



MAINTENANCE MANUAL

For

**FORD TRUCK
1/4 TON 4 x 4
1941**

FOR U.S. GOVERNMENT

Ford Motor Company

DEARBORN, MICHIGAN U.S.A.

MAINTENANCE MANUAL

for



TRUCK

1/4 TON 4x4 MODEL GP

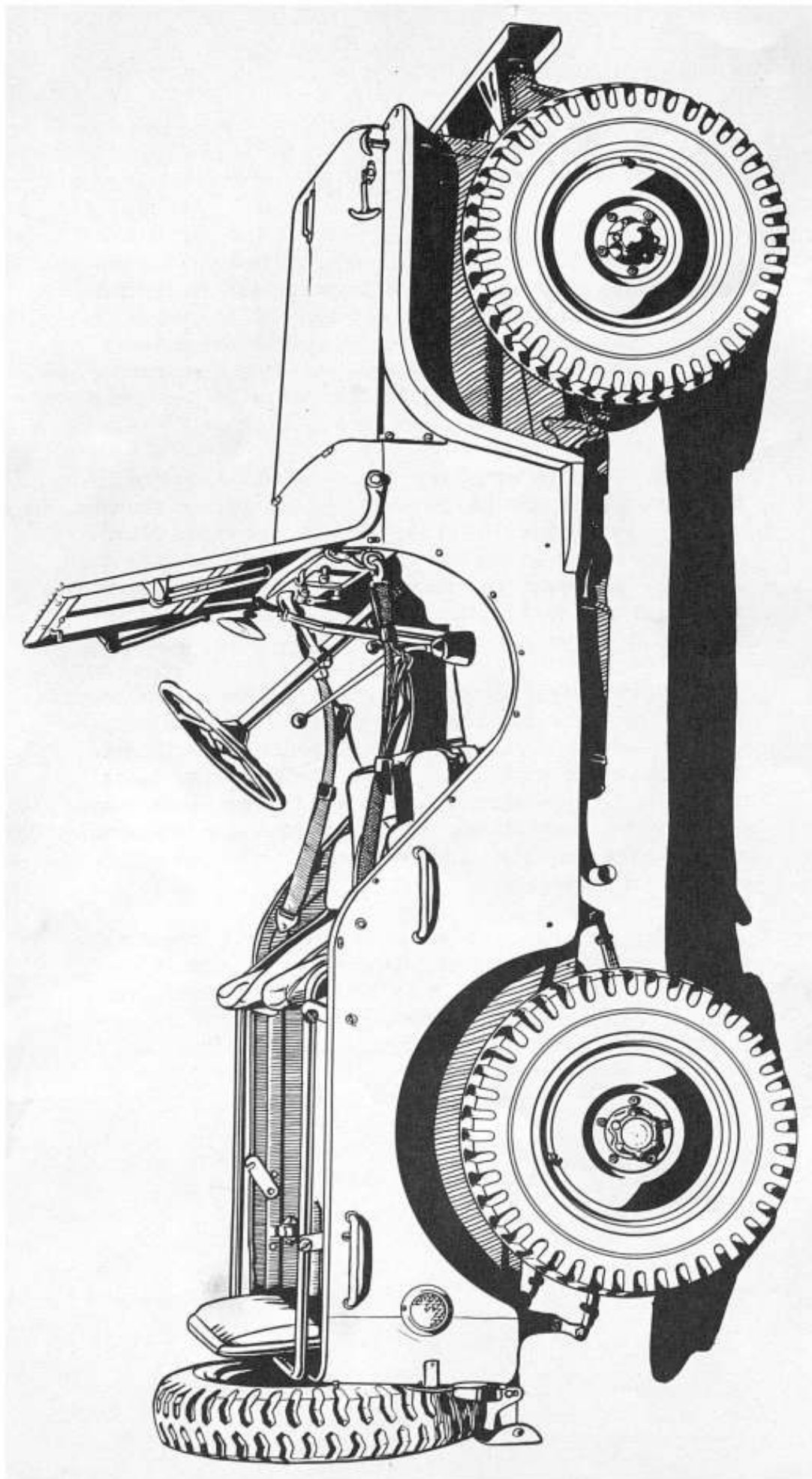
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DEARBORN, MICHIGAN U.S.A.

Dearborn, Michigan

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MODEL GP US GOVERNMENT 1/4 TON, 4 WHEEL DRIVE, 80" WHEELBASE RECONNAISSANCE CAR
Identification Plate and Caution Plate Located on Instrument Panel

FOREWORD

This book has been prepared to supply operators and maintenance mechanics with all essential information for insuring the most efficient performance of the Ford 1/4-ton 4 x 4 Reconnaissance cars. Detailed specifications and data concerning manufacturing limits and tolerances will be found in the last section of the book.

