MAINTENANCE MANUAL

FOR

BOMB SERVICE TRUCK—MARK II
MODEL II

CARGO TRUCK—MARK I
MODEL I

1½-TON 4x4

Contract Number—NORD-3344

BUILT FOR
BUREAU OF ORDNANCE
U. S. NAVY

BY

Ford Motor Company

DEARBORN, MICHIGAN

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BUREAU OF ORDNANCE

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Maintenance Manual Bomb Service Trucks, Mark II, Mod. II, (Ford Model GTBC) and Mark I, Mod. I, Cargo Trucks (Ford Model GTBA) published by the Ford Motor Company, is furnished for the information and guidance of all concerned.

(Signed) W. H. P. BLANDY,
Chief of the Bureau of Ordnance

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SUBJECT INDEX

FOREWORD

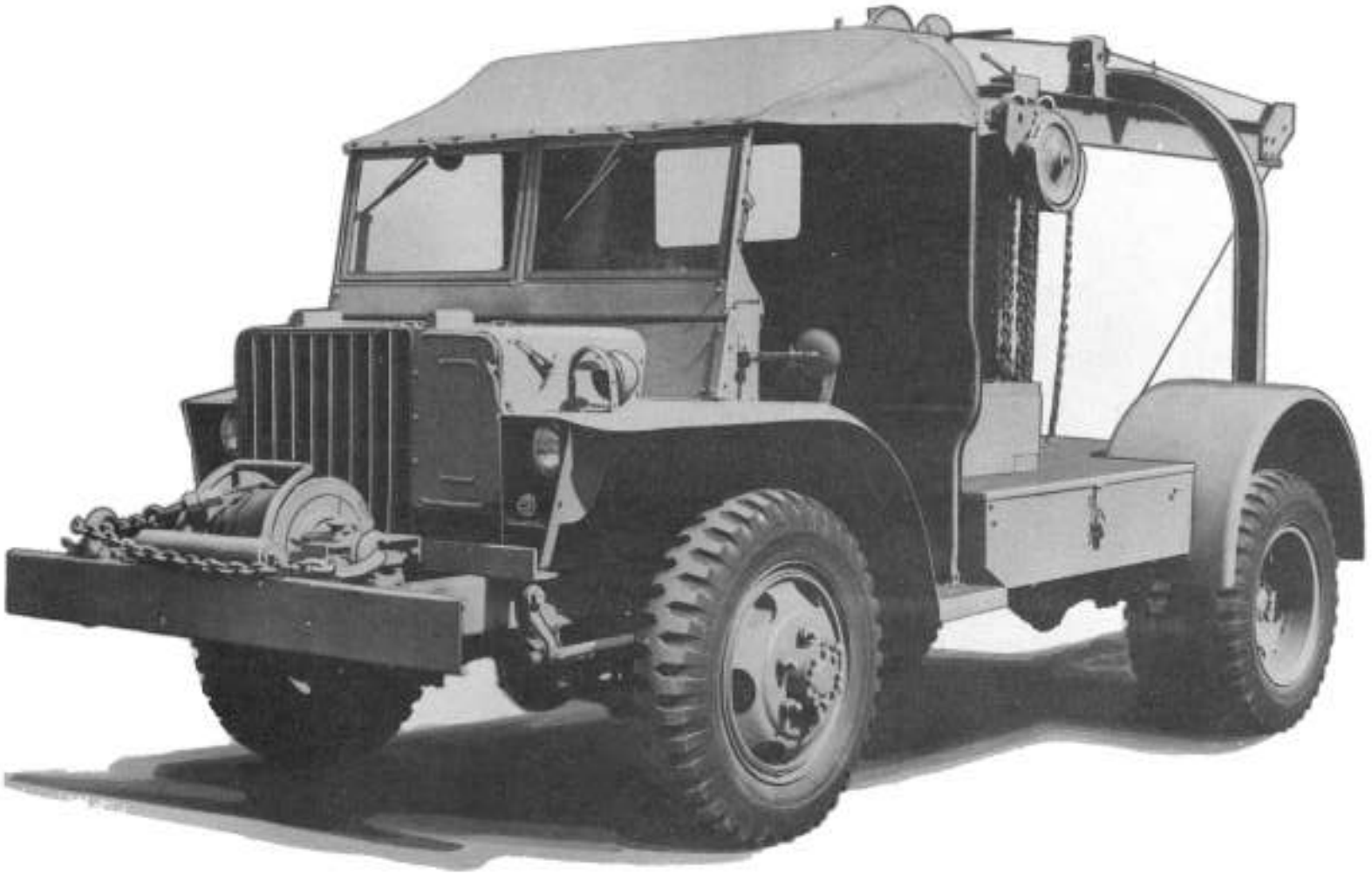
THIS book has been prepared to supply operators and maintenance mechanics with all the essential information for insuring the most efficient performance of the Mark 2 Bomb Service Truck and the Mark 1 Cargo Truck, 1½-Ton, 4 x 4, manufactured by Ford Motor Co. Detailed specifications and data concerning manufacturing limits and tolerances will be found in the last section of the book.

