

CHAPTER 7 RIGGING SPECIFIC A-21 LOADS

Section I RIGGING GLLD FOR LOW-VELOCITY AIRDROP

7-1. Description of Load

The Ground Laser Location Designator (GLLD) is rigged in an A-21 cargo bag with one G-14 parachute. Three A-7A straps are also needed to secure equipment within the container to the skid board. The GLLD components are the tripod, night vision sight and battery, laser designator in a backpack, batteries, traversing unit and batteries, vehicle power conditioner, cables, and collimator. Four cases of rations are dropped with the GLLD.

7-2. Preparing Skid Boards

Prepare two skid boards as shown in Figure 7-1.

7-3. Placing Honeycomb and Top Skid Board

Place honeycomb and top skid board as shown in Figure 7-2.

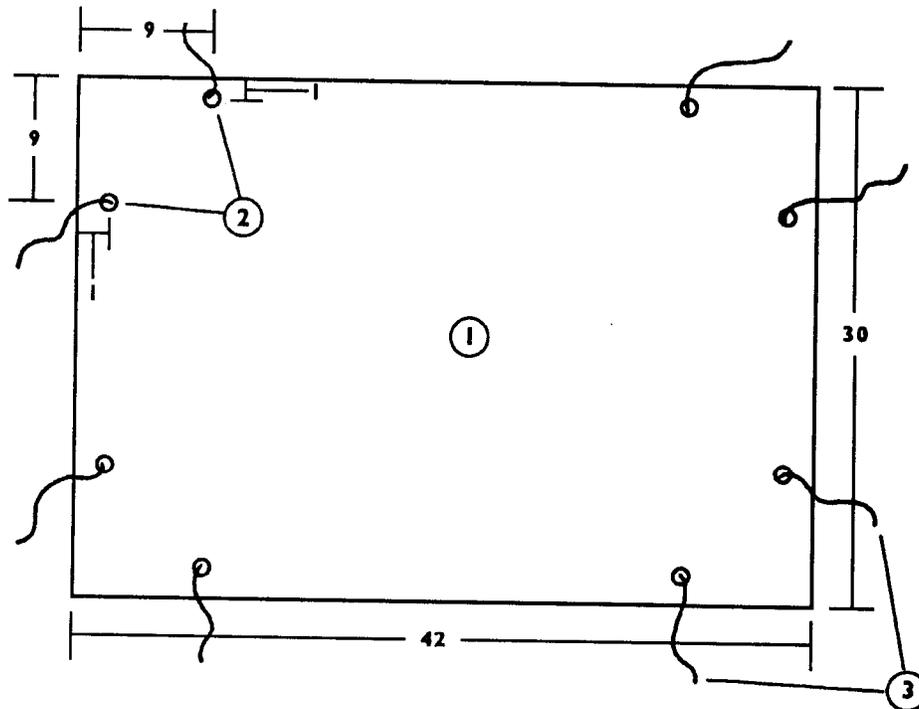
7-4. Rigging GLLD

Rig the GLLD according to Figure 7-3.

7-5. Installing Parachute

Install the G-14 cargo parachute according to Chapter 5.

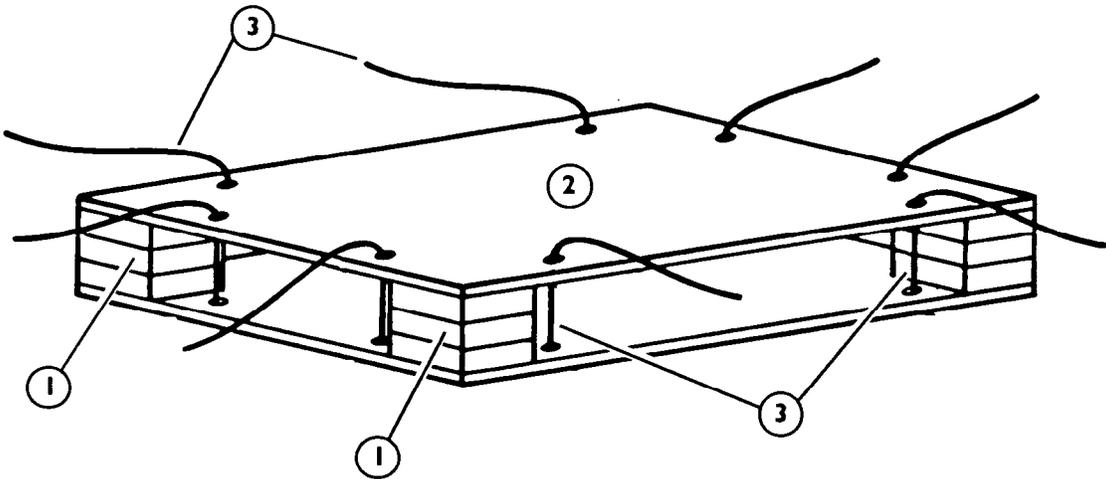
- Notes:**
1. This drawing is not drawn to scale.
 2. All dimensions are given in inches.
 3. The skid board is ramp-compatible, NOT CVRS-compatible.



- 1 Cut two 3/4- by 30- by 42-inch pieces of plywood.
- 2 Drill eight 1/2-inch holes in each piece of plywood as shown above.
- 3 Place one piece of plywood on a flat surface. Cut four 13-foot lengths of 1/2-inch tubular nylon webbing. Pass a length of webbing through each set of holes in the plywood.