In order to simplify the task of locating in the Parts Book any parts which are referred to in the text, the book is laid out in sections which conform to the grouping of the Parts Book. Each section is therefore numbered with the Ford basic number of the particular assembly or part described in that section.

A brief description is given in each section of the operating principles involved in that particular assembly, 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.

Very few special service tools are required for servicing this unit. Such tools as are illustrated or mentioned in this booklet, however, can be secured from K. R. Wilson, Buffalo, New York or, in the case of Axle Tools, from Hinckley-Meyers Co., Jackson, Michigan.

FORD MOTOR COMPANY
Service Department

FORD TRUCK 1/4-TON 4 x 4

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 300 miles, the new unit should not be driven in excess of 25 miles per hour in direct drive. For the next 700 miles it should not be driven in excess of 35 miles per hour. When operated in the lower range provided by the transfer case, new units should never be driven in excess of 15 miles per hour for the first 300 miles or 20 miles per hour up to 1,000 miles. 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.

FORD TRUCK 1/4-TON 4 x 4**AIR CLEANER**

Instructions for cleaning the oil bath type air cleaner are given on the decal-comania 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 car 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 pump will circulate and mix the cold water with the hot water before it strikes the cylinder block and head. When engine overheats, always check the fan belt first for slippage. Tighten the belt if it appears to be too loose. Also check the hose connections 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 breaks too rapidly results in excessive tire wear. It may also result in a dangerous skid when on wet or icy pavements.

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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

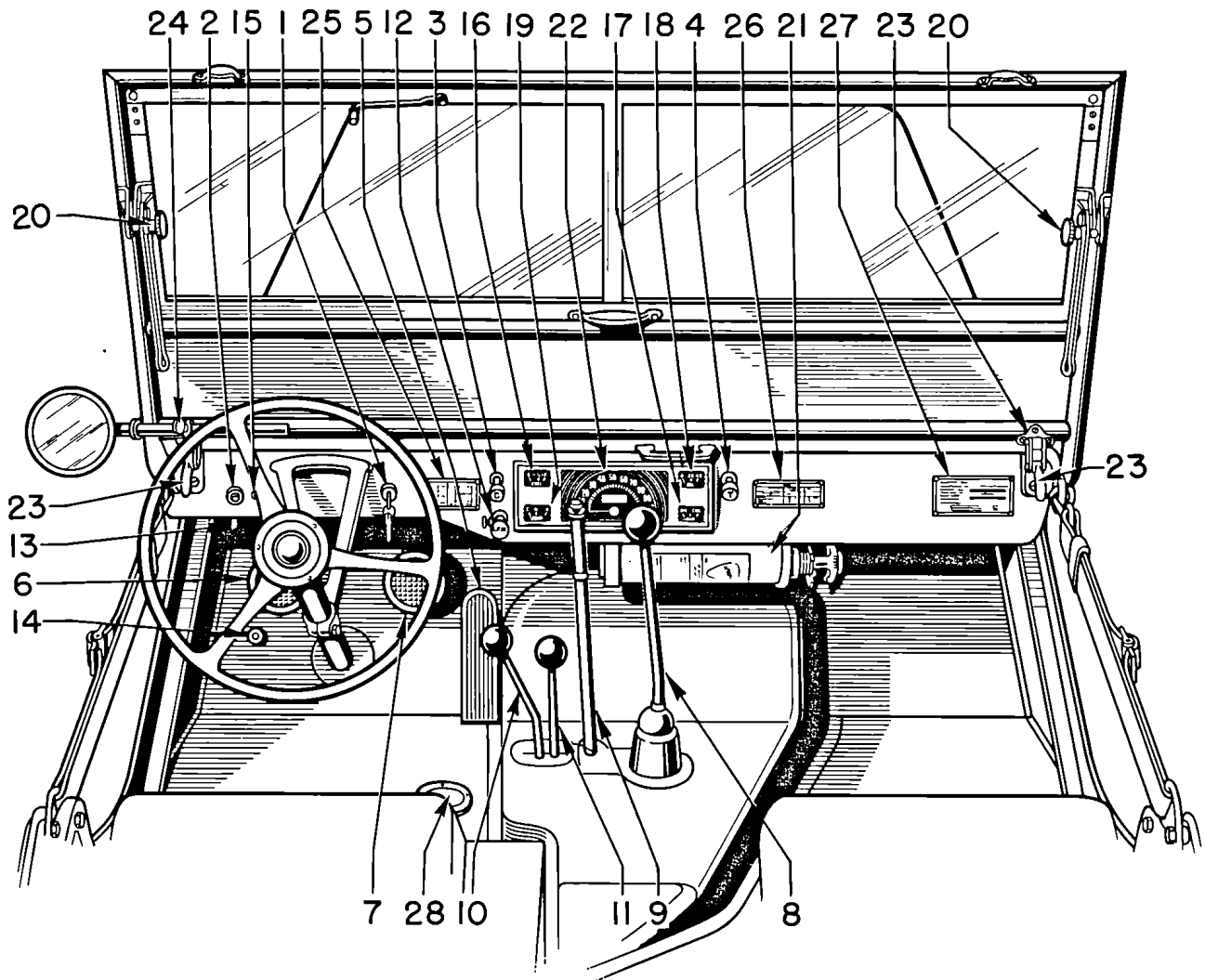
A gasoline or oil fire in a motor vehicle must be handled quickly to avoid serious damage. In the event of such a fire, turn off the ignition and light switches immediately. Use the fire extinguisher as quickly as possible to extinguish the flames. If in the engine compartment, avoid raising the hood 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 NEGLECTS

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.

