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MAINTENANCE MANUAL

U. S. ARMY

MACK MODELS NO-2, 3 & 6 7½ TON 6x6 PRIME MOVER TRUCKS

CHASSIS SERIAL NO'S.

NO 8D 1002 thru 1501

NO 8D 1504 thru 2503

U. S. A. REGISTRATION NO'S.

522146 thru 522548

536984 thru 537080

544440 thru 545439

CONTRACT W-670-ORD-3303

CONTRACT W-670-ORD-4290

Handwritten:
by Mack

Mack



TM 10-1679

WAR DEPARTMENT

Washington, April 10, 1943.

TM 10-1679, Maintenance Manual, Trucks, 7½-ton, 6 x 6, Prime Mover, MACK, (Models NO-2, 3 & 6) published by the Mack Manufacturing Corporation, is furnished for the information and guidance of all concerned.

(AG 062.11 (4/26/41) PC (C), June 10, 1941.)

By order of the Secretary of War:

G. C. MARSHALL,
Chief of Staff.

Official:

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

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MACK MANUFACTURING CORPORATION

Technical Service Department

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Division of Manual into Groups

This manual is divided into Groups, which correspond with the United States Army Ordnance Department Functional Group Code. Given un-

der each group below in small type, is a list of the main units described in each group.

General Data: Index, Division of Manual into Groups, Division of each Group into Sections, Oil & Water Capacities, and General Dimensions.

Operation: Instruments & Controls, and Operating Instructions.

Preventive Maintenance: Maintenance suggestions, and Preventive Maintenance Schedules.

Lubrication: Lubrication Chart, and Lubricating instructions.

- 01 **Engine:** Cylinder block & heads, Crankshaft & bearings, Crankshaft oil seal, Pistons & rings, Piston pins, Connecting rods & bearings, Valves & springs, Valve lifters & guides, Valve tappets, Push rods, Rocker arms, Camshaft & Bushings, Valve timing, Timing gears, Oil pump & gage, Oil filters, Manifolds, Engine mountings, Accessory drive, and Vibration damper.
- 02 **Clutch:** Clutch disk, Pressure plate & springs, Release bearing, Pedal, and Pilot bearing.
- 03 **Fuel:** Carburetor, Air cleaner, Fuel pump, and Governor.
- 04 **Exhaust:** Muffler & pipes.
- 05 **Cooling:** Thermostats, Water pump, and Fan & belts.
- 06 **Electrical:** Generator & regulator, Starter & drive, Distributor & condenser, Ignition coil, Lighting switches, Ignition timing, Ignition tune-up, Headlamps, Spark plugs, and Battery.
- 07 { **Transmission:** Main drive pinion, Main shaft, Countershaft, Reverse shaft, Gears, and Bearings.
- 07 { **Transfer Case:** Main shaft, Driven shaft, Idler shaft, Declutch shaft, Power-take-off shaft, Gears, and Bearings.
- 09 **Propeller Shaft:** Universal joints.
- 10 **Front Axle:** Differential, Spur pinion, Bevel pinion, Front wheel drive, Gears, Bearings and Steering Geometry.
- 11 **Rear Axle:** Axle shafts, differential, Spur pinion, Bevel pinion, Gears, Bearings, Torque rods, and Trunnion brackets.
- 12 **Brakes:** Hand brake, Foot brakes, and Air compressor.
- 13 **Wheels:** Bearings, and Tires.
- 14 **Steering:** Steering gear, Drag link, and Tie rod.
- 15 **Frame:** Pintle hook, Drawbar and Frame.
- 16 **Springs:** Shackles, Rubber shock insulators, and Shock absorbers.
- 18 **Body and Cab:** Windshield, Cab top, Cab mounting, Seat, Handles, Locks, Doors, Windows, Glass and Paint.
- 19 **Winch:** Safety brake.
- 20 **Hoist:** Hoist.
- 23 **Tools:** Standard tools furnished with vehicle.

Division of each Group into Sections

This manual is further subdivided as follows. Each group covering a major unit as Engine, Clutch, etc., is divided and described in Sec-

tions as given below. Some groups do not require this exact description but, in general, they are treated in the same manner.