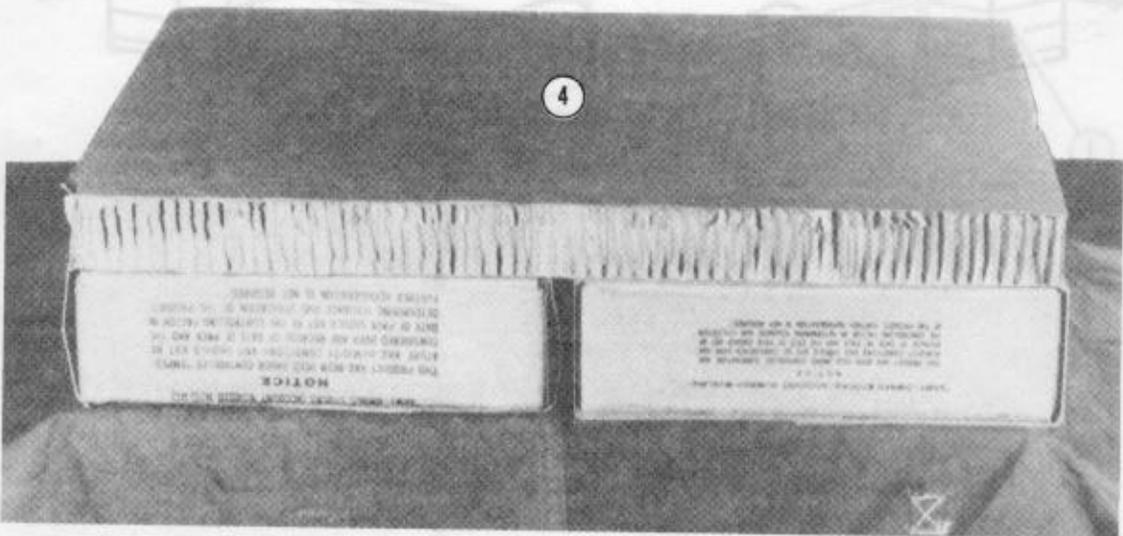
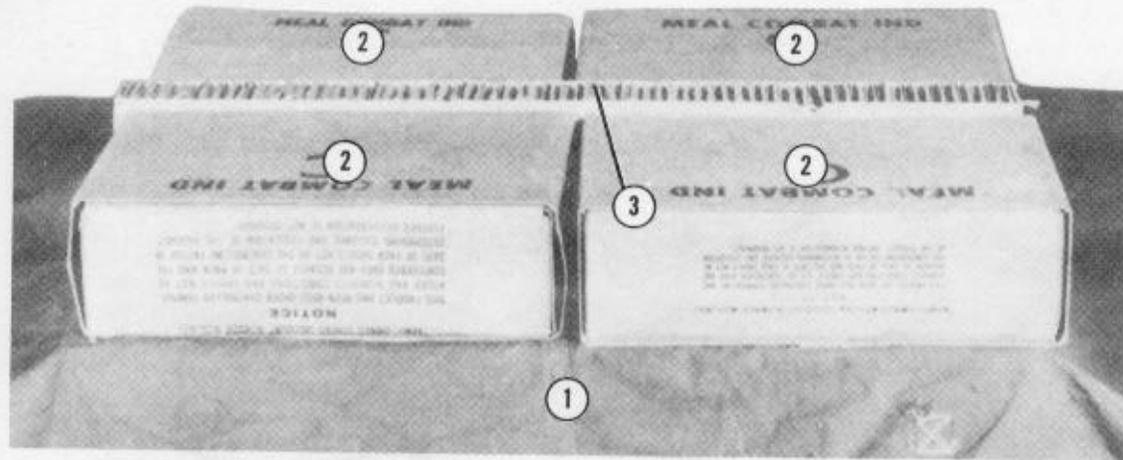
Figure 7-1. Skid boards prepared

Note: This drawing is not drawn to scale.



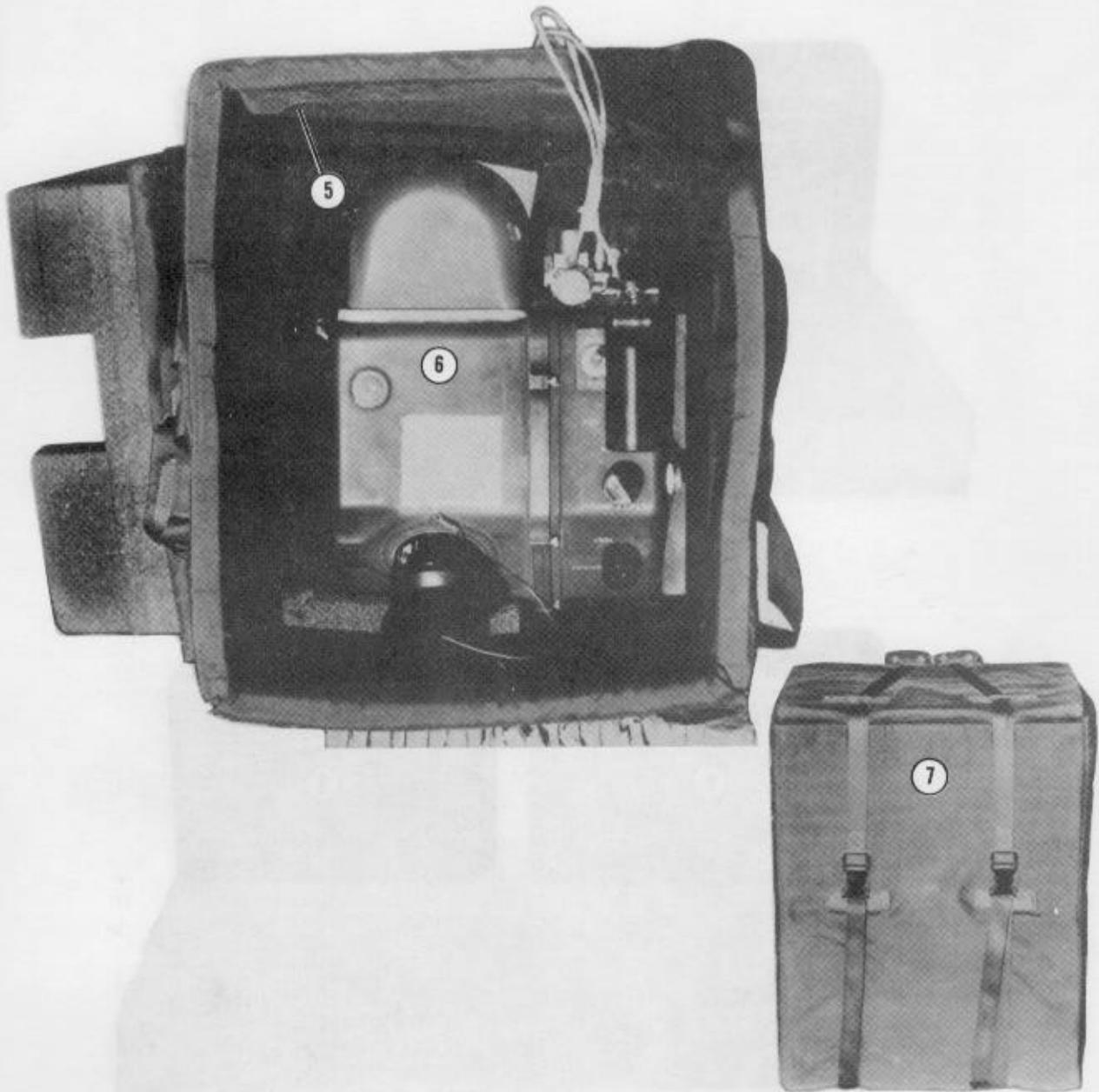
- ① Cut twelve 8- by 8-inch pieces of honeycomb. Place the honeycomb in four stacks (three pieces each). Glue each stack together. Place a stack flush in each corner of the skid board. Glue the stacks to the skid board.
- ② Center the top skid board (prepared in Figure 7-1) on top of the honeycomb.
- ③ Route the lengths of webbing (Figure 7-1, step 3) through the top skid board as shown above.

Figure 7-2. Honeycomb and top skid board placed



- ① Center the cover on the top skid board.
- ② Place four cases of rations on the A-21 cover.
- ③ Place scrap honeycomb between the rations.
- ④ Place a 30- by 42-inch piece of honeycomb on top of the rations.

