

# **MAINTENANCE MANUAL**

**FOR**

## **WILLYS TRUCK**

**¼ TON 4 x 4**

**BUILT FOR**

**U. S. GOVERNMENT**

**MODEL MB**

**Contract Number**

**W-398-qm-11423**

**U. S. A. Reg. Numbers**

**2073506 to 2078606**

**★ ★ ★**

Parts are designated in this book under both Ford and Willys part numbers since all parts are interchangeable for vehicles produced by Ford Motor Company.

**Contract W-398-qm-11424 Model GPW**

**U. S. A. Registration Numbers**

**20100000S to 20163145S**

**TM-10-1349**

## **WILLYS-OVERLAND MOTORS, INC.**

**TOLEDO, OHIO, U. S. A.**

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**TM-10-1513**

**CHANGE NO. 1**

**MAY 15, 1942**

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\* These numbers refer to Parts Group Classifications in Parts List.

## FOREWORD

This Motor Vehicle has been thoroughly tested and inspected. Like any other piece of machinery, to maintain it in proper operating condition, it should be lubricated at the time specified using the proper grades of oil and grease. All working parts as well as oil holes should be kept clean and free from dirt and grit. This vehicle should periodically have a systematic inspection.

All parts in this vehicle are completely interchangeable with those manufactured by Ford Motor Company under the contract listed on the preceding page. Both Ford and Willys part numbers are therefore listed under the illustrations showing views of the various assemblies. These part numbers should be used only for the purpose of identifying parts as they are mentioned in the text, and, the accuracy of the part number should be verified by referring to the parts book when placing orders for parts.

In the following pages we have described how to take care of this unit and handle it in such a way that it will give maximum service and dependable performance.

In the forepart of this Manual will be found complete instructions relative to conditioning the unit for Service, Driver's Instructions, Lubrication and Inspection.

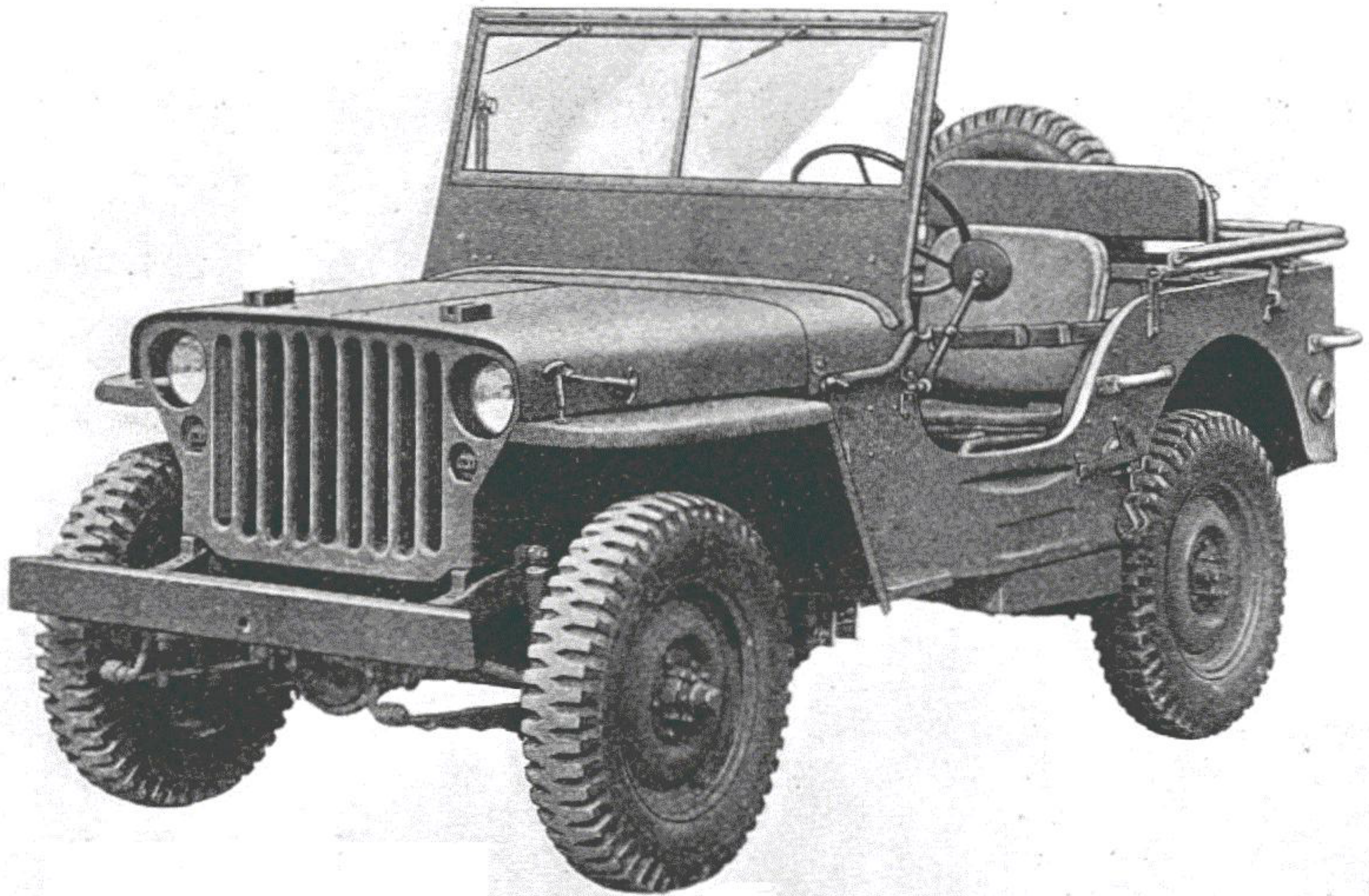
In the Maintenance and Repair Section will be found instructions which will enable one to make proper adjustments and repairs.