1. Description and Principle of Operation:

Includes statement of type or design of unit used, and how it works. Uncommon features are mentioned especially.

2. Trouble Shooting and General Solutions:

Includes most common failures arising after reasonable service, or due to neglect in servicing or other conditions, and the possible solutions or remedies.

3. Adjustments:

Includes all possible adjustments that can be made without disassembling the unit. Methods of making adjustments are given. Adjustment figures include necessary fits as: measurements, clearances, etc., with tolerances to be maintained. Special tools needed are indicated.

4. Dis-assembly:

Includes step-by-step procedure to completely dis-assemble unit. Special tools needed are indicated.

5. Repairs:

Includes methods of effecting all possible repairs, fitting of parts and sizing: as broaching, lapping, grinding in place, etc. Special tools needed are indicated.

6. Lubrication:

Includes instructions for lubrication that can be accomplished only while the unit is dis-assembled. For other lubricating instructions, see "Lubrication" group.

7. Re-assembly:

Includes step-by-step procedure to re-assemble unit, but only where different from reverse of dis-assembly. Additional adjustments, not given under section 3 above, are included. Special tools needed are indicated.

8. Specifications:

Includes all specifications and other service data essential to proper maintenance. A summary of all adjustments listed in above items is given.

9. Tools:

Includes special tools, other than standard tools furnished with vehicle or common mechanic's tools, essential for the dis-assembly, repair, adjustment and re-assembly of the unit.

Capacities and Dimensions

Engine

Model	MACK	EY
Type	Gasoline	Overhead
Horsepower	A.M.A.	60.0
Displacement	Cu. In.	707
Bore	Inches	5
Stroke	Inches	6
Number of Cylinders		6
Engine Governed Speed	R.P.M.	2100

Capacities

Fuel Tanks	Gallons	80
Engine Crankcase, Refill	Quarts	19
Oil Filters, extra	Quarts	9
Cooling System	Quarts	51
Transmission	Pints	28
Oil Bath Air Cleaner	Quarts	3½
Winch	Pints	8½
Transfer Case	Pints	30
Front Wheel Drive, Upper Case	Pints	2
Lower Case	Pints	3
Front Axle Differential	Pints	15
Rear Axle Differential	Pints	each 22½
Steering Gear	Pints	8

