TM 9-820

WAR DEPARTMENT TECHNICAL MANUAL

TRACTOR TRUCK (FEDERAL) 4- TO 5-TON, 4 x 4

WAR DEPARTMENT • 15 MARCH 1944

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TM 9–820, Tractor Truck (Federal), 4- to 5-ton, 4 x 4, is published for the information and guidance of all concerned.

[AG 300.7 (18 Nov 43)]

BY ORDER OF THE SECRETARY OF WAR:

G. C. MARSHALL,
Chief of Staff.

OFFICIAL:

J. A. ULIO,
Major General,
The Adjutant General.

DISTRIBUTION: X.

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

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PART TWO — VEHICLE MAINTENANCE INSTRUCTIONS

*This Technical Manual, together with TM 9-1816 and TM 9-1832A, supersedes TM 10-1107, dated 10 July 1941, TM 10-1407, dated December 1942, and TM 10-1409, dated 2 February 1942. In addition, this manual supersedes all pertinent information from TB 800-21, dated 30 November 1943 and TB ORD 20, dated 24 January 1944.

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PART ONE

VEHICLE OPERATING INSTRUCTIONS

Section I

INTRODUCTION

1. SCOPE.*

a. This Technical Manual is published for the information and guidance of the using arms personnel charged with the operation, maintenance, and minor repair of this materiel.

b. In addition to a description of Federal, 4- to 5-ton, 4 x 4 tractor truck, this manual contains technical information required for the identification, use, and care of the materiel. The manual is divided into two parts: Part One, section I through section VII, gives operating instructions; Part Two, section VIII through section XXXV, gives vehicle maintenance instructions to using arm personnel charged with the responsibility of doing maintenance work within their jurisdiction.

c. In all cases where the nature of the repair, modifications, or adjustment is beyond the scope or facilities of the unit, the responsible ordnance service should be informed so that trained personnel with suitable tools and equipment may be provided, or proper instructions issued.

Section II

DESCRIPTION AND TABULATED DATA

2. DESCRIPTION (figs. 1 and 2).

a. General. The Federal, 4- to 5-ton, 4 x 4 tractor truck is a cab-over-engine, open-cab type vehicle. It is powered by a Hercules, Model RXC engine. A four-wheel drive system of power transmission permits use of the front wheel drive when necessary, through a centrally located transfer case. The truck has dual rear wheels and provisions for carrying two spare tires at rear of cab. The front of the truck mounts a heavy solid-bar bumper surmounted with a relatively straight vertical protective radiator brush guard. Midway between the front and rear wheels and outside the frame on the left side is the rectangular, 60-gallon fuel tank (fig. 2). The battery box and the tool box (fig. 1) are located in a similar position on the right side.

*To provide operating instructions with the materiel, this Technical Manual has been published in advance of complete technical review. Any errors or omissions will be corrected by changes, or, if extensive, by an early revision.

4- TO 5-TON 4x4 TRACTOR TRUCK (FEDERAL)