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Instruments and Controls - Fig. 2

- | | |
|---|---------------------------------|
| 1. Ignition Switch | 15. Beam Indicator |
| 2. Starter Button | 16. Fuel Gauge |
| 3. Carburetor Choke | 17. Ammeter |
| 4. Hand Throttle | 18. Oil Gauge |
| 5. Accelerator | 19. Temperature Gauge |
| 6. Clutch Pedal | 20. Windshield Swing Arm Nuts |
| 7. Brake Pedal | 21. Fire Extinguisher |
| 8. Transmission Shift Lever | 22. Speedometer |
| 9. Emergency Brake Lever | 23. Windshield Latches |
| 10. Front Axle Drive Lever | 24. Rear View Mirror |
| 11. Transfer Case Auxiliary Range Lever | 25. Gear Shift Plate |
| 12. Light Switch | 26. Caution Plate |
| 13. Instrument Panel Light Switch | 27. Nomenclature Plate |
| 14. Light Beam Control Switch | 28. Brake Master Cylinder Cover |

FORD TRUCK 1/4-TON 4 x 4**OPERATING THE VEHICLE**

(Driver's Instructions)

Before attempting to operate any motor vehicle with which the operator is not familiar, it is imperative that he familiarize himself with all the various controls. In general the Ford light Reconnaissance and Command car is operated and controlled in exactly the same manner as Ford commercial cars. The main point of difference, however, is that the unit is equipped with four-wheel drive, as well as an under drive to provide more power at the wheels when the unit is operated in mud, deep sand or on steep grades. This necessitates the addition of two extra shift levers, the use of which will be described in detail in the following pages.

All of the controls and instruments are illustrated in Figure 1. It will be observed that each item has been numbered so as to assist the reader in locating the various items as they are described in the following paragraphs:

IGNITION SWITCH No. 1 is located on the dash slightly to the right of the steering column. Turning the switch to the right closes the ignition circuit so that current will flow to the ignition coil and distributor. Turning the switch to the left breaks the circuit and will stop the engine.

STARTER BUTTON No. 2 is located at the lower left corner of the instrument panel. When this button is pressed in, current is supplied to the magnetic starter switch which in turn closes the circuit to the starter motor.

CARBURETOR CHOKE No. 3 is the control button in the center of the instrument panel to the left of the instrument group. When this control button is pulled out, it reduces the amount of air going through the carburetor and thus provides a richer mixture. When the engine is warm, it is not necessary to pull out the choke button, in fact, this control should only be used when the weather is sufficiently cold to cause difficulty in starting.

The choke button should be pushed in to its stop as soon as the engine is sufficiently warm to run smoothly.

HAND THROTTLE No. 4 is the control button to the right of the instrument panel group. Pulling this button outward opens the carburetor throttle and increases the speed of the engine. During cold weather this control should be pulled out approximately one-quarter of an inch so the engine will idle somewhat faster until it is thoroughly warmed up. This control can also be used when it is desirable to run the engine at a constant speed.

ACCELERATOR No. 5 is a treadle-type lever which actuates the linkage connected to the carburetor throttle plate and thus increases or decreases the speed of the engine.

CLUTCH PEDAL No. 6 causes the tension exerted by the Clutch Pressure Plate Springs to be released when the pedal is pressed downward. This disengages the engine from the transmission and causes the transmission gears to stop revolving so the gears the operator desires to use can be meshed easily.

It is a good practice to disengage the clutch before starting the engine as this will not only enable the starter to crank the engine more easily in cold weather but will also prevent the vehicle from moving in the event the transmission gear shift lever has been unknowingly left in gear. Do not drive with the foot resting on the clutch pedal as this will cause premature wear of the clutch facings and clutch throw-out bearing .

BRAKE PEDAL No. 7 is connected by a rod to a piston in the Brake Master Cylinder. When pedal is pressed downward the piston forces fluid from the Master Cylinder through connecting tubes to cylinders at each of the four wheels which in turn expand the brake shoes.

TRANSMISSION SHIFT LEVER No. 8 is used in exactly the same manner as the gear shift lever on Ford commercial cars. It provides three forward speeds and one reverse and operates entirely independent