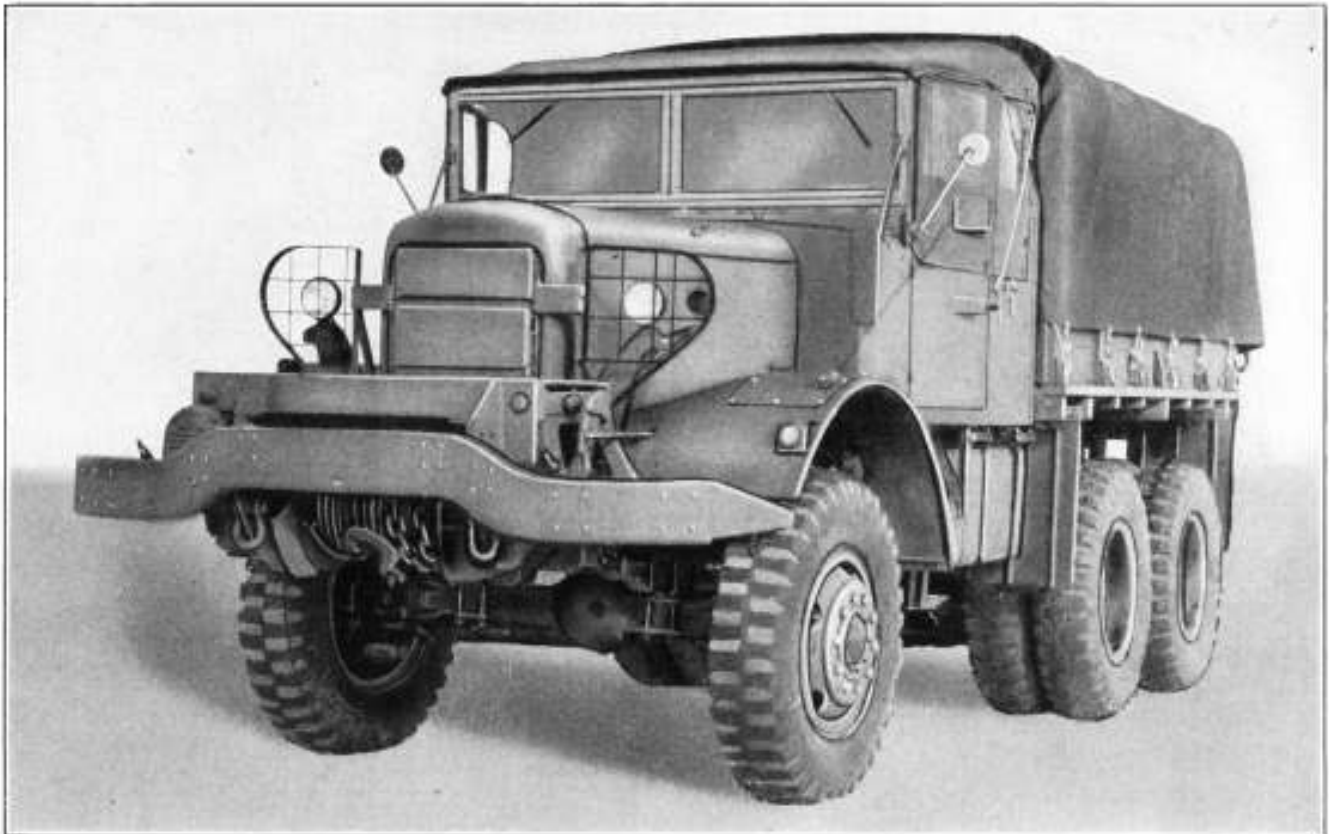
Dimensions

Turning Radius, Right	Ft.-In.	36'-0"
Turning Radius, Left	Ft.-In.	36'-0"
Height Overall	Inches	121⅞"
Width Overall	Inches	96"
Length Overall	Ft.-In.	24'-8⅞"
Weight of fully equipped truck without load	Pounds	28,675
Road Clearance	Inches	14"
Wheelbase	Inches	127"-58"
Tire Size	Inches	12.00-24
Tire Inflation Pressure	Pounds	Front 80 Rear 65

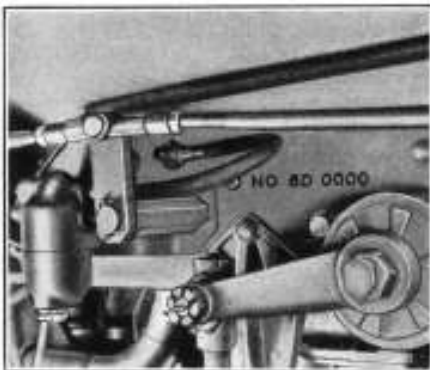
OPERATION

It is important to specify chassis number of vehicle when servicing same. Engine serial number should also be given. This is especially

important when ordering parts. The illustrations below will assist in locating the serial numbers.



