CHAPTER 9

RIGGING M151 TRUCK WITH GYRO AZIMUTH THEODOLITE AND ACCOMPANYING EQUIPMENT ON MODULAR PLATFORM

9–1. General

Procedures for rigging the Gyro Azimuth Theodolite with accompanying equipment in the M151, ¼-ton truck on a modular platform are outlined in this chapter. Procedures for rigging this truck will be the same as outlined in chapter 2 with the exceptions noted.

9–2. Description of Load

The Gyro Azimuth Theodolite and accompanying equipment are rigged in an M151, ¼-ton utility truck on a modular platform with one G–11A cargo parachute and other items of airdrop equipment. The unrigged theodolite and accompanying equipment weigh 636 pounds. The Gyro Azimuth Theodolite consists of the T–2 theodolite and alinement head, carrying containers, control box with power pack, short tripod, three long tripod legs, plywood shelter, unboxed generator, and cable. The Airborne Artillery Survey Section equipment consists of surveying set No. 17, plotting set No. 1, altimeter, one transit tripod, three range poles, and two range pole tripods.

9–3. Preparing Load

If a generator box is not available, construct one locally as shown in figure 9–1. Place generator in the wooden box. Stuff empty spaces with cellulose wadding. Remove theodolite and container base pad from container. Place cellulose wadding around T–2 theodolite and inside of container cover for protection as shown in figure 9–2. Invert base pad and center a ¾- by 9½ by 9½-inch piece of plywood on pad and repack T–2 theodolite in container. Wrap the long tripod legs in cellulose wadding and tape. Using four 3- by 4- by 18-inch pieces of honeycomb, construct a base for the theodolite container as shown in figure 9–3, and tape securely to container. Stuff cellulose wadding in empty areas of surveying set and plotting set carrying boxes. Wrap the transit tripod in cellulose wadding and tape. Before wrapping and taping the altimeter, tie two 3-foot pieces of type III nylon cord to opposite sides of altimeter carrying strap, and leave the free ends extending outside of the wrapping. Tie range poles and range pole tripods with type III nylon cord.

9–4. Stowing Equipment

a. Stowing Theodolite Container and Surveying Set. Prior to stowing theodolite container and surveying set, remove spare wheel. Center theodolite container on top of the prefabricated honeycomb base (fig 9–3) and against back of front seats. Wrap two 15-foot tiedown straps around container lid and through D-rings and pull straps taut. Slip a D-ring along each strap, pass free end of each strap around rear of seat frames, attach another D-ring to free end, and hook load binders between D-rings. Pass another 15-foot tiedown strap around opposite sides of seat frames and base of container. Attach D-ring to free end and hook load binder between D-rings as shown in figure 9–4. Tape a ¾- by 14- by 14-inch piece of plywood to top of container. Place a 3- by 22- by 34-inch piece of honeycomb on floor of truck against the container base. Place surveying set on the honeycomb against the container, with cellulose wadding between set and container. Place two 3- by 12- by 12-inch pieces of honeycomb between set and right rear sheel housing, and one 3- by 12- by 12-inch piece of crushed honeycomb between set and left rear wheel housing. Secure set by passing 15-foot tiedown straps around each rear wheel front suspension arm, through D-rings, diagonally over set, attaching D-ring to free ends, and hooking load binders between D-rings and rear shackles as shown in figure 9–5.

Note. **Excess webbing of strap on right must be taped to itself along upper portion of strap to permit replacement of spare wheel.**