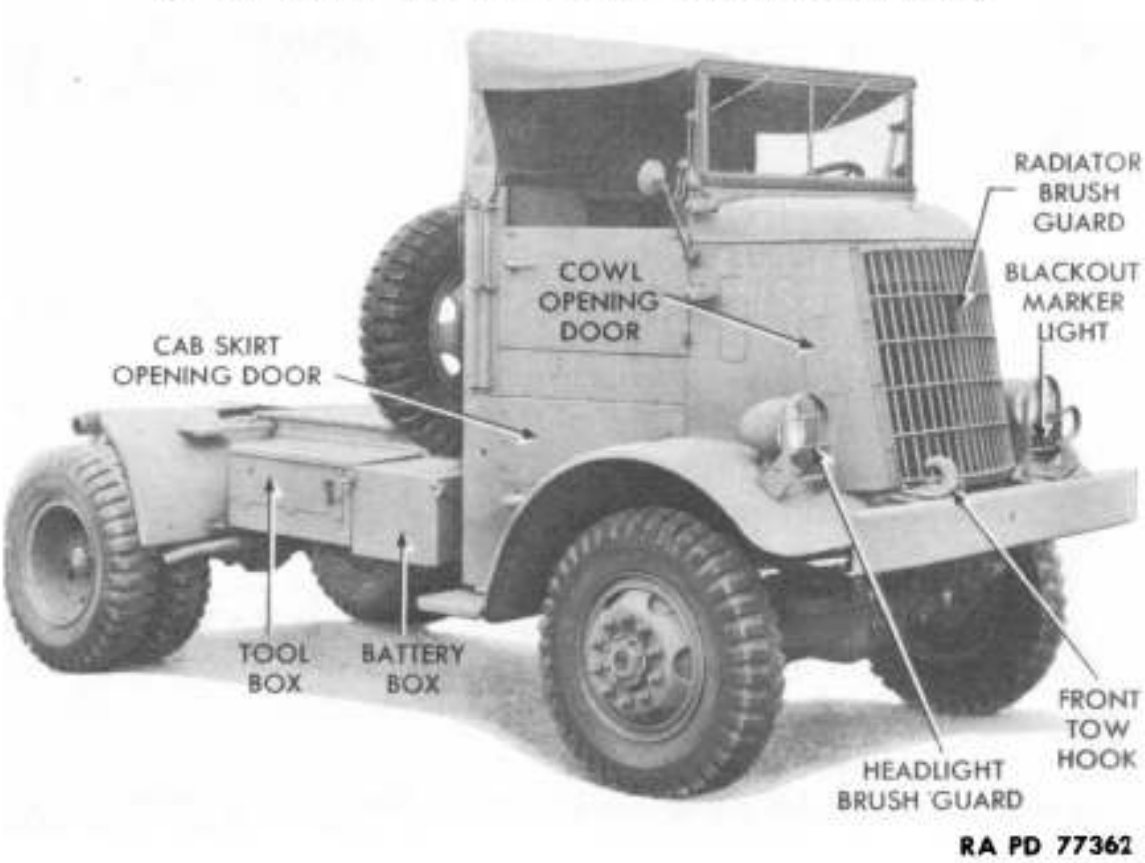

Figure 1 — Tractor Truck — Right Front View

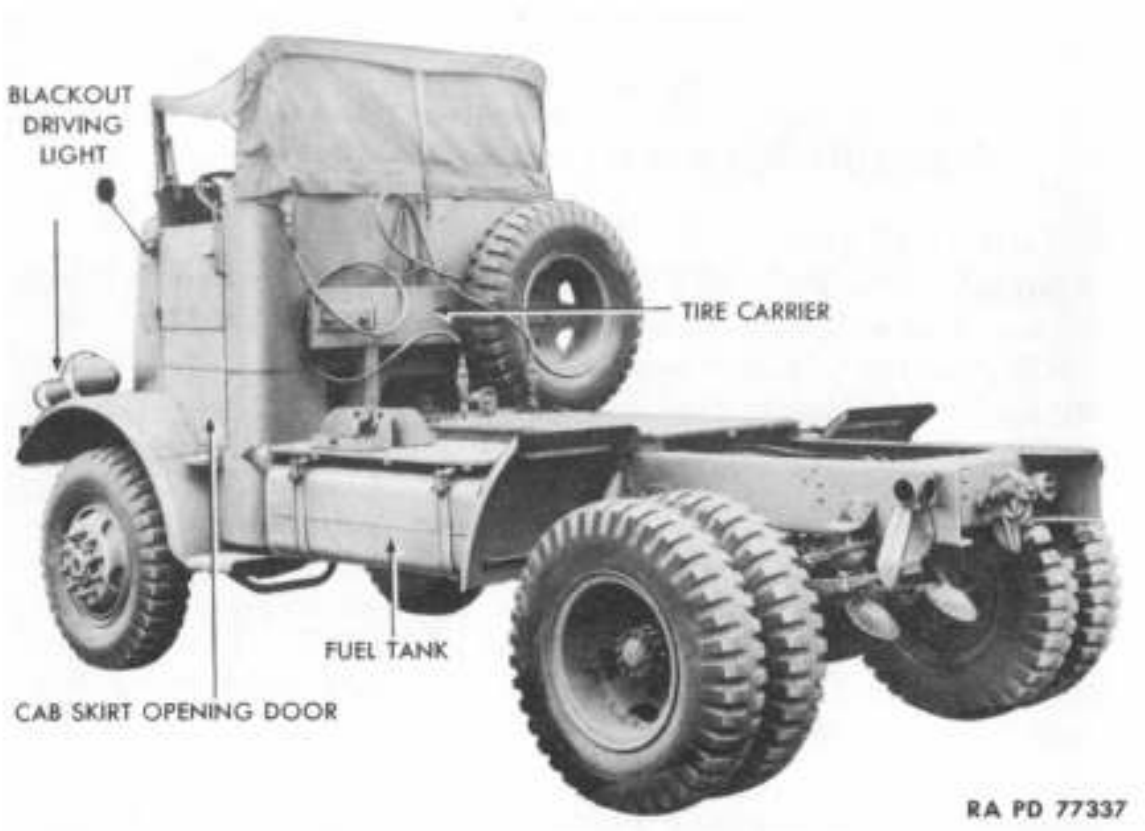

Figure 2 — Tractor Truck — Left Rear View

DESCRIPTION AND TABULATED DATA

b. This truck comes equipped with two types of cabs. Some have open-type cabs and some have closed cabs.