The Ford Parts Numbering System is designed so that a basic number is assigned to each unit in the vehicle. For example, all wheels and wheel parts are within the series of numbers ranging from 1000 to 1500, all brake parts have numbers ranging from 2000 up, front axle parts have numbers ranging from 3000 up, steering gear parts have numbers ranging from 3500 up, etc. These basic numbers have been shown on all drawings showing exploded views of the various assemblies in the truck and make it easier for inexperienced men to locate in the Parts Book any items which may be referred to in the following text.

A brief description is given in each section of the operating principle involved in the particular assembly being discussed so the drivers, as well as mechanics, will have some knowledge as to the functioning of each unit. In addition, detailed instructions for removing and installing parts, effecting necessary adjustments quickly, and properly lubricating all parts, are covered.

Such tools as are illustrated or mentioned in this book that are not available locally can be secured from K. R. Wilson, Buffalo, New York.

FORD MOTOR COMPANY



Ford–Model G.T.B.C.–4 x 4–1½-Ton Truck–Fig. 1

Ford—Model G.T.B.A.—4 x 4—1½-Ton Truck—Fig. 2

GENERAL DATA:

Ford Bomb Service Truck	4 x 4—1½-Ton
Model	G.T.B.C.
Wheelbase	115″
Tread Front	68.″
Tread Rear	68.″
Axle Ratio (Front and Rear)	6.67 to 1
Length Overall	249″
Width Overall	79.6″
Hoist Capacity (Movable)	1½-Ton
Hoist Capacity (Winch)	2 Ton
Ford Cargo Truck	4 x 4—1½-Ton
Model	G.T.B.A.
Wheelbase	115″
Tread Front	68.″
Tread Rear (Dual Wheels)	67.″
Axle Ratio (Front and Rear)	6.67 to 1
Length of Body	108″
Width of Body	70″
Length Overall	180.67″
Width Overall	96″
Height Overall (to top of stakes)	82.24″

ENGINE (ALL VEHICLES)

Type	6 Cyl. "L" Head
Number of Cylinders	6
Bore	3.300″
Stroke	4.400″
Piston Displacement	226 cu. in.
Torque	180 lb. ft @ 1200 R.P.M.
Compression Ratio	6.7 to 1
Compression Pressure	165 lbs. @ 2000 R.P.M.
Firing Order	1-5-3-6-2-4
Weight with clutch and transmission	654 lbs.

CAPACITIES

Fuel Tank (Bomb Service)	26 gallons
Fuel Tank (Cargo)	40 gallons
Engine Crankcase (less filter absorption)	5 quarts
Cooling System	16 quarts
Transmission	5 pints
Front and Rear Axle	5 pints
Oil Bath Air Cleaner (Tractor Type)	1 quart
Tire Pressure Front	—55
Tire Pressure Rear	—55

Engine Number is also the Serial Number

Number is stamped on top of Clutch Housing. To check number, raise engine cover.

