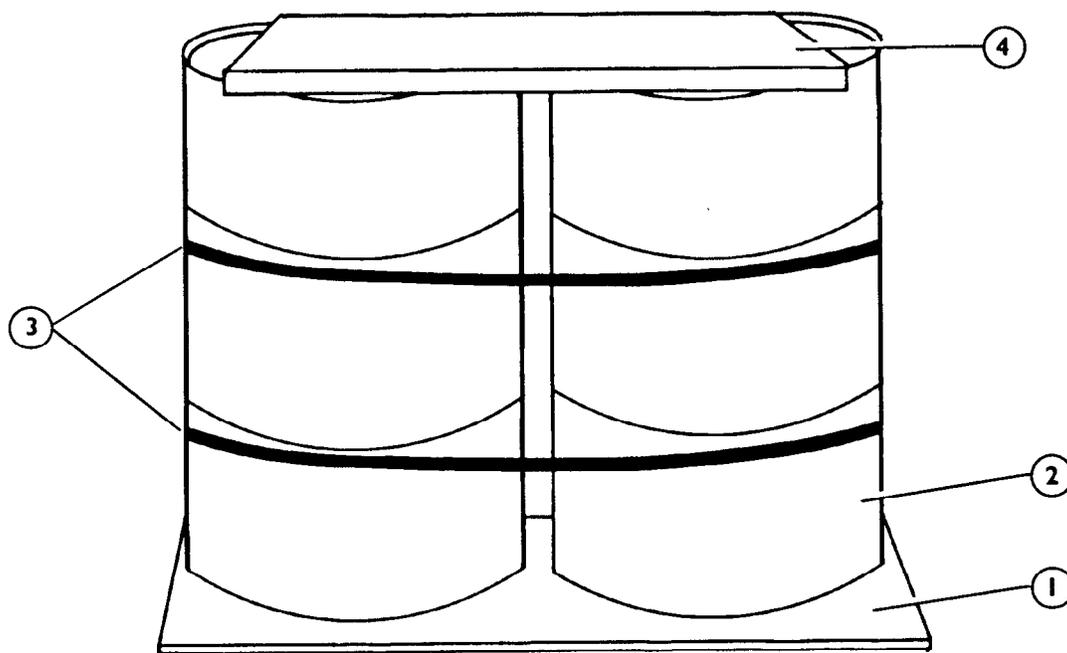
Note: This drawing is not drawn to scale.



- ① Repeat step 1 of Figure 10-10.
- ② Center a 3/4- by 48- by 48-inch piece of plywood on top of the container.
- ③ Place nine 30-gallon drums on top of the plywood.
- ④ Evenly space two 18-foot lengths of steel strapping around the drums. Bind the strapping in place.
- ⑤ Position two layers of honeycomb. Use a 36- by 48-inch and a 12- by 48-inch piece of honeycomb in each layer. Alternate the pieces of honeycomb in each layer.
- ⑥ Place six cases of oil on top of the honeycomb.
- ⑦ Wrap a length of steel strapping around the cases. Bind the strapping in place.
- ⑧ Bind the steel strapping over the top of the load. Use four seals to secure each piece of steel strapping. Cut off excess if necessary. Pad the 5-gallon drums as necessary.

Figure 10-13. Thirty-gallon grease drums and cases of oil rigged

Note: This drawing is not drawn to scale.



- ① Center a 3/4- by 48- by 48-inch piece of plywood on top of the container.
- ② Place four 55-gallon drums on top of the plywood.
- ③ Wrap two 16-foot lengths of 1/2-inch tubular nylon webbing around the drums. Make sure each length is just above the grooves on the drums. Secure each length of webbing together using a trucker's hitch knot.
- ④ Center a 3/4- by 36- by 36-inch piece of plywood on top of the load.

Figure 10-14. Fifty-five gallon drums rigged

Table 10-4. Equipment required for rigging petroleum products in an A-22 cargo bag

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
1670-00-587-3421	Bag, cargo, A-22	1
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in	As required
1670-01-065-3755	Parachute, cargo: G-12E	1
1670-00-872-6109	High-velocity, 26-ft	1
5530-00-129-7777	Plywood: 1/2-in	As required
5530-00-128-4981	3/4-in	As required
1670-00-883-1654	Skid, cargo bag, platform, plywood (CDS)	1
8135-00-283-0667	Strapping, steel, 5/8-in	As required
7510-00-266-6710	Tape, masking, 2-in	As required
8310-00-102-4478	Thread, cotton, ticket number 8/7	As required
8305-00-268-2411	Webbing: Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required