Mack Models No. 2 & 3 7½-ton 6x6 Prime Mover Trucks



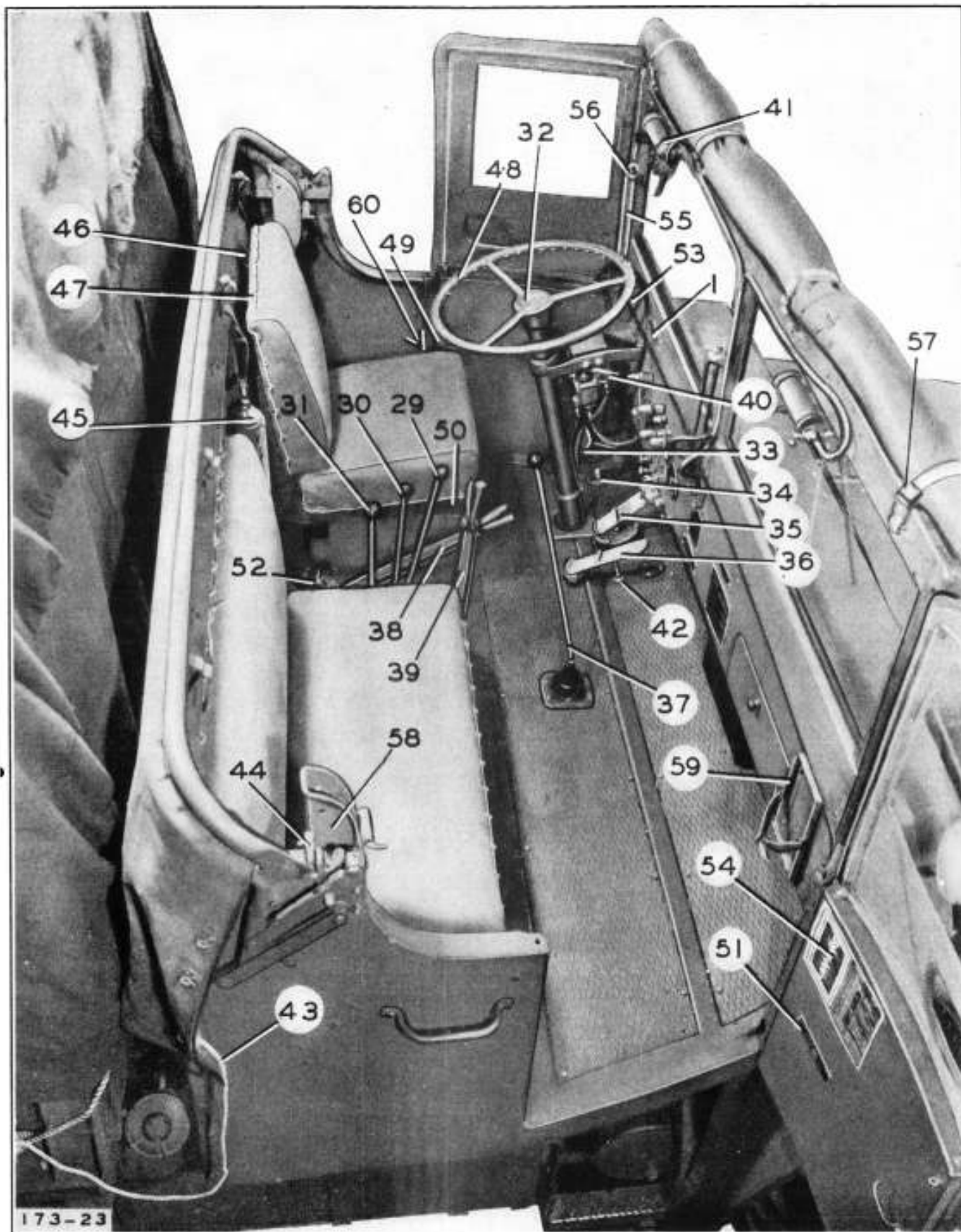
Chassis Serial Number stamped on front end of left frame side member



Chassis Name Plate located on instrument panel



Engine Serial Number stamped on right side of timing gear housing



View of Cab Controls

Instruments and Controls

1. **OVERSPEED WARNING PLATE:** A constant reminder of the engine speed allowable.

2. **INSTRUMENT PANEL LAMPS:** Five lamps are provided to light the several gages and instruments.

These lamps can be lighted only by means of the panel light switch (21) and when the blackout lighting switch is in position "3".