Figure 7-3. GLLD rigged



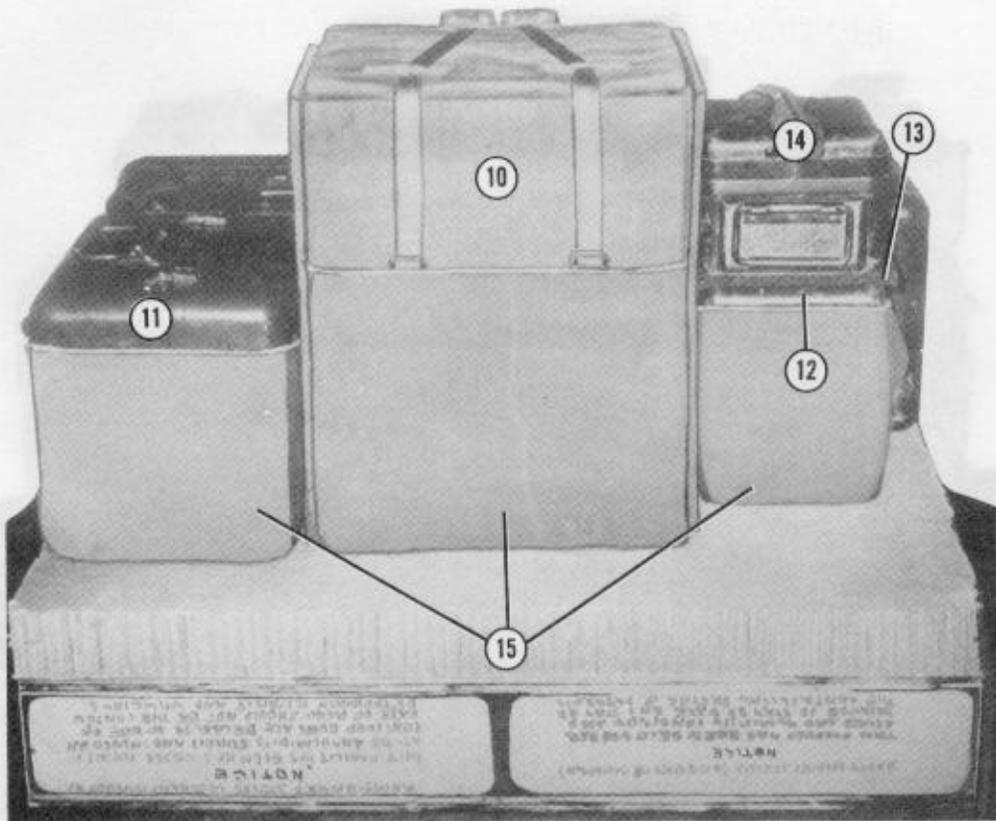
- ⑤ Remove the laser designator from the backpack. Cut pieces of felt to fit the bottom and each side of the backpack. Position them in place.
- ⑥ Replace the laser designator in the backpack.
- ⑦ Close the backpack, and secure the straps.

Figure 7-3. GLLD rigged (continued)



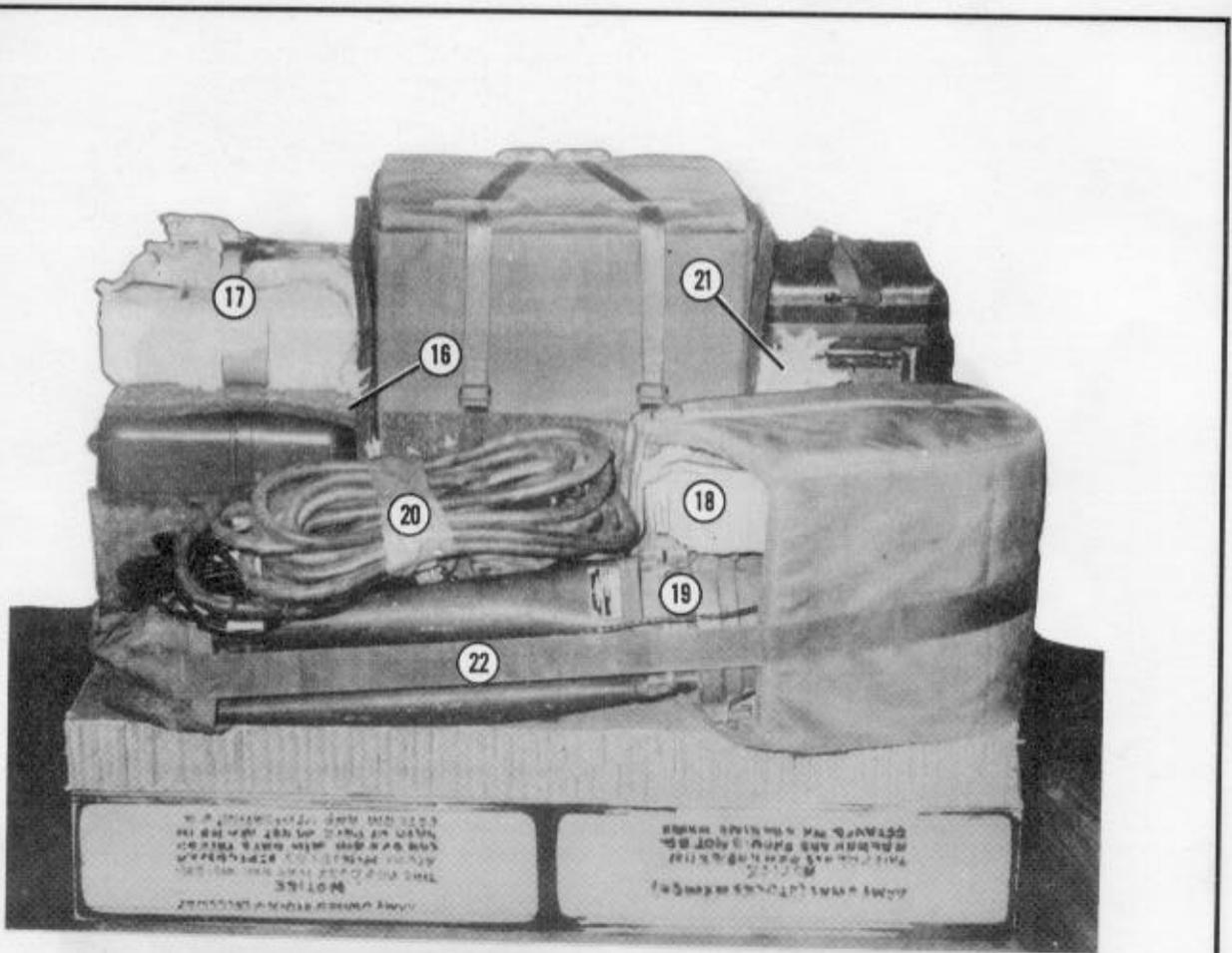
- ⑧ Place the collimator and the night sight at the rear of the 30- by 42-inch piece of honeycomb.
- ⑨ Pad the collimator and the night sight with felt.

