

TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT,

AND GENERAL SUPPORT MAINTENANCE MANUAL

SEMITRAILER, LOW BED, HEAVY

EQUIPMENT TRANSPORTER,

60 TON, M747

(NSN 2330-00-089-7265)

HEADQUARTERS, DEPARTMENT OF THE ARMY

MAY 1976

This copy is a reprint which includes current
pages from Change 1 and 2.

NICAL MANUAL
No. 9-2330-294-14

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 5 May 1976

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

This manual is for your use in operating and maintaining the semitrailer, low bed, heavy equipment transporter, 60 ton, M747.

1-2. Maintenance Forms and Records

Maintenance forms and records that you are required to use as explained in TM 38-750.

1-3. Reporting of Errors

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please

let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: US Army Tank-Automotive Command, ATTN: DRSTA-MB, Warren, MI 48090. A reply will be furnished to you.

1-4. Destruction of Army Materiel to Prevent Enemy Use

Refer to TM 750-244-6, Procedures for Destruction of Tank-Automotive Equipment.

1-5. Administrative Storage

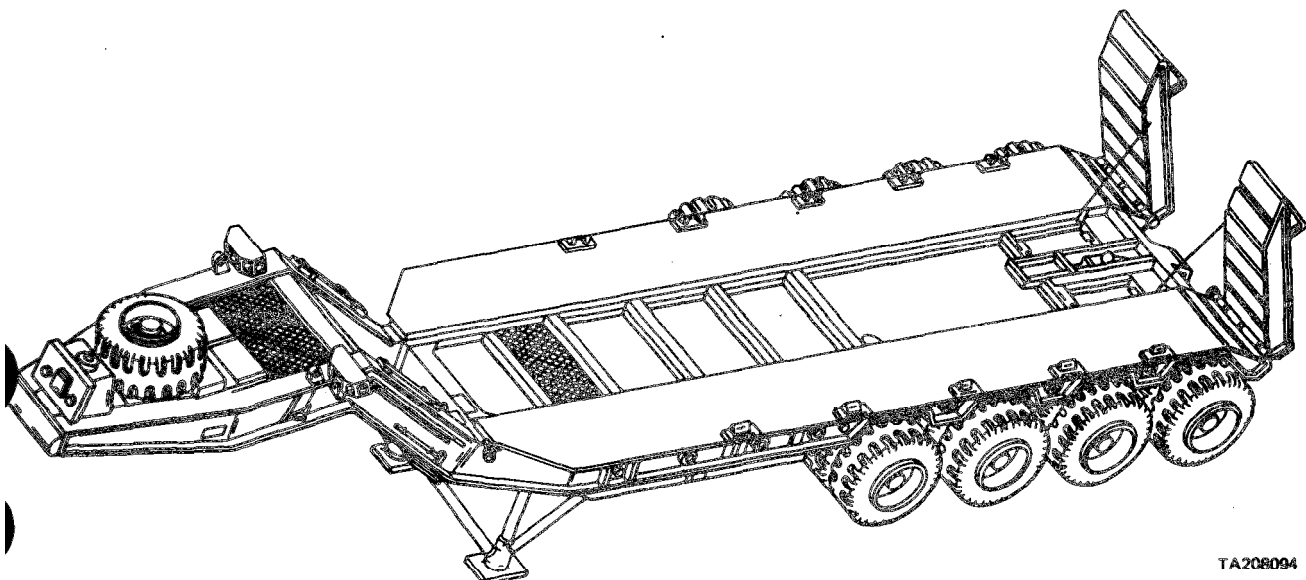
Refer to TM 740-90-1, Administrative Storage.

Section II. DESCRIPTION AND DATA

1-6 Description

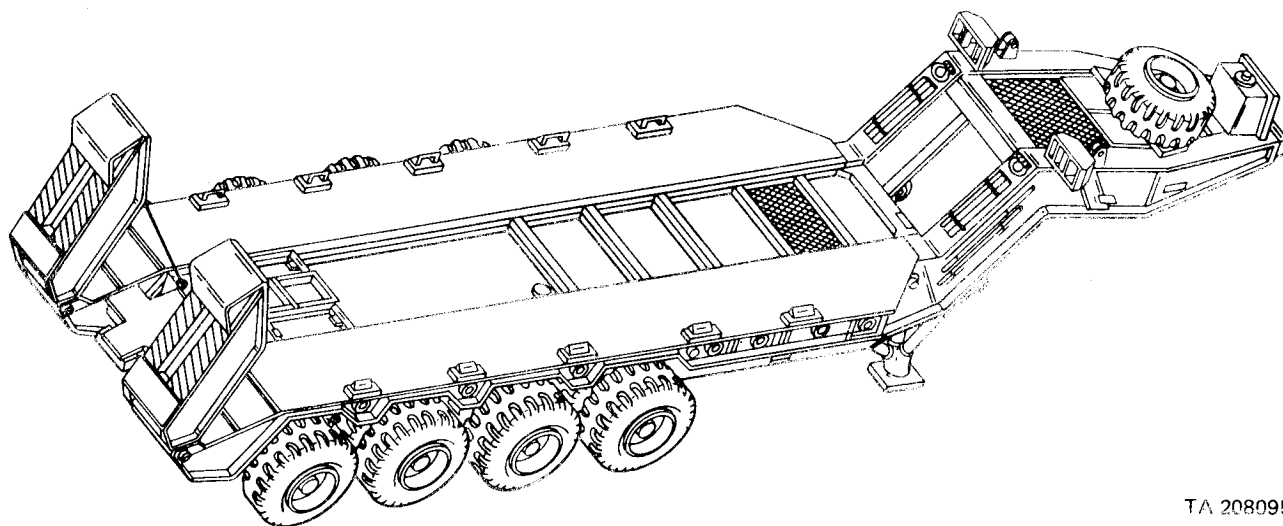
a. General. The semitrailer, low bed, heavy equipment transporter, 60 ton, M747 (figs. 1-1 and 1-2) is a 16-wheel vehicle designed for use as a heavy equipment transporter operating on highways and secondary roads. The semitrailer has off road capability to bypass road obstructions, to reach vehicle collecting points, and to reach areas for concealment. The M746 and M911 truck

tractors are the prime movers for the M747 semitrailer. The semitrailer can also be towed by an M123E2, 10-ton tractor. Basically, the semitrailer consists of a frame assembly, with a gooseneck at the front and flat bed at the rear, loading and unloading ramps, walking beam suspension system, air suspension system, air brake system, a 24-volt electrical system, and a series of rollers used to guide winch cables during loading and unloading operations.



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Figure 1-1. Semitrailer, low-bed, heavy-equipment transporter, 60-ton, M747 (left front view).



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Figure 1-2. Semitrailer, low-bed, heavy-equipment transporter, 60-ton, M747 (right rear view).

b. *Electrical System.* The semitrailer is equipped with two composite taillights and 9 clearance marker lights. Each composite taillight is composed of a taillight, stoplight, turn light and marker light. In addition, one utility outlet is provided at the rear of semitrailers No. 201 and on for use with towing vehicles having floodlights or other auxiliary electrical equipment. Semitrailers no. 1 through 200 are equipped with 3 utility outlets, one on each side by the clearance lights and one at the rear of the vehicle. A military standard, 12-pin, intervehicular electrical receptacle located at the front of the semitrailer provides an electrical power inlet from the towing vehicle. Two circuit breakers are located at the front of the gooseneck: one provides protection for the rightside taillights and clearance marker lights and the other for the left side lights.

c. *Suspension System.* The two front axles utilize an unsprung walking-beam suspension system. The two rear axles use an air-suspension trailing-arm arrangement. They may be raised approximately three inches by a pneumatic lift system if the semitrailer is not loaded. This provides better maneuverability when turning corners, reduces tire wear when driving without a payload, and aids in changing wheels. The rear axles can also be raised while the semitrailer is loaded with lighter weight loads. The air suspension system (fig. 1-3) performs two functions. It exerts a downward pressure to

provide normal suspension system operation, and it equalizes axle loadings. During normal operation, the air suspension springs (4) exert downward pressure as required on the equalizer beam (5). This provides a smooth, even ride for the axles (6). The amount of air pressure exerted by the air suspension springs can be adjusted to provide the varying pressure required for different payload weights. The air suspension system control lever is located midway on the left side of the semitrailer and has three settings to permit pressure selection for light, half or full loads, and a fourth pressure setting for lifting the rear axles. The rebound stop chain (2) limits the downward movement of the axle. The shock absorber (3) performs a normal shock absorbing function. When the axles are being raised, air pressure supplied to the axle lift (1) causes the lift assembly to expand upward. This expansion raises the axle lift rod (7) which in turn raises the equalizer beam and axle. Refer to figure 4-59 and 4-60 for a schematic representation of the suspension air system.

NOTE

The four semitrailer axles are herein designated as number 5, 6, 7 and 8 in accord with the concept of the towing vehicle. semitrailer as a road unit. However, number of towing vehicle axles may vary.