See Index on preceding page; bend back edge of pages to find Section desired.

Read and follow these instructions carefully.

WILLYS-OVERLAND MOTORS, INC.





WILLYS MODEL "MB" 1/4-TON 4 x 4 GOVERNMENT TRUCK



## GENERAL DATA

## ENGINE

Type.....	Gasoline
Number of Cylinders.....	4
Bore.....	3 $\frac{1}{8}$ "
Stroke.....	4 $\frac{3}{8}$ "
Piston Displacement.....	134.2 cu. in.
Compression Ratio.....	6.48-1
Horsepower—S.A.E.....	15.6
Horsepower { Actual.....	60
{ Revolutions per minute.....	4000
Torque { Maximum Lbs.-Ft.....	105
{ Revolutions per Minute.....	2000
Wheelbase.....	80"
Tread.....	48 $\frac{1}{4}$ "-with combat wheels 49"
Overall Width.....	62"
Overall Length.....	132 $\frac{3}{4}$ "
Overall Height—Normal Load	
To top of cowl.....	40"
To top of steering wheel.....	51 $\frac{1}{4}$ "
Top up.....	69 $\frac{3}{4}$ "
Weight—Maximum Pay Load.....	800 lbs.
Maximum Trailed Load.....	1000 lbs.
Shipping (Less water, fuel and chains).....	2125 lbs.
Road.....	2315 lbs.
Gross.....	3125 lbs.

## CAPACITIES

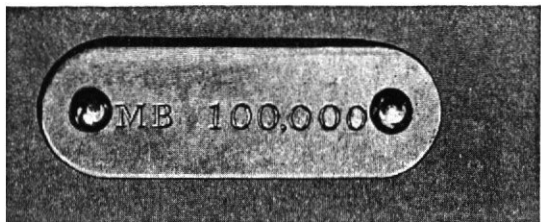
	U.S.	Imperial	Metric
Fuel Tank (Gals.).....	15	12 $\frac{1}{2}$	56.78 liters
Engine Crankcase-Refill (Qts.).....	4	3 $\frac{1}{2}$	3.78 "
Cooling System (Qts.).....	11	9 $\frac{1}{4}$	10.41 "
Transmission (Pts.).....	2	1 $\frac{3}{4}$	.95 "
Transfer Case (Pts.).....	3	2 $\frac{1}{2}$	1.42 "
Front Axle Differential (Pts.).....	2 $\frac{1}{2}$	2	1.18 "
Rear Axle Differential (Pts.).....	2 $\frac{1}{2}$	2	1.18 "
Oil Bath Air Cleaner (Pts.).....	1 $\frac{1}{4}$	1	.71 "
Brake System Brake Fluid (Pts.).....	$\frac{3}{4}$	$\frac{3}{4}$	.36 "

See Lubrication Chart, Page 12

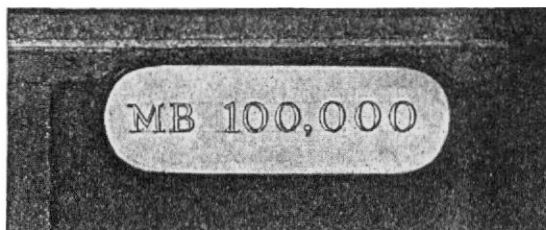
## LAMP BULBS

	Mazda
Head Lamp (Sealed Beam type).....	2400
Upper Beam.....	45 Watts
Lower Beam.....	45 Watts
Blackout Lamp Bulb (1).....	3 Cp. SC 63
Left Tail Lamp Bulb (1).....	21-3 Cp. DC 1154
Left Tail Lamp Bulb (1).....	3 Cp. SC 63
Right Tail Lamp Bulbs (2).....	3 Cp. SC 63
Instrument Lamp Bulb (2).....	1.5 Cp. SC 51
Fuse (Thermal Type)—On Light Switch-30 Amperes	

## IDENTIFICATION



Chassis Serial Number located on inside of frame at left front end.