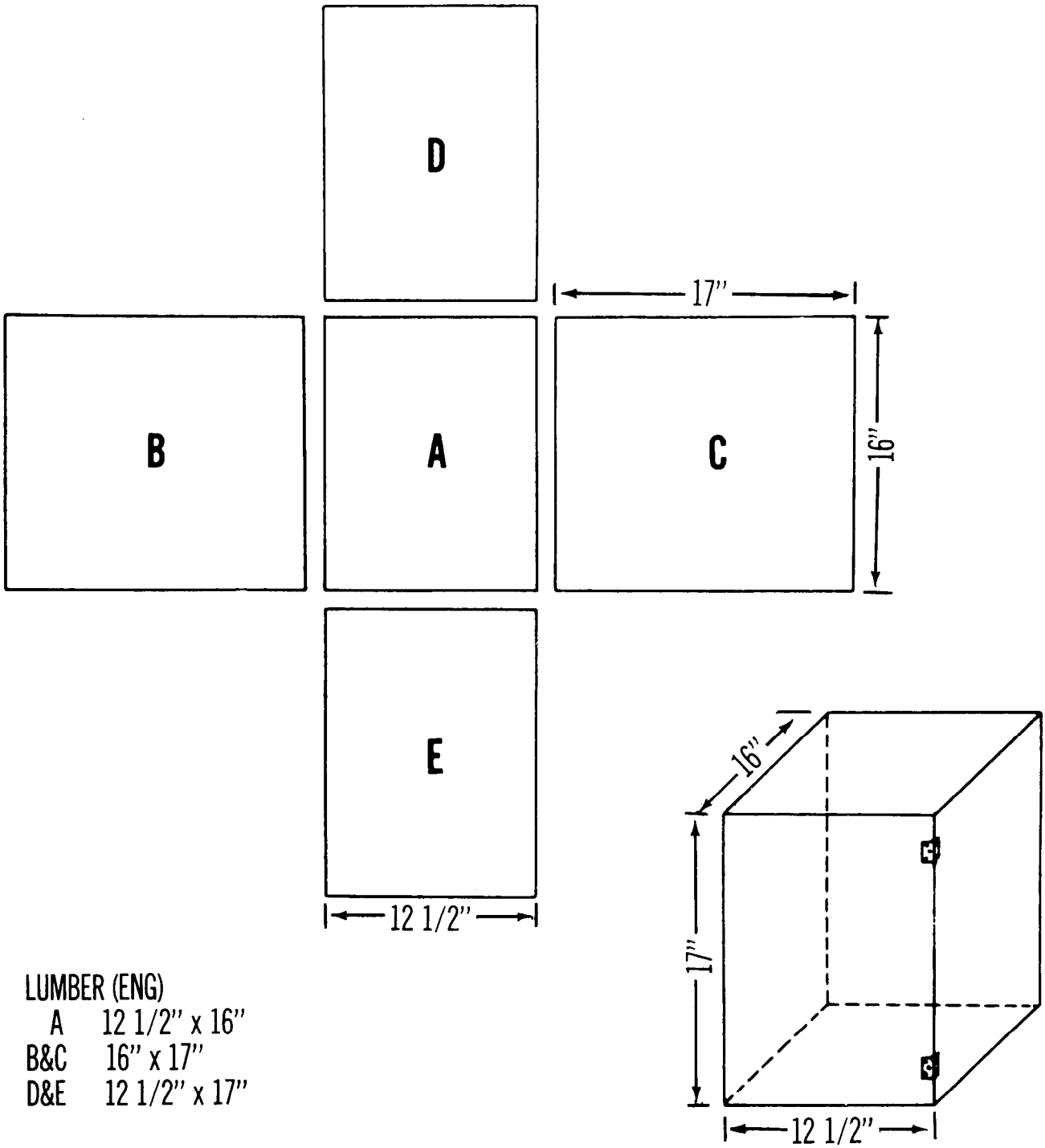

Figure 9-1. Construction details for generator box.

