

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

AIR TRANSPORTABILITY GUIDANCE  
M151 1/4-TON TRUCK AND M100 1/4-TON TRAILER  
IN CH-17 HELICOPTER

Headquarters, Department of the Army, Washington, D.C.  
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**1. Purpose and Scope**

a. This manual provides transportability guidance for movement of the M151 1/4-ton truck and the M100 1/4-ton trailer (also referred to as "item") in the CH-47 helicopter. The text prescribes procedures, materials, and manpower to prepare, load, tie down, and unload the item.

b. Users of this manual are encouraged to submit recommended changes or comments to improve the document. Comments should be keyed to the specific page, paragraph, and line of the text in which a change is recommended. Reasons should be provided for each comment to insure understanding and complete evaluation. Comments should be forwarded direct to Commanding Officer, U.S. Army Transportation Engineering Agency, ATTN: TCTEA-TG, Fort Eustis, Va., 23604.

**2. Applicability**

a. These instructions apply when the item is located and tied down as shown in the loading diagram and tiedown data table. A transported unit can, with the consent of the helicopter commander, add additional cargo within allowable load limits and restrictions prescribed by pertinent safety regulations (app.).

b. For operational reasons, or to accommodate additional cargo, the helicopter commander may designate a location other than that shown in the

loading diagram. If the item is relocated, the helicopter commander must insure that-

- (1) The number and load capacity of the tie-down devices are as prescribed in this manual.
- (2) The tiedown devices restraining the item are secured to tiedown fittings of at least the same strength and in the same location relative to the item as those fittings used in the loading diagram.

**Warning:** Transport of the M151 1/4-ton truck and M100 1/4-ton trailer in the CH-47 helicopter is prohibited if the item is not loaded and tied down in accordance with the instructions in this manual.

**3. Responsibilities**

Commanders of the transported and transporting units are responsible for the following:

*a. Transported Unit.*

- (1) Preparing unit equipment for air transport, with supervision and assistance as required from appropriate field support units.
- (2) Loading, tying down, and unloading unit equipment transported aboard the helicopter, subject to approval by the helicopter commander or his authorized representative. Such approval is to insure

that loading, tie down, and unloading are accomplished as prescribed by this manual.

- (3) Effecting advance coordination with the transporting unit. This coordination will include a request for the tiedown devices required.
- (4) Providing manpower and the necessary shoring, padding, vehicles, and other materials required to accomplish item preparation, loading, and unloading.
- (5) Providing guidance to the helicopter commander relative to safety and to any technical peculiarities of the item which may affect its safe and reliable air transport.

*b. Transporting Unit.*

- (1) Supplying a sufficient quantity of the type of tiedown devices requested.
- (2) Operating helicopter-associated equipment and monitoring loading, tiedown, and unloading procedures to insure conformance with this manual.
- (3) Inspecting the helicopter for serviceability appropriate to the mission and complying with pertinent aviation directives.

**4. Load Description**

The approximate dimensions and weight of the item are as follows:

	Length (in.)	Width (in.)	Height (in.)	Weight (lb.)
M151 Truck _____	132	63	53	2,350
M100 Trailer -----	108	57	43	*1,090

•Weight includes 500 pounds of cargo secured in trailer.

**5. Preparation and Loading**

*a. Material.* Four small clevis assemblies (FSN 1670-360-0304) .

*b. Procedures.*

- (1) Remove truck top and store in vehicle; strap down the top supports.
- (2) Lower and lock windshield.

- (3) Insure that fuel tank contents of truck do not exceed 3/4-tank capacity.
- (4) Attach small clevis assembly to each wheel hub of M151 1/4-ton truck.
- (5) Position guides in helicopter and at left front of item to observe clearances and to signal truck driver as necessary.
- (6) Back item into helicopter to tiedown position; truck and trailer remain coupled.
- (7) Place truck transmission in gear; set brakes on truck and trailer.
- (8) Tie down the item in accordance with figures 1, 2, 3, and 4 and the tiedown data table. Six MB-1 and six CGU-1/B tiedown devices are required.
- (9) Three men can prepare, load, and tie down the item in approximately 25 minutes.

*Note.* It is emphasized that the times given for the operations described in this manual are for guidance purposes only and may vary, dependent upon existing conditions.