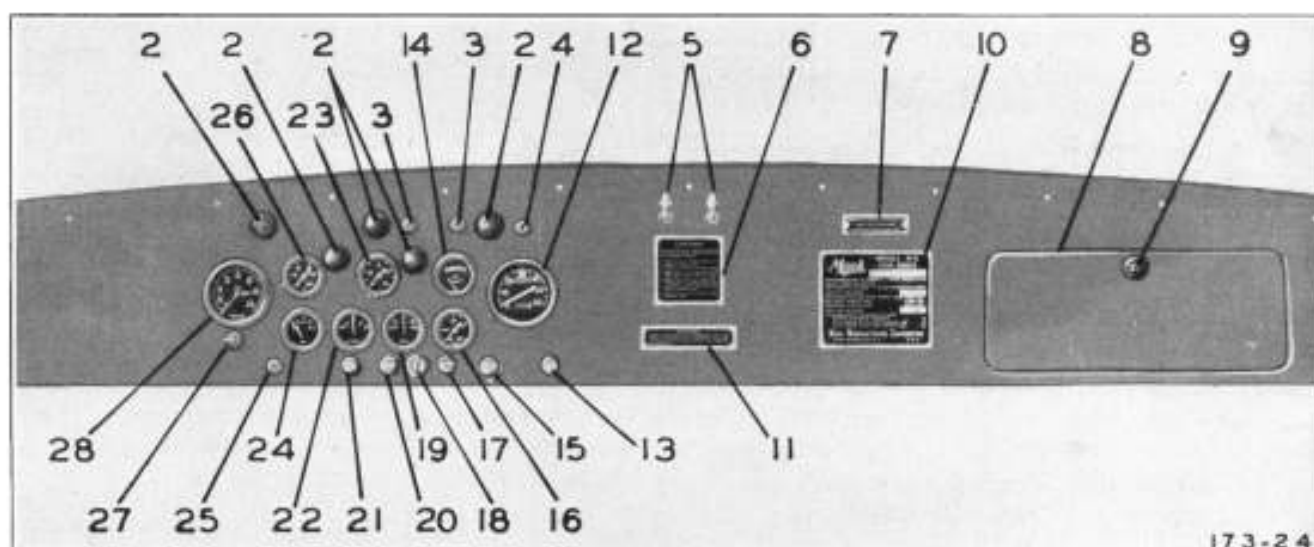
3. **LEFT AND RIGHT HAND WINDSHIELD WIPER CONTROL VALVES.**

4. **HEADLAMP BEAM INDICATOR:** Located directly above the speedometer.

When the red light is "on", the high beam of the headlamp is lighted. When the light is out, the low beam is lighted or the headlights are "off".

5. **CONNECTIONS FOR WINDSHIELD WIPER TUBING.**

6. **CAUTION PLATE:** This caution plate carries instructions for locating five plugs to be opened for draining the cooling system.



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View of Instrument Panel

- | | | |
|--|---|---|
| 1. Overspeed Warning Plate | 21. Instrument Panel Light Switch | 42. Accelerator Stop |
| 2. Instrument Panel Lamps | 22. Auxiliary Ammeter | 43. Cab Rear Curtain Rope |
| 3. L.H. and R.H. Windshield Wiper Control Valves | 23. Oil Pressure Gage | 44. Cab Roof Latch |
| 4. Headlamp Beam Indicator | 24. Fuel Gage | 45. Fire Extinguisher |
| 5. Connections for Windshield Wiper Tubing | 25. Fuel Gage Switch | 46. Curtain Pocket |
| 6. Caution Plate | 26. Air Pressure Gage | 47. Seat Cushion Cover Lacing |
| 7. Publication Data Plate | 27. Tachometer Maximum Speed Reset Lock | 48. Steering Wheel |
| 8. Glove Compartment | 28. Tachometer | 49. Door Handle |
| 9. Glove Compartment Push Button | 29. Front Axle Drive Shifter Lever | 50. Seat Adjustment Lever |
| 10. Chassis Name Plate | 30. Range Gear Shifter Lever | 51. Tire Pressure Plate |
| 11. Brake Pressure Warning Plate | 31. P.T.O. Shifter Lever | 52. Fuel Line "Three-Way" Valve |
| 12. Speedometer | 32. Horn Button | 53. Gear Shift Instruction Plate |
| 13. Blackout Driving Light Switch | 33. Clutch Pedal | 54. Lubrication Plate |
| 14. Viscometer | 34. Headlamp Foot Switch | 55. Windshield Elevating Arms |
| 15. Blackout Switch | 35. Brake Application Valve | 56. Windshield Elevating Arm Thumb-Screws |
| 16. Temperature Gage | 36. Accelerator Pedal | 57. Cab Top Straps |
| 17. Throttle Control | 37. Transmission Shifter Lever | 58. Rifle Holder |
| 18. Ignition Switch | 38. Hand Brake Lever | 59. First-Aid Kit Bracket |
| 19. Main Ammeter | 39. Winch Clutch Lever | 60. Starting Switch |
| 20. Choke Control | 40. Hand Brake Valve | |
| | 41. Windshield Wipers | |