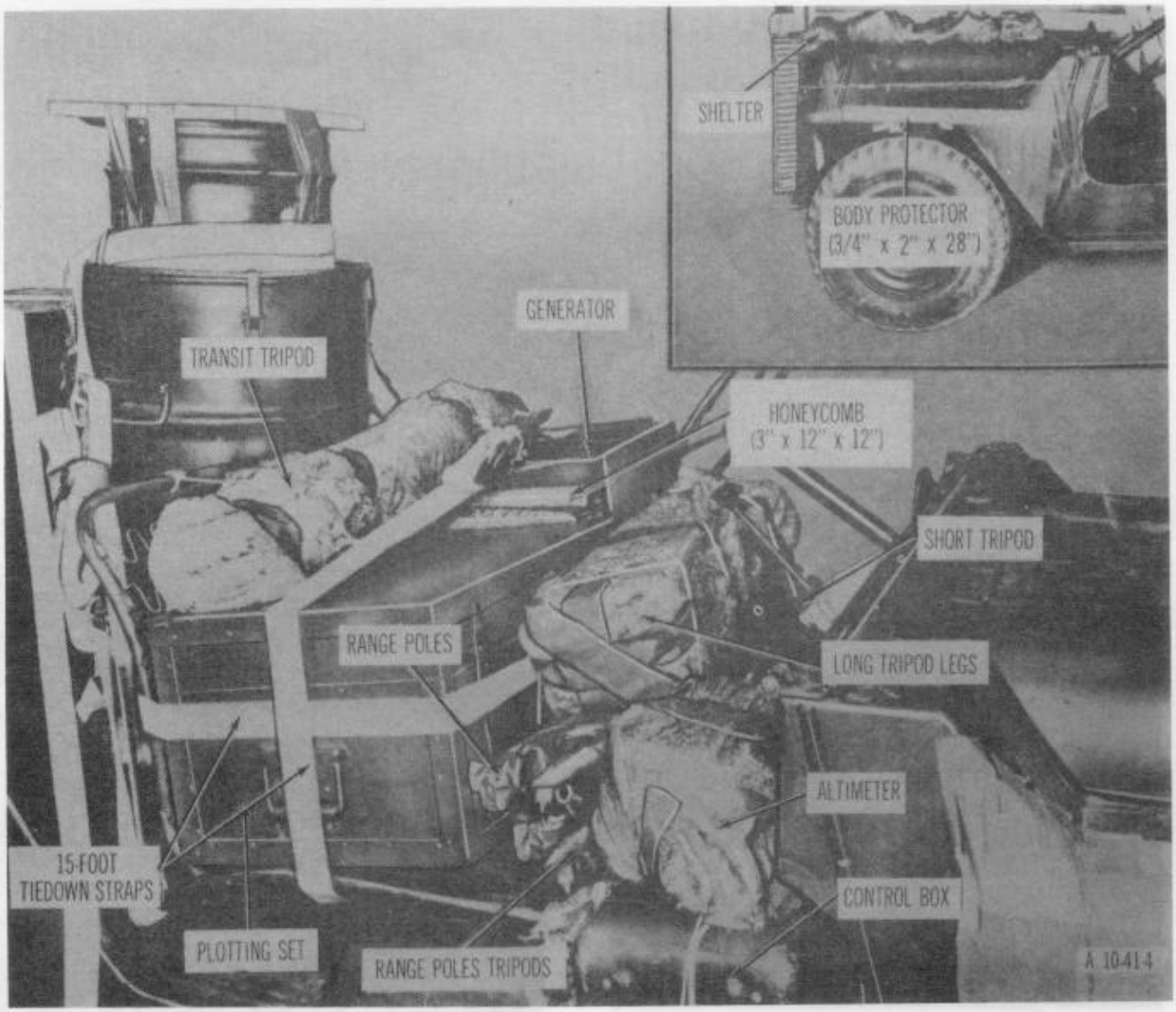

Figure 9–6. Equipment stowed.

holes in each corner, to front edge of wheel housings with type III nylon cord (fig 9–7).

9–6. Installing Load Cover

Cover as much equipment as possible with top cover and secure it at convenient points with type III nylon cord.

9–7. Stowing Cargo Parachute

Prepare and stow one G–11A cargo parachute according to FM 10–500/TO 13C7–1–5 and as shown in figure 9–8.

9–8. Marking Rigged Load

Mark the rigged load according to FM 10–500/TO 13C7–1–5. The rigged load weighs 3,931 pounds. It is 78 inches high, 108 inches wide, and 144 inches long. The center of gravity is 74 inches from front edge of platform. If the load varies, the height, weight, center of gravity, and parachute requirements must be computed.

Note. **When rigging this load for airdrop on a drop zone with ground elevation of 6,000 to 10,000 feet, add 3 inches to the height.**

9–9. Equipment Required

The equipment required for rigging this load is listed in table 9–1.

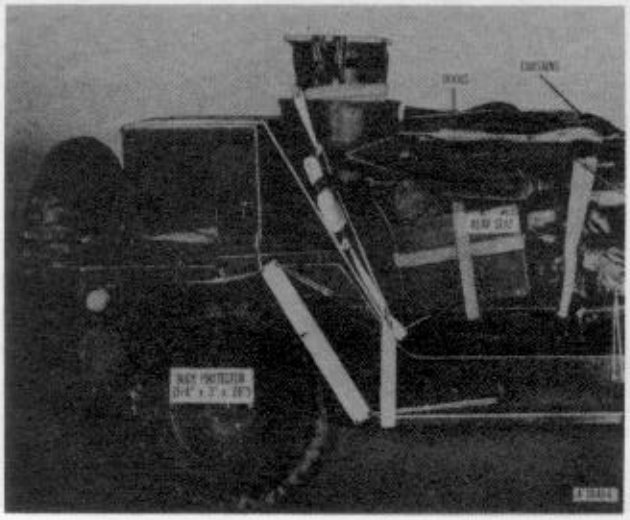

Figure 9-7. Components of truck stowed.