3. DATA.

a. Vehicle Specifications.

Tractor truck manufacturer	Federal Motor Co
Tractor truck, model number	94X43C
Weight of vehicle:	
Empty	11,950 lb
Loaded	20,220 lb
Length, over-all (uncrated)	202⅝ in.
Width, over-all (uncrated)	95½ in.
Height, over-all (top up)	109 in.
Wheel base	134⅜ in.
Tire:	
Size	9:00 x 20—10 ply
Type	Mud and snow
Tread (center-to-center):	
Front	73¾ in.
Rear, inside	59¾ in.
Rear, outside	34½ in.
Weight distribution:	
Front axle	6,831 lb
Rear axle	13,389 lb
Ground clearance:	
Front	11½ in.
Rear	12 in.
Pintle height	38 in.
Maximum speed	40 mph

b. Performance.

Speeds allowable without front wheels driving:	
1st gear	4 mph
2nd gear	8 mph
3rd gear	17 mph
4th gear	31 mph
5th gear	40 mph
Speeds allowable with front wheels driving:	
1st gear	4 mph
2nd gear	8 mph
3rd gear	10 mph
4th gear	10 mph
5th gear	10 mph
Minimum turning radius	27 ft

4- TO 5-TON 4x4 TRACTOR TRUCK (FEDERAL)

Towing facilities:	
Front	Two hooks
Rear	1 pintle hook
Maximum draw-bar pull (in 4th gear)	450 lb
Maximum allowable engine speed	2,400 rpm
Miles per gallon	3 to 5
Cruising range	180 miles
c. Capacities.	
Transmission	10 qt
Transfer Case	2 qt
Front axle	6 qt
Rear axle	6 qt
Fuel tank (70 or higher octane gasoline)	62½ gal
Cooling system	40 qt
Crankcase	10 qt
Oil bath air cleaner	3 pt
Steering gear	1½ pt

Section III

DRIVING CONTROLS AND OPERATION

4. INSTRUMENTS AND CONTROLS.

a. Propeller Shaft Brake Lever (fig. 3). The propeller shaft brake lever is the first lever which comes through the floor board to the right hand of the driver's seat. It is primarily a parking brake but can be used in an emergency as a stopping brake.

b. Main Transmission Gearshift Lever (fig. 3). This lever comes through the large floor board opening at the right of the driver's seat and is the first lever to the right of the propeller shaft brake lever. It is used to shift all gears in the main transmission. It has five forward positions and one reverse position.

c. Transfer Case Shift Lever (fig. 3). The transfer case shift lever also comes through the large floor board opening and is located to the right and adjacent to the main transmission gearshift lever. This lever has a high, a low, and a neutral position and controls the transfer case gears.

d. Front Axle Declutch Lever (fig. 3). The front axle declutch lever is the third lever which comes through the large floor board opening and is to the right and adjacent to the transfer case shift lever. This lever controls the front axle drive. There is an "IN" and "OUT" position.