Figure 7-3. GLLD rigged (continued)



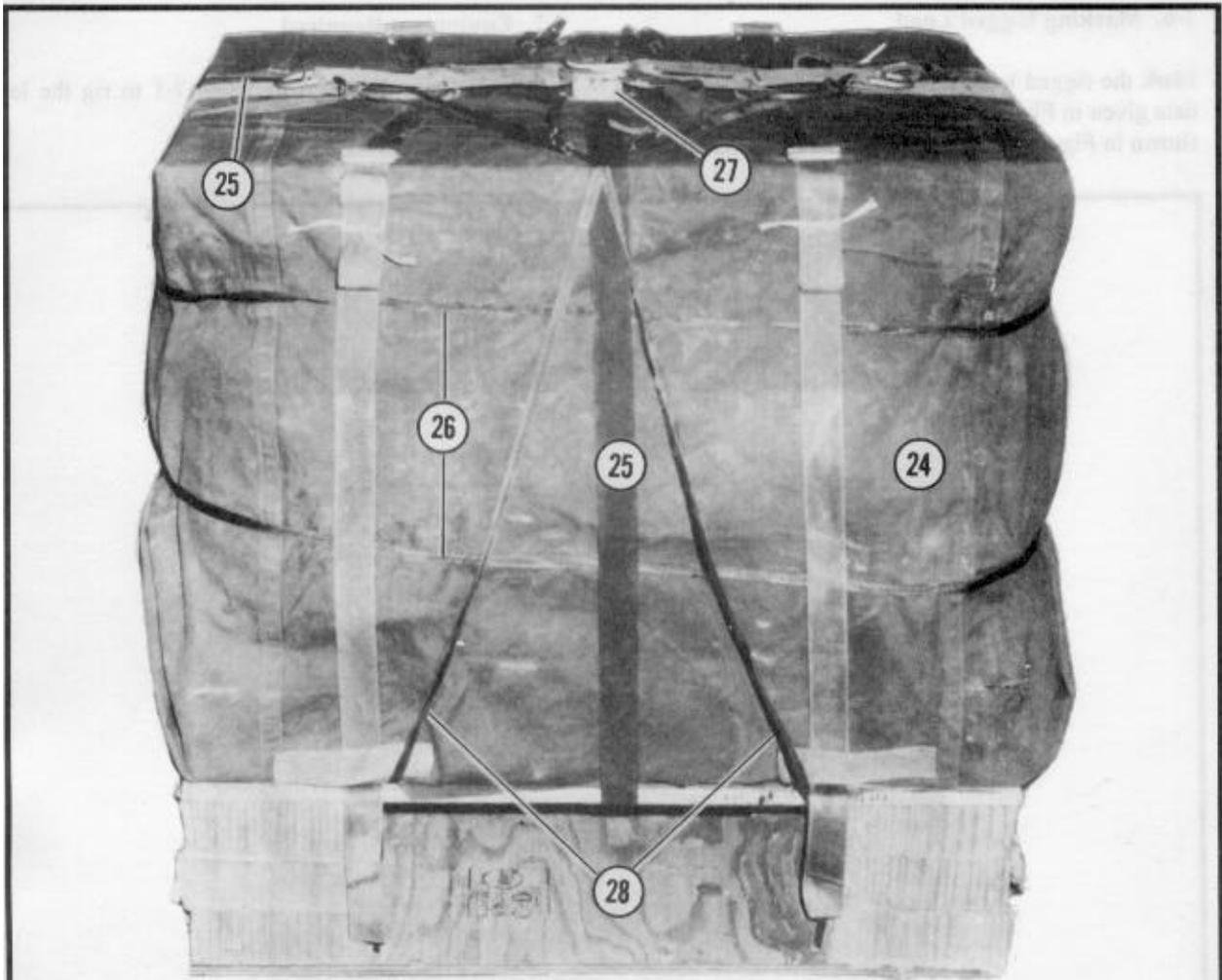
- ⑩ Place the laser designator near the center of the 30- by 42-inch piece of honeycomb.
- ⑪ Place the traversing unit on the honeycomb to the left of the laser designator.
- ⑫ Place the vehicle power conditioner on the honeycomb to the right of the laser designator.
- ⑬ Cut a piece of felt to fit the top of the power conditioner. Position it in place.
- ⑭ Place the night vision sight batteries on top of the power conditioner.
- ⑮ Pad the laser designator, the traversing unit, and the vehicle power conditioner with pieces of felt.

Figure 7-3. GLLD rigged (continued)



- ①⑥ Place a piece of felt on top of the traversing unit.
- ①⑦ Wrap the traversing unit batteries in cellulose wadding. Tape the wadding in place. Place the wrapped batteries on top of the traversing unit.
- ①⑧ Place a 6- by 6-inch piece of honeycomb on the tripod handle.
- ①⑨ Place the tripod on the front of the 30- by 42-inch piece of honeycomb.
- ①⑩ Roll up the cable, and tape it together. Place the cable on top of the tripod.
- ①⑪ Wrap extra batteries and small parts in cellulose wadding, and tape the wadding in place. Place these items on the load.
- ①⑫ Pass an A-7A airdrop cargo sling strap around the lower layer of equipment, and fasten the strap.

Figure 7-3. GLLD rigged (continued)



- ②3 Using scrap pieces of honeycomb and other padding material, square off the top of the load. Place a 3/4- by 30- by 42-inch piece of plywood (not shown) on top of the load.
- ②4 Fold the cover over the load. Fold under the excess cover.
- ②5 Using two A-7A straps, route one of the straps between the skid board and the second piece of plywood from front to rear. Bring the strap over the load and secure it. Repeat step for the other strap, but route it from left to right.
- ②6 Using two 14-foot lengths of 1/2-inch tubular nylon webbing, route one length around the load about one-third of the way up the load. Secure it tight with a trucker's hitch knot. Repeat step for second length two-thirds of the way up the load.
- ②7 Finish closing the container according to Figure 6-2.
- ②8 Secure the skid board to the load according to Figure 6-5.

Figure 7-3. GLLD rigged (continued)

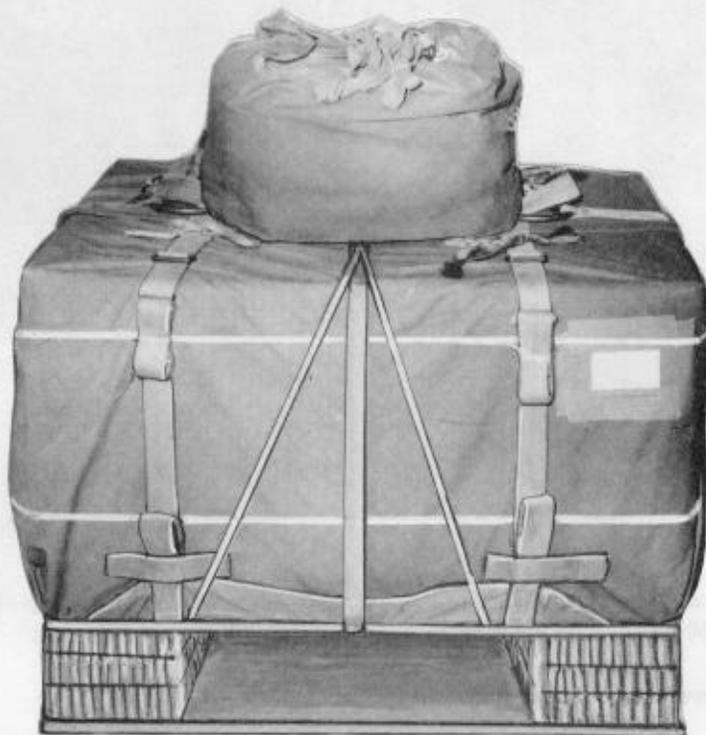
7-6. Marking Rigged Load

Mark the rigged load according to Chapter 1 using the data given in Figure 7-4. If the load varies from the one shown in Figure 7-4, recompute the rigged load data.

7-7. Equipment Required

Use the equipment listed in Table 7-1 to rig the load shown in Figure 7-4.