OPERATION TIPS

The natural inclination of every motor vehicle operator is to take pride in his vehicle, in its accelerating qualities, smoothness of operation and ability to travel further on less fuel. To a great extent, these factors are subject to the control of the vehicle operator and the following paragraphs point out the precautionary measures which should be followed to secure the most satisfactory results.

"BREAKING IN"

Before attempting to start the engine or operate the vehicle, the careful driver will first make sure that there is sufficient water in the radiator and that the oil level in the crankcase is up to the "Full" mark on the dip stick. He will also examine each tire and see that it is brought up to the recommended tire pressure, if there is any indication of one or more of the tires being low. The good driver will also make certain there is an adequate supply of fuel in the tank.

One of the most important factors in the life of a motor vehicle is the care it receives during the first thousand miles of operation. For the first 500 miles, the new unit should not be driven in excess of 30 miles per hour. During the so-called "breaking in" period, the temperature indicator should be watched closely and if there is any tendency toward overheating, the operating speed should be reduced.

LUBRICANT

To avoid excessive or premature wear, clean lubricant of correct specifications must be used at the various points indicated on the lubrication chart.

All Ford products are designed to operate smoothly and without sharp knocks, rattles or metallic noises which indicate friction in any of the working parts. All unusual noises should therefore be investigated at once so the necessary corrective measures can be taken before serious damage results. If the noise seems due to an internal mechanical fault, the condition should be reported to a mechanic immediately and operation of the vehicle should be avoided until it has been released by a qualified technician.

TESTING BRAKES

The brakes should be tested daily soon after starting. Any faulty condition in the hydraulic brake system is readily apparent to the operator at the first application of the brake pedal, and the matter should be reported at once for correction.

FRONT WHEEL ALIGNMENT CHECK

The proper alignment of the front wheels is a most important factor in the steering of the vehicle. If hard steering is noticed, the first thing to check is inflation of the front tires. If the tires are properly inflated and the vehicle tends to wander to the right or left, or the steering wheel shakes (shimmies) when the vehicle is in motion, have a mechanic inspect and make the necessary repairs.

BATTERY INSPECTION

Battery should be inspected frequently and terminal corrosion removed by scraping or using a solution of baking (bicarbonate) soda and water. After the terminals have been cleaned, they should be coated with vaseline or light grease.

ELECTRIC CIRCUIT TERMINALS

All electrical connections must be kept clean and tight. Bear in mind that corroded terminals, also loose and dirty ground connections will cause ultimate failure of the electrical system.

SPARK PLUGS

Check spark plugs frequently for loose connections or broken porcelain which will usually be indicated by that particular cylinder missing fire when the engine is operating under a heavy load or accelerating with a wide open throttle. Faulty spark plugs and wires should be replaced.

AIR CLEANER

Instructions for cleaning the oil bath type air cleaner are given on the decalcomania on the air cleaner. Under extremely dusty conditions, the air cleaner should be cleaned more frequently and refilled with new oil of the same viscosity as is used in the crankcase.

WORKING UNDER VEHICLE

When working under the vehicle, it is inadvisable to depend only upon a jack to support the weight. Use wooden blocks or wooden jack.

REPORTING MECHANICAL FAULTS

Report any mechanical trouble and have it corrected. Temporary repairs should be used only as an expedient.

REVERSING

Reverse as little as possible. Never reverse without sounding the horn and making absolutely sure that the way is clear.

TIRE INFLATION

Proper tire inflation not only produces the greatest number of miles per tire but helps to avoid accidents.

Unequally inflated tires result in poor steering, poor braking and excessive side sway on curves.

CHANGING TIRES

When changing tires, one or more of the wheels resting on the ground should be blocked securely with a rock or other suitable object. Do not depend upon the brakes to hold the vehicle while tires are being changed, since there is always the possibility of the brakes being thoughtlessly released.

SPINNING OF WHEELS

Spinning the drive wheels only digs them deeper into mud and snow. Rock the truck forward and backward a few inches repeatedly until sufficient traction can be secured.

