

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

AIR TRANSPORTABILITY GUIDANCE

TWO M151 1/4-TON TRUCKS AND ONE 1/4-TON TRAILER IN CH-47 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 two M151 1/4-ton trucks and one M100 or M416 1/4-ton trailer in the CH-47 helicopter. The text prescribes procedures, materials, and manpower to prepare, load, tie down, and unload the two trucks and one trailer.

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 the Commanding Officer, U.S. Army Transportation Engineering Agency, ATTN: TCTEA-TG, Fort Eustis, Va. 23604.

2. Applicability

These instructions apply when the vehicles are located and tied down as shown in the loading diagram and the 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).

Warning: Transport of two M151 1/4-ton trucks and one M100 or M416 1/4-ton trailer in the CH-47 helicopter is prohibited & the vehicles are 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, tiedown, 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 tie-down devices required.
- (4) Providing manpower and the necessary shoring, padding, vehicles, and other materials required to accomplish vehicle preparation, loading, and unloading.
- (5) Providing guidance to the helicopter commander relative to safety and to any technical peculiarities of the vehicles which may affect their 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 vehicles are as follows:

Item	Length (in.)	Width (in.)	Height (in.)	Weight (lb)
M151 Truck - - - -	132	64	53	2,350*
M100 Trailer - - - -	108	57	43	1,090*
or				
M416 Trailer - - - -	109	62	43	1,800*

* Weight includes 500 pounds of cargo secured in trailer.

5. Preparation and Loading

a. Materials. Eight small clevis assemblies (FSN 1670-360-0304).

b. Procedures.

- (1) Remove truck tops and store inside trucks; strap down the top supports.
- (2) Lower and lock windshield of each truck.

Note. Insure that fuel tank contents of trucks do not exceed 3/4-tank capacity.

- (3) Attach small clevis assembly to each axle hub of M151 1/4-ton trucks.
- (4) Position guides in helicopter and at left front of truck to observe clearances and to signal drivers as necessary.
- (5) Back first truck into helicopter to tie-down position; place transmission in gear and set brakes.
- (6) Back truck with trailer into helicopter to tiedown position and keep coupled; place transmission in gear and set brakes on truck and trailer.
- (7) Tie down vehicles in accordance with figures 1, 2, 3 and the tiedown data table. Twenty CGU-1/B tiedown devices are required.

Note. Complete tiedown of aft truck after helicopter ramp is raised to the in-flight position.

- (8) Four men can prepare, load, and tie down the vehicles in approximately 30 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.

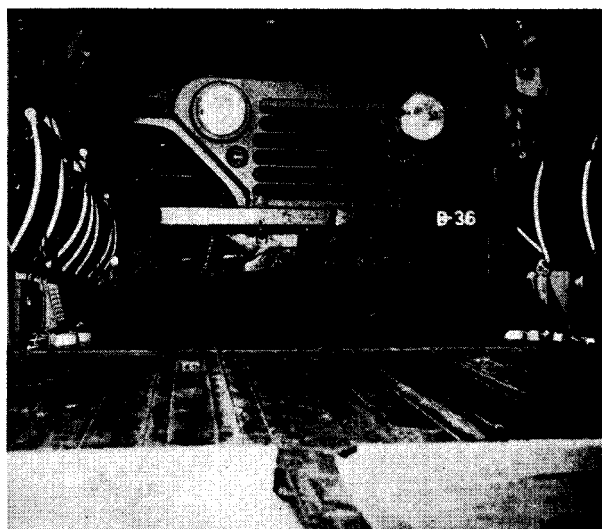


Figure 1. M151 1/4-ton truck positioned and tied down. (Tiedowns have not yet been affixed to front lifting shackles.) View looking forward in helicopter.

Table 1. Tiedown Data Table, Two M151 ¼-Ton Trucks and one ¼-Ton Trailer in CH-47 Helicopter

Item No.	Tiedown fitting No.	Capacity of tiedown fitting in 1,000 lb	Type device	Attach to item
1	A1	5	CGU-1/B*	Right rear wheel clevis assembly.
	E1	5	CGU-1/B	Left rear wheel clevis assembly.
	A4	5	CGU-1/B	Right front wheel clevis assembly.
	E4	5	CGU-1/B	Left front wheel clevis assembly.
	A6	5	CGU-1/B	Right rear wheel clevis assembly.
	E6	5	CGU-1/B	Left rear wheel clevis assembly.
	A10	5	CGU-1/B	Right front wheel clevis assembly.
	E10	5	CGU-1/B	Left front wheel clevis assembly.
2	B7	5	CGU-1/B	Left side of axle.
	D7	5	CGU-1/B	Right side of axle.
	A13	5	CGU-1/B	Right side of axle.
	E13	5	CGU-1/B	Left side of axle.
3	A12	5	CGU-1/B	Right rear wheel clevis assembly.
	E12	5	CGU-1/B	Left rear wheel clevis assembly.
	A17	5	CGU-1/B	Right front wheel clevis assembly.
	E17	5	CGU-1/B	Left front wheel clevis assembly.
	A19	10	CGU-1/B	Right rear wheel clevis assembly.
	E19	10	CGU-1/B	Left rear wheel clevis assembly.
	B21	5	CGU-1/B	Left front lifting shackle.
	D21	5	CGU-1/B	Right front lifting shackle.