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)	395 pounds
Height (with parachute)	42 inches
Width	42 inches
Length	30 inches
Parachute	G-14

Figure 7-4. GLLD rigged in an A-21 cargo bag for low-velocity airdrop

Table 7-1. Equipment required for rigging the GLLD in an A-21 cargo bag for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
1670-00-242-9173	Bag, cargo, A-21	1
8305-00-242-3593	Cloth, cotton duck, 60-in	As required
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in: 6- by 6-in 8- by 8-in 30- by 42-in	2 sheets (1) (12) (1)
1670-00-999-2658	Parachute, cargo, G-14	1
5530-00-128-4981	Plywood, 3/4- by 30- by 42-in	3
1670-00-251-1153	Sling assembly, cargo, airdrop, A-7A	1
7510-00-266-6710	Tape, masking, 2-in	As required
8310-01-102-4478	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

Section II

**RIGGING AIR TRAFFIC CONTROL FACILITY AN/TSQ-97A
FOR LOW-VELOCITY AIRDROP**

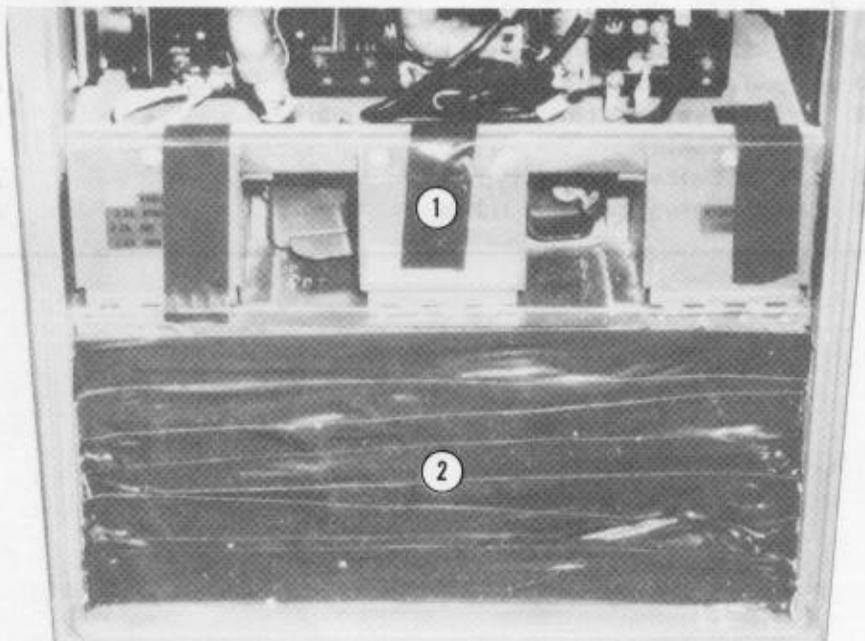
7-8. Description of Load

The ATCF AN/TSQ-97A contains three radios (AN/ARC-114A, AN/ARC-115A, and RT-1167/ARC-164(U)) and a control monitor (C9921/TSQ-97). The ATCF is rigged in an A-21 container for low-velocity airdrop. As shown in this section, the ATCF is rigged for paratroop door drop. The load

will weigh 292 pounds with parachute when it is completely rigged.

7-9. Preparing Load

Make sure all connections are tightened. Prepare the ATCF as shown in Figure 7-5.



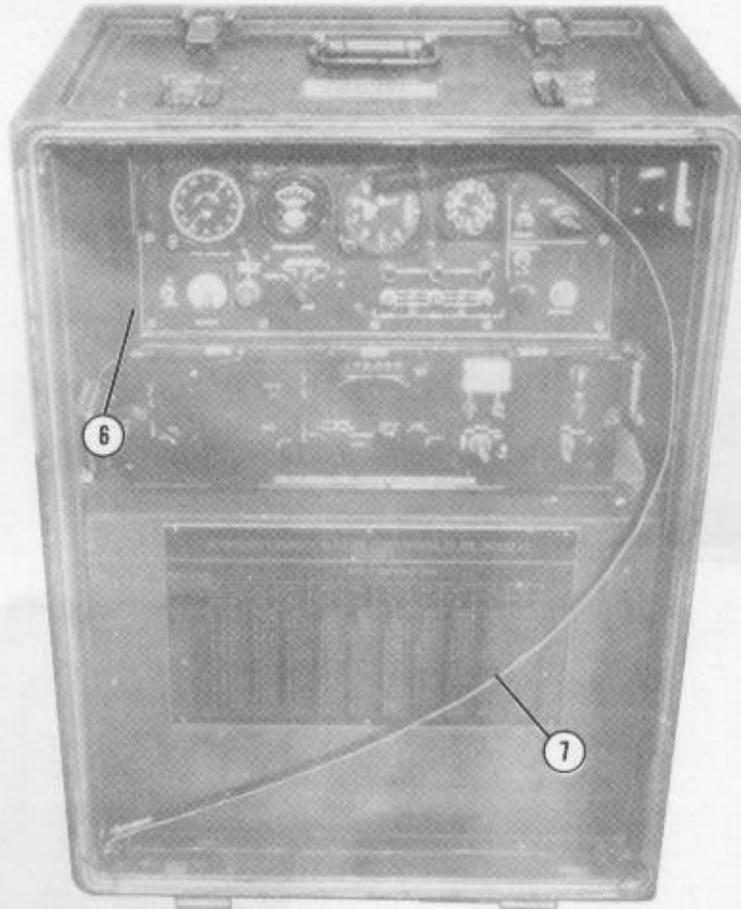
- ① **Tape the accessory compartment doors. If necessary, fill compartments with cellulose wadding.**
- ② **Tape all of the lower compartment with adhesive tape.**

Figure 7-5. ATCF prepared



- ③ Cover the rear compartment with a 22 1/2- by 32 1/2-inch piece of felt.
- ④ Replace the rear cover and secure it with locking latches.

Figure 7-5. ATCF prepared (continued)



- ⑤ Make sure mounting bolts (not shown) securing the radios are secured.
- ⑥ Tape the plastic radio shield in place. Ensure the plastic shield straps are in place.
- ⑦ Place the antenna in the compartment.
- ⑧ Place a 22 1/2- by 32 1/2-inch piece of felt (not shown) over the unit.
- ⑨ Place the front cover on the load. Make sure the locking latches are locked and the quick-release pins are secured on the sides of the box (not shown).

Figure 7-5. ATCF prepared (continued)

7-10. Preparing Skid Board

Prepare the skid board as shown in Figure 7-6.