DRIVING CONTROLS AND OPERATION

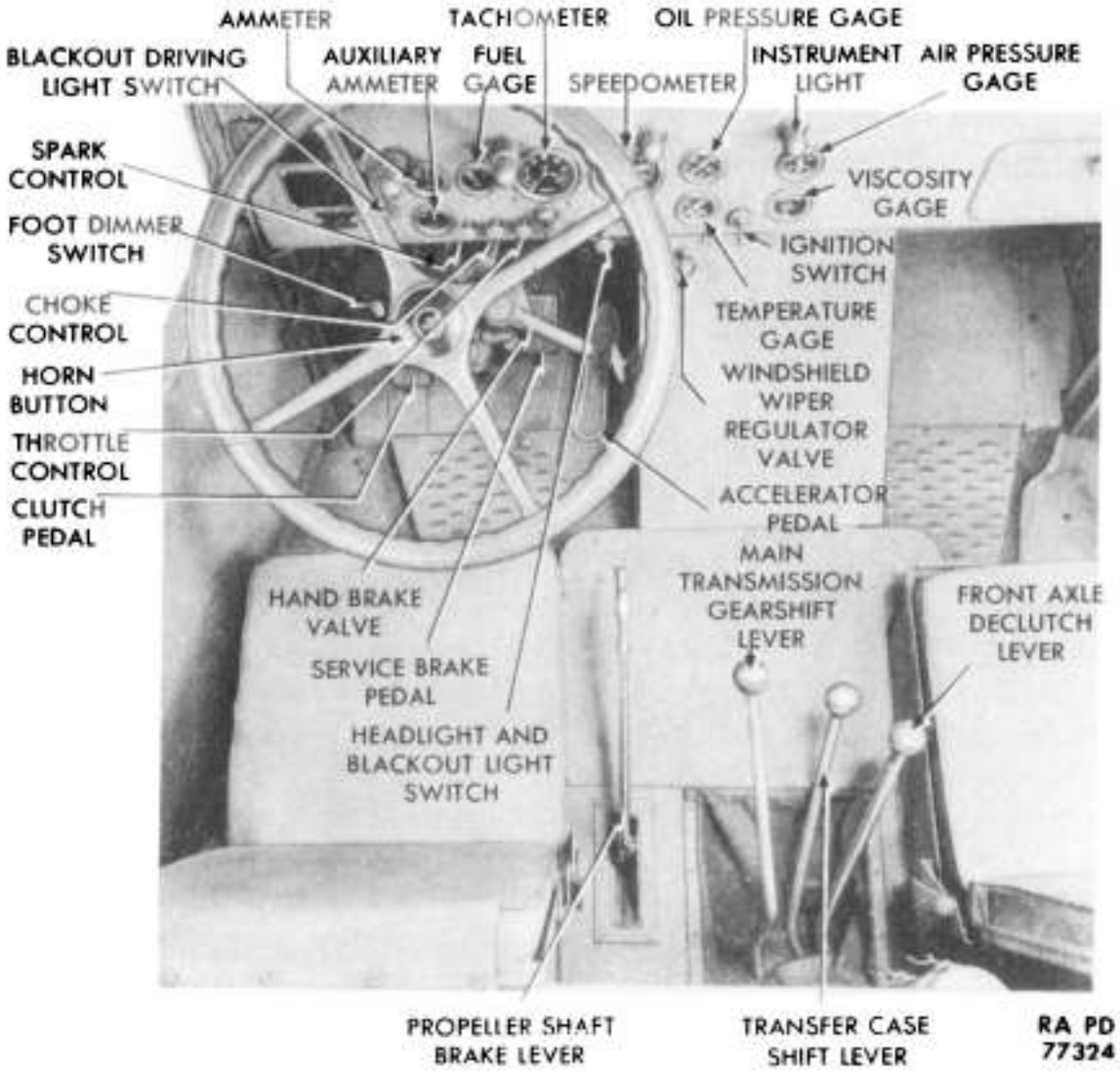

Figure 3 — Operator's Controls

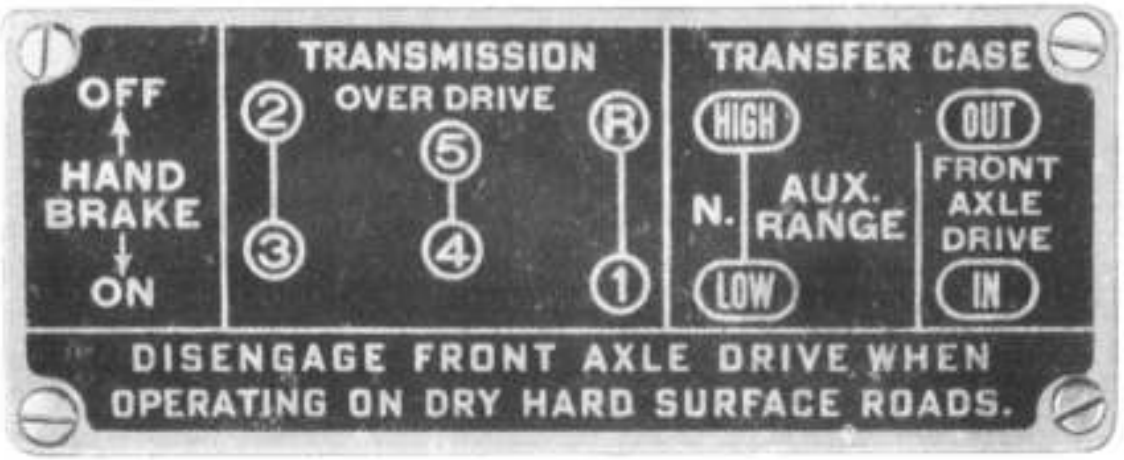

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Figure 4 — Gearshift Instruction Plate