* MC-1 tiedown device may be substituted

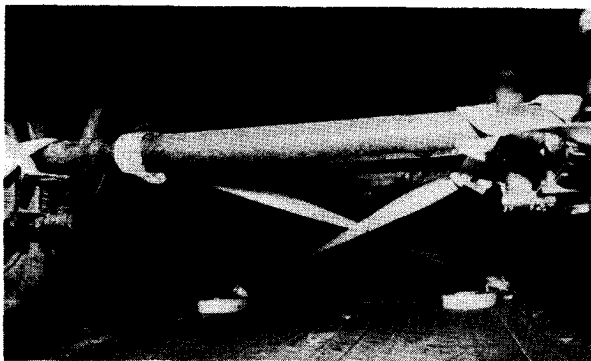
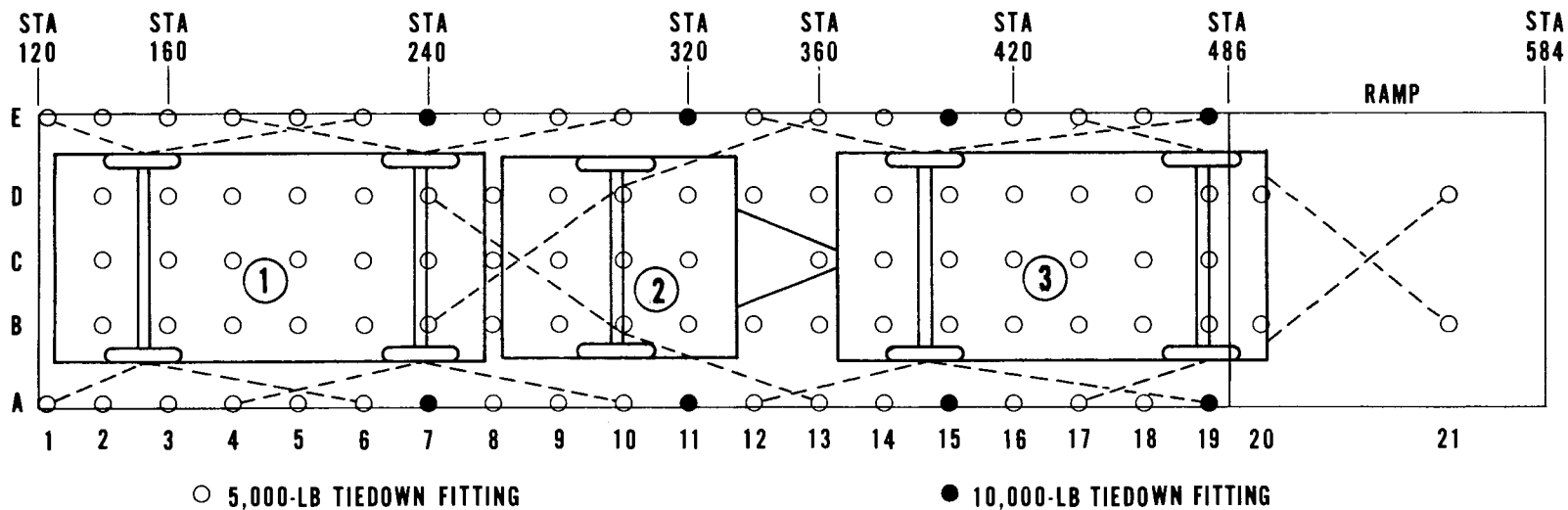


Figure 2. Typical tiedown of ¼-ton trailer. View looking forward showing CGU-1/B tiedown devices attached to trailer axle.

6. Unloading

The vehicles are unloaded by reversing the loading procedures. Position guides, and drive trucks from the helicopter. Four men can unload the vehicles in approximately 20 minutes.



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

Item	Description of item	Item facing	Location of reference point		Location of C. G.	Approx. wt (lb)
			Reference point	Station		
1	M151 ¼-ton truck	Aft	Front axle	238	201	2,350
2	M100 ¼-ton trailer with 500 lb load	Aft	axle	298	304	1,090
	or					
	M416 ¼-ton trailer with 500 lb load	Aft	axle	298	304	1,080
3	M151 ¼-ton truck	Aft	Front axle	478	441	2,350

Figure 3. Loading diagram for two M151 ¼-ton trucks and one ¼-ton trailer in CH-47 helicopter.

APPENDIX REFERENCES

1. Field Manual

FM 1-100 Army Aviation.

2. Technical Bulletin

TB 55-46 Standard Characteristics (Dimensions, Weight, and Cube) for Transportability of Military Vehicles and Equipment.

3. Technical Manuals

TM 9-871 A Operator, Organizational and Field Maintenance Manual: Trailer, Cargo: ¼-Ton, 2 Wheel, M100.

TM 9-2320-218-10 Operator's Manual, Truck, Utility: ¼-Ton, 4x4, M151.

TM 9-2330-251-14P Operator, Organizational, and Field Maintenance Manual (Including Repair Parts and Special Tool Lists) : Trailer, Cargo: ¼-Ton, 2-Wheel, M416; Chassis, Trailer: ¼-Ton, 2-Wheel M569.

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

TM 57-210 Air Movement of Troops and Equipment.

4 . Army Regulations

AR 385-40 Accident Reporting and Records.

2320-201

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