7. **PUBLICATION DATA PLATE:** This gives the TM-number of the Parts List and Maintenance Manual pertaining to this vehicle.

8. **GLOVE COMPARTMENT:** A handy roomy compartment located on the right side of the instrument panel.

9. **GLOVE COMPARTMENT PUSH BUTTON:** Pressure on the center of this button unlatches the glove compartment door giving access to the glove compartment interior.

10. **CHASSIS NAME PLATE:** Located to the right of the center of the instrument panel, and shows the model, chassis serial number, nomenclature, weight and oil recommendations.

11. **BRAKE PRESSURE WARNING PLATE:** This is a reminder to stop the vehicle immediately if buzzer sounds.

12. **SPEEDOMETER:** The speedometer indicates road speed of the vehicle in miles per hour and total mileage traveled.

13. **BLACKOUT DRIVING LIGHT SWITCH:** This switch controls the single blackout driving light when switch (15) is in first "on" position. The switch is "off" when all the way in.

14. **VISCOMETER:** The viscometer is a gage which indicates the thickness or viscosity of the engine lubricating oil. When the pointer is in "low" range on the dial, the oil is too thin, resulting in poor lubrication, and should be changed.

When the pointer is in the "normal" range, proper lubrication is assured.

When the pointer is in "high" range, the oil is too heavy for proper lubrication.

15. **BLACKOUT SWITCH:** The switch which controls the headlamps is designated a blackout switch.

It has one "off" and three "on" positions.

When the control knob is all the way in, all lights are "off".

Pulling the knob out to the first "on" position, lights the blackout tail, blackout driving, and blackout parking lights; also the blackout stop light, when stop light switch operates.

Pulling the switch knob out to the second "on" position, which can be done only after the switch lock button is pressed, lights the head lamps, service tail and instrument lamps if switch (21) is pulled out; service stop lamp will also light when stop light switch operates. Pulling the knob out to the third "on" position lights the service stop light only. This is for daylight operation.

16. **TEMPERATURE GAGE:** This gage indicates the temperature of the water in the cooling system. Temperature should range between 155° F. and 175° F. If temperature reaches 212° F., the vehicle should be stopped and the cause of this excessive rise corrected.

17. **THROTTLE CONTROL:** The throttle control is used when starting the engine or making adjustments to the engine. When button is pushed in, the engine will run at idling speed.

18. **IGNITION SWITCH:** The ignition switch is turned "on" and "off" by means of the switch key which can be removed from the lock only when in the "off" position.

19. **MAIN AMMETER:** The main ammeter indicates how much current the two batteries are receiving when the engine is running above idling speed.

When the engine is stopped, this ammeter will show the amount of current taken from the batteries by any lights which are turned on.

20. **CHOKE CONTROL:** Choke control should be used only when necessary.

Choke should be pulled out far enough to allow the engine to run smoothly during the warm-up period.

Choke should be pushed in as soon as possible after the engine is running smoothly. If choke is allowed to stay out, the fuel mixture will become too rich and may cause injury to the engine by allowing the unburned fuel to seep into the crankcase and dilute the lubricating oil.

21. **INSTRUMENT PANEL LIGHT SWITCH:** This switch is used to put the instrument lights on, if light switch (15) is in the second "on" position.

22. **AUXILIARY AMMETER:** This auxiliary ammeter is provided to show that the second battery, which is connected in parallel with the first, is receiving a charge.