Figure 1. Typical tiedown of M100 1/4-ton trailer. (View through main cabin entrance door.)

Tiedown. Data Table

M151 1/4-Ton Truck and M100 1/4-Ton Trailer  
In CH-47 Helicopter

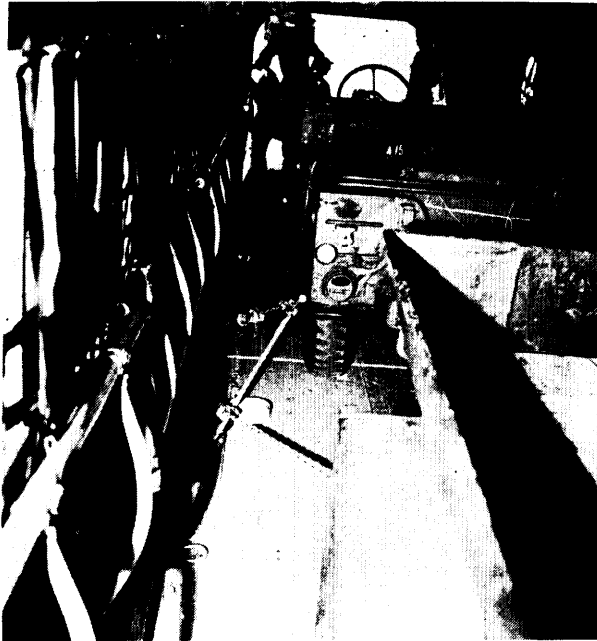


Figure 2. M151 1/4-ton truck and M100 1/4-ton trailer positioned and tied down. (View looking aft in helicopter.)

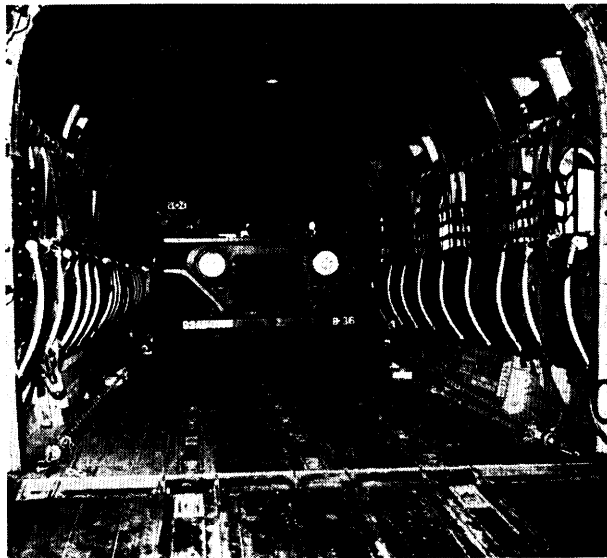


Figure 3. Head-on view of M151 1/4-ton truck positioned and tied down. (View looking forward in helicopter.)