Figure 9-8. Cargo parachute stowed.

Table 9-1. Equipment Required.

National Stock No.	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
1377-00-958-1048	Cartridge, time delay, 20-second (for use w/5,000-lb release)	1
	Clevis Assembly, suspension:	
1670-00-090-5354	Large	4
1670-00-360-0304	Small	4
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-168-6068	*Coupling, extraction force transfer (platform)	1
1670-00-360-0328	Cover, clevis, large	1
1670-00-360-0329	Cover, link (add one for C-141)	1
8135-00-664-6958	Cushioning Material, packaging, cellulose wadding	As required
	Generator Box:	
NSN	Lumber:	
	1- by 12 1/2- by 16-in	2
	1- by 12 1/2- by 17-in	2
	1- by 16- by 17-in	2
5315-00-010-4657	Nail, wire, steel, common, 6d	As required
1670-00-431-8486	Kit, vehicle, drive-off aid	1
1670-00-856-0265	Line, extraction, 60-ft (2-ply) (for C-141)	1
1670-00-783-5988	Link Assembly, single, type IV (add one for C-141)	1
1670-00-217-2421	Link, connector, L-bar type (for C-141)	2
5510-00-197-2980	Lumber, 2- by 4- by 96-in (body protector)	2
1670-00-753-3928	Pad, energy dissipating, honeycomb, 3- by 36- by 96-in:	4 sheets
	3- by 4- by 18-in	(4)
	3- by 6- by 8-in	(24)
	**3- by 12- by 12-in	(12)
	3- by 12- by 18-in	(1)
	3- by 12- by 20-in	(1)
	3- by 16- by 62-in	(1)
	**3- by 18- by 20-in	(5)
	3- by 18- by 61-in	(1)
	3- by 20- by 61-in	(1)
	3- by 22- by 34-in	(1)
	*3- by 24- by 48-in	(3)
	3- by 36-in by 50-in	(1)
1670-00-269-1107	Parachute, cargo, 100-ft, G-11A	1
1670-00-052-1548	Parachute, cargo extraction, 15-ft (reefed with 260-in reefing line) (C-141 requires an 85-in pendulum line and a 120-ft extraction line)	1
	Platform, airdrop, modular, 8-ft:	
1670-00-893-1631	Clevis, load tiedown	12
1670-00-893-1624	Panel	2
1670-00-893-1625	Rail, platform side, 8-ft	2
5320-00-893-1632	Rivet, blind-drive type, 1/4-in diam	32
5530-00-128-4981	Plywood:	
	3/4- by 2- by 28-in	2
	3/4- by 3- by 26-in	2
	3/4- by 9 1/2- by 9 1/2-in	1
	3/4- by 10- by 17-in	1
	3/4 by 14- by 14-in	1
	3/4 by 24- by 48-in	1

Table 9-1 – Continued.

National Stock No.	Item	Quantity
1670-00-168-6070	Release, cargo parachute, M-1 (If not available, use Release, cargo parachute, 5,000-lb, FSN 1670-799-8494, add 1 large clevis and 1 3-ft sling.)	1
	Sling, A/D (3-loop slings may be substituted for 2-loop slings in accordance with FM 10-500/TO 13C7-1-5)	
1670-00-753-3788	3-ft	4
1670-00-753-3790	9-ft (2-loop)	4
1670-00-823-5041	12-ft (3-loop) (deployment line for SLCS)	1
1670-00-823-5042	16-ft (3-loop) (deployment line for 12K PEFTC)	1
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tiedown Assembly, 15-ft (Dacron)	21
NSN	Web, adapter (required w/120-ft extraction line; see FM 10-500/TO 13C7-1-5)	1
8305-00-268-2411	Webbing, cotton, 80-lb	As required
8305-00-082-5752	Webbing, nylon, tubular, 1/2-in	As required

*When this item is not available, the following items are required for the SL/CS:

1670-00-090-5354	Clevis Assembly, suspension, large	2
1670-00-783-5988	Line Assembly, single, type IV	1
1670-00-753-3788	Sling, cargo, A/D, 3-ft	1
1670-00-998-0117	Static Line, cargo parachute, breakaway type, w/release knife and clevis	2
1670-00-738-5878	Strap, connector, 60-in	1

**When rigged for drop on a DZ with ground elevation between 6,000 and 10,000 feet, one additional piece of honeycomb is required.