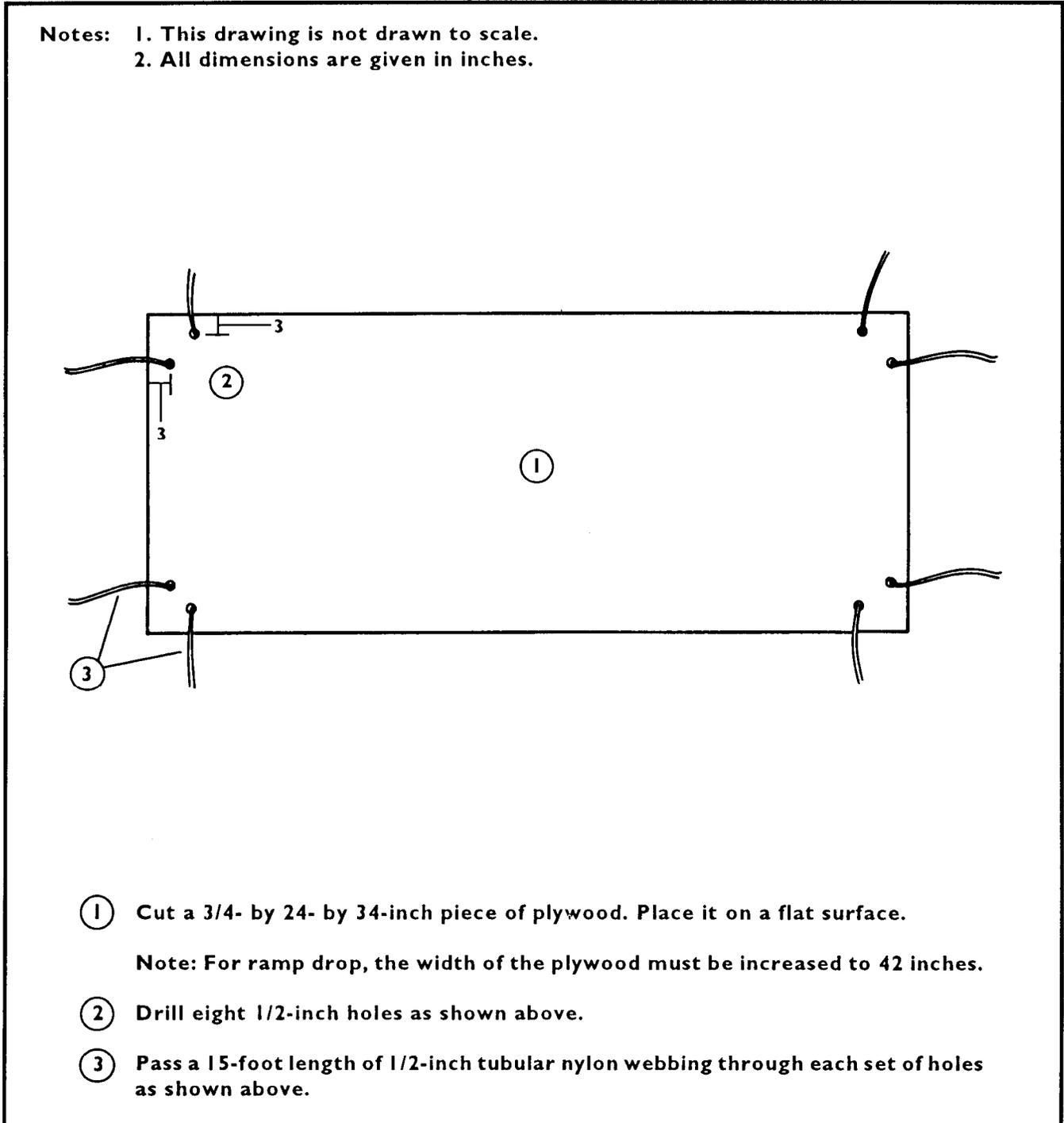
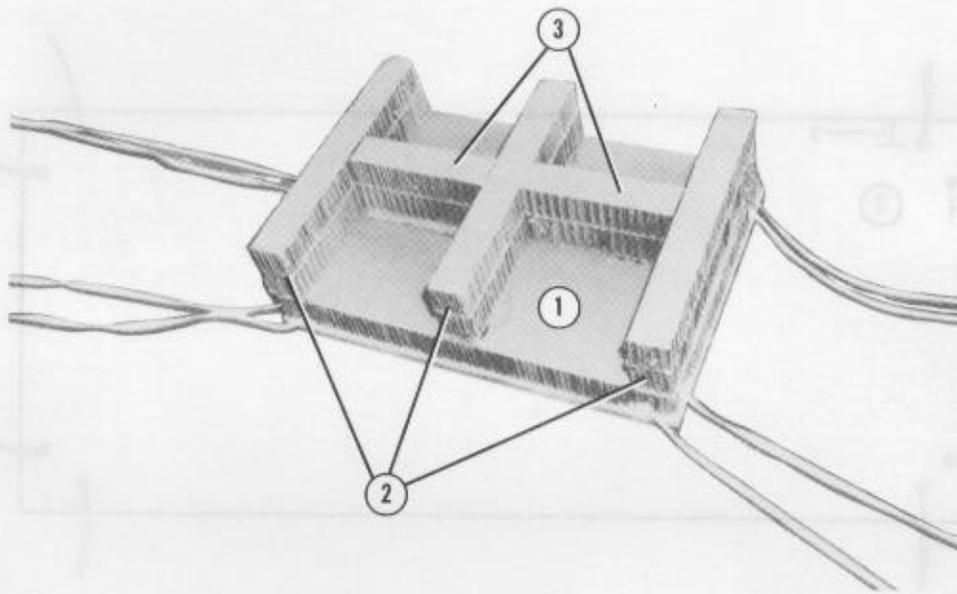


Figure 7-6. ATCF skid board prepared

7-11. Positioning Honeycomb

Position the honeycomb as shown in Figure 7-7.



- ① Center a 24- by 34-inch piece of honeycomb on the skid board.
- ② Cut six 3- by 24-inch pieces of honeycomb. Place the honeycomb in three stacks (two pieces each). Center one other stack on top of the honeycomb. Place one stack even with each side edge.
- ③ Cut four 3- by 12-inch pieces of honeycomb. Place the honeycomb in two stacks (two pieces each). Center one stack (front to rear) between the two stacks. Center the other stack (front to rear) on the other side.