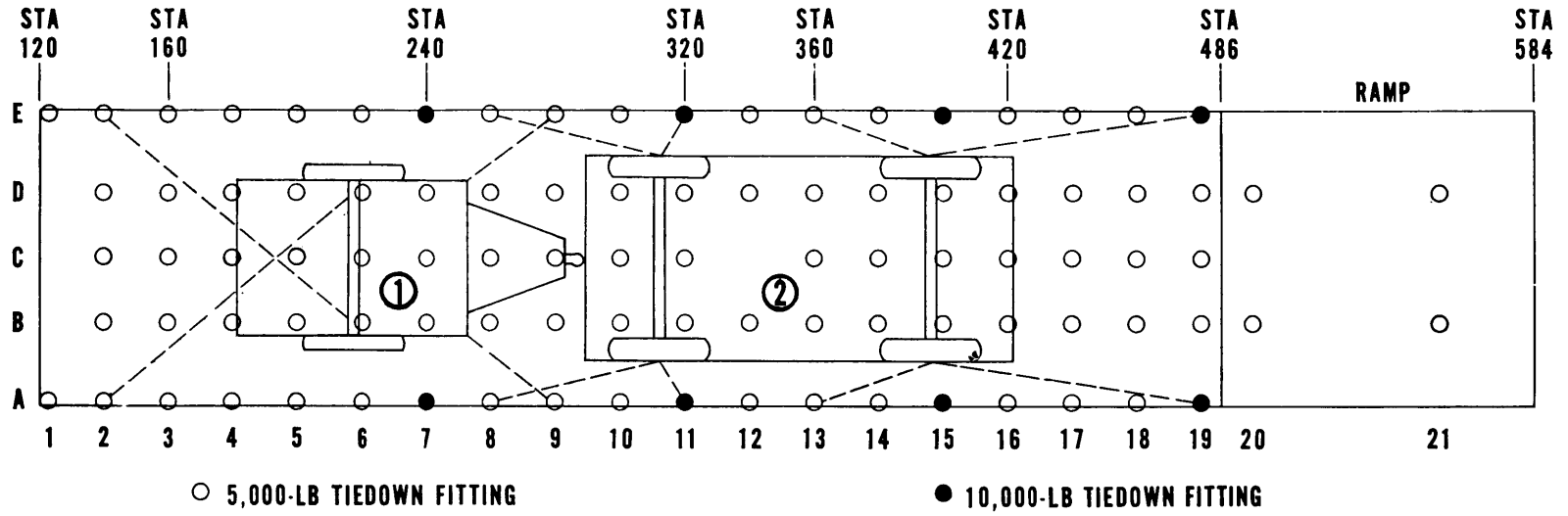
Item No.	Tie-down fitting No.	Capacity of tiedown fitting in 1,000 lb.	Type device	Attach to item
1	A2	5	CGU-1/B*	Left axle.
	E2	5	CGU-1/B	Right axle.
	A9	5	MB-1**	Right front tie-down point.
	E9	5	MB-1	Left front tiedown point.
2	A8	5	CGU-1/B	Right rear wheel clevis.
	E8	5	CGU-1/B	Left rear wheel clevis.
	A11	10	MB-1	Right rear wheel clevis.
	E11	10	MB-1	Left rear wheel clevis.
	A13	5	CGU-1/B	Right front wheel clevis.
	E13	5	CGU-1/B	Left front wheel clevis.
	A19	10	MB-1	Right front wheel clevis.
	E19	10	MB-1	Left front wheel clevis.

\*MC-1 tiedown device may be substituted for the CGU-1/B.

\*\* C-2 tiedown device may be substituted for the MB-1.

## 6. Unloading

The item is unloaded by reversing the loading procedures. Position guides and drive item from the helicopter. Three men can unload the item in approximately 20 minutes.



**NOTE: FLOOR AREA BOUNDED BY ROWS 11 AND 13 AND COLUMNS B AND D INCLOSE UTILITY HATCH.**

*Figure 4. Loading diagram for M151 1/4-ton truck and M100 1/4-ton trailer in CH-47 helicopter.*

Item	Description of item	Item facing	Location of reference point		Location of C. G.	Approx. wt (lb)
			Reference point	Station		
1	M100 1/4-ton trailer	Aft	Axle	218	224	1,090
2	M151 1/4-ton truck	Aft	Front axle	401	364	2,350

APPENDIX  
REFERENCES

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**1. Field Manual**

FM 1-100 - - - - - Army Aviation.

**2. Technical Bulletin**

T B 5 5 - 4 6 - - - - - Standard Characteristics (Dimensions, Weight, and Cube) for Transportability of Military Vehicles and Equipment.

**3. Technical Manuals**

TM 9-2320-218-10 - - - - - Operator's Manual, Truck, Utility: 1/4-Ton, 4 x 4, M151.

T M 9 - 8 7 1 A - - - - - Operator, Organizational and Field Maintenance Manual: Trailer, Cargo: 1/4-Ton, 2 Wheel, M100.

TM 55-1520-209-10 - - - - - Operator's Manual, Army Model CH-47A Helicopter.

TM 57-210 - - - - - Air Movement of Troops and Equipment.

**4. Army Regulation**

AR 385-40 - - - - - Accident Reporting and Records.

By Order of the Secretary of the Army:

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Distribution:

To be distributed in accordance with DA Form 12-31, Section 1b, requirements for Operator and Crew for CH-47 Helicopter and DA Form 12-38 requirements for Operator (249) for Truck Utility, 1/4-Ton, M151 and DA Form 12-39 requirements for Operator (49) for Trailer, Cargo, 1/4-Ton, M100.

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