RACING THE ENGINE

Racing the engine causes excessive strain on the mechanism and premature wear. This is especially bad in cold weather when the engine is cold because the oil is thickened by low temperatures and does not circulate as rapidly as when warm.

ENGINE ACCELERATION

Accelerate gently. Tramping on the accelerator only forces more gasoline into the cylinders than can be effectively used, and under some conditions might result in the engine stalling.

ENGINE IDLING

Permitting the engine to idle for long periods of time not only wastes gasoline, but has a tendency to foul the spark plugs.

ENGINE OVERHEATING

When engine is overheated, cold water should not be poured into the radiator unless the engine is running so that the water pumps will circulate and mix the cold water with the hot water before it strikes the cylinder block and head. When engine overheats, check the hose conections to see that they are tight.

SKIDDING

When traveling at high rates of speed on a loose gravel road, motor vehicles sometimes sway or skid dangerously. Loose gravel may be thrown under such conditions and injure pedestrians or break windows of passing vehicles. The brakes should be used with caution to bring the vehicle under control. To apply the brakes abruptly while skidding only increases skidding. Concentrate on steering the vehicle in the event a tire should blow out. Then remove the foot from the accelerator and use the brakes with caution.

APPLYING BRAKES

Applying brakes too rapidly results in excessive tire wear. It may also result in a dangerous skid when on wet or icy pavements.

STOPPING THE VEHICLE

Come to a gradual stop. Sudden stops, the same as sudden starts, waste gasoline and are dangerous to the passengers.

USE OF CLUTCH

Sudden engagement of the clutch, causing jerky starting or killing the engine, increases the strain on the clutch and other parts involved. Release the clutch pedal slowly so as to insure a gradual contact between clutch plates.

USE OF GEARS

Unnecessary speeding of the vehicle while in the lower gears, practically doubles gasoline consumption. Shift to high gear before 25 miles an hour is reached.

LOW GEAR

Low speed gear ratios are provided for use when the going is heavy. The best driver shifts into these lower ratios when necessary for most efficient vehicle operation. Always descend a hill in the same gear used in ascending it.

COASTING

When going down grade, use engine compression to assist in maintaining control. Never disengage the clutch and coast down. This is extremely dangerous when an unforeseen emergency demands prompt stopping of the vehicle. Using the brakes when coasting usually results in burnt linings and, under extreme conditions, might render the brakes useless.