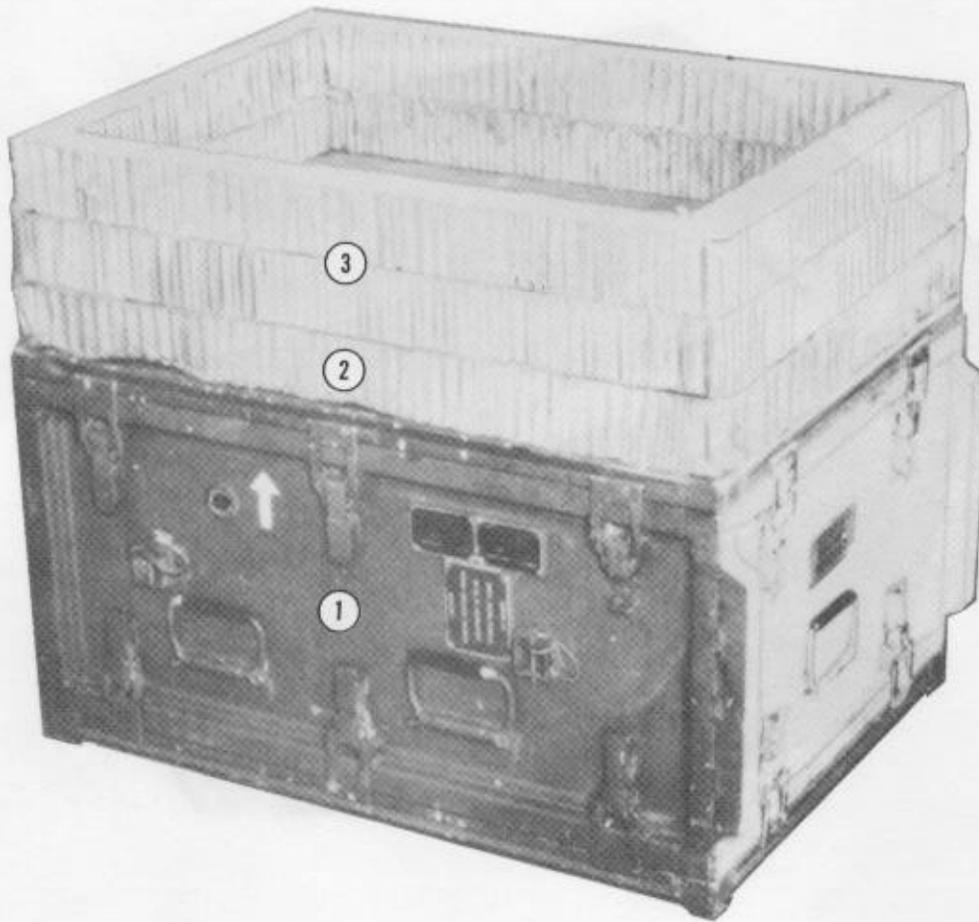
Figure 7-7. Honeycomb positioned

7-12. Placing Container

Place the container on a flat surface. Make sure the scuff pad is positioned under the cover.

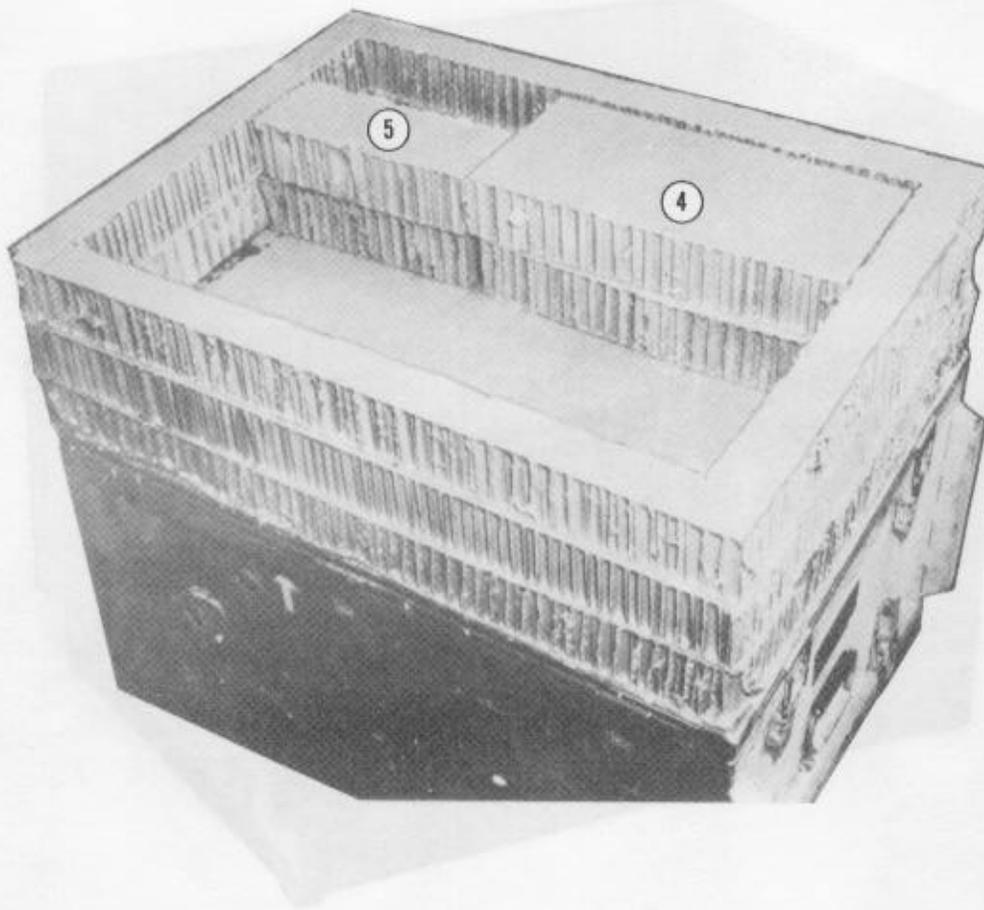
7-13. Positioning Load

Position the load as shown in Figure 7-8.



- ① Center the load on the A-21 container.
- ② Center a 24- by 34-inch piece of honeycomb on top of the load.
- ③ Cut two 24- by 34-inch pieces of honeycomb. Make a 20- by 30-inch cutout in the middle of each piece of honeycomb. Center both pieces of honeycomb on top of the first layer of honeycomb.

Figure 7-8. Load positioned



- ④ Cut two 9- by 18-inch pieces of honeycomb. Place them in the upper right corner of the cutout portion of honeycomb layers 2 and 3.
- ⑤ Cut two 12- by 4-inch pieces of honeycomb. Place them in the upper left corner of the cutout portion of honeycomb layers 2 and 3, flush with the front of the 9- by 18-inch pieces.

Figure 7-8. Load positioned (continued)

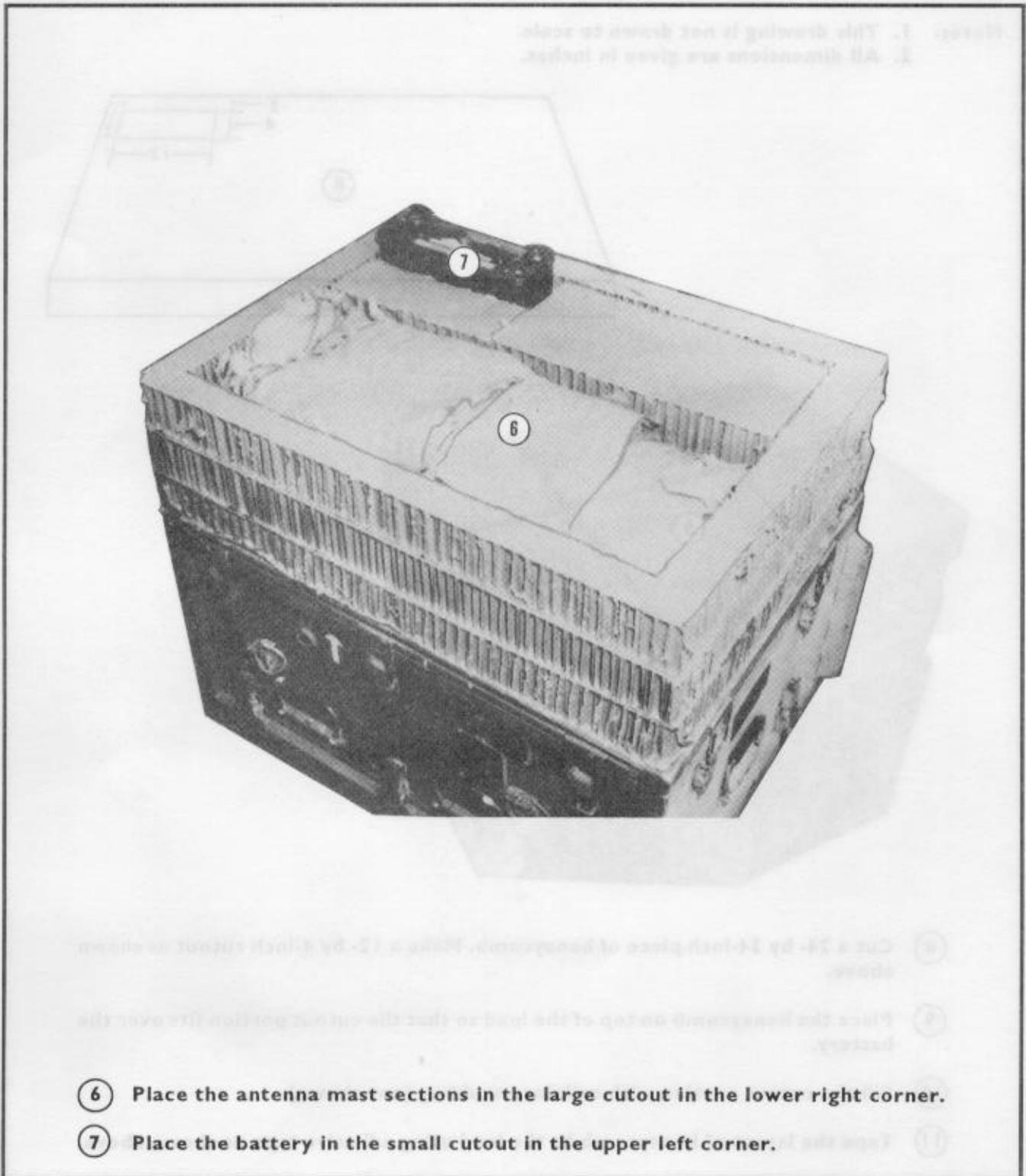
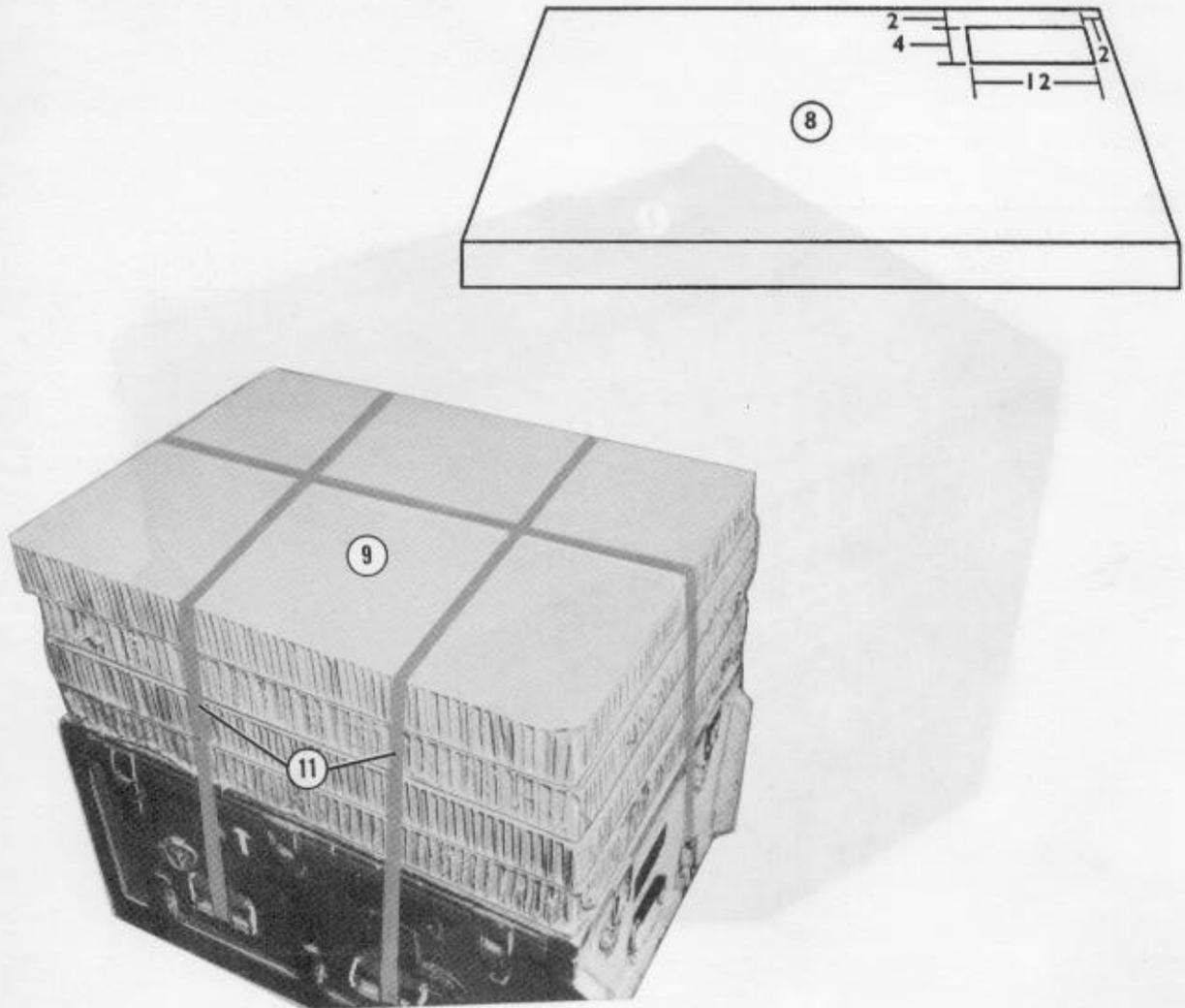


Figure 7-8. Load positioned (continued)

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



- ⑧ Cut a 24- by 34-inch piece of honeycomb. Make a 12- by 4-inch cutout as shown above.
- ⑨ Place the honeycomb on top of the load so that the cutout portion fits over the battery.
- ⑩ Fill the cutout portion with cellulose wadding (not shown).
- ⑪ Tape the layers of honeycomb to the load using adhesive tape as shown above.

Figure 7-8. Load positioned (continued)

7-14. Rigging Container

Rig the container according to Figure 6-2. Place the container on the honeycomb prepared in Figure 7-7. Secure the skid board to the container as shown in Figure 6-5.

7-15. Installing Parachute

Install the G-14 cargo parachute according to Chapter 5.

7-16. Marking Rigged Load

Mark the rigged load according to Chapter 1 using the data given in Figure 7-9. If the load varies from the one shown in Figure 7-9, recompute the rigged load data.

7-17. Equipment Required

Use the equipment listed in Table 7-2 to rig the load shown in Figure 7-9.

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 AFJMAN24-204/TM 38-250, complete Shipper's Declaration for Dangerous Goods form.

**RIGGED LOAD DATA**

Weight (with parachute)	292 pounds
Height (with parachute)	55 inches
Width	24 inches
Length	34 inches
Parachute	G-14

Figure 7-9. ATCF rigged for low-velocity airdrop

Table 7-1. Equipment required for rigging the ATCF for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
1670-00-242-9173	Bag, cargo, A-21	1
8135-00-664-6958	Cushioning material, packaging,	
	cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in:	2 sheets
	3- by 12-in	(4)
	3- by 24-in	(6)
	9- by 18-in	(2)
	12- by 4-in	(2)
	24- by 34-in	(5)
1670-00-999-2658	Parachute, cargo, G-14	1
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	1 sheet
8305-00-074-5124	Tape, adhesive, 2-in	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