Engine Number located on right side of cylinder block front upper corner.

## UNLOADING INSTRUCTIONS

Spot freight car along side of the unloading platform. Open freight car door and make visual inspection of vehicles for damage, loose blocking and shortages, due to rough handling or pilferage while vehicles were in transit. If any evidence of carrier's responsibility, the railroad representative should inspect shipment and note it on Bill of Lading.

Vehicles are shipped from one to six in a freight car, therefore, the manner varies in which the vehicles are anchored in the car. Where shipment does not exceed two vehicles per freight car, the regular 36 foot box car is used. Where three or more vehicles are shipped an "Evans" or "Channel" automobile freight car is used. These freight cars are equipped with upper deck platforms operated by chain falls and have anchor chains in flooring; to operate follow printed instructions on inside wall at controls.

### One or Two Vehicles per Car

The vehicles are anchored to floor with grooved blocks spiked to the floor at front and rear of each wheel. Spring rebound straps are anchored to front end of front springs and rear end of rear springs and spiked to the floor.

To remove vehicles from car, use a crow bar to pry loose wheel blocks and straps from floor. Remove bolt in spring rebound strap at springs and remove straps.

Roll one vehicle to end of car, then jack or lift the other vehicle so it can be removed through door to platform, then remove second vehicle, and check all items listed in Tool and Accessory list.

### Three Vehicles per Car

Where three vehicles are shipped, the two end vehicles are fastened at front end with car equipment anchor chains. The rear wheels have grooved blocks spiked to the floor. Spring rebound straps at end of rear springs are also spiked to the floor.

The center vehicle is anchored at the ends of front and rear axles with car equipment chains. Spring rebound straps at end of front and rear springs are spiked to the floor.

To remove vehicles first remove all wooden blocks, spring rebound straps and anchor chains from the three vehicles. Run end vehicles to extreme ends of freight car; jack or lift center vehicle so it can be rolled through door to platform. Repeat this operation to remove other two vehicles.

### Four Vehicles per Car

Where four vehicles are shipped, one is decked and three anchored to the floor the same as in three vehicle shipment.

To remove vehicles, first remove anchor chains and wooden blocks from the three vehicles on floor and remove vehicles to platform. Follow instructions printed on inside of freight car at controls in ends of car for lowering Deck platform. Lower platform and remove anchor chains, then remove vehicle.

### Five Vehicles per Car

Two vehicles are decked and three anchored to flooring in same manner as four to a car.

The removal of vehicles should be in the same sequence as outlined under three and four car shipment.

### Six Vehicles per Car

Where six vehicles are shipped, two are decked and four are anchored to the floor.

The two end vehicles are fastened at front ends with anchor chains, the rear end of vehicles are anchored with grooved blocks and spring rebound straps spiked to the floor.

The two center vehicles are fastened in the opposite manner, rear ends with anchor chains and front ends with wheel grooved blocks and spring rebound straps spiked to the floor.

To remove vehicles remove wheel blocks, spring rebound straps and anchor chains. Roll end cars and one center car to end of freight car, jack or lift other center vehicle so it can be removed to platform, then remove other three.

Lower one decked vehicle by chain falls, following instructions printed on wall. Then remove second decked vehicle in same manner.

## PRE-OPERATION INSTRUCTIONS

All vehicles are carefully tested and inspected before leaving the factory, however, while in transit and unloading some things may happen which will require attention before putting vehicle into Service. We therefore suggest checking the following items before operating vehicle.

1. Fill radiator and check all connections for water leaks.
2. Check oil in engine, transmission, transfer case, front and rear differential housings.
3. Fill gasoline tank and check full system for leaks.
4. Check battery fluid level.
5. Check terminal connections at battery, generator, voltage control, starter, distributor and spark plugs.
6. Check operation of lights and horn.
7. Check brake fluid level in master cylinder and check connections for leaks or damage.
8. Check steering connections and front wheel alignment.
9. Check tire pressure, inflate to 30 lbs.
10. Check hand brake operation.
11. Check cylinder head screws and nuts.