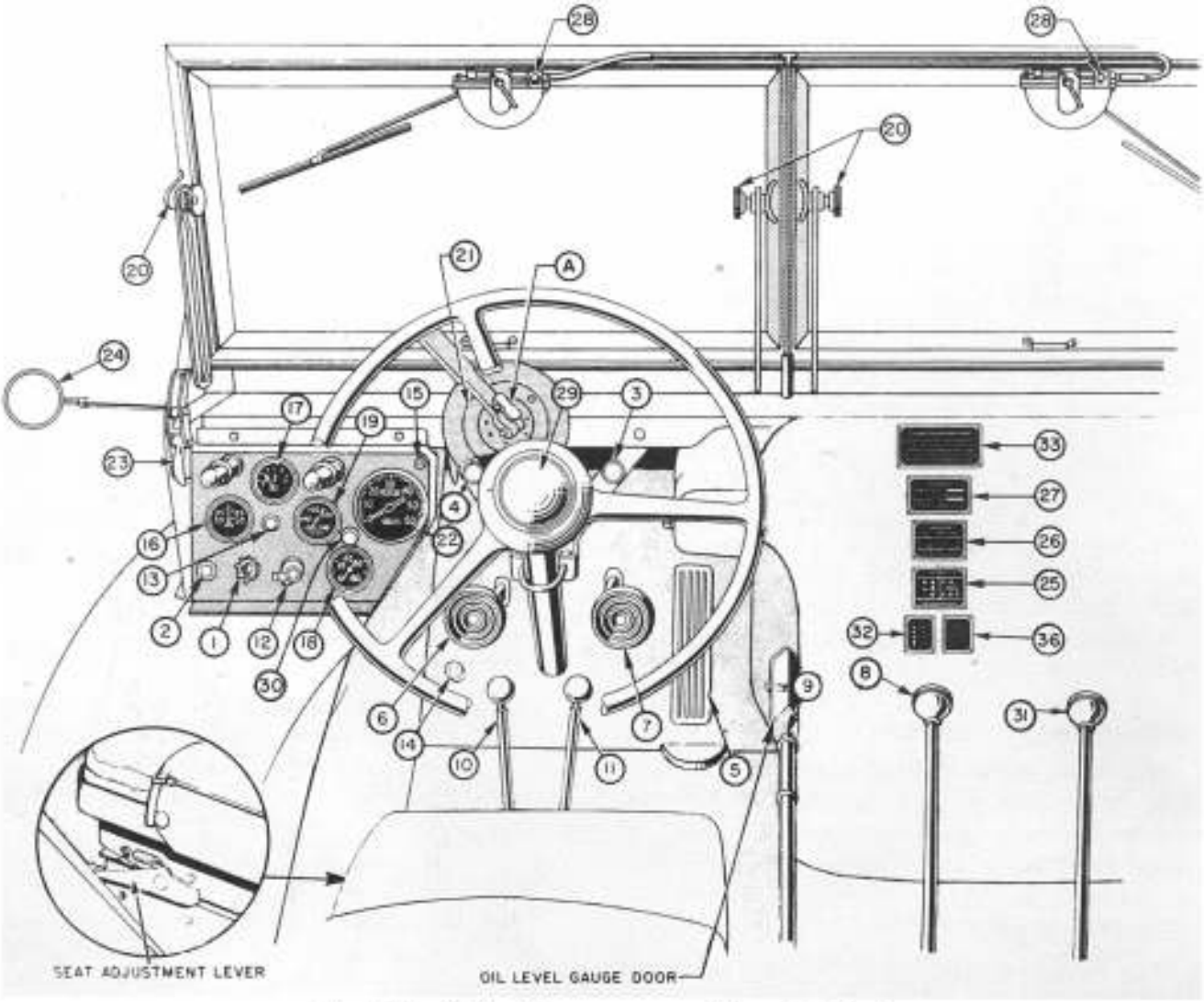
FIRE

A gasoline or oil fire in a motor vehicle must be handled quickly to avoid serious damage. In the event of such a fire, turn off the ignition and light switches immediately. Use the fire extinguisher as quickly as possible to extinguish the flames. If in the engine compartment, avoid raising the hood unless it is impossible to get at the flames in any other manner. If no fire extinguisher is available, smother the flames with a tarpaulin, blanket, coat, sand, dirt or other similar material.

ABUSE AND NEGLECT

Abuse and neglect of the vehicle entrusted to you will always result in premature repairs. Your efficiency as a driver can be effectively measured by the cost of repairs made and charged to the vehicle.

INSTRUMENTS AND CONTROLS



Bomb Service Truck Instruments and Controls—Fig. 1

Key to Instruments and Controls Figures

1. Ingition Switch
2. Starter Button
3. Carburetor Choke
4. Hand Throttle
5. Accelerator
6. Clutch Pedal
7. Brake Pedal
8. Transmission Shift Lever
9. Hand Brake Lever
10. Front Axle Drive Lever
11. Transfer Case Auxiliary Range Lever
12. Light Switch
13. Instrument Panel Light Switch
14. Light Beam Control Switch
15. Beam Indicator
16. Ammeter
17. Fuel Gauge
18. Oil Gauge
19. Temperature Gauge
20. Windshield Swing Arm Nuts
21. Electric Brake Control
22. Speedometer
23. Windshield Latches
24. Rear View Mirror
25. Gear Shift Plate
26. Caution Plate
27. Nomenclature Plate
28. Windshield Wiper Controls
29. Horn Button
30. Blackout Driving Lamp Switch
31. Winch Shift Lever
32. Winch Shift Instruction Plate