

TM 9-1767C

WAR DEPARTMENT TECHNICAL MANUAL

ORDNANCE MAINTENANCE

Body, Chassis, and Winches
for Tractor Truck M26,
Component of
40-Ton Tank Transporter
Trailer Truck M25

WAR DEPARTMENT

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5 JANUARY 1944

FOR ORDNANCE PERSONNEL ONLY

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(For explanation of symbols, see FM 21-6.)

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TM 9-1767C

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ORDNANCE MAINTENANCE — BODY, CHASSIS, AND WINCHES FOR TRACTOR TRUCK M26, COMPONENT OF 40-TON TANK TRANSPORTER TRAILER TRUCK M25

CHAPTER 1

INTRODUCTION

| | Paragraph |
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1. SCOPE.

a. The instructions contained in this manual are for the information and guidance of personnel charged with the maintenance and repair of Tractor Truck M26. These instructions are supplementary to field and technical manuals prepared for the using arms. This manual does not contain information which is intended primarily for the using arms, since such information is available to ordnance maintenance personnel in 100-series TM's or FM's.

b. This manual contains a description of, and procedure for removal, disassembly, cleaning, inspection, repair and rebuilding, assembly, testing and adjustment, and installation of the steering gear, brakes, cab, winches, frame, springs, and electric lighting system and accessories of the Tractor Truck M26.

c. TM 9-767 contains operating and second echelon maintenance information for 40-ton Tank Transporter Trailer Truck M25, which includes Tractor Truck M26 and Semitrailer M15.

d. TM 9-1767A contains descriptive and maintenance procedure information as outlined in preceding subparagraph b above for the engine, engine accessories, ignition system, cooling system, engine lubrication system and clutch.

e. TM 9-1767B contains descriptive and maintenance procedure information as outlined in preceding subparagraph b above for the power train which consists of the transmission, auxiliary transmission, transfer case, declutch assembly for front axle, power take-off for the front winch, power take-off for the tandem winch assembly, propeller shafts and universal joints, front axle assembly, rear axle assembly, and wheels, hubs and tires.

f. TM 9-1767D contains descriptive and maintenance procedure information as outlined in preceding subparagraph b above for the Semitrailer M15.

g. Complete maintenance information on air brake system and electrical equipment is contained in the following manuals:

TM 9-1825B — Electrical equipment.

TM 9-1827A — Power brake system.

INTRODUCTION

2. FSMWO AND MAJOR UNIT ASSEMBLY REPLACEMENT RECORD.

a. **Description.** Every vehicle is supplied with a copy of AGO Form No. 478 which provides a means of keeping a record of each FSMWO completed or major unit assembly replaced. This form includes spaces for the vehicle name and U.S.A. Registration Number, instructions for use, and information pertinent to the work accomplished. It is very important that the form be used as directed and that it remain with the vehicle until the vehicle is removed from service.

b. **Instructions for Use.** Personnel performing modifications or major unit assembly replacements must record clearly on the form, a description of the work completed and must initial the form in the columns provided. When each modification is completed, record the date, hours and/or mileage, and FSMWO number. When major unit assemblies, such as engines, transmissions, transfer cases, are replaced, record the date, hours and/or mileage, and nomenclature of the unit assembly. Minor repairs and minor parts, and accessory replacements need not be recorded.

c. **Early Modifications.** Upon receipt by a third or fourth echelon repair facility of a vehicle for modification or repair, maintenance personnel will record the FSMWO numbers of modifications applied prior to the date of AGO Form No. 478.

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**ORDNANCE MAINTENANCE – BODY, CHASSIS, AND WINCHES FOR TRACTOR
TRUCK M26, COMPONENT OF 40-TON TANK TRANSPORTER TRAILER TRUCK M25**

CHAPTER 2

STEERING SYSTEM

Section 1

**DESCRIPTION AND OPERATION OF STEERING GEAR
AND HYDRAULIC SYSTEM**

| | |
|---------------------------------|----------------|
| Description and operation | Paragraph 3 |
|---------------------------------|----------------|

3. DESCRIPTION AND OPERATION.

a. Description. The steering system consists of a steering gear assembly which is bolted to the chassis frame and is connected to the front axle steering knuckles by a drag link. The steering gear is of the cam and lever type, to which has been added a hydraulic power system. The cam and lever principle consists of a special worm of variable ratio, which engages an internal lever on the side of the worm. The worm has a tapered groove which engages a tapered stud on the lever. The lever is an integral part of the cross shaft to which the steering arm is attached. The mechanism to transmit hydraulic power to the steering gears consists of a hydraulic pump and reservoir, valve, and power cylinder.

b. Operation. The hydraulic power is applied to the cross shaft through an extension of the lever which contacts a sliding block through a roller bearing. The sliding block is operated in either direction by the power cylinder and piston. The flow of oil to the cylinder is directed by the control valve. The oil is supplied by the hydraulic pump on the engine driven by an accessory shaft. The by-pass valve of the pump is set for a maximum pressure of 750 pounds per square inch. When the cam is turned to the right or left by turning the steering wheel, the stud of the lever is moved through the groove of the cam. The lever shaft is rotated and the steering arm moves in an angular direction. Whenever the effort at the steering wheel exceeds the pre-load of the control valve centering springs, the hydraulic system comes into operation automatically and assists the vehicle operator in turning. In addition to acting as a booster, the hydraulic system resists kick backs or shocks which might cause the operator to lose control of the vehicle. The spool in the valve moves axially with the cam-shaft, however, the two parts are restrained from axial movement by the pressure of the centering springs and the oil against the plungers. Both of these effects tend to center the spool and thus hold the valve in a neutral position, in which